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ARCHITECT'S PROJECT #
22042

ACC OR EXPANSION REMODEL

CONSTRUCTION SET

UNIVERSITY OF UTAH 50 NORTH
MEDICAL DRIVE, SLC, UT. 84132

U OF U PROJECT #
70403

ISSUE DATE
SEPTEMBER 19, 2022

THE UNIVERSITY OF UTAH

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VICINITY MAP

SHEET #
G000

THE UNIVERSITY OF UTAH

CODE ANALYSIS FORM – 2018 INTERNATIONAL BUILDING CODE

BUILDING IDENTIFICATION:	University of Utah Hospital Area E Level 3 (ACC OR EXPANSION)

CODE ANALYSIS COMPLETION DATE:	

This project is a reconfiguration of a portion of Level 3 of Area E (ACC OR Expansion) of the University Hospital. Area E (ACC Building) was completed in early 2020. This reconfiguration is being designed to the 2018 IBC and not designed as an existing building project where the 2018 IEBC would apply.

PART 1

APPLICABLE CODE	YEAR	APPLICABLE CODE	YEAR
International Building Code (IBC)	2018	ADA (ADAAG)	2010
International Existing Building Code	2018	ICC/ANSI A117.1	2017
International Fire Code (IFC)	2018	NFPA 101 Life Safety Code (State)	2018
International Mechanical Code (IMC)	2018	NFPA 101 Life Safety Code (Federal)	2012
International Energy Conservation Code (IECC)	2018	NFPA 99 Health Care Facilities Code	2018
International Plumbing Code (IBC)	2018	FGI Health Care Guidelines	2018
National Electric Code	2020	Utah Code Title 15-A	2018

PART 2

Occupancy Group (Chapter 3)			(T601) Const. Type (*1)	Area (506)*5				Height (T504.3) *6		Stories (T504.4) *6		(508) Mixed Use Type (*3)	(508.4.2) *4 Area Ratio
Floor	Name	Group		Tabular NS (T506.2)	Tabular SM or S1 (T506.2)	Aa (*2)	Actual ft²	Tabular T504.3 ft	Actual ft	Tabular (T504.4)	Actual		
Lvl 3	Inpatient Treatment	I-2	IA	UL			26,952	N/A	N/A	N/A	N/A	NSO	N/A
	Business			UL			5,953						
	Assembly unconcentrated			UL			2,202						
	Locker Room			UL			1,598						
	Storage / Mech			UL			8,113						
Level 3 - Floor Total:							44,818						

*(*1) Construction Type shall be the most restrictive occupancy requirement for the entire building (508.3 & 508.4)*
*(*2) Area- Total building Area dependent on Single or Mixed Occupancy Building (506.2.1 through 506.2.4) & Frontage Increase (506.3)*
*(*3) Mixed Use - IAO=Incidental Accessory Occupancy / AO=Accessory Occupancy / SO=Separated Occupancies / NSO=Nonseparated Occupancies; gsf= gross square feet; nsf= net square feet; (E) = Existing*
*(*4) IBC Section 508.4.2: In each story, the building area shall be such that the sum of the ratios of the actual building area of each separated occupancy divided by the allowable building area of each separated occupancy shall not exceed 1.*
*(*5) 506.2.4 Mixed-occupancy, multistory buildings more than 3 stories above grade plan: Total building area shall be such that the aggregate sum of the ratios of the actual area of each story divided by the allowable area of such stories shall not exceed three for NS and four for S.*
*(*6) IBC 504.2 Mixed occupancy: In a building containing mixed occupancies in accordance with Section 508, no individual occupancy shall exceed the height and number of story limits specified in this section for the applicable occupancies.*

PART 3 - ALLOWABLE AREA DETERMINATION (506.2.1 through 506.2.4 & 506.3)

FRONTAGE INCREASE: If = [F/P- 0.25]W/30 = (Provide Analysis)

SINGLE-OCCUPANCY, ONE STORY BUILDINGS (506.2.1):
Allowable Area: Aa = At + (NS × If) = (Provide Analysis)
Level X, X Occupancy: Aa = At + (NS × If) = SF

MIXED-OCCUPANCY, ONE-STORY BUILDINGS (506.2.2):
Allowable Area: Aa = At + (NS× If) and provisions of Section 508.1 = (Provide Analysis)
Level X, X Occupancy: Aa = At + (NS × If) = SF

SINGLE-OCCUPANCY, MULTISTORY BUILDINGS (506.2.3):
Allowable Area: Aa = [At + (NS× If)] × Sa = (Provide Analysis)
Level X, X Occupancy: Aa = [At + (NS × If)] x Sa = SF

Sa = Actual number of building stories above grade plane, not to exceed three. For buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2, use the actual number of building stories above grade plane, not to exceed four.

MIXED-OCCUPANCY, MULTISTORY BUILDINGS (506.2.4):
Allowable Area: Aa = [At+(NS× If)] = (Provide Analysis)
Level X, X Occupancy: Aa = [Af + (NS × If)] = SF

>3 Story Bldgs: Total Bldg Area = Aggregate SUM of the Ratios (Actual Floor Area / Allowable Floor Area) = <3 for NS and <4 for S:
Aggregate Sum of the Ratios: = X

UNLIMITED AREA (507) = *Area E of the University Hospital is design with Unlimited Area.*

SPECIAL PROVISIONS (510) = *Incidental Uses*
- ***Group I-2 Occupancies, waste and linen collection rooms with containers that have an aggregate volume of 10 cubic feet or greater must have a 1 hour-rated separation.***
- ***Group I-2 Occupancies, storage rooms greater than 100 square feet must have a 1 hour-rated separation.***

PART 4 - GRADE PLANE ELEVATION & HEIGHT & STORIES (504)

Building is existing and the Grade Plane Elevations, Heights, and Stories are existing and not being modified as part of the scope of this project.

BUILDING WALL	AVERAGE ELEVATION	GRADE PLANE ELEVATION
NORTH		
SOUTH		
EAST		
WEST		
	TOTAL BUILDING G.P.E.	

STORY	FINISHED FLOOR ELEVATION	STORY ABOVE G.P.E.	HEIGHT
BASEMENT			
1ST FLOOR			
2ND FLOOR			
3RD FLOOR			
TOTAL BUILDING		9	119'-0"

PART 5 - AUTOMATIC FIRE SPRINKLER (903 & T903.2.11.6)

ITEM	REFERENCE	COMMENTS
Required - Yes	*Multiple code sections*	*Auto Fire Sprinklers are provided in compliance with NFPA-13*

PART 6 - OCCUPANCY SEPARATIONS (T508.4)

OCCUPANCY/OCCUPANCY	RATING	IBC/UL DESIGN #
Building is designed as non-separated occupancies		

PART 7 - OTHER BUILDING ELEMENTS (T601 and T602)

Note: All the structural frame, floor / ceiling assemblies, shaft enclosures, and vertical exit enclosures are existing construction for the scope of this project.

ELEMENT	MATERIAL	RATING	IBC/UL DESIGN #
Interior Bearing Wall	N/A	3	N/A
Interior Non-Bearing Wall	Steel stud / gyp board	0	N/A
Structural Frame	Steel	3	Various
Exterior Structural Frame	N/A	N/A	N/A
Shaft Enclosure a,b	Steel stud / gyp board	2	UL U415
Floor / Ceiling Assembly	Steel frame / concrete	2	UL D902
Roof / Ceiling Assembly	Steel frame / joists	1 1/2	UL P723
Vertical Exit Enclosure a,b	Steel stud / gyp board	2	UI U419

a. Fire-resistance rating not less than the floor assembly penetrated (713.4) (1023.2).
b. 2 hours where connecting four stories or more and 1 hour where connecting less than four stories, including basements. (713.4) (1023.2).

PART 8 - EXTERIOR WALL & OPENING PROTECTION (T705.8)

Note: The scope of this project is an interior tenant build-out. There are no changes to the exterior walls or the exterior opening protection.

WALL LOCATION	PROTECTED	UNPROTECTED	PARAPET REQ'D (705.11)
NORTH			
SOUTH			
EAST			
WEST			

PART 9 - EXIT REQUIREMENTS

FLOOR LEVEL	ROOM OCCUPANCY GROUPS	AREA	OCCUPANT LOAD FACTOR (T1004.5)	# OF OCCUPANTS (1004)	# OF EXITS (1006)	REQ'D EGRESS WIDTH (1005)	REQ'D STAIR WIDTH (1005.3)	REQ'D AISLE WIDTH (1018)	COMMON PATH OF TRAVEL DISTANCE (T1006.2.1) (Worst case)	TOTAL EXIT ACCESS DISTANCE (1017) (Worst case)
Level 3	Inpatient Treatment	26,952	240	115						
	Assembly - unconcentrated	2,202	15	148						
	Business Office	5,953	150	41						
	Locker Rooms	1,598	50	32						
	Storage / Mechanical	8,113	300	33						
Level 3 Total:				369	3	73.8"	110.7"	N/A		

THE OCCUPANTS LISTED ON THE TABLE ABOVE REFLECT THE NUMBERS ON SHEET G105 TO ACCURATELY DOCUMENT THE NUMBER OF OCCUPANTS IN EACH ROOM AREA. AS A RESULT, THE NUMBER OF OCCUPANTS IN THE TABLE ARE GREATER THAN JUST DIVIDING THE AREA BY THE OCCUPANT LOAD FACTOR.

PART 10 - ADDITIONAL REQUIREMENTS

ACCESSIBLE MEANS OF EGRESS (1009):	***Building complies with accessible means of egress.***
ACCESSIBLE ROUTE (1104 & INTERNATIONAL EXISTING BUILDING CODE):	***The accessible route to and through Area E40 is through the main hospital building. The entire route from the front entry of the hospital to Area E40 is accessible.***
SPECIAL OCCUPANCY REQUIREMENTS (CHAPTER 4):	***SECTION 403 HIGH RISE*** ***SECTION 407 GROUP I-2***

SECTION 308.4 – INSTITUTIONAL GROUP I-2

Buildings and structures used for medical care on a 24-hour basis for more than 5 persons who are incapable self-preservation, this includes hospitals.

308.4.1.2 – I-2 Occupancy Condition 2. This condition shall include facilities that provide nursing and medical care and provide surgery facilities that include hospitals.

SECTION 403 – HIGH-RISE BUILDINGS

Section 403.1 - Applicability. This building meets the requirements to be classified as a high rise building.

Section 403.2 – Construction.

403.2.1 – Reductions in fire-resistance rating listed below are allowed because the building has a sprinkler control valves equipped with supervisory initiating devices and water-flow initiating devices.

403.2.1.1 – For buildings not greater than 420 feet in building height and of Type IA construction the building elements shall be permitted to be reduced to the minimum fire-resistance rating of Type IB construction.

Exception: Columns supporting floors shall not be reduced.

403.2.1.2 – Not Applicable

Section 403.2.3 – Structural Integrity of Interior Exit Stairways and Elevator Hoistway Enclosures. High-rise Buildings of Risk Category IV, the enclosures for interior exit stairways and elevator hoistway enclosures shall meet or exceed Soft Body Impact Classification Level 2.

403.2.3.2 – Wall Assembly Materials. The face of the wall assemblies making up the enclosures for interior exit stairways and elevator hoistway enclosures that are not exposed to the interior shall be constructed with no fewer than two layers of impact-resistant construction each of which meets or exceeds Hard Body Impact Classification Level 2.

Section 403.2.4 – Sprayed Fire-resistant Materials (SFRM). The bond strength of the SFRM installed throughou the building shall be 430 psf.

Section 403.3 – Automatic Sprinkler System. Building shall be equipped throughout with an automatic sprinkl system complying with Section 903.3.1.1.

403.3.3 – Secondary Water Supply. An automatic secondary on-site water supply having a capacity no less than the calculated sprinkler demand shall be provided in Seismic Design Category D. The secondary water supply shall have a duration of not less than 30 minutes.

403.3.4 – Fire Pump Room. Fire pumps shall be located in a room protected by a 2 hour rated fire-resistant assembly.

Section 403.4 – Emergency Systems. The detection, alarm, and emergency systems shall comply with the following:

403.4.1 – Smoke Detection. Shall be provided in accordance with Section 907.2.13.1.

403.4.2 – Fire Alarm System. Shall be provided in accordance with Section 907.2.13.

403.4.3 – Standpipe System. Shall be provided in accordance with Section 905.3.

403.4.4 – Emergency Voice/alarm Communication System. Shall be provided in accordance with Section 907.5.2.2.

403.4.5 – Emergency Responder Radio Coverage. Shall be provided in accordance with Section 510 of the International Fire Code.

403.4.6 – Fire Command. The fire command for the ACC Building will be located within the hospital complex fire command center at the front entry to the hospital as directed by the State Fire Marshal.

403.4.7 – Smoke Removal. Natural ventilation will be provided to facilitate the removal of smoke and products of combustion. Windows with glazing that can be cleared by fire fighters will be located around the perimeter of each floor at intervals not to exceed 50 feet. The area of window glazing will be a minimum of 40 square feet per 50 linear feet of perimeter.

403.4.8 – Standby and Emergency Power. A standby power system complying with Section 2702 and Section 3003 shall be provided for the standby power loads specified in Section403.4.8.3. An emergency power system complying with Section 2702 shall be provided for the emergency power loads specified in Section 403.4.8.4.

403.4.8.1 – Equipment Room. The standby and emergency power systems generator is not located within a building therefore this section is not applicable.

403.4.8.2 – Fuel Line Piping Protection. Not applicable.

403.4.8.3 – Standby Power Loads. The following are classified as standby power loads:

1. Power and lights for the Fire Command Center.
2. Ventilation and automatic fire detection equipment for the smokeproof enclosures.
3. Elevators
4. Elevators provided for fire service access the standby power system shall also comply with Section 3007.

403.4.8.4 – The following are classified as emergency power loads:

1. Exit signs and means of egress illumination.
2. Elevator car lighting.
3. Emergency voice/alarm communications systems.
4. Automatic fire detection systems.
5. Fire alarm systems.
6. Electrically powered fire pumps.

403.5 – Means of Egress and Evacuation.

403.5.1 – Remoteness of interior exit stairways. Required interior exit stairways shall be separated by not less than 30 feet or one-fourth of the maximum overall diagonal dimension of the area served.

403.5.2 – Additional Interior Exit Stairway – Not applicable.

403.5.3 – Stairway Door Operation. Stairway doors will not be locked from the stairway side.

403.5.4 – Smokeproof Enclosures. Every required interior exit stairway serving floors more than 75 feet above the lowest level of fire department vehicle access shall be a smokeproof enclosure in accordance with section 909.20 and 1023.10.

403.5.5 – Luminous Egress Path Markings. Luminous egress path markings shall be provided in accordance with Section 1025.

403.5.6 – Emergency Escape and Rescue. Not required.

403.6 – Elevators.

403.6.1 – Fire Service Access Elevator. This building has an occupied floor more than 120 feet above the lowest level of fire department vehicle access. Two fire service access elevators in accordance with section 3007 are being provided. Each fire service access elevator shall have a minimum capacity of 3500 pounds and accommodate a stretcher per Section 3002.4.

403.6.2 – Occupant Evacuation Elevators. Not applicable.

SECTION 407 – GROUP I-2

407.2 – Corridors Continuity and Separation. Corridors shall be continuous to the exits and shall be separated from other areas in accordance with Section 407.3.

407.2.1 – Waiting and Similar Areas. When constructed as required for the corridors shall be permitted to be open to the corridor.
407.2.1 Waiting and similar areas. Waiting areas, public-use areas or group meeting spaces constructed as required for corridors shall be permitted to be open to a corridor, only where all of the following criteria are met:

1. The spaces are not occupied as care recipient's sleeping rooms, treatment rooms, incidental uses in accordance with Section 509, or hazardous uses.
2. The open space is protected by an automatic fire detection system installed in accordance with Section 907.
3. The corridors onto which the spaces open, in the same smoke compartment, are protected by an automatic fire detection system installed in accordance with Section 907, or the smoke compartment in which the spaces are located is equipped throughout with quick-response sprinklers in accordance with Section 903.3.2.
4. The space is arranged so as not to obstruct access to the required exits.

407.2.2 – Care Provider Stations. When constructed as required for the corridors shall be permitted to be open to the corridor.

407.3 – Corridor Wall Construction. Corridors walls shall be constructed as smoke partitions in accordance with Section 710.

407.3.1 – Corridor Doors. Corridor doors not required to be rated by other requirements of the code shall not have a fire protection rating and shall not require automatic closing devices. Doors shall provide an effective barrier to the passage of smoke and shall be provided with positive latching.

407.4 – Means of Egress. In addition to a means of egress complying with Chapter 10, I-2 occupancies shall also comply with Sections 407.4.1 through 407.4.4.

407.4.1 – Direct Access to a Corridor. Habitable rooms in I-2 occupancies shall have an exit access door leading directly to a corridor.

407.4.2 – Distance of Travel. The distance of travel between any point in a Group I-2 sleeping room and an exit access door in that room shall not exceed 50 feet.

407.4.4 – Group I-2 Care Suites. Not applicable.

407.5 – Smoke Barriers. Smoke barriers shall be provided to subdivide every story into no fewer than two smoke compartments. Each story of a Group I-2, Condition2 shall be divided into smoke compartments of an area of not more than 40,000 square feet. The travel distance from any point in a smoke compartment to a smoke barrier door shall not exceed 200 feet.

407.5.1 – Refuge Area. The size of the refuge area shall be not less than 30 net square feet for each care recipient confined to a bed or stretcher and not less than 6 net square feet for each ambulatory care recipient.

407.5.2 – Independent Egress. A means of egress shall be provided from each smoke compartment without having to return through the smoke compartment from which means of egress originated.

407.6 – Automatic Sprinkler System. Smoke compartments containing sleeping rooms shall be equipped throughout with an automatic sprinkler system.

407.7 – Fire Alarm System. A fire alarm system shall be provided.

407.8 – Automatic Fire Detection. Shall be equipped with smoke detection as required in Section 407.2.

407.10 – Electrical Systems. In Group I-2 occupancies, the essential electrical system for electrical components, equipment and systems shall be designed and constructed in accordance with the provisions of Chapter 27 and NFPA 99.

SECTION 503 – GENERAL BUILDING HEIGHT AND AREA LIMITATIONS

503.1.2 – Buildings on the Same Lot. Two or more buildings on the same lot shall be considered as portions of one building where the building height, number of stories of each building and the aggregate building area of the buildings are within the limitations specified in Sections 504 and 506. The ACC building is being designed as a Type I construction therefore the building height and area are unlimited.

503.1.3 – Type I Construction. Buildings of Type I construction permitted to be of unlimited tabular building heights and areas are not subject to the special requirements that allow unlimited area buildings in Section 507 or unlimited building heights in Section 504.3 or increased building heights and areas for other types of construction.

SECTION 504 – BUILDING HEIGHT AND NUMBER OF STORIES – Not applicable, unlimited height and stories.

SECTION 506 – BUILDING AREA – Not applicable, unlimited area.

SECTION 507 – UNLIMITED AREA BUILDINGS – Not applicable, per Section 503.1.3 above.

SECTION 508 – MIXED USE AND OCCUPANCY

508.2 – Accessory Occupancies. Accessory occupancies are those occupancies that are ancillary to the main occupancy of the building or portions of the building.

508.2.1 – Occupancy Classification. Accessory occupancies shall be individually classified in accordance with section 302.1.

508.2.4 – Separation of Occupancies. No separation is required between accessory occupancies and the main occupancy.

508.3 – Nonseparated Occupancies. The ACC is being designed as nonseparated occupancies.

508.3.1 – Occupancy Classification. Nonseparated occupancies shall be individually classified in accordance with Section 302.1. The requirements of the code shall apply to each portion of the building based on the occupancy classification of that space.

508.3.3 – Separation – No separation is required between nonseparated occupancies.

SECTION 509 – INCIDENTAL USES

509.2 – Occupancy Classification. Incidental uses shall not be individually classified in accordance with Section 302.1. Incidental uses shall be included in the building occupancies within which they are located.

509.3 – Area Limitations. Incidental uses shall not occupy more than 10 percent of the building area of the story in which they are located.

Furnace Rooms	- Provide automatic sprinkler system
Boiler Rooms	- Provide automatic sprinkler system
Refrigerant machinery room	- Provide automatic sprinkler system.
Laundry rooms over 100 sq. ft.	- Provide automatic sprinkler system
I-2 waste / linen collection rooms	- 1 hour rated
I-2 waste / linen collection > 100 sq. ft.	- Provide automatic sprinkler system
I-2 storage rooms > 100 sq. ft.	- 1 hour rated

SECTION 1005 – MEANS OF EGRESS SIZING

1005.3 – Required Capacity Based on Occupant Load.

1005.3.1 – Stairways. For the I-2 occupancy floors the occupant load of the floor shall be multiplied by an egress capacity factor of 0.3. For floors with occupancies other than I-2 the occupant load of the floor shall be multiplied by an egress capacity factor of 0.2.

1005.3.2 – Other Egress Components. For the I-2 occupancy floors the occupant load of the floor shall be multiplied by an egress capacity factor of 0.2. For floors with occupancies other than I-2 the occupant load of the floor shall be multiplied by an egress capacity factor of 0.15.

1005.6 – Egress Convergence. Where the means of egress from stories above and below converge at an intermediate level, the capacity of the means of egress from the point of convergence shall be not less than the sum of the required capacities for the stairways serving the two adjacent stories.

SECTION 1006 – NUMBER OF EXITS AND EXIT ACCESS DOORWAYS

1006.2.2.1 – Boiler, Incinerator, and Furnace Rooms. Two exit access doorways are required from the mechanical penthouse space. Where two exit access doorways are required from this type of space one is permitted to be a fixed ladder or an alternating tread device.

SECTION 1011 – STAIRWAYS

1011.12 – Stairways to Roof. Building 4 or more stories above grade plane one stairway shall extend to the roof surface. Exception: If the roof surface is not occupied the access shall be permitted to be by a permanent vertical ladder.

SECTION 1026 – HORIZONTAL EXITS

1026.1 – Horizontal Exits. A horizontal exit shall not serve as the only exit from a portion of a building.

1026.2 – Separation. The separation between refuge areas connected by a horizontal exit shall be provided by a 2 hour fire-resistance rated fire barrier. Horizontal exits constructed as fire barriers shall be continuous from exterior wall to exterior wall so as to divide completely the floor served by the horizontal exit.

1026.3 – Opening Protectives. Fire doors in horizontal exits shall be self-closing or automatic-closing when activated by a smoke detector.

1026.4 – Refuge Area. The refuge area of a horizontal exit shall be space occupied by the same tenant and shall be adequate to accommodate the original occupant load of the refuge area plus the occupant load anticipated from the adjoining compartment.

1026.4.1 - Capacity. The capacity of the refuge area shall be computed based on a net floor area allowance of 15 sq. ft. per occupant for I-2 ambulatory occupancies. The occupant exiting through the horizontal exit are from an I-2 occupancy and are ambulatory.

1026.4.2 – Number of Exits. The refuge area into which a horizontal exit leads shall be provided with adequate exits to meet the occupant requirements for the refuge area, but not the added occupant load imposed from the adjoining compartment.

SECTION 1510 – ROOFTOP STRUCTURES

1510.2 – Penthouses. Penthouses in compliance with Sections 1510.2.1 through 1510.2.5 shall be considered a penthouse and a portion of the story directly below. All other penthouses shall be considered as an additional story of the building.

1510.2.2 – Area Limitation. The aggregate area of the penthouse exceeds one-third the area of the supporting roof deck below. Therefore the Penthouse Level of the building is called a penthouse but does not comply with the code requirements to be classified as a rooftop penthouse structure. The requirements of Section 1510 do not apply.

SECTION 3007 – FIRE SERVICE ACCESS ELEVATOR

3007.1 – General. Every floor of the building shall be served by fire service access elevators.

3007.2 – Automatic Sprinkler System. The building shall be equipped throughout with an automatic sprinkler system. Except automatic sprinklers shall not be installed in machine rooms, elevator machinery spaces, control rooms, control spaces, and elevator hoistways of fire service access elevators.

3007.2.2 – Sprinkler System Monitoring. The sprinkler system shall have a sprinkler control valve supervisory switch and water-flow-initiating device provided for each floor and monitored by the fire alarm system.

3007.3 – Water Protection. An approved method to prevent water from infiltrating into the fire service access elevator hoistway enclosure from the operation of the automatic fire sprinkler system outside the fire service access elevator lobby shall be provided.

3007.4 – Shunt Trip. Shall not be installed on fire service access elevators.

3007.5 – Hoistway Enclosures. The fire service access elevators shall be located in a 2-hour fire-rated shaft enclosure. The fire service access elevator shaft enclosure shall comply with Sections 403.2.3.1 through 403.2.3.4. When the fire-fighters' emergency operation is active the entire height of the hoistway shall be illuminated with a minimum of 1 footcandle.

3007.6 – Fire Service Access Elevator Lobby. The fire service access elevator shall open into a lobby. Egress is permitted through the elevator lobby.

3007.6.1 – Access to Interior Exit Stairway or Ramp. The fire service access elevator lobby shall have direct access to an interior exit stairway enclosure.

3007.6.2 – Lobby Enclosure. The fire service access elevator lobby shall be enclosed by a 1 hour fire rated smoke barrier. An enclosed lobby is not required at the level of exit discharge.

3007.6.3 – Lobby Doorways. Each door except the elevator hoistway doors, to the fire service access elevator lobby shall be a ¾ hour rated fire door assembly.

3007.6.4 – Lobby Size. The fire service access elevator lobby shall be at least 150 square feet with a dimension of at least 8 feet.

3007.6.5 – Fire Service Access Elevator Symbol. A pictorial symbol complying with the requirements of this section shall be installed on each side of the hoistway door frame.

3007.7 – Elevator System Monitoring. The fire service access elevators shall be continuously monitored at the fire command center.

3007.8 – Electrical Power. The following features shall be supplied by both normal power and standby power:

1. Elevator equipment.
2. Elevator hoistway lighting.
3. Ventilation and cooling equipment.
4. Elevator car lighting.

3007.8.1 – Protection of wiring or cable. The wiring serving the fire service access elevator that is not located in the hoistway enclosure shall be protected by a 2 hour-rated assembly.

3007.9 – Standpipe Hose Connection. A fire sprinkler standpipe shall be provided in the interior exit stairway enclosure having direct access from the fire service access elevator lobby.

3007.9.1 – Access. The exit enclosure containing the fire sprinkler standpipe shall have access to the floor without passing through the fire service access elevator lobby.

SECTION 3104 – PEDESTRIAN WALKWAYS AND TUNNELS

3104.1 – General. This section shall apply to connections between buildings such as pedestrian walkways or tunnels, located at above or below grade that are used as a means of travel by persons. The tunnel in this project will be used for utility piping only and not used as a means of travel for persons. Therefore this section does not apply to the tunnel.

3104.1.1 – Application. The pedestrian walkway between the ACC building and Building 525 at Level 5 shall be designed and constructed in accordance with Sections 3104.2 through 3104.9.

3104.2 Exception 1 – Buildings that are connected by the pedestrian walkway are on the same lot and considered as portions of the same building.

3104.3 – Construction. The pedestrian walkway shall be of noncombustible construction.

3104.5 – Connections of Pedestrian Walkways to Buildings. The pedestrian walkway does not have to comply with Section 3104.5 per the exception that they are on the same lot and considered portions of the same building.

3104.6 – Public Way. Not applicable, the pedestrian walkway is not over a public way.

3104.7 – Egress. Not applicable, the pedestrian walkway is not a required exit.

3104.8 – Width. The minimum width of the pedestrian walkway shall be 36 inches and the maximum width shall be 30 feet.

3104.9 – Exit Access Travel. The exit access travel distance on a pedestrian walkway equipped throughout with an automatic sprinkler system shall be less than 250 feet.

Exception 2. The exit access travel distance on a pedestrian walkway with both sides at least 50 percent open shall be less than 300 feet.

3104.10 – Tunneled Walkway. Not applicable, tunnel is not a means of travel by persons.

REFERENCE NOTES

DOCUMENTS REQUIRED BY DFCM FOR CERTIFICATE OF OCCUPANCY

- A code inspection report recommending that a certificate of occupancy be issued.
- Final report from the special inspection agency.
- Certificate of fire clearance from the State Fire Marshall.
- Final approval from the State Elevator inspector.
- Report of the disinfection of the potable water system. IPC 610
- A Certificate of Compliance from the approved fabricator, IBC 1704.2.2
- A stamped and signed final report from the structural engineer when structural observation is required by IBC 1710.

FFKR ARCHITECTS
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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

MICHAEL ADAM DOLAN
STATE OF UTAH
No. 7732018-0301
REGISTERED ARCHITECT
09-16-2022

△	DATE	REVISION

U of U PROJECT NUMBER

CODE ANALYSIS

G010

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PATIENT PLUMBING FIXTURES: TOTAL NUMBER OF REQUIRED FIXTURES

Occupancy	Occ. Load	Water Closets			Lavatories					Bathtubs/Showers		Drinking Fountains		Service Sink	
		Ratio	Men	Urinals	Ratio	Women	Ratio	Men	Ratio	Women	Ratio	Total	Ratio	Total	Ratio	Total
I2 - Patient	40	1 per 75	0.267	-	1 per 75	0.267	1 per 100	0.200	1 per Room	0.200	-	0.000	1 per 500	0.082	1 Service Sink	1
Total Required			**0.267**	**-**		**0.267**		**0.200**		**0.200**		**0.000**		**0.082**		**1.000**
Total Provided			**2**	**0**		**2**		**2**		**2**		**0**		**1**		**1**

VISITOR PLUMBING FIXTURES: TOTAL NUMBER OF REQUIRED FIXTURES

Occupancy	Occ. Load	Water Closets			Lavatories					Bathtubs/Showers		Drinking Fountains		Service Sink	
		Ratio	Men	Urinals	Ratio	Women	Ratio	Men	Ratio	Women	Ratio	Total	Ratio	Total	Ratio	Total
I2 - Visitor	106	1 per 75	0.707	-	1 per 75	0.707	1 per 100	0.530	1 per 100	0.530	-	0.000	1 per 500	0.106	-	-
Total Required			**0.707**	**-**		**0.707**		**0.530**		**0.530**		**0**		**0.106**		**0**
Total Provided			**1**	**2**		**3**		**2**		**3**		**0**		**1**		**0**

STAFF PLUMBING FIXTURES: TOTAL NUMBER OF REQUIRED FIXTURES

Occupancy	Occ. Load	Water Closets			Lavatories					Bathtubs/Showers		Drinking Fountains		Service Sink	
		Ratio	Men	Urinals	Ratio	Women	Ratio	Men	Ratio	Women	Ratio	Total	Ratio	Total	Ratio	Total
A	82	1 per 125	0.328	-	1 per 65	0.631	1 per 200	0.205	1 per 200	0.205	-	0.000	1 per 500	0.082	1 Service Sink	1
I2 - Treatment	35	1 per 25	0.700	-	1 per 25	0.700	1 per 35	0.500	1 per 35	0.500	-	0.000	1 per 100	0.175	-	-
I2 - Locker	32	1 per 25	0.640	-	1 per 25	0.640	1 per 100	0.160	1 per 100	0.160	-	0.000	1 per 1000	0.016	-	-
B	41	1 per 25 for first 50 and 1 per 50 for the remainder	0.820	-	1 per 25 for first 50 and 1 per 50 for the remainder	0.820	1 per 40 for the first 80 and 1 per 80 for the remainder	0.513	1 per 40 for the first 80 and 1 per 80 for the remainder	0.513	-	0.000	1 per 100	0.021	-	-
S	33	1 per 100	0.165	-	1 per 100	0.165	1 per 100	0.165	1 per 100	0.165	-	0.000	1 per 1000	0.017	-	-
Total Required			**2.653**	**-**		**2.956**		**1.543**		**1.543**		**0.000**		**0.310**		**1.000**
Total Provided			**1**	**2**		**4**		**3**		**4**		**2**		**1**		**2**

PART 12 – DEFERRED SUBMITTALS, NONSTRUCTURAL COMPONENTS CHECKLIST, & SPECIAL INSPECTIONS LIST:
Provide the following information in the Code Analysis, deleting non-applicable sections.

LIST OF DEFERRED SUBMITTALS

ITEM	DRAWING REFERENCE	SPECIFICATION REFERENCE
FIRE SPRINKLER SUBMITTAL	FP105.1 & FP105.2	21 1000
FIRE ALARM SUBMITTAL	FA103-1 & FA103-2	28 3111
OR (SLD) DIFFUSER SYSTEM SUPPORT	SF502	23 7600
SEISMIC RESTRAINT DESIGN OF NONSTRUCTURAL MEP COMPONENTS		

GUIDELINES FOR SEISMIC RESTRAINT OF NONSTRUCTURAL COMPONENTS & DEFERRED SUBMITTALS

1. General Comments:
   a) These guidelines shall apply to all nonstructural components as required by the IBC 1613.1. Nonstructural components consist of architectural, mechanical and electrical components that are permanently attached to the primary structure.
   b) When a change in occupancy occurs that causes an existing building to be reclassified to a higher Occupancy Category per IBC Table 1604.5, all existing nonstructural components shall be confirmed to meet the seismic restraint requirements of Chapter 13 in ASCE 7.
   c) These guidelines define the minimum submittal requirements to obtain University of Utah approval for seismic restraint of nonstructural components. The guidelines noted herein shall not cancel or set aside more conservative requirements specified by the design professional in responsible charge.
   d) All references made to the IBC or ASCE 7 latest editions adopted by the State of Utah.
2. Checklist Requirements:
   a) All University of Utah projects shall have the "Nonstructural Component Checklist" (attached below) clearly shown on the front of the construction plans.
   b) Each item within the checklists shall have the appropriate box checked and comments shall be provided noting the particular component(s) that require seismic restraint.
   c) The "Not Required" box should only be checked if the component is exempt from requiring seismic restraint by Section 13.1.4 of ASCE 7, or if the component in question will not be provided as part of the project.
   d) If the "Deferred Submittal" box is checked, the additional requirements of Section 6 included in this handout must be met.
3. Submittal Requirements:
   a) The seismic restraint requirements for nonstructural components may be provided with the original construction documents submitted to University of Utah or may be submitted later as a deferred submittal. Whether provided with the original plans or later, the requirements of this section must be met.
   b) Seismic restraint submittals shall include construction documents meeting the requirements of Section 4 of this handout as well as supporting design information discussed in Section 5 of this handout.
4. Construction Documents:
   a) The construction documents must include seismic restraint details providing specific information relating to the materials, type, size, and locations of anchorages; materials used for bracing; attachment requirements of bracing to structure and component; and locations of transverse and longitudinal sway bracing and rod stiffeners.
   b) The construction documents must note the special inspection and testing requirements for the seismic restraint of nonstructural components per Section 13.2.7 of ASCE 7.
   c) University of Utah will accept products that have been tested and listed under the ICC Evaluation Service Program, as long as they are installed in accordance with the provisions and limitations of the ICC Listing Report.
   d) The requirements for anchorage/bracing of nonstructural components cannot be satisfied by a general reference to Design Manuals. Design professional may utilize these manuals as a basis of their design, but must provide all supporting documentation to ensure that the design conforms to the requirements of the IBC.
   e) Rod hangers shall not be used as seismic supports unless the length of the hanger from the supporting structure is 12 in. or less. Rod hangers shall not be constructed in a manner that subjects the rod to bending moments.
5. Seismic Restraint Design Requirements:
   a) Per IBC 1613.1, the seismic restraint of nonstructural components shall meet the requirements of ASCE 7. If the component in question is exempt by Section 13.1.4 of ASCE 7, a submittal noting the seismic restraint of that particular component is not required.
   b) The seismic restraint design must meet the requirements listed in Table 13.2-1 of ASCE 7. These requirements may be met by providing either a project-specific design prepared by a registered design professional, or a manufacturer's certification that the component is seismically qualified.
   c) A certificate of seismic qualification by the manufacturer must be accompanied by one of the following items:
      i) An engineered analysis conforming to the requirements of Chapter 13 of ASCE 7.
      ii) Testing by a nationally recognized testing standard procedure such as ICC-ES AC 156. The substantiated seismic design capacities shall exceed the seismic demands determined by Section 13.3 of ASCE 7.
      iii) Experience data conforming to a nationally recognized procedure. The substantiated seismic design capacities shall exceed the seismic demands determined by Section 13.3 of ASCE 7.
   d) The following seismic restraint publications shall be considered "Accepted Engineering Practice":
      i) Seismic Restraint Manual, Guidelines for Mechanical Systems (3rd Edition, published by SMACNA)
      ii) Guidelines and details that have been evaluated and reported under the International Code Council Evaluation Service Program (ICC-ES).
      iii) Seismic restraint manuals, guidelines and details that have been approved by the California Office of Statewide Health Planning and Development (OSHPD) under their pre-approval program for seismic restraint systems. Approval by the University of Utah Building Official to use this reference is required prior to proceeding with design.
6. Deferred Submittals:
   a) Deferred submittals of seismic restraint of nonstructural components must be submitted to the UNIVERSITY OF UTAH Building Official a minimum of two weeks prior to the planned installation in order to allow for plan review and forwarding to inspectors. In the event that the submittal is deficient, additional time may become necessary.
   b) Deferred submittals shall be clearly noted on the construction plans as required by IBC in Chapter 1. Prior to submitting to the UNIVERSITY OF UTAH Building Official, the deferred submittal must follow the protocol outlined in the section entitled "Deferred Submittals" in the IBC Chapter 1. Please note on the plans that no deferred submittal elements shall be installed until University of Utah approval has been received.
   c) If seismic restraints of nonstructural components are installed prior to receiving University of Utah approval, they shall not be covered or concealed until plan review and inspection approval. Further, installers are proceeding at their own risk until plan review and inspection approval occurs.

NONSTRUCTURAL COMPONENT CHECKLIST

ITEM DESCRIPTION	NOT REQUIRED	ON CONST DOCUMENTS	DEFERRED SUBMITTAL	COMMENTS
Architectural Components				
Interior nonstructural walls and partitions	☐	☒	☐	
Cantilever elements (i.e. parapets, etc)	☒	☐	☐	
Exterior nonstructural wall elements	☒	☐	☐	
Veneer	☒	☐	☐	
Penthouses	☒	☐	☐	
Ceilings (i.e. suspended grid or hard-lid)	☐	☒	☐	
Cabinets (i.e. storage cabinets, equip, etc)	☐	☒	☐	
Access floors	☒	☐	☐	
Storage racks	☒	☐	☐	
Appendages & ornamentations	☒	☐	☐	
Signs & billboards	☒	☐	☐	
Other:	☐	☐	☐	
Other:	☐	☐	☐	
MEP Components			☐	
Fire sprinklers	☐	☐	☒	
Mechanical equipment (i.e. HVAC, fans, air handler, boilers, furnaces, tanks, chillers, water heaters, evaporators, engines, turbines, pumps, compressors, MFR equipment, etc.)	☐	☒	☐	
Electrical equipment (i.e. generators, batteries, inverters, transformers, MCC, panel Boards, switch gears, cabinets, etc.)	☐	☒	☐	
Elevator & escalator components	☒	☐	☐	
Communication equipment, computers, instrumentation, and controls	☒	☐	☐	
Roof-mounted chimneys stacks, cooling & electrical towers	☐	☒	☐	
Lighting fixtures	☐	☒	☐	
Vibration isolated components	☐	☒	☐	
Piping & conduit systems	☐	☒	☐	
Ductwork including in-line components	☐	☒	☐	
Conveyors	☒	☐	☐	
Cable trays	☐	☒	☐	
Seismic restraint design of nonstructural mechanical, electrical, plumbing components	☐	☐	☒	
Other:	☐	☐	☐	
Other:	☐	☐	☐	

SPECIAL INSPECTION, MATERIAL TESTING & STRUCTURAL OBSERVATION ITEMS REQUIRED BY CHAPTER 17 OF THE 2012 IBC

Indicate items requiring special inspection, structural testing, or structural observations by checking the appropriate box. All items not requiring inspection/testing should be removed from the form. For items requiring continuous inspection, a special inspector must be present onsite during the performance of that task. In most cases "periodic" inspections/tests shall be performed prior to commencing the task, intermittently during the task and at the completion of the task. The "Detailed Instructions & Frequency" provides a description of the presumed requirements for tasks requiring "periodic" inspections. The design professional in responsible should revise the requirements as needed on a project-specific basis.

1. Statement of Special Inspections

1.1. The following materials, systems and components require special inspection or testing per Chapter 17 of the International Building Code (IBC).

1.2. For items requiring continuous inspection, a special inspector must be present onsite during the performance of that task. In most cases, periodic inspections/tests shall be performed prior to commencing the task, intermittently during the task, and at the completion of the task. Frequency marked with (E) designates periodic inspections that must be performed prior to or upon completion of every task.

Structural Steel per IBC Section 1705.2.1, 1705.12.1 & 1705.13.1

Item	Frequency	Detailed Instructions
Prior to Welding (Table N5.4-1, AISC 360-16):		
Verify welding procedures (WPS) and consumable certificates	Periodic (E)	
Material identification	Periodic	Verify type and grade of material.
Welder identification	Periodic	A system shall be maintained by which a welder who has welded a joint or member can be identified.
Fit-up of fillet welds	Periodic	Verify alignment, gaps at root, cleanliness of steel surfaces, and tack weld quality and location.
During Welding (Table N5.4-2, AISC 360-16):		
Use of qualified welders	Periodic	Verify that welders are appropriately qualified.
Control and handling of welding consumables	Periodic	Verify packaging and exposure control.
Cracked tack welds	Periodic	Verify that welding does not occur over cracked tack welds.
Environmental conditions	Periodic	Verify wind speed is within limits as well as precipitation and temperature.
WPS followed	Periodic	Verify items such as settings on welding equipment, travel speed, welding materials, shielding gas type/flow rate, preheat applied, interpass temperature maintained, and proper position.
Welding techniques	Periodic	Verify interpass and final cleaning, each pass is within profile limitations, and each pass meets quality requirements.
After Welding (Table N5.4-3, AISC 360-10):		
Welds cleaned	Periodic	Verify that welds have been properly cleaned.
Size, length, and location of welds	Periodic (E)	
Welds meet visual acceptance criteria	Periodic (E)	Verify weld meets visual acceptance criteria based upon crack prohibition, weld/base-metal fusion, crater cross section, weld profiles, weld size, undercut, and porosity.
Arc strikes	Periodic (E)	
Backing & weld tabs removed	Periodic (E)	
Repair activities	Periodic (E)	
Document acceptance or rejection of welded joint/member	Periodic (E)	
No prohibited welds	Periodic (E)	Verify no prohibited welds have been added without approval of the EOR.
Prior to Bolting (Table N5.6-1, AISC 360-16):		
Certifications of fasteners	Continuous	
Fasteners marked	Periodic	Verify that fasteners have been marked in accordance with ASTM requirements.
Proper fasteners for joint	Periodic	Verify grade, type, and bolt length if threads are excluded from the shear plane.
Proper bolting procedure	Periodic	Verify proper procedure is used for the joint detail.
Connecting elements	Periodic	Verify appropriate faying surface condition and hole preparation, if specified, meet requirements.
Pre-installation verification testing	Periodic	Observe and document verification testing by installation personnel for fastener assemblies and methods used.
Proper storage	Periodic	Verify proper storage of bolts, nuts, washers, and other fastener components.
After Bolting (Table N5.6-3, AISC 360-16):		
Document acceptance or rejection of bolted connections	Periodic (E)	
Other Steel Inspections (Section N5.8, AISC 360-16: Table J8-1, J10-1, AISC 341-17):		
Structural steel details	Periodic	All fabricated steel or steel frames shall be inspected to verify compliance with the details shown in the construction documents, such as braces, stiffeners, member locations, and proper application of joint details at each connection.
Galvanized steel members	Periodic	Exposed cut surfaces of galvanized structural steel main members and exposed corners of rectangular HSS shall be visually inspected for cracks subsequent to galvanizing. Cracks shall be repaired or the member shall be rejected.

SPRAYED FIRE-RESISTANT MATERIALS (IBC 1705.14)

Item			Detailed Instructions and Frequencies
Surface preparation	☐ Continuous	☒ Periodic	Prior to application confirm that surface has been prepared per the approved fire-resistance design and manufacturer's instructions.
Material thickness	☐ Continuous	☒ Periodic	Samples shall be taken from selected floor, roof and wall assemblies and structural members. No more than 10% of the samples shall be less than the thickness required by the fire-resistance design.
Material density	☐ Continuous	☒ Periodic	Density tests shall be performed in accordance with ASTM E 605 for every 2,500ft² of floor, roof or wall area. One sample must also be provided for each beam, girder, truss or column at each story.
Bonding strength	☐ Continuous	☒ Periodic	Bond strength tests shall be performed in accordance with ASTM E 736 for every 2,500ft² of floor, roof or wall area. One sample must also be provided for each beam, girder, truss or column at each story. The bond strength shall not be less than 150psf.

FIRE-RESISTANT PENETRATIONS AND JOINTS (IBC 1705.17)

➢ *Only required for high-rise buildings or those assigned to Risk Category III or IV per IBC Table 1604.5.*

Item			Detailed Instructions and Frequencies
Penetration firestops	☐ Continuous	☒ Periodic	Listed systems shall be inspected in accordance with ASTM E 2393.
Fire-resistant joint systems	☐ Continuous	☒ Periodic	Listed systems shall be inspected in accordance with ASTM E 2393.

SMOKE CONTROL (IBC 1705.18)

Item			Detailed Instructions and Frequencies
Verify device locations and perform leakage testing	☐ Continuous	☒ Periodic	During erection of ductwork and prior to concealment. As defined by rational analysis.
Pressure difference testing, flow measurements and detection and control verification	☐ Continuous	☒ Periodic	Prior to occupancy and after sufficient completion. As defined by rational analysis.

ARCHITECTURAL COMPONENTS (IBC 1705.11.5 & 1705.11.7)

➢ *Only required for buildings located within Seismic Design Category D, E, or F.*

Item			Detailed Instructions and Frequencies
Erection and fastening of exterior cladding and exterior veneers	☐ Continuous	☒ Periodic	Verify appropriate materials, fasteners and attachment at commencement of work and at completion. Performed by code inspection firm. (Not required if < 30 feet or less than 5psf).
Storage racks	☐ Continuous	☒ Periodic	Verify that anchorage complies with approved construction documents. Inspection of post-installed anchors shall comply with approved ICC-ES report. ***Performed by code inspection firm.***

MECHANICAL & ELECTRICAL COMPONENTS (IBC 1705.11.4 & 1705.11.6)

➢ *Only required for buildings located within Seismic Design Category C, D, E, or F.*

Item			Detailed Instructions and Frequencies
Anchorage of emergency or standby power systems	☐ Continuous	☒ Periodic	Verify that anchorage complies with approved construction documents. ***Performed by code inspection firm.***
Installation of piping systems carrying flammable, combustible or highly toxic materials	☐ Continuous	☒ Periodic	Verify that installation and restraint comply with approved construction documents. ***Performed by code inspection firm.***
Installation of vibration isolation systems having a clearance of ≤¼"	☐ Continuous	☒ Periodic	Verify that installation complies with approved construction documents and manufacturer's recommendations. ***Performed by code inspection firm.***
Designated seismic systems	☐ Continuous	☒ Periodic	Confirm that manufacturer's certificate of compliance conforms to the requirements of Section 13.2 of ASCE 7-10. Verify that the label, anchorage or mounting conforms to the manufacturer's certificate of compliance. ***Performed by code inspection firm.***

MISCELLANEOUS AREAS

➢ *These inspections may be recommended by the Architect/Engineer and are to be approved by DFCM.*

Item			Detailed Instructions and Frequencies
Suspended Acoustical Ceilings	☐ Continuous	☒ Periodic	***Performed by code inspection firm.***
Seismic supports for duct work and sealing of joints for duct work	☐ Continuous	☒ Periodic	
Seismic supports for electrical raceways, cable trays and lights	☐ Continuous	☒ Periodic	
Seismic supports for plumbing lines including gas, water and steam and condensation	☐ Continuous	☒ Periodic	
Seismic bracing for mechanical units both on slab and suspended	☐ Continuous	☒ Periodic	

Special Inspectors Shall:

- Be approved by the Building Official prior to performing any duties;
- Provide proof of licensure as a special inspector by the State of Utah for each type of inspection;
- Inspection reports are to meet the requirements of IBC 1704.2.4 and DFCM standards;
- Inspection reports are to be submitted to the code consultant, architect, DFCM project manager, and the State of Utah Building Official within 48 hours of performing inspections;
- A final inspection report shall be submitted following completion of the project documenting the types of special inspections performed and a statement indicating that the structure is in compliance with the approved construction documents and applicable codes (see IBC 1704.2.4).

Updated July 22, 2013

REFERENCE NOTES

FFKR ARCHITECTS
730 Pacific Avenue · Salt Lake City, Utah 84104
O 801.521.6186 · FFKR.COM

ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
LICENSED ARCHITECT
No. 7732018-0301
09-16-2022

△	DATE	REVISION
	09/12/2022	DOH Response 1

U of U PROJECT NUMBER

CODE ANALYSIS

G011

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ACC OR Expansion - Responsibility Matrix

Responsibility Legend

A/E - FFKR Architects (Reaveley/VBFA/Spectrum)	A/E
Contractor - Gramoll Construction	Contractor
Owner - University Health	Owner

The intent of this matrix is to identify the general umbrella of responsibility for each item listed below. This identifies a responsibility between only the owner, design team and contractor with the intent of identifying which funding bucket to be assigned and who holds the contract.

Responsibility Designations

Telecom	Designed By	Furnished By	Installed By	In project Scope?	Notes
Location of Data	A/E	-	-	YES	A/E design under direct coordination with University
Quantity of Data Drops	A/E	-	-	YES	A/E design under direct coordination with University
Fiber Backbone	A/E	Contractor	Contractor	NO	A/E design under direct coordination with University
Copper Backbone	A/E	Contractor	Contractor	NO	A/E design under direct coordination with University
Riser Backbone	A/E	Contractor	Contractor	NO	A/E design under direct coordination with University
Fiber Patch Panels	A/E	Contractor	Contractor	NO	A/E design under direct coordination with University
Cat 6 Horizontal Cable	A/E	Contractor	Contractor	YES	A/E design under direct coordination with University
Patch Panels/Inserts SPP, WPP	A/E	Contractor	Contractor	YES	A/E design under direct coordination with University
Horizontal Wire Manager (1RU, 2RU)	A/E	Contractor	Contractor	YES	A/E design under direct coordination with University
Vertical Wire Manager	A/E	Contractor	Contractor	NO	A/E design under direct coordination with University
RJ45 Inserts, Faceplates, Surface Mount Boxes	A/E	Contractor	Contractor	YES	A/E design under direct coordination with University
Building MDF/IDF Racks	A/E	Contractor	Contractor	NO	A/E design under direct coordination with University
Power Distribution At Rack	A/E	Contractor	Contractor	NO	A/E design under direct coordination with University
Building MDF/IDF Ladder Racks	A/E	Contractor	Contractor	NO	A/E design under direct coordination with University
Grounding & Bonding (Buss Bars)	A/E	Contractor	Contractor	NO	A/E design under direct coordination with University
Active Network Electronics	Owner	Owner	Owner		
Wireless Access Points	Owner	Owner	Owner		
Communication Room UPS	Owner	Owner	Contractor		
Plywood Backboard	A/E	Contractor	Contractor	NO	A/E design under direct coordination with University
J-Hook	A/E	Contractor	Contractor	YES	A/E design under direct coordination with University
Cable Tray	A/E	Contractor	Contractor	NO	A/E design under direct coordination with University
Rough-In (Conduit, Boxes, J-Boxes, etc.)	A/E	Contractor	Contractor	YES	A/E design under direct coordination with University
Testing Cables	A/E	Contractor	Contractor	YES	A/E design under direct coordination with University
DAS (Cellular)	Designed By	Furnished By	Installed By		Notes
Not in Scope of Work				NO	
DAS (Public Safety)	Designed By	Furnished By	Installed By		Notes
Not in Scope of Work				NO	
Access Control	Designed By	Furnished By	Installed By		Notes
System Design	A/E	-	-	YES	A/E design under direct coordination with University
Rough-In (Conduit, boxes, etc.)	A/E	Contractor	Contractor	YES	A/E design under direct coordination with University
Card Reader	A/E	Contractor	Contractor	YES	A/E design under direct coordination with University
Door Hardware	A/E	Contractor	Contractor	YES	A/E design under direct coordination with University
Access Control Wiring	A/E	Contractor	Contractor	YES	A/E design under direct coordination with University
Access Control Head End	A/E	Contractor	Contractor	YES	A/E design under direct coordination with University
Access Control Privilege Assignments	Owner	Owner	Owner		
Access Control Programming	Contractor	Contractor	Contractor	YES	A/E design under direct coordination with University
Video Surveillance	Designed By	Furnished By	Installed By		Notes
System Design	A/E	-	-		A/E design under direct coordination with University
Rough-In (Conduit, boxes, etc.)	A/E	Contractor	Contractor	YES	A/E design under direct coordination with University
Equipment (Head end, recorders, etc.)	A/E	Contractor	Contractor	NO	Owner provides specifications to be included in bid documents
Cameras	A/E	Owner	Contractor	YES	Owner provides specifications to be included in bid documents
Programming/Testing	A/E	Contractor	Contractor	YES	Owner provides specifications to be included in bid documents
Video Patient Monitoring	Designed By	Furnished By	Installed By		Notes
Not in Scope of Work					
Fire Alarm System	Designed By	Furnished By	Installed By		Notes
Fire Alarm System	A/E	Contractor	Contractor	YES	A/E provides layouts, contractor provides shop documents. Deferred Submittal.
Headwalls	Designed By	Furnished By	Installed By		Notes
Not in Scope of Work				NO	
Patient Lifts	Designed By	Furnished By	Installed By		Notes
Not in Scope of Work				NO	
Procedure/Surgical Lights & Booms	Designed By	Furnished By	Installed By		Notes
System Design	Owner	-	-	YES	Owner provides specifications to be included in bid documents
Rough-In (Conduit, boxes, etc.)	A/E	Contractor	Contractor	YES	A/E under direct coordination with University
Light Structure	A/E	Contractor	Contractor	YES	A/E under direct coordination with University
Seismic Design	A/E	Contractor	Contractor	YES	A/E under direct coordination with University
Installation of Procedure/Surgical Lights	Owner	Contractor	Contractor		
Prefabricated OR Ceiling System	Designed By	Furnished By	Installed By		Notes
System Design	Owner	-	-		Owner provides specifications to be included in bid documents
Rough-In (Conduit, boxes, etc.)	A/E	Contractor	Contractor	YES	A/E under direct coordination with University
OR Ceiling System Structure	A/E	Contractor	Contractor	YES	A/E under direct coordination with University
Seismic Design	A/E	Contractor	Contractor	YES	A/E under direct coordination with University
OR Lighting Provided with OR Ceiling System	A/E	Contractor	Contractor	YES	Includes Light fixtures Away from Ceiling System
Installation of OR Ceiling System	A/E	Contractor	Contractor	YES	
OR Integrated Technology Solution	Designed By	Furnished By	Installed By		Notes
System Design	Owner	-	-		A/E design under direct coordination with University
Rough-In (Conduit, boxes, etc.)	A/E	Contractor	Contractor	YES	A/E design under direct coordination with University
Cabling (HDMI, etc.)	Owner	Owner	Owner	YES	
Head End Equipment	Owner	Owner	Owner	YES	
Monitors/Televisions, etc.	Owner	Owner	Owner	YES	
Cameras	Owner	Owner	Owner	YES	
Programming/Testing	Owner	Owner	Owner	YES	
Cable Television Systems	Designed By	Furnished By	Installed By		Notes
Amplifier	A/E	Contractor	Contractor	NO	
Direct couplers	A/E	Contractor	Contractor	YES	
Coax cabling	A/E	Contractor	Contractor	YES	
Audio/Visual Systems	Designed By	Furnished By	Installed By		Notes
System Design	A/E	-	-		A/E design under direct coordination with University
Rough-In (Conduit, boxes, etc.)	A/E	Contractor	Contractor	YES	A/E design under direct coordination with University
Cabling (HDMI, etc.)	A/E	Contractor	Contractor	YES	
Head End Equipment	Owner	Owner	Owner	YES	
Monitors/Televisions, etc.	Owner	Owner	Owner	YES	
Programming/Testing	Owner	Contractor	Contractor	YES	
Alertus Systems	Designed By	Furnished By	Installed By		Notes
Not in Scope of Work				NO	
Clocks	Designed By	Furnished By	Installed By		Notes
System Design	A/E	-	-	YES	A/E design under direct coordination with University
Rough-In (Conduit, boxes, etc.)	A/E	Contractor	Contractor	YES	A/E design under direct coordination with University
Clock Cabling	Owner	Contractor	Contractor	YES	Owner provides specifications to be included in bid documents
Clocks	Owner	Contractor	Contractor	YES	Owner provides specifications to be included in bid documents
Programming/Testing	Owner	Contractor	Contractor	YES	Owner provides specifications to be included in bid documents
Nurse Call System	Designed By	Furnished By	Installed By		Notes
System Design	A/E	-	-	YES	A/E design under direct coordination with University
Rough-In (Conduit, boxes, etc.)	A/E	Contractor	Contractor	YES	A/E design under direct coordination with University
Cabling	Owner	Contractor	Contractor	YES	Owner provides specifications to be included in bid documents
Devices	Owner	Contractor	Contractor	YES	Owner provides specifications to be included in bid documents
Programming/Testing	Owner	Contractor	Contractor	YES	Owner provides specifications to be included in bid documents
Nurse Monitoring	Designed By	Furnished By	Installed By		Notes
Not in Scope of Work				NO	
Paging System	Designed By	Furnished By	Installed By		Notes
System Design	A/E	-	-	YES	A/E design under direct coordination with University
Rough-In (Conduit, boxes, etc.)	A/E	Contractor	Contractor	YES	A/E design under direct coordination with University
Cabling	A/E	Contractor	Contractor	YES	Owner provides specifications to be included in bid documents
Head End Equipment, speakers, etc.	A/E	Contractor	Contractor	YES	Owner provides specifications to be included in bid documents
Programming/Testing	A/E	Contractor	Contractor	YES	Owner provides specifications to be included in bid documents
Patient Monitoring	Designed By	Furnished By	Installed By		Notes
Not in Scope of Work	A/E	Contractor	Contractor	NO	Owner provides specifications to be included in bid documents
Pneumatic Tube Systems	Designed By	Furnished By	Installed By		Notes
Not in Scope of Work				NO	
Real Time Location System (RTLS)	Designed By	Furnished By	Installed By		Notes
System Design	A/E	-	-	NO	A/E design under direct coordination with University
Rough-In (Conduit, boxes, etc.)	A/E	Contractor	Contractor	NO	A/E design under direct coordination with University
Power Requirements	A/E	Contractor	Contractor	NO	Owner provides specifications to be included in bid documents
Communications Infrastructure/Cabling	A/E	Contractor	Contractor	NO	Owner provides specifications to be included in bid documents
Antennas and Head End Equipment	Owner	Owner	Owner	NO	
Programming/Testing	Owner	Owner	Owner	NO	
Sound Masking System	Designed By	Furnished By	Installed By		Notes
Not in Scope of Work	A/E	Contractor	Contractor	NO	
Televisions (Patient Areas)	Designed By	Furnished By	Installed By		Notes
Not in Scope of Work	A/E	Contractor	Contractor	NO	
AI Phones / Intercoms	Designed By	Furnished By	Installed By		Notes
System Design	A/E	-	-	NO	A/E design under direct coordination with University
Rough-In (Conduit, boxes, etc.)	A/E	Contractor	Contractor	NO	A/E design under direct coordination with University
Cabling	A/E	Contractor	Contractor	NO	Owner provides specifications to be included in bid documents
Devices	A/E	Contractor	Contractor	NO	Owner provides specifications to be included in bid documents
Programming/Testing	A/E	Contractor	Contractor	NO	Owner provides specifications to be included in bid documents
Temperature Monitoring	Designed By	Furnished By	Installed By		Notes
Not in Scope of Work				NO	
Time Clocks	Designed By	Furnished By	Installed By		Notes
System Design	A/E	-	-	YES	A/E design under direct coordination with University
Rough-In (Conduit, boxes, etc.)	A/E	Contractor	Contractor	YES	A/E design under direct coordination with University
Communications and Power Infrastructure	A/E	Contractor	Contractor	YES	Owner provides specifications to be included in bid documents
Time Clocks	Owner	Owner	Owner	YES	
Programming/Testing	Owner	Owner	Owner	YES	
Weighed Bin System	Designed By	Furnished By	Installed By		Notes
Not in Scope of Work					
Notes					

Approved Installer/Vendor/Manufacturer List			
C-Cure	**Data Cabling**		**Fire Alarm**
Convergint	Commscope Systemax Certified - Americom		Mountain Alarm
Global Surveillance	Commscope Systemax Certified - Cache Valley Electric or IES		
IDeACOM	Commscope Systemax Certified - IES or Cache Valley Elec		
Marshall Industries			
Security 101			
Structure Works			
Utah Yamas Controls			
Pneumatic Tube Systems	**Headwalls**		**Patient Lifts**
Not in Scope of Work	Not in Scope of Work		Not in Scope of Work
Video Surveillance	**Nurse Call**		**Weighed Bin System**
Avigilon	Ascom		Not in Scope of Work
Patient Monitors	**Real Time Location System (RTLS)**		**Time Clocks**
Not in Scope of Work	Stars		Kronos
Video Patient Monitoring	**Clocks**		**Nurse Monitoring**
Not in Scope of Work	Sapling		Not in Scope of Work
Paging System	**Patient Monitoring**		**AI Phones / Intercoms**
Brogen	Not in Scope of Work		IDeACOM
Procedure/Surgical Lights & Booms	**Prefabricated OR Ceiling System**		**OR Integrated Technology Solution**
Skytron	SLD (Single Large Diffuser)		Storz

FFKR ARCHITECTS
730 Pacific Avenue · Salt Lake City, Utah 84104
O 801.521.6186 · FFKR.COM

ACC OR EXPANSION REMODEL
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CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
LICENSED ARCHITECT
09-16-2022

△ DATE REVISION

U of U PROJECT NUMBER

SCOPE OF WORK MATRIX

G012

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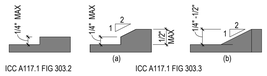
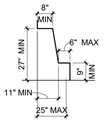
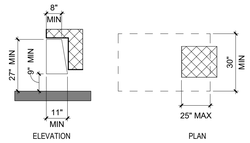


ICC A117.1 FIG 303.2 ICC A117.1 FIG 303.3

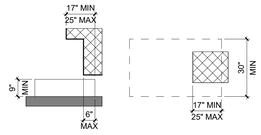
NOTE:
CHANGES IN LEVEL GREATER THAN 1/2" SHALL BE SLOPED @ 5% OR LESS OR BE RAMPED



COMPOSITE TOE & KNEE CLEARANCE

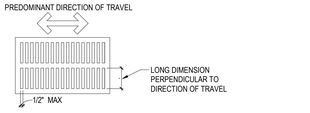


KNEE CLEARANCE

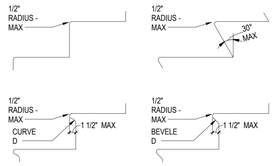


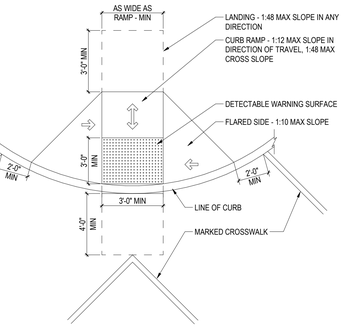
TOE CLEARANCE

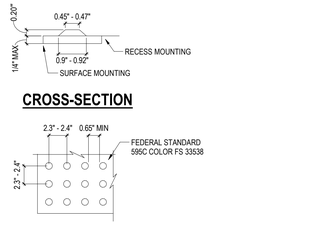
ICC A117.1/ADA FIG 306.2 AND 306.3



ICC A117.1 FIG 302.3

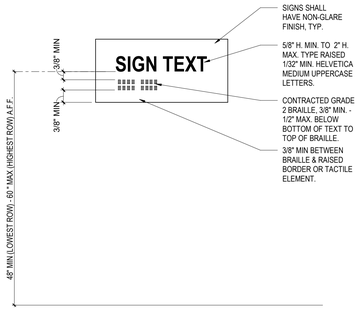




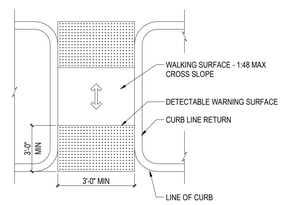


CROSS-SECTION

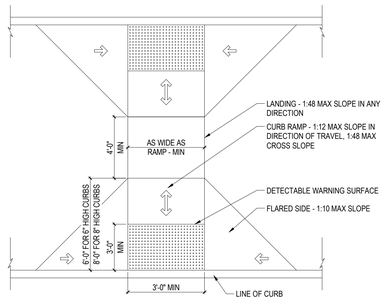
PLAN VIEW



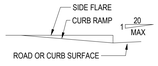
ROOM IDENTIFICATION SIGNAGE REQUIREMENTS

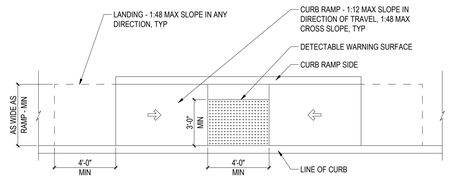


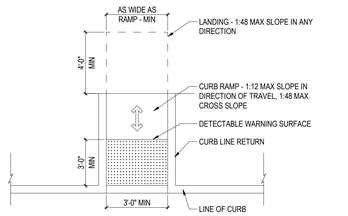
CUT THROUGH AT ISLAND

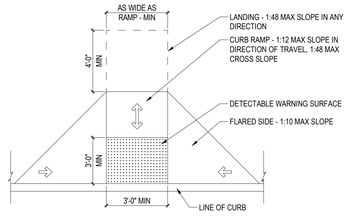


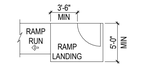
CURB RAMPS AT ISLAND



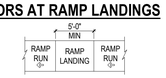




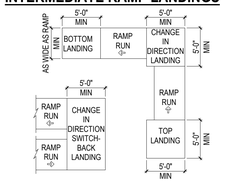




DOORS AT RAMP LANDINGS



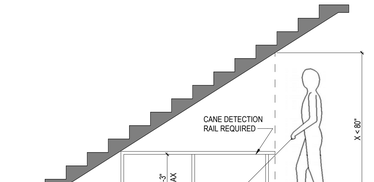
INTERMEDIATE RAMP LANDINGS



TOP, BOTTOM & DIRECTION CHANGE RAMP LANDINGS

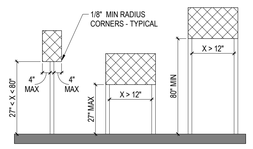
RAMP DESIGN PARAMETERS:

- 1:12 MAX RUNNING SLOPE
- 1:48 MAX CROSS SLOPE
- 30" MAX RISE FOR ANY SINGLE RUN
- HANDRAILS BOTH SIDES
- 3-1/2" MAX HANDRAIL PROJECTION INTO RAMP
- EDGE PROTECTION ON RAMP RUNS
- EDGE PROTECTION ON RAMP LANDINGS W/DROP-OFF MORE THAN 1/2" WITHIN 10" OF MIN LANDING DIM
- CLEAR WIDTH SHALL BE 36" MIN BETWEEN HANDRAILS



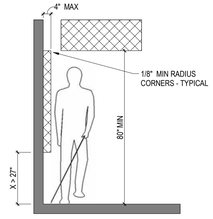
REDUCED VERTICAL CLEARANCE

ICC A117.1 / ADA FIG 307.4



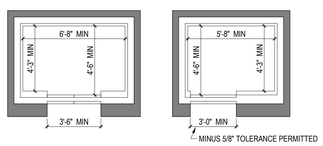
POST MOUNTED PROTRUDING OBJECTS

ICC A117.1 FIG 307.3



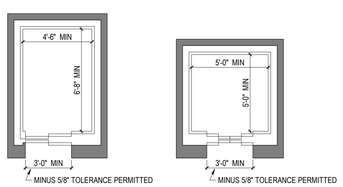
LIMITS OF PROTRUDING OBJECTS

ICC A117.1 FIG 307.2



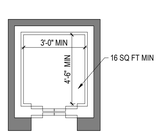
CENTERED DOOR

SIDE DOOR

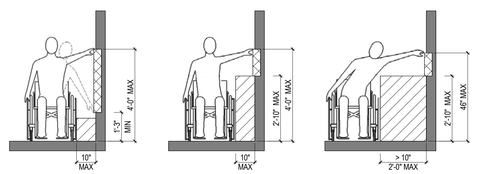


ANY DOOR LOCATION

ANY DOOR LOCATION



EXISTING ELEVATOR



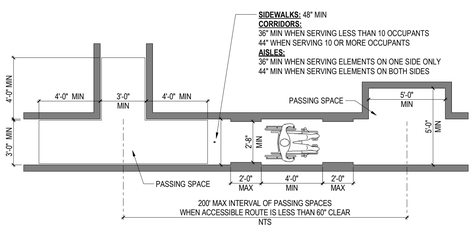
UNOBSTRUCTED

ICC A117.1/ADA FIG 308.3.1

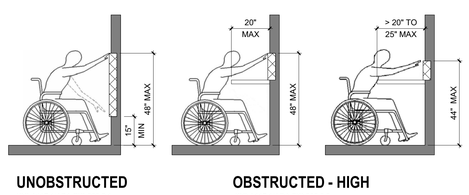
OBSTRUCTED HIGH REACH

ICC A117.1/ADA FIG 308.3.2

SIDE REACH



ACCESSIBLE ROUTE CLEAR WIDTH REQUIREMENTS



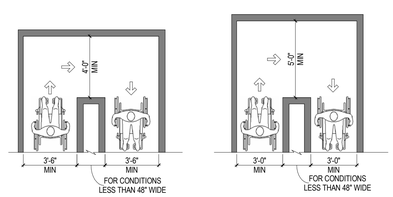
UNOBSTRUCTED

ICC A117.1/ADA FIG 308.2.1

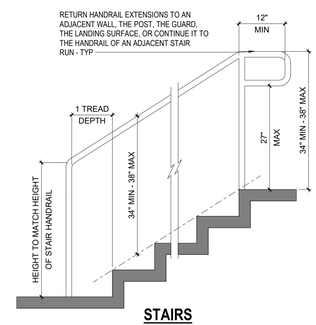
OBSTRUCTED - HIGH

ICC A117.1/ADA FIG 308.2.2

FORWARD REACH

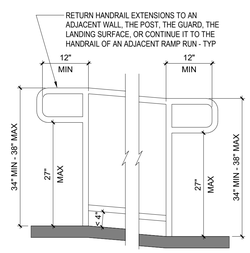


CLEAR WIDTH REQUIREMENTS AT TURNS



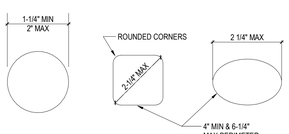
STAIRS

ICC A117.1 FIG 505.10.2 AND ADA FIG 405.9.2

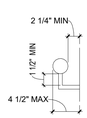


RAMPS

ICC A117.1 FIG 505.10.1 AND ADA FIG 405.9.2



HANDRAIL CROSS SECTION



HANDRAIL CLEARANCE

REFERENCE NOTES

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No. 7732018-0301
REGISTERED ARCHITECT
09-16-2022

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ACCESSIBILITY DIAGRAMS

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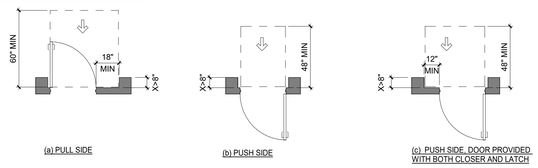
REFERENCE NOTES

HINGED DOOR | POCKET DOOR | FOLDING DOOR | DOORWAYS WITHOUT DOORS

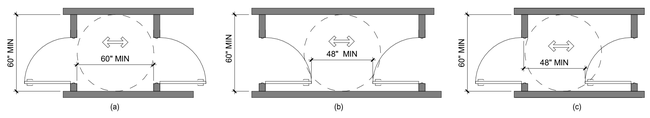
CLEAR WIDTH OF DOORWAYS

ICC A117.1 / ADA FIG 404.3.2

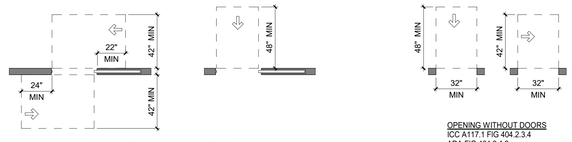


(a) PULL SIDE | (b) PUSH SIDE | (c) PUSH SIDE, DOOR PROVIDED WITH BOTH CLOSER AND LATCH

MANEUVERING CLEARANCES AT RECESSED DOORS
ICC A117.1 FIG 404.2.3.5; ADA FIG 404.2.4.3

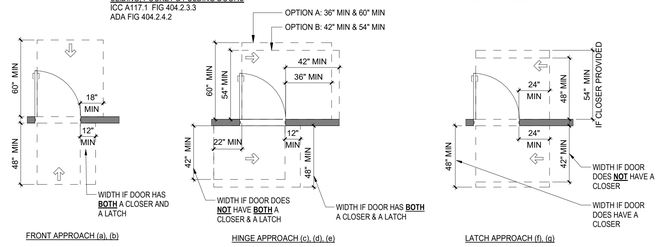


DOORS & GATES IN A SERIES
ICC A117.1 FIG 404.2.5; ADA FIG 404.2.6



SLIDING, POCKET & FOLDING DOORS
ICC A117.1 FIG 404.2.3.3
ADA FIG 404.2.4.2

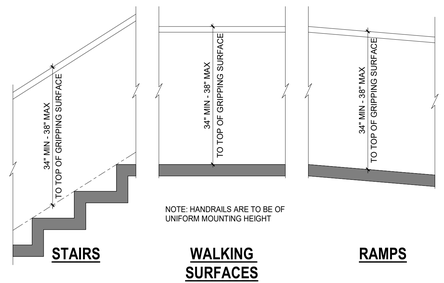
OPENING WITHOUT DOORS
ICC A117.1 FIG 404.2.3.4
ADA FIG 404.2.4.2



FRONT APPROACH (a), (b) | HINGE APPROACH (c), (d), (e) | LATCH APPROACH (f), (g)

MANEUVERING CLEARANCES AT DOORS

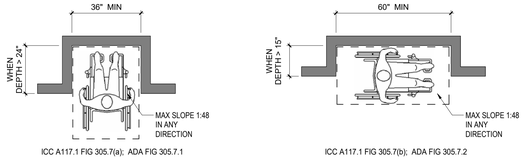
ICC A117.1 FIG 404.2.3.2; ADA FIG 404.2.4.1



STAIRS | WALKING SURFACES | RAMPS

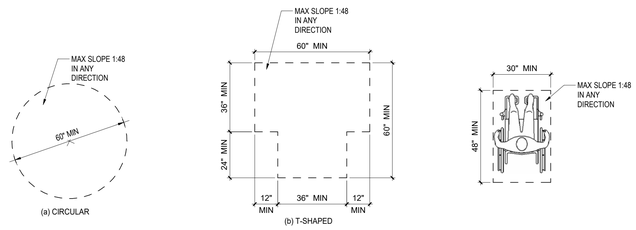
ADA FIG 505.4

HANDRAILS



ICC A117.1 FIG 305.7(a); ADA FIG 305.7.1 | ICC A117.1 FIG 305.7(b); ADA FIG 305.7.2

FORWARD APPROACH ALCOVE | PARALLEL APPROACH ALCOVE



ICC A117.1 FIG 304.3; ADA FIG 304.3.2 | ICC A117.1 FIG 304.3; ADA FIG 305.3

CIRCULAR TURNING SPACE | T-SHAPED TURNING SPACE | CLEAR FLOOR SPACE

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ACCESSIBILITY DIAGRAMS

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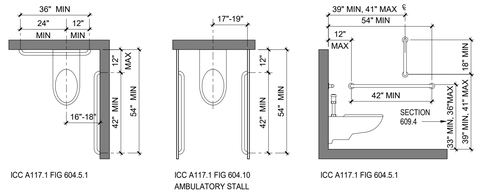
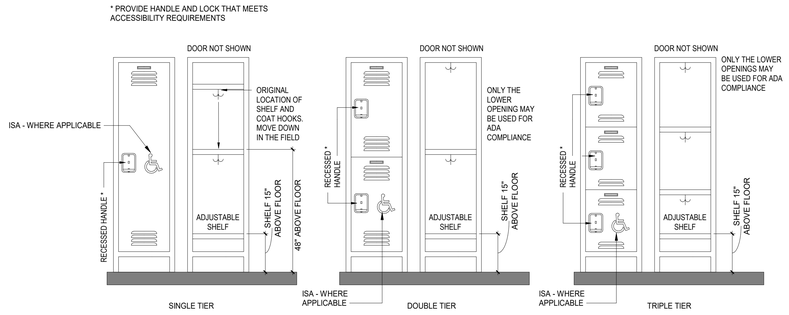
REFERENCE NOTES

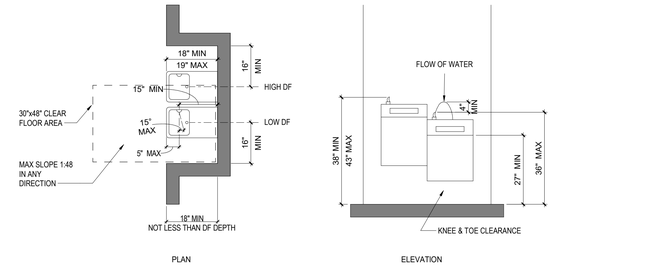


ICC A117.1 FIG 604.5.1 | ICC A117.1 FIG 604.10 AMBULATORY STALL | ICC A117.1 FIG 604.5.1

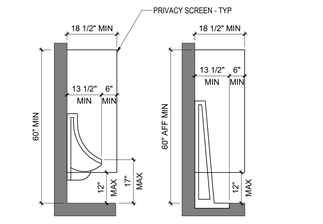
GRAB BARS AT WATER CLOSETS



ACCESSIBLE LOCKERS

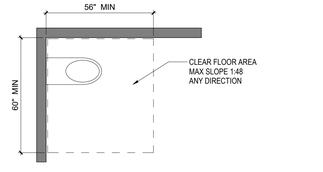


DRINKING FOUNTAIN REQUIREMENTS

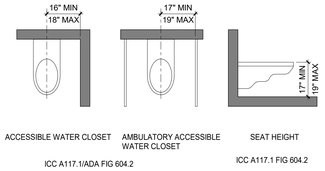


ICC A117.1/ADAAG FIG 605.2
IBC [P] 1210.3.2

ACCESSIBLE URINALS

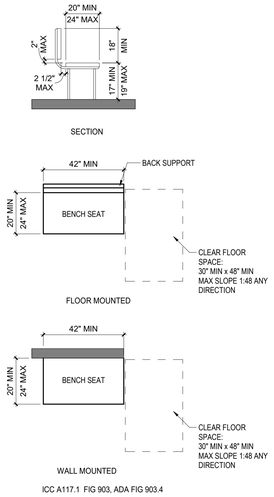


ICC A117.1 FIG 604.3
ADA FIG 604.3.1
SIZE OF CLEARANCE AT WATER CLOSET



ICC A117.1/ADA FIG 604.2 | ICC A117.1 FIG 604.2

WATER CLOSETS

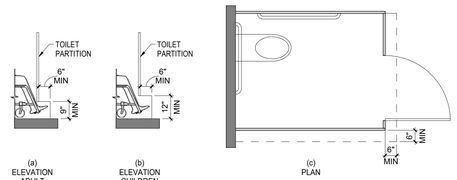


ICC A117.1 FIG 903, ADA FIG 903.4

ACCESSIBLE BENCHES

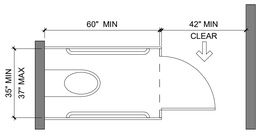
NOTE:
1. TOE CLEARANCE AT THE FRONT PARTITION IS NOT REQUIRED IN A COMPARTMENT GREATER THAN 62 INCHES IN DEPTH WITH A WALL-HUNG WATER CLOSET, OR GREATER THAN 65 INCHES WITH A FLOOR-MOUNTED WATER CLOSET.

2. TOE CLEARANCE AT THE SIDE PARTITION IS NOT REQUIRED IN A COMPARTMENT GREATER THAN 66 INCHES IN WIDTH.

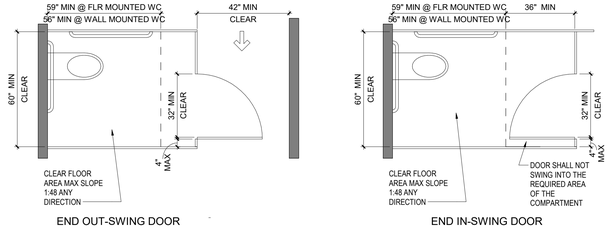


ICC A117.1 FIG 604.9.5, ADAAG FIG 604.8.1.4

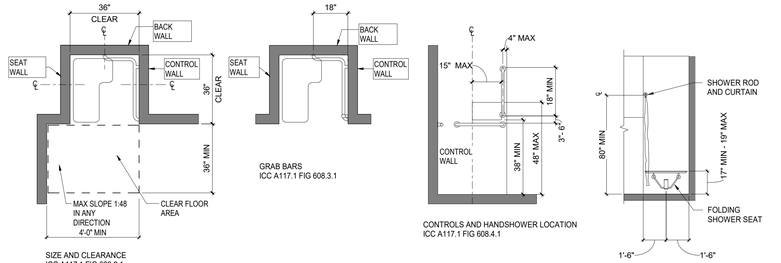
COMPARTMENT TOE CLEARANCE



AMBULATORY COMPARTMENT

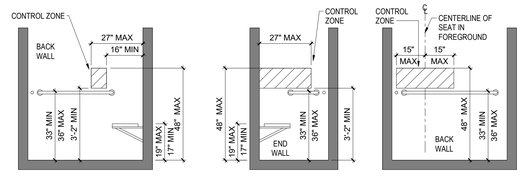


TOILET COMPARTMENTS



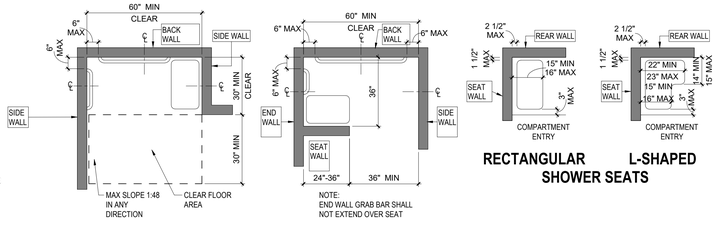
SIZE AND CLEARANCE ICC A117,1 FIG 608.2.1

TRANSFER TYPE SHOWER COMPARTMENT



SHOWER CONTROL MOUNTING ZONES

NOTE:
BACK WALL GRAB BAR SHALL NOT EXTEND OVER SEAT. IF THERE IS NO SEAT, ALL 3 WALLS ARE REQUIRED TO HAVE GRAB BARS.



SHOWER LAYOUTS

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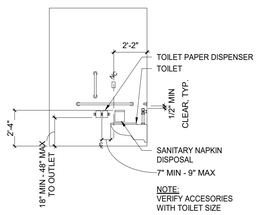
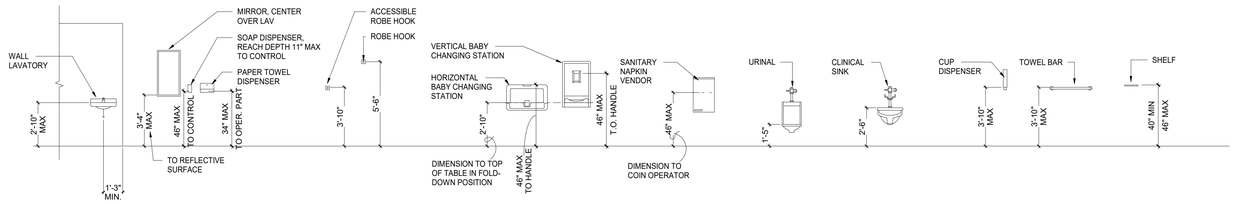
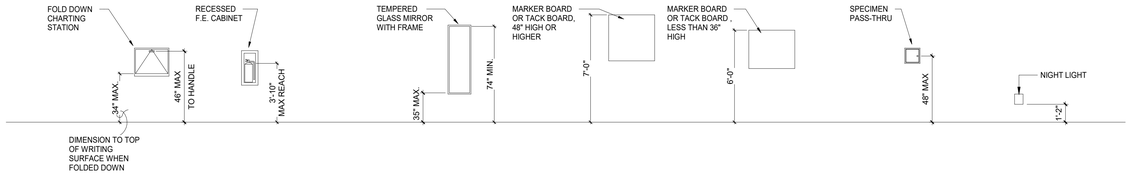


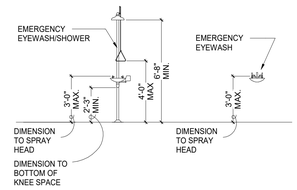
TYPICAL TOILET ACCESSORY MOUNTING HEIGHTS



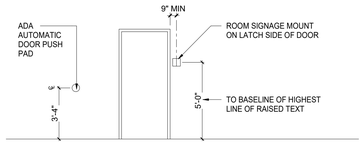
TYPICAL PLUMBING FIXTURE AND TOILET ROOM ACCESSORIES MOUNTING HEIGHTS



TYPICAL MISCELLANEOUS WALL MOUNTED EQUIPMENT MOUNTING HEIGHTS



TYPICAL EMERGENCY FIXTURE MOUNTING HEIGHTS



TYPICAL SIGNAGE MOUNTING HEIGHTS

REFERENCE NOTES

GENERAL NOTES

1. ANY DEVICE NOT SHOWN ARE TO BE MOUNTED AT 46" MAX A.F.F. - COORDINATE WITH ARCHITECT

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TYP MOUNTING HEIGHTS

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CONSTRUCTION PHASING

PHASE 1

AREA 01-
COMPLETION OF FULL EXTENT OF THE BREAK ROOM AND CONFERENCE ROOM

AREA 02 -
INSTALL WALLS BETWEEN THE FUTURE SHARED OFFICE AND OFFICES.
IN PHASE 1, THIS AREA WILL BE SET UP FOR THE TEMPORARY ANESTHESIA WORKROOM &THE TEMPORARY TRASH ROOM. THEIR WILL BE TEMPORARY GASES IN THE ANESTHESIA WORKROOM & TEMPORARY EXHAUST IN THE TRASH ROOM.

PHASE 2

AREA 03-
AREA 03 NEEDS TO BE COMPLETED FIRST.

AREA 02-
ONCE THE TRASH AND ANESTHESIA WORKROOM ARE COMPLETE IN AREA 03, THE TEMPORARY ITEMS/SPACES IN AREA 02 CAN BE DEMOLISHED FOR FINAL COMPLETION OF THE OFFICES

AREA 04-
AREA 04 WILL NEED THE FULL TIME FRAME OF PHASE 2 TO BE COMPLETED. HOWEVER, AREA 02 WILL BE ABLE TO BE COMPLETED FIRST, AS AREA 04 FINISHES OUT.

A1 LEVEL 3 REFERENCE PLAN - PHASE 2
SCALE: 1/8" = 1'-0"

REFERENCE NOTES

CONSTRUCTION PHASING PLANS SHOULD BE VIEWED IN COLOR.

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CONST PHASING PLAN

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LEVEL 3 OCCUPANCY CALCULATIONS

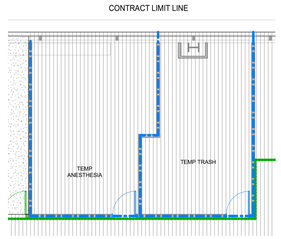
USE GROUP	USE	OCCUPANT LOAD FACTOR	TOTAL OCCUPANTS
I-2 CONDITION 2	BUSINESS	150 GROSS	3,943 / 150 = 27 STAFF 2,010 / 150 = 14 STAFF TOTAL = 41 STAFF
	ASSEMBLY UNCONCENTRATED	15 NET	218 / 15 = 15 VISITORS 764 / 15 = 51 VISITORS 1,220 / 15 = 82 STAFF TOTAL = 82 STAFF & 66 VISITORS
	INPATIENT TREATMENT	240 GROSS	2,865 / 240 = 12 1,985 / 240 = 9 379 / 240 = 2 7,359 / 240 = 31 1,151/ 240 = 5 13,213 / 240 = 56 TOTAL = 115 (40 PATIENTS & 40 VISITORS) 115 - 40 PATIENTS - 40 VISITORS =35 STAFF
	LOCKER ROOM	50 GROSS	1598 / 50 = 32 STAFF TOTAL = 32 STAFF
	STORAGE / MECH	300 GROSS	102 / 300 = 1 STAFF 96 / 300 = 1 STAFF 181 / 300 = 1 STAFF 325 / 300 = 2 STAFF 101 / 300 = 1 STAFF 248 / 300 = 1 STAFF 169 / 300 = 1 STAFF 207 / 300 = 1 STAFF 3,595 / 300 = 12 STAFF 99 / 300 = 1 STAFF 859 / 300 = 3 STAFF 2,131 / 300 = 8 STAFF TOTAL = 33 STAFF
		TOTAL	369 OCCUPANTS TOTAL 223 STAFF 40 PATIENTS 106 VISITORS

OCCUPANT JUSTIFICATION

OCCUPANT COUNTS ARE BROKEN DOWN BY OCCUPANCY TYPE TO ALIGN WITH TABLE 2902.1

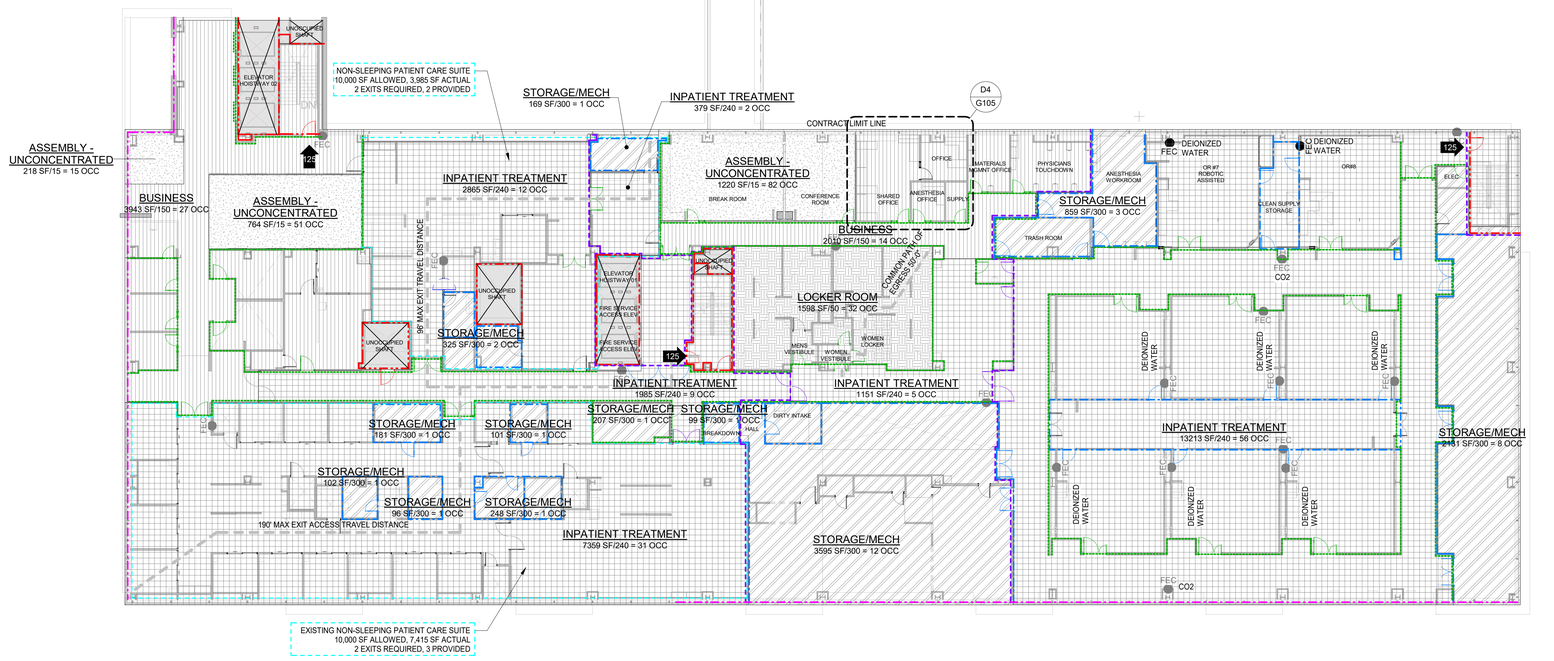
EXPLANATION OF OCCUPANCY TYPE CALCULATIONS:
- TOTAL OCCUPANTS ON FLOOR = NUMBER OF PATIENTS + NUMBER OF VISITORS + NUMBER OF STAFF
- NUMBER OF PATIENTS = NUMBER OF PATIENT PREP/RECOVERY ROOMS, PACU BEDS, PROCEDURE ROOMS AND OPERATING ROOMS
- NUMBER OF VISITORS = WAITING AREA + 1 VISITOR PER PATIENT
- NUMBER OF STAFF = ALL OF THE OTHER USES (OFFICE, CONFERENCE ROOMS, LOCKER ROOM, STORAGE/MECH.)

THE RATIONALIZATION ABOVE PROVIDES A CONSERVATIVE NUMBER OF OCCUPANTS AND ACCOUNTS FOR THE FOLLOWING ASSUMPTIONS:
- *THERE IS A PATIENT IN EVERY PREP/RECOVERY ROOM, PACU BED, PROCEDURE ROOM AND OPERATING ROOM ALL AT THE SAME TIME
- *EACH PATIENT HAS 1 VISITOR WITH THEM AT ALL TIME IN ADDITION TO THE OCCUPANTS IN THE WAITING AREA (NONE OF WHICH WOULD BE USING A PATIENT OR STAFF TOILET)
- *CONFERENCE ROOMS AND BREAK ROOMS ARE FILLED WITH STAFF FROM SOMEWHERE ELSE AND DOES NOT INCLUDE ANY OF THE STAFF FROM THIS FLOOR



D4 LEVEL 3 - TEMP PHASE 1 LIFE SAFETY PLAN

SCALE: 1/8" = 1'-0"



A1 LEVEL 3 - LIFE SAFETY PLAN - OR

SCALE: 1/16" = 1'-0"

ALL EXITS ON THIS FLOOR ARE FULLY ACCESSIBLE FROM ALL AREAS OF THE FLOOR

Doors serving spaces with an occupant load of 50 or more shall not be provided with a latch or lock other than panic hardware

FUNCTION OF SPACE

- 1 STORAGE/MECH
- 13 ASSEMBLY - UNCONCENTRATED
- 15 BUSINESS
- 24 INPATIENT TREATMENT
- 30 LOCKER ROOM

LIFE SAFETY PLANS SHOULD BE VIEWED IN COLOR.

OCCUPANCY ON FLOOR

GROUP I2 - CONDITION 2

All rated construction including fire barriers, smoke barriers & smoke partitions or any other wall required to have protected openiongs or penetrations shall be permanently marked / identified with signs or stenciling with appropriate wording as stipulated per IBC 703.7

LEGEND

DESCRIPTION

- SMOKE PARTITION
- DOOR SMOKE CONTROL UL 1784
- SMOKE BARRIER (1 HOUR MIN.)
- 1/3 HOUR FIRE RESISTANCE RATED DOOR
- FIRE PARTITION
- 1/3 HOUR FIRE RESISTANCE RATED DOOR
- FIRE BARRIER - 1 HOUR
- 3/4 HOUR FIRE RESISTANCE RATED DOOR
- FIRE BARRIER - 2 HOUR
- 1 1/2 HOUR FIRE RESISTANCE RATED DOOR
- FIRE WALL- 3 HOUR
- EXTERIOR WALL - 1 HOUR
- 3/4 HOUR FIRE RESISTANCE RATED DOOR
- EXISTING WALL - 1 HOUR
- EXISTING WALL - 2 HOUR
- EXISTING FIRE WALL - 3 HOUR
- COMMON PATH OF EGRESS
- OCCUPANCY AREA BOUNDARY
- LIFE SAFETY ARROW
- 60 NUMBER OF OCCUPANTS
- FIRE EXTINGUISHER
- FEC
- IMAGINARY PROPERTY LINE

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UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
REGISTERED ARCHITECT
09-16-2022

△	DATE	REVISION
	09/12/2022	DOH Response 1

U of U PROJECT NUMBER

LEVEL 3 - LIFE SAFETY PLAN

G105

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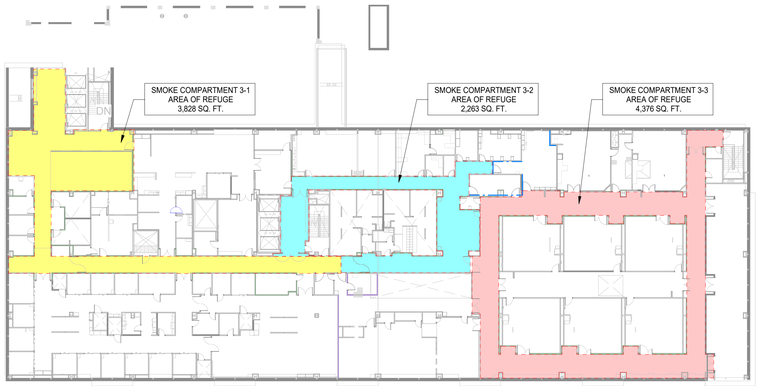


407.5.3 - REFUGE AREA - THE SIZE OF THE REFUGE AREA SHALL ACCOMODATE THE OCCUPANTS AND CARE RECIPIENTS FROM THE ADJOINING SMOKE COMPARTMENT
1. 30 SQ. FT. FOR EACH CARE RECIPIENT CONFINED TO A BED OR STRETCHER.
2. 6 SQ. FT. FOR EACH AMBULATORY CARE RECIPIENT AND OTHER OCCUPANTS

REQUIRED AREA TO ACCOMODATE SMOKE COMPARTMENT 3-1:
153 OCCUPANTS = 122 OCCUPANTS + 31 PATIENTS
CALCULATIONS
31 PATIENTS X 30 SQ. FT. REQUIRED = 930 SQ. FT.
122 OCCUPANTS X 6 SQ. FT. REQUIRED = 732 SQ. FT.
TOTAL REQUIRED AREA OF REFUGE = 1,662 SQ. FT.

SMOKE COMPARTMENT 3-2 AREA OF REFUGE AVAILABLE = 2,263 SQ. FT. > 1,662 SQ. FT. REQUIRED

REQUIRED AREA TO ACCOMODATE SMOKE COMPARTMENT 3-2:
149 OCCUPANTS = 148 OCCUPANTS + 1 PATIENT
CALCULATIONS
1 PATIENT X 30 SQ. FT. REQUIRED = 30 SQ. FT.
148 OCCUPANTS X 6 SQ. FT. REQUIRED = 888 SQ. FT.
TOTAL REQUIRED AREA OF REFUGE = 918 SQ. FT.

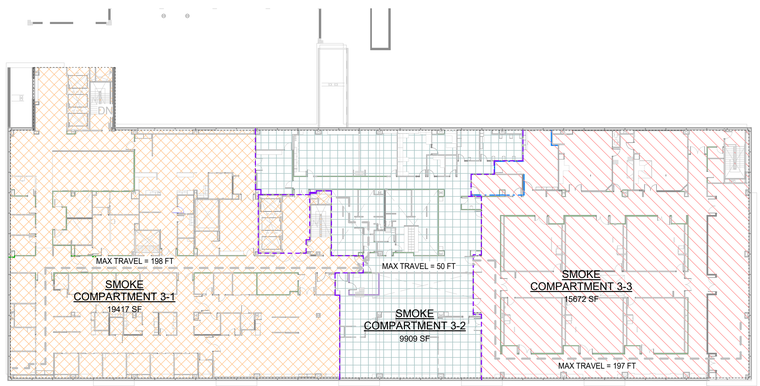
SMOKE COMPARTMENT 3-1 AREA OF REFUGE AVAILABLE = 2,263 SQ. FT. > 918 SQ. FT. REQUIRED
SMOKE COMPARTMENT 3-3 AREA OF REFUGE AVAILABLE = 4,376 SQ. FT. > 918 SQ. FT. REQUIRED

REQUIRED AREA TO ACCOMODATE SMOKE COMPARTMENT 3-3:
67 OCCUPANTS = 59 OCCUPANTS + 8 PATIENTS
CALCULATIONS
8 PATIENTS X 30 SQ. FT. REQUIRED = 240 SQ. FT.
59 OCCUPANTS X 6 SQ. FT. REQUIRED = 354 SQ. FT.
TOTAL REQUIRED AREA OF REFUGE = 594 SQ. FT.

SMOKE COMPARTMENT 3-2 AREA OF REFUGE AVAILABLE = 2,263 SQ. FT. > 594 SQ. FT. REQUIRED

B1 LEVEL 3 SMOKE COMPARTMENT AREA OF REFUGE

SCALE: 1" = 30'-0"



SMOKE COMPARTMENT 3-1 PATIENT CARE:
AREA = 19,417 SF

OCCUPANTS:
ASSEMBLY - UNCONCENTRATED - 66 OCCUPANTS
BUSINESS - 27 OCCUPANTS
INPATIENT TREATMENT - 52 OCCUPANTS (31 PATIENTS)
STORAGE/MECH - 8 OCCUPANTS
TOTAL OCCUPANTS: 153 OCCUPANTS (31 PATIENTS)

MAX TRAVEL DISTANCE TO SMOKE COMPARTMENT DOOR = 198 FT

SMOKE COMPARTMENT 3-2 PATIENT CARE:
AREA = 9,909 SF

OCCUPANTS:
ASSEMBLY - UNCONCENTRATED - 82 OCCUPANTS
BUSINESS - 14 OCCUPANTS
INPATIENT TREATMENT - 7 OCCUPANTS (1 PATIENT)
LOCKER ROOM - 32 OCCUPANTS
STORAGE/MECH - 14 OCCUPANTS
TOTAL OCCUPANTS: 149 OCCUPANTS (1 PATIENT)

MAX TRAVEL DISTANCE TO SMOKE COMPARTMENT DOOR = 50 FT

SMOKE COMPARTMENT 3-3 PATIENT CARE:
AREA = 15,672 SF

OCCUPANTS:
INPATIENT TREATMENT - 56 CCUPANTS (8 PATIENTS)
STORAGE/MECH - 11 OCCUPANTS
TOTAL OCCUPANTS: 67 OCCUPANTS (8 PATIENTS)

MAX TRAVEL DISTANCE TO SMOKE COMPARTMENT DOOR = 197 FT

B4 LEVEL 3 SMOKE COMPARTMENT DIAGRAM OR

SCALE: 1" = 30'-0"

REFERENCE NOTES

SMOKE COMPARTMENT PLANS SHOULD BE VIEWED IN COLOR.

LEGEND

DESCRIPTION

SMOKE BARRIER
SMOKE PARTITION
SMOKE COMPARTMENT 3-1 AREA OF REFUGE
SMOKE COMPARTMENT 3-2 AREA OF REFUGE
SMOKE COMPARTMENT 3-3 AREA OF REFUGE

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CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
REGISTERED ARCHITECT
09-16-2022

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SMOKE COMPARTMENT DIAGRAM

G112

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A1

LEVEL 2 REFERNCE PLAN

SCALE: 1/8" = 1'-0"

REFERENCE NOTES

LEVEL 2 AREA B PLAN REFERENCE

G201

U of U PROJECT NUMBER

△ DATE REVISION

No. 7720184-0301 LICENSED ARCHITECT STATE OF UTAH JEFFREY DON POLAK

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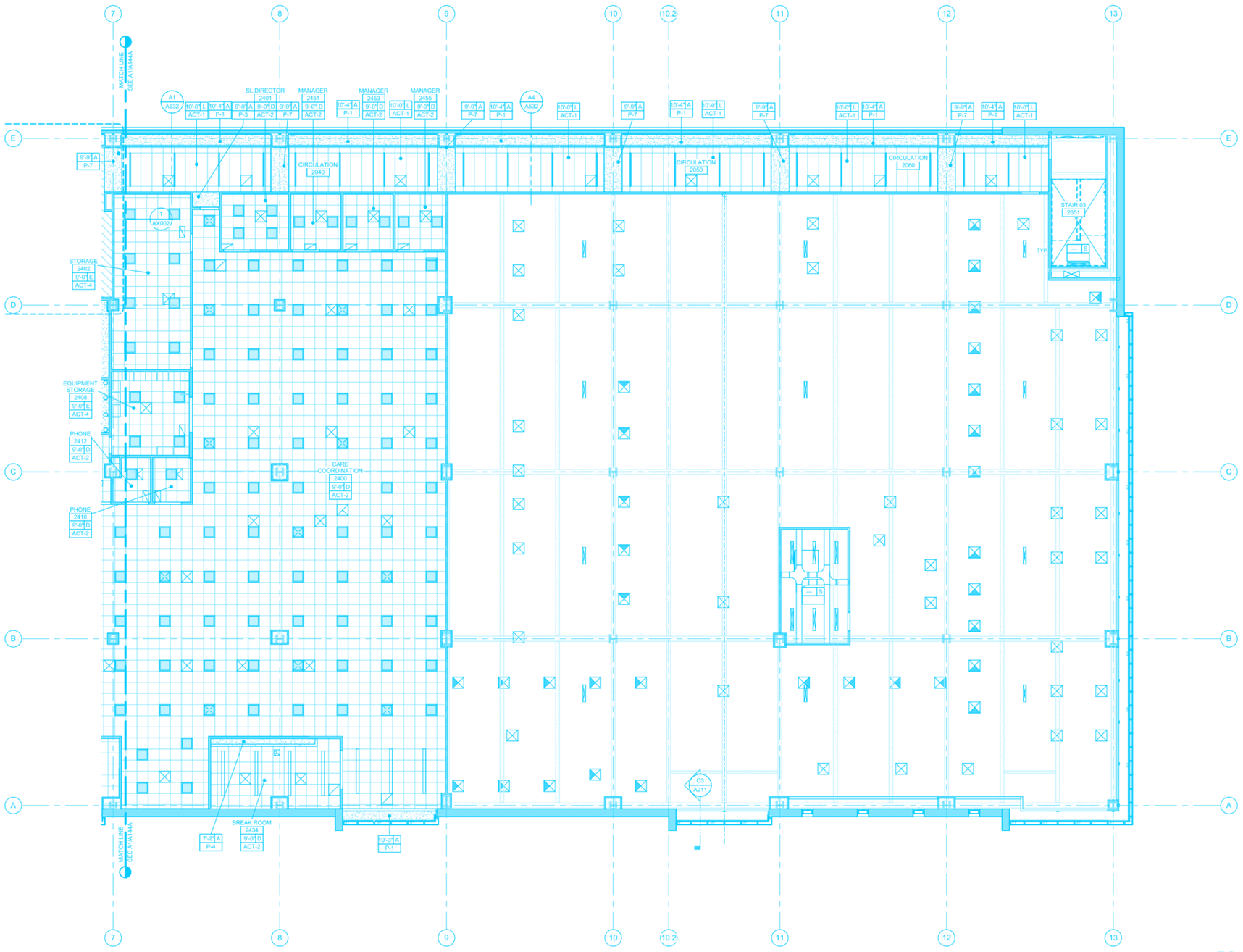


A1 LEVEL 2 REFLECTED CEILING PLAN AREA "B"

SCALE: 1/8" = 1'-0"

TRUE PROJECT

REFERENCE NOTES

DRAWING NOTES

FOR REFERENCE ONLY.

LEVEL 2 CEILING PLAN IS PROVIDED FOR CONTRACTOR REFERENCE TO COMPLETE WORK SHOWN ELSEWHERE IN THE CONTRACT DOCUMENTS THAT OCCURS IN THE CEILING PLENUM OF LEVEL 2. THE EXTENT OF REMOVING EXISTING CEILINGS AND FINISHES IS TO BE DETERMINED BY THE CONTRACTOR AS MEANS AND METHODS. ALL SPACES ARE TO BE RETURNED TO PRE-CONSTRUCTION CONDITION WHEN WORK IN THE CEILING HAS BEEN COMPLETED.

CEILING LEGEND

ROOM NAME
RM NO.
HEIGHT ABOVE FINISHED FLOOR — HT | C — CEILING TYPE
PNT — CEILING FINISH

LIGHT FIXTURES

MECHANICAL FIXTURES

24"x24" ACCESS PANEL

FIRE SPRINKLERS

S1 MANUALLY OPERATED ROLLER SHADES WITH SINGLE ROLLER

S2 MOTOR-OPERATED ROLLER SHADES WITH SINGLE ROLLER

S3 MOTOR-OPERATED ROLLER SHADES WITH DOUBLE ROLLER

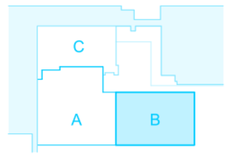
CEILING TYPE

A GYPSUM BOARD
C IMPACT RESISTANT GYPSUM BOARD
D 2x2 ACOUSTICAL PANEL - TEGULAR EDGE (ACT-2)
E 2x2 ACOUSTICAL PANEL - SQUARE EDGE (ACT-4)
F 2x2 ACOUSTICAL PANEL - VINYL LAMINATED (ACT-3)
G PAINTED CONCRETE
H PERFORATED PANEL (PP-1) & (PP-2)
J TRANSITION FACE PLATE (CFP-1)
L 2x4 ACOUSTICAL PANEL - TEGULAR EDGE (ACT-1)
M 2x2 GRID - GYPSUM TILE (GCT)
S OPEN TO STRUCTURE
Q 2 HOUR FIRE RATED GYPSUM CAP
R 2 HOUR FIRE RATED GYPSUM
T ACOUSTIC FELT PANEL (FCP-1)
W WOOD
X 2x4 WOOD PANEL CEILING
Y 2x4 ACOUSTICAL PANEL - TEGULAR EDGE (ACT-5)

GENERAL CEILING NOTES

1. CENTER CEILING TILE PATTERN IN ROOM AND SUCH THAT NO TILE DIMENSION IS LESS THAN 4", U.N.O.
2. CENTER LIGHT WITHIN ROOMS WITH NON-GRID CEILINGS, U.N.O.
3. CENTER ALL SPRINKLER HEADS IN CEILING TILES
4. CENTER OBJECTS IN BOTH DIRECTIONS WITHIN RECTANGLE THEY OCCUR, U.N.O.
5. ROOMS WITH NO CEILING PATTERN ARE EXPOSED TO STRUCTURE, RE: FINISH SCHEDULE FOR PAINT REQUIREMENTS
6. REFER TO ELECTRICAL FOR SPECIFIC LIGHT FIXTURE TYPE AND MOUNTING HEIGHT
7. REFER TO MECHANICAL FOR SPECIFIC FIXTURE AND DEVICE TYPES
8. ALL GYPSUM BOARD CEILINGS TO BE PAINTED P-1, U.N.O. AT SOFFITS, RE: INTERIOR ELEVATIONS
9. SEE A555 SERIES SHEETS FOR TYPICAL CEILING DETAILS.
10. COORDINATE SOFFIT WITH WALL HUNG MILLWORK. REFER TO DETAIL B1/A558.
11. REFER TO ENLARGED WAITING WOOD PANEL CEILING PLANS FOR WOOD GRAIN DIRECTION
12. SEE DETAILS B1, B2 AND B3/A555 FOR TYPICAL CEILING GRID SEISMIC BRACING DETAILS.
13. PROVIDE PRIVACY CURTAIN AT ALL PROCEDURE AND EXAM ROOM DOORWAYS.
14. PAINT AT WINDOW WALL INSET TO MATCH ADJACENT ACCENT COLOR.

KEY PLAN



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09-16-2022

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U of U PROJECT NUMBER

LEVEL 2
AREA B
CEILING
PLAN
REFERENCE

G202

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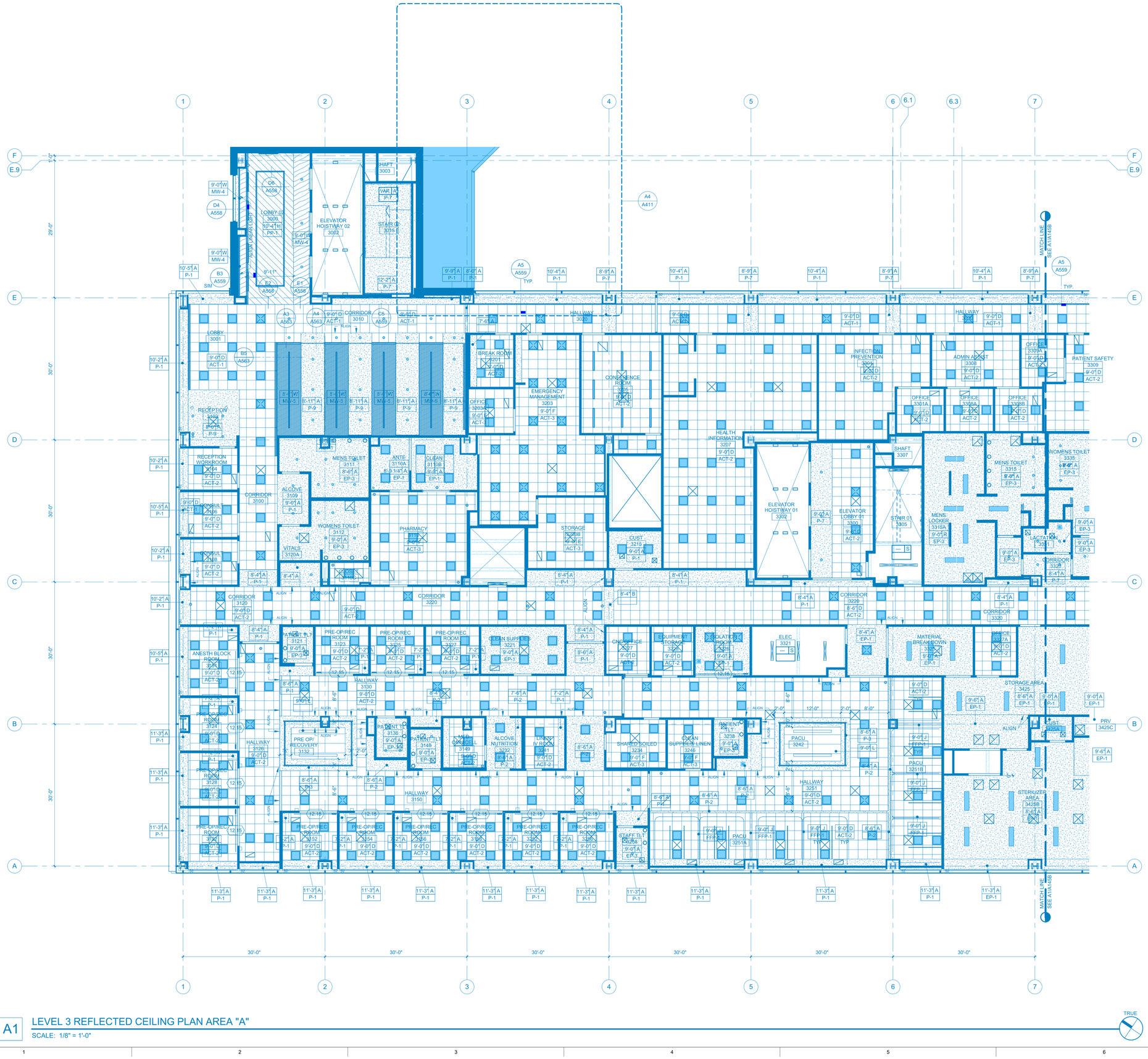

REFERENCE NOTES

DRAWING NOTES

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CEILING LEGEND

ROOM NAME
HEIGHT ABOVE FINISHED FLOOR — RM NO. / HT | C / PNT — CEILING TYPE / CEILING FINISH

LIGHT FIXTURES

MECHANICAL FIXTURES

24"x24" ACCESS PANEL

FIRE SPRINKLERS

S1 MANUALLY OPERATED ROLLER SHADES WITH SINGLE ROLLER

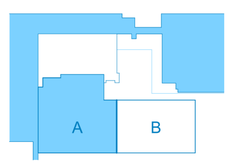
S2 MOTOR-OPERATED ROLLER SHADES WITH SINGLE ROLLER

S3 MOTOR-OPERATED ROLLER SHADES WITH DOUBLE ROLLER

CEILING TYPE

A GYPSUM BOARD
C IMPACT RESISTANT GYPSUM BOARD
D 2x2 ACOUSTICAL PANEL - TEGULAR EDGE (ACT-2)
E 2x2 ACOUSTICAL PANEL - SQUARE EDGE (ACT-4)
F 2x2 ACOUSTICAL PANEL - VINYL LAMINATED (ACT-3)
G PAINTED CONCRETE
H PERFORATED PANEL (PP-1) & (PP-2)
J TRANSITION FACE PLATE (CFP-1)
L 2x6 ACOUSTICAL PANEL - TEGULAR EDGE (ACT-1)
M 2x2 GRID - GYPSUM TILE (GCT)
S OPEN TO STRUCTURE
Q 2 HOUR FIRE RATED GYPSUM CAP
R 2 HOUR FIRE RATED GYPSUM
T ACOUSTIC FELT PANEL (FCP-1)
W WOOD
X 2x4 WOOD PANEL CEILING
Y 2x4 ACOUSTICAL PANEL - TEGULAR EDGE (ACT-5)

KEY PLAN



A1 LEVEL 3 REFLECTED CEILING PLAN AREA "A"
SCALE: 1/8" = 1'-0"

TRUE PROJECT

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SEPTEMBER 19, 2022

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No. 7732018-0301
REGISTERED ARCHITECT
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LEVEL 3
AREA A
CEILING
PLAN
REFERENCE

G203

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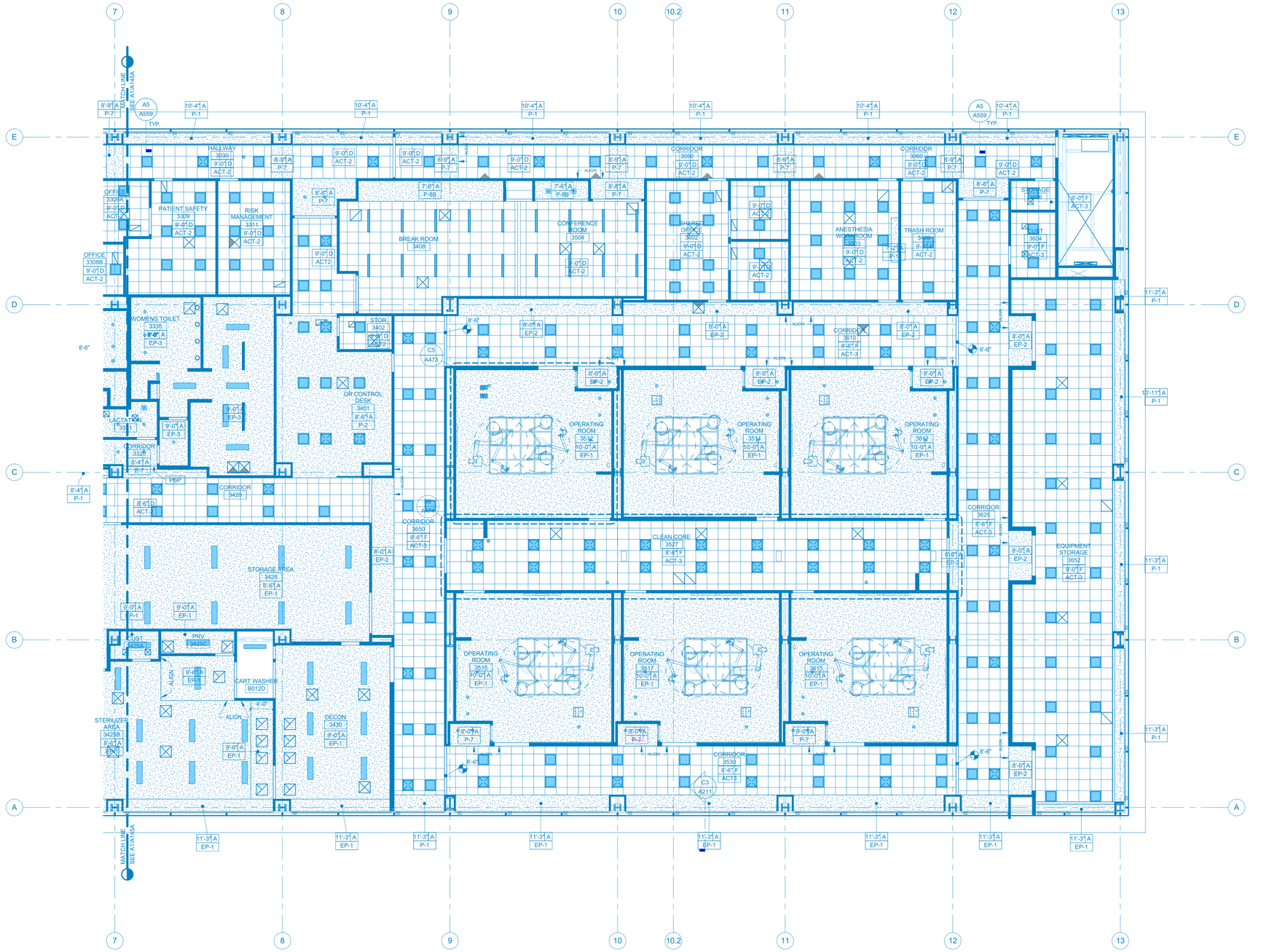

A1 LEVEL 3 REFLECTED CEILING PLAN AREA "B"

SCALE: 1/8" = 1'-0"

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CEILING LEGEND

ROOM NAME
RM NO.
HEIGHT ABOVE FINISHED FLOOR — HT | C — CEILING TYPE
PNT — CEILING FINISH

LIGHT FIXTURES

MECHANICAL FIXTURES

24"x24" ACCESS PANEL

FIRE SPRINKLERS +

S1 MANUALLY OPERATED ROLLER SHADES WITH SINGLE ROLLER

S2 MOTOR-OPERATED ROLLER SHADES WITH SINGLE ROLLER

S3 MOTOR-OPERATED ROLLER SHADES WITH DOUBLE ROLLER

CEILING TYPE

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C IMPACT RESISTANT GYPSUM BOARD
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F 2x2 ACOUSTICAL PANEL - VINYL LAMINATED (ACT-3)
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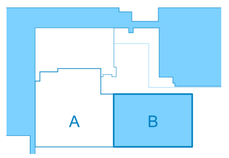
J TRANSITION FACE PLATE (CFP-1)
L 2x6 ACOUSTICAL PANEL - TEGULAR EDGE (ACT-1)
M 2x2 GRID - GYPSUM TILE (GCT)
S OPEN TO STRUCTURE
Q 2 HOUR FIRE RATED GYPSUM CAP
R 2 HOUR FIRE RATED GYPSUM
T ACOUSTIC FELT PANEL (FCP-1)
W WOOD
X 2x4 WOOD PANEL CEILING
Y 2x4 ACOUSTICAL PANEL - TEGULAR EDGE (ACT-5)

KEY PLAN



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No. 7732018-0301
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09-16-2022

△ DATE REVISION

U of U PROJECT NUMBER

LEVEL 3
AREA B
CEILING
PLAN
REFERENCE

G204

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ONLINE CERTIFICATIONS DIRECTORY

Design No. D796
BXUV.D796
Fire Resistance Ratings - ANSI/UL 263

Page Bottom

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263
BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. D796

December 19, 2016

Restrained Assembly Ratings — 1, 1-1/2, 2, 3 & 4 Hr

(See Items 2B, 3, 3A, 6 & 8)

Unrestrained Assembly Ratings — 0, 1, 1-1/2, 2, 3 & 4 Hr

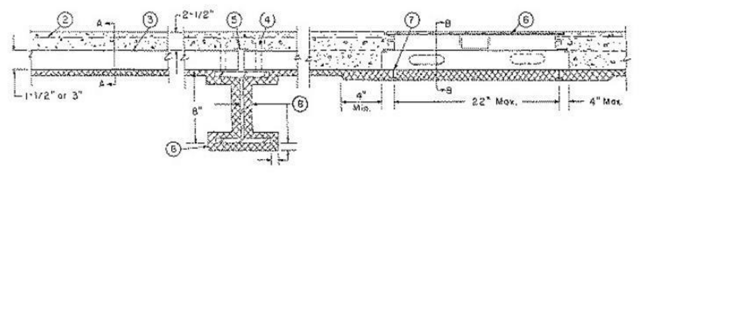
(See Items 2B, 3, 3A & 8)

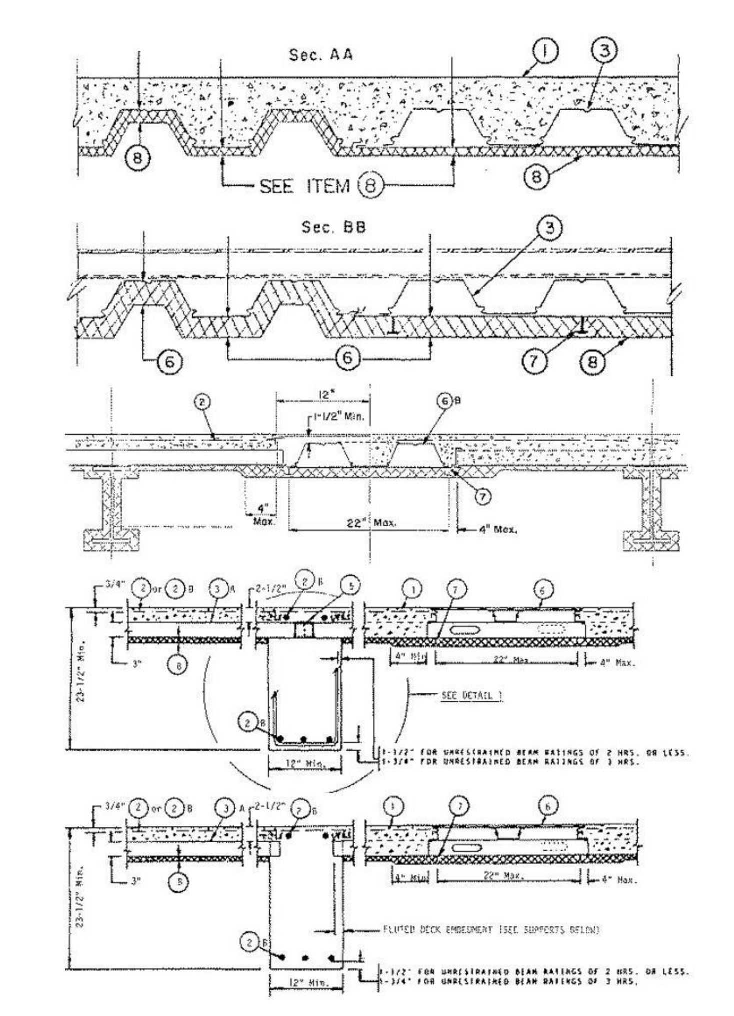
Unrestrained Beam Ratings — 1, 1-1/2, 2, 3 & 4 Hr

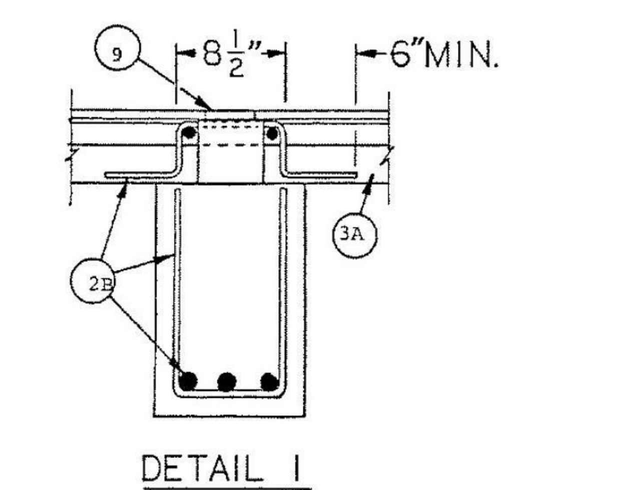
(See Items 2B, 3, 3A & 8)

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**







Supports — W8x28 or W6x12 min size steel beams, or steel joists, composite or noncomposite. Welded to end supports. Min area of joist members shall be 1.44 sq in. for top chord angles, 0.87 sq in. for bottom chord members and 0.47 sq in. for web members. Bridging angles required for noncomposite steel joist, min 1-1/4 in. by 1-1/4 in. by 1/8 in. thick. Welded to the top and bottom chords of steel joists. The l/r ratio for horizontal bridging shall not exceed 300. Bridging sizes and number of rows shall be in accordance with Steel Joist Institute Specifications. See Item 8.

For 3 Hr or less Restrained and Unrestrained Assembly and Unrestrained Beam Ratings, as alternate to steel beams or steel joists, cast in place reinforced concrete beams or girders designed in accordance with the provisions of the Building Code Requirements for Reinforced Concrete (ACI 318-89), may be used as supports for the 3 in. deep floor units. See Item 3A. Min width and depth of concrete beams shall be 12 and 23-1/2 in. respectively.

Fluted steel floor units shall be embedded in the concrete beams a min of 0.0139 times the clear span or 1-1/2 in., whichever is greater. The cellular units may be continuous or with a butted end joint centered over the concrete beam. For continuous floor spans, negative moment reinforcement for the slabs is required over the supporting beams.

1. **Normal Weight or Lightweight Concrete —** Normal weight concrete, carbonate or siliceous aggregate, 145 pcf plus or minus 3 pcf unit weight, 3000 psi compressive strength, vibrated. Lightweight concrete, expanded shale, clay or slate aggregate by rotary-kiln method, 102-120 pcf unit weight (110 pcf unit weight for use with steel joists), 3000 psi compressive strength, vibrated, 4 to 7 percent entrained air.

2. **Welded Wire Fabric —** 6x6 — W1.4xW1.4. When using steel joists, the min welded wire fabric shall be 6x6 — W2.9xW2.9.

2A. **Reinforcement —** Deformed bars of grade 60 steel, for use in floors supported by reinforced concrete beams or girders. Min size No. 3 bars for use as negative reinforcement or vertical stirrups for beams, girders or slabs. Min No. 5 bars for use as positive reinforcement for beams or girders.

Min net concrete cover on the beam or girder bottom reinforcements, shall be 1-1/2 in. for Restrained Assembly Ratings up to 3 Hr and Unrestrained Assembly and Beam Ratings up to 2 Hr. For 3 Hr Unrestrained Assembly and Beam Ratings, 1-3/4 in. cover is required. When continuous cellular units intersect the supporting concrete beams (interrupting the beam stirrups), short pieces of additional stirrups shall be placed in the top part of the beam above the units.

3. **Steel Floor and Form Units* —** Composite 1-1/2, 2, or 3 in. deep galv units. Fluted units may be uncoated. Min gauges are 22 MSG for fluted and 20/20 MSG for cellular. Any combination of fluted and cellular units may be used.

CANAM STEEL CORP — 36 in. wide Type P-3623, P-3606 and P-3615 composite; 24 in. wide Type P-2432 composite.

CANAM STEEL CORP — 24, 30 or 36 in. wide Types BL, BLC; 12, 24 or 36 in. wide Type LF1.5, LF2, LF3, LFC1.5, LFC2 or LFC3; 32 in. wide Type LFC3+; 24 in. wide Types N-Lok, NLC; 12 or 24 in. wide Types AWC2 or AWC3+++ may be used for max 2 hr Restrained Assembly Rating. Types 24, 36 in. wide LF2, LF3, LFC2, LFC3 may be welded or fastened together with min 1 in. long No. 10 self-drilling, self-tapping steel screws 36 in. OC. Type AWC units may be button-punched, welded or screw fastened together with min 1 in. long No. 12 self-drilling, self-tapping steel screws spaced a max 42 in. OC. Types BL, LF2, LF3, NL units may be phos/ptd.

KAM INDUSTRIES LTD, DBA CORDECK — QL Types 24 in. wide 2 in. QL-99, AKX, AKD; 24 in. wide 3, NKX, UKX; 24 or 36 in. wide 2 or 3 in. 99, AKD, AKX, WKD, WKX, TKX, 3 in. QL-WKD, -WKX, 24 or 30 in. wide, 3 in. QL-QKX, -GKX-A 24 in. wide QL-3, QL-UKX; units may be welded or fastened together with No. 10 self-drilling, self-tapping screws 60 in. OC. The length of the screws shall be sufficient to fully penetrate adjacent floor units.

CHIA TEH CONSTRUCTION MATERIAL CO LTD — 24 or 36 in. wide Mac-Lok 3; 24 in. wide CFD-3.

NEW MILLENNIUM BUILDING SYSTEMS L L C — 24 in. wide Types CFD-2, -3; 24, 30 or 36 in. wide Type CFD-1.5; 12, 24 or 36 in. wide Types Mac-Lok 2, Mac-Lok 3; 12 in. wide Mac-Way Cellular Types 2-633MTWA, 3-633MTWA, 2-633MTWV, 3-633MTWV. For the 1, 1-1/2, 2h Restrained Assembly Ratings and the 1h Unrestrained Assembly and Beam Rating, 12 in. wide, Type 1.5-633 MTWA may be used. Types CFD-1.5, CFD-2, CFD-3, Mac-Lok 2, Mac-Lok 3 may be phos/ptd. Two rows of steel studs with discs (Item 7) shall be welded along the sides of the Types 2-633MTWV, 3-633MTWV cellular units a max of 22 in. OC.

DECK WEST INC — 36 in. wide Type 2-DW, 3-DW, B-DW or BA-DW.

EPIC METALS CORP — 24 in. wide Type EC366; 24 or 30 in. wide, Types EPC2, EPC3; 36 in. wide Type EC266.

KAM INDUSTRIES LTD, DBA CORDECK — Hi-Bond Types 24 in. wide 3KA1F24; 30 in. wide 3KF30, 3P30; 24 in. wide Type WDR2, WDR2-2, WDR3 or WDR3-2 cellular units ++++. Type 3P30 unit may be phos/painted.

NEW MILLENNIUM BUILDING SYSTEMS L L C — Type 1.5CD, 1.5CDI, 1.5CDR, 2.0CD, or 3.0CD. Units may be phos/painted or galvanized.

VERCO DECKING INC - A NUCOR CO — FORMLOK™ deck types PLB, B, BR, PLN3, N3, PLN, N, PLW2, W2, PLW3, W3. Units are min 24 in. wide and may be galvanized or phos./ptd. Units may be cellular with the suffix "CD" added to the product name, respectively.

VULCRAFT, DIV OF NUCOR CORP — 24, 30 or 36 in. wide Type 1.5VLI, 1.5PLVLI, 1.5VLP, 1.5PLVLP; 24 or 36 in. wide Types 2VLI, 2.0PLVLI, 2VLJ, 3VLI, 3.0PLVLI, 3VLJ, 2VLP, 2.0PLVLP, 3VLP, 3.0PLVP. Types 1.5VLI, 1.5PLVLI, 2VLI, 2.0PLVLI, 2VLJ, 3VLI, 3.0PLVLI, 3VLJ units may be phos/ptd; 24 or 36 in. wide Types 2VLJ, 3VLJ units+++++ may be used for max 2 hr Restrained Assembly Rating. 36 in. wide Types 1.5 SB, 1.5 SBR; 24 or 36 in wide Types 2.0 SB, 3.0 SB, 36 in. wide Type High Strength 1.5 SBI, 36 in. wide Type High Strength 1.5 SBN. Units may be phos/ptd.

Spacing of welds attaching units to supports shall be 12 in. OC max unless specified otherwise, adjacent units button-punched or welded together at side joints and, unless specified otherwise for specific unit types, spacing of all side joint fastening systems shall not exceed 36 in. OC.

+ 32 in. wide, 20/20 min ga Lok-Floor Cell is limited to a blend of one cellular to one or more fluted units. Spans incorporating trench headers may use a blend of one 32 in. wide, 20/20 min ga Lok-Floor cellular unit to one 24 in. wide cellular unit or one or more fluted units, with stud pins and discs (see item 7) required below the cellular units.

+++ Assembly may consist of all Type AWC cellular units or any blend of AWC2 or AWC3 cellular units and Types LF2 or LF3 fluted units. Allowable loading for the floor shall be based upon published loading tables for the fluted units.

++++ Types WDR2, WDR3 cellular units shall be blended one cellular to one or more 24 in. wide fluted units. Adjacent units to be welded together at side joints max 36 in. O. C. Allowable loading for the floor shall be based upon published loading tables for the fluted units.

+++++ Side joints of Types 2VLJ or 3VLJ units may be fastened together with No. 8-3/4 in. long self-drilling Tek screws driven diagonally from the top side through the joint of the units at 36 in. O. C. max.

3A. **Steel Floor and Form Units* —** (for alternate cast in place concrete beams) — Composite 3 in. deep galv units. Fluted units may be uncoated. Min gauges are 20 MSG for fluted and 20/20 MSG for cellular. The ratio of blended units shall not exceed one 24 in. wide cellular unit to 36 in. wide fluted unit for the cast in place concrete frame buildings.

KAM INDUSTRIES LTD, DBA CORDECK — QL Types 24 or 36 in. wide 3 in. 99, 24 or 30 in. wide 3 in. QL-GKX, -GKXH-24, QL-GKX-A; units may be welded or fastened together with No. 10 self-drilling, self-tapping steel screws 60 in. OC. The length of the screws shall be sufficient to fully penetrate adjacent floor unit.

4. **Shear Connectors —** (Optional)-Studs, 3/4 in. diam (min 1/2 diam for use with steel joists) by 4-1/2 in. long, headed type or equivalent per AISC specification. Welded to the top flange of the beam, or top chord of the steel joist, through the deck.

5. **Joint Cover —** 2 in. wide pressure sensitive cloth tape.

6. **Trench Header —** Trench header (Bearing the UL Listing Mark), without the bottom pan. The allowable superimposed load for spans with bottomless trench shall be based on noncomposite design. This trench header, ranging in width from min 12 in. to max 36 in., consists of two cell closers which conform to the contour of the floor units, placed along the sides of the desired trench location and welded to the floor units. The side rails, consisting of extruded aluminum screens secured to galv steel channels (min 18 MSG) are positioned over the cell closers, aligned and welded or riveted to the closers and floor units. A separate U shaped channel (min 18 ga) serving as the power compartment, is welded or riveted to the floor units. Steel cover plates, 1/4 in. thick shall be secured to the side rails. In bottomless trench headers wider than 18 in., each steel cover plates, 1/4 in. thick shall be secured to the side rails. In bottomless trench headers wider than 18 in., each side joint of the steel floor units shall be welded together with a 1 in. long weld near the trench header centerline. For QL-GKX-24 or -30 cellular floor units only, a separate KED-PTS (UL Listed) power transition sleeve is secured to power compartment with one rivet or screw.

The use of this trench requires the use of steel studs with discs (Item 7) and additional protection underneath the trench. Fireproofing thickness shall be increased as shown in the following table:

Restrained Assembly Rating Hr	Spray Applied Fire Resistive Mtl Thk In		
	Crests	Valley	Flat Plate
1 hr	1-3/16	1	1*
1-1/2 hr	1-1/2	1-1/4	1-1/4
2 hr	1-3/4*	1-5/8*	1-5/8*
3 hr	2-1/4	2-1/8	2-1/8

These thicknesses shall extend a min of 4 in. beyond the edges of the trench header.

*When Type AWC units are used, Spray-Applied Fire Resistive Materials thickness shall be 2 in. in the crests and 1-3/4 in. on valleys and flat plates for 2 hr. Restrained Assembly Rating.

6A. **Trench Header —** (Not shown) — With bottom pan. (Bearing the UL Listing Mark). Optional and as an alternate to trench header without the bottom pan (Item No. 6), for 2 Hr. or less assembly ratings. Housing constructed of steel with metal edge screeds. The thickness of Spray-Applied Fire Resistive Materials on floor units below this trench header is dependent on concrete unit weight as follows: (1) For concrete unit weight range of 105 to 112 pcf the required thickness of Spray-Applied Fire Resistive Materials is 1-1/8 in. below the bottom plane of the units with flutes completely filled, except for 2 in. and 3 in. deep floor units, where thickness in flutes shall be 1-1/8 in. (2) For concrete unit weight of 112 pcf or higher and normal weight concrete the required thickness of Spray-Applied Fire Resistive Materials is 7/8 in. below the bottom plane of the units with flutes completely filled, except for 2 in. and 3 in. deep floor units, where thickness in flutes shall be 1-1/8 in. Types AWC, WDR2, WDR2-2, WDR3, WDR3-2 cellular units require the use of steel studs with discs (Item 7). The greater thickness of Spray-Applied Fire Resistive Materials below the trench header shall extend a min of 5 in. beyond the edges of the trench header.

6B. **Feeder Duct System —** (As an alternate to Items 6 or 6A). Consists of 3 in. deep, nom 24 in. wide, 20/18 MSG Type QL-WKM or QL-WKM-E cellular steel floor unit (feeder duct) and nom 24 by 24 in. junction boxes. The valley between the two cells of the feeder duct may or may not be covered by a steel plate to form a third cell. Feeder duct installed at the same elevation and perpendicular to 2 or 3 in. deep fluted and/or cellular steel floor units which are cantilevered from support beams on one or both sides of the feeder duct. The junction boxes consisting of extruded aluminum screeds, 18 galv steel outside flute closures, 16 galv steel compartment divider, and 0.21 in. thick steel cover plate are used at intersections of 2 or 3 in. cellular units and the feeder duct, where desired. Bottom tabs of the flute closures are fastened to the valleys of the 2 or 3 in. units and to the feeder duct with self-drilling tek fasteners, while the cover plate is retained in position by four latch clips, one near each corner of the plate. The height and the level of the aluminum screed are adjusted by four adjustment screws, two each on opposite sides. In between the junction boxes the ends of the 2 or 3 in. fluted and/or cellular units are covered with steel end closure angles tack-welded to the top of the units.

Welded wire fabric (Item 2) extends over the feeder duct between junction boxes. The allowable superimposed load for spans with the feeder duct system shall be based on noncomposite design. Steel studs with discs (Item 7) shall be welded to the underside of the feeder duct in two rows. The spacing between rows shall not exceed 22 in. OC and the spacing of studs in each row shall not exceed 24 in OC. The use of this feeder duct system requires additional protection underneath the feeder duct. Fireproofing thickness shall be increased to 1-3/4 in. for 2 Hr Restrained Assembly Rating and 1-1/2 in. for 1-1/2 Hr Restrained Assembly Rating. These thicknesses shall extend a min of 4 in. beyond the edge of the feeder duct.

KAM INDUSTRIES LTD, DBA CORDECK — 24 in. wide Types QL-WKM or WL-WKM-E.

6C. **Trench Header —** (Bearing the UL Listing Mark) with an intermittent bottom. The allowable superimposed load for spans with an intermittent bottom trench header shall be based on noncomposite design. The intermittent bottom trench header, with a max width of 36 in., consists of a horizontal closure plate (min 22 MSG) over the fluted deck sections at the desired trench header location and affixed to the floor units by welding or screws (No. 14 by 3/4 in. long self-tapping, self-drilling). The side rails consist of extruded aluminum screeds secured to galv steel channels (min 18 MSG), positioned over the edge of the horizontal closure plates, aligned, and welded to the cells and fluted floor units. A separate U-shaped galv steel channel (min 18 MSG), serving as the power compartment, is welded to the horizontal closure plates and floor units. Steel cover plates, 1/4 in. thick, shall be screw-attached to the side rails. For intermittent bottom trench headers wider than 24 in., each side joint of the steel floor units inside the trench header, shall be screwed together with No. 14 by 3/4 in. long, self-tapping, self-drilling steel screw or welded together with 1 in. long weld near the trench header centerline. This trench header requires the use of steel studs with discs (See Item 7) and additional protection underneath the trench. Fireproofing thickness for 24 in. wide intermittent bottom trench headers shall be increased to 1-1/8 in. in the crests and on the valleys and flat plates for the 1, 1- 1/2 or 2 Hr Restrained Assembly Ratings with normal weight or light weight concrete. Fireproofing thickness for 36 in. wide intermittent bottom trench headers shall be increased to 2 in. in the crest; 1-3/4 in. on valleys and flat plates for 2 Hr Restrained Assembly rating; 1-3/4 in. in the crest, 1-1/2 in. on valleys and flat plates for 1-1/2 Hr Restrained Assembly rating; 1-1/2 in. in the crest, 1 in. on valleys and flat plates for 1

Hr Restrained Assembly rating with normal weight or lightweight concrete. These thicknesses shall extend a min of 4 in. beyond the edge of the trench header.

6D. **Trench Header —** (Bearing the UL Listing Mark) with an Intermittent Bottom Storage, max 36 in. width, for use with Mac-Way Cellular Units. A 16 in. length of the top hat-shaped cover of the Mac-Way Cellular Unit is cut away in the center of the trench header and each end of unit at the cut out is reinforced with 4 by 11 in., 16 ga. galv steel plate spot-welded to the top of each side compartment. The center 16 in. length of the center channel compartment is covered by a 16 ga. galv steel channel placed over and welded to the center channel compartment forming a box. The cover channel is also welded with a full length fillet weld to the top 4 X 11 in. reinforcing plates on the top cut ends of the unit.

A power compartment channel of 18 MSG galv steel is placed on top and perpendicular to the floor units and centered along the longitudinal centerline of the trench header. The channel is attached to the closure plates over the fluted units with tek screws and is tack-welded to the center compartment cover channel of the cellular unit. The end closures over the fluted units are made from a min 22 ga. galv steel. The power compartment channel made from 18 MSG galv steel with adjustable sides, is centered along the longitudinal centerline of the trench header. The sides are adjusted to support the cover plate. The side-rail assemblies consist of aluminum extrusion and 14 MSG min galv steel support. The parts of the side-rails are secured together by leveling screws at 36 in. OC max. The cover plates are 1/4 in. thick enameled steel secured to side-rails with No. 10-24 screws located 3 in. from ends and at 12 in. OC max along the length of the plates.

The trench header requires the use of steel studs with discs (See item 7) and additional protection underneath the trench. The spacing of the steel studs with discs shall be as specified in item 3 for Mac-Way cells. Fireproofing thicknesses under the intermittent bottom storage trench header for the various Restrained Assembly Ratings shall be as follows: 2 in. in the crest; 1-3/4 in. on valleys and flat plates for 2H Restrained Assembly rating; 1-3/4 in. in the crest; 1-1/2 in. on valleys and flat plates for 1-1/2 H Restrained Assembly rating; 1-1/2 in. in the crest; 1 in. on valleys and flat plates for 1H Restrained Assembly rating with normal weight or lightweight concrete. These thicknesses shall extend a min of 4 in. beyond the side edges of the trench header.

7. **Steel Studs With Discs —** The stud consists of No. 12 SWG steel wire, 1-3/8 in. long (2-1/8 in. long in 3 HR Restrained Assembly Rating) with one end welded to 1-3/16 in. diam, No. 28 MSG galv steel disc. The total number of studs shall avg at least one stud per 236 sq in. of cellular floor units. The ends of the studs opposite the discs shall be welded to the cellular floor units in rows running parallel with the trench header. The distance between the outer rows of the studs and the edge of the trench header shall not exceed 4 in. The spacing between the rows shall not exceed 22 in. The spacing between studs in each row shall not exceed 24 in. When Type AWC cellular units are used, the total number of studs shall avg. at least one stud per 132 sq in. of cellular floor units beneath the trench header. The ends of the studs opposite the discs shall be welded to the cellular floor units in rows running parallel with the trench header. The distance between the outer rows of the studs and the edge of the trench header shall not exceed 2 in. The spacing between the rows shall not exceed 8-1/2 in. The spacing between studs in each row shall not exceed 16-3/4 in.

When 24 in. wide Type WDR2, WDR2-2, WDR3 or WDR3-2 cellular units are used, the total number of studs shall avg at least one stud per 172 sq in. of cellular floor units beneath the trench header. The ends of the studs opposite the discs shall be welded to the floor units in rows running parallel with the trench header. The distance between the outer rows of the studs and the edge of the trench header shall not exceed 4 in. The spacing between studs in each row shall not exceed 18 in.

8. **Spray-Applied Fire Resistive Materials* —** Applied by mixing with water and spraying to steel surfaces which must be clean and free of dirt, loose scale and oil. Min avg and min ind density of 15/14 pcf respectively for the Types 304 and 404. For method of density determination, refer to Design Information Section. May be used only in general floor areas without concrete penetrations with all fluted steel floor units or blends consisting of one or more fluted units to one 24 in. wide max cellular unit, 1-1/2 or 3 in. deep, with cells spaced approx 6 and 8 in. respectively. Use of steel studs with discs (Item 7) is required on all cellular units with flat plate on the bottom, optional on other steel surfaces. When Type WDR2, WDR2-2, WDR3 or WDR3-2 cellular units are blended with fluted units under a trench header, studs with discs (Item 7) is also required.

The thicknesses of material required on the steel beam for the various Unrestrained Beam Ratings and Restrained Assembly Ratings are shown in the following table:

Min Beam Size	Concrete Type	Min Thk In.	Unrestrained Beam Rating Hr	Restrained Assembly Rating Hr
W8X28	LW or NW	1/2(a)	1*	1, 1-1/2 or 2
W6X12	LW or NW	3/4(a)	1*	1, 1-1/2 or 2
W8X28	NW	3/4	1-1/2*	1, 1-1/2, 2 or 3
W8X28	LW	7/8	1-1/2*	1, 1-1/2, 2 or 3
W8X28	NW	7/8	2*	1, 1-1/2, 2, 3 or 4
W8X28	LW	1	2*	1, 1-1/2, 2, 3 or 4
W8X28	NW	1-1/4	3*	1, 1-1/2, 2, 3 or 4
W8X28	LW	1-9/16	3*	1, 1-1/2, 2, 3 or 4
W8X28	LW or NW	2	4	1, 1-1/2, 2, 3 or 4

*When Type AWC cellular units are used, max. 1 hr Unrestrained Beam Rating.

(a)Type AWC units for use only with NW concrete with 3/4 in. protection on W8x28 beam and 1 in. protection on W6x12 beam.

The thickness of material required on the steel joist for the various ratings are shown in the following table:

Restrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Type of Concrete Slab	Spray Applied Fire Resistive Mtl Thkns In. Joist & Bridging
1	1	NW or LW	1-1/8
1-1/2	1-1/2	NW or LW	1-1/2
2	2+	NW+	1-1/2
2	2	NW or LW	2-1/4
3	3	NW or LW	2-7/8

+Max joist spacing is limited to 3 ft-6 in.

For the general floor area without trench headers or electrical inserts, the following thicknesses of material are required on the steel floor units for the various Restrained and Unrestrained Assembly Ratings when steel beams are used:

Restrained Assembly Rating Hr	Unrestrained Assembly Rating Hr (a)	Min Required Unrestrained Beam Rating Hr	Min Thk in		
			Crests	Valley	Flat Plate
1(b)	0	1	0	0	0
1, 1-1/2 or 2	1, 1-1/2 or 2(e)	1, 1-1/2 or 2	3/8(c)	3/8	3/8
3	1-1/2, 2 or 3(e)	1-1/2, 2 or 3	11/16	1/2	1/2
4	2, 3 or 4(b)	2, 3 or 4	1-1/2	1-1/8	—
4	2, 3 or 4(f)	2, 3 or 4	1-7/16	13/16	—

(a)See above beam thicknesses for applicable Unrestrained Assembly and Unrestrained Beam Ratings.

(b)Floor constructed of lightweight concrete only.

(c)Min thickness of 1/2 in. is required in crests of 1-1/2 in. deep fluted units for the **2 Hr Restrained Assembly Rating.**

(e)When Type AWC units are used the max **Unrestrained Assembly Rating** is 1 hr.

(f)Floor constructed of normal weight concrete only.

+For 2 Hr. Restrained Assembly Rating, the required thickness of protection material on Type AWC units is 1/2 in.

ISOLATEK INTERNATIONAL — Types 304 and 404

9. **Electrical Inserts —** (Not shown) — Preset and after set electrical inserts Classified as **Outlet Boxes and Fittings Classified for Fire Resistance***. Unless specified otherwise for a particular preset electrical insert type, the spacing of the preset electrical inserts shall be not less than 24 in. on center along cellular steel floor units with not more than one preset electrical insert in each 4 sq ft of floor area. The required thickness of Spray-Applied Fire Resistive Materials on the steel floor units with inserts shall be sprayed the entire length and width of the units between supports and shall extend beyond the edge of inserts onto adjacent floor units for a minhorizontal width of 12 in. In floor spans (between supports) containing electrical inserts, the entire floor span (fluted and cellular steel floor units) must be sprayed with a min 3/8 in. thickness of Spray-Applied Fire Resistive Materials.

(1) **KAM INDUSTRIES LTD, DBA CORDECK** Inserts. (Tapmate III-FN, III-EAFN, III-EAFN-FC1; Series KEC).

Installed per accompanying installation instructions over factory-punched holes in QL-AKD or QL-WKD floor units. Inserts are used in the pre-active, active, or abandoned condition. Required spray-applied resistive material thicknesses on floor units with inserts are:

Floor Unit Type	Concrete Type	Min Spray Applied Fire Resistive Mtl Thk In.	Restrained Assembly Rating Hr
(Tapmate III-FN, III-EAFN)			
QL-AKD, -WKD	NW	3/8	1
QL-AKD, -WKD	LW	5/8	1
QL-AKD, -WKD	NW	1/2	1-1/2,2
QL-WKD	LW	13/16	1-1/2,2
QL-AKD, -WKD	NW	3/4	3
(Tamate III-EAFN-FC1)			
QL-WKD	NW	1/2	2

The hole cut in insert cover for passage of wires shall be no more than 1/8 in. larger diam than the wire. For abandonment of Tapmate inserts, see installation instructions. Abandonment of Tapmate III-FN requires use of KEC-PC insert cover with no holes in it. Abandonment of Tapmate III— EAFN requires use of KEC-PC5 insert cover with no holes in it and use of KEC-PC6 insert cover in lieu of either KEC-PC12 or -PC13 insert cover.

The Tapmate III insert may use KEB-HP-1; Series KEC outlet box fittings with the same hourly rating and fireproofing thicknesses as specified for the Tapmate III-EAFN electrical inserts.

(Tapmate II, II-EA, II-FN, II-EAFN)

Installed per accompanying installation instructions over factory-punched holes in QL-AKX or QL-WKX floor units. Inserts are used in the pre-active, active or abandoned condition. Required Spray-Applied Fire Resistive Materials thicknesses on floor units with inserts are:

Floor Unit Type	Concrete Type	Min Spray Applied Fire Resistive Mtl Thk In.	Restrained Assembly Rating Hr
(Tapmate II or II-EA)			
QL-AKX	NW	9/16	1
QL-AKX	LW	5/8	1
QL-AKX, -WKX	LW or NW	1/2	1
QL-AKX, -WKX	NW	11/16	11/2
QL-AKX, -WKX	NW	7/8	2
QL-AKX	LW	7/8	1-1/2 or 2
QL-WKX	LW	3/4	1-1/2 or 2
QL-AKX	NW	1-1/4	3
QL-AKX	LW	1-1/2	3
QL-WKX	NW	1-13/16	3
QL-WKX	LW	1-3/8	3
(Tapmate II-FN or II-EAFN)			
QL-AKX, -WKX	NW	3/8	1
QL-AKX, -WKX	LW	1/2	1
QL-AKX, -WKX	NW	1/2	1-1/2 or2
QL-WKX	LW	3/4	1-1/2 or 2
QL-AKX, -WKX	NW	3/4	3

The hole cut in insert cover for passage of wires shall be no more than 1/8 in. larger diam than the wire. For abandonment of Tapmate inserts, see installation instructions.

(Tapmate II-EAFN-FC1)

The Tapmate II-FN insert may use KEB-HP-1 outlet box fittings in lieu of the KEB-PC flush cover fittings.

Installed per accompanying installation instructions over factory-punched holes in QL-WKX floor units. Inserts are used in the pre-active, active, or abandoned condition. Required cementitious material thicknesses on floor units with inserts are:

Floor Unit Type	Concrete Type	Min Spray Applied Fire Resistive Mtl Thk In.	Restrained Assembly Rating Hr
QL-WKX	NW	3/8	1
QL-WKX	NW	1/2	1-1/2 or 2

For abandonment see installation instructions. Abandonment requires use of KEB-PC or -PCL insert cover with no holes in it (for all Tapmate inserts), or an abandonment plate for Tapmate II only, or a KEB-PC2 or -PC2-A1 abandonment cover for Tapmate II-EA and II-EAFN only.

(Tapmate IV, IV-EA, IV-H, IV-H-M, IV-S)

Installed per accompanying installation instructions over factory-punched holes in QL-GKX-24 or -30 floor units. Inserts are used in the preactive, active and abandoned condition. Required Spray-Applied Fire Resistive Materials thicknesses on floor units with inserts are:

Restrained Assembly Rating, Hr	Floor Unit Type	Concrete Type	Min Spray Applied Fire Resistive Mtl Thk In.
(Tapmate IV, IV-H, IV-H-M, IV-S)			
1	QL-GKX	NW, LW	3/8
1-1/2	QL-GKX	NW	1/2
1-1/2	QL-GKX	LW	9/16
2	QL-GKX	NW	5/8
2	QL-GKX	LW	3/4
3	QL-GKX	NW	1-1/4
3	QL-GKX	LW	1-1/2
(Tapmate IV-EA)			
1	QL-GKX	NW, LW	1/2
1-1/2	QL-GKX	NW	9/16
1-1/2	QL-GKX	LW	5/8
2	QL-GKX	NW	3/4
2	QL-GKX	LW	7/8

The holes cut in insert cover for passage of wires shall be no more than 1/8 in. larger diameter than the wire. For abandonment of inserts see installation instructions.

Type KED-HP-1 outlet box fittings may be used with Tapmate IV box assemblies or in lieu of Tapmate IV or IV-EA fittings with the same hourly ratings, insert spacings and protection material thicknesses as specified for the above electrical inserts.

(Tapmate IV, IV-FN-S, IV-FN-H, IV-EAFN)

Installed per accompanying installation instructions over factory-punched holes in QL-GKX-24 or -30 floor units. Inserts are used in the preactive, active or abandoned condition. Required spray-applied resistive material thicknesses on floor units with inserts are:

Restrained Assembly Rating, Hr	Floor Unit Type	Concrete Type	Min Spray Applied Fire Resistive Mtl Thk In.
(Tapmate IV-FN-S, IV-FN-H, IV-EAFN)			
1	QL-GKX	LW or NW	3/8
1-1/2	QL-GKX	NW	1/2
1-1/2	QL-GKX	LW	5/8
2	QL-GKX	NW	1/2
2	QL-GKX	LW	13/16
3	QL-GKX	NW	3/4

Type KED-HP-1 outlet box fittings may be used with Tapmate IV box assemblies or in lieu of Tapmate IV-FN-S, -IV-FN-H -IV-EAFN fittings with the same hourly ratings and protection material thicknesses as specified for the above electrical inserts.

The hole cut in insert cover for passage of wires shall be no more than 1/8 in. larger diameter than the wire. For abandonment see installation instructions.

(Tapmate KED-MSA Multi-Service After set Inserts)

Installed per accompanying installation instructions in core-drilled holes over QL-GKX-24 or 30 steel floor units. Spacing of after set inserts shall be not more than one insert per each 7-1/2 sq ft of floor area with not less than 25-1/2 in. between edges of adjacent after set inserts. After set inserts may be installed with either the flip lid plastic cover (KEC-PC3, PC4 & PC5 components) or the Deluxe Cover (KED-NAC type). Required Spray-Applied Fire Resistive Materials thicknesses of steel floor units with inserts are tabulated below:

Restrained Assembly Rating Hr	Floor Unit Type	Concrete Type	Min Spray Applied Fire Resistive Mtl Thkns In.
1	QL-GKX	NW, LW	3/8

1-1/2	QL-GKX	NW	1/2
1-1/2	QL-GKX	LW	9/16
2	QL-GKX	NW	5/8
2	QL-GKX	LW	3/4
3	QL-GKX	NW	1-1/4
3	QL-GKX	LW	1-1/2

KAM INDUSTRIES LTD, DBA CORDECK — Tapmate II, II-EA, II-FN, II-EAFN, II-EAFN-FC1; Series KEB. Tapmate III-FN, III-EAFN, III-EAFN-FC1; Series KEC. Tapmate IV, IV-EA, IV-EAFN, IV-FN-S, IV-FN-H, IV-H, IV-H-M, IV-S; Series KED. Tapmate KED-MSA

The following activated versions of Tapmate IV inserts may be installed with either the flip lip plastic cover (KEC-PC3, PC4 and PC5 components) or the Deluxe Cover (KED-NAC): Tapmates IV-S, IV-H, IV-H-M, IV-FN-S, IV-FN-H.

Only those Tapmate II, III or IV inserts having an FN suffix are required to contain the neoprene pad and then only in the activated stage.

(2) **Wiremold Co. and Kam Industries LTD d/b/a/Cordeck** Inserts.

(PK Series Preset Inserts; FAKM-II, FPF, RAKM, RAKM-II, S36BB, S36CC, S37BB, S37CC, S36PB, S36PP, S38BB, S38CC, S39BB, S39CC, S38PP, S39PP, FPBTC, FPCTC, FPBT, FPCT, FPFFTC, FPFFT Service Fittings)

Installed per accompanying installation instructions over factory pre-punched knockouts or factory installed over pre-punched knockouts in Type WDR2 or WDR3 cellular steel floor units. When Type FPF, S36PB, 36PP, S38PP, FPFFTC service fittings are used, furniture whip for power feed from service fitting cover to be liquid-tight steel conduit with cast steel 90 degree elbow connector. Refer to installation instructions for Classified assemblies. Required Spray-Applied Fire Resistive Materials thicknesses on floor units with inserts are:

Restrained Assembly Rating Hr	Concrete Type	Min Spray Applied Fire Resistive Mtl Thkns In.
(Type FAKM-II)		
1	LW or NW	3/8
1-1/2	LW or NW	1/2
2	LW or NW	11/16
3	LW or NW	15/16
(Type RAKM, S37BB, S37CC, S39BB, S39CC, FPBT, FPCT)		
1	LW or NW	7/16
1-1/2	LW or NW	5/8
2	LW or NW	7/8
(Type RAKM-II, S36BB, S36CC, S38BB, S38CC, FPBTC, FPCTC)		
1	LW or NW	3/8
1-1/2	LW or NW	7/16
2	LW or NW	5/8
3	LW or NW	1
(Type FPF, S36PB, S36PP, S38PP, FPFFTC)		
1	LW or NW	3/8
1-1/2	LW or NW	1/2
2	LW or NW	11/16
3	LW or NW	15/16

(NRG Bloc IV Preset Inserts: FAKM-II, FPF, RAKM, RAKM-II, RPF, S36BB, S36CC, S37BB, S37CC, S36PB, S36PP, S37PB, S37PP, S38CC, S38BB, S39BB, S39CC, S39PP, FPBTC, FPCTC, FPBT, FPCT, FPFFTC, FPFFT Service Fittings)

The NRG Bloc IV preset insert is furnished by **KAM INDUSTRIES LTD d/b/a CORDECK**. The service fitting components are furnished by **WIREMOLD CO**. Installed per accompanying installation instructions over factory-punched holes in 3 in. deep K-Type cellular steel floor units. When type FPF, RPF, S36PB, S36PP, S37PB, S37PP, S38PP, S39PP, FPFFTC, FPFFT service fittings are used, furniture whip for power feed from service fitting cover to be liquid-tight steel conduit with cast

steel 90 degree elbow connector. Refer to installation instructions for Classified assemblies. The required Spray-Applied Fire Resistive Materials thicknesses on steel floor units with inserts are tabulated below:

Restrained Assembly Rating Hr	Concrete Type	Min Spray Applied Fire Resistive Mtl Thkns In.
(Type RAKM-II, S36BB, S36CC, S38BB, S38CC, FPBTC, FPCTC)		
1, 1-1/2	LW or NW	3/8
2	LW or NW	1/2
3	LW or NW	13/16
(Type FAKM-II)		
1	LW or NW	3/8
1-1/2	LW or NW	7/16
2	LW or NW	9/16
3	LW or NW	3/4
(Type FPF, S36PB, S36PP, S38PP, FPFFTC)		
1	LW or NW	3/8
1-1/2	LW or NW	1/2
2	LW or NW	9/16
3	LW or NW	3/4

Restrained Assembly Rating Hr	Concrete Type	Min Spray Applied Fire Resistive Mtl Thkns In.
(Type RAKM, S37BB, S37CC, S39BB, S39CC, FPBT, FPCT)		
1	LW or NW	3/8
1-1/2	LW or NW	7/16
2	LW or NW	11/16
(Type RPF, S37PB, S37PP, S39PP, FPFFT)		
1	LW or NW	3/8
1-1/2	NW	7/16
1-1/2	LW	9/16
2	NW	5/8
2	LW	3/4

(437 Series Preset/After set Inserts; S125R, S126R, S165B, S166B Fittings)

Single-service preset or after set inserts installed per accompanying installation instructions over Types WDR2, WDR2-2, WDR3 or WDR3-2 cellular steel floor units. When used as a preset insert, attaching ring with mud cap installed over 2-1/2 in. diam factory-punched or field-drilled hole in top of cell prior to concrete placement. When used as an after set insert, a 4 in. diam hole is core-drilled to, but not through, top of cell and attaching ring is installed over 2-1/2 in. diam hole drilled in top of cell concentric with core-drilled hole. Inserts may be installed individually or in clusters of two or three inserts at each location. When installed in clusters of two or three inserts, min center to center spacing of inserts in cluster is 7-3/4 in. Spacing of inserts (or cluster of inserts) shall be not less than 4 ft transverse to steel floor unit direction and not less than 5 ft along length of steel floor unit. Required Spray-Applied Fire Resistive Materials thicknesses on floor units with inserts are:

Restrained Assembly Rating Hr	Concrete Type	Min Spray Applied Fire Resistive Mtl Thkns In.
(Type S125 R)		
1	LW or NW	3/8
1-1/2	LW or NW	1/2
2	LW or NW	5/8
3	LW or NW	1-1/4

(Type S126 R)		
1	LW or NW	1/2
1-1/2	LW or NW	11/16
2	LW or NW	13/16
3	LW or NW	1-1/4
(Type S165 B)		
1	LW or NW	3/8
1-1/2	LW or NW	3/8
2	LW or NW	1/2
3	LW or NW	1-1/8
(Type S166 B)		
1	LW or NW	1/2
1-1/2	LW or NW	11/16
2	LW or NW	13/16
3	LW or NW	1-3/8

When inserts are installed in clusters of two or three, the required thickness of Spray-Applied Fire Resistive Materials on the cellular floor unit beneath the cluster shall be the greater of the thicknesses specified for the individual fittings in the cluster.

(TSACR, TSAR After set Inserts)

Installed per accompanying installation instructions in 7 in. diameter hole core-drilled through concrete topping into center of top of cell of Type WDR2 or WDR3 cellular steel floor units. Spacing shall be not more than one insert in each 8 sq ft of floor area with not less than 2 ft center to center of adjacent inserts. Required Spray-Applied Fire Resistive Materials thicknesses on floor units with inserts are:

Restrained Assembly Rating Hr	Concrete Type	Min Spray Applied Fire Resistive Mtl Thkns In.
(Types TSACR, TSAR)		
1	NW	3/8
1	LW	1/2
1-1/2	NW	3/8
1-1/2	LW	3/4
2	NW	1/2
2	LW	1-1/4
3	NW	3/4

WIREMOLD CO — Type PK-Series inserts; Type FAKM-II, RAKM, RAKM-II, FPF, S36BB, S36CC, S37BB, S37CC, S36PB,S36PP, S38BB, S38CC, S39BB, S39CC, S38PP, FPBTC, FPCTC, FPBT, FPCT, FPFFTC, FPFFT service fittings. Type NRG Bloc IV inserts; Type RAKM-II, FAKM-II, FPF, RAKM, RPF, S36BB, S36CC, S37BB, S37CC, S36PB, S36PP, S37PB, S37PP, S38BB, S38CC, S39BB, S39CC, S38PP, S39PP, FPBTC, FPCTC, FPBT, FPCT, FPFFTC, FPFFT service fittings. Type 437-Series inserts; Type S125R, S126R, S165B or S166B service fittings. After set insert Types TSACR, TSAR.

10. **Access Openings —** As required, with grommets.

11. **Metal Lath —** (Optional, not shown) — Metal lath may be used to facilitate the spray application of spray-applied resistive material on steel bar joists and trusses. The diamond mesh 3/8 in. expanded steel lath, 1.7 to 3.4 lb per sq yd is secured to one side of each steel joist with No. 18 SWG galv steel wire at joist web and bottom chord members. Spaced 15 in. OC max when used. The metal lath is to be fully covered with spray-applied resistive material with no min thickness requirements.

11A. **Non-Metallic Fabric Mesh —** (Optional, not shown) — As an alternate to metal lath, glass fiber fabric mesh, weighing approximately 2.5 oz/sq yd. Polypropylene fabric mesh, weighing approximately 1.25 oz/sq yd or equivalent, may be used to facilitate the spray application. The mesh is secured to one side of each joist web member. The method of attaching the mesh must be sufficient to hold the mesh and the spray-applied resistive material n place during application until it has cured. An acceptable method to attach the mesh is by embedding the mesh in min1/4 in. long beads of hot melted glue. The beads of glue shall be spaced a max of 12 in. OC along the top chord of the bar joist. Another method to secure the mesh is by 1-1/4 in. long by 1/2 in. wide hairpin clips formed from No. 18 SWG or heavier steel wire.

11B. **Metal Lath (Not shown) —** Where Types 40, 239, 240 High-Yield, 241 are applied to steel deck, 3/8 in. metal ribbed lath weighing 3.4 lb/yd² shall be secured to the steel deck (ribs upward) with S-12 by 3/8 in. long panhead, self-tapping steel screws spaced 12 in. OC in all directions. Steel screws shall be fitted with 1/2 in. diam steel washers. Adjacent pieces of lath shall be overlapped 1 in. min.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2016-12-19

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH · MICHAEL ADAM DOLAN · No. 7732018-0301 · LICENSED ARCHITECT · 09.15.2022

△	DATE	REVISION

U of U PROJECT NUMBER

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BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. D859

December 20, 2016

Restrained Assembly Ratings — 1, 1-1/2, 2 and 3 Hr.

(See Items 9, 9A, 9B, 9C)

Unrestrained Assembly Ratings — 1, 1-1/2, 2, 3 Hr.

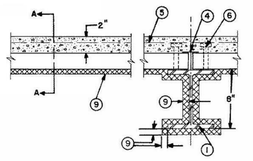
(See Items 9, 9A, 9B, 9C)

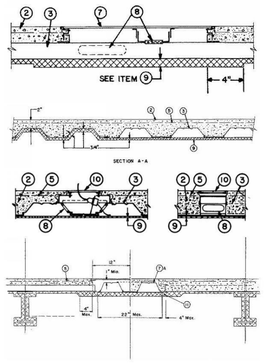
Unrestrained Beam Ratings — 1, 1-1/2, 2, 3 Hr.

(See Items 9, 9A, 9B, 9C)

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**





1. **Beam —** W8X20, min size.

2. **Normal Weight or Lightweight Aggregate Concrete —** Normal weight concrete, carbonate or siliceous aggregate, 145 (+/ or -) 5 pcf unit weight, 3000 psi compressive strength, 4 to 7 percent entrained air, vibrated. Lightweight concrete, expanded shale or slate aggregate by rotary-kiln method; or expanded clay aggregate by rotary-kiln or sintered-grate method, 113 (+2, -5) pcf unit weight, 3000 psi compressive strength, 4 to 7 percent entrained air, vibrated.

3. **Steel Floor and Form Units* —** Composite 2 or 3 in. deep galv units. Min gauges are 22 MSG for fluted and 20/20 MSG for cellular. For spans with trench headers the allowable loading shall be based on noncomposite design. The following combination of units may be used: (1) All fluted; (2) All 24, 30 or 36 in. wide cellular; (3) Any blend of fluted and 24, 30 or 36 in. wide cellular; (4) One or two 12 in. wide cellular alternating with fluted or 24 and 36 in. wide cellular. Spacing of welds attaching units to supports shall not exceed 12 in. OC. Unless noted otherwise, adjacent units welded together 60 in. max along side joints.

ASC STEEL DECK, DIV OF ASC PROFILES L L C — 36 in. wide, Types 2WI1-36, 2WHS-36, 2WHF-36, 2WHF-36A, 3WaH-36, 3WHF-36, 3WaHF-36A, 3WH-36, 3WHF-36, 3WHF-36A, 3W-36, 3WF-36, DG3W-36, DG3WF-36. All units may be galvanized or Prime Shield. Non-cellular decks may be vented designated with a "V" suffix to the product name.

CANAM STEEL CORP — 36 in. wide Type P-3623 composite; 24 in. wide Type P-2432 composite

KAM INDUSTRIES LTD, DBA CORDECK — QL Types, 12 in. wide TKC; 24 in.wide 2 or 3 in. 21, 99, 121, AKX, NKX, WKX, TKX, AKD, WKD; 36 in. wide 2 or 3 in. 99, AKX, WKX, AKD, WKD, 24 or 30 in. wide 3 in. QL-GKX, -GKXH, -GKX-A. Adjacent QL Types 2 or 3 in. 99, AKX, WKX, -GKX, -GKX-A, 4DK, WKD, Metric units-QL-77-600, -77-900 and all QLC Type units may be screwed together 48 in. OC max along side joints (in lieu of welds 60 in. OC max) with 1 in. long, No. 10 self-tapping and self-drilling steel screws

CANAM STEEL CORP — 12, 24 or 36 in. wide Types LF2 or LF3; LFC2 or LFC3. Types LF2, LF3 may be phos/ptd

NEW MILLENNIUM BUILDING SYSTEMS L L C — 24 in. wide Types CFD-2, CFD-3 may be phos/painted for the 1, 1-1/2 and 2 hr ratings

DECK WEST INC — 36 in. wide Type 2-DW or 3-DW

DESIGN ASSISTANCE CONSTRUCTION SYSTEMS INC — 24 in. wide Type DACS2.0CD, or DACS3.0CD

EPIC METALS CORP — 24 in. wide Types EC366, ECP366; 24 or 30 in. wide Types EPC2, EPC3; 36 in. wide Types EC266, ECP266

MARLYN STEEL DECKS INC — Type 1.5 CF, 2.0 CF or 3.0 CF

MORIN CORP — 24 or 36 in. wide Type LXR-3W; 36 in. wide Type LXR-2W

NEW MILLENNIUM BUILDING SYSTEMS L L C — Type 1.5CD, 2.0CD, or 3.0CD. Units may be phos/painted or galvanized

VERCO DECKING INC - A NUCOR CO — FORMLOK™ deck types PLB, B, BR, PLN3, N3, PLN, N, PLW2, W2, PLW3, W3. Units are min 24 in. wide and may be galvanized or phos./ptd. Units may be cellular with the suffix "CD" added to the product name, respectively. All non-cellular deck may be vented or non-vented.

VULCRAFT, DIV OF NUCOR CORP — 24 or 36 in. wide Type 2VLI, 2.0PLVLI, 3VLI, 3.0PLVLI, 2VLP, 2.0PLVLP, 3VLP, 3.0PLVLP. Types 2VLI, 2.0PLVLI, 3VLI, 3.0PLVLI units may be phos./ptd. 24 or 36 in wide Types 2.0 SB, 3.0 SB; Units may be phos/ptd.

4. **Joint Cover** — 2 in. wide pressure-sensitive cloth tape applied following the contour of the steel floor units.

5. **Welded Wire Fabric** — 6 x 6 — W1.4 x W1.4.

6. **Shear Connector Studs — Optional** — Studs, 3/4 in. diam, headed type or equivalent per AISC Specifications. Welded to the top flange of beam through the steel floor units. Min 1/2 in. concrete cover over studs.

7. **Trench Header** — (Bearing the UL Listing Mark). Constructed of steel and provided with metal edge screeds. When the trench header is located near a support the load carrying capacity of the span may be based on the allowable moment or shear stress of the floor units at the edge of the trench header away from the support, or on the allowable composite moment or shear capacity of the slab at the center of the span, whichever governs.

As an alternate, trench headers (Bearing the UL Listing Mark) without the bottom pan may be used. The allowable superimposed load for spans with a bottomless trench header shall be based on noncomposite design. The bottomless trench header, with a max width of 36 in., consists of two cell closers which conform to the contour of the floor units, placed along the sides of the desired trench header location and welded to the floor units. The side rails, consisting of extruded aluminum screeds secured to galv steel channels (min 18 MSG), are positioned over the cell closers, aligned, and welded or riveted to the cell closers and floor units. A separate U-shaped galv steel channel (min 18 MSG), serving as the power compartment, is welded or riveted to the floor units. Steel cover plates, 1/4 in. thick, shall be adequately secured to the side rails. In bottomless trench headers wider than 18 in., each side joint of the steel floor units shall be welded with a 1 in. long weld near the trench header centerline. For QL-GKX-24 or -30 cellular floor units only, a separate KED-PTS (UL Listed) power transition sleeve is secured to power compartment with one rivet or screw. The use of the bottomless trench header requires additional protection underneath the trench header. (See Item 9).

7A. **Feeder Duct System** — (As an alternate to Item 7). Consists of 3 in. deep, nom 24 in. wide, 20/18 MSG Type QL-WKM or WL-WKM-F cellular steel floor unit (Feeder duct) and nom 24 by 24 in. junction boxes. The valley between the two cells of the feeder duct may or may not be covered by a steel plate to form a third cell. Feeder duct installed at the same elevation and perpendicular to 2 or 3 in. deep fluted and/or cellular steel floor units which are cantilevered from support beams on one or both sides of the feeder duct.

The junction boxes consisting of extruded aluminum screeds, 18 galv steel compartment divider and 0.21 in. thick steel cover plate are used at intersections of 2 or 3 in. cellular units and the feeder duct, where desired, bottom tabs of the flute closures are fastened to the valleys of the 2 or 3 in. units and to the feeder duct with self-drilling tek fasteners, while the cover plate is retained in position by four latch clips, one near each corner of the plate. The height and the level of the aluminum screed are adjusted by four adjustment screws, two each on opposite sides. In between the junction boxes the ends of the 2 or 3 in. fluted and/or cellular units are covered with steel end closure angles tack-welded to the top of the units.

8. **Access Openings —** As required, with grommets.

9. **Spray-Applied Fire Resistive Materials* —** Applied by spraying with water, in several coats, to final untamped thicknesses shown on design sketch and in tables below, to steel surfaces which are free of dirt, oil or scale. Use of adhesive is required under bottomless trenches and on cellular units, optional on other conditions. Min avg untamped density is 15 pcf on beam and steel form units with min ind untamped density of 11 pcf for Types II or DCF. Min avg and min ind densities of 22 and 19 pcf, respectively, for Type HP. For method of density determination refer to Design Information Section.

ISOLATEK INTERNATIONAL — Type D-C/F, Type HP, Type II; Type EBS or Type X Adhesive

9A. **Spray-Applied Fire Resistive Materials* - As An Alternate to Item 9 —** Applied by mixing with water in accordance with instructions on each bag and applied in one or more coats to a final thickness as shown in table below to steel beam and fluted steel deck surface which is free of dirt, oil or scale. The area between the steel deck and the top flange of the steel beam shall be filled. Min average and min individual density is 15 and 14 pcf, respectively, for Types 300, 300AC, 300ES, 300HS, 300N, 3000, 3000ES and SB. For Types 400AC and 400ES min average and min individual density of 22 and 19 pcf, respectively.

BERLIN CO LTD — Type 300, Type 300ES, Type 300N or Type SB.

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Types 300, 300AC, or 400AC.

ISOLATEK INTERNATIONAL — Type 300, Type 300AC, Type 300ES, Type 300HS, Type 300N, Type SB, Type 400AC, Type 400ES, Type 3000 or Type 3000ES.

NEWKEM PRODUCTS CORP — Type 300, Type 300ES, Type 300N, or Type SB.

9B. **Spray-Applied Fire Resistive Materials*— As An Alternate to Item 9 A** — Applied by mixing with water and spraying in one or more coats to the thicknesses shown below, to steel surfaces which are clean and free of dirt, loose scale and oil. When fluted steel deck is used and the steel beam is sprayed with the thicknesses applicable to cellular or blended units, the area between the steel deck and the top flange of the steel beam shall be plugged. When metal lath is not required, Type PC Pre coat is required on all cellular units when Type 300TW is used. The Type PC Pre coat shall be applied to cover approximately 70 percent of the flat plate surface. Thickness of the Type PC Pre coat is included in the total thickness thickness of the protection material. Min average and min individual density of 17.5 and 16 pcf, respectively for Type300TW. Min average and min individual density of 22 and 19 pcf, respectively for Type 400. For method of density determination, see Design Information Section, Sprayed Material. When Type 400 is used on cellular units, metal lath (Item 12) must be used.

BERLIN CO LTD — Type 400.

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Type 400.

ISOLATEK INTERNATIONAL — Type 300TWor 400, Type PC.

NEWKEM PRODUCTS CORP — Type 400

Restrained Assembly Rating Hr	Concrete (Type) NW or LW	Min Required Unrestrained Beam Rating Hr	Min Mtl Thkns on Beam In.
1		1	1/2
1-1/2	NW or LW	1	1/2
2	NW or LW	1	1/2
3	NW or LW	1-1/2	7/8
—	NW or LW	2	1-1/16
—	LW	3	1-1/2
—	NW	3	1-3/8

Form Unit Type	Concrete Type	Min Mtl Thkns In. Crests	Valley	Flat Plate	Restrained & Unrestrained Assembly Rating Hr
-(GENERAL FLOOR AREA)					
(1) 2 or 3 in. QL-21,	NW or	9/16	9/16	9/16	1
-99, -121; Metric	LW				
Units-QL-77-600,					
-77-900; QLC-78-600,					
-78-900; 2VLI, 3VLI;					
EC266, -366;					
P20LF, P30LF, P31LF;					

F2, F3; LF2, LF3;					
2W, 3W; W2, W3;					
212V-Grip, 312V-Grip,					
CFD-2, -3;					
QL-AKX, -NKX,					
-TKX, -WKX, -WKD,					
-GKX, -GKX-A; ECP-266; ECP366; EPC2,					
EPC3; LF2C,					
LF3C; C20LF, C30LF, C31LF,					
C33LF, C34LF; 2VLP, 3VLP;					
212VW2-Wireway, 312VW2-;					
Wireway, 212VW3-Wireway,					
312VW3-Wireway; 2-DW, 3-DW;					
(2) QL-AKX, -AKD	NW	—	—	7/16	1
(3) QL-WKX, -WKD,	NW	—	—	3/8	1
-GKX, -GKX-A;					
Metric Units-					
QLC-78-600,					
-78-900					
(4) 2 or 3 in. QL-21, -99,	NW or	5/8	5/8	5/8	1-1/2
-121; Metric	LW				
Units-QL-77-					
600, -77-900;					
QLC-78-600, -78-					
900, EC366, EC366,					
P20LF, P30LF, P31LF;					
212V-Grip, 312V-Grip;					
CFD-2, -3; F2, F3;					
LF2, LF3; 2VLI, 3VLI,					
2W, 3W; W2,W3; QL-AKX,					
-NKX, -TKX, -WKD, -WKX,					
-AKD, -GKX, -GKX-A; ECP-					
266, ECP366; EPC2,					
EPC3; LF2C, LF3C; C20LF,					
C30LF, C31LF, C33LF,					
C34LF; 2VLP, 3VLP;					

212VW2-Wireway, 312VW2-;					
Wireway, 212VW3-Wireway,					
312VW3-Wireway; 2-DW 3-DW;					
(5) 2 or 3 in. QL-21,	NW or	3/4	3/4	3/4	2
-99, -121; Metric	LW				
Units-QL-77-600,					
-77-900; EC266, EC-					
366, P20LF, P30LF;					
F2, F3; LF2, LF3;					
2VLI, 3VLI, 2W, 3W; W2, W3,					
212V-Grip, 312V-Grip;					
CFD-2, -3; QL-AKX,					
-NKX, -TKX, -WKX,					
-AKD, -GKX,					
-GKX-A, -78-900;					
ECP-266, -366, EPC2,					
EPC3; C20LF, C30LF,					
C31LF, C33LF, C34LF;					
2VLP, 3VLP;					
212VW2-Wireway, 312VW2-;					
Wireway, 212VW3-Wireway,					
312VW3-Wireway;					
Metric Units-QLC-78-600;					
2-DW, 3-DW;					
(6) 2 or 3 in. QL-99;	NW or	1-1/4	1-1/8	1-1/8	3
QL-AKX, -WKX, -GKX,	LW				
-GKX-A,-AKD, -WKD					
Metric Units-					
QL-77-600, -77-					
900; QLC-78-600,					
-78-900; 2-DW, 3-DW;					
(STANDARD TRENCH HEADER)					
(7) 2 or 3 in. QL-99,	NW or	9/16	9/16	9/16+	1
QL-21, -121; Metric	LW				
Units-QL-77-600,					
-77-900; EC266,					

-366, P20LF, P30LF,					
P31LF; 2VLI, 3VLI;					
LF2C, LF3C; 2W, 3W; W2, W3;					
212V-Grip; 312V-Grip;					
CFD-2, -3; QL-AKX,					
-NKX, -TKX, -WKX,					
-GKX, -GKX-A,					
-AKD, -WKD;					
Metric Units-QLC-78-600,					
-78-900; ECP-266,					
ECP366, EPC2,					
EPC3; C20LF, C30LF,					
C31LF, C33LF, C34LF;					
2VLP, 3VLP;					
212VW2-Wireway, 312VW2-;					
Wireway, 212VW3-Wireway,					
312VW3-Wireway; 2-DW, 3-DW;					
(8) 2 in. QL-99, EC266,	NW or	7/8	11/16	11/16+	1-1/2
P20LF; LF2, 2W; W2; 2VLI,	LW				
212V-Grip; CFD-2; QL-AKX, ECP266, EPC2;					
C20LF; LFC2; 2VLP;					
212VW2-Wireway, 312VW3-					
Wireway; 2-DW;					
(9) 3 in. QL-99; Metric	NW or	5/8	5/8	5/8+	1-1/2
Units-QL-77-600,					
-77-900; QLC-78-					
600, -78-900; EC366;					
P30LF; 3W; W3; 3VLI,	LW				
312V-Grip; CFD-3, QL-WKX,					
-GKX, -GKX-A, -WKD;					
ECP366, EPC3; C30LF,					
C31LF; 3VLP, 312VW2-					
Wireway, 312VW3-Wireway;					
3-DW;					
(10) 3 in. QL-99; Metric	NW or	7/8++	3/4++	3/4++	2

Units-QL-77-600, -77-900; QLC-78-600, -78-900; EC366;					
P30LF, P31LF; 3W, W3, 3VLI;	LW				
312V-Grip; CFD-3; QL-WKX,					
-GKX, -GKX-A, -WKD; ECP366,					
EPC3; C30LF, C31LF; 3VLP;					
3-DW;					
(11) 2 in. -99, QL-21, -121;	NW	1-1/8++	7/8++	7/8++	2
EC266; P20LF, P33LF,	or				
P34LF; LF2, 2VLI,	LW				
2W; W2, 212V-					
Grip; CFD-2; QL-AKX,					
-NKX, -TKC, -TKX;					
ECP-266, EPC2; C20LF,					
C31LF, C34LF; LF2C,					
LF3C; 2VLP					
212VW2-Wireway, 212VW3-					
Wireway; 2-DW;					
(Bottomless					
Trench Header					
or Feeder Duct)					
(12) 2 or 3 in. QL-99;	NW	1-3/16	1	1+	1
Metric Units-QL-					
77-600, -77-900;					
QLC-78-600, -78-					
900; EC					
266, EC366; P20LF,	or				
P30LF, P31LF; LF2, LF3;	LW				
2VLI,3VLI, 2W, 3W; W2, W3;					
212V-Grip, 312V-Grip;					
CFD-2, -3; QL-AKX, -NKX,					
-TKX, -WKX, -GKX,					
-GKX-A, -AKD, -WKD;					
ECP266, -366, EPC2,					
-3; C20LF, C30LF, C31LF,					

C33LF, C34LF; LF2C, LF3C;					
2VLP, 3VLP, 212VW2-Wireway,					
312VW2-Wireway, 212VW3-					
Wireway, 312VW3-Wireway;					
2-DW, 3-DW;					
(13) 2 or 3 in. QL-99;	NW	1-1/2	1-1/4	1-1/4+	1-1/2
Metric Units-QL-77-					
600, -77-900; QLC-					
78-600, -78-900; EC					
266, EC366; P20LF,	or				
P30LF; LF2, LF3; 2W,	LW				
2W; W2, W3; 2VLI, 3VLI;					
212V-Grip, 312V-					
Grip; CFD-3, -2;					
QL-AKX, -NKX, -TKX,					
-WKX, -GKX, -GKX-A,					
-WKD;-AKD, ECP266, -366;					
EPC2, -3; C20LF,					
C30LF, C31LF, C33LF, C34LF;					
LF2C, -3C; 2VLP, 3VLP					
212VW2-Wireway, 312VW2-					
Wireway, 212VW3-Wireway,					
312VW3-Wireway; 2-DW, 3-DW);					
(14) 2 or 3 in. QL-21, -99,	NW	1-3/4++	1-3/8++	1-5/8++	2
-121; Metric Units-	or				
QL-77-600, -77-900;	LW				
QLC-78-600, -78-900;					
EC266, EC366,					
P20LF, P30LF, P31LF;					
LF2, LF3; 2VLI,					
3VLI; 2W, 3W; W2, W3;					
212V-Grip; 312V-Grip;					
CFD-2, -3; QL-AKX, -NKX,					
-TKX, -WKX, -GKX,					
-GKX-A, -AKD, -WKD;					

ECP266, -366; EPC2,					
-3; C20LF, C30LF, C31LF,					
C33LF; LF2C, -3C; 2VLP,					
-3VLP; 212VW2-Wireway,					
312VW2-Wireway,					
212VW3-Wireway,					
312VW3-Wireway;2-DW, 3-DW;					
(15) 2 or 3 in. QL-99;	NW	2-1/2++	2-5/16++	2-5/16++	3#
Metric Units-QL-					
77-600, -77-900;					
QLC-78-600, -78- 900;					
QL-AKX, -WKX, -GKX,					
-GKX-A, -AKD,-WKD; 2-DW, 3-DW;					
(Under Epic Metals Corp., EPC20-1 or EPC30-1 Electrical Inserts.)					
EPC2 or EPC3	NW	—	—	5/8	1
EPC2 or EPC3	NW	—	—	15/16	1-1/2
EPC2 or EPC3	NW	—	—	13/16	2
EPC2 or EPC3	NW	—	—	1-13/16++	3
(Under KAM INDUSTRIES LTD, DBA CORDECK. — Tapmate II or II-EA Electrical Inserts)					
QL-AKX, -WKX;	NW	—	—	3/8	1
Metric Units-					
QLC-78-600,					
-78-900					
QL-AKX, -WKX;	NW	—	—	15/16	1-1/2
Metric Units-					
QLC-78-600,					
-78-900					
QL-AKX, -WKX;	NW	—	—	13/16	2
Metric Units-					
QLC-78-600,					
-78-900					
QL-AKX, -WKX;	NW	—	—	1-13/16++	3#
Metric Units-					
QLC-78-600,					
-78-900					
(Under KAM INDUSTRIES LTD, DBA CORDECK. — Tapmate II-FN or II-EAFN Electrical Inserts)					
QL-WKX; Metric	NW	—	—	5/8	1

Units-QLC-78-600,					
-78-900					
QL-AKX	NW	—	—	9/16	1
QL-AKX, -WKX;	NW	—	—	5/8	1-1/2
Metric Units-					
QLC-78-600,					
-78-900					
QL-AKX, -WKX;	NW	—	—	3/4	2
Metric Units-					
QLC-78-600,					
-78-900					
QL-AKX, -WKX;	NW	—	—	1-1/8	3#
Metric Units-					
QLC-78-600,					
-78-900					
(Under KAM INDUSTRIES LTD, DBA CORDECK. — Tapmate III FN or III EAFN Electrical Inserts)					
QL-WKD; Metric	NW	—	—	7/16	1
Units-QLC-78-600,					
-78-900, -78-A-					
600, -78-B-600,					
-78-C-900, -78-					
E-900, -78-F-900					
QL-AKD	NW	—	—	9/16	1
QL-AKD, -WKD;	NW	—	—	5/8	1-1/2
Metric Units-QLC-					
78-600, -78-900,					
78-A-600, -78-B-					
600, -78-C-900,					
-78-E-900, -78-					
F-900					
QL-AKD, -WKD;	NW	—	—	3/4	2
Metric Units-QLC-					
78-600, -78-900,					
78-A-600, -78-B-					
600, -78-C-900,					
-78-E-900,					
-78-F-900					
(Under **BHP Steel Building Products USA Inc.** Electrical Inserts)					
ASC3	NW	—	—	13/16	2

Unrestrained Assembly Rating is 2 Hr.

+ Steel studs and discs (Item 11A) required for Types 300, 300TW, 300ES, 300N, or SB (Item 9B). When Type 400 is used on cellular deck, metal lath (Item 12) is required.

++ Metal lath (Item 11A) required for Types 300, 300TW, 300ES, 300N, SB, or 400 (Item 9B).

10. **Electrical Inserts** — Classified as **"Outlet Boxes and Fittings Classified for Fire Resistance." ***

(1) **KAM INDUSTRIES LTD, DBA CORDECK** Inserts.

(Tapmate II, -II-EA, -II-FN, -ILEAFN; Series KEB)

Installed per accompanying installation instructions over factory-punched holes in 24 or 36 in. wide QL Types AKX, WKX, and Metric Units QLC Types steel floor units. Spacing shall be not more than one insert in each 7-1/2 sq ft of floor area with not less than 25-1/2 in. between edges of adjacent inserts. Required material thickness (see Item 9) on floor units with inserts shall be sprayed the entire length and width of units between supports and extended beyond the edge of inserts onto adjacent floor units for a horizontal width of 12 in. The holes cut in insert cover for passage of wires shall be no more than 1/8 in. layer diam than the wire. For abandonment of Tapmate inserts, see installation instructions. Abandonment requires use of KEB-PC or -PCL insert cover with no holes in it (for all Tapmate inserts), or an abandonment plate for Tapmate II only, or a KEB-PC2 or -PC2-A1 abandonment cover for Tapmate II-EA and II-EAFN only.

The Tapmate II-FN insert may use KEB-HP-1 outlet box fittings in lieu of the KEB-PC flush cover fittings.

Tapmate III, FN, III, EAFN; Series KEC.

Installed per accompanying installation instructions over factory-punched holes in 24 or 36 in. wide QL Types AKD, WKD and Metric Units-QLC Types steel floor units. Spacing shall be not more than one insert in each 7-1/2 sq ft of floor area with not less than 25-1/2 in. between edges of adjacent inserts. Required Material thickness (see Item 9) on floor units with inserts shall be sprayed the entire length and width of units between supports and extended beyond the edge of inserts onto adjacent floor units for a horizontal width of 12 in. The holes cut in insert cover for passage of wires shall be no more than -1/8 in. larger diam than the wire. For abandonment of Tapmate inserts, see installation instructions.

The Tapmate III insert may use KEB-HP-1; Series KEC outlet box fittings with the same hourly rating, insert spacing and fireproofing thicknesses as specified for the Tapmate III-EAFN electrical inserts.

KAM INDUSTRIES LTD, DBA CORDECK — Tapmate II, -II-EA, -II-FN, -II-EAFN; Series KEB, Tapmate III-FN, -III-EAFN; Series KEC.

11. **Steel Studs With Discs —** The stud consists of No. 12 SWG steel wire, 5/8, 7/8 or 1-1/4 in. long for 1, 1-1/2 and 2 hr. protection thicknesses, respectively, with one end welded to 1-3/16 in. diam, No. 28 MSG steel disc. The ends of the studs opposite the discs shall be welded to the feeder duct in rows running parallel with the feeder duct. The distance between the outer rows of the studs and the edge of the feeder duct shall not exceed 4 in. The spacing between the rows shall not exceed 22 in. The spacing between studs in each row shall not exceed 24 in.

11A. **Steel Studs With Discs —** (Not Shown) — For use on cellular steel floor and form units under the trench headers with Types 300, 300TW, 300ES, 300N, or SB (Item 9B). The stud consists of No. 12 SWG steel wire, 1-1/4 in. long with one end welded to 1-1/2 in. diam, No. 28 MSG galvanized steel disc. The total number of studs shall average at least one stud per 250 sq in. The ends of the studs opposite the discs shall be welded to the cellular units in rows parallel with the trench header. The distance between the outer rows of the studs and the edge of the trench header shall not exceed 8-1/2 in. The spacing between the rows shall not exceed 9-1/2 in. The spacing between studs in each row shall not exceed 12 in.

12. **Metal Lath —** (Not shown) — For use with Types 300, 300TW, 300ES, 300N or SB (Item 9B) on fluted and cellular steel floor and form units under the trench-headers where thicknesses in the tables are noted by "++". Also requires on cellular units when inserts are used and thicknesses in the tables are noted by "++". Also required on all cellular units when Type 400 is used — 3/8 in. diamond, expanded steel weighing 3.4 lb per sq yd, secured to the underside of the trench-header. The width of the lath shall extend a min of 1-1/2 in. on either side of the trench-header. The lath is to be placed with the ribs upward and secured with 8-12 by 3/8 in. long panhead, self-drilling, self-tapping steel screws spaced max 12 in. O.C. Steel screws to be fitted with 1/2 in. diam steel washers.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2016-12-20

FFKR ARCHITECTS
730 Pacific Avenue · Salt Lake City, Utah 84104
O 801.521.6186 · FFKR.COM

ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
LICENSED ARCHITECT
09-16-2022

△ DATE REVISION

U of U PROJECT NUMBER

RATED ASSEMBLIES
UL LISTING FLOOR

G502

9/19/2022 10:57:59 AM

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. D902

December 28, 2016

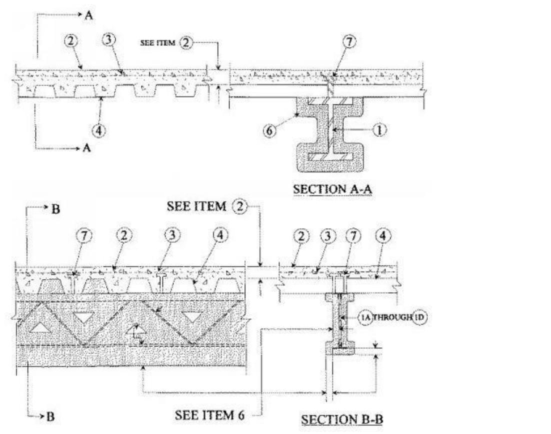
Restrained Assembly Ratings — 1, 1-1/2, 2 and 3 Hr.

Unrestrained Assembly Ratings — 0, 1, 1-1/2, 2 or 3 Hr. (See Items 4 & 6)

Unrestrained Beam Ratings — 1, 1-1/2, 2 and 3 Hr.

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Beam** — W12X14, W8X28, W8x24 or W6x12, min size, see Items 6A through 6E.

1A. **Steel Joists** — (Not Shown) — As an alternate to Item 1 — Composite or noncomposite min 8k1 or min depth and weight shall be 8 in. and 4.9 lb/ft respectively. May be uncoated or provided with a shop coat of paint. Designed per S.J.I. specifications for a max design stress of 30, 000 psi (30 ksi). Welded or bolted to end supports. The top chords shall consist of two angles measuring 1-1/4 by 1-1/4 by 0.127 in. thick. Bottom chords shall consist of two round bars measuring 0.566 in. in diam. or two angles measuring 1 by 1 by 0.125 in. thick. Bearing plates shall consist of two angles measuring 1-1/2 by 2 by 0.188 in. thick and 5-1/16 in. long. Web members shall consist of 0.565 in. diam bars.

1B. **Steel Joists** — (Not Shown) — As an alternate to Item 1 — Composite or noncomposite min 12k5 or min depth and weight shall be 12 in. and 7.1 lb/ft respectively. May be uncoated or provided with a shop coat of paint. Designed per S.J.I. specifications for a max design stress of 30, 000 psi (30 ksi). Welded or bolted to end supports. Top chords shall consist of two angles measuring 1-1/2 by 1-1/2 by 0.156 in. thick. Bottom chords shall consist of two round bars measuring 0.675 in. in diam. or two angles measuring 1 by 1 by 0.125 in. thick. Bearing plates shall consist of two angles measuring 2 by 2 by 0.192 in. thick and shall be min 4-15/16 in long. The second web member at each end shall consist of 0.654 in. diam round bar. All remaining web members, including the end web members, shall consist of 0.774 in. diam round bars. Bridging per S.J.I. specifications is required when noncomposite joists are used.

1C. **Steel Joists** — (Not Shown) — As an alternate to Item 1 — Composite or noncomposite min 12k5 or min depth and weight shall be 12 in. and 7.1 lb/ft respectively. May be uncoated or provided with a shop coat of paint. Designed per S.J.I. specifications for a max design stress of 30, 000 psi (30 ksi). Welded or bolted to end supports. Top chords shall consist of two angles measuring 1-1/2 by 1-1/2 by 0.156 in. thick. Bottom chord shall consist of two round bars measuring 0.675 in. in diam. or two nangles measuring 1 by 1 by 0.125 in. thick. The second web member at each end shall consist of 0.654 in. diam round bar. All remaining web members, including the end web members, shall consist of 0.774 in. diam round bars. Bridging per S.J.I. specifications is required when noncomposite joists are used.

1D. **Steel Joists** — (Not Shown) — As an alternate to Item 1 — Composite or noncomposite min 8k1 or min depth and weight shall be 8 in. and 4.9 lb/ft respectively. May be uncoated or provided with a shop coat of paint. Designed per S.J.I. specifications for a max design stress of 30, 000 psi (30 ksi). Welded or bolted to end supports. The top chords shall consist of two angles measuring 1-1/4 by 1-1/4 by 0.127 in. thick. Bottom chords shall consist of two round bars measuring 0.566 in. in diam. or two angles measuring 1 by 1 by 0.125 in. thick. Bearing plates shall conform to S.J.I. specifications. Web members shall consist of 0.565 in. diam bars.

2. **Normal Weight or Lightweight Concrete** — Normal weight concrete, carbonate or siliceous aggregate, 3500 psi compressive strength, vibrated. Lightweight concrete, expanded shale or slate aggregate by rotary-kiln method or expanded clay aggregate by rotary-kiln or sintered-grate method, or pelletized expanded blast furnace slag aggregate, 3000 psi compressive strength, vibrated, 4 to 7 per cent entrained air.

Restrained Assembly Rating Hr	Concrete (Type)	Concrete Unit Weight pcf	Concrete Thkns In.
1	Normal Weight	147-153	3-1/2
1-1/2	Normal Weight	147-153	4
2	Normal Weight	147-153	4-1/2
3	Normal Weight	147-153	5-1/4
1	Lightweight	107-113	2-1/2
1	Lightweight	107-120	2-5/8
1-1/2	Lightweight	107-113	3
2	Lightweight	107-113	3-1/4
2	Lightweight	107-116	3-1/4*
2	Lightweight	114-120	3-1/2
3	Lightweight	107-113	4-3/16
3	Lightweight	114-120	4-7/16

* With 2 and 3 in. deep steel floor units only.

3. **Welded Wire Fabric** — 6x6 10/10 SWG.

3A. **Negative Reinforcement** — (Not Shown) — Optional - Used in lieu of Item 3 and with Items 3B or 3C. For floor spans with concrete cast continuous over the supporting beams. Deformed bars designed to resist the support moments of the concrete slab in accordance with the latest ACI Building Code Specifications.

3B. **Fiber Reinforcement*** — (Not Shown) — Required with Item 3A. Engineered synthetic fibers added to concrete mix to control shrinkage cracks in concrete. Fibers added to concrete mix at rate of 1 lb of fiber for each cubic yard of concrete.

PROPEX OPERATING COMPANY L L C — Fibermesh 150 and Fibermesh 300.

3C. **Fiber Reinforcement*** — (Not Shown) — Required with Item 3A. Any fiber reinforcement bearing the UL Classification Marking for Fire Resistance, Classified for use in lieu of welded wire fabric.

See **Fiber Reinforcement** (CBXQ) Category for names of manufacturers.

4. **Steel Floor and Form Units*** — Composite 1-1/2, 1-5/8 , 2 or 3 in. deep galv units or 4-1/2 in. deep non-composite galv units. Fluted units may be phos/ptd. Min gauges are 22 MSG for fluted and 20/20 for cellular and partial cellular units. The following combinations of units may be used:

(1) All 24, 26, 28 or 36 in. wide cellular or partial cellular.

(2) All fluted.

(3) One or two 3 in. deep, 12 in. wide, 18/18 MSG min cellular alternating with 3 in. deep fluted or other cellular.

(4) Any blend of fluted and 24, 26, 28 or 36 in. wide cellular or partial cellular.

(5) Corrugated, nom 1-5/16 or 2 in. deep, 30 in. wide, 24 MSG min galv units with shear wires factory welded to deck corrugations. Welded to supports 12 in. OC through welding washers. For shear wire spacing of 8 in. or less the steel deck stress shall not exceed 20 KSI. For shear wire spacing greater than 8 in. OC but less than or equal to 12 in. OC steel deck stress shall not exceed 12 KSI.

ASC STEEL DECK, DIV OF ASC PROFILES L L C — 32 in. wide Types NH-32, NHN-32, NHF-32; 36 in. wide, Types BH-36, BHN-36, BHN-35-1/4, BHF-36, BHF-36A, 2WH-36, 2WHS-36, 2WHF-36, 2WHF-36A, 3WxH-36, 3WxHF-36, 3WH-36, 3WHF-36, 3WHF-36A, 3W-36, 3WF-36, DG3W-36, DG3WF-36. All units may be galvanized or Prime Shield. Non-cellular decks may be vented designated with a "V" suffix to the product name. Cellular deck top and bottom sections may be riveted together (designated with "Fr") vs. arc spot welded, "F"

CANAM STEEL CORP — 24 in. wide Type P-2432 composite or 36 in. wide Type P-3623, P-3606, P-3615 and 24 in wide Type P-2432 composite, Type P-3606 and P-3615 non-composite

CANAM STEEL CORP — 12 or 24 in. wide, Types 1-1/2, 2, or 3 in. LOK-Floor and LOK-Floor Cell; 36 in. wide, Types 2 or 3 in. LOK-Floor and LOK-Floor Cell; 24, 30 or 36 in. wide, Type 1-1/2 in. B-LOK and B-LOK Cell; 24 in. wide, Types N-LOK and N-LOK Cell

CENTRIA — QL Types, 24 in. wide, 3 or 3 inverted, UKX, 21 or 21 inverted, 2 in. 99, 121, AKX, NKX, TKX; 24 or 30 in. wide GKX, GKXH, GKX-A; 36 in. wide 2 in. 99, AKX, WKX; 12 in. wide NKC, TKC; 12 in. wide non-composite Sec 12. Side joints of 99, 121, TKC, TKX, WKX may be welded together 60 in. OC. Side joints of 99, AKX, WKX, GKX, GKX-A, TKX may be fastened together with min 1 in. long No. 12x14 self-drilling, self-tapping steel screws 36 in. OC

CHIA TEH CONSTRUCTION MATERIAL CO LTD — 24 or 36 in. wide Mac-Lok 3; 24 in. wide CFD-3

DECK WEST INC — 36 in. wide Type B-DW, Inverted B-DW, BA-DW, Inverted BA-DW, 2-DW or 3-DW. Side joints of Type 2-DW and 3-DW may be fastened together with min 1 in. long No. 12 x 14 self-drilling, self-tapping steel screws 36 in. OC

DESIGN ASSISTANCE CONSTRUCTION SYSTEMS INC — 36 in. wide Type DACS1.5CD, or 24 in. wide Type DACS2.0CD, or DACS3.0CD

EPIC METALS CORP — 24 in. wide Types EC150, EC150 inverted, EC300, EC366, ECP150, ECP300, ECP366, ECA; 30 in. wide Types ECB150, ECBR150; 36 in. wide Types EC156, EC266, ECP266

KAM INDUSTRIES LTD, DBA CORDECK — 24 in. wide, Types 2 or 3 in. WDR

MARLYN STEEL DECKS INC — Type 1.5 CF, 2.0 CF or 3.0 CF

MORIN CORP — 24, 30 or 36 in. wide Types LXR-B, LXR-B inverted; 24 or 36 in. wide Type LXR-3W; 36 in. wide Type LXR-2W

NEW MILLENNIUM BUILDING SYSTEMS L L C — 24 in. wide Types CFD-2, CFD-3; 24, 30 or 36 in. wide Type CFD-1.5; 24 or 36 in. wide Types Mac-Lok 2, Mac-Lok 3; 24 in. wide Types B2C, B2FC, NC, NFC; 30 in. wide, Type B3C; 12 in. wide Mac-Way Cellular 45 MDW, 2-633 MTWA, 3-633 MTWA+. 30 in. wide, Mac-Cor Types 1 and 2

NEW MILLENNIUM BUILDING SYSTEMS L L C — Type 1.5CD, 1.5CDI, 1.5CDR, 2.0CD, or 3.0CD. Units may be phos/painted or galvanized

ROOF DECK INC — 36 in. wide Types LOK-1-1/2, LOK-1-1/2R; 24 in. wide Types LOK-2, LOK-3

VALLEY JOIST — 24 or 36 in. wide Types WVC 1-1/2 or WVC 2

VERCO DECKING INC - A NUCOR CO — FORMLOK™ deck types PLB, B, BR, PLN3, N3, PLN, N, PLW2, W2, PLW3, W3. Units are min 24 in. wide and may be galvanized, phos./ptd., or mill finish. Units may be cellular or acoustical cellular, with the suffix "CD" or "CD-AC" added to the product name, respectively. All non-cellular deck may be vented or non-vented. 12 in. wide PLW2, W2, PLW3 or W3 units may be blended with 24 or 36 in. wide PLW2, W2, PLW3 or W3 units, respectively; or Types PLN3-CD, N3-CD, PLN3, N3.

VULCRAFT, DIV OF NUCOR CORP — 24, 30 or 36 in. wide Types 1.5VL, 1.5VLI, 1.5PLVLI, 1.5VLP, 1.5 VLR, 1.5PLVLP; 24 or 36 in. wide Types 1.5VLPA, 1.5PLVLPA, 2VLI, 2.0PLVLI, 2VLJ, 3VLI, 3.0PLVLI, 3VLJ, 2VLP, 2.0PLVLP, 3VLP, 3.0PLVLP, 2VLPA, 2.0PLVLPA, 3VLPA, 3.0PLVLPA. Types 1.5VL, 1.5VLI, 1.5PLVLI, 1.5 VLR, 1.5VLPA, 1.5PLVLPA, 2VLI, 2.0PLVLI, 3VLI, 3.0PLVLI, 3VLJ units may be phos/ptd. 24 or 36 in. wide Types 2VLJ, 3VLJ units ++ may be used for max 2 hr Restrained Assembly Rating. 36 in. wide Types 1.5 SB, 1.5 SBR; 24 or 36 in wide Types 2.0 SB, 3.0 SB, 36 in. wide Type High Strength 1.5 SBI, 36 in. wide Type High Strength 1.5 SBN; Units may be phos/ptd

Spacing of welds attaching units to supports shall be 12 in. OC for 12, 24, 36 in. wide units, four welds per sheet for 30 in. wide units. 6 in. OC for 18 in. wide and Sec. 12 units. Unless specified otherwise for specific units types, adjacent units button-punched or welded together 36 in. OC along side joints. For **3 Hr Rating**, units with overlapping type side joints welded together 24 in. OC max.

When a superimposed load of 250 PSF is desired the spacing of welds or button-punches shall not exceed 24 in. OC along side joints.

\+ 12 in. wide, 1-1/2 in. deep Mac-Way units may be blended with 24 in. wide B2C or 30 in wide B3C units in a blend of one cell to one or more fluted units. 12 in. wide, 2 in. deep Mac-Way units may be blended with 24 or 36 in. wide Mac-Lock units in a blend of one cell to one or more fluted units. 12 in. wide, 3 in. deep Mac-Way units may be blended with 24 or 36 in. wide Mac-Lock 3 units in a blend of one cell to one or more fluted units. The side edge of the fluted units is placed on the top of the side edge of the Mac-Way unit and the two are welded together with welding washers spaced a max. of 32 in. OC for Mac-Lock 2 or 3 units and a max of 24 in. OC for the B2C or B3C units.

\++ Side joints of Types 2VLJ or 3VLJ units may be fastened together with No. 8-3/4 in. long self-drilling Tek screws driven diagonally from the top side through the joint of the units at 36 in. O. C. max.

Alternate Construction — Noncomposite units of the same type listed above may be used provided allowable loading is calculated on the basis of noncomposite design.

The Unrestrained Assembly Rating is equal to the Unrestrained Beam Rating (See Item 6) for a max 3 Hr and is limited to the following units and limitations:

(a) 1-1/2, 2 and 3 in. deep, 24 in. wide, 22 MSG or thicker fluted with clear spans not more than 7 ft, 8 in.

(b) 1-1/2, 2 and 3 in. deep, 24 in. wide, 20 MSG or thicker fluted with clear spans not more than 8 ft, 8 in.

(c) 1-1/2 and 2 in. deep, 24 in. wide, 16 MSG or thicker fluted and 18/18 MSG or thicker cellular with clear spans not more than 9 ft, 11 in.

(d) 3 in. deep, 36 in. wide, 18 MSG or thicker fluted and 24 in. wide, 20/18 MSG or thicker cellular with clear spans not more than 13 ft, 2 in.

For assemblies utilizing 3-1/4 in. lightweight concrete topping with a max Restrained Assembly Rating of 2 Hr, the Unrestrained Assembly Rating is equal to the Unrestrained Beam Rating (See Item 6) and is limited to the following floor units and spans:

(a) 1-1/2, 2 and 3 in. deep, 24 or 36 in. wide, 22 MSG fluted and 20/20 MSG cellular with clear spans not more than 9 ft, 6 in.

(b) 2 and 3 in. deep, 24 or 36 in. wide, 20 MSG fluted and 20/20 MSG cellular with clear spans not more than 10 ft, 0 in.

(c) 3 in. deep, 24 in. wide, 20 MSG fluted and 20/20 MSG cellular with clear spans not more than 13 ft, 2 in.

4A. **Steel Floor and Form Units*** — As an alternate to Item 4, for use only when top of steel beam (Item 1) is filled solid with concrete for the full width of bearing from top of steel beam to top of concrete (Item 2):

BAILEY METAL PRODUCTS LTD — Type COMSLAB™ 210 and COMSLAB™ 225, Steel End Closure Flashing

5. **Joint Cover** — (Use with fluted units optional — Not Shown) — 2 in. wide cloth adhesive tape applied following the contour of the units.

6. **Spray-Applied Fire Resistive Materials*** — Applied by spraying with water, in one coat to a final thickness as shown above and in table below to steel beam surface which is free of dirt, oil or scale. When fluted steel deck is used and the fire protection thickness selected is based on all fluted deck, the area between the steel deck and the top flange of the steel beam shall be filled. When fluted steel deck is used and the steel beam is sprayed with the thicknesses applicable to cellular or blended units, the area between the steel deck and the top flange of the steel beam shall be plugged. Use of adhesive is optional. Min avg untamped density is 13 pcf with min ind untamped density of 11 pcf for Types II or DC/F. Min avg and min ind untamped densities of 22 and 19 pcf, respectively, for Type HP. Tamping is optional. For method of density determination, refer to Design Information Section. The thickness of the Spray-Applied Fire Resistive Materials on the Structural Members (Item 1, 1A, or 1B) shall be as follows:

Restrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Concrete Type	Protection Mtl Thkns on Structural Member In.				
			W8x28 When Deck Is All Fluted	W8x28 When Deck Is Blend or All Cellular	W12x14 When Deck Is All Fluted	Joist Item 1A When Deck Is Fluted Cellular or Blend	Joist Item 1B When Deck Is Fluted Cellular or Blend
1	1	NW	3/8,5/8**	1/2+,11/16**	9/16,15/16**	1++	—
1-1/2	1	NW	3/8,5/8**	1/2+,11/16**	9/16,15/16**	1-9/16	—
2	1	NW	3/8,5/8**	1/2+,11/16**	9/16,15/16**	2-1/16	—
2	2	NW	3/4	1-3/8+	1-1/16	2-1/16	—
2	3	NW	1-3/16	2-1/8+	1-11/16	—	3-1/4
3	1-1/2	NW	1/2	7/8*	3/4	—	3-1/4
3	2	NW	3/4	1-3/8+	1-1/16	—	3-1/4
3	3	NW	1-3/16	2-1/8+	1-11/16	—	3-1/4
1	1	LW	3/8,5/8**	1/2+,11/16**	9/16,15/16**	1-1/8++	—
1-1/2	1	LW	3/8,5/8**	1/2+,11/16**	9/16,15/16**	1-3/4	—
2	1	LW	3/8,5/8**	1/2+,11/16**	9/16,15/16**	2-1/4	—
2	2	LW	1	1-3/8+	1-7/16	2-1/4	—
2	3	LW	1-9/16+	2-1/8+	2-1/4	—	3-1/4
3	1-1/2	LW	11/16	7/8*	1	—	3-1/4
3	2	LW	1+	1-3/8+	1-7/16	—	3-1/4

* May be reduced to 3/4 in. for the 1-1/2 hr Unrestrained Beam Rating when the material is sprayed 2 in. beyond the beams's top flange and no reduction in thickness is made at the tips of the bottom flange.

** This thickness applies when optional Item 12 or 13 are used over 3-1/4 in. lightweight concrete topping.

\+ Thickness of Spray-Applied Fire Resistive Materials may be reduced to one half of this thickness on the lower flange tips of the steel beam.

\++ When bottom chords consist of 1 by 1 by 0.125 in. thickn steel angles, the thickness of spray-applied fire resistive material shall be increased by 1/4 in. on the bottom chord only.

ISOLATEK INTERNATIONAL — Type D-C/F, HP, Type II, Type EBS or Type X adhesive which may also be used as a surface sealer

6A. **Spray-Applied Fire Resistive Materials*** — Alternate to Item 6. See table below for appropriate thicknesses. When fluted steel deck is used and the fire protection thickness selected is based on all fluted deck, the area between the steel deck and the top flange of the steel beam shall be filled. When fluted steel deck is used and the steel beam is sprayed with the thicknesses applicable to cellular or blended units, the area between the steel deck and the top flange of the steel beam shall be plugged. Prepared by mixing with water and spray-applied in one or more coats to beam surfaces which must be clean and free of dirt, loose scale and oil. Min average density of 17.5 pcf with min individual value of 17.0 pcf. For method of density determination, see Design Information Section, Sprayed Material.

Restrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Protection Thkns on W8x28, In.	
		When Deck Is All Fluted	When Deck Is Blend or All Cellular
1, 1-1/2, 2	1	5/16, 7/16*	5/16, 7/16*
2	2	11/16	13/16
2	3	1-1/16	1-5/16
3	1-1/2	1/2	9/16
3	2	11/16	13/16
3	3	1-1/16	1-5/16

* This thickness applies when optional Items 12, 13 are used over 3-1/4 in. lightweight concrete topping.

\+++ When bottom chords consist of 1 by 1 by 0.125 in. thick steel angles, the thickness of spray-applied fire resistive material shall be increased by 1/4 in. on the bottom chord only.

ISOLATEK INTERNATIONAL — Type 280

6B. **Spray-Applied Fire Resistive Materials*** — Alternate to Item 6 or 6A. Applied by mixing with water according to instructions on each bag of material. Mixture can be spray or trowel applied in one or more coats. The thickness of the mixture is dependent on the type of floor unit. See table below for appropriate thickness. When fluted steel deck is used and the fire protection thickness selected is based on all fluted deck, the area between the steel deck and the top flange of the steel beam shall be filled. When fluted steel deck is used and the steel beam is sprayed with the thicknesses applicable to cellular or blended units, the area between the steel deck and the top flange of the steel beam shall be plugged. The steel surfaces must be clean and free of dirt, loose scale and oil. Minimum average density of 38 pcf and minimum individual density of 35 pcf for Type 800. Min avg density of 44 pcf with min ind value of 40 pcf for Type M-II. Min avg density of 47 pcf, with min individual value of 43 pcf for Type M-II/P. Min avg density of 44 pcf with min ind value of 42 pcf for Type TG. For method of density determination, refer to Design Information Section, Sprayed Material.

Restrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Protection Thkns on W8x28, In.	
		When Deck Is All Fluted	When Deck Is Blend or All Cellular
1, 1-1/2, 2	1	3/8, 1/2*	7/16, 9/16*
2	2	15/16	1-1/4
2	3	1-5/16	1-1/2
3	1-1/2	5/8	1
3	2	15/16	1-1/4
3	3	1-5/16	1-1/2

* This thickness applies when optional Item 12 or 13 are used over 3-1/4 in. lightweight concrete topping.

BERLIN CO LTD — Types M-II or TG. Types M-II and TG Investigated for exterior use

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Types M-II, M-II/P or TG. Types M-II, M-II/P and TG Investigated for exterior use

ISOLATEK INTERNATIONAL — Types 800, M-II, M-II/P or TG investigated for exterior use

NEWKEM PRODUCTS CORP — Types M-II or TG. Types M-II and TG Investigated for exterior use

6C. **Spray-Applied Fire Resistive Materials*** — Alternate to Items 6A or 6B. Applied by mixing with water in accordance with instructions on each bag and applied in one or more coats to a final thickness as shown in table below to steel beam surface which is free of dirt, oil or scale. When fluted steel deck is used and the fire protection thickness selected is based on all fluted deck, the area between the steel deck and the top flange of the steel beam shall be filled. When fluted steel deck is used and the steel beam is sprayed with the thicknesses applicable to cellular or blended units, the area between the steel deck and the top flange of the steel beam shall be plugged.

Min average and min individual density is 15 and 14 pcf, respectively, for Types 300, 300AC, 300ES, 300HS, 300N, 3000, 3000ES and SB. For Types 400AC and 400ES min average and min individual density of 22 and 19 pcf, respectively. For method of density determination, refer to Design Information Section. The thickness of the material on the Structural Members (Item 1, 1C, or 1D) shall be as follows:

Restrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Protection Mtl Thkns on Structural Members In.			
		W8x28 When Deck Is All Fluted	W8x28 When Deck Is Blend or All Cellular	W12x14 When Deck Is All Fluted	Joist (Item 1C or 1D) When Deck Is Fluted Cellular or Blend
1	1	5/16, 7/16*	5/16, 7/16*	1/2,5/8*	9/16
1-1/2	1	5/16, 7/16*	5/16, 7/16*	1/2,5/8*	1
2	1	5/16, 7/16*	5/16, 7/16*	1/2,5/8*	1-3/8
2	2	11/16	13/16	1	1-3/8
2	3	1-1/16	1-5/16	1-1/2	2-1/4
3	1-1/2	1/2	9/16	3/4	2-1/4
3	2	11/16	13/16	1	2-1/4
3	3	1-1/16	1-5/16	1-1/2	2-1/4

* This thickness applies when optional Item 12 or 13 are used over 3-1/4 in. lightweight concrete topping.

BERLIN CO LTD — Type 300, Type 300ES, Type 300N or Type SB

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Types 300, 300AC, or 400AC

ISOLATEK INTERNATIONAL — Type 300, Type 300AC, Type 300ES, Type 300HS, Type 300N, Type SB, Type 400AC, Type 400ES, Type 3000 or Type 3000ES

NEWKEM PRODUCTS CORP — Type 300, Type 300ES, Type 300N, or Type SB

6D. **Spray-Applied Fire Resistive Materials*** — Alternate to Items 6A, 6B or 6C. Applied by mixing with water in accordance with instructions on each bag and applied in one or more coats to a final thickness as shown in table below to steel beam surface which is free of dirt, oil or scale. When fluted steel deck is used and the fire protection thickness selected is based on all fluted deck, the area between the steel deck and the top flange of the steel beam shall be filled. When fluted steel deck is used and the steel beam is sprayed with the thicknesses applicable to cellular or blended units, the area between the steel deck and the top flange of the steel beam shall be plugged.

Min average and min individual density is 17.5 and 16 pcf, respectively, for 300TW. Min average and min individual density of 22 and 19 pcf, respectively, for Type 400. For method of density determination, refer to Design Information Section. The thickness of the material on the Structural Members (Item 1, 1C, or 1D) shall be as follows:

Restrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Protection Mtl Thkns on Structural Members In.			
		W8x28 When Deck Is All Fluted	W8x28 When Deck Is Blend or All Cellular	W12x14 When Deck Is All Fluted	Joist (Item 1C or 1D) When Deck Is Fluted Cellular or Blend
1	1	5/16, 7/16*	5/16, 7/16*	1/2,5/8*	9/16
1-1/2	1	5/16, 7/16*	5/16, 7/16*	1/2,5/8*	1
2	1	5/16, 7/16*	5/16, 7/16*	1/2,5/8*	1-3/8
2	2	11/16	13/16	1	1-3/8
2	3	1-1/16	1-5/16	1-1/2	2-1/4
3	1-1/2	1/2	9/16	3/4	2-1/4
3	2	11/16	13/16	1	2-1/4
3	3	1-1/16	1-5/16	1-1/2	2-1/4

* This thickness applies when optional Item 12 or 13 are used over 3-1/4 in. lightweight concrete topping.

BERLIN CO LTD — Type 400

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Type 400

ISOLATEK INTERNATIONAL — Type 300TW, Type 400

NEWKEM PRODUCTS CORP — Type 400

6E. **Mastic and Intumescent Coatings*** — As an alternate to Items 6 through 6D. For use with fluted steel floor and form units only. Min. size W8x24 or W6x12 beams shall be primed with a phenolic modified alkyd primer, a metal alkyd primer, an acrylic primer or an epoxy primer at a nominal thickness of 2 mil. Coating spray or brush applied in accordance with the manufacturer's instructions at the min dry thickness as shown in the table below. The thickness shown below includes the primer thickness. Flutes above beam to be completely filled with minimum 6 pcf mineral wool insulation, or the top flange of the beam to be protected with the same thickness of coating as required on the beam.

Minimum Dry Thickness mils	Minimum Dry Thickness mm	Beam Size	Unrestrained Beam Rating Hr	Restrained Assembly Rating Hr
53	1.34	W8x24	1	2
95	2.41	W8x24	1-1/2	3
73	1.83	W6x12	1	2
123	3.10	W6x12	1-1/2	3

BERLIN CO LTD — Type WB 3. Investigated for Interior General Purpose. Type WB 4, Investigated for Interior General Purpose. Type WB4, Investigated for Exterior Use with top coat as described in Item 6F

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Type WB 3. Investigated for Interior General Purpose. Type WB 4, Investigated for Interior General Purpose. Type WB4, Investigated for Exterior Use with top coat as described in Item 6F

ISOLATEK INTERNATIONAL — Type SprayFilm-WB 3 and Type WB 3. Investigated for Interior General Purpose. Type SprayFilm-WB 4 and Type WB 4, Investigated for Interior General Purpose. Type SprayFilm-WB 4 and Type WB4, Investigated for Exterior Use with top coat as described in Item 6F

NEWKEM PRODUCTS CORP — Type WB 3. Investigated for Interior General Purpose. Type WB 4, Investigated for Interior General Purpose. Type WB4, Investigated for Exterior Use with top coat as described in Item 6F

6F. **Mastic and Intumescent Coatings*** — As an alternate to Items 6 through 6E. For use with normal weight concrete. Min. size W8x28 beams shall be primed with a phenolic modified alkyd primer a metal alkyd primer, an acrylic primer or an epoxy primer at a nominal thickness of 2 mil. Coating spray or brush applied in accordance with the manufacturer's instructions at the min dry thickness as shown in the table below. The thickness shown below includes the primer thickness. The top surface of the top flange where fluted units are used must be protected with the coating material at the same min dry thickness at a min distance of 1 in. (25 mm) inward from the flange tip on both sides of the beam. Mineral wool insulation optional above top surface of the beam.

Minimum Dry Thickness mils	Minimum Dry Thickness mm	Steel Floor Units	Unrestrained Beam Rating Hr	Restrained Assembly Rating Hr
103	2.62	Fluted or Cellular	1-1/2	2
179	4.55	Cellular	1-1/2	3
341	8.67	Cellular	2	3

BERLIN CO LTD — Type WB 3. Investigated for Interior General Purpose. Type WB 4, Investigated for Interior General Purpose. Type WB 4, Investigated for Exterior Use with top coat as described in Item 6G

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Type WB 3, Investigated for Interior General Purpose. Type WB 4, Investigated for Interior General Purpose. Type WB 4, Investigated for Exterior Use with top coat as described in Item 6G

ISOLATEK INTERNATIONAL — Type SprayFilm-WB 3 and Type WB 3. Investigated for Interior General Purpose. Type SprayFilm-WB 4 and Type WB 4, Investigated for Interior General Purpose. Type SprayFilm-WB 4 and Type WB 4, Investigated for Exterior Use with top coat as described in Item 6G

NEWKEM PRODUCTS CORP — Type WB 3. Investigated for Interior General Purpose. Type WB 4, Investigated for Interior General Purpose. Type WB4, Investigated for Exterior Use with top coat as described in Item 6F

6G. **Top Coat** — Type SprayFilm — TOPSEAL and Type TOPSEAL required for Exterior Use, applied at a minimum dry thickness of 14 mils (0.34 mm) over the intumescent material.

See Classification information in the **Mastic and Intumescent Coating** (CDWZ) category, Isolatek International, for mixing requirements.

6H. **Mastic and Intumescent Coatings*** — As an alternate to Items 6 through 6F. For use with normal weight or light weight concrete and fluted steel floor and form units only. Min size W8x24 beams shall be primed with a phenolic modified alkyd primer at a thickness of 2 mils or a epoxy primer at a nominal thickness of 1 mil. Coating spray or brush applied in accordance with the manufacturer's instructions at the thicknesses shown below. The thickness includes the thickness of primer. The top surface of the top flange where fluted units are used must be protected with the coating material at the same min dry thickness or filled with nominal 4 pcf mineral wool.

Minimum Dry Thickness mils	Minimum Dry Thickness mm	Unrestrained Beam Rating Hr	Restrained Assembly Rating Hr
35	0.88	1	2
66	1.68	1-1/2	3

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Type SprayFilm-WB-5 and Type WB-5. Investigated for Interior General Purpose

ISOLATEK INTERNATIONAL — Type SprayFilm-WB-5 and Type WB-5. Investigated for Interior General Purpose

7. **Shear Connector Studs** — Optional — Studs, 3/4 in. diam by 3 in. long, for 1-1/2 in. deep form units to 5-1/4 in. long for 3 in. deep form units, headed type or equivalent per AISC specifications. Welded to the top flange of the beam through the steel form units.

8. **Lath Hanger** — (Not Shown) — Optional - For use in caged beams with Items 6, 6A, 6B or 6C Galv steel 6 SWG min diam spaced 27 in. O. C.

9. **Clips** — (Not Shown) — Optional - For use in caged beams with Items 6, 6A, 6B or 6C No. 24 MSG spring steel pushed on to top and bottom flanges of beam spaced 6 in. O. C. max.

10. **Metal Lath** — (Not Shown) — Optional - For use in caged beams with Items 6, 6A, 6B or 6C 3/8 in. diamond mesh or rib lath, 3.4 lbs per sq yd expanded steel attached to beam with clips spaced 6 in. OC max; or tied to lath hangers with 18 SWG galv steel wire spaced 6 in. OC max.

11. **Electrical Inserts*** — (Not Shown) — Classified as "Outlet Boxes and Fittings Classified for Fire Resistance".

12. **Mineral and Fiberboards*** — (Optional, Not Shown) — Applied over concrete floor with no restriction on board thickness. When mineral and fiber boards are used, the unrestrained beam rating shall be increased by a minimum of 1/2 hr.

See **Mineral and Fiber Board** (CERZ) category for names of manufacturers.

13. **Foamed Plastic*** — (Optional, Not Shown) — Consisting of polyisocyanurate or urethane roof insulations. Applied over concrete floor with no restrictions on thickness. When polyisocyanurate or urethane insulation is used, the unrestrained beam rating shall be increased by a minimum of 1/2 hr.

See **Foamed Plastic** (CCVW) for list of manufacturers.

14. **Insulating Concrete** — (Optional, Not Shown) — Various types of insulating concrete prepared and applied as follows:

A. Vermiculite Concrete - Blend 6 to 8 cu ft of **Vermiculite Aggregate*** to 94 lb Portland cement and air entraining agent. Min thickness of 2 in. as measured to the top surface of the structural concrete or foamed plastic (Item 15) when it is used. See **Vermiculite Aggregate** (CJZZ) category for names of Classified companies.

B. Cellular **Concrete-Roof Topping Mixture*** - Concentrate mixed with water and Portland cement per manufacturer's specifications. Min. thickness of 2-in. as measured to the top surface of the structural concrete or foamed plastic (Item 15 and 15A) when used. Cast dry density and 28-day min compressive strength of 190 psi as determined with ASTM C495-66.

AERIX INDUSTRIES — Cast dry density of 37 (+ or -) 3.0 pcf

CELCORE INC — Type Celcore with cast dry density of 31 (+ or - 3.0) pcf or Type Celcore MF with cast dry density of 29 (+ or - 3.0) pcf

ELASTIZELL CORP OF AMERICA — Type II, with a cast dry density of 39 (+ or - 3.0) pcf

LITE-CRETE INC — Cast density of 29 (+ or -) 3.0 pcf

SIPLAST INC — Mix #1, Cast dry density of 32 (+ or -) 3 pcf

SIPLAST INC — Mix #2, Cast dry density of 36 (+ or -) 3 pcf

C. Cellular **Concrete-Roof Topping Mixture*** - Foam concentrate mixed with water, Portland cement and UL Classified Vermiculite Aggregate per manufacture's application instructions. Cast dry density of 33 (+ or -) 3 pcf and 28 day compressive strength of min 250 psi as determined in accordance with ASTM C495-86.

AERIX INDUSTRIES — Mix #3

ELASTIZELL CORP OF AMERICA — Type II. Mix #1 of cast dry density 39 (+ or -) 3.0 pcf, Mix #2 of cast dry density 40 (+ or -) 3.0 pcf, Mix #3 of cast dry density 47 (+ or -) 3.0 pcf

SIPLAST INC — Mix #3

D. Perlite Concrete - 6 cu ft of **Perlite Aggregate*** to 94 lb of Portland Cement and 1-1/2 pt air entraining agent. Min thickness 2 in. as measured to the top surface of structural concrete or foamed plastic (Item 15A) when it is used.

See **Perlite Aggregate** (CFFX) in Fire Resistance Directory for names of Classified companies.

15. **Foamed Plastic*** — (Optional, Not Shown) — For use only with vermiculite (Item 14A) or cellular (Item 14B) concretes-Rigid polystyrene foamed plastic insulation having slots and/or holes sandwiched between vermiculite concrete slurry which is applied to the normal or lightweight concrete surface and vermiculite concrete topping (Item 14A).

See **Foamed Plastic*** (BRYX) category in Building Materials Directory or **Foamed Plastic*** (CCVW) Category in Fire Resistance Directory for list of Classified companies.

15A. **Foamed Plastic*** — (Not Shown) — For use only with cellular or perlite concrete. Nominal 24 by 48 in. polystyrene foamed plastic insulation boards having a density of 1.0 (+ or - 0.1) pcf, encapsulated within concrete topping. Each insulation board shall contain six nominal 3 in. diameter holes oriented in two rows of three holes each with the holes spaced 12 in. OC transversely and 16 in. OC longitudinally.

See **Foamed Plastic*** (BRYX) category in Building Materials Directory or Foamed Plastic* (CCYW) category in Fire Resistance Directory for list of Classified companies.

16. **Roof Covering Materials*** — (Optional, Not Shown) — Consisting of materials compatible with insulations described herein which provide Class A, B or C coverings.

See Built-Up Roof Covering Materials in Building Materials Directory.

17. **Insulated Concrete** — (Optional, Not Shown) — various types of insulated concrete prepared and applied in the thickness indicated.

A. **Vermiculite Concrete** — Mix consists of 6 cu ft of Vermiculite Aggregate*, 94 lbs of Portland cement and 6 ox of air entraining agent. Thickness to be 2 in min from the top plane of steel roof deck.

ELASTIZELL CORP OF AMERICA — Types MS16-U, MSV 200.

B. **Perlite Concrete** — Mix consists of 6.2 cu ft **Perlite Aggregate*** to 94 lbs of Portland cement and 1-1/2 pt air entraining agent. Compressive strength 80 psi min.

See **Perlite Aggregate** (CFFX) category for names of Classified companies.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2016-12-28

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. N759

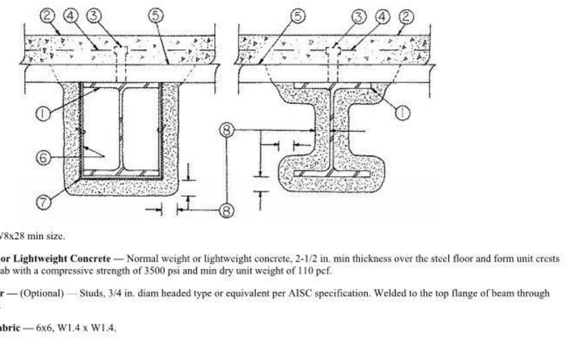
November 12, 2014

Restrained Beam Rating — 1, 1-1/2, 2, 3 and 4 Hr. (See Item 8)

Unrestrained Beam Rating — 1, 1-1/2, 2, 3 and 4 Hr. (See Item 8)

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Steel Beam** — W8x28 min size.

2. **Normal Weight or Lightweight Concrete** — Normal weight or lightweight concrete, 2-1/2 in. min thickness over the steel floor and form unit crests or min 3 in. thick slab with a compressive strength of 3500 psi and min dry unit weight of 110 pcf.

3. **Shear Connector** — (Optional) — Studs, 3/4 in. diam headed type or equivalent per AISC specification. Welded to the top flange of beam through the steel floor units.

4. **Welded Wire Fabric** — 6x6, W1.4 x W1.4.

5. **Steel Floor and Form Units** — 1-1/2 to 3 in. deep fluted, cellular or corrugated units in any combination, welded to beam (refer to Item 8).

6. **Lath Hangers** — (To be used with Item 7) — No. 6 SWG steel wire, spaced 27 in. OC max.

7. **Metal Lath** — (Optional) — 3.4 lb/sq yd expanded steel, tied to lath hangers with No. 18 SWG galv steel wire spaced 6 in. OC max.

8. **Spray-Applied Fire Resistive Materials*** — See tables below for appropriate thicknesses. Applied by mixing with water in accordance with instructions on each bag of materials and spraying in one or more coats to beam or lath surfaces which must be free of dirt, loose scale or oil. Surface of applied material may be lightly finished with a trowel. Crest areas above the beam shall be filled with Spray-Applied Fire Resistive Materials. Min average and min individual density of 15and 14 pcf, respectively, for Types 300, 300AC, 300ES, 300HS, 300N, 3000, 3000ES and SB. For Types 400AC and 400ES min average and min individual density of 22 and 19 pcf, respectively. For method of density determination, see Design Information Section, Sprayed Material.

Fluted, Cellular and Corrugated Floor Units

Rating Hr	Min Thkns In. Restrained Beam Rating Hr	Min Thkns In. Unrestrained Beam Rating Hr
1	5/16	5/16
1-1/2	7/16	9/16
2	9/16	13/16
2-1/2*	13/16	1-1/16
3	1	1-5/16
3-1/2*	1-1/4	1-9/16
4	1-7/16	1-13/16

Fluted Floor Units Only or Min 3 in. Thick Slab

Rating Hr	Min Thkns In. Restrained Beam Rating Hr	Min Thkns In. Unrestrained Beam Rating Hr
1	5/16	5/16
1-1/2	3/8	1/2
2	9/16	11/16
2-1/2*	13/16	7/8
3	1	1-1/16
3-1/2*	1-3/16	1-1/4
4	1-7/16	1-1/2

* The 2-1/2 and 3-1/2 hour ratings are for use when mineral fiber boards, polystyrene insulation exceeding 5 pcf, or polyisocyanurate insulation areused over the concrete in D900 series designs as stated in the front of the Fire Resistance Directory - III. FLOOR-CEILINGS AND ROOF-CEILINGS, item 21. Roof Insulation.

The thicknesses of Spray-Applied Fire Resistive Materials shown in the following table are applicable when the thickness applied to the beams' lower flange edges is reduced by one-half. The min thickness applied to the lower flange edges is 1/4 in.

Fluted, Cellular and Corrugated Floor Units

Rating Hr	Min Thkns In. Restrained Beam Rating Hr	Min Thkns In. Unrestrained Beam Rating Hr
1	3/8	3/8
1-1/2	1/2	5/8
2	5/8	7/8
3	1-1/8	1-7/16
4	1-5/8	2

Fluted Floor Units Only or Min 3 in. Thick Slab

Rating Hr	Min Thkns In. Restrained Beam Rating Hr	Min Thkns In. Unrestrained Beam Rating Hr
1	3/8	3/8
1-1/2	7/16	9/16
2	5/8	3/4
3	1-1/8	1-3/16
4	1-5/8	1-11/16

BERLIN CO LTD — Types 300, 300ES, 300N or SB.

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Types 300, 300AC, or 400AC.

ISOLATEK INTERNATIONAL — Types 300, 300AC, 300ES, 300HS, 300N, SB, 400AC, 400ES, 3000 or 3000ES.

NEWKEM PRODUCTS CORP — Types 300, 300ES, 300N or SB.

8A. **(As an alternate to Item 8 and 8B) Spray-Applied Fire Resistive Materials*** — See tables below for appropriate thicknesses. Applied by mixing with water in accordance with instructions on each bag of materials and spraying in one or more coats to beam or lath surfaces which must be free of dirt, loose scale or oil. Surface of applied material may be lightly finished with a trowel. Crest areas above the beam shall be filled with Spray-Applied Fire Resistive Materials. Min average and min individual density of 17.5 and 16 pcf, respectively, for Type 300TW. Min average and min individual density of 22 and 19 pcf, respectively, for Type 400. For method of density determination, see Design Information Section, Sprayed Material.

Fluted, Cellular and Corrugated Floor Units

Rating Hr	Min Thkns In. Restrained Beam Rating Hr	Min Thkns In. Unrestrained Beam Rating Hr
1	5/16	5/16
1-1/2	7/16	9/16
2	9/16	13/16
2-1/2*	13/16	1-1/16
3	1	1-5/16
3-1/2*	1-1/4	1-9/16
4	1-7/16	1-13/16

Fluted Floor Units Only or Min 3 in. Thick Slab

Rating Hr	Min Thkns In. Restrained Beam Rating Hr	Min Thkns In. Unrestrained Beam Rating Hr
1	5/16	5/16
1-1/2	3/8	1/2
2	9/16	11/16
2-1/2*	13/16	7/8
3	1	1-1/16
3-1/2*	1-3/16	1-1/4
4	1-7/16	1-1/2

* The 2-1/2 and 3-1/2 hour ratings are for use when mineral fiber boards, polystyrene insulation exceeding 5 pcf, or polyisocyanurate insulation areused over the concrete in D900 series designs as stated in the front of the Fire Resistance Directory - III. FLOOR-CEILINGS AND ROOF-CEILINGS, item 21. Roof Insulation.

The thicknesses of Spray-Applied Fire Resistive Materials shown in the following table are applicable when the thickness applied to the beams' lower flange edges is reduced by one-half. The min thickness applied to the lower flange edges is 1/4 in.

Fluted, Cellular and Corrugated Floor Units

Rating Hr	Min Thkns In. Restrained Beam Rating Hr	Min Thkns In. Unrestrained Beam Rating Hr
1	3/8	3/8
1-1/2	1/2	5/8
2	5/8	7/8
3	1-1/8	1-7/16
4	1-5/8	2

Fluted Floor Units Only or Min 3 in. Thick Slab

Rating Hr	Min Thkns In. Restrained Beam Rating Hr	Min Thkns In. Unrestrained Beam Rating Hr
1	3/8	3/8
1-1/2	7/16	9/16
2	5/8	3/4
3	1-1/8	1-3/16
4	1-5/8	1-11/16

BERLIN CO LTD — Type 400.

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Type 400.

NEWKEM PRODUCTS CORP — Type 400.

ISOLATEK INTERNATIONAL — Type 300TW, Type 400.

8B. **(As an alternate to Item 8A)** — Spray-Applied Fire Resistive Materials* — Prepared by mixing with water according to instructions on each bag of mixture and spray or trowel applied to steel surfaces which are free of dirt, oil or scale. Min average density of 18.0 pcf with min individual value of 17.0 pcf. For method of density determination, see Design Information Section, Sprayed Material.

ISOLATEK INTERNATIONAL — Type 280.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2014-11-12

FFKR ARCHITECTS

730 Pacific Avenue · Salt Lake City, Utah 84104
O 801.521.6186 · **FFKR.COM**

ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

△	DATE	REVISION

U of U PROJECT NUMBER

RATED ASSEMBLIES UL LISTINGS

G503

9/19/2022 10:58:01 AM

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. P723

December 29, 2016

Restrained Assembly Ratings — 1, 1-1/2, 2 and 3 Hr

(See Items 3 and 8)

Unrestrained Assembly Ratings — 1, 1-1/2, 2 and 3 Hr

(See Items 3 and 8)

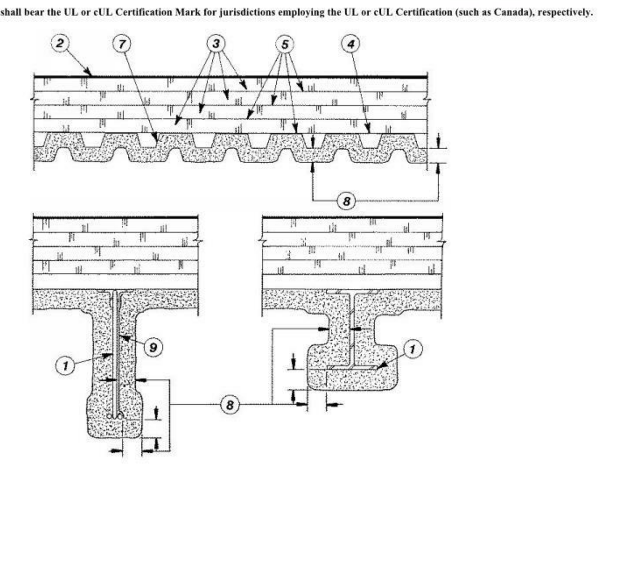
Unrestrained Beam Ratings — 1, 1-1/2, 2 and 3 Hr.

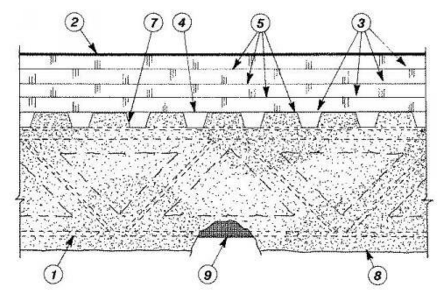
(See Items 3 and 8)

Restricted Load Condition — See Item 8

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**





1. **Steel Supports —** W6x16 steel beam, 10K1 or 12K5 steel joists min size (See Item 8).

2. **Roof Covering —** Consisting of hot mopped or cold application bituminous materials compatible with the insulation(s) described herein which provide Class A, B or C coverings. See Roofing Materials and Systems Directory-Roof Covering Materials (TEVT).

2A. **In lieu of Item 2, roof covering consisting of single-ply Roofing Membranes* —** that is either ballasted, adhered or mechanically attached as permitted under the respective manufacturer's Classification. See Roofing Membranes (CHCI) category for names of manufacturers.

2B. **Metal Roof Deck Panels** — (Not Shown) — In addition to or in lieu of items 2 or 2A, the Roof Covering may consist of mechanically fastened metal roof deck panel assembly. See Fire Resistance Directory — Metal Roof Deck Panels (CETW).

3. **Roof Insulation — Foamed Plastics* —** 36 by 48 in. (min size) polyisocyanurate foamed plastic insulation boards applied in one or more layers. Min thickness is 2.0 in. (No limit on max overall thickness.) Boards to be installed with end joints staggered a min of 6 in. in adjacent rows. When applied in more than one layer, each layer to be offset in both directions from layer below a min of 6 in. in order to lap all joints. Polyisocyanurate foamed plastic insulation may be installed over a max 1 in. thick layer of Mineral and Fiber Boards* (Item 3B) with each layer offset in both directions as described above.

ATLAS ROOFING CORP — ACFoam II, ACFoam III, ACFoam-II SL, ACFoam IV.

CARLISLE SYNTEC INCORPORATED — Types HP, HP-H, HP-N, HP-W.

DOW ROOFING SYSTEMS L L C — "Dow Termico Polyisocyanurate Insulation", "Dow Termico ISO 3000 Insulation", "Dow Termico ISO HP-FR".

FIRESTONE BUILDING PRODUCTS CO L L C — "ISO 95+ GL", "ISO 95+ FK", "ISO 95+ CAN", "ISO 95+ GL NH", "ISOGARD HD Composite Board" or "RESISTA".

GAF — EnergyGuard RH, Tapered EnergyGuard RH

GENFLEX ROOFING SYSTEMS L L C — "GenFlex ISO".

HUNTER PANELS — H Shield.

JOHNS MANVILLE — ENRGY 3 25 psi, ENRGY 3, Tapered ENRGY 3, Tapered ENRGY 3 25 psi, ENRGY 3 AGF, Tapered ENRGY 3 AGF, ENRGY 3 25 psi AGF, Tapered ENRGY 3 25 psi AGF, ENRGY 3 CGF, Tapered ENRGY 3 CGF, ENRGY 3 25 psi CGF, Tapered ENRGY 3 25 psi CGF, ISO-3, Tapered ISO-3, ValuTherm, Tapered ValuTherm, ValuTherm 25 psi, Tapered ValuTherm 25 psi, ValuTherm AGF, Tapered ValuTherm AGF, ValuTherm 25 psi AGF, Tapered ValuTherm 25 psi AGF, ValuTherm CGF, Tapered ValuTherm CGF, ValuTherm 25 psi CGF, Tapered ValuTherm 25 psi CGF.

LOADMASTER SYSTEMS INC — Loadmaster Polyisocyanurate Insulation.

MARTIN FIREPROOFING CORP — "Perform-A-Deck I"

RMAX OPERATING L L C — Multi-Max-3, Multi-Max FA-3, Ultra-Max, Ultra-Max Plus, Tapered Ultra-Max Plus, Tapered Thermaroof-3, Tapered Thermaroof FA-3, Tapered Ultra-Max.

SIKA SARNAFIL INC — Sarnatherm r, Sarnatherm r Ultra, Sarnatherm r Tapered, Sarnatherm r Ultra Tapered.

SOPREMA INC — Sopra-ISO s, Sopra-ISO s Tapered, Sopra-ISO+ s, Sopra-ISO+ s Tapered, Sopra-ISO H+ s, Sopra-ISO H+ s Tapered.

3A. **Roof Insulation — Mineral and Fiber Boards*** — (Not Shown) For 1, 1-1/2 and 2 h Ratings— As an alternate to Item 3. To be applied in one or more layers with or without adhesive applied between vapor barrier and roof deck units, vapor barrier and board and each layer of board. When more than one layer is required, each layer of board to be offset in both directions from layer below a min of 6 in. in order to lap all joints. Min thickness is 2 in. when Item 2A is used. When installed as a base layer for Item 3 (polyisocyanurate roof insulation) max thickness is 1 in.

BMCA INSULATION PRODUCTS INC — Permalite.

GAF — GAFTEMP Perlite.

JOHNS MANVILLE

3B. **Building Units*** — (Not Shown) — As an alternate to Items 3 and 3A. Polyisocyanurate foamed plastic insulation boards, nom 48 by 48 or 96 in., faced on the top surface with oriented strand board or plywood. For the building units, min thickness (as measured at core) of the polyisocyanurate foamed plastic insulation is 2.0 in. (No limit on max overall thickness). Building units to be installed with end joints staggered a min 6 in. in adjacent rows.

ATLAS ROOFING CORP — ACFoam Nail Base Insulation, Vented-R, ACFoam CrossVent, ACFoam III Nail Base Insulation, ACFoam III CrossVent

FIRESTONE BUILDING PRODUCTS CO L L C — Hailgard.

JOHNS MANVILLE — Nailboard.

SOPREMA INC — Sopra-ISO CV s.

3C. **Building Units*** — As an alternate to Items 3 through 3B, polyisocyanurate foamed plastic insulation boards faced on the underside with wood fiber board. Min thickness of the polyisocyanurate core is 2.0 in. No limit on max overall thickness. Boards to be installed with end joints staggered a min of 6 in. in adjacent rows.

FIRESTONE BUILDING PRODUCTS CO L L C — "ISO 95+ Wood Fiberboard Composite".

JOHNS MANVILLE — ENRGY 2 Plus.

3D. **Building Units*** — As an alternate to Items 3 through 3C, polyisocyanurate foamed plastic insulation boards faced on the underside (or both sides) with mineral fiber board. Min thickness of the polyisocyanurate core is 2.0 in. No limit on max overall thickness. Boards to be installed with end joints staggered a min of 6 in. in adjacent rows.

FIRESTONE BUILDING PRODUCTS CO L L C — "ISO 95+ Composite".

JOHNS MANVILLE — Fesco-Foam.

3E. **Building Units*** — Not Shown — As an alternate to Items 3 and 3D, composite polyisocyanurate foamed plastic insulation board with an adhered nailing surface, nom 48 by 48 or 96 in. may be used with the following limitations. These composite building units have ventilation slots internal to the panels. The thickness of the panel depends upon the thinnest portion of the polyisocyanurate insulation. The following dimensions apply to the polyisocyanurate insulation, min 2 in. thick. May be installed over a max 1 in. thick layer of mineral and fiber boards (Item 3B) with joints offset a min of 6 in., in each direction. There is no limit on the max insulation thickness.

JOHNS MANVILLE — Type ISO-VENT.

3F. **Building units*** — As an alternate to Items 3 through 3E, polyisocyanurate foamed plastic insulation boards, nom 48 by 48 or 96 in., faced on the top surface with gypsum board. Min thickness of the polyisocyanurate core is 2.0 in. No limit on overall thickness. Boards to be installed with end joints staggered a min of 6 in. in adjacent rows.

JOHNS MANVILLE — ENRGY 2 Gypsum Composite.

3G. **Foamed Plastic*** — Optional - (Not Shown) - Maximum 1 in. thick polyisocyanurate foamed plastic insulation boards, nom 48 by 48 or 96 in. Boards may be applied as the top layer in addition to the specified minimum thickness of any roofing system described herein, as long as the roofing system states that there is no limit on maximum thickness. Joints offset in both directions from layer below.

FIRESTONE BUILDING PRODUCTS CO L L C — "ISOGARD HD".

3H. **Foamed Plastic* — As an alternate to Items 3 through 3G —** Polyurethane foamed plastic roof insulation. Formed by the simultaneous spraying of two liquid components applied over the gypsum wallboard (item 3I) in accordance with the manufacturer's instructions. Minimum nominal thickness is 2.0 in. with no maximum thickness.

BASF CORP — Types FE 303 2.7, FE-348, FE348-2.5, FE348-2.7, FE348-2.8, FE348-3.0, ELASTOSPRAY 81255, ELASTOSPRAY 81275, ELASTOSPRAY 81285 or ELASTOSPRAY 81305.

BASF CORP — Elastospray 5100-2.0, Elastospray 5100-2.5, Elastospray 81302, Elastospray 81272, Elastospray Alpha System, Elastospray 81252.

3I. **Gypsum Board** — (Classified or unclassified) — For use with Item 3H. Supplied in sheets nom 2 by 4 ft to 4 by 12 ft, by nom 5/8 in. thick. Min weight 2.0 psf. Applied perpendicular to steel roof deck or direction with adhesive or laid loosely. End joints to occur over crests of steel roof deck with end joints staggered 2 ft in adjacent rows.

See **Gypsum Board** (CKNX) category for names of manufacturers.

4. **Vapor Retarder — Sheathing Material*** — (Optional) — Vinyl film or paper scrim vapor barrier, applied to steel roof deck with adhesive (Item 5), asphalt (Item 5A) or laid loosely, overlapped approx 2 in. on adjacent sheets. See Sheathing Materials (CHIZ) category for names of manufacturers.

4A. **Sheathing Material*** — (Optional) — In lieu of Item 4, a self adhered rubberized asphalt roofing underlayment membrane which may be placed on top of the steel roof deck (Item 7).

GCP APPLIED TECHNOLOGIES INC — Grace Ice and Water Shield, Grace Ice and Water Shield-HT®, Grace Select, Grace Ultra, and Grace Basik.

5. **Adhesive*** — (Optional) — May be applied between crests of steel roof deck and vapor retarder, between vapor retarder and first layer of insulation, and between layers of insulation. Applied in 1/2 in. wide ribbons 6 in. OC at 0.4 gal/100 sq ft. See Adhesives (BYWR) category for names of manufacturers.

5A. **Asphalt Or Coal Tar Pitch*** — (Optional — Not Shown) — In lieu of Item 5, used to attach the first layer of insulation to vapor retarder and each additional layer of roof insulation. Applied at a max rate of 25 lbs/100 sq ft.

5B. **Adhesive* -(Optional)** — (Bearing the UL Classification Marking for Roof Systems (TGFU)) - When FAST 100 adhesive is used, the Unrestrained Assembly Ratings are limited to 1, 1-1/2 and 2 hr. The vapor retarder, the gypsum wallboard or the first layer of roof insulation may be secured with adhesive to the steel crest surfaces. Also used to attach the vapor retarder to gypsum wallboard, the first layer of insulation to vapor retarder or gypsum wallboard and each additional layer of insulation. Applied at a max rate of 19.8 g/ft². When FAST 100 adhesive is used, additional **Spray-Applied Fire Resistance Materials* (CHPX)** is required on the deck for the 1-1/2 and 2 hr Unrestrained Assembly Ratings. The thickness specified for the deck shall be increased by 1/16 in. for 1-1/2 hr Unrestrained Assembly Rating and 1/4 in. for 2 hr Unrestrained Assembly Rating.

CARLISLE SYNTEC INCORPORATED — FAST 100.

6. **Mechanical Fasteners** — (Optional — Not Shown) — Mechanical screw-type fastener with metal washer designed for the purpose may be used to attach one or more layers of insulation to steel roof deck.

7. **Steel Roof Deck — (Unclassified)** — Min 1-1/2 in. deep and 30 or 36 in. wide galv or painted fluted steel deck. When unclassified painted steel roof deck is used, Item 8A, Metal Lath, is required. Flutes 6 in. OC with crest width ranging from 3-5/8 to 5-1/16 in. Min gauge is 22 MSG. Ends overlapped at supports min 1-1/2 in. and welded to supports at deck laps and a max of 12 in. OC between sides of units. Side laps of adjacent units welded, button-punched or secured together with No. 12 by 3/4 in. long self-drilling, self-tapping steel screws spaced a max of 36 in. OC.**Classified Steel Floor and Form Units*** — Noncomposite, 1-1/2 in. deep, galv units, min gauge is 22 MSG. Ends overlapped at supports min 1-1/2 in. and welded to supports at deck laps and a max of 12 in. OC between sides of units. Side laps of adjacent units welded, button-punched or secured together with No. 12 by 3/4 in. long self-drilling, self-tapping steel screws spaced a max of 36 in. OC.

ASC STEEL DECK, DIV OF ASC PROFILES L L C — Types BH-36, BHN-36, BHN-35-1/4, DGB-36, B-36, BN-36, BN-35-1/4, DGN-32, N-32, NN-32, 2WH-36, 2WHS-36, 3WxH-36, 3WH-36. All units may be galvanized or Prime Shield™. Non-cellular decks may be vented designated with a "V" suffix to the product name.

CANAM STEEL CORP — Type P-3606 or P-3615.

CANAM STEEL CORP — Types B, NS. Units may be ptd/ptd.

NEW MILLENNIUM BUILDING SYSTEMS L L C — Types B, BI, F, N and NI. Units may be ptds/ptd.

NEW MILLENNIUM BUILDING SYSTEMS L L C — Type B, BI, F, N. Units may be phos/painted or galvanized.

VERCO DECKING INC - A NUCOR CO — Deck types PLB, HSB, PLN3, HSN3, PLN, N; FORMLOK™ deck types PLB, B, PLN3, N3, PLN, N, PLW2, W2, PLW3, W3. Units may be galvanized or phos./ptd. Deck may be vented or non-vented.

VULCRAFT, DIV OF NUCOR CORP — Types 1.5F, 1.5B, 1.5BI, 1.5PLB, 3N, 3NI, 3.0 PLN ptd/ptd units may be used for ratings up to 2 hr; Types BW, N. Type BW may be ptd/ptd.

8. **Spray-Applied Fire Resistive Materials*** — Applied by mixing with water and spraying in more than one coat to the thickness shown below, to steel surfaces which are clean and free of dirt, loose scale, and oil. Min average and min individual density of 15 and 14 pcf, respectively, for Types 300, 300AC, 300ES, 300HS, 300N, 3000, 3000ES and SB. For Types 400AC and 400ES min average and min individual density of 22 and 19 pcf, respectively. For method of density determination, see Design Information Section, Sprayed Material. Spray-Applied Fire Resistive Materials on steel deck shall cover screw tips by 1/2 in. min. Use of adhesive (Item 11) is required.

The min thicknesses of Spray-Applied Fire Resistive Materials required for various fire resistance ratings are shown in the table below:

Restrained Assembly Rating Hr	Unrestrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Protection Mtl Thkns In. on Deck#	on Beam	on Joist
1	1	1	7/8	7/16	1(3/4*)
1	1	1	1-7/16+	7/16	1(3/4*)
1-1/2	1-1/2	1-1/2	1-3/16	9/16	1-3/16
1-1/2	1-1/2	1-1/2	2+	9/16	1-3/16
2	1	1	1-7/16	11/16	1-3/16
2	1-1/2	1-1/2	1-7/16	11/16	1-3/16
2	2	2	1-7/16	13/16	1-3/16
2	2	2	2-5/8+	13/16	1-3/16
3	1-1/2	1-1/2	1-7/16	1-3/16	1-5/8
					(1-1/2**)
3	2	2	1-7/8	1-3/16	1-5/8
					(1-1/2**)
3	3	3	1-7/8	1-1/4	1-5/8
					(1-1/2**)

\# The required minimum thickness of Spray-Applied Fire Resistive Materials on the steel deck is increased by 1/16 in. for 1-1/2 hr Unrestrained Assembly Rating and 1/4 in. for 2 hr Unrestrained Assembly Rating when Item 5B is used.

\+ No minimum insulation thickness required.

* The 3/4 in. thickness may be applied when numeral and fiber board insulation is used or when the joist is limited to max tensile stress of 26,000 psi.

** The 1-1/2 in. thickness may be applied when minimum size joist is 12K5.

BERLIN CO LTD — Types 300, 300ES, 300N or SB.

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Types 300, 300AC, or 400AC.

ISOLATEK INTERNATIONAL — Types 300, 300AC, 300ES, 300HS, 300N, SB, 400AC, 400ES, 3000 or 3000ES.

NEWKEM PRODUCTS CORP — Types 300, 300ES, 300N, or SB.

8A. **(As an alternate to Item 8) Spray-Applied Fire Resistive Materials*** — Applied by mixing with water and spraying in more than one coat to the thickness shown below, to steel surfaces which are clean and free of dirt, loose scale, and oil. Min average and min individual density of 17.5 and 16 pcf, respectively, for Types 300TW, . Min average and min individual density of 22 and 19 pcf, respectively, for Type 400. For method of density determination, see Design Information Section, Sprayed Material. Spray-Applied Fire Resistive Materials on steel deck shall cover screw tips by 1/2 in. min. Use of adhesive (Item 11) is required.

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Type 400.

ISOLATEK INTERNATIONAL — Type 300TW, Type 400.

NEWKEM PRODUCTS CORP — Type 400.

8B. **Metal Lath** — Not Shown — Required on unclassified painted steel roof deck. Rib lath, galv or painted, min 2.5 lb/sq yd, with ribs facing down, fastened to deck using No. 8 by 1/2 in. wafer head self-drilling, self-tapping coated steel screws spaced max 15 in. OC in both directions with lath edges overlapped approx 3 in.

9. **Glass Fiber Mesh —** (Optional) — May be used to facilitate the spray application of the protection material to the steel bar joists. Min 3/32 in. sq mesh, coated fiberglass scrim fabric, weighing a min of 1.9 oz/sq yd shall be attached to one side of each joist web member. The method of attachment must be sufficient to hold the mesh and fire protection material during application and curing of the material. An acceptable method of attaching the mesh is by embedding the mesh in min 1/4 in. long beads of hot-melted glue. The beads of glue shall be spaced min 12 in. OC along the top chord of the bar joists. Another method of attachment is the use of 1-1/4 in. long 1/2 in. wide hairpin clips formed from 0.064 in. diam steel wire, alternating from top to bottom of the joist web member.

9A. **Metal Lath** — (Optional — Not Shown) — In lieu of Item 9, diamond mesh, 3/8 in. expanded steel, min 2.5 lb/sq yd fastened to one side of joists using No. 18 SWG steel tie wire, located at the midheight of every other web member or 18 in. OC whichever is less. Both sides of lath must be completely coated with Spray-Applied Fire Resistive Materials but with no minimum thickness requirements.

10. **Bridging —** (Not Shown) — Min 1-1/4 by 1-1/4 by 1/8 in. thick steel angles welded to top and bottom chords of each joist. Number and spacing of bridging angles per Steel Joist Institute specification. Bridging coated with the same thickness of Spray-Applied Fire Resistive Materials as the joist to a min distance of 12 in. beyond each side of the joist.

11. **Adhesive*** — Applied to steel roof deck in accordance with manufacturer's instructions.

ISOLATEK INTERNATIONAL — Type EBS or Type X.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2016-12-29

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. S751

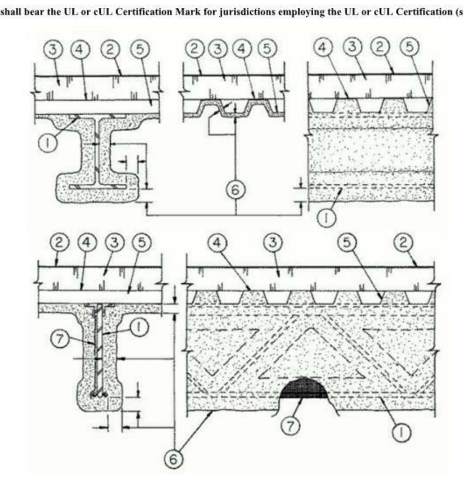
November 04, 2016

Restrained Beam Ratings — 1, 1-1/2, 2, 3 or 4 Hr (See Item 6)

Unrestrained Beam Ratings — 1, 1-1/2, 2, 3 or 4 Hr (See Item 6)

Loading determined by Allowable Stress Design Method or Load and Resistance Factor Design Method published by the American Institute of Steel Construction, or in accordance with the relevant Limit States Design provisions of Part 4 of the National Building Code of Canada — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Steel Supports —** W6x16 min size steel beam.

1A. **As an alternate to Item 1 —** Non-composite min 10K1 or min depth and weight shall be 10 in and 4.85 lb/ft respectively. May be uncoated or provided with a shop coat of paint. Designed per S.J.I. specifications for a max design yield stress of 50,000 psi (50 ksi). Top chords shall consist of two angles measuring minimum 1-1/4 by 1-1/4 by 0.129 in. thick. Bottom chords shall consist of two angles measuring minimum 1 by 1 by 0.109 in. thick. The first diagonal web member at each end shall consist of a minimum 0.625 in. dia. round bar. All remaining web members shall consist of minimum 0.50 in. dia. round bars. Bridging per S.J.I specifications when non-composite joists are used.

2. **Roof Covering* —** Consisting of hot mopped, cold application or single-ply materials, compatible with insulation(s) described herein which provide Class A, B or C coverings. See Roofing Materials and Systems Directory-Roof Covering Materials (TEVT).

3. **Roof Insulation* —** Consisting of building units, foamed plastic or mineral and fiber boards, applied in one or more layers. When multiple layers are used, end and side joints shall be offset a min of 12 in. in both directions in order to lap all joints. See category for names of companies providing Classified products — Building Units (BZXX), Foamed Plastic (CCVW) or Mineral and Fiber Boards (CERZ). Roof insulation shall be compatible with roof covering materials Class A, B or C system. See Roofing Materials and Systems Directory-Roof Covering Materials (TEVT).

4. **Adhesive —** (Optional) — May be applied to steel roof deck units or between insulation layers at a max application rate of 0.4 gal per 100 sq ft. See **Adhesives** (BYWR) category for names of manufacturers.

5. **Steel Roof Deck** — (Unclassified) — Fluted, No. 22 MSG min galv 1-1/2 in. deep with 3-1/2 in. wide flutes spaced 6 in. OC. Ends overlapped a min 1-1/2 in. and welded to supports, 12 in. OC max. Adjacent units button-punched, welded or fastened with No. 12 by 1/2 in. long self-drilling, self-tapping steel screws.

6. **Spray-Applied Fire Resistive Materials*** — Applied by mixing with water and spraying in one of more coats to the thicknesses shown below, to the beam, joist, and deck surfaces which are clean and free of dirt, loose scale, and oil.

Min average and min individual density of 15 and 14 pcf, respectively, for Types 300, 300AC, 300ES, 300HS, 300N, 3000, 3000ES and SB. For Types 400, 400AC and 400ES min average and min individual density of 22 and 19 pcf, respectively. Min avg density of 44 pcf with min ind value of 40 pcf for Types M-II and TG. Min avg density of 47 pcf, with min individual value of 43 pcf for Type M-II/P. For method of density determination see Design Information Section, Sprayed Material. The thickness of the Spray-Applied Fire Resistive Material on the Structural Members shall be as follows:

Rating (hour)	Minimum Thickness (inches) Restrained Beam: Beam W6x16	Joists > 4' OC	Joists ≤ 4' OC	Unrestrained Beam: Beam W6x16	Joists > 4' OC	Joists ≤ 4' OC	Steel Roof Deck
1	1/2	3/4	5/8	1/2	3/4	5/8	1/2
1-1/2	3/4	1-3/16	1-1/16	3/4	1-1/4	1-1/16	15/16
2	1	1-11/16	1-1/2	1	1-3/4	1-1/2	1-7/16
3	1-9/16	2-7/8	2-9/16	1-9/16	2-7/8	2-9/16	1-7/16
4	2-1/8	—	—	2-1/8	—	—	1-7/16

BERLIN CO LTD — Types 300, 300ES, 300N or SB, or 400; Types M-II, TG and M-II/P

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Types 300, 300AC, 400AC, or 400; Types M-II, TG and M-II/P

ISOLATEK INTERNATIONAL — Types 300, 300AC, 300ES, 300HS, 300N, SB, 400, 400AC, 400ES, 3000 or 3000ES; Types M-II, TG and M-II/P

NEWKEM PRODUCTS CORP — Types 300, 300ES, 300N, SB, or 400; Types M-II, TG and M-II/P

7. **Metal Lath** — (Optional - Not Shown) — Diamond mesh, 3/8 in. expanded steel, min 1.7 lb per sq yd fastened to one side of joists using No. 18 SWG steel tie wire, located at the midheight of every other web member or 18 in. O.C. whichever is less. Both sides of lath must be completely coated with Spray-Applied Fire Resistive Materials.

8. **Glass Fiber Mesh** — (Optional - Not Shown) — As an alternate to metal lath (Item 7), min 3/32 in. sq. mesh, coated fiberglass scrim fabric, weighing a min of 1.9 oz. per sq. yd. or, polypropylene fabric mesh, weighing approximately 1.25 oz. per sq. yd. or equivalent may be used to facilitate spray application. The mesh shall be attached to one side of each joist web member. The method of attachment must be sufficient to hold the mesh and fire protection material during application and curing of the material. Suitable methods of attachment include hairpins, 18 SWG galv. steel tie wire or hot melted glue. Hairpin clips are nom 1-1/4 in. long by 1/2 in. wide made of 0.064 in. diam. steel wire. Hairpin clips or tie wire located near top and bottom and at intermediate points along each web member to firmly secure the fabric to the joist.

9. **Bridging** — (Not Shown) — Min 1-1/4 by 1-1/4 by 1/8 in. thick steel angles welded to top and bottom chords of each joist. Number and spacing of bridging angles per Steel Joist Institute specification. Bridging coated with the same thickness of Spray-Applied Fire Resistive Materials (Item 6) as the joist.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2016-11-04

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

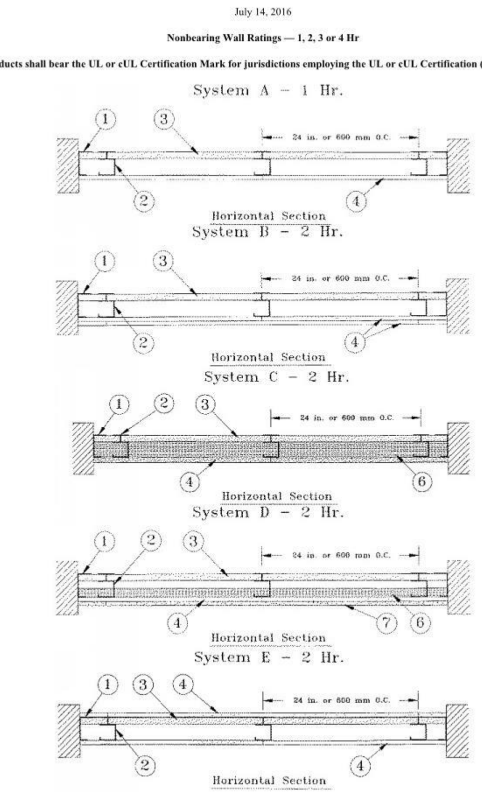
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

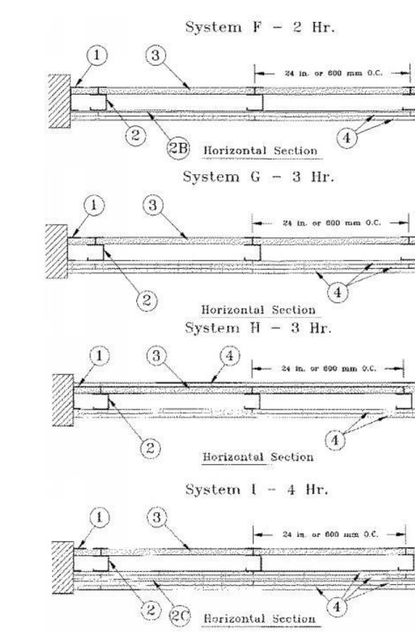
Design No. U415

July 14, 2016

Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**





1. **Floor, Side and Ceiling Runners** — "J" - shaped runner, min 2-1/2 in. deep (min 4 in. deep when System C is used), with unequal legs of 1 in. and 2 in., fabricated from min 24 MSG (min 20 MSG when Item 4A, 4B, 4C, 4D or 7 are used) galv steel. Runners positioned with short leg toward finished side of wall. Runners attached to structural supports with steel fasteners located not greater than 2 in. from ends and not greater than 24 in. OC. "E" - shaped studs (Item 2A) may be used as side runners in place of "J" - shaped runners.

2. **Steel Studs** — "C-H" - shaped studs, min 2-1/2 in. deep (min 4 in. deep when System C is used), fabricated from min 25 MSG (min 20 MSG when Items 2D, 4A, 4B, 4C, 4D or 7 is used) galv steel. Cut to lengths 3/8 to 1/2 in. less than floor-to-ceiling height and spaced 24 in. or 600 mm OC (max 16 in. OC when Items 4A, 4B, 4C, or 4D are used).

2A. **Steel Studs** — (Not Shown) — "E" - shaped studs installed back to back in place of "C-H" - shaped studs (Item 2) "E" - shaped studs secured together with steel screws spaced a maximum 12 in. OC. Fabricated from min 25 MSG (min 20 MSG when Item 2D, 4A, 4B or 7 is used) galv steel, min 2-1/2 in. deep (min 4 in. deep when System C is used), with one leg 1 in. long and two legs 3/4 in. long. Shorter legs 1 in. apart to engage gypsum liner panels. Cut to lengths 3/8 to 1/2 in. less than floor to ceiling heights.

2B. **Furring Channels** — (Optional, Not Shown) — For use with single or double layer systems. Resilient furring channels fabricated from min 25MSG corrosion protected steel, installed horizontally, and spaced vertically a max 24 in. OC. Flange portion of channel attached to each intersecting "C-H" or "E" stud on side of stud opposite the 1 in. liner panels with 1/2 in. long Type S or S-12 pan-head steel screws. When furring channels are used, wallboard to be installed vertically only. Not to be used with Type FRX-G gypsum wallboard, Type RB-LBG (Item 4A), Type Nelco (Item 4B) or cementitious backer units (Item 7).

2C. **Furring Channels** — For use with System I - "Hat" - shaped, 25 MSG galv steel furring channels attached directly over the inner layers of wallboard to each stud with 2 in. long Type S pan head steel screws. Screws alternate from top flange to bottom flange at each stud intersection. Furring channels spaced vertically max 24 in. OC.

2D. **Steel Framing Members*** — (Optional, Not Shown) — For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum wallboard, Type RB-LBG (Item 4A), Type Nelco (Item 4B) or cementitious backer units (Item 7):

a. **Furring Channels** — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board installed vertically only and attached to furring channels as described in Item 3.

b. **Steel Framing Members*** — Used to attach furring channels (Item 2Da) to studs (Item 2 or 2A). Clips spaced max. 24 in. OC., and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clip for use with 2-23/32 in. wide furring channels.

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75)

2E. **Steel Framing Members*** — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured together with four self-tapping No. 8x1/2 Self Drilling screws (2 per side 1 in. and 4 in. from overlap edge). Gypsum board attached to furring channels as described in Item 3. Side joint furring channels shall be attached to studs with RESILMOUNT Sound Isolation Clips - Type A237R located approximately 2 in. from each end of length of channel. Both Gypsum Boards at side joints fastened into channel with screws spaced 8 in. OC, approximately 1/2 in. from joint edge.

b. **Steel Framing Members*** — Used to attach furring channels (Item 2Ea) to studs. Clips spaced 24 in. OC., and secured to studs with No. 10 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237R

2F. **Steel Framing Members*** — (Optional, Not Shown) — For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum wallboard, Type RB-LBG (Item 4A), Type Nelco (Item 4B) or cementitious backer units (Item 7):

a. **Furring Channels** — Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board installed vertically only and attached to furring channels as described in Item 3.

b. **Steel Framing Members*** — Used to attach furring channels (Item 2Da) to studs (Item 2 or 2A). Clips spaced max. 24 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.

PLITEQ INC — Type GENIECLIP

3. **Gypsum Board*** — Gypsum liner panels, nom 1 in. thick, 24 in. or 600 mm (for metric spacing) wide. Panels cut 1 in. less in length than floor to ceiling height. Vertical edges inserted in "H" portion of "C-H" studs or the gap between the two 3/4 in. legs of the "E" studs. Free edge of end panels attached to long leg of vertical "J" - runners with 1-5/8 in. long Type S steel screws spaced not greater than 12 in. OC. When wall height exceeds liner panel length, liner panel may be butted to extend to the full height of the wall. Horizontal joints need not be backed by steel framing. In System I, butt joints in liner panels are staggered min 36 in. Butt joints backed with 6 in. by 22 in. strips of 3/4 in. thick gypsum wallboard (Item 4). Wallboard strips centered over butt joints and secured to liner panels with six 1-1/2 in. long Type G steel screws, three screws along the 22 in. dimension at the top and bottom of the strips.

CGC INC — Type SLX

UNITED STATES GYPSUM CO — Type SLX

USG BORAL ZAWAWI DRYWALL L L C SFZ — Type SLX

USG MEXICO S A DE C V — Type SLX

4. **Gypsum Board*** —

System A — 1 Hr

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached to studs with 1 in. long Type S steel screws spaced 12 in. when installed vertically or 8 in OC when installed horizontally. Horizontal joints need not be backed by steel framing.

CGC INC — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

UNITED STATES GYPSUM CO — Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, WRC, WRX, USGX. When ULIX is used insulation, Item 6, **Batts and Blankets*** is required and minimum stud depth is 4 in.

USG BORAL ZAWAWI DRYWALL L L C SFZ — Types C, SCX

USG MEXICO S A DE C V — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

System B — 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally in two layers. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Outer or face layer attached to studs with 1-5/8 in. long Type S steel screws spaced 12 in. OC when installed vertically and staggered 12 in. from base layer screws or 8 in. OC when installed horizontally and staggered 8 in. from base layer screws. Horizontal joints between inner and outer layers staggered a min of 12 in. Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in.

CGC INC — 1/2 in. Type C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

UNITED STATES GYPSUM CO — 1/2 in. Types C, IP-X2, IPC-AR, or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, USGX, WRC, WRX.

USG BORAL ZAWAWI DRYWALL L L C SFZ — 1/2 in. Type C; 5/8 in. Types C, SCX

USG MEXICO S A DE C V — 1/2 in. Types C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

System C — 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 3/4 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, secured with 1-1/4 in. long Type S steel screws spaced 8 in. OC along vertical edges and 12 in. OC in the field when installed vertically or 8 in. OC along the vertical edges and in the field when installed horizontally. Horizontal joints need not be backed by steel framing. Screws along side joints offset 4 in. Requires min 4 in. deep framing per Items 1, 2 and 3. Requires min 3 in. thick mineral wool batts per Item 6.

CGC INC — Types IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO — Types IP-X3 or ULTRACODE

USG BORAL ZAWAWI DRYWALL L L C SFZ — Type ULTRACODE

USG MEXICO S A DE C V — Types IP-X3 or ULTRACODE

System D — 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached directly to studs with 1 in. long Type S steel screws spaced 24 in. when installed vertically or 16 in. OC when installed horizontally. Horizontal joints need not be backed by steel framing. Requires face layer of 1/2 or 5/8 in. thick cementitious backer units per Item 7 and min 1-1/2 in. thick mineral wool batts per Item 6.

CGC INC — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

UNITED STATES GYPSUM CO — Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, USGX, WRC, WRX.

USG BORAL ZAWAWI DRYWALL L L C SFZ — Types C, SCX

USG MEXICO S A DE C V — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

System E — 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached to studs with 1 in. long Type S steel screws spaced 12 in. OC when installed vertically or 8 in. when installed horizontally. Horizontal joints need not be backed by steel framing.

CGC INC — 1/2 in. Types C, IP-X2, IPC-AR; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

UNITED STATES GYPSUM CO — 1/2 in. Types C, IP-X2, IPC-AR; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, USGX, WRC, WRX.

USG BORAL ZAWAWI DRYWALL L L C SFZ — 1/2 in. Type C; 5/8 in. Types C, SCX

USG MEXICO S A DE C V — 1/2 in. Types C, IP-X2, IPC-AR; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

System F — 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically in two layers. Inner or base layer attached to resilient furring channels (Item 2B) with 1 in. long Type S steel screws spaced 24 in. Outer or face layer attached to resilient furring channels (Item 2B) with 1-5/8 in. long Type S steel screws spaced 12 in. OC and staggered 12 in. from base layer screws. Joints between inner and outer layers staggered 24 in.

CGC INC — 1/2 in. Type C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

UNITED STATES GYPSUM CO — 1/2 in. Type C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, USGX, WRC, WRX.

USG BORAL ZAWAWI DRYWALL L L C SFZ — 1/2 in. Type C; 5/8 in. Types C, SCX

USG MEXICO S A DE C V — 1/2 in. Types C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

System G — 3 Hr

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally in three layers. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC when installed vertically or 16 in OC when installed horizontally. Middle layer attached to studs with 1-5/8 in. long Type S steel screws spaced 24 in. when installed vertically or 16 in. OC when installed horizontally. Outer or face layer attached to studs with 2-1/4 in. long Type S steel screws spaced 16 in. when installed vertically or 12 in. OC when installed horizontally. Screws offset 6 in. from layer below. Horizontal joints on adjacent layers staggered a min of 12 in. . Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in. on adjacent layers.

CGC INC — Types C, IP-X2, IPC-AR, WRC

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR, WRC

USG BORAL ZAWAWI DRYWALL L L C SFZ — Type C

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR, WRC

System H — 3 Hr

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, two layers over the flange of the "C" section of the studs, one layer over the flange of the "H" section of the studs. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Face layer attached to studs with 1-5/8 in. long Type S steel screws spaced 16 in. when installed vertically or 12 in. OC when installed horizontally. Screws offset 6 in. from layer below. Horizontal joints on adjacent layers staggered a min of 12 in. Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in. on adjacent layers.

CGC INC — Types C, IP-X2, IPC-AR, WRC

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR, WRC

USG BORAL ZAWAWI DRYWALL L L C SFZ — Type C

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR, WRC

System I — 4 Hr

Gypsum panels, with beveled, square or tapered edges, nom 3/4 in. thick, 4 ft wide (or 1200 mm for metric spacing) wallboard with square or tapered edges. Total of four layers to be used. First and second (inner) layers applied vertically or horizontally over the steel studs. Horizontal joints need not be backed by steel framing. When applied vertically, joints centered over studs and staggered min 24 in., otherwise all joints staggered min 12 in. First layer secured to studs with 1-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 24 in. OC. Second layer secured to studs with 2-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. Third layer applied vertically over the furring channels (Item 2C) with a 1-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. Fourth layer applied vertically or horizontally with 2-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. When applied vertically, joints to be staggered min 24 in. from third layer, otherwise all joints staggered min 12 in.

CGC INC — Types IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO — Types IP-X3 or ULTRACODE

USG BORAL ZAWAWI DRYWALL L L C SFZ — Type ULTRACODE

USG MEXICO S A DE C V — Types IP-X3 or ULTRACODE

4A. **Gypsum Board*** — (As an alternate to Item 4 Systems A, B, C, D, E, G, H, and I when used as the base layer, For direct attachment only) — Nom 5/8 in. or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. See Items 1, 2, 2A, 2B and 2D. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 9) or Lead Discs or Tabs (see Item 10).

RAY-BAR ENGINEERING CORP — Type RB-LBG

4B. **Gypsum Board*** — (As an alternate to Item 4 Systems A, B, C, D, E, G, H, and I when used as the base layer, For direct attachment only) — Nominal 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 (or #6 by 1-1/4 in. long bugle head fine driller) steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.

NEW ENGLAND LEAD BURNING CO INC, DBA NELCO — Type Nelco

4C. **Gypsum Board*** — (As an alternate to Item 4 Systems A, B, C, D, E, G, H, and I when used as the base layer, For direct attachment only) — Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. See Items 1, 2, 2A, 2B and 2D. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 9A) or Lead Discs (see Item 10A). Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 10 ft long with a max thickness of 0.140 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip.

MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

4D. **Gypsum Board*** — (As an alternate to Item 4 Systems A, B, C, D, E, G, H, and I when used as the base layer, For direct attachment only) — Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

5. **Joint Tape and Compound** — (Not Shown)

Systems A, B, C, E, F, G, H, I

Joints on outer layers of gypsum boards (Item 4 and 4A) covered with paper tape and joint compound. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges. Exposed screw heads covered with joint compound.

6. **Batts and Blankets*** —

Systems A, B, E, F, G, H, I

(Optional) — Mineral wool or glass fiber batts partially or completely filling stud cavity. Any mineral wool or glass fiber batt mineral bearing the UL Classification Marking as to Fire Resistance.

System A With Type ULIX Gypsum Boards

Placed in stud cavities, any min. 3-1/2 in. thick glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See **Batts and Blankets (BKNV or BZJZ) Categories** for names of Classified companies.

Systems C & D

Min 3 in. (System C) and min 1-1/2 in. (System D) thick mineral wool batts, friction fitted between the studs and floor and ceiling runners.

ROXUL INC — Type AFB

THERMAFIBER INC — Type SAFB

7. **Cementitious Backer Units* —** (System D) — Nom 1/2 or 5/8 in. thick panels, square edge, attached to studs over gypsum wallboard with 1-5/8 in. long, Type S-12, corrosion resistant steel screws spaced 8 in. OC and staggered 8 in. from gypsum wall board screws. Joints covered with glass fiber mesh tape. Vertical joints staggered one stud cavity from gypsum wallboard joints. Horizontal joints staggered a min of 12 in. from the gypsum wallboard joints.

UNITED STATES GYPSUM CO — Type DCB

8. **Laminating Adhesive* —** (Optional, Not Shown) — Used to bond outer layer of Cementitious Backer Units (Item 7) to inner layers of Gypsum Board (Item 4) in System D. ANSI A136.1 Type 1 organic adhesive applied with 1/4 in. square notched trowel. See Adhesives (BYWR) in the Fire Resistance Directory or Adhesives (BJLZ) in the Building Materials Directory for names of Classified companies.

9. **Lead Batten Strips** — (Not Shown, For Use With Item 4A) — Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4A) and optional at remaining stud locations. Required behind vertical joints.

9A. **Lead Batten Strips —** (Not Shown, for use with Item 4C) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 6) and optional at remaining stud locations.

10. **Lead Discs or Tabs** — (Not Shown, For Use With Item 4A) — Used in lieu of or in addition to the lead batten strips (Item 9) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 4A) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

10A. **Lead Discs —** (Not Shown, for use with Item 4C) — Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

11. **Lead Batten Strips** — (Not Shown, For Use With Item 4B) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.142 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4B) and optional at remaining stud locations.

12. **Lead Tabs** — (Not Shown, For Use With Item 4B) — 2 in. wide, 5 in. long with a max thickness of 0.142 in. Tabs friction-fit around front face of stud, the stud folded back flange, and the back face of the stud. Tabs required at each location where a screw (that secures the gypsum boards, Item 4B) will penetrate the steel stud. Lead tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2016-07-14

FFKR ARCHITECTS
730 Pacific Avenue · Salt Lake City, Utah 84104
O 801.521.6186 · FFKR.COM

ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
LICENSED ARCHITECT
09.15.2022

DATE REVISION

U of U PROJECT NUMBER

RATED ASSEMBLIES UL LISTINGS WALLS

G504

9/19/2022 10:58:03 AM

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

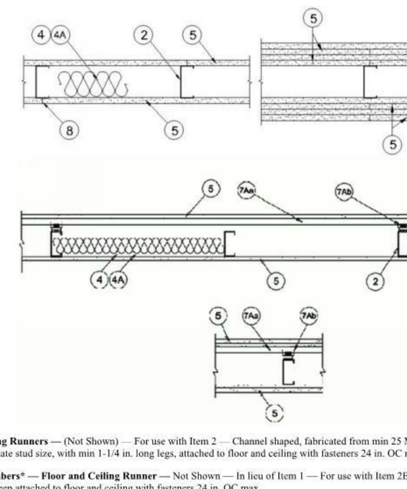
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. U419

December 19, 2016

Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr (See Items 4 & 5 through 5K)

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Floor and Ceiling Runners** — (Not Shown) — For use with Item 2 — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth to accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.

1A. **Framing Members* — Floor and Ceiling Runner** — Not Shown — In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper25™ Track

CRACO MFG INC — SmartTrack25™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™ Track

1B. **Framing Members* — Floor and Ceiling Runner** — Not Shown — In lieu of Item 1 — For use with Item 2C, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™ Track

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track

1C. **Framing Members* — Floor and Ceiling Runners** — (Not Shown) — In lieu of Item 1 — Channel shaped, attached to floor and ceiling with fasteners 24 in. OC. max.

ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME Framing System

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME Framing System

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME Framing System

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME Framing System

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME Framing System

UNITED METAL PRODUCTS INC — Type SUPREME Framing System

1D. **Floor and Ceiling Runners** — (Not Shown) — For use with Item 2A — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, min depth to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners spaced max 24 in. OC.

1E. **Framing Members* — Floor and Ceiling Runners** — (Not Shown, As an alternate to Item 1) — For use with Items 2E, 5F or 5G or 5I only, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max.

CLARKDIETRICH BUILDING SYSTEMS — CD ProTRAK

DMFCWBS L L C — ProTRAK

MBA METAL FRAMING — ProTRAK

RAM SALES L L C — Ram ProTRAK

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProTRAK

1F. **Framing Members* — Floor and Ceiling Runner** — Not Shown — In lieu of Item 1 — For use with Item 2F, proprietary channel shaped runners, minimum width to accommodate stud size, with 1- 1/8 in. long legs fabricated from min 0.015 in. (min bare metal thickness) galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

SUPER STUD BUILDING PRODUCTS — The Edge

1G. **Framing Members* — Floor and Ceiling Runner** — For use with Item 2G, proprietary channel shaped runners, minimum width to accommodate stud size attached to floor and ceiling with fasteners 24 in. OC max.

STUDCO BUILDING SYSTEMS — CROCSTUD Track

1H. **Floor and Ceiling Runners** — (Not Shown) — Channel shaped, fabricated from min 0.02 in. galv steel, min width to accommodate stud size, with min 1 in. long legs, for use with studs specified below and fabricated from min 0.02 in. galv steel or thicker, attached to floor and ceiling with fasteners spaced max 24 in. OC.

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track VT100

1I. **Framing Members* — Floor and Ceiling Runners** — (Not Shown, As an alternate to Item 1) — For use with Items 2H, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max.

TELLING INDUSTRIES L L C — TRUE-TRACK™

1J. **Framing Members* — Floor and Ceiling Runner** — Not Shown — In lieu of Item 1 — For use with Item 2I, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.

TELLING INDUSTRIES L L C — Viper25™ Track

1K. **Framing Members* — Floor and Ceiling Runner** — Not Shown — In lieu of Item 1 — For use with Item 2J, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

TELLING INDUSTRIES L L C — Viper20™ Track

1L. **Framing Members* — Floor and Ceiling Runner** — Not Shown — In lieu of Item 1 — For use with Item 2N, proprietary channel shaped runners, 1-1/4 in. wide by min. 3-1/2 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

STEEL INVESTMENT GROUP L L C — AlphaTRAK

1M. **Framing Members* — Floor and Ceiling Runners** — Not Shown — As an alternate to Item 1 — For use with Item 2O, proprietary channel shaped runners, min width to accommodate stud size, galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

RONDO BUILDING SERVICES PTY LTD — Rondo Wall Track

1N. **Framing Members* — Floor and Ceiling Runners** — Not Shown — As an alternate to Item 1 — For use with Item 2P, proprietary channel shaped runners, min width to accommodate stud size, galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

OEG BUILDING MATERIALS — OEG Track

2. **Steel Studs** — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

2A. **Steel Studs** — (As an alternate to Item 2, For use with Items 5B, 5E, 5H, 5J and 5K) — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, 3-1/2 in. min depth, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height.

2B. **Framing Members* - Steel Studs** — (As an alternate to Item 2, For use with Items 5C, 5I or 5K) — Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in less than the assembly height and installed with a 1/2 in. gap between the end of the stud and track at the bottom of the wall. For direct attachment of gypsum board only.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper25™

CRACO MFG INC — SmartStud25™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™

2C. **Framing Members* — Steel Studs** — Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.020 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™

2D. **Framing Members* — Steel Studs** — In lieu of Item 2 — Channel shaped studs, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME Framing System

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME Framing System

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME Framing System

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME Framing System

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME Framing System

UNITED METAL PRODUCTS INC — Type SUPREME Framing System

2E. **Framing Members* — Steel Studs** — (Not Shown, As an alternate to Item 2) — For use with Items 5F or 5G or 5I or 5K only, channel shaped studs, min depth as indicated under Item 5F, 5G or 5I, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

CLARKDIETRICH BUILDING SYSTEMS — CD ProSTUD

DMFCWBS L L C — ProSTUD

MBA METAL FRAMING — ProSTUD

RAM SALES L L C — Ram ProSTUD

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProSTUD

2F. **Framing Members* — Steel Studs** — Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, minimum width indicated under Item 5, 1-1/4 in. deep fabricated from min 0.015 in. (min bare metal thickness) galvanized steel. Studs 3/8 in. to 3/4 in. less in lengths than assembly heights.

SUPER STUD BUILDING PRODUCTS — The Edge

2G. **Framing Members* — Steel Studs** — Not Shown — In lieu of Item 2 — proprietary channel shaped studs, minimum width indicated under Item 5, Studs to be cut 3/8 to 3/4 in less than the assembly height.

STUDCO BUILDING SYSTEMS — CROCSTUD

2H. **Framing Members* — Steel Studs** — (Not Shown, As an alternate to Item 2) — Fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

TELLING INDUSTRIES L L C — TRUE-STUD™

2I. **Framing Members* — Steel Studs** — (As an alternate to Item 2, For use with Items 5C or 5L or 5K) — Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in less than the assembly height and installed with a 1/2 in. gap between the end of the stud and track at the bottom of the wall. For direct attachment of gypsum board only.

TELLING INDUSTRIES L L C — Viper25™

2J. **Framing Members* — Metal Studs** — Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.020 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights

TELLING INDUSTRIES L L C — Viper20™

2K. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

EB MéTAL INC — EB Stud

2L. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

OLMAR SUPPLY INC — PRIMESTUD

2M. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

MARINO/WARE, DIV OF WARE INDUSTRIES INC — StudRite™

2N. **Framing Members*— Steel Studs** — As an alternate to Item 2 — proprietary channel shaped steel studs, min depth 3-1/2 in. and as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in length than assembly height.

STEEL INVESTMENT GROUP L L C — AlphaSTUD

2O. **Framing Members* — Steel Studs** — As an alternate to Item 2 — proprietary channel shaped steel studs, min width as indicated under Item 5, galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max.

RONDO BUILDING SERVICES PTY LTD — Rondo Lipped Wall Stud

2P. **Framing Members* — Steel Studs** — As an alternate to Item 2 — proprietary channel shaped steel studs, min width as indicated under Item 5, min 25 MSG galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max.

OEG BUILDING MATERIALS — OEG Stud

3. **Wood Structural Panel Sheathing** — (Optional, For use with Item 5 Only) — (Not Shown) — 4 ft wide, 7/16 in. thick oriented strand board (OSB) or 15/32 in. thick structural 1 sheathing (plywood) complying with DOC PS1 or PS2, or APA Standard PRP-108, manufactured with exterior glue, applied horizontally or vertically to the steel studs. Vertical joints centered on studs, and staggered one stud space from wallboard joints. Attached to studs with flat-head self-drilling tapping screws with a min. head diam. of 0.292 in. at maximum 6 in. OC. in the perimeter and 12 in. OC. in the field. When used, gypsum panels attached over OSB or plywood panels and fastener lengths for gypsum panels increased by min. 1/2 in.

4. **Batts and Blankets*** — (Required as indicated under Item 5) — Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 5.

See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4A. **Batts and Blankets*** — (Optional) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance.

See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4B. **Batts and Blankets*** — For use with Item 5K. Placed in stud cavities, any min. 3-1/2 in. thick glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance.

See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4C. **Fiber, Sprayed*** — (Optional) and as an alternate to Batts and Blankets (Item 4B) where insulation is required - Spray applied granulated mineral fiber material. The fiber is applied with water/adhesive at a minimum density of 4.0 pcf to completely fill the wall cavity in accordance with the application instructions supplied with the product. See **Fiber, Sprayed** (CCAZ).

AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool

5. **Gypsum Board*** — Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Items 2, 2C, 2D, 2F, 2G, 2O	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4)
1	3-1/2	1 layer, 5/8 in. thick	Optional
1	2-1/2	1 layer, 1/2 in. thick	1-1/2 in.
1	1-5/8	1 layer, 3/4 in. thick	Optional
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
2	3-1/2	1 layer, 3/4 in. thick	3 in.
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	2 layers, 3/4 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional
4	2-1/2	2 layers, 3/4 in. thick	2 in.

CGC INC — 1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX or WRC; 3/4 in. thick Types IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SGX, SHX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR ; 3/4 in. thick Types IP-X3 or ULTRACODE

USG BORAL ZAWAWI DRYWALL L L C SFZ — 1/2 in. Type C; 5/8 in. Types C, SCX, ULTRACODE

USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or; 3/4 in. thick Types IP-X3 or ULTRACODE

When Item 7B, **Steel Framing Members***, is used, Nonbearing Wall Rating is limited to 1 Hr. Min. stud depth is 3-1/2 in., min. thickness of insulation (Item 4) is 3 in., and two layers of gypsum board panels (1/2 in. or 5/8 in. thick) shall be attached to furring channels as described in Item 6. One layer of gypsum board panels (1/2 in. or 5/8 in. thick) attached to opposite side of stud without furring channels as described in Item 6.

5A. **Gypsum Board*** — (As an alternate to Item 5) — 5/8 in. thick, 24 to 54 in. wide, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 6.

CGC INC — Type SHX.

UNITED STATES GYPSUM CO — Type FRX-G, SHX.

USG MEXICO S A DE C V — Type SHX.

5B. **Gypsum Board*** — (Not Shown) — As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 in or 3/4 in. thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) — Nom 5/8 in. or 3/4 in. may be used as alternate to all 5/8 in. or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 in. or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to 20 MSG steel studs Item 2A with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. To be used with Lead Batten Strips (see Item 11) or Lead Discs or Tabs (see Item 12).

RAY-BAR ENGINEERING CORP — Type RB-LBG

5C. **Gypsum Board*** — (For Use With Item 2B) — Rating Limited to 1 Hour. 5/8 in. thick, 48 in. wide, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. (Vertical Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. Vertical joints are to be centered over studs and staggered one stud cavity on opposite sides of studs. (Horizontal Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. All horizontal joints are to be backed as outlined under section VI of Volume 1 in the Fire Resistive Directory.

CGC INC — Type SCX.

UNITED STATES GYPSUM CO — Type SCX, SGX.

USG BORAL ZAWAWI DRYWALL L L C SFZ — Type SCX

USG MEXICO S A DE C V — Type SCX

5D. **Gypsum Board*** — (As an alternate to Item 5) — 5/8 in. thick, 48 in. wide, applied vertically or horizontally. Secured as described in Item 6. For use with Items 1 and 2 only.

CGC INC — Type USGX

UNITED STATES GYPSUM CO — Type USGX

USG MEXICO S A DE C V — Type USGX

5E. **Gypsum Board*** — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nominal 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 (or No. 6 by 1-1/4 in. long bugle head fine driller) steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.

NEW ENGLAND LEAD BURNING CO INC, DBA NELCO — Nelco

5F. **Gypsum Board*** — (As an alternate to Item 5) — For use with Items 1E and 2E and limited to 1 Hour Rating only, Gypsum panels with beveled, square or tapered edges, applied vertically, and fastened to the steel studs with 1 in. long Type S screws spaced 8 in. OC along vertical and bottom edges and 12 in. OC in the field. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Steel stud depth shall be a minimum 3-5/8 in.

UNITED STATES GYPSUM CO — 5/8 in. thick Type SCX, SGX

USG BORAL ZAWAWI DRYWALL L L C SFZ — 5/8 in. thick Type SCX

5G. **Gypsum Board*** — (As an alternate to Item 5) — For use with Items 1E and 2E only, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally, as specified in the table below and fastened to the steel studs as described in Item 6. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Item 2E	No. of Layers & Thickness of Panel	Min Thkns of Insulation (Item 4)
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional

CGC INC — 1/2 in. thick Type C, IP-X2 or IPC-AR;, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, or; 3/4 in. thick Types IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type SCX, SGX, SHX, IP-X1, AR, C, , FRX-G, IP-AR, IP-X2, IPC-AR ; 3/4 in. thick Types IP-X3 or ULTRACODE

USG BORAL ZAWAWI DRYWALL L L C SFZ — 1/2 in. Type C; 5/8 in. Types C, SCX, ULTRACODE

USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, or; 3/4 in. thick Types IP-X3 or ULTRACODE

5H. **Gypsum Board*** — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 or 3/4 in thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) - Nom 5/8 or 3/4 in. may be used as alternate to all 5/8 or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Gypsum board secured to 20 MSG steel studs Item 2B with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 11A) or Lead Discs (see Item 12A).

MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

5I. **Gypsum Board*** — (As an alternate to Item 5) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 5. Steel stud minimum depth shall be as indicated in Item 5.

CGC INC — Type ULX

UNITED STATES GYPSUM CO — Type ULX

USG MEXICO S A DE C V — Type ULX

5J. **Gypsum Board*** — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

5K. **Gypsum Board*** — (Not Shown) — (As an alternate to Item 5) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) need not be staggered. The number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Items 2 through 2O	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4B)
1	3-5/8	1 layer, 5/8 in. thick	3-1/2 in.
2	1-5/8	2 layers, 5/8 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional

UNITED STATES GYPSUM CO — 5/8 in. thick Type ULIX

6. **Fasteners** — (Not Shown) — For use with Items 2 and 2F - Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 7). **Single layer systems:** 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. **Two layer systems:** First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer. **Three-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. **Four-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.

6A. **Fasteners** — (Not Shown) — For use with Item 5K- Type S or S-12 steel screws used to attach panels to studs or furring channels (Item 7). Single layer systems: 1 in. long screws, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. Two layer systems: First layer- 1 in. long screws, spaced 16 in. OC. Second layer- 1-5/8 in. screws, spaced 16 in. OC with screws offset 8 in. from first layer. Three-layer systems: First layer- 1 in. long screws, spaced 24 in. OC. Second layer- 1-5/8 in. long screws, spaced 24 in. OC. Third layer- 2-5/8 in. long screws, spaced 8 in. OC. Screws offset min 6 in. from layer below. Four-layer systems: First layer- 1 in. long screws, spaced 24 in. OC. Second layer- 1-5/8 in. long screws, spaced 24 in. OC. Third layer- 2-5/8 in. long screws, spaced 24 in. OC. Fourth layer- 3 in. long screws, spaced 8 in. OC. Screws offset min 6 in. from layer below.

7. **Furring Channels** — (Optional, Not Shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Item 5A and 5E.

7A. **Framing Members*** — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A and 5E.

b. **Steel Framing Members*** — Used to attach furring channels (Item 7Aa) to studs (Item 2). Clips spaced max. 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 9/16 in. minimum self-drilling, S-12 steel screw through the center

hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).

7B. **Framing Members*** — (Optional, Not Shown) — As an alternate to Item 7, for single or double layer systems, furring channels and Steel Framing Members on only one side of studs as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 5. Not for use with Item 5A and 5E.

b. **Steel Framing Members*** — Used to attach furring channels (Item 7Ba) to one side of studs (Item 2) only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.

KINETICS NOISE CONTROL INC — Type Isomax

7C. **Framing Members*** — (Not Shown) — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A and 5E.

b. **Steel Framing Members*** — Used to attach furring channels (Item 7Aa) to studs (Item 2). Clips spaced max. 48 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.

PLITEQ INC — Type GENIECLIP

7D. **Steel Framing Members*** — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured together with four self-tapping No. 8x1/2 Self Drilling screws (2 per side 1 in. and 4 in. from overlap edge). Gypsum board attached to furring channels as described in Item 4. Side joint furring channels shall be attached to studs with RESILMOUNT Sound Isolation Clips - located approximately 2 in. from each end of length of channel. Both Gypsum Boards at side joints fastened into channel with screws spaced 8 in. OC, approximately 1/2 in. from joint edge. Not for use with Item 5A and 5E.

b. **Steel Framing Members*** — Used to attach furring channels (Item 7Da) to studs. Clips spaced 24 in. OC., and secured to studs with No. 10 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

8. **Joint Tape and Compound** — Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layer panels. Paper tape and joint compound may be omitted when gypsum panels are supplied with a square edge.

9. **Siding, Brick or Stucco** — (Optional, Not Shown) — Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.

10. **Caulking and Sealants*** — (Optional, Not Shown) — A bead of acoustical sealant applied around the partition perimeter for sound control.

UNITED STATES GYPSUM CO — Type AS

11. **Lead Batten Strips** — (Not Shown, For Use With Item 5B) — Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5B) and optional at remaining stud locations. Required behind vertical joints.

11A. **Lead Batten Strips** — (Not Shown, For Use With Item 5H) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations.

12. **Lead Discs or Tabs** — (Not Shown, For Use With Item 5B) — Used in lieu of or in addition to the lead batten strips (Item 11) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 5B) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

12A. **Lead Discs** — (Not Shown, for use with Item 5H) — Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

13. **Lead Batten Strips** — (Not Shown, For Use With Item 5E) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.142 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5E) and optional at remaining stud locations.

14. **Lead Tabs** — (Not Shown, For Use With Item 5E) — 2 in. wide, 5 in. long with a max thickness of 0.142 in. Tabs friction-fit around front face of stud, the stud folded back flange, and the back face of the stud. Tabs required at each location where a screw (that secures the gypsum boards, Item 5E) will penetrate the steel stud. Lead tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2016-12-19

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

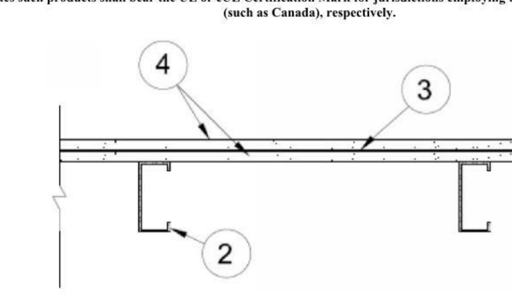
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. V497

May 27, 2015

Nonbearing Wall Rating - 1 Hr

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Floor and Ceiling Runners —** (Not Shown) — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min width to accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.

2. **Steel Studs —** Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min 3-5/8 in. wide, min 1-1/4 in. flanges, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

3. **Laminating Compound —** For use with Item 4 - Used to bond outer layer wallboard to inner layer wallboard. Powder type mixed with water in accordance with instructions shown on bags. Applied to entire surface of base layer wallboard. Applied with notched trowel producing continuous beads about 1/4 in. wide and 1/4 in. high.

4. **Gypsum Board* —** Applied to one side of steel studs (Item 2). Two layers of 5/8 in. gypsum panels with beveled, square or tapered edges. Gypsum panels applied vertically with joints centered over studs. Base layer applied with 1 in. Type S screws spaced 24 in. oc. Face layer applied vertically with joints centered over studs and offset from base layer joints by 24 in. Face layer applied with 1-5/8 in. Type S screws spaced 12 in. oc starting with a 6 in. offset from the bottom of the gypsum panel.

NATIONAL GYPSUM CO — 5/8 in. thick Type eXP-C, FSL, FSW, FSK, FSW-3, FSW-5, FSW-G, FSK-G, FSW-6, FSW-8, FSW-C, FSMR-C, FSK-C, SoundBreak XP Type X Gypsum Board

4A. **Gypsum Board* —** (As an alternate to Items 3 and 4) - Applied to one side of steel studs (Item 2). Three layers of 5/8 in. gypsum panels with beveled, square or tapered edges. Gypsum panels applied vertically with joints centered over studs. First layer applied with 1 in. Type S screws spaced 24 in. oc. Second layer applied vertically with joints centered over studs and offset from base layer joints by 24 in. Second layer applied with 1-5/8 in. Type S screws spaced 24 in. oc. Face layer applied vertically with joints centered over studs and offset from second layer joints by 24 in. Face layer applied with 2-1/4 in. Type S screws spaced 12 in. oc starting with a 6 in. offset from the bottom of the gypsum panel.

NATIONAL GYPSUM CO — 5/8 in. thick Type eXP-C, FSL, FSW, FSK, FSW-3, FSW-5, FSW-G, FSK-G, FSW-6, FSW-C, FSMR-C, FSK-C, SoundBreakXP Type X Gypsum Board

4B. **Gypsum Board*** — (As an alternate to 5/8 in. Type FSW in Item 4A) - Nom. 5/16 in. thick gypsum panels applied vertically. Two layers of 5/16 in. for every single layer of 5/8 in. gypsum board described in Item 4A. Horizontal joints on the same side need not be staggered. Inner layer of each double 5/16 in. layer attached with fasteners, as described in item 4A, spaced 24 in. OC. Outer layer of each double 5/16 in. layer attached per Item 4A.

NATIONAL GYPSUM CO — Type FSW

5. **Joint Tape and Compound** — (Not Shown) - Joints covered with joint compound and paper tape. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer panels.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2015-05-27

Horizontal Shaftwall Duct and Ceiling Assemblies

DESCRIPTION

I-Stud Cavity Shaftwall Systems can be erected horizontally and used as economical fire resistive assemblies for corridor ceilings, stair soffits, and protection for mechanical ducts.

The I-Stud Cavity Shaftwall System for Horizontal Duct Protection consists of I-Studs 24" o.c. with 1" Fire-Shield Shaftliner panels inserted in the stud tabs, and three layers of 1/2" Fire-Shield C Gypsum Board attached to the stud flanges opposite the Shaftliner panels. This System provides fire protection for mechanical ducts and has been tested from both sides.

Two layers of 1/2" Fire-Shield C Gypsum Board attached to the stud flanges opposite the Shaftliner provide 2-hour fire protection when used as a corridor ceiling or stair soffit.*

Similarly, single layer 5/8" Fire-Shield or Fire-Shield C Gypsum Board attached to the stud flanges opposite the Shaftliner panels provide 1-hour fire protection when used as a corridor ceiling or stair soffit.*

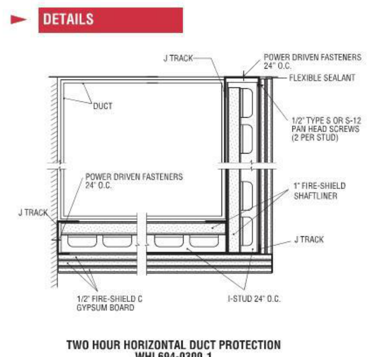
LIMITATIONS

I-Stud Cavity Shaftwall Systems erected horizontally for corridor ceilings or stair soffits are designed to carry their own deadweight only, and should not be used where there is access to an attic or loft above, or any probability of storage.

In addition, the 2-hour horizontal duct protection system is not designed to carry live loads or the weight of the mechanical ducting it is protecting.

Maximum allowable horizontal spans of each system are shown in the table below.

DETAILS



TWO HOUR HORIZONTAL DUCT PROTECTION
WHI 694-0300.1
092606G
Scale: 2" = 1'-0"

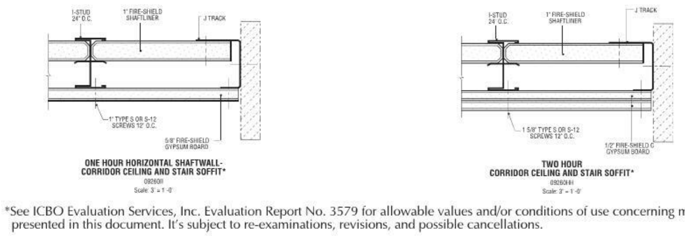
TECHNICAL DATA

MAXIMUM HORIZONTAL SPANS FOR I-STUD ASSEMBLIES

Stud Size in. (mm)	Minimum Steel Thickness in. (mm)	Corridor Ceilings And Stair Soffits: 1-Hour Fire Resistive Rating	Corridor Ceilings And Stair Soffits: 2-Hour Fire Resistive Rating	Horizontal Membrane And Duct Protection: 2-Hour Fire Resistive Rating
2 1/2" (63.5 mm)	0.020 (.508)	7'-8" (2337 mm)	7'-8" (2337 mm)	7'-2" (2184 mm)
2 1/2" (63.5 mm)	0.0329 (.836)	8'-8" (2642 mm)	9'-4" (2845 mm)	8'-8" (2642 mm)
4" (102 mm)	0.020 (.508)	10'-3" (3124 mm)	10'-9" (3277 mm)	10'-0" (3048 mm)
4" (102 mm)	0.0329 (.836)	11'- 9" (3581 mm)	12'-1" (3683 mm)	11'-3" (3429 mm)
6" (152 mm)	0.0329 (.836)	14'- 10" (4521 mm)	14'-10" (4521 mm)	13'-10" (4216 mm)

Note: Spans based on L/240 deflection and twice the dead load weight, and 24" o.c. stud spacing.

DETAILS

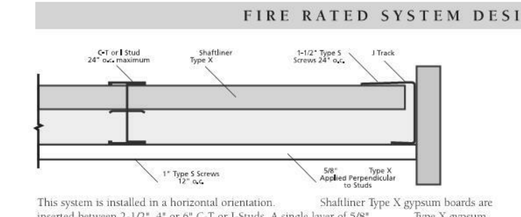


*See ICBO Evaluation Services, Inc. Evaluation Report No. 3579 for allowable values and/or conditions of use concerning material presented in this document. It's subject to re-examinations, revisions, and possible cancellations.

Horizontal Systems

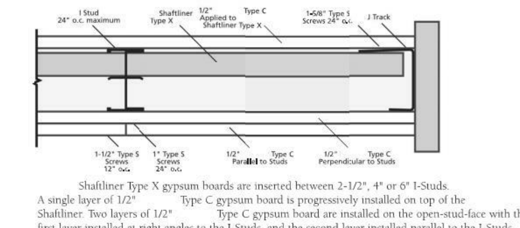
1 and 2 hour Fire Resistance Rating

FIRE RATED SYSTEM DESIGNS



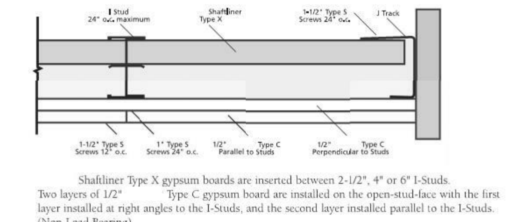
1 HR
HORIZONTAL CEILING SYSTEM
FIRE TEST WHI 651- 0306.1 1989
THICKNESS* 3-1/8" (80 mm)
APPROX. WT. 6-1/2 #/sf (32 kg/m²)

This system is installed in a horizontal orientation. Shaftliner Type X gypsum boards are inserted between 2-1/2", 4" or 6" C-T or I-Studs. A single layer of 5/8" Type X gypsum board is applied at right angles to the C-T or I-Studs, with 1" No. 6 Type S screws spaced 12" o.c. (Non-Load Bearing)



2 HR
HORIZONTAL MEMBRANE AND DUCT PROTECTION SYSTEM
FIRE TEST WHI 651- 0306.4 1989
THICKNESS* 4" (102 mm)
APPROX. WT. 10-1/2 #/sf (52 kg/m²)

Shaftliner Type X gypsum boards are inserted between 2-1/2", 4" or 6" I-Studs. A single layer of 1/2" Type C gypsum board is progressively installed on top of the Shaftliner. Two layers of 1/2" Type C gypsum board are installed on the open-stud-face with the first layer installed at right angles to the I-Studs, and the second layer installed parallel to the I-Studs. (Non-Load Bearing)



2 HR
HORIZONTAL SYSTEM
CORRIDOR
FIRE TEST WHI 651- 0306.4 1989
THICKNESS* 3-1/2" (89 mm)
APPROX. WT. 9 #/sf (45 kg/m²)

Shaftliner Type X gypsum boards are inserted between 2-1/2", 4" or 6" I-Studs. Two layers of 1/2" Type C gypsum board are installed on the open-stud-face with the first layer installed at right angles to the I-Studs, and the second layer installed parallel to the I-Studs. (Non-Load Bearing)

*Diagrams shown with 2-1/2" stud configurations. System thickness varies according to stud size application.

FFKR ARCHITECTS
730 Pacific Avenue · Salt Lake City, Utah 84104
O 801.521.6186 · **FFKR.COM**

ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
LICENSED ARCHITECT
09·15·2022

△ DATE REVISION

U of U PROJECT NUMBER

RATED ASSEMBLIES UL LISTINGS

G505

9/19/2022 10:58:05 AM

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

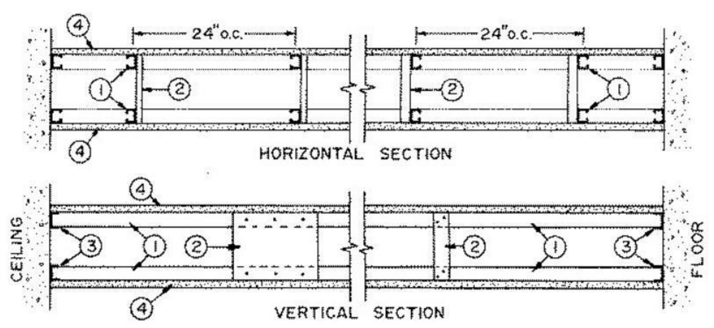
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. U420

July 05, 2016

Nonbearing Wall Rating — 1 or 2 HR.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Studs —** Channel shaped, min. 1 5/8 in. depth. Fabricated from No. 25 MSG galv steel. Studs to be cut 1/4 in. less than assembly height.

1A. **Framing Members*— Steel Studs —** As an alternate to Item 1 for a 2 hour rating only - For use with Item 3A, channel shaped studs, min 1-5/8 in. wide, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

CLARKDIETRICH BUILDING SYSTEMS — CD ProSTUD

DMFCWBS L L C — ProSTUD

MBA METAL FRAMING — ProSTUD

RAM SALES L L C — Ram ProSTUD

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProSTUD

1B. **Framing Members*— Steel Studs —** As an alternate to Item 1- For use with Item 3B, channel shaped studs, min 1-5/8 in. wide, fabricated from No. 25 MSG galv steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

KIRII (HONG KONG) LTD — Type KIRII

1C. **Framing Members*— Steel Studs —** As an alternate to Item 1- For use with Item 3, channel shaped studs, min 1-5/8 in. wide, fabricated from No. 25 MSG galv steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

EB MéTAL INC — EB Stud

1D. **Framing Members* — Steel Studs —** As an alternate to Item 1 - For use with Item 3C, channel shaped, min 3-5/8 in. wide, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

BAILEY METAL PRODUCTS LTD — Type PLATINUM PLUS

2. **Bracing —** Cut from the steel runners, min. 4-1/4 in. long, fastened to the studs with two No. 8 by 1/2 in. long self-drilling, self-tapping steel screws in each stud. As an alternate, but limits the stud cavity depth to maximum 9-1/2 in., cut from the gypsum wallboard, 9-1/2 in. long and 12 in. wide, fastened to the studs with three Type S wallboard screws in each stud. Vertical spacing of bracing not to exceed 48 in. OC.

3. **Floor and Ceiling Runners —** Channel — shaped 1 5/8 in. wide with 1 in. legs, fabricated from No. 25 MSG galv steel. Attached to floor and ceiling with fasteners spaced 24 in. OC.

3A. **Framing Members*— Floor and Ceiling Runners —** (Not shown) — As an alternate to Item 3 for a 2 hour rating only - For use with Item 1A, channel shaped, min 1-5/8 in. wide, attached to floor and ceiling with fasteners 24 in. OC. max.

CLARKDIETRICH BUILDING SYSTEMS — CD ProTRAK

DMFCWBS L L C — ProTRAK

MBA METAL FRAMING — ProTRAK

RAM SALES L L C — Ram ProTRAK

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProTRAK

3B. **Framing Members*— Floor and Ceiling Runners —** (Not shown) — As an alternate to Item 3 - For use with Item 1B, channel shaped, min 1-5/8 in. wide fabricated from No. 25 MSG, attached to floor and ceiling with fasteners 24 in. OC. max.

KIRII (HONG KONG) LTD — Type KIRII

3C. **Framing Members* — Floor and Ceiling Runners —** (Not Shown) — As an alternate to Item 3 - For use with Item 1D. Channel shaped, attached to floor and ceiling with fasteners 24 in. OC. max.

BAILEY METAL PRODUCTS LTD — Type PLATINUM PLUS

4. **Gypsum Board* — Any 5/8 in. thick UL Classified Gypsum Board that is eligible for use in Design Nos. L501, G512 or U305.** Nom 5/8 in. thick gypsum board with beveled, square, or tapered edges.

For 1 Hr Rating — One layer of gypsum board to be used. Applied vertically with joints centered over studs. Fastened to studs with 1 in. long, Type S, gypsum board screws spaced 8 in. OC at the joints, located 3/8 in. from the edges, and 12 in. OC in the field. Fasteners to be spaced 8 in. OC at the runners.

For 2 Hr Rating — Two layers of gypsum board to be used. The inner layer to be applied in the same manner as for the 1 Hr Rating. The outer layer to be fastened to the studs (through the inner layer) using 1 5/8 in. long, Type S, wallboard screws spaced 8 in. OC at the joints, located 3/8 in. from the edges and 12 in. OC in the field.

Fasteners to be spaced 8 in. OC at the runners. Joints to be staggered 24 in. from the inner layer.

ACADIA DRYWALL SUPPLIES LTD (View Classification) — CKNX.R25370

AMERICAN GYPSUM CO (View Classification) — CKNX.R14196

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO (View Classification) — CKNX.R19374

CERTAINTEED GYPSUM INC (View Classification) — CKNX.R3660

CGC INC (View Classification) — CKNX.R19751

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C (View Classification) — CKNX.R18482

GEORGIA-PACIFIC GYPSUM L L C (View Classification) — CKNX.R2717

LOADMASTER SYSTEMS INC (View Classification) — CKNX.R11809

NATIONAL GYPSUM CO (View Classification) — CKNX.R3501

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM (View Classification) — CKNX.R7094

PANEL REY S A (View Classification) — CKNX.R21796

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD (View Classification) — CKNX.R19262

SAINT-GOBAIN GYPROC MIDDLE EAST FZE (View Classification) — CKNX.R27321

THAI GYPSUM PRODUCTS PCL (View Classification) — CKNX.R27517

UNITED STATES GYPSUM CO (View Classification) — CKNX.R1319

USG BORAL ZAWAWI DRYWALL L L C SFZ (View Classification) — CKNX.R38438

USG MEXICO S A DE C V (View Classification) — CKNX.R16089

4A. **Gypsum Board* —** (As alternate to Item 4) - Nom 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (2-hr system) staggered one stud cavity. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed with steel framing. Horizontal edge joints and horizontal butt joints in adjacent layers (2-hr system) staggered a minimum of 12 in. For the single layer system, panels attached to steel studs and floor runner with 1 in. long Type S steel screws spaced 8 in. OC when applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when applied vertically. For the double layer system, base layer panels attached to steel studs and floor runner with 1 in. long Type S steel screws spaced 16 in. Face layer panels attached to steel studs and floor runner with 1-5/8 in. long Type S steel screws spaced 16 in. OC.

CGC INC — Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.

UNITED STATES GYPSUM CO — Type AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.

USG BORAL ZAWAWI DRYWALL L L C SFZ — Types C, SCX

USG MEXICO S A DE C V — Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.

4B. **Gypsum Board* —** (As an alternate to Items 4 or 4A) - Nom 3/4 in. thick, 4 ft wide, installed as described in Item 4A with screw length increased to 1-1/4 in.

CGC INC — Types AR, IP-AR.

UNITED STATES GYPSUM CO — Types AR, IP-AR.

USG MEXICO S A DE C V — Types AR, IP-AR.

4C. **Gypsum Board* —** (As an alternate to Items 4 through 4B) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock ES.

4D. **Gypsum Board* —** As an alternate to Item 4 - For 2 Hr Rating - Nom. 5/8 in. thick gypsum board with beveled, square, or tapered edges. Two layers of gypsum board to be used. Inner layer applied vertically with joints centered over studs. Fastened to studs with 1 in. long, Type S, gypsum board screws spaced 8 in. OC at the joints, located 3/8 in. from the edges, and 12 in. OC in the field. Fasteners to be spaced 8 in. OC at the runners. The outer layer to be fastened to the studs horizontally using 1 5/8 in. long, Type S, gypsum board screws spaced 8 in. OC at the joints, located 3/8 in. from the edges and 12 in. OC in the field. Fasteners to be spaced 8 in. OC at the runners.

ACADIA DRYWALL SUPPLIES LTD — 5/8 Type X, Type Blueglass Exterior Sheathing

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types C, PG-11, PGS-WRS.

4E. **Gypsum Board* —** (As an alternate to Item 4A, not for use with Items 1A and 3A) - Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 4A.

CGC INC — Type ULX

UNITED STATES GYPSUM CO — Type ULX

USG MEXICO S A DE C V — Type ULX

4F. **Gypsum Board* —** (As an alternate to 5/8 in. Type FSW in Item 4) - Nom. 5/16 in. thick gypsum panels applied vertically. Two layers of 5/16 in. for every single layer of 5/8 in. gypsum board described in Item 4. Horizontal joints on the same side need not be staggered. Inner layer of each double 5/16 in. layer attached with fasteners, as described in item 4, spaced 24 in. OC. Outer layer of each double 5/16 in. layer attached per Item 4.

NATIONAL GYPSUM CO — Type FSW.

4G. **Wall and Partition Facings and Accessories* —** (As an alternate to Items 4 through 4E) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527.

4H. **Gypsum Board* —** (As alternate to Item 4) - For use with Item 6D, **Batts and Blankets*** for the 1 hour system. Nom 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (2-hr system) need not to be staggered. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed with steel framing. Horizontal edge joints and horizontal butt joints in adjacent layers (2-hr system) need not be staggered. For the single layer system, panels attached to steel studs and floor runner with 1 in. long Type S steel screws spaced 8 in. OC when applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when applied vertically. For the double layer system, base layer panels attached to steel studs and floor runner with 1 in. long Type S steel screws spaced 16 in. Face layer panels attached to steel studs and floor runner with 1-5/8 in. long Type S steel screws spaced 8 in. OC. Screws offset min 6 in. from layer below.

UNITED STATES GYPSUM CO — Type ULIX.

5. **Joint Tape and Compound —** Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads. Paper tape, 2 in. wide, embedded in first layer of compound over all joints.

6. **Batts and Blankets* —** (Optional, not shown) — Glass fiber batts may be installed in the interior of wall cavity. Any min. 3-1/2 in. thick glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. Friction-fitted to fill the stud cavities. See **Batts and Blankets (BKNV or BZJZ) Categories** for names of Classified companies.

6A. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 6) — (100% Borate Formulation) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft^3. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft^3, in accordance with the application instructions supplied with the product.

U S GREENFIBER L L C — INS735& INS745 for use with wet or dry application. INS765LD and INS770LD are to be used for dry application only.

6B. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 6) and Item 6A - Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.

NU-WOOL CO INC — Cellulose Insulation

6C. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 6) - Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft^3.

INTERNATIONAL CELLULOSE CORP — Celbar-RL

6D. **Batts and Blankets* —** As an alternate to Item 6 - mineral wool insulation, friction-fitted to fill the stud cavities.

ROXUL INC — Type AFB

7. **Cementitious Backer Units* —** (Optional Item Not Shown - For Use On Face Of 1 Hr Or 2 Hr Systems With All Standard Items Required) - 7/16 in., 1/2 in., 5/8 in., 3/4 in. or 1 in. thick, min. 32 in. wide.- Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with cement board screws of adequate length to penetrate stud by a minimum of 3/8 in. for steel framing members spaced a max of 8 in. OC. When 4 ft. wide boards are used, horizontal joints need not be backed by framing. 2-Hr System - Applied vertically with vertical joints centered over studs. Face layer fastened over gypsum board to studs and runners with cement board screws of adequate length to penetrate stud by a minimum of 3/8 in. for steel framing members, and a minimum of 3/4 in. for wood framing members spaced a max of 8 in. OC.

NATIONAL GYPSUM CO — Type DuraBacker, PermaBase, DuraBacker Plus, or PermaBase Plus

Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Last Updated on 2016-07-05

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States Design Criteria and Allowable Variances

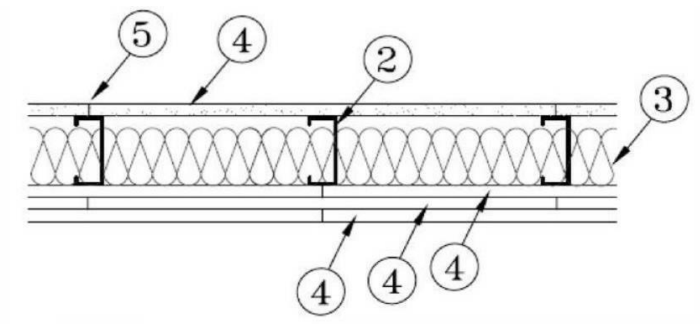
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada Design Criteria and Allowable Variances

Design No. U421

July 12, 2018

Nonbearing Wall Rating — 2 Hr

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Floor and Ceiling Runners —** (Not Shown) — Channel shaped, min 2-1/2 in. deep when Items 4, 4A or 4B are used or 3-5/8 in deep when Items 4C, 4D or 4E are used, with min 1-1/4 in. long legs, fabricated from min 25 MSG corrosion-protected steel, attached to floor and ceiling with fasteners 24 in. OC max.

1A. **Framing Members* — Floor and Ceiling Runner —** Not Shown — As an alternate to Item 1, proprietary channel shaped runners, min 2-1/2 in. deep when Items 4, 4A or 4B are used or 3-5/8 in deep when Items 4C, 4D or 4E are used ,with 1-1/4 in. long legs fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™

1B. **Framing Members* — Floor and Ceiling Runners —** Not Shown — As an alternate to Item 1, proprietary channel shaped, min. 3-5/8 in. wide, fabricated from min. 0.0150 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC max. Not to be used with Item 4E.
CLARKDIETRICH BUILDING SYSTEMS — CD ProTRAK

DMFCWBS L L C — ProTRAK™

MBA METAL FRAMING — ProTRAK

RAM SALES L L C — Ram ProTRAK

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProTRAK

1C. **Framing Members* — Floor and Ceiling Runner —** Not Shown — As an alternate to Item 1, proprietary channel shaped runners, min 2-1/2 in. deep when Items 4, 4A or 4B are used or 3-5/8 in deep when Items 4C, 4D or 4E are used ,with 1-1/4 in. long legs fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
TELLING INDUSTRIES L L C — Viper20™

1D. **Framing Members* — Floor and Ceiling Runners —** Not Shown — As an alternate to Item 1, proprietary channel shaped, min. 3-5/8 in. wide, fabricated from min. 0.018 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC max. Not to be used with Item 4E.
STEEL INVESTMENT GROUP L L C — AlphaTRAK

1E. **Framing Members* — Floor and Ceiling Runner —** Not Shown — As an alternate to Item 1, proprietary channel shaped runners, min 2-1/2 in. deep when Items 4, 4A or 4B are used or 3-5/8 in deep when Items 4C, 4D or 4E are used ,with 1-1/4 in. long legs fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
CRACO MFG INC — SmartTrack20™

2. **Steel Studs —** Channel shaped, min 2-1/2 in. deep when Items 4, 4A or 4B are used or 3-5/8 in deep when Items 4C, 4D or 4E are used, 1-1/4 in. flanges and 3/16 in. returns, fabricated from min 25 MSG corrosion-protected steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height and friction-fit in place.

2A. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — For use with Item 1A - proprietary channel shaped steel studs, 1-1/4 in. wide by min 2-1/2 in. deep when Items 4, 4A or 4B are used or 3-5/8 in deep when Items 4C, 4D or 4E are used, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 to 3/4 in. less in length than assembly height.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™

CRACO MFG INC — SmartStud20™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™

2B. **Framing Members* — Steel Studs —** As an alternate to Item, for use with Item 1B, proprietary channel shaped studs, min. 3-5/8 in. wide, fabricated from min. 0.0150 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height. Not to be used with Item 4E.

CLARKDIETRICH BUILDING SYSTEMS — CD ProSTUD

DMFCWBS L L C — ProSTUD™

MBA METAL FRAMING — ProSTUD

RAM SALES L L C — Ram ProSTUD

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProSTUD

2C. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — For use with Item 1C - proprietary channel shaped steel studs, 1-1/4 in. wide by min 2-1/2 in. deep when Items 4, 4A or 4B are used or 3-5/8 in deep when Items 4C, 4D or 4E are used, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 to 3/4 in. less in length than assembly height.
TELLING INDUSTRIES L L C — Viper20™

2D. **Framing Members* — Steel Studs —** As an alternate to Item 2 — For use with Item 1A (3-5/8 in. wide track) and Items 4C, 4D or 4E, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, 1-1/4 in. wide by 3-5/8 in. deep, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
MARINO/WARE, DIV OF WARE INDUSTRIES INC — StudRite™

2E. **Framing Members* — Steel Studs —** As an alternate to Item 2, for use with Item 1D, proprietary channel shaped studs, min. 3-5/8 in. wide, fabricated from min. 0.018 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height. Not to be used with Item 4E.
STEEL INVESTMENT GROUP L L C — AlphaSTUD

2F. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — For use with Item 1E - proprietary channel shaped steel studs, 1-1/4 in. wide by min 2-1/2 in. deep when Items 4, 4A or 4B are used or 3-5/8 in deep when Items 4C, 4D or 4E are used, fabricated from min 0.020 in. thick galv steel. Studs cut 3/8 to 3/4 in. less in length than assembly height.
CRACO MFG INC — SmartStud20™

3. **Batts and Blankets* —** (Optional) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4. **Gypsum Board* —** Nom 5/8 in. thick gypsum panels with beveled, square or tapered edges. Base layer applied vertically or horizontally on both sides of the studs, with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Horizontal edge joints (when applied horizontally) and horizontal butt joints (when applied vertically) on opposite sides of studs need not be staggered or backed. Base layer panels attached to studs with 1 in. long Type S or Hi-Low screws spaced 8 in. OC when applied horizontally, or 8 in. OC along the vertical edges and 12 in. OC in the field when applied vertically. When Items 1C and 2C are used the base layer is required to be installed vertically. Remaining two layers applied vertically or horizontally on one side of the wall. Horizontal butt joints staggered a min of 6 in. on adjacent layers. First of these two layers attached to studs with 1-5/8 in. long Type S or Hi-Low screws spaced 12 in. OC. Face layer attached to studs with 2-3/8 in. Type S or Hi-Low screws spaced 8 in. OC when applied horizontally, or 8 in. OC along the vertical edges and 12 in. OC in the field when applied vertically. When used in widths other than 48 in., gypsum panels to be installed horizontally.
AMERICAN GYPSUM CO — Types AGX-1, M-Glass, AG-C, LightRoc.

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Types LGFC6A, LGFC-WD, LGFC-2A, LGFC-C/A, LGLLX

GEORGIA-PACIFIC GYPSUM L L C — Type 9, Type 5, Type 6, Type DAP, Type DS, Type DGG, Type DAPC, LS, Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X, GreenGlass Type X, Type TG-C, Type LWX, Veneer Plaster Base-Type LWX, Water Rated-Type LWX, Sheathing Type-LWX, Soffit-Type LWX, Type DGLW, Water Rated-Type DGLW, Sheathing Type- DGLW, Soffit-Type DGLW, Type LW2X, Veneer Plaster Base - Type LW2X, Water Rated - Type LW2X, Sheathing - Type LW2X, Soffit - Type LW2X, Type DGL2W, Water Rated - Type DGL2W, Sheathing - Type DGL2W.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types PG-11, PGS-WRS.

4A. **Gypsum Board* —** As an alternate to Item 4 — Nom 5/8 in. thick gypsum panels with beveled, square or tapered edges. Base layer panels applied vertically attached to studs with 1 in. long Type S or Hi-Low screws 8 in. OC along the vertical edges and 12 in. OC in the field. Remaining two layers applied vertically on one side of the wall. First of these two layers attached to studs with 1-5/8 in. long Type S or Hi-Low screws spaced 12 in. OC. Face layer attached to studs with 2-3/8 in. Type S or Hi-Low screws spaced 8 in. OC along the vertical edges and 12 in. OC in the field. Not to be used with Item 6, resilient channels.

GEORGIA-PACIFIC GYPSUM L L C — Type X ComfortGuard Sound Deadening Gypsum Board.

4B. **Gypsum Board* —** As an alternate to Item 4, for use as the base layer of boards on one or both sides of the steel studs. Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges secured as described in Item 4. When used in widths other than 48 in., gypsum panels to be installed horizontally.
CGC INC — 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRX or WRC

UNITED STATES GYPSUM CO — 5/8 in. thick Type AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRX, WRC

USG BORAL DRYWALL SFZ LLC — Types C, SCX, USGX

USG MEXICO S A DE C V — 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRX, WRC

4C. **Gypsum Board* —** As an alternate to Item 4, for use as the base layer of boards on one or both sides of the steel studs. Nom. 5/8 in. thick gypsum board applied vertically to studs with #6 x 1-1/4 in. long bugle head screws spaced 8 in. OC at the perimeter and 12 in. OC in the field of the boards. Vertical joints are centered over studs and staggered from vertical joints on opposite sides of the wall.
NATIONAL GYPSUM CO — Types eXP-C, FSK, FSK-C, FSL, FSW, FSW-6, FSW-C

4D. **Gypsum Board* —** As an alternate to Item 4, for use as the base layer of boards on one or both sides of the steel studs. Nom. 5/8 in. thick gypsum board applied vertically or horizontally to studs. When applied vertically, boards attached with 1 in. long Type-S bugle head screws spaced 8 in. OC at the perimeter and 12 in. OC in the field with the 1st screw installed 4 in. from the board edges at the perimeter and 6 in. from the board edge in the field. Vertical joints are centered over studs and staggered from vertical joints on opposite sides of the wall. When applied horizontally, boards attached with 1 in. long Type-S bugle head screws spaced 8 in. OC at the perimeter and in the field with the 1st screw installed 4 in. from the board edge. Horizontal joints need not be staggered on opposite faces or backed by steel framing. When Items 1C and 2C are used the base layer is required to be installed vertically.
ACADIA DRYWALL SUPPLIES LTD — Type X, 5/8 Type X

CERTAINTEED GYPSUM INC — Type X, Type C, Type X-2

SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Air, Gyproc DuraLine MR ACTIV'Air, Gyproc DuraLine M2TECH ACTIV'Air

THAI GYPSUM PRODUCTS PCL — Type X, Type C

4E. **Gypsum Board* —** As an alternate to Item 4, for use as the base layer of boards on one or both sides of the steel studs Nom. 5/8 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track with 1 in. long, Type S steel screws spaced 8 in. OC. along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly.
CERTAINTEED GYPSUM INC — Types 1, EGRG, GlasRoc, GlasRoc-2, Type X, Type X-1, Easi-Lite Type X-2, Type C, Type X-2, 5/8" Easi-Lite Type X

NATIONAL GYPSUM CO — Types eXP-C, FSK, FSK-C, FSK-G, FSL, FSMR-C, FSW-C, FSW-G, FSW, FSW-3, FSW-5, FSW-6, FSW-8

SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Air, Gyproc DuraLine MR ACTIV'Air, Gyproc DuraLine M2TECH ACTIV'Air

THAI GYPSUM PRODUCTS PCL — Type X, Type C

4F. **Gypsum Board* —** (As an alternate to Items 4 and 4E) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically only and secured as described in Item 4.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock ES

4G. **Gypsum Board* —** (As an alternate to Item 4B, not for use with Items 1C and 2C) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 4B.
CGC INC — Type ULX

UNITED STATES GYPSUM CO — Type ULX

USG MEXICO S A DE C V — Type ULX

4H. **Wall and Partition Facings and Accessories* —** (As an alternate to Items 4 and 4G) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically only and secured as described in Item 4.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-527.

5. **Joint Tape and Compound —** Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layer panels. When square-edge gypsum board is used, treatment of joints is optional.

6. **Furring Channels —** (Optional, Not Shown, for use on the single layer side only) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws.

6A. **Steel Framing Members* —** (Not Shown) — Optional, for single layer side — As an alternate to Item 6, furring channels and Steel Framing Members as described below.

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 4.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Aa) to studs (Item 2, 2A or, 2B, or 2C). Clips spaced max. 48 in. OC. RSIC-1 clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clip for use with 2-23/32 in. wide furring channels.
PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75).

6B. **Steel Framing Members* —** (Not Shown) — Optional for single layer side — As an alternate to Item 6, furring channels and Steel Framing Members as described below.

a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire.Gypsum board attached to furring channels as described in Item 4.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to studs. Clips spaced 48 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237R

6C. **Steel Framing Members* —** (Not Shown) — Optional for single layer side — As an alternate to Item 6, furring channels and Steel Framing Members as described below.

a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 6Cb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 4.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ca) to studs. Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
REGUPOL AMERICA — Type SonusClip

6D. **Steel Framing Members* —** (Not Shown) — Optional for single layer side — As an alternate to Item 6, resilient channels and Steel Framing Members as described below.

a. **Resilient Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 4.

b. **Steel Framing Members* —** Used to attach resilient channels (Item 6Da) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw.
KEENE BUILDING PRODUCTS CO INC — Type RC+ Assurance Clip

7. **Caulking and Sealants* —** (Optional, Not Shown) — A bead of acoustical sealant applied around the partition perimeter for sound control.
UNITED STATES GYPSUM CO — Type AS

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2018-07-12

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- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
LICENSED ARCHITECT
09.15.2022

△ DATE REVISION

U of U PROJECT NUMBER

RATED ASSEMBLIES UL LISTINGS WALLS

G506

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. X790

November 17, 2014

Ratings — 1, 1-1/2, 2, 3 and 4 Hr.

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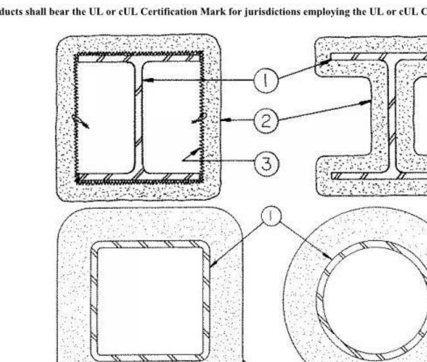

1. **Steel Column, Steel Pipe or Steel Tube** — Wide flange steel column (W) or steel circular pipe (SP) or steel square or rectangular tube (ST), min sizes as shown in the tables below.

2. **Spray-Applied Fire Resistive Materials*** — Applied by mixing with water and spraying in one or more coats to the thicknesses shown below, to steel surfaces which are clean and free of dirt, loose scale, and oil. Min average and min individual density of 15 and 14 pcf, for Types 300, 300AC, 300ES, 300HS, 300N, 3000, 3000ES and SB. For Types 400AC and 400ES min average and min individual density of 22 and 19 pcf, respectively. For method of density determination, see Design Information Section, Sprayed Material.

The min thickness of Spray-Applied Fire Resistive Materials required for various fire resistance ratings of contour sprayed or boxed wide flange columns are shown in the table below:

Column Size	W/D	Min Thkns In. 1 Hr	1-1/2 Hr	2 Hr	3 Hr	4 Hr
W6x9	0.33	15/16	1-1/4	1-9/16	2-1/8	2-11/16
W6x12	0.43	13/16	1-1/8	1-7/16	2	2-9/16
W6x16	0.57	11/16	1	1-5/16	1-7/8	2-3/8
W8x28	0.68	5/8	15/16	1-1/4	1-13/16	2-5/16
W10x49	0.83	9/16	13/16	1-1/8	1-5/8	2-1/8
W12x106	1.46	3/8	9/16	13/16	1-1/4	1-11/16
W14x233	2.52	1/4	3/8	1/2	7/8	1-3/16
W14x730	6.68	1/4	1/4	1/4	3/8	1/2

As an alternate to the above table, the required thickness of Spray-Applied Fire Resistive Materials to be applied to all surfaces of the steel columns for all rating periods may be determined from the following equations:

h = R

75 (W/D) + 32

(for column W/D range of 0.33 to 2.51)

$$h = \frac{R}{75 (W/D) + 15}$$

(for column W/D range of 2.51 to 6.68)

Where:

h = Spray-Applied Fire Resistive Materials thickness in the range of 1/4 to 4-1/2 in. (rounded up to the nearest 1/16 in.)

R = Fire resistance rating period in minutes (60-240 mins.)

D = Heated perimeter of the steel column in inches.

W = Weight of the steel column in lbs per foot.

The thicknesses contained in the table below are applicable when the Spray-Applied Fire Resistive Materials applied to the column's flange tips are reduced to one-half that shown in the table below (for contour application):

Column Size In.	Min Thkns In. 1 Hr	1-1/2 Hr	2 Hr	3 Hr	4 Hr
W6x9	1	1-3/8	1-3/4	2-7/16	3-1/8
W6x12	7/8	1-1/4	1-5/8	2-5/16	3-1/16
W6x16	3/4	1-1/8	1-7/16	2-1/16	2-11/16
W8x28	11/16	1	1-5/16	1-15/16	2-1/2
W10x49	5/8	15/16	1-3/16	1-3/4	2-3/8
W12x106	3/8	5/8	7/8	1-3/8	1-13/16
W14x233	5/16	3/8	9/16	15/16	1-5/16
W14x730	5/16	5/16	5/16	7/16	5/8

The min thickness of Spray-Applied Fire Resistive Materials required for various fire resistance ratings of contour sprayed steel pipes or tubes are shown on the table below:

Min Column Size In.	A/P	1 Hr	1-1/2 Hr	Min Thkns In. 2 Hr	3 Hr	4 Hr
SP 4x0.237	0.22	11/16	1	1-3/8	2-1/16	2-3/4
ST 4x4x0.1875	0.18	3/4	1-1/16	1-7/16	2-1/16	2-11/16
ST 4x4x0.3125	0.29	1/2	13/16	1-1/8	1-3/4	2-5/16
ST 4x4x0.375	0.34	7/16	3/4	1	1-9/16	2-1/8
ST 4x4x0.5	0.44	3/8	9/16	7/8	1-3/8	1-7/8
ST20x20x0.75 in	0.72	5/16	1/2	11/16	1-1/16	1-7/16
ST20x20x1 in.	0.95	1/4	3/8	1/2	13/16	1-1/8
ST20x20x1.5 in.	1.39	1/4	1/4	3/8	5/8	13/16
ST20x20x1.75 in.	1.60	1/4	1/4	3/8	1/2	3/4
ST32x32x1.25 in.	1.20	1/4	5/16	7/16	11/16	15/16
ST 36x24x0.5	0.49	5/16	7/16	11/16	1-1/8	1-9/16

As an alternate to the table above, the required thickness of Spray-Applied Fire Resistive Materials to be applied to all surfaces of the steel pipes or tubes for all rating periods may be determined from the following equation:

$$h = \frac{R}{188 (A/P) + 45}$$

Where:

h = Spray-Applied Fire Resistive Materials thickness in the range of 5/16 to 4-1/4 in. (rounded up to the nearest 1/16 in.)

R = Fire resistance rating in minutes (60-240 mins.)

A = Cross-sectional area of pipe or tube.

P = Heated perimeter of steel pipe or tube.

A/P = 0.18 to 0.49.

The A/P ratio of a circular pipe is determined by:

$$A/P = \frac{t (d - t)}{d}$$

Where:

d = the outer diameter of the pipe (in.)

t = the wall thickness of the pipe (in.)

The A/P ratio of a rectangular tube is determined by:

$$A/P = \frac{t (a + b - 2t)}{a + b}$$

Where:

a = the outer width of the tube (in.)

b = the outer length of the tube (in.)

t = the wall thickness of the tube (in.)

BERLIN CO LTD — Types 300, 300ES, 300N or SB.

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Types 300, 300AC, or 400AC.

ISOLATEK INTERNATIONAL — Type 300, 300AC, 300ES, 300HS, 300N, 400AC, 400ES, SB, 3000 or 3000ES.

NEWKEM PRODUCTS CORP — Types 300, 300ES, 300N or SB.

2A. **(As an alternate to Item 2) Spray-Applied Fire Resistive Materials*** — Applied by mixing with water and spraying in one or more coats to the thicknesses shown below, to steel surfaces which are clean and free of dirt, loose scale, and oil. Min average and min individual density of 17.5 and 16 pcf, respectively, for Type 300TW. Min average and min individual density of 22 and 19 pcf, respectively, for Type 400. For method of density determination, see Design Information Section, Sprayed Material.

The min thickness of Spray-Applied Fire Resistive Materials required for various fire resistance ratings is shown in Item 2.

BERLIN CO LTD — Type 400.

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Type 400.

ISOLATEK INTERNATIONAL — Type 300TW or Type 400.

NEWKEM PRODUCTS CORP — Type 400.

2B. **(As an alternate to Item 2 and 2A) — Spray-Applied Fire Resistive Materials*** — Prepared by mixing with water according to instructions on each bag of mixture and spray- or trowel-applied to steel surfaces which are free of dirt, oil or scale. Min average density of 17.5 pcf with min individual value of 17.0 pcf. For method of density determination, see Design Information Section, Sprayed Material.

The min thickness of Spray-Applied Fire Resistive Materials required for various fire resistance ratings is shown in Item 2.

ISOLATEK INTERNATIONAL — Type 280.

3. **Metal Lath** — (Optional for contour application) — 3.4 lb/sq yd galv or painted expanded steel lath. Lath shall be lapped 1 in. and tied together with No. 18 SWG galv steel wire spaced vertically 6 in. OC.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2014-11-17

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. X829

June 24, 2008

Ratings — 1/2, 1, 1-1/2, 2, 3, 4 Hr

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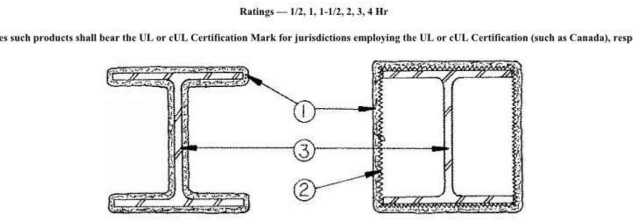


1. **Spray-Applied Fire Resistive Materials*** — Applied by spraying with water, in one or more untamped coats at the thickness shown in the table below to steel surfaces which are free of dirt, oil or scale. Use of adhesive is optional. Minimum average untamped density is 13 pcf with minimum ind untamped density of 11 pcf for Types II and D-C/F. Min avg and min ind untamped densities of 22 and 19 pcf, respectively, for Type HP. Tamping is optional. For method of density determination refer to Design Information Section.

The thickness of Spray-Applied Fire Resistive Materials (Item 1) required for rating periods of 1 h, 1-1/2 h, 2 h, 3 h, 4 h of contour sprayed columns may be determined by the equation:

$$h = \frac{R}{1.01 (W/D) + 0.66}$$

Where:

h=Protection material thickness in the range 0.375-3.75 in.

R=Fire resistance rating in hours (1-4 h).

D=Heated perimeter of steel column in inches.

W=Weight of steel column in lbs per foot.

W/D=0.55 to 7.0

The thickness of Spray-Applied Fire Resistive Materials in the range of 0.375-3.75 in. required for rating periods of 1 h, 1-1/2 h, 2 h, 3 h, 4 h of contour sprayed columns with W/D=0.30-0.55 may be determined by the equation:

$$h = \frac{R}{0.95 (W/D) + 0.45}$$

As an alternative to the equations, the minimum thickness of protection Material required for various fire resistance ratings of contour or box sprayed columns may be determined from the table below:

Column Size	W/D	Min Thkns In. 1 Hr	1-1/2 Hr	2 Hr	3 Hr	4 Hr
W8X10	0.33	1-1/4	1-13/16	2-5/16	3-9/16	—
*W6X16	0.57	11/16	1-1/8	1-9/16	2-7/16	3-1/4
W8X28	0.68	11/16	1-1/8	1-7/16	1-7/8	2-5/16
W10X49	0.83	11/16	1	1-1/4	1-11/16	2-1/8
W12X106	1.46	7/16	3/4	1	1-7/16	1-15/16
W14X233	2.52	5/16	1/2	1/2	15/16	1-5/16
W14X730	6.68	3/8	3/8	3/8	3/8	9/16

* = A 1/2 Hour Rating may be obtained on a minimum W6x16 column with a minimum 3/8 in. of material.

The thicknesses of protection material contained in the table below are applicable when the protection of the contour sprayed column's flange tips are reduced to one-half.

W8X10	0.33	1-3/8	2	2-5/8	—	—
W6X16	0.57	13/16	1-5/16	1-3/4	2-3/4	3-11/16
W8X28	0.68	13/16	1-5/16	1-11/16	2-9/16	3-7/16
W10X49	0.83	13/16	1-1/8	1-7/16	1-15/16	2-7/16
W12X106	1.46	1/2	13/16	1-1/8	1-5/8	2-3/16
W14X233	2.52	7/16	9/16	9/16	1-1/16	1-1/2
W14X730	6.68	3/8	3/8	3/8	1/2	11/16

ISOLATEK INTERNATIONAL — Type D-C/F, HP or II. Type D-C/F, HP or II investigated for exterior use. Type EBS or Type X adhesive/sealer optional.

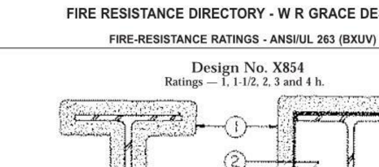
2. **Metal Lath** — (Optional for contour application) — 3.4 lb/sq yd galvanized or painted expanded steel lath. Lath shall be lapped 1 in. and tied together with No. 13 SWG galvanized steel wire spaced vertically 6 in. O.C. or alternately, attached with No. 24 MSG spring clips, 1/2 in. wide, pushed onto column flanges, vertically spaced 6 in. O.C.

3. **Steel Column** — Min. sizes as shown above in Item 1.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2008-06-24

Design No. X854
Ratings — 1, 1-1/2, 2, 3 and 4 h.



1. **Spray-Applied Fire Resistive Materials*** — Applied by mixing with water and spraying in more than one coat to the thicknesses shown below, to steel surfaces which are clean and free of dirt, loose scale, and oil. Min avg and min ind density of 15/14 pcf respectively. Min avg and min ind density of 22/19 pcf respectively for Types Z-106, Z-106/G, Z-106/HY. Min avg and min ind density of 40/36 pcf respectively for Types Z-146, Z-146PC and Z-146T cementitious mixture. Min avg and min ind density of 50/45 pcf respectively for Types Z-156, Z-156T and Z-156PC. For method of density determination, see Design Information Section, Sprayed Material.
The thickness of Spray-Applied Fire Resistive Materials to be applied to all surfaces of the column (Item 1) required for rating periods of 1 h, 1-1/2 h, 2 h, 3 h, 4 h may be determined by the equation:

$$h = \frac{R}{1.05(W/D)+0.61}$$

Where:
h = Spray-Applied Fire Resistive Materials thickness in the range 0.25-3.875 in.
R = Fire resistance rating in hours (1 - 4 h)
D = Heated perimeter of steel column in inches
W = Weight of steel column in lbs per foot
W/D = 0.338 to 6.76
As an alternate to the equation, the minimum thickness of Spray-Applied Fire Resistive Materials required for various fire resistance ratings of contour sprayed or boxed columns may be determined from the table below:

TABLE 1

Col Size	W/D	Min Thk (In.) 1 Hr	1-1/2 Hr	2 Hr	3 Hr	4 Hr
W4x13	0.556	11/16	1-3/16	1-5/8	2-1/2	3-3/8
W5x16	0.55	11/16	1-3/16	1-5/8	2-1/2	3-3/8
W5x19	0.644	5/8	1-1/8	1-7/16	2-5/16	3-1/8
W6x9	0.338	15/16	1-1/2	2	2-1/2	3-13/16
W6x12	0.448	13/16	1-3/8	1-13/16	2-1/2	3-3/4
W6x15	0.431	13/16	1-3/8	1-13/16	2-1/2	3-13/16
W6x16	0.584	11/16	1-3/16	1-9/16	2-7/16	3-5/16
W6x20	0.563	11/16	1-3/16	1-9/16	2-1/2	3-3/8
W6x25	0.696	5/8	1-1/16	1-3/8	2	2-11/16
W8x13	0.421	13/16	1-3/8	1-7/8	2-1/2	3-13/16
W8x15	0.481	3/4	1-5/16	1-3/4	2-1/2	3-5/8
W8x18	0.499	3/4	1-1/4	1-11/16	2-1/2	3-1/2
W8x21	0.577	11/16	1-3/16	1-9/16	2-1/2	3-5/16
W8x24	0.591	11/16	1-1/8	1-9/16	2-7/16	3-5/16
W8x28	0.688	5/8	1-1/16	1-3/8	2	2-11/16
W8x31	0.665	5/8	1-1/16	1-7/16	2-5/16	3-1/16
W8x35	0.749	9/16	1	1-5/16	2	2-11/16
W8x40	0.849	9/16	3/4	1-1/8	1-11/16	2-1/2
W8x48	1	1/2	3/4	1	1-11/16	2-5/16
W8x58	1.2	7/16	3/4	13/16	1-3/8	1-15/16
W8x67	1.37	3/8	5/8	3/4	1-1/4	1-11/16
W10x12	0.347	7/8	1-1/2	2	2-1/2	3-13/16
W10x15	0.429	13/16	1-3/8	1-7/8	2-1/2	3-13/16
W10x17	0.482	3/4	1-5/16	1-3/4	2-1/2	3-5/8
W10x19	0.538	3/4	1-1/4	1-5/8	2-1/2	3 7/16
W10x22	0.523	3/4	1-1/4	1-11/16	2-1/2	3-1/2
W10x26	0.612	11/16	1-1/8	1-1/2	2-3/8	3-1/4
W10x30	0.699	5/8	1-1/16	1-3/8	2	2-11/16
W10x33	0.661	5/8	1-1/16	1-7/16	2-5/16	3-1/8
W10x39	0.78	9/16	1	1-1/4	2	2-11/16
W10x45	0.888	1/2	3/4	1-1/8	1-11/16	2-1/2
W10x49	0.84	9/16	3/4	1-1/8	1-11/16	2-1/2
W10x54	0.922	1/2	3/4	1-1/16	1-11/16	2-1/2
W10x60	1.01	1/2	3/4	1	1-5/8	2-5/16
W10x68	1.15	7/16	3/4	7/8	1-7/16	2
W10x77	1.28	7/16	11/16	3/4	1-5/16	1-13/16
W10x88	1.45	3/8	5/8	11/16	1-3/16	1-5/8
W10x100	1.64	3/8	9/16	11/16	1-1/8	1-1/2
W10x112	1.81	5/16	1/2	11/16	1-1/8	1-1/2
W12x14	0.363	7/8	1-1/2	2	2-1/2	3-13/16
W12x16	0.41	13/16	1-7/16	1-7/8	2-1/2	3-13/16
W12x19	0.485	3/4	1-5/16	1-3/4	2-1/2	3-5/8
W12x22	0.56	11/16	1-3/16	1-5/8	2-1/2	3-3/8
W12x26	0.531	3/4	1-1/4	1-5/8	2-1/2	3 7/16
W12x30	0.607	11/16	1-1/8	1-1/2	2-7/16	3-1/4
W12x35	0.703	5/8	1-1/16	1-3/8	2	2-11/16
W12x40	0.734	5/8	1	1-5/16	2	2-11/16
W12x45	0.829	9/16	15/16	1-3/16	1-15/16	2-11/16

Col Size	W/D	Min Thk (In.) 1 Hr	1-1/2 Hr	2 Hr	3 Hr	4 Hr
W12x50	0.909	1/2	3/4	1-1/16	1-11/16	2-1/2
W12x53	0.855	9/16	3/4	1-1/8	1-11/16	2-1/2
W12x58	0.925	1/2	3/4	1-1/16	1-11/16	2-7/16
W12x65	0.925	1/2	3/4	1-1/16	1-11/16	2-7/16
W12x72	1.02	1/2	3/4	15/16	1-5/8	2-1/4
W12x79	1.11	7/16	3/4	7/8	1-1/2	2-1/8
W12x87	1.22	7/16	11/16	13/16	1-3/8	1-15/16
W12x96	1.34	3/8	11/16	3/4	1-1/4	1-3/4
W12x106	1.47	3/8	5/8	11/16	1-3/16	1-5/8
W12x120	1.65	5/16	9/16	11/16	1-1/8	1-1/2
W12x136	1.86	5/16	1/2	11/16	1-1/8	1-1/2
W12x152	2.04	5/16	1/2	11/16	1-1/16	1-7/16
W12x170	2.26	1/4	7/16	5/8	15/16	1-5/16
W12x190	2.5	1/4	5/16	9/16	7/8	1-3/16
W12x210	2.73	1/4	5/16	1/2	13/16	1-1/8
W12x230	2.96	1/4	5/16	1/2	3/4	1-1/16
W12x252	3.2	1/4	5/16	7/16	3/4	1
W12x279	3.5	1/4	5/16	7/16	11/16	7/8
W12x305	3.76	1/4	5/16	3/8	5/8	7/8
W12x336	4.06	1/4	1/4	3/8	9/16	13/16
W14x22	0.476	3/4	1-5/16	1-3/4	2-1/2	3-5/8
W14x26	0.559	11/16	1-3/16	1-5/8	2-1/2	3-3/8
W14x30	0.562	11/16	1-3/16	1-9/16	2-1/2	3-3/8
W14x34	0.633	5/8	1-1/8	1-7/16	2-3/8	3 3/16
W14x38	0.706	5/8	1-1/16	1-3/8	2	2-11/16
W14x43	0.752	9/16	1	1-5/16	2	2-11/16
W14x48	0.835	9/16	15/16	1-3/16	1-15/16	2-11/16
W14x53	0.915	1/2	3/4	1-1/16	1-11/16	2-1/2
W14x61	0.928	1/2	3/4	1-1/16	1-11/16	2-7/16
W14x68	1.04	1/2	3/4	15/16	1-5/8	2-1/4
W14x74	1.12	7/16	3/4	7/8	1-1/2	2-1/16
W14x82	1.23	7/16	11/16	13/16	1-3/8	1-7/8
W14x90	1.08	7/16	3/4	7/8	1-9/16	2-1/8
W14x99	1.18	7/16	3/4	13/16	1-7/16	2
W14x109	1.29	7/16	11/16	3/4	1-5/16	1-13/16
W14x120	1.42	3/8	5/8	3/4	1-3/16	1-11/16
W14x132	1.56	3/8	9/16	11/16	1-1/8	1-9/16
W14x145	1.64	3/8	9/16	11/16	1-1/8	1-1/2
W14x159	1.78	5/16	9/16	11/16	1-1/8	1-1/2
W14x176	1.96	5/16	1/2	11/16	1-1/16	1-1/2
W14x193	2.14	5/16	7/16	5/8	1	1-3/8
W14x211	2.32	1/4	7/16	5/8	15/16	1-5/16
W14x233	2.55	1/4	5/16	9/16	7/8	1-3/16
W14x257	2.78	1/4	5/16	1/2	13/16	1-1/8
W14x283	3.03	1/4	5/16	1/2	3/4	1
W14x311	3.3	1/4	5/16	7/16	11/16	15/16
W14x342	3.58	1/4	5/16	7/16	5/8	7/8
W14x370	3.84	1/4	5/16	3/8	5/8	13/16
W14x398	4.09	1/4	1/4	3/8	9/16	13/16
W14x426	4.32	1/4	1/4	3/8	9/16	3/4
W14x455	4.59	1/4	1/4	5/16	1/2	11/16
W14x500	4.95	1/4	1/4	5/16	1/2	11/16
W14x550	5.34	1/4	1/4	5/16	7/16	5/8
W14x605	5.82	1/4	1/4	1/4	7/16	9/16
W14x665	6.21	1/4	1/4	1/4	3/8	9/16
W14x730	6.76	1/4	1/4	1/4	3/8	1/2
W16x26	0.499	3/4	1-1/4	1-11/16	2-1/2	3-1/2
W16x31	0.592	11/16	1-1/8	1-9/16	2-7/16	3-1/4
W16x36	0.617	11/16	1-1/8	1-1/2	2-3/8	3 3/16
W16x40	0.686	5/8	1-1/16	1-3/8	2-1/4	3-1/16
W16x45	0.767	9/16	1	1-1/4	2	2-11/16
W16x50	0.846	9/16	3/4	1-1/8	1-11/16	2-1/2
W16x57	0.963	1/2	3/4	1	1-11/16	2-3/8
W16x67	0.936	1/2	3/4	1-1/16	1-11/16	2-7/16
W16x77	1.07	7/16	3/4	15/16	1-9/16	2-3/16
W16x89	1.22	7/16	11/16	13/16	1-3/8	1-15/16
W16x100	1.37	3/8	5/8	3/4	1-1/4	1-11/16
W18x35	0.602	11/16	1-1/8	1-1/2	2-7/16	3-1/4
W18x40	0.688	5/8	1-1/16	1-3/8	2	2-11/16
W18x46	0.786	9/16	15/16	1-1/4	2	2-11/16
W18x50	0.778	9/16	1	1-1/4	2	2-11/16
W18x55	0.85	9/16	3/4	1-1/8	1-11/16	2-1/2
W18x60	0.923	1/2	3/4	1-1/16	1-11/16	2-7/16
W18x65	0.997	1/2	3/4	1	1-11/16	2-5/16
W18x71	1.08	7/16	3/4	7/8	1-9/16	2-1/8
W18x76	0.971	1/2	3/4	1	1-11/16	2-3/8
W18x86	1.09	7/16	3/4	7/8	1-9/16	2-1/8
W18x97	1.22	7/16	11/16	13/16	1-3/8	1-15/16
W18x106	1.33	3/8	11/16	3/4	1-1/4	1-3/4
W18x119	1.48	3/8	5/8	11/16	1-3/16	1-5/8
W21x44	0.672	5/8	1-1/16	1-3/8	2-1/4	3-1/16
W21x50	0.754	9/16	1	1-1/4	2	2-11/16
W21x57	0.857	9/16	3/4	1-1/8	1-11/16	2-1/2
W21x62	0.846	9/16	3/4	1-1/8	1-11/16	2-1/2
W21x68	0.926	1/2	3/4	1-1/16	1-11/16	2-7/16
W21x73	0.989	1/2	3/4	1	1-11/16	2-5/16
W21x83	1.12	7/16	3/4	7/8	1-1/2	2-1/16
W21x93	1.24	7/16	11/16	13/16	1-3/8	1-7/8

Col Size	W/D	Min Thk (In.) 1 Hr	1-1/2 Hr	2 Hr	3 Hr	4 Hr
W21x101	1.13	7/16	3/4	7/8	1-1/2	2-1/16
W21x111	1.24	7/16	11/16	13/16	1-3/8	1-7/8
W21x122	1.35	3/8	11/16	3/4	1-1/4	1-3/4
W21x132	1.45	3/8	5/8	11/16	1-3/16	1-5/8
W21x147	1.61	3/8	9/16	11/16	1-1/8	1-1/2
W24x55	0.749	9/16	1	1-5/16	2	2-11/16
W24x62	0.844	9/16	3/4	1-1/8	1-11/16	2-1/2
W24x68	0.837	9/16	15/16	1-3/16	1-15/16	2-11/16
W24x76	0.933	1/2	3/4	1-1/16	1-11/16	2-7/16
W24x84	1.02	1/2	3/4	15/16	1-5/8	2-1/4
W24x94	1.14	7/16	3/4	7/8	1-1/2	2-1/16
W24x104	1.07	7/16	3/4	15/16	1-9/16	2-3/16
W24x117	1.2	7/16	3/4	13/16	1-3/8	1-15/16
W24x131	1.33	3/8	11/16	3/4	1-1/4	1-3/4
W24x146	1.48	3/8	5/8	11/16	1-3/16	1-5/8
W24x162	1.63	3/8	9/16	11/16	1-1/8	1-1/2
W27x84	0.921	1/2	3/4	1-1/16	1-11/16	2-1/2
W27x94	1.03	1/2	3/4	15/16	1-5/8	2-1/4
W27x102	1.11	7/16	3/4	7/8	1-1/2	2-1/8
W27x114	1.23	7/16	11/16	13/16	1-3/8	1-7/8
W27x146	1.35	3/8	11/16	3/4	1-1/4	1-3/4
W27x161	1.48	3/8	5/8	11/16	1-3/16	1-5/8
W27x178	1.63	3/8	9/16	11/16	1-1/8	1-1/2
W30x99	1	1/2	3/4	1	1-11/16	2-5/16
W30x108	1.09	7/16	3/4	7/8	1-9/16	2-1/8
W30x116	1.16	7/16	3/4	13/16	1-7/16	2
W30x124	1.24	7/16	11/16	13/16	1-3/8	1-7/8
W30x132	1.32	3/8	11/16	3/4	1-1/4	1-3/4
W30x173	1.47	3/8	5/8	11/16	1-3/16	1-5/8
W30x191	1.62	3/8	9/16	11/16	1-1/8	1-1/2
W30x211	1.76	5/16	9/16	11/16	1-1/8	1-1/2
W33x118	1.08	7/16	3/4	7/8	1-9/16	2-1/8
W33x130	1.18	7/16	3/4	13/16	1-7/16	2
W33x141	1.28	7/16	11/16	3/4	1-5/16	1-13/16
W33x152	1.37	3/8	5/8	3/4	1-1/4	1-11/16
W33x201	1.58	3/8	9/16	11/16	1-1/8	1-1/2
W33x221	1.73	5/16	9/16	11/16	1-1/8	1-1/2
W33x241	1.87	5/16	1/2	11/16	1-1/8	1-1/2
W36x135	1.15	7/16	3/4	7/8	1-7/16	2
W36x150	1.27	7/16	11/16	3/4	1-5/16	1-7/8
W36x160	1.35	3/8	11/16	3/4	1-1/4	1-3/4
W36x170	1.43	3/8	5/8	3/4	1-3/16	1-5/8
W36x182	1.52	3/8	5/8	11/16	1-1/8	1-9/16
W36x194	1.62	3/8	9/16	11/16	1-1/8	1-1/2
W36x210	1.74	5/16	9/16	11/16	1-1/8	1-1/2
W36x230	1.69	5/16	9/16	11/16	1-1/8	1-1/2
W36x245	1.79	5/16	9/16	11/16	1-1/8	1-1/2
W36x260	1.9	5/16	1/2	11/16	1-1/8	1-1/2
W36x280	2.03	5/16	1/2	11/16	1-1/16	1-7/16
W36x300	2.17	1/4	7/16	5/8	1	1-3/8

The thicknesses contained in the table below are applicable when the Spray-Applied Fire Resistive Materials applied to columns' flange tips are reduced to one-half that shown in the table below:

TABLE 2

Member Min Col Size	W/D	Half Flange Tip Thickness 1 hr	1.5 hr	2 hr	3 hr	4 hr
W4x13	0.556	7/8	1 5/16	1-11/16	2 9/16	3 3/8
W5x16	0.550	7/8	1 5/16	1-11/16	2 9/16	3 3/8
W5x19	0.644	13/16	1 3/16	1 9/16	2 3/8	3 1/8
W6x9	0.338	1-1/8	1 5/8	2 1/16	3 1/8	4 3/16
W6x12	0.448	15/16	1 7/16	1 7/8	2 13/16	3-13/16
W6x15	0.431	1	1 7/16	1-15/16	2 7/8	3-14/16
W6x16	0.584	7/8	1 1/4	1-11/16	2 1/2	3 5/16
W6x20	0.563	7/8	1 1/4	1-11/16	2 1/2	3 3/8
W6x25	0.696	3/4	1 1/8	1 1/2	2 1/4	2 15/16
W8x13	0.421	1	1 7/16	1-15/16	2 7/8	3-14/16
W8x15	0.481	15/16	1 3/8	1-13/16	2 3/4	3 11/16
W8x18	0.499	15/16	1 3/8	1-13/16	2-11/16	3 9/16
W8x21	0.577	7/8	1 1/4	1-11/16	2 1/2	3 5/16
W8x24	0.591	7/8	1 1/4	1-11/16	2 1/2	3 5/16
W8x28	0.688	13/16	1 3/16	1 1/2	2 1/4	2 15/16
W8x31	0.665	13/16	1 3/16	1 9/16	2 5/16	3 1/16
W8x35	0.749	3/4	1 1/8	1 7/16	2 3/16	2 7/8
W8x40	0.849	11/16	1	1 3/8	2	2-11/16
W8x48	1.000	5/8	15/16	1 1/4	1-13/16	2 7/16
W8x58	1.200	9/16	13/16	1 1/8	1 5/8	2 3/16
W8x67	1.370	1/2	3/4	1	1 1/2	2
W10x12	0.347	1-1/16	1 9/16	2 1/16	3 1/8	4 3/16
W10x15	0.429	1	1 7/16	1-15/16	2 7/8	3-14/16
W10x17	0.482	15/16	1 3/8	1-13/16	2 3/4	3 11/16
W10x19	0.538	7/8	1 5/16	1 3/4	2 9/16	3 7/16
W10x22	0.523	7/8	1 5/16	1 3/4	2 5/8	3 1/2
W10x26	0.612	13/16	1 1/4	1 5/8	2 7/16	3 1/4
W10x30	0.699	3/4	1 1/8	1 1/2	2 1/4	2 15/16
W10x33	0.661	13/16	1 3/16	1 9/16	2 5/16	3 1/8
W10x39	0.780	3/4	1 1/16	1 7/16	2 1/8	2 13/16
W10x45	0.888	11/16	1	1 5/16	2	2 5/8

Member Min Col Size	W/D	Half Flange Tip Thickness 1 hr	1.5 hr	2 hr	3 hr	4 hr
W10x49	0.840	11/16	1 1/16	1 3/8	2 1/16	2-11/16
W10x54	0.922	11/16	1	1 5/16	1-15/16	2 9/16
W10x60	1.010	5/8	15/16	1 1/4	1-13/16	2 7/16
W10x68	1.150	9/16	7/8	1 1/8	1-11/16	2 1/4
W10x77	1.280	9/16	13/16	1 1/16	1 9/16	2 1/16
W10x88	1.450	1/2	3/4	1	1 7/16	1-15/16
W10x100	1.640	7/16	11/16	7/8	1 5/16	1 3/4
W10x112	1.810	7/16	5/8	13/16	1 1/4	1 5/8
W12x14	0.363	1-1/16	1 9/16	2 1/16	3 1/16	4 1/8
W12x16	0.410	1	1 1/2	1-15/16	2 15/16	3-15/16
W12x19	0.485	15/16	1 3/8	1-13/16	2-11/16	3 5/8
W12x22	0.560	7/8	1 5/16	1-11/16	2 9/16	3 3/8
W12x26	0.531	7/8	1 5/16	1 3/4	2 5/8	3 7/16
W12x30	0.607	13/16	1 1/4	1 5/8	2 7/16	3 1/4
W12x35	0.703	3/4	1 1/8	1 1/2	2 1/4	2 15/16
W12x40	0.734	3/4	1 1/8	1 1/2	2 3/16	2 15/16
W12x45	0.829	11/16	1 1/16	1 3/8	2 1/16	2 3/4
W12x50	0.909	11/16	1	1 5/16	1-15/16	2 9/16
W12x53	0.855	11/16	1	1 3/8	2	2-11/16
W12x58	0.925	11/16	1	1 5/16	1-15/16	2 9/16
W12x65	0.925	11/16	1	1 5/16	1-15/16	2 9/16
W12x72	1.020	5/8	15/16	1 1/4	1-13/16	2 7/16
W12x79	1.110	5/8	7/8	1 3/16	1 3/4	2 5/16
W12x87	1.220	9/16	13/16	1 1/16	1 5/8	2 1/8
W12x96	1.340	1/2	3/4	1	1 1/2	2
W12x106	1.470	1/2	3/4	15/16	1 7/16	1 7/8
W12x120	1.650	7/16	11/16	7/8	1 5/16	1 3/4
W12x136	1.860	7/16	5/8	13/16	1 3/16	1 9/16
W12x152	2.040	3/8	9/16	3/4	1 1/8	1 1/2
W12x170	2.260	3/8	9/16	11/16	1 1/16	1 3/8
W12x190	2.500	5/16	1/2	5/8	15/16	1 1/4
W12x210	2.730	5/16	7/16	5/8	7/8	1 3/16
W12x230	2.960	5/16	7/16	9/16	13/16	1 1/8
W12x252	3.200	5/16	7/16	9/16	13/16	1 1/16
W12x279	3.500	1/4	3/8	1/2	3/4	15/16
W12x305	3.760	1/4	3/8	1/2	11/16	15/16
W12x336	4.060	1/4	5/16	7/16	5/8	7/8
W14x22	0.476	15/16	1 3/8	1-13/16	2 3/4	3 11/16
W14x26	0.559	7/8	1 5/16	1-11/16	2 9/16	3 3/8
W14x30	0.562	7/8	1 1/4	1-11/16	2 1/2	3 3/8
W14x34	0.633	13/16	1 3/16	1 5/8	2 3/8	3 3/16
W14x38	0.706	3/4	1 1/8	1 1/2	2 1/4	2 15/16
W14x43	0.752	3/4	1 1/8	1 7/16	2 3/16	2 7/8
W14x48	0.835	11/16	1 1/16	1 3/8	2 1/16	2 3/4
W14x53	0.915	11/16	1	1 5/16	1-15/16	2 9/16
W14x61	0.928	11/16	1	1 5/16	1-15/16	2 9/16
W14x68	1.040	5/8	15/16	1 3/16	1-13/16	2 3/8
W14x74	1.120	9/16	7/8	1 1/8	1-11/16	2 1/4
W14x82	1.230	9/16	13/16	1 1/16	1 5/8	2 1/8
W14x90	1.080	5/8	7/8	1 3/16	1 3/4	2 5/16
W14x99	1.180	9/16	13/16	1 1/8	1 5/8	2 3/16
W14x109	1.290	9/16	13/16	1 1/16	1 9/16	2 1/16
W14x120	1.420	1/2	3/4	1	1 7/16	1-15/16
W14x132	1.560	1/2	11/16	15/16	1 3/8	1-13/16
W14x145	1.640	7/16	11/16	7/8	1 5/16	1 3/4
W14x159	1.780	7/16	5/8	13/16	1 1/4	1 5/8
W14x176	1.960	3/8	9/16	3/4	1 1/8	1 1/2
W14x193	2.140	3/8	9/16	3/4	1 1/16	1 7/16
W14x211	2.320	3/8	1/2	11/16	1	1 3/8
W14x233	2.550	5/16	1/2	5/8	15/16	1 1/4
W14x257	2.780	5/16	7/16	5/8	7/8	1 3/16
W14x283	3.030	5/16	7/16	9/16	13/16	1 1/16
W14x311	3.300	1/4	3/8	1/2	3/4	1
W14x342	3.580	1/4	3/8	1/2	11/16	15/16
W14x370	3.840	1/4	3/8	7/16	11/16	7/8
W14x398	4.090	1/4	5/16	7/16	5/8	7/8
W14x426	4.320	1/4	5/16	7/16	5/8	13/16
W14x455	4.590	1/4	5/16	3/8	9/16	3/4
W14x500	4.950	1/4	5/16	3/8	9/16	3/4
W14x550	5.340	1/4	1/4	3/8	1/2	11/16
W14x605	5.820	1/4	1/4	5/16	1/2	5/8
W14x665	6.210	1/4	1/4	5/16	7/16	9/16
W14x730	6.760	1/4	1/4	5/16	7/16	9/16
W16x26	0.499	15/16	1 3/8	1-13/16	2-11/16	3 9/16
W16x31	0.592	13/16	1 1/4	1 5/8	2 7/16	3 1/4
W16x36	0.617	13/16	1 1/4	1 5/8	2 7/16	3 3/16
W16x40	0.686	13/16	1 3/16	1 9/16	2 5/16	3 1/16
W16x45	0.767	3/4	1 1/16	1 7/16	2 1/8	2 7/8
W16x50	0.846	11/16	1 1/16	1 3/8	2 1/16	2-11/16
W16x57	0.963	5/8	15/16	1 1/4	1 7/8	2 1/2
W16x67	0.936	11/16	1	1 5/16	1-15/16	2 9/16
W16x77	1.070	5/8	7/8	1 3/16	1 3/4	2 5/16
W16x89	1.220	9/16	13/16	1 1/16	1 5/8	2 1/8
W16x100	1.370	1/2	3/4	1	1 1/2	2
W18x35	0.602	13/16	1 1/4	1 5/8	2 7/16	3 1/4
W18x40	0.688	13/16	1 3/16	1 1/2	2 1/4	2 15/16
W18x46	0.786	3/4	1 1/16	1 7/16	2 1/8	2 13/16
W18x50	0.778	3/4	1 1/16	1 7/16	2 1/8	2 13/16

Member Min Col Size	W/D	Half Flange Tip Thickness 1 hr	1.5 hr	2 hr	3 hr	4 hr
W18x55	0.850	11/16	1	1 3/8	2	2-11/16
W18x60	0.923	11/16	1	1 5/16	1-15/16	2 9/16
W18x65	0.997	5/8	15/16	1 1/4	1-13/16	2 7/16
W18x71	1.080	5/8	7/8	1 3/16	1 3/4	2 5/16
W18x76	0.971	5/8	15/16	1 1/4	1 7/8	2 1/2
W18x86	1.090	5/8	7/8	1 3/16	1 3/4	2 5/16
W18x97	1.220	9/16	13/16	1 1/16	1 5/8	2 1/8
W18x106	1.330	1/2	3/4	1	1 1/2	2
W18x119	1.480	1/2	3/4	15/16	1 7/16	1 7/8
W21x44	0.672	13/16	1 3/16	1 9/16	2 5/16	3 1/16
W21x50	0.754	3/4	1 1/8	1 7/16	2 3/16	2 7/8
W21x57	0.857	11/16	1	1 3/8	2	2-11/16
W21x62	0.846	11/16	1 1/16	1 3/8	2 1/16	2-11/16
W21x68	0.926	11/16	1	1 5/16	1-15/16	2 9/16
W21x73	0.989	5/8	15/16	1 1/4	1 7/8	2 7/16
W21x83	1.120	9/16	7/8	1 1/8	1-11/16	2 1/4
W21x93	1.240	9/16	13/16	1 1/16	1 5/8	2 1/8
W21x101	1.130	9/16	7/8	1 1/8	1-11/16	2 1/4
W21x111	1.240	9/16	13/16	1 1/16	1 5/8	2 1/8
W21x122	1.350	1/2	3/4	1	1 1/2	2
W21x132	1.450	1/2	3/4	1	1 7/16	1-15/16
W21x147	1.610	7/16	11/16	7/8	1 5/16	1 3/4
W24x55	0.749	3/4	1 1/8	1 7/16	2 3/16	2 7/8
W24x62	0.844	11/16	1 1/16	1 3/8	2 1/16	2-11/16
W24x68	0.837	11/16	1 1/16	1 3/8	2 1/16	2-11/16
W24x76	0.933	11/16	1	1 5/16	1-15/16	2 9/16
W24x84	1.020	5/8	15/16	1 1/4	1-13/16	2 7/16
W24x94	1.140	9/16	7/8	1 1/8	1-11/16	2 1/4
W24x104	1.070	5/8	7/8	1 3/16	1 3/4	2 5/16
W24x117	1.200	9/16	13/16	1 1/8	1 5/8	2 3/16
W24x131	1.330	1/2	3/4	1	1 1/2	2
W24x146	1.480	1/2	3/4	15/16	1 7/16	1 7/8
W24x162	1.630	7/16	11/16	7/8	1 5/16	1 3/4
W27x84	0.921	11/16	1	1 5/16	1-15/16	2 9/16
W27x94	1.030	5/8	15/16	1 3/16	1-13/16	2 3/8
W27x102	1.110	5/8	7/8	1 3/16	1 3/4	2 5/16
W27x114	1.230	9/16	13/16	1 1/16	1 5/8	2 1/8
W27x146	1.350	1/2	3/4	1	1 1/2	2
W27x161	1.480	1/2	3/4	15/16	1 7/16	1 7/8
W27x178	1.630	7/16	11/16	7/8	1 5/16	1 3/4
W30x99	1.000	5/8	15/16	1 1/4	1-13/16	2 7/16
W30x108	1.090	5/8	7/8	1 3/16	1 3/4	2 5/16
W30x116	1.160	9/16	7/8	1 1/8	1-11/16	2 1/4
W30x124	1.240	9/16	13/16	1 1/16	1 5/8	2 1/8
W30x132	1.320	9/16	13/16	1 1/16	1 9/16	2 1/16
W30x173	1.470	1/2	3/4	15/16	1 7/16	1 7/8
W30x191	1.620	7/16	11/16	7/8	1 5/16	1 3/4
W30x211	1.760	7/16	5/8	7/8	1 1/4	1-11/16
W33x118	1.080	5/8	7/8	1 3/16	1 3/4	2 5/16
W33x130	1.180	9/16	13/16	1 1/8	1 5/8	2 3/16
W33x141	1.280	9/16	13/16	1 1/16	1 9/16	2 1/16
W33x152	1.370	1/2	3/4	1	1 1/2	2
W33x201	1.580	1/2	11/16	15/16	1 3/8	1-13/16
W33x221	1.730	7/16	5/8	7/8	1 1/4	1-11/16
W33x241	1.870	7/16	5/8	13/16	1 3/16	1 9/16
W36x135	1.150	9/16	7/8	1 1/8	1-11/16	2 1/4
W36x150	1.270	9/16	13/16	1 1/16	1 9/16	2 1/16
W36x160	1.350	1/2	3/4	1	1 1/2	2
W36x170	1.430	1/2	3/4	1	1 7/16	1-15/16
W36x182	1.520	1/2	11/16	15/16	1 3/8	1 7/8
W36x194	1.620	7/16	11/16	7/8	1 5/16	1 3/4
W36x210	1.740	7/16	5/8	7/8	1 1/4	1-11/16
W36x230	1.690	7/16	11/16	7/8	1 5/16	1-11/16
W36x245	1.790	7/16	5/8	13/16	1 1/4	1 5/8
W36x260	1.900	7/16	5/8	13/16	1 3/16	1 9/16
W36x280	2.030	3/8	9/16	3/4	1 1/8	1 1/2
W36x300	2.170	3/8	9/16	3/4	1 1/16	1 7/16

ARABIAN VERMICULITE INDUSTRIES —Types MK-6/HY, MK-6/HY Extended Set, MK-6/GF, MK-10 HB, MK-10 HB Extended Set, MK-6/HB, MK-6s, Z-106, Z-106/G, Z-106/HY.
GRACE KOREA INC —Types MK-6/HY, MK-6/HY Extended Set, MK-6/GF, MK-10 HB, MK-10 HB Extended Set, MK-6/HB, MK-6s, Z-106, Z-106/G, Z-106/HY.
W R GRACE & CO - CONN —Types MK-6/HY, MK-6/HY Extended Set, MK-6/GF, MK-10 HB, MK-10 HB Extended Set, MK-6/HB, MK-6s, RG, Z-106, Z-106/G, Z-106/HY, MK-1000/HB, MK-1000/HB Extended Set, Z-146, Z-146PC, Z-146T, Z-156, Z-156T and Z-156PC (Types Z-146, Z-146PC, Z-146T, Z-156, Z-156PC, Z-156T also investigated for exterior use).

2. **Metal Lath** — (Optional for contour application) — 3.4 lb/sq yd galvanized or painted expanded steel lath. Lath shall be lapped 1 in. and tied together with No. 18 SWG galvanized steel; wire spaced vertically 6 in. O.C.
3. **Steel Column** — Wide flange steel columns (36 ksi yield), min/max sizes as specified above.

*Bearing the UL Classification Mark

FFKR ARCHITECTS
730 Pacific Avenue · Salt Lake City, Utah 84104
O 801.521.6186 · FFKR.COM

ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
LICENSED ARCHITECT
09.16.2022

△ DATE REVISION

U of U PROJECT NUMBER

RATED ASSEMBLIES UL LISTINGS COLUMNS

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ONLINE CERTIFICATIONS DIRECTORY

System No. HW-D-0596
XHBN.HW-D-0596
Joint Systems

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Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

XHBN - Joint Systems

XHBN7 - Joint Systems Certified for Canada

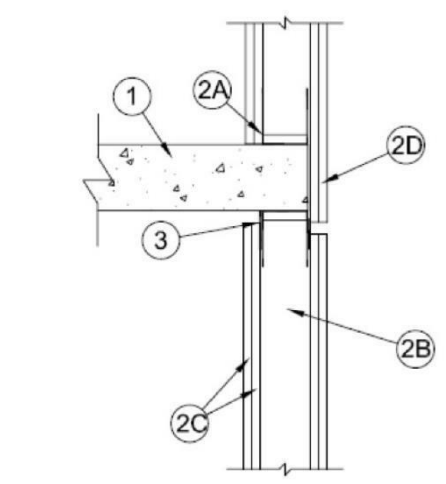
See General Information for Joint Systems

See General Information for Joint Systems Certified for Canada

System No. HW-D-0596

March 18, 2013

ANSI/UL2079	CAN/ULC S115
Assembly Ratings — 1 and 2 Hr (See Item 2)	F Ratings — 1 and 2 Hr (See Item 2)
Nominal Joint Width — 1/2, 3/4 or 1 In. (See Item 3)	FT Ratings — 1 and 2 Hr (See Item 2)
Class II or III Movement Capabilities — 100% Compression or Extension	FH Ratings — 1 and 2 Hr (See Item 2)
L Rating at Ambient — Less than 1 CFM/Lin Ft	FTH Ratings — 1 and 2 Hr (See Item 2)
L Rating at 400°F — Less than 1 CFM/Lin Ft	Nominal Joint Width — 1/2, 3/4 or 1 In. (see Item 3)
	Class II or III Movement Capabilities — 100% Compression or Extension
	L Rating at Ambient — Less than 1 CFM/Lin Ft
	L Rating at 400°F — Less than 1 CFM/Lin Ft



1. **Floor Assembly —** Min 4-1/2 in. (114 mm) thick steel reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) structural concrete. Floor may also be constructed of any min 6 in. (152 mm) thick UL Classified hollow-core **Precast Concrete Units***.

See **Precast Concrete Units** (CFTV) category in the Fire Resistance Directory for names manufacturers.

The hourly fire rating of the floor assembly shall be equal or greater than the hourly fire rating of the wall assembly

2. **Wall Assembly —** The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 or V400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Steel Floor Runners —** Floor runners of wall assembly shall consist of min No. 25 gauge galv steel channels sized to accommodate steel studs (Item 2B). Floor runner to be provided with min 1-1/4 in. (32 mm) legs. Legs are to be min 1/4 in. (6 mm) longer than the maximum joint width. Ceiling runners to be as described in Item 3.

A.1. **Light Gauge Framing* — Slotted Ceiling Track —** (Not Shown) - As an alternate to the Item 2A, a ceiling track consisting of galv steel channel with slotted flanges may be used when Item 3A.1 fill material is utilized. Slotted ceiling track sized to accommodate steel studs (Item 2B). Attached to concrete deck and spaced max 24 in. (610 mm) OC. Legs are to be min 1/4 in. (6 mm) longer than the maximum joint width.

BRADY CONSTRUCTION INNOVATIONS INC, DBA SLIPTRACK SYSTEMS — SLP-TRK

CALIFORNIA EXPANDED METAL PRODUCTS CO — CST, CST 325

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Type SLT

B. **Studs —** Steel studs to be min 3 5/8 in. (92 mm) wide. Studs cut 1/2 to 3/4 in (13 to 19 mm) less in length than assembly height with bottom nesting in and secured to floor runner. Studs to nest in ceiling runner without attachment.

C. **Gypsum Board* —** Gypsum board sheets installed to a min total 5/8in. (16 mm) or 1-1/4 in. (32 mm) thickness on each side of wall for 1 and 2 hr fire rated assemblies, respectively. Wall to be constructed as specified in the individual U400 or V400 Series Design in the UL Fire Resistance Directory except that a max 1/2 in. (13 mm) gap shall be maintained between the top of the gypsum board and the bottom of the floor assembly. The screws attaching the gypsum board to the studs along the top of the wall shall be located 1 in. (25mm) below the bottom of the ceiling runner legs. No gypsum board attachment screws shall be driven into the ceiling runner.

D. **Gypsum Board* —** Gypsum board sheets installed to a min total 5/8 in. (16 mm) or 1 -1/4 in. (32 mm) thickness on each side of wall for 1 and 2 hr fire rated assemblies, respectively. Wall to be constructed as specified in the individual U400 or V400 Series Design in the UL Fire Resistance Directory except shaft side gypsum board to extend a max of 1/2 in. (13 mm) below the upper floor line overlapping the ceiling runner (Item 3) a min of 1/2 in. (13 mm) so that gypsum board is in contact with intumescent strip and attached with typical steel fasteners to the ceiling runner (Item 3) of the lower level.

The hourly fire rating of the joint system is equal to the hourly fire rating of the wall.

3. **Joint System —** Max separation between bottom of floor and top of wall sheathing (non-shaft side) and gypsum board panels (shaft side) at time of installation is 1/2 in. (13 mm). The joint system is designed to accommodate a max 100 percent compression or extension from its installed width. When Item 3A.1 is used the max nominal width is 1 in. (25 mm). When item 2A.1 is used max nominal width is 3/4 in. (19 mm).

A. **Fill, Void or Cavity Material* —** Nom 20 gauge "U"-shaped track having 3-1/4 in (83 mm) legs, with a nom 1-1/4 in. (32 mm) wide intumescent strip affixed to the top of one leg (room side) and a nom 1-1/4 in. (32 mm) strip located 1in. (25 mm) up from the bottom of the opposing leg (shaft side). Gypsum board to overlap a min of 5/8 in. (16mm) over the lower edge of the intumescent strip.

CALIFORNIA EXPANDED METAL PRODUCTS CO — FAS Track BP

A.1. **Fill, Void or Cavity Material* —** (Not Shown) as an alternate 3A a min. 25 ga composite steel angle with one 5/8 in. (16 mm) leg and one 2-1/2 in (64 mm) leg with a 5/8 in. (16 mm) strip of intumescent strip affixed along the inside 2-1/2 in (64 mm) leg. Steel angle is friction fit between the top web of the ceiling runner Item 2A and the concrete deck.

CALIFORNIA EXPANDED METAL PRODUCTS CO — DDA (Deflection Drift Angle)

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2013-03-18

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ONLINE CERTIFICATIONS DIRECTORY

System No. HW-D-0001
XHBN.HW-D-0001
Joint Systems

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- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
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XHBN - Joint Systems

XHBN7 - Joint Systems Certified for Canada

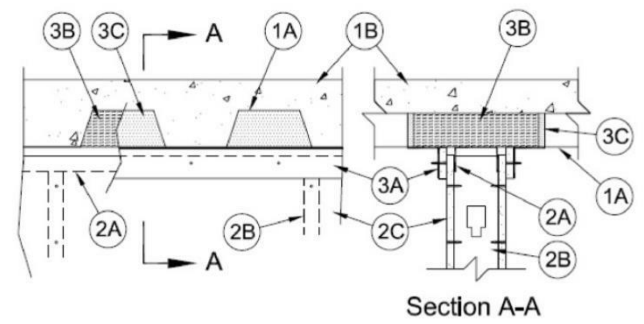
See General Information for Joint Systems

See General Information for Joint Systems Certified for Canada

System No. HW-D-0001

October 27, 2015

ANSI/UL2079	CAN/ULC S115
Assembly Rating — 1 Hr	F Rating — 1 Hr
Nominal Joint Width - 5/8, 1, 2 or 3 in. (See Item 3A)	FT Rating —1 Hr
Class II or III Movement Capabilities — 80% Compression or Extension	FH Rating — 1 Hr
L Rating At Ambient — Less Than 1 CFM/lin ft	FTH Rating — 1 Hr
L Rating At 400 F — Less Than 1 CFM/lin ft	Nominal Joint Width - 16, 25, 51 or 76 mm (See Item 3A)
	Class II or III Movement Capabilities — 80% Compression or Extension
	L Rating At Ambient — Less Than 1.55 L/s/lin m
	L Rating At 400 F — Less Than 1.55 L/s/lin m



1. **Floor Assembly —** The fire-rated fluted steel deck/concrete floor assembly shall be constructed of the materials and in the manner described in the individual Floor-Ceiling Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Steel Floor and Form Units* —** Max 3 in. (76 mm) deep galv steel fluted floor units.

B. **Concrete —** Min 2 1/2 in. (64 mm) thick reinforced concrete, as measured from the top plane of the floor units.

1A. **Roof Assembly —** As an alternate to Item 1 Floor Assembly, the fire-rated roof assembly shall be constructed of the materials and in the manner described in the individual P700, P800 or P900 series Roof-Ceiling Designs in the UL Fire Resistance Directory and shall contain max 1-1/2 in. (38 mm) deep fluted galv steel deck. The hourly fire rating of the roof assembly shall be equal to or greater than the hourly fire rating of the wall assembly. In the case of spray-applied protection materials on the steel deck, the joint system shall be installed prior to the spray-applied protection material.

1B. **Floor Assembly —** As an alternate to Item 1 Floor Assembly, min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) structural concrete.

2. **Wall Assembly —** The 1 hr fire-rated nonbearing gypsum board/steel stud wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Steel Floor And Ceiling Runners —** Floor and ceiling runners of wall assembly shall consist of min 25 ga galv steel channels for nom 5/8 in. (16 mm) joints. Ceiling runner to be min 20 ga steel channels for joints greater than 5/8 in. Ceiling runner to be sized to accommodate steel studs (Item 2B) and properly sized according to structural requirements. (See table under Item 3A for minimum flange lengths). Ceiling runner installed perpendicular to direction of fluted steel deck and secured to valleys with steel masonry anchors or by welds spaced max 12 in. (305 mm) OC. Ceiling runner secured to concrete floor slab (Item 1B) with steel masonry anchors spaced max 24 in. (610 mm) OC.

A1. **Light Gauge Framing* - Notched Ceiling Runner —** As an alternate to the ceiling runners in Items 2A and 2A1, notched ceiling runners to consist of C-shaped galv steel channel with notched return flanges sized to accommodate steel studs (Item 2B). Notched ceiling runner installed perpendicular to direction of fluted steel deck and secured with steel masonry anchors spaced max 12 in. (305 mm) OC. Notched ceiling runner secured to concrete floor slab (Item 1B) with steel masonry anchors spaced max 24 in. (610 mm) OC. Notched ceiling runner suitable for 5/8 in. (16 mm) or 1 in. (25 mm) wide joints only.

OLMAR SUPPLY INC — Type SCR

B. **Studs —** Steel studs to be min 2 1/2 in. (64 mm) wide. Studs cut 5/8 to 1 in. (16 to 25 mm) less in length than assembly height for nom 5/8 in. (16 mm) joints, 1 to 1-1/4 in. (25 to 32 mm) for nom 1 in. (25 mm) joints, 2 to 2-1/4 in. (51 to 57 mm) for nom 2 in. (51 mm) joints and 3 to 3-1/4 in. (76 to 83 mm) for nom 3 in. (76 mm) joints. Studs to have bottom nesting in and resting on floor runner and with top nesting in ceiling runner without attachment. Stud spacing not to exceed 24 in. (610 mm) OC.

C. **Gypsum Board* —** Gypsum board sheets installed to a min total thickness of 1/2 in. (13 mm) on each side of wall. Wall to be constructed as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory except that a nom 5/8 in. (16 mm), 1 in. (25 mm), 2 in. (51 mm) or 3 in. (76 mm) gap shall be maintained between the top of the gypsum board and the bottom of the steel deck. The screws attaching gypsum board to studs (Item 2B) at the top of the wall shall be located 1 in. (25 mm), 1-1/4 in. (32 mm), 2-1/4 in. (57 mm) or 3-1/4 in (83 mm) below the bottom of the ceiling runner (Item 2A) for nom 5/8 in. (16 mm), 1 in. (25 mm), 2 in. (51 mm) and 3 in. (76 mm) joints, respectively.

3. **Joint System — The joint system is designed to accommodate a max 80 percent compression or extension from its installed width.** The joint system consists of a forming material and fill material in the flutes of the steel deck and a "slip track" detail consisting of restraining angles in combination with gypsum board on the vertical flanges. When the floor assembly consists of a flat concrete slab (Item 1B), the forming material (Item 3B) and fill material (3C) are not used. The components of the system are as follows:

A. **Restraining Angles —** Angles formed from min 25 ga galv. Piece of gypsum board cut from the same gypsum board used for the wall (Item 2C). See table below for min angle and gypsum board strip length. Gypsum board liner secured to steel angle with min 1 in. (25 mm) long self-drilling, self-tapping Type S bugle head steel screws spaced max 8 in. (203 mm) OC. along longitudinal centerline of steel angle. Screws installed through face of gypsum board such that excess screw length protrudes through leg of steel angle. Restraining angles installed along top of wall on each side of wall assembly with gypsum board liner against wall surface and with horizontal leg of steel angle against valleys of steel deck or bottom of floor slab. Restraining angles secured to valleys of steel deck or to concrete floor slab with steel masonry anchors spaced max 12 in. (305 mm) OC.

Nominal Joint Width, in. (mm)	Minimum Angle and Gypsum Board Strip Length, in. (mm)	Minimum Runner Leg Length, in. (mm)
5/8 (16)	2 (51)	2-1/2 (64)
1 (25)	3 (76)	3-1/2 (89)
2 (50)	4-1/2 (114)	5 (127)
3 (76)	6-1/2 (165)	7 (178)

B. **Forming Material* —** Min 4 pcf (64 kg/m^3) density mineral wool batt insulation firmly packed into flutes of steel deck across top of wall as a permanent form. Forming material to be recessed from edges of restraining angles on each side of wall to accommodate the required thickness of fill material.

THERMAFIBER INC — Type SAF

B1. **Forming Material* —** (Optional, Not Shown) - Preformed mineral wool plugs, formed to the shape of the fluted floor units, friction fit to completely fill the flutes above the ceiling channel. The plugs shall project beyond each side of the ceiling runner and shall be recessed from both wall surfaces to accommodate the required thickness of fill material (Item 3C). Additional forming material, described in Item 3B, to be used in conjunction with the plugs to fill the gap between the top of gypsum board and bottom of steel deck.

THERMAFIBER INC — TopStop mineral wool deck plugs Type SAF batts

C. **Fill, Void or Cavity Material* —** Min 1/2 in. (13 mm) thickness of fill material applied within the recess of each steel deck flute, flush with the outside edge of the restraining angle on each side of the wall. Dry mix material mixed with water at a rate of 2.1 parts dry mix to 1 part water, by weight, in accordance with accompanying instructions.

UNITED STATES GYPSUM CO — Type FC

C1. **Fill, Void or Cavity Material* —** As an alternate to Item 3C, min 1/2 in. (13 mm) thickness of two component fill material applied within the recess of each steel deck flute, flush with the outside edge of the restraining angle on each side of the wall. Ready-mixed component mixed with accelerator component at a rate of 66 parts of ready-mixed component to 1 part of accelerator component by weight in accordance with the accompanying installation instructions.

UNITED STATES GYPSUM CO — Type RFC

C2. **Fill, Void or Cavity Material* —** As an alternate to Item 3C, min 1/8 in. (3 mm) wet thickness of fill material sprayed or brushed on each side of the wall to completely cover mineral wool forming material (Item 3B) and to overlap a min of 1/2 in. (13 mm) onto restraining angle and steel deck.

UNITED STATES GYPSUM CO — Type SA

C3. **Fill, Void or Cavity Material* —** As an alternate to Item 3C, min 1/4 in. (6 mm) wet thickness of fill material sprayed on each side of the wall to completely cover the mineral wool forming material and to lap min 1/2 in. (13 mm) onto restraining angle and steel deck.

UNITED STATES GYPSUM CO — Type AS

ONLINE CERTIFICATIONS DIRECTORY

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Joint Systems

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XHBN - Joint Systems

XHBN7 - Joint Systems Certified for Canada

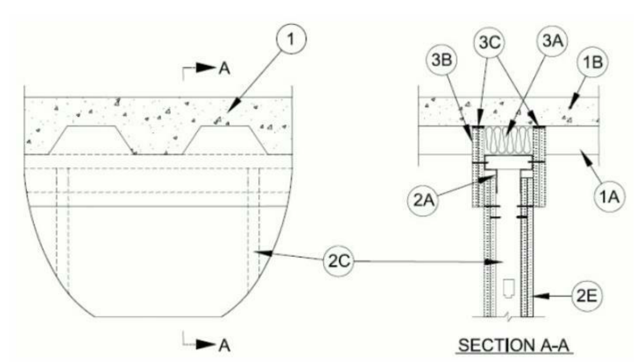
See General Information for Joint Systems

See General Information for Joint Systems Certified for Canada

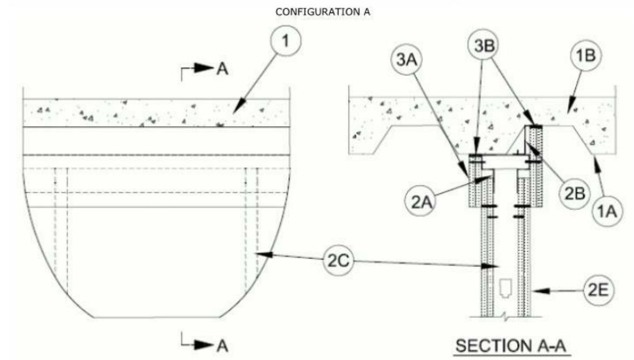
System No. HW-D-0060

June 03, 2016

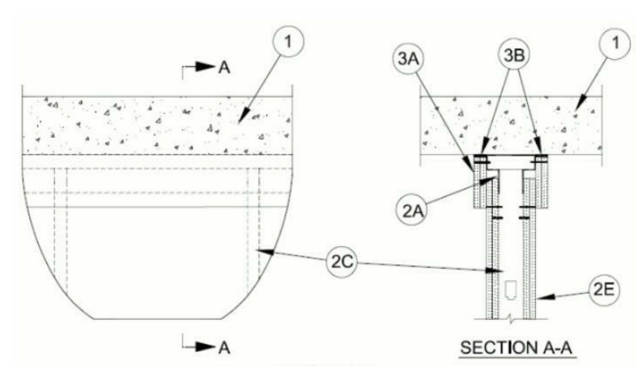
ANSI/UL2079	CAN/ULC S115
Assembly Ratings — 1, 2 and 3 Hr (See Item 2)	F Ratings — 1, 2 and 3 Hr (See Item 2)
Nominal Joint Width - 1 or 2 In. (See Item 3)	FT Ratings — 1, 2 and 3 Hr (See Item 2)
Class II or III Movement Capabilities — 100% Compression or Extension or 100% Compression (See Item 3)	FH Ratings — 1, 2 and 3 Hr (See Item 2)
L Rating At Ambient — Less Than 1 CFM/lin ft	FTH Ratings — 1, 2 and 3 Hr (See Item 2)
L Rating At 400 F — Less Than 1 CFM/lin ft	Nominal Joint Width - 25 or 51 mm (See Item 3)
	Class II or III Movement Capabilities — 100% Compression or Extension or 100% Compression (See Item 3)
	L Rating At Ambient — Less Than 5.1 L/s/m^3
	L Rating At 400 F — Less Than 5.1 L/s/m^3



CONFIGURATION A



CONFIGURATION B



CONFIGURATION C

1. **Floor Assembly —** The fire-rated fluted steel deck/concrete floor assembly shall be constructed of the materials and in the manner described in the individual Floor-Ceiling Design in the UL Fire Resistance Directory. The hourly fire rating of the floor assembly shall be equal to or greater than the hourly fire rating of the wall assembly. The floor assembly shall include the following construction features:

A. **Steel Floor and Form Units* —** Max 3 in. (76 mm) deep galv fluted floor units.

B. **Concrete —** Min 2-1/2 in. (64 mm) thick reinforced (100-150 pcf or 1600-2400 kg/m^3) concrete, as measured from the top plane of the floor units.

1A. **Roof Assembly —** As an alternate to Item 1, the fire-rated roof assembly shall be constructed of the materials and in the manner described in the individual P700, P800 or P900 series Roof-Ceiling Designs in the UL Fire Resistance Directory and shall contain max 3 in. (76 mm) deep galv steel fluted roof units. The hourly fire rating of the roof assembly shall be equal to or greater than the hourly fire rating of the wall assembly. In the case of spray-applied fire resistive materials on the steel roof units, the joint system shall be installed prior to the spray-applied protection material.

1B. **Floor Assembly —** As an alternate to Item 1, min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) structural concrete or any min 6 in. (152 mm) thick UL Classified hollow-core **Precast Concrete Units***.

See **Precast Concrete Units** (CFTV) category in the Fire Resistance Directory for names of manufactures.

2. **Wall Assembly —** The 1, 2 or 3 hr fire-rated gypsum board /steel stud wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W400-Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Light Gauge Framing* - Deflection Trak —** Deflection trak of wall assembly shall consist of min No. 25 gauge galv steel channels sized to accommodate steel studs (Item 2C) and with offset legs to accommodate wall cladding (Item 3A). Deflection trak installed parallel or perpendicular to the floor units. When installed perpendicular (Configuration A), min No. 25 gauge deflection trak secured on both sides to valley of floor units with 1-1/2 in. (38 mm) long welds spaced max 12 in. (305 mm) OC. Min No. 20 gauge deflection trak may be secured with steel fasteners spaced 12 in. (305 mm) OC. When installed parallel (Configuration B), min No. 25 gauge deflection trak secured on one side to valley of floor units with 1-1/2 in. (38 mm) long welds spaced 12 in. (305 mm) OC. Min No. 20 gauge deflection trak may be secured with steel fasteners spaced max 12 in. (305 mm) OC. The other side of the deflection trak is secured to Z-Furring clips (Item 2B) with two No. 8 by 1/2 in. (13 mm) long tec screws. On concrete floor (Configuration C), min No. 20 gauge deflection trak attached to concrete at ceiling with steel fasteners spaced max 12 in. (305 mm) OC.

FIRE TRAK CORP — Shadowline

A1. **Steel Framing Members* — Sound Isolation Clips —** (Not Shown) — When wall is installed perpendicular to the floor or roof units, the sound isolation clips can be used as an alternate attachment means for the ceiling trak (Item 2A) to the bottom of the floor or roof assembly. Sound isolation clips to be installed in accordance with the accompanying installation instructions and as described herein. Sound isolation clip installed through nom 1 in. (25 mm) diam hole in ceiling trak and attached to top of ceiling trak using four min No. 8 by 1/2 in. (13 mm) long self-tapping galv steel screws. Sound isolation clips to be installed adjacent to every stud location but not more than 24 in. (610 mm) OC and attached to the underside of floor or roof assembly using min 3/16 in. (5 mm) diam by 2 1/2 in. (64 mm) long steel masonry anchors.

PAC INTERNATIONAL L L C — Type RSIC-U-HD

B. **Z-Furring — (Parallel Units) —** When trak is installed parallel to floor units, Z-Furring clips are attached to the bottom of the floor units within the crests with two steel fasteners . Clip spacing not to exceed 24 in. (610 mm) OC.

C. **Studs —** Steel studs to be min 2-1/2 in. (64 mm) wide and as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory. Studs cut 1-1/2 in. (38 mm) less in length than the assembly height with bottom nesting in and resting on floor runner and with top nesting in ceiling runner without attachment. Stud spacing not to exceed 24 in. (610 mm) OC.

D. **Framing Members* —** (Not Shown — Optional) — When specified in the individual U400, V400 or W400 Series Wall and Partition Design, the gypsum board on one side of the wall may be secured with furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b.

b. **Steel Framing Members* —** Used to attach furring channels (Item C1a) to studs. Clips spaced max 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clips for use with 2-23/32 in. wide furring channels.

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75)

E. **Gypsum Board* —** Gypsum board sheets installed and attached to studs and runners as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory, except that a nominal 1 in. (25 mm) gap shall be maintained between top of the gypsum board and the bottom flange of the deflection trak. Top row of screws shall be installed into the studs, or furring channels (Item 2D), 3 in. (76 mm) below the top edge of the gypsum board sheets.

The hourly assembly rating of the joint system is equal to the fire rating of the wall.

Firestop Configuration A

3. **Joint System — Max separation between the top of the bottom flange of the deflection trak and top of gypsum board (at the time of installation of the joint system) is 1 in. (25 mm) or 2 in. (51 mm). The joint system is designed to accommodate a max 100 percent compression or extension from its installed width of 1 in. (25 mm) or 100% compression from its installed width of 2 in. (51 mm).** The joint system consists of packing material (Item 3A), wall cladding (Item 3B) and a fill material (Item 3C) as follows:

A. **Packing Material —** Min 4 pcf (64 kg/m^3) density mineral wool batt insulation cut to the shape of the fluted deck, 25 percent larger than the area of the flutes and compressed into the flutes of the steel floor units above the ceiling runner as a permanent form. In addition, when sound isolation clips (Item 2A1) are used, mineral wool batt insulation, cut to a thickness 25 percent greater than the gap, shall be compressed and installed to fill the entire space between the top of the ceiling trak and the underside of the floor or roof, between and around the isolation clips, flush with both sides of the ceiling trak.

B. **Wall Cladding —** Strips of the gypsum board material cut to the contour of the steel floor units and attached to the deflection trak. The number of layers, board type and thickness and fastener type shall be as specified for the gypsum board in the individual Wall and Partition Design in the UL Fire Resistance Directory. Fasteners shall be max spaced 3 in. (76 mm) OC. The top of the wall cladding shall be recessed min 1/8 in. (3.2 mm) to max 1/2 in. (13 mm) from the steel floor units and overlap the gypsum board 4 in. (102 mm).

C. **Fill, Void or Cavity Material* —** Full depth of fill material installed on each side of the wall between the top of the wall cladding and the surface of the steel floor units, flush with each surface of the cladding.

3M COMPANY — FB 1000NS, FB 2000, FB 2000+, FD-150+, CP 25 WB+

A/D FIRE PROTECTION SYSTEMS INC — A/D FireBarrier Seal N/S, A/D FireBarrier Silicone

DAP PRODUCTS INC — DAP Firestop Sealant

EGS NELSON FIRESTOP — ES 1399 Sealant

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS611A, FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

JOHNS MANVILLE — Firetemp CI

NATIONAL GYPSUM CO — FS-90

NUCO INC — Self Seal GG-200

PASSIVE FIRE PROTECTION PARTNERS — 4100NS, 4800DW

RECTORSEAL — FlameSafe FS3000, Metacaulk 1200, Biostop 750, FS3001, FS3005

RECTORSEAL — Metacaulk 835+, Metacaulk 1000, Biostop 500+Caulk, Biotherm 100, FS1900, FS4000

SPECIFIED TECHNOLOGIES INC — SpecSeal ES Sealant

TREMCO INC — TREMstop Acrylic

UNITED STATES GYPSUM CO — FC, RFC

Firestop Configuration B

3. **Joint System — Max separation between the top of the bottom flange of the deflection trak and top of gypsum board (at the time of installation of the joint system) is 1 in. (25 mm) or 2 in. (51 mm). The joint system is designed to accommodate a max 100 percent compression or extension from its installed width of 1 in. (25 mm) or 100% compression from its installed width of 2 in. (51 mm).** The joint system consists of packing material (Item 3A), wall cladding (Item 3B) and a fill material (Item 3C) as follows:

A. **Wall Cladding —** Strips of the gypsum board material attached to the deflection trak. The number of layers, board type and thickness and fastener type shall be as specified for the gypsum board in the individual Wall and Partition Design in the UL Fire Resistance Directory. Fasteners shall be max spaced 3 in. (76 mm) OC. The top of the wall cladding shall be recessed min 1/8 in. (3.2 mm) to max 1/2 in. (13 mm) from the steel floor units and overlap the gypsum board 4 in. (102 mm).

B. **Fill, Void or Cavity Material* —** Full depth of fill material installed on each side of the wall between the top of the wall cladding and the surface of the steel floor units, flush with each surface of the cladding.

3M COMPANY — FB 1000NS, FB 2000, FB 2000+, FD-150+, CP 25 WB+

A/D FIRE PROTECTION SYSTEMS INC — A/D FireBarrier Seal N/S, A/D FireBarrier Silicone

DAP PRODUCTS INC — DAP Firestop Sealant

EGS NELSON FIRESTOP — ES 1399 Sealant

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS611A, FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

JOHNS MANVILLE — Firetemp CI

NATIONAL GYPSUM CO — FS-90

NUCO INC — Self Seal GG-200

PASSIVE FIRE PROTECTION PARTNERS — 4100NS, 4800DW

RECTORSEAL — Metacaulk 835+, Metacaulk 1000, Biostop 500+Caulk, Biotherm 100, FS1900, FS4000

SPECIFIED TECHNOLOGIES INC — SpecSeal ES Sealant

TREMCO INC — TREMstop Acrylic

UNITED STATES GYPSUM CO — FC, RFC

Firestop Configuration C

3. **Joint System — Max separation between the top of the bottom flange of the deflection trak and top of gypsum board (at the time of installation of the joint system) is 1 in. (25 mm) or 2 in. (51 mm). The joint system is designed to accommodate a max 100 percent compression or extension from its installed width of 1 in. (25 mm) or 100% compression from its installed width of 2 in. (51 mm).** The joint system consists of packing material (Item 3A), wall cladding (Item 3B) and a fill material (Item 3C) as follows:

A. **Wall Cladding —** Strips of the gypsum board material attached to the deflection trak. The number of layers, board type and thickness and fastener type shall be as specified for the gypsum board in the individual Wall and Partition Design in the UL Fire Resistance Directory. Fasteners shall be max spaced 3 in. (76 mm) OC. The top of the wall cladding shall be recessed min 1/8 in. (3.2 mm) to max 1/2 in. (13 mm), or max 3/8 in. (9.5 mm) when Item 2A1 is used, from the bottom of the concrete floor and overlap the gypsum board 4 in. (102 mm).

A1. **Packing Material —** (Not Shown) — When sound isolation clips (Item 2A1) are used, min 4 pcf (64 kg/m^3) density mineral wool batt insulation, cut to a thickness 25 percent greater than the gap, shall be compressed and installed to fill the entire space between the top of the ceiling trak and the underside of the floor or roof, between and around the isolation clips, flush with both sides of the ceiling trak.

B. **Fill, Void or Cavity Material* —** Full depth of fill material installed on each side of the wall between the top of the wall cladding and the bottom of the concrete floor , flush with each surface of the cladding.

3M COMPANY — FB 1000NS, FB 2000, FB 2000+, FD-150+, CP 25 WB+

A/D FIRE PROTECTION SYSTEMS INC — A/D FireBarrier Seal N/S, A/D FireBarrier Silicone

DAP PRODUCTS INC — DAP Firestop Sealant

EGS NELSON FIRESTOP — ES 1399 Sealant

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS611A, FS-ONE or FS-ONE MAX Intumescent Sealant

JOHNS MANVILLE — Firetemp CI

NATIONAL GYPSUM CO — FS-90

NUCO INC — Self Seal GG-200

PASSIVE FIRE PROTECTION PARTNERS — 4100NS, 4800DW

RECTORSEAL — Metacaulk 835+, Metacaulk 1000, Biostop 500+Caulk, Biotherm 100, FS1900, FS4000

SPECIFIED TECHNOLOGIES INC — SpecSeal ES Sealant

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Joint Systems

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XHBN - Joint Systems

XHBN7 - Joint Systems Certified for Canada

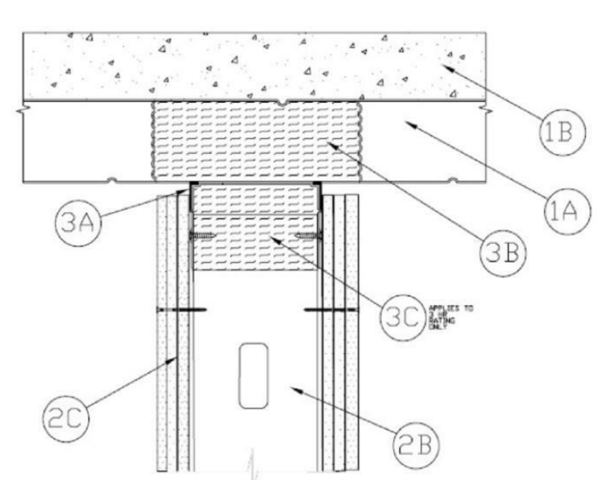
See General Information for Joint Systems

See General Information for Joint Systems Certified for Canada

System No. HW-D-0577

October 20, 2015

ANSI/UL2079	CAN/ULC S115
Assembly Ratings - 1, 2 and 3 Hr (See Items 2 and 3)	F Ratings - 1, 2 and 3 Hr (See Items 2 and 3)
Nominal Joint Width - 3/4 or 1 In.(See Item 3)	FT Ratings - 1, 2 and 3 Hr (See Items 2 and 3)
Class II or III Movement Capabilities - 100% Compression or Extension	FH Ratings - 1, 2 and 3 Hr (See Items 2 and 3)
L Rating At Ambient - Less Than 1 CFM/sq ft	FTH Ratings - 1, 2 and 3 Hr (See Items 2 and 3)
L Rating At 400 F - Less Than 1 CFM/sq ft	Nominal Joint Width - 3/4 or 1 In.(See Item 3)
	Class II or III Movement Capabilities - 100% Compression or Extension
	L Rating At Ambient - Less Than 1 CFM/sq ft
	L Rating At 400 F - Less Than 1 CFM/sq ft



1. **Floor Assembly —** The fire-rated fluted steel deck/concrete floor assembly shall be constructed of the materials and in the manner described in the individual D700 or D900 Series Floor-Ceiling Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Steel Floor And Form Units* —** Max 3 in. (76 mm) deep galv steel fluted floor units.

B. **Concrete —** Min 2-1/2 in. (64 mm) thick reinforced concrete, as measured from the top plane of the floor units.

C. **Spray-Applied Fire Resistive Material* —** (Not shown) — As specified in the D700 or D900 Series Floor-Ceiling Design. No Spray-applied material shall be applied to the flanges of the ceiling runner.

ISOLATEK INTERNATIONAL — Type 300

GCP APPLIED TECHNOLOGIES INC — Type MK-6/HY

1A. **Roof Assembly —** (Not Shown) — As an alternate to the floor assembly, a fire rated fluted steel deck roof assembly may be used. The roof shall by constructed of the materials and in the manner described in the individual P700 or P900-Series Roof-Ceiling designs in the UL Fire Resistance Directory. The hourly rating of the roof assembly shall be equal to or greater than the hourly rating of the wall assembly. The roof assembly shall include the following construction features:

A. **Steel Roof Deck —** Max 3 in. (76 mm) deep galv steel fluted roof deck.

B. **Roof Insulation —** Roof insulation to consist of min 2-1/4 in. (57 mm) thick poured insulating concrete, as measured from the top plane of the roof deck.

C. **Spray-Applied Fire Resistive Material* —** As specified in the P700 or P900 Series Floor-Ceiling Design. No Spray-applied material shall be applied to the flanges of the ceiling runner.

ISOLATEK INTERNATIONAL — Type 300

GCP APPLIED TECHNOLOGIES INC — Type MK-6/HY

2. **Wall Assembly —** The 1, 2 or 3 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Steel Floor and Ceiling Runners —** Floor runners of wall assembly shall consist of min No. 25 ga galv steel channels sized to accommodate steel studs (Item 2D). Floor runner to be provided with min 1-1/4 in. (32mm) flanges. Legs are to be min 1/4 in. (6 mm) longer than the maximum joint width. The ceiling runners are provided with a fill, void or cavity material and are described in Item 3B. Ceiling runner installed perpendicular to steel deck direction and attached to steel deck after spray-applied material (Item 1C) if used, with steel fasteners or welds spaced max 24 in. (610 mm) OC.

A.1. **Light Gauge Framing* — Slotted Ceiling Track —** (Not Shown) - As an alternate to the Item 2A, a ceiling track consisting of galv steel channel with slotted flanges may be used when Item 3A.1 fill material is utilized. Slotted ceiling track sized to accommodate steel studs (Item 2B). Legs are to be min 1/4 in. (6 mm) longer than the maximum joint width. Attached to steel deck with steel fasteners or welds spaced max 24 in. (610 mm) OC.

BRADY CONSTRUCTION INNOVATIONS INC, DBA SLIPTRACK SYSTEMS — SLP-TRK

CALIFORNIA EXPANDED METAL PRODUCTS CO — CST, CST 325

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Type SLT

B. **Studs —** Steel studs to be min 3-5/8 in. (92 mm) wide. Studs cut 1-1/4 to 1-1/2 in. (32 to 38 mm) less in length than assembly height with bottom nesting in and secured to floor runner. Steel studs nested in non-slotted ceiling runner without attachment.

B1. **Framing Members - Steel Studs* —** In lieu of Item B - Proprietary channel shaped studs, 3-5/8 in. (92 mm) wide spaced a max of 24 in. (610 mm) OC. Studs to be cut 1-1/4 to 1-1/2 in. (32 to 38 mm) less than the assembly height with bottom nesting in and secured to floor runner. Steel studs nested in non-slotted ceiling runner without attachment.

CALIFORNIA EXPANDED METAL PRODUCTS CO — ViperStud™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — ViperStud™

C. **Gypsum Board* —** Gypsum board sheets installed to a min total 5/8 in. (16 mm), 1-1/4 (32 mm) or 1-7/8 in. (48 mm) thickness on each side of wall for 1, 2 and 3 hr fire rated assemblies, respectively. Wall to be constructed as specified in the individual U400, V400 or W400 Series Design in the UL Fire Resistance Directory except that a max 1 in. (25 mm) gap shall be maintained between the top of the gypsum board and the bottom of the floor assembly. The screws attaching the gypsum board to the studs along the top of the wall shall be located 4 to 5 in. (102 to 127 mm) down from deck at time of installation. No gypsum board attachment screws shall be driven into the ceiling runner.

The hourly fire rating of the joint system is equal to the hourly fire rating of the wall.

3. **Joint System —** Max separation between bottom of floor and top of gypsum board (at time of installation) is 1 in. (25 mm). The joint system is designed to accommodate a max 100 percent compression or extension from its installed width. When item 2A.1 is used max nominal width is 3/4 in. (19 mm.

A. **Fill, Void or Cavity Material* —** Min 20 ga steel channel track, 3-1/4 in. (83 mm) deep, having an intumescent strip affixed to the top of each flange and sized to accommodate steel studs. Gypsum board to overlap a min of 1in. (25 mm) over the intumescent strip. Track attached to steel deck with steel fasteners or welds spaced max 24 in. (610 mm) OC.

CALIFORNIA EXPANDED METAL PRODUCTS CO — FAS Track DL2

A.1. **Fill, Void or Cavity Material* —** (Not Shown) as an alternate 3A a min. 25 ga composite steel angle with one 5/8 in. (16 mm) leg and one 2-1/2 in (64 mm) leg with a 5/8 in. (16 mm) strip of intumescent strip affixed along the inside 2-1/2 in (64 mm) leg. Steel angle is friction fit between the top web of the ceiling runner Item 2A and the fluted steel deck.

CALIFORNIA EXPANDED METAL PRODUCTS CO — DDA (Deflection Drift Angle)

B. **Forming Material* —** Min 4 in. (102 mm) thick min 4 pcf (64 kg/m^3) mineral wool batt insulation cut to the width of the ceiling runner and compressed 33 percent in thickness, installed into flutes above ceiling runner. **In joints with a 3 hr Assembly rating, the mineral wool batt insulation shall be cut to a width not less than the full wall thickness such that the entire fluted area above the thickness of the wall is filled with mineral wool.** When gaps are present above the ceiling runner at steel deck seams or embossments in the steel deck valleys, a sliver of mineral wool batt insulation shall be used to seal each gap above the ceiling runner on both sides of wall to attain L Ratings.

INDUSTRIAL INSULATION GROUP L L C — Minwool-1200 Safing

JOHNS MANVILLE — Safing

ROCK WOOL MANUFACTURING CO — Delta Safing Board

ROCKWOOL MALAYSIA SDN BHD — SAFE

ROXUL INC — SAFE

THERMAFIBER INC — SAF

B1. **Forming Material*-Plugs —** (Not Shown) As an alternate to the forming material (Item 3B), mineral wool plugs preformed to the shape of the fluted floor units or roof deck, may be used within the flutes. Plugs shall be friction fitted to completely fill the flutes.

ROCK WOOL MANUFACTURING CO — Delta Deck Plugs

C. **Forming Material* — Required for joints with an Assembly Rating of 3 hr.** Min 2 in. (51 mm) thick min 4 pcf (64 kg/m^3) mineral wool batt insulation cut to a width 25 percent greater than width of ceiling runner and friction-fitted (33 percent compression) into ceiling runner between legs of track.

INDUSTRIAL INSULATION GROUP L L C — Minwool-1200 Safing

JOHNS MANVILLE — Safing

ROCK WOOL MANUFACTURING CO — Delta Safing Board

ROCKWOOL MALAYSIA SDN BHD — SAFE

ROXUL INC — SAFE

THERMAFIBER INC — SAF

D. **Fill, Void or Cavity Material* — Sealant —** (Not Shown) - As an alternate to the slivers of mineral wool batt insulation in Item 3B, a dab of sealant may be used to seal each gap above the ceiling runner on both sides of wall to attain L Ratings.

UNITED STATES GYPSUM CO — Type AS

E. **Fill, Void or Cavity Material* —** (Not Shown) when item 3A.1 is utilized a min 1/16 in. (1.6 mm) dry thickness (min 1/8 in. or 3.2 mm wet thickness) of fill material sprayed or brushed on one side of the joint system, completely covering item 3B mineral wool forming material of the joint system and overlapping a min of 1/2 in. (13 mm) onto the steel deck and item 3A.1 DDA on one side of the wall.

RECTORSEAL — Metacaulk 1200, Biostop 750, FlameSafe FS3000, Metacaulk 1500, or Biostop 800 Spray.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2015-10-20

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
LICENSED ARCHITECT
09·15·2022

△	DATE	REVISION

U of U PROJECT NUMBER

UL LISTINGS RATED JOINT ASSEMBLIES

G508

9/19/2022 10:58:11 AM

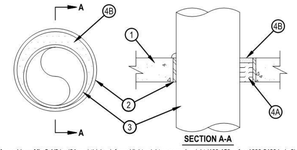
SEE SHEET PG011 CALLING FOR PERIODIC SPECIAL INSPECTIONS FOR FIRE RESISTANT PENETRATIONS AND JOINTS PER IBC 1705.17.

CAJ 1380

System No. C-AJ-1380

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating - 2 Hr	F Rating - 2 Hr
T Rating - 0 Hr	FT Rating - 0 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Rating - 2 Hr
L Rating At 400 F - 4 CFM/sq ft	FTH Rating - 0 Hr
	L Rating At Ambient - Less Than 1 CFM/sq ft
	L Rating At 400 F - 4 CFM/sq ft



SECTION A-A

1. Floor or Wall Assembly — Min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 31-7/8 in. (810 mm). See Concrete Blocks (CAZT) in the Fire Resistance Directory for names of manufacturers.
2. Metallic Sleeve — (Optional) Nom 32 in. (813 mm) diam (or smaller) Schedule 40 steel pipe cast or grouted into floor or wall assembly, flush with floor or wall surfaces.
3. Through-Penetrant — One metallic pipe or conduit to be installed either concentrically or eccentrically within the firestop system. Pipe or conduit to be rigidly supported on both sides of floor assembly. The annular space between pipe or conduit and periphery of opening shall be min 0 in. (point contact) to max 1-7/8 in. (48 mm). The following types and sizes of metallic pipes or conduits may be used:
   A. Steel Pipe — Nom 30 in.(762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Cast Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
   C. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
   D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Conduit — Nom 6 in. (152 mm) diam (or smaller) steel conduit.
   F. Conduit — Nom 4 in. (102 mm) (or smaller) steel electrical metallic tubing (EMT).
4. Firestop System — The firestop system shall consist of the following:
   A. Packing Materials — Min 2 in. (51 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor to accommodate the required thickness of fill material.
   B. Fill Void or Cavity Materials* - Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within annulus, flush with top surface of floor. At point contact, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the concrete/sleeve/pipe interface on the top surface of the floor and both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc.
January 08, 2015

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
REGISTERED ARCHITECT
09-19-2022

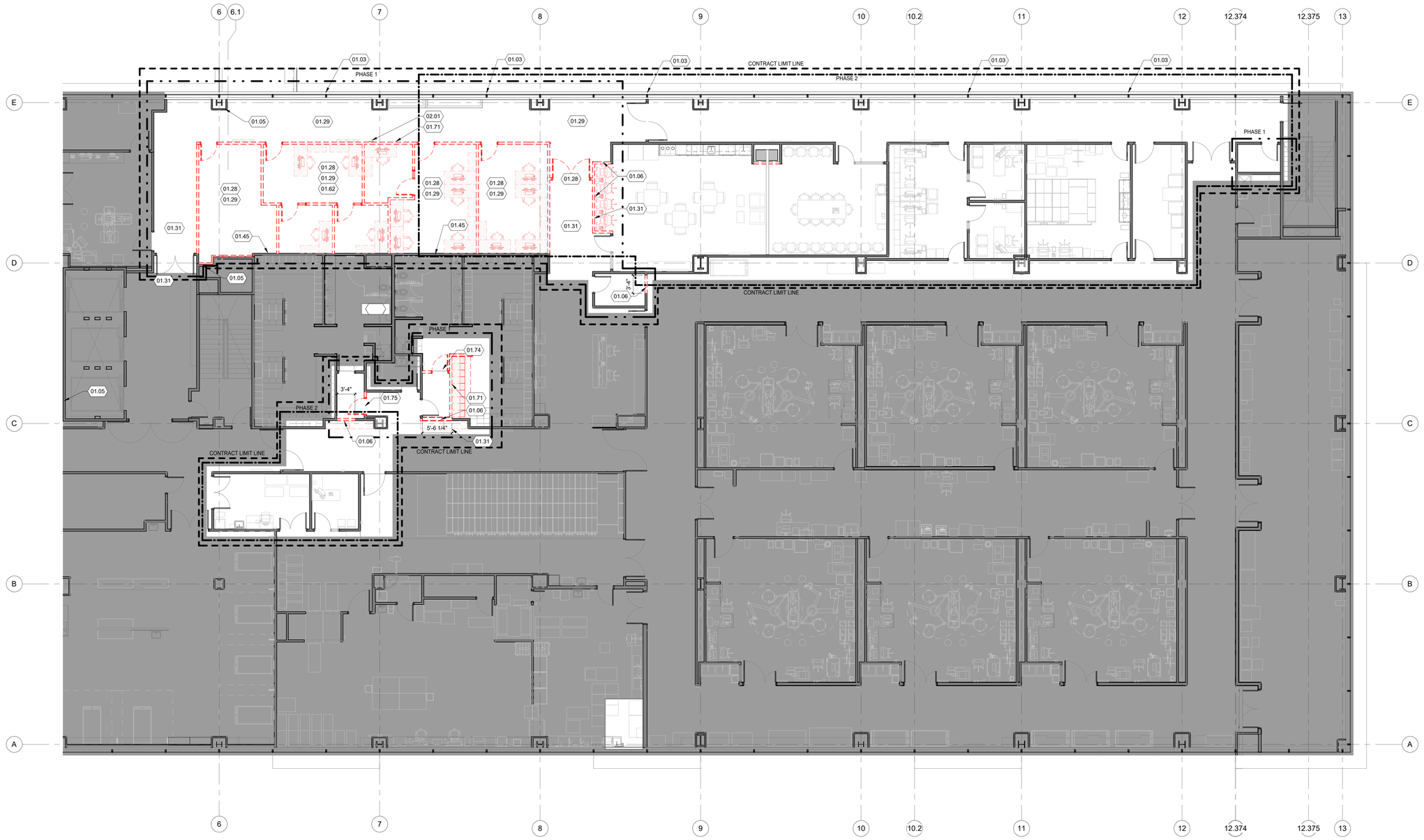
△	DATE	REVISION
	09/12/2022	DOH Response 1

U of U PROJECT NUMBER

RATED ASSEMBLIES JOINTS & PENETRATIONS

G509

9/19/2022 10:58:12 AM



REFERENCE NOTES

01.03	EXISTING CURTAIN WALL GLAZING SYSTEM TO REMAIN. PROTECT DURING CONSTRUCTION.
01.05	EXISTING WALL TO REMAIN
01.06	DEMOLISH PORTION OF EXISTING WALL
01.28	REMOVE ALL DOOR ASSEMBLIES IN THIS AREA UNLESS OTHERWISE NOTED
01.29	EXISTING CEILING SYSTEM AND FLOORING MATERIAL TO BE REMOVED IN THIS AREA.
01.31	PROVIDE TEMPORARY GYP. BOARD WALL ICRA BARRIER
01.45	PATCH, REPAIR AND REPAINT EXISTING WALL TO REMAIN.
01.62	EXISTING CONC. OVER METAL DECK FLOOR ASSEMBLY TO REMAIN
01.71	DEMOLISH EXISTING WALLS
01.74	REMOVE EXISTING DOOR & FRAME, SALVAGE FOR REUSE AT WOMEN'S LOCKER
01.75	REMOVE EXISTING DOOR & FRAME, SALVAGE FOR REUSE AT MEN'S VESTIBULE
02.01	FEC TO BE DEMOLISHED AND SALVAGED FOR RE INSTALLATION

DEMOLITION NOTES

1. UNIVERSITY TO REMOVE ALL LOOSE EQUIPMENT AND FURNISHINGS PRIOR TO CONTRACTOR STARTING WORK.
2. PRIOR TO STARTING ANY DEMOLITION WORK, REVIEW ENTIRE SET OF DRAWINGS PERTAINING TO THIS SCOPE OF WORK TO UNDERSTAND ENTIRE SCOPE OF DEMOLITION WORK AND ELEMENTS THAT ARE TO REMAIN IN THE COMPLETED PROJECT.
3. DASHED LINES INDICATE EXISTING CONSTRUCTION TO BE REMOVED, TYPICAL.
4. CONTRACTOR IS TO LIMIT WORK TO AREAS INDICATED WITHIN THE CONTRACT LIMIT LINE, UNLESS SPECIFICALLY NOTED OTHERWISE.
5. ALL WORK IMPACTING SPACE THAT IS CURRENTLY OCCUPIED IS TO BE COORDINATED AND SCHEDULED WITH THE UNIVERSITY PRIOR TO PERFORMING ANY WORK.
6. WHERE WALL DEMOLITION INTERRUPTS POWER/DATA CONDUIT, REROUTE AS NECESSARY.
7. ADDITIONAL DEMOLITION REQUIRED TO COMPLETE WORK IS SHOWN ON DRAWINGS OTHER THAN THE DEMOLITION PLANS. MISCELLANEOUS CUTTING, PATCHING, ETC. REQUIRED FOR THE NEW OR REMODEL WORK SHALL BE PERFORMED EVEN THOUGH NOT CALLED OUT OR DETAILED ON PLANS.
8. WHERE MECHANICAL, ELECTRICAL AND PLUMBING WORK REQUIRES CEILING DEMOLITION, REPLACE CEILING GRID, TILES AND LIGHTING FIXTURES WHERE SUCH WORK IS PERFORMED. RE: MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS. COORDINATE WITH REFLECTED CEILING PLAN.
9. CONTRACTOR TO PROTECT ALL EXISTING ITEMS TO REMAIN THROUGHOUT DEMOLITION AND CONSTRUCTION ACTIVITIES.
10. REPAIR / REPLACE ANY DAMAGE TO SPRAY APPLIED FIRE-PROOFING MATERIAL.
11. ALL ITEMS TO BE SALVAGED TO BE REUSED OR DELIVERED TO THE OWNER ARE TO BE PROTECTED AND REMOVED AND/OR RE-INSTALLED WITHOUT DAMAGE.
12. DO NOT REMOVE ANY SECTIONS OF EXISTING CABLE TRAY ABOVE CEILING. COORDINATE WITH ELECTRICAL AND ARCHITECTURAL DRAWINGS FOR REUSE AND COORDINATE WITH NEW WORK.
13. UNLESS OTHERWISE INDICATED, REMOVE ALL FLOORING AND BASE IN AREAS OF DEMOLITION. SEE CEILING PLAN FOR EXISTING CEILING ELEMENTS TO REMAIN.
14. PATCH AND REPAIR THE FLOOR AT ALL LOCATIONS WHERE FLOOR OUTLETS ARE SHOWN IN THE ELECTRICAL DOCUMENTS TO BE DEMOLISHED.
15. THE CONTRACTOR IS TO BE RESPONSIBLE FOR THE DEMOLITION AND REMOVAL OF ALL WALLS, EQUIPMENT, WIRING, DUCTWORK, PIPING AND OTHER EXISTING CONDITIONS THAT ARE NOT INCLUDED IN THE FINAL PROJECT. THIS INCLUDES, BUT IS NOT LIMITED TO, EXISTING CONDITIONS THAT HAVE NOT BEEN INDICATED ON THE DRAWINGS IN ALL TRADES OF THE PROJECT.
16. CONTRACTOR SHALL BE RESPONSIBLE TO KEEP ALL EXISTING ENTRANCES, ELEVATORS, LOBBIES, CORRIDORS, AND EGRESS STAIRS OPEN AND AVAILABLE FOR SAFE PUBLIC ACCESS AT ALL TIMES WHEN THE BUILDING EXISTING TENANT SPACES ARE OCCUPIED. PROVIDE 7 DAYS NOTICE TO THE UNIVERSITY WHEN ANY OF THESE AREAS REQUIRE INACCESSIBILITY TO COMPLETE THIS SCOPE OF WORK.

DEMO LEGEND

TO-BE DEMOLISHED

THIS SHEET TO BE VIEWED IN COLOR

A1 LEVEL 3 DEMO FLOOR PLAN - PHASE 1

SCALE: 1/8" = 1'-0"

TRUE PROJECT

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
Lic. No. 7732018-0301
LICENSED ARCHITECT
09-16-2022

△ DATE REVISION

U of U PROJECT NUMBER

LEVEL 3 DEMO FLOOR PLAN - PHASE 1

AD105.1

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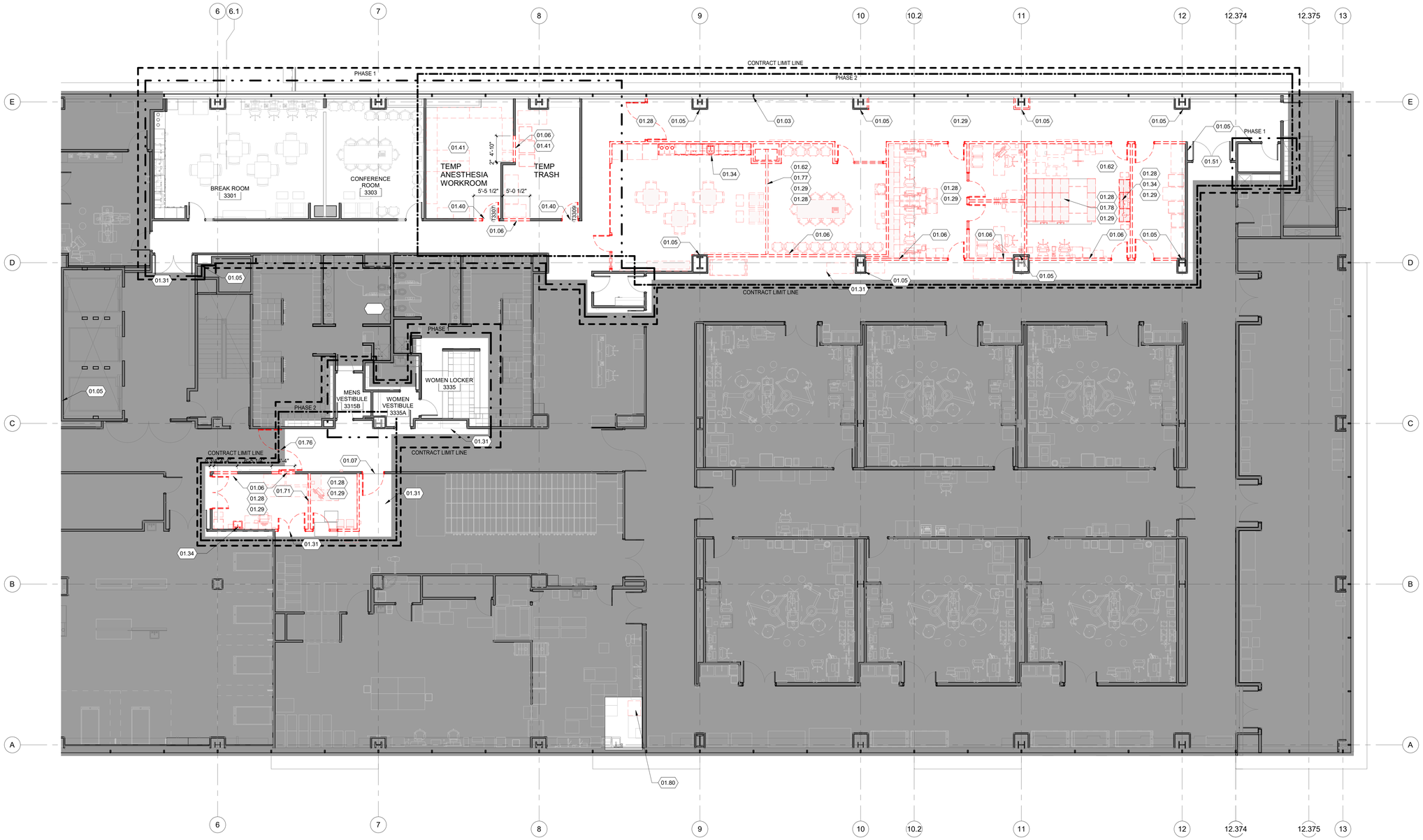

REFERENCE NOTES

01.03	EXISTING CURTAIN WALL GLAZING SYSTEM TO REMAIN. PROTECT DURING CONSTRUCTION.
01.05	EXISTING WALL TO REMAIN
01.06	DEMOLISH PORTION OF EXISTING WALL
01.07	DEMOLISH EXISTING DOOR AND FRAME
01.28	REMOVE ALL DOOR ASSEMBLIES IN THIS AREA UNLESS OTHERWISE NOTED
01.29	EXISTING CEILING SYSTEM AND FLOORING MATERIAL TO BE REMOVED IN THIS AREA.
01.31	PROVIDE TEMPORARY GYP. BOARD WALL ICRA BARRIER
01.34	REMOVE ALL EXISTING PLUMBING FIXTURES IN THIS AREA. RE: PLUMBING DRAWINGS
01.40	REMOVE TEMPORARY DOOR & DOOR HARDWARE; DOOR FRAME TO REMAIN - SEE DOOR SCHEDULE
01.41	REMOVE TEMPORARY FLOORING
01.47	EXISTING STEEL RAIL SYSTEM TO BE REMOVED. PATCH AND REPAIR CONCRETE TO RECEIVE NEW FLOOR FINISHES.
01.51	EXISTING DOOR AND FRAME TO REMAIN
01.62	EXISTING CONC. OVER METAL DECK FLOOR ASSEMBLY TO REMAIN
01.71	DEMOLISH EXISTING WALLS
01.76	REMOVE EXISTING DOOR & FRAME, SALVAGE FOR RELOCATION
01.77	EXISTING FOLDING PARTITION TO BE SALVAGED FOR RELOCATION
01.78	EXISTING HIGH-DENSITY STORAGE TO BE SALVAGED FOR RELOCATION
01.80	REMOVE EXISTING EQUIPMENT UCL0114, SALVAGE FOR NEW INSTALLATION IN DIRTY INTAKE

GENERAL NOTES

1. PRIOR TO STARTING ANY DEMOLITION WORK, REVIEW ENTIRE SET OF DRAWINGS PERTAINING TO THIS SCOPE OF WORK TO UNDERSTAND ENTIRE SCOPE OF DEMOLITION WORK AND ELEMENTS THAT ARE TO REMAIN IN THE COMPLETED PROJECT.
2. DASHED LINES INDICATE EXISTING CONSTRUCTION TO BE REMOVED, TYPICAL.
3. CONTRACTOR IS TO LIMIT WORK TO AREAS INDICATED WITHIN THE CONTRACT LIMIT LINE, UNLESS SPECIFICALLY NOTED OTHERWISE.
4. ALL WORK IMPACTING SPACE THAT IS CURRENTLY OCCUPIED IS TO BE COORDINATED AND SCHEDULED WITH THE OWNER PRIOR TO PERFORMING ANY WORK.
5. WHERE WALL DEMOLITION INTERRUPTS POWER/DATA CONDUIT, REROUTE AS NECESSARY
6. ADDITIONAL DEMOLITION REQUIRED TO COMPLETE WORK IS SHOWN ON DRAWINGS OTHER THAN THE DEMOLITION PLANS. MISCELLANEOUS CUTTING, PATCHING, ETC. REQUIRED FOR THE NEW OR REMODEL WORK SHALL BE PERFORMED EVEN THOUGH NOT CALLED OUT OR DETAILED ON PLANS.
7. WHERE MECHANICAL, ELECTRICAL AND PLUMBING WORK REQUIRES CEILING DEMOLITION, REPLACE CEILING GRID, TILES AND LIGHTING FIXTURES WHERE SUCH WORK IS PERFORMED. RE: MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS. COORDINATE WITH REFLECTED CEILING PLAN.
8. CONTRACTOR TO PROTECT ALL EXISTING ITEMS TO REMAIN THROUGHOUT DEMOLITION AND CONSTRUCTION ACTIVITIES.
9. REPAIR / REPLACE ANY DAMAGE TO SPRAY APPLIED FIRE-PROOFING MATERIAL.
10. ALL ITEMS TO BE SALVAGED TO BE REUSED OR DELIVERED TO THE OWNER ARE TO BE PROTECTED AND REMOVED AND/OR RE-INSTALLED WITHOUT DAMAGE.
11. DO NOT REMOVE ANY SECTIONS OF EXISTING CABLE TRAY ABOVE CEILING. COORDINATE WITH ELECTRICAL AND ARCHITECTURAL DRAWINGS FOR REUSE AND COORDINATE WITH NEW WORK.
12. UNLESS OTHERWISE INDICATED, REMOVE ALL FLOORING AND BASE IN AREAS OF DEMOLITION. SEE CEILING PLAN FOR EXISTING CEILING ELEMENTS TO REMAIN.
13. PATCH AND REPAIR THE FLOOR AT ALL LOCATIONS WHERE FLOOR OUTLETS ARE SHOWN IN THE ELECTRICAL DOCUMENTS TO BE DEMOLISHED.
14. THE CONTRACTOR IS TO BE RESPONSIBLE FOR THE DEMOLITION AND REMOVAL OF ALL WALLS, EQUIPMENT, WIRING, DUCTWORK, PIPING AND OTHER EXISTING CONDITIONS THAT ARE NOT INCLUDED IN THE FINAL PROJECT. THIS INCLUDES, BUT IS NOT LIMITED TO, EXISTING CONDITIONS THAT HAVE NOT BEEN INDICATED ON THE DRAWINGS IN ALL TRADES OF THE PROJECT.
15. CONTRACTOR SHALL BE RESPONSIBLE TO KEEP ALL EXISTING ENTRANCES, ELEVATORS, LOBBIES, CORRIDORS, AND EGRESS STAIRS OPEN AND AVAILABLE FOR SAFE PUBLIC ACCESS AT ALL TIMES WHEN THE BUILDING EXISTING TENANT SPACES ARE OCCUPIED. PROVIDE 7 DAYS NOTICE TO THE UNIVERSITY WHEN ANY OF THESE AREAS REQUIRE INACCESSIBILITY TO COMPLETE THIS SCOPE OF WORK.
16. ALL EXTERIOR INSULATION EXPOSED DURING DEMOLITION AND CONSTRUCTION TO BE PROTECTED FROM DAMAGE WITH PROTECTIVE MATERIAL.

DEMO LEGEND

TO-BE DEMOLISHED

THIS SHEET TO BE VIEWED IN COLOR

A1 LEVEL 3 DEMO PLAN - PHASE 2

SCALE: 1/8" = 1'-0"

TRUE PROJECT

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UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
REGISTERED ARCHITECT
09-19-2022

△ DATE REVISION

U of U PROJECT NUMBER

LEVEL 3 DEMO FLOOR PLAN - PHASE 2

AD105.2

9/19/2022 10:55:17 AM

REFERENCE NOTES

01.02	EXISTING LINEAR LIGHT TO REMAIN.
01.03	EXISTING CURTAIN WALL GLAZING SYSTEM TO REMAIN. PROTECT DURING CONSTRUCTION.
01.04	EXISTING GYP BOARD SOFFIT AND ROLLER SHADE TO REMAIN. PROTECT DURING CONSTRUCTION.
01.16	EXISTING CEILING, GYP BOARD, GRID AND ACOUSTICAL TILES TO REMAIN
01.24	ANY CEILING GRID REQUIRED TO BE REMOVED SHALL BE REPLACED WITH NEW CEILING GRID TO MATCH EXISTING.
01.29	EXISTING CEILING SYSTEM AND FLOORING MATERIAL TO BE REMOVED IN THIS AREA.
01.35	REMOVE ALL EXISTING MECHANICAL DIFFUSERS AND GRILLS SAVE FOR REINSTALLATION. RE: MECHANICAL DRAWINGS. REMOVE ALL EXISTING LIGHT FIXTURES SAVE FOR REINSTALLATION AND MISC. ELECTRICAL DEVICES, RE: ELECTRICAL DRAWINGS
01.36	REMOVE / RECONFIGURE FIRE SPRINKLER SYSTEM IN THIS AREA

DEMOLITION NOTES

1. UNIVERSITY TO REMOVE ALL LOOSE EQUIPMENT AND FURNISHINGS PRIOR TO CONTRACTOR STARTING WORK.
2. PRIOR TO STARTING ANY DEMOLITION WORK, REVIEW ENTIRE SET OF DRAWINGS PERTAINING TO THIS SCOPE OF WORK TO UNDERSTAND ENTIRE SCOPE OF DEMOLITION WORK AND ELEMENTS THAT ARE TO REMAIN IN THE COMPLETED PROJECT.
3. DASHED LINES INDICATE EXISTING CONSTRUCTION TO BE REMOVED, TYPICAL.
4. CONTRACTOR IS TO LIMIT WORK TO AREAS INDICATED WITHIN THE CONTRACT LIMIT LINE, UNLESS SPECIFICALLY NOTED OTHERWISE.
5. ALL WORK IMPACTING SPACE THAT IS CURRENTLY OCCUPIED IS TO BE COORDINATED AND SCHEDULED WITH THE UNIVERSITY PRIOR TO PERFORMING ANY WORK.
6. WHERE WALL DEMOLITION INTERRUPTS POWER/DATA CONDUIT, REROUTE AS NECESSARY.
7. ADDITIONAL DEMOLITION REQUIRED TO COMPLETE WORK IS SHOWN ON DRAWINGS OTHER THAN THE DEMOLITION PLANS. MISCELLANEOUS CUTTING, PATCHING, ETC. REQUIRED FOR THE NEW OR REMODEL WORK SHALL BE PERFORMED EVEN THOUGH NOT CALLED OUT OR DETAILED ON PLANS.
8. WHERE MECHANICAL, ELECTRICAL AND PLUMBING WORK REQUIRES CEILING DEMOLITION, REPLACE CEILING GRID, TILES AND LIGHTING FIXTURES WHERE SUCH WORK IS PERFORMED. RE: MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS. COORDINATE WITH REFLECTED CEILING PLAN.
9. CONTRACTOR TO PROTECT ALL EXISTING ITEMS TO REMAIN THROUGHOUT DEMOLITION AND CONSTRUCTION ACTIVITIES.
10. REPAIR / REPLACE ANY DAMAGE TO SPRAY APPLIED FIRE-PROOFING MATERIAL.
11. ALL ITEMS TO BE SALVAGED TO BE REUSED OR DELIVERED TO THE OWNER ARE TO BE PROTECTED AND REMOVED AND/OR RE-INSTALLED WITHOUT DAMAGE.
12. DO NOT REMOVE ANY SECTIONS OF EXISTING CABLE TRAY ABOVE CEILING. COORDINATE WITH ELECTRICAL AND ARCHITECTURAL DRAWINGS FOR REUSE AND COORDINATE WITH NEW WORK.
13. UNLESS OTHERWISE INDICATED, REMOVE ALL FLOORING AND BASE IN AREAS OF DEMOLITION. SEE CEILING PLAN FOR EXISTING CEILING ELEMENTS TO REMAIN.
14. PATCH AND REPAIR THE FLOOR AT ALL LOCATIONS WHERE FLOOR OUTLETS ARE SHOWN IN THE ELECTRICAL DOCUMENTS TO BE DEMOLISHED.
15. THE CONTRACTOR IS TO BE RESPONSIBLE FOR THE DEMOLITION AND REMOVAL OF ALL WALLS, EQUIPMENT, WIRING, DUCTWORK, PIPING AND OTHER EXISTING CONDITIONS THAT ARE NOT INCLUDED IN THE FINAL PROJECT. THIS INCLUDES, BUT IS NOT LIMITED TO, EXISTING CONDITIONS THAT HAVE NOT BEEN INDICATED ON THE DRAWINGS IN ALL TRADES OF THE PROJECT.
16. CONTRACTOR SHALL BE RESPONSIBLE TO KEEP ALL EXISTING ENTRANCES, ELEVATORS, LOBBIES, CORRIDORS, AND EGRESS STAIRS OPEN AND AVAILABLE FOR SAFE PUBLIC ACCESS AT ALL TIMES WHEN THE BUILDING EXISTING TENANT SPACES ARE OCCUPIED. PROVIDE 7 DAYS NOTICE TO THE UNIVERSITY WHEN ANY OF THESE AREAS REQUIRE INACCESSIBILITY TO COMPLETE THIS SCOPE OF WORK.

DEMO LEGEND

TO-BE DEMOLISHED

THIS SHEET TO BE VIEWED IN COLOR

A1 LEVEL 3 DEMOLITION RCP - PHASE 1

SCALE: 1/8" = 1'-0"

TRUE PROJECT

FFKR ARCHITECTS
730 Pacific Avenue · Salt Lake City, Utah 84104
O 801.521.6186 · FFKR.COM

ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH · MICHAEL ADAM DOLAN · LICENSED ARCHITECT · No. 7732018-0301 · 09-16-2022

△ DATE REVISION

U of U PROJECT NUMBER

LEVEL 3 DEMO RCP - PHASE 1

AD145.1

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A1 LEVEL 3 DEMO RCP - PHASE 2

SCALE: 1/8" = 1'-0"

REFERENCE NOTES

01.02	EXISTING LINEAR LIGHT TO REMAIN.
01.03	EXISTING CURTAIN WALL GLAZING SYSTEM TO REMAIN. PROTECT DURING CONSTRUCTION.
01.04	EXISTING GYP BOARD SOFFIT AND ROLLER SHADE TO REMAIN. PROTECT DURING CONSTRUCTION.
01.16	EXISTING CEILING, GYP BOARD, GRID AND ACOUSTICAL TILES TO REMAIN
01.24	ANY CEILING GRID REQUIRED TO BE REMOVED SHALL BE REPLACED WITH NEW CEILING GRID TO MATCH EXISTING.
01.29	EXISTING CEILING SYSTEM AND FLOORING MATERIAL TO BE REMOVED IN THIS AREA.
01.35	REMOVE ALL EXISTING MECHANICAL DIFFUSERS AND GRILLS SAVE FOR REINSTALLATION. RE: MECHANICAL DRAWINGS. REMOVE ALL EXISTING LIGHT FIXTURES SAVE FOR REINSTALLATION AND MISC. ELECTRICAL DEVICES, RE: ELECTRICAL DRAWINGS
01.36	REMOVE / RECONFIGURE FIRE SPRINKLER SYSTEM IN THIS AREA

GENERAL NOTES

1. PRIOR TO STARTING ANY DEMOLITION WORK, REVIEW ENTIRE SET OF DRAWINGS PERTAINING TO THIS SCOPE OF WORK TO UNDERSTAND ENTIRE SCOPE OF DEMOLITION WORK AND ELEMENTS THAT ARE TO REMAIN IN THE COMPLETED PROJECT.
2. DASHED LINES INDICATE EXISTING CONSTRUCTION TO BE REMOVED, TYPICAL.
3. CONTRACTOR IS TO LIMIT WORK TO AREAS INDICATED WITHIN THE CONTRACT LIMIT LINE, UNLESS SPECIFICALLY NOTED OTHERWISE.
4. ALL WORK IMPACTING SPACE THAT IS CURRENTLY OCCUPIED IS TO BE COORDINATED AND SCHEDULED WITH THE OWNER PRIOR TO PERFORMING ANY WORK.
5. WHERE WALL DEMOLITION INTERRUPTS POWER/DATA CONDUIT, REROUTE AS NECESSARY.
6. ADDITIONAL DEMOLITION REQUIRED TO COMPLETE WORK IS SHOWN ON DRAWINGS OTHER THAN THE DEMOLITION PLANS. MISCELLANEOUS CUTTING, PATCHING, ETC. REQUIRED FOR THE NEW OR REMODEL WORK SHALL BE PERFORMED EVEN THOUGH NOT CALLED OUT OR DETAILED ON PLANS.
7. WHERE MECHANICAL, ELECTRICAL AND PLUMBING WORK REQUIRES CEILING DEMOLITION, REPLACE CEILING GRID, TILES AND LIGHTING FIXTURES WHERE SUCH WORK IS PERFORMED. RE: MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS. COORDINATE WITH REFLECTED CEILING PLAN.
8. CONTRACTOR TO PROTECT ALL EXISTING ITEMS TO REMAIN THROUGHOUT DEMOLITION AND CONSTRUCTION ACTIVITIES.
9. REPAIR / REPLACE ANY DAMAGE TO SPRAY APPLIED FIRE-PROOFING MATERIAL.
10. ALL ITEMS TO BE SALVAGED TO BE REUSED OR DELIVERED TO THE OWNER ARE TO BE PROTECTED AND REMOVED AND/OR RE-INSTALLED WITHOUT DAMAGE.
11. DO NOT REMOVE ANY SECTIONS OF EXISTING CABLE TRAY ABOVE CEILING. COORDINATE WITH ELECTRICAL AND ARCHITECTURAL DRAWINGS FOR REUSE AND COORDINATE WITH NEW WORK.
12. UNLESS OTHERWISE INDICATED, REMOVE ALL FLOORING AND BASE IN AREAS OF DEMOLITION. SEE CEILING PLAN FOR EXISTING CEILING ELEMENTS TO REMAIN.
13. PATCH AND REPAIR THE FLOOR AT ALL LOCATIONS WHERE FLOOR OUTLETS ARE SHOWN IN THE ELECTRICAL DOCUMENTS TO BE DEMOLISHED.
14. THE CONTRACTOR IS TO BE RESPONSIBLE FOR THE DEMOLITION AND REMOVAL OF ALL WALLS, EQUIPMENT, WIRING, DUCTWORK, PIPING AND OTHER EXISTING CONDITIONS THAT ARE NOT INCLUDED IN THE FINAL PROJECT. THIS INCLUDES, BUT IS NOT LIMITED TO, EXISTING CONDITIONS THAT HAVE NOT BEEN INDICATED ON THE DRAWINGS IN ALL TRADES OF THE PROJECT.
15. CONTRACTOR SHALL BE RESPONSIBLE TO KEEP ALL EXISTING ENTRANCES, ELEVATORS, LOBBIES, CORRIDORS, AND EGRESS STAIRS OPEN AND AVAILABLE FOR SAFE PUBLIC ACCESS AT ALL TIMES WHEN THE BUILDING EXISTING TENANT SPACES ARE OCCUPIED. PROVIDE 7 DAYS NOTICE TO THE UNIVERSITY WHEN ANY OF THESE AREAS REQUIRE INACCESSIBILITY TO COMPLETE THIS SCOPE OF WORK.
16. ALL EXTERIOR INSULATION EXPOSED DURING DEMOLITION AND CONSTRUCTION TO BE PROTECTED FROM DAMAGE WITH PROTECTIVE MATERIAL.

DEMO LEGEND

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
LICENSED ARCHITECT
09-19-2022

△ DATE REVISION

U of U PROJECT NUMBER

LEVEL 3 DEMO RCP - PHASE 2

AD145.2

9/19/2022 10:55:37 AM

1. Design Criteria

1.1. Governing Building Code .....2018 International Building Code (IBC)
A. Risk Category.....IV

1.2. Earthquake
A. Seismic Design Category.....D
B. Spectral Response Accelerations
S_S = 1.277 g S_{DS} = 1.022 g
S_1 = 0.473 g S_{D1} = 0.473 g
C. Soil Site Class.....C
F_a = 1.2 F_v = 1.5

2. Structural Steel

2.1. Material:
A. W-Shapes: ASTM A992, (F_y = 50 ksi), except as noted otherwise
B. All Other Shapes and Plates: ASTM A36 (Fy = 36 ksi), except as noted otherwise
C. Rectangular and Square Hollow Structural Sections (HSS): ASTM A500, Grade C (Fy = 50 ksi)
D. Round HSS: ASTM A500, Grade C (Fy = 46 ksi)

2.2. Fabrication and construction shall comply with the following Codes and Standards:
A. American Institute of Steel Construction (AISC) 360-16, "Specification for Structural Steel Buildings"
B. AISC 303-16, "Code of Standard Practice for Steel Buildings and Bridges" excluding the following: Section 3.3 (last two sentences of first paragraph), Section 4.4, Section 4.4.1, Section 4.4.2, Section 4.5, and Section 7.13.3
1. The architectural drawings are the prime contract drawings. Consultants' drawings by other disciplines are supplementary to the architectural drawings. The structural drawings shall be used in conjunction with the architectural drawings. Detailing and shop drawing production for structural elements will require information (including dimensions) contained in architectural, structural, and/or other consultants' drawings. Refer to the Special Instructions section of the general notes, below.
C. AISC/RCSC 2014, "Specification for Structural Joints Using High-Strength Bolts"
D. American Welding Society (AWS) D1.1:2015, "Structural Welding Code – Steel" (specific items do not apply when they conflict with the AISC requirements)

2.3. Structural shapes and plates shall be fabricated from newly rolled (milled) one-piece sections without splices, unless specifically noted otherwise on the structural drawings. Connections for structural steel shall comply with the structural drawings, unless written approval is given by the Structural Engineer.

2.4. Welding:
A. It is recommended the steel erection contractor and steel fabricator contact the Quality Assurance Agency prior to beginning any welds. A program of joint preparation and welding procedures should be worked out between the two parties before the welding is started so that correct welds will be made from the beginning.
B. Certification of Welders: All shop and field welding shall be executed by AWS certified welders who have been specifically certified for the process of welding being performed. The welder's certification will be considered as being current unless the welder is not engaged in the process of welding being performed for a period exceeding six months or there is a specific reason to question a welder's ability as required by AWS. Certification and records must comply with AWS Standards. Certification and appropriate records must be provided to the Architect prior to beginning work.
C. Electrodes: E-70 XX or as noted otherwise. E60 XX may be used for welding steel floor and roof decks.
D. Minimum Welds: All intersecting steel shapes that are not bolted shall be connected by a fillet weld all around, unless noted otherwise. Fillet weld sizes that are not shown shall be 1/16" less than the thinnest of the connected parts for thicknesses 1/4" and larger. Fillet welds on plates less than 1/4" shall be of the same size as the thinnest of the connected parts.
E. Bolts: Do not apply any welds, including "tack" welds to bolts, including anchor bolts, except as specifically detailed in the drawings.

3. Cold-Formed Steel

3.1. Material:
A. Studs:
1. Base metal thickness of less than 54 mil: ASTM A1003 or A653, Fy = 33 ksi.
2. Base metal thickness of 54 mil or greater: ASTM A1003 or A653, Fy = 50 ksi.
B. Track, Connection Clips, and Miscellaneous Shapes:
1. Base metal thickness of less than 54 mil: A1003 or A653, Fy = 33 ksi.
2. Base metal thickness of 54 mil or greater: A1003 or A653, Fy = 50 ksi

3.2. Design, fabrication and construction shall comply with the following Codes and Standards:
A. American Iron and Steel Institute (AISI) S100-16, "North American Specification for the Design of Cold-Formed Steel Structural Members", dated 2016.
B. American Iron and Steel Institute (AISI) S202-15: Code of Standard Practice for Cold-formed Steel Framing, 2015
C. American Iron and Steel Institute (AISI) S220-15, "North American Standard for Cold-Formed Steel Framing-Nonstructural Members."

3.3. Non-Load-Bearing Cold-Formed Steel Framing:
A. All non-load bearing cold-formed steel (and/or) joist framing members along with all runner, bridging, and end track shall be of the designation shown on the plans, schedules, and details. The framing member designators used in the plans, schedules, and details follow the convention established by the Steel Stud Manufacturers' Association (SSMA) and the North American Steel Framing Alliance (NASFA). Framing members provided shall comply with the designations according to this convention. See Steel Stud Manufacturers Association- Nomenclature for an explanation of the stud or track designations.
B. Where not noted in the drawings, all framing members shall have a base metal thickness of 33 mil or greater.
C. All jamb, header, and sill components shall be continuous without splices unless noted otherwise. Jambs shall extend continuous from floor to floor, roof, or wind girt.
D. Web punchouts in header stud members shall not be located within 12 inches of the support.
E. Fasteners for steel stud construction shall be self-drilling and self-tapping meeting ASTM C1513. Screw-type fasteners shall penetrate the joined materials with a minimum of three threads exposed. Furnish, install, and tighten screws per the manufacturer's recommendations and per the sizes indicated in the details. The minimum screw-type fastener size shall be #10 for any connection, unless noted otherwise, or the manufacturers' minimum recommended size for framing clips and bridging.
F. See the Typical Steel Stud Wall Bridging Detail for wall stud bridging requirements. Proprietary bridging systems may be used upon submission, review, and approval by the Architect/Engineer. Cold-rolled channel (or steel angle) bridging shall not be used without suitable full-depth angle clips fastened to the studs and channel or angle to prevent stud roll-over.
G. Wall to floor or roof connections shall use deflection tracks or steel clips designed to accommodate vertical deflection of the floor or roof structure. See specific details for further information
H. Connection clips as specified in the schedules and details use The Steel Network (TSN) products as the basis of design. Other manufacturer's connection clips, must be submitted for review and approved by the Architect/Engineer prior to use, and shall clearly indicate all ICC/IAPMO code reports, load capacities and engineering associated with their use. Follow all manufacturers' recommendations for the use of these products.
I. Proprietary headers, jamb studs, and other miscellaneous framing may be substituted for framing as shown in the WALL AND OPENING FRAMING DETAIL but must be submitted to the Engineer & reviewed prior to ordering material or fabricating & installing such components. Submittals for substitution of such components must clearly state what is being substituted and show equivalence to the components being replaced.

3.4. Welding:
A. The steel stud contractor shall contact the Quality Assurance Agency prior to beginning any welds. A program of joint preparation and welding procedures should be worked out between the two parties before the welding is started so that correct welds will be made from the beginning.
B. Certification of Welders: All shop and field welding shall be executed by AWS certified welders who have been specifically certified for the process of welding being performed. The welder's certification will be considered as being current unless the welder is not engaged in the process of welding being performed for a period exceeding six months or there is a specific reason to question a welder's ability as required by AWS. Certification and records must comply with AWS Standards. Certification and appropriate records must be provided to the Architect prior to beginning work.
C. Unless noted otherwise, all welded connections shall be done using 1/8" AWS type 6013 or 7014 rod with a welding heat of 60-110 amperes depending on the gauge of material and the fit of the parts. Wire tying of framing components shall not be permitted. Welds and damaged coatings on studs shall be repaired with zinc galvanizing repair paint.

3.5. Submittals with Prefabricated Systems or systems intended to replace conventional framing herein shall have complete shop drawings and calculations of all elements for review and bear the stamp of a Professional Engineer registered in the State of Utah.

4. Miscellaneous

4.1. Post-Installed Anchors in Concrete
A. Anchorage to hardened concrete shall include all mechanical and adhesive anchors and epoxy doweled reinforcing bars of size, quantity, spacing, and embedment as shown on the drawings. Additional anchors shall not be used without approval from the Engineer prior to installation.
B. Special inspection is required during the installation of all post-installed anchors. Refer to applicable code evaluation reports and the Quality Assurance and Statement of Special Inspections sections of the General Structural Notes.
C. Anchorage to Concrete:
1. All post-installed anchors into hardened concrete shall be selected from the following pre-approved products, unless noted otherwise:

Steel Screw Anchor	Evaluation Report
Hilti KWIK HUS-EZ	ICC ESR-3027
DeWalt Screw-Bolt+	ICC ESR-3889
Simpson Titen HD	ICC ESR-2713

Steel Expansion/Wedge Anchor	Evaluation Report
Hilti KWIK Bolt TZ	ICC ESR-1917
DeWalt Power-Stud+ SD2	ICC ESR-2502
Simpson Strong-Bolt 2	ICC ESR-3037

Adhesive Anchor System	Evaluation Report
Hilti HIT-HY 200	ICC ESR-3187
Hilti HIT-RE 500 V3	ICC ESR-3814
DeWalt AC200+	ICC ESR-4027
DeWalt Pure 110+	ICC ESR-3298
Simpson SET-3G	ICC ESR-4057

2. Adhesive anchors shall be installed into concrete having a minimum age of 21 days. For installations sooner than 21 days, consult the adhesive manufacturer.
D. Alternate anchors or adhesives are permitted with approval of the Engineer. The Contractor shall submit the proposed anchor product data and code evaluation report demonstrating the anchor is equivalent to or exceeds the capacity of the specified anchor.
E. Installation of adhesive anchors horizontally or upwardly inclined to support sustained tension loads shall be performed by personnel certified by an applicable certification program. Certification shall include written and performance tests in accordance with the ACI/CRSI Adhesive Anchor Installer Certification program, or equivalent. Proof of current certification shall be submitted to the Engineer for approval prior to commencement of installation.
F. Anchors shall be installed according to the Manufacturer's Printed Installation Instructions and applicable code evaluation reports including:
1. Hole diameter, depth, and cleaning procedure
2. Adhesive mixing, preparation, and placement
3. Installation torque
G. Locate all existing reinforcement and embedded items prior to drilling into concrete or masonry elements. Do not damage rebar or embeds while drilling or installing anchors.
H. Grout all defective or abandoned holes with non-shrink grout or an injectable epoxy adhesive matching the surrounding concrete compressive strength. Consult the Architect for additional requirements at architecturally exposed concrete.
I. Drilled anchors are not allowed in post-tensioned concrete without approval of the Architect and Engineer.
J. Carbon steel anchors are limited to use in dry, interior locations.
K. Holes for post-installed anchors may not be core drilled unless specifically allowed by the manufacturer's installation instructions and the code evaluation report.

5. Special Instructions

5.1. The project specifications are not superseded by the General Structural Notes but are intended to be complementary to them. Consult the specifications for additional requirements in each section. Notes and specific details on the drawings shall take precedence over General Structural Notes and typical details.

5.2. The architectural drawings are the prime contract drawings. Consultant drawings by other disciplines are supplementary to the architectural drawings. All omissions or conflicts, including dimensions, between the various elements of the consultants' drawings and/or specifications shall be brought to the attention of the Architect before proceeding with any work involved. In case of conflict, follow the most stringent requirement as directed by the Architect without additional cost to the Owner. Any work done by the Contractor after discovery of such discrepancy shall be done at the Contractor's risk.

5.3. The structural drawings shall be used in conjunction with the architectural drawings. Primary structural elements and overall structural layout are indicated within the structural plans and details. Some secondary elements, architectural layouts, alcoves, elevations, slopes, depressions, curbs, mechanical equipment and electrical equipment, are not indicated within the structural drawings. Detailing and shop drawing production for structural elements will require information (including dimensions) contained in the architectural, structural and/or other consultants' drawings.

5.4. All expansion joints (E.J.) shown in the structural drawings shall be considered seismic separation joints, unless noted otherwise.

5.5. Submittals: A copy of all shop drawings that have been submitted for review must be kept at the construction site for reference. These drawings must bear the appropriate review stamps. The shop drawing review shall not relieve the Contractor of the responsibility of completing the project according to the contract documents. The General Contractor shall review and mark all shop drawings prior to submitting them to the Architect for review. Shop Drawings made from reproductions of (these) contract drawings will be rejected.

5.6. Project Coordination: It shall be the responsibility of the General Contractor to coordinate with all trades any and all items that are to be integrated into the structural system. Openings or penetrations through, or attachments to the structural system that are not indicated on these drawings shall be the responsibility of the General Contractor and shall be coordinated with the Architect/Engineers. The order of construction is the responsibility of the General Contractor. It is the Contractor's obligation to provide all items necessary for the chosen procedure.

5.7. Contractor shall field verify all dimensions, and conditions. If the contract drawings do not represent actual conditions, Contractor shall notify Architect/Engineer prior to fabrication or construction within that area.

5.8. Notice of Copyright: The structural drawings, plans, schedules, notes and details are hereby copyrighted by Reaveley Engineers. Submission or distribution of documents to meet official regulatory requirements or for similar purposes in connection with the project is not to be construed as publication in derogation of Reaveley Engineers' reserved rights. The documents defining the structure are instruments of service prepared by Reaveley Engineers for one use only. Furthermore, these documents shall not be reproduced, or copied, in whole or in part by the Contractor or subcontractors for preparation of shop drawings or other submittals.

6. Quality Assurance

6.1. Quality Assurance Agency Requirements:
A. The Owner shall engage a qualified Quality Assurance Agency (QAA) to provide all special inspection and quality assurance testing for the project. The QAA shall provide all information necessary for the building official to determine that the agency meets the applicable requirements.
1. The QAA shall be objective, competent and independent from the Contractor responsible for the work being inspected. The agency shall disclose to the building official and the registered design professional in responsible charge possible conflicts of interest so that objectivity can be confirmed.
2. The QAA shall have adequate equipment to perform required tests. The equipment shall be periodically calibrated.
3. The QAA shall employ experienced personnel educated in conducting, supervising and evaluating tests and special inspections. Experience or training shall be considered relevant where the documented experience or training is related in complexity to the same type of special inspection or testing activities for projects of similar complexity and material qualities.
4. The QAA shall send copies of all inspection and testing reports to the building official, Owner, Architect, Engineer and Contractor. Reports shall indicate that the work inspected was or was not completed in conformance to the approved construction documents. Discrepancies shall be brought to the immediate attention of the Contractor for correction. If they are not corrected, the discrepancies shall be brought to the attention of the, Architect and Engineer.
5. The QAA shall submit a final report documenting required special inspections and tests, and correction of any discrepancies noted in the inspections or tests. The final report shall be distributed to the building official, Owner, Architect and Engineer in a timely manner prior to the completion of the project.

6.2. Contractor Responsibilities:
A. The Contractor shall submit a written statement of responsibility to the building official and the Owner or the owner's authorized agent prior to the commencement of work on the systems or components listed in the statement of special inspections. The Contractor's statement of responsibility shall contain acknowledgement or awareness of the special requirements contained in the statement of special inspections.
B. Notification of QAA: The Contractor shall notify the QAA in a timely manner so that inspection and testing may be performed as outlined in the statement of special inspections.
6.3. Structural Observations by the Engineer of Record.
A. The Engineer of Record will perform structural observations at critical phases of the project. Observations will be made on a periodic basis throughout the construction of the structural system. Copies of the Engineer's report will be distributed to the Architect, Contractor, Owner, and building official.
B. Observation visits to the site by the Engineer's field representatives shall not be construed as inspection or approval of construction.

7. Statement of Special Inspections

7.1. The following materials, systems and components require special inspection or testing per Chapter 17 of the International Building Code (IBC).

7.2. For items requiring continuous inspection, a special inspector must be present onsite during the performance of that task. In most cases, periodic inspections/tests shall be performed prior to commencing the task, intermittently during the task, and at the completion of the task. Frequency marked with (E) designates periodic inspections that must be performed prior to or upon completion of every task.

Structural Steel per IBC Section 1705.2.1, 1705.12.1 & 1705.13.1

Item	Frequency	Detailed Instructions
Prior to Welding (Table N5.4-1, AISC 360-16):		
Verify welding procedures (WPS) and consumable certificates	Periodic (E)	
Material identification	Periodic	Verify type and grade of material.
Welder identification	Periodic	A system shall be maintained by which a welder who has welded a joint or member can be identified.
Fit-up of fillet welds	Periodic	Verify alignment, gaps at root, cleanliness of steel surfaces, and tack weld quality and location.
During Welding (Table N5.4-2, AISC 360-16):		
Use of qualified welders	Periodic	Verify that welders are appropriately qualified.
Control and handling of welding consumables	Periodic	Verify packaging and exposure control.
Cracked tack welds	Periodic	Verify that welding does not occur over cracked tack welds.
Environmental conditions	Periodic	Verify wind speed is within limits as well as precipitation and temperature.
WPS followed	Periodic	Verify items such as settings on welding equipment, travel speed, welding materials, shielding gas type/flow rate, preheat applied, interpass temperature maintained, and proper position.
Welding techniques	Periodic	Verify interpass and final cleaning, each pass is within profile limitations, and each pass meets quality requirements.
After Welding (Table N5.4-3, AISC 360-10):		
Welds cleaned	Periodic	Verify that welds have been properly cleaned.
Size, length, and location of welds	Periodic (E)	
Welds meet visual acceptance criteria	Periodic (E)	Verify weld meets visual acceptance criteria based upon crack prohibition, weld/base-metal fusion, crater cross section, weld profiles, weld size, undercut, and porosity.
Arc strikes	Periodic (E)	
Backing & weld tabs removed	Periodic (E)	
Repair activities	Periodic (E)	
Document acceptance or rejection of welded joint/member	Periodic (E)	
No prohibited welds	Periodic (E)	Verify no prohibited welds have been added without approval of the EOR.

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
AHJ CONSTRUCTION SET
SEPTEMEBER 19, 2022

LICENSED STRUCTURAL ENGINEER
NO. 11709
STATE OF UTAH
THOMAS MILLER
08/10/22

△ DATE REVISION

U of U PROJECT NUMBER

GENERAL STRUCTURAL NOTES

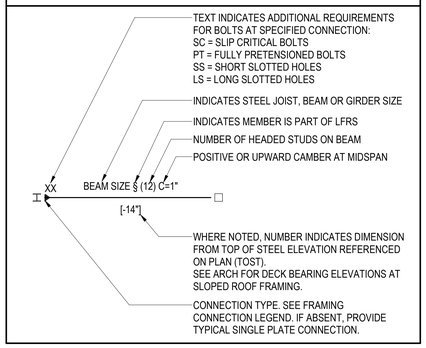
SE001

9/16/2022 11:18:17 AM

PLAN LEGEND

- FOOTING STEP
- FOOTING - CONTINUOUS
- FOOTING - THICKENED SLAB
- FOOTING - SQUARE FOOTING - RECTANGULAR FOOTING - MAT FOOTING
- 0" CHANGE IN ELEVATION
- SLAB BLOCK-OUT AT COLUMN
- CJ SLAB CONTROL/CONSTRUCTION JOINT
- SPECIAL SLAB OR DECK AREA
- SPECIAL SLAB OR DECK AREA
- SPECIAL SLAB OR DECK AREA
- RECESSED/DEPRESSED SLAB
- OPENING
- CONCRETE HOUSEKEEPING PAD
- INDICATES ROOF DAVIT ARM BASE
- INDICATES WINDOW WASHING TIE-BACK
- CONCRETE BEAM
- CONCRETE JOIST - ONE WAY PANS
- CONCRETE JOIST - TWO WAY PANS
- CONCRETE SUSPENDED SLAB
- CONCRETE WALL
- CONCRETE WALL - RECESSED (FDTN CONCRETE LINTEL (FRAMING PLAN)
- CONCRETE WALL - RECESSED AT DOOR
- CONCRETE PIER IN CONCRETE WALL. TOP OF PIER RECESSED BELOW SLAB.
- CONCRETE COLUMN
- CONCRETE JAMB COLUMN POURED MONOLITHIC WITH CONCRETE WALL
- MASONRY WALL
- MASONRY WALL - RECESSED (FDTN PLAN)
- MASONRY LINTEL (FRAMING PLAN)
- MASONRY COLUMN IN MASONRY WALL
- STEEL STUD WALL - STRUCTURAL
- STEEL HEADER IN STEEL STUD WALL
- BRICK WALL
- BRICK WALL - RECESSED (FDTN PLAN)
- BRICK LINTEL (FRAMING PLAN)
- BRICK COLUMN IN BRICK WALL
- STEEL BRACED FRAME - ABOVE
- STEEL BRACED FRAME
- STEEL BEAM OR GIRDER
- STEEL JOIST OR PURLIN
- STEEL ANGLE BRACE / KICKER. SEE FOR SLAB EDGE KICKER. SEE FOR FRAME BRACE
- CROSS BRIDGING
- HORIZONTAL BRIDGING
- STEEL COLUMN - TUBE (HSS)
- STEEL COLUMN - WIDE FLANGE
- STEEL COLUMN - PIPE (HSS)
- CONCRETE OVER STEEL DECK
- STEEL DECK / STEEL GRATE
- EXISTING FOOTING - CONTINUOUS
- EXISTING FOOTING - THICKENED SLAB
- EXISTING FOOTING - SQUARE, RECTANGULAR, OR MAT
- EXISTING CONCRETE SHEAR WALL, FOUNDATION WALL OR RETAINING WALL
- EXISTING OPENING THROUGH CONCRETE WALL
- EXISTING CONCRETE PIER IN CONCRETE WALL. PIER RECESSED BELOW SLAB.
- EXISTING CONCRETE COLUMN
- NEW OPENING THROUGH EXISTING CONCRETE WALL
- EXISTING MASONRY WALL
- EXISTING OPENING THROUGH MASONRY WALL
- NEW OPENING THROUGH EXISTING MASONRY WALL
- EXISTING MASONRY COLUMN IN MASONRY WALL
- EXISTING STEEL COLUMN - TUBE
- EXISTING STEEL COLUMN - WIDE FLANGE
- EXISTING STEEL COLUMN - PIPE
- EXISTING STEEL BRACED FRAME
- EXISTING SLAB BLOCK-OUT AT COLUMN
- CJ EXISTING SLAB CONTROL/CONSTRUCTION JOINT
- EXISTING STEEL BEAM OR GIRDER
- EXISTING STEEL JOIST OR PURLIN
- EXISTING CROSS BRIDGING
- EXISTING HORIZONTAL BRIDGING
- EXISTING TO BE REMOVED
- EXISTING OPENING

STEEL FRAMING MEMBER DESIGNATION



ABBREVIATIONS

@	AT
AB	ANCHOR BOLT (S)
ABV	ABOVE
ALT	ALTERNATE
APPROX	APPROXIMATE
ARCH	ARCHITECT(URAL)
BLDG	BUILDING
BLW	BELOW
BM	BEAM
BOT	BOTTOM
BRG	BEARING
BTWN	BETWEEN
CJ	CONSTRUCTION JOINT OR CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CTR	CENTER
D.B.	DECK BEARING
db	DIAMETER OF REINFORCING BAR
DBA	DEFORMED BAR ANCHORS
DBL	DOUBLE
DET	DETAIL
DIA (OR Ø)	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DK	DECK
DN	DOWN
DWG	DRAWING
DWL	DOWEL
E.F.	EACH FACE
E.J.	EXPANSION JOINT (SEISMIC SEPARATION JOINT)
E.W.	EACH WAY
EA	EACH
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
ENG	ENGINEER
EQ	EQUAL
EQUIP	EQUIPMENT
EXIST (E)	EXISTING
EXP	EXPANSION / EXPOSED
EXT	EXTERIOR
F.D.	FLOOR DRAIN
F.F.	FINISH FLOOR
F.V.	FIELD VERIFY
FDTN	FOUNDATION
FIN	FINISH
FL	FLOOR
FT	FOOT
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GLB	GLU-LAMINATED BEAM
GR	GRADE
GSN	GENERAL STRUCTURAL NOTES
HB	HORIZONTAL BRIDGING
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHORS
HSS	HOLLOW STRUCTURAL STEEL
HT	HEIGHT
I.F.	INSIDE FACE
IBC	INTERNATIONAL BUILDING CODE
ICBO	INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS
ICC	INTERNATIONAL CODE COUNCIL
IN	INCH
INSUL	INSULATION
INT	INTERIOR
JST	JOIST
JT	JOINT
K	KIPS - 1,000 POUNDS
KLF	KIPS PER LINEAL FOOT
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
LBS	POUNDS
Ld, Lt, Lsb, Lsbt, Ldc, Lsc	SEE CONCRETE REINFORCING BAR DEVELOPMENT AND LAP LENGTH SCHEDULE
LF	LINEAL FOOT
LFRS	LATERAL FORCE RESISTING SYSTEM (SFRS & WFRS)
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LSH	LONG SIDE HORIZONTAL
LSV	LONG SDIE VERTICAL
MAS	MASONRY
MAX	MAXIMUM
MCJ	MASONRY CONTROL JOINT
MECH	MECHANICAL
MFGR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
NIC	NOT IN CONTRACT
NORM	NORMAL
NTS	NOT TO SCALE
O.C.	ON CENTER
O.F.	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
OWSJ	OPEN WEB STEEL JOIST
P.T.	POST-TENSIONED
PCF	POUNDS/CUBIC FOOT
PJP	PARTIAL JOINT PENETRATION
PL	PLATE
PLF	POUNDS/LINEAL FOOT
PNL	PANEL
PSF	POUNDS/SQ FOOT
PSI	POUNDS/SQ INCH
R.D.	ROOF DRAIN

ABBREVIATIONS

REINF	REINFORCING
REQD	REQUIRED
SFRS	SEISMIC FORCE RESISTING SYSTEM
SHT	SHEET
SI	SPECIAL INSPECTION (SP. INSP.)
SIM	SIMILAR
SOG	SLAB ON GRADE
SQ	SQUARE
STAG	STAGGERED
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STRUCT	STRUCTURAL
T & B	TOP AND BOTTOM
T.O.	TOP OF
TEMP	TEMPERATURE
THDS	THREADS
TOC	TOP OF CONCRETE
TOCP	TOP OF CONCRETE PIER
TOF	TOP OF FOOTING
TOS	TOP OF SLAB
TOST	TOP OF STEEL
TOW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W.P.	WORK POINT
W/	WITH
WF	WIDE FLANGE
WFRS	WIND FORCE RESISTING SYSTEM
WT	WEIGHT
WWF	WELDED WIRE FABRIC
YD	YARD

PLAN MARKS

BF-#	BRACED FRAME
CB-#	CONCRETE BEAM
CC-#	CONCRETE COLUMN
CCSS-#	CANTILEVERED CONCRETE SUSPENDED SLAB
CDP-#	CONCRETE DRILLED PIER
CFW-#	CONCRETE FOUNDATION WALL
CGB-#	CONCRETE GRADE BEAM
CJ-#	CONCRETE JOIST
CJC-#	CONCRETE JAMB COLUMN
CL-#	CONCRETE LINTEL
CP-#	CONCRETE PIER
CRW-#	CONCRETE RETAINING WALL
CSG-#	CONCRETE SLAB ON GRADE
CSH-#	CONCRETE SHEAR HEAD
CSS-#	CONCRETE SUSPENDED SLAB
CSW-#	CONCRETE SHEAR WALL
CW-#	CONCRETE WALL
FC#	CONTINUOUS FOOTING
FM#	MAT FOOTING
FR#	RECTANGULAR FOOTING
FS#	SQUARE FOOTING
FTS#	THICKENED SLAB FOOTING
HD-#	HOLD DOWN ANCHOR
MC-#	MASONRY COLUMN
MF-#	MOMENT FRAME
ML-#	MASONRY LINTEL
MP-#	MASONRY PIER
MW-#	MASONRY WALL
PTB-#	POST-TENSIONED CONCRETE BEAM
SBP-#	STEEL BASE PLATE
SC-#	STEEL COLUMN
SCP-#	STEEL CAP PLATE
SD-#	STEEL DECK
SDA-#	STEEL DECK ATTACHMENT
SG-#	STEEL GIRDER
SJ-#	STEEL JOIST
SND-#	SNOW DRIFT
WB-#	WOOD BEAM
WBW-#	WOOD BEARING WALL
WC-#	WOOD COLUMN
WD-#	WOOD DIAPHRAGM
WJ-#	WOOD JOIST
WSW-#	WOOD SHEAR WALL

STRUCTURAL DRAWING LIST1

SHT NO.	SHT NAME
SE001	GENERAL STRUCTURAL NOTES
SE002	LEGENDS & ABBREVIATIONS
SF101	LEVEL 3 ANNOTATION PLAN
SF102	LEVEL 4 ANNOTATION PLAN
SF503	PARTITION SUPPORT DETAILS
SF501	INTERIOR STEEL STUD WALL DETAILS
SF502	MEDICAL EQUIPMENT SUPPORT DETAILS
Grand total: 7	

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
AHJ CONSTRUCTION SET
SEPTEMEBER 19, 2022

LICENSED STRUCTURAL ENGINEER
NO. 177898
JEFFREY THOMAS MILLER
UTAH

08/10/22

△ DATE REVISION

U of U PROJECT NUMBER

LEGENDS & ABBREVIATIONS

SE002

9/16/2022 11:18:19 AM

EXISTING BUILDING NOTES

1. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO DETAILING, FABRICATING, ERECTING OR INSTALLING ANY STRUCTURAL ELEMENT. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN TEAM IN A TIMELY MANNER SUCH THAT WORK WILL NOT BE DELAYED.

2. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING OF EXISTING STRUCTURE DURING CONSTRUCTION.

WALL SYSTEM NOTES

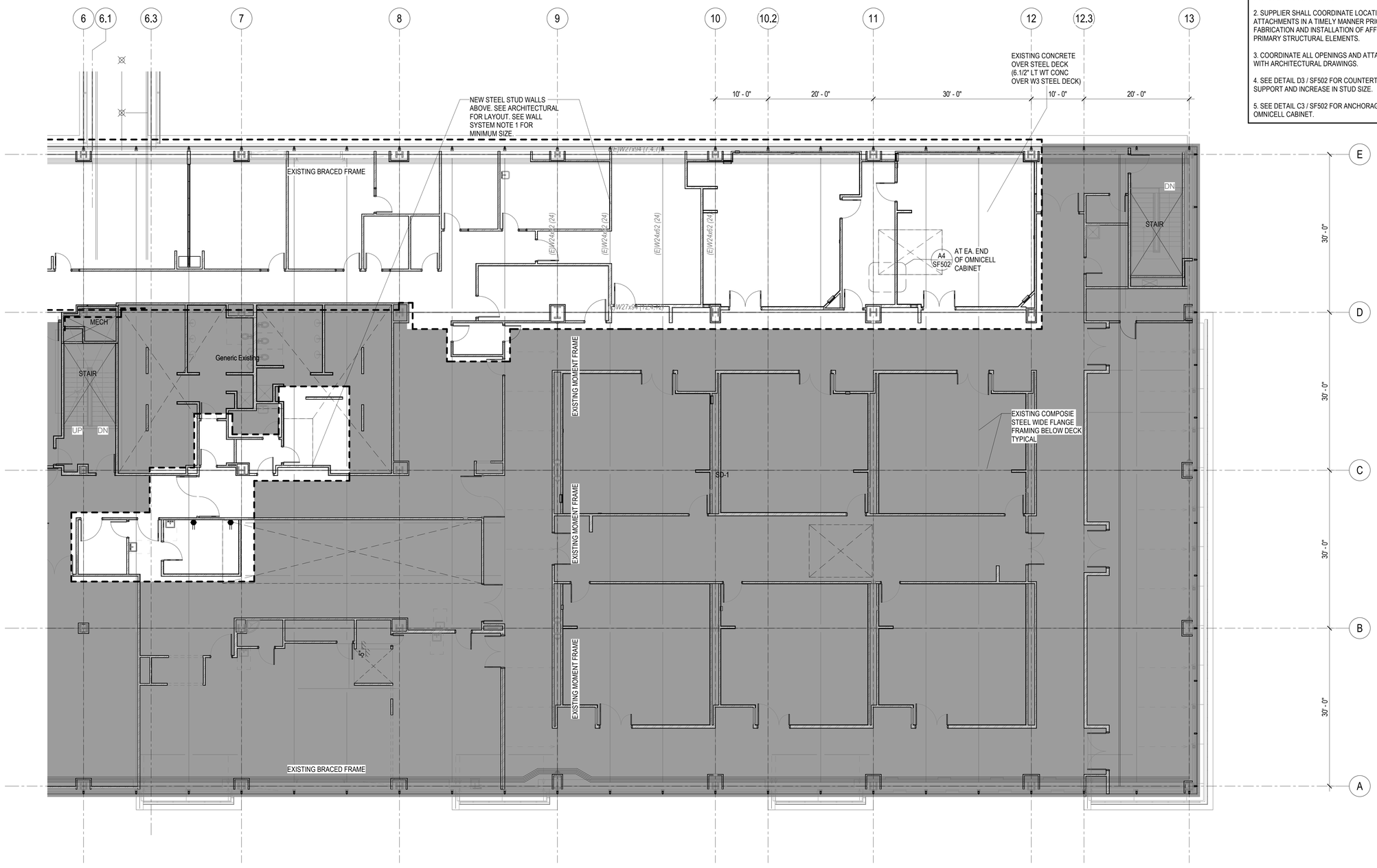
1. ALL INTERIOR STUD WALL FRAMING SHALL BE 362S162-33 COLD FORMED STEEL STUDS AT 16" O.C. MINIMUM SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION. SEE A4 / SF501 FOR OPENING INFORMATION.

2. SUPPLIER SHALL COORDINATE LOCATIONS OF ALL ATTACHMENTS IN A TIMELY MANNER PRIOR TO FABRICATION AND INSTALLATION OF AFFECTED PRIMARY STRUCTURAL ELEMENTS.

3. COORDINATE ALL OPENINGS AND ATTACHMENTS WITH ARCHITECTURAL DRAWINGS.

4. SEE DETAIL D3 / SF502 FOR COUNTERTOP SUPPORT AND INCREASE IN STUD SIZE.

5. SEE DETAIL C3 / SF502 FOR ANCHORAGE OF OMNICELL CABINET.



A1 SF101 LEVEL 3 FLOOR PLAN

NO SCALE

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AHJ CONSTRUCTION SET
SEPTEMEBER 19, 2022

LICENSED STRUCTURAL ENGINEER
NO. 177419
JEFFREY THOMAS MILLER
UTAH
08/10/22

△ DATE REVISION

U of U PROJECT NUMBER

LEVEL 3 ANNOTATION PLAN

SF101

9/16/2022 11:18:23 AM

EXISTING BUILDING NOTES

1. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO DETAILING, FABRICATING, ERECTING OR INSTALLING ANY STRUCTURAL ELEMENT. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN TEAM IN A TIMELY MANNER SUCH THAT WORK WILL NOT BE DELAYED.

2. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING OF EXISTING STRUCTURE DURING CONSTRUCTION.

A1 / SF102 LEVEL 4 FLOOR PLAN

NO SCALE

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AHJ CONSTRUCTION SET
SEPTEMEBER 19, 2022

LICENSED STRUCTURAL ENGINEER
NO. 177419
THOMAS MILLER
UTAH
08/10/22

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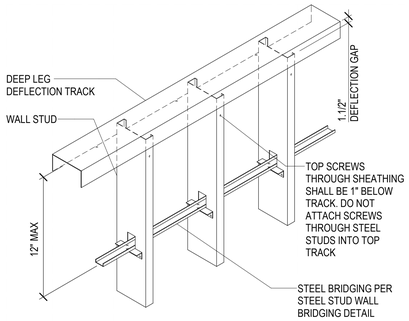
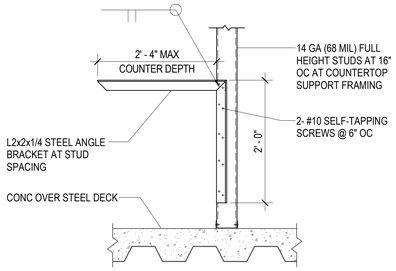
LEVEL 4
ANNOTATION
PLAN

SF102



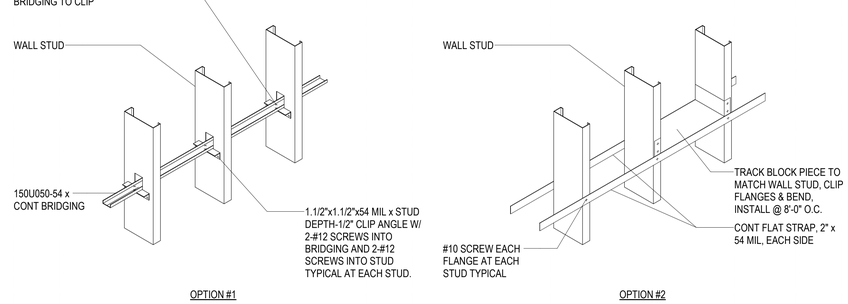
C1 SF501 TYPICAL STEEL STUD WALL DEFLECTION TRACK ASSEMBLY DETAIL - SINGLE TRACK

NO SCALE



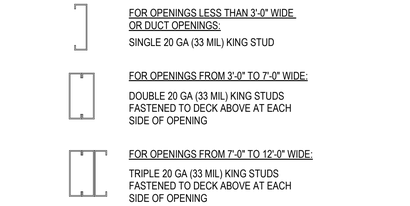
C2 SF501 COUNTER TOP SUPPORT FRAMING

NO SCALE



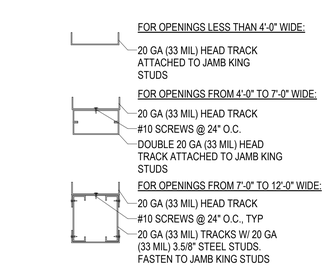
B5 SF501 TYPICAL STEEL STUD WALL BRIDGING DETAIL @ 4'-0" MAX

NO SCALE



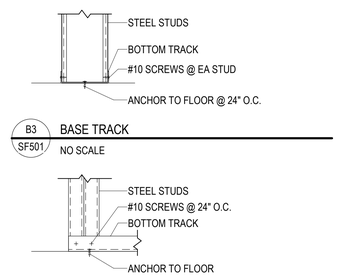
B1 SF501 JAMB AT OPENINGS

NO SCALE



B2 SF501 HEADER AT OPENINGS

NO SCALE

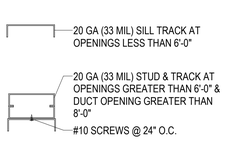


B3 SF501 BASE TRACK

NO SCALE

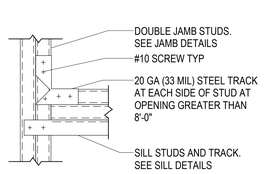
B4 SF501 BASE TRACK AT OPENING

NO SCALE



A1 SF501 SILL AT OPENINGS

NO SCALE



A2 SF501 FRAMED OPENING AT JAMB

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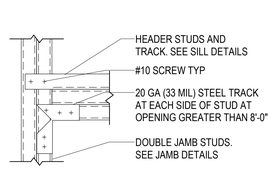
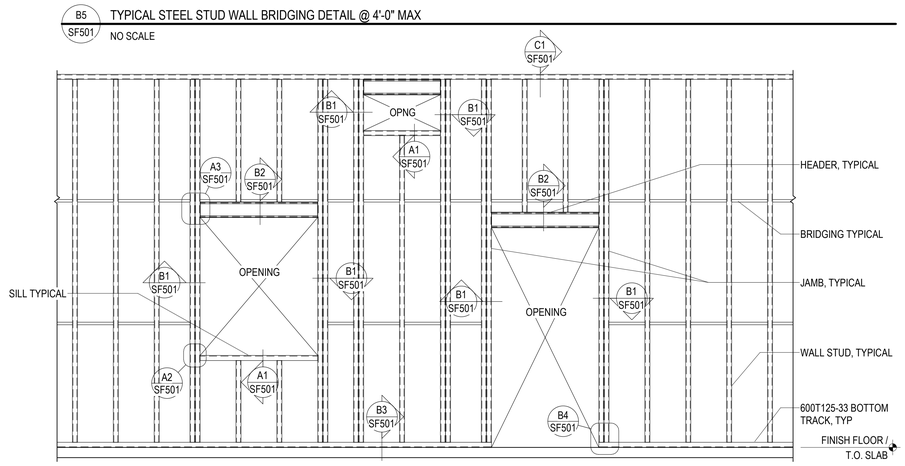


A3 SF501 FRAMED OPENING AT JAMB

NO SCALE



A4 SF501 STEEL STUD WALL & OPENING FRAMING

NO SCALE

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AHJ CONSTRUCTION SET
SEPTEMEBER 19, 2022

LICENSED STRUCTURAL ENGINEER
NO. 177419
PROFESSIONAL ENGINEER
THOMAS MILLER
UTAH
08/10/22

△ DATE REVISION

U of U PROJECT NUMBER

INTERIOR STEEL STUD WALL DETAILS

SF501

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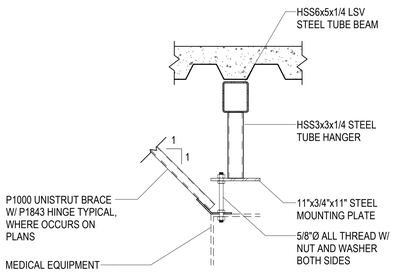
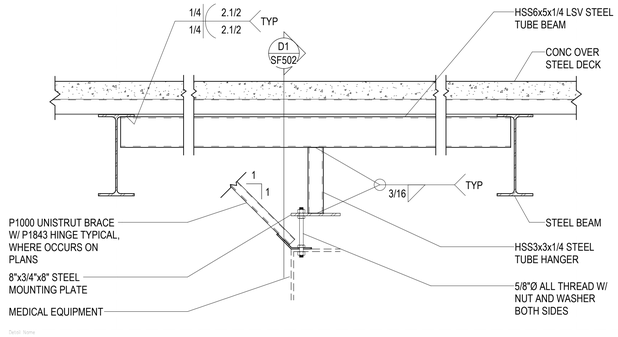


D1 / SF502 OPERATING ROOM DIFFUSER SYSTEM SUPPORT

NO SCALE



D2 / SF502 OPERATING ROOM DIFFUSER SYSTEM SUPPORT

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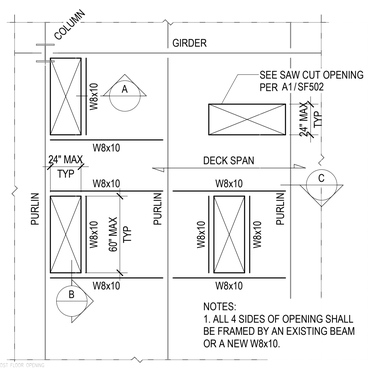
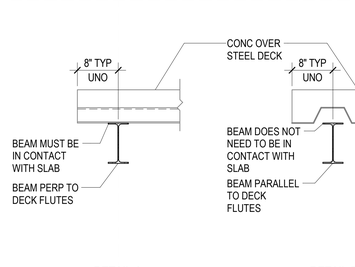
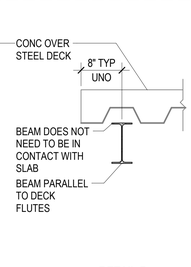


B1 / SF502 ADDITIONAL FRAMING FOR MISC DECK PENETRATIONS - POST INSTALLED (24" TO 60")

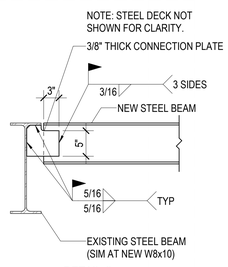
NO SCALE



DETAIL A



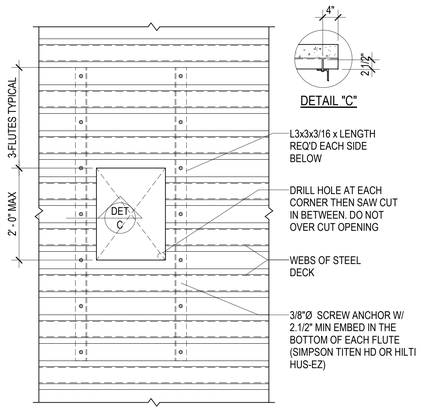
DETAIL B



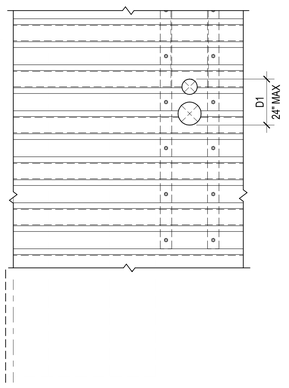
DETAIL C

A1 / SF502 TYPICAL MISCELLANEOUS FLOOR OPENING (UP TO 24") REINFORCING DETAIL FOR COMPOSITE STEEL DECK

NO SCALE



SAW-CUT OPENING



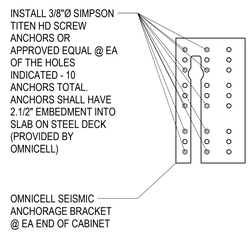
GROUPED OPENINGS

NOTES:
1. UNREINFORCED OPENINGS
A. OPENINGS UP TO 6"Ø DO NOT REQUIRE REINFORCING PROVIDED THEY ARE NOT SPACED LESS THAN 32" O.C.

2. SAW-CUT OPENINGS
A. SHIM GAPS BETWEEN ANGLE AND BOTTOM FLUTE.
B. INSTALL ANCHORS PER ICC REPORT.

3. GROUPED OPENINGS
A. OPENINGS SPACED CLOSER THAN THE MIN SPACING SHALL BE REINFORCED AS A SINGLE OPENING.
B. THE SIZE OF OPENINGS MEASURED PARALLEL TO THE DECK FLUTES IS NOT LIMITED.

4. OPENINGS LARGER THAN ALLOWED ON THESE DETAILS REQUIRE A FRAME. CONTACT ENGINEER IF FRAME IS NOT PROVIDED ON THE PLAN.



A4 / SF502 SEISMIC ANCHORAGE FOR OMNICELL CABINET

NO SCALE

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AHJ CONSTRUCTION SET
SEPTEMEBER 19, 2022

LICENSED STRUCTURAL ENGINEER
NO. 177408
EDDIE THOMAS MILLER
UTAH
08/10/22

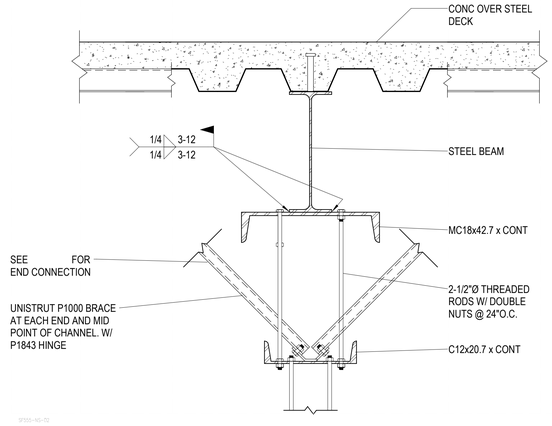
△ DATE REVISION

U of U PROJECT NUMBER

MEDICAL EQUIPMENT SUPPORT DETAILS

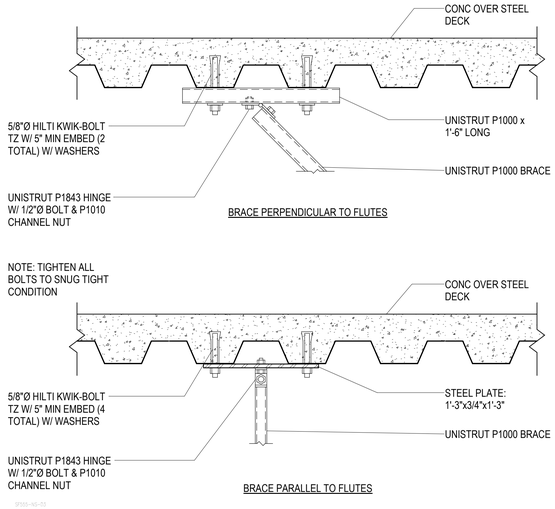
SF502

9/16/2022 11:18:25 AM



A1 SF503 TYPICAL FOLDING PARTITION SUPPORT CONNECTION TO STEEL BEAM

NO SCALE



A3 SF503 TYPICAL UNISTRUT CONNECTION TO CONC SLAB OVER FLOOR DECK

NO SCALE

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AHJ CONSTRUCTION SET
SEPTEMEBER 19, 2022

LICENSED STRUCTURAL ENGINEER NO. 11711 THOMAS MILLER UTAH
08/10/22

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U of U PROJECT NUMBER

PARTITION SUPPORT DETAILS

SF503

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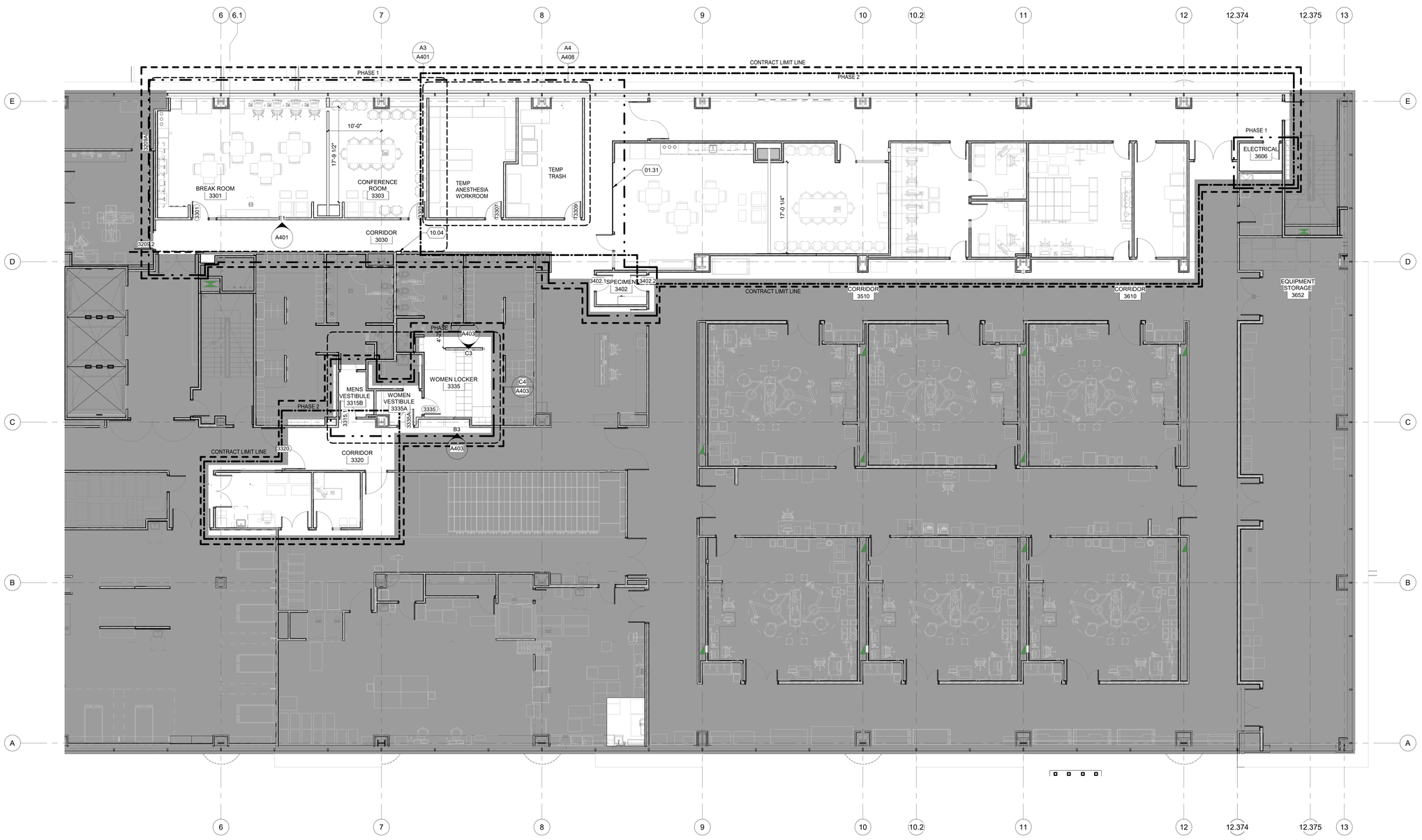

REFERENCE NOTES

01.31	PROVIDE TEMPORARY GYP. BOARD WALL ICRA BARRIER
10.04	INSTALL EXISTING FIRE EXTINGUISHER CABINET

LEGEND

Room name 101 A1/ A101B — ROOM NAME; ROOM NUMBER; REFERENCE TO ENLARGED PLAN

GENERAL NOTES

1. CONTRACTOR IS TO LIMIT WORK TO AREAS INDICATED WITHIN THE CONTRACT LIMIT LINE, UNLESS SPECIFICALLY NOTED OTHERWISE.
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3. AFTER DEMOLITION HAS BEEN COMPLETED AND PRIOR TO ALL CONSTRUCTION ACTIVITIES, THE CONTRACTOR IS TO LAYOUT ALL INTERIOR WALLS USING CHALK OR OTHER NON-PERMANENT MARKING DEVICE. LAYOUT IS TO BE VERIFIED BY THE PROJECT ARCHITECT.
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A1 LEVEL 3 REFERENCE PLAN - PHASE 1

SCALE: 1/8" = 1'-0"

TRUE PROJECT

FFKR ARCHITECTS
730 Pacific Avenue · Salt Lake City, Utah 84104
O 801.521.6186 · FFKR.COM

ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH — MICHAEL ADAM DOLAN — No. 7732018-0301 — LICENSED ARCHITECT — 09-16-2022

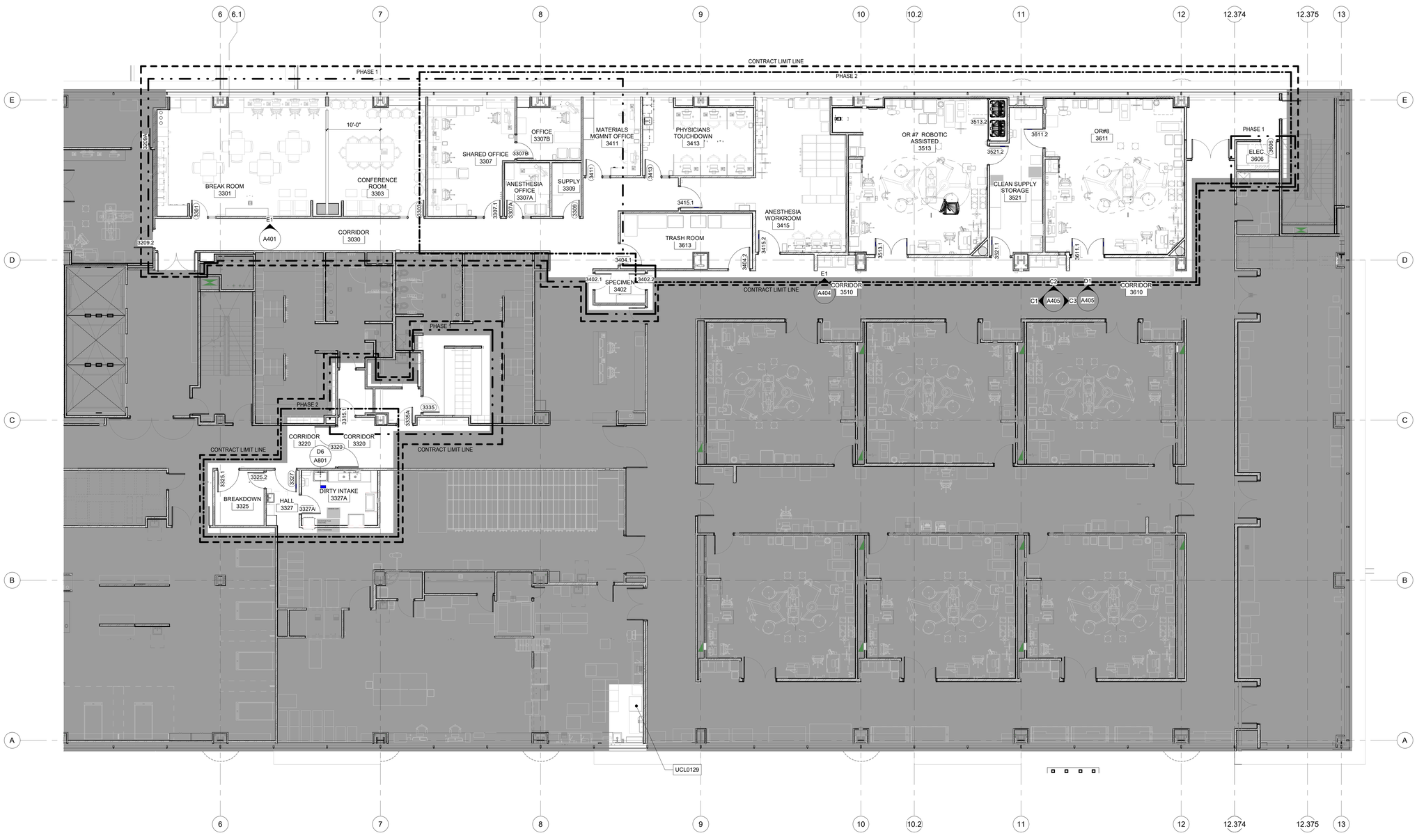
△ DATE REVISION

U of U PROJECT NUMBER

LEVEL 3 REFERENCE PLAN - PHASE 1

A105.1

9/19/2022 10:51:12 AM



REFERENCE NOTES

EQUIPMENT NOTES

(RESPONSIBILITY: FURNISHED/INSTALLED

UCL0129 ULTRASONIC CLEANER, FLOOR (O/C)

LEGEND

Room name — ROOM NAME
101 — ROOM NUMBER
A1/A101B — REFERENCE TO ENLARGED PLAN

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A1 LEVEL 3 REFERENCE PLAN - PHASE 2

SCALE: 1/8" = 1'-0"

TRUE PROJECT

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
REGISTERED ARCHITECT
09.16.2022

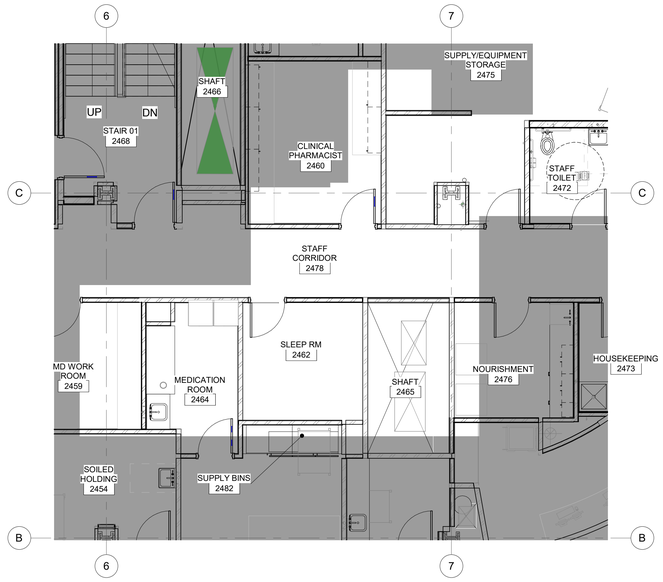
△ DATE REVISION

U of U PROJECT NUMBER

LEVEL 3 REFERENCE PLAN - PHASE 2

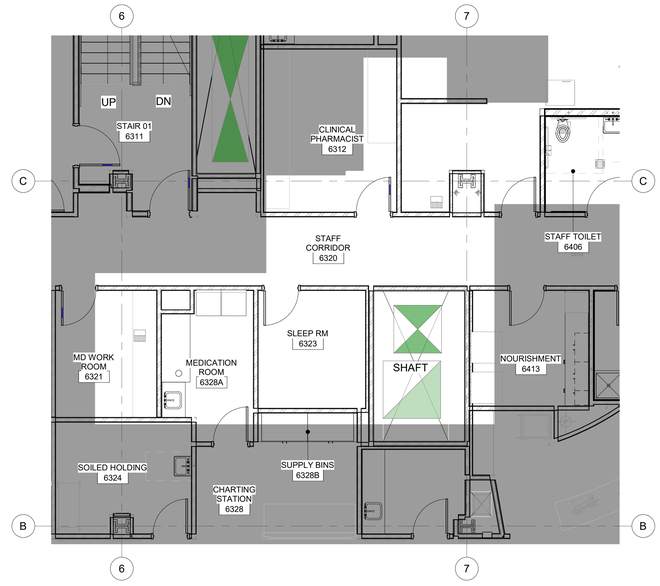
A105.2

9/19/2022 10:51:40 AM



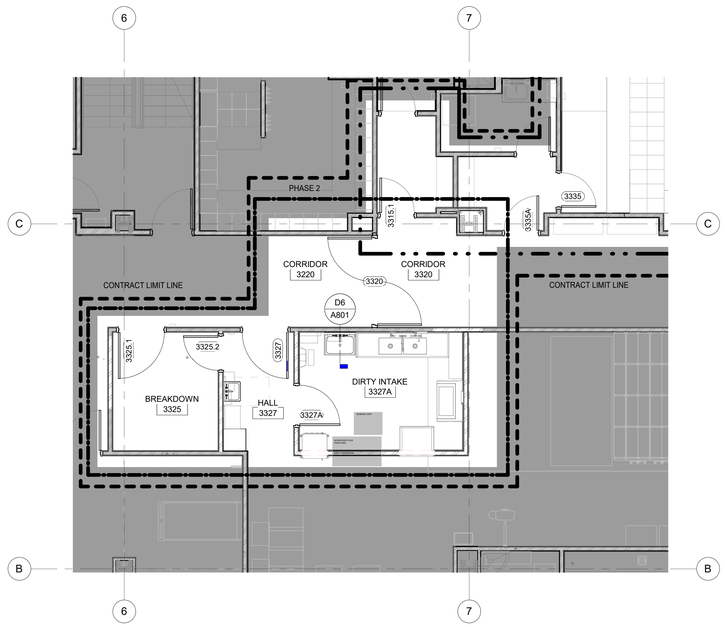
C1 LEVEL 5 - VENT DUCT SHAFT PLAN

SCALE: 3/16" = 1'-0"



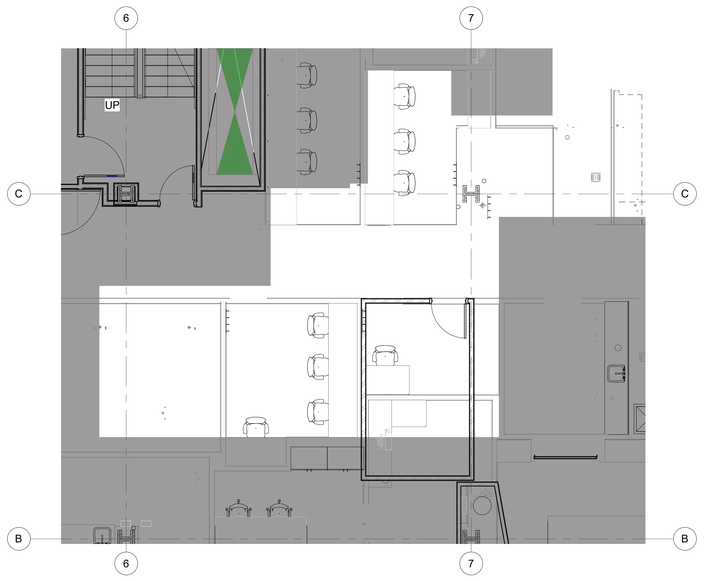
C4 LEVEL 6 - VENT DUCT SHAFT PLAN

SCALE: 3/16" = 1'-0"



A1 LEVEL 3 - VENT DUCT SHAFT PLAN

SCALE: 3/16" = 1'-0"



A4 LEVEL 4 - VENT DUCT SHAFT PLAN

SCALE: 3/16" = 1'-0"

REFERENCE NOTES

LEGEND

Room name — ROOM NAME
101 — ROOM NUMBER
A1/A101B — REFERENCE TO ENLARGED PLAN

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CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
REGISTERED ARCHITECT
09-19-2022

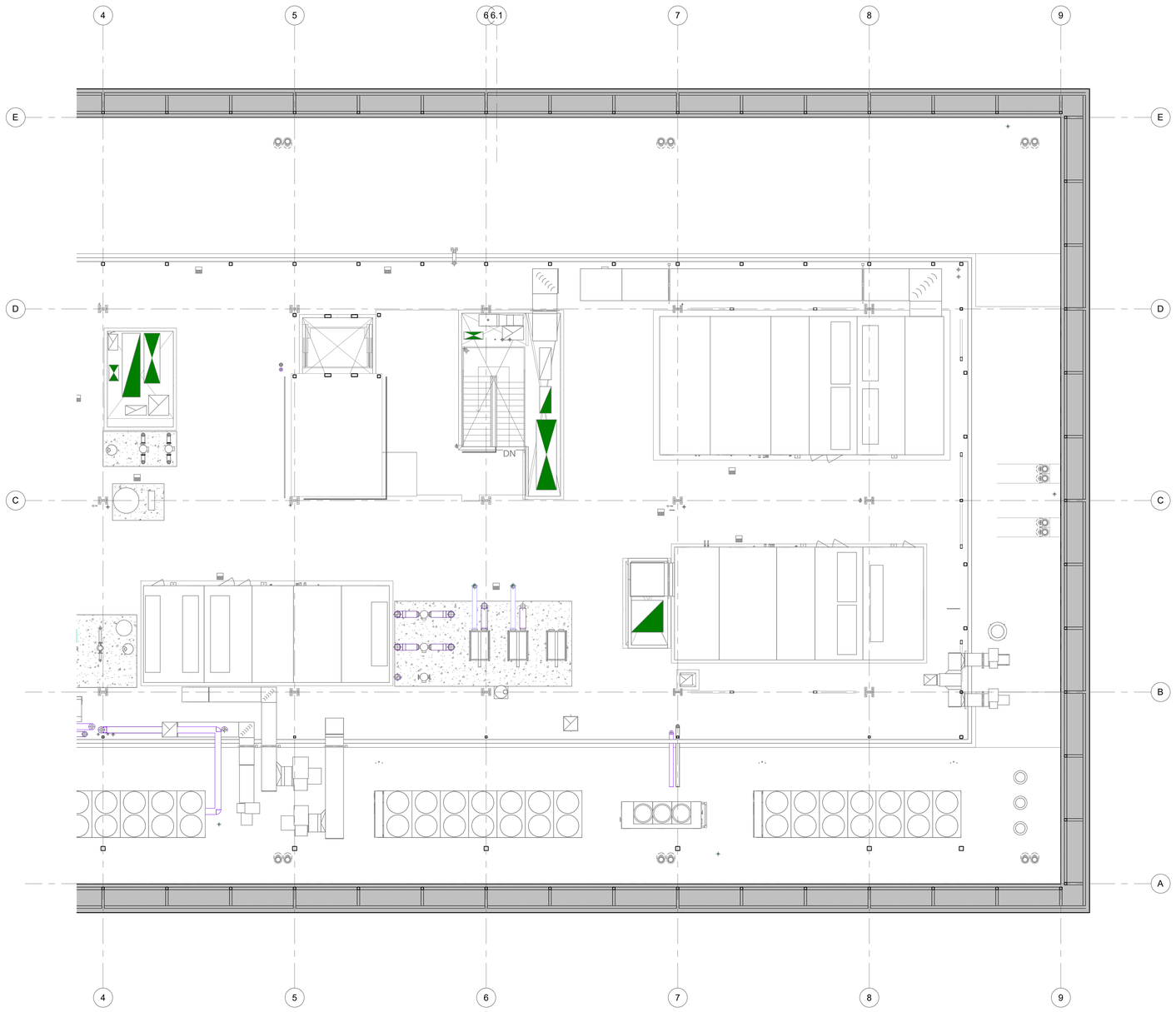
△ DATE REVISION

U of U PROJECT NUMBER

LEVEL - 3,4,5,6 VENT/DUCT SHAFT PLANS

A106

9/19/2022 10:51:47 AM



A2 LEVEL 7 PENTHOUSE - ENLARGED PLAN

SCALE: 1/8" = 1'-0"

TRUE PROJECT

REFERENCE NOTES

LEGEND

Room name
101
A1/A101B

ROOM NAME
ROOM NUMBER
REFERENCE TO ENLARGED PLAN

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UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
REGISTERED ARCHITECT
09-16-2022

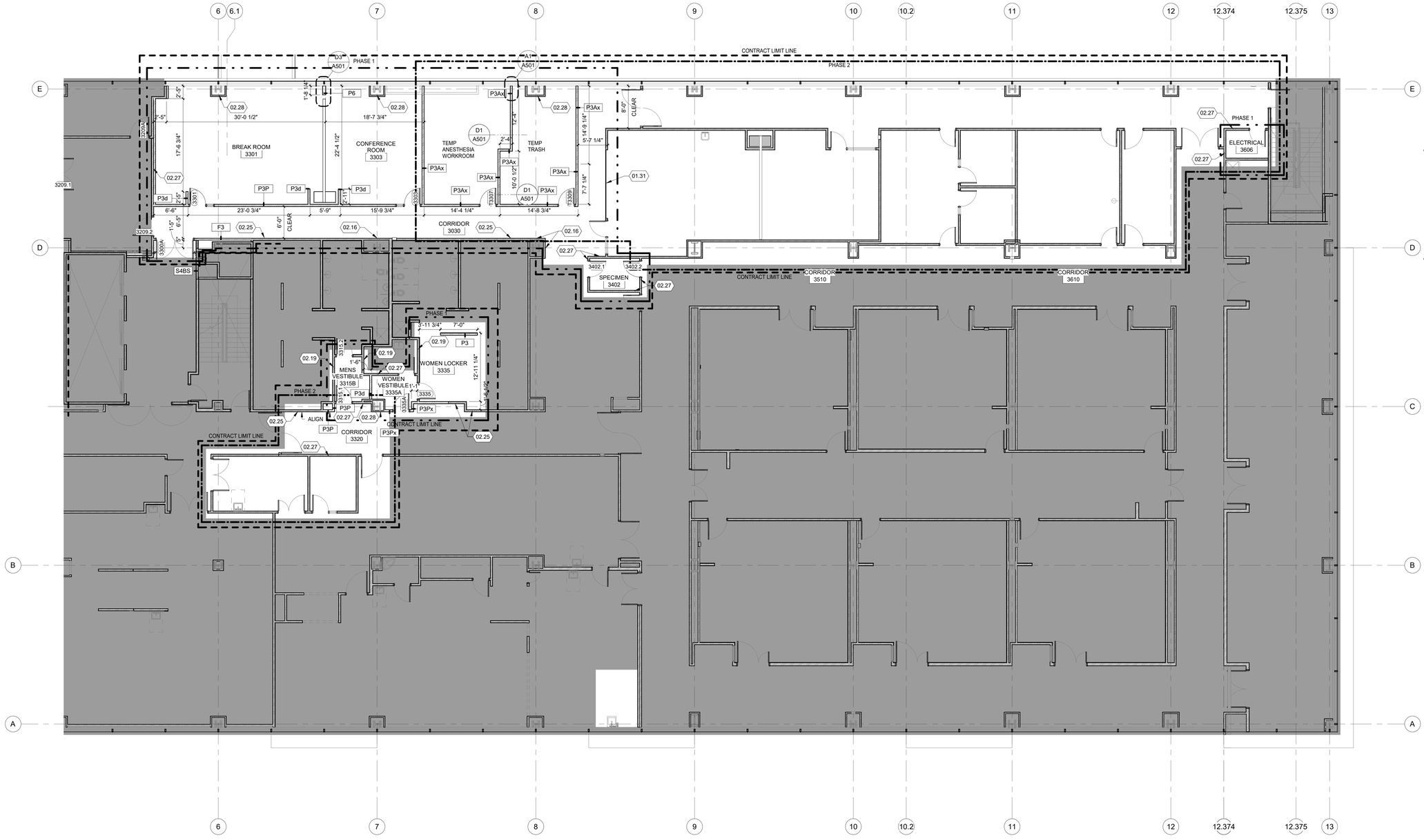
△ DATE REVISION

U of U PROJECT NUMBER

LEVEL 7 MECHANICAL PENTHOUSE PLAN

A107

9/19/2022 10:51:48 AM



REFERENCE NOTES

01.31	PROVIDE TEMPORARY GYP. BOARD WALL ICRA BARRIER
02.16	EXISTING WALL TYPE C3P, FIELD VERIFY
02.19	EXISTING WALL TYPE P3D, FIELD VERIFY
02.25	EXISTING WALL TYPE P3PX, FIELD VERIFY
02.27	EXISTING WALL TYPE P3P, FIELD VERIFY
02.28	EXISTING WALL TYPE C2, FIELD VERIFY

LEGEND

Room name 101 A1/ A101B — ROOM NAME; ROOM NUMBER; REFERENCE TO ENLARGED PLAN

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A1 LEVEL 3 ANNOTATION PLAN - PHASE 1
SCALE: 1/8" = 1'-0"

TRUE PROJECT

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ACC OR EXPANSION REMODEL
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CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH — MICHAEL ADAM DOLAN — No. 7732018-0301 — LICENSED ARCHITECT — 09-16-2022

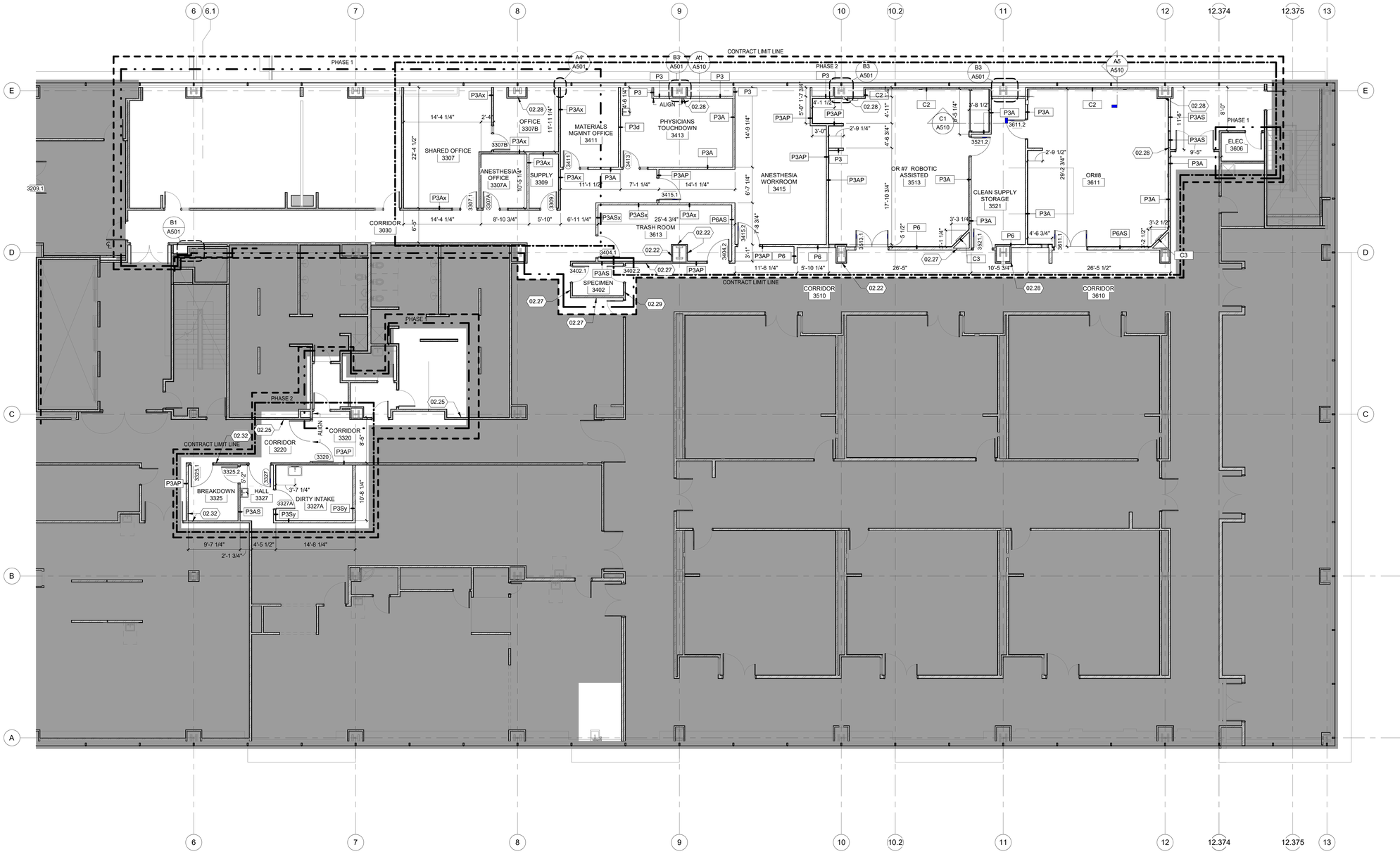
△	DATE	REVISION
	09/12/2022	DOH Response 1

U of U PROJECT NUMBER

LEVEL 3 ANNOTATION PLAN - PHASE 1

A125.1

9/19/2022 10:51:57 AM



REFERENCE NOTES

02.22	EXISTING WALL TYPE C2P, FIELD VERIFY
02.25	EXISTING WALL TYPE P3PX, FIELD VERIFY
02.27	EXISTING WALL TYPE P3P, FIELD VERIFY
02.28	EXISTING WALL TYPE C2, FIELD VERIFY
02.29	EXISTING WALL TYPE P3AS, FIELD VERIFY
02.32	EXISTING WALL TYPE P3AP, FIELD VERIFY

LEGEND

Room name / 101 / A1/ A101B — ROOM NAME; ROOM NUMBER; REFERENCE TO ENLARGED PLAN

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13. PROVIDE LEVEL 5 GYPSUM BOARD FINISH AT ALL WALL AREAS WHERE LIGHT FIXTURES OCCUR 12" OR LESS FROM ANY WALL.
14. DEPTH OF COUNTERTOP FROM BACK OF WALL TO FRONT OF COUNTER IS NOT TO EXCEED 24", TYP.
15. ALL WORK IMPACTING ADJACENT SPACES CURRENTLY OCCUPIED BY THE UNIVERSITY IS TO BE COORDINATED AND SCHEDULED WITH THE PROJECT MANAGER AND UNIVERSITY OCCUPANT.
16. ALL WORK SHALL COMPLY WITH 2018 IFC CHAPTERS 33 FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION, AND WITH CHAPTER 35 WELDING AND OTHER HOT WORK.
17. ANY IMPAIRMENTS TO THE AUTOMATIC FIRE SPRINKLER SYSTEM SHALL BE COORDINATED WITH AND REPORTED TO THE LOCAL FIRE AUTHORITY.

A1 LEVEL 3 ANNOTATION PLAN - PHASE 2

SCALE: 1/8" = 1'-0"

TRUE PROJECT

FFKR ARCHITECTS
730 Pacific Avenue · Salt Lake City, Utah 84104
O 801.521.6186 · FFKR.COM

ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
REGISTERED ARCHITECT
09.16.2022

△	DATE	REVISION
	09/12/2022	DOH Response 1

U of U PROJECT NUMBER

LEVEL 3 ANNOTATION PLAN - PHASE 2

A125.2

9/19/2022 10:52:07 AM

REFERENCE NOTES

26.16 EXIT SIGN RE: ELECTRICAL

EQUIPMENT NOTES

(RESPONSIBILITY: FURNISHED/INSTALLED

CEILING LEGEND

ROOM NAME
HEIGHT ABOVE FINISHED FLOOR — RM NO. / HT C / PNT — CEILING TYPE / CEILING FINISH

LIGHT FIXTURES

MECHANICAL FIXTURES

24"x24" ACCESS PANEL

FIRE SPRINKLERS +

S1 MANUALLY OPERATED ROLLER SHADES WITH SINGLE ROLLER

S2 MOTOR-OPERATED ROLLER SHADES WITH SINGLE ROLLER

S3 MOTOR-OPERATED ROLLER SHADES WITH DOUBLE ROLLER

CEILING TYPE

- A GYPSUM BOARD
- C IMPACT RESISTANT GYPSUM BOARD
- D 2x2 ACOUSTICAL PANEL - TEGULAR EDGE (ACT-2)
- E 2x2 ACOUSTICAL PANEL - SQUARE EDGE (ACT-4)
- F 2x2 ACOUSTICAL PANEL - VINYL LAMINATED (ACT-3)
- G PAINTED CONCRETE
- H PERFORATED PANEL (PP-1) & (PP-2)
- J TRANSITION FACE PLATE (CFP-1)
- L 2x6 ACOUSTICAL PANEL - TEGULAR EDGE (ACT-1)
- M 2x2 GRID - GYPSUM TILE (GCT)
- S OPEN TO STRUCTURE
- Q 2 HOUR FIRE RATED GYPSUM CAP
- R 2 HOUR FIRE RATED GYPSUM
- T ACOUSTIC FELT PANEL (FCP-1)
- W WOOD
- X 2x4 WOOD PANEL CEILING
- Y NOT USED

GENERAL CEILING NOTES

1. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING WORK.
2. CONTRACTOR IS RESPONSIBLE TO VERIFY THAT THE DESIGNED HEIGHT OF CEILING CAN BE ACHIEVED DURING INSTALLATION OF ABOVE CEILING WORK SUCH AS PLUMBING, FIRE SPRINKLER, CABLE TRAY, DUCTWORK, ELECTRICAL, ETC.. NOTIFY ARCHITECT OF ANY CONFLICTS PRIOR TO THE COMPLETING THE INSTALLATION OF THE CONFLICTING SYSTEM.
3. ALL PIPING, PLUMBING, DUCTWORK, ASSOCIATED SYSTEMS AND INSTALLATION HARDWARE WITHIN THE CEILING PLENUM IS TO BE INSTALLED A MINIMUM OF 6" ABOVE FINISHED CEILING HEIGHT.
4. PATCH / REPAIR ALL CEILINGS DISTURBED BY INSTALLATION OF PLUMBING, MECHANICAL, ELECTRICAL, OR OTHER WORK.
5. CENTER CEILING TILE PATTERN IN ROOM AND SUCH THAT NO TILE DIMENSION IS LESS THAN 4", U.N.O.
6. CENTER LIGHT WITHIN ROOMS WITH NON-GRID CEILINGS, U.N.O.
7. CENTER ALL SPRINKLER HEADS IN CEILING TILES
8. CENTER OBJECTS IN BOTH DIRECTIONS WITHIN RECTANGLE THEY OCCUR, U.N.O.
9. ROOMS WITH NO CEILING PATTERN ARE EXPOSED TO STRUCTURE, RE: FINISH SCHEDULE FOR PAINT REQUIREMENTS
10. REFER TO ELECTRICAL FOR SPECIFIC LIGHT FIXTURE TYPE AND MOUNTING HEIGHT
11. REFER TO MECHANICAL FOR SPECIFIC FIXTURE AND DEVICE TYPES
12. ALL GYPSUM BOARD CEILINGS TO BE PAINTED P-1, U.N.O.
13. SEE A521 SERIES SHEETS FOR TYPICAL CEILING DETAILS.
14. COORDINATE SOFFIT WITH WALL HUNG MILLWORK. REFER TO DETAIL C1/A521.
15. NOT USED
16. SEE DETAILS B1, B2 AND B4/A521 FOR TYPICAL CEILING GRID SEISMIC BRACING DETAILS.
17. PAINT AT WINDOW WALL INSET TO MATCH ADJACENT ACCENT COLOR.
18. VERTICAL FACE OF SOFFIT TO BE PAINTED CONTINUOUSLY FROM HORIZONTAL SURFACE, U.N.O. - PROVIDE VERTICAL PAINT LINE TO ALIGN AS NEEDED.
19. ALL WORK SHALL COMPLY WITH 2018 IFC CHAPTERS 33 FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION, AND WITH CHAPTER 35 WELDING AND OTHER HOT WORK.
20. ANY IMPAIRMENTS TO THE AUTOMATIC FIRE SPRINKLER SYSTEM SHALL BE COORDINATED WITH AND REPORTED TO THE LOCAL FIRE AUTHORITY.

A1 LEVEL 3 RCP - PHASE 1

SCALE: 1/8" = 1'-0"

TRUE PROJECT

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O 801.521.6186 · FFKR.COM

ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
Lic. No. 7732018-0301
LICENSED ARCHITECT
09-16-2022

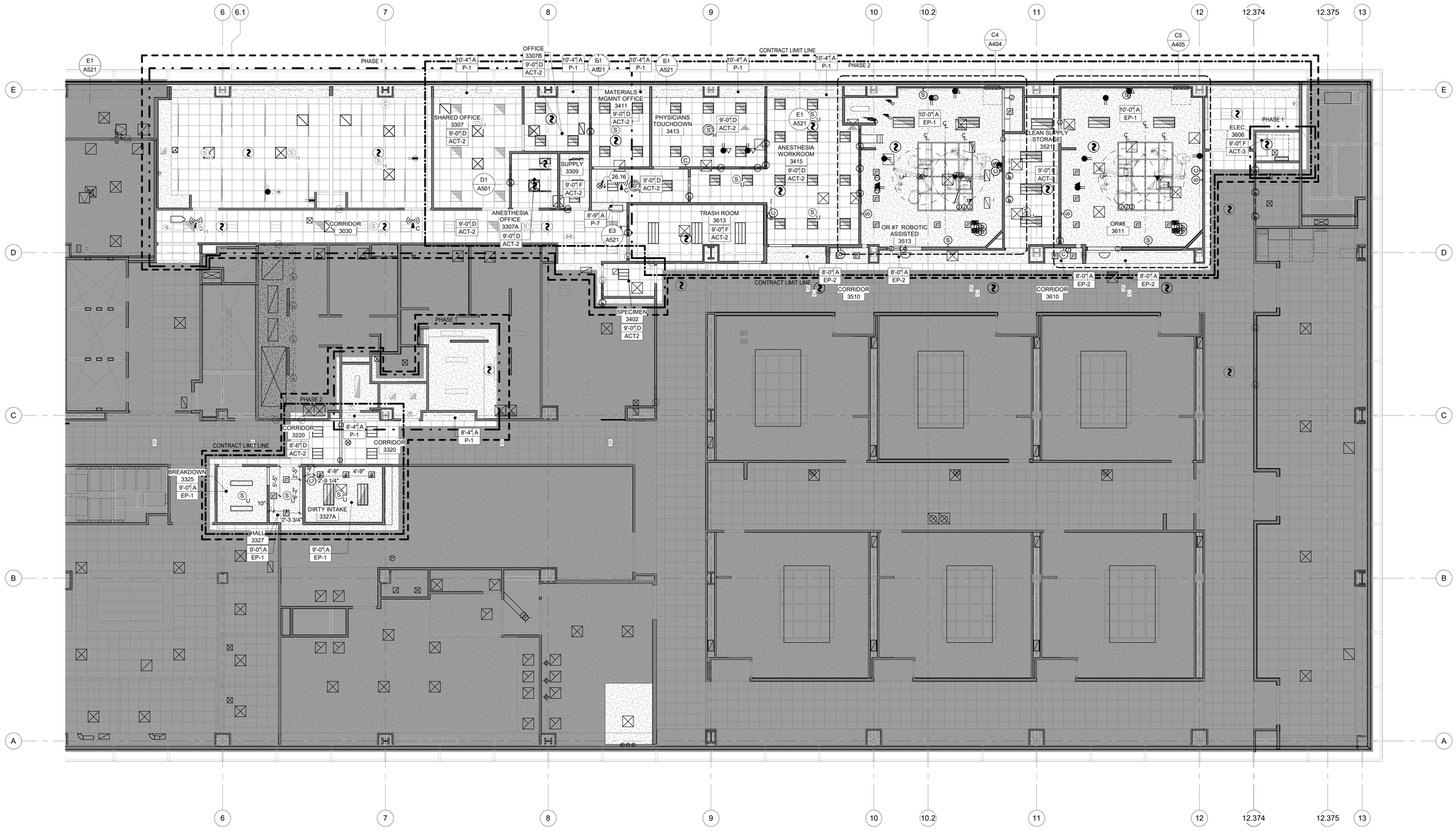
△ DATE REVISION

U of U PROJECT NUMBER

LEVEL 3 RCP - PHASE 1

A145.1

9/19/2022 10:52:19 AM



REFERENCE NOTES

26.16 EXIT SIGN RE: ELECTRICAL

EQUIPMENT NOTES

(RESPONSIBILITY: FURNISHED/INSTALLED

CEILING LEGEND

ROOM NAME
HEIGHT ABOVE FINISHED FLOOR — RM NO. / HT | C / PNT — CEILING TYPE / CEILING FINISH

LIGHT FIXTURES

MECHANICAL FIXTURES

24"x24" ACCESS PANEL

FIRE SPRINKLERS +

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S2 MOTOR-OPERATED ROLLER SHADES WITH SINGLE ROLLER

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CEILING TYPE

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- C IMPACT RESISTANT GYPSUM BOARD
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- E 2x2 ACOUSTICAL PANEL - SQUARE EDGE (ACT-4)
- F 2x2 ACOUSTICAL PANEL - VINYL LAMINATED (ACT-3)
- G PAINTED CONCRETE
- H PERFORATED PANEL (PP-1) & (PP-2)
- J TRANSITION FACE PLATE (CFP-1)
- L 2x6 ACOUSTICAL PANEL - TEGULAR EDGE (ACT-1)
- M 2x2 GRID - GYPSUM TILE (GCT)
- S OPEN TO STRUCTURE
- Q 2 HOUR FIRE RATED GYPSUM CAP
- R 2 HOUR FIRE RATED GYPSUM
- T ACOUSTIC FELT PANEL (FCP-1)
- W WOOD
- X 2x4 WOOD PANEL CEILING
- Y NOT USED

GENERAL CEILING NOTES

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4. PATCH / REPAIR ALL CEILINGS DISTURBED BY INSTALLATION OF PLUMBING, MECHANICAL, ELECTRICAL, OR OTHER WORK.
5. CENTER CEILING TILE PATTERN IN ROOM AND SUCH THAT NO TILE DIMENSION IS LESS THAN 4", U.N.O.
6. CENTER LIGHT WITHIN ROOMS WITH NON-GRID CEILINGS, U.N.O.
7. CENTER ALL SPRINKLER HEADS IN CEILING TILES
8. CENTER OBJECTS IN BOTH DIRECTIONS WITHIN RECTANGLE THEY OCCUR, U.N.O.
9. ROOMS WITH NO CEILING PATTERN ARE EXPOSED TO STRUCTURE, RE: FINISH SCHEDULE FOR PAINT REQUIREMENTS
10. REFER TO ELECTRICAL FOR SPECIFIC LIGHT FIXTURE TYPE AND MOUNTING HEIGHT
11. REFER TO MECHANICAL FOR SPECIFIC FIXTURE AND DEVICE TYPES
12. ALL GYPSUM BOARD CEILINGS TO BE PAINTED P-1, U.N.O.
13. SEE A521 SERIES SHEETS FOR TYPICAL CEILING DETAILS.
14. COORDINATE SOFFIT WITH WALL HUNG MILLWORK. REFER TO DETAIL C1/A521.
15. NOT USED
16. SEE DETAILS B1, B2 AND B4/A521 FOR TYPICAL CEILING GRID SEISMIC BRACING DETAILS.
17. PAINT AT WINDOW WALL INSET TO MATCH ADJACENT ACCENT COLOR
18. VERTICAL FACE OF SOFFIT TO BE PAINTED CONTINUOUSLY FROM HORIZONTAL SURFACE, U.N.O. - PROVIDE VERTICAL PAINT LINE TO ALIGN AS NEEDED.
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A1 LEVEL 3 RCP PHASE 2

SCALE: 1/8" = 1'-0"

TRUE PROJECT

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
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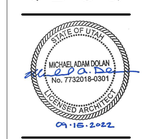


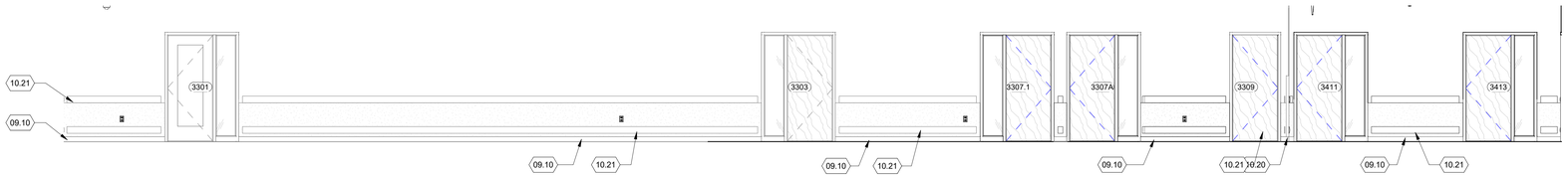
△ DATE REVISION

U of U PROJECT NUMBER

LEVEL 3 RCP - PHASE 2

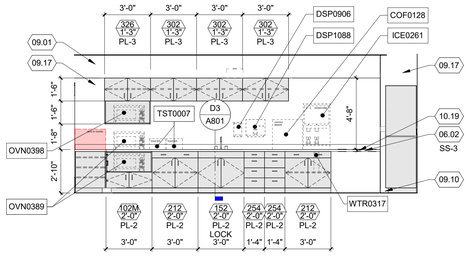
A145.2

9/19/2022 10:52:35 AM



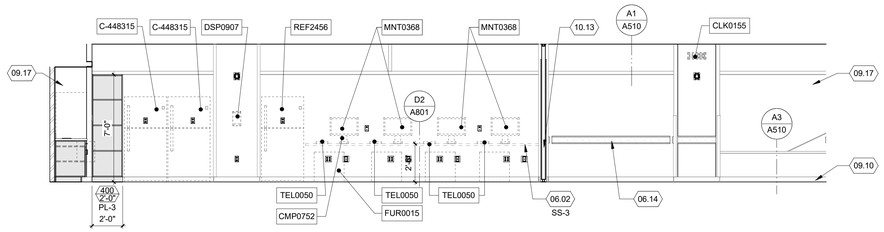
E1 CORRIDOR 3030 - NORTH ELEVATION

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



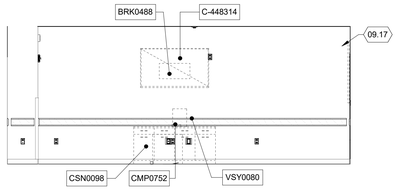
D1 OR BREAK ROOM - NORTH ELEVATION

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



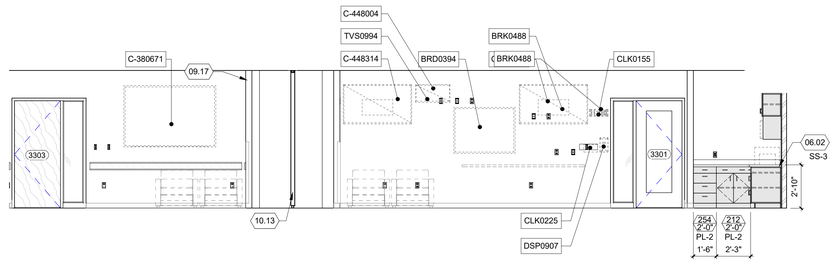
D3 OR BREAK/CONFERENCE ROOM - EAST ELEVATION

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



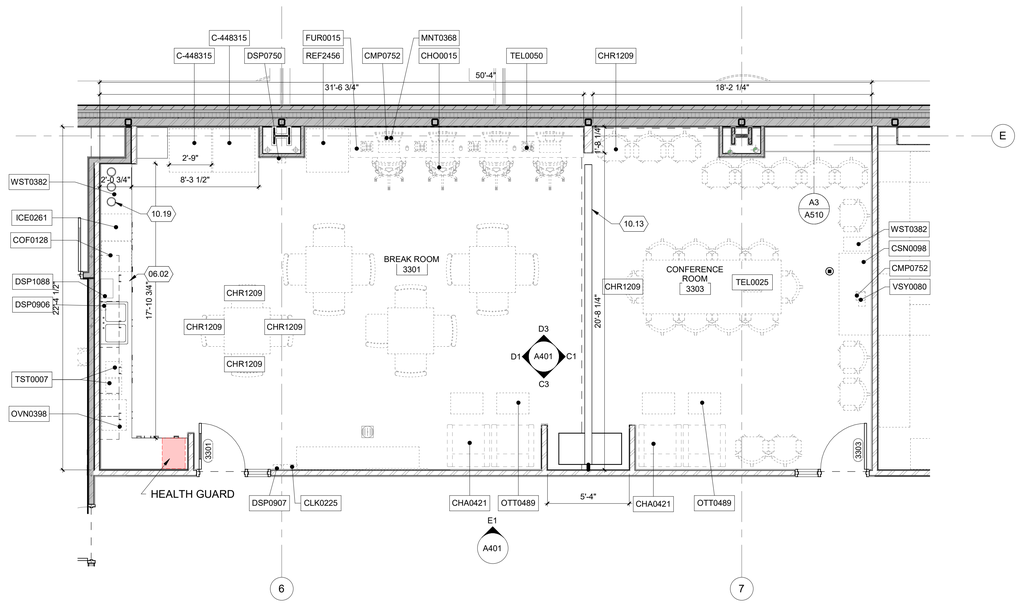
C1 OR CONFERENCE ROOM - SOUTH ELEVATION

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



C3 OR BREAK/CONFERENCE ROOM - WEST ELEVATION

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



A3 OR BREAK ROOM / CONFERENCE ROOM - ENLARGED PLAN

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

REFERENCE NOTES

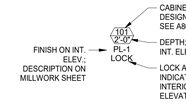
06.02	COUNTERTOP
06.14	CHAIR RAIL, SEE FINISH PLANS
09.01	5/8" TYPE 'X' GYPSUM BOARD
09.10	WALL BASE, REF: FINISH PLANS
09.17	FRAMED GYPSUM BOARD WALL, PAINTED
10.13	MOTORIZED FOLDING PANEL PARTITION
10.19	METAL COUNTER GROMMET
10.20	CORNER GUARD
10.21	WALL PROTECTION, SEE WALL PROTECTION PLANS FOR WALL PROTECTION TYPE

EQUIPMENT NOTES

(RESPONSIBILITY: FURNISHED/INSTALLED

BRD0394	BOARD, BULLETIN (O/C)
BRK0488	BRACKET, TELEVISION, WALL, FLAT PANEL (O/C)
C-380671	BOARD, WHITE, DRY ERASE, MAGNETIC, 36"X48"(V/V)
C-448004	BRACKET, TELEVISION, WALL - (FOR 36" TV) (O/C)
C-448314	TELEVISION, 50-65 IN, FLAT PANEL (O/O)
C-448315	REFRIGERATOR, DOMESTIC (O/O)
CHA0421	CHAIR, INTERIORS, NALA (O/O)
CHO0015	CHAIR, OFFICE, TASK, W/ARMS (O/O)
CHR1209	CHAIR, INTERIORS, GUEST, W/ARMS (O/O)
CLK0155	CLOCK, DIGITAL, SYNCHRONIZED, WIRED (O/V)
CLK0225	CLOCK, EMPLOYEE TIME (O/O)
CMP0752	COMPUTER, DESKTOP (O/O)
COF0128	COFFEE MAKER, DOMESTIC (O/O)
CSN0098	CABINET, STORAGE, NON-CLINICAL, CREDENZA (O/O)
DSP0750	DISPENSER, HAND SANITIZER, WALL MOUNT (O/O)
DSP0906	DISPENSER, SOAP, WALL MOUNT (O/C)
DSP0907	DISPENSER, HAND SANITIZER, WALL MOUNT (O/C)
DSP1088	DISPENSER, PAPER TOWEL, SURFACE MOUNT (O/C)
FUR0015	FURNITURE, ALLOWANCE (O/O)
ICE0261	ICE MACHINE, DISPENSER, NUGGET, COUNTERTOP (O/O)
MNT0368	MONITOR, COMPUTER, LCD, 20 - 24 INCH (O/O)
OTT0489	OTTOMAN, INTERIORS, NALA FOOTSTOOL (O/V)
OVN0389	OVEN, DOMESTIC, MICROWAVE, COUNTERTOP (O/O)
OVN0398	OVEN, DOMESTIC, MICROWAVE, COUNTERTOP (O/O)
REF2456	REFRIGERATOR, DOMESTIC (SMALL) (O/O)
TEL0025	TELEPHONE, CONFERENCING (O/O)
TEL0050	TELEPHONE, DESKTOP, VOIP (O/V)
TST0007	TOASTER, COMMERCIAL (O/O)
TVS0994	TELEVISION, 30-32 IN., FLAT PANEL (O/O)
VSY0080	VIDEO SYSTEM, CONFERENCING, TELEPRESENCE (O/O)
WST0382	WASTE CAN, 20-31 GALLON (O/O)
WTR0317	WATER TREATMENT SYSTEM, ICE MAKER, WALL MOUNT (O/C)

MILLWORK LEGEND



MIL-x MILLWORK TYPICAL TYPE; SEE A806

"M" IN THE CABINET TYPE INDICATES THAT THE NUMBER IS THE MOST CLOSELY REPRESENTATIVE OF THE DESIRED DESIGN. THE CUSTOM DESCRIPTION DESCRIBES THE DESIGN MODIFICATION.

GENERAL NOTES

1. INTERIOR DIMENSIONS ARE TO FACE OF GYPSUM BOARD, U.N.O. ALL DIMENSIONS FOLLOWED BY 'CLR' INDICATE CLEAR FINISHED FACE DIMENSION.
2. PROVIDE BLOCKING / BACKING IN WALLS FOR ALL WALL MOUNTED ITEMS. RE: EQUIPMENT PLANS AND INTERIOR ELEVATIONS. SEE DETAIL A1/A602 FOR TYPICAL WALL BACKING PLATE SCHEDULE.
3. ALL DOOR JAMBS IN STUD WALLS ARE TO BE 4" CLEAR FROM ADJACENT WALL U.N.O.
4. THERE IS A PROTECTED ZONE AROUND THE BUCKLING RESTRAINED BRACE FRAME STEEL MEMBER CONNECTIONS. THERE SHALL BE NO WELDING, BOLTING, SCREWING, OR SHOT-IN ATTACHMENT TO THE BRB MEMBERS WITHIN THE PROTECTED ZONE. SEE THE STRUCTURAL DRAWINGS FOR LOCATIONS. COORDINATE WITH THE STRUCTURAL STEEL ERECTION CONTRACTOR.
5. REFER TO SHEET A601-A602 FOR PARTITION TYPES.
6. REFER TO SHEET A610 FOR DOOR SCHEDULE AND TYPICAL FRAME AND PANEL DETAILS.
7. ALL GROUT AT WET LOCATIONS SHALL BE EPOXY GROUT.
8. SEE SPECIFICATIONS FOR OWNER - FURNISHED/ OWNER-INSTALLED TOILET ACCESSORIES. CONTRACTOR IS TO PROVIDE BACKING FOR ALL TOILET ACCESSORIES
9. FURNITURE AND EQUIPMENT PROVIDED AND INSTALLED BY OWNER. IF SHOWN, FOR COORDINATION PURPOSES ONLY.
10. PROVIDE BLOCKING BEHIND ALL WALL-MOUNTED VIDEO DISPLAY UNITS, COORDINATE WITH ELECTRICAL DRAWINGS.
11. REFER TO SHEET A801 FOR MILLWORK SCHEDULE
12. REFER TO AF510 SERIES FOR FLOORING TRANSITION DETAILS. CENTER FLOORING TRANSITIONS AT CENTER LINE OF DOOR.
13. SEE FINISH PLANS AND INTERIOR ELEVATIONS FOR ACCENT PAINT LOCATIONS.
14. REFER TO G017 FOR TYPICAL MOUNTING HEIGHTS AND ADA DETAILS.
15. CAP ALL EXPOSED TILE EDGES AND CORNERS WITH STAINLESS STEEL SCHLUTER SCHIENE STRIP.
16. REFER TO EQUIPMENT SCHEDULE AND EQUIPMENT CUT SHEETS PROVIDED BY THE OWNER FOR DETAILED INFORMATION ON ALL OWNER PROVIDED EQUIPMENT. NOTIFY OWNER AND ARCHITECT OF ANY DISCREPANCIES BETWEEN EQUIPMENT PLANS, EQUIPMENT SCHEDULES AND EQUIPMENT CUT SHEETS IN ADVANCE OF ANY EQUIPMENT UTILITY ROUGH-INS OR INSTALLATION.
17. DEPTH OF COUNTERTOP FROM BACK OF WALL TO FRONT OF COUNTER IS NOT TO EXCEED 24", TYP.
18. AT AREAS OF CAULK, PROVIDE A CLEAR JOINT WHERE TWO VARYING FINISHES OR COLORS ABUT. AT AREAS WHERE THE SAME FINISH OR COLOR ABUT, PROVIDE A COLOR MATCHED CAULK. VERIFY CONDITIONS WITH ARCHITECT BEFORE PROCEEDING. REFERENCE SPEC SECTION 07 9200.
19. PROVIDE SIDE SPLASH AT ALL CONDITIONS WHERE COUNTERTOP RUNS UP TO WALL, TYP.

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No. 7732018-0301
LICENSED ARCHITECT
09.16.2022

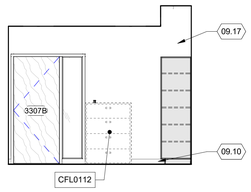
△	DATE	REVISION
	09/19/2022	DFCM Comments

U of U PROJECT NUMBER

BREAK ROOM & CONF. ENLARGED DRAWINGS

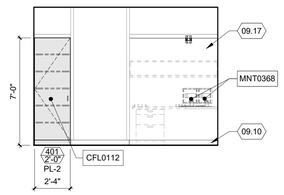
A401

9/19/2022 10:52:46 AM



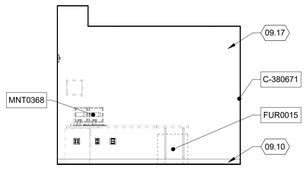
D1 OR OFFICE 3307B - NORTH ELEVATION

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



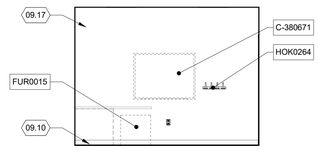
D2 OR OFFICE 3307B - EAST ELEVATION

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



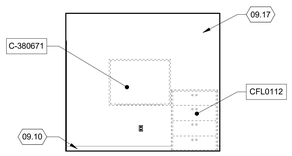
D4 OR OFFICE 3307B - SOUTH ELEVATION

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



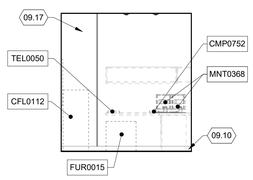
D5 OR OFFICE 3307B - WEST ELEVATION

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



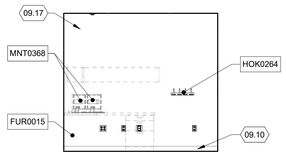
C1 OR OFFICE 3307A - NORTH ELEVATION

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



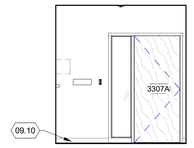
C4 OR OFFICE 3307A - EAST ELEVATION

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



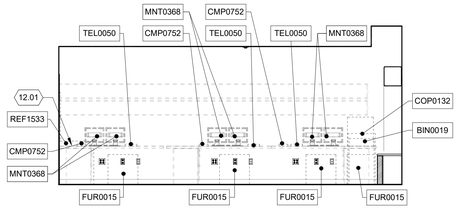
C2 OR OFFICE 3307A - SOUTH ELEVATION

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



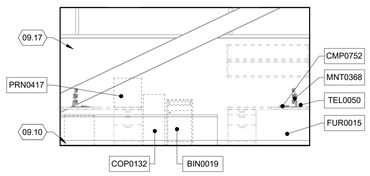
C5 OR OFFICE 3307A - WEST ELEVATION

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



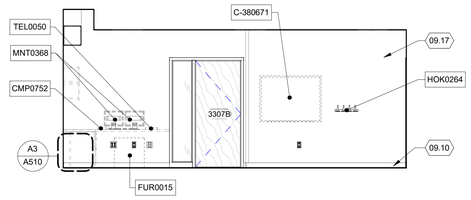
B1 OR SHARED OFFICE - NORTH ELEVATION

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



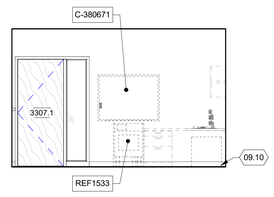
B3 OR SHARED OFFICE - EAST ELEVATION

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



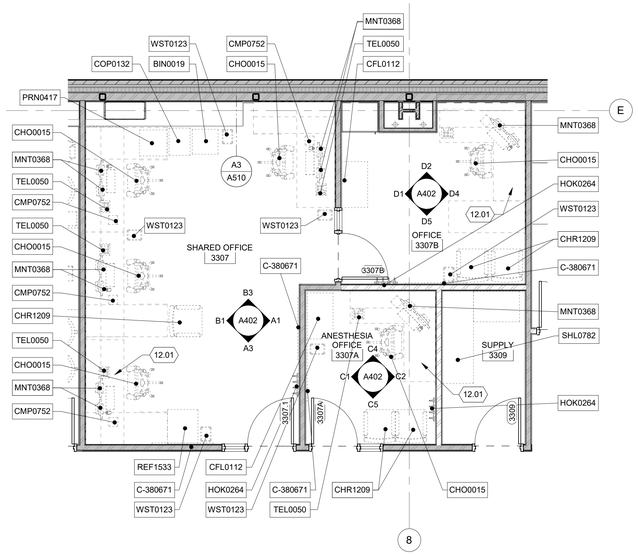
A1 OR SHARED OFFICE - SOUTH ELEVATION

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



A3 OR SHARED OFFICE - WEST ELEVATION

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



A4 OR OFFICES ENLARGED PLAN

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

REFERENCE NOTES

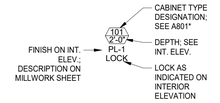
09.10	WALL BASE, REF: FINISH PLANS
09.17	FRAMED GYPSUM BOARD WALL, PAINTED
12.01	FURNITURE, REFERENCE ONLY

EQUIPMENT NOTES

(RESPONSIBILITY: FURNISHED/INSTALLED

BIN0019	BIN, SHREDDING, SECURE (O/V)
C-380671	BOARD, WHITE, DRY ERASE, MAGNETIC, 36"X48"(V/V)
CFL0112	CABINET, FILE, LATERAL, 4-DRAWER (O/V)
CHO0015	CHAIR, OFFICE, TASK, W/ARMS (O/O)
CHR1209	CHAIR, INTERIORS, GUEST, W/ARMS (O/O)
CMP0752	COMPUTER, DESKTOP (O/O)
COP0132	COPIER, FLOOR, MULTIFUNCTION (O/V)
FUR0015	FURNITURE, ALLOWANCE (O/O)
HOK0264	HOOK, COAT/ROBE, WALL MOUNT (C/C)
MNT0368	MONITOR, COMPUTER, LCD, 20 - 24 INCH (O/O)
PRN0417	PRINTER, LASER, MULTIFUNCTION (MFP COUNTER) (O/O)
REF1533	REFRIGERATOR, DOMESTIC, UNDERCOUNTER (O/O)
SHL0782	SHELVING, WIRE, CHROME, 72 INCH X 24" X 63" (O/O)
TEL0050	TELEPHONE, DESKTOP, VOIP (O/V)
WST0123	WASTE CAN, 03-19 GALLON (O/O)

MILLWORK LEGEND



MIL-x MILLWORK TYPICAL TYPE; SEE A806

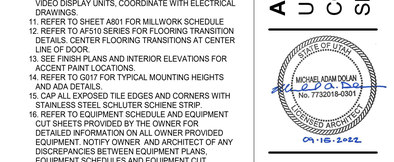
"M" IN THE CABINET TYPE INDICATES THAT THE NUMBER IS THE MOST CLOSELY REPRESENTATIVE OF THE DESIRED DESIGN. THE CUSTOM DESCRIPTION DESCRIBES THE DESIGN MODIFICATION.

GENERAL NOTES

1. INTERIOR DIMENSIONS ARE TO FACE OF GYPSUM BOARD, U.N.O. ALL DIMENSIONS FOLLOWED BY 'CLR' INDICATE CLEAR FINISHED FACE DIMENSION
2. PROVIDE BLOCKING / BACKING IN WALLS FOR ALL WALL MOUNTED ITEMS. RE: EQUIPMENT PLANS AND INTERIOR ELEVATIONS. SEE DETAIL A1/A602 FOR TYPICAL WALL BACKING PLATE SCHEDULE.
3. ALL DOOR JAMBS IN STUD WALLS ARE TO BE 4" CLEAR FROM ADJACENT WALL, U.N.O.
4. THERE IS A PROTECTED ZONE AROUND THE BUCKLING RESTRAINED BRACE FRAME STEEL MEMBER CONNECTIONS. THERE SHALL BE NO WELDING, BOLTING, SCREWING, OR SHOT-IN ATTACHMENT TO THE BRB MEMBERS WITHIN THE PROTECTED ZONE. SEE THE STRUCTURAL DRAWINGS FOR LOCATIONS. COORDINATE WITH THE STRUCTURAL STEEL ERECTION CONTRACTOR.
5. REFER TO SHEET A601-A602 FOR PARTITION TYPES.
6. REFER TO SHEET A610 FOR DOOR SCHEDULE AND TYPICAL FRAME AND PANEL DETAILS.
7. ALL GROUT AT WET LOCATIONS SHALL BE EPOXY GROUT
8. SEE SPECIFICATIONS FOR OWNER - FURNISHED/ OWNER-INSTALLED TOILET ACCESSORIES. CONTRACTOR IS TO PROVIDE BACKING FOR ALL TOILET ACCESSORIES
9. FURNITURE AND EQUIPMENT PROVIDED AND INSTALLED BY OWNER. IF SHOWN, FOR COORDINATION PURPOSES ONLY.
10. PROVIDE BLOCKING BEHIND ALL WALL-MOUNTED VIDEO DISPLAY UNITS, COORDINATE WITH ELECTRICAL DRAWINGS.
11. REFER TO SHEET A801 FOR MILLWORK SCHEDULE
12. REFER TO AF510 SERIES FOR FLOORING TRANSITION DETAILS. CENTER FLOORING TRANSITIONS AT CENTER LINE OF DOOR.
13. SEE FINISH PLANS AND INTERIOR ELEVATIONS FOR ACCENT PAINT LOCATIONS.
14. REFER TO G017 FOR TYPICAL MOUNTING HEIGHTS AND ADA DETAILS.
15. CAP ALL EXPOSED TILE EDGES AND CORNERS WITH STAINLESS STEEL SCHLUTER SCHIENE STRIP
16. REFER TO EQUIPMENT SCHEDULE AND EQUIPMENT CUT SHEETS PROVIDED BY THE OWNER FOR DETAILED INFORMATION ON ALL OWNER PROVIDED EQUIPMENT. NOTIFY OWNER AND ARCHITECT OF ANY DISCREPANCIES BETWEEN EQUIPMENT PLANS, EQUIPMENT SCHEDULES AND EQUIPMENT CUT SHEETS IN ADVANCE OF ANY EQUIPMENT UTILITY ROUGH-INS OR INSTALLATION.
17. DEPTH OF COUNTERTOP FROM BACK OF WALL TO FRONT OF COUNTER IS NOT TO EXCEED 24", TYP.
18. AT AREAS OF CAULK, PROVIDE A CLEAR JOINT WHERE TWO VARYING FINISHES OR COLORS ABUT. AT AREAS WHERE THE SAME FINISH OR COLOR ABUT, PROVIDE A COLOR MATCHED CAULK. VERIFY CONDITIONS WITH ARCHITECT BEFORE PROCEEDING. REFERENCE SPEC SECTION 07 9200.
19. PROVIDE SIDE SPLASH AT ALL CONDITIONS WHERE COUNTERTOP RUNS UP TO WALL, TYP.

FFKR ARCHITECTS
730 Pacific Avenue · Salt Lake City, Utah 84104
O 801.521.6186 · FFKR.COM

ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022



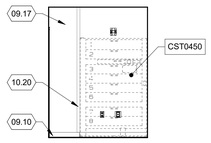
△ DATE REVISION

U of U PROJECT NUMBER

OFFICES ENLARGED DRAWINGS

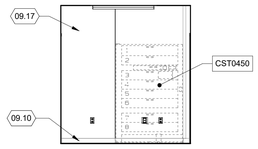
A402

9/19/2022 10:52:58 AM



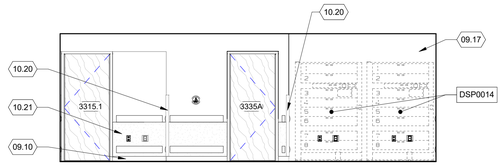
D1 OR WOMEN'S VESTIBULE - NORTH ELEVATION

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



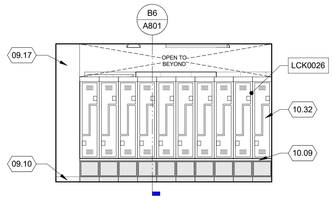
D2 OR MEN'S VESTIBULE - SOUTH ELEVATION

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



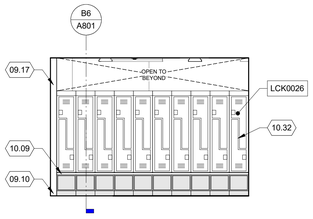
B3 SCRUB DISPENSER - EAST ELEVATION

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



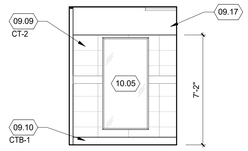
C1 OR WOMEN'S LOCKER ROOM - NORTH ELEVATION

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



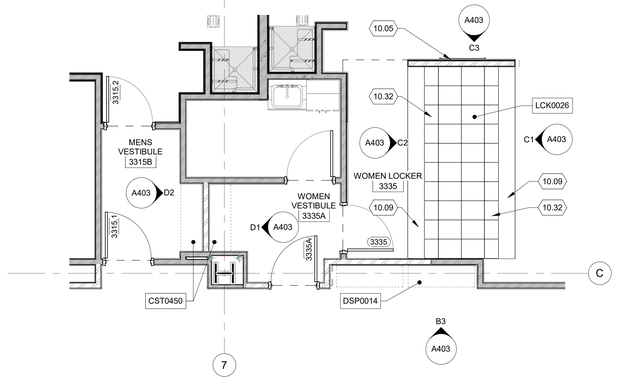
C2 OR WOMEN'S LOCKER ROOM - SOUTH ELEV

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



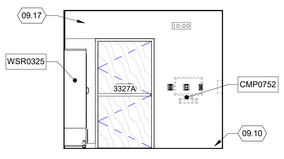
C3 OR WOMEN'S LOCKER ROOM - MIRROR

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



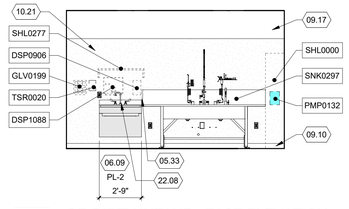
C4 OR WOMEN'S LOCKER ROOM - ENLARGED PLAN

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



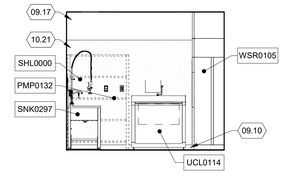
B1 OR DIRTY INTAKE - NORTH ELEVATION

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



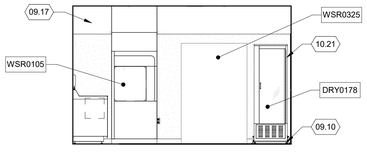
B2 OR DIRTY INTAKE - EAST ELEVATION

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



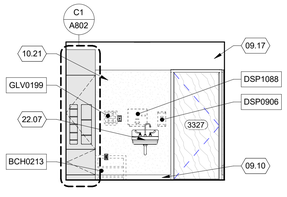
A1 OR DIRTY INTAKE - SOUTH ELEVATION

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



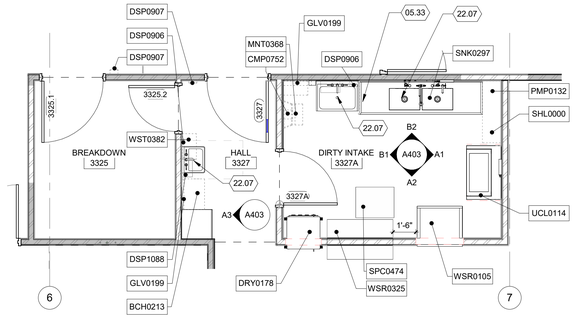
A2 OR DIRTY INTAKE - WEST ELEVATION

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



A3 OR CLEAN - NORTH ELEVATION

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



A4 OR DIRTY INTAKE - ENLARGED PLAN

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

REFERENCE NOTES

05.33	STAINLESS STEEL BARRIER
06.09	ADA SINK APRON
09.09	WALL TILE
09.10	WALL BASE, REF: FINISH PLANS
09.17	FRAMED GYPSUM BOARD WALL, PAINTED
10.05	MIRROR
10.09	LOCKER ROOM BENCH
10.20	CORNER GUARD
10.21	WALL PROTECTION, SEE WALL PROTECTION PLANS FOR WALL PROTECTION TYPE
10.32	METAL LOCKERS WITH USER PROVIDED PADLOCK
22.07	SINK; RE: PLUMBING DRAWINGS FOR TYPE
22.08	SINK W/ EYE WASH

EQUIPMENT NOTES

(RESPONSIBILITY: FURNISHED/INSTALLED

BCH0213	BENCH, GOWNING (O/O)
BRK0912	BRACKET, MONITOR & KEYBOARD, WALL (O/C)
CMP0752	COMPUTER, DESKTOP (O/O)
CST0450	CABINET, STORAGE, CLINICAL, SCRUB DISPOSAL (O/V)
DRY0178	DRYER, STERILE AIR, PASS THRU (O/O)
DSP0014	DISPENSER, SCRUB (O/V)
DSP0906	DISPENSER, SOAP, WALL MOUNT (O/C)
DSP0907	DISPENSER, HAND SANITIZER, WALL MOUNT (O/C)
DSP1088	DISPENSER, PAPER TOWEL, SURFACE MOUNT (O/C)
GLV0199	DISPENSER, GLOVE, TRIPLE BOX (O/C)
LCK0026	LOCKERS (O/C)
MNT0368	MONITOR, COMPUTER, LCD, 20 - 24 INCH (O/O)
PMP0132	PUMP, FLUSHING, ENDOSCOPE CHANNEL / SCOPE BUDDGY WITH TUBING (O/O)
SHL0000	SHELVING, STAINLESS STEEL 12" X 48" (5 SHELVES) (O/O)
SHL0277	SHELVING, SOLID, WALL MOUNT (O/O)
SNK0297	SINK, CLEAN-UP WORKSTATION (2-SINK) (O/C)
SPC0474	CART, SUPPLY, CONTAINERS (O/O)
TSR0020	TESTER, LEAK, ENDOSCOPE (O/O)
UCL0114	ULTRASONIC CLEANER, RINSER (O/O)
WSR0105	WASHER/DISINFECTOR, STEAM (O/C)
WSR0325	WASHER/DISINFECTOR, ENDOSCOPE (O/C)
WST0382	WASTE CAN, 20-31 GALLON (O/O)

MILLWORK LEGEND

MIL-x MILLWORK TYPICAL TYPE; SEE A806

"M" IN THE CABINET TYPE INDICATES THAT THE NUMBER IS THE MOST CLOSELY REPRESENTATIVE OF THE DESIRED DESIGN. THE CUSTOM DESCRIPTION DESCRIBES THE DESIGN MODIFICATION.

GENERAL NOTES

1. INTERIOR DIMENSIONS ARE TO FACE OF GYPSUM BOARD, U.N.O. ALL DIMENSIONS FOLLOWED BY 'CLR' INDICATE CLEAR FINISHED FACE DIMENSION
2. PROVIDE BLOCKING / BACKING IN WALLS FOR ALL WALL MOUNTED ITEMS. RE: EQUIPMENT PLANS AND INTERIOR ELEVATIONS. SEE DETAIL a1/A602 FOR TYPICAL WALL BACKING PLATE SCHEDULE.
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5. REFER TO SHEET A601-A602 FOR PARTITION TYPES.
6. REFER TO SHEET A610 FOR DOOR SCHEDULE AND TYPICAL FRAME AND PANEL DETAILS.
7. ALL GROUT AT WET LOCATIONS SHALL BE EPOXY GROUT
8. SEE SPECIFICATIONS FOR OWNER - FURNISHED/ OWNER-INSTALLED TOILET ACCESSORIES. CONTRACTOR IS TO PROVIDE BACKING FOR ALL TOILET ACCESSORIES
9. FURNITURE AND EQUIPMENT PROVIDED AND INSTALLED BY OWNER. IF SHOWN, FOR COORDINATION PURPOSES ONLY.
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11. REFER TO SHEET A601 FOR MILLWORK SCHEDULE
12. REFER TO AF510 SERIES FOR FLOORING TRANSITION DETAILS. CENTER FLOORING TRANSITIONS AT CENTER LINE OF DOOR.
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14. REFER TO G017 FOR TYPICAL MOUNTING HEIGHTS AND ADA DETAILS.
15. CAP ALL EXPOSED TILE EDGES AND CORNERS WITH STAINLESS STEEL SCHLUTER SCHIENE STRIP.
16. REFER TO EQUIPMENT SCHEDULE AND EQUIPMENT CUT SHEETS PROVIDED BY THE OWNER FOR DETAILED INFORMATION ON ALL OWNER PROVIDED EQUIPMENT. NOTIFY OWNER AND ARCHITECT OF ANY DISCREPANCIES BETWEEN EQUIPMENT PLANS, EQUIPMENT SCHEDULES AND EQUIPMENT CUT SHEETS IN ADVANCE OF ANY EQUIPMENT UTILITY ROUGH-INS OR INSTALLATION.
17. DEPTH OF COUNTERTOP FROM BACK OF WALL TO FRONT OF COUNTER IS NOT TO EXCEED 24". TYP.
18. AT AREAS OF CAULK, PROVIDE A CLEAR JOINT WHERE TWO VARYING FINISHES OR COLORS ABUT. AT AREAS WHERE THE SAME FINISH OR COLOR ABUT, PROVIDE A COLOR MATCHED CAULK. VERIFY CONDITIONS WITH ARCHITECT BEFORE PROCEEDING. REFERENCE SPEC SECTION 07 9200.
19. PROVIDE SIDE SPLASH AT ALL CONDITIONS WHERE COUNTERTOP RUNS UP TO WALL, TYP.

FFKR ARCHITECTS
730 Pacific Avenue · Salt Lake City, Utah 84104
O 801.521.6186 · FFKR.COM

ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
REGISTERED ARCHITECT
09-19-2022

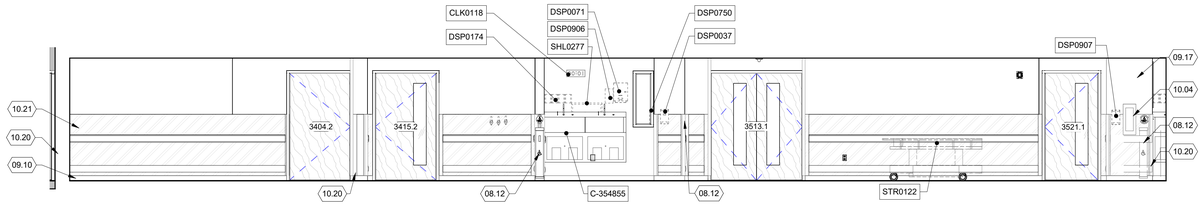
△ DATE REVISION

U of U PROJECT NUMBER

DIRTY INTAKE ENLARGED DRAWINGS

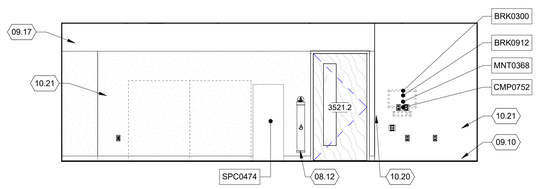
A403

9/19/2022 10:53:16 AM



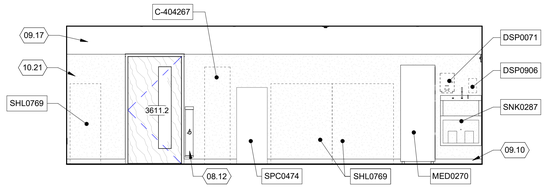
E1 CORRIDOR 3510 - NORTH ELEVATION

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



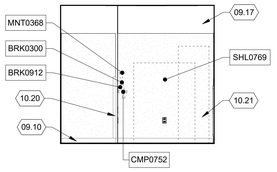
D1 OR CLEAN SUPPLY - NORTH ELEVATION

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



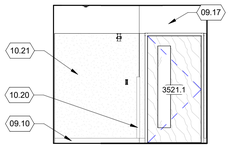
D3 OR CLEAN SUPPLY - SOUTH ELEVATION

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



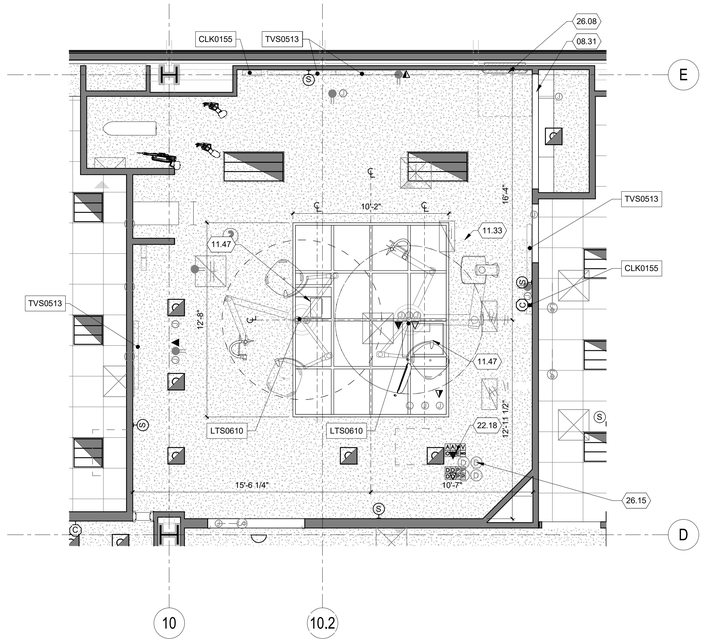
C1 OR CLEAN SUPPLY - EAST ELEVATION

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



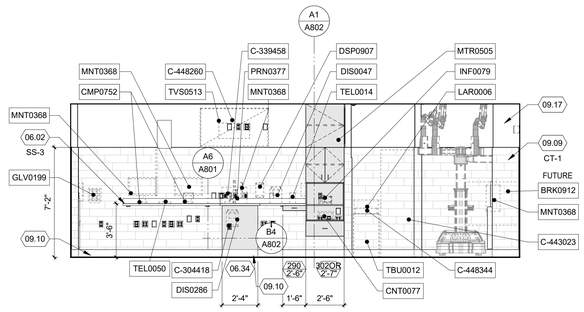
C3 OR CLEAN SUPPLY - WEST ELEVATION

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



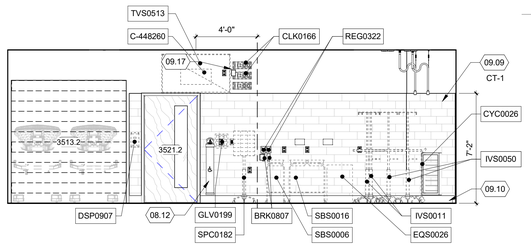
C4 OPERATING ROOM 7 - ENLARGED REFLECTED CEILING PLAN

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



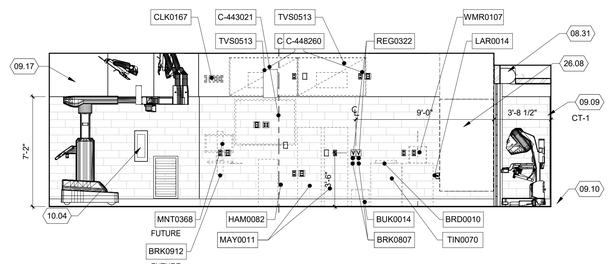
B1 OPERATING ROOM 7 - PATIENT LEFT ELEVATION

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



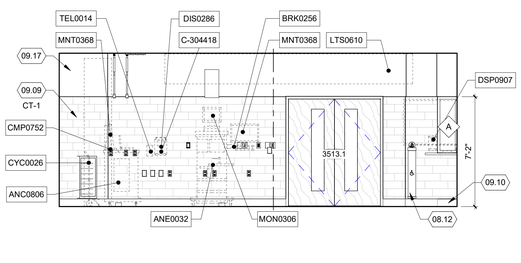
B3 OPERATING ROOM 7- PATIENT RIGHT ELEVATION

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



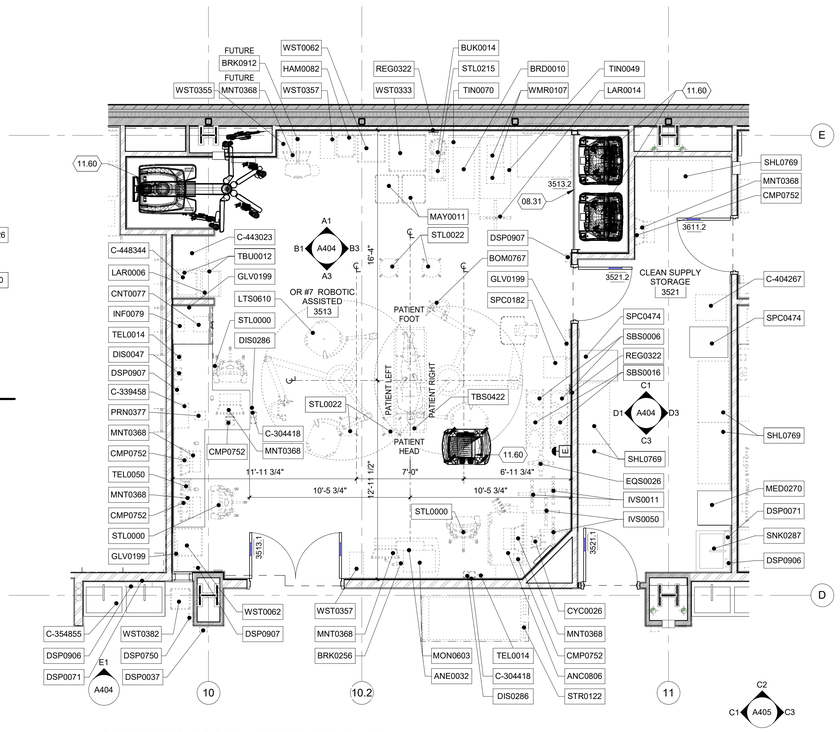
A1 OPERATING ROOM 7 - PATIENT FOOT ELEVATION

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



A3 OPERATING ROOM 7 - PATIENT HEAD ELEVATION

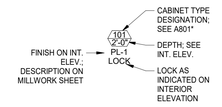
SCALE: 1/4" = 1'-0"



A4 OPERATING ROOM 7 - ENLARGED PLAN

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

MILLWORK LEGEND



"M" IN THE CABINET TYPE INDICATES THAT THE NUMBER IS THE MOST CLOSELY REPRESENTATIVE OF THE DESIRED DESIGN. THE CUSTOM DESCRIPTION DESCRIBES THE DESIGN MODIFICATION.

REFERENCE NOTES

06.02	COUNTERTOP
06.34	PLASTIC LAMINATE
08.12	DOOR ACTUATOR
08.31	OVERHEAD COILING DOORS
09.09	WALL TILE
09.10	WALL BASE, REF: FINISH PLANS
09.17	FRAMED GYPSUM BOARD WALL, PAINTED
10.04	INSTALL EXISTING FIRE EXTINGUISHER CABINET
10.20	CORNER GUARD
10.21	WALL PROTECTION, SEE WALL PROTECTION PLANS FOR WALL PROTECTION TYPE
11.33	INTEGRATED MODULAR OPERATING ROOM CEILING SYSTEM
11.47	MANUFACTURER SUPPLIED COVER PANEL
11.60	EXISTING ROBOTIC OR EQUIPMENT TO BE RELOCATED
22.18	MEDICAL GASES; SEE MECHANICAL DRAWINGS
26.08	ELECTRICAL PANEL, SEE ELECTRICAL
26.15	ELECTRICAL OUTLETS-DATA, SEE ELECTRICAL

EQUIPMENT NOTES

(RESPONSIBILITY: FURNISHED/INSTALLED

ANC0806	CART, ANESTHESIA, CONTROLLED ACCESS (O/O)
ANE0032	ANESTHESIA MACHINE, GENERAL (O/V)
BOM0767	BOOM, EQUIPMENT, DUAL ARM, W/MONITOR ARM (O/V)
BRD0010	BOARD, PATIENT TRANSFER DEVICE (O/O)
BRK0256	BRACKET, MONITOR, COUNTER - ANTHESIA (O/O)
BRK0300	BRACKET, CPU, WALL (O/O)
BRK0807	BRACKET, CANISTER, SUCTION, WALL MOUNT (O/O)
BRK0912	BRACKET, MONITOR & KEYBOARD, WALL (O/C)
BUK0014	BUCKET, KICK (O/O)
C-304418	BRACKET, SHARPS CONTAINER (O/C)
C-339458	PRINTER, LABEL, BARCODE-CHART LABEL PRINTER (O/O)
C-354855	SINK, SCRUB, 2-BAY, STAINLESS STEEL (O/C)
C-404267	FLUID MANAGEMENT SYSTEM - NEPTUNE 3 ROVER (O/O)
C-443021	BOARD, GLASS, DRY ERASE, MAGNETIC - 36" X 60" (O/C)
C-443023	CART, SUPPLY, UNICELL 27 W/BI PARTING R15 & R18 ROLL FRONT / SHELVES & DRAWERS (O/O)
C-448260	BRACKET, TELEVISION, WALL, FLAT PANEL(O/C)
C-448344	ELECTROSURGICAL UNIT, SHOCKPULSE_SE LITHOTRIPSY SYSTEM (O/O)
CLK0118	CLOCK, ANALOG, WALL (O/O)
CLK0155	CLOCK, DIGITAL, SYNCHRONIZED, WIRED (O/V)
CLK0166	CLOCK, ELAPSED TIME, WALL MOUNT (O/V)
CLK0167	CLOCK, DIGITAL, SYNCHRONIZED, WIRELESS (O/V)
CMP0752	COMPUTER, DESKTOP (O/O)
CNT0077	CONTROLLER, DEVICE, OPERATING ROOM - NURSE WORKSTATION (O/V)
CYC0026	CART, CYLINDER, DAE, SINGLE (O/O)
DIS0047	DISPOSAL, SHARPS, COUNTERTOP (O/O)
DIS0286	DISPOSAL, SHARPS, COUNTERTOP (O/O)
DSP0037	DISPENSER, HAND SANITIZER, WALL MOUNT (O/C)
DSP0071	DISPENSER, PAPER TOWEL, SURFACE MOUNT (O/C)
DSP0174	DISPENSER, SCRUB BRUSH (O/O)
DSP0750	DISPENSER, HAND SANITIZER, WALL MOUNT (O/O)
DSP0906	DISPENSER, SOAP, WALL MOUNT (O/C)
DSP0907	DISPENSER, HAND SANITIZER, WALL MOUNT (O/C)
EQS0026	STAND, EQUIPMENT, SUCTION CANISTER - 8 CANNISTER? (O/O)
GLV0199	DISPENSER, GLOVE, TRIPLE BOX (O/C)
HAM0082	HAMPER, LINEN (O/O)
INF0079	PUMP, INFUSION, SYRINGE (O/O)
IVS0011	STAND, IV, STAINLESS STEEL (O/O)
IVS0050	STAND, IV, CHROME (O/O)
LAR0006	LARYNGOSCOPE SET, FIBEROPTIC (O/O)
LAR0014	LARYNGOSCOPE SET, VIDEO (O/O)
LTS0610	LIGHT, SURGICAL, DUAL, CEILING, W/MONITOR ARM (O/V)
MAY0011	STAND, MAYO, FOOT-OPERATED (O/O)
MED0270	OMNICELL, ONE CELL WITH CONTROLLED SUBSTANCE DISPENSER (O/O)
MNT0368	MONITOR, COMPUTER, LCD, 20 - 24 INCH (O/O)
MON0306	MONITOR, PHYSIOLOGIC, ANESTHESIA (O/O)
MON0603	MONITOR, PHYSIOLOGIC, BEDSIDE (O/O)
MTR0505	MONITOR, VIDEO, 26 - 32 INCH, MEDICAL GRADE (O/V)
PRN0377	PRINTER, LABEL, BARCODE-CHART LABEL PRINTER (O/O)
REG0322	REGULATOR, SUCTION, INTERMITTENT/CONTINUOUS (O/O)
SBS0006	STAND, BASIN, SINGLE (O/O)
SBS0016	STAND, BASIN, DOUBLE (O/O)
SHL0277	SHELVING, SOLID, WALL MOUNT (O/O)
SHL0769	SHELVING, WIRE, STAINLESS STEEL, 48 INCH (O/O)
SNK0287	SINK, SCRUB, 1-BAY, STAINLESS STEEL (O/C)
SPC0182	CART, SUPPLY, SUTURE (O/O)
SPC0474	CART, SUPPLY, CONTAINERS (O/O)
STL0000	STOOL, TASK, EXTENDED (O/O)
STL0022	STOOL, EXAM, CUSHION-SEAT (O/O)
STL0215	STOOL, STEP, STACKABLE (O/O)
STR0122	STRETCHER, PROCEDURE / RECOVERY (O/O)
TBS0422	TABLE, SURGICAL, MAJOR (O/O)
TBU0012	TABLE, UTILITY, GENERAL PURPOSE (O/O)
TEL0014	TELEPHONE, WALL (O/V)
TEL0050	TELEPHONE, DESKTOP, VOIP (O/V)
TIN0049	TABLE, INSTRUMENT, 45-48 INCH (O/O)
TIN0070	TABLE, INSTRUMENT, 60 INCH (O/O)
TVS0513	TELEVISION, 50-65 IN., FLAT PANEL (O/O)
WMR0107	WARMER, PATIENT, HYPOTHERMIA (O/O)
WST0062	WASTE CAN, 32-40 GALLON (O/O)
WST0333	WASTE CAN, BIO-HAZARDOUS, 32-55 GALLON (O/O)
WST0355	WASTE CAN, RECYCLE (O/O)
WST0357	WASTE CAN, 20-31 GALLON (O/O)
WST0382	WASTE CAN, 20-31 GALLON (O/O)

GENERAL NOTES

1. INTERIOR DIMENSIONS ARE TO FACE OF GYPSUM BOARD, U.N.O. ALL DIMENSIONS FOLLOWED BY 'CLR' INDICATE CLEAR FINISHED FACE DIMENSION
2. PROVIDE BLOCKING / BACKING IN WALLS FOR ALL WALL MOUNTED ITEMS. RE: EQUIPMENT PLANS AND INTERIOR ELEVATIONS. SEE DETAIL A1/A602 FOR TYPICAL WALL BACKING PLATE SCHEDULE.
3. ALL DOOR JAMBS IN STUD WALLS ARE TO BE 4" CLEAR FROM ADJACENT WALL, U.N.O.
4. THERE IS A PROTECTED ZONE AROUND THE BUCKLING RESTRAINED BRACE FRAME STEEL MEMBER CONNECTIONS. THERE SHALL BE NO WELDING, BOLTING, SCREWING, OR SHOT-IN ATTACHMENT TO THE BRB MEMBERS WITHIN THE PROTECTED ZONE. SEE THE STRUCTURAL DRAWINGS FOR LOCATIONS. COORDINATE WITH THE STRUCTURAL STEEL ERECTION CONTRACTOR.
5. REFER TO SHEET A601-A602 FOR PARTITION TYPES.
6. REFER TO SHEET A610 FOR DOOR SCHEDULE AND TYPICAL FRAME AND PANEL DETAILS.
7. ALL GROUT AT WET LOCATIONS SHALL BE EPOXY GROUT
8. SEE SPECIFICATIONS FOR OWNER - FURNISHED/ OWNER-INSTALLED TOILET ACCESSORIES. CONTRACTOR IS TO PROVIDE BACKING FOR ALL TOILET ACCESSORIES
9. FURNITURE AND EQUIPMENT PROVIDED AND INSTALLED BY OWNER. IF SHOWN, FOR COORDINATION PURPOSES ONLY.
10. PROVIDE BLOCKING BEHIND ALL WALL-MOUNTED VIDEO DISPLAY UNITS, COORDINATE WITH ELECTRICAL DRAWINGS.
11. REFER TO SHEET A801 FOR MILLWORK SCHEDULE
12. REFER TO AF510 SERIES FOR FLOORING TRANSITION DETAILS. CENTER FLOORING TRANSITIONS AT CENTER LINE OF DOOR.
13. SEE FINISH PLANS AND INTERIOR ELEVATIONS FOR ACCENT PAINT LOCATIONS.
14. REFER TO G017 FOR TYPICAL MOUNTING HEIGHTS AND ADA DETAILS.
15. CAP ALL EXPOSED TILE EDGES AND CORNERS WITH STAINLESS STEEL SCHLUTER SCHIENE STRIP.
16. REFER TO EQUIPMENT SCHEDULE AND EQUIPMENT CUT SHEETS PROVIDED BY THE OWNER FOR DETAILED INFORMATION ON ALL OWNER PROVIDED EQUIPMENT. NOTIFY OWNER AND ARCHITECT OF ANY DISCREPANCIES BETWEEN EQUIPMENT PLANS, EQUIPMENT SCHEDULES AND EQUIPMENT CUT SHEETS IN ADVANCE OF ANY EQUIPMENT UTILITY ROUGH-INS OR INSTALLATION.
17. DEPTH OF COUNTERTOP FROM BACK OF WALL TO FRONT OF COUNTER IS NOT TO EXCEED 24", TYP.
18. AT AREAS OF CAULK, PROVIDE A CLEAR JOINT WHERE TWO VARYING FINISHES OR COLORS ABUT. AT AREAS WHERE THE SAME FINISH OR COLOR ABUT, PROVIDE A COLOR MATCHED CAULK. VERIFY CONDITIONS WITH ARCHITECT BEFORE PROCEEDING. REFERENCE SPEC SECTION 07 9200.
19. PROVIDE SIDE SPLASH AT ALL CONDITIONS WHERE COUNTERTOP RUNS UP TO WALL, TYP.

FFKR ARCHITECTS
730 Pacific Avenue · Salt Lake City, Utah 84104
O 801.521.6186 · FFKR.COM

ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
LICENSED ARCHITECT
09-16-2022

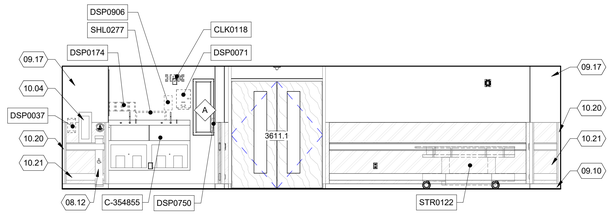
△ DATE REVISION

U of U PROJECT NUMBER

OR 7 ROBOTIC ENLARGED DRAWINGS

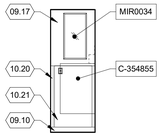
A404

9/19/2022 10:53:41 AM



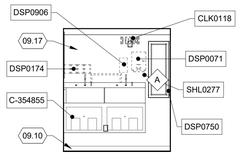
D1 CORRIDOR 3610 - EAST ELEVATION

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



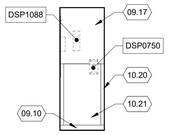
C1 OR SCRUB STATION - NORTH ELEVATION

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



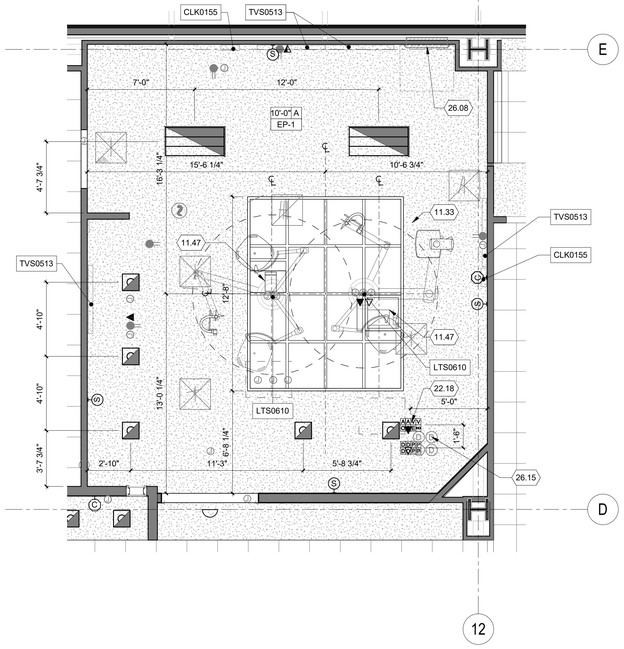
C2 OR SCRUB STATION - EAST ELEVATION

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



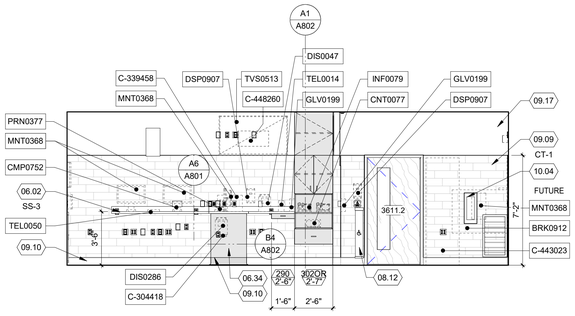
C3 OR SCRUB STATION - SOUTH ELEVATION

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



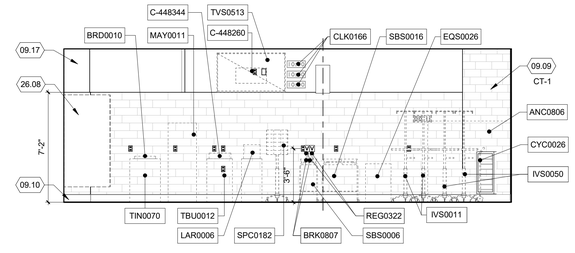
C5 OPERATING ROOM 8 - ENLARGED REFLECTED CEILING PLAN

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



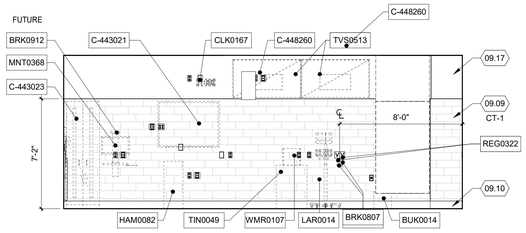
B1 OPERATING ROOM 8 - PATIENT LEFT ELEVATION

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



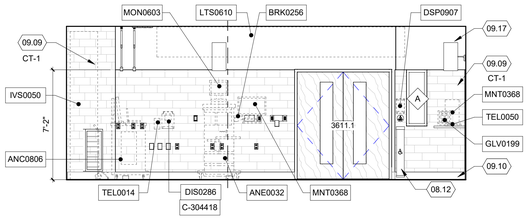
B3 OPERATING ROOM 8 - PATIENT RIGHT ELEVATION

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



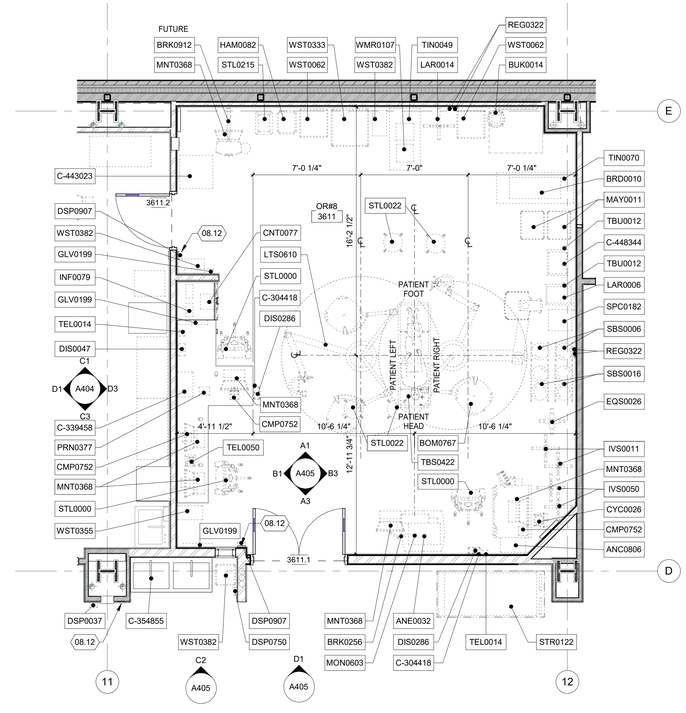
A1 OPERATING ROOM 8 - PATIENT FOOT ELEVATION

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



A3 OPERATING ROOM 8 - PATIENT HEAD ELEVATION

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



A5 OPERATING ROOM 8 - ENLARGED PLAN

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

06.02 COUNTERTOP
06.34 PLASTIC LAMINATE
08.12 DOOR ACTUATOR
09.09 WALL TILE
09.10 WALL BASE, REF: FINISH PLANS
09.17 FRAMED GYPSUM BOARD WALL, PAINTED
10.04 INSTALL EXISTING FIRE EXTINGUISHER CABINET
10.20 CORNER GUARD

REFERENCE NOTES

10.21 WALL PROTECTION, SEE WALL PROTECTION PLANS FOR WALL PROTECTION TYPE
11.33 INTEGRATED MODULAR OPERATING ROOM CEILING SYSTEM
11.47 MANUFACTURER SUPPLIED COVER PANEL
22.18 MEDICAL GASES; SEE MECHANICAL DRAWINGS
26.08 ELECTRICAL PANEL, SEE ELECTRICAL
26.15 ELECTRICAL OUTLETS-DATA, SEE ELECTRICAL

EQUIPMENT NOTES

(RESPONSIBILITY: FURNISHED/INSTALLED

ANC0806 CART, ANESTHESIA, CONTROLLED ACCESS (O/O)
ANE0032 ANESTHESIA MACHINE, GENERAL (O/V)
BOM0767 BOOM, EQUIPMENT, DUAL ARM, W/MONITOR ARM (O/V)
BRD0010 BOARD, PATIENT TRANSFER DEVICE (O/O)
BRK0256 BRACKET, MONITOR, COUNTER - ANTHESIA (O/O)
BRK0807 BRACKET, CANISTER, SUCTION, WALL MOUNT (O/O)
BRK0912 BRACKET, MONITOR & KEYBOARD, WALL (O/C)
BUK0014 BUCKET, KICK (O/O)
C-304418 BRACKET, SHARPS CONTAINER (O/C)
C-339458 PRINTER, LABEL, BARCODE-CHART LABEL PRINTER (O/O)
C-354855 SINK, SCRUB, 2-BAY, STAINLESS STEEL (O/C)
C-443021 BOARD, GLASS, DRY ERASE, MAGNETIC - 36" X 60" (O/C)
C-443023 CART, SUPPLY, UNICELL 27 W/BI PARTING R15 & R18 ROLL FRONT / SHELVES & DRAWERS (O/O)
C-448260 BRACKET, TELEVISION, WALL, FLAT PANEL(O/C)
C-448344 ELECTROSURGICAL UNIT, SHOCKPULSE_SE LITHOTRIPSY SYSTEM (O/O)
CLK0118 CLOCK, ANALOG, WALL (O/O)
CLK0155 CLOCK, DIGITAL, SYNCHRONIZED, WIRED (O/V)
CLK0166 CLOCK, ELAPSED TIME, WALL MOUNT (O/V)
CLK0167 CLOCK, DIGITAL, SYNCHRONIZED, WIRELESS (O/V)
CMP0752 COMPUTER, DESKTOP (O/O)
CNT0077 CONTROLLER, DEVICE, OPERATING ROOM - NURSE WORKSTATION (O/V)
CYC0026 CART, CYLINDER, D&E, SINGLE (O/O)
DIS0047 DISPOSAL, SHARPS, COUNTERTOP (O/O)
DIS0286 DISPOSAL, SHARPS, COUNTERTOP (O/O)
DSP0037 DISPENSER, HAND SANITIZER, WALL MOUNT (O/C)
DSP0071 DISPENSER, PAPER TOWEL, SURFACE MOUNT (O/C)
DSP0174 DISPENSER, SCRUB BRUSH (O/O)
DSP0750 DISPENSER, HAND SANITIZER, WALL MOUNT (O/O)
DSP0906 DISPENSER, SOAP, WALL MOUNT (O/C)
DSP0907 DISPENSER, HAND SANITIZER, WALL MOUNT (O/C)
DSP1088 DISPENSER, PAPER TOWEL, SURFACE MOUNT (O/C)
EQS0026 STAND, EQUIPMENT, SUCTION CANISTER - 8 CANNISTER? (O/O)
GLV0199 DISPENSER, GLOVE, TRIPLE BOX (O/C)
HAM0082 HAMPER, LINEN (O/O)
INF0079 PUMP, INFUSION, SYRINGE (O/O)
IVS0011 STAND, IV, STAINLESS STEEL (O/O)
IVS0050 STAND, IV, CHROME (O/O)
LAR0006 LARYNGOSCOPE SET, FIBEROPTIC (O/O)
LAR0014 LARYNGOSCOPE SET, VIDEO (O/O)
LTS0610 LIGHT, SURGICAL, DUAL CEILING, W/MONITOR ARM (O/V)
MAY0011 STAND, MAYO, FOOT-OPERATED (O/O)
MIR0034 MIRROR, VANITY (C/C)
MNT0368 MONITOR, COMPUTER, LCD, 20 - 24 INCH (O/O)
MON0603 MONITOR, PHYSIOLOGIC, BEDSIDE (O/O)
PRN0377 PRINTER, LABEL, BARCODE-CHART LABEL PRINTER (O/O)
REG0322 REGULATOR, SUCTION, INTERMITTENT/CONTINUOUS (O/O)
SBS0006 STAND, BASIN, SINGLE (O/O)
SBS0016 STAND, BASIN, DOUBLE (O/O)
SHL0277 SHELVING, SOLID, WALL MOUNT (O/O)
SPC0182 CART, SUPPLY, SUTURE (O/O)
STL0000 STOOL, TASK, EXTENDED (O/O)
STL0022 STOOL, EXAM, CUSHION-SEAT (O/O)
STL0215 STOOL, STEP, STACKABLE (O/O)
STR0122 STRETCHER, PROCEDURE / RECOVERY (O/O)
TBS0422 TABLE, SURGICAL, MAJOR (O/O)
TBU0012 TABLE, UTILITY, GENERAL PURPOSE (O/O)
TEL0014 TELEPHONE, WALL (O/V)
TEL0050 TELEPHONE, DESKTOP, VOIP (O/V)
TIN0049 TABLE, INSTRUMENT, 45-48 INCH (O/O)
TIN0070 TABLE, INSTRUMENT, 60 INCH (O/O)
TVS0513 TELEVISION, 50-65 IN., FLAT PANEL (O/O)
WMR0107 WARMER, PATIENT, HYPOTHERMIA (O/O)
WST0062 WASTE CAN, 32-40 GALLON (O/O)
WST0333 WASTE CAN, BIO-HAZARDOUS, 32-55 GALLON (O/O)
WST0355 WASTE CAN, RECYCLE (O/O)
WST0382 WASTE CAN, 20-31 GALLON (O/O)

MILLWORK LEGEND

**"M" IN THE CABINET TYPE INDICATES THAT THE NUMBER IS THE MOST CLOSELY REPRESENTATIVE OF THE DESIRED DESIGN. THE CUSTOM DESCRIPTION DESCRIBES THE DESIGN MODIFICATION.

GENERAL NOTES

1. INTERIOR DIMENSIONS ARE TO FACE OF GYPSUM BOARD, U.N.O. ALL DIMENSIONS FOLLOWED BY 'CLR' INDICATE CLEAR FINISHED FACE DIMENSION.
2. PROVIDE BLOCKING / BACKING IN WALLS FOR ALL WALL MOUNTED ITEMS. RE: EQUIPMENT PLANS AND INTERIOR ELEVATIONS. SEE DETAIL A1/A602 FOR TYPICAL WALL BACKING PLATE SCHEDULE.
3. ALL DOOR JAMBS IN STUD WALLS ARE TO BE 4" CLEAR FROM ADJACENT WALL, U.N.O.
4. THERE IS A PROTECTED ZONE AROUND THE BUCKLING RESTRAINED BRACE FRAME STEEL MEMBER CONNECTIONS. THERE SHALL BE NO WELDING, BOLTING, SCREWING, OR SHOT-IN ATTACHMENT TO THE BRB MEMBERS WITHIN THE PROTECTED ZONE. SEE THE STRUCTURAL DRAWINGS FOR LOCATIONS. COORDINATE WITH THE STRUCTURAL STEEL ERECTION CONTRACTOR.
5. REFER TO SHEET A601-A602 FOR PARTITION TYPES.
6. REFER TO SHEET A610 FOR DOOR SCHEDULE AND TYPICAL FRAME AND PANEL DETAILS.
7. ALL GROUT AT WET LOCATIONS SHALL BE EPOXY GROUT
8. SEE SPECIFICATIONS FOR OWNER - FURNISHED/ OWNER-INSTALLED TOILET ACCESSORIES. CONTRACTOR IS TO PROVIDE BACKING FOR ALL TOILET ACCESSORIES
9. FURNITURE AND EQUIPMENT PROVIDED AND INSTALLED BY OWNER, IF SHOWN, FOR COORDINATION PURPOSES ONLY.
10. PROVIDE BLOCKING BEHIND ALL WALL-MOUNTED VIDEO DISPLAY UNITS. COORDINATE WITH ELECTRICAL DRAWINGS.
11. REFER TO SHEET A801 FOR MILLWORK SCHEDULE
12. REFER TO AF510 SERIES FOR FLOORING TRANSITION DETAILS. CENTER FLOORING TRANSITIONS AT CENTER LINE OF DOOR.
13. SEE FINISH PLANS AND INTERIOR ELEVATIONS FOR ACCENT PAINT LOCATIONS.
14. REFER TO G017 FOR TYPICAL MOUNTING HEIGHTS AND ADA DETAILS.
15. CAP ALL EXPOSED TILE EDGES AND CORNERS WITH STAINLESS STEEL SCHLUTER SCHIENE STRIP.
16. REFER TO EQUIPMENT SCHEDULE AND EQUIPMENT CUT SHEETS PROVIDED BY THE OWNER FOR DETAILED INFORMATION ON ALL OWNER PROVIDED EQUIPMENT. NOTIFY OWNER AND ARCHITECT OF ANY DISCREPANCIES BETWEEN EQUIPMENT PLANS, EQUIPMENT SCHEDULES AND EQUIPMENT CUT SHEETS IN ADVANCE OF ANY EQUIPMENT UTILITY ROUGH-INS OR INSTALLATION.
17. DEPTH OF COUNTERTOP FROM BACK OF WALL TO FRONT OF COUNTER IS NOT TO EXCEED 24", TYP.
18. AT AREAS OF CAULK, PROVIDE A CLEAR JOINT WHERE TWO VARYING FINISHES OR COLORS ABUT. AT AREAS WHERE THE SAME FINISH OR COLOR ABUT, PROVIDE A COLOR MATCHED CAULK. VERIFY CONDITIONS WITH ARCHITECT BEFORE PROCEEDING. REFERENCE SPEC SECTION 07 9200.
19. PROVIDE SIDE SPLASH AT ALL CONDITIONS WHERE COUNTERTOP RUNS UP TO WALL, TYP.

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
REGISTERED ARCHITECT
09-19-2022

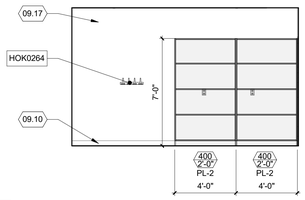
△ DATE REVISION

U of U PROJECT NUMBER

OR 8 ENLARGED DRAWINGS

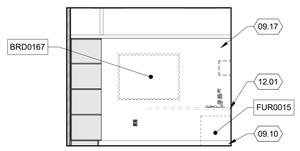
A405

9/19/2022 10:53:57 AM



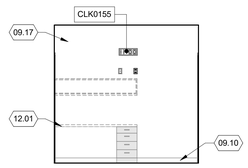
D1 OR MATERIALS MANAGEMENT - NORTH ELEVATION

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



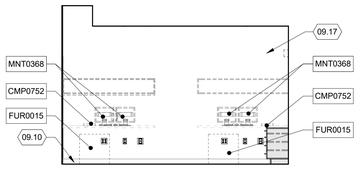
D3 OR MATERIALS MANAGEMENT - EAST ELEVATION

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



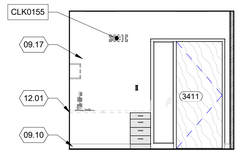
D5 OR SPECIMEN - WEST ELEVATION

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



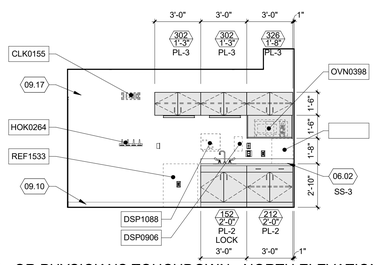
C1 OR MATERIALS MANAGMENT - SOUTH ELEVATION

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



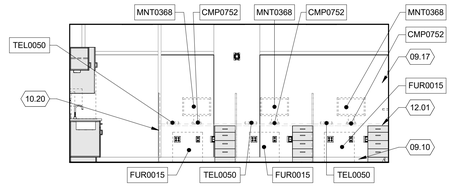
C3 OR MATERIALS MANAGEMENT - WEST ELEVATION

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



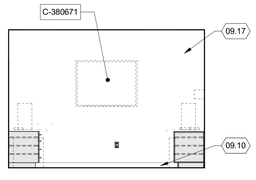
B1 OR PHYSICIANS TOUCHDOWN - NORTH ELEVATION

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



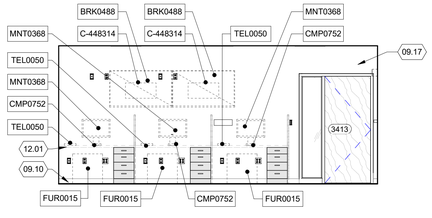
B3 OR PHYSICIANS TOUCHDOWN - EAST ELEVATION

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



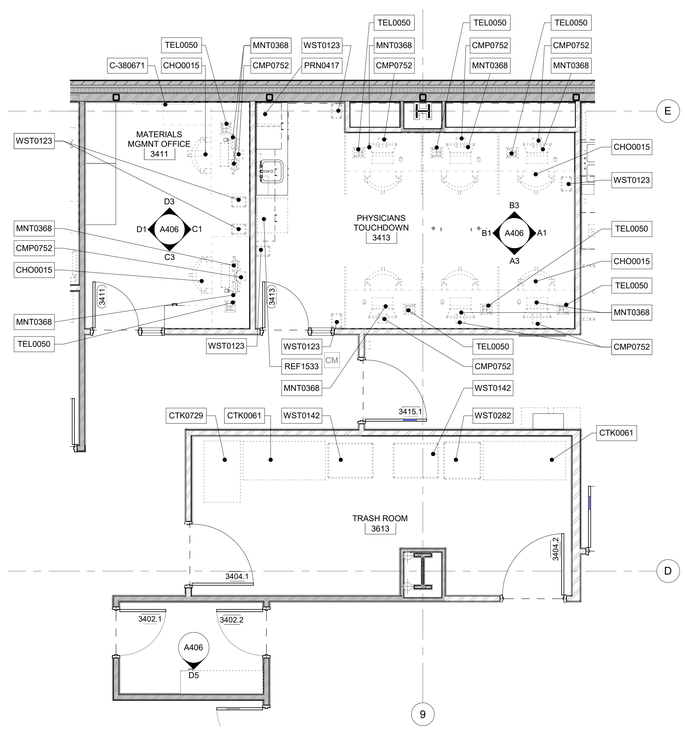
A1 OR PHYSICIANS TOUCHDOWN - SOUTH ELEVATION

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



A3 OR PHYSICIANS TOUCHDOWN - WEST ELEVATION

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



A5 OR MATERIAL MANAGEMENT ENLARGED PLAN

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

REFERENCE NOTES

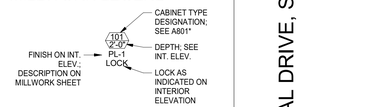
06.02	COUNTERTOP
09.10	WALL BASE, REF: FINISH PLANS
09.17	FRAMED GYPSUM BOARD WALL, PAINTED
10.20	CORNER GUARD
12.01	FURNITURE, REFERENCE ONLY

EQUIPMENT NOTES

(RESPONSIBILITY: FURNISHED/INSTALLED

BRD0167	BOARD, WHITE, DRY ERASE, MAGNETIC (O/O)
BRK0488	BRACKET, TELEVISION, WALL, FLAT PANEL (O/C)
C-380671	BOARD, WHITE, DRY ERASE, MAGNETIC, 36"X48"(V/V)
C-448314	TELEVISION, 50-65 IN, FLAT PANEL (O/O)
CHO0015	CHAIR, OFFICE, TASK, W/ARMS (O/O)
CLK0155	CLOCK, DIGITAL, SYNCHRONIZED, WIRED (O/V)
CMP0752	COMPUTER, DESKTOP (O/O)
CTK0061	CART / TRUCK, SOILED UTILITY (O/O)
CTK0729	CART / TRUCK, LINEN, BULK (O/O)
DSP0906	DISPENSER, SOAP, WALL MOUNT (O/C)
DSP1088	DISPENSER, PAPER TOWEL, SURFACE MOUNT (O/C)
FUR0015	FURNITURE, ALLOWANCE (O/O)
HOK0264	HOOK, COAT/ROBE, WALL MOUNT (C/C)
MNT0368	MONITOR, COMPUTER, LCD, 20 - 24 INCH (O/O)
OVN0398	OVEN, DOMESTIC, MICROWAVE, COUNTERTOP (O/O)
PRN0417	PRINTER, LASER, MULTIFUNCTION (MFP COUNTER) (O/O)
REF1533	REFRIGERATOR, DOMESTIC, UNDERCOUNTER (O/O)
TEL0050	TELEPHONE, DESKTOP, VOIP (O/V)
WST0123	WASTE CAN, 03-19 GALLON (O/O)
WST0142	WASTE CAN, BIO-HAZARDOUS, ROLL-OUT (O/O)
WST0282	WASTE CAN, 44-55 GALLON (O/O)

MILLWORK LEGEND



"M" IN THE CABINET TYPE INDICATES THAT THE NUMBER IS THE MOST CLOSELY REPRESENTATIVE OF THE DESIRED DESIGN. THE CUSTOM DESCRIPTION DESCRIBES THE DESIGN MODIFICATION.

GENERAL NOTES

1. INTERIOR DIMENSIONS ARE TO FACE OF GYPSUM BOARD, U.N.O. ALL DIMENSIONS FOLLOWED BY 'CLR' INDICATE CLEAR FINISHED FACE DIMENSION
2. PROVIDE BLOCKING / BACKING IN WALLS FOR ALL WALL MOUNTED ITEMS. RE: EQUIPMENT PLANS AND INTERIOR ELEVATIONS. SEE DETAIL a1/A602 FOR TYPICAL WALL BACKING PLATE SCHEDULE.
3. ALL DOOR JAMBS IN STUD WALLS ARE TO BE 4" CLEAR FROM ADJACENT WALL, U.N.O.
4. THERE IS A PROTECTED ZONE AROUND THE BUCKLING RESTRAINED BRACE FRAME STEEL MEMBER CONNECTIONS. THERE SHALL BE NO WELDING, BOLTING, SCREWING, OR SHOT-IN ATTACHMENT TO THE BRB MEMBERS WITHIN THE PROTECTED ZONE. SEE THE STRUCTURAL DRAWINGS FOR LOCATIONS. COORDINATE WITH THE STRUCTURAL STEEL ERECTION CONTRACTOR.
5. REFER TO SHEET A601-A602 FOR PARTITION TYPES.
6. REFER TO SHEET A610 FOR DOOR SCHEDULE AND TYPICAL FRAME AND PANEL DETAILS.
7. ALL GROUT AT WET LOCATIONS SHALL BE EPOXY GROUT
8. SEE SPECIFICATIONS FOR OWNER - FURNISHED/ OWNER-INSTALLED TOILET ACCESSORIES. CONTRACTOR IS TO PROVIDE BACKING FOR ALL TOILET ACCESSORIES
9. FURNITURE AND EQUIPMENT PROVIDED AND INSTALLED BY OWNER. IF SHOWN, FOR COORDINATION PURPOSES ONLY.
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11. REFER TO SHEET A801 FOR MILLWORK SCHEDULE
12. REFER TO AF510 SERIES FOR FLOORING TRANSITION DETAILS. CENTER FLOORING TRANSITIONS AT CENTER LINE OF DOOR.
13. SEE FINISH PLANS AND INTERIOR ELEVATIONS FOR ACCENT PAINT LOCATIONS.
14. REFER TO G017 FOR TYPICAL MOUNTING HEIGHTS AND ADA DETAILS.
15. CAP ALL EXPOSED TILE EDGES AND CORNERS WITH STAINLESS STEEL SCHLUTER SCHIENE STRIP.
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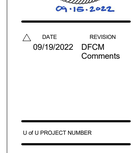


△	DATE	REVISION
	09/19/2022	DFCM Comments

U of U PROJECT NUMBER

MATERIAL MGMT & TRASH RM ENLARGED DRAWINGS

A406

9/19/2022 10:54:08 AM

REFERENCE NOTES

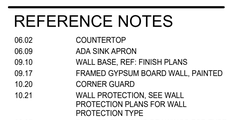
06.02	COUNTERTOP
06.09	ADA SINK APRON
09.10	WALL BASE, REF: FINISH PLANS
09.17	FRAMED GYPSUM BOARD WALL, PAINTED
10.20	CORNER GUARD
10.21	WALL PROTECTION, SEE WALL PROTECTION PLANS FOR WALL PROTECTION TYPE
22.07	SINK; RE: PLUMBING DRAWINGS FOR TYPE

EQUIPMENT NOTES

(RESPONSIBILITY: FURNISHED/INSTALLED

C-372209	BOARD, PEG, GENERAL (O/C)
C-380671	BOARD, WHITE, DRY ERASE, MAGNETIC, 36"X48"(V/V)
C-449405	CART (O/O)
CHO0015	CHAIR, OFFICE, TASK, W/ARMS (O/O)
CLK0155	CLOCK, DIGITAL, SYNCHRONIZED, WIRED (O/V)
CMP0775	COMPUTER, THIN CLIENT (O/O)
DIS0089	DISPOSAL, SHARPS, COUNTERTOP, PHARMACY (O/O)
DSP0906	DISPENSER, SOAP, WALL MOUNT (O/C)
DSP0907	DISPENSER, HAND SANITIZER, WALL MOUNT (O/C)
DSP1088	DISPENSER, PAPER TOWEL, SURFACE MOUNT (O/C)
FUR0015	FURNITURE, ALLOWANCE (O/O)
GLV0199	DISPENSER, GLOVE, TRIPLE BOX (O/C)
INF0079	PUMP, INFUSION, SYRINGE (O/O)
LAR0014	LARYNGOSCOPE SET, VIDEO (O/O)
MNT0368	MONITOR, COMPUTER, LCD, 20 - 24 INCH (O/O)
PRC0393	CART, PROCEDURE, DIFFICULT AIRWAY (O/O)
PRC0985	CART, PROCEDURE, ENDOSCOPY (O/O)
RCK0093	RACK, CYLINDER, FLOOR (O/O)
SHL0279	SHELF-WALL MOUNT - HOLDS GRAB & GO BOX (FOR AIRWAYS) (O/C)
SHL0743	SHELVING, ALLOWANCE, SUPPLY, HIGH DENSITY (MOVABLE) (O/V)
TBU0005	TABLE, UTILITY, GENERAL PURPOSE - TEE CART (O/O)
TEL0050	TELEPHONE, DESKTOP, VOIP (O/V)
WST0123	WASTE CAN, 03-19 GALLON (O/O)
WST0357	WASTE CAN, 20-31 GALLON (O/O)

MILLWORK LEGEND



MIL-x MILLWORK TYPICAL TYPE; SEE A806

"M" IN THE CABINET TYPE INDICATES THAT THE NUMBER IS THE MOST CLOSELY REPRESENTATIVE OF THE DESIRED DESIGN. THE CUSTOM DESCRIPTION DESCRIBES THE DESIGN MODIFICATION.

GENERAL NOTES

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2. PROVIDE BLOCKING / BACKING IN WALLS FOR ALL WALL MOUNTED ITEMS. RE: EQUIPMENT PLANS AND INTERIOR ELEVATIONS. SEE DETAIL A1/A802 FOR TYPICAL WALL BACKING PLATE SCHEDULE.
3. ALL DOOR JAMBS IN STUD WALLS ARE TO BE 4" CLEAR FROM ADJACENT WALL U.N.O.
4. THERE IS A PROTECTED ZONE AROUND THE BUCKLING RESTRAINED BRACE FRAME STEEL MEMBER CONNECTIONS. THERE SHALL BE NO WELDING, BOLTING, SCREWING, OR SHOT-IN ATTACHMENT TO THE BRB MEMBERS WITHIN THE PROTECTED ZONE. SEE THE STRUCTURAL DRAWINGS FOR LOCATIONS. COORDINATE WITH THE STRUCTURAL STEEL ERECTION CONTRACTOR.
5. REFER TO SHEET A601-A602 FOR PARTITION TYPES.
6. REFER TO SHEET A610 FOR DOOR SCHEDULE AND TYPICAL FRAME AND PANEL DETAILS.
7. ALL GROUT AT WET LOCATIONS SHALL BE EPOXY GROUT
8. SEE SPECIFICATIONS FOR OWNER - FURNISHED/ OWNER-INSTALLED TOILET ACCESSORIES. CONTRACTOR IS TO PROVIDE BACKING FOR ALL TOILET ACCESSORIES
9. FURNITURE AND EQUIPMENT PROVIDED AND INSTALLED BY OWNER. IF SHOWN, FOR COORDINATION PURPOSES ONLY.
10. PROVIDE BLOCKING BEHIND ALL WALL-MOUNTED VIDEO DISPLAY UNITS, COORDINATE WITH ELECTRICAL DRAWINGS.
11. REFER TO SHEET A801 FOR MILLWORK SCHEDULE
12. REFER TO AF510 SERIES FOR FLOORING TRANSITION DETAILS. CENTER FLOORING TRANSITIONS AT CENTER LINE OF DOOR.
13. SEE FINISH PLANS AND INTERIOR ELEVATIONS FOR ACCENT PAINT LOCATIONS.
14. REFER TO G017 FOR TYPICAL MOUNTING HEIGHTS AND ADA DETAILS.
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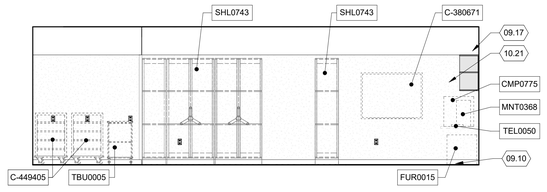
19. PROVIDE SIDE SPLASH AT ALL CONDITIONS WHERE COUNTERTOP RUNS UP TO WALL; TYP.

B1 OR ANETHESIA WORKROOM - NORTH ELEVATION

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

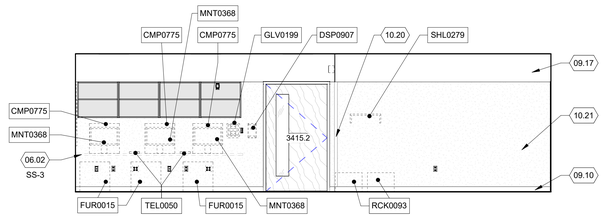
B3 OR ANETHESIA WORKROOM - EAST ELEVATION

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



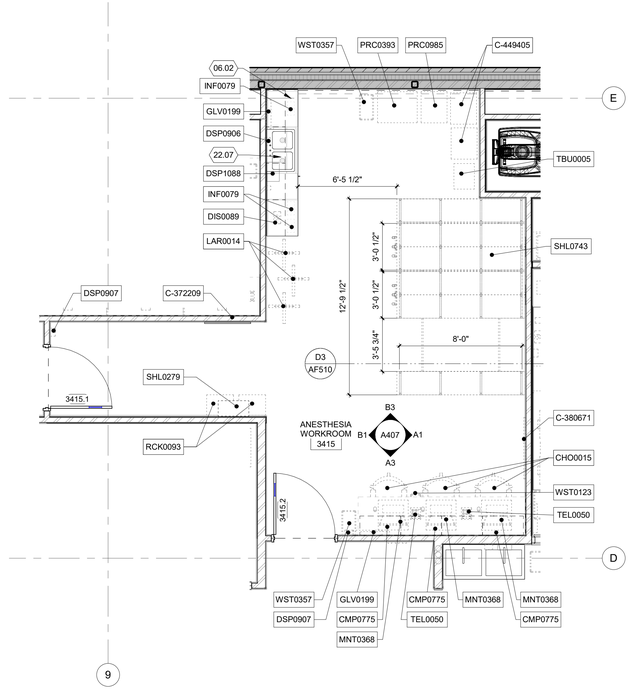
A1 OR ANETHESIA WORKROOM - SOUTH ELEVATION

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



A3 OR ANETHESIA WORKROOM - WEST ELEVATION

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



A5 OR ANETHESIA WORKROOM ENLARGED PLAN

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

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STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
REGISTERED ARCHITECT
09-19-2022

△ DATE REVISION

U of U PROJECT NUMBER

ANESTHESIA WORK ROOM ENLARGED DRAWINGS

A407

9/19/2022 10:54:19 AM

A4 TEMP ANESTHESIA & TEMP TRASH

SCALE: 1/2" = 1'-0"

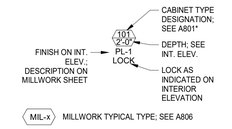
REFERENCE NOTES

EQUIPMENT NOTES

(RESPONSIBILITY: FURNISHED/INSTALLED

C-432655	CART, COMPUTER, LAPTOP, W/POWER CLIO AIR (WOW CART W/BATTERY) (O/O)
CTK0061	CART / TRUCK, SOILED UTILITY (O/O)
CTK0729	CART / TRUCK, LINEN, BULK (O/O)
SHL0782	SHELVING, WIRE, CHROME, 72 INCH X 24" X 63" (O/O)
WST0142	WASTE CAN, BIO-HAZARDOUS, ROLL-OUT (O/O)
WST0282	WASTE CAN, 44-55 GALLON (O/O)

MILLWORK LEGEND



MIL-x MILLWORK TYPICAL TYPE; SEE A806

*'M' IN THE CABINET TYPE INDICATES THAT THE NUMBER IS THE MOST CLOSELY REPRESENTATIVE OF THE DESIRED DESIGN. THE CUSTOM DESCRIPTION DESCRIBES THE DESIGN MODIFICATION.

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△	DATE	REVISION

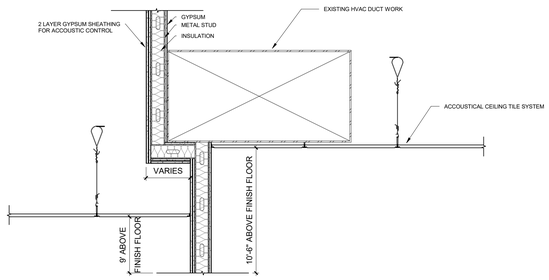
U of U PROJECT NUMBER

TEMP ANESTHESIA WRKRM

A408

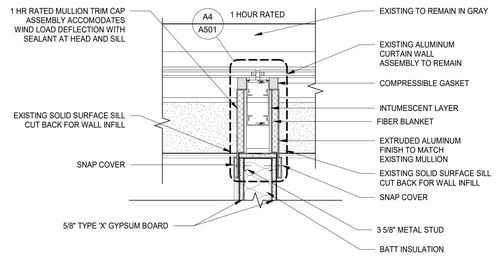
9/19/2022 10:54:23 AM

REFERENCE NOTES



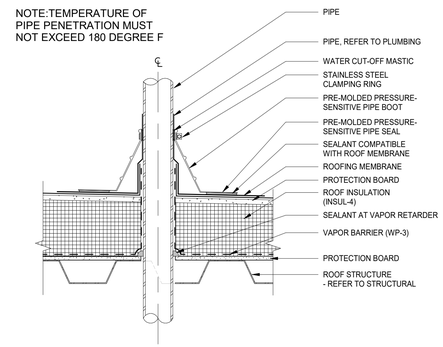
D1 WALL INTERVENTION AT HVAC DETAIL

SCALE: 3/4" = 1'-0"



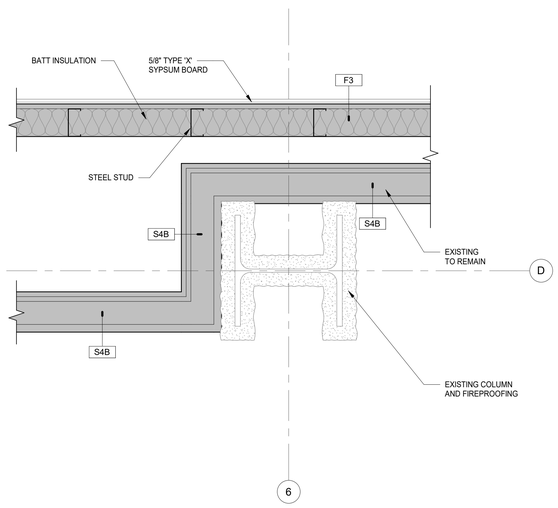
D3 NEW WALL @ EXTERIOR MULLION DTL

SCALE: 1 1/2" = 1'-0"



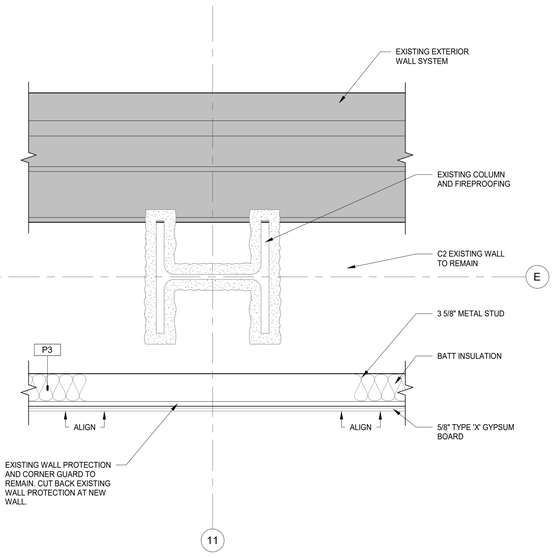
D6 ROOF DETAIL @ PIPE PENETRATION

SCALE: 1 1/2" = 1'-0"



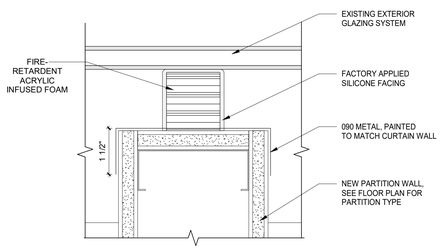
B1 DETAIL @ GRID D6 NEW TO EXISTING

SCALE: 1 1/2" = 1'-0"



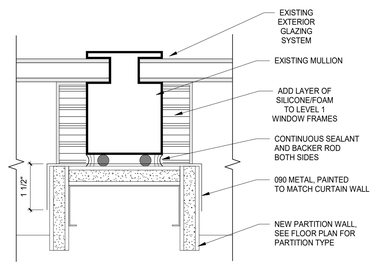
B3 DETAIL @ GRID E11 NEW TO EXISTING

SCALE: 1 1/2" = 1'-0"



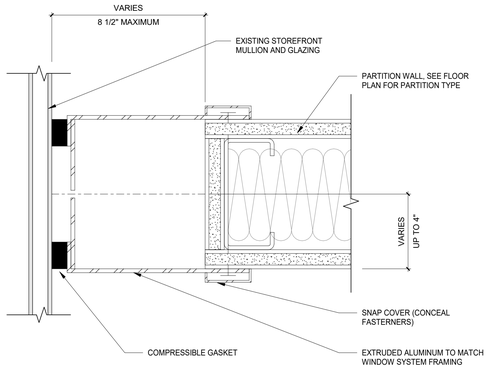
A1 PARTITION CLOSURE AT EXTERIOR WINDOW

SCALE: 6" = 1'-0"



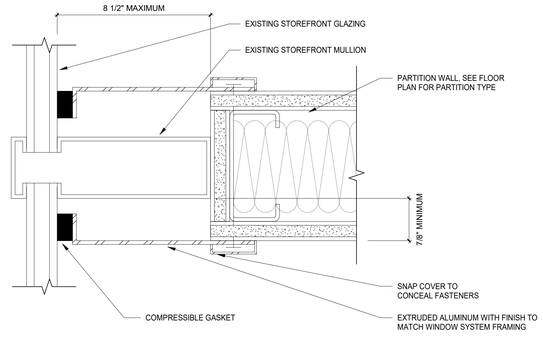
A2 PARTITION CLOSURE AT MULLION

SCALE: 6" = 1'-0"



A4 PARTITION AT EXTERIOR WINDOW

SCALE: 6" = 1'-0"



A6 PARTITION AT MULLION

SCALE: 6" = 1'-0"

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
LICENSED ARCHITECT
09-16-2022

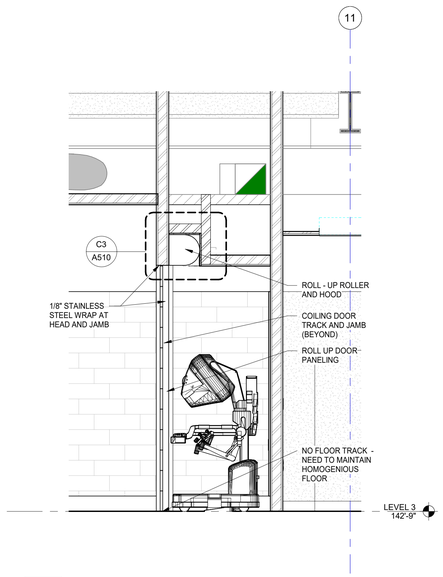
△ DATE REVISION

U of U PROJECT NUMBER

DETAILS

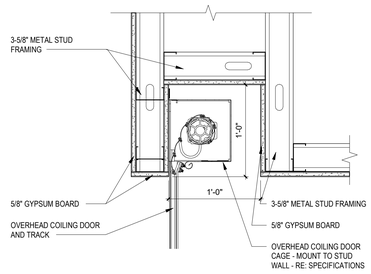
A501

9/19/2022 10:54:26 AM



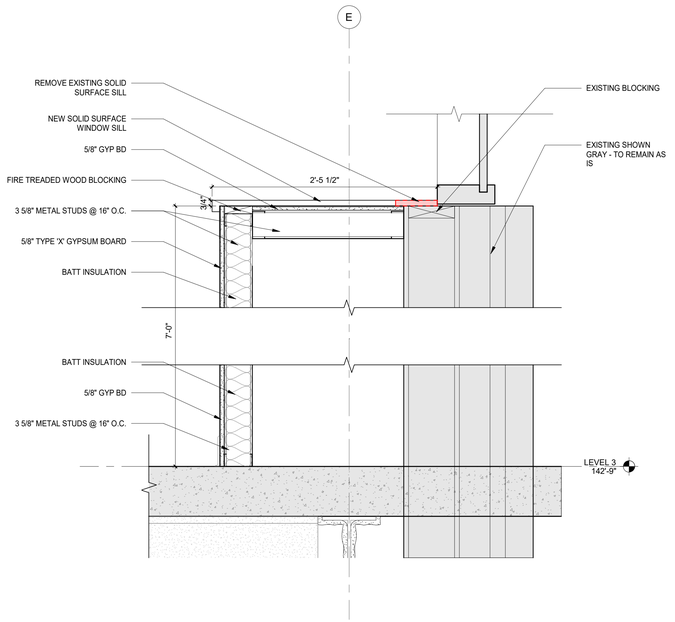
C1 OVERHEAD OR DOOR SECTION

SCALE: 1/2" = 1'-0"



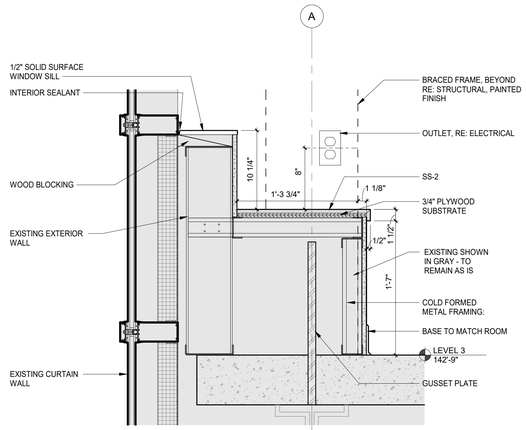
C3 COILING DOOR HEAD

SCALE: 1 1/2" = 1'-0"



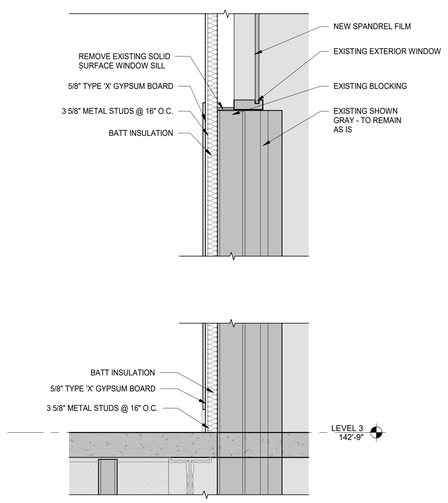
A1 WINDOW SILL DETAIL

SCALE: 1 1/2" = 1'-0"



A3 SECTION DETAIL - BENCH AT BRACED FRAME

SCALE: 1 1/2" = 1'-0"



A5 NEW OR WALL @ EXTERIOR WINDOW CONDITION

SCALE: 3/4" = 1'-0"

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CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
LICENSED ARCHITECT
09-16-2022

△	DATE	REVISION
	09/19/2022	DFCM Comments

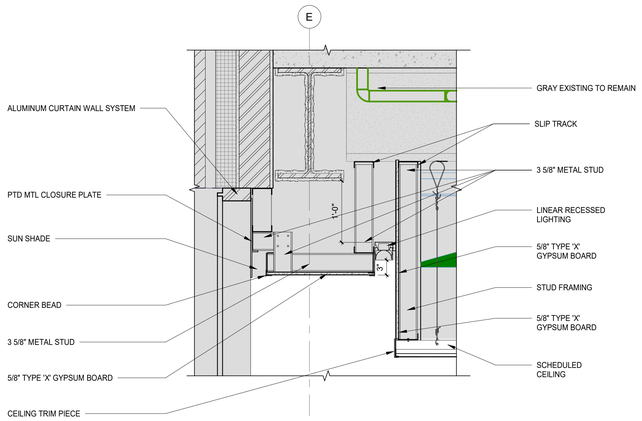
U of U PROJECT NUMBER

SECTION DETAILS

A510

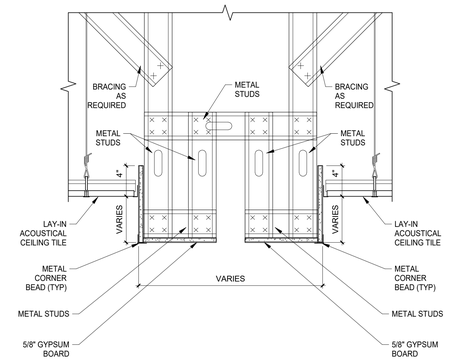
9/19/2022 10:54:34 AM

REFERENCE NOTES



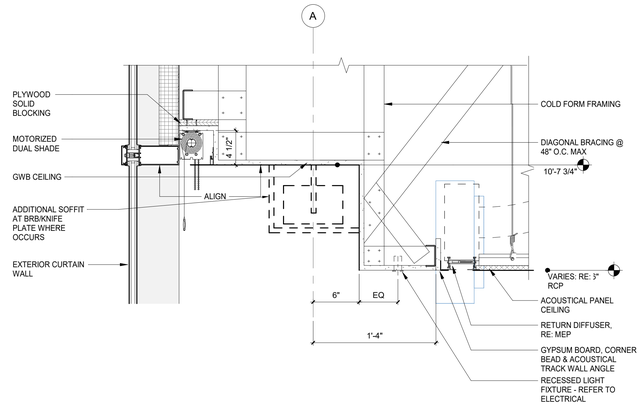
E1 CEILING DETAIL @ HIGH WINDOW GRID E

SCALE: 1" = 1'-0"



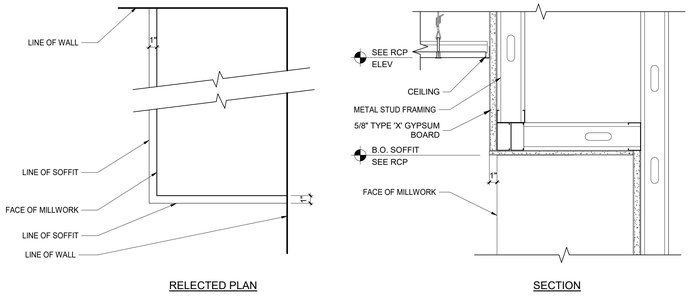
E3 CEILING TRANSITION DETAIL

SCALE: 1 1/2" = 1'-0"



E5 CEILING DTL - SHADE POCKET

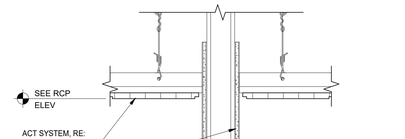
SCALE: 1 1/2" = 1'-0"



RELECTED PLAN SECTION

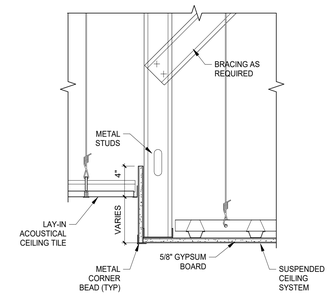
C1 SOFFIT DETAIL - TYPICAL MILLWORK CONDITION

SCALE: 1 1/2" = 1'-0"



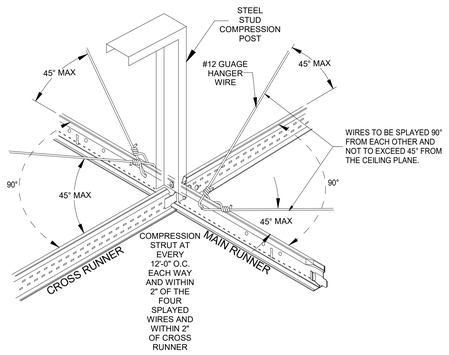
C3 SOFFIT DETAIL 2

SCALE: 1 1/2" = 1'-0"



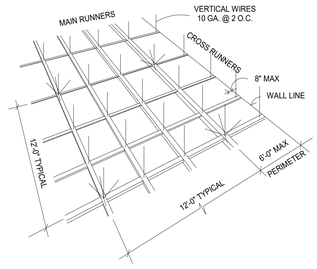
C4 CEILING TRANSITION DETAIL

SCALE: 1 1/2" = 1'-0"



B1 SEISMIC BRACING DETAIL

SCALE: 3" = 1'-0"

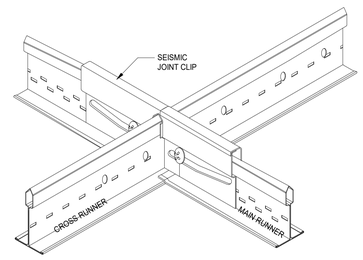


NOTE:

1. A CEILING AREA OF 144 SQ. FT. OR LESS SURROUNDED BY WALLS THAT CONNECT DIRECTLY TO THE STRUCTURE ABOVE SHALL BE EXEMPT FROM LATERAL LOAD DESIGN REQUIREMENTS OF THESE STANDARDS.
2. IN EACH ORTHOGONAL DIRECTION, ONE END OF THE CEILING GRID SHALL BE ATTACHED WITH AN ICC EVALUATED & APPROVED SEISMIC CLIP SYSTEM AND 0.75" OF CLEARANCE TO ALLOW FREE HORIZONTAL MOVEMENT
3. LATERAL CEILING BRACING IS REQUIRED @ 12'-0" O.C.IN BOTH DIRECTIONS FOR ALL CEILINGS GREATER THAN 1,000 SF.
4. CEILING AREAS OVER 2,500 SF MUST HAVE SIESMIC SEPARATION JOINTS
5. LIGHT FIXTURES, MECHANICAL EQUIPMENT, ETC. MUST BE SUPPORTED INDEPENDENT OF THE CEILING SUPPORT/ BRACKETING SYSTEM.
6. A HEAVY DUTY T-BAR GRID SYSTEM TO BE USED FOR SUSPENDED CEILINGS, DUE SEISMIC DESIGN CATEGORY D

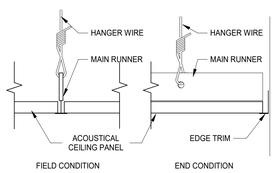
B2 SEISMIC BRACING DETAIL

SCALE: 3" = 1'-0"



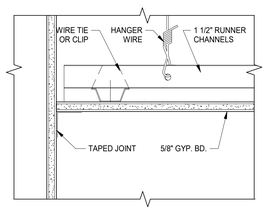
B4 SEISMIC BRACING DETAIL

SCALE: 3" = 1'-0"



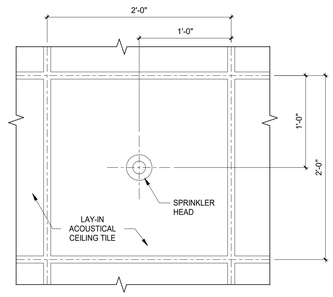
A1 ACOUSTICAL PANEL DETAIL

SCALE: 3" = 1'-0"



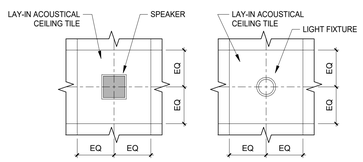
A2 GYP. BD. DETAIL

SCALE: 3" = 1'-0"



A3 SPRINKLER HEAD

SCALE: 1 1/2" = 1'-0"



A4 TYP LAYOUT OF FIXTURES AT ACOUSTICAL CEILING

SCALE: 1 1/2" = 1'-0"

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CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
LICENSED ARCHITECT
09-15-2022

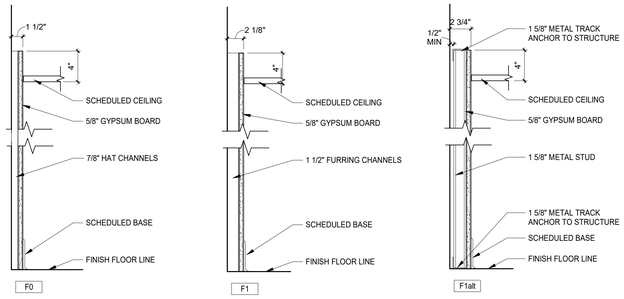
△	DATE	REVISION
1	09/12/2022	DOH Response

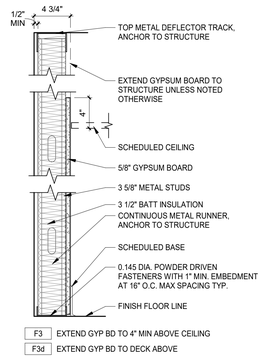
U of U PROJECT NUMBER

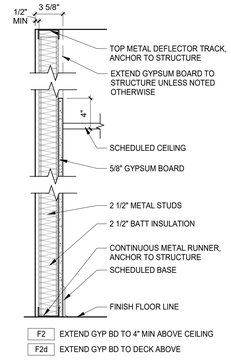
CEILING DETAILS

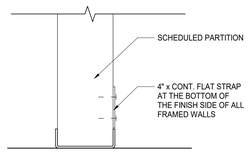
A521

9/19/2022 10:54:38 AM









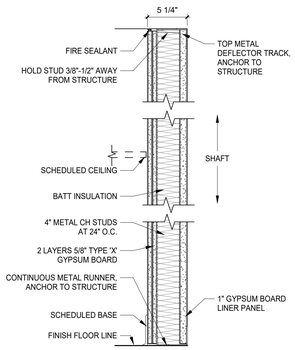
PARTITION LEGEND

PARTITION TYPE (FIRST LETTER):
- C - CAVITY WALL (GYPSUM BOARD ONE SIDE ONLY)
- M - CONCRETE MASONRY UNIT
- F - FURRING WALL
- L - LOW WALL
- P - TYPICAL METAL STUD PARTITION
- S - SHAFT WALL

METAL STUD WALLS (SECOND DIGIT)
- 0 - 7/8" FURRING CHANNEL
- 1 - 1 1/2" HAT CHANNEL OR 1 5/8" METAL STUD
- 2 - 2 1/2" CH METAL STUD
- 3 - 3 5/8" METAL STUD
- 4 - 4" CH METAL STUD
- 6 - 6" METAL STUD OR 6" CH METAL STUD

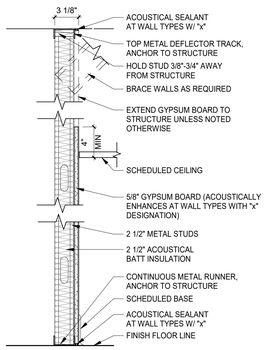
FIRE/SMOKE RATING DESIGNATION (THIRD LETTER):
- A - ONE-HOUR FIRE RATED
- B - TWO-HOUR FIRE RATED
- S - SMOKE BARRIER
- P - SMOKE PARTITION

OTHER PARTITION DESIGNATIONS (LOWER CASE):
- d - WALL EXTENDS TO UNDERSIDE OF DECK
- u - (3) LAYERS OF GYPSUM BOARD ON ONE SIDE
- v - VAPOR BARRIER
- w - (2) LAYERS OF GYPSUM BOARD ON ONE SIDE
- x - ACOUSTIC PARTITION - STC 45 MIN
- y - ACOUSTIC PARTITION - STC 50 MIN
- z - ACOUSTIC PARTITION - STC AS INDICATED



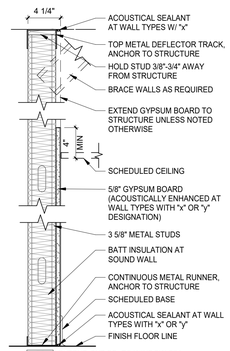
S4B UL DESIGN NO. U415, 2 HOUR, FIRE BARRIER
S4BS UL DESIGN NO. U415, 2 HOUR SMOKE BARRIER
PARTITIONS AT STAIR AND HOISTWAY ENCLOSURES SEE GENERAL NOTE 11

Smoke Barriers & Smoke Partitions to be permanently marked / identified with signs or stenciling with appropriate wording as stipulated per IBC 703.7

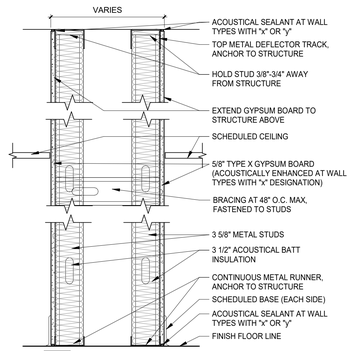


C2 EXTEND TO 4" MIN ABOVE CEILING
C2P SMOKE PARTITION

Smoke Barriers & Smoke Partitions to be permanently marked / identified with signs or stenciling with appropriate wording as stipulated per IBC 703.7



C3 EXTEND GYP.BD. TO WINDOW SILL
C3d EXTEND GYP.BD. TO DECK ABOVE



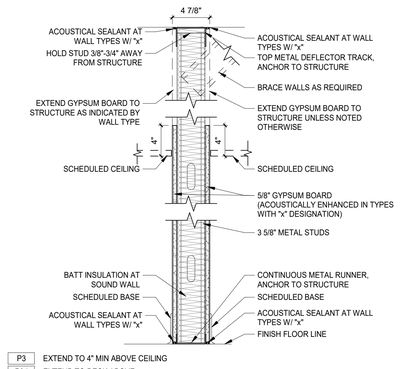
C3A UL DESIGN NO. U420; 1 HOUR FIRE BARRIER
C3AS UL DESIGN NO. U420; 1 HOUR SMOKE BARRIER

NOTE: EACH SIDE IS TAGED INDIVIDUALLY ON THE FLOOR PLAN BUT BOTH SIDES ARE REQUIRED TO ACHIEVE FIRE RATING

Smoke Barriers & Smoke Partitions to be permanently marked / identified with signs or stenciling with appropriate wording as stipulated per IBC 703.7

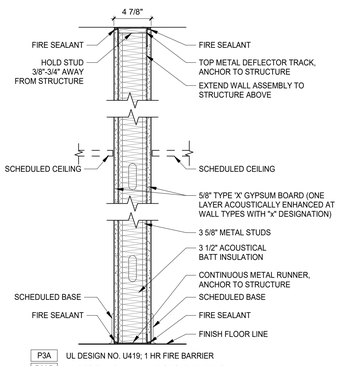
GENERAL NOTES

1. REINFORCEMENT FOR WALL-HUNG CABINETS & DEVICES: PROVIDE 6" HIGH 16 GA CONTINUOUS SHEET METAL BACKING AT LOCATIONS OF ATTACHMENT OF WALL-HUNG CABINETS AT METAL STUD WALLS, RE: INTERIOR ELEVATIONS, COORDINATE WITH CABINET INSTALLER
2. WALLS WITH TILE FINISH TO HAVE TILE BACKER BOARD IN LIEU OF STANDARD GYPSUM BOARD.
3. ALL METAL STUD PARTITIONS ARE TO HAVE 3-1/2" ACOUSTIC BATT INSULATION, TO THE ELEVATION OF THE GYPSUM BOARD, WITHIN THE STUD CAVITY, UNLESS NOTED OTHERWISE. INSULATION TO MATCH RATING OF ASSEMBLY, WHERE OCCURS. DO INSTALL INSULATION WHERE IT WOULD REMAIN EXPOSED.
4. ALL FIRE BARRIERS, SMOKE PARTITIONS, SMOKE BARRIERS, ACOUSTIC PARTITIONS AND THOSE NOTED, SHALL BE CONSTRUCTED TO DECK AND SEALED ACCORDINGLY.
5. SEE G500 SERIES DRAWINGS FOR UL JOINT SYSTEMS, UL FIRE RESISTIVE RATINGS AND UL THROUGH PENETRATION FIRE STOP SYSTEMS.
6. SEE G500 SERIES DRAWINGS FOR UL DESIGN NO. ASSEMBLY REQUIREMENTS
7. SEAL ALL PENETRATIONS IN PARTITIONS AIRTIGHT. WHERE PARTITION IS FIRE-RATED, USE FIRE-RATED SEALANT.
8. ALL FIRE AND SMOKE RATED WALLS, PARTITIONS AND BARRIERS ARE TO BE LABELED PER THE SPECIFICATIONS.
9. AT ALL SOUND PARTITION ASSEMBLIES AND WALL TYPES WITH STC RATINGS; PROVIDE ACOUSTICAL SEALANT AT ALL PENETRATIONS FOR DUCTS, CONDUIT, PIPES, ELECTRICAL BOXES, AND ALL OTHER THROUGH-WALL PENETRATIONS.
10. WALL ASSEMBLIES AT INTERIOR EXIT STAIR ENCLOSURES AND ELEVATOR HOISTWAY ENCLOSURES SHALL MEET THE REQUIREMENTS FOR SOFT BODY IMPACT CLASSIFICATION LEVEL 2 AND THE FACE GYPSUM BOARD LAYER ON THE EXTERIOR OF THE ENCLOSURE SHALL MEET THE REQUIREMENTS FOR HARD BODY IMPACT CLASSIFICATION LEVEL 3.
11. THE CONTRACTOR SHALL DEMONSTRATE THAT THE NON-STRUCTURAL METAL FRAMING MEETS THE MANUFACTURER'S DATA FOR LIMITING HEIGHTS FOR EACH WALL ASSEMBLY BASED ON THE PERFORMANCE CRITERIA INDICATED IN THE SPECIFICATIONS.



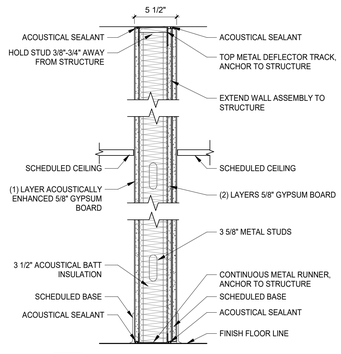
P3 EXTEND TO 4" MIN ABOVE CEILING
P3d EXTEND TO DECK ABOVE
P3P SMOKE PARTITION; GYPSUM BOARD TO EXTEND TO DECK ABOVE ON BOTH SIDES OF WALL
P3x SOUND TEST B.O.D. NGC 2013005; STC 45

Smoke Barriers & Smoke Partitions to be permanently marked / identified with signs or stenciling with appropriate wording as stipulated per IBC 703.7

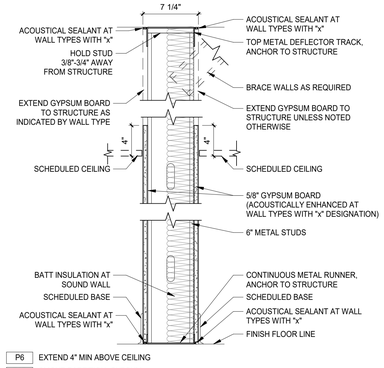


P3A UL DESIGN NO. U419; 1 HR FIRE BARRIER
P3AP UL DESIGN NO. U419; 1 HR SMOKE PARTITION
P3AS UL DESIGN NO. U419; 1 HR SMOKE BARRIER

Smoke Barriers & Smoke Partitions to be permanently marked / identified with signs or stenciling with appropriate wording as stipulated per IBC 703.7

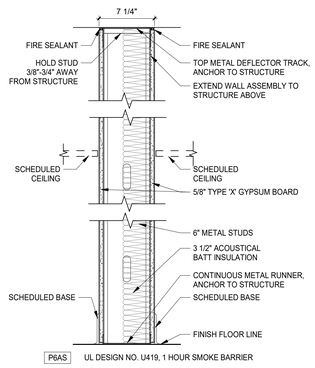


P3y SOUND WALL, BOD PGD-01-10-210; STC 54



P6 EXTEND 4" MIN ABOVE CEILING
P6P SMOKE PARTITION; GYPSUM BOARD TO EXTEND TO DECK ABOVE ON BOTH SIDES OF WALL
P6x SOUND WALL, BOD NGC 2013005 STC 45

Smoke Barriers & Smoke Partitions to be permanently marked / identified with signs or stenciling with appropriate wording as stipulated per IBC 703.7



P6AS UL DESIGN NO. U419, 1 HOUR SMOKE BARRIER

Smoke Barriers & Smoke Partitions to be permanently marked / identified with signs or stenciling with appropriate wording as stipulated per IBC 703.7

A1 PARTITION TYPES
SCALE: 1 1/2" = 1'-0"

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CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
REGISTERED ARCHITECT
09-16-2022

△ DATE REVISION

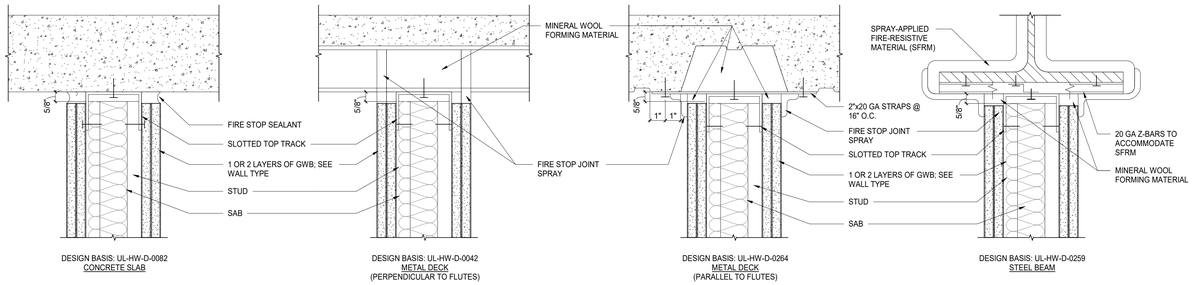
U of U PROJECT NUMBER

PARTITION TYPES

A601

9/19/2022 10:54:42 AM

REFERENCE NOTES

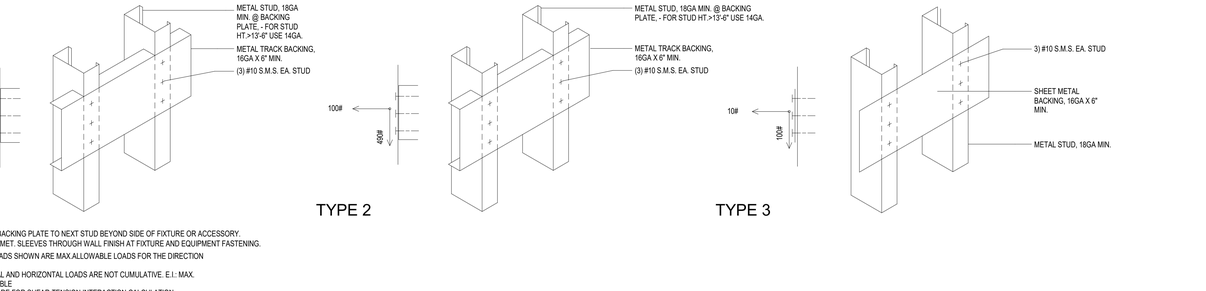


DESIGN BASIS: UL-HW-D-0082 CONCRETE SLAB | DESIGN BASIS: UL-HW-D-0042 METAL DECK (PERPENDICULAR TO FLUTES) | DESIGN BASIS: UL-HW-D-0264 METAL DECK (PARALLEL TO FLUTES) | DESIGN BASIS: UL-HW-D-0259 STEEL BEAM

DETAIL 1A - "FIRE-RATED WALLS"- ADDITIONAL NOTES:
1. CONDITIONS INDICATED TO SHOW DESIGN INTENT. THEY ARE NOT INTENDED TO BE PROPRIETARY. CONTRACTOR MAY EMPLOY SIMILAR A UL-APPROVED TOP-OF-WALL DESIGNS THAT ARE APPROPRIATE FOR CONDITIONS.
2. REFER TO SECTION 07270 / FIRESTOPPING FOR ADDITIONAL REQUIREMENTS REGARDING HEAD-OF-WALL CONDITION FOR FIRE-RATED WALLS.

D1 HEAD-OF-WALL CONDITIONS - STUD WALLS - FIRE RATED WALLS

SCALE: 3" = 1'-0"

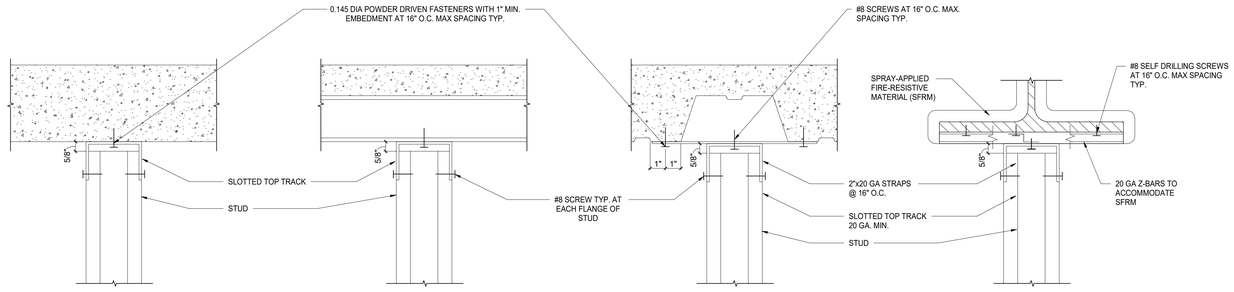


CONCRETE SLAB | METAL DECK (PERPENDICULAR TO FLUTES) | METAL DECK (PARALLEL TO FLUTES) | STEEL BEAM

DETAIL 1B - "SMOKE PARTITIONS AND SOUND-CONTROL WALLS"- ADDITIONAL NOTES:
1. UPGRADE TO DETAIL "1A" WHERE WALL IS DESIGNATED WITH A FIRE-RESISTANCE RATING.
2. FILL VOIDS WITH SOUND ATTENUATION BATTS (SAB).
3. SOUND WALLS AND SMOKE PARTITIONS REQUIRE THAT AT LEAST ONE LAYER OF GWB BE CUT TO FOLLOW UNDULATING SURFACES OF SUPERSTRUCTURES INCLUDING BUT NOT LIMITED TO FLUTES METAL DECKING. JOINT GWB TO SUPERSTRUCTURE WITH A CONTINUOUS BEAD OF ACOUSTICAL SEALANT.
4. BUILDING CODE REQUIRES THAT "SMOKE PARTITIONS" BE SEALED TO STRUCTURE AS INDICATED TO SUCCESSFULLY "....LIMIT THE PASSAGE OF SMOKE....".

C1 HEAD-OF-WALL CONDITIONS - STUD WALLS - SMOKE PARTITIONS AND SOUND CONTROL WALLS

SCALE: 3" = 1'-0"



CONCRETE SLAB | METAL DECK (PERPENDICULAR TO FLUTES) | METAL DECK (PARALLEL TO FLUTES) | STEEL BEAM

DETAIL 1C - "OTHER WALLS" - ADDITIONAL NOTES:
1. UPGRADE TO DETAIL "1A" WHERE WALL IS DESIGNATED WITH A FIRE-RESISTANCE RATING.
2. UPGRADE TO DETAIL "1B" WHERE WALL IS DESIGNATED AS A "SMOKE PARTITION" OR "SOUND-CONTROL" WALL.

B1 HEAD-OF-WALL CONDITIONS - STUD WALLS - NON-FIRE, NON-SMOKE, NON-SOUND CONTROL WALLS

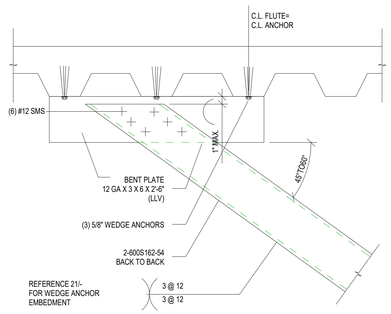
SCALE: 3" = 1'-0"

TYPE 1 | TYPE 2 | TYPE 3

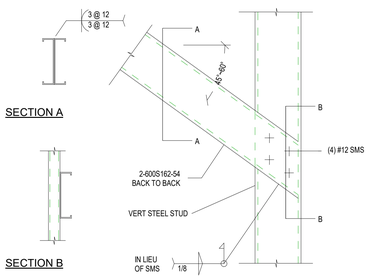
NOTES:
1. EXTEND BACKING PLATE TO NEXT STUD BEYOND SIDE OF FIXTURE OR ACCESSORY.
2. PROVIDE MET. SLEEVES THROUGH WALL FINISH AT FIXTURE AND EQUIPMENT FASTENING.
3. MAX. LOADS SHOWN ARE MAX.ALLOWABLE LOADS FOR THE DIRECTION SHOWN.
   VERTICAL AND HORIZONTAL LOADS ARE NOT CUMULATIVE. E.I.: MAX. ALLOWABLE
   LOADS ARE FOR SHEAR-TENSION INTERACTION CALCULATION.
4. AS INDICATED, STUD GAUGES SHOWN ARE MINIMUM. METAL STUDS AND THEIR
   CONNECTIONS ARE TO BE DESIGNED PER THE PERFORMANCE REQUIREMENTS IN
   SPECIFICATION SECTION 09100.
5. MAXIMUM SPACING OF METAL STUDS SUPPORTING BACKING IS 16".

A1 BACKING PLATE SCHEDULE

SCALE: 3" = 1'-0"



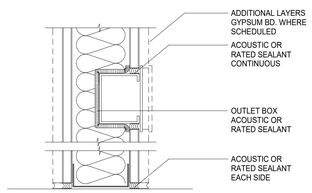
BRACE TO FLOOR (PERP TO FLUTE)
SCALE: 1-1/2" = 1'-0"



BRACE TO STUD
SCALE: 1-1/2" = 1'-0"

C5 WALL BRACING

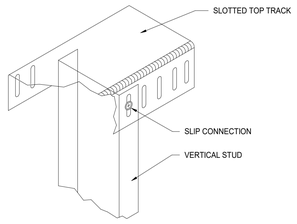
SCALE: 1 1/2" = 1'-0"



PARTITION AT FLOOR SLAB

B5 ELECTRICAL BOX

SCALE: 3" = 1'-0"



ISOMETRIC VIEW OF SLOTTED TOP TRACK

GENERAL NOTES (COMMON TO ALL DETAILS)
1. CONDITIONS INDICATED SHOW DESIGN INTENT, ESPECIALLY IN REGARD TO ACCOMMODATION OF STRUCTURAL DEFLECTION AND COMPLETING INTEGRITY OF SOUND, SMOKE AND FIRE WALLS.
2. DESIGN-INTENT DETAILS ARE NOT INTENDED TO BE PROPRIETARY. CONTRACTOR MAY EMPLOY SIMILAR HEAD-OF-WALL DESIGNS AND COMPONENTS AS APPROPRIATE FOR CONDITIONS.
3. DESIGN-INTENT DETAILS MAY NOT SHOW ALL CONDITIONS TO BE ENCOUNTERED ON SUBJECT PROJECT. COMPLY WITH MANUFACTURER AND UL-APPROVED METHODS FOR ATYPICAL CONDITIONS.
4. SECURE TOP OF INTERIOR PARTITIONS TO SUPERSTRUCTURE IN A WAY THAT PROVIDES LATERAL STABILITY (PERPENDICULAR-TO AND IN-PLANE WITH WALL) YET ALLOWING FOR UP TO 3/4 IN OF VERTICAL DEFLECTION OF THE SUPERSTRUCTURE.
5. RIGIDLY SECURE SLOTTED TOP TRACK TO BUILDING SUPERSTRUCTURE IN APPROVED MANNER. EMPLOY Z-BARS, COLD-ROLLED CHANNELS OR SIMILAR SPACERS TO ACCOMMODATE THICKNESS OF SPRAY-APPLIED FIRE-RESISTIVE MATERIALS (SFRM).
6. SLOTTED TOP TRACK, INDICATED ON THESE DETAILS, IS BASIS FOR DESIGN AND REFERS TO LONG-LEG TRACK WITH VERTICALLY SLOTTED HOLES. OPTIONAL MANUFACTURERS MAY PROVIDE SIMILAR, PROPRIETARY METHODS IN ACCORDANCE WITH PROVISIONS OF SPECIFICATION SECTION 09110.
7. SECURE VERTICAL STUDS TO TOP TRACK USING VERTICAL SLOTS IN TRACK. COMPONENTS INTENDED TO SLIDE VERTICALLY AS SUPERSTRUCTURE DEFLECTS.
8. DO NOT SCREW GYPSUM WALLBOARD TO TOP TRACK OR SUPERSTRUCTURE.
9. REFER TO SPECIFIC WALL TYPES FOR SIZE OF STUD, SAB, GWB CONDITIONS ETC.

A5 HEAD-OF-WALL CONDITIONS - STUD WALLS - GENERAL REQUIREMENTS

SCALE: 3" = 1'-0"

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PARTITION TYPES & DETAILS

A602

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OR DOOR AND FRAME SCHEDULE - PH 1

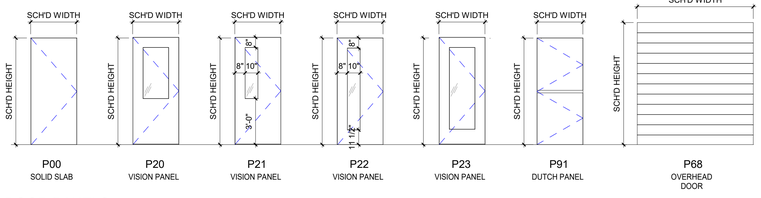
Mark	Door Number	DOOR SIZE WIDTH	HEIGHT	THICK	LEAF 1 TYPE	Panel Width	DOOR LEAF 2 TYPE	Panel: Width 2nd Leaf	DOOR MATERIAL	FRAME TYPE	FRAME MATERIAL	FIRE / SMOKE RATING	Door: Fire Rating Minutes	HARDWARE GROUP	Hardware Function	NOTES	Phase Created
LEVEL 3																	
3301	3301	3'-0"	7'-0"	1 3/4"	P23	3'-0"			WD01	F21 : A	HM01	SP	1784	08	PL	PROVIDE GF-1 ON GLASS	Phase 1
3303	3303	3'-0"	7'-0"	1 3/4"	P00	3'-0"			WD01	F21 : A	HM01	SP	1784	08	PL		Phase 1
3315.1	3315.1	3'-0"	7'-0"	1 3/4"	P00	3'-0"			WD01	F00	HM01	SP	1784	11	PPPH		Phase 1
3335A	3335A	3'-0"	7'-0"	1 3/4"	P00	3'-0"			WD01	F00	HM01	SP	1784	12	PPPH	EXISTING DOOR SALVAGED & RELOCATED	Phase 1
3402.2	3402.2	3'-0"	7'-0"	1 3/4"	P00	3'-0"			WD01	F00	HM01	SB	20	08	PL		Phase 1
T3307	T3309	3'-0"	7'-0"	1 3/4"	P00	3'-0"			WD01	F00	HM01	SP	45	10	PL	TEMPORARY	Phase 1
T3309	T3309	3'-0"	7'-0"	1 3/4"	P00	3'-0"			WD01	F00	HM01	SP	45	08	PL	TEMPORARY	Phase 1

OR DOOR AND FRAME SCHEDULE -PH 2

Mark	Door Number	DOOR SIZE WIDTH	HEIGHT	THICK	LEAF 1 TYPE	Panel Width	DOOR LEAF 2 TYPE	Panel: Width 2nd Leaf	DOOR MATERIAL	FRAME TYPE	FRAME MATERIAL	FIRE / SMOKE RATING	Door: Fire Rating Minutes	HARDWARE GROUP	Hardware Function	NOTES	Phase Created
LEVEL 3																	
3307.1	3411	3'-0"	7'-0"	1 3/4"	P00	3'-0"			WD01	F21 : A	HM01	FB-1	1784	03	SCR	PROVIDE GF-1 ON GLASS	Phase 2
3307A	3307A	3'-0"	7'-0"	1 3/4"	P00	3'-0"			WD01	F21 : A	HM01	SP	1784	10	EOL	PROVIDE GF-1 ON GLASS	Phase 2
3307B	3307B	3'-0"	7'-0"	1 3/4"	P00	3'-0"			WD01	F21 : A	HM01		0	05	EOL	PROVIDE GF-1 ON GLASS	Phase 2
3309	3402.1	3'-0"	7'-0"	1 3/4"	P00	3'-0"			WD01	F00	HM01	SP	1784	04	SCR		Phase 2
3315.1	3315.1	3'-0"	7'-0"	1 3/4"	P00	3'-0"			WD01	F00	HM01	SP	1784	11	PPPH		Phase 2
3320	3320	7'-8"	7'-0"	1 3/4"	P00	3'-10"	P00	3'-10"	WD01	F01	HM01	SB	20	12	specify	EXISTING DOOR SALVAGED & RELOCATED	Phase 2
3325.1	3325.1	4'-0"	7'-0"	1 3/4"	P00	4'-0"			WD01	F00	HM01	FB-1	45	02	SCR		Phase 2
3325.2	3315.2	3'-0"	7'-0"	1 3/4"	P00	3'-0"			WD01	F00	HM01	FB-1	45	11	PL		Phase 2
3327	3327	4'-0"	7'-0"	1 3/4"	P22	4'-0"			WD01	F00	HM01	FB-1	45	02	SCR		Phase 2
3327A	3327A	3'-6"	7'-0"	1 3/4"	P91	3'-6"			WD01	F00	HM01	FB-1	45	07	PL	DUTCHDOOR	Phase 2
3404.1	3404.1	4'-0"	7'-0"	1 3/4"	P00	4'-0"			WD01	F00	HM01	FB-1	45	02	SCR		Phase 2
3404.2	3404.2	4'-0"	7'-0"	1 3/4"	P00	4'-0"			WD01	F00	HM01	FB-1	45	09	PL		Phase 2
3411	3411	3'-0"	7'-0"	1 3/4"	P00	3'-0"			WD01	F21 : A	HM01	SP	1784	03	SCR		Phase 2
3413	3413	3'-0"	7'-0"	1 3/4"	P00	3'-0"			WD01	F21 : A	HM01	SP	1784	03	SCR		Phase 2
3415.1	3415.1	4'-0"	7'-0"	1 3/4"	P22	4'-0"			WD01	F00	HM01	FB-1	45	09	SCR	PROVIDE GF-1 ON GLASS	Phase 2
3415.2	3415.2	4'-0"	7'-0"	1 3/4"	P22	4'-0"			WD01	F00	HM01	FB-1	45	09	SCR	PROVIDE GF-1 ON GLASS	Phase 2
3513.1	3513.1	6'-0"	7'-0"	1 3/4"	P22	3'-0"	P22	3'-0"	WD01	F00	HM01	FB-1	1784	01	PL	CLOSER, PROVIDE GF-1 ON GLASS	Phase 2
3521.1	3521.1	3'-6"	7'-0"	1 3/4"	P22	3'-6"			WD01	F00	HM01	FB-1	45	06	SL		Phase 2
3521.2	3521.2	3'-6"	7'-0"	1 3/4"	P22	3'-6"			WD01	F00	HM01	FB-1	45	09	PL		Phase 2
3611.1	3611.1	6'-0"	7'-0"	1 3/4"	P22	3'-0"	P22	3'-0"	WD01	F00	HM01	SP	1784	01	PL	CLOSER	Phase 2
3611.2	3611.2	3'-6"	7'-0"	1 3/4"	P22	3'-6"			WD01	F00	HM01	FB-1	45	09	PL		Phase 2

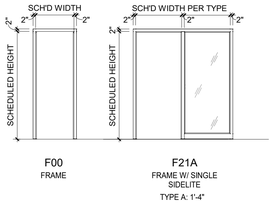
OR DOOR AND FRAME SCHEDULE -PH 2 OVERHEAD COIL

Mark	Door Number	DOOR SIZE WIDTH	HEIGHT	THICK	LEAF 1 TYPE	Panel Width	DOOR LEAF 2 TYPE	Panel: Width 2nd Leaf	DOOR MATERIAL	FRAME TYPE	FRAME MATERIAL	FIRE / SMOKE RATING	Door: Fire Rating Minutes	HARDWARE GROUP	Hardware Function	NOTES	Phase Created
LEVEL 3																	
3513.2		7'-6"	8'-0"	0"					HM01		HM01					OVERHEAD	Phase 2



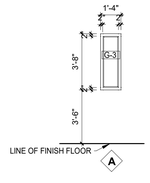
DOOR PANELS

SCALE: N.T.S.



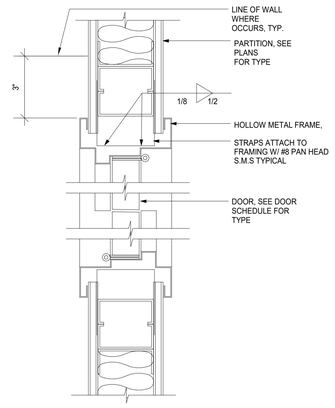
DOOR FRAMES

SCALE: N.T.S.



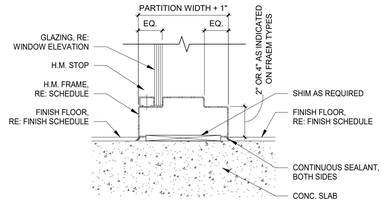
INTERIOR WINDOW TYPES

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



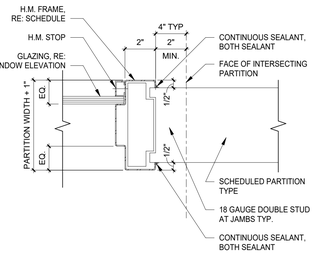
C4 INTERIOR DOOR HEAD JAMB DUAL EGRESS

SCALE: 3" = 1'-0"



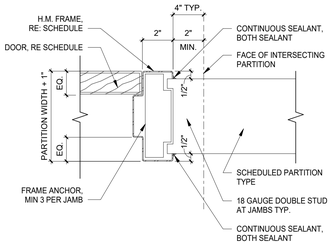
B4 H.M. SILL DETAIL

SCALE: 3" = 1'-0"



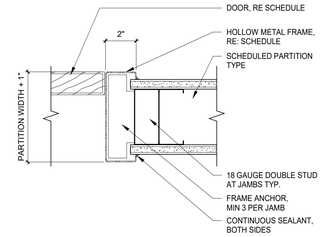
A4 H.M. JAMB/HEAD DETAIL

SCALE: 3" = 1'-0"



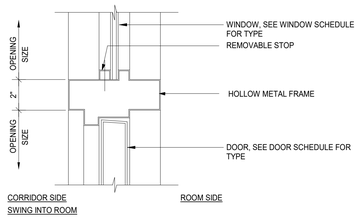
E6 H.M. DOOR JAMB/HEAD DETAIL

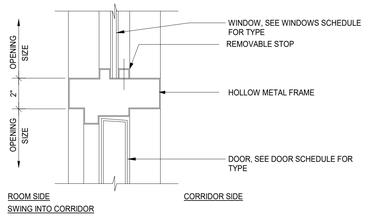
SCALE: 3" = 1'-0"



D6 HM CASING FRAME

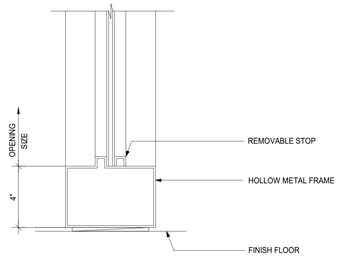
SCALE: 3" = 1'-0"





B6 INTERIOR WINDOW - HEAD, JAMB

SCALE: 3" = 1'-0"



A6 INTERIOR WINDOW - SILL

SCALE: 3" = 1'-0"

REFERENCE NOTES

DOOR LOCKSET TYPES

SCHLAGE ND40S — ANSI F76
Bath/Bedroom Privacy Lock (BBPL)
Push-button locking. Can be opened from outside with small screwdriver. Turning inside lever or closing door releases button.

ND70PD F84
Classroom Lock † (CL)
Outside lever locked and unlocked by key. Inside lever always unlocked.

ND25D
Exit Lock (EL)
Blank plate outside. Inside lever always unlocked.

ND50PD F82
Entrance/Office Lock † (EOL)
Push-button locking. Push-button locks outside lever until unlocked with key or by turning inside lever.

Keypad Lock (KL)

Pull Handles (PH)
Dummy trim

ND10S F75
Passage Latch (PL)
Both levers always unlocked.

Push Plate/Pull Handle (PPPH)
Dummy trim for one side of door. Used for door pull or as matching inactive trim.

Security/Card Reader (SCR)

ND30PD F86
Storeroom Lock † (SL)
Outside lever fixed. Entrance by key only. Inside lever always unlocked.

INTERIOR GLAZING SCHEDULE

G-1 — GLAZING TYPE

FIRE RESISTANT GLAZING 08 8813

FRGL-3 45 MINUTE FIRE-RESISTANCE-RATED GLAZING
FRGL-4 20 MINUTE FIRE-RESISTANCE-RATED GLAZING

INTERIOR GLAZING 08 8000

G-1 NOT USED
G-2 FRITTED TEMPERED GLASS
G-3 CLEAR TEMPERED GLASS

GF-1 FROSTED GLAZING FILM

DOOR & FRAME MATERIAL LEGEND

HM01	HOLLOW METAL
WD01	WOOD PANEL
AL01	ALUM STOREFRONT - SEE WINDOW SCHEDULE
ST01	GALVANIZED STEEL
NF	NO FRAME
RE	RELOCATED EXISTING DOOR PANEL
SP	SMOKE PARTITION
SB	SMOKE BARRIER
FB-1	FIRE BARRIER - 1 HR
FB-2	FIRE BARRIER - 2 HR
FP	FIRE PARTITION

GENERAL NOTES

1. ALL DIMENSIONS SHOWN ON WINDOW TYPES ARE PROVIDED SOLELY FOR THE CONVENIENCE OF BIDDING. ALL WINDOW DIMENSIONS ARE TO BE FIELD VERIFIED WITH THE EXISTING ROUGH OPENINGS PRIOR TO FABRICATION.

FFKR ARCHITECTS
730 Pacific Avenue · Salt Lake City, Utah 84104
O 801.521.6186 · FFKR.COM

ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH — MICHAEL ADAM DOLAN — No. 7732018-0301 — LICENSED ARCHITECT — 09.16.2022

△	DATE	REVISION
	09/19/2022	DFCM Comments

U of U PROJECT NUMBER

DOOR SCHEDULE & DETAILS

A610

9/19/2022 10:54:49 AM

CAD ID	Description	Mfr	Mfr #	Model	Furnished By	Installed By	Mounting	Max Weight (lbs)	Width (in)	Depth (in)	Height (in)	Volts	Amps	Hz	Watts	Plug Type	BTU/hr	Dedicated Circuit	Data	Emer. Power	Water	Drain	Vent	Gas	Vacuum	Item Notes	CAD ID 2
ALL0000	Contingency, Allowance, Medical Equipment				Owner	Vendor	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		ALL0000
ALL0000	Allowance, Blunt Cannula Access Devices	Grams Medical		Cannula	Owner	Owner	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		ALL0000
ALL0122	Allowance, Cookware and Kitchen Tools	TBD	TBD	TBD	Owner	Owner	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		ALL0122
ANC0806	Cart, Anesthesia, Controlled Access	Omnicell, Inc.	ANT-FRM-001; fingerprint scanner, safety stock scanner	Anesthesia Workstation G4	Owner	Owner	M	560	64.00	30.00	63.50	120	1.3	60	144	Type B (NEMA 5-15)	400	-	Yes	Yes	-	-	-	-	-	Max weight reflects empty workstation. Width reflects user arm fully extended, typically 50 inch wide with arm not extended. Additional 16 inch front clearance needed for drawer extension. Manufacturer recommends emergency power be provided with connections to red plugs. Includes built-in UPS (90-250VAC, 50-60Hz, 1A). G4 Wireless platform uses Intel's Centrino Advanced N-620 for Desktop adapter. See cutsheet for space and electrical requirements.	ANC0806
ANE0032	Anesthesia Machine, General	Draeger, Inc.	OPC5280	Apollo Workstation (Base Unit)	Owner	Vendor	M	365	33.50	31.50	59.00	120	1.7	60	200	Type B (NEMA 5-15)	N/A	-	Yes	Yes	-	-	-	Yes	-	Max weight does not include vaporizers or gas cylinders.	ANE0032
BCH0213	Bench, Gowning	Health Care Logistics	19546	Stainless Steel Bench w/Storage 36W	Owner	Owner	F	130	36.00	18.00	19.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Weight is estimated. Manufacturer does not know product weight.	BCH0213
BIN0019	Bin, Shredding, Secure	Shred-it, Inc.		Standard Front Load	Owner	Vendor	F	45	20.25	19.50	36.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		BIN0019
BOM0767	Boom, Equipment, Dual Arm, w/Monitor Arm	Skytron	3EC-L/32F/3PM36/ADAPTER/3T2/3AFC/3FCM2/H2-300-04-A	Ergon 330 Series (3PM36) & 3FCM2 Dual Monitor Mnt	Owner	Vendor	CE	REM	228.00	228.00	ADJ	120	20	60	*	Hardwire	N/A	Yes	Yes	Yes	-	-	-	Yes	Yes	Fixture Weight is 1,355 lbs. without equipment mounted from arms. Dimensions and weights will vary based on final configuration. See manufacturer for site specific drawings and planning details.	BOM0767
BRD0010	Board, Patient Transfer Device	Performance Health	552636	Patient Mover Bariatric	Owner	Owner	S	19	32.00	72.00	0.25	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Dimensions reflect in use. 0.25" thickness (height) when flat.	BRD0010
BRD0394	Board, Bulletin	Peter Pepper Products, Inc.	CK4836	Tactics Cork Tackable Board 48in.W x 36in.H	Owner	Contractor	W	24	48.00	2.00	36.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		BRD0394
BRK0256	Bracket, Monitor, Counter - anthesia	GCX Corporation	QCT-0017-03/FLP-0008-11	Dual Channel Column (18 in.) Dual Display	Owner	Owner	C	24	21.00	8.00	18.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		BRK0256
BRK0300	Bracket, CPU, Wall	Ergotron Inc.	80-063-200	Small CPU Holder	Owner	Owner	W	6	10.00	3.75	6.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Accommodates up to 50 lbs.	BRK0300
BRK0488	Bracket, Television, Wall, Flat Panel (for 55" TVS)	Peerless-AV	PF650	Paramount Universal (for 39" to 75" displays)	Owner	Contractor	W	5	30.87	1.26	16.89	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Load capacity: 150 lb. Mounts to wood studs, concrete, cinder block or metal stud (metal stud accessory required).	BRK0488
BRK0807	Bracket, Canister, Suction, Wall Mount	Cardinal Health Durable Medical Equipment	65652-155/ 65652-145	65652-155 Guardian Ring Bracket (1200cc)	Owner	Owner	W	1	6.00	7.75	7.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		BRK0807
BRK0912	Bracket, Monitor & Keyboard, Wall	Ergotron Inc.	61-080-062	StyleView Sit-Stand VL, Patient Room, White	Owner	Contractor	W	30	18.30	19.90	29.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Depth reflects keyboard fully extended. Depth when folded: 5.75 inches.	BRK0912
BUK0014	Bucket, Kick	Pedigo Products, Inc	P-1020-SS	P-1020-SS	Owner	Owner	M	8	13.75	13.75	13.25	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		BUK0014
C-304418	Bracket, Sharps Container	BD - Becton, Dickinson and Company	305497 quick release strap	305497 quick release strap	Owner	Contractor	W		8.00	1.00	1.50	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-304418
C-354855	Sink, Scrub, 2-Bay, Stainless Steel	MAC Medical, Inc.	SS2122-MK-EW; F1-020-31 Eye wask ; F1-010-49M Sink carrier	SS2122-MK Double Station Scrub Sink	Owner	Contractor						N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-354855
C-372209	Board, Peg, General - Endoscopy Scopes	Spacesaver Corporation		Pegboard for Med Gas hoses	Owner	Contractor						N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-372209
C-373816	Scanner, Barcode - Medication Only, Wht	Motorola, Inc.	DS4208-SCZU0100ZWR	DS8178W Cordless BCMA scanner	Owner	Owner						N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-373816
C-376002	Headlight, LED	Cuda Surgical		LLS-9500DB-K Wireless LED Headlight system	Owner	Owner						N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-376002
C-376006	Injector, Allowance	TBD		Tulip Injector Superluerlock	Owner	Owner						N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-376006
C-380671	Board, White, Dry Erase, Magnetic, 36"x48"	Clarus Glassboards		36"x48"	Vendor	Vendor						N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-380671
C-404267	Fluid Management System - Neptune 3 Rover	Stryker Medical	##0703001000	Netune 3 Rover	Owner	Owner						N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-404267
C-427917	Computer, Peripherals, Keyboard	TBD	TBD	Washable Keyboard and mouse Seal Shield ##SSKSV207L; STM042 PS2	Owner	Owner						N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-427917
C-432655	Cart, Computer, Laptop, w/Power CLIO AIR (WOW Cart w/battery)	Altus Inc		L3-0141z/BCH14PL/PT-HFH-PL f/BCHPS3	Owner	Owner						N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-432655
C-441982	Computer, Keyboard Washable - Black	QWERTY	SSKSV207L	SSKSV207L - Seal Shield Silver Seal Washable	Owner	Owner						N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-441982
C-443021	Board, Glass, Dry Erase, Magnetic - 36" x 60"	Clarus Glassboard, LLC		36" x 60"	Owner	Contractor						N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-443021
C-443023	Cart, Supply, Unicell 27 w/bi parting R15 & R18 Roll Front / shelves & drawers	UNICELL Inc.	C27DWC-003/S1D-003/R27-003/T2D-000/T3D-000/XAB32G/XAB31G	C27DWC-003/S1D-003/R27-003/T2D-000/T3D-000/XAB32G/XAB31G	Owner	Owner						N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-443023
C-448004	Bracket, Television, Wall - (for 36" TV)	Atdec	B002WSZ0MQ	B002WSZ0MQ	Owner	Contractor						N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-448004
C-448260	Bracket, Television, Wall, Flat Panel	Ergotron Inc.	SIM90	SIM90 SIgnage mount	Owner	Contractor						N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-448260
C-448314	Television, 50-65 in, Flat Panel	RCA Commercial Electronics	J55LV842	55 in LED Commercial J55LV842	Owner	Owner						N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-448314
C-448315	Refrigerator, Domestic	Frigidaire - Div. Electrolux	FFHT2032TP	FFHT2032TP	Owner	Owner						N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-448315
C-448344	Electrosurgical Unit, Shockpulse_SE Lithotripsy System	Olympus America Inc - Surgical Div.	SPL-S; SPL-FS	Electrosurgical Unit, Shockpulse_SE Lithotripsy System SPLS-S	Owner	Owner						N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-448344
C-448372	Bracket, CPU, Wall - Thin Client Mount	StarTech.com Ltd.	80-107-200	Thin Client Mount	Owner	Owner						N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-448372
C-449405	Cart, Dummy	Innerspace - Solaire	SP27PED	Pace Pediatric Care Cart	Owner	Owner						N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-449405
C-449405	Cart, PEDS	Innerspace - Solaire	SP27PED	Pace Pediatric Care Cart	Owner	Owner						N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-449405
C-449454	TetraGraph and Pole Clamp Bundle	Senzime	SEN-2001-BN	TetraGraph and Pole Clamp Bundle	Owner	Owner						N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		C-449454
CAM0000	Camera, Allowance	TVS PRO	TBD		Owner	Vendor	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		CAM0000
CAM0265	Camera, Endoscopy, Control Unit	KARL STORZ Endoscopy	TC301US	IMAGE1 S X-LINK	Owner	Owner	C	4	12.01	12.60	2.13	120	N/A	60	N/A	Type B (NEMA 5-15)	N/A	-	-	-	-	-	-	-	-		CAM0265
CAM0267	Camera, Endoscopy, Control Unit (KIT - IMAGE 1S-4U-KT)	KARL STORZ Endoscopy	TC304US	IMAGE1 S 4U-LINK	Owner	Owner	C	4	12.01	12.60	2.13	120	N/A	60	N/A	Type B (NEMA 5-15)	N/A	-	Yes	-	-	-	-	-	-		CAM0267
CAM0298	Camera, Endoscopy, Video	KARL STORZ Endoscopy	TH121	IMAGE1 S 4U Rubina Camera Head	Owner	Owner	C	2	11.81	0.30	3.35	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		CAM0298
CHA0421	Chair, Interiors, Nala	Nemschoff, Inc.	CR43	Nala Harmonic Tilt	Owner	Owner	F	80	33.00	28.50	50.50	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		CHA0421
CHO0015	Chair, Office, Task, w/Arms	Herman Miller, Inc.	AE111HWBAJG1BBBK_	Aeron AE111	Owner	Owner	M	40	27.50	27.50	42.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		CHO0015
CHR1209	Chair, Interiors, Guest, w/Arms	Exemplis - SitOnIt Seating	5641	Focus Side w/Casters 5641	Owner	Owner	M	24	24.50	26.00	34.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		CHR1209
CLK0118	Clock, Analog, Wall	Chicago Lighthouse Industries	67818003	Contemporary Series-Silver [67818003]	Owner	Owner	W	1	14.50	1.50	14.50	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Requires 1 AA battery.	CLK0118
CLK0155	Clock, Digital, Synchronized, Wired	Sapling Company, Inc.	SBD-32S-256-4R	SBD 3000 Wired Digital Clock - 24V/6-Digit	Owner	Vendor	W	4	14.44	4.06	5.38	24	N/A	60	N/A	Hardwire	N/A	-	-	-	-	-	-	-	-	124mA @ 24 VAC average current consumption. RS485 input; 2-Wire Digital Communication (24V model only)	CLK0155
CLK0166	Clock, Elapsed Time, Wall Mount	Primex, Inc	XRA7Y202EF-1	XR Levo Elapsed Flush Mount (2.5", 6-Digit)	Owner	Vendor	W	2	17.00	3.50	6.50	120	N/A	60	N/A	Hardwire	N/A	-	-	-	-	-	-	-	-	Includes Switch Control. Designed to fit inside a single gang box (not included).	CLK0166
CLK0167	Clock, Digital, Synchronized, Wireless	Primex, Inc	XRA7Y202F-1	XR Levo Flush Mount (2.5", 6-Digit)	Owner	Vendor	W	2	17.00	3.50	6.50	120	N/A	60	N/A	Hardwire	N/A	-	-	-	-	-	-	-	-		CLK0167
CLK0225	Clock, Employee Time	KRONOS Incorporated	9100	InTouch 9100	Owner	Owner	W	5	10.75	4.00	6.00	120	1.5	60	180	Type B (NEMA 5-15)	N/A	-	Yes	-	-	-	-	-	-		CLK0225
CMP0752	Computer, Desktop	Hewlett-Packard	P4K04UT##ABA	HP EliteDesk 800 G2 Mini PC (Intel Core i5-6500T)	Owner	Owner	C	3	7.00	7.00	1.50	120	<1	60	65	Type B (NEMA 5-15)	N/A	-	Yes	-	-	-	-	-	-		CMP0752
CMP0775	Computer, Thin Client	Hewlett-Packard	t630	t630 Thin Client (Configurable)	Owner	Owner	C	4	4.75	8.75	10.00	120	1.8	60	65	Type B (NEMA 5-15)	N/A	-	-	-	-	-	-	-	-	Dimensions reflect Vertical orientation without stand. Weight includes stand and will vary depending on configuration.	CMP0775
CMU0027	Compression Unit, Extremity Pump, Intermittent	Currie Medical Specialties	ALP 501	ALP 501 Pump	Owner	Owner	C	7	6.50	12.00	6.00	120	<1	60	14	Type B (NEMA 5-15)	N/A	-	-	-	-	-	-	-	-	Unit weighs 6.5 lbs. Ship weight is with garments.	CMU0027
CNT0077	Controller, Device, Operating Room - Nurse workstation - see ISY0013	KARL STORZ Endoscopy	20093801U1	OR1 Control (SCB Control NEO)	Owner	Vendor	C	14	12.00	12.50	6.50	115	N/A	60	N/A	Type B (NEMA 5-15)	N/A	-	Yes	-	-	-	-	-	-		CNT0077
COF0128	Coffee Maker, Domestic	Black & Decker Corporation	DLX1050W	12-Cup Programmable (white)	Owner	Owner	C	6	9.00	11.50	14.25	120	8	60	975	Type B (NEMA 5-15)	N/A	-	-	-	-	-	-	-	-		COF0128
COP0132	Copier, Floor, Multifunction	Hewlett-Packard		LaserJet 4101mfp (C9149A)	Owner	Vendor	F	100	16.50	21.25	40.00	110	4.7	60	521	Type B (NEMA 5-15)	N/A	-	Yes	-	-	-	-	-	-		COP0132
CPP0007	Clipper, Surgical (No Cost - Rep will take to OR when ready)	BD - Becton, Dickinson and Company		Rechargeable Clipper w/Charger 5513E/5514A	Owner	Owner	C	2	3.25	2.75	6.25	120	N/A	60	N/A	Type B (NEMA 5-15)	N/A	-	-	-	-	-	-	-	-	Powered by rechargeable Lithium ion battery. Dimensions reflect packaging dimensions of clipper, actual dimensions not available from manufacturer. Dimensions of charging adapter: 6W x 4.25D x 2.5H inches. Electrical requirements for battery charger. Brent Klev - Carefusion will give clippers for free. We purchase heads from them as needed.	CPP0007
CSC0257	Cart, Case, Medium (40-49in wide) w/ Shelf and Tote box hanger	Pedigo Products, Inc	RCC-242-B	RCC-242-B	Owner	Owner	M	145	46.25	27.50	42.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		CSC0257
CSN0098	Cabinet, Storage, Non-Clinical, Credenza	Steelcase Inc	CWBD_6429	Convene Transitional-Style CWBD_6429	Owner	Owner	F	200	64.00	25.00	29.50	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		CSN0098
CST0450	Cabinet, Storage, Clinical, Scrub Disposal	IPA - Innovative Product Achievements	SE-0093	scrubEx LV Remote Receiver	Owner	Vendor	F	520	51.00	16.50	78.00	120	3	60	360	Type B (NEMA 5-15)	171	-	Yes	-	-	-	-	-	-	Communications – Thru Hospital Network, Communicates in “real-time” over redundant paths from machine to machine and machine to System Controller. See cutsheet for installation details. Max Weight reflects unit with linen.	CST0450
CTK0061	Cart / Truck, Soiled Utility	Rubbermaid Commercial Products	FG101100BLA	Tilt Truck (3/4 cu yd/ 600 lb. capacity)	Owner	Owner	M	92	30.25	64.50	38.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		CTK0061
CTK0729	Cart / Truck, Linen, Bulk	Meese, Inc.	72PR	72PR Poly-Trux (Regrind/48 cu. ft.)	Owner	Owner	M	165	48.00	28.50	66.50	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		CTK0729
DIS0047	Disposal, Sharps, Countertop	BD - Becton, Dickinson and Company	305487 / 305970	305487 / 305970 (1.5 qt w/Needle Ports)	Owner	Owner	C	1	5.00	4.00	9.50	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Collector weighs 0.43 lb. each. Bracket weighs 0.20 lb. each. Ship weight for case of brackets is 2.37 lb. Ship weight for case of collectors is 15.54 lb. small desk mounted container	DIS0047
DIS0089	Disposal, Sharps, Countertop, Pharmacy	Medtronic - Covidien Kendall Products	8602RC	RCRA Haz. Waste 8602RC (2 gal)	Owner	Owner	F	1	10.50	7.25	10.00	0	NA	N/A	NA	N/A	N/A	-	-	-	-	-	-	-	-		DIS0089
DIS0286	Disposal, Sharps, Countertop	BD - Becton, Dickinson and Company	305489	305489	Owner	Owner	C	1	9.50	5.50	11.50	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Ship weight for case/12: 12.04 lb.	DIS0286
DRY0178	Dryer, Sterile Air, Pass Thru	Belimed, Inc.	DC136-HEPA	100 Series: Model 136 w/HEPA (Single Front & Back)	Owner	Owner	F	426	25.00	25.00	76.00	120	16.00	60	1920	Locking-NEMA L5-20	6551	Yes	-	-	-	-	Yes	-	-	Requires 20 amp dedicated circuit. Can be connected to facility HVAC system. 2 inch clearance at top required for venting into room.	DRY0178
DSP0014	Dispenser, Scrub	IPA - Innovative Product Achievements	SE-0003	scrubEx LV Dispenser	Owner	Vendor	F	815	51.97	16.54	77.95	115	3.00	60	345	Type B (NEMA 5-15)	N/A	-	Yes	-	-	-	-	-	-	Communications Thru Hospital Network, Communicates in real-time over redundant paths from machine to machine and machine to System Controller. Max weight reflects unit with linen.	DSP0014
DSP0037	Dispenser, Hand Sanitizer, Wall Mount	BD - Becton, Dickinson and Company	370056	BD E-Z Care 370056	Owner	Contractor	W	1	4.00	7.00	4.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Dimensions are approximate. BD unable to provide exact data. Shipping dimensions are: 8in.L x 6in.W x 5in.H. Ship weight for package of 6: 2.51 lb.	DSP0037
DSP0071	Dispenser, Paper Towel, Surface Mount	Georgia Pacific	56650/01	C-Fold/Multifold (Smoke)	Owner	Contractor	W	3	11.00	5.25	15.40	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		DSP0071
DSP0174	Dispenser, Scrub Brush	BD - Becton, Dickinson and Company	371901	E-Z Scrub Brush Dispenser Bracket	Owner	Owner	W	1	5.25	5.25	6.75	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		DSP0174
DSP0750	Dispenser, Hand Sanitizer, Wall Mount	3M Health Care	9201A	3M Avagard (Wall Bracket/Foot Pump)	Owner	Owner	W	2	5.75	1.75	7.50	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Dimensions reflect wall bracket only, also includes foot pump. Depth with 500 ml dispenser bottle: 3 3/4 inches. No electrical required, foot pump pushes air thru dispenser to dispense product.	DSP0750
DSP0906	Dispenser, Soap, Wall Mount	Ecolab Healthcare North America	92023022	Nexa Classic Manual 92023022 (Black/8)	Owner	Contractor	W	2	6.12	3.97	11.10	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Height with optional drip tray is 18.3" Dimensions obtained from Product URL.	DSP0906
DSP0907	Dispenser, Hand Sanitizer, Wall Mount	Ecolab Healthcare North America	92023022	Nexa Classic Manual 92023022 (Black/8)	Owner	Contractor	W	2	6.12	3.97	11.10	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Height with optional drip tray is 18.3" Dimensions obtained from Product URL.	DSP0907
DSP1088	Dispenser, Paper Towel, Surface Mount	Georgia Pacific	59488A	enMotion Impulse 10" Automated (Black)	Owner	Contractor	W	7	14.59	9.24	14.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Requires 4 D cell batteries (included) or optional AC adapter 120V Plug (59479A) or 24VAC-6V DC (59477A). Can be directly mounted to wall using holes molded into back of dispenser or mounted with brackets #54019, sold separately.	DSP1088
EQS0026	Stand, Equipment, Suction Canister - 8 cannister?	Cardinal Health Durable Medical Equipment	65652-586	65652-586 Tall	Owner	Owner	M	15	20.00	20.00	30.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		EQS0026
FUR0015	Furniture, Workstation	Herman Miller, Inc.	TBD	TBD	Owner	Owner	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		FUR0015
GFT0002	Grafting Device, Mesher	Zimmer Biomet	00-2195-000-00	MeshGraft II Tissue Expansion System	Owner	Owner	C	11	4.50	9.88	8.75	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Height reflected by ratchet handle.	GFT0002
GFT0005	Grafting Device, Dermatome	Zimmer Biomet	00-8801-000-00	Zimmer Air Dermatome Complete Kit	Owner	Owner	C	2	5.25	8.50	1.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	Yes	-	Nitrogen (Preferred) or medical-grade compressed air.	GFT0005
GLV0199	Dispenser, Glove, Triple Box	Bowman Dispensers	GS-123	GS-123 w/ Dividers (Stainless Steel)	Owner	Contractor	W	2	15.87	3.81	10.03	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Ships 4 per case. Two-way keyholes for wall mounting.	GLV0199
HAM0082	Hamper, Linen	Medline Industries Inc.	MDS80525	Rectangular w/o Lid	Owner	Owner	M	15	15.00	18.00	37.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	purchase from Owens and Minor #Hamp8001 - 36.5" HComes with lid	HAM0082
HOK0264	Hook, Coat/Robe, Wall Mount	Safco Products	4201	4201 Nail Head Coat Hook (3-Hook)	Contractor	Contractor	W	1	18.00	2.75	2.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Ship weight reflects carton (12 qty.)	HOK0264
ICE0261	Ice Machine, Dispenser, Nugget, Countertop	Follett LLC	25CI425A-S	Symphony Plus 25CI425A-S	Owner	Owner	C	213	21.00	24.00	36.00	115	11	60	1265	Type B (NEMA 5-15)	5000	Yes	-	-	-	Yes	-	-	-	Max Weight reflects bin at max capacity.	ICE0261
INF0079	Pump, Infusion, Syringe	Smiths Medical	3500-306	Medfusion 3500	Owner	Owner	C	4	10.50	5.50	5.10	120	<1	60	30	Type B (NEMA 5-15)	N/A	-	-	-	-	-	-	-	-	Internal battery, rechargeable nickel metal hydride.	INF0079
INS0000	Instruments, Ascope	Tri Anim	065-402001000; 065-403001000; 065-405002000; 065-414001000	A Scope	Owner	Owner	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		INS0000
INS0000	Genesis Containers	BD	Please see attached PO	Genesis Containers	Owner	Owner	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		INS0000
INS0000	Instruments, Allowance				Owner	Owner	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		INS0000
INS0000	Instruments, Surgical, Allowance			Tupper Hand	Owner	Owner	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	MITH-101 MITH-102 MITH-106 MITH-105 MITH-104 PR1093	INS0000
INS0000	Instruments, Surgical, Allowance Forceps	KARL STORZ Endoscopy		Forceps	Owner	Owner	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		INS0000
INS0224	Instruments, Surgical, Allowance	Integra LifeSciences Corporation	Group 1; Group 2 pkg	General Surgery Outpatient Package	Owner	Owner	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	330006.2600 divided by 6 = 55k	INS0224
ISF0036	Insufflator, CO2 - see ISY0013	KARL STORZ Endoscopy	UI500	Endoflator 50 w/Integrated SCB Module	Owner	Owner	C	18	12.00	12.50	6.50	120	1.3	60	156	Type B (NEMA 5-15)	615	-	-	-	-	-	-	Yes	-	Utilizes piped or bottled CO2.	ISF0036
ISY0060	Integration System, Surgical, Allowance	KARL STORZ Endoscopy	WUISK04	OR1 NEO IP	Owner	Vendor	S	REM	REM	REM	REM	120	REM	60	REM	Type B (NEMA 5-15)	N/A	Yes	Yes	-	-	-	-	-	-	Consists of multiple components, see cutsheet for details. Equipment typically requires 2 - 20A, 120V circuits with 4 receptacles each. Consult KARL STORZ OR1 consulting engineer for specific site requirements and details.	ISY0060
IVS0011	Stand, IV, Stainless Steel	Pedigo Products, Inc	P-1576-4	P-1576-4 (5-leg, 4-hook)	Owner	Owner	M	31	21.25	21.25	117.50	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Height adjusts from 68 to 116 inches.	IVS0011
LAR0006	Laryngoscope Set, Fiberoptic	Newmatic Medical	LRYKITL	LRYKITL (MRI Conditional)	Owner	Owner	S	4	13.00	10.50	3.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Consists of multiple blades. Dimensions reflect Storage Case dimensions.	LAR0006
LAR0007	Laryngoscope Set, Allowance	Teleflex Medical		TBD	Owner	Owner	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		LAR0007
LAR0014	Laryngoscope Set, Video - GlideScope	Verathon	0003-0378	GlideScope Cobalt AVL-Adult w/ Mobile Stand (3/4)	Owner	Owner	M	10	24.25	24.25	54.50	120	2.5	60	300	Type B (NEMA 5-15)	N/A	-	-	-	-	-	-	-	-	Powered by AC adapter or batteries.	LAR0014
LCK0026	Locker, Allowance	Penco Products, Inc.		TBD	Contractor	Contractor	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		LCK0026
LTS0610	Light, Surgical, Dual, Ceiling, w/Monitor Arm	Skytron	LFSAUT55/B9-715-02	Aurora 3 LED LFSAUT55	Owner	Vendor	CE	435	194.00	194.00	ADJ	120	1.3	60	150	Hardwire	N/A	Yes	Yes	-	-	-	-	-	-	Wall mounted intensity control.	LTS0610
MAY0011	Stand, Mayo, Foot-Operated	Pedigo Products, Inc	P-1066-SS	P-1066-SS	Owner	Owner	M	38	21.25	16.25	62.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Height adjusts from 36 to 62 inches Width and depth reflects steel tray	MAY0011
MED0270	Omnicell, One Cell with Controlled Substance Dispenser	Omnicell, Inc.	MED-FRM-101; fingerprint scanner, safety stock scanner	Omnicell XT One-Cell Cabinet	Owner	Owner	F	355	26.50	27.00	77.50	115	3	60	300	Type B (NEMA 5-15)	600	-	Yes	Yes	-	-	-	-	-	Width with optional External Return Bin: 34.3 inch. Max weight reflects empty, actual weight varies by configuration. Power and data connections are made to frames at the back right of the computer, 53-57" from floor. All units must be within six feet of the electrical outlet.	MED0270
MNT0368	Monitor, Computer, LCD, 20 - 25 inch	Hewlett-Packard	F0W81AA##ABA	HP EliteDisplay E241i LED 24 in.	Owner	Owner	S	15	22.00	2.25	17.50	120	<1	60	35	Type B (NEMA 5-15)	N/A	-	-	-	-	-	-	-	-	Dimensions reflects without stand. Dimensions with the stand: 22.00"W x 11.00"D x 20.50	MNT0368
MON0603	Monitor, Physiologic, Bedside	Philips Healthcare - Monitoring Systems	865240	Intellivue MX800	Owner	Owner	C	26	18.80	6.00	14.30	115	1.8	60	207	Type B (NEMA 5-15)	706	Yes	Yes	Yes	-	-	-	-	-	Requires 15 amp dedicated duplex outlet within 3' of the rear of unit. Ethernet outlet should be located within 3' of rear of unit, network drops are to be category 5 or higher certified.	MON0603
MTR0505	Monitor, Video, 26 - 32 inch, Medical Grade	KARL STORZ Endoscopy	TM343	32in 4K UHD LED Monitor 16:9 Aspect Ratio	Owner	Vendor	S	29	30.00	3.60	18.30	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		MTR0505
NAV0037	Navigation System, Surgical, Robotic	Intuitive Surgical, Inc.		da Vinci Xi Surgical System	Owner	Vendor	M	580	38.00	34.00	70.00	115	15	60	REM	Type B (NEMA 5-15)	5440	Yes	Yes	-	-	-	-	-	-	Dimensions/weight/ground clearance specified for Surgeon Console only. System also consists of Patient Cart (38.5"W x 58.5"D x 68.5"H Min - 97"H Max / 1,810 lbs). Vision Cart (26.6"W x 36.5"D x 76"H Stowed - 87.5"H Extended / 570 lbs). Requires 3 dedicated 115V/15A circuits. See Installation Manual for individual components requirements.	NAV0037
OTT0489	Ottoman, Interiors, Nala Footstool	Nemschoff, Inc.	CR900	Nala Footstool	Owner	Vendor	F	17	25.25	16.00	16.25	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Footstool does not fit under chair.	OTT0489
OVN0389	Oven, Domestic, Microwave, Countertop	Frigidaire - Div. Electrolux	FFMO1611LB	FFMO1611LB (1.6 cu. ft., Black)	Owner	Owner	C	36	21.75	18.50	12.88	120	13	60	1550	Type B (NEMA 5-15)	N/A	Yes	-	-	-	-	-	-	-	Requires 15A dedicated circuit. Requires front service clearance for door opening. See manual for specific service clearance.	OVN0389
OVN0398	Oven, Domestic, Microwave, Countertop	Danby	DMW14SA1WDB	DMW14SA1WDB (1.4 cu ft/White)	Owner	Owner	C	41	20.43	17.01	12.36	120	15	60	1800	Type B (NEMA 5-15)	N/A	-	-	-	-	-	-	-	-		OVN0398
PMP0132	Pump, Flushing, Endoscope Channel / Scope Buddgy with Tubing	STERIS Corporation - Healthcare	SBP-1000	Scope Buddy Plus	Owner	Owner	W	10	7.50	11.50	10.30	120	0.7	60	75	Type B (NEMA 5-15)	N/A	-	-	-	-	-	-	-	-	Data logs are copied from device via USB drive.	PMP0132
POW0000	Power Supply, Allowance - yellow box 12'	TBD	TBD	Yellow Extension Cord with block	Owner	Owner	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		POW0000
PRC0393	Cart, Procedure, Difficult Airway	InterMetro Industries Corp	SXRSDIFAIR	Starsys Difficult Airway SXRSDIFAIR	Owner	Owner	M	235	24.88	31.00	57.80	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Power strip optional and must be specified separately.	PRC0393
PRC0985	Cart, Procedure, Endoscopy	KARL STORZ Endoscopy	9805T	9805T w/ Monitor Arm and ISO Transformer	Owner	Owner	M	160	24.50	20.30	59.50	115	8.7	60	1000	Type B (NEMA 5-15)	N/A	-	-	-	-	-	-	-	-	Cart height listed includes monitor bracket. Cart height: 40.5 inches.	PRC0985
PRN0000	Printer, Allowance	KARL STORZ Endoscopy		WU1333 - Medical Grade Printer	Owner	Owner	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		PRN0000
PRN0377	Printer, Label, Barcode-Chart label printer	Zebra Technologies Corp	GK42-202510-000	GK420d (Direct Thermal)	Owner	Owner	C	3	6.75	8.25	6.00	120	2.5	60	300	Type B (NEMA 5-15)	N/A	-	Yes	-	-	-	-	-	-	Requires data connection to host PC. Bluetooth, 802.11b/g, Ethernet optional.	PRN0377
PRN0417	Printer, Laser, Multifunction (MFP Counter)	Hewlett-Packard	CF116A	LaserJet Enterprise 500 M525dn MFP	Owner	Owner	C	65	20.50	28.25	22.75	110	8.5	60	785	Type B (NEMA 5-15)	N/A	-	Yes	-	-	-	-	-	-	Maximum Dimensions reflect.	PRN0417
PSD0000	Positioning Device, Allowance				Owner	Owner	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		PSD0000
RCK0093	Rack, Cylinder, Floor	W.T. Farley	CR-DR12E	CR-DR12E 12 E Oxygen Cylinder Rack	Owner	Owner	F	18	16.00	21.00	15.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Includes 4 heavy duty adjustable bolt-down feet (use 3/8" Anchor bolt Not Included)	RCK0093
REC0122	Recorder, CD/DVD, Medical	KARL STORZ Endoscopy	WD350-KT	Aida Bella w/ Smartscreen	Owner	Owner	C	14	12.00	14.00	3.00	120	5	60	600	Type B (NEMA 5-15)	N/A	-	Yes	-	-	-	-	-	-	Dimensions reflect Aida only. SmartScreen measures 305mm x 355 mm x 46mm.	REC0122
REF1533	Refrigerator, Domestic, Undercounter	GE Appliances	GCE06GGHWW	Energy Star Compact 5.6 cu. ft. Capacity, White	Owner	Owner	F	77	23.63	23.75	34.13	120	N/A	60	N/A	Type B (NEMA 5-15)	N/A	-	-	-	-	-	-	-	-	A 15 or 20 amp grounded circuit is required. Depth with door open 90° = 46"	REF1533
REF2456	Refrigerator, Domestic (small)	Frigidaire - Div. Electrolux	FFHT1621TW	FFHT1621TW (16.3 cuft. / White)	Owner	Owner	F	190	28.00	29.88	65.13	120	6	60	720	Type B (NEMA 5-15)	N/A	Yes	-	-	-	-	-	-	-	Minimum Circuit Required 15 amps. Depth includes door. Height includes hinges and rollers. Requires front service clearance for door opening. Cold Water Line For Optional Ice Maker Kit (PN # IM116)	REF2456
REG0322	Regulator, Suction, Intermittent/Continuous	Genstar Technologies Company, Inc.	881VR-300D-CHTH	881VR-300D-CHTH (Digital, Chemetron)	Owner	Owner	W	2	3.25	4.00	6.50	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	Yes		REG0322
SBS0006	Stand, Basin, Single	Pedigo Products, Inc	P-1078-W/S-SS	P-1078-W/S-SS	Owner	Owner	M	17	14.00	13.75	33.75	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		SBS0006
SBS0016	Stand, Basin, Double	Pedigo Products, Inc	P-1079-W/S-SS	P-1079-W/S-SS	Owner	Owner	M	34	28.00	14.00	33.75	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		SBS0016
SHL0000	Shelving, Stainless Steel 12" x 48" (6 shelves)	Eagle Manufacturing			Owner	Owner	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		SHL0000
SHL0277	Shelving, Solid, Wall Mount	Pedigo Products, Inc	P-624-SS	P-624-SS (24in. W)	Owner	Owner	W	3	24.00	6.00	7.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		SHL0277
SHL0279	Shelving, Solid, Wall Mount	Pedigo Products, Inc	P-636-SS	P-636-SS (36in. W)	Owner	Contractor	W	5	36.00	6.00	7.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		SHL0279
SHL0279	Shelf - Wall Mount - Holds Grab & Go BOX (for airways)	Pedigo Products, Inc	P-636-SS	P-636-SS (36in. W)	Owner	Contractor	W	5	36.00	6.00	7.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		SHL0279
SHL0743	Shelving, Allowance, Supply, High Density (Movable)	Spacesaver Corporation	TBD	High Density Mobile	Owner	Vendor	F	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		SHL0743
SHL0769	Shelving, Wire, Stainless Steel, 48 inch	Eagle MHC	S4-63-2448S	S4-63-2448S (48'x24' Starter)	Owner	Owner	F	79	48.00	24.00	63.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		SHL0769
SHL0782	Shelving, Wire, Chrome, 72 inch X 24" X 63" (Temporary Shelving / Construction)	Eagle MHC	S4-63-2472E	EAGLEgard Green S4-63-2472E (72'x24', Starter)	Owner	Owner	F	120	72.00	24.00	63.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		SHL0782
SNK0297	Sink, Clean-up Workstation (2-sink)	Belimed, Inc.	PS9625AH	PS9625AH Dual Basin Adjustable Height	Owner	Contractor	F	587	94.25	26.00	42.00	120	1.20	60	140	Type B (NEMA 5-15)	N/A	-	-	-	Yes	Yes	-	Yes	-	DI Water and Compressed Air optional. Height reflects with 4 inch backsplash.	SNK0297
SPC0182	Cart, Supply, Suture	Ethicon - Johnson & Johnson Company	SPR1	SPR1	Owner	Owner	M	20	16.50	18.25	56.50	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		SPC0182
SPC0474	Cart, Supply, Containers	BD - Becton, Dickinson and Company	SC1-1	Genesis SC1-1	Owner	Owner	M	120	30.00	24.00	68.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		SPC0474
SRC0899	Light Source, LED	KARL STORZ Endoscopy	TL400	TL400 Cold Light Fountain Power Led Rubi	Owner	Owner	C	21	14.96	1.53	7.87	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		SRC0899
SRV0227	Server, Terminal	Capsule Technologies	DC-NU-NUMPC / DC-NU-DS	Neuron UMPC with Docking Station	Owner	Vendor	W	8	9.50	4.00	9.75	120	<1	60	60	Locking-NEMA L5-15	N/A	-	Yes	-	-	-	-	-	-	Dimensions reflect docking station with terminal server. Terminal server powered via connection to docking station. Electrical requirements are for docking station.	SRV0227
STL0000	Stool, Task, Extended	Henriksen Butler	UPA91s22-Fc1-B17-C14-Sc8	UPA91s22-Fc1-B17-C14-Sc8	Owner	Owner	M	42	24.75	23.25	50.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Height adjusts 40H to 50H inches.	STL0000
STL0022	Stool, Exam, Cushion-Seat	Pedigo Products, Inc	P-36-BLK	P-36	Owner	Owner	M	18	14.00	14.00	26.25	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Dimesion reflects Round cushioned seat Height adjusts 18 to 26.25 inches.	STL0022
STL0215	Stool, Step, Stackable	Phelan Manufacturing Corporation	5058-1	5058-1 Add-A-Unit	Owner	Owner	F	8	17.50	13.00	4.75	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		STL0215
STR0122	Stretcher, Procedure / Recovery	Hillrom - Bed & Stretcher Group	P8000	Procedural Stretcher P8000	Owner	Owner	M	295	35.50	83.00	34.25	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Height reflects floor to top of sleep deck Width reflects Overall width (siderails up)	STR0122
TBI0078	Table, Interiors, Conference	To Be Determined	TBD	TBD	Owner	Owner	F	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		TBI0078
TBI0853	Table, Interiors, Dining	Herman Miller, Inc.		Everywhere Square 30", Eased-Edge, Painted Top	Owner	Owner	F	50	30.00	30.00	28.50	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		TBI0853
TBS0422	Table, Surgical, Major	Skytron	3603	3603 UltraSlide	Owner	Owner	M	800	22.00	82.00	39.50	115	2.5	60	300	Type B (NEMA 5-15)	N/A	-	-	-	-	-	-	-	-	Table is equipped with a removable 15 ft. power cord for battery charging.	TBS0422
TBU0005	Table, Utility, General Purpose - TEE cart	Pedigo Products, Inc	SG-80-A-SS	SG-80-A-SS (2-Drwr, Top Rail)	Owner	Owner	M	58	20.00	16.00	34.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		TBU0005
TBU0012	Table, Utility, General Purpose	Pedigo Products, Inc	SG-80-SS	SG-80-SS (1-Drwr, Top Rail, Shelf)	Owner	Owner	M	46	20.00	16.00	34.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		TBU0012
TEL0014	Telephone, Wall	Cortelco	2554**VBA20M	2554-20M	Owner	Vendor	W	2	4.50	4.50	8.50	N/A	N/A	N/A	N/A	N/A	N/A	-	Yes	-	-	-	-	-	-	Requires modular wall jack USOCRJ11W. Powered via wall jack.	TEL0014
TEL0025	Telephone, Conferencing	Polycom, Inc.	2200-16000-001	SoundStation 2	Owner	Owner	C	2	12.25	14.50	2.50	110	<1	60	N/A	Type B (NEMA 5-15)	N/A	-	Yes	-	-	-	-	-	-		TEL0025
TEL0050	Telephone, Desktop, VOIP	Avaya Inc.	700480593	9611G IP Phone	Owner	Vendor	C	3	8.00	1.40	9.10	120	N/A	60	N/A	Type B (NEMA 5-15)	N/A	-	Yes	-	-	-	-	-	-	Local or centralized electrical power. Through an 802.3af switch, or local power supply. NOTE: Depth dimension is without stand.	TEL0050
TIN0049	Table, Instrument, 45-48 inch	Pedigo Products, Inc	SG-92-SS	SG-92-SS (48 x 24 w/Shelf)	Owner	Owner	M	72	48.00	24.00	34.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		TIN0049
TIN0070	Table, Instrument, 55-60 inch	Pedigo Products, Inc	SG-94-SS	SG-94-SS (60x24)	Owner	Owner	M	88	60.00	24.00	34.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		TIN0070
TSR0020	Tester, Leak, Endoscope	Zutron Medical	ZUTR30005KIT/ZUTR10005MB	Endo-Leak Tester Kit w/ Wall Brackets	Owner	Owner	W	3	5.25	8.13	3.81	120	3.30	60	396	Type B (NEMA 5-15)	N/A	-	-	-	-	-	-	-	-		TSR0020
TST0007	Toaster, Commercial	Waring Commercial	WCT708	WCT-708 (4 Slot)	Owner	Owner	C	10	12.50	10.80	7.40	120	15	60	1800	Type A (NEMA 1)	N/A	-	-	-	-	-	-	-	-		TST0007
TVS0513	Television, 50-65 in, Flat Panel - EPIC view	Sharp Electronics Corporation	LC-60LE660U	AQUOS HD Series LED Smart TV LC-60LE660U	Owner	Owner	S	51	53.50	3.50	30.75	120	1.6	60	188	Type B (NEMA 5-15)	N/A	-	Yes	-	-	-	-	-	-	Dimensions reflect without stand. Dimensions with stand: 53-11/32"W x 32-7/16"H x 13-1/2"D, 54.2 lbs.	TVS0513
TVS0513	Television, 50-65 in, Flat Panel - provided by storz Video - see, ISY0013	Sharp Electronics Corporation	LC-60LE660U	AQUOS HD Series LED Smart TV LC-60LE660U	Owner	Owner	S	51	53.50	3.50	30.75	120	1.6	60	188	Type B (NEMA 5-15)	N/A	-	Yes	-	-	-	-	-	-	Dimensions reflect without stand. Dimensions with stand: 53-11/32"W x 32-7/16"H x 13-1/2"D, 54.2 lbs.	TVS0513
TVS0546	Television, 70-90 in., Flat Panel	Sharp Electronics Corporation	LC-70UD27U	AQUOS 4K Ultra HD Smart TV (70" Class)	Owner	Owner	S	83	61.50	2.75	35.25	110	2.7	60	300	Type B (NEMA 5-15)	N/A	-	Yes	-	-	-	-	-	-	Dimensions reflect without stand. With stand: 61.5W x 14D x 37H inches Weight: 85 lbs.	TVS0546
TVS0994	Television, 30-32 in, Flat Panel	LG Electronics	32LM620BPUA	32 inch Class 720p Smart HD TV	Owner	Owner	W	11	29.20	3.40	17.50	120	0.5	60	60	Type B (NEMA 5-15)	N/A	-	Yes	-	-	-	-	-	-	Electrical requirements reflect standby consumption. Power consumption TBD per LG. Dimensions reflect without stand.	TVS0994
UCL0114	Ultrasonic Cleaner, Rinser	Belimed, Inc.	U565S	UW565	Owner	Owner	F	680	42.00	28.50	53.50	208	20.00	60	REM	Special	N/A	Yes	-	-	Yes	Yes	-	-	-	120/208 VAC (4 Wire). Junction box with receptacle NEMA L14-20R. DI water optional. Requires 20 amps dedicated circuit. Peak consumption is 14 amps.	UCL0114
UCL0129	Ultrasonic Cleaner, Floor	Ultra Clean Systems, Inc.	Triton 72	Triton 72 Automatic Double Basin	Owner	Contractor	F	1545	34.00	54.00	67.50	208	20	60	REM	NEMA 6-15	N/A	Yes	-	-	-	Yes	-	Yes	-	Max weight reflects operational weight. Net weight 965 lb. 20 amp dedicated circuit required. Can use tap, reverse osmosis, and deionized water. Comes from the factory with the DI/RO rinse port (de-ionized or reverse osmosis) connected to the cold water connection. If you prefer to connect to your DI/RO water source, remove the jumper hose that is currently connected and install the supplied hose. Insert the quick connector into the port on your machine, and connect the other end of the hose to your DI/RO source.	UCL0129
VSY0080	Video System, Conferencing, Telepresence	Polycom, Inc.	7200-23160-001	HDX 8000-1080	Owner	Owner	C	12	5.25	11.00	14.00	115	1.6	60	189	Type B (NEMA 5-15)	N/A	-	Yes	-	-	-	-	-	-	Dimensions reflect standing base box only. See cut sheet for details.	VSY0080
WMR0107	Warmer, Patient, Hypothermia	3M Health Care	77500	Bair Hugger 775	Owner	Owner	C	16	14.00	13.00	13.00	110	11.7	60	1550	Type B (NEMA 5-15)	1600	-	-	-	-	-	-	-	-	BTU's = 1,600 high/1,330 low	WMR0107
WSR0105	Washer/Disinfector, Steam	Belimed, Inc.	821133	WD250MS2	Owner	Contractor	F	730	35.50	31.50	72.50	208	40	60	REM	Hardwire	N/A	Yes	Yes	-	Yes	Yes	Yes	Yes	-	Requires NEMA 15-50R and 110 Volts GFCI receptacles. Requires 40 amps dedicated circuit. Peak consumption is 32 amps.	WSR0105
WSR0325	Washer/Disinfector, Endoscope	STERIS Corporation - Healthcare	ADVPT-3008	ADVANTAGE PLUS Pass-Thru AER w/o Air Compressor	Owner	Contractor	F	882	51.81	31.18	78.74	120	10	60	1200	Type B (NEMA 5-15)	2400	-	Yes	-	Yes	Yes	Yes	Yes	-	See installation manual for site requirements.	WSR0325
WST0062	Waste Can, 32-40 Gallon	Rubbermaid Commercial Products	FG263200GRAY	2632 BRUTE 32 Gallon Gray	Owner	Owner	F	8	22.00	22.00	27.30	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		WST0062
WST0123	Waste Can, 03-19 Gallon	Rubbermaid Commercial Products	FG295500BEIG	Small Deskside 13 qt./Beige	Owner	Owner	F	1	8.30	11.40	12.13	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		WST0123
WST0142	Waste Can, Bio-Hazardous, Roll-Out	Rubbermaid Commercial Products	FG9W2000RED	9W20 BRUTE Medical Waste (95 gal, Red)	Owner	Owner	M	44	27.50	35.50	45.75	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		WST0142
WST0282	Waste Can, 44-55 Gallon	Rubbermaid Commercial Products	FG265500GRAY/FG265400GRAY/FG353000BLA	2655 BRUTE Gray w/2654 Lid & 3530 Dolly	Owner	Owner	M	30	29.25	29.25	41.75	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		WST0282
WST0333	Waste Can, Bio-Hazardous, 55 Gallon w/ Lid and dolly	Rubbermaid Commercial Products	FG265500RED/FG265400RED/FG264000BLA	2655 BRUTE w/Lid and Dolly (55 gal, Red)	Owner	Owner	M	24	29.10	29.10	42.60	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		WST0333
WST0355	Waste Can, Recycle	Grainger	4UAU7	Tough Guy 4UAU7 (23 gal. Blue)	Owner	Owner	F	6	20.00	11.00	30.00	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		WST0355
WST0357	Waste Can, 20-31 Gallon	Grainger	4PGV1	Tough Guy Rectangular 4PGV1 (23 gal. Beige)	Owner	Owner	F	8	11.25	20.00	29.75	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		WST0357
WST0382	Waste Can, 20-31 Gallon	Grainger	4PGU8	Tough Guy Rectangular 4PGU8 (23 gal. Gray)	Owner	Owner	F	8	11.25	20.00	29.75	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-		WST0382
WTR0317	Water Treatment System, Ice Maker, Wall Mount	Follett LLC	1233659	Bacterial-retentive Filter System 01233659	Owner	Contractor	W	6	11.57	4.78	13.85	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	Water Inlet: 1/2 inch FNPT Water outlet (to dispenser): 1/2 inch MNPT Water temperature: 45 - 90 F (7 - 32 C) Water pressure: 30 - 70 psi (207 - 482 kpa)	WTR0317

FFKR ARCHITECTS
730 Pacific Avenue · Salt Lake City, Utah 84104
O 801.521.6186 · FFKR.COM

ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
LICENSED ARCHITECT
09.15.2022

△	DATE	REVISION

U of U PROJECT NUMBER

EQUIPMENT SCHEDULE

A630.1

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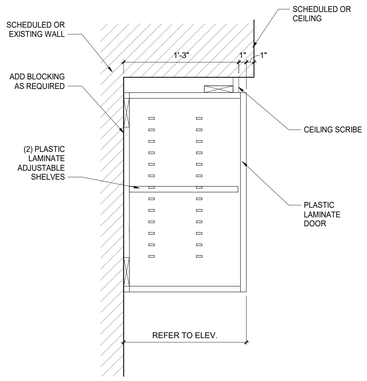
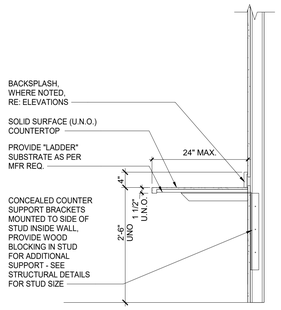


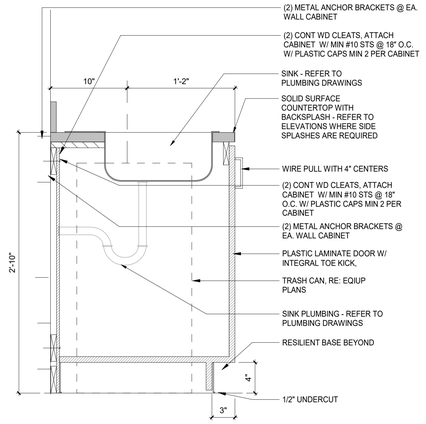
D1 CABINET SECTION - SOFFIT SCRIBE

SCALE: 1 1/2" = 1'-0" NOTE: ALSO SEE C1/PA521



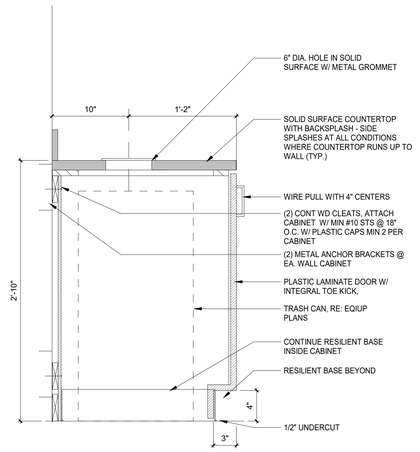
D2 COUNTERTOP - 30" TALL

SCALE: 3/4" = 1'-0"



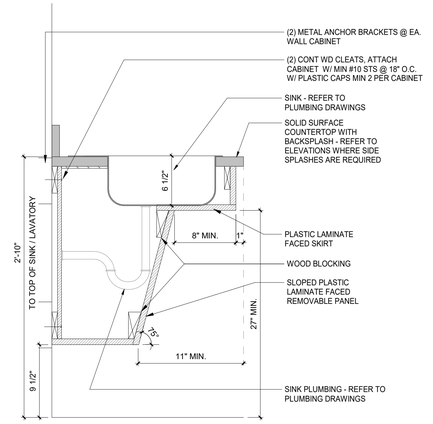
D3 CASEWORK SECTION - SINK CABINET

SCALE: 1 1/2" = 1'-0"



D4 CASEWORK SECTION - TRASH BASE

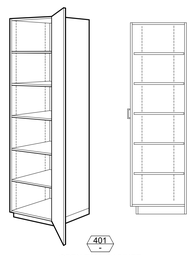
SCALE: 1 1/2" = 1'-0"



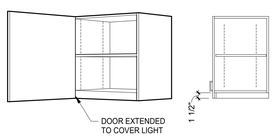
D6 CASEWORK SECTION - ADA SINK APRON

SCALE: 1 1/2" = 1'-0"

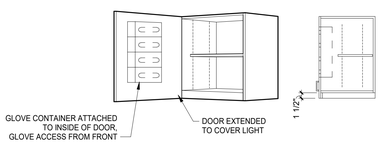
OPEN TALL CABINET
5 ADJUSTABLE SHELVES



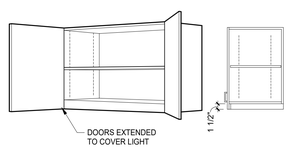
OPEN TALL CABINET
5 ADJUSTABLE SHELVES



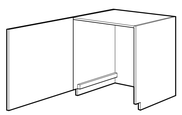
301
WALL HUNG CABINET - 1 DOOR
1 ADJUSTABLE SHELF



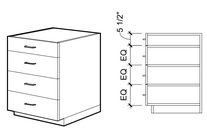
301M
WALL HUNG CABINET - 1 DOOR
W/ GLOVE CONTAINER & 1 ADJUSTABLE SHELF



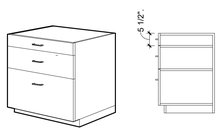
302
WALL HUNG CABINET - 2 DOORS
1 ADJUSTABLE SHELF



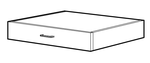
161
TRASH STORAGE - 1 DOOR



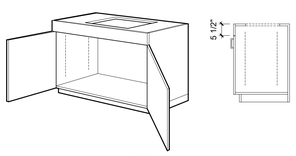
264
BASE CABINET - 4 DRAWERS
*ALL BASE CABINET TOP DRAWERS TO BE IN ALIGNMENT, TYP.



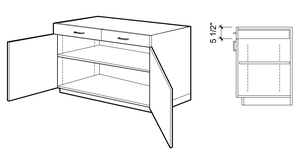
230
NO FILE STORAGE HARDWARE
*ALL BASE CABINET TOP DRAWERS TO BE IN ALIGNMENT, TYP.



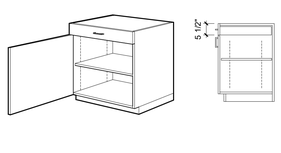
290
BASE CABINET - 1 DRAWER



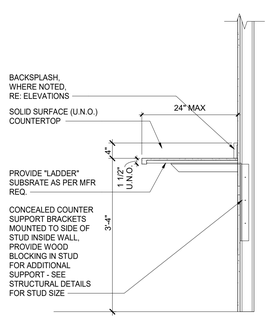
152
BASE CABINET - 2 DOORS SINK 5 1/2" PANEL



222
BASE CABINET - 2 DOORS
2 DRAWERS
*ALL BASE CABINET TOP DRAWERS TO BE IN ALIGNMENT, TYP.

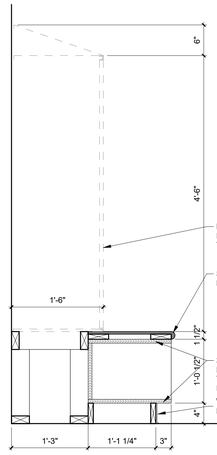


211
BASE CABINET - 1 DOOR
1 DRAWER
*ALL BASE CABINET TOP DRAWERS TO BE IN ALIGNMENT, TYP.



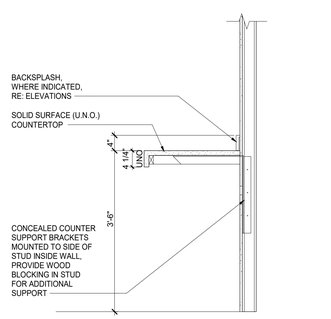
A4 COUNTERTOP - 40" TALL

SCALE: 3/4" = 1'-0"



B6 LOCKER A DETAIL

SCALE: 1" = 1'-0"



A6 COUNTERTOP - 42" TALL -WITH RETURN

SCALE: 3/4" = 1'-0"

GENERAL NOTES

1. PROVIDE FILLER PANELS AT ENDS OF CABINETS WHERE THEY ABUT WALLS, TYP.
2. PROVIDE BLOCKING / BACKING BEHIND ALL MILLWORK, TYP.
3. PROVIDE 1 1/2: THICK SHELVES AT CABINETS WIDER THAN 36".
4. UPPER WALL CABINETS SHALL HAVE TWO ADJUSTABLE SHELVES, BASE CABINETS SHALL HAVE ONE ADJUSTABLE SHELF, EXCEPT AT SINK BASE. TALL CABINETS SHALL HAVE A MINIMUM OF FIVE ADJUSTABLE SHELVES.
5. ALL CABINET CONCEALED INTERIORS AND SHELVES TO BE FINISHED IN WHITE MELAMINE, U.N.O.
6. WIRE MANAGEMENT AND GROMMETS TO BE PROVIDED AT ALL MILLWORK.
7. REFER TO INTERIOR ELEVATIONS AND PAF SHEETS FOR MILLWORK FINISHES.
8. PROVIDE FINISHED PANELS AT ALL EXPOSED SIDES AND RETURNS OF CASEWORK, FINISH TO MATCH FRONT FACE OF MATERIAL.
9. REFER TO SPECIFICATIONS FOR FURTHER REQUIREMENTS.
10. PROVIDE CONTINUOUS WOOD FIRE STOP BLOCKING BEHIND ALL WOOD PANELING AT 8'-0" O.C. MAXIMUM HORIZONTAL AND VERTICAL. WOOD ATTACHMENT CLEATS CAN SERVE AS HORIZONTAL FIRE STOP IF ARRANGED TO BE CONTINUOUS AT 8'-0" MAXIMUM SPACING.
11. ALL COUNTERTOPS SHALL HAVE AN 1/8" EASED EDGE.
12. CAULK ALL BACKSPLASHES TO WALL. CAULK ALL COUNTERTOPS WITHOUT BACKSPLASHES TO WALL.
13. CAULK JOINT BETWEEN MILLWORK AND WALL OR SOFFIT.
14. COUNTERTOP BRACKET SUPPORTS SHALL BE CONCEALED IN WALL.
15. BASE ON CABINETS TO BE CONSISTENT WITH FLOORING/BASE AS SPECIFIED IN FINISH PLANS.
16. DEPTH OF COUNTERTOP FROM BACK OF WALL TO FRONT OF COUNTER IS NOT TO EXCEED 24", TYP.

FFKR ARCHITECTS
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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
REGISTERED ARCHITECT
09.16.2022

△ DATE REVISION

U of U PROJECT NUMBER

MILLWORK

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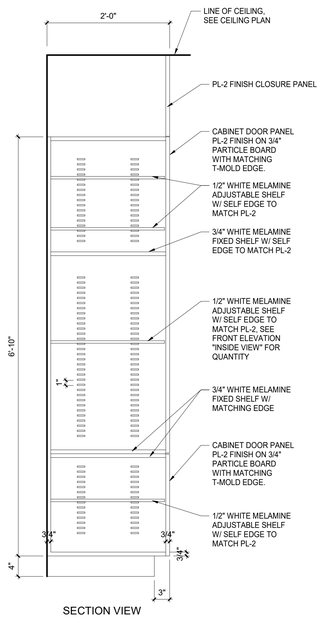
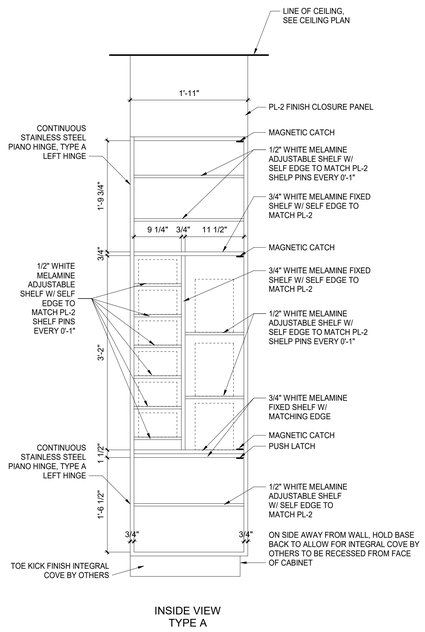
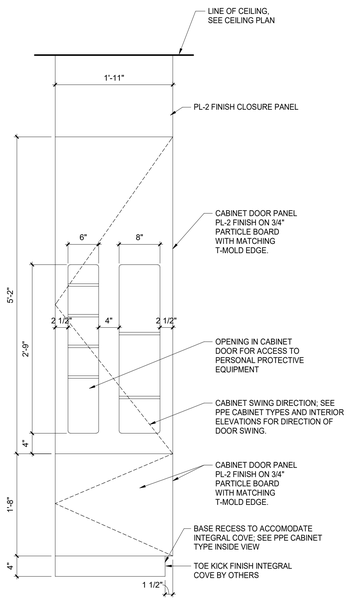


SECTION VIEW



INSIDE VIEW
TYPE A



OUTSIDE VIEW
TYPE A

C1 OR PPE CABINETS - TYPE A

SCALE: 1" = 1'-0"

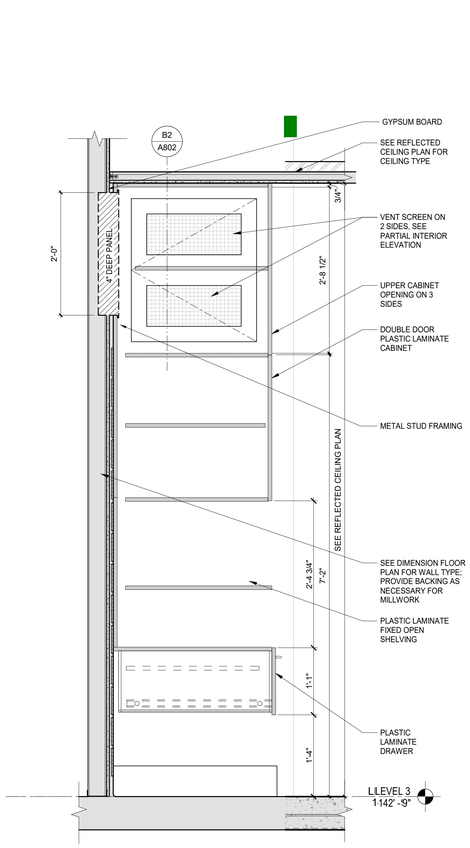
PPE CABINET LEGEND

BOX TYPES

DUCKBILL MASK SIZE: 8"Wx5"Hx8"D		A
SURGICAL MASK ANTI-FOG SIZE: 8"Wx5 1/2"Hx8"D		B
BOUFFANT CAP - BLUE SIZE: 10"Wx9 1/2"Hx4"D		C
SURGICAL CAP SIZE: 9 1/2"Wx13"Hx5"D		D
XTRA TRACK BOOTIES SIZE: 9 1/2"Wx13"Hx5"D		E
FOG PROCEDURE MASK SIZE: 9"Wx4"Hx7 1/2"D		F
HEAD AND BEARD SIZE: 8"Wx14"Hx6"D		G

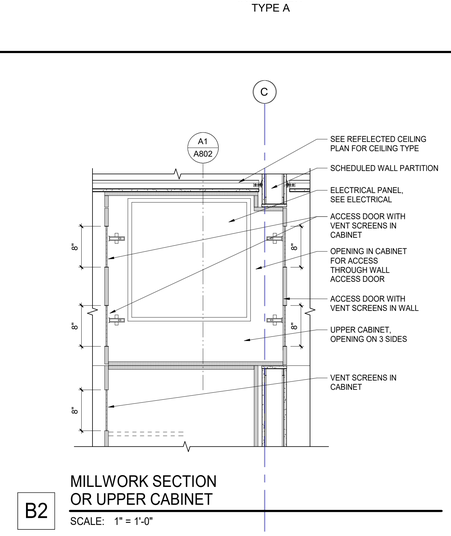
GENERAL NOTES

1. PROVIDE FILLER PANELS AT ENDS OF CABINETS WHERE THEY ABUT WALLS, TYP.
2. PROVIDE BLOCKING / BACKING BEHIND ALL MILLWORK, TYP.
3. PROVIDE 1 1/2" THICK SHELVES AT CABINETS WIDER THAN 36".
4. UPPER WALL CABINETS SHALL HAVE TWO ADJUSTABLE SHELVES, BASE CABINETS SHALL HAVE ONE ADJUSTABLE SHELF, EXCEPT AT SINK BASE. TALL CABINETS SHALL HAVE A MINIMUM OF FIVE ADJUSTABLE SHELVES.
5. ALL CABINET CONCEALED INTERIORS AND SHELVES TO BE FINISHED IN WHITE MELAMINE, U.N.O.
6. WIRE MANAGEMENT AND GROMMETS TO BE PROVIDED AT ALL MILLWORK.
7. REFER TO INTERIOR ELEVATIONS AND PAF SHEETS FOR MILLWORK FINISHES.
8. PROVIDE FINISHED PANELS AT ALL EXPOSED SIDES AND RETURNS OF CASEWORK, FINISH TO MATCH FRONT FACE OF MATERIAL.
9. REFER TO SPECIFICATIONS FOR FURTHER REQUIREMENTS.
10. PROVIDE CONTINUOUS WOOD FIRE STOP BLOCKING BEHIND ALL WOOD PANELING AT 8'-0" O.C. MAXIMUM HORIZONTAL AND VERTICAL. WOOD ATTACHMENT CLEATS CAN SERVE AS HORIZONTAL FIRE STOP IF ARRANGED TO BE CONTINUOUS AT 8'-0" MAXIMUM SPACING.
11. ALL COUNTERTOPS SHALL HAVE AN 1/8" EASED EDGE.
12. CAULK ALL BACKSPLASHES TO WALL. CAULK ALL COUNTERTOPS WITHOUT BACKSPLASHES TO WALL.
13. CAULK JOINT BETWEEN MILLWORK AND WALL OR SOFFIT.
14. COUNTERTOP BRACKET SUPPORTS SHALL BE CONCEALED IN WALL.
15. BASE ON CABINETS TO BE CONSISTENT WITH FLOORING/BASE AS SPECIFIED IN FINISH PLANS.
16. DEPTH OF COUNTERTOP FROM BACK OF WALL TO FRONT OF COUNTER IS NOT TO EXCEED 24", TYP.



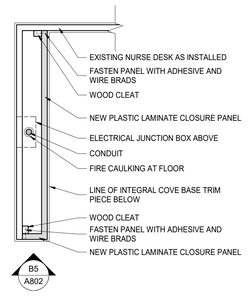
A1 MILLWORK SECTION

SCALE: 1" = 1'-0"



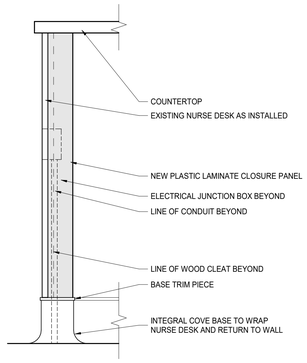
B2 MILLWORK SECTION OR UPPER CABINET

SCALE: 1" = 1'-0"



B4 OR NURSE DESK SECTION

SCALE: 1 1/2" = 1'-0"



B5 OR NURSE DESK ELEVATION

SCALE: 1 1/2" = 1'-0"

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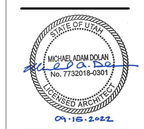
CONSTRUCTION SET
SEPTEMBER 19, 2022



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U of U PROJECT NUMBER

MILLWORK

A802

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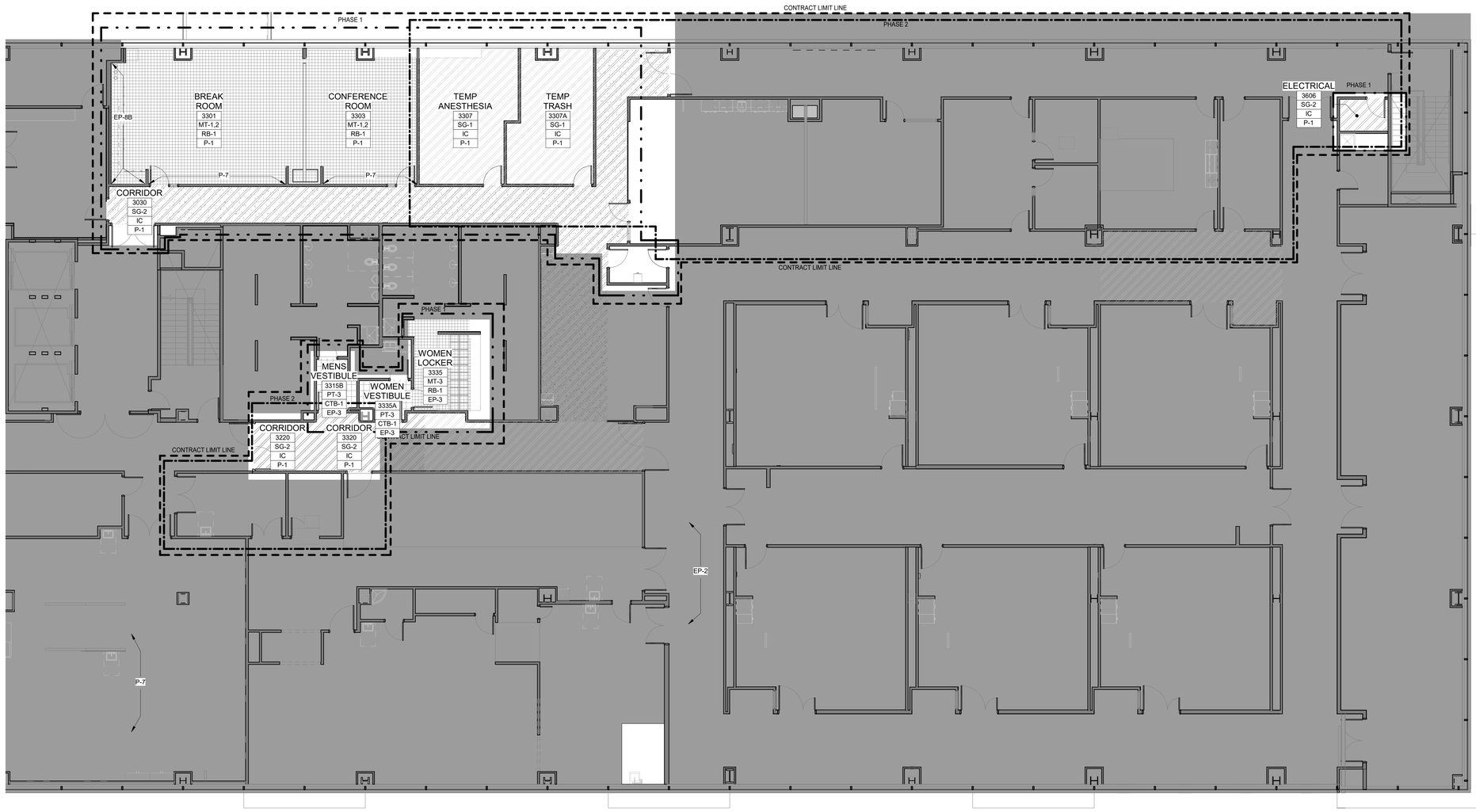

REFERENCE NOTES

FINISH LEGEND

NOTE:
IF ROOM IS ELEVATED, REFER TO INTERIOR ELEVATIONS FOR VERTICAL FINISHES

ROOM NAME
101 — ROOM NUMBER
F-1 — FLOOR FINISH
B — BASE FINISH
W — WALL FINISH
FLOORING DIRECTION

RE: FINISHES INDICATED ON LARGE SCALE DRAWINGS.
RE: AF600 SERIES FOR ALL FINISH INFORMATION.

GENERAL NOTES

1. REFERENCE AF600 SERIES FOR ALL FINISH MATERIALS.
2. ALL CHANGES IN FLOOR MATERIAL OCCUR AT CENTER OF DOORS IN THE CLOSED POSITION.
3. GENERAL CONTRACTOR TO COORDINATE ALL OWNER PROVIDED EQUIPMENT WITH OWNER. REFER TO EQUIPMENT SCHEDULE AND EQUIPMENT CUT SHEETS PROVIDED BY THE OWNER FOR DETAILED INFORMATION ON ALL OWNER PROVIDED EQUIPMENT. NOTIFY OWNER AND ARCHITECT OF ANY DESCREPANCIES BETWEEN EQUIPMENT PLANS AND EQUIPMENT SCHEDULES AND EQUIPMENT CUT SHEETS IN ADVANCE OF ANY EQUIPMENT UTILITY ROUGH-INS OR INSTALLATION.
4. EPOXY PAINT AND EPOXY GROUT AT ALL WET AREAS, TYP. WET AREAS TO INCLUDE ALL WALLS AT RESTROOMS, AND CUSTODIAL ROOMS, AND WALLS WITH SINKS IN ALL EXAM ROOMS AND BREAK ROOMS.
5. GENERAL WALL PAINT COLOR TO BE P-1 U.N.O. ON FINISH PLANS AND INTERIOR ELEVATIONS.
6. GENERAL CEILING PAINT COLOR TO BE P-1 U.N.O. ON REFLECTED CEILING PLAN.
7. SEE FINISH PLANS, INTERIOR ELEVATIONS, REFLECTED CEILING PLANS, AND SECTIONS FOR ACCENT PAINT AND SPECIALTY MATERIAL LOCATIONS.
8. REFER TO AF SERIES DRAWINGS FOR FLOORING TRANSITION DETAILS. PROVIDE FLOORING TRANSITIONS BETWEEN ALL CHANGES IN MATERIAL - SUBMIT TO ARCHITECT FOR APPROVAL.
9. WHERE ALL SHEET GOODS MEET, ALL SEAMS TO BE A NET FIT SEAM WITH ETU WELD - NO UNWELDED NET FIT SEAMS OR HEAT WELDS. WHERE SG-1 MATERIAL ADJOINS SG-2 OR SG-3 MATERIAL, USE DARKER COLOR OF ETU WELD; REF. SPECIFICATIONS.
10. FINISHED TILE SURFACE TO BE FLUSH WITH FINISHED SURFACE OF ADJACENT FLOOR FINISH PRODUCTS.
11. AT ALL LOCATIONS WHERE RESILIENT BASE IS USED ON RESILIENT FLOORING, PROVIDE SILICON SEALANT AT BASE/FLOOR JOINT TO CREATE CONTINUOUS, CLEANABLE SURFACE.
12. ALL SEALANT LINES SHALL BE TAPED OFF WHEN FINISHING WALL PROTECTION.
13. PROVIDE FLOORING TRANSITIONS BETWEEN ALL CHANGES IN MATERIAL.
14. PROVIDE LEVEL 5 GYPSUM BOARD FINISH AT ALL WALL AREAS WHERE LIGHT FIXTURES OCCUR 12" OR LESS FROM ANY ADJACENT WALL.
15. FLOORING TO EXTEND INTO CABINETS WITH INTEGRAL TOE KICKS; PROVIDE SEAMLESS TRANSITION FROM FLOORING TO SCHEDULED BASE UP CABINET BACKS AND SIDES. R432-6-20(2)(e)
16. PAINT AT WINDOW WALL INSET TO MATCH ADJACENT ACCENT COLOR.
17. PROVIDE CAULK WHERE STAINLESS STEEL CAP OF INTEGRAL COVE WALL BASE MEETS PAINTED GYP - CAULK TO MATCH WALL COLOR.
18. VERTICAL FACE OF SOFFIT TO BE PAINTED CONTINUOUSLY FROM HORIZONTAL SURFACE, U.N.O. - PROVIDE VERTICAL PAINT LINE TO ALIGN AS NEEDED.

FINISH HATCH LEGEND

CPT, MT-1,2, MT-3, PT, SG-1, SG-2, SG-3, TZ

A1 LEVEL 3 FINISH FLOOR PLAN
SCALE: 1/8" = 1'-0"

TRUE PROJECT

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
Lic. No. 7732018-0301
LICENSED ARCHITECT
09-16-2022

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LEVEL 3 FINISH FLOOR PLAN - PHASE 1

AF105.1

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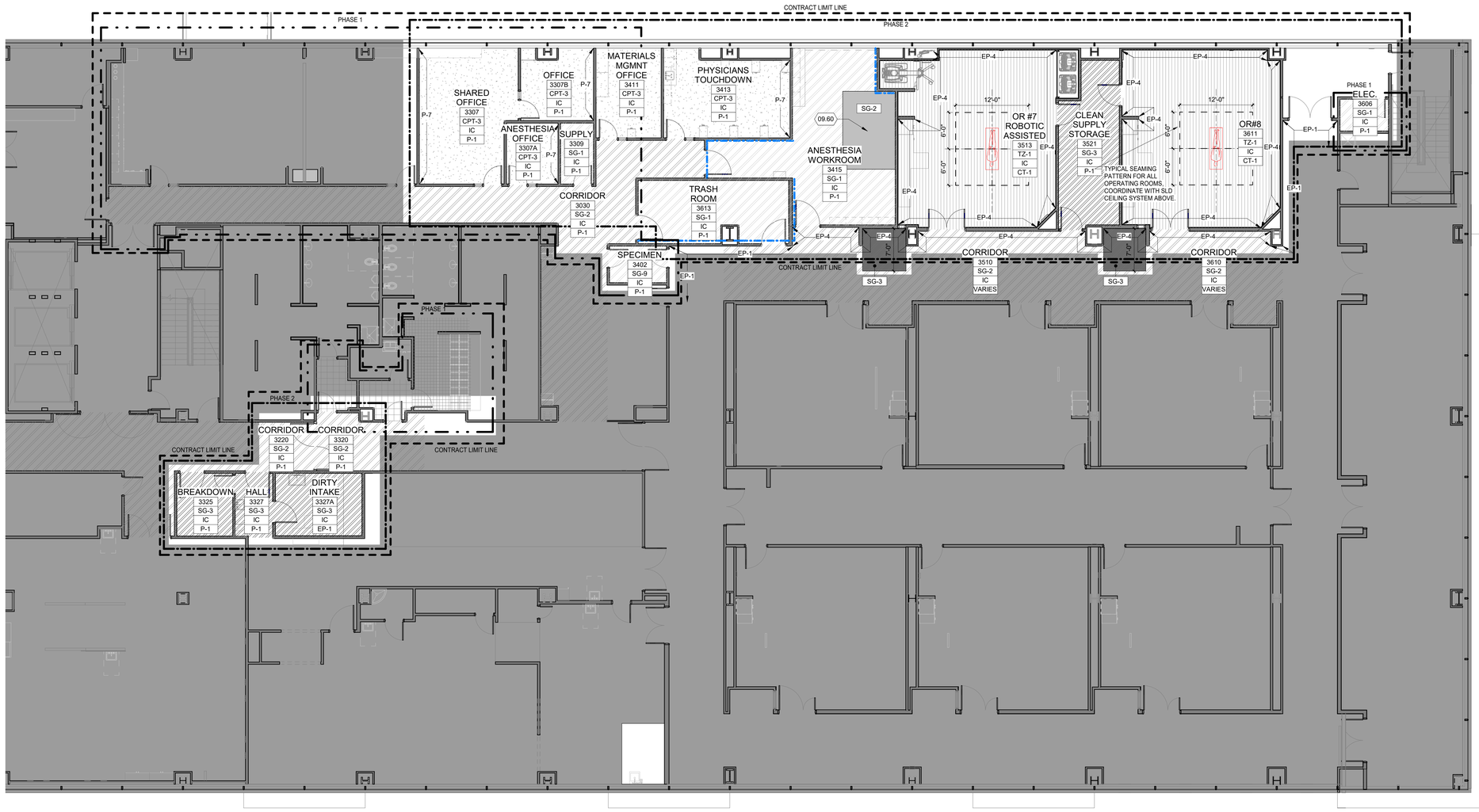

REFERENCE NOTES

09.60 COORDINATE ACCENT FLOORING WITH HIGH DENSITY STORAGE - VERIFY ON SITE

FINISH LEGEND

NOTE:
IF ROOM IS ELEVATED, REFER TO INTERIOR ELEVATIONS FOR VERTICAL FINISHES

ROOM NAME
101 — ROOM NUMBER
F-1 — FLOOR FINISH
B — BASE FINISH
W — WALL FINISH
FLOORING DIRECTION

RE: FINISHES INDICATED ON LARGE SCALE DRAWINGS.
RE: AF600 SERIES FOR ALL FINISH INFORMATION.

GENERAL NOTES

1. REFERENCE AF600 SERIES FOR ALL FINISH MATERIALS.
2. ALL CHANGES IN FLOOR MATERIAL OCCUR AT CENTER OF DOORS IN THE CLOSED POSITION.
3. GENERAL CONTRACTOR TO COORDINATE ALL OWNER PROVIDED EQUIPMENT WITH OWNER. REFER TO EQUIPMENT SCHEDULE AND EQUIPMENT CUT SHEETS PROVIDED BY THE OWNER FOR DETAILED INFORMATION ON ALL OWNER PROVIDED EQUIPMENT. NOTIFY OWNER AND ARCHITECT OF ANY DESCREPANCIES BETWEEN EQUIPMENT PLANS AND EQUIPMENT SCHEDULES AND EQUIPMENT CUT SHEETS IN ADVANCE OF ANY EQUIPMENT UTILITY ROUGH-INS OR INSTALLATION.
4. EPOXY PAINT AND EPOXY GROUT AT ALL WET AREAS, TYP. WET AREAS TO INCLUDE ALL WALLS AT RESTROOMS, AND CUSTODIAL ROOMS, AND WALLS WITH SINKS IN ALL EXAM ROOMS AND BREAK ROOMS.
5. GENERAL WALL PAINT COLOR TO BE P-1 U.N.O. ON FINISH PLANS AND INTERIOR ELEVATIONS.
6. GENERAL CEILING PAINT COLOR TO BE P-1 U.N.O. ON REFLECTED CEILING PLAN.
7. SEE FINISH PLANS, INTERIOR ELEVATIONS, REFLECTED CEILING PLANS, AND SECTIONS FOR ACCENT PAINT AND SPECIALTY MATERIAL LOCATIONS.
8. REFER TO AF SERIES DRAWINGS FOR FLOORING TRANSITION DETAILS. PROVIDE FLOORING TRANSITIONS BETWEEN ALL CHANGES IN MATERIAL - SUBMIT TO ARCHITECT FOR APPROVAL.
9. WHERE ALL SHEET GOODS MEET, ALL SEAMS TO BE A NET FIT SEAM WITH ETU WELD - NO UNWELDED NET FIT SEAMS OR HEAT WELDS. WHERE SG-1 MATERIAL ADJOINS SG-2 OR SG-3 MATERIAL, USE DARKER COLOR OF ETU WELD. REF. SPECIFICATIONS.
10. FINISHED TILE SURFACE TO BE FLUSH WITH FINISHED SURFACE OF ADJACENT FLOOR FINISH PRODUCTS.
11. AT ALL LOCATIONS WHERE RESILIENT BASE IS USED ON RESILIENT FLOORING, PROVIDE SILICON SEALANT AT BASE/FLOOR JOINT TO CREATE CONTINUOUS, CLEANABLE SURFACE.
12. ALL SEALANT LINES SHALL BE TAPED OFF WHEN FINISHING WALL PROTECTION.
13. PROVIDE FLOORING TRANSITIONS BETWEEN ALL CHANGES IN MATERIAL.
14. PROVIDE LEVEL 5 GYPSUM BOARD FINISH AT ALL WALL AREAS WHERE LIGHT FIXTURES OCCUR 12" OR LESS FROM ANY ADJACENT WALL.
15. FLOORING TO EXTEND INTO CABINETS WITH INTEGRAL TOE KICKS; PROVIDE SEAMLESS TRANSITION FROM FLOORING TO SCHEDULED BASE UP CABINET BACKS AND SIDES. R432-6-20(2)(e)
16. PAINT AT WINDOW WALL INSET TO MATCH ADJACENT ACCENT COLOR.
17. PROVIDE CAULK WHERE STAINLESS STEEL CAP OF INTEGRAL COVE WALL BASE MEETS PAINTED GYP - CAULK TO MATCH WALL COLOR.
18. VERTICAL FACE OF SOFFIT TO BE PAINTED CONTINUOUSLY FROM HORIZONTAL SURFACE, U.N.O. - PROVIDE VERTICAL PAINT LINE TO ALIGN AS NEEDED.

FINISH HATCH LEGEND

CPT
MT-1,2
MT-3
PT
SG-1
SG-2
SG-3
TZ

A1 LEVEL 3 FINISH FLOOR PLAN - PHASE 2
SCALE: 1/8" = 1'-0"

TRUE PROJECT

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
REGISTERED ARCHITECT
09-16-2022

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LEVEL 3 FINISH FLOOR PLAN - PHASE 2

AF105.2

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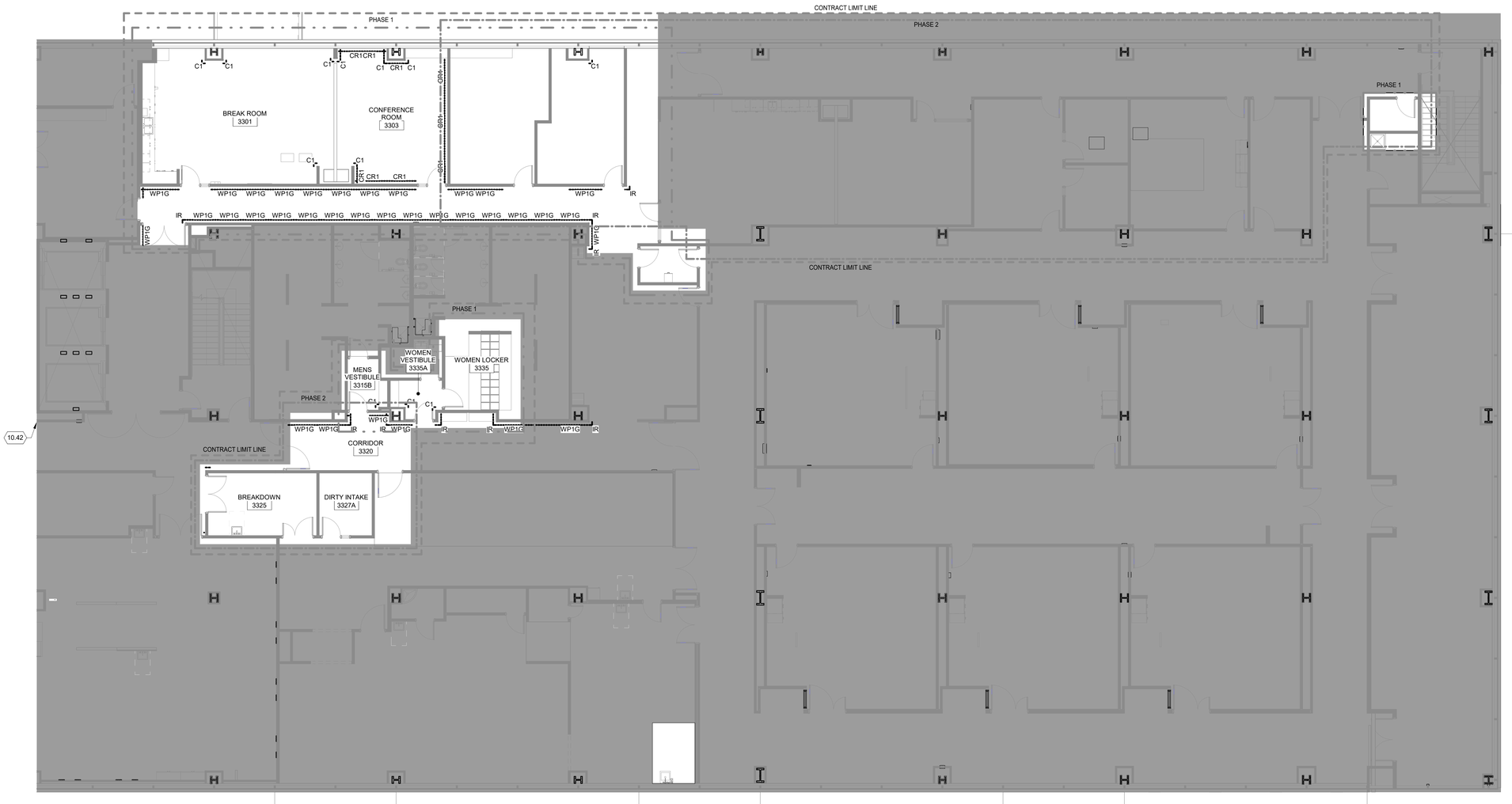

A1 LEVEL 3 WALL PROTECTION PLAN

SCALE: 1/8" = 1'-0"

TRUE PROJECT

REFERENCE NOTES

10.42 NEW WALL PROTECTION AS NEEDED

WALL PROTEC'N LEGEND

WP1 — WALL PROTECTION TYPE

CORNER GUARD LEGEND

C1	1.5" X 4' PLASTIC DIRECT APPLIED CORNER GUARD
C2	1.5" X 6'-10" PLASTIC DIRECT APPLIED CORNER GUARD
S1	2" X 4' STAINLESS STEEL CORNER GUARD
IR	3" X 6'-10" IMPACT RESISTANT COVER CORNER GUARD
DF	4' PLASTIC COVER DOOR FRAME GUARD

GENERAL NOTES

1. COORDINATE TERMINATION OF WALL PROTECTION WITH ADJACENT EQUIPMENT IF APPLIES, TYP.
2. REFERENCE SHEET AF500 FOR WALL PROTECTION TYPES, ASSEMBLIES, CAULK, TEXTURES, THICKNESNESS, AND DETAILS.
3. ALL CORNERS IN PROJECT TO RECEIVE CORNER GUARDS.
4. NO CLEAR CAULK TO BE USED ON WALL PROTECTION - MATCH WALL OR WALL PROTECTION, TYP.
5. STANDARD CAULK BASIS OF DESIGN: SHERWIN WILLIAMS 950A SILICONIZED ACRYLIC LATEX CAULK - ADD COLOR TO MATCH. MUST BE MIXED WITH APPROVED COLOR MIXING CAULK. PROVIDE MOCKUPS OF EACH CONDITION, REF SPECIFICATIONS.

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No. 7732018-0301
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09.16.2022

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LEVEL 3 WALL PROTECTION PLAN - PHASE 1

AF115.1

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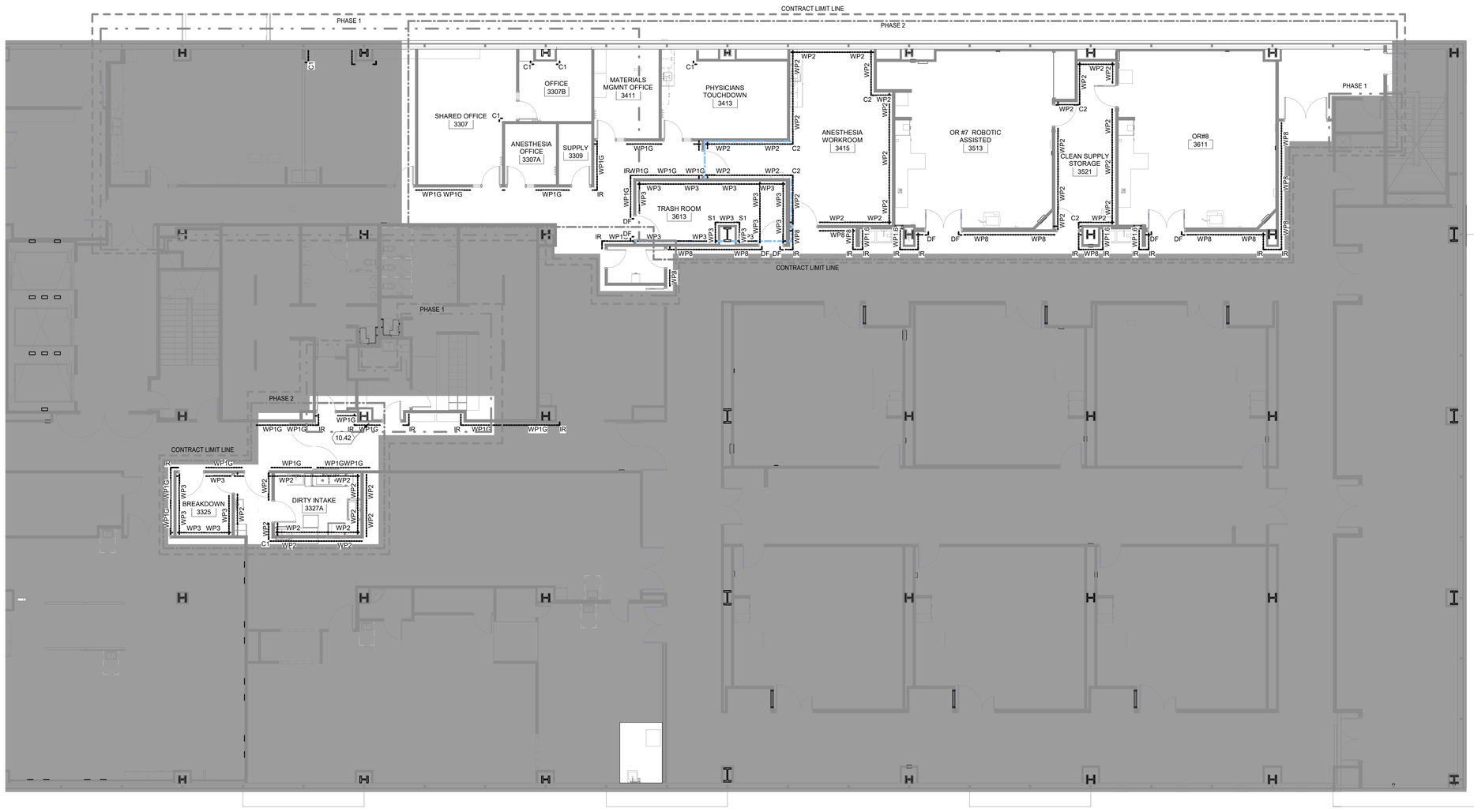

REFERENCE NOTES

10.42 NEW WALL PROTECTION AS NEEDED

WALL PROTEC'N LEGEND

WP1 — WALL PROTECTION TYPE

CORNER GUARD LEGEND

C1	1.5" X 4' PLASTIC DIRECT APPLIED CORNER GUARD
C2	1.5" X 6'-10" PLASTIC DIRECT APPLIED CORNER GUARD
S1	2" X 4' STAINLESS STEEL CORNER GUARD
IR	3" X 6'-10" IMPACT RESISTANT COVER CORNER GUARD
DF	4' PLASTIC COVER DOOR FRAME GUARD

GENERAL NOTES

1. COORDINATE TERMINATION OF WALL PROTECTION WITH ADJACENT EQUIPMENT IF APPLIES, TYP.
2. REFERENCE SHEET AF500 FOR WALL PROTECTION TYPES, ASSEMBLIES, CAULK, TEXTURES, THICKNESS, AND DETAILS.
3. ALL CORNERS IN PROJECT TO RECEIVE CORNER GUARDS.
4. NO CLEAR CAULK TO BE USED ON WALL PROTECTION - MATCH WALL OR WALL PROTECTION, TYP.
5. STANDARD CAULK BASIS OF DESIGN: SHERWIN WILLIAMS 950A SILICONIZED ACRYLIC LATEX CAULK - ADD COLOR TO MATCH. MUST BE MIXED WITH APPROVED COLOR MIXING CAULK. PROVIDE MOCKUPS OF EACH CONDITION, REF SPECIFICATIONS.

A1 LEVEL 3 WALL PROTECTION PLAN

SCALE: 1/8" = 1'-0"

TRUE PROJECT

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STATE OF UTAH — MICHAEL ADAM DOLAN — No. 7732018-0301 — LICENSED ARCHITECT — 09.16.2022

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LEVEL 3 WALL PROTECTION PLAN - PHASE 2

AF115.2

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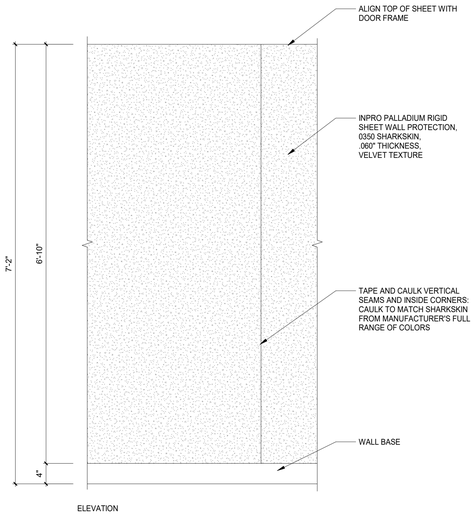
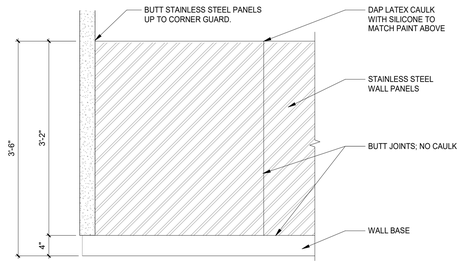


ELEVATION

B1 WALL PROTECTION-2 (WP2)

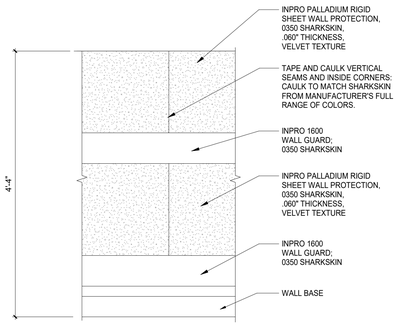
SCALE: 1" = 1'-0"



ELEVATION

B2 WALL PROTECTION-3 (WP3)

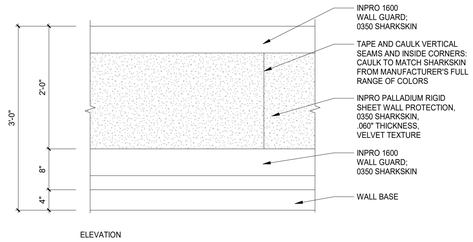
SCALE: 1" = 1'-0"



ELEVATION

B5 WALL PROTECTION-8 (WP8)

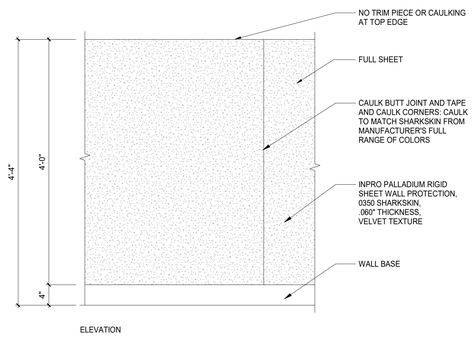
SCALE: 1" = 1'-0"



ELEVATION

A1 WALL PROTECTION-1G (WP1G)

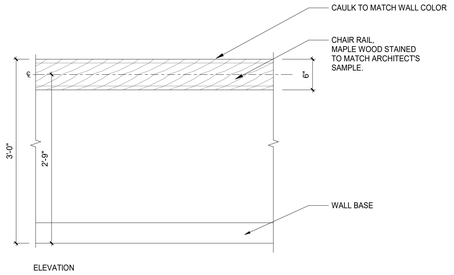
SCALE: 1" = 1'-0"



ELEVATION

A2 WALL PROTECTION-1.6 (WP1.6)

SCALE: 1" = 1'-0"



ELEVATION

A5 WALL PROTECTION-CR1 (CR1)

SCALE: 1" = 1'-0"

GENERAL NOTES

1. COORDINATE TERMINATION OF WALL PROTECTION WITH ADJACENT EQUIPMENT IF APPLIES, TYP.
2. REFERENCE SHEET AF500 AND AF501 FOR WALL PROTECTION TYPES, ASSEMBLIES, CAULK, TEXTURES, THICKNESSES, AND DETAILS.
3. PATIENT ROOMS SHOULD BE CONSISTENT - NOTIFY ARCHITECT OF ANY INCONSISTENCIES OR SPECIALTY CONDITIONS IN FIELD.
4. ALL PATIENT ROOM DOORS TO RECEIVE DOOR FRAME PROTECTION.
5. ALL CORNERS IN PROJECT TO RECEIVE CORNER GUARDS.
6. NO CLEAR CAULK TO BE USED ON WALL PROTECTION - MATCH WALL OR WALL PROTECTION, TYP.
7. STANDARD CAULK BASIS OF DESIGN: SHERWIN WILLIAMS 950A SILICONIZED ACRYLIC LATEX CAULK - ADD COLOR TO MATCH. MUST BE MIXED WITH APPROVED COLOR MIXING CAULK. PROVIDE MOCKUPS OF EACH CONDITION, REFERENCE SPECIFICATIONS.
8. CAULK WHERE WALL PROTECTION MEETS AT METAL BASE TO MATCH WALL PROTECTION.
9. AT STAINLESS STEEL CORNER GUARDS, CAULK TO MATCH PAINTED WALL CONDITION OR WALL PROTECTION. VERIFY CONDITIONS WITH ARCHITECT.

CORNER GUARD LEGEND

C1	1.5" X 4' PLASTIC DIRECT APPLIED CORNER GUARD
IR	3" X 6'-10" IMPACT RESISTANT COVER CORNER GUARD
S1	1.5" X FULL HEIGHT STAINLESS STEEL CORNER GUARD
S2	1.5" X 4'-0" STAINLESS STEEL CORNER GUARD
DF	4" PLASTIC COVER DOOR FRAME GUARD

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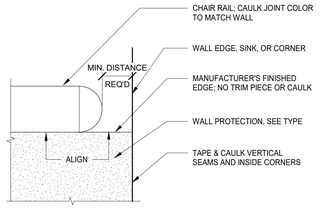
WALL PROTECTION TYPES

AF500

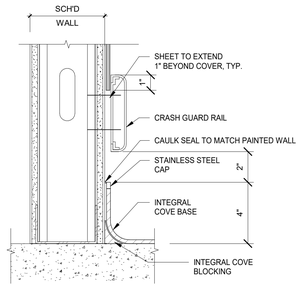
9/19/2022 10:56:29 AM

REFERENCE NOTES



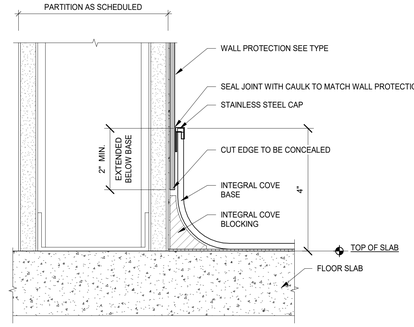
D1 WALL PROTECTION - RUB RAIL

SCALE: 6" = 1'-0"



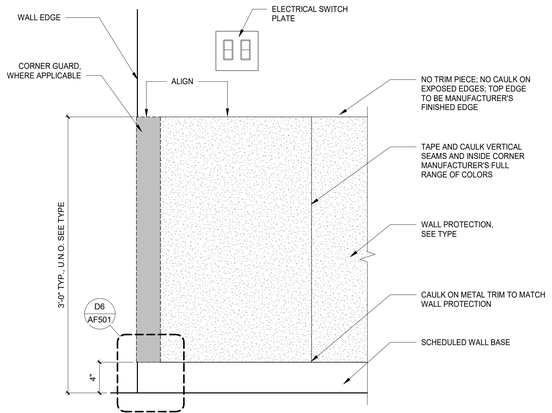
D2 WALL PROTECTION @ CRASH RAIL ELEV DETAIL

SCALE: 3" = 1'-0"



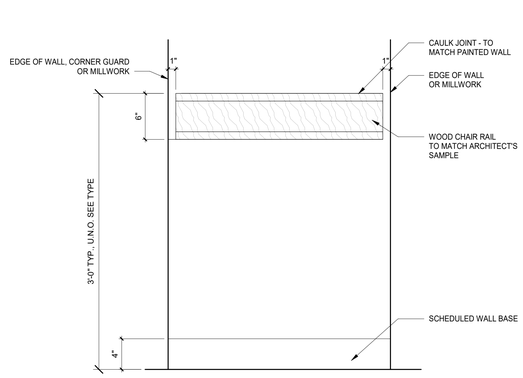
D6 STANDARD WALL PROTECTION BASE DETAIL

SCALE: 6" = 1'-0"



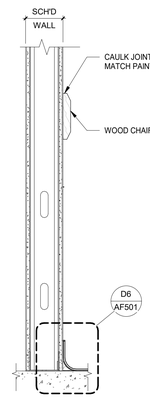
C1 SHEET WALL PROTECTION DETAIL

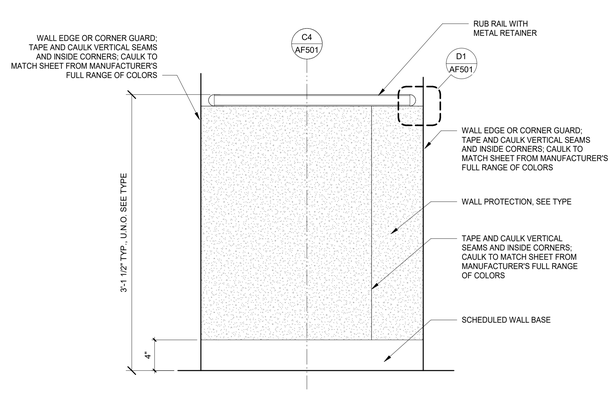
SCALE: 1 1/2" = 1'-0"



C3 WALL PROTECTION - WOOD RAIL

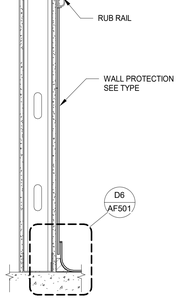
SCALE: 1 1/2" = 1'-0"

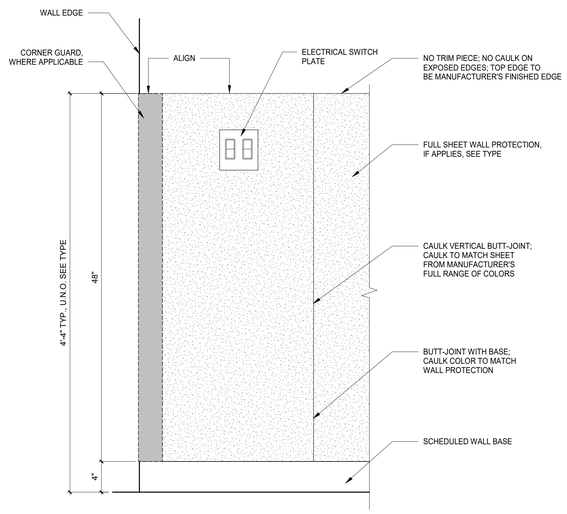




C4 WALL PROTECTION - RUB RAIL

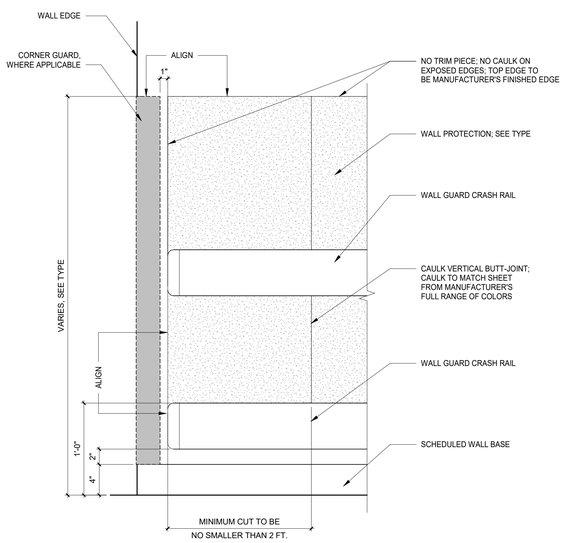
SCALE: 1 1/2" = 1'-0"





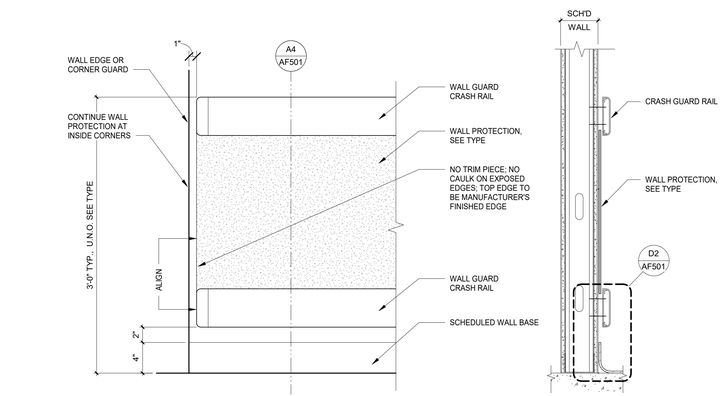
A1 FULL SHEET WALL PROTECTION DETAIL

SCALE: 1 1/2" = 1'-0"



A3 FULL SHEET WITH GUARD RAILS

SCALE: 1 1/2" = 1'-0"



A4 WALL PROTECTION - CRASH RAIL

SCALE: 1 1/2" = 1'-0"

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
LICENSED ARCHITECT
09-16-2022

△ DATE REVISION

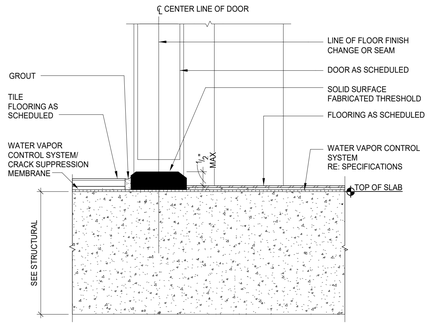
U of U PROJECT NUMBER

WALL PROTECTION DETAILS

AF501

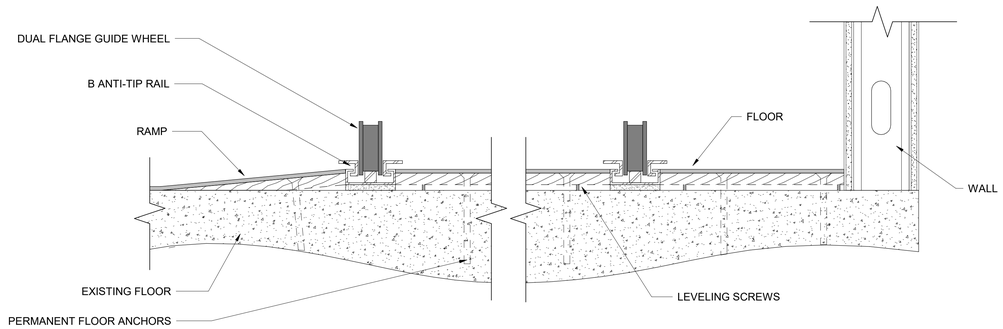
9/19/2022 10:56:31 AM

REFERENCE NOTES



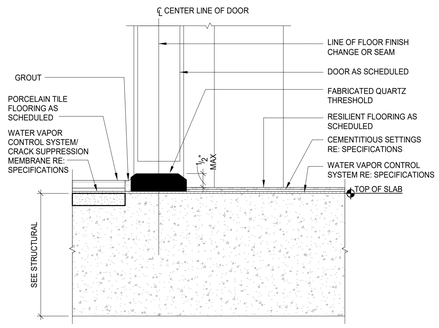
D1 TYP. RESTROOM TRANSITION

SCALE: 6" = 1'-0"



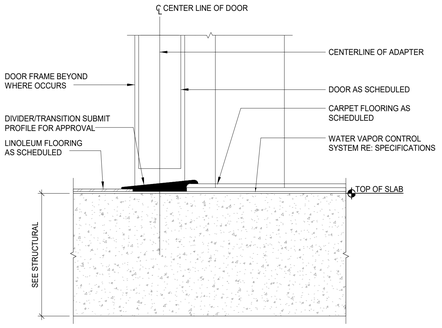
D3 HIGH DENSITY STORAGE RAIL SYSTEM

SCALE: 3" = 1'-0"



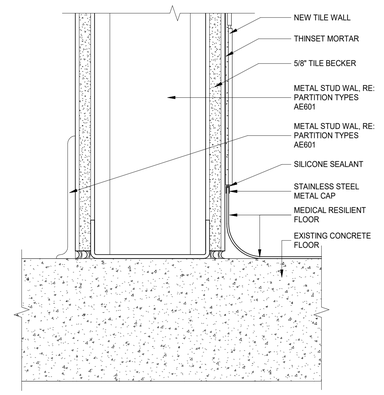
B1 TYP. RECESSED PORCELAIN TILE TO SHEET GOODS

SCALE: 6" = 1'-0"



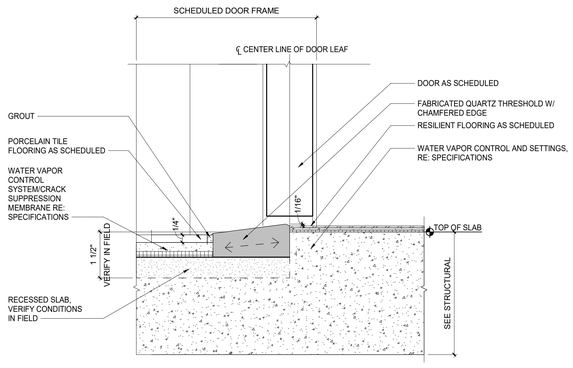
B2 TYP. SHEET GOODS TO CARPET TRANSITION

SCALE: 6" = 1'-0"



B4 FLOORING DETAIL

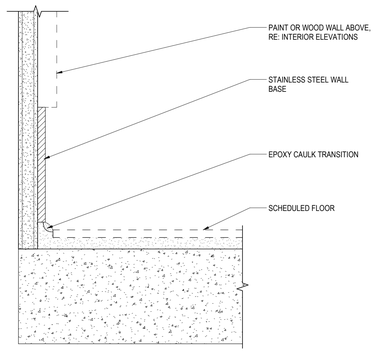
SCALE: 6" = 1'-0"



A1 TYP. RECESSED PORCELAIN TILE TO SHEET GOODS @ INPATIENT TOILET

SCALE: 6" = 1'-0"

TO BE USED AT ALL INPATIENT ROOM/TOILET TRANSITIONS ON FLOOR



A2 BASE DETAIL @ SSB-1 LOCATIONS

SCALE: 6" = 1'-0"

GENERAL NOTES

1. SUBMIT PROFILES FOR ARCHITECT'S SELECTION.
2. FLOORING SUBCONTRACTOR TO PROVIDE/ENSURE APPROPRIATE FLOORING TRANSITIONS AT ALL LOCATIONS.
3. FLOORING TRANSITIONS SHALL OCCUR IN CENTER OF DOOR IN CLOSED POSITION.
4. PROVIDE LOCATIONS AND TYPES FOR ARCHITECT'S APPROVAL.
5. FLOORING SUBCONTRACTOR SHALL VERIFY HEIGHT DISCREPENCIES AND PROVIDE APPROPRIATE TRANSITIONS.
6. METAL TRANSITIONS SHALL BE STAINLESS STEEL; RUBBER TRANSITIONS SHALL MATCH RUBBER BASE COLOR.
7. PROVIDE EPOXY CAULK JOINT TO ENSURE SEAMLESS TRANSITIONS WHERE REQUIRED.

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CONSTRUCTION SET
SEPTEMBER 19, 2022

STATE OF UTAH
MICHAEL ADAM DOLAN
No. 7732018-0301
REGISTERED ARCHITECT
09.16.2022

△ DATE REVISION

U of U PROJECT NUMBER

FLOOR TRANSITION DETAILS

AF510

9/19/2022 10:56:33 AM

REFERENCE NOTES

FINISH SCHEDULE - OR							
	PRODUCT TYPE	MANUFACTURER	STYLE	COLOR	SPECIFICATIONS	NOTES	Project
BASE							
CTB-1	COVED PORCELAIN TILE BASE	DALTILE	CHORD	CH23 RHYTHM BROWN	GROUT COLOR: MAPEI 47 CHARCOAL, SIZE: 6"X12", PROVIDE MATCHING COVE BASE CORNER PIECES.	@ RESTROOMS	Both
IC	INTEGRAL SHEET COVE BASE	MATCH ADJACENT SHEET FLOORING	MATCH ADJACENT SHEET FLOORING	MATCH ADJACENT SHEET FLOORING	PROVIDE SEAMLESS CAP AT TOP OF COVE. ENSURE PROPER BACKING FOR SUPPORT OF COVE.	REF. FINISH PLANS	All
IC-6	INTEGRAL SHEET COVE BASE	MATCH ADJACENT SHEET FLOORING	MATCH ADJACENT SHEET FLOORING	MATCH ADJACENT SHEET FLOORING	PROVIDE SEAMLESS CAP AT TOP OF COVE. ENSURE PROPER BACKING FOR SUPPORT OF COVE.	REF. FINISH PLANS	Procedure
RB-1	RUBBER BASE	JOHNSONITE	COVE	29 MOONROCK	SIZE: 4" COVE	REF. FINISH PLANS	All
CEILING							
ACT-1	ACOUSTICAL CEILING TILE, TEGULAR EDGE	ARMSTRONG	ULTIMA	WHITE	TILE SIZE: 2X6; GRID: 15/16" SEE SPECIFICATIONS	REFERENCE CEILING PLANS FOR LOCATIONS.	All
ACT-2	ACOUSTICAL CEILING TILE, TEGULAR EDGE	ARMSTRONG	ULTIMA	WHITE	TILE SIZE: 2X2; GRID: 15/16" SEE SPECIFICATIONS	REFERENCE CEILING PLANS FOR LOCATIONS.	All
ACT-3	VINYL ACOUSTICAL CEILING TILE, SQUARE EDGE	ARMSTRONG	ULTIMA HEALTH ZONE	WHITE	TILE SIZE: 2X2; GRID: 15/16" SEE SPECIFICATIONS	REFERENCE CEILING PLANS FOR LOCATIONS.	Both
CURTAINS - PRIVACY							
PC-1	PRIVACY CURTAIN	INPRO	ALOFT - SHIELD CLASSIC	MOCHA	INPRO CLICKEZE CLICK SYSTEM, SEE SPECIFICATIONS	AT ALL EXAM ROOMS	Both
FLOORING - CARPET							
CPT-3	CARPET TILE	MOHAWK GROUP	STREETSCAPES GT308	949 SHARP	TILE SIZE: 24"x24", INSTALLATION: ASHLAR	OFFICES	All
FLOORING - SHEET							
SG-1	SHEET GOODS - MARMOLEUM (LIGHT)	FORBO	STRIATO	ROCKY ICE 5232	SIZE: 0.1" 105'L X 79"W; PREPARE FLOOR AND INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS. SEE SPECIFICATIONS. NET SEAM FROM SG-1 TO SG-1. HEAT WELD AT ALL CORNERS, AND BETWEEN SG-1 AND SG-2/3, USING THE DARKER WELD COLOR. ARCHITECT TO APPROVE COLOR.	REF. FINISH FLOOR PLANS	Procedure
SG-2	SHEET GOODS - MARMOLEUM (MEDIUM)	FORBO	STRIATO	TRACE OF NATURE 3573	SIZE: 0.1" 105'L X 79"W; PREPARE FLOOR AND INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS. SEE SPECIFICATIONS. HEAT WELD SEAMS, ARCHITECT TO APPROVE COLOR.	REF. FINISH FLOOR PLANS	Both
SG-3	SHEET GOODS - MARMOLEUM (DARK)	FORBO	STRIATO	CLIFFS OF MOHER 5231	SIZE: 0.1" 105'L X 79"W; PREPARE FLOOR AND INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS. SEE SPECIFICATIONS. HEAT WELD SEAMS, ARCHITECT TO APPROVE COLOR.	REF. FINISH FLOOR PLANS	Both
SG-5	SHEET GOODS - MARMOLEUM (GREEN)	FORBO	FRESCO	GREEN WELLNESS 3381	SIZE: 0.1" 105'L X 79"W; PREPARE FLOOR AND INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS. SEE SPECIFICATIONS. HEAT WELD SEAMS, ARCHITECT TO APPROVE COLOR.	REF. FINISH FLOOR PLANS	Procedure
FLOORING - TERRAZZO							
TZ-1	TERRAZZO	FLOORAZZO	TBD	TBD	FUSION SYSTEM GROUT TO MATCH FLOORING; MONOLITHIC FUSION BOND INSTALLATION	REF. FINISH FLOOR PLANS	Procedure
FLOORING - TILE, MARMOLEUM							
MT-1	MARMOLEUM TILE (LIGHT)	FORBO	MODULAR LINES	ROCKY ICE 5232	SIZE: 39.4"x9.8" PREPARE FLOOR AND INSTALL AS PER MANUFACTURER'S RECOMMENATIONS AND SEE SPECIFICATIONS. MT-1,2,3 ANNOTATES RANDOM EQUAL BLEND OF TILES.	TYP. BREAK AND LOCKER ROOMS, CLINIC SPACES	Procedure
FLOORING - TILE, PORCELAIN							
PT-3	PORCELAIN TILE (DARK)	DALTILE	CHORD	CH23 RHYTHM BROWN	TILE SIZE: 12"X24"; GROUT COLOR: MAPEI 47 CHARCOAL; PROVIDE STAINLESS STEEL SCHLUTER SCHIENE TRIM PIECE AT ALL EXPOSED TILE EDGES, CORNERS, AND TRANSITIONS BETWEEN TILE TYPES.	REF. FINISH FLOOR PLANS	Both
MILLWORK - PLASTIC LAMINATE							
PL-2	PLASTIC LAMINATE	PIONITE	SUGAR MAPLE II	WM115	FINISH: SUEDE	TYPICAL LOWERS - REF. ELEVATIONS, TYP. MILLWORK	All
PL-3	PLASTIC LAMINATE	FORMICA	WHITE DROPS	8824-58	FINISH: MATTE	TYPICAL UPPERS - REF. ELEVATIONS	All
MILLWORK - QUARTZ							
QS-1	QUARTZ STONE	CAMBRIA	MARBLE COLLECTION	NEWPORT	THICKNESS: 3CM SEE SPECIFICATIONS	@ COUNTERTOP SURFACES	Both
QS-3	QUARTZ STONE	DALTILE	ONE QUARTZ	MESA DUNE NQ89 POLISHED	SLOPE MUST MEET ADA REQUIREMENTS	@ QUARTZ THRESHOLD TRANSITIONS	Both
MILLWORK - SOLID SURFACE							
SS-2	SOLID SURFACE	WILSONART	BLANCO RIVERSTONE	9137RS (4)	THICKNESS: 13MM SEE SPECIFICATIONS	@ WINDOWSILLS & BENCHES	Both
SS-3	SOLID SURFACE	CORIAN	TERRA COLLECTION	SERENE SAGE	THICKNESS: 1/2" SEE SPECIFICATIONS	@ TYPICAL COUNTERTOPS	Both
PAINT							
P-1	GENERAL PAINT (CREAM)	SHERWIN WILLIAMS	SHOJI WHITE	SW 7042	FINISH: EGGSHELL SEE SPECIFICATIONS	ALL WALLS TO BE PAINTED P-1, U.N.O. PAINT EXPOSED CEILINGS P-1, U.N.O.	All
P-2	ACCENT PAINT (LT. BLUE)	SHERWIN WILLIAMS	SILVERMIST	SW 7621	FINISH: EGGSHELL SEE SPECIFICATIONS	REFERENCE CEILING PLANS, FINISH PLANS, ENLARGED FINISH PLANS, AND ELEVATIONS FOR LOCATIONS.	Procedure, Residents
P-3	ACCENT PAINT (WHITE)	SHERWIN WILLIAMS	PURE WHITE	SW 7005	FINISH: EGGSHELL SEE SPECIFICATIONS	REFERENCE CEILING PLANS, FINISH PLANS, ENLARGED FINISH PLANS, AND ELEVATIONS FOR LOCATIONS.	Both
P-4	ACCENT PAINT (DRK. BLUE)	SHERWIN WILLIAMS	SLATE TILE	SW 7624	FINISH: EGGSHELL SEE SPECIFICATIONS	REFERENCE CEILING PLANS, FINISH PLANS, ENLARGED FINISH PLANS, AND ELEVATIONS FOR LOCATIONS.	Procedure
P-7	ACCENT PAINT (LT. GRAY)	SHERWIN WILLIAMS	PUSSYWILLOW	SW 7643	FINISH: EGGSHELL SEE SPECIFICATIONS	@ ALL OFFICES - ACCENT ACROSS FROM DOORWAY, U.N.O.	Both
P-9	ACCENT PAINT (TAUPE)	SHERWIN WILLIAMS	ANONYMOUS	SW 7046	FINISH: EGGSHELL SEE SPECIFICATIONS	@ HOLLOW METAL DOORS AND FRAMES, AND EXPOSED BRACE FRAMES	All
PAINT - EPOXY							
EP-2	EPOXY PAINT (LT. BLUE)	SHERWIN WILLIAMS	SILVERMIST	SW 7621	FINISH: EPOXY; EPOXY IN ALL WET AREAS; SEE SPECIFICATIONS	@ REF. FINISH FLOOR PLANS AND INTERIOR ELEVATIONS	Procedure
EP-3	EPOXY PAINT (WHITE)	SHERWIN WILLIAMS	PURE WHITE	SW 7005	FINISH: EPOXY; EPOXY IN ALL WET AREAS; SEE SPECIFICATIONS	@ TYP. RESTROOMS CEILING PAINT	Both
EP-4	EPOXY PAINT (DRK. BLUE)	SHERWIN WILLIAMS	SLATE TILE	SW 7624	FINISH: EPOXY; EPOXY IN ALL WET AREAS; SEE SPECIFICATIONS	@ WET ROOMS, TYP. RESTROOMS CEILING PAINT	Procedure
EP-7	ACCENT PAINT (LT. GRAY)	SHERWIN WILLIAMS	PUSSYWILLOW	SW 7643	FINISH: EPOXY; EPOXY IN ALL WET AREAS; SEE SPECIFICATIONS	@ ALL RESTROOMS	Both
WALL PROTECTION							
C1	CORNER GUARD	INPRO	TBD	TBD	SEE SPECIFICATIONS AND DETAILS	REF. WALL PROTECTION PLANS	All
WP	WALL PROTECTION	INPRO	TBD	TBD	SEE SPECIFICATIONS AND DETAILS	REF. WALL PROTECTION PLANS	All
WALL TILE - CERAMIC							
CT-1	CERAMIC TILE	DALTILE	COLOR WHEEL LINEAR	0190 ARCTIC WHITE	TILE SIZE: 6"x18", EPOXY GROUT AT ALL WET LOCATIONS, GROUT COLOR: MAPEI 02 PEWTER, PROVIDE STAINLESS STEEL SCHLUTER SCHIENE TRIM PIECE AT ALL EXPOSED TILE EDGES, CORNERS, AND TRANSITIONS BETWEEN TILE TYPES; SEE INTERIOR ELEVATIONS FOR INSTALLATION PATTERN.	@ TYPICAL RESTROOM FULL HEIGHT, SEE ELEVATION FOR PATTERN @ SINKS, AND CUSTODIAL ROOM	Both
WALL TILE - GLASS							
GT-2	GLASS ACCENT TILE (GLASS AND STONE BLEND)	DALTILE	ALAIR	SLATE AL17	TILE SIZE: 2"X4", EPOXY GROUT AT ALL WET LOCATIONS, GROUT COLOR: MAPEI 02 PEWTER, PROVIDE STAINLESS STEEL SCHLUTER SCHIENE TRIM PIECE AT ALL EXPOSED TILE EDGES, CORNERS, AND TRANSITIONS BETWEEN TILE TYPES	@ SINGLE-USE RESTROOMS BEHIND MIRRORS FROM FLOOR TO CEILING, SEE ELEVATIONS FOR PATTERN	Both

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FINISH SCHEDULE

AF600

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LEGEND OF MECHANICAL SYMBOLS AND ABBREVIATIONS

DUCTWORK/GRILLES

- POSITIVE PRESSURE DUCT - RISE
- POSITIVE PRESSURE DUCT - DROP
- NEGATIVE PRESSURE DUCT - RISE
- NEGATIVE PRESSURE DUCT - DROP
- ROUND DUCT - RISE
- ROUND DUCT - DROP
- UNDER FLOOR DUCT
- TURNING VANES
- 12X12 / 200 — CEILING SUPPLY DIFFUSER
- 22X22 / 200 — CEILING RETURN REGISTER
- 12X12 / 200 — CEILING EXHAUST REGISTER, (BALANCE TO MATCH SUPPLY IF RETURN CFM IS NOT SHOWN)
- 24X10 / 200 — SIDEWALL SUPPLY REGISTER
- 24X10 / 200 — SIDEWALL EXHAUST OR RETURN REGISTER
- 12X12 / 200 — CEILING SUPPLY DIFFUSER WITH FLEXIBLE DUCT
- 12X12 / 200 — CEILING AIR GRILLE WITH FLEXIBLE DUCT

  TOP FIGURES INDICATE NECK SIZE. BOTTOM FIGURE INDICATES CFM.
- 3-1" SLOTS @ 48" 400 — LINEAR DIFFUSER WITH PLENUM AND FLEXIBLE DUCT CONNECTION. NO. OF SLOTS & SIZE OF SLOT ON TOP, ACTIVE LENGTH AND CFM ON BOTTOM
- FLEXIBLE DUCT CONNECTION
- FLEXIBLE DUCT
- 12/8 FO — FLAT OVAL DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
- 12/8 — RECTANGULAR DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
- 12ø — ROUND DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
- UP — INCLINED RISE
- DN — INCLINED DROP

  WITH RESPECT TO AIR FLOW 15° NOMINAL INCLINE WITH RADIUS TURNS=DEPTH OF DUCT.
- W R — R/W=1. ROUND DUCT SIMILAR TO RECTANGULAR
- 12/12 8/8 — RECTANGULAR TO RECTANGULAR OR ROUND TO ROUND DUCT TRANSFORMATION MAXIMUM 15° INCLUDED ANGLE EXCEPT WHERE SHOWN OTHERWISE.
- 12/12 12ø — RECTANGULAR TO ROUND DUCT TRANSFORMATION
- R 6 — BRANCH DUCT SPLIT WITH 6" WIDTH AND MIN. R=WIDTH OF BRANCH DUCT DOWNSTREAM. ELBOW TURNING VANE OPTIONAL.
- 1.5D 1.25D 45° D D — TAP ENTRY AREA EQUALS 150% OF BRANCH AREA
- 120 12/12 — HIGH EFFICIENCY FITTING
- MANUAL VOLUME DAMPER
- FD — FIRE DAMPER IN DUCT, W/ ACCESS PANEL REQD.
- FSD — COMBINATION FIRE/SMOKE DAMPER W/ ACCESS PANEL
- SD — SMOKE DAMPER W/ ACCESS PANEL
- BDD — BACK DRAFT DAMPER
- ATC OR — ATC DAMPER
- AD — ACCESS PANEL IN DUCT OR PLENUM
- HEATING OR COOLING COIL IN DUCT
- SINGLE DUCT AIR TERMINAL BOX VARIABLE OR CONSTANT VOLUME. MIN. 1-1/2 TERMINAL INLET SIZE STRAIGHT DUCT AT TERMINAL INLET.
- 4-WAY BLOW PATTERN
- 3-WAY BLOW PATTERN
- 2-WAY BLOW PATTERN
- 2-WAY BLOW PATTERN
- 1-WAY BLOW PATTERN

PIPING

- SHUT OFF VALVE
- BALL VALVE
- BUTTERFLY VALVE
- MOTOR OPERATED BUTTERFLY VALVE
- GATE VALVE
- GATE VALVE - NON RISING STEM
- ANGLE VALVE
- GLOBE VALVE
- PLUG VALVE
- SHUT OFF PLUG VALVE FOR FOR USE WITH PRESSURE GAUGE
- CHECK VALVE
- LATERAL STRAINER WITH BLOW-OFF VALVE, PROVIDE HOSE END WITH CAP WHERE DISCHARGE IS NOT PIPED TO DRAIN
- F&T — F&T=FLOAT & THERMOSTATIC
- RPBP — REDUCED PRESSURE BACKFLOW PREVENTOR W/ DRAIN PAN
- PRESSURE REDUCING VALVE EXTERNAL PRESSURE
- PRESSURE REDUCING VALVE SELF CONTAINED
- ATC - 2 WAY VALVE
- ATC - 3 WAY VALVE
- SOLENOID VALVE
- 0.0 GPM — CALIBRATED BALANCING VALVE WITH GPM INDICATED
- VENTURI FLOW METER
- GPM LB/HR. — FLOW METER ORIFICE
- RELIEF VALVE
- AIR VENT-MANUAL
- AIR VENT-AUTO
- FLOW SWITCH
- PRESSURE SWITCH
- TEMPERATURE AND PRESSURE TEST PORT
- THERMOMETER WELL
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- P-1 — PLUMBING FIXTURES
- POINT OF CONNECTION
- A / M-101 — SECTION TAG - TOP FIGURE IS SECTION NO. BOTTOM FIGURE IS SHEET NO.
- A / M101 — DETAIL TAG - TOP FIGURE IS DETAIL NO. BOTTOM FIGURE IS SHEET NO.
- EF / 1 — EQUIPMENT IDENTIFICATION
- 1 — KEYED NOTE IDENTIFICATION
- S — SWITCH
- S — SENSOR
- T — THERMOSTAT
- TN — NIGHT THERMOSTAT

LINETYPES

- C02 — CARBON DIOXIDE
- CA — COMPRESSED AIR
- CHWS — CHILLED WATER SUPPLY
- CHWR — CHILLED WATER RETURN
- DOMESTIC COLD WATER (DCW)
- DOMESTIC HOT WATER (DHW)
- DOMESTIC HOT WATER RETURN (DHWR)
- DI — DEIONIZED WATER SUPPLY
- DIR — DEIONIZED WATER RETURN
- E(NAME) — EXISTING PIPING
- (NAME) — EXISTING PIPING TO BE REMOVED (DARK DASHED)
- HPC — HIGH PRESSURE CONDENSATE
- HPS — HIGH PRESSURE STEAM
- HWR — HEATING HOT WATER RETURN
- HWS — HEATING HOT WATER SUPPLY
- LPC — LOW PRESSURE CONDENSATE
- LPS — LOW PRESSURE STEAM
- MA — MEDICAL AIR
- MPC — MEDIUM PRESSURE CONDENSATE
- MPS — MEDIUM PRESSURE STEAM

LINETYPES CONT.

- MV — MEDICAL VACUUM
- N — NITROGEN
- N20 — NITROUS OXIDE
- OX — MEDICAL OXYGEN
- PC — PUMPED CONDENSATE
- RO — REVERSE OSMOSIS WATER SUPPLY
- ROR — REVERSE OSMOSIS WATER RETURN
- RD — ROOF DRAIN
- RDO — ROOF DRAIN OVERFLOW
- SEWER (BELOW GRADE)
- SEWER (ABOVE GRADE)
- SW — SOFT DOMESTIC WATER
- TW — TEMPERED WATER
- TWR — TEMPERED WATER RETURN
- V — VACUUM
- VENT (SEWER)

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STATE OF UTAH

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MECHANICAL SYMBOLS AND LEGEND

ME000

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MEDICAL GAS GENERAL NOTES

1. MEDICAL GAS PIPING IS TO BE RUN ABOVE THE CEILING, UNLESS NOTED OTHERWISE. COORDINATE PIPING ROUTING WITH ALL OTHER POSSIBLE CONFLICTS SUCH AS DUCTWORK, DIFFUSERS, OTHER PIPING, LIGHTS, CONDUIT, STRUCTURE, ETC.
2. ALL PIPE AND DUCT SIZES SHALL REMAIN THE SAME SIZE SHOWN, IN THE DIRECTION OF FLOW, UNTIL SHOWN OTHERWISE.
3. SLEEVE PIPING THRU WALLS/FOUNDATIONS WHERE REQUIRED.
4. MEDICAL GAS PIPING IS SCHEMATIC IN NATURE. FIELD VERIFY EXACT PIPE ROUTING AND COORDINATE WITH ALL OTHER TRADES.
5. NO PIPING TO RUN OVER ELECTRICAL PANELS, VFD'S OR MCC'S. PROTECT EQUIPMENT WITH A 42" DEEP ZONE IN FRONT OF PANELS, VFD'S, AND MCC'S.
6. MOUNT ALL SERVICE VALVES NEAR CEILING HEIGHT FOR ACCESSIBILITY.

FIRE PROTECTION GENERAL NOTES

1. NO FIRE PROTECTION LINE SHALL BE DESIGNED OR INSTALLED PRIOR TO CLOSE COORDINATION WITH ALL OTHER DISCIPLINES. DUCTWORK, MECHANICAL PIPING AND PLUMBING TAKE SPACE PRECEDENCE OVER FIRE PROTECTION PIPING. FAILURE TO COMPLY WILL RESULT IN THE FIRE PROTECTION REMOVAL AND REINSTALLATION AT THE FIRE PROTECTION CONTRACTORS EXPENSE.
2. ALL WORK DONE SHALL BE PERFORMED WITH WATER CONTROL IN MIND. CONTAINMENT OF WATER IS NECESSARY TO PREVENT WATER FROM DAMAGING SURROUNDING AREA.
3. COORDINATE EXACT LOCATION OF PIPING WITH STRUCTURAL MEMBERS, LIGHTS, REFLECTED CEILING PLANS, CABLE TRAY, ELECTRICAL CONDUITS, DUCTWORK, MECHANICAL AND PLUMBING PIPING, AND ALL OTHER TRADES AND ALL EXISTING CONDITIONS.
4. FIRE SUPPRESSION CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE AND/OR REROUTE ANY AND ALL FIRE PROTECTION PIPING, VALVING, SUPPORTS OR SYSTEMS, OTHERWISE WITHIN THE FIRE SUPPRESSION DISCIPLINE REGARDLESS OF WHO INSTALLED THEM OR WHEN THEY WERE INSTALLED, IN ORDER TO ACCOMMODATE MECHANICAL, PLUMBING, ELECTRICAL OR OTHER SYSTEMS. COORDINATE WORK WITH MECHANICAL, ELECTRICAL, PLUMBING OR OTHER CONTRACTORS UNTIL SUBSTANTIAL COMPLETION OF PROJECT.

PLUMBING GENERAL NOTES

1. UNLESS OTHERWISE NOTED, SLOPE PIPE AS FOLLOWS: WASTE BRANCHES: 1/4" PER FOOT; WASTE MAINS: 1/4" PER FOOT; ROOF DRAIN/ROOF DRAIN OVERFLOW: 1/8" PER FOOT.
2. ALL WORK DONE SHALL BE PERFORMED WITH WATER CONTROL IN MIND. CONTAINMENT OF WATER IS NECESSARY TO PREVENT WATER FROM DAMAGING AREAS ON FLOORS BELOW.
3. PLUMBING DRAWINGS ARE SCHEMATIC IN NATURE. FIELD VERIFY EXACT PIPE ROUTING AND COORDINATE WITH ALL OTHER TRADES.
4. ALL PIPING IN PLUMBING CHASES SHALL BE ARRANGED TO ALLOW MAINTENANCE ACCESS.
5. NO PIPING TO RUN OVER ELECTRICAL PANELS, VFD'S OR MCC'S. PROTECT EQUIPMENT WITH A 42" DEEP ZONE IN FRONT OF PANELS, VFD'S, AND MCC'S.
6. CONTRACTOR TO PROVIDE VALVE IDENTIFICATION AND LOCATION ON ALL CEILING TILES WHERE VALVES ARE LOCATED.
7. PIPING AND ROUTING SHOWN, INCLUDING ALL BELOW FLOOR DECK PIPING, IS APPROXIMATE. IT IS UP TO THE CONTRACTOR TO FIELD VERIFY THE EXACT LOCATION AND SIZE OF ALL PIPING.
8. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE MOUNTING HEIGHTS, DIMENSIONS, AND OTHER REQUIREMENTS.
9. CONTRACTOR TO VERIFY CONNECTION SIDE OF ADA FIXTURES AND ADJUST ACCORDINGLY. INSTALL FLUSH VALVES HANDLES ON WIDE SIDE OF ALL FIXTURES.
10. INSTALL ALL DOMESTIC WATER LINES BELOW DUCTWORK.
11. INSTALL A 24" X 24" ACCESS DOOR BELOW ALL ISOLATION VALVES, BALANCING VALVES AND WATER HAMMER ARRESTORS WHERE MOUNTED ABOVE HARD CEILINGS.
12. MOUNT ALL ISOLATION VALVES, CONTROL VALVES, BALANCING VALVES, ETC. NEAR CEILING HEIGHT FOR ACCESSIBILITY.
13. INSTALL ALL EQUIPMENT WITH SUFFICIENT CLEARANCE FOR MAINTENANCE PER MANUFACTURERS RECOMMENDATION.
14. COORDINATE ALL FLOOR PENETRATIONS WITH STRUCTURAL AND PROVIDE SLEEVES AS NECESSARY.
15. COORDINATE THE LOCATION OF THE FLOOR DRAIN, SHOWER DRAIN, OR FLOOR SINK WITH ARCHITECTURAL AND STRUCTURAL, TYPICAL.
16. SEE PLUMBING FIXTURE SCHEDULE FOR PIPE SIZES OF WASTE, VENT AND DOMESTIC WATER TO/FROM SINGLE FIXTURE.
17. HOSE BIBBS SHOWN AT LAVATORIES ARE TO BE MOUNTED AT AN ACCESSIBLE LOCATION UNDER THE LAVATORY.
18. COORDINATE EXACT LOCATION OF PLUMBING PIPING WITH STRUCTURAL MEMBERS, LIGHTS, REFLECTED CEILING PLANS, CABLE TRAY, ELECTRICAL CONDUITS, DUCTWORK, MECHANICAL AND FIRE PROTECTION PIPING, AND ALL OTHER TRADES AND ALL EXISTING CONDITIONS.
19. ALL PIPE AND DUCT SIZES SHALL REMAIN THE SAME SIZE SHOWN, IN THE DIRECTION OF FLOW, UNTIL SHOWN OTHERWISE.
20. INSTALL CLEANOUTS IN DRAIN PIPING AS INDICATED, AND WHERE NOT INDICATED, ACCORDING TO THE FOLLOWING.
    a) SIZE SAME AS DRAINAGE PIPING UP TO 4" NPS. USE 4" NPS FOR LARGER. DRAINAGE PIPING UNLESS LARGER CLEANOUT IS INDICATED.
    b) LOCATE AT MINIMUM INTERVALS OF 50 FT FOR PIPING 4" NPS AND SMALLER AND 100 FT FOR LARGER PIPING.
    c) LOCATE AT THE BASE OF EACH VERTICAL STACK.
    d) PROVIDE FULL SIZE CLEANOUT BEHIND WATERCLOSETS.

MECHANICAL PIPING GENERAL NOTES

1. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE PIPING SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE.
2. UNLESS OTHERWISE NOTED: ALL MECHANICAL PIPING IS OVERHEAD TO RUN ABOVE DUCTWORK AND TIGHT TO UNDERSIDE OF STRUCTURE.
3. WHERE VALVING OR EQUIPMENT IS LOCATED ABOVE HARD CEILINGS PROVIDE AN ACCESS DOOR IN CEILING. MINIMUM ACCESS DOOR SIZE OF 24"X24".
4. NO PIPING TO RUN OVER ELECTRICAL PANELS, VFD'S OR MCC'S. PROTECT EQUIPMENT WITH A 42" DEEP ZONE IN FRONT OF PANELS, VFD'S, AND MCC'S.
5. SLEEVE PIPING THRU WALLS/FOUNDATIONS WHERE REQUIRED.
6. INSTALL PIPING SO THAT ALL VALVES, STRAINERS, UNIONS, TRAPS, FLANGES, AND OTHER APPURTENANCES REQUIRING ACCESS ARE ACCESSIBLE.
7. ALL VALVES SHALL BE INSTALLED SO THAT VALVE REMAINS IN SERVICE WHEN EQUIPMENT OR PIPING ON EQUIPMENT SIDE OF VALVE IS REMOVED.
8. PROVIDE AN AIR VENT AT THE HIGH POINT OF EACH DROP IN THE HEATING AND CHILLED WATER PIPING SYSTEM.
9. INSTALL ALL PIPING WITHOUT FORCING OR SPRINGING.
10. ALL VALVES SHALL BE ADJUSTED FOR SMOOTH AND EASY OPERATION.
11. PROVIDE ISOLATION VALVES AT EACH EXIT/ENTRANCE INTO SHAFT WHETHER OR NOT SHOWN.
12. ALL PIPE AND DUCT SIZES SHALL REMAIN THE SAME SIZE SHOWN, IN THE DIRECTION OF FLOW, UNTIL SHOWN OTHERWISE.
13. COORDINATE LOCATION OF THERMOSTAT WITH ARCHITECTURAL FURNISHING PLANS. MOUNT THERMOSTAT AT HEIGHT AS SPECIFIED ON ARCHITECTURAL.
14. CONTRACTOR TO PROVIDE VALVE IDENTIFICATION AND LOCATION ON ALL CEILING TILES WHERE VALVES ARE LOCATED.

MECHANICAL GENERAL NOTES

1. COORDINATE EXACT PLACEMENT OF DIFFUSERS, GRILLES, AND REGISTERS WITH ARCHITECTURAL REFLECTED CEILING PLAN, TYPICAL.
2. SEE DETAIL FOR DIFFUSER CONNECTIONS TO DUCTWORK, TYPICAL.
3. BRANCH DUCTWORK SHALL BE SIZED TO MATCH THE NECK INLET SIZE OF THE DIFFUSERS, REGISTER OR GRILLE IT SERVES UNLESS NOTED OTHERWISE, TYPICAL.
4. COORDINATE EXACT MOUNTING LOCATION OF ALL THERMOSTATS WITH LATEST REVISION OF ARCHITECTURAL ELEVATION AND FURNISHINGS PLANS, TYPICAL.
5. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CAULKING AND SEALING ALL PENETRATIONS IN FIRE AND SMOKE RATED PARTITIONS TO MAINTAIN RATINGS. SEE SPECIFICATION, TYPICAL.
6. THE MECHANICAL CONTRACTOR SHALL PROVIDE FIRE, SMOKE OR COMBINATION FIRE/SMOKE DAMPERS AT ALL LOCATIONS SHOWN ON THE CONTRACT DOCUMENTS AND AS REQUIRED TO MEET THE INTEGRITY OF ALL SMOKE AND FIRE PARTITIONS. THE CONTRACTOR SHALL REFER TO THE LATEST ARCHITECTURAL LIFE SAFETY PLANS FOR ALL FIRE AND SMOKE PARTITION LOCATIONS. DAMPERS ARE TO BE PROVIDED WITH SHUTOFF/TEST SWITCH AT EACH LOCATION.
7. PROVIDE AND INSTALL TURNING VANES IN ALL SQUARE LOW PRESSURE DUCTWORK AT ELBOWS OR TEES, TYPICAL.
8. INSTALL ALL TERMINAL BOXES IN EASILY ACCESSIBLE AND SERVICEABLE LOCATIONS, MEETING ALL MANUFACTURERS REQUIRED CLEARANCES ON EACH SIDE, SEE DETAILS, TYPICAL.
9. CONTRACTOR SHALL OFF-SET, TRANSITION AND PROVIDE CHANGES AS REQUIRED FOR COORDINATION WITH OTHER TRADES, TYPICAL.
10. DUCTWORK SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS. REFER TO MECHANICAL SPECIFICATIONS FOR EXTENT OF DUCT INSULATION AND LINER.
11. PROVIDE AND INSTALL REMOTE DAMPER OPERATORS FOR ALL DAMPERS INSTALLED ABOVE INACCESSIBLE CEILINGS, SEE MECHANICAL SPECIFICATIONS FOR EQUIPMENT REQUIREMENTS, TYPICAL.
12. PROVIDE AND INSTALL HIGH EFFICIENCY TAKE-OFF FITTINGS AND BALANCING DAMPER AT ALL BRANCH CONNECTIONS TO LOW PRESSURE DUCTWORK.
13. PROVIDE AND INSTALL HIGH EFFICIENCY OR CONICAL TAKE-OFFS AT ALL BRANCH CONNECTIONS TO MEDIUM PRESSURE DUCTWORK.
14. WHERE DUCTWORK CROSSES, SUPPLY DUCTWORK IS USUALLY BELOW RETURN AND EXHAUST DUCT. RETURN DUCTWORK IS USUALLY BELOW EXHAUST DUCTS.
15. AT LOCATIONS WHERE DIFFUSERS OR GRILLES ARE UNDER DUCTWORK, CONTRACTOR TO FABRICATE TRANSITION BOOT FROM FLEX CONNECTION TO DIFFUSER OR GRILLE WITH BALANCING DAMPER, TYPICAL.
16. THE MECHANICAL CONTRACTOR SHALL PROVIDE CEILING MOUNTED ACCESS DOORS FOR ALL FIRE, SMOKE AND COMBINATION FIRE/SMOKE DAMPERS INSTALLED ABOVE INACCESSIBLE CEILING. FIELD VERIFY EXACT INSTALLATION LOCATIONS PRIOR TO COMMENCING WORK AND COORDINATE INSTALLATIONS WITH LATEST ARCHITECTURAL REFLECTED CEILING PLANS.
17. MECHANICAL CONTRACTOR SHALL ENSURE THAT ALL EQUIPMENT IS PROVIDED AND INSTALLED WITH CLEARANCES PER MANUFACTURERS RECOMMENDATIONS. THE CONTRACTOR SHALL MAINTAIN PROPER SERVICE SPACE FOR COIL PULLS, BAS DEVICES, MAINTENANCE ACCESS, ETC.
18. ALL VAV BOXES TO HAVE REHEAT COILS, EXCEPT AS NOTED. PROVIDE A MINIMUM OF TWO DUCT DIAMETERS OF STRAIGHT ROUND DUCT TO INLET OF VAV BOX. BOX SHALL BE HARD CONNECTED (CONICAL) TO MEDIUM PRESSURE DUCT, TYPICAL.
19. PROVIDE ACCESS DOORS TO ACCESS VAV BOX CONTROLS ABOVE HARD CEILINGS. PROVIDE MIN. 24" X 24".
20. ALL PIPE AND DUCT SIZES SHALL REMAIN THE SAME SIZE SHOWN, IN THE DIRECTION OF FLOW, UNTIL SHOWN OTHERWISE.
21. FLEX DUCT WILL BE ALLOWED TO DIFFUSERS OR GRILLS ABOVE HARD CEILINGS AND T-BAR CEILINGS. FLEX DUCT RUNS SHALL NOT EXCEED 10'.
22. NEW DUCTWORK, PIPING AND EQUIPMENT SHALL BE COORDINATED WITH STRUCTURE, LIGHTS, REFLECTED CEILING PLANS, CABLE TRAY, ELECTRICAL CONDUIT, PLUMBING, MECHANICAL AND FIRE PROTECTION PIPING, MEDICAL GASES, ALL OTHER TRADES AND ALL OTHER EXISTING CONDITIONS.
23. THE CONTRACTOR SHALL INFORM THE DESIGNER OF ANY PROPOSED DEVIATIONS FROM THE CONTRACT DOCUMENTS.
24. PROVIDE ACCESS TO ALL TEMPERATURE CONTROLS ABOVE CEILING. LOCATE IN ACCESSIBLE LOCATION. WHERE THERE ARE HARD CEILINGS THE CONTRACTOR SHALL PROVIDE 24"X24" ACCESS DOOR.

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

LICENSED PROFESSIONAL ENGINEER
08-10-22
No. 11573858-2202
TREVOR DONEY
STATE OF UTAH

△	DATE	REVISION

U of U PROJECT NUMBER 70366

MECHANICAL GENERAL NOTES

ME001

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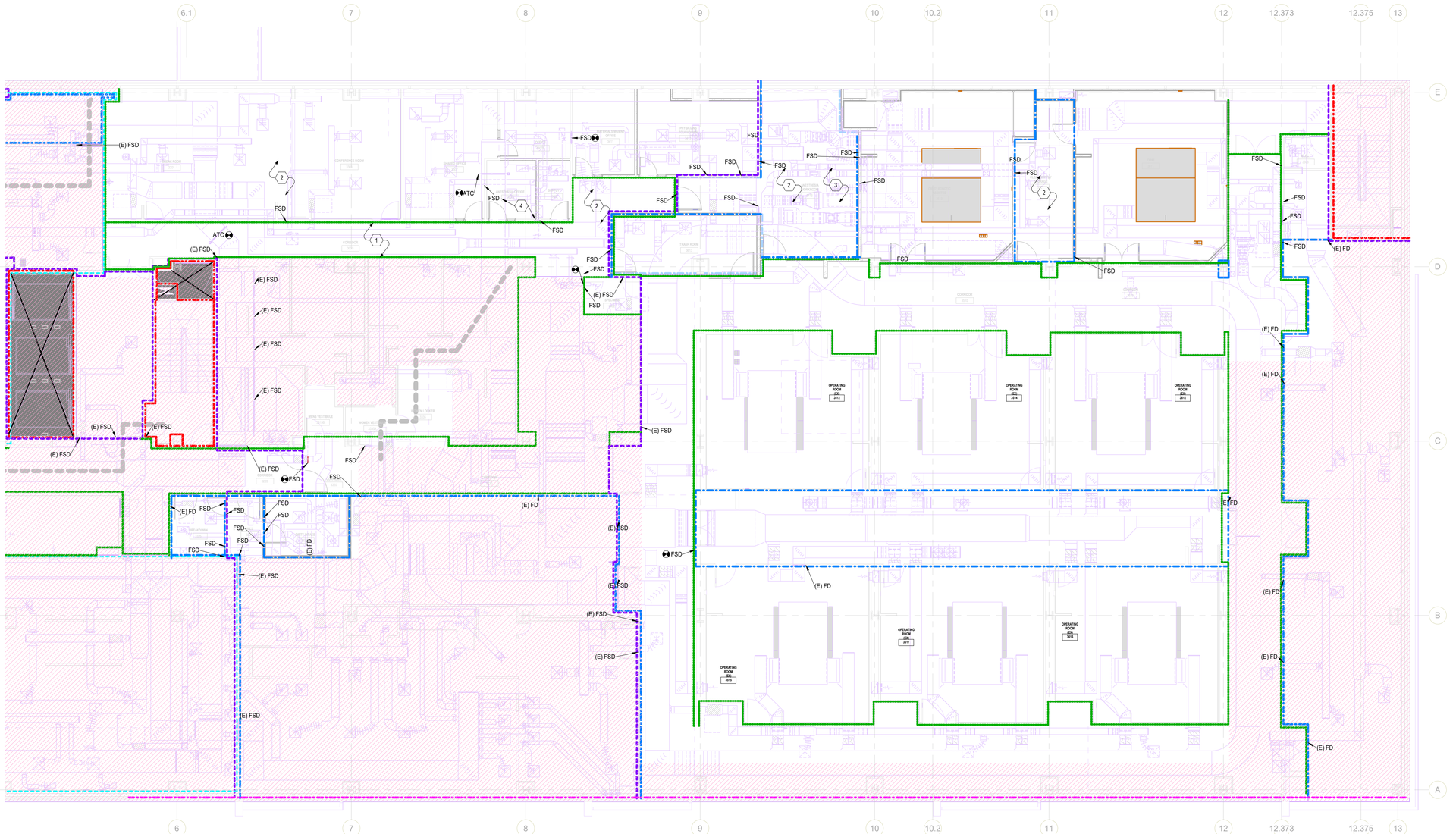

REFERENCE NOTES

1. NEW FIRE SMOKE DAMPERS (FSD) REQUIRED FOR ALL DUCT SERVING HALLWAYS/CORRIDORS.
2. REFERENCE MASTER PHASING PLAN FOR DETAILS. WORK SHOWN ON THIS DRAWING SHALL FOLLOW THE MASTER PHASING PLAN.
3. PROVIDE A POSITION INDICATING SWITCH CAPABLE OF REPORTING DAMPER LOCATION TO THE BMS. DAMPER POSITION AND STATUS TO BE MONITORED BY THE BMS (TYPICAL ALL LIFE SAFETY DAMPERS).
4. TEMPORARY FIRE SMOKE DAMPERS. REMOVE AFTER ROOM IS CONVERTED TO FINAL PHASE (STORAGE ROOM AND OFFICE).

LEGEND

DESCRIPTION

- SMOKE PARTITION
  - DOOR SMOKE CONTROL UL 1784
- SMOKE BARRIER (1 HOUR MIN.)
  - 1/3 HOUR FIRE RESISTANCE RATED DOOR
- FIRE PARTITION
  - 1/3 HOUR FIRE RESISTANCE RATED DOOR
- FIRE BARRIER - 1 HOUR
  - 3/4 HOUR FIRE RESISTANCE RATED DOOR
- FIRE BARRIER - 2 HOUR
  - 1 1/2 HOUR FIRE RESISTANCE RATED DOOR
- FIRE WALL- 3 HOUR
- EXTERIOR WALL - 1 HOUR
  - 3/4 HOUR FIRE RESISTANCE RATED DOOR
- EXISTING WALL - 1 HOUR
- EXISTING WALL - 2 HOUR
- EXISTING FIRE WALL - 3 HOUR
- COMMON PATH OF EGRESS
- OCCUPANCY AREA BOUNDARY
- LIFE SAFETY ARROW
  - NUMBER OF OCCUPANTS
- FIRE EXTINGUISHER
  - FEC
- IMAGINARY PROPERTY LINE

1 MECHANICAL LIFE SAFETY PLAN LEVEL 3 - PHASE 1+2

SCALE: 1/8" = 1'-0"

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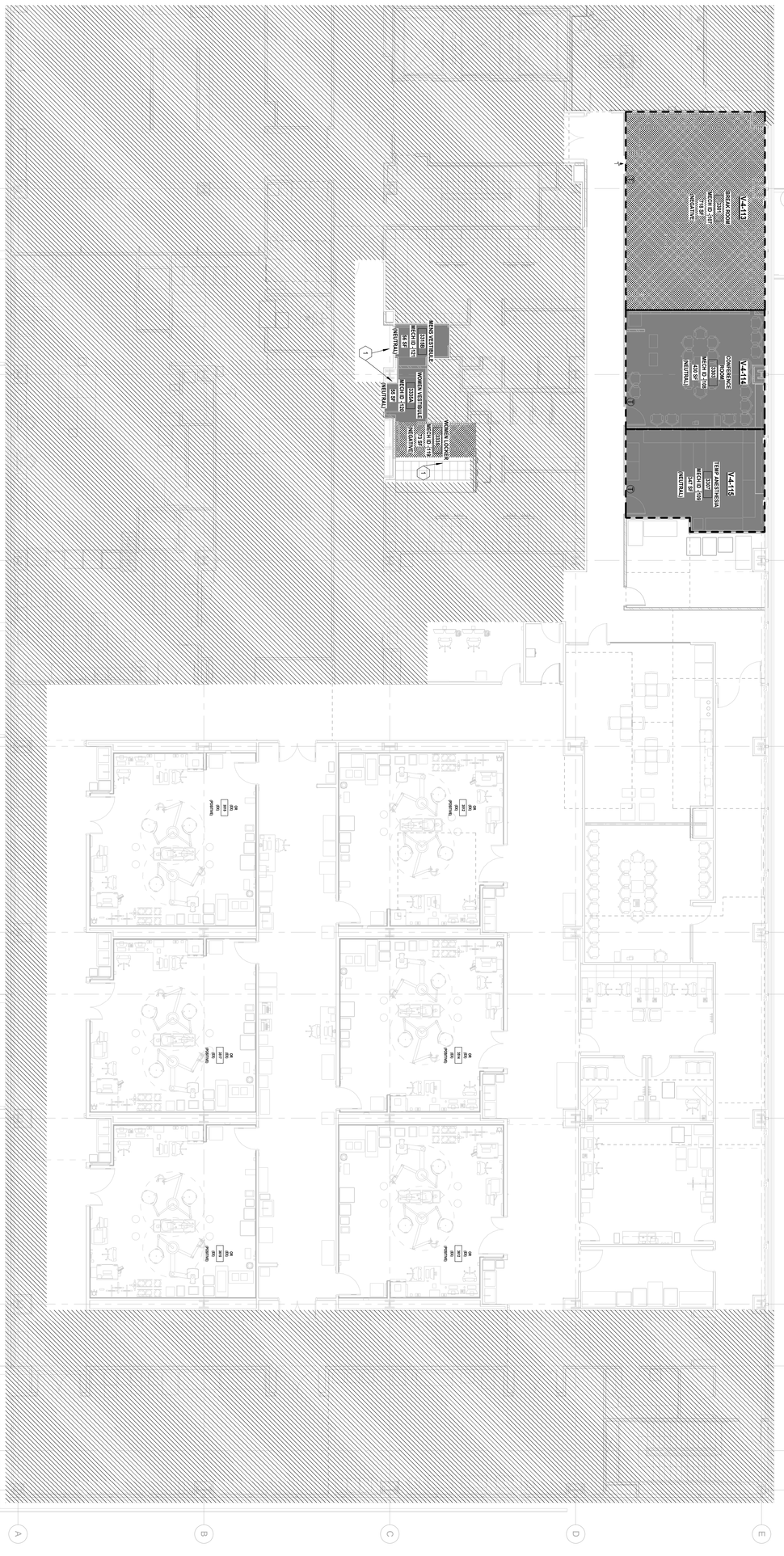
MECHANICAL LIFE SAFETY PLAN LEVEL 3 - PHASE 1+2

ML105



1 MECHANICAL ZONING PLAN LEVEL 3

SCALE: 1/8" = 1'-0"

REFERENCE NOTES

1. EXISTING HVAC ZONES, THERMOSTATS, AND VAV'S TO REMAIN IN LOCKER ROOMS AND ASSOCIATED LOCKER ROOM VESTIBULES

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CONSTRUCTION SET

SEPTEMBER 19, 2022

MECHANICAL ZONING PLAN LEVEL 3 - PHASE 1

U of U PROJECT NUMBER 72006

MZ105.1

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REFERENCE NOTES

1. TEMPORARY TRASH ROOM WILL REQUIRE EXHAUST AND NEGATIVE PRESSURIZATION.
2. EXISTING HVAC ZONES, THERMOSTATS, AND VAV TO REMAIN FOR SPECIMAN ROOM AND OR CONTROL DESK AREA.
3. PASS THRU DRYER.

1 MECHANICAL ZONING PLAN LEVEL 3

SCALE: 1/8" = 1'-0"

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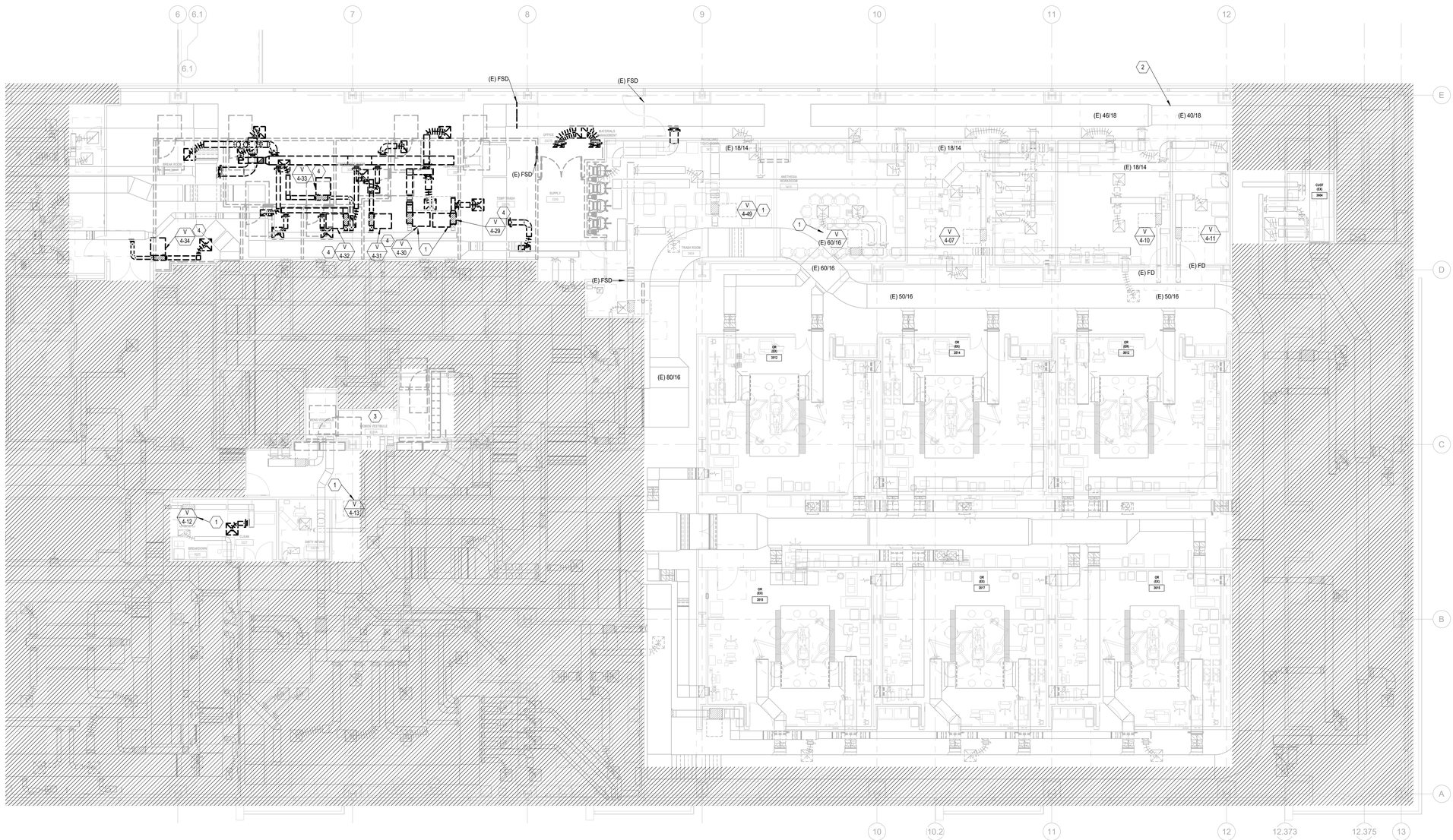
MECHANICAL ZONING PLAN LEVEL 3 - PHASE 2

MZ105.2



REFERENCE NOTES

1. INSPECT EQUIPMENT FOR RE-USE. IF EQUIPMENT IS FIT FOR SERVICE, RE-USE VAV'S AND ASSOCIATED PIPING, VALVES, AND ACCESSORIES. INDICATED. SEE DRAWING FOR NEW LOCATION.
2. RAISE EXISTING RETURN DUCT OVER NEW OR'S TO ALLOW SPACE FOR RAISED CEILING. COORDINATE WITH EXISTING PIPING INCLUDING ROOF DRAINS.
3. EXISTING HVAC ZONES, THERMOSTATS, AND VAV'S TO REMAIN IN LOCKER ROOMS AND ASSOCIATED LOCKER ROOM VESTIBULES.
4. EXISTING VAV BOX EQUIPMENT TAGS SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL INSPECT EXISTING BOXES AND RE-USE IF IN GOOD WORKING CONDITION (TYPICAL ALL TAGS ON THIS SHEET).

GENERAL NOTES

1. CONTRACTOR SHALL PROVIDE A FULL PRE-READ OF THE AIR HANDLING SYSTEM (AH-4) BEFORE STARTING ANY DEMOLITION WORK. OPEN ALL VAV BOXES TO FULLY OPEN POSITION AND RUN FANS AT FULL CAPACITY. REPORT AND PROVIDE AIRFLOW AND SYSTEM STATIC PRESSURE TO ENGINEER AND ARCHITECT FOR EVALUATION. THIS IS REQUIRED TO CHECK THE CAPABILITY OF THE SYSTEM TO ENSURE NEW DESIGN REQUIREMENTS CAN BE MET.
2. REFERENCE CENTRAL PHASING PLAN FOR ALL PHASING REQUIREMENTS. NOT ALL INDIVIDUAL PHASES ARE SHOWN ON DRAWINGS. CONTRACTOR SHALL COORDINATE ALL PHASING REQUIREMENTS DURING BIDDING AND CONSTRUCTION.

1 MECHANICAL DEMO PLAN LEVEL 3 - PHASE 1

SCALE: 1/8" = 1'-0"

TRUE PROJECT

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VBFA Project Number: 22250

ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

LICENSED PROFESSIONAL ENGINEER
08-10-22
No. 11573858-2202
TREVOR DONEY
STATE OF UTAH

△ DATE REVISION

U of U PROJECT NUMBER 70306

MECHANICAL DEMO PLAN LEVEL 3 - PHASE 1

MD105.1

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REFERENCE NOTES

1. INSPECT EQUIPMENT FOR RE-USE. IF EQUIPMENT IS FIT FOR SERVICE, RE-USE VAV'S AND ASSOCIATED PIPING, VALVES, AND ACCESSORIES. INDICATED. SEE DRAWING FOR NEW LOCATION.
2. RAISE EXISTING RETURN DUCT OVER NEW OR'S TO ALLOW SPACE FOR RAISED CEILING. COORDINATE WITH EXISTING PIPING INCLUDING ROOF DRAINS.

GENERAL NOTES

1. CONTRACTOR SHALL PROVIDE A FULL PRE-READ OF THE AIR HANDLING SYSTEM (AH-4) BEFORE STARTING ANY DEMOLITION WORK. OPEN ALL VAV BOXES TO FULLY OPEN POSITION AND RUN FANS AT FULL CAPACITY. REPORT AND PROVIDE AIRFLOW AND SYSTEM STATIC PRESSURE TO ENGINEER AND ARCHITECT FOR EVALUATION. THIS IS REQUIRED TO CHECK THE CAPABILITY OF THE SYSTEM TO ENSURE NEW DESIGN REQUIREMENTS CAN BE MET.
2. REFERENCE CENTRAL PHASING PLAN FOR ALL PHASING REQUIREMENTS. NOT ALL INDIVIDUAL PHASES ARE SHOWN ON DRAWINGS. CONTRACTOR SHALL COORDINATE ALL PHASING REQUIREMENTS DURING BIDDING AND CONSTRUCTION.

1 MECHANICAL DEMO PLAN LEVEL 3 - PHASE 2
SCALE: 1/8" = 1'-0"

TRUE PROJECT

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08-10-22
No. 11573858-2202
TREVOR DONEY
STATE OF UTAH

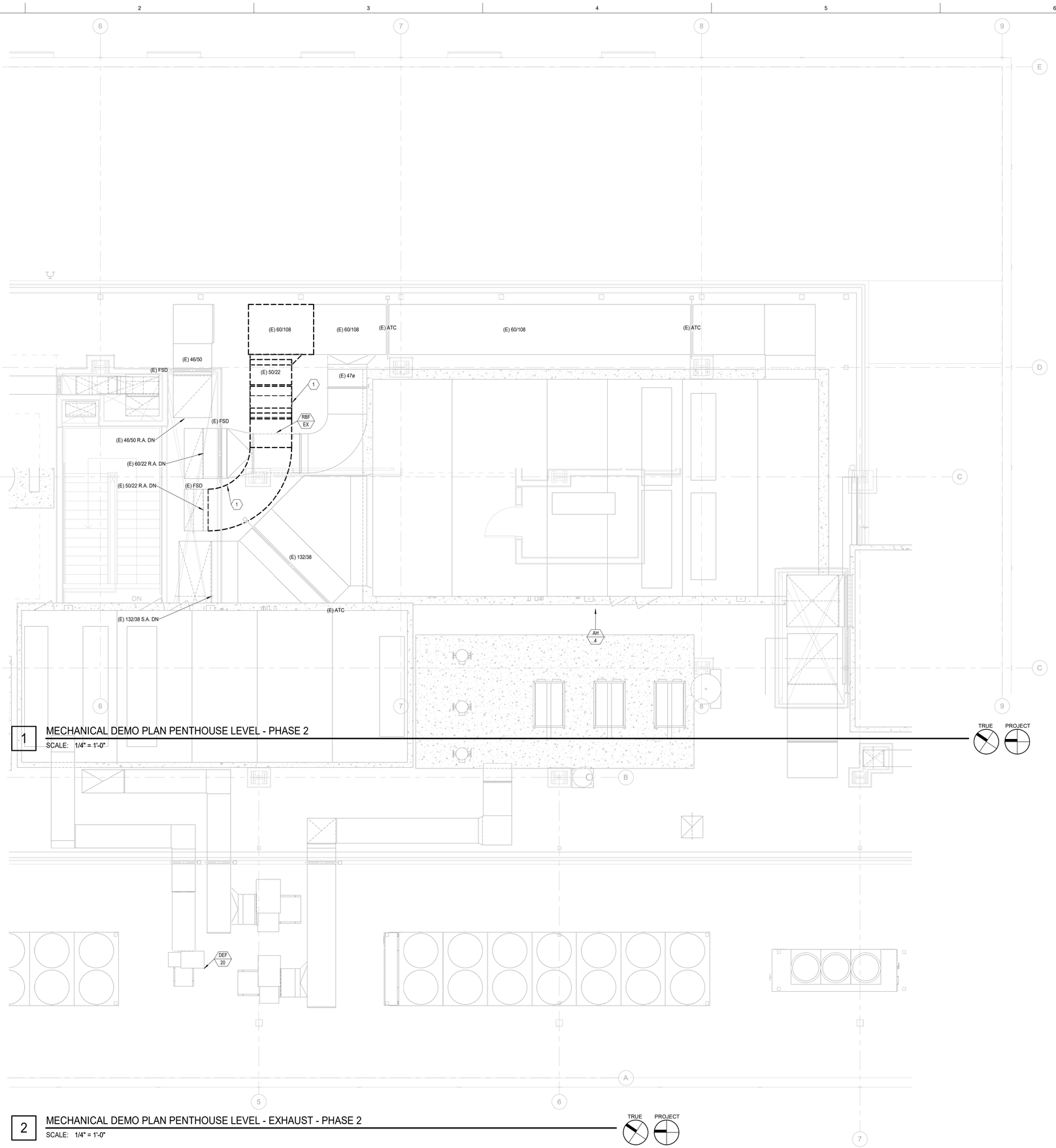
△ DATE REVISION

U of U PROJECT NUMBER 70366

MECHANICAL DEMO PLAN LEVEL 3 - PHASE 2

MD105.2

9/16/2022 6:02:33 PM



1 MECHANICAL DEMO PLAN PENTHOUSE LEVEL - PHASE 2

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

TRUE PROJECT

2 MECHANICAL DEMO PLAN PENTHOUSE LEVEL - EXHAUST - PHASE 2

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

TRUE PROJECT

REFERENCE NOTES

1. PROTECT EXISTING DUCT AND ACCESSORIES FROM DAMAGE DURING DEMOLITION. RELOCATE DUCT TO NEW LOCATION SHOWN ON DRAWINGS.
2. .

GENERAL NOTES

1. CONTRACTOR SHALL PROVIDE A FULL PRE-READ OF THE AIR HANDLING SYSTEM (AH-4) BEFORE STARTING ANY DEMOLITION WORK. OPEN ALL VAV BOXES TO FULLY OPEN POSITION AND RUN FANS AT FULL CAPACITY. REPORT AND PROVIDE AIRFLOW AND SYSTEM STATIC PRESSURE TO ENGINEER AND ARCHITECT FOR EVALUATION. THIS IS REQUIRED TO CHECK THE CAPABILITY OF THE SYSTEM TO ENSURE NEW DESIGN REQUIREMENTS CAN BE MET.
2. REFERENCE CENTRAL PHASING PLAN FOR ALL PHASING REQUIREMENTS. NOT ALL INDIVIDUAL PHASES ARE SHOWN ON DRAWINGS. CONTRACTOR SHALL COORDINATE ALL PHASING REQUIREMENTS DURING BIDDING AND CONSTRUCTION.

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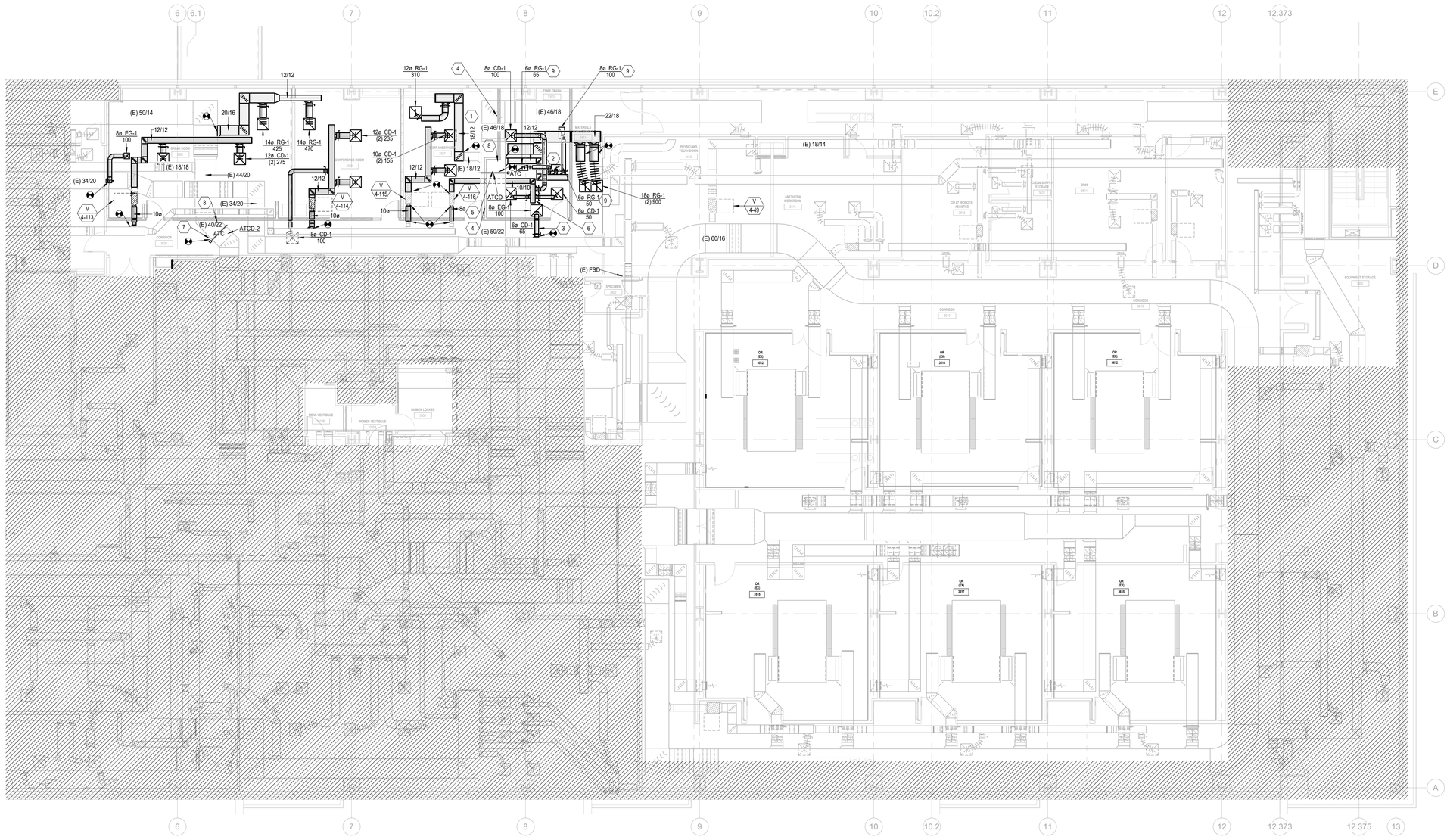
U of U PROJECT NUMBER 70366

MECHANICAL DEMO PLAN PENTHOUSE LEVEL - PHASE 2

MD106.2

9/16/2022 6:02:44 PM



REFERENCE NOTES

1. TEMPORARY ANESTHESIA ROOM. REFERENCE MASTER PHASING PLAN FOR DETAILS.
2. TEMPORARY TRASH ROOM. PROVIDE TEMPORARY EXHAUST AND NEGATIVE PRESSURIZATION. REFERENCE MASTER PHASING PLAN FOR DETAILS.
3. REMOVE TEMPORARY EXHAUST AFTER TEMPORARY TRASH ROOM IS CONVERTED TO SUPPLY ROOM.
4. COORDINATE NEW WALL LOCATIONS WITH EXISTING DUCT. WALLS WILL GO TO DECK AT THIS LOCATION.
5. PROVIDE NEW ATC DAMPER IN EXISTING DUCT. LOCATE DOWNSTREAM OF NEW RETURN DUCT TIE IN FOR NEW MEDIUM PRESSURE RETURN DUCT FOR NEW OR AIR CONTROL VALVES.
6. PROVIDE 50 CFM SUPPLY ONLY DURING USE OF TEMPORARY TRASH ROOM. (50 CFM SUPPLY, 100 CFM EXHAUST); RE-BALANCE TO VALUES SHOWN AFTER TRASH ROOM IS REMOVED AND SPACES ARE CONVERTED TO OFFICES.
7. PROVIDE NEW ATC DAMPER IN EXISTING DUCT.
8. PRESSURE SENSOR LOCATED IN RETURN DUCT. LOCATE DOWNSTREAM OF NEW ATC TO MODULATE PRESSURE.
9. DO NOT INSTALL RETURN GRILLES IN TEMPORARY TRASH ROOM (3307A) UNTIL PHASE 2 IS COMPLETED AND THE AREA IS CONVERTED TO THE FINAL STAGES - STORAGE ROOM AND OFFICE.

GENERAL NOTES

1. REFERENCE CENTRAL PHASING PLAN FOR ALL PHASING REQUIREMENTS. NOT ALL INDIVIDUAL PHASES ARE SHOWN ON DRAWINGS. CONTRACTOR SHALL COORDINATE ALL PHASING REQUIREMENTS DURING BIDDING AND CONSTRUCTION.

1 MECHANICAL PLAN LEVEL 3 - PHASE 1
SCALE: 1/8" = 1'-0"

TRUE PROJECT

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08-10-22
No. 11573858-2202
TREVOR DONEY
STATE OF UTAH

△	DATE	REVISION
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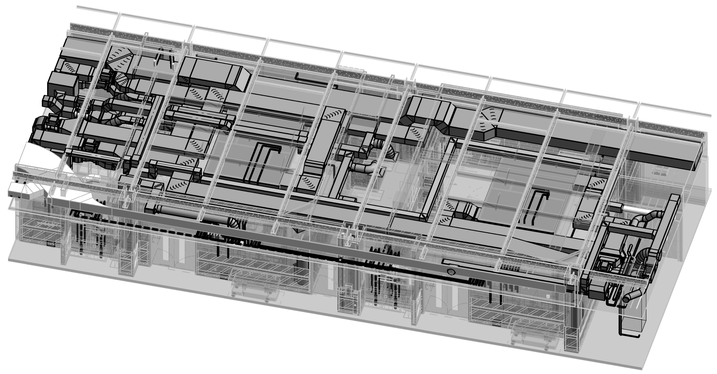
U of U PROJECT NUMBER 70366

MECHANICAL PLAN LEVEL 3 - PHASE 1

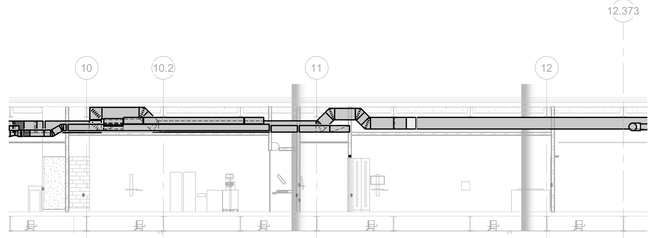
MH105.1

9/16/2022 6:02:50 PM



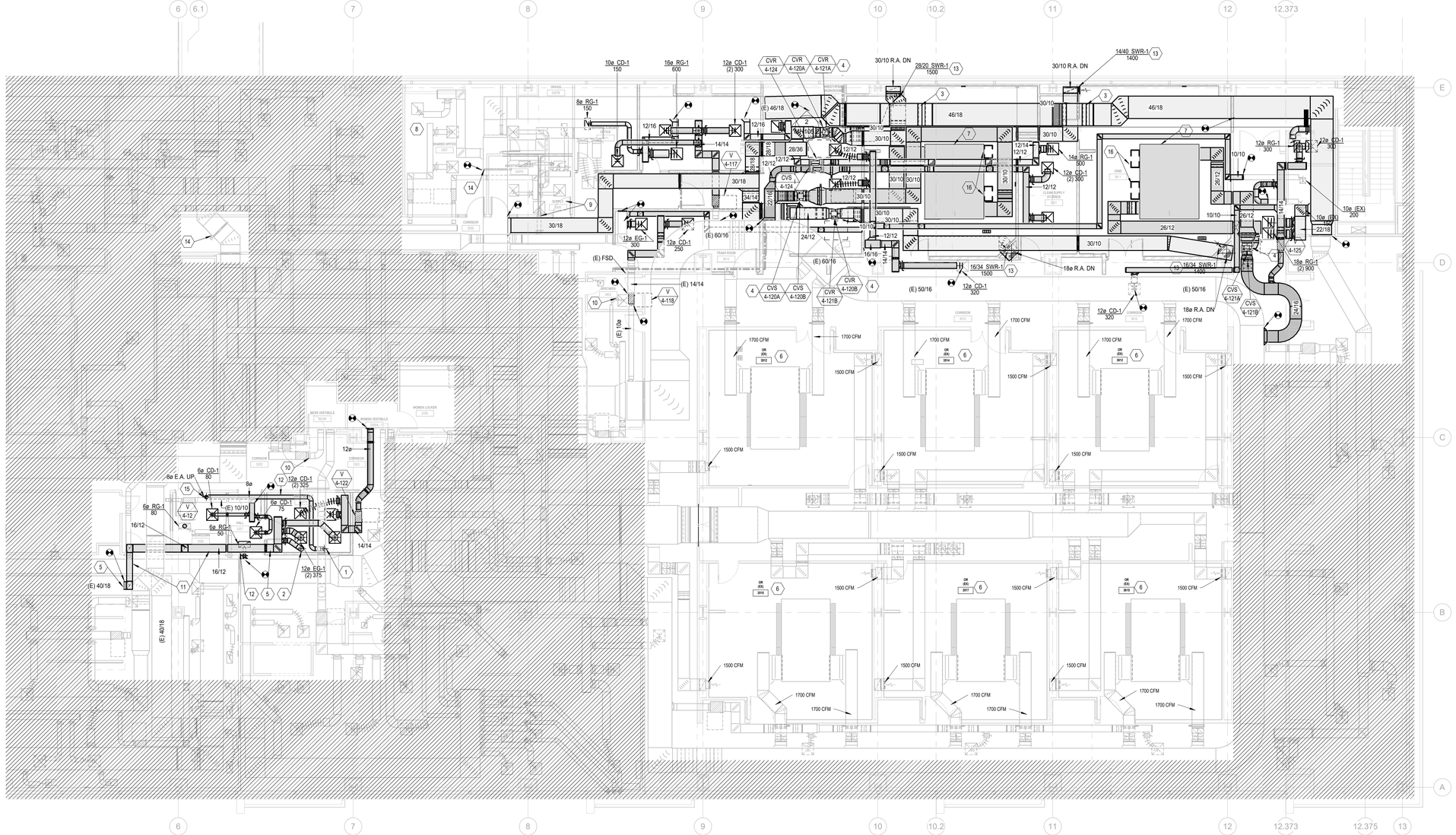
3 OR ISOMETRIC

SCALE:



2 OR SECTION VIEW

SCALE: 1/8" = 1'-0"



1 MECHANICAL PLAN LEVEL 3

SCALE: 1/8" = 1'-0"

TRUE PROJECT

REFERENCE NOTES

1. STAINLESS STEEL EXHAUST DUCT. TIE TO WASHER/DISINFECTOR VENT CONNECTION ON TOP OF EQUIPMENT. PROVIDE MANUAL ISOLATION DAMPER AT CONNECTION. WRAP IN 2 HOUR RATED FIRE WRAP FROM WASHER TO PENTHOUSE WALL ON ROOF. DUCT IS TO BE SLOPED 1/8"/12' FROM EXHAUST FAN TOWARD WASHER.
2. STAINLESS STEEL EXHAUST DUCT. TIE TO MEDIVATOR VENT CONNECTION ON TOP OF EQUIPMENT. PROVIDE MANUAL ISOLATION DAMPER AT CONNECTION. SLOPE BACK TO EQUIPMENT FOR CONDENSATE DRAINAGE.
3. ROUTE DUCT AS HIGH AS POSSIBLE.
4. LOCATE TWO AIR CONTROL VALVES VERTICALLY IN THE SAME POSITION. LOCATE CONTROLS TO ALLOW PROPER ACCESS.
5. MOISTURE LADEN EXHAUST. TIE TO EXISTING STERILE CORE EXHAUST.
6. PROVIDE TEST AND BALANCE TO ALL EXISTING ORS. BALANCE TO AIRFLOWS SHOWN. SUPPLY AIR TO BE 25 ACH, 3400 CFM. 1,700 CFM EACH SUPPLY CONTROL VALVE. CONTRACTOR TO SETUP PRESSURE RELATIONSHIPS FOR EACH OR AT +0.02" POSITIVE. CONTRACTOR TO ALSO BALANCE SUPPLY AND RETURN IN ADJACENT SPACES AND CORRIDORS TO ENSURE THERE ARE PROPER PRESSURE RELATIONSHIPS AND THERE IS NOT EXCESSIVE AIR FLOWS AND PRESSURES, TYPICAL.
7. MODULAR SINGLE LAMINAR DIFFUSER (SLD) SYSTEM. REFERENCE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ADDITIONAL DETAILS.
8. TEMPORARY ANESTHESIA ROOM. REFERENCE MASTER PHASING PLAN FOR DETAILS.
9. TEMPORARY TRASH ROOM. PROVIDE TEMPORARY EXHAUST AND NEGATIVE PRESSURIZATION. REFERENCE MASTER PHASING PLAN FOR DETAILS.
10. LOCATE VAV AND DIFFUSERS AS NEEDED TO PROVIDE EQUIPMENT CLEARANCE AND ACCESS FOR NEW WALLS AND DOORS (TYPICAL).
11. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS. EXISTING CEILING SPACE IS LIMITED IN THIS AREA. ROUTING OF DUCT MAY DIFFER THAN WHAT IS SHOWN ON THIS DRAWING.
12. SLOPE DUCT BACK TOWARDS EQUIPMENT AT 1/8" PER FOOT. PROVIDE DRAIN AT LOW POINT(S).
13. LOW RETURN AIR GRILLE. LOCATE BOTTOM OF GRILLE 8" ABOVE FINISHED FLOOR.
14. NOTE THE CRITICAL SEQUENCE OF INSTALLATION FOR NEW RETURN BOOSTER FAN AND NEW ATC DAMPERS. COORDINATE PHASING AND SHUTDOWNS WITH OWNER AND SUB CONTRACTORS.
15. EXHAUST DUCT UP TO PENTHOUSE. REFERENCE ARCHITECURAL DRAWINGS FOR REQUIREMTNSA T EACH FLOOR. THE DUCT WILL PASS THROUGH LEVELS 4, 5, AND 6. THE DUT WILL JOG IN THE CEILING OF LEVEL 6 AND
16. SLD ELECTRICAL PANEL.

GENERAL NOTES

1. REFERENCE CENTRAL PHASING PLAN FOR ALL PHASING REQUIREMENTS. NOT ALL INDIVIDUAL PHASES ARE SHOWN ON DRAWINGS. CONTRACTOR SHALL COORDINATE ALL PHASING REQUIREMENTS DURING BIDDING AND CONSTRUCTION.

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SEPTEMBER 19, 2022

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08-10-22
No. 11573858-2202
TREVOR DONEY
STATE OF UTAH

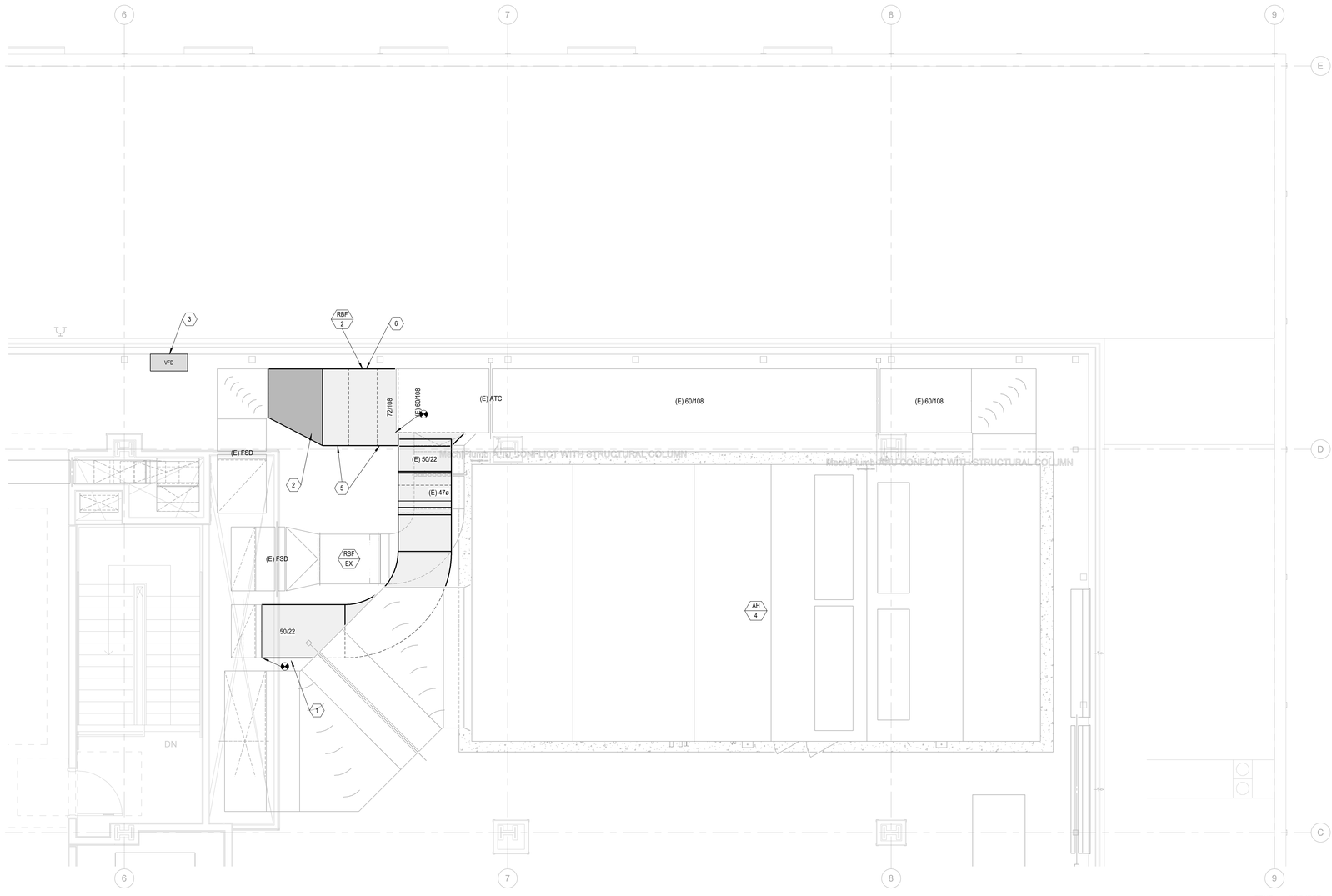
△ DATE REVISION

U of U PROJECT NUMBER 70366

MECHANICAL PLAN LEVEL 3 - PHASE 2

MH105.2

9/16/2022 6:03:06 PM



1 MECHANICAL PLAN PENTHOUSE LEVEL - PHASE 2

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

TRUE PROJECT

REFERENCE NOTES

1. EXTEND EXISTING RETURN DUCT TO NEW LOCATION SHOWN.
2. RE-BUILD RETURN PLENUM TO ACCOMMODATE NEW DUCT LOCATION AND BOOSTER FAN ARRAY.
3. VFD FOR NEW RETURN BOOSTER FAN (RBF-2).
4. EXISTING STERILIZER EXHAUST FAN THAT SERVES LEVEL 3 STERILE CORE. BALANCE EXHAUST FAN FOR NEW AIRFLOW.
5. LOCATE 60"X24" ACCESS DOORS UPSTREAM AND DOWNSTREAM OF NEW FAN ARRAY.
6. PROVIDE NEW SUPPORTS UNDER NEW FAN ARRAY.

GENERAL NOTES

1. REFERENCE CENTRAL PHASING PLAN FOR ALL PHASING REQUIREMENTS. NOT ALL INDIVIDUAL PHASES ARE SHOWN ON DRAWINGS. CONTRACTOR SHALL COORDINATE ALL PHASING REQUIREMENTS DURING BIDDING AND CONSTRUCTION.

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U of U PROJECT NUMBER 70366

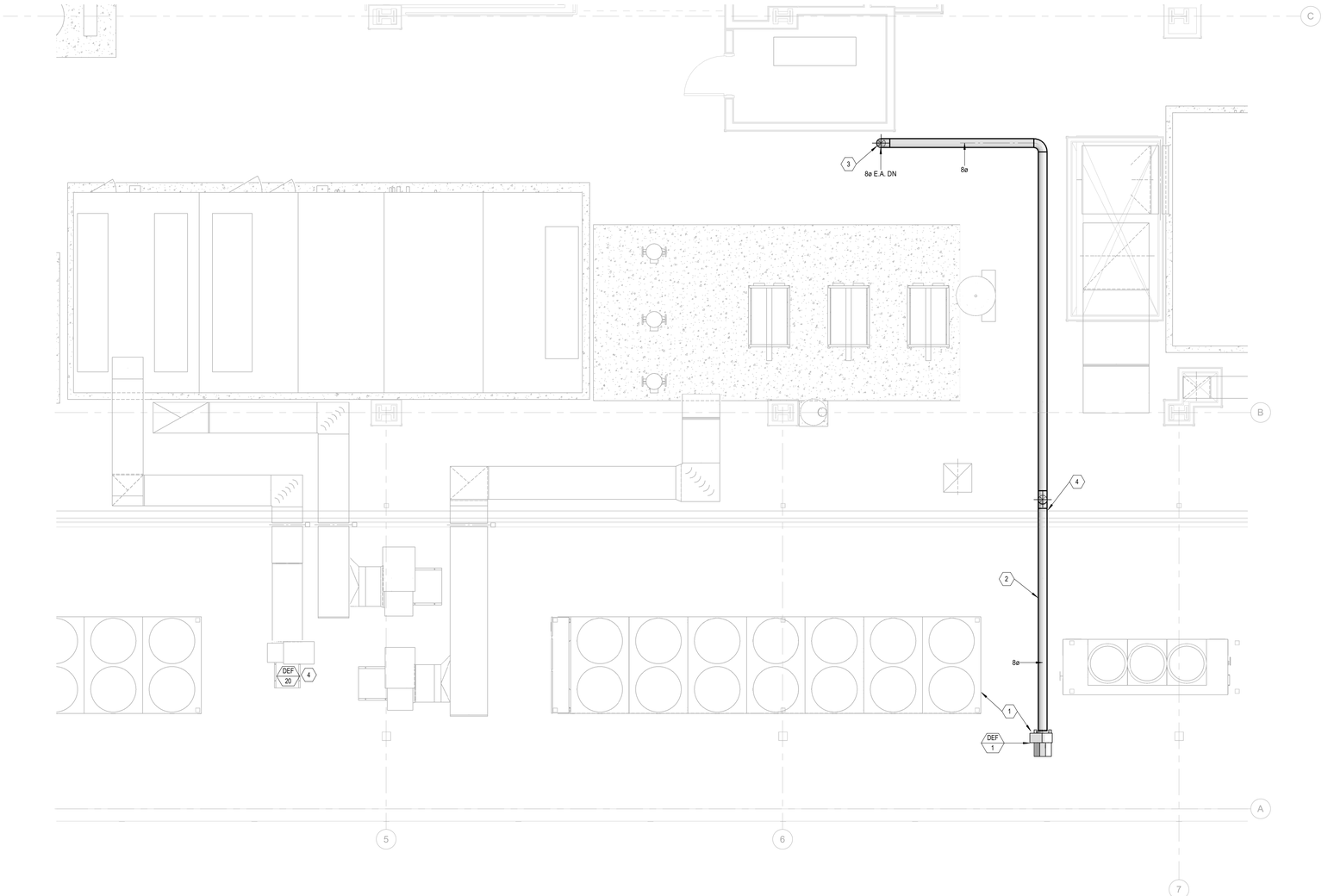
MECHANICAL PLAN PENTHOUSE LEVEL - PHASE 2

MH106.2

9/16/2022 6:03:14 PM

REFERENCE NOTES

1. LOCATE NEW EXHAUST FAN TO ALLOW INSTALLATION OF FUTURE EQUIPMENT.
2. STAINLESS STEEL DUCT IS TO BE SLOPED 1/8"/12' FROM EXHAUST FAN TOWARD DRAIN.
3. EXHAUST DUCT DOWN TO LEVEL 6. COORDINATE LOCATION WITH EXISTING ELECTRICAL PANELS AND MECHANICAL EQUIPMENT. FOLLOW ALL REQUIRED NEC AND EQUIPMENT CLEARANCES. EXHAUST DUCT REQUIRED ROUTING IN THE LEVEL 6 CEILING TO ENTER THE PENTHOUSE IN A CLEAR LOCATION.
4. STAINLESS STEEL EXHAUST DUCT. WRAP IN 2 HOUR RATED FIRE WRAP UP TO PENTHOUSE WALL.



1 MECHANICAL PLAN PENTHOUSE LEVEL - EXHAUST - PHASE 2

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

TRUE PROJECT

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MECHANICAL PLAN PENTHOUSE LEVEL - PHASE 2

MH107.2

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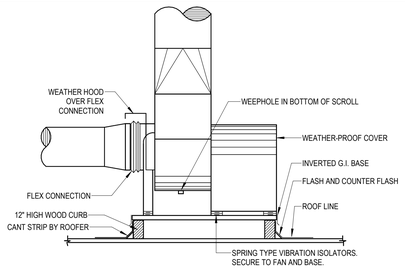
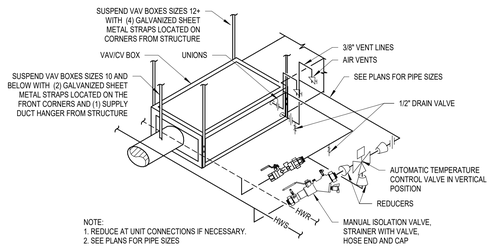


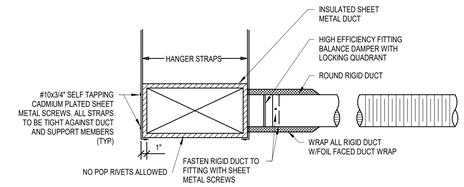
14 UTILITY EXHAUST FAN DETAIL

SCALE: NOT TO SCALE



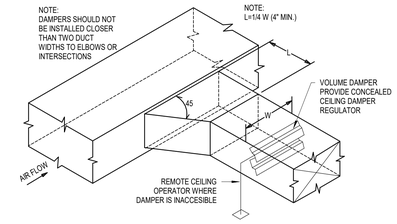
10 VAV/CV BOX PIPING DETAIL WITH 3-WAY AUTO-VALVE

SCALE: NOT TO SCALE



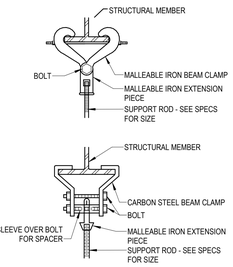
5 FLEX DUCT / HIGH EFFECIENCY FITTING

SCALE: NOT TO SCALE



1 BRANCH DUCT TAKE-OFF & DAMPER DETAIL

SCALE: NOT TO SCALE



11 BEAM CLAMPS FOR PIPE OR EQUIPMENT SUPPORT

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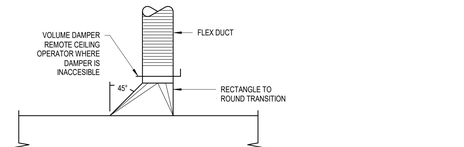

6 HIGH EFFICIENCY TAKE-OFF DETAIL

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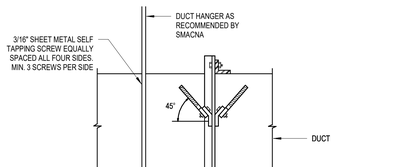
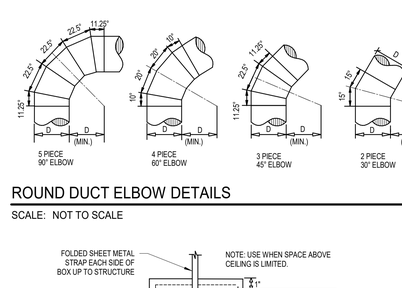


2 CABLE BRACING FOR RECTANGULAR DUCTS

SCALE: NOT TO SCALE

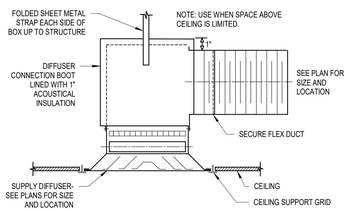


7 ROUND DUCT ELBOW DETAILS

SCALE: NOT TO SCALE

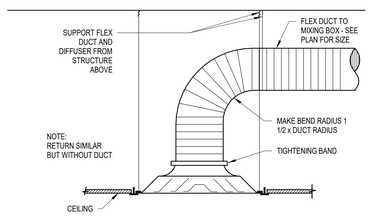
12 CABLE BRACING FOR ROUND AND OVAL DUCTS

SCALE: NOT TO SCALE



8 SUPPLY DIFFUSER W/ FLEX DUCT DETAIL

SCALE: NOT TO SCALE



3 DIFFUSER CONNECTION DETAIL

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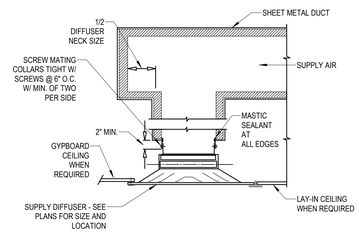

13 TYPICAL CEILING DIFFUSER/GRILLE DETAIL

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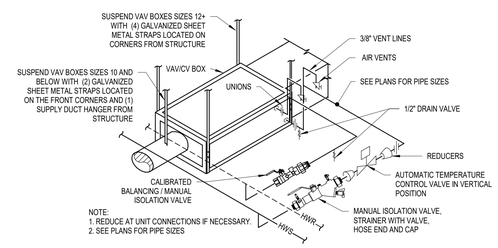
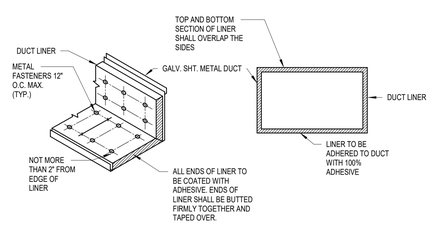


9 VAV/CV BOX PIPING DETAIL WITH 2-WAY AUTO-VALVE

SCALE: NOT TO SCALE



4 DUCT LINER DETAIL

SCALE: NOT TO SCALE

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UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

LICENSED PROFESSIONAL ENGINEER
09-10-22
No. 11573858-2202
TREVOR DONEY
STATE OF UTAH

△ DATE REVISION

U of U PROJECT NUMBER 70366

MECHANICAL DETAILS

MH501

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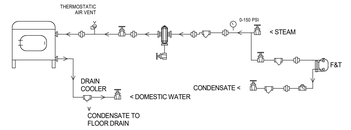

STEAM STERILIZER PIPING DETAIL

PARTIAL LEGEND

- VALVE (>2"=BALL, >2"=BUTTERFLY)
- GATE VALVE
- PLUG COCK
- BUTTERFLY VALVE
- GLOBE VALVE
- CHECK VALVE
- TEMPERATURE AND PRESSURE TEST PORT - TTE, PTE
- FLANGE
- UNION
- STRAINER WITH BLOWDOWN VALVE
- BALANCING VALVE
- PRESSURE RELIEF VALVE
- VACUUM RELIEF VALVE
- MANUAL AIR VENT
- 3-WAY CONTROL VALVE - CV
- 2-WAY CONTROL VALVE - CV
- PRESSURE GUAGE WITH SHUT-OFF COCK
- TEMPERATURE INDICATOR
- FLEXIBLE CONNECTOR
- RPBP
- EQUIPMENT
- DRAIN VALVE
- RELIEF VALVE
- PUMP W/ SUCTION DIFFUSER
- MAKE-UP — MAKE-UP WATER SELF FILL VALVE
- DRAIN VALVE WITH HOSE END
- RELIEF VALVE
- F&T TRAP
- INVERTED BUCKET STEAM TRAP
- DRIP TRAP
- PRESSURE REDUCING VALVE
- REMOVABLE FLEXIBLE CONNECTION FOR QUICK FILL
- FLOOR DRAIN/SINK
- FLUID LEVEL SENSOR
- FLUID FLOW METER / SENSOR
- FLUID FLOW INDICATING SENSOR
- FLUID PRESSURE SENSOR
- FLUID TEMPERATURE SENSOR

FFKR ARCHITECTS
730 Pacific Avenue · Salt Lake City, Utah 84104
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VBFA WWW.VBFA.COM
Murray · Logan · St. George, Tempe
181 East 5600 South
Murray, UT 84107
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VBFA Project Number: 22250

ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

LICENSED PROFESSIONAL ENGINEER
09-10-22
No. 11573858-2202
TREVOR DONEY
STATE OF UTAH

△ DATE REVISION

U of U PROJECT NUMBER 70366

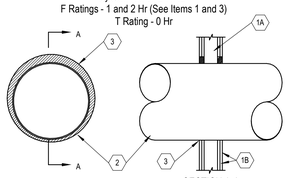
MECHANICAL DETAILS

MH502

9/16/2022 6:03:27 PM

WL 7042

System No. W-L-7042
F Ratings - 1 and 2 Hr (See Items 1 and 3)
T Rating - 0 Hr



SECTION A-A

1. Wall AssemblyThe 1 or 2 hr fire rated wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features.
   A. Studs Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced 24 in. OC.
   B. Gypsum Board* For 1 hr assembly, one layer of min 5/8 in. thick wallboard as required in the individual Wall and Partition Design. For 2 hr assembly, two layers of min 5/8 in. thick wallboard as required in the individual Wall and Partition Design. Max diam of opening is 14-1/2 in. for wood stud walls and 21-3/4 for steel stud walls.
   The hourly F and T Ratings of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through PenetrantGalv steel duct to be installed concentrically or eccentrically within the firestop system. The annular space between the duct and periphery of opening shall be 0 in. (point contact) and max 1-1/2 in. Duct to be rigidly supported on both sides of wall assembly.
   A. Spiral Wound HVAC DucNom 20 in. diam (or smaller) No. 24 MSG (or heavier) galv steel spriral wound duct.
   B. Sheet Metal Duct Nom 12 in. diam (or smaller) No. 28 MSG (or heavier) galv sheet steel duct.
3. Fill, Void or Cavity Material*--SealantMin 5/8 in. and 1-1/4 in. thickness of fill material applied within annulus, flush with both surfaces of wall assembly for 1 or 2 hr rated walls, respectively. At the point contact location between duct and wallboard, a min 1/2 in. diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.
   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI INC - CP601S Elastomeric Firestop Sealant, FS-ONE Sealant or CP606 Flexible Firestop Sealant
*Bearing the UL Classification Mark

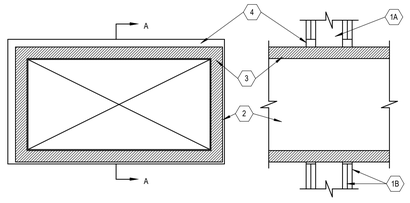
HILTI FIRESTOP SYSTEMS

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. November 30, 2000

CLASSIFIED C UL US

WL 7059

System No. W-L-7059
F Ratings - 1 and 2 Hr
T Rating - 1/2 and 3/4 Hr



SECTION A-A

1. Wall Assembly The 1 or 2 fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U400 Series or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs Wall framing shall consist of channel studs. Steel studs to be min 2-1/2 in . wide and spaced max 24 in. OC. The opening in the wll to accommodate the steel duct (item 2) shall be framed on all sides using lengths of studs installed between the vertical studs and attached to the studs at each end. The framed opening in the wall shall be a nom 6 in. wide and 12 in. or higher than the width and height of the steel duct.
   B. Wallboard, Gypsum* 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in teh individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max area of opening is 395 sq. in. with max dimensions of 26-3/4 in. for steel studs.

HILTI FIRESTOP SYSTEMS

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. March 21, 2001

CLASSIFIED C UL US

Page: 1 of 2

WL 7059

System No. W-L-7059
F Ratings - 1 and 2 Hr
T Rating - 1/2 and 3/4 Hr

2. Steel Duct Nom 24 in. by 12 in. (or smaller) 24 guage (or heavier) steel duct. to be installed eccentrically within the opening. the annular space shall be min 1 in. to max 1-3/4. Duct to be rigidly supported on both sides of the wall assembly.
3. Batt and Blanket* - Max 1-1/2 thick glass fiber batt or blankett (min. 3.4 pcf) jacketed on the outside with a foil-scrim-kraft facing. compressed 50% such that the annular space within the firestop system shall be min 1/4 in. to max 1 in. See Batts and Blankets (BKNV) category in the Building Materials Directory for names manufacturers. Any batt or blanket meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a smoke Developed Index 50 or less may be used.
4. Fill, Void or Cavity Material* - Sealant Min 5/8 in. or 1-1/4 in. thickness of fill material applied within the annulus, flush with both surfaces of wall for 1 or 2 hr walls, respectively. If voids develops after the fill material cures, the voids shall be sealed with additional fill material.
   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI INC - FS-One Sealant
*Bearing the UL Classification Mark

HILTI FIRESTOP SYSTEMS

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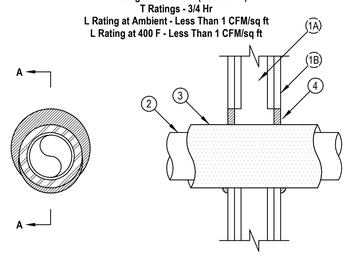
CLASSIFIED C UL US

Page:2 of 2

WL 5028

System No. W-L-5028
F Ratings - 1 and 2 Hr (See Item 1)
T Ratings - 3/4 Hr
L Rating at Ambient - Less Than 1 CFM/sq ft
L Rating at 400 F - Less Than 1 CFM/sq ft



SECTION A-A

1. Wall Assemblv — The 1 or 2 hr fire-rated avpsum wallboard/stud wall assemblv shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

   A. Studs — Wall framina mav consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.
   B. Gvpsum Board* — 5/8 in. thick. 4 ft wide with square or tapered edaes. The avpsum wallboard tvpe. thickness. number of lavers. fastener tvpe and sheet orientation shall be as specified in the individual Wall and Partition Desian. Max diam of opening is 7-1/2 in. The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. Through Penetrants — One metallic pipe or tubina to be centered within the firestop svstem. Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or tubing may be used:

   A. Steel Pipe — Nom 4 in. diam (or smaller) Schedule 40 (or heavier) steel pipe.
   B. Copper Tubina — Nom 2 in. diam (or smaller) Tvpe L (or heavier) copper tubing.
   C. Copper Pipe — Nom 2 in. diam (or smaller) Regular (or heavier) copper pipe.
3. Tube Insulation — Plastics+ — Nom 3/4 in. thick acrvlonitrilr butadiene/polvvinvl chloride (AB/PVC) flexible foam furnished in the form of tubing. An annular space of min 0 in. (point contact) to max 1-1/2 in. is required within the firestop system.

   See Plastics+ (QMFZ2) categorv in the Recognized Component Directorv for names of manufacturers. Anv Recognized Component tube insulation material meetina the above specifications and havina a UL 94 Flammabilitv Classification of 94-5VA mav be used.
   The hour T Ratina of the firestop svstem is dependent on the hourly fire rating of the wall assembly in which it is installed, the size and type of through penetrant and the pipe covering thickness, as shown in the table below:

Wall Assembly Hr Rating	Type +	Through Penetrant Max Diam In.
1	A	4
1	A, B, or C	2
2	A	4
2	A, B, or C	2

+Indicates penetrant type as itemized in Item 2.

4. Fill, Void or Cavitv Material* — Sealant — Min 5/8 in. thickness of fill material applied within the annulus. flush with both surfaces of wall. At the point contact location between pipe coverina and avpsum wallboard, a min 1/2 in. diam bead of fill material shall be applied at the pipe covering/gypsum wallboard interface on both surfaces of wall.

   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI INC — FS-ONE Sealant

*Bearing the UL Classification Mark

Hilti Firestop Systems

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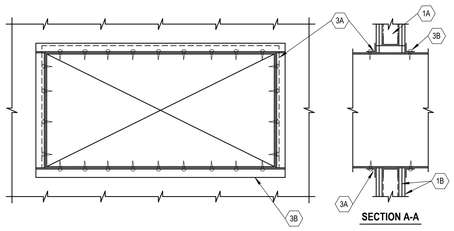
CLASSIFIED C UL US

WL 7040

System No. W-L-7040
F Ratings — 1 and 2 Hrs (See Items 1 and 3)
T Rating — 0 Hr



SECTION A-A

1. Wall Assembly — The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. Additional framing members shall be used to completely frame around opening.
   B. Gypsum Board* — Nom 5/8 in. thick with square or tapered edges. The gypsum wallboard type, number of layers and sheet orientation shall be as specified in the individual Wall and Partition Design Number. Max area of opening is 1300 in. with the dimension of 50 in. The hourly F rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Steel Duct — Nom 24 in. by 48 in. (or smaller) No. 24 gauge (or heavier) galv steel duct to be installed within the firestop system. The annular space shall be min 0 (point contact) in. to a max 2 in. Duct to be rigidly supported on both sides of the wall assembly.
3. Firestop System — The firestop system shall consist of the following:
   A. Fill, Void or Cavity Material* —Sealant — Min 5/8 in. thickness of fill material applied within annulus flush with both surfaces of wall. At point contact location, a min 1/2 in. diam bead of fill material shall be applied to the wall/duct interface on both surfaces of wall.
      HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant, CP601S Elastomeric Firestop Sealant or CP606 Flexible Sealant.
   B. Steel Retaining Angle — No. 18 MSG (0.048 in.) galv steel angles cut to fit contour of duct with a 2 in. overlap on the duct and a min 1 in. overlap on the gypsum board assembly on both sufaces of wall. 2 in. leg of angle secured to duct with min No. 8 by 3/4 in. long sheet metal screws, spaced a max of 6 in. OC. When bead of fill material is used at joint contact locations, angles shall be installed prior to full material curing.
*Bearing the UL Classification Mark

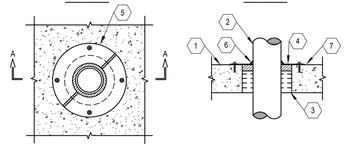
HILTI FIRESTOP SYSTEMS

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. November 13, 2001

CLASSIFIED C UL US

WL C-BJ-1034

UL/cUL SYSTEM NO. C-BJ-1034
METALLIC PIPE THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL



1. CONCRETE FLOOR OR WALL ASSEMBLY (4-HR FIRE RATING.
   A. KIGHTWEIGHT OR NORMA WEIGHT CONCRETE FLOOR (MIN 5-1/2" THICK)
   B.LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL (MIN 6" THICK)
   C.ANY UL/ULC CLASSIFIED CONCRETE BLOCK WALL
2. PENETRATING ITEM TO BE ANY ONE OF THE FOLLOWING:
   A. MAXIMUM 4" NORMAL DIAMETER STEEL PIPE (SCHEDULE 40 OR HEAVIER)
   B. MAXIMUM 4" NORMAL DIAMETER STEEL CONDUIT.
   C. MAXIMUM 4" NORMAL DIAMETER EMT.
3. MINIMUM 4" THICKNESS MINERAL WOOL (MIN 4 PCF DENSITY) TIGHTLY PACKAGED.
4. MINIMUM 1" DEPTH HILTI FS-ONE INTUMESCENT FIRESTOP SEALANT.
5. MINIMU 18 GA. SHEET METAL COVER PLATE SECURELY ATTACHED WITH HILTI POWDER ACTIVATED FASTNERS (X-2F 27 PINS)
6. MINIMUM 1/2" BEAD HILTI FS-ONE INTUMESCENT FIRESTOP SEALANT AT INTERFACE BETWEEN COVERPLATE AND PIPE.
7. SEE NOTE NO. 3 BELOW.

NOTES: 1. MAXIMUM DIAMTER OF OPENING=10-1/2".
2. ANNULAR SPACE = MINIMUM 3/4". MAXIMUM 3".
3. PROVIDE A GENEROUS BEAD OF HILTI FS-ONE INTUMESCENT FIRESTOP SEALANT ALONG EDGE OF COVER PLATE.
4. INSIDE DIAMETER OD STEEL PLATE SHOULD BE SAME AS PIPE OUTSIDE DIAMTER. OUTSIDE DIAMETER OF STEEL PLATE IS TO BE SIZED MINIMUM 1-1/2" LARGER THAN PERIPHERY OF OPENING.

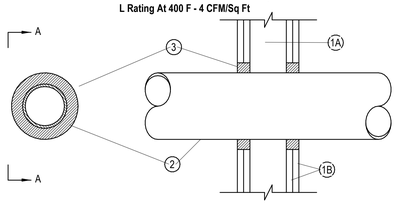
HILTI FIRESTOP SYSTEMS

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. December 07, 2002

CLASSIFIED C UL US

WL 1054

System No. W-L-1054
F Ratings - 1 and 2 Hr (See Items 1 and 3)
T Rating - 0 Hr
L Rating At Ambient - Less Than 1 CFM/Sq Ft
L Rating At 400 F - 4 CFM/Sq Ft



SECTION A-A

1. Wall Assembly -- The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs -- Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. wider and 4 to 6 in. higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board* -- 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. for steel stud walls. Max diam of opening is 14-1/2 in. for wood stud walls.
   The F Rating of the firestop system is equal to the fire rating of the wall assembly.

2. Through-Penetrants -- One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. Pipe may be installed with continuous point contact. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe -- Nom 30 in diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe -- Nom 30 in. diam (or smaller) cast or ductile iron pipe.
   C. Conduit -- Nom 4 in diam (or smaller) steel electrical metallic tubing or 6 in. diam steel conduit.
   D. Copper Tubing -- Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe -- Nom 6 in. diam (or smaller) regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material* -- Sealant -- Min 5/8 in. thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI INC -- FS-One Sealant
*Bearing the UL Classification Mark

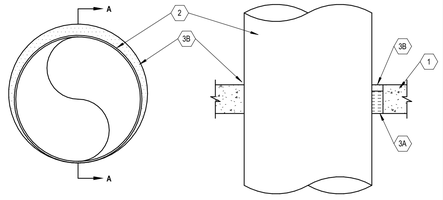
Hilti Firestop Systems

Reproduced bv HILTI. Inc. Courtesy of Underwriters Laboratories, Inc. December 4, 2002

CLASSIFIED C UL US

CAJ 7084

System No. C-AJ-7084
F Rating - 2 Hr
T Rating - 0 Hr



SECTION A-A

1. Floor or Wall Assembly - Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 21-3/4 in.
   See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Through Penetrant - Galv steel duct to be installed concentrically or eccentrically within the firestop system. The annular space between the duct and periphery of opening shall be 0 in. (point contact) and max 1-1/2 in. Duct to be rigidly supported on both sides of wall assembly.
   A. Spiral Wound HVAC Duct - Nom 20 in. diam (or smaller) No. 24 MSG (or heavier) galv steel spiral wound duct.
   B. Sheet Metal Duct - Nom 12 in. diam (or smaller) No. 28 MSG (or heavier) galv sheet steel duct.
3. Firestop System - The firestop system shall consist of the following:
   A. Packing Material - Min 3-1/2 in. thickness of min 4.0 pcf mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or both surfaces of wall to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material*-Sealant - Min 1 in. thickness of fill material applied within annulus, flush with top surface of floor or both surfaces of wall assembly. At the point contact location between duct and periphery of opening, a min 1/2 in. diam bead of sealant shall be applied at the concrete/duct interface.
   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI INC - FS-ONE Sealant, CP601S Elastomeric Firestop Sealant, CP606 Flexible Firestop Sealant or CP 604 Self-Leveling Firestop Sealant.
   (Note: CP 604 Self-Leveling Firestop Sealant to be used on floor assemblies only.)
*Bearing the UL Classification Mark

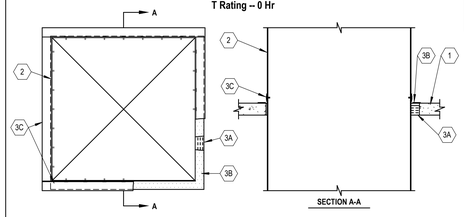
HILTI FIRESTOP SYSTEMS

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. July 08, 2003

CLASSIFIED C UL US

CAJ 7111

System No. C-AJ-7111
F Rating -- 2 Hr
T Rating -- 0 Hr



1. Floor or Wall Assembly -- Min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete floor or min 3 in. (76 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete wall. Wall may also be constructed of any UL Classified Concrete Blocks*. Max area of opening is 7.1 sq ft (0.66 m2) with max dimension of 32 in. (813 mm).
   See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Steel Duct -- Max 30 by 30 in. (762 by 762 mm) No. 24 gauge (or heavier) steel duct. One duct to be installed within the firestop system with a min 1/4 in. (6 mm) to max 1-3/4 in. (44 mm) annular space. Steel duct to be rigidly supported on both sides of floor or wall assembly.
3. Firestop System -- The firestop system shall consist of the following:
   A. Packing Material -- Min 2 in. (51 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material* -- Sealant -- Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- FS-One Sealant
   C. Steel Angle -- Min 2 in. (51 mm) wide by 2 in. (51 mm) high No. 16 gauge (or heavier) steel angle cut to fit the contour of the duct with a min 1/4 in. (6 mm) lap on the top surface of floor or on both surfaces of wall on all sides of the opening. Legs of angles secured to duct with No. 8 by 3/4 in. (19 mm) long steel sheet metal screws spaced max 4 in. (102 mm) OC.
*Bearing the UL Classification Mark

HILTI FIRESTOP SYSTEMS

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CLASSIFIED C UL US

9 HILTI-C-AJ-7111
SCALE: 12" = 1'-0"

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801.538.3159 F
VBFA Project Number: 22250

ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

LICENSED PROFESSIONAL ENGINEER
09-20-22
No. 11373858-2202
TREVOR DONEY
STATE OF UTAH

△ DATE REVISION

U of U PROJECT NUMBER 70366

MECHANICAL DETAILS

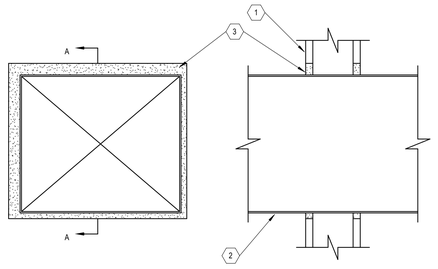
MH503

9/16/2022 6:03:31 PM

REFERENCE NOTES

System No. W-L-7096
F Rating - 1 Hr
T Rating - 0 Hr

W-L-7096



SECTION A-A

1. Wall Assembly -- The 1 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs --Wall framing to consist of min 3-1/2 in. wide steel channel studs, fabricated from 25 MSG galv steel, spaced max 24 in. OC.
   B. Gypsum Board* --One layer of nom 5/8 in. thick gypsum board, as specified in the individual Wall and Partition Design. Max area of opening is 202 sq in. with max dimension of 15-1/4 in.
2. Steel Duct --Nom 12 in by 14 in. (or smaller) No. 24 gauge (or heavier) galv steel duct to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min ¼ in. to max 1 in. Duct to be rigidly supported on both sides of the wall assembly.
3. Fill, Void or Cavity Material - Sealant* --Min 5/8 in. thickness of fill material applied within annular space, flush with both surfaces of wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC -- FS-ONE Sealant
*Bearing the UL Classification Mark

HILTI® FIRESTOP SYSTEMS

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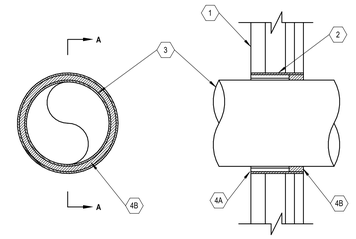
CLASSIFIED UL C US

System No. W-L-7068
F Ratings - 1 and 2 Hr (See Items 1 and 4)
T Rating - 0 Hr

W-L-7068



SECTION A-A

HILTI® FIRESTOP SYSTEMS

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CLASSIFIED UL C US

Page: 1 of 2

System No. W-L-7068
F Ratings - 1 and 2 Hr (See Items 1 and 4)
T Rating - 0 Hr

W-L-7068

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of of the materials and in the manner described in the individual U400 or V400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

   A. Studs — "C-T" shaped studs -1-5/8 in. wide by 2-1/2 in. deep, fabricated from 25 MSG galv steel, spaced max 24 in. OC.
   B. Gypsum Board* — One layer of nom 1in. thick, 24 in. wide gypsum liner and one or two layers of nom 5/8 in. thick, 4 ft. wide gypsum board with square or tapered edges. The gypsum board type, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 7 in.

1A. Wall Assembly — As an alternate to the above wall assembly, the 1 or 2 Hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC.
   B. Gypsum Board* — Thickness, type, number of layers and fasteners as required in the individual Wall and Partition Design. Max diam of opening is 7 in.

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. Metallic Sleeve — Max 7 in. diam cylindrical sleeve fabricated from min 0.016 in. thick (28 gauge) galv sheet steel and having a min 1 in. lap along the longitudinal seam. Length of steel sleeve to be equal to thickness of wall. Sleeve installed by coiling the sheet steel to a diam smaller than the through opening, inserting the coil through the opening and releasing the coil to let it uncoil against the circular cutouts in the gypsum board layers. Sleeve may also be formed of No. 8 steel wire mesh having a min 1 in. lap along the longitudinal seam.

3. Steel Duct — Nom 6 in. diam (or smaller) No. 28 gauge (or heavier) galv steel duct to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 1/4 in. to max 3/4 in. Duct to be rigidly supported on both sides of the wall assembly.

4. Firestop System — The firestop system shall consist of the following:

   A. Packing Material — Min 2-1/8 or 2-3/4 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into sleeve on one side of the wall as a permanent form for 1 and 2 hr walls, respectively. Packing material to be recessed from the room side of wall as required to accommodate the required thickness of fill material. In alternate wall assembly, packing material to be flush with either side of the wall and recessed from the other side of the wall to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material — Sealant* — Min 1 in. thickness of fill material applied within opening, flush with one surface of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI INC — FS-ONE Sealant

*Bearing the UL Classification Mark

HILTI® FIRESTOP SYSTEMS

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

LICENSED PROFESSIONAL ENGINEER
09-10-22
No. 11573858-2202
TREVOR DONEY
STATE OF UTAH

△ DATE REVISION

U of U PROJECT NUMBER 70366

MECHANICAL DETAILS

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VAV BOX SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	INLET SIZE (IN)	AIR: COOLING AIR (5) (CFM)	AIR: HEATING AIR (CFM)	AIR: MINIMUM AIR (3) (CFM)	AIR: ENTERING AIR TEMP. DB (DEG. F)	AIR: LEAVING AIR TEMP. DB (DEG. F)	AIR: S.P. LOSS AT MAX CFM (4) (IN H20)	FLUID (2): NC AT 1" H2O (1) S.P.	FLUID (2): HEAT LOAD (MB)	FLUID (2): TOTAL FLUID FLOW (GPM)	FLUID (2): ENT. FLUID TEMP (DEG. F)	FLUID (2): WORKING FLUID	COIL: MAX. FLUID PRESSURE DROP (FT)	COIL: MIN. COIL ROWS	COIL: PIPE SIZE (IN)	COIL: BALANCING VALVE SIZE (IN)	REMARKS
V-4-113	TITUS-ESV-3	8	550	330	145	52	100	0.65	28	17.4	1.5	140	H. WATER	1	2	3/4	1/2	1,2,3,4,5,6
V-4-114	TITUS-ESV-3	8	570	342	145	52	100	0.65	28	17.4	1.5	140	H. WATER	1	2	3/4	1/2	1,2,3,4,5,6
V-4-115	TITUS-ESV-3	8	310	186	145	52	100	0.65	28	17.4	1.5	140	H. WATER	1	2	3/4	1/2	1,2,3,4,5,6,7
V-4-116	TITUS-ESV-3	6	215	129	80	52	100	0.5	28	9.9	1	140	H. WATER	1	2	3/4	1/2	1,2,3,4,5,6
V-4-117	TITUS-ESV-3	10	1100	660	230	52	100	0.65	26	27..3	2	140	H. WATER	1	2	3/4	3/4	1,2,3,4,5,6
V-4-118	TITUS-ESV-3	8	250	150	145	52	100	0.65	28	17.4	1.5	140	H. WATER	1	2	3/4	1/2	1,2,3,4,5,6,7
V-4-122	TITUS-ESV-3	10	650	390	230	52	100	0.65	26	27..3	2	140	H. WATER	1	2	3/4	3/4	1,2,3,4,5,6
V-4-125	TITUS-ESV-3	10	770	462	230	52	100	0.65	26	27..3	2	140	H. WATER	1	2	3/4	3/4	1,2,3,4,5,6

1. MAXIMUM DISCHARGE NC AT BOX DIFFENTIAL PRESSURE BASED ON ARI STANDARD 880-89
2. COIL HEATING CAPACITY BASED ON HEATING MAIXIMUM AIR FLOW (60% OF MAXIMUM COOLING CFM).
3. MINIMUM CFM IS LOWEST CONTROLLABLE CFM SETTING (BASED ON 400 FPM INLET VELOCITY).
4. MAXIMUM STATIC PRSSURE DROP PERMISSABLE ACROSS BOX AND COIL AT MAXIMUM COOLING CFM.
5. BOX COOLING MAXIMUM IS THE SUM OF DIFFUSERS CFM VALUES AS SHOWN IN THE DRAWINGS. BOX MINIMUM CFM TO BE SET AT 30% OF THIS MAXIMUM. BOX HEATING CFM TO BE SET AT 60% OF THIS SAME MAXIMUM. TYPICAL UNLESS OTHERWISE NOTED.
6. PRESSURE INDEPENDENT TYPE BOX.
7. INSPECT EXISTING VAV BOX V-4-30 FOR RE-USE

CONTROL DAMPER SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	AIR TYPE	CONTROL TYPE	BLADE TYPE	AIR: MAXIMUM AIRFLOW RATE (CFM)	AIR: STATIC PRESSURE (IN. WATER)	ELECTRICAL: VOLT/PH/HZ	PHYSICAL: WIDTH/ HEIGHT OR DIAMETER (IN)	NOTES
ATCD-1	GREENHECK	LEVEL 3	RETURN	MOTORIZED	OPPOSED BLADE	*7,000	VARIES	120/1/60	50/22	1
ATCD-2	GREENHECK	LEVEL 3	RETURN	MOTORIZED	OPPOSED BLADE	7,500	VARIES	120/1/60	40/22	

1. ESTIMATED AIR FLOW. AIRFLOW WILL VARY.

GRILLES, REGISTERS AND DIFFUSERS

ID	MANUFACTURER	MODEL	MAX NC	DESCRIPTION
CD-1	PRICE	SPD	25	SQUARE PLAQUE FACE CEILING DIFFUSERS: REMOVABLE FACE, FRAME SHALL BE FOR LAY-IN MOUNTING OR SURFACE MOUNT AS REQUIRED BY CEILING TYPE. LAY-IN FRAMES SHALL BE 24"X24" OR 12"X12" AS REQUIRED TO FIT CEILING TILE SPACE AVAILABLE. HARD LID CEILING OTHER THAN PATIENT RESTROOMS TO BE 24"X24" OR 12"X12" AS REQUIRED TO FIT CEILING SPACE AVAILABLE WITH LAY-IN PLASTER FRAME. HARD LID CEILING AT PATIENT RESTROOM TO BE 12"X12" SURFACE MOUNT. FINISH AS SELECTED BY ARCHITECT.
LS-1	PRICE	AS	25	LINEAR SLOT DIFFUSER: SLOT WIDTH, LENGTH AND QUANTITY AS LISTED ON THE DRAWINGS. BORDER STYLE SHALL BE SELECTED BY ARCHITECT TO MATCH CEILING CEILING SYSTEM. DIFFUSER TO HAVE INSULATED PLENUM AND FRAME TYPE TO MATCH CEILING CONSTRUCTION. LINEAR DIFFUSER SHALL HAVE A CONTINUOUS LOOK. IN AREAS WHERE CEILING CURVES THE DIFFUSER SHALL ALSO CURVE. SUPPLIER SHALL VERIFY WITH ARCHITECT AND/OR ENGINEER THE EXACT ARCH OF THE LINEAR DIFFUSERS. ALL INTERIOR COMPONENTS OF THE LINEAR DIFFUSER AND PLENUM SHALL BE PAINTED FLAT BLACK. FINISH AS SELECTED BY ARCHITECT. BORDERS ARE TO BE AS FOLLOWS: LINEAR DIFFUSERS IN LAY IN CEILING: BORDER 21 LINEAR DIFFUSERS UP AGAINST WALL: BOADER 51 ALL OTHER LINEAR DIFFUSERS: BORDER 41
LR-1	PRICE	AS	25	LINEAR SLOT RETURN: SLOT WIDTH, LENGTH AND QUANTITY AS LISTED ON THE DRAWINGS. BORDER STYLE SHALL BE SELECTED BY ARCHITECT TO MATCH CEILING CEILING SYSTEM. DIFFUSER TO HAVE INSULATED PLENUM AND FRAME TYPE TO MATCH CEILING CONSTRUCTION. LINEAR DIFFUSER SHALL HAVE A CONTINUOUS LOOK. IN AREAS WHERE CEILING CURVES THE DIFFUSER SHALL ALSO CURVE. SUPPLIER SHALL VERIFY WITH ARCHITECT AND/OR ENGINEER THE EXACT ARCH OF THE LINEAR DIFFUSERS. ALL INTERIOR COMPONENTS OF THE LINEAR DIFFUSER AND PLENUM SHALL BE PAINTED FLAT BLACK. FINISH AS SELECTED BY ARCHITECT. FOR PLENUM SYSTEMS PROVIDE WITH SITE BAFFLE
RG-1	PRICE	PDDR	25	PERFORATED GRILLE: FRAME SHALL BE FOR LAY-IN MOUNTING OR SURFACE MOUNT AS REQUIRED BY CEILING TYPE. LAY-IN FRAMES SHALL BE 24"X24" OR 24"X12" AS REQUIRED TO FIT CEILING TILE SPACE AVAILABLE. HARD LID CEILING TO BE 24"X24" OR 24"X12" AS REQUIRED TO FIT CEILING SPACE AVAILABLE WITH LAY-IN PLASTER FRAME. FINISH AS SELECTED BY ARCHITECT.
SWS-1	PRICE	610	30	ALUMINUM SUPPLY AIR GRILLE: DOUBLE DEFLECTION BLADES WITH 3/4 IN. ON CENTER SPACING. 1-1/4" FLAT SURFACE MOUNTING FRAME FRONT BLADES PARELLEL TO SHORT DIMENSION. FINISH AS SELECTED BY ARCHITECT.
SWR-1	PRICE	630	30	ALUMINUM RETURN/EXHAUST GRILLE: GRILLES SHALL BE 45 DEGREE DEFLECTION FIXED LOUVER WITH 3/4 IN. ON CENTER SPACING, BLADES SHALL RUN PARALLEL TO THE LONG DIMENSION. FINISH AS SELECTED BY ARCHITECT.
EG-1	PRICE	PDDR	25	PERFORATED GRILLE: FRAME SHALL BE FOR LAY-IN MOUNTING OR SURFACE MOUNT AS REQUIRED BY CEILING TYPE. LAY-IN FRAMES SHALL BE 24"X24" OR 24"X12" AS REQUIRED TO FIT CEILING TILE SPACE AVAILABLE. HARD LID CEILING OTHER THAN PATIENT RESTROOMS TO BE 24"X24" OR 24"X12" AS REQUIRED TO FIT CEILING SPACE AVAILABLE WITH LAY-IN PLASTER FRAME. HARD LID CEILING AT PATIENT RESTROOM TO BE 12"X12" SURFACE MOUNT. FINISH AS SELECTED BY ARCHITECT.

EXHAUST AIR FAN SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	QUAN.	TYPE	AIR: MAXIMUM AIRFLOW RATE (CFM)	AIR: STATIC PRESSURE (IN. H2O)	FAN: MAX AIR TEMP. (°F)	FAN: FAN SPEED (RPM)	FAN: FAN WHEEL DIA. (IN)	FAN: STATIC EFFICIENCY (%)	ELECTRICAL: MOTOR SIZE (HP)	ELECTRICAL: MOTOR BHP (HP)	ELECTRICAL: MOTOR SPEED (RPM)	ELECTRICAL: VOLT/PH/HZ	PHYSICAL: LENGTH/ WIDTH/ HEIGHT (IN)	NOTES
DEF-1	GREENHECK USF-08	LEVEL 6 ROOF	1	FORWARD CURVED UTLITY	300	0.75	74	1453	NA	NA	0.25	0.08	1750	230/1/60		1-4

1. PROVIDE WITH BACK DRAFT DAMPER
2. FAN TO BE PROVIDED WITH VFD BY MECHANICAL
3. PROVIDE FAN WITH, THERMAL OVERLOAD PROTECTION, DISCONNECT SWITCH, VIBRATION ISOLATION AND FLEXIBLE CONNECTIONS.
4. OVERLOAD PROTECTION, DISCONNECT SWITCH, VIBRATION ISOLATION AND FLEXIBLE CONNECTIONS.

FAN WALL SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	NUMBER OF FANS IN FAN WALL	QUANTITY OF FAN WALLS	AIR: MAXIMUM AIRFLOW RATE PER FAN WALL (CFM)	AIR: STATIC PRESSURE (IN. WATER)	FAN: FAN (CFM PER FAN)	FAN: OUTLET VELOCITY PER FAN (FPM)	FAN: FAN SPEED (RPM)	FAN: DRIVE	FAN: FAN WHEEL DIAMETER (IN)	FAN: STATIC EFFICIENCY (%)	ELECTRICAL: MOTOR SIZE PER FAN (HP)	ELECTRICAL: BHP TOTAL (HP)	ELECTRICAL: MOTOR SPEED (RPM)	ELECTRICAL: VOLT/PH/HZ	ELECTRICAL: TOTAL FLA	PHYSICAL: CELL SIZE H/W/D (IN)	PHYSICAL: LENGTH/ WIDTH/ HEIGHT (IN)	PHYSICAL: FAN CELL OPERATING WEIGHT (LBS)	NOTES
RBF-2	HUNTAIR 20-80-182T-35x36x27-C2	PENTHOUSE	RETURN	6	1	25,000	3.6	4,166	605	2049	DIRECT	20	NA	3.5	21	VARIES	460 / 3 / 60	27	36/36/27	27/72/105	2,400	ALL

1. MANUFACTURER PROVIDED VARIABLE FREQUENCY DRIVE(S), INCLUDE OPTIMZATION CONTROL SOFTWARE. LOCATE VFDS REMOTELY ON WALL. SEE DRAWING FOR LOCATION.
2. ELECTRICAL - HIGH VOLTAGE POWER WIRE TO SERVICE DISCONNECT
3. ELECTRICAL - 120V/1 POWER TO THE CONTROL PANEL. WIRED FROM DISCSONNECT TO DRRIVE OUTPUTS.
4. ELECTRICAL - MOUNTING OF THE CONTROL PANEL AND DISCONNECT PANEL
5. ELECTRICAL - WIRING OFF THE MAIN POWER FEEDS TO EACH OF THE VFD'S (SUPPLIED BY HUNTAIR) WITH TAPS AND ELECTRICAL WIRE
6. ELECTRICAL - WIRING FROM VFD TO MOTORS (MOTORS SUPPLIED BY HUNTAIR). AVAILABLE DURING START-UP FOR CHANGING PHASING IF REQUIRED FOR FANS TO TURN CORRECT DIRECTION (ALL MOTORS).
7. CONTROLS - PROVIDE BACNET CONNECTIONS.
8. CONTROLS - PROVIDE ANY HARD WIRE START/STOP, SAFETIES, AND FAN CONTROL SIGNALS.
9. INLCUDE INTEGRAL BACKDRAFT DAMPER FOR EACH CELL.

SPACE SCHEDULE

ID	LOCATION	HEATING: SUPPLY AIRFLOW (CFM)	HEATING: RETURN AIRFLOW (CFM)	HEATING: PRESSURIZATION AIRFLOW (CFM)	HEATING: VENTILATION AIRFLOW (CFM)	HEATING: TARGET SPACE AIR DB/RH (°F/%)	COOLING: SUPPLY AIRFLOW (CFM)	COOLING: RETURN AIRFLOW (CFM)	COOLING: PRESSURIZATION AIRFLOW (CFM)	COOLING: VENTILATION AIRFLOW (CFM)	COOLING: TARGET SPACE AIR DB/RH (°F/%)	NOTES
OR #7 ROBOTIC ASSISTED	LEVEL 3	3,500	3,000	500		72/40	3,500	3,000	500		65/40	
OR #8	LEVEL 3	600	500	100		72/40	600	500	100		65/40	
CLEAN SUPPLY STORAGE	LEVEL 3	3,300	2,800	500		72/40	3,300	2,800	500		65/40	

AIRFLOW CONTROL VALVE SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	AIR: AIR TYPE	AIR: MAXIMUM AIRFLOW RATE (CFM)	AIR: STATIC PRESS. (IN. H2O)	PHYSICAL: LENGTH/ WIDTH/ HEIGHT (IN)	NOTES
CVR-4-120A	PHOENIX TSVA210M-ALNHZ	LEVEL 3	VENTURI, VARIABLE, HORIZ	RETURN	1,500	1	24.75/20.13/16.12	
CVR-4-120B	PHOENIX TSVA210M-ALNHZ	LEVEL 3	VENTURI, VARIABLE, HORIZ	RETURN	1,500	1	24.75/20.13/16.12	
CVR-4-121A	PHOENIX TSVA210M-ALNHZ	LEVEL 3	VENTURI, VARIABLE, HORIZ	RETURN	1,400	1	24.75/20.13/16.12	
CVR-4-121B	PHOENIX TSVA210M-ALNHZ	LEVEL 3	VENTURI, VARIABLE, HORIZ	RETURN	1,400	1	24.75/20.13/16.12	
CVR-4-124	PHOENIX TSVA112M-ALNHZ	LEVEL 3	VENTURI, VARIABLE, HORIZ	RETURN	500	1		
CVS-4-120A	PHOENIX TSVA210M-ALNHZ	LEVEL 3	VENTURI, VARIABLE, HORIZ	SUPPLY	1,750	1	24.75/20.13/16.12	
CVS-4-120B	PHOENIX TSVA210M-ALNHZ	LEVEL 3	VENTURI, VARIABLE, HORIZ	SUPPLY	1,750	1	24.75/20.13/16.12	
CVS-4-121A	PHOENIX TSVA210M-ALNHZ	LEVEL 3	VENTURI, VARIABLE, HORIZ	SUPPLY	1,650	1	24.75/20.13/16.12	
CVS-4-121B	PHOENIX TSVA210M-ALNHZ	LEVEL 3	VENTURI, VARIABLE, HORIZ	SUPPLY	1,650	1	24.75/20.13/16.12	
CVS-4-124	PHOENIX TSVA112M-ALNHZ	LEVEL 3	VENTURI, VARIABLE, HORIZ	SUPPLY	600	1		

HYDRONIC COIL SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	USAGE	AIR: AIRFLOW RATE (CFM)	AIR: TOTAL LOAD (BTU/H)	AIR: SENSIBLE LOAD (BTU/H)	AIR: ENTERING TEMP. DB/WB (°F)	AIR: LEAVING TEMP. DB/WB (°F)	AIR: STATIC PRESSURE (IN. H2O)	HYDRONIC: FLOW RATE (GPM)	HYDRONIC: ENTERING/ LEAVING TEMP. (°F)	HYDRONIC: WORKING FLUID	HYDRONIC: HEAD LOSS (FT)	PHYSICAL: NO. COILS	PHYSICAL: EACH COIL FIN WIDTH/ HEIGHT (IN)	PHYSICAL: MINIMUM FACE AREA (FT²)	PHYSICAL: MINIMUM NO. ROWS/ FINS PER INCH	NOTES
DHC-4-120A	GREENHECK HW12C02B10-12.5x36	LEVEL 3	HEATING	1,500	59340	NA	52/46.2	95/60.7	0.11	4.0	140/110	WATER	5.7	2	12.5/36	3.13	2/10	1
DHC-4-120B	GREENHECK HW12C02B10-12.5x36	LEVEL 3	HEATING	1,500	59340	NA	52/46.2	95/60.7	0.11	4.0	140/110	WATER	5.7	2	12.5/36	3.13	2/10	1
DHC-4-121A	GREENHECK HW12C02B10-12.5x36	LEVEL 3	HEATING	1,400	55384	NA	52/46.2	95/60.7	0.1	3.7	140/110	WATER	5	2	12.5/36	3.13	2/10	1
DHC-4-121B	GREENHECK HW12C02B10-12.5x36	LEVEL 3	HEATING	1,400	55384	NA	52/46.2	95/60.7	0.1	3.7	140/110	WATER	5	2	12.5/36	3.13	2/10	1
DHC-4-124	GREENHECK HW12C02A10-12.5x24	LEVEL 3	HEATING	600	23736	NA	52/46.2	95/60.7	0.05	1.6	140/110	WATER	5.4	2	12.5/24	2.08	2/10	1

1. CONFIRM COIL SIDE BEFORE ORDERING (RIGHT HAND OR LEFT HAND). INSTALL COIL WITH HOTTEST WATER CONTACTING THE HOTTEST AIR.

OR CRITICAL AIRFLOW ENVIRONMENT SCHEDULES

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

LICENSED PROFESSIONAL ENGINEER
09-10-22
No. 11573858-2202
TREVOR DONEY
STATE OF UTAH

△ DATE REVISION

U of U PROJECT NUMBER 70366

MECHANICAL SCHEDULES

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PART 1 - SEQUENCE OF OPERATION

1.1 GENERAL

A. All mechanical equipment shall be monitored thru the DDC Control system with proof of flow devices. The run time of a monitored motors shall be available at the Facility Management System. Console. A maintenance alarm message shall be programmed at a specific run time as designated by the system operator. The alarm message shall be a designated by the operator.

1.2 OPERATING ROOM CONTROL

A. The operating room is controlled in occupied and unoccupied modes. Provide and install an occupancy sensor in each Operating Room. If the sensor does not detect occupancy for a 30-minute period, the room shall be set to unoccupied mode. The occupied status shall be displayed on the FMS console floor graphic.

B. In the occupied mode the system operates as follows:

1. The operating room is supplied and exhausted with a constant volume of air to meet ventilation, pressurization and thermal requirements. The room's pressurization is maintained by a fixed volumetric offset between the supply and exhaust air volumes. A local pressure monitor provides visual confirmation of status and audible and visual alarms if the room pressure is not as desired.

2. The standby/occupied mode of each zone shall be in the occupied mode, the supply valve shall control to the occupied minimum ventilation setting in the dead band and heating modes. Local controllers measuring the supply duct volumes shall modulate the valve to maintain the minimum ventilation set points. The controller shall measure the exhaust flow rates and modulate the exhaust valve to maintain a programmed differential between the supply and exhaust. If the space temperature is below the heating set point the controller shall modulate the reheat coil valve. On an increase in temperature above the cooling set point the controller shall modulate the supply valve subject to maximum volume setting to maintain the space temperature cooling set point. The terminal unit shall go to a minimum CFM before the hot water valve opens. The exhaust valve shall track the supply to maintain the pre-programmed differential flow rate. In the stand-by mode, the stand-by minimum ventilation set points shall be 30%. The offset produces a positive pressure in the operating room relative to the corridor.

3. Control of the space temperature shall be through space temperature control. The reheat coil valve shall modulate to maintain room air temperature set point. The discharge and space temperature shall be available for display at the FMS. The space temperature sensor set point dial shall determine the space temperature set point or can be overridden by the operator.

4. A room pressure monitor is installed next to the door entering the operating room. A room sensor and reference sensor in the adjoining space provide direct measurement pressure. The differential pressure monitor shall have an audible and visual alarm, key switch to disable the monitor, and a door switch input. An adjustable alarm delay prevents nuisance alarms caused by opening the door as well as a door switch interlock.

5. The monitor displays the room pressurization.

6. In unoccupied mode the system maintains 30% (adjustable) of occupied air volume and the heating valves may modulate to maintain unoccupied heating set point.

1.3 VAV ZONES WITH REHEAT COIL

A. Occupied mode of the zone controller shall be determined by the central control. In the occupied mode if the space temperature is between the heating temperature and the cooling temperature set point, the box shall be in a dead band mode. The local DDC control loop shall modulate the primary damper to maintain the ventilation minimum CFM set point. On a fall in space temperature equal to the heating temperature set point, the controller shall then modulate the reheat coil as well as reset the supply air volume between the ventilation minimum and the heating maximum set point. The heating volume shall be a function of the heating calculation percentage to minimize the amount of reheat. On a 100% call for heat, the VAV box shall control to the maximum heating velocity set point and the control valve shall be wide open. A discharge sensor/control loop limits the supply air temperature 85° maximum programmable.

B. The reverse shall occur on an increase in space temperature equal to or greater than the heating temperature set point. When the space temperature is equal to or greater than the cooling temperature set point the VAV box shall enter the cooling mode. The controller shall reset the box CFM set point from the minimum ventilation set point to the cooling maximum set point. If the zone CO2 level is above 800 ppm, then the VAV box maximum shall be indexed upwards towards the cooling maximum, to meet the CO_2 set point maximum.

C. In the unoccupied mode the VAV box damper shall be closed and the reheat coil valve closed. On a fall in space temperature below the unoccupied heating set point the control valve shall open and the primary air damper shall control to the heating volume to maintain the night set back setting.

D. All VAV and constant volume boxes in the system shall be equipped with discharge air temperature sensors and the BMS shall monitor and display the discharge air temperature.

E. When the zone is scheduled for occupancy and a motioned controlled lighting sensor by electrical contractor determines the space is vacant, the auxiliary contact in the motion sensor shall signal the VAV zone to go to zero ventilation minimum if there is no call for heating or cooling above 55° OSA temperature. Interlock wiring is by this contractor. See the mechanical HVAC drawings for locations where a VAV box serves one physical space, multiple spaces or where multiple VAV boxes serve one physical space. If a VAV box serves multiple spaces then the occupancy sensor located in each space will be tied into the VAV box. If one space is occupied the VAV box will operate to maintain space temperature. The interlock will occur where electrical has provided occupancy sensors for lighting control. See electrical

F. A flow meter shall measure the total system flow through the boilers and allow the boiler valves to open only when the minimum flow rate is met for the number of open valves or valves to be opened.

1.4 MEDICAL GAS: Provide wiring between the pipe sensors and the area alarm panel located as shown on the drawings or directed by the engineer. Provide wiring between the medical gas manifolds and the building management system as directed by the engineer. Provide wiring between medical air compressors and vacuum pumps alarms and master alarm panels. The Talon BMS shall receive the Med Gas alarm points and statuses and annunciate them in the new operator shack as well as the 24 hour maned Komas location. Provide software, hardware and wiring to accomplish this.

PART 2 - FANS AND AIR HANDLERS

2.1 GENERAL EXHAUST FANS

A. Fans shall run continuously as commanded by the BMS. A fan status shall monitor the fan for proof of flow and alarm the BMS system upon fan failure. Exhaust fans shall be interlocked with air handling units. When building air handlers are off the exhaust fans and associated fire/smoke dampers shall close. This contractor shall provide a signal to the electrical system so that when exhaust fans are off this signal shall provide a relay to close the fire/smoke dampers on the exhaust fans. Signal shall be a Form-C dry contact located in the nearest electrical room. These fans shall run continuously as commanded by the BMS. Monitor fan status and alarm the BMS system upon fan failure.

2.2 SEQUENCE OF OPERATION FOR OPERATING ROOM MOTION SENSORS

A. Motion Sensors in the operating room shall include dual technology, passive infrared and microwave.

B. These sensors shall include step and gliding focus multi-curtain mirror technology with sealed optics and selectable coverage patterns using the mirror masks. The output from the detector shall be interlocked with the venturi valve controller to allow a CFM reduction in the operating room to the minimum required to maintain cooling setpoints when no one is detected after 15 minutes programmable.

2.3 SEQUENCE OF OPERATION FOR LIGHTING CONTROL

A. FMCS System Interface for lighting control panels provided by others: Provide hardware and software to enable the FMCS system for HVAC to monitor, control, display, and record data for use in processing reports.

B. Communication Interface: Comply with ASHRAE 135. The communication interface via BacNet IP shall enable the FMCS system from the operator workstation to remotely control and monitor each panel controlled zone of lighting via the FMCS system. Control features and monitoring points displayed locally at lighting panel shall be available through the FMCS system via the BacNet IP communication interface furnished with the panel by others.

C. See electrical drawings for panel locations, quantities and individual point count for interfacing, and mapping of BacNet IP lighting, monitoring, control and report setup.

2.4 SEQUENCE OF OPERATION FOR SURGERY RETURN AIR DUCT BOOSTER FAN

A. This fan shall be interlocked with the air handler return fan serving the area and only operate when the return fan is operating.

B. The Variable Frequency Drive control loop on the fan shall monitor the upstream negative duct static pressure and adjust the speed of the drive to maintain a minimum of 3/10ths of an inch water column pressure drop across all the return valves in the surgery suite.

C. A fire alarm interlock by the electric contractor shall shut this fan down under a general fire alarm condition.

2.5 SEQUENCE OF OPERATION FOR RETURN AIR CONTROL DAMPERS

A. Locate pressure sensor downstream of control damper. Pressure sensor shall provide means for modulating the damper blade position to maintain a set statis pressure upstream (adjustable)

REFERENCE NOTES

	Input / Output						Web Pages Graphics										Alarms						Trends Archive Size Verify w/Owner			
	Digital Input	Digital Output	Analog Input	Analog Output	Hardwire Interlock	BAS Communication	Status	Temperature of Other Value	Cooling Percentage	Heating Percentage	Dynamic Flow Diagrams	O&M Manuals	Start/Stop	Status	Display Value	Adjust Value	Run Time Totalize or Totalize	Operator Workstation	Remote Device/Email	Building Manager	User	Life Safety Alarm	Run Time / Totalize	30 Minute / Week	Change of Value / 600 Samples	Change of Value / 30 Samples
All VFD's (as available in VFD)																										
Start/Stop		X				X							X													
Status	X					X	X							X			X					X				
System Fault						X	X										X	X								
Speed				X		X		X							X										X	
Frequency Output				X		X									X											
Percent Output				X		X									X											
Current			X			X									X											
Torque			X			X									X											
Power			X			X									X							X				
Drive Temperature			X			X									X											
KWH			X			X									X										X	X
Runtime			X			X									X						X					
DC Bus Volts			X			X									X											
PID Feedback			X			X																				
Fault 1	X					X	X											X	X	X					X	
Fault 2	X					X	X											X	X	X					X	
Emergency Generator Load Shed		X																								
VAV BOX REHEAT																										
Space temperature			X					X							X									X		
Space temperature setpoint				X											X	X										
Supply air temperature			X					X							X									X		
Damper position			X					X							X											
Reheat output value				X				X							X											
Controlling cooling setpoint				X											X	X										
Controlling heating setpoint				X											X	X										
Controlling maximum flow setpoint				X											X	X										
Control minimum flow setpoint				X											X	X										
Current airflow (cfm)			X												X								X			
Occupied/Unoccupied schedule status	X														X	X										
Current control mode description			X												X											
Control Heating Max Flow Setpoint											X				X	X										
CO_2			X												X			X							X	
CO_2 Ventilation Set Point						X									X			X							X	
VENTURI VALVE TRACKING PAIRS																										
Space Temperature Sensor Input			X			X					X				X			X								X
Occupied Temperature Set Point Input			X			X					X				X	X										
Occupancy Override Input	X					X					X			X												
Occupancy Sensor Input	X					X								X												
Application Mode Command Input																										
Unoccupied Cooling Temperature Set Point						X																				
Unoccupied Heating Temperature Set Point						X										X										
Discharge Air Temperature Input			X			X					X				X	X										X
Terminal Load Output						X			X	X	X				X											
BMS HVAC Emergency Override Input	X					X								X												
Zone Total Supply Flow Output			X			X					X				X											
Zone Total Exhaust Flow Output			X			X					X				X											
Zone Volumetric Offset Feedback Output			X			X					X				X											
Supply Valve Flow Feedback Output			X			X					X				X											
Exhaust Valve Flow Feedback output			X			X					X				X											
Reheat Valve										X	X				X											X
Differential Pressure Across Each Venturi Valve			X								X				X			X	X							
EXHAUST FANS																										
Fan Start/Stop		X									X		X													
Fan Status	X										X			X				X				X				
Delta P of Duct and Filter																										
VFD																										
SURGERY RETURN BOOSTER FAN																										
Stop/Start					X								X	X			X									
Status		X									X			X								X				
VFD (see VFD Points List)				X		X					X				X	X										
Duct Static Pressure				X							X				X	X										X
SURGERY ROOM																										
Pressure Monitors						X	X				X				X			X	X	X		X				X

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CONSTRUCTION SET
SEPTEMBER 19, 2022

LICENSED PROFESSIONAL ENGINEER
08-10-22
No. 11573858-2202
TREVOR DONEY
STATE OF UTAH

△ DATE REVISION

U of U PROJECT NUMBER 70366

SEQUENCE OF OPERATIONS

MH602

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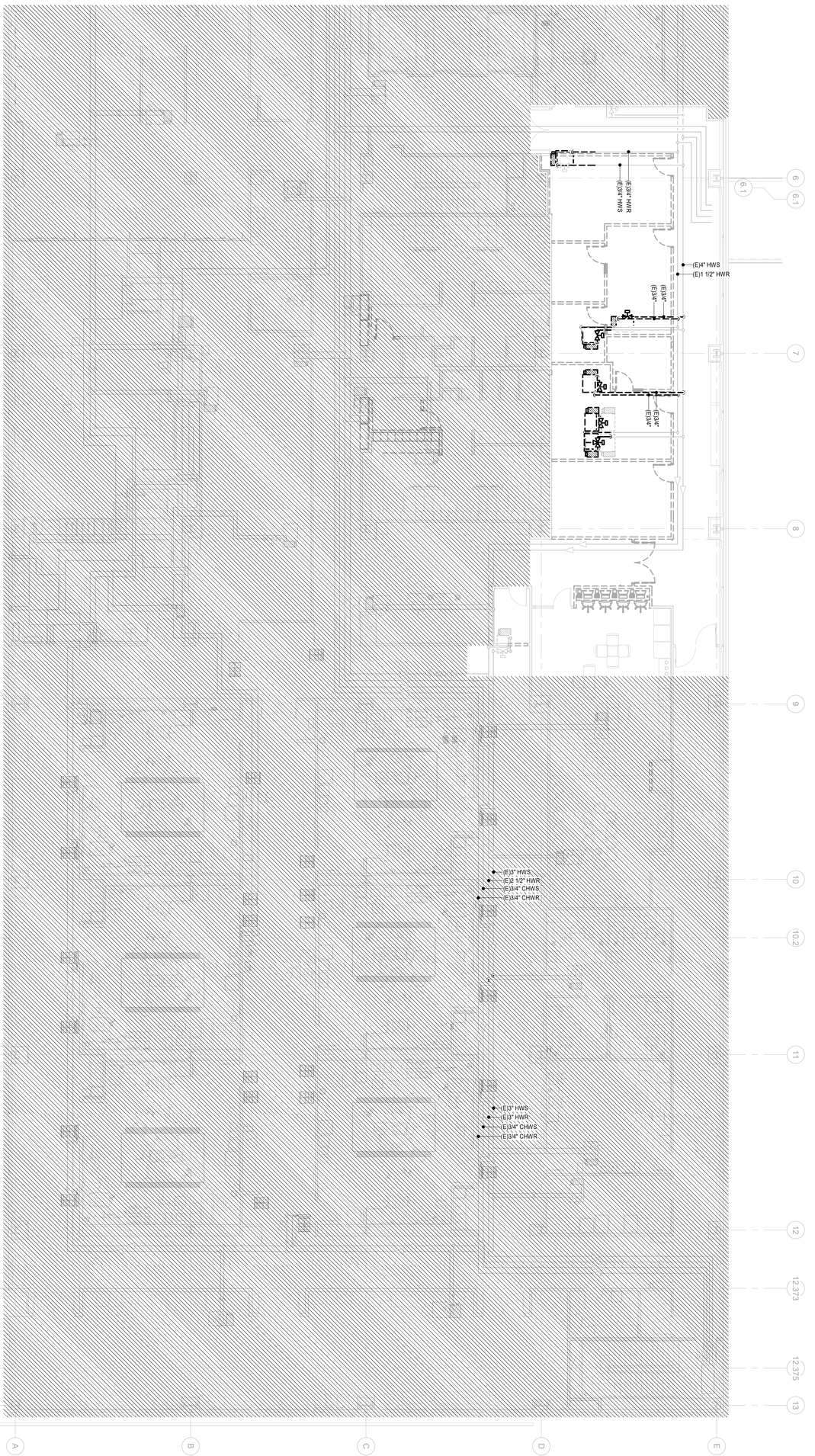

1 MECHANICAL PIPING DEMO PLAN LEVEL 3 - PHASE 1

SCALE: 1/8" = 1'-0"

TRUE PROJECT

REFERENCE NOTES

1.

MECHANICAL PIPING DEMO PLAN LEVEL 3 - PHASE 1

MPD105.1

U of U PROJECT NUMBER 70066

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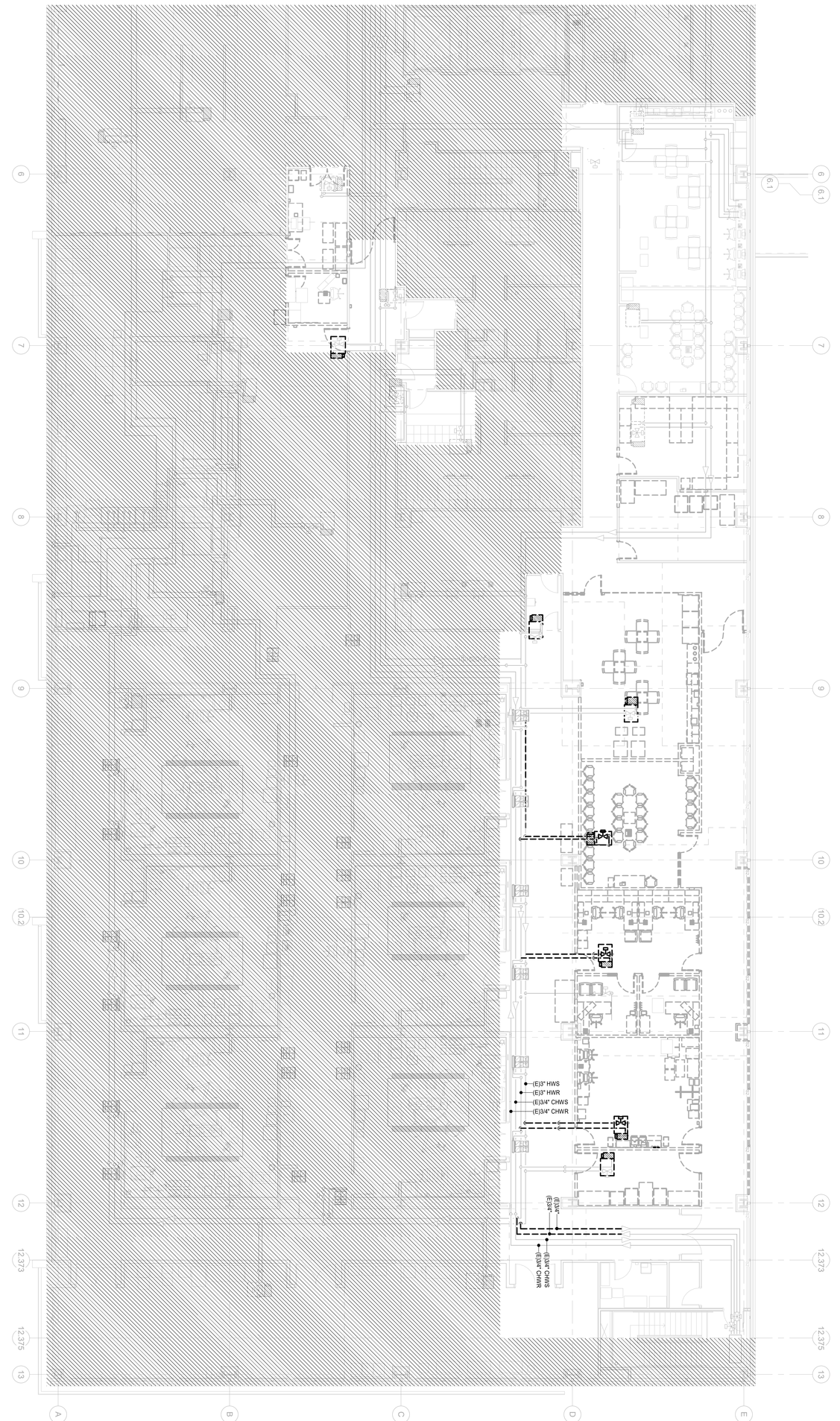

1 MECHANICAL PIPING DEMO PLAN LEVEL 3

SCALE: 1/8" = 1'-0"

TRUE PROJECT

REFERENCE NOTES

1.

MECHANICAL PIPING DEMO PLAN LEVEL 3 - PHASE 2

MPD105.2

U of U PROJECT NUMBER 72006

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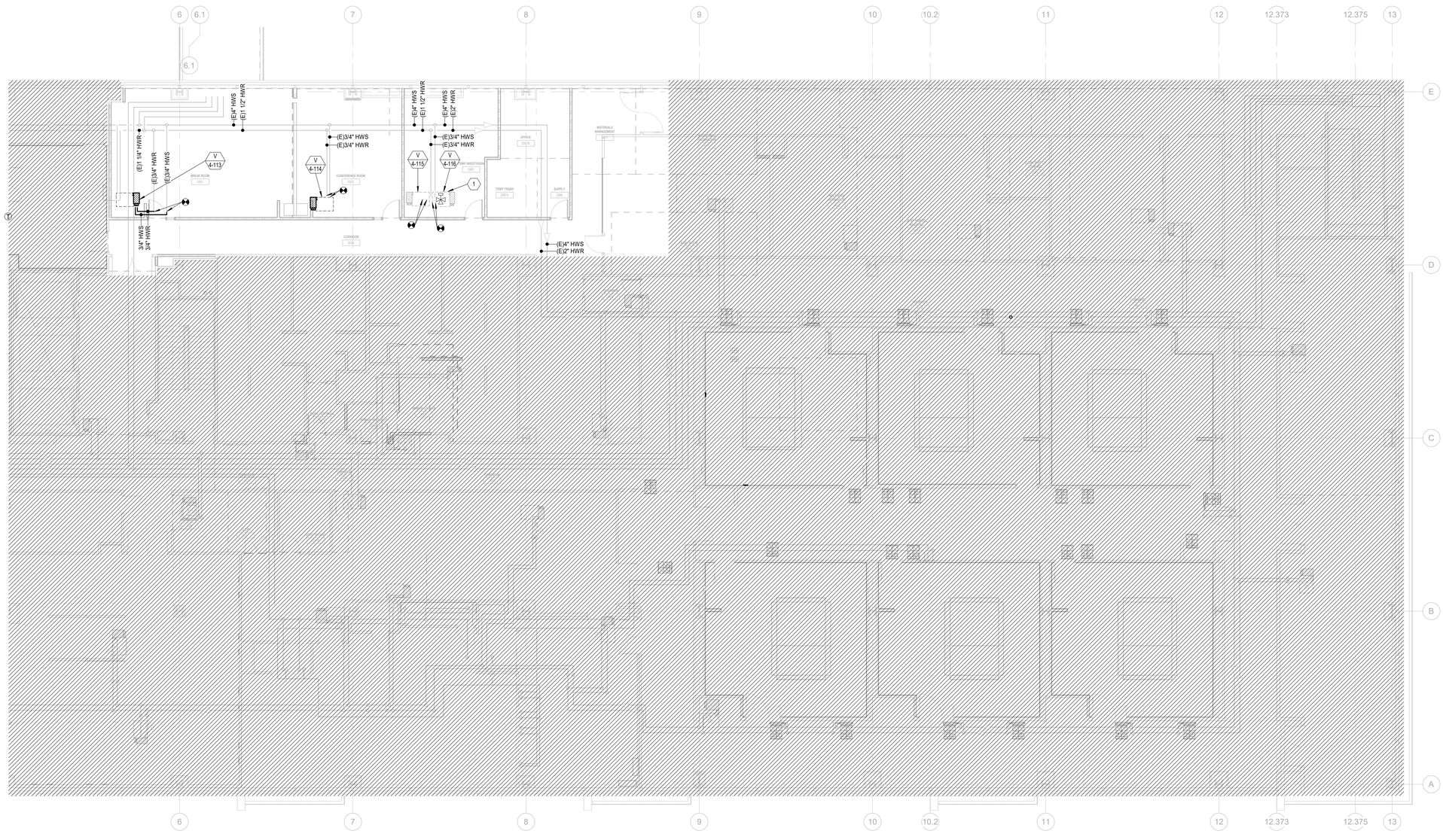
REFERENCE NOTES

1. ALL VAV BOX RE-HEAT PIPING TO HAVE A 2-WAY CONTROL VALVE LOCATED ON THE RETURN PIPE UNLESS SHOWN OTHERWISE. 3-WAY VALVES ARE REQUIRED WHERE THE SYMBOL IS SHOWN (TYPICAL ALL VAV BOX PIPING). REFERENCE DETAILS FOR PIPING REQUIREMENTS.



1 MECHANICAL PIPING PLAN LEVEL 3 - PHASE 1

SCALE: 1/8" = 1'-0"

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MECHANICAL PIPING PLAN LEVEL 3 - PHASE 1

MP105.1

REFERENCE NOTES

1. TIE NEW STEAM SUPPLY AFTER EXISTING PRV STATION.
2. TIE STEAM SUPPLY INTO WASHER/DISINFECTOR. SEE MANUFACTURER'S DRAWINGS FOR DETAILS. PROVIDE MEANS FOR CONDENSATE DISPOSAL TO MEET CODE REQUIREMENTS.
3. ALL VAV BOX AND CONTROL VALVE RE-HEAT PIPING TO HAVE A 2-WAY CONTROL VALVE LOCATED ON THE RETURN PIPE UNLESS SHOWN OTHERWISE. 3-WAY VALVES ARE REQUIRED WHERE THE SYMBOL IS SHOWN (TYPICAL ALL VAV BOX PIPING). REFERENCE DETAILS FOR PIPING REQUIREMENTS.
4. EXISTING VAV BOX.
5. 1" DIAMETER PIPING TO EACH RE-HEAT COIL.
6. EXISTING 1/3-2/3 STEAM PRV STATION

1 MECHANICAL PIPING PLAN LEVEL 3

SCALE: 1/8" = 1'-0"

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MECHANICAL PIPING PLAN LEVEL 3 - PHASE 2

MP105.2

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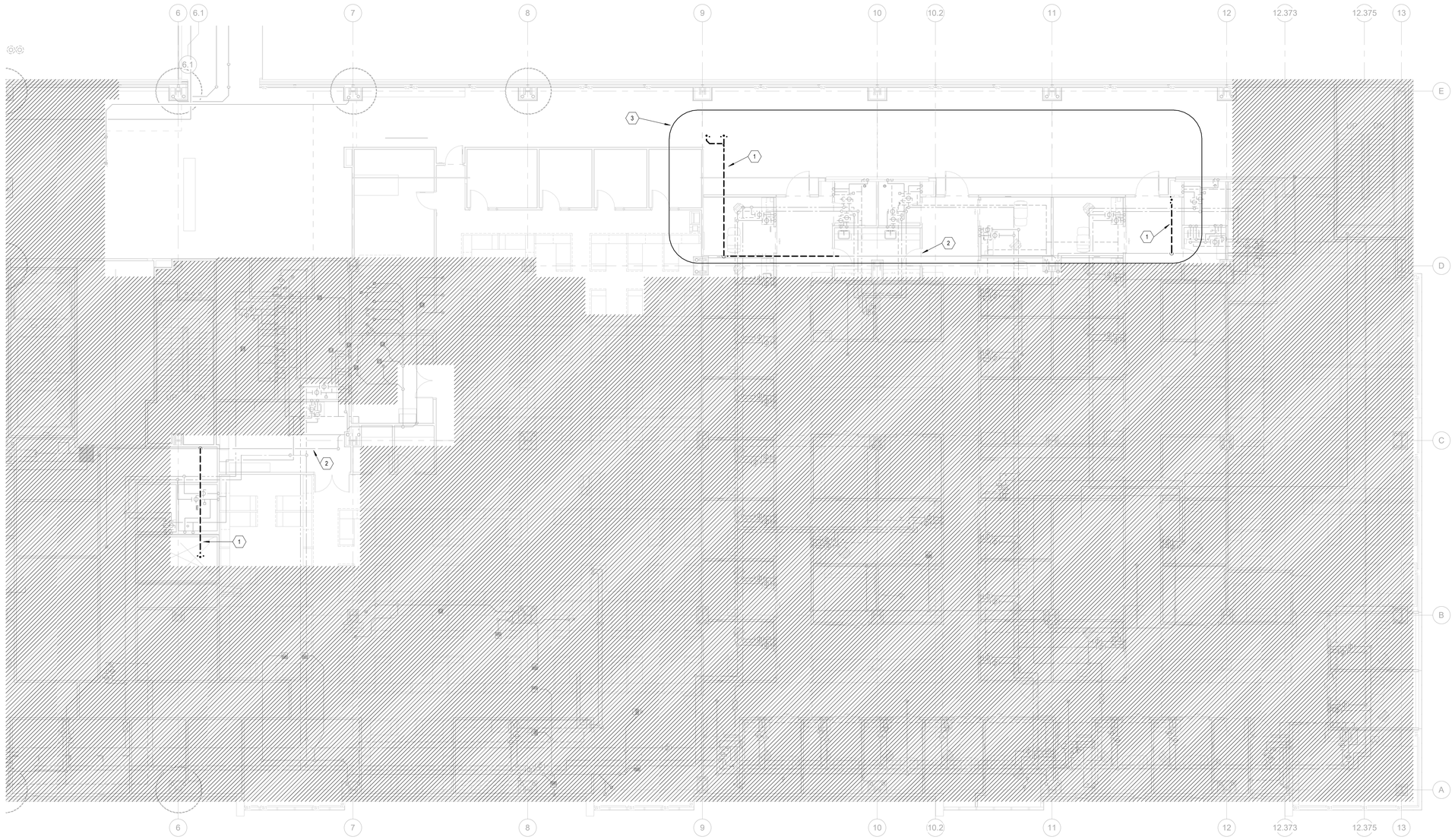

REFERENCE NOTES

1. EXISTING ELEMENTS SHOWN DARK AND DASHED TO BE DEMOLISHED, TYPICAL.
2. EXISTING ELEMENTS SHOWN LIGHT TO REMAIN. TYPICAL.
3. WORK WITHIN THIS LINE IS TO BE CONSIDERED "EARLY WORK" TO BE COMPLETED WHEN THE CEILING IS REMOVED AS PART OF AN ONGOING PROJECT IN THIS AREA.

GENERAL NOTES

1. REFERENCE ARCHITECTURAL PHASING PLAN FOR ALL PHASING REQUIREMENTS. CONTRACTOR SHALL COORDINATE ALL PHASING REQUIREMENTS DURING BIDDING AND CONSTRUCTION.

1 PLUMBING DEMO PLAN LEVEL 2 - PHASE 2

SCALE: 1/8" = 1'-0"

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PLUMBING DEMO PLAN LEVEL 2 - PHASE 2

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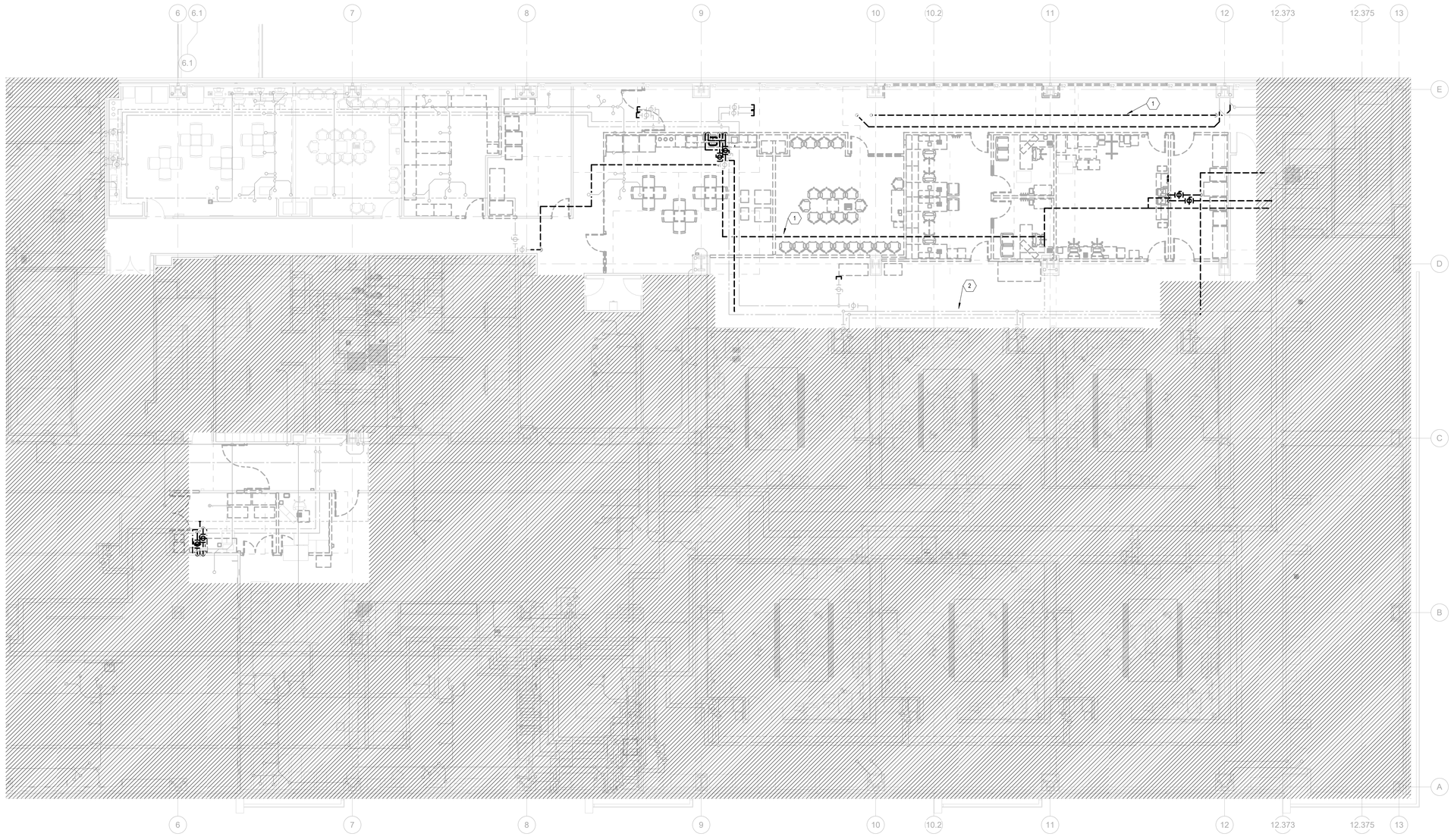

REFERENCE NOTES

1. EXISTING ELEMENTS SHOWN DARK AND DASHED TO BE DEMOLISHED, TYPICAL.
2. EXISTING ELEMENTS SHOWN LIGHT TO REMAIN. TYPICAL.

GENERAL NOTES

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1 PLUMBING DEMO PLAN LEVEL 3 - PHASE 2
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PLUMBING DEMO PLAN LEVEL 3 - PHASE 2

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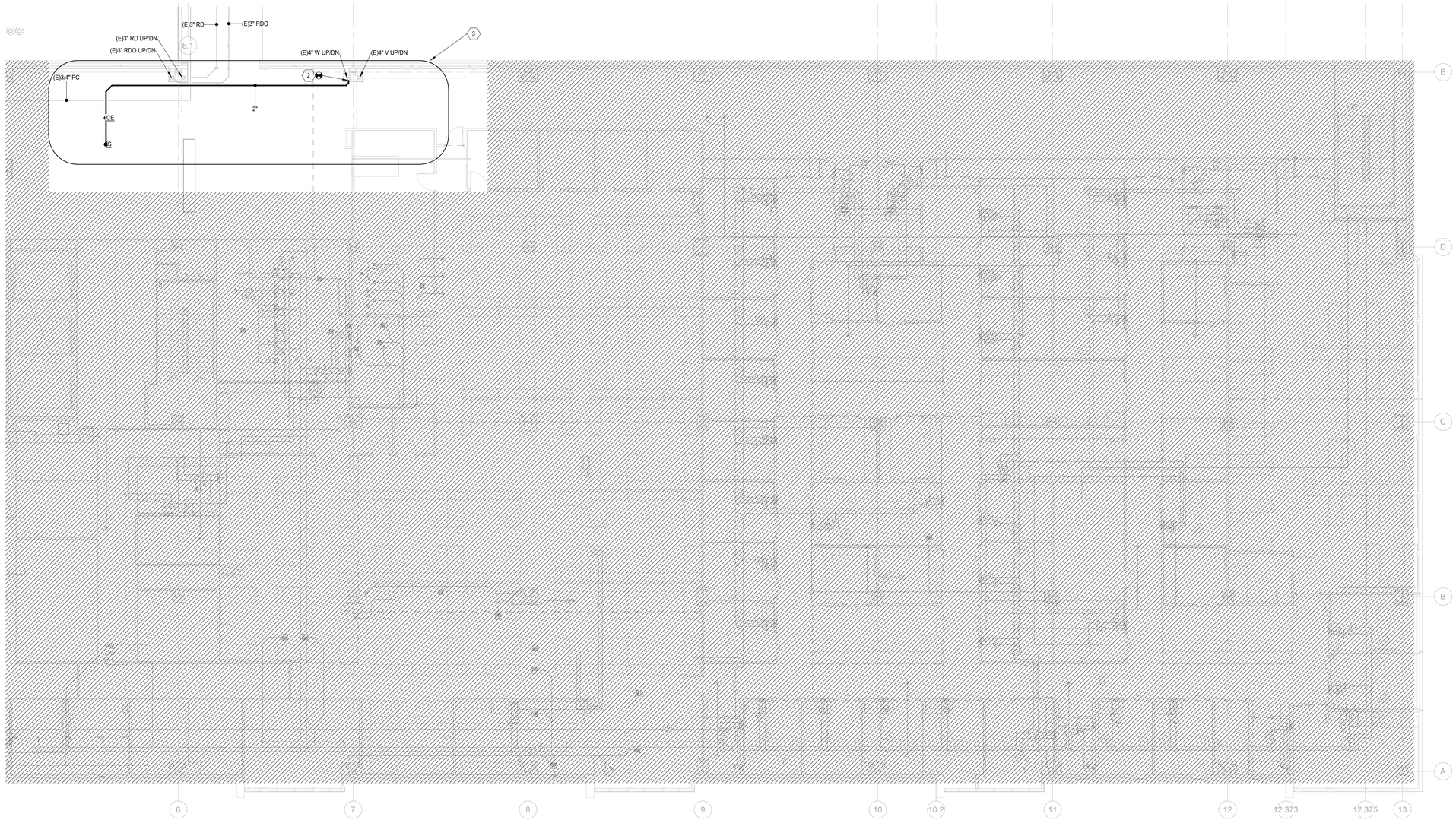

REFERENCE NOTES

1. CONNECT NEW 2" WASTE LINE INTO EXISTING 2" WASTE LINE.
2. CONNECT NEW 2" WASTE LINE INTO EXISTING 4" WASTE RISER.
3. WORK WITHIN THIS LINE IS TO BE CONSIDERED "EARLY WORK" TO BE COMPLETED WHEN THE CEILING IS REMOVED AS PART OF AN ONGOING PROJECT IN THIS AREA.

GENERAL NOTES

1. REFERENCE ARCHITECTURAL PHASING PLAN FOR ALL PHASING REQUIREMENTS. CONTRACTOR SHALL COORDINATE ALL PHASING REQUIREMENTS DURING BIDDING AND CONSTRUCTION.
2. EXISTING ELEMENTS SHOWN LIGHT, TYPICAL.

1 PLUMBING PLAN LEVEL 2
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PLUMBING
PLAN LEVEL 2
- PHASE 1

PP104.1

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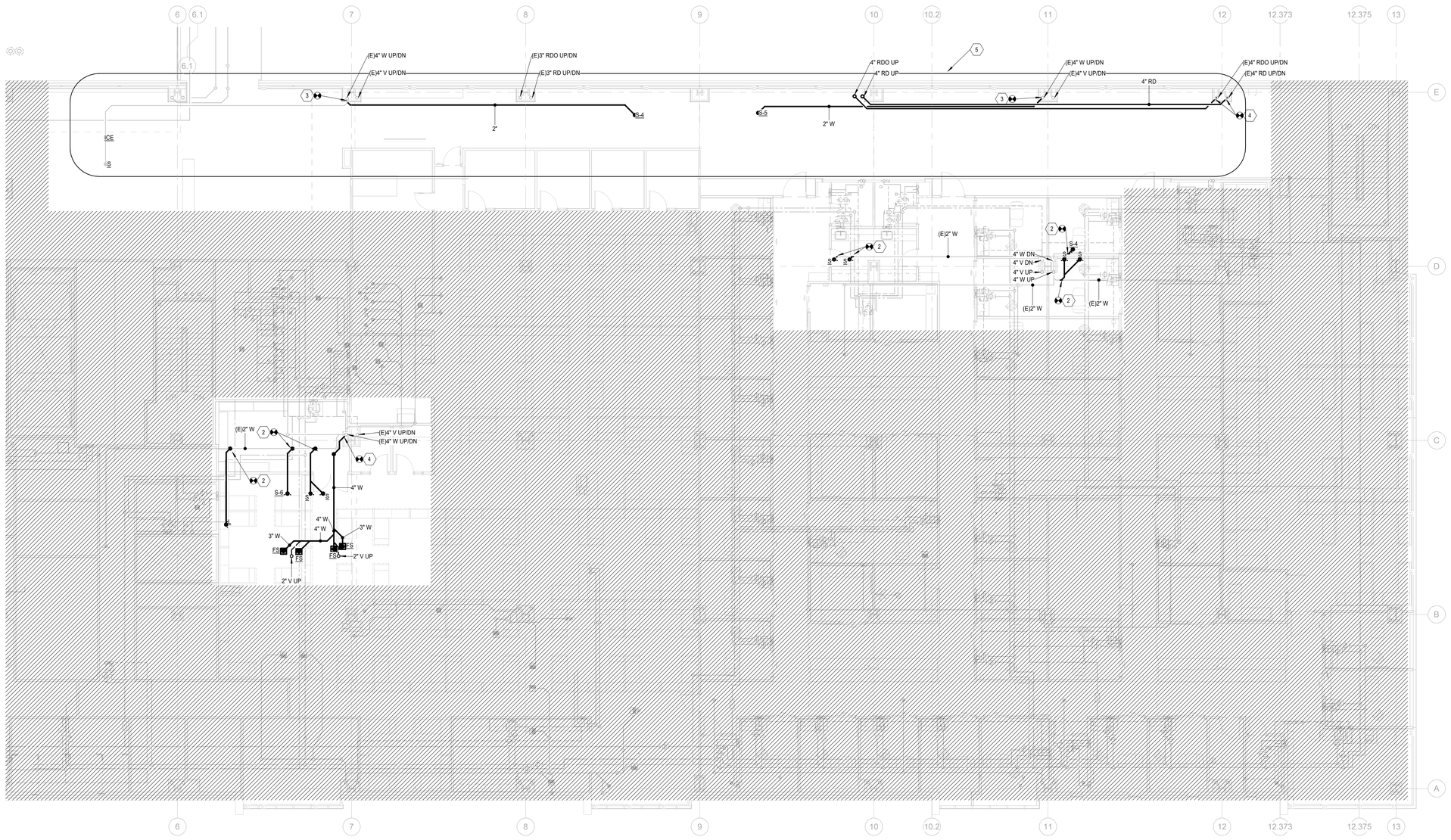

REFERENCE NOTES

1. EXISTING ELEMENTS SHOWN LIGHT, TYPICAL.
2. CONNECT NEW 2" WASTE LINE INTO EXISTING 2" WASTE LINE.
3. CONNECT NEW 2" WASTE LINE INTO EXISTING 4" WASTE RISER.
4. CONNECT NEW 4" RD / RDO LINES TO EXISTING 4" RD / RDO RISERS
5. WORK WITHIN THIS LINE IS TO BE CONSIDERED "EARLY WORK" TO BE COMPLETED WHEN THE CEILING IS REMOVED AS PART OF AN ONGOING PROJECT IN THIS AREA..

GENERAL NOTES

1. REFERENCE ARCHITECTURAL PHASING PLAN FOR ALL PHASING REQUIREMENTS. CONTRACTOR SHALL COORDINATE ALL PHASING REQUIREMENTS DURING BIDDING AND CONSTRUCTION.

1 PLUMBING PLAN LEVEL 2 - PHASE 2
SCALE: 1/8" = 1'-0"

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PLUMBING
PLAN LEVEL 2
- PHASE 2

PP104.2

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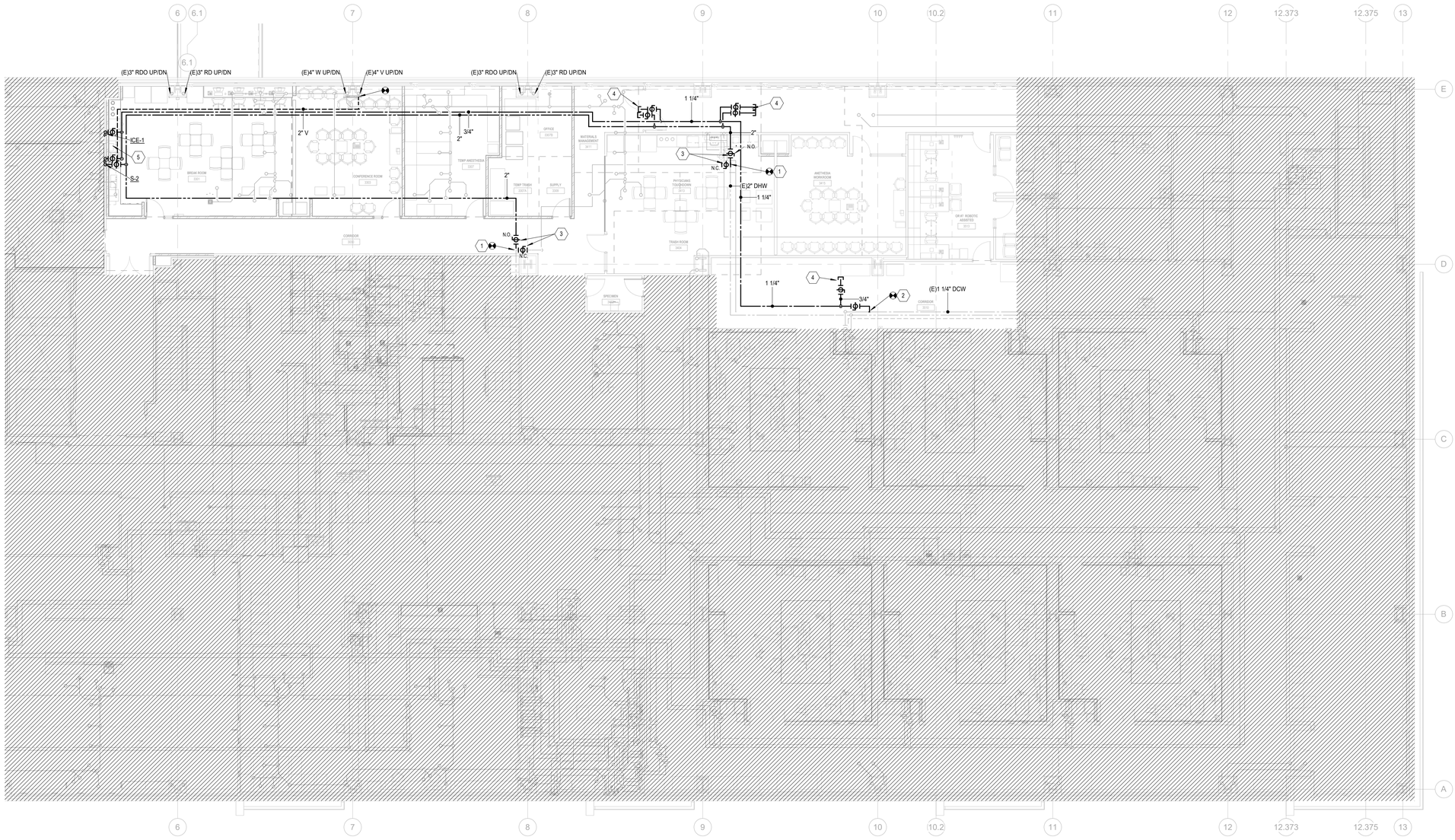

REFERENCE NOTES

1. CONNECT NEW 2" DHW LINE INTO EXISTING 2" DHW LINE.
2. CONNECT NEW 1-1/4" DCW LINE INTO EXISTING 1-1/4" DCW LINE.
3. PROVIDE ISOLATION VALVES ON NEW AND EXISTING DHW LINES.
4. STUB VALVE AND CAP FOR USE IN PHASE 2. SEE PP105.2 FOR CONTINUATION.
5. CONNECT COFFEE MAKER WATER SUPPLY DOWNSTREAM OF ICE-1 FILTER. CONNECT TO COFFEE MAKER PER MANUFACTURERS REQUIREMENTS.

GENERAL NOTES

1. REFERENCE ARCHITECTURAL PHASING PLAN FOR ALL PHASING REQUIREMENTS. CONTRACTOR SHALL COORDINATE ALL PHASING REQUIREMENTS DURING BIDDING AND CONSTRUCTION.
2. EXISTING ELEMENTS SHOWN LIGHT, TYPICAL.

1 PLUMBING PLAN LEVEL 3 - PHASE 1
SCALE: 1/8" = 1'-0"

TRUE PROJECT

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STATE OF UTAH

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PLUMBING PLAN LEVEL 3 - PHASE 1

PP105.1

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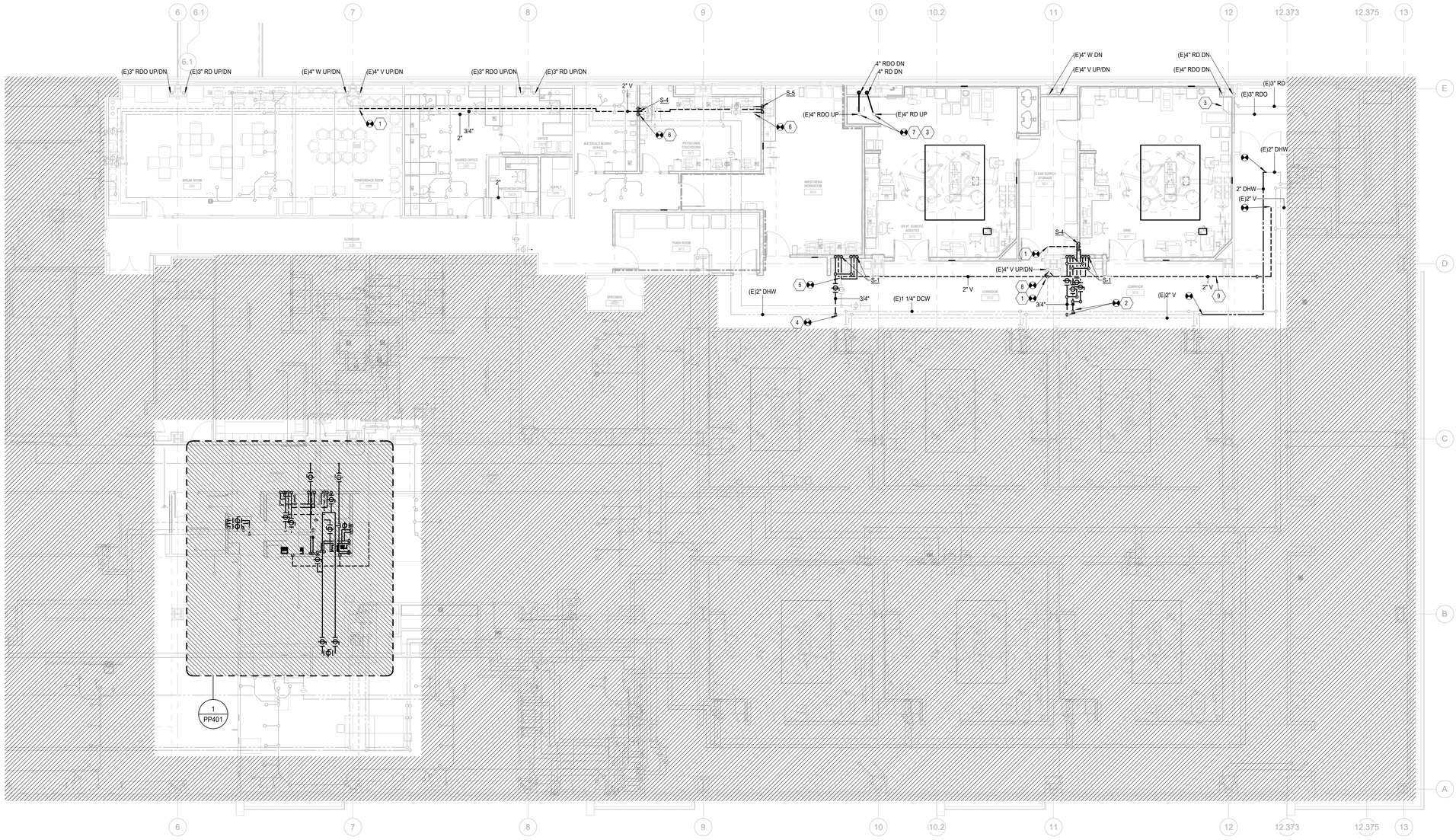

1 PLUMBING PLAN LEVEL 3 - PHASE 2

SCALE: 1/8" = 1'-0"

REFERENCE NOTES

1. CONNECT NEW 2" VENT LINE INTO EXISTING 2" VENT LINE.
2. CONNECT NEW 3/4" DCW AND DHW LINES INTO EXISTING 1-1/2" DCW AND 2" DHW LINES.
3. PROVIDE OVERSIZED DRIP PANS BENEATH ALL ROOF DRAINAGE LINES ABOVE OPERATING ROOMS. PROVIDE WITH WATER SENSOR AT LOW POINT OF DRAIN PAN.
4. CONNECT NEW DHW LINE INTO EXISTING 2" DHW LINE.
5. CONNECT NEW DCW LINES INTO EXISTING 3/4" DCW LINE FROM PHASE 1.
6. CONNECT NEW DCW AND DHW LINES INTO EXISTING DCW AND DHW LINES FROM PHASE 1.
7. CONNECT NEW 4" RD / RDO LINES TO EXISTING 4" RD / RDO LINES, RUN HIGH IN BEAM POCKET TO DROP LOCATION.
8. CONNECT NEW 2" VENT LINE TO 4" VENT RISER.
9. VENT LINE TO RISE ABOVE DUCTWORK AS REQUIRED.

GENERAL NOTES

1. REFERENCE ARCHITECTURAL PHASING PLAN FOR ALL PHASING REQUIREMENTS. CONTRACTOR SHALL COORDINATE ALL PHASING REQUIREMENTS DURING BIDDING AND CONSTRUCTION.
2. EXISTING ELEMENTS SHOWN LIGHT, TYPICAL.

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

LICENSED PROFESSIONAL ENGINEER
09-10-22
No. 11573858-2202
TREVOR DONEY
STATE OF UTAH

△ DATE REVISION

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PLUMBING PLAN LEVEL 3 - PHASE 2

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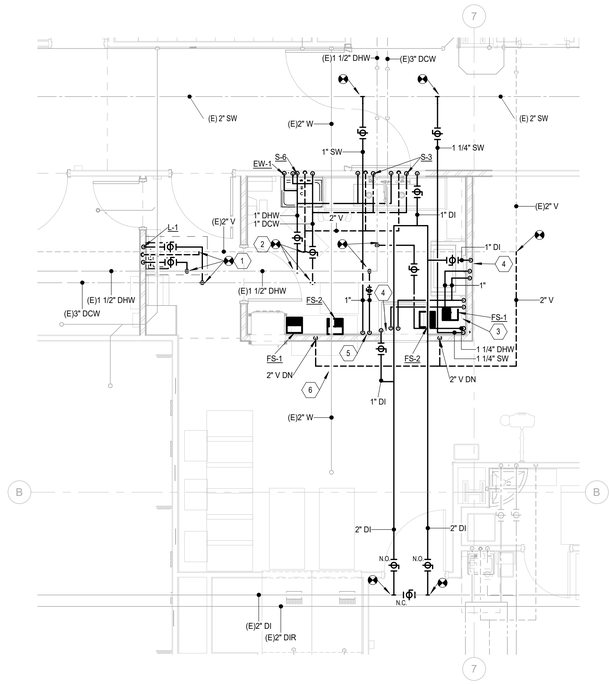

1 PLUMBING PLAN LEVEL 3 - DIRTY INTAKE ENLARGED VIEW
SCALE: 1/4" = 1'-0"

REFERENCE NOTES

1. CONNECT NEW 1/2" DCW, 1/2" DHW AND 2" VENT LINES INTO EXISTING 3" DCW, 1-1/2" DHW LINES AND 2" VENT LINES.
2. CONNECT NEW 1" DCW, 1" DHW AND 2" VENT LINES INTO EXISTING 3" DCW, 1-1/2" DHW LINES AND 2" VENT LINES.
3. PROVIDE (2) RPBP'S, (1) ON THE DHW LINE, (1) ON THE SCW LINE. RPBP'S TO BE STACKED ON WALL AND DRAIN VIA AN AIRGAP TO THE NEARBY FLOOR SINK, DRAIN LINE TO BE COPPER.
4. CONNECT TO EQUIPMENT PER MANUFACTURERS RECOMMENDATIONS.
5. CONNECT TO MEDIVATOR PER MANUFACTURERS RECOMMENDATIONS, SEE DETAIL.
6. PROVIDE OVERSIZED DRIP PANS BENEATH ALL ROOF DRAINAGE LINES ABOVE DIRTY INTAKE. PROVIDE WITH WATER SENSOR AT LOW POINT OF DRAIN PAN.

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ENLARGED PLUMBING PLAN

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PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE	CW	HW	W	V	DESCRIPTION	SPECIFICATION
S-1	SCRUB SINK	1/2	1/2	2	1 1/2	OWNER FURNISHED	INSTALL OWNER FURNISHED SINK. ROUGH IN AND CONNECT. PROVIDE FLEXIBLE STAINLESS STEEL SUPPLIES WITH LOOSE KEY ANGLE STOPS. CAST BRASS P-TRAP WITH CLEAN-OUT PLUG.
S-2	BREAK ROOM SINK	1/2	1/2	2	1 1/2	COUNTER MOUNTED, ADA, STAINLESS STEEL, DOUBLE BASIN, GOOSENECK FAUCET WITH WRISTBLADES	SINK: JUST DLN-1933-A-GR-1-5SF 16" X 16" X 7-1/5" DEEP BOWL, COUNTER MOUNT DOUBLE COMPARTMENT 18 GA. STAINLESS STEEL SINK, 8" CENTERS DRILLING. PROVIDE CHICAGO 786-GN8FCXKABCP FAUCET, NO. 317 4" WRIST BLADES, GN8 RIGID/SWING CONVERTIBLE GOOSE NECK WITH 1.5 GPM FC LAMINAR FLOW CONTROL IN BASE OF FAUCET AND PLAIN END SPOUT. FLEXIBLE STAINLESS STEEL SUPPLIES WITH LOOSE KEY ANGLE STOPS. CAST BRASS P-TRAP WITH CLEAN-OUT PLUG.
S-3	PROCESSING SINK	1/2	1/2	2	1 1/2	OWNER FURNISHED	INSTALL OWNER FURNISHED SINK. ROUGH IN AND CONNECT PER MANUFACTURERS RECOMMENDATIONS. PROVIDE FLEXIBLE STAINLESS STEEL SUPPLIES WITH LOOSE KEY ANGLE STOPS. CAST BRASS P-TRAP WITH CLEAN-OUT PLUG. CONNECTIONS MUST BE ABLE TO ACCOUNT FOR THE VERTICAL MOVEMENT OF THE OWNER FURNISHED SINK.
S-4	SINK	1/2	1/2	2	1 1/2	COUNTER MOUNTED, STAINLESS STEEL, GOOSENECK FAUCET WITH WRISTBLADES	SINK: JUST SLN-ADA-2219-A-GR-4-5SF 19" X 18" X 5-1/2" DEEP BOWL, COUNTER MOUNT SINGLE COMPARTMENT 18 GA. STAINLESS STEEL SINK, 8" CENTERS DRILLING. PROVIDE CHICAGO 786-GN8FCXKABCP FAUCET, NO. 317 4" WRIST BLADES, GN8 RIGID/SWING CONVERTIBLE GOOSE NECK WITH 1.5 GPM FC LAMINAR FLOW CONTROL IN BASE OF SPOUT. PLAIN END SPOUT RING. FLEXIBLE STAINLESS STEEL SUPPLIES WITH LOOSE KEY ANGLE STOPS. CAST BRASS P-TRAP WITH CLEAN-OUT PLUG.
S-5	SINK	1/2	1/2	2	1 1/2	COUNTER MOUNTED, ADA, DOUBLE BASIN, STAINLESS STEEL, GOOSENECK FAUCET WITH WRISTBLADES	SINK: JUST DLN-ADA-1933-A-GR-4-5SF 14" X 14" X 5-1/2" DEEP BOWL, COUNTER MOUNT SINGLE COMPARTMENT 18 GA. STAINLESS STEEL SINK, 8" CENTERS DRILLING. PROVIDE CHICAGO 786-GN8FCXKABCP FAUCET, NO. 317 4" WRIST BLADES, GN8 RIGID/SWING CONVERTIBLE GOOSE NECK WITH 1.5 GPM FC LAMINAR FLOW CONTROL IN BASE OF SPOUT. PLAIN END SPOUT. FLEXIBLE STAINLESS STEEL SUPPLIES WITH LOOSE KEY ANGLE STOPS. CAST BRASS P-TRAP WITH CLEAN-OUT PLUG.
S-6	SINK	1/2	1/2	2	1 1/2	COUNTER MOUNTED, STAINLESS STEEL, GOOSENECK FAUCET WITH WRISTBLADES.	SINK: JUST SLN-ADA-2131-A-GR-4-5SF 18" X 28" X 5-1/2" DEEP BOWL, COUNTER MOUNT SINGLE COMPARTMENT 18 GA. STAINLESS STEEL SINK, 8" CENTERS DRILLING, WITH REAR CENTER DRAIN LOCATION. PROVIDE CHICAGO 786-GN8FCXKABCP FAUCET, NO. 317 4" WRIST BLADES, GN8 RIGID/SWING CONVERTIBLE GOOSE NECK WITH 1.5 GPM FC LAMINAR FLOW CONTROL IN BASE OF SPOUT, PLAIN END SPOUT. FLEXIBLE STAINLESS STEEL SUPPLIES WITH LOOSE KEY ANGLE STOPS. CAST BRASS P-TRAP WITH CLEAN-OUT PLUG.
L-1	PUBLIC LAVATORY	1/2	1/2	1 1/2	1 1/2	WALL HUNG, GOOSENECK FAUCET WITH WRISTBLADES	LAVATORY (WALL HUNG, ADA, WRIST BLADES): KOHLER GREENWICH K-2030, 20 X 18-INCH BOWL, VITREOUS CHINA, WALL HUNG LAVATORY, WITH FRONT OVERFLOW, 8" FAUCET CENTERS. CHICAGO 786-GN2FCXKABCP FAUCET, 4" WRIST BLADES, 5-3/8" GOOSE NECK SPOUT WITH 1.5 GPM FC LAMINAR FLOW CONTROL IN BASE OF SPOUT, PLAIN END SPOUT. CHICAGO 327 OPEN GRID DRAIN AND CAST BRASS P-TRAP WITH CLEAN-OUT PLUG. FLEXIBLE STAINLESS STEEL SUPPLIES WITH LOOSE KEY ANGLE STOPS. PROVIDE ADA COMPLIANT UNDER COUNTER PIPING WRAP BY TRUE-BRO, MODEL LAV GUARD 2. CONCEALED ARM CHAIR CARRIER WITH FOOT SUPPORT.
ICE-1	WATER OUTLET BOX	1/2	-.-	2	1 1/2	FLUSH MOUNTED IN WALL, DRAIN	WATER OUTLET BOX: GUY GREY T200LV DRAIN BOX, NOTCH COUNTERTOP BACK-SPLASH AND INSTALL DRAIN BOX DRAIN FLUSH WITH COUNTERTOP. PROVIDE WITH PVC TRAP. PROVIDE WATER-TITE ABI700HA WATER SUPPLY BOX WITH QUARTER TURN BALL VALVE AND WATER HAMMER ARRESTOR BELOW COUNTER. TWO (2) BRAIDED STAINLESS STEEL SUPPLY LINES. (1) FROM COLD WATER VALVE TO OWNER FURNISHED CONTRACTOR INSTALLED FILTER, (1) FROM FILTER TO TO ICE MACHINE.
FD-1	FLOOR DRAIN	-.-	-.-	2	1 1/2	FLOOR DRAIN	FLOOR DRAIN: SMITH FIGURE 2005Y FLOOR DRAIN WITH CAST IRON BODY AND FLASHING COLLAR WITH 6-INCH ROUND NICKEL BRONZE ADJUSTABLE STRAINER HEAD WITH SECURED GRATE. PROVIDE DEEP SEAL TRAP AND TRAP GUARD TYPE. TRAP SEAL DEVICE.
FS-1	FLOOR SINK	-.-	-.-	3	1 1/2	FLOOR SINK	FLOOR SINK: SMITH FIGURE 3100Y CAST IRON FLANGED RECEPTOR WITH ACID RESISTANT INTERIOR COATING, NICKEL BRONZE RIM AND SECURED 1/2 GRATE AND ALUMINUM DOME BOTTOM STRAINER.
FS-2	FLOOR SINK	-.-	-.-	4	1 1/2	FLOOR SINK	FLOOR SINK: SMITH FIGURE 3100Y CAST IRON FLANGED RECEPTOR WITH ACID RESISTANT INTERIOR COATING, NICKEL BRONZE RIM AND SECURED 1/2 GRATE AND ALUMINUM DOME BOTTOM STRAINER.
EW-1	EMERGENCY EYEWASH	1/2	1/2	-.-	-.-	TEPID WATER	GUARDIAN MODEL G1778-G8020 WALL MOUNTED EYEWASH WITH G8020 THERMOSTATIC MIXING VALVE. RIGHT HAND OR LEFT HAND MOUNTING, COORDINATE WITH ARCHITECTURAL PLANS. PROVIDE WATTS LF7 DUAL CHECK VALVES ON HOT AND COLD LINES.

1. WASTE AND VENT PIPING TO BE EPOXY COATED, SEE SPEC SECTION 221316

MEDICAL GAS OUTLETS SCHEDULE

SYMBOL	ROOM TYPE	# OF OUTLETS								PIPE DROP SIZE TO OUTLET(S)								REMARKS
		O2	MA	MV	WAGD	N2O	N	CO2	CA	O2	MA	MV	WAGD	N2O	N	CO2	CA	
MO-1	OPERATING ROOM CEILING OUTLET	2	2	2	1	1	-	-	-	1/2	1/2	3/4	3/4	1/2	-	-	-	3
MO-2	OPERATING ROOM WALL OUTLET	-	-	2	-	-	-	-	-	-	-	3/4	-	-	-	-	-	1.2
MO-3	OPERATING ROOM EQUIPMENT BOOM	-	-	3	-	-	1	2	-	-	-	3/4	-	-	1/2	1/2	-	1.4
MO-4	ANESTHESIA WORKROOM	-	1	-	-	-	-	-	-	-	1/2	-	-	-	-	-	-	1.2
MO-5	ANESTHESIA WORKROOM	1	1	1	-	-	-	-	-	1/2	1/2	3/4	-	-	-	-	-	1.2

UNLESS NOTED OTHERWISE, ALL OUTLETS ARE CHEMETRON-STYLE QUICK-CONNECTS

OUTLETS IN "MEDICAL EQUIPMENT" ARE SUPPLIED WITH THE PIECE OF EQUIPMENT

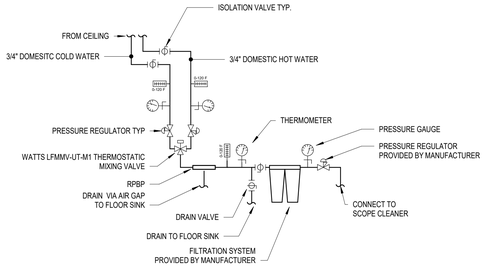
REFER TO ARCHITECTURAL ELEVATIONS AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND PLACEMENT OF OUTLETS.

1. PIPE DROP SIZES ARE FOR ONE SET OF OUTLETS
2. WALL MOUNTED OUTLETS
3. PROVIDE DISS OUTLETS IN CEILING WITH RETRACTABLE HOSES AND QUICK DISCONNECT FITTINGS.
4. CONNECT TO EQUIPMENT BOOM.

MEDICAL GAS VALVE SCHEDULE

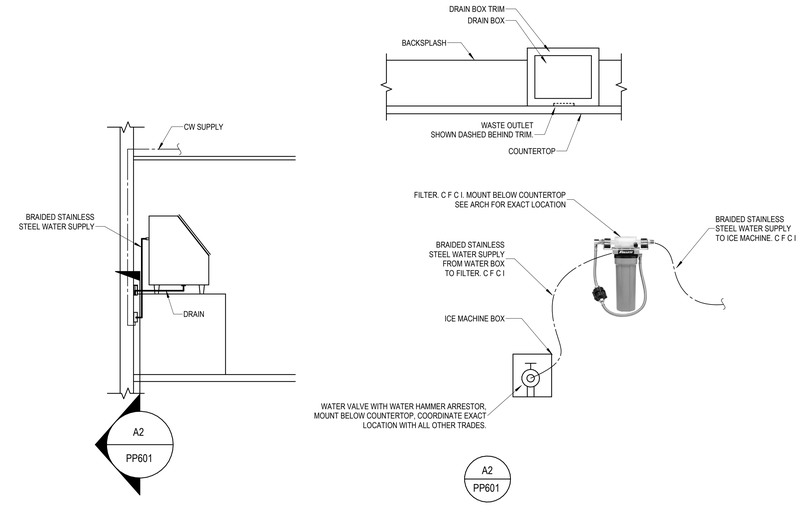
SYMBOL	AREA SERVED	PIPE SIZE (INCHES)							
		OX	MA	MV	WAGD	NO	N2	CO2	REMARKS
MV-1	SEE PLANS	3/4	3/4	1	1	3/4	3/4	3/4	1
MV-2	SEE PLANS	3/4	3/4	1	1	3/4	3/4	3/4	1
MV-3	SEE PLANS	3/4	3/4	1	-	-	-	-	1

1. ALL VALVE BOXES TO COME WITH WITH GAUGES



2 SCOPE WASHER PIPING DETAIL

SCALE: NOT TO SCALE



1 ICE MACHINE DETAIL

SCALE: NOT TO SCALE

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PLUMBING DETAILS & SCHEDULES

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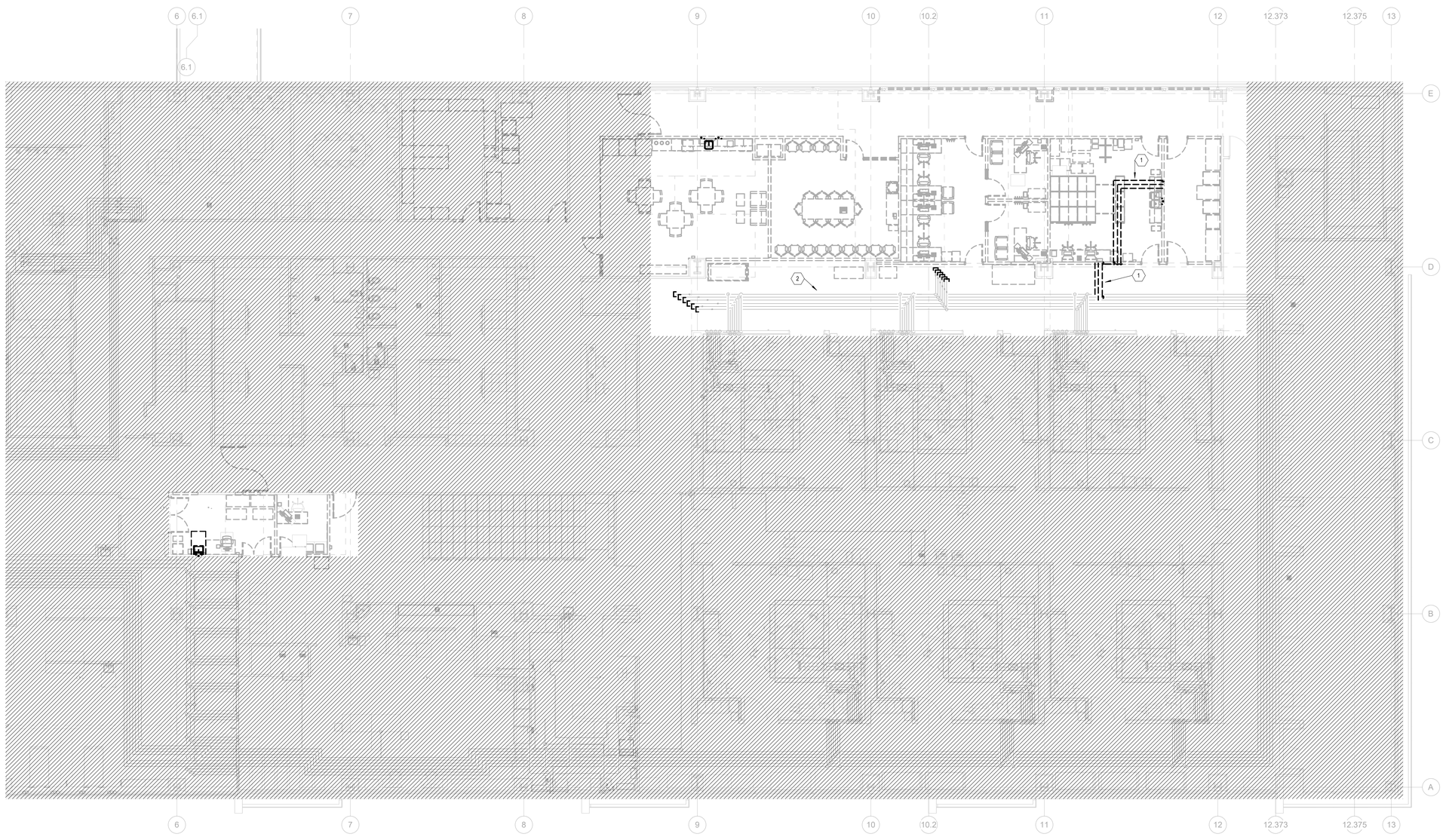

REFERENCE NOTES

1. EXISTING ELEMENTS SHOWN DARK AND DASHED TO BE DEMOLISHED, TYPICAL.
2. EXISTING ELEMENTS SHOWN LIGHT TO REMAIN. TYPICAL.

GENERAL NOTES

1. REFERENCE ARCHITECTURAL PHASING PLAN FOR ALL PHASING REQUIREMENTS. CONTRACTOR SHALL COORDINATE ALL PHASING REQUIREMENTS DURING BIDDING AND CONSTRUCTION.
2. EXISTING ELEMENTS SHOWN LIGHT, TYPICAL.
3. CONTRACTOR TO FIELD VERIFY EXACT ROUTING THROUGH EXISTING AREAS.

1 MEDICAL GAS DEMO PLAN LEVEL 3 - PHASE 2
SCALE: 1/8" = 1'-0"

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MEDICAL GAS DEMO PLAN LEVEL 3 - PHASE 2

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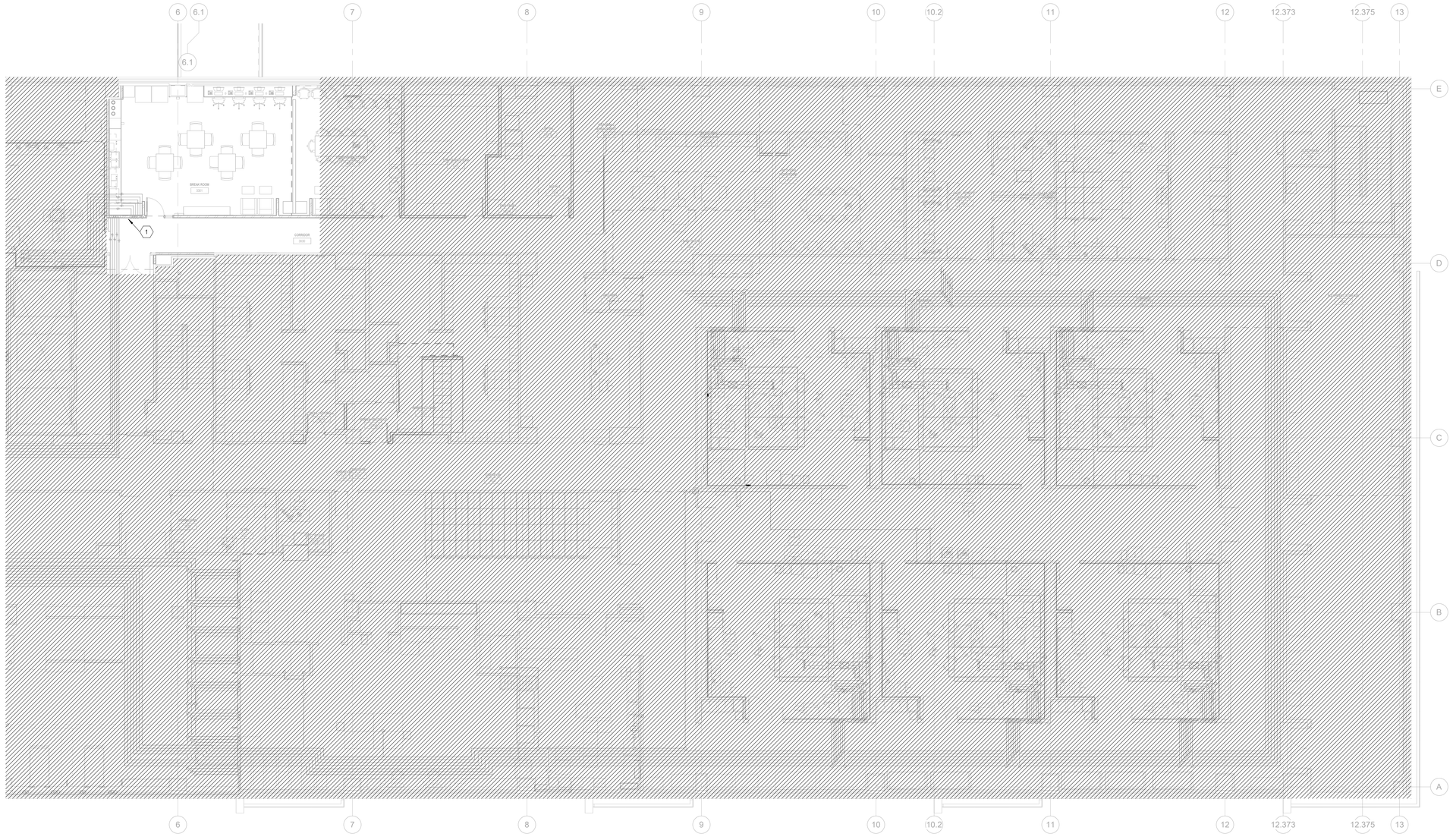

REFERENCE NOTES

1. COORDINATE EXISTING MED GAS VALVE BOX FOR PROCEDURE ROOMS WITH NEW WALL. CONTRACTOR TO RE-WORK AS NECESSARY FOR PROPER CONSTRUCTION OF WALL.

GENERAL NOTES

1. REFERENCE ARCHITECTURAL PHASING PLAN FOR ALL PHASING REQUIREMENTS. CONTRACTOR SHALL COORDINATE ALL PHASING REQUIREMENTS DURING BIDDING AND CONSTRUCTION.
2. EXISTING ELEMENTS SHOWN LIGHT, TYPICAL.
3. CONTRACTOR TO FIELD VERIFY EXACT ROUTING THROUGH EXISTING AREAS.

1 MEDICAL GAS PLAN LEVEL 3 - PHASE 1

SCALE: 1/8" = 1'-0"

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MEDICAL GAS PLAN LEVEL 3 - PHASE 1

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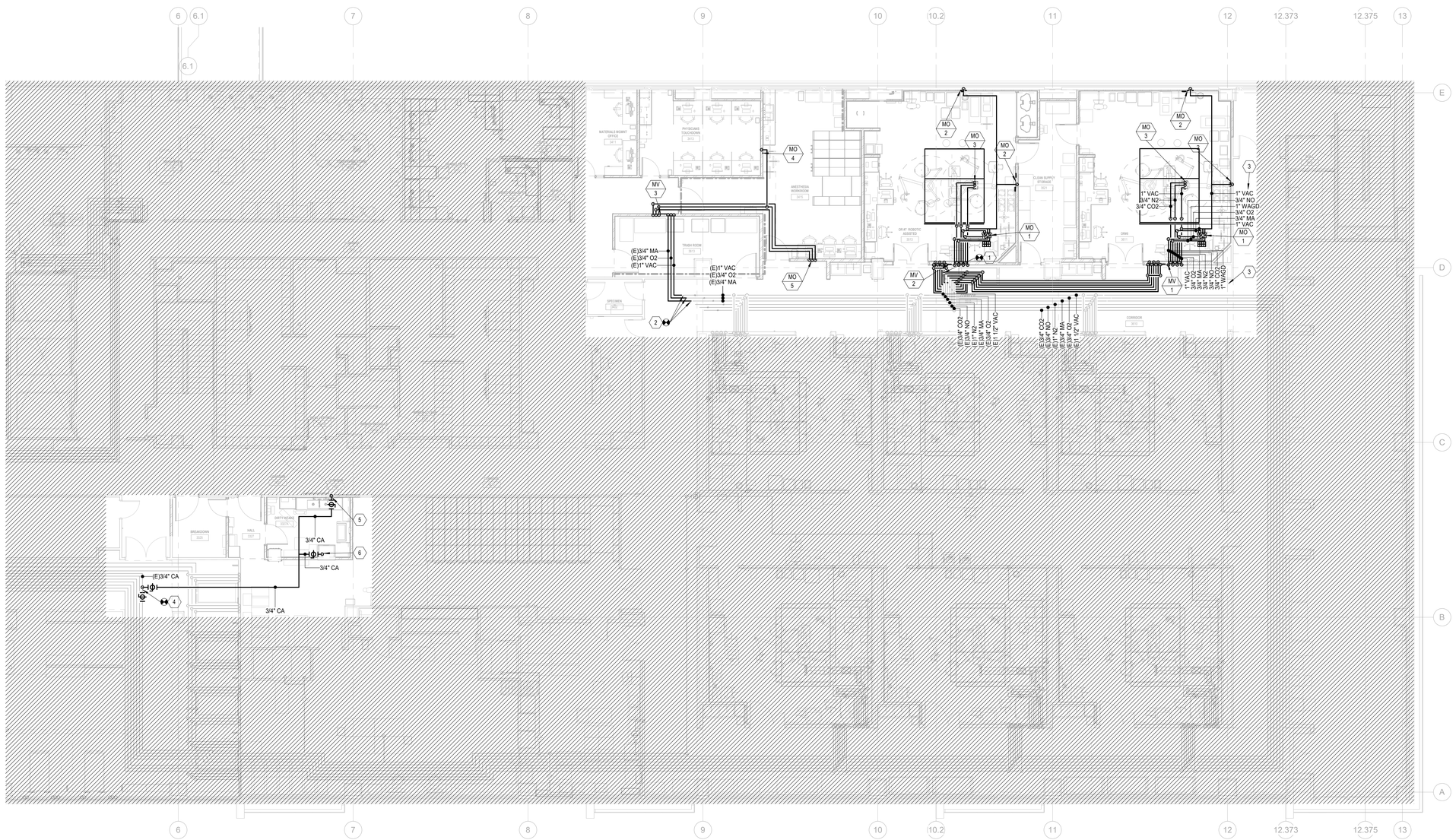

REFERENCE NOTES

1. CONNECT NEW 3/4" CO2, 3/4" NO, 1" N2, 3/4 MA, 3/4" O2, AND 1-1/2" VAC TO THE EXISTING LINES OF THE SAME SIZE.
2. CONNECT NEW 1" VAC AND 3/4" O2 TO THE EXISTING VAC AND O2 LINES OF THE SAME SIZE.
3. SIZING IS TYPICAL FOR BOTH OR'S.
4. CONNECT NEW 3/4" COMPRESSED AIR LINE TO EXISTING 3/4" COMPRESSED AIR LINE. PROVIDE LOCKABLE ISOLATION VALVES WITH FRANGIBLE LOCKS ON THE NEW AND EXISTING LINES AS SHOWN.
5. PROVIDE PRV AT AN ACCESSIBLE HEIGHT AND CONNECT VIA FLEXIBLE CONNECTION ABLE TO ACCOMODATE THE MOVEMENT OF THE MULTI COMP SINK PER MANUFACTURERS RECOMMENDATIONS.
6. CONNECT TO EQUIPMENT PER MANUFACTURERS RECOMMENDATIONS.

GENERAL NOTES

1. REFERENCE ARCHITECTURAL PHASING PLAN FOR ALL PHASING REQUIREMENTS. CONTRACTOR SHALL COORDINATE ALL PHASING REQUIREMENTS DURING BIDDING AND CONSTRUCTION.
2. EXISTING ELEMENTS SHOWN LIGHT, TYPICAL.
3. CONTRACTOR TO FIELD VERIFY EXACT ROUTING THROUGH EXISTING AREAS.

1 MEDICAL GAS PLAN LEVEL 3 - PHASE 2
SCALE: 1/8" = 1'-0"

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MEDICAL GAS PLAN LEVEL 3 - PHASE 2

MG105.2

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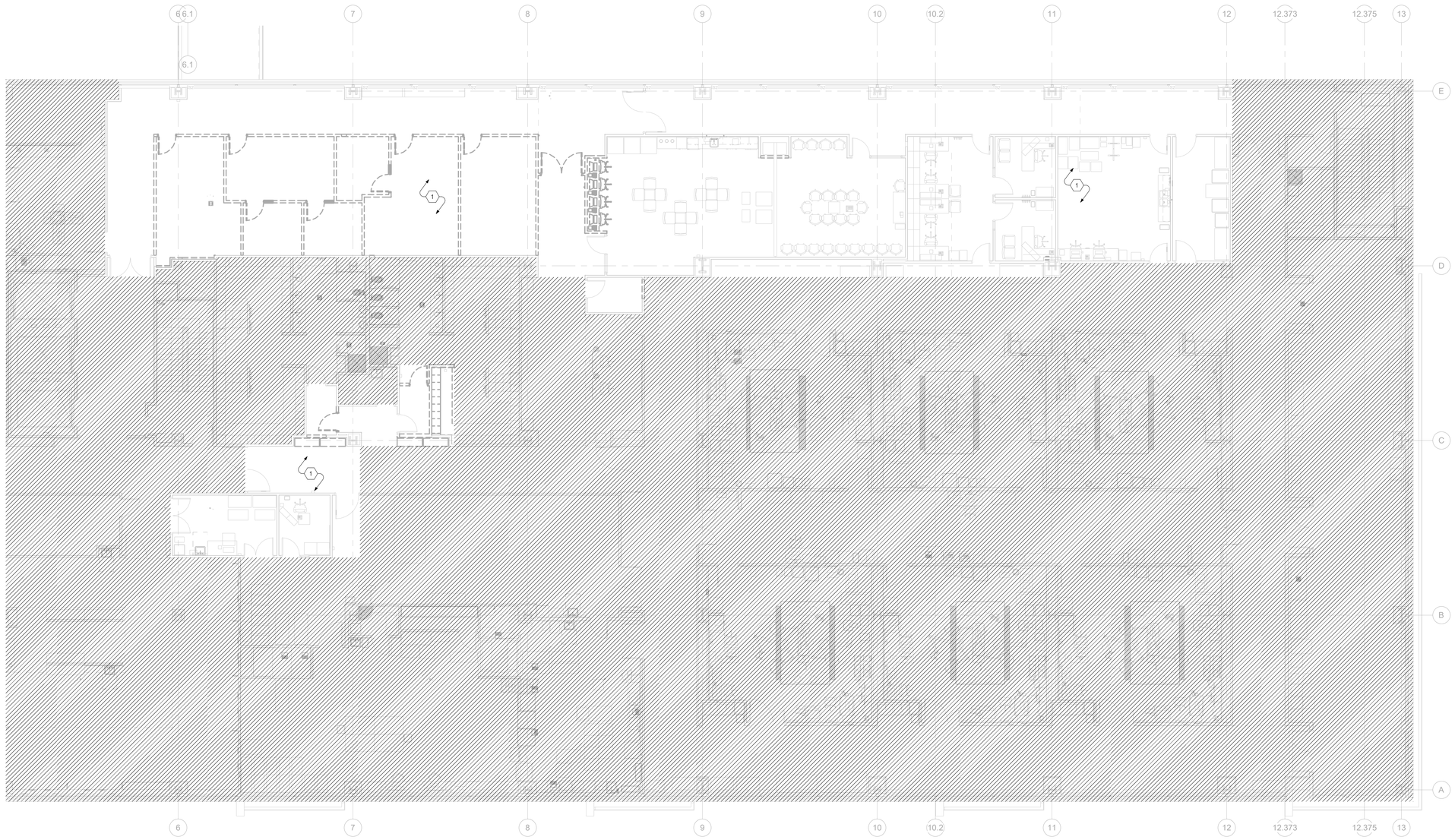
REFERENCE NOTES

1. THE FIRE SPRINKLER CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF THE EXISTING FIRE SPRINKLERS. ADD/REPOSITION EXISTING SPRINKLER LOCATION WITH A NEW SPRINKLER HEAD AS NECESSARY FOR THE REMODELED SPACE, INCLUDING NEW FLOOR PLAN, CEILING PLAN AND CEILING HEIGHT ADJUSTMENTS. MODIFY SPRINKLER PIPING AS REQUIRED, TYPICAL. REFER TO THE ARCHITECTURAL SHEETS FOR COMPLETE SCOPE OF THE PROJECT.



1 FIRE PROTECTION DEMO PLAN LEVEL 3 - PHASE 1

SCALE: 1/8" = 1'-0"

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FIRE PROTECTION DEMO PLAN LEVEL 3 - PHASE 1

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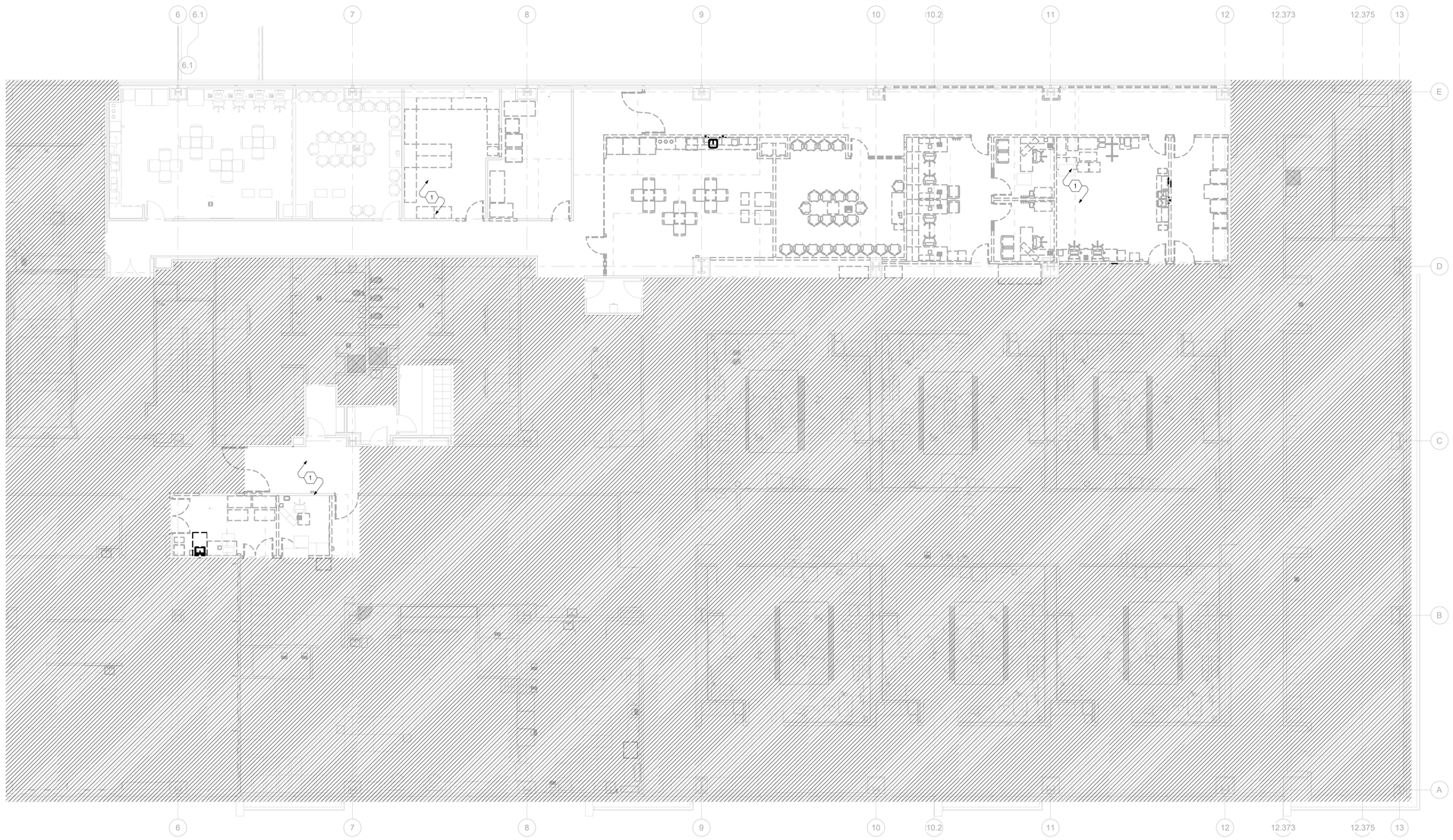

REFERENCE NOTES

1. THE FIRE SPRINKLER CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF THE EXISTING FIRE SPRINKLERS. ADD/REPOSITION EXISTING SPRINKLER LOCATION WITH A NEW SPRINKLER HEAD AS NECESSARY FOR THE REMODELED SPACE, INCLUDING NEW FLOOR PLAN, CEILING PLAN AND CEILING HEIGHT ADJUSTMENTS. MODIFY SPRINKLER PIPING AS REQUIRED, TYPICAL. REFER TO THE ARCHITECTURAL SHEETS FOR COMPLETE SCOPE OF THE PROJECT.

1 FIRE PROTECTION DEMO PLAN LEVEL 3 - PHASE 2

SCALE: 1/8" = 1'-0"

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FIRE PROTECTION DEMO PLAN LEVEL 3 - PHASE 2

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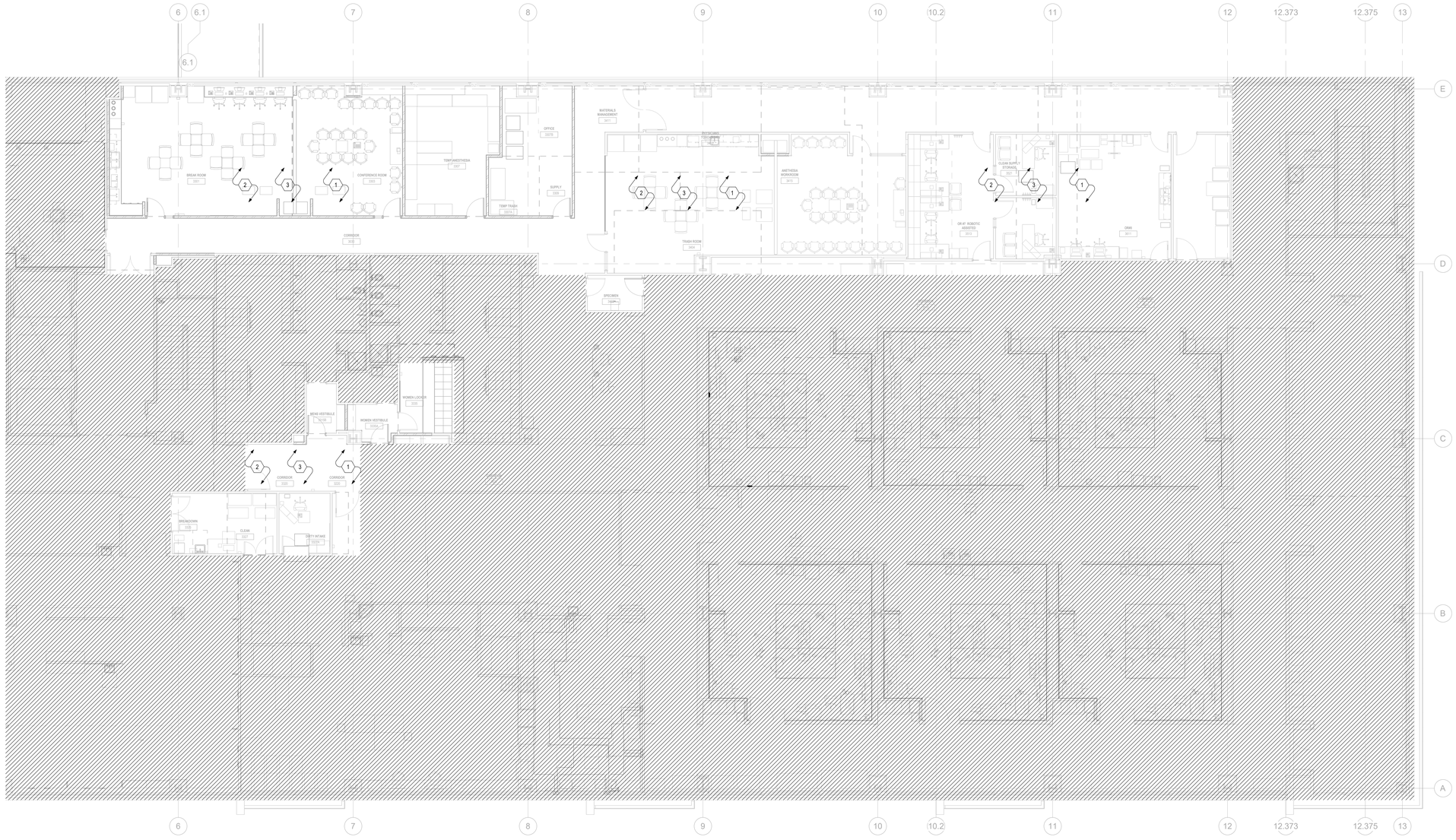

REFERENCE NOTES

1. THE FIRE SPRINKLER CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION OF THE EXISTING FIRE SPRINKLERS. ADD/REPOSITION EXISTING SPRINKLER LOCATION WITH A NEW SPRINKLER HEAD AS NECESSARY FOR THE REMODELED SPACE, INCLUDING NEW FLOOR PLAN, CEILING PLAN AND CEILING HEIGHT ADJUSTMENTS. MODIFY SPRINKLER PIPING AS REQUIRED, TYPICAL. REFER TO THE ARCHITECTURAL SHEETS FOR COMPLETE SCOPE OF THE PROJECT.
2. ALL SPRINKLERS IN THE REMODELED AREA ARE TO BE REPLACED WITH QUICK RESPONSE SPRINKLERS. REPLACEMENT OF SPRINKLERS SHALL EXTEND TO ALL WALLS OR SOFFIT BREAKS.
3. FIRE SPRINKLERS SHALL BE INSTALLED TO MEET NFPA 13-2016 REQUIREMENTS, TYPICAL.

1 FIRE PROTECTION PLAN LEVEL 3
SCALE: 1/8" = 1'-0"

TRUE PROJECT

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

LICENSED PROFESSIONAL ENGINEER
09-10-22
No. 11373888-2202
TREVOR DONEY
STATE OF UTAH

△ DATE REVISION

U of U PROJECT NUMBER 70366

FIRE PROTECTION PLAN LEVEL 3 - PHASE 1

FP105.1

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REFERENCE NOTES

1. THE FIRE SPRINKLER CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION OF THE EXISTING FIRE SPRINKLERS. ADD/REPOSITION EXISTING SPRINKLER LOCATION WITH A NEW SPRINKLER HEAD AS NECESSARY FOR THE REMODELED SPACE, INCLUDING NEW FLOOR PLAN, CEILING PLAN AND CEILING HEIGHT ADJUSTMENTS. MODIFY SPRINKLER PIPING AS REQUIRED, TYPICAL. REFER TO THE ARCHITECTURAL SHEETS FOR COMPLETE SCOPE OF THE PROJECT.
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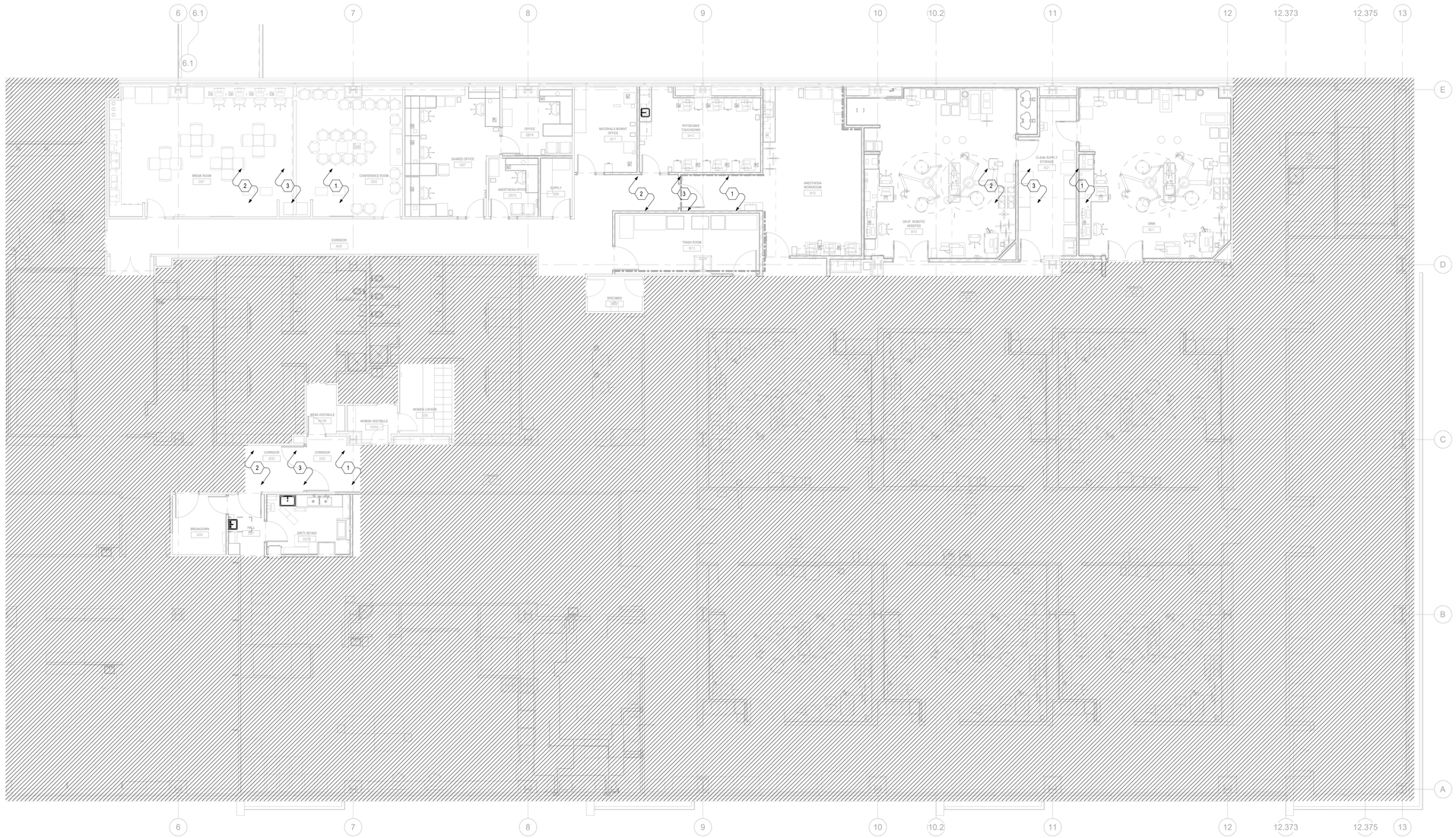
3. FIRE SPRINKLERS SHALL BE INSTALLED TO MEET NFPA 13-2016 REQUIREMENTS, TYPICAL.



1 FIRE PROTECTION PLAN LEVEL 3

SCALE: 1/8" = 1'-0"

TRUE PROJECT

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

LICENSED PROFESSIONAL ENGINEER
09-10-22
No. 11573858-2202
TREVOR DONEY
STATE OF UTAH

△ DATE REVISION

U of U PROJECT NUMBER 70306

FIRE PROTECTION PLAN LEVEL 3 - PHASE 2

FP105.2

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SYMBOLS LEGEND

SYMBOL	DESCRIPTION
REFERENCE AND LINE SYMBOLS	
A5 E-501	DETAIL INDICATOR: A5 INDICATES DETAIL NUMBER, E-501 INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.
A5 E-201	ELEVATION OR SECTION INDICATOR, EXTERIOR: A5 INDICATES ELEVATION OR SECTION NUMBER, E-201 INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
A5 E-201	ELEVATION OR SECTION INDICATOR, INTERIOR: A5 INDICATES ELEVATION OR SECTION NUMBER, E-201 INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
ROOM NAME 100	ROOM IDENTIFIER WITH ROOM NAME AND NUMBER.
1	KEYNOTE INDICATOR.
1	REVISION INDICATOR.
CU-1	EQUIPMENT INDICATOR.
X-X XMDP	MECHANICAL EQUIPMENT INDICATOR. "X-X" INDICATES EQUIPMENT MARK SHOWN ON EQUIPMENT SCHEDULE. "XMDP" IDENTIFIES PANEL EQUIPMENT IS CIRCUITED TO. REFER TO EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
	BREAK, STRAIGHT: TO BREAK PARTS OF DRAWING
	BREAK, ROUND
MATCH LINE SEE XX/X-XXX	MATCH LINE INDICATOR: CENTER, EXTRA WIDE LINE.
	NEW LINE: MEDIUM LINE.
	HIDDEN FEATURES LINE: HIDDEN, THIN LINE
	EXISTING TO REMAIN LINE: THIN LINE.
	DEMOLITION LINE: DASHED, MEDIUM LINE
	PROPERTY LINE: DASHED, WIDE LINE.
	CONTRACT LIMIT LINE: DASHDOT, WIDE LINE.
XXX EF-X	ELECTRICAL EQUIPMENT INDICATOR. "XXX" INDICATES TYPE OF EQUIPMENT OR EQUIPMENT ID. "EF-X" IDENTIFIES MECHANICAL EQUIPMENT BEING SERVED. REFER TO EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
X-X 1LA-3	EQUIPMENT INDICATOR. "X-X" INDICATES EQUIPMENT MARK SHOWN ON EQUIPMENT SCHEDULE. "1LA-3" IDENTIFIES PANEL EQUIPMENT IS CIRCUITED TO. REFER TO EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
WIRING METHODS	
	WIRING.
	WIRING TURNED UP OR TOWARDS OBSERVER.
	WIRING TURNED DOWN OR AWAY FROM OBSERVER.
A-1	SINGLE BRANCH CIRCUIT HOME RUN TO PANELBOARD WITH DEDICATED NEUTRAL CONDUCTOR. LETTER AND NUMBER NOTATION IDENTIFY PANEL AND CIRCUIT NUMBER.
A-1,3,5	BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS.
1 A-1,3,5	BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. NUMBER IN BOX REFERS TO THE CONDUCTOR AND CONDUIT SCHEDULE.
	LOW VOLTAGE WIRING: DIVIDE, MEDIUM LINE.
	CONDUIT STUB. DIMENSION RECORD DRAWINGS AND MARK.
1	CONDUCTOR & CONDUIT ("CC") SCHEDULE INDICATOR. REFER TO ONE-LINE DIAGRAM.
HC	ADA ACCESS PUSH PLATE
	JUNCTION BOX.
C	JUNCTION BOX, CEILING.
SC	JUNCTION BOX, SYSTEMS FURNITURE COMMUNICATION CONNECTION.
SP	JUNCTION BOX, SYSTEMS FURNITURE POWER CONNECTION.
PB	PULL BOX.
A"xB" +/-C'-D"	CABLE TRAY ABOVE ACCESSIBLE CEILING. "A" DENOTES CABLE TRAY WIDTH, "B" DENOTES CABLETRAY DEPTH. +/-C'-D" DENOTES CABLE TRAY ELEVATION ABOVE OR BELOW FINISHED SURFACE.
	LADDER RACK.
—J——J—	CABLE J-HOOKS ABOVE ACCESSIBLE CEILING.
	MECHANICAL EQUIPMENT CONNECTION. REFER TO EQUIPMENT SCHEDULE FOR REQUIREMENTS.
EV	ELECTRIC VEHICLE CHARGING STATION.
	GROUND BUSBAR. REFER TO GROUNDING RISER DIAGRAM FOR ADDITIONAL INFORMATION.

SYMBOLS LEGEND

SYMBOL	DESCRIPTION
WIRING DEVICES	
	RECEPTACLE, SINGLE: NEMA 5-20R.
	RECEPTACLE, DUPLEX: NEMA 5-20R.
A	RECEPTACLE, DUPLEX, ABOVE COUNTER: NEMA 5-20R.
C	RECEPTACLE, DUPLEX, CEILING: NEMA 5-20R.
D	RECEPTACLE, DUPLEX, DEDICATED CIRCUIT: NEMA 5-20R.
DF	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, DRINKING FOUNTAIN: CONCEAL WATER COOLER RECEPTACLE BEHIND WATER COOLER. SEE MECHANICAL/PLUMBING SHOP DRAWINGS FOR INSTALLATION REQUIREMENTS.
IG	RECEPTACLE, DUPLEX, ISOLATED GROUND: NEMA 5-20R.
S	RECEPTACLE, DUPLEX, SWITCHED: NEMA 5-20R.
W	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, WET LABEL, "WEATHERPROOF IN USE": NEMA 5-20R.
	RECEPTACLE, DUPLEX, HOSPITAL GRADE: NEMA 5-20R.
	RECEPTACLE, DUPLEX ON EMERGENCY POWER: NEMA 5-20R.
	RECEPTACLE, DUPLEX, HOSPITAL GRADE ON EMERGENCY POWER: NEMA 5-20R.
	RECEPTACLE, DUPLEX, CONNECTED TO UPS: NEMA 5-20R.
	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER: NEMA 5-20R.
	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, HOSPITAL GRADE: NEMA 5-20R.
	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, HOSPITAL GRADE ON EMERGENCY POWER: NEMA 5-20R.
WP	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, WEATHERPROOF: NEMA 5-20R.
	RECEPTACLE, DUPLEX, RECESSED: NEMA 5-20R.
S	RECEPTACLE, DUPLEX, SWITCHED, RECESSED: NEMA 5-20R.
	RECEPTACLE, QUADRAPLEX: NEMA 5-20R.
	RECEPTACLE, QUADRAPLEX ON EMERGENCY POWER: NEMA 5-20R.
	RECEPTACLE, QUADRAPLEX, HOSPITAL GRADE: NEMA 5-20R.
	RECEPTACLE, QUADRAPLEX, HOSPITAL GRADE ON EMERGENCY POWER: NEMA 5-20R.
	RECEPTACLE, QUADRAPLEX, CONNECTED TO UPS: NEMA 5-20R.
	RECEPTACLE, QUADRAPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER: NEMA 5-20R.
	RECEPTACLE, SPECIAL PURPOSE. PROVIDE RECEPTACLE TO MATCH EQUIPMENT PLUG.
	RECEPTACLE, SPECIAL PURPOSE ON EMERGENCY POWER. PROVIDE RECEPTACLE TO MATCH EQUIPMENT PLUG.
D	RECEPTACLE, DRYER: NEMA 14-30R.
R	RECEPTACLE, RANGE: NEMA 14-50R.
	MULTI-OUTLET ASSEMBLY: NEMA 5-20R.
D	DROP CORD. SEE DETAIL.
T	THERMOSTAT.
FB#	FLUSH FLOOR BOX. "#" SHOWN ON DRAWINGS. REFER TO WIRING DEVICE SCHEDULE IN THE ELECTRICAL SPECIFICATIONS FOR CONFIGURATION AND DEVICES.
PP#	POWER POLE. "#" SHOWN ON DRAWINGS. REFER TO WIRING DEVICE SCHEDULE IN THE ELECTRICAL SPECIFICATIONS FOR CONFIGURATION AND DEVICES.
PT#	FLUSH FIRE RATED POKE THRU. "#" SHOWN ON DRAWINGS. REFER TO WIRING DEVICE SCHEDULE IN THE ELECTRICAL SPECIFICATIONS FOR CONFIGURATION AND DEVICES.
	SWITCH, DIMMER.
X $	SWITCH, SINGLE POLE ("x" INDICATES FIXTURES CONTROLLED).
X $2	SWITCH, DOUBLE POLE ("x" INDICATES FIXTURES CONTROLLED).
X $3	SWITCH, THREE-WAY ("x" INDICATES FIXTURES CONTROLLED).
X $4	SWITCH, FOUR-WAY ("x" INDICATES FIXTURES CONTROLLED).
$DS	SWITCH, DOOR.
$K	SWITCH, KEY OPERATED.
$P	SWITCH, PILOT LIGHT.
$T	SWITCH, TIMER OPERATED.
$WP	SWITCH, WEATHERPROOF.
T	RECEPTACLE, DUPLEX, TAMPER RESISTANT: NEMA 5-20R.
	RECEPTACLE, QUADRAPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, HOSPITAL GRADE: NEMA 5-20R.
	RECEPTACLE, QUADRAPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, HOSPITAL GRADE ON EMERGENCY POWER: NEMA 5-20R.
	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, CONNECTED TO UPS: NEMA 5-20R.
	RECEPTACLE, SINGLE PLEX, WITH USB OUTLET
	RECEPTACLE, DULEX, RECESSED, NEMA 5-20R, AUTOMATICALLY CONTROLLED THROUGH TIME OR OCCUPANCY BASED CONTROLS (REFER TO PLANS FOR CONTROL METHOD)
	RECEPTACLE, QUADRAPLEX, RECESSED, NEMA 5-20R, AUTOMATICALLY CONTROLLED THROUGH TIME OR OCCUPANCY BASED CONTROLS (REFER TO PLANS FOR CONTROL METHOD)
	INDICATES A RECEPTACLE IS AUTOMATICALLY CONTROLLED THROUGH TIME OR OCCUPANCY BASED CONTROLS (REFER TO PLANS FOR CONTROL METHOD)

SYMBOLS LEGEND

SYMBOL	DESCRIPTION
SITE ELECTRICAL AND COMMUNICATIONS UTILITIES	
—3ØUP—	ELECTRIC LINE: THIN LINE. 1Ø = SINGLE PHASE, 2Ø = 2-PHASE, 3Ø = 3-PHASE, O = OVERHEAD, U = UNDERGROUND, P = PRIMARY, S = SECONDARY
	LIGHTNING ARRESTOR.
	UTILITY POLE.
	UTILITY, DISTRIBUTION SWITCH OR SWITCHING STATION.
E	UTILITY, PRIMARY ELECTRICAL HAND HOLE.
M	UTILITY SERVICES, MANHOLE.
C	UTILITY, COMMUNICATIONS MANHOLE.
E	UTILITY, ELECTRICAL MANHOLE.
T	UTILITY, TELEPHONE MANHOLE.
C	PRECAST CONCRETE, COMMUNICATION VAULT.
E	PRECAST CONCRETE, ELECTRICAL VAULT.
T	PRECAST CONCRETE, TELEPHONE VAULT.
TM	PRECAST CONCRETE, MANHOLE, TRANSFORMER VAULT.
TP	PRECAST CONCRETE, TRANSFORMER PAD.
H	HAND HOLE.
S	SUBSTATION.
T	TRANSFORMER.
ELECTRICAL POWER AND DISTRIBUTION	
	FUSE WITH RATING (ONE-LINE DIAGRAM).
	DISCONNECT, FUSED (ONE-LINE DIAGRAM).
	DISCONNECT, NONFUSED (ONE-LINE DIAGRAM).
	DISCONNECT WITH FUSE AND MOTOR STARTER COMBINATION (ONE-LINE DIAGRAM).
	OVERLOAD RELAY (ONE-LINE DIAGRAM).
	STARTER (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, MOLDED CASE (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, MOLDED CASE WITH SHUNT TRIP (ONE-LINE DIAGRAM).
MCP	CIRCUIT BREAKER, MOTOR CIRCUIT PROTECTION (ONE-LINE DIAGRAM).
#AF #AT	CIRCUIT BREAKER, ADJUSTABLE TRIP. "225AF" REPRESENTS THE RATING AND "150AT" REPRESENTS THE TRIP SETTING. (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, SOLID STATE (ONE-LINE DIAGRAM).
GFP	CIRCUIT BREAKER, SOLID STATE WITH GROUND FAULT PROTECTION (ONE-LINE DIAGRAM).
	MOTOR.
	TRANSFORMER (ONE-LINE DIAGRAM).
	TRANSFORMER, CURRENT (ONE-LINE DIAGRAM).
	BATTERY (ONE-LINE DIAGRAM).
	CAPACITOR (ONE-LINE DIAGRAM).
	DELTA CONNECTION (ONE-LINE DIAGRAM).
	WYE CONNECTION (ONE-LINE DIAGRAM).
"1DPHA"	DISTRIBUTION PANELBOARD, MOTOR CONTROL CENTER, PLUG-IN BUSWAY, MEDIUM VOLTAGE SWITCHBOARD (ONE-LINE DIAGRAM).
"1H"	PANELBOARD (ONE-LINE DIAGRAM).
225/3 "1H"	PANELBOARD WITH MAIN LUGS ONLY. BUS SIZE AND PHASE AS SHOWN (ONE-LINE DIAGRAM).
225/3 "1H"	PANELBOARD WITH MAIN CIRCUIT BREAKER. SIZE AND PHASE AS SHOWN (ONE-LINE DIAGRAM).
225/3 "1H" 60/3	PANELBOARD WITH MAIN AND SUB FEED CIRCUIT BREAKER (ONE-LINE DIAGRAM).

SYMBOLS LEGEND

SYMBOL	DESCRIPTION
ELECTRICAL POWER AND DISTRIBUTION	
225/3 "1H" 25/3	PANELBOARD WITH MAIN LUGS ONLY AND SURGE PROTECTION WITH CIRCUIT BREAKER (ONE-LINE DIAGRAM).
225/3 "1H" 225/3 "1H"	PANELBOARD WITH SUB FEED LUGS (ONE-LINE DIAGRAM).
225/3 "1H" "1H"	PANELBOARD WITH CIRCUIT BREAKER AND SUB FEED LUGS (ONE-LINE DIAGRAM).
	CT CABINET PER UTILITY'S REQUIREMENTS (ONE-LINE DIAGRAM).
	CT CABINET PER UTILITY'S REQUIREMENTS (ONE-LINE DIAGRAM).
	TRANSFER SWITCH (ONE-LINE DIAGRAM).
DMM	DIGITAL MULTIMETER (ONE-LINE DIAGRAM).
	EARTH GROUND (ONE-LINE DIAGRAM).
	SERVICE ENTRANCE SURGE PROTECTION (ONE-LINE DIAGRAM).
G	GENERATOR, ANNUNCIATOR (ONE-LINE DIAGRAM).
EPO	PUSH BUTTON, REMOTE EMERGENCY STOP.
G	GENERATOR, POWER (ONE-LINE DIAGRAM).
K	KIRK-KEY MECHANICAL INTERLOCK (ONE-LINE DIAGRAM)
M	METER.
BBF	BROAD BAND FILTER (ONE-LINE DIAGRAM).
VFC VFD	VARIABLE FREQUENCY MOTOR CONTROLLER (ONE-LINE DIAGRAM).
	DIODE (ONE-LINE DIAGRAM).
	DISCONNECT SWITCH, FUSED.
	DISCONNECT SWITCH, UNFUSED.
	STARTER, COMBINATION WITH DISCONNECT SWITCH.
	STARTER OR MOTOR CONTROLLER.
	PUSHBUTTON.
	PUSHBUTTONS, MOTOR CONTROL.
	PANELBOARD CABINET, FLUSH MOUNTED.
	PANELBOARD CABINET, SURFACE MOUNTED, 1 SECTION.
	PANELBOARD CABINET, SURFACE MOUNTED, 2 SECTION.
DP#__	DISTRIBUTION PANEL OR SWITCHBOARD.
LP	LIGHTING RELAY, CONTACTOR PANEL, OR DIMMING ENCLOSURE.
$ST	SWITCH, TOGGLE MOTOR STARTER WITH OVERLOAD PROTECTION.
	TRANSFORMER (SEE ONE-LINE FOR SIZE)
B B	BUSWAY.
	RELAY CONTACT, NORMALLY CLOSED (ONE-LINE DIAGRAM).
	RELAY CONTACT, NORMALLY OPEN (ONE-LINE DIAGRAM).
	PUSHBUTTON, NORMALLY CLOSED (ONE-LINE DIAGRAM).
	PUSHBUTTON, NORMALLY OPEN (ONE-LINE DIAGRAM).
	PRESSURE SWITCH, CLOSE ON INCREASE (ONE-LINE DIAGRAM).
	PRESSURE SWITCH, OPEN ON INCREASE (ONE-LINE DIAGRAM).
	SWITCH, NORMALLY CLOSED FLOAT (ONE-LINE DIAGRAM).
	SWITCH, NORMALLY OPEN FLOAT (ONE-LINE DIAGRAM).
	SWITCH, NORMALLY CLOSED LIMIT (ONE-LINE DIAGRAM).
	SWITCH, NORMALLY OPEN LIMIT (ONE-LINE DIAGRAM).
	SWITCH, NORMALLY CLOSED TEMPERATURE ACTIVATED (ONE-LINE DIAGRAM).
	SWITCH, NORMALLY OPEN TEMPERATURE ACTIVATED (ONE-LINE DIAGRAM).
	SWITCH, NORMALLY CLOSED TIME DELAY (ONE-LINE DIAGRAM).
	SWITCH, NORMALLY OPEN TIME DELAY (ONE-LINE DIAGRAM).
	SWITCH, NORMALLY CLOSED FOOT OPERATED (ONE-LINE DIAGRAM).
	SWITCH, MULTIPOSITION (ONE-LINE DIAGRAM).
	SWITCH, SINGLE BREAK (ONE-LINE DIAGRAM).
	SPECIALIZED TRANSFER SWITCH (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, DRAW OUT (ONE-LINE DIAGRAM).
GESM	GENERATOR ENGINE START MONITORING SYSTEM GENERATOR MODULE (ONE-LINE DIAGRAM).
ESM	GENERATOR ENGINE START MONITORING SYSTEM ATS MODULE (ONE-LINE DIAGRAM).
PRM	PHASE ROTATION MONITOR (ONE-LINE DIAGRAM).

ABBREVIATIONS

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

1P	SINGLE POLE
1PH	SINGLE-PHASE
1WAY	ONE-WAY
2/C	TWO-CONDUCTOR
2WAY	TWO-WAY
3/C	THREE-CONDUCTOR
3WAY	THREE-WAY
4OUT	QUADRUPLE RECEPTACLE OUTLET
4PDT	FOUR-POLE DOUBLE THROW
4PST	FOUR-POLE SINGLE THROW
4W	FOUR-WIRE
4WAY	FOUR-WAY
A	ABOVE COUNTER
AC	ARMORED CABLE
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERE INTERRUPTING CAPACITY
ALUM	ALUMINUM
AMP	AMPERE
ANN	ANNUNCIATOR
AP	ACCESS POINT (WIRELESS DATA)
AR	AS REQUIRED
ASC	AMPS SHORT CIRCUIT
ATS	AUTOMATIC TRANSFER SWITCH
AV	AUDIO VISUAL
AWG	AMERICAN WIRE GAGE
BB XFMR	BUCK-BOOST TRANSFORMER
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
C	CEILING MOUNTED
CAT	CATEGORY
CATV	COMMUNITY ANTENNA TELEVISION
CB	CIRCUIT BREAKER
CCBA	CUSTOM COLOR AS SELECTED BY ARCHITECT
CCTV	CLOSED CIRCUIT TELEVISION
CF/CI	CONTRACTOR FURNISHED/ CONTRACTOR INSTALLED
CF/OI	CONTRACTOR FURNISHED/ OWNER INSTALLED
CFBA	CUSTOM FINISH AS SELECTED BY ARCHITECT
CKT	CIRCUIT
CM	CONSTRUCTION MANAGER
CND	CONDUIT
CO	CONVENIENCE OUTLET
COR	CONTRACTING OFFICER'S REPRESENTATIVE
CP	CONTROL PANEL
CT	CURRENT TRANSFORMER
CTV	CABLE TELEVISION
CU	COPPER
dBA	UNIT OF SOUND LEVEL
DPDT	DOUBLE POLE, DOUBLE THROW
DS	DISCONNECT SWITCH
E	ENHANCED
EA	EACH
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENT	ELECTRIC NONMETALLIC TUBING
EPO	EMERGENCY POWER OFF
EQUIP	EQUIPMENT
ER	EQUIPMENT ROOM
EX	EXISTING
F	FURNITURE MOUNTED
FA	FIRE ALARM
FCP	FIRE ALARM CONTROL PANEL
FLA	FULL LOAD AMPS
FMC	FLEXIBLE METAL CONDUIT
FOB	FREIGHT ON BOARD
FPP	FIBER PATCH PANEL
FVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING
GEN	GENERATOR
GFCI	GROUND FAULT INTERRUPTER
GFP	GROUND FAULT PROTECTION
GIG	GIGA HERTZ
GND	GROUND
HD	HEAVY DUTY
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTOMATIC
HP	HORSE POWER
HPF	HIGH POWER FACTOR
HPS	HIGH PRESSURE SODIUM
HV	HIGH VOLTAGE
HWM	HORIZONTAL WIRE MANAGEMENT
HZ	HERTZ
I/O	INPUT/ OUTPUT
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
IN/IS	INSULATED/ ISOLATED
IR	INFRARED
J-BOX	JUNCTION BOX
kV	KILOVOLT
kVA	KILOVOLT AMPERE

kVAR	KILOVOLT AMPERE REACTIVE
kW	KILOWATT
kWh	KILOWATT HOUR
LED	LIGHT EMITTING DIODE
LFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT
LFNC	LIQUID TIGHT FLEXIBLE NONMETALLIC CONDUIT
LPS	LOW PRESSURE SODIUM
LRA	LOCKED ROTOR AMPS
LTG	LIGHTING
LV	LOW VOLTAGE
MATV	MASTER ANTENNA TELEVISION SYSTEM
MAX	MAXIMUM
MC	METAL CLAD
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTION
MDP	MAIN DISTRIBUTION PANEL
MG	MOTOR GENERATOR
MH	MANHOLE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
MTS	MANUAL TRANSFER SWITCH
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFC	NATIONAL FIRE CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
OCP	OVER CURRENT PROTECTION
OE	OWNER ELECTRONICS
OF/CI	OWNER FURNISHED/ CONTRACTOR INSTALLED
OF/OI	OWNER FURNISHED/ OWNER INSTALLED
OFP	OBTAIN FROM PLANS
OH DR	OVERHEAD (COILING) DOOR
OL	OVERLOAD
PB	PUSHBUTTON
PF	POWER FACTOR
PH	PHASE
PNL	PANEL
PNM	PLENUM
PR	PAIR
PS	POWER SUPPLY
PT	POTENTIAL TRANSFORMER
PTZ	PAN/TILT/ZOOM
QTY	QUANTITY
R	REMOVE
RCP	REFLECTED CEILING PLAN
RMC	RIGID METAL CONDUIT
RNC	RIGID NONMETAL CONDUIT
RPM	REVOLUTIONS PER MINUTE
RPP	RISER PATCH PANEL
RR	REMOVE AND RELOCATE
S/S	START/STOP
SCA	SHORT CIRCUIT AMPS
SCBA	STANDARD COLOR AS SELECTED BY ARCHITECT
SF	SQUARE FOOT (FEET)
SFBA	STANDARD FINISH AS SELECTED BY ARCHITECT
SPD	SURGE PROTECTIVE DEVICE
SPDT	SINGLE POLE, DOUBLE THROW
SPEC	SPECIFICATION
SPP	STATION PATCH PANEL
SPST	SINGLE POLE, SINGLE THROW
ST	SINGLE THROW
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TL	TWIST LOCK
TP	TELEPHONE POLE
TP	TWISTED PAIR
TR	TELECOMMMUNICATIONS ROOM
TTB	TELEPHONE TERMINAL BOARD
TV	TELEVISION
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSER
TYP	TYPICAL
UF	UNDERFLOOR
UGND	UNDERGROUND
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VA	VOLT AMPERE
VFC/VFD	VARIABLE FREQUENCY MOTOR CONTROLLER
VWM	VERTICAL WIRE MANAGEMENT
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
WPP	WIRELESS PATCH PANEL
XFMR	TRANSFORMER

DEFINITIONS

NOTE: ALL DEFINITIONS MAY NOT BE USED.

INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.

DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.

APPROVED: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.

FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."

INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."

PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."

INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB-SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.

TECHNOLOGY SYSTEMS: THE TERM "TECHNOLOGY SYSTEMS" IS USED TO DESCRIBE ALL LOW VOLTAGE SYSTEMS GENERALLY REFERRED TO AS "SPECIAL SYSTEMS". THESE SYSTEMS INCLUDE BUT ARE NOT NECESSARILY LIMITED TO ALL SYSTEMS WHICH UTILIZE VOLTAGES OF LESS THAN 71 VOLTS SUCH AS SOUND SYSTEMS, VIDEO SYSTEMS, TV SYSTEMS, SECURITY SYSTEMS, VOICE AND DATA CABLING SYSTEMS, ETC...

GENERAL ELECTRICAL NOTES

1. CLARIFICATION METHODS: AT THE TIME OF BIDDING, BIDDERS SHALL FAMILIARIZE THEMSELVES WITH THE DRAWINGS AND SPECIFICATIONS. ANY QUESTIONS, MISUNDERSTANDINGS, CONFLICTS, DELETIONS, DISCONTINUED PRODUCTS, CATALOG NUMBER DISCREPANCIES, DISCREPANCIES BETWEEN THE EQUIPMENT SUPPLIED AND THE INTENT OR FUNCTION OF THE EQUIPMENT, ETC, SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER IN WRITING FOR CLARIFICATION PRIOR TO ISSUANCE OF THE FINAL ADDENDUM AND BIDDING OF THE PROJECT. WHERE DISCREPANCIES OR MULTIPLE INTERPRETATIONS OCCUR, THE MOST STRINGENT (WHICH IS GENERALLY RECOGNIZED AS THE MOST COSTLY) THAT MEETS THE INTENT OF THE DOCUMENTS SHALL BE ENFORCED.

2. OWNER FURNISHED ITEMS: THE OWNER WILL FURNISH MATERIAL AND EQUIPMENT AS INDICATED IN THE CONTRACT DOCUMENTS TO BE INCORPORATED INTO THE WORK. THESE ITEMS ARE ASSIGNED TO THE INSTALLER AND COSTS FOR RECEIVING, HANDLING, STORAGE, IF REQUIRED, AND INSTALLATION ARE INCLUDED IN THE CONTRACT SUM.

   A. THE INSTALLER'S RESPONSIBILITIES ARE THE SAME AS IF THE INSTALLER FURNISHED THE MATERIALS OR EQUIPMENT.

   B. THE OWNER WILL ARRANGE AND PAY FOR DELIVERY OF OWNER FURNISHED ITEMS FREIGHT ON BOARD JOB SITE AND THE INSTALLER WILL INSPECT DELIVERIES FOR DAMAGE. IF OWNER FURNISHED ITEMS ARE DAMAGED, DEFECTIVE OR MISSING, DOCUMENT DAMAGED ITEMS WITH THE TRANSPORT COMPANY AND THE OWNER WILL ARRANGE FOR REPLACEMENT. THE OWNER WILL ALSO ARRANGE FOR MANUFACTURER'S FIELD SERVICES, AND THE DELIVERY OF MANUFACTURER'S WARRANTIES AND BONDS TO THE INSTALLER.

   C. THE INSTALLER IS RESPONSIBLE FOR DESIGNATING THE DELIVERY DATES OF OWNER FURNISHED ITEMS AND FOR RECEIVING, UNLOADING AND HANDLING OWNER FURNISHED ITEMS AT THE SITE.THE INSTALLER IS RESPONSIBLE FOR PROTECTING OWNER FURNISHED ITEMS FROM DAMAGE, INCLUDING DAMAGE FROM EXPOSURE TO THE ELEMENTS, AND TO REPAIR OR REPLACE ITEMS DAMAGED AS A RESULT OF HIS OPERATIONS.

3. EXPOSED STRUCTURE AREAS (EXCLUDING MECHANICAL, ELECTRICAL, AND COMMUNICATION SPACES): INSTALL RACEWAYS BETWEEN DECK AND STRUCTURE WHEREVER POSSIBLE IN EXPOSED STRUCTURE CEILING AREAS. ROUTE RACEWAYS IN CONCEALED AREAS WHEREVER POSSIBLE. REFER ALL CONDITIONS WHERE RACEWAYS MUST BE INSTALLED WHICH CANNOT COMPLY WITH THESE REQUIREMENTS TO THE ARCHITECT.

4. SUBMITTALS: PROVIDE ORIGINAL ELECTRONIC PDF FORMAT, BOUND, BOOKMARKED (EACH SECTION AND PRODUCT), AND HIGHLIGHTED. JOB NAME AND SUBCONTRACTOR SHALL BE ON THE FRONT COVER. PREPARE INDEX OF EQUIPMENT SUBMITTED IN EACH TAB.

5. REFLECTED CEILING PLANS: COORDINATE THE LOCATION OF LIGHT FIXTURES WITH THE ARCHITECTURAL REFLECTED CEILING PLANS. REFER ALL DISCREPANCIES TO THE ARCHITECT AND ENGINEER.

6. ALL WORK SHALL BE DONE ACCORDING TO THE CURRENT NATIONAL ELECTRIC CODE (NEC), IBC, NFPA, AND IFC. COMPLIANCE AND FINAL APPROVAL IS SUBJECT TO THE ON SITE FIELD INSPECTION OF THE AHJ.

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

LICENSED PROFESSIONAL ENGINEER No. 185978 PETER E. JOHANSEN STATE OF UTAH
09/19/22

DATE REVISION

U of U PROJECT NUMBER

SHEET INDEX, ABBREVIATIONS, AND GENERAL NOTES

EE001

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SYMBOLS LEGEND

SYMBOL	DESCRIPTION
LIGHTING	
(W-3)	FIXTURE IDENTIFICATION: (W-3) INDICATES FIXTURE TYPE AS SCHEDULED.
(W-3E)	FIXTURE IDENTIFICATION: EMERGENCY LIGHTING FIXTURE WITH BATTERY PACK AND/ OR GENERATOR AND/ OR CENTRALIZED INVERTER AND/ OR CENTRALIZED UPS CONNECTION AS INDICATED IN PLANS. (W-3E) INDICATES FIXTURE TYPE AS SCHEDULED.
EM	EMERGENCY.
NL	NIGHT LIGHT: DO NOT SWITCH.
	EGRESS DIRECTION ARROW (EXIT SIGNS).
	EXIT SIGN: SINGLE FACE; CEILING MOUNTED
	EXIT SIGN: SINGLE FACE; WALL MOUNTED
	EXIT SIGN: DOUBLE FACE; CEILING MOUNTED
	EXIT SIGN: DOUBLE FACE; WALL MOUNTED
LIGHTING CONTROL	
	OCCUPANCY SENSOR, DUAL TECHNOLOGY, OMNI-DIRECTIONAL, CEILING.
	OCCUPANCY SENSOR, DUAL TECHNOLOGY, WALL.
	OCCUPANCY SENSOR, DUAL TECHNOLOGY, DIRECTIONAL.
P	PHOTOCELL.
P	PHOTOCELL, WALL MOUNTED.
	VACANCY SENSOR, DUAL TECHNOLOGY, OMNI-DIRECTIONAL, CEILING.
	VACANCY SENSOR, DUAL TECHNOLOGY, WALL.
	CEILING FAN.
	SWITCH/OCCUPANCY SENSOR COMBO, DUAL TECHNOLOGY, WALL.
	SWITCH/VACANCY SENSOR COMBO, DUAL TECHNOLOGY, WALL.
	DIMMER SWITCH/OCCUPANCY SENSOR COMBO, DUAL TECHNOLOGY, WALL.
	DIMMER SWITCH/VACANCY SENSOR COMBO, DUAL TECHNOLOGY, WALL.
a,b	LOW VOLTAGE DIGITAL LIGHTING CONTROL SWITCH: LETTER "a,b" INDICATES ZONING WHERE SHOWN (REFER TO PLANS, SCHEDULES, AND DETAILS FOR EXACT BUTTON CONFIGURATION AND PROGRAMMING REQUIREMENTS)
RC	DIGITAL LIGHTING ROOM CONTROLLER
DC	DIGITAL LIGHTING DIMMING CONTROLLER
LC	DIGITAL PLUG LOAD CONTROLLER
LS	LIGHTING NETWORK SWITCH.
NR	LIGHTING NETWORK ROUTER.
SM	LIGHTING NETWORK SEGMENT MANAGER
NB	LIGHTING NETWORK BRIDGE
ET	LIGHTING EMERGENCY TRANSFER DEVICE
L X	LIGHTING SPACE CONTROL TYPE. X INDICATES TYPE. SEE SCHEDULE / DIAGRAM.
TWO-WAY COMMUNICATIONS	
2WA	TWO-WAY COMMUNICATIONS MAIN CONTROL STATION (ANNUNCIATOR)
RCS	TWO-WAY COMMUNICATIONS REMOTE CALL STATION
	DATA CONNECTION: TWO-WAY EMERGENCY COMMUNICATION SYSTEM.

SYMBOLS LEGEND

SYMBOL	DESCRIPTION
FIRE ALARM	
FAA	FIRE ALARM ANNUNCIATOR PANEL.
FACP	FIRE ALARM CONTROL PANEL, SEMI-RECESSED.
FATC	FIRE ALARM TERMINAL CABINET: NAC, SLC, SPEAKER CIRCUITS; AMPLIFIERS, BATTERIES
HVAC	CONTROL PANEL FOR HVAC: SMOKE CONTROL, STAIR PRESSURIZATION.
EVAC	VOICE EVACUATION PANEL.
PRE	PRE-ACTION CONTROL PANEL.
MIC	REMOTE VOICE EVACUATION MICROPHONE.
FPC	FIRE PUMP CONTROLLER.
JPC	JOCKEY PUMP CONTROLLER.
C	AUTOMATIC DOOR CLOSERS: DOOR CLOSERS SHALL BE FURNISHED WITH DOOR HARDWARE AND CONNECTED BY FIRE ALARM INSTALLER.
CM	CONTROL MODULE.
MM	MONITOR MODULE.
F	FIRE ALARM MANUAL PULL STATION.
R	SHUT DOWN RELAY: INSTALL RELAY IN CONTROL CIRCUIT OF EQUIPMENT TO BE CONTROLLED IN THE EVENT OF A FIRE.
FS	WATER FLOW SWITCH. FLOW SWITCHES SHALL BE PROVIDED AND INSTALLED BY FIRE SPRINKLER CONTRACTOR AND SHALL BE CONNECTED TO LOCATIONS SHOWN ON THE FIRE SPRINKLER SHOP DRAWINGS.
VS	VALVE SUPERVISORY SWITCH, TAMPER SWITCH. TAMPER SWITCHES SHALL BE PROVIDED AND INSTALLED BY FIRE SPRINKLER CONTRACTOR AND SHALL BE CONNECTED TO LOCATIONS SHOWN ON THE FIRE SPRINKLER SHOP DRAWINGS.
PS	PRESSURE SUPERVISORY SWITCH. PRESSURE SWITCHES SHALL BE PROVIDED AND INSTALLED BY FIRE SPRINKLER CONTRACTOR AND SHALL BE CONNECTED TO LOCATIONS SHOWN ON THE FIRE SPRINKLER SHOP DRAWINGS.
	MAGNETIC DOOR HOLDER.
	DETECTOR, SMOKE.
H	DETECTOR, SMOKE, WALL MOUNTED.
A	DETECTOR, SMOKE WITH AUXILIARY CONTACT.
BR	DETECTOR, SMOKE, BEAM RECEIVER.
BT	DETECTOR, SMOKE, BEAM TRANSMITTER.
E	DETECTOR, SMOKE, ELEVATOR RECALL DESIGNATION.
G	DETECTOR, SMOKE WITH GUARD.
R	DETECTOR, SMOKE, RESIDENTIAL.
S	DETECTOR, SMOKE WITH STROBE.
RS	DETECTOR, SMOKE, RESIDENTIAL WITH SOUNDER BASE.
AS	DETECTOR, SMOKE, AIR SAMPLING SYSTEM PORT LOCATION.
	DETECTOR, SMOKE, DUCT WITH HOUSING AND SAMPLING TUBE.
SD	SMOKE DAMPER. 120V POWER FROM ELECTRICAL SYSTEM.
FSD	COMBINATION FIRE/SMOKE DAMPER. 120V POWER FROM ELECTRICAL SYSTEM.
RTS	REMOTE ALARM INDICATING AND TEST SWITCH.
	DETECTOR, HEAT.
CO	DETECTOR, CARBON MONOXIDE.
	STROBE, WALL MOUNTED.
75	STROBE, WALL MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
WP	ALARM, HORN/SPEAKER, WALL MOUNTED, WEATHERPROOF.
	ALARM, HORN/STROBE, WALL MOUNTED, ONE ASSEMBLY.
75	ALARM, HORN/STROBE, WALL MOUNTED, ONE ASSEMBLY. SUBSCRIPT INDICATES CANDELA RATING.
C	ALARM, CHIME/STROBE, WALL MOUNTED, ONE ASSEMBLY.
G	ALARM, HORN/STROBE WITH GUARD, WALL MOUNTED, ONE ASSEMBLY.
M	ALARM, MINI HORN/STROBE, WALL MOUNTED, ONE ASSEMBLY.
	SPEAKER, WALL MOUNTED, EVACUATION.
	SPEAKER, WALL MOUNTED, EVACUATION, COMBINATION STROBE.
75	SPEAKER, WALL MOUNTED, EVACUATION, COMBINATION STROBE. SUBSCRIPT INDICATES CANDELLA RATING.
75	ALARM, HORN/STROBE, ONE ASSEMBLY, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
75	ALARM, HORN, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
75	SPEAKER/STROBE, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
	SPEAKER, CEILING MOUNTED.
75	ALARM, STROBE, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
	BELL, ELECTRIC, 120V FROM ELECTRICAL SYSTEM OR 24V FROM FIRE ALARM SYSTEM

SYMBOLS LEGEND

SYMBOL	DESCRIPTION
CLOCK	
H C	CLOCK.
H C G	CLOCK, SURFACE WITH WIRE GUARD.
NURSE CALL	
	JUNCTION BOX.
	CORRIDOR LIGHT.
B	BATHROOM PULL CORD STATION.
D	DUTY STATION.
E	EMERGENCY ASSISTANCE CALL STATION.
E CB	EMERGENCY ASSISTANCE CODE BLUE CALL STATION.
P	PATIENT STATION.
S	STAFF STATION.
NCM	TOUCH SCREEN NURSE CALL MASTER STATION.
ZLC	ZONE LIGHT CONTROLLER.
CU	NURSE CALL AREA CONTROL UNIT & POWER SUPPLIES.
CCTV	
P	CCTV CABLE, POWER.
V	CCTV CABLE, VIDEO SIGNAL.
CCTV	CCTV HEADEND EQUIPMENT.
M	CCTV MONITOR.
	CCTV CAMERA/ENCLOSURE WITH LENS, TYPICAL. SEE SCHEDULE.
PTZ	CCTV CAMERA WITH PAN, TILT AND ZOOM.
360°	PANNING CAMERA TRANSVERSE ANGLE.
SECURITY	
X	SECURITY CABLE. SEE EQUIPMENT SCHEDULE FOR CABLE TYPE.
ACC	ACCESS CONTROL HEADEND EQUIPMENT.
CTR	SECURITY CONTROL PANEL.
SEC	INTRUSION DETECTION HEADEND EQUIPMENT.
#1	CARD ACCESS DOOR TYPE #1 OR AS NOTED. SEE SCHEDULE.
CR	CARD READER.
KCR	KEYPAD/CARD READER COMBINATION.
	DOOR SWITCH, BALANCED MAGNETIC CONTROL.
ER	EXIT REQUEST.
RL	REMOTE DOOR RELEASE BUTTON.
	BELL.
	BUZZER.
	BUZZER, COMBINATION BELL.
	SENSOR, BURIED VEHICULAR.
	SENSOR, GLASS BREAK.
	SENSOR, VOLUMETRIC.
CA	CONTROLLED ACCESS POINT.
IC	INTERCOM STATION.
IRU	DUAL TECHNOLOGY PASSIVE INFRARED SENSOR AND ULTRASONIC MOTION DETECTOR.
IR	PASSIVE INFRARED SENSOR.
P	PANIC DURESS SWITCH.
U	ULTRASONIC MOTION DETECTOR.
AP	ANNUNCIATOR PANEL.
MSI	MASTER STATION, INTERCOM.
TV DISTRIBUTION	
T	TV DISTRIBUTION CABLE, INDIVIDUAL DROPS.
TR	TV DISTRIBUTION CABLE, TRUNK.
CMB	COMBINER.
DC	DIRECTIONAL COUPLER.
DA	DISTRIBUTION AMPLIFIER (ONE-LINE DIAGRAM).
SPL	SPLITTER (ONE-LINE DIAGRAM).
	TV OUTLET.
	SATELLITE ANTENNA.
	TV ANTENNA (ONE-LINE DIAGRAM).
	TERMINATOR, 75 OHM (TV DISTRIBUTION).

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U of U PROJECT NUMBER

SYMBOLS LEGEND

EE002

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OUTLET COLOR SCHEDULE

COLOR	TYPE	
WHITE	DATA	
GRAY	WIRELESS	
WHITE	SECURITY	
ORANGE	MONITORING	

EQUIPMENT/CABLE LIST

THE ITEMS INDICATED BELOW SHALL NOT BE CONSTRUED AS A "BILL OF MATERIALS". THIS LIST IDENTIFIES ITEMS OF SIGNIFICANCE USED DURING THE DESIGN OF THE CABLING INSTALLATION. WHERE THE ITEMS INDICATED ARE ONE PORTION OF AN ASSEMBLY, THE ENTIRE ASSEMBLY SHALL BE PROVIDED UNLESS SPECIFIED OTHERWISE. PROVIDE ALL MISCELLANEOUS HARDWARE AND SUPPORTS WHICH MAY NOT BE LISTED HERE, FOR A COMPLETE INSTALLATION. COMPARE CATALOG NUMBERS WITH DESCRIPTIONS AND NOTIFY ENGINEER OF DISCREPANCIES PRIOR TO BID. IF CATALOG NUMBERS DO NOT MATCH DESCRIPTIONS, THE DESCRIPTIONS TAKE PRECEDENCE. PROVIDE COMPLETE SUBMITTAL FOR APPROVAL PRIOR TO PURCHASING ANY EQUIPMENT OR CABLE. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

SYMBOL	ITEM DESCRIPTION	ACCEPTABLE TYPES
	STATION CABLE, DATA - CATEGORY 6, UTP, PLENUM, WHITE, DATA	COMMSCOPE UN874049714/10
	STATION CABLE, PHILIPS MONITORING - CATEGORY 6, UTP, PLENUM, ORANGE, DATA	COMMSCOPE UN874027614/10
	STATION CABLE, DATA - CATEGORY 6A, UTP, PLENUM, WHITE, WIRELESS	COMMSCOPE UN874026814/10
	DATA OUTLET, SINGLE GANG FACEPLATE, WHITE, 1 POSITION	COMMSCOPE 108168469
▽	CATEGORY 6 JACK - DATA , WHITE	COMMSCOPE 700206725
	BLANK MODULE, WHITE	COMMSCOPE 107067928
W	WALL PHONE OUTLET, SINGLE GANG FACEPLATE, STAINLESS STEEL, 1 POSITION	COMMSCOPE 760100867
	CATEGORY 6 JACK - DATA , WHITE	COMMSCOPE 700206725
A	DATA OUTLET, SINGLE GANG FACEPLATE, WHITE, 2 POSITION (A=ABOVE COUNTER)	COMMSCOPE 108168469
▽▽	CATEGORY 6 JACK - DATA , WHITE	COMMSCOPE 700206725
	DATA OUTLET, SINGLE GANG FACEPLATE, WHITE, 3 POSITION	COMMSCOPE 108168543
▼	CATEGORY 6 JACK - DATA , WHITE	COMMSCOPE 700206725
	BLANK MODULE, WHITE	COMMSCOPE 107067928
C,M	DATA OUTLET, MONITOR DEVICE, SINGLE GANG FACEPLATE, WHITE, 1 POSITION	COMMSCOPE 108168469
▽	CATEGORY 6 JACK - DATA , ORANGE	COMMSCOPE 700206683
	BLANK MODULE, WHITE	COMMSCOPE 107067928
	DATA OUTLET, SINGLE GANG FACEPLATE, WHITE, 3 POSITION	COMMSCOPE 108168543
C	CATEGORY 6 JACK - DATA , WHITE	COMMSCOPE 700206725
▼	BLANK MODULE, WHITE	COMMSCOPE 107067928
	DATA OUTLET, SINGLE GANG FACEPLATE, WHITE, 4 POSITION	COMMSCOPE 108168543
4C	CATEGORY 6 JACK - DATA , WHITE	COMMSCOPE 700206725
	DATA OUTLET, SURFACE MOUNT BOX, WHITE, 2 POSITION	COMMSCOPE 107984056
	CATEGORY 6A JACK - WIRELESS, GRAY	COMMSCOPE 760092437
	DATA OUTLET, WHITE, 1 POSITION	COMMSCOPE 107984015
	CATEGORY 6 JACK - SECURITY, WHITE	COMMSCOPE 700206725
WPP1	STATION PATCH PANEL,MODULAR, 48-PORT, BLACK, 2RU	COMMSCOPE 760187195
	CATEGORY 6A JACK - WIRELESS, GRAY	COMMSCOPE 760092437
SPP1	STATION PATCH PANEL,MODULAR, 48-PORT, BLACK, 2RU	COMMSCOPE 760187195
	CATEGORY 6 JACK - DATA , WHITE	COMMSCOPE 700206725
HWM	HORIZONTAL WIRE MANAGER, BLACK, 2RU, FRONT ONLY	CHATSWORTH 13930-702

NOTE: ALL RACKS, LADDER, PATCH PANELS AND ACCESSORIES SHALL BE BLACK IN COLOR.

GENERAL PROJECT NOTES

1. CONTRACTOR TO BE COMMSCOPE SYSTIMAX CERTIFIED PRIOR TO TIME OF BID, AND MUST BE ABLE TO PROVIDE TO THE OWNER A 25 YEAR SYSTEM WARRANTY FROM THE MANUFACTURER.
2. UNLESS OTHERWISE NOTED, INSTALL ALL CABLE INSIDE RACEWAY SYSTEMS. WHERE RACEWAY SYSTEMS HAVE NOT BEEN PROVIDED OR SPECIFIED, INSTALL CABLE THROUGH THE SPECIFIED "CADDY" CLIPS AT THE MINIMUM INTERVALS IDENTIFIED IN THE SPECIFICATIONS. SUPPORT "CADDY" CLIPS DIRECTLY FROM THE BUILDING STRUCTURE, NOT FROM OTHER BUILDING SYSTEM SUPPORT WIRES OR CABLE.
3. PROVIDE PLENUM RATED CABLE FOR ALL SPECIFIED CABLE.
4. LABEL ALL CABLE INSTALLED UNDER THIS CONTRACT REGARDLESS OF LENGTH, ACCORDING TO WRITTEN SPECIFICATION.
5. THE EQUIPMENT LABELING IDENTIFIED ON DETAILS IN THESE DRAWINGS ARE EXAMPLES ONLY OF THE ACTUAL LABELING WHICH IS REQUIRED AS PART OF THIS CONTRACT. PRIOR TO FABRICATION, SUBMIT THE NOMENCLATURE FOR ALL LABELS TO THE OWNER FOR REVIEW. THIS REQUIREMENT INCLUDES BUT IS NOT LIMITED TO ALL CABLE LABELING, AND ALL EQUIPMENT LABELING.
6. GROUND ALL EQUIPMENT RACKS LADDER RACK, AND EQUIPMENT INSTALLED UNDER THIS CONTRACT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS AND WRITTEN SPECIFICATION.
7. PROVIDE THE QUANTITY OF PATCH PANELS REQUIRED +20% FOR THE TOTAL VOICE AND DATA OUTLETS SHOWN ON FLOOR PLANS FOR THE PARTICULAR LEVEL.
8. COORDINATE WITH OWNER I.T. PERSONNEL ON RACK PATCH PANEL DENSITY PRIOR TO ANY CABLE TERMINATION.
9. FACEPLATE COLOR WILL BE DETERMINED BY THE ARCHITECT AND OWNER. FACEPLATE COLOR SHOULD MATCH ELECTRICAL FACEPLATE COLOR, UNLESS OTHERWISE SPECIFIED.
10. FOR EVERY WAP CABLE PULL SPECIFIED, COIL 15' OF EXCESS CABLE AT THE STATION END FOR FUTURE USE. NEATLY COIL 15' ABOVE THE CEILING OR BELOW FLOOR WHERE APPLICABLE.
11. FOR EVERY CABLE PULL SPECIFIED, COIL 3' OF EXCESS CABLE AT THE STATION END FOR FUTURE USE. NEATLY COIL 3' ABOVE THE CEILING OF BELOW THE FLOOR WHERE APPLICABLE.

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TELECOM SCHEDULES AND NOTES

EE003

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AV RACEWAY SYSTEMS SCHEDULE

SYMBOL	DESCRIPTION	MOUNTING	SPECIAL INSTRUCTIONS
2B	JUNCTION BOX FOR AV CONNECTION PANEL, 4-11/16" BOX WITH A 2-GANG MUD RING, MAXIMUM DEPTH FOR STUD SPACE	FLUSH IN THE WALL AT ELECTRICAL OUTLET HEIGHT, EXCEPT WHERE NOTED	
BP	JUNCTION BOX FOR BUTTON PANEL, 4-11/16" BOX WITH A 1-GANG MUD RING, MAXIMUM DEPTH FOR STUD SPACE	FLUSH IN THE WALL AT ELECTRICAL SWITCH HEIGHT	
TP	JUNCTION BOX FOR TOUCH PANEL, 4-11/16" BOX WITH A 2-GANG MUD RING, MAXIMUM DEPTH FOR STUD SPACE	FLUSH IN THE WALL AT ELECTRICAL SWITCH HEIGHT	
S	SPEAKER ENCLOSURE; ATLAS SOUND FA97-6 W/ FA81-6 OR FA-TR-6	FLUSH IN THE FINISHED CEILING	PROVIDE THE FA97-6 & FA81-8 IN LAY-IN CEILING TILE AREAS, PROVIDE THE FA97-6 & FA-TR6 IN GYPSUM BOARD CEILING AREAS
	JUNCTION BOX FOR CAMERA 4-11/16" BOX WITH 2-GANG MUD RING, MAXIMUM DEPTH FOR STUD SPACE	FLUSH IN THE WALL AT 84" AFF	
	CONDUIT STUB WITH NYLON BUSHING FOR INVERTED CAMERA	TO STRUCTURE OR JOIST	TERMINATE CONDUIT TO WITHIN 4" OF CAMERA ATTACHMENT POINT TO STRUCTURE
*	JUNCTION BOX FOR PROJECTOR 1-GANG	FLUSH IN THE FINISHED CEILING	INSTALL IN THE SPECIFIED LAY-IN CEILING TILE BRIDGE, COORDINATE WITH THE AV INSTALLER
	PROJECTION SCREEN, RECESS MOUNTED ELECTRIC ROLL-UP W/ TENSION CABLES, UP/DOWN CONTROL SWITCH AND LOW VOLTAGE CONTROL INTERFACE. DALITE TENSIONED ADVANTAGE SERIES, 16:9 ASPECT RATIO WITH HD PROGRESSIVE 1.1 PROJECTION SURFACE AND 24" OF BLACK DROP FOR 116"X72" IMAGE SIZE.	FLUSH IN THE FINISHED CEILING	TERMINATE CONTROL CABLE CONDUIT TO PROJECTION SCREEN ENCLOSURE.
UD	JUNCTION BOX FOR PROJECTION SCREEN UP/DOWN SWITCH, 4-11/16" BOX WITH A 1-GANG MUD RING, MAXIMUM DEPTH FOR STUD SPACE	FLUSH IN THE WALL AT ELECTRICAL SWITCH HEIGHT	COORDINATE INSTALLATION LOCATIONS WITH LIGHT SWITCHES AND WRITING SURFACES
	CONDUIT, 3/4" MINMUM EMT	CONCEALED BEHIND FINISHED SURFACES, UNLESS NOTED OTHERWISE	REFER TO RISER DIAGRAMS FOR EXACT SIZES & QUANTITIES
M#	LARGE CAPACITY JUNCTION BOX FOR LARGE SCREEN MONITOR, WITH TRIM RING AND COVER: LEGRAND (CHIEF) PAC-526FCW, ARCHITECT TO SELECT COLOR	FLUSH IN THE WALL, COORDINATE MOUNTING HEIGHT WITH THE ELEVATION SHOWN IN THE ARCHITECTURAL DRAWINGS	
	AV EQUIPMENT RACK, NO REQUIREMENT		FURNISHED AND INSTALLED BY AV CONTRACTOR

AV ROUGH-IN SHEET INDEX

GENERAL A/V NOTES

1. IF THE ENCLOSURES, BOXES & CABINETS SPECIFIED ARE NOT PROVIDED FROM MANUFACTURER, WITH THE REQUIRED KNOCK OUTS FOR THE SPECIFIED CONDUIT, FIELD CUT ALL REQUIRED KNOCK OUTS TO TERMINATE THE QUANTITY AND SIZES FOR THE SPECIFIED CONDUITS.
2. MAINTAIN MAXIMUM SEPARATION BETWEEN AV SYSTEM CONDUIT AND ALL POWER CONDUIT.
3. INSTALL NYLON PULL STRING IN ALL AV SYSTEM CONDUIT.
4. INSTALL ALL CONDUIT IN A CONCEALED FASHION. SURFACE MOUNTED CONDUIT WILL NOT BE ACCEPTED UNLESS SPECIFICALLY IDENTIFIED IN DRAWINGS.
5. ABBREVIATIONS

   AFF - ABOVE FINISHED FLOOR
   C - CONDUIT (EMT)
   EA - EACH
6. COVER ALL INSTALL JUNCTION BOXES WITH BLANK COVER PLATES.
7. COORDINATE SPECIFIC LOCATION OF LECTERN CONDUIT STUBS WITH ARCHITECTURAL DRAWINGS.

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
09/19/22

△	DATE	REVISION
1	09/12/2022	DOH Response 1

U of U PROJECT NUMBER

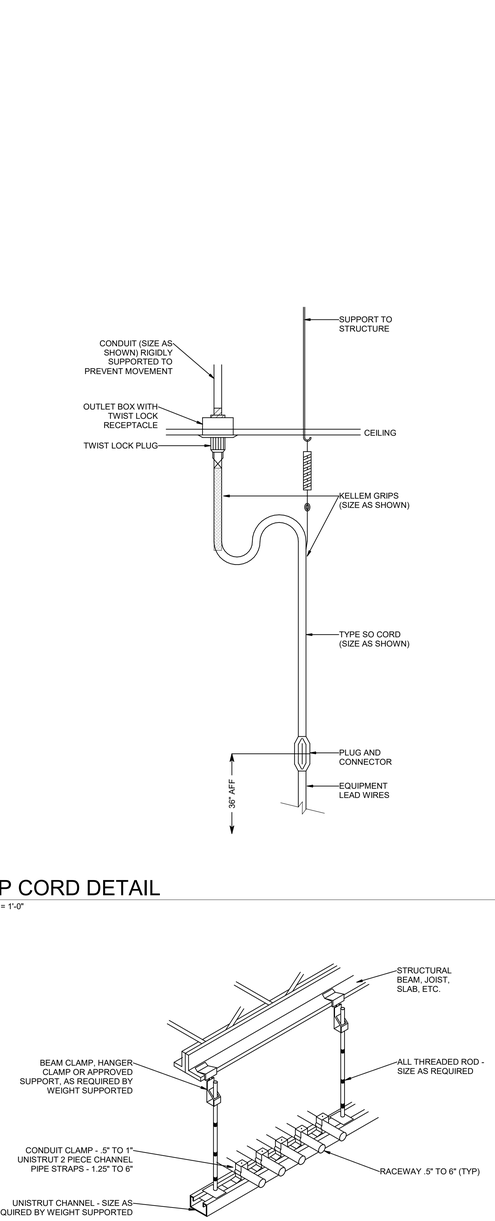
AV ROUGH-IN SCHEDULE AND GENERAL NOTES

EE004

Autodesk Docs://22042 UofUACCORs/220272 ELEC CENTRAL.rvt

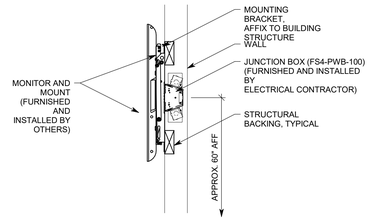
B1 DROP CORD DETAIL

SCALE: 1/8" = 1'-0"



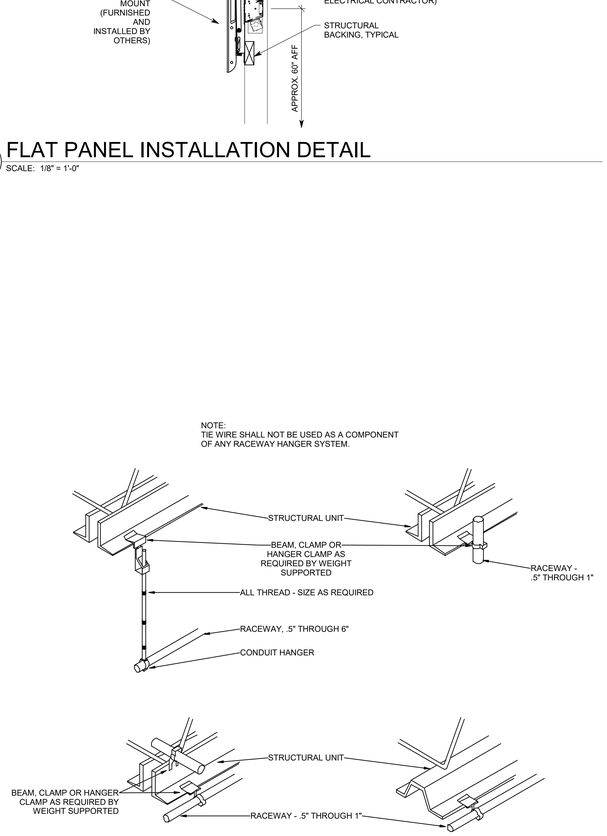
A1 TYPICAL CONDUIT RACK DETAIL

SCALE: 1/8" = 1'-0"



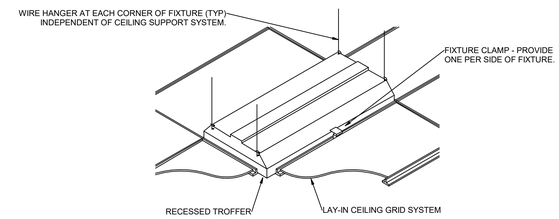
C3 FLAT PANEL INSTALLATION DETAIL

SCALE: 1/8" = 1'-0"



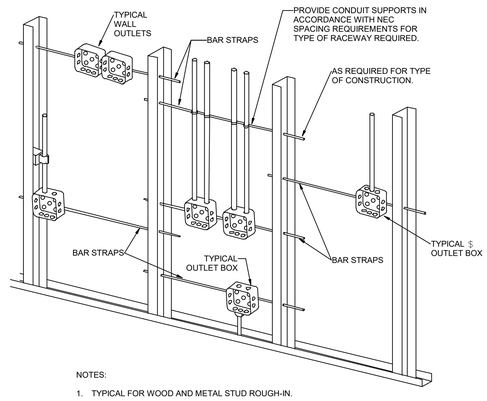
A3 TYPICAL RACEWAY SUPPORT METHODS DETAIL

SCALE: 1/8" = 1'-0"



C5 RECESSED FIXTURE MOUNTING DETAIL

SCALE: 1/8" = 1'-0"



NOTES:

1. TYPICAL FOR WOOD AND METAL STUD ROUGH-IN.
2. PLASTER RINGS NOT SHOWN.
3. LOCATE ALL OUTLET BOXES IN ACCORDANCE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS AND WITH ALL APPLICABLE SHOP DRAWINGS.
4. IN ACCORDANCE WITH IBC 714.3.2 EXCEPTION 1, OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS IN THE SAME STUD SPACE IN A RATED FIRE SEPARATION WALL MUST BE SEPARATED BY A MINIMUM OF 24" HORIZONTAL DISTANCE OR LISTED, SOUND AND FIRE RATED PUTTY PADS SHALL BE USED ON THE OUTLET BOXES.
5. IN NON-RATED WALLS, OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS MUST BE SEPARATED BY 16" FOR SOUND ATTENUATION.

A5 TYPICAL ROUGH-IN REQUIREMENTS DETAIL

SCALE: 1/8" = 1'-0"

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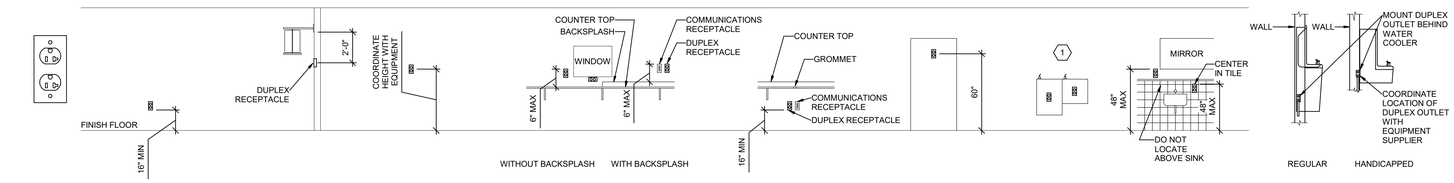
U of U PROJECT NUMBER

ELECTRICAL DETAILS

EE501

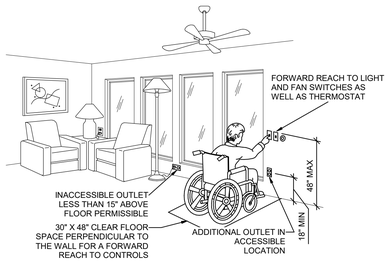
Autodesk Docs://22042 UofUACCORs/220272 ELEC CENTRAL.rvt



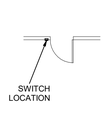
DUPLEX RECEPTACLES | GENERAL USE: NO SPECIAL REQUIREMENTS | WALL BRACKET TV | DEDICATED RECEPTACLE FOR SPECIAL EQUIPMENT | WITHOUT BACKSPLASH | WITH BACKSPLASH | RECEPTACLES ABOVE COUNTER | RECEPTACLES BELOW COUNTER | FULL HEIGHT REFRIGERATORS AND VENDING MACHINES | DRINKING FOUNTAIN | TILE WALLS | REGULAR | HANDICAPPED | DRINKING FOUNTAIN - SIDE ELEVATIONS

REFER TO ARCHITECTURAL ELEVATIONS FOR PLACEMENT OF OUTLETS.

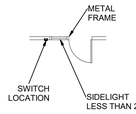
E2 RECEPTACLE MOUNTING DETAILS
SCALE: NTS



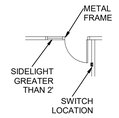
SWITCHES



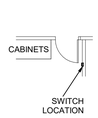
STANDARD DOOR



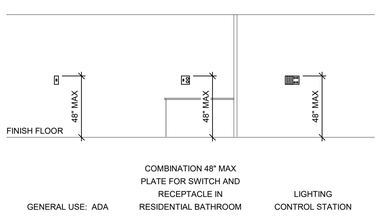
DOOR WITH SIDELIGHT LESS THAN 2'



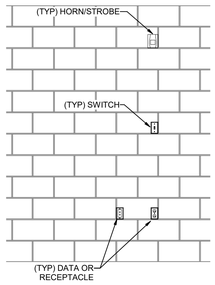
DOOR WITH SIDELIGHT GREATER THAN 2'



DOOR WITH NO PLACE FOR SWITCH AT LATCH SIDE

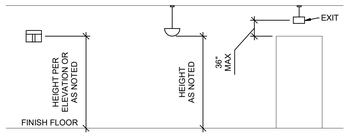


GENERAL USE: ADA | COMBINATION 48" MAX PLATE FOR SWITCH AND RECEPTACLE IN RESIDENTIAL BATHROOM | LIGHTING CONTROL STATION



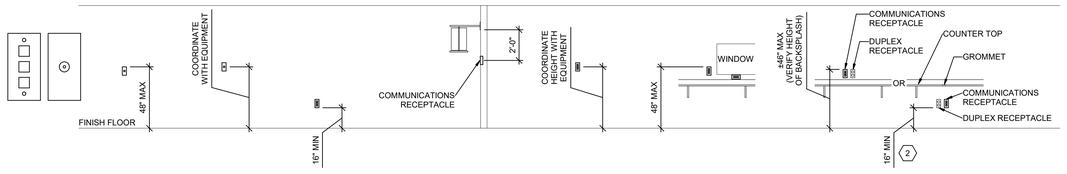
NOTE: ALL DEVICES SHALL BE INSTALLED AND LOCATED IN THE BLOCK CONSISTENTLY THROUGH OUT THE BUILDING.

D2 ADA DETAIL
SCALE: NTS



WALL MOUNTED LIGHT FIXTURE | PENDANT LIGHT FIXTURE | PENDANT EXIT SIGNS

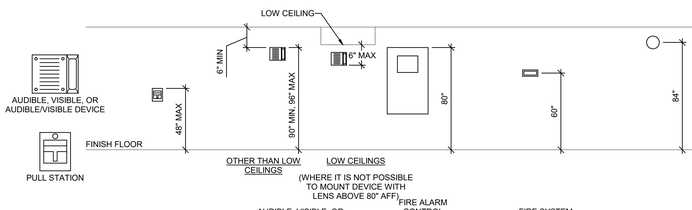
D3 SWITCH MOUNTING DETAILS
SCALE: NTS



COMMUNICATION RECEPTACLES | WALL PHONE | PAY PHONE | GENERAL USE: NO SPECIAL REQUIREMENTS | WALL BRACKET TV | DEDICATED RECEPTACLE FOR SPECIAL EQUIPMENT | ABOVE COUNTER - TYPICAL | RECEPTACLES ABOVE OR BELOW COUNTER

C1 CMU DEVICE MOUNTING ALIGNMENT DETAIL
SCALE: NTS

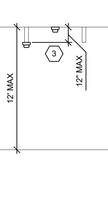
C2 LIGHTING MOUNTING DETAILS
SCALE: NTS



FIRE ALARM | PULL STATION | AUDIBLE, VISIBLE, OR AUDIBLE/VISIBLE DEVICE | FIRE ALARM CONTROL PANEL "FCP"

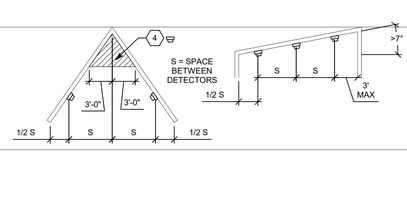
FIRE SYSTEM ANNUNCIATOR "FSA"

BELL



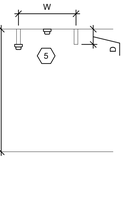
SMOKE DETECTOR BETWEEN BEAMS

WALL MOUNTED SMOKE DETECTOR

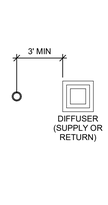


SMOKE DETECTOR ON SLOPED CEILING (PEAKED)

SMOKE DETECTOR ON SLOPED CEILING (SHED)



HEAT DETECTOR BETWEEN BEAMS

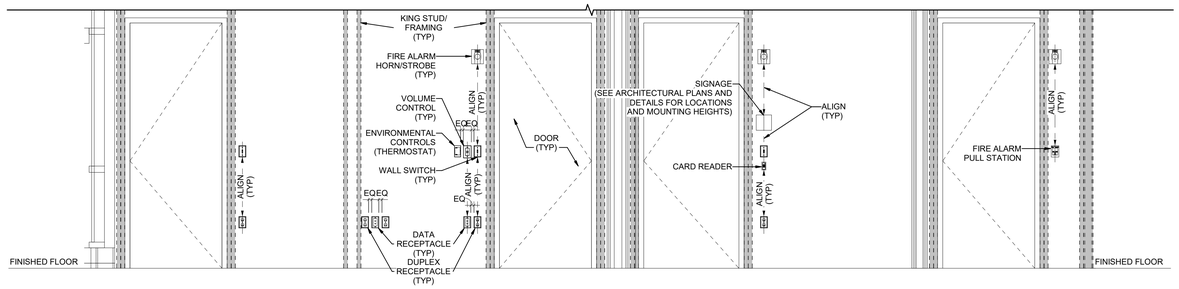


SMOKE DETECTOR ADJACENT TO SUPPLY AIR

B1 FIRE ALARM MOUNTING DETAILS
SCALE: NTS

FOR LESS THAN 24" SEPARATION, PROVIDE LISTED SOUND AND FIRE PUTTY PADS

BOXES ON OPPOSITE SIDES OF WALL



A1 BOX MOUNTING DETAILS
SCALE: NTS

A2 TYPICAL WALL MOUNTED DEVICES ALIGNMENT DETAIL
SCALE: NTS

GENERAL SHEET NOTES

1. DETERMINE MOUNTING HEIGHTS OF ELECTRICAL AND ELECTRONIC EQUIPMENT IN THE FOLLOWING ORDER OF PRIORITY:

   1 - ELEVATIONS (ARCHITECTURAL, ELECTRICAL, MECHANICAL, ETC).

   2 - EQUIPMENT SHOP DRAWINGS.

   3 - FIELD INSTRUCTIONS.

2. LOCATE RECEPTACLES SERVING THE SAME TYPE OF USE AT A UNIFORM HEIGHT UNLESS DIRECTED OTHERWISE.
3. MECHANICAL, ELECTRICAL, AND COMMUNICATION ROOMS: COORDINATE LOCATION OF LIGHTING AND POWER RECEPTACLES WITH EQUIPMENT, PIPING, AND DUCTWORK. DO NOT INSTALL RECEPTACLES BEHIND EQUIPMENT OR WHERE OTHERWISE INACCESSIBLE. POSITION LIGHTING REGARDLESS OF WHERE SHOWN ON DRAWING TO PROVIDE PROPER ILLUMINATION.
4. MOUNT RECEPTACLE BOXES FOR SWITCHES AND RECEPTACLES WITH LONG AXIS OF THE DEVICE VERTICAL UNLESS OTHERWISE INDICATED.
5. SET BOXES WITH PLASTER RINGS FLUSH WITH FINISHED SURFACE.
6. LOCATE BOX COVERS OR DEVICE PLATES SO THEY WILL NOT SPAN DIFFERENT TYPES OF BUILDING FINISHES EITHER VERTICALLY OR HORIZONTALLY.
7. VERIFY ALL DOOR CONDITIONS ON ARCHITECTURAL DRAWINGS PRIOR TO INSTALLING SWITCHES.
8. LOCATE WIRING DEVICES WHICH ARE ADJACENT AND ARE COMPATIBLE VOLTAGES IN ONE PLATE.
9. WHERE DEVICES ARE LOCATED IN CLOSE PROXIMITY OF THE SAME VERTICAL PLANE, ALIGN DEVICES VERTICALLY PER THE TYPICAL WALL MOUNTED DEVICES ALIGNMENT DETAIL, UNLESS OTHERWISE INDICATED.

SHEET KEYNOTES

1. LOCATE RECEPTACLES BEHIND DRINKING FOUNTAINS.
2. REFER TO ARCHITECTURAL ELEVATIONS FOR PLACEMENT OF OUTLETS.
3. LOCATE AT BOTTOM OF BEAMS (OR JOISTS) OR AT CEILING. (REDUCE SPACING BY .5 PERPENDICULAR TO BEAM OR JOIST DIRECTION.) FOR OTHER CONDITIONS, REFER TO NFPA 72.
4. LOCATE DETECTOR ANYWHERE IN SHADED AREA BUT NOT IN TOP 4" OF PEAK.
5. LOCATE AT BOTTOM OF BEAMS IF D/H < .1 OR W/H < .4; OTHERWISE, LOCATE IN BEAM POCKET. FOR D > 4 REDUCE SPACING .33 PERPENDICULAR TO BEAMS.

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△ DATE REVISION

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TYPICAL MOUNTING HEIGHT DETAILS

EE701

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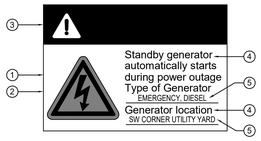


1. LABEL TO BE PROVIDED THAT IS TO BE 4" X REQUIRED LENGTH X 1/16" LAMINATED 2-PLY PLASTIC LAMACOID. LETTERS SHALL BE FORMED BY ENGRAVING OUTER WHITE PLY, EXPOSING BLACK PLY BENEATH. LABEL SHALL BE INSTALLED AT THE SERVICE ENTRANCE EQUIPMENT.
2. LABEL IS TO BE MOUNTED USING DOUBLE SIDED ADHESIVE TAPE COVERING THE BACK OF THE LABEL.
3. FIRST LINE: LETTERING IS TO BE 1/2" HIGH, CENTERED.
4. SECOND SET OF LINES: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN.
5. THIRD SET OF LINES: LETTERING TO BE 3/16" HIGH, CENTERED, AND FORMATTED AS SHOWN. UPDATE TYPE OF GENERATOR AND GENERATOR LOCATIONS FOR ACTUAL PROJECT VALUES.

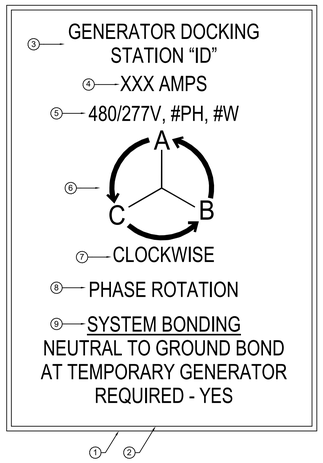
C1 SERVICE ENTRANCE EQUIPMENT GENERATOR SIGNAGE LABEL

SCALE: NTS

1. LABEL TO BE PROVIDED THAT IS TO BE 4" X REQUIRED LENGTH X 1/16" LAMINATED 2-PLY PLASTIC LAMACOID. LETTERS SHALL BE FORMED BY ENGRAVING OUTER WHITE PLY, EXPOSING BLACK PLY BENEATH. LABEL SHALL BE INSTALLED AT THE NORMAL POWER SOURCE EQUIPMENT.
2. LABEL IS TO BE MOUNTED USING DOUBLE SIDED ADHESIVE TAPE COVERING THE BACK OF THE LABEL.
3. FIRST LINE: LETTERING IS TO BE 1/2" HIGH, CENTERED.
4. SECOND SET OF LINES: LETTERING IS TO BE 1/4" HIGH, CENTERED, AND FORMATTED AS SHOWN.

C2 GENERATOR GROUNDING LABEL

SCALE: NTS



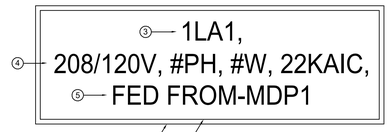
1. LABEL IS TO BE SIZED APPROPRIATELY 1/16" LAMINATED 2-PLY PLASTIC LAMACOID. LETTERS SHALL BE FORMED BY ENGRAVING OUTER RED PLY, EXPOSING WHITE PLY BENEATH.
2. LABEL IS TO BE MOUNTED USING DOUBLE SIDED ADHESIVE TAPE COVERING THE BACK OF THE LABEL.
3. FIRST LINE: LETTERING IS TO BE 1/4" HIGH, CENTERED, AND FORMATTED AS SHOWN. REPLACE THE LETTER/NUMBER WITH THOSE FOUND ON THE ONE-LINE DIAGRAM.
4. SECOND LINE: LETTERING IS TO BE 1/4" HIGH, CENTERED, AND FORMATTED AS SHOWN. THE FOLLOWING SHALL BE PROVIDED, AMPACITY OF GENERATOR DOCKING STATION.
5. THIRD LINE: LETTERING IS TO BE 1/4" HIGH, CENTERED, AND FORMATTED AS SHOWN. THE FOLLOWING SHALL BE PROVIDED, VOLTAGE, PHASE, NUMBER OF WIRES.
6. FOURTH LINE: ARROW SHOULD BE SIZED APPROPRIATELY AND CENTERED. LETTERING SHALL BE 1/2" HIGH, FORMATTED AS SHOWN.
7. FIFTH LINE: LETTERING IS TO BE 1/4" HIGH, CENTERED, AND FORMATTED AS SHOWN.
8. SIXTH LINE: LETTERING IS TO BE 1/4" HIGH, CENTERED, AND FORMATTED AS SHOWN.
9. SYSTEM BONDING REQUIREMENTS LIST :
   YES = FOR SEPARATELY DERIVED GENERATOR SYSTEM
   NO = FOR NON-SEPARATELY DERIVED GENERATOR SYSTEM

GENERAL NOTES:
- CONTRACTOR SHALL FIELD VERIFY PHASE ROTATION AND APPLY APPROPRIATE LABEL FOR ROTATION.
- LABEL TO BE PERMANENTLY AFFIXED TO EQUIPMENT
- LABEL VALUES TO BE UPDATED FOR ACTUAL EQUIPMENT INSTALLED.

A1 GENERATOR DOCKING STATION LABEL

SCALE: NTS

1. LABEL TO BE PROVIDED AT EACH SWITCHBOARD, PANELBOARD, DISCONNECT/STARTER. LABEL IS TO BE 3" X REQUIRED LENGTH X 1/16" LAMINATED 2-PLY PLASTIC LAMACOID. LETTERS SHALL BE FORMED BY ENGRAVING OUTER WHITE PLY, EXPOSING BLACK PLY BENEATH.
2. LABEL IS TO BE MOUNTED USING DOUBLE SIDED ADHESIVE TAPE COVERING THE BACK OF THE LABEL.
3. FIRST LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN. REPLACE THE LETTER/NUMBER WITH THOSE FOUND ON THE ONE-LINE DIAGRAM.
4. SECOND LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN. THE FOLLOWING SHALL BE PROVIDED, VOLTAGE, PHASE, NUMBER OF WIRES, AND AIC RATING OF DEVICE.
5. THIRD LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN. PROVIDE "FED FROM-" AND REPLACE MDP1 WITH THE DEVICES NAME THAT FEEDS THE PANELBOARD.



NOTE: EMERGENCY PANELS SHALL USE LAMACOID WITH RED OUTERPLY, EXPOSING WHITE LETTERING BENEATH. CONTRACTOR TO USE SAME LABEL SCHEME EXCEPT FIRST 'X' IS REPLACED WITH 'E' FOR EMERGENCY. SECOND 'X' TO BE '1' FOR LOW OR 'H' FOR HIGH VOLTAGE (480/277V). LAST '#' TO BE REPLACED WITH LETTER INDICATING LOCATION OF PANEL.

D4 TYPICAL PANELBOARD/SWITCHBOARD LABEL

SCALE: NTS

1. LABEL TO BE PROVIDED THAT IS TO BE 4" X REQUIRED LENGTH X 1/16" LAMINATED 2-PLY PLASTIC LAMACOID. LETTERS SHALL BE FORMED BY ENGRAVING OUTER WHITE PLY, EXPOSING BLACK PLY BENEATH.
2. LABEL IS TO BE MOUNTED USING DOUBLE SIDED ADHESIVE TAPE COVERING THE BACK OF THE LABEL.
3. FIRST LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, WITH THE EQUIPMENT ID MATCHING PLANS.
4. SECOND LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN. THE FOLLOWING SHALL BE PROVIDED, VOLTAGE, PHASE, NUMBER OF WIRES, AND AIC RATING OF GEAR.
5. THIRD & FOURTH LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN. LABEL WITH ACTUAL AVAILABLE FAULT CURRENT AND ASSOCIATED CLEARING TIME.

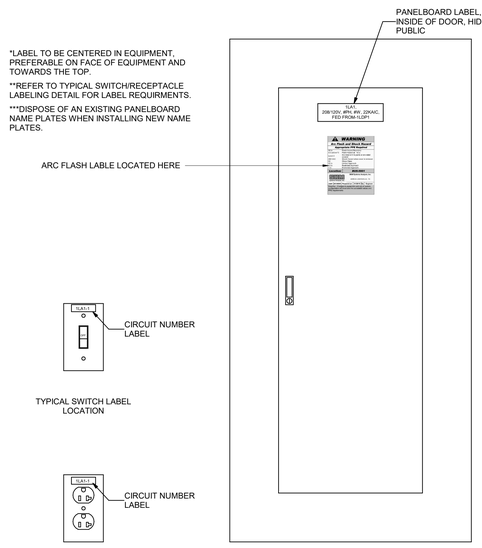
C4 TYPICAL MAIN SERVICE EQUIPMENT/GEAR LABEL

SCALE: NTS

*LABEL TO BE CENTERED IN EQUIPMENT, PREFERABLE ON FACE OF EQUIPMENT AND TOWARDS THE TOP.

**REFER TO TYPICAL SWITCH/RECEPTACLE LABELING DETAIL FOR LABEL REQUIRMENTS.

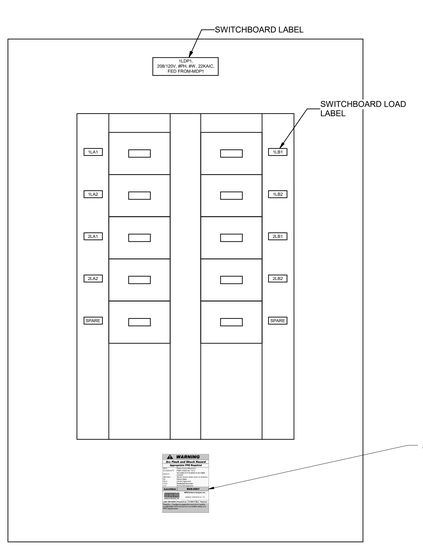
***DISPOSE OF AN EXISTING PANELBOARD NAME PLATES WHEN INSTALLING NEW NAME PLATES.



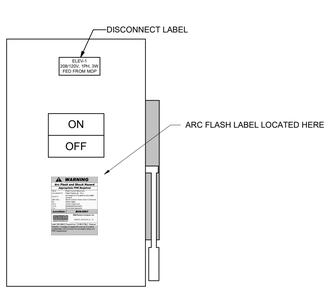
TYPICAL SWITCH LABEL LOCATION

TYPICAL RECEPTACLE LABEL LOCATION

TYPICAL LABELING FOR PANELBOARDS IN NON-PUBLIC LOCATIONS



TYPICAL LABELING FOR SWITCHBOARDS



TYPICAL LABELING FOR DISCONNECTS

A3 TYPICAL SWITCH, RECEPTACLE AND PANELBOARD/SWITCHBOARD LABELING LOCATION DETAIL

SCALE: NTS

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CONSTRUCTION SET
SEPTEMBER 19, 2022

LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
09/19/22

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TYPICAL LABELING DETAILS

EE702

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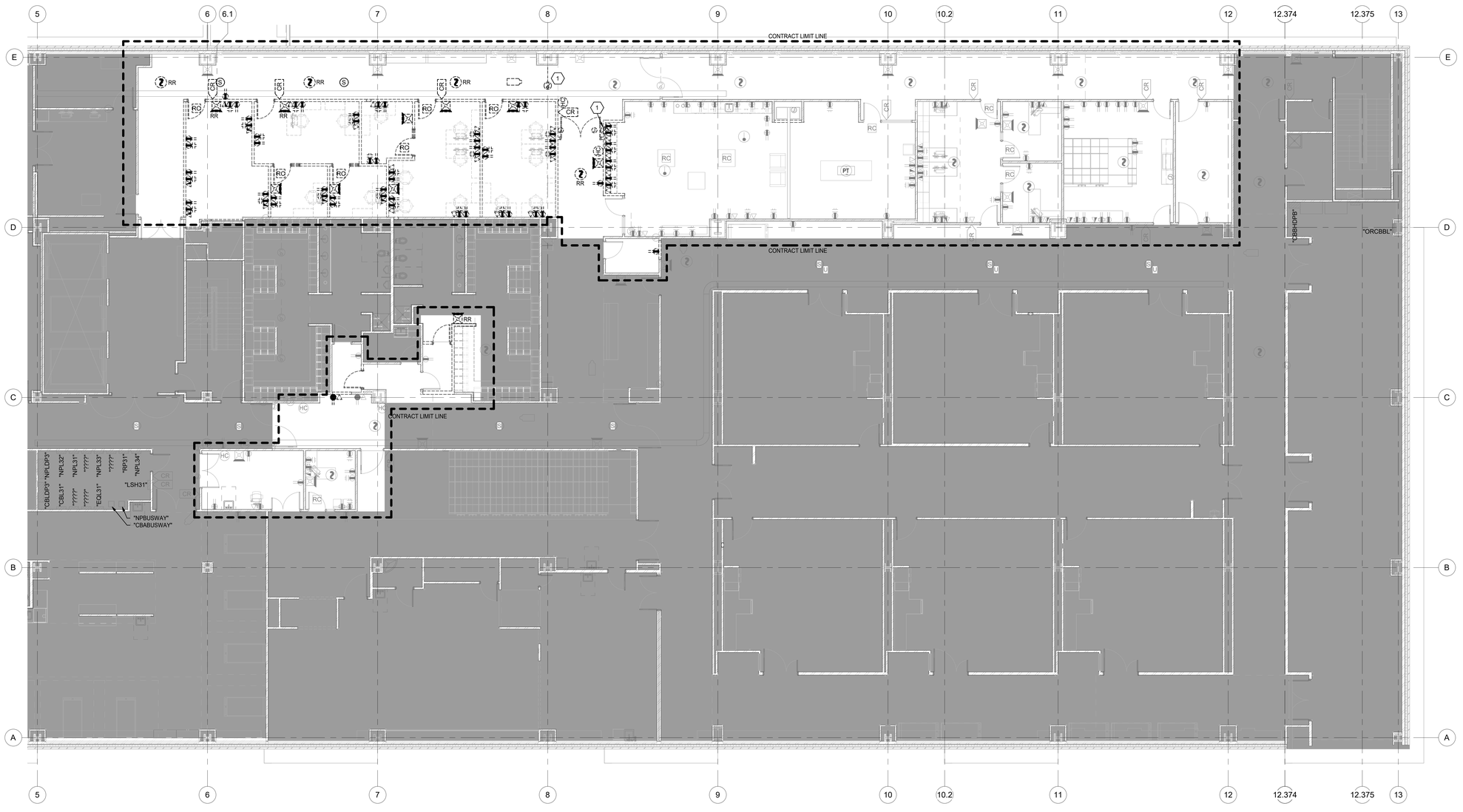

A1 LEVEL 3 DEMOLITION POWER PLAN - PHASE 1
SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 UNLESS NOTED OTHERWISE REMOVE ALL LIGHTING FIXTURES DEVICES AND EQUIPMENT SHOWN DASHED. REMOVE CONDUIT AND WIRING BACK TO PANELBOARD OF ORIGIN OR TO FIRST ACTIVE DEVICE THAT REMAINS.

2 SALVAGE ALL LIGHT FIXTURES, TWIST-LOCK RECEPTACLES AND WALLPLATES, CEILING SPEAKERS AND SECURITY AND FIRE ALARM DEVICES TO OWNER. PROTECT SALVAGED EQUIPMENT FROM DAMAGE.

3 PRIOR TO SUBMITTING BID, VISIT THE SITE AND FIELD VERIFY THE EXTENT OF ELECTRICAL DEMOLITION WORK TO MEET THE INTENT OF THE BID DOCUMENTS AND INCLUDE ALL COSTS IN BID.

4 PRIOR TO REMOVAL OF ANY ELECTRICAL EQUIPMENT OR WIRING, FIELD VERIFY THAT THE EQUIPMENT OR WIRING IS INACTIVE OR NO LONGER IN USE.

5 REMOVE ALL DEVICES, RACEWAYS AND WIRING FROM WALLS TO BE REMOVED. WHERE ACTIVE RACEWAYS OCCUR IN WALLS TO BE REMOVED, RE-ROUTE THE RACEWAY WITH ASSOCIATED WIRING TO KEEP THE CIRCUIT OPERATIONAL.

6 REMOVE ALL FIRE ALARM DEVICES WHERE EXISTING WALLS AND CEILINGS ARE BEING REMOVED, WITH ASSOCIATED CONDUIT AND WIRING. EXISTING FIRE ALARM DEVICES AND SYSTEM NOT INDICATED FOR REMOVAL SHALL REMAIN ACTIVE THROUGHOUT DEMOLITION AND CONSTRUCTION UNTIL THE NEW SYSTEM IS TESTED AND OPERATIONAL. MAINTAIN ALL CLASS A FIRE ALARM INITIATING AND INDICATING LOOPS WHERE EXISTING DEVICES ARE REMOVED.

7 REMOVE ALL ABANDONED RACEWAY, CONDUIT, WIRING AND CABLING WHETHER ABANDONED PREVIOUS TO THIS PROJECT OR AS A RESULT OF THIS PROJECT. NOT ALL ABANDONED ITEMS ARE SHOWN ON THESE PLANS AND FIELD VERIFICATION OF DEMOLITION SCOPE EXTENT IS REQUIRED.

8 DEVICES MARKED "RR" ARE TO BE REMOVED AND RELOCATED PER NEW PLANS. EXTEND CIRCUITING AS REQUIRED FOR RELOCATION.

9 REFER TO ARCHITECTURAL DRAWINGS FOR REMOVAL OF MOTORS, CONDUIT, CONDUCTOR AND CONTROL WIRING ASSOCIATED WITH EXISTING MOTORIZED DOORS, PARTITIONS AND LIGHTING.

10 DEMOLISH ALL WI-FI ACCESS POINTS WHETHER SHOWN ON DRAWINGS OR NOT WITHIN SCOPE OF WORK AREA.

11 REMOVE FEEDERS FOR ALL DEMOLISHED PANELS, DISCONNETS, ETC. BACK TO SOURCE

12 ALL ITEMS INDICATED TO REMAIN SHALL BE PROTECTED DURING ALL PHASES OF CONSTRUCTION.

13 CONTRACTOR TO TRACE AND LABEL ALL EXISTING LOADS TO REMAIN, THAT ARE CURRENTLY FED FROM PANELS THAT ARE BEING DEMOLISHED IN THIS PHASE. THESE LOADS TO BE RE-FED FROM NEW PANELS IN NEXT PHASE.

14 ALL HVAC UNITS TO BE REMOVED BY MECHANICAL CONTRACTOR UNLESS NOTED OTHERWISE. REMOVE ALL ASSOCIATED RACEWAYS AND CONDUCTORS BACK TO SOURCE.

SHEET KEYNOTES

1 REMOVE POWER TO SMOKE DAMPER.

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LEVEL 3 DEMOLITION POWER PLAN - PHASE 1

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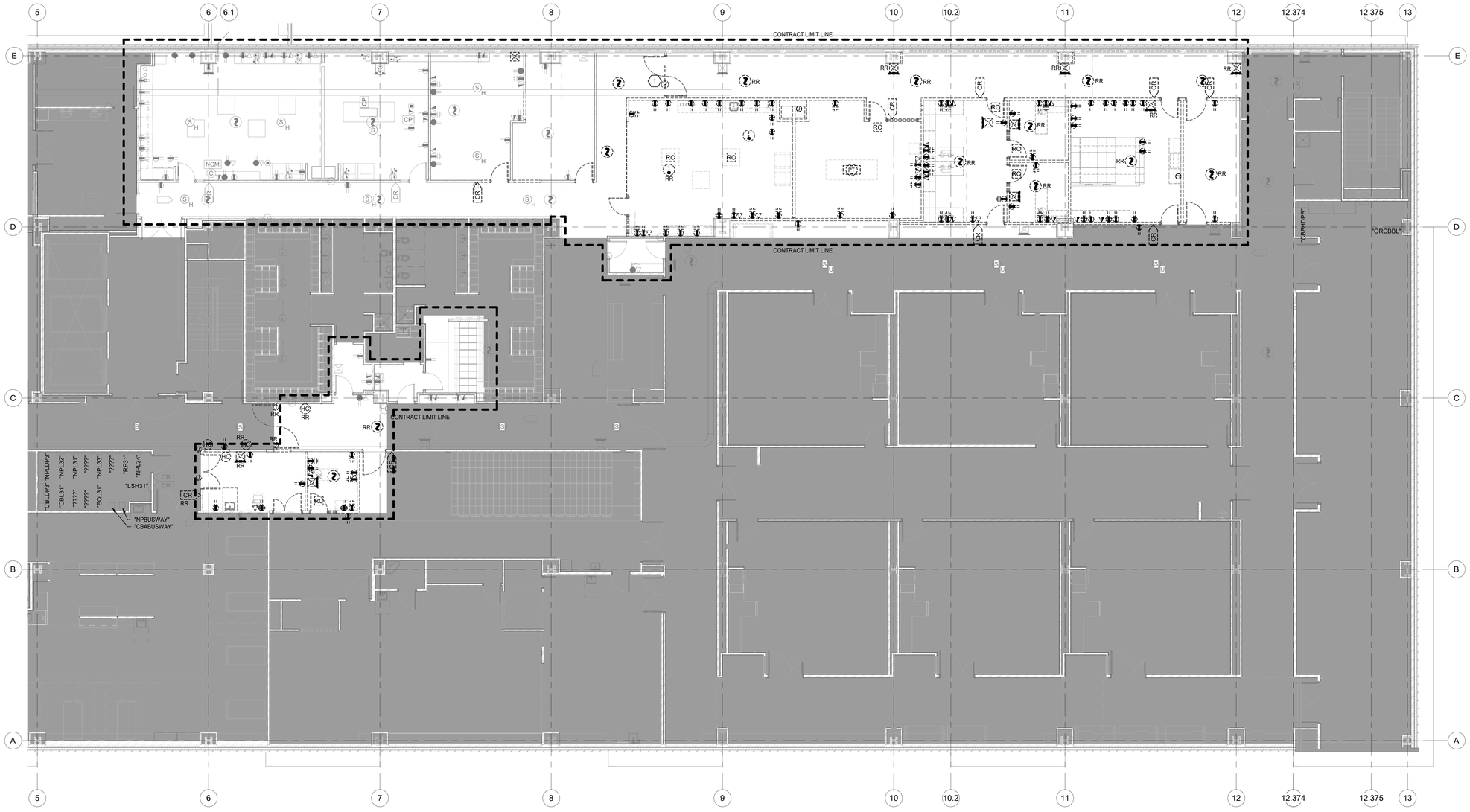

A1 LEVEL 3 DEMOLITION POWER PLAN - PHASE 2
SCALE: 1/8" = 1'-0"

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LEVEL 3
DEMOLITION
POWER PLAN
- PHASE 2

EDP103-2

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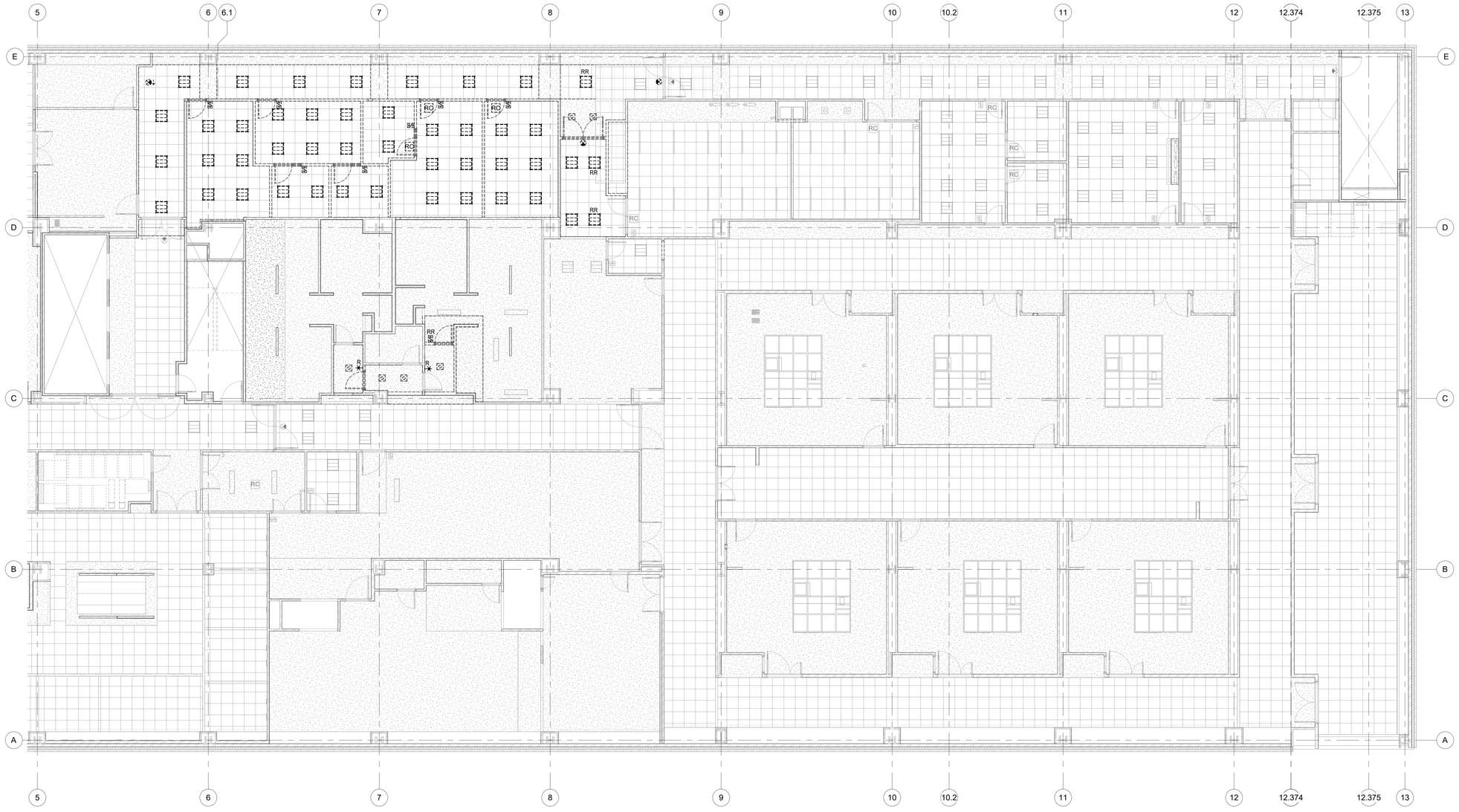

A1 LEVEL 3 DEMOLITION LIGHTING PLAN - PHASE 1
SCALE: 1/8" = 1'-0"

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LEVEL 3 DEMOLITION LIGHTING PLAN - PHASE 1

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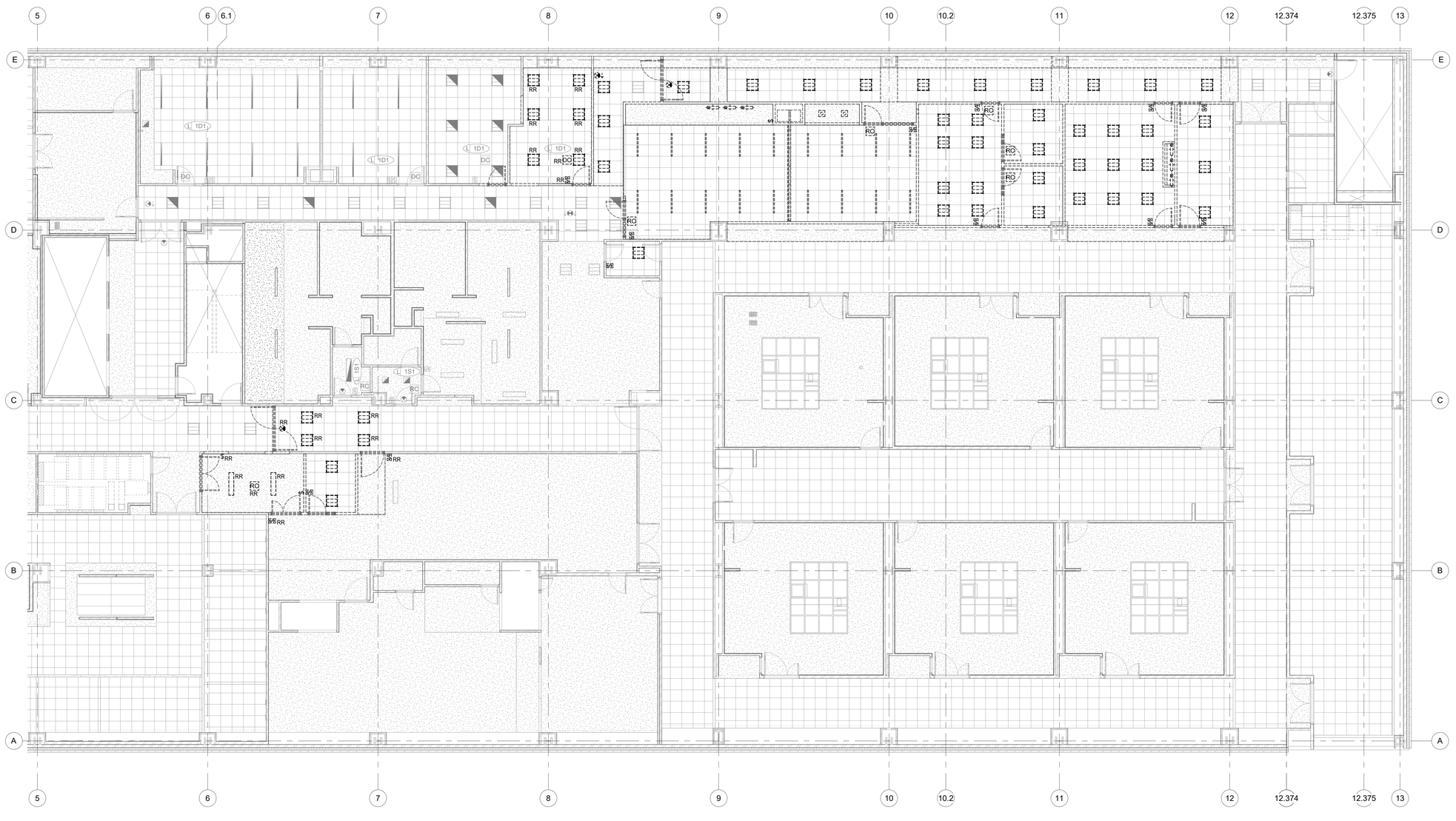

A1 LEVEL 3 DEMOLITION LIGHTING PLAN - PHASE 2
SCALE: 1/8" = 1'-0"

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LEVEL 3 DEMOLITION LIGHTING PLAN - PHASE 2

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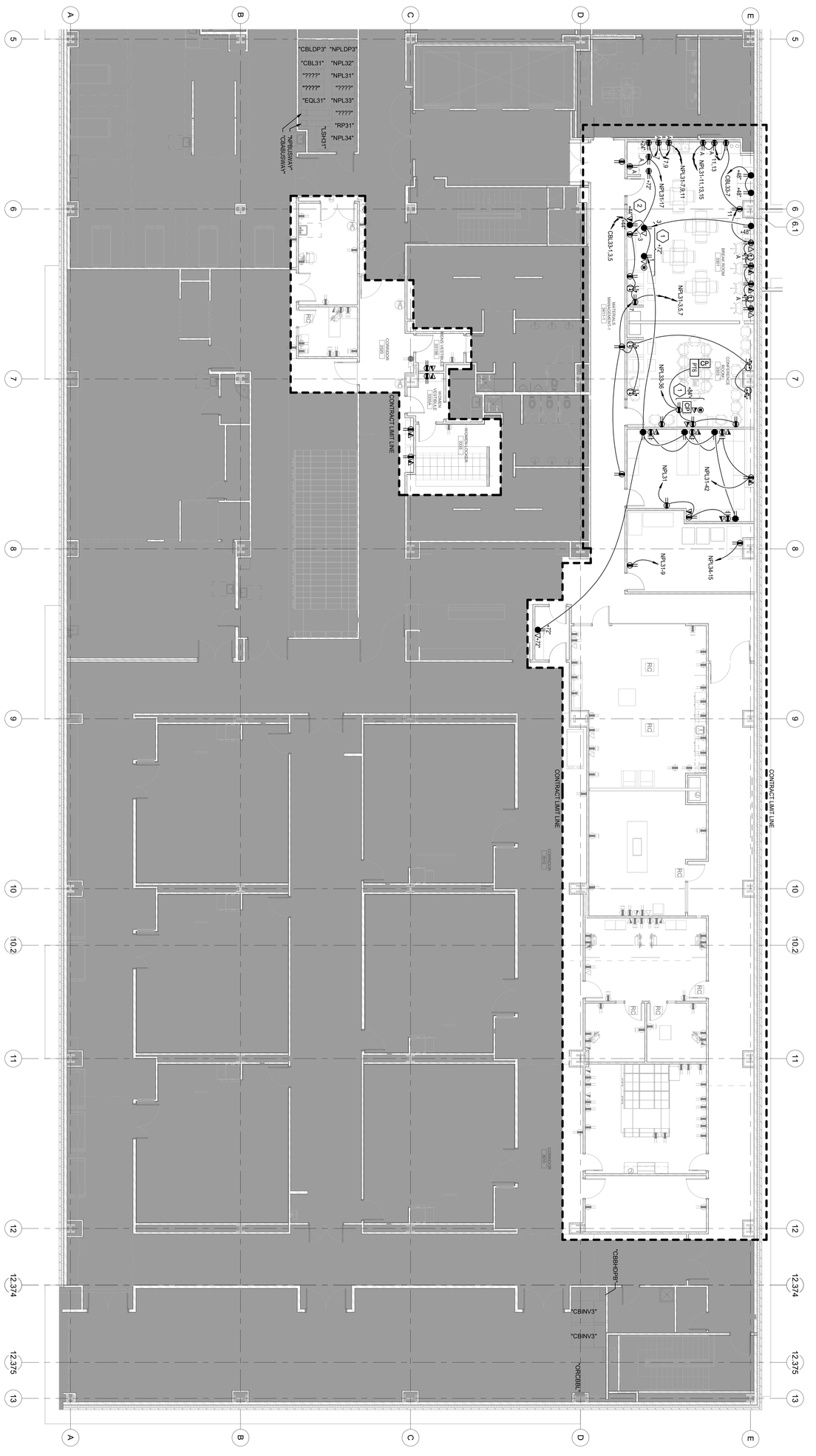
A1 LEVEL 3 POWER PLAN - PHASE 1

SCALE: 1/8" = 1'-0"



GENERAL SHEET NOTES

SHEET KEYNOTES

1 PROVIDE A FSR PWR-100 BEHIND ALL TV'S/MONITORS INCLUDING MONITORS WITH COAX, DATA AND HDMI CONNECTION. SEE DETAIL A4EP30.

2 POWER AND DATA FOR TIME CLOCK.

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LEVEL 3 POWER PLAN - PHASE 1

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A1 LEVEL 3 POWER PLAN - PHASE 2

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 PROVIDE TEN NEEV 20A1P BREAKERS IN BRANCH PANEL CBL32.

⬡SHEET KEYNOTES

1 PROVIDE A FSR PWR-100 BEHIND ALL TV'S/MONITORS INCLUDING MONITORS WITH COAX, CAT6 AND HDMI CONNECTION. SEE DETAIL A4E2.501.

2 PROVIDE KNEE PLATE OPERATOR.

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LEVEL 3 POWER PLAN - PHASE 2

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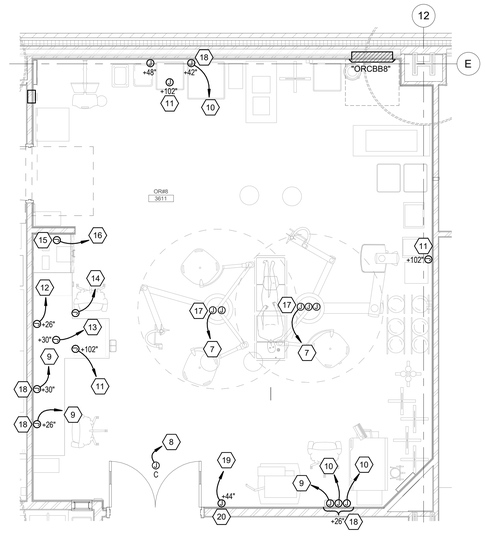
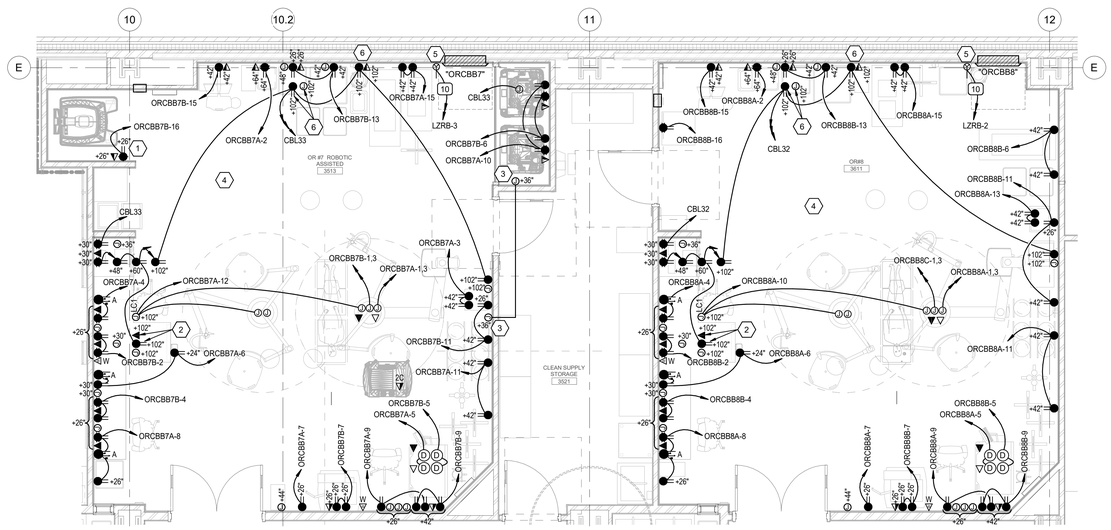


C5 O.R STORZ EQUIPMENT RACEWAY PLAN

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



A3 O.R. ENLARGED POWER PLAN

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

GENERAL SHEET NOTES

1 ALL DATA RECEPTACLE COVER PLATES MUST BE STAINLESS STEEL.

SHEET KEYNOTES

1 RECEPTACLE FOR ROBOT.

2 POWER AND DATA FOR TIME CLOCK.

3 PROVIDE TWO 12" BY 12" 4" DEEP J-BOXES WITH STAINLESS STEEL COVER WITH TWO 1" GROMMETS IN EACH. RUN TWO 1" CONDUIT BETWEEN THE TWO J-BOXES FOR ROBOT FIBER CONNECTIONS.

4 REFERENCE STORZE ELECTRICAL ROUGH-IN DRAWINGS FOR ADDITIONAL DIVISION 26 REQUIREMENTS.

5 6-50R 50 AMP 208/1 VOLT RECEPTACLE FOR LASER. PROVIDE REMOTE MONITOR WITH RECEPTACLE.

6 PROVIDE A FSR PWB-100 BEHIND ALL TV'S/MONITORS INCLUDING MONITORS WITH COAX, DATA AND HDMI CONNECTION. SEE DETAIL A4/EP501.

7 PROVIDE (1) 1-1/2" CONDUIT FROM BOOM JUNCTION BOXES TO RACK JUNCTION BOX AT LOCATION SHOWN. COORDINATE EXACT LOCATION OF BOXES WITH INTEGRATOR PRIOR TO ROUGH-IN.

8 PROVIDE (1) 1" CONDUIT FROM CLOSEST IT RACK FOR STORZ ROOM CAMERA. COORDINATE EXACT LOCATION OF DEVICE WITH INTEGRATOR PRIOR TO ROUGH-IN.

9 PROVIDE (1) 1-1/4" CONDUIT FROM DVI INPUT BOX TO RACK JUNCTION BOX AT LOCATION SHOWN. MOUNT DEVICE AT STANDARD RECEPTACLE HEIGHT. COORDINATE EXACT LOCATION OF BACK BOX WITH INTEGRATOR PRIOR TO ROUGH-IN.

10 PROVIDE (1) 1-1/4" CONDUIT FROM AUXILIARY INPUT BOX TO RACK JUNCTION BOX AT LOCATION SHOWN. MOUNT DEVICE AT STANDARD RECEPTACLE HEIGHT. COORDINATE EXACT LOCATION OF BACK BOX WITH INTEGRATOR PRIOR TO ROUGH-IN.

11 PROVIDE (1) 1-1/4" CONDUIT FROM WALL-MOUNTED DISPLAY TO RACK JUNCTION BOX AT LOCATION SHOWN. REFER TO TYPICAL OR DRAWINGS ON SHEET E310 OR MOUNTING HEIGHT OF DEVICES.

12 PROVIDE (1) 1-1/4" CONDUIT FROM FUTURE COLLABORATOR DISPLAY TO RACK JUNCTION BOX AT LOCATION SHOWN. COORDINATE EXACT LOCATION OF BACK BOX WITH INTEGRATOR PRIOR TO ROUGH-IN.

13 PROVIDE (1) 1-1/4" CONDUIT FROM TOUCH PANEL BACK BOX TO RACK JUNCTION BOX AT LOCATION SHOWN. COORDINATE WITH ARCHITECTURAL ELEVATIONS FOR MILLWORK HEIGHT AND MOUNT BACK BOX 0'-4" BELOW COUNTERTOP. COORDINATE EXACT LOCATION OF BACK BOX WITH INTEGRATOR PRIOR TO ROUGH-IN.

14 PROVIDE (1) 3/4" CONDUIT FROM AUDIO INPUT BOX TO RACK JUNCTION BOX AT LOCATION SHOWN. COORDINATE EXACT LOCATION OF BOX WITH INTEGRATOR PRIOR TO ROUGH-IN.

15 A/V EQUIPMENT RACK PROVIDED BY OTHERS.

16 PROVIDE (1) 1" CONDUIT FROM CLOSEST IT RACK FOR STORZ ROOM CAMERA. REFER TO PLANS FOR NUMBER OF CAT-6 CABLE REQUIRED AT A/V EQUIPMENT RACK. COORDINATE EXACT LOCATION OF DATA WITH INTEGRATOR PRIOR TO ROUGH-IN.

17 PROVIDE (1) 8" X 8" X 4" JUNCTION BOX MOUNTED ABOVE THE CEILING ADJACENT TO BOOM.

18 PROVIDE (1) RACO 263 DATA-BOX & COVER WITH 1 GANG TRIM RING & BLANK COVER PLATE OR EQUAL FOR DVI INPUT BACK BOX ASSEMBLY.

19 PROVIDE A CATEGORY-6 CABLE FROM THE CLOSEST IT RACK FOR THE STORZ CAMERA SWITCH. MOUNT JUNCTION BOX AT STANDARD SWITCH HEIGHT. COORDINATE EXACT LOCATION OF DEVICE WITH INTEGRATOR PRIOR TO ROUGH-IN.

20 PROVIDE (1) 3/4" CONDUIT FROM STORZ CAMERA SWITCH TO RACK JUNCTION BOX AT LOCATION SHOWN.

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EP401

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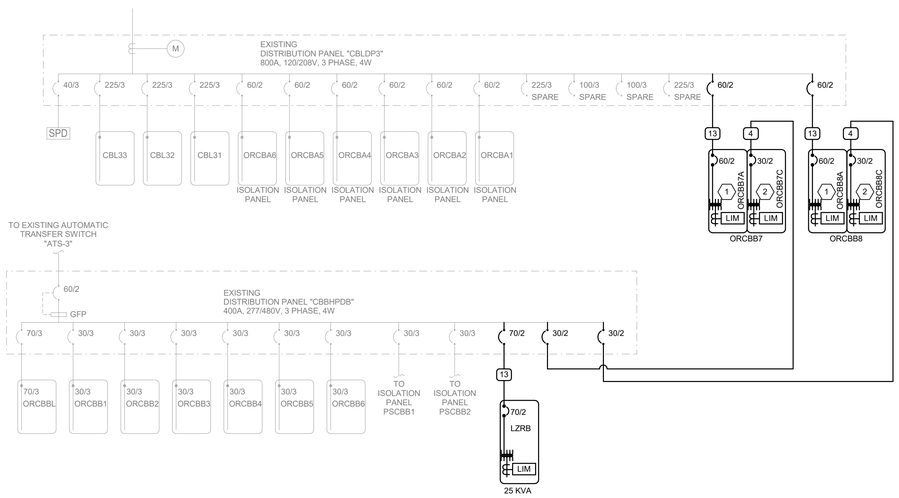
CLIENT:	JOB: UU ACC OR EXPSION												9/13/2022	CIRCUITS:	32
PANEL ID:	**ORCBB7**	MOUNT:	FLUSH	TYPE: BOLT-ON BOLT-ON			120 VOLT 1 PHASE 3 WIRE ISOLATION PANEL								
20	AMPERE MAIN		BREAKER	LOCATION:									PANEL SIZE:	72"Hx32"Wx12"D	
ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, LINE ISOLATION MONITORS, 7.5 KVA, 480-120 VOLT TRANSFORMERS,															
INDICATOR ALARMS, INDICATOR LIGHTS, STAINLESS STEEL COVER (BOTH PANEL SECTIONS UNDER COMMON COVER)															
2HCB1-A SECTION EM POWER							SECTION 1								
CIR	O/C PROT		OUTLETS				LCL	LOAD	LCL		OUTLETS			O/C PROT		CIR
#	AMP	POLE	LTG	CO'S	PWR	DESCRIPTION	KVA		KVA	DESCRIPTION	LTG	CO'S	PWR	AMP	POLE	#
1	20	2		2		EQUIP BOOM	0.4	0.8	0.4	NORTH WALL PLGS		2		20	2	2
3	20	2		3		EQIP BOOM	0.6	1.4	0.8	NRS STN PLG		4		20	2	4
5	20	2		2		ANESTHESIA DROP CORD	0.4	1	0.6	NRS STN PLG		3		20	2	6
7	20	2		2		PATIENT HEAD WALL PLGS	0.4	1	0.6	NRS STN PLGS		3		20	2	8
9	20	2		2		PATIENT HEAD WALL PLGS	0.4	1	0.6	ROBOT WRK STN PLGS		3		20	2	10
11	20	2		2		EAST WALL PLGS	0.4	0.4	0	EXAM LIGHTS	1			20	2	12
13	20	2		2		EAST WALL PLGS	0.4	0.4	0	SPARE				20	2	14
15	20	2		2		NORTH WALL PLGS	0.4	0.4	0	SPARE				20	2	16
TOTALS:			KVA					**6.4**	TOTAL KVA						**6.4**
			AMPS					**53**	AVERAGE AMPS						**27**

PANEL ID:	**OR(1-6)B**	MOUNT:	FLUSH	TYPE: BOLT-ON BOLT-ON			120 VOLT 1 PHASE 3 WIRE ISOLATION PANEL								
20	AMPERE MAIN		BREAKER	LOCATION:									PANEL SIZE:	72"Hx32"Wx12"D	
ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, LINE ISOLATION MONITORS, 7.5 KVA, 480-120 VOLT TRANSFORMERS,															
INDICATOR ALARMS, INDICATOR LIGHTS, STAINLESS STEEL COVER (BOTH PANEL SECTIONS UNDER COMMON COVER)															
UPSH2- B SECTION UPS POWER							SECTION 2								
CIR	O/C PROT		OUTLETS				LCL	LOAD	LCL		OUTLETS			O/C PROT		CIR
#	AMP	POLE	LTG	CO'S	PWR	DESCRIPTION	KVA		KVA	DESCRIPTION	LTG	CO'S	PWR	AMP	POLE	#
1	20	2		3		EQUIP BOOM	0.6	1.2	0.6	NURSE STN PLGS		3		20	2	2
3	20	2		3		EQUIP BOOM	0.6	1.2	0.6	NURSE STN PLGS		3		20	2	4
5	20	2		2		ANESTHESIA DROP CORD	0.4	1	0.6	ROBOT WRK STN PLGS		3		20	2	6
7	20	2		2		PATIENT HEAD WALL PLGS	0.4	0.4	0	SPARE				20	2	8
9	20	2		2		PATIENT HEAD WALL PLGS	0.4	0.4	0	SPARE				20	2	10
11	20	2		2		EAST WALL PLGS	0.4	0.4	0	SPARE				20	2	12
13	20	2		2		NORTH WALL PLGS	0.4	0.4	0	SPARE				20	2	14
15	20	2		2		NORTH WALL PLGS	0.4	0.6	0.2	ROBOT RECEPTACLE		1		20	2	16
TOTALS:			KVA					**4.6**	TOTAL KVA						**4.6**
			AMPS					**38**	AVERAGE AMPS						**19**
WIRING:															
NOTE	PANEL SCHEDULE IS TYPICAL FOR OR ROOMS #1, #2, #3, #4, #5 , #6 & #7														

CLIENT:	JOB: UU ACC OR EXPSION												9/13/2022	CIRCUITS:	32
PANEL ID:	**ORCBB8**	MOUNT:	FLUSH	TYPE: BOLT-ON BOLT-ON			120 VOLT 1 PHASE 3 WIRE ISOLATION PANEL								
20	AMPERE MAIN		BREAKER	LOCATION:									PANEL SIZE:	72"Hx32"Wx12"D	
ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, LINE ISOLATION MONITORS, 7.5 KVA, 480-120 VOLT TRANSFORMERS,															
INDICATOR ALARMS, INDICATOR LIGHTS, STAINLESS STEEL COVER (BOTH PANEL SECTIONS UNDER COMMON COVER)															
2HCB1-A SECTION EM POWER							SECTION 1								
CIR	O/C PROT		OUTLETS				LCL	LOAD	LCL		OUTLETS			O/C PROT		CIR
#	AMP	POLE	LTG	CO'S	PWR	DESCRIPTION	KVA		KVA	DESCRIPTION	LTG	CO'S	PWR	AMP	POLE	#
1	20	2		3		EQUIP BOOM	0.6	1	0.4	NORTH WALL PLGS		2		20	2	2
3	20	2		3		EQUP BOOM	0.6	1.4	0.8	NRS STN PLG		4		20	2	4
5	20	2		2		ANESTHESIA DROP CORD	0.4	1	0.6	NRS STN PLG		3		20	2	6
7	20	2		2		PATIENT HEAD WALL PLGS	0.4	1	0.6	NRS STN PLGS		3		20	2	8
9	20	2		2		PATIENT HEAD WALL PLGS	0.4	0.4	0	EXAM LIGHTS	1			20	2	10
11	20	2		2		EAST WALL PLGS	0.4	0.4	0	SPARE				20	2	12
13	20	2		2		EAST WALL PLGS	0.4	0.4	0	SPARE				20	2	14
15	20	2		2		NORTH WALL PLGS	0.4	0.4	0	SPARE				20	2	16
TOTALS:			KVA					**6**	TOTAL KVA						**6**
			AMPS					**50**	AVERAGE AMPS						**25**

PANEL ID:	**OR(1-6)B**	MOUNT:	FLUSH	TYPE: BOLT-ON BOLT-ON			120 VOLT 1 PHASE 3 WIRE ISOLATION PANEL								
20	AMPERE MAIN		BREAKER	LOCATION:									PANEL SIZE:	72"Hx32"Wx12"D	
ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, LINE ISOLATION MONITORS, 7.5 KVA, 480-120 VOLT TRANSFORMERS,															
INDICATOR ALARMS, INDICATOR LIGHTS, STAINLESS STEEL COVER (BOTH PANEL SECTIONS UNDER COMMON COVER)															
UPSH2- B SECTION UPS POWER							SECTION 2								
CIR	O/C PROT		OUTLETS				LCL	LOAD	LCL		OUTLETS			O/C PROT		CIR
#	AMP	POLE	LTG	CO'S	PWR	DESCRIPTION	KVA		KVA	DESCRIPTION	LTG	CO'S	PWR	AMP	POLE	#
1	20	2		3		EQUIP BOOM	0.6	1.2	0.6	NURSE STN PLGS		3		20	2	2
3	20	2		3		EQUIP BOOM	0.6	1.2	0.6	NURSE STN PLGS		3		20	2	4
5	20	2		2		ANESTHESIA DROP CORD	0.4	0.8	0.4	EAST WALL PLGS		2		20	2	6
7	20	2		2		PATIENT HEAD WALL PLGS	0.4	0.4	0	SPARE				20	2	8
9	20	2		2		PATIENT HEAD WALL PLGS	0.4	0.4	0	SPARE				20	2	10
11	20	2		2		EAST WALL PLGS	0.4	0.4	0	SPARE				20	2	12
13	20	2		2		NORTH WALL PLGS	0.4	0.4	0	SPARE				20	2	14
15	20	2		2		NORTH WALL PLGS	0.4	0.6	0.2	ROBOT RECEPTACLE		1		20	2	16
TOTALS:			KVA					**4.4**	TOTAL KVA						**4.4**
			AMPS					**37**	AVERAGE AMPS						**18**
WIRING:															
NOTE	PANEL SCHEDULE IS TYPICAL FOR OR ROOMS #1, #2, #3, #4, #5 , #6 & #7														

CLIENT:				JOB: **UU ACC OR EXPSION**										CIRCUITS:	
PANEL ID:	**LZRB**	MOUNT:	FLUSH	TYPE: BOLT-ON BOLT-ON			240 VOLT 1 PHASE 3 WIRE ISOLATION PANEL								
70	AMPERE MAIN		BREAKER	LOCATION:									PANEL SIZE:	72"Hx32"Wx12"D	
ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, (1)LINE ISOLATION MONITORS, 25 KVA, 480-240 VOLT TRANSFORMER,															
(1) INDICATOR ALARMS, (1 SETS) INDICATOR LIGHTS, STAINLESS STEEL COVER															
CRITICAL BRANCH #1 SECTION							SECTION 1								
CIR	O/C PROT		OUTLETS				LCL	LOAD	LCL		OUTLETS			O/C PROT		CIR
#	AMP	POLE	LTG	CO'S	PWR	DESCRIPTION	KVA		KVA	DESCRIPTION	LTG	CO'S	PWR	AMP	POLE	#
1	30	2			5	SPARE	5	13	8	ORCBB8 LASER			8	50	2	2
3	50	2			8	ORCBB7 LASER	8	13	5	SPARE			5	30	2	4
4	30	2				SPACE	0	0	0	SPACE				30	2	6
TOTALS:			KVA					**26**	TOTAL KVA						**26**
			AMPS					**54**	AVERAGE AMPS						**108**



A1 PARTIAL ONE LINE DIAGRAM

SCALE: NTS

ALUMINUM CONDUCTOR AND CONDUIT SCHEDULE

SCHEDULE NUMBER
zz
SUBSCRIPT (NOTE 5)
(E.G.) 5 IG

zz	AMP	CONDUIT SIZE	CONDUCTOR (NOTE 1) QTY	SIZE	G	IG	SE	NOTES
1A								
2A								
3A								
4A								
5A								
6A								
7A								
8A								
9A								
10A								
11A								
12A								
13A								
14A								
15A								
16A								
17A								
18A								
19A								
20A								
21A	130	2	3	2/0	4	1/0	4	2,7
22A	130	2	4	2/0	4	1/0	4	2,7
23A	150	2	3	3/0	4	1/0	4	2,7
24A	150	2	4	3/0	4	1/0	4	2,7
25A	175	2	3	4/0	4	1/0	2	2,7
26A	175	2.50	4	4/0	4	1/0	2	2,7
27A	200	2.50	3	250	4	1/0	2	2,7
28A	200	3	4	250	4	1/0	2	2,7
29A	230	2.50	3	300	2	1/0	1/0	2,7
30A	230	3	4	300	2	1/0	1/0	2,7
31A	250	3	3	350	2	2/0	1/0	2,7
32A	250	3	4	350	2	2/0	1/0	2,7
33A	310	3	3	500	1	3/0	1/0	2,7
34A	310	4	4	500	1	3/0	1/0	2,7
35A	380	2 EA 2.50	3	250	1	4/0	3/0	2,7
36A	380	2 EA 3	4	250	1	4/0	3/0	2,7
37A	400	2 EA 2.50	3	250	1/0	4/0	3/0	2,7
38A	400	2 EA 2.50	4	250	1/0	4/0	3/0	2,7
39A	500	2 EA 3	3	350	1/0	300	3/0	2,4,7
40A	500	2 EA 3	4	350	1/0	300	3/0	2,4,7
41A	620	2 EA 3	3	500	3/0	300	3/0	2,4,7
42A	620	2 EA 4	4	500	3/0	300	3/0	2,4,7
43A	750	3 EA 3	3	350	3/0	300	4/0	2,4,7
44A	750	3 EA 3	4	350	3/0	300	4/0	2,4,7
45A	810	3 EA 3	3	400	4/0	300	250	2,4,7
46A	810	3 EA 4	4	400	4/0	300	250	2,4,7
47A	1000	4 EA 3	3	350	4/0	300	250	4,7
48A	1000	4 EA 3	4	350	4/0	300	250	4,7
49A	-	-	-	-	-	-	-	-
50A	1140	4 EA 4	4	500	250	300	250	4,7
51A	1240	4 EA 4	3	500	350	300	250	4,7
52A	1240	4 EA 4	4	500	350	300	250	4,7
53A	1520	6 EA 4	4	400	400	350	250	4,7
54A	2170	7 EA 4	4	500	400	400	500	4,7
55A	2695	7 EA 4	4	750	600	750	750	4,7
56A	3080	8 EA 4	4	750	600	750	750	4,7
57A	4235	11 EA 4	4	750	800	750	750	4,7
58A	-	5 EA 4	-	-	-	-	-	6
59A	-	5	-	-	-	-	-	6
60A	-	10 EA 4	-	-	-	-	-	6

CONDUCTOR AND CONDUIT SCHEDULE NOTES

1 CONDUCTORS SHOWN ARE SHOWN FOR EACH CONDUIT WITH MODIFICATIONS AS NOTED IN NOTE 5. ALL CONDUCTORS SHOWN ARE THWN UNLESS OTHERWISE NOTED.
2 PROVIDE EQUIPMENT GROUND CONDUCTORS PER TABLE 250-122 WHEN CIRCUIT BREAKERS ARE SIZED GREATER THAN AMPERE RATING SHOWN IN TABLE.
3 PROVIDE #10 NEUTRALS FOR MULTIWIRE BRANCH CIRCUITS SERVING COMPUTERS.
4 GROUND (G) CONDUCTOR MAY BE DELETED ON SERVICE ENTRANCE CONDUCTORS.
5 SYMBOL SUBSCRIPTS:
"2N": INCLUDE TWO NEUTRAL CONDUCTORS, SIZED AS SCHEDULED FOR PHASED AND NEUTRAL CONDUCTORS.
"CI": PROVIDE CIRCUIT INTEGRITY CABLE; TYPE TWO-HOUR FIRE RESISTIVE CABLES IN CONDUIT OR PROVIDE FEEDER ENCASED IN CONCRETE.
"FG" FULL SIZE GROUND, SIZE EQUIPMENT GROUNDING CONDUCTOR TO BE SAME SIZE AS THE PHASE CONDUCTORS.
"HH": NEUTRAL CURRENTS EXIST DUE TO HIGH HARMONIC "NONLINEAR" LOADS. CURRENT CARRYING CONDUCTORS DERATED ACCORDINGLY.
"IG": INCLUDE IG (INSULATED/ISOLATED GROUND CONDUCTOR) SCHEDULED ALONG WITH THE GROUND OF EQUIPMENT GROUND CONDUCTOR.
"MC": PROVIDE FEEDER IN METAL-CLAD CABLE; TYPE MC IN PLACE OF SINGLE CONDUCTORS IN CONDUIT.
"SE": SUBSTITUTE "SE" CONDUCTOR FOR "G" CONDUCTOR SHOWN, WHICH IS SIZED FOR THE GROUNDING OF THE SECONDARY OF THE SEPARATELY DERIVED SYSTEM.
"SER": PROVIDE SERVICE-ENTRANCE CABLE; TYPE SE OR SER IN PLACE OF SINGLE CONDUCTORS IN CONDUIT.
6 RACEWAY ONLY. CONDUCTORS PROVIDED BY UTILITY.
7 ALUMINUM CONDUCTORS NOT TO BE USED FOR CONNECTION TO MOTORS OR MOTOR DRIVEN EQUIPMENT.

COPPER CONDUCTOR AND CONDUIT SCHEDULE

SCHEDULE NUMBER
zz
SUBSCRIPT (NOTE 5)
(E.G.) 5 IG

SYM	AMP	HH AMPS	CONDUIT SIZE	CONDUCTOR (NOTE 1) QTY	SIZE	G	IG/HH	SE	NOTES
1	20	-	.75	2	12	12	12	8	2
2	20	-	.75	3	12	12	12	8	2,3
3	20	24	.75	4	12	12	12	8	2,3
4	30	-	.75	2	10	10	10	8	2
5	30	-	.75	3	10	10	10	8	2
6	30	32	.75	4	10	10	10	8	2
7	40	-	1	2	8	10	8	6	2
8	40	-	1	3	8	10	8	6	2
9	40	44	1	4	8	10	8	6	2
10	55	-	1	2	6	10	8	4	2
11	55	-	1	3	6	10	8	4	2
12	55	60	1.25	4	6	10	8	4	2
13	70	-	1	2	4	8	4	2	2
14	70	-	1.25	3	4	8	4	2	2
15	70	76	1.25	4	4	8	4	2	2
16	85	-	1.25	2	3	8	3	2	2
17	85	-	1.25	3	3	8	3	2	2
18	85	92	1.25	4	3	8	3	2	2
19	95	-	1.25	3	2	8	2	2	2
20	95	104	1.50	4	2	8	2	2	2
21	130	-	1.50	3	1	6	2	2	2
22	130	116	1.50	4	1	6	2	2	2
23	150	-	2	3	1/0	6	2	1/0	2
24	150	136	2	4	1/0	6	2	1/0	2
25	175	-	2	3	2/0	6	2	2/0	2
26	175	156	2	4	2/0	6	2	2/0	2
27	200	-	2	3	3/0	6	2	2/0	2
28	200	180	2.50	4	3/0	6	2	2/0	2
29	230	-	2.50	3	4/0	4	2	2/0	2
30	230	208	2.50	4	4/0	4	2	2/0	2
31	255	-	2.50	3	250	4	1	2/0	2
32	255	232	2.50	4	250	4	1	2/0	2
33	310	-	3	3	350	3	1/0	3/0	2
34	310	280	3	4	350	3	1/0	3/0	2
35	380	-	3.50	3	500	3	3/0	3/0	2
36	380	344	4	4	500	3	3/0	3/0	2
37	400	-	2 EA 2	3	3/0	3	3/0	3/0	2
38	400	360	2 EA 2.50	4	3/0	3	3/0	3/0	2
39	510	-	2 EA 2.50	3	250	1	4/0	3/0	2
40	510	464	2 EA 3	4	250	1	4/0	3/0	2
41	620	-	2 EA 3	3	350	1/0	4/0	3/0	2,4
42	620	560	2 EA 3	4	350	1/0	4/0	3/0	2,4
43	760	-	2 EA 3.50	3	500	1/0	4/0	3/0	2,4
44	760	688	2 EA 4	4	500	1/0	4/0	3/0	2,4
45	855	-	3 EA 3	3	300	2/0	4/0	3/0	2,4
46	855	768	3 EA 3	4	300	2/0	4/0	3/0	2,4
47	1000	-	3 EA 3.50	3	400	2/0	4/0	3/0	4
48	1000	912	3 EA 3.50	4	400	2/0	4/0	3/0	4
49	1140	-	3 EA 4	3	500	3/0	4/0	3/0	4
50	1140	1032	3 EA 4	4	500	3/0	4/0	3/0	4
51	1240	-	4 EA 3	3	350	3/0	4/0	3/0	4
52	1240	1120	4 EA 3	4	350	3/0	4/0	3/0	4
53	1675	1520	5 EA 4	4	400	4/0	4/0	4/0	4
54	2010	1824	6 EA 4	4	400	250	250	250	4
55	2660	2408	7 EA 4	4	500	350	350	350	4
56	3040	2752	8 EA 4	4	500	500	500	500	4
57	4180	3784	11 EA 4	4	500	500	500	500	4
58	-	-	5 EA 4	-	-	-	-	-	6
59	-	-	5	-	-	-	-	-	6
60	-	-	10 EA 4	-	-	-	-	-	6

CONDUCTOR AND CONDUIT SCHEDULE NOTES

1. CONDUCTORS SHOWN ARE SHOWN FOR EACH CONDUIT WITH MODIFICATIONS AS NOTED IN NOTE 5. ALL CONDUCTORS SHOWN ARE THWN UNLESS OTHERWISE NOTED.
2. PROVIDE EQUIPMENT GROUND CONDUCTORS PER TABLE 250-122 WHEN CIRCUIT BREAKERS ARE SIZED GREATER THAN AMPERE RATING SHOWN IN TABLE.
3. PROVIDE #10 NEUTRALS FOR MULTIWIRE BRANCH CIRCUITS SERVING COMPUTERS.
4. GROUND (G) CONDUCTOR MAY BE DELETED ON SERVICE ENTRANCE CONDUCTORS.
5. SYMBOL SUBSCRIPTS:
"2N": INCLUDE TWO NEUTRAL CONDUCTORS SIZED AS SCHEDULED FOR PHASE AND NEUTRAL CONDUCTORS WHERE THE CONDUCTOR IS #1/0 OR LARGER. INCLUDE A SINGLE 200% RATED CONDUCTOR THAT IS TWICE THE AMPACITY OF THE SCHEDULED PHASE AND NEUTRAL CONDUCTOR WHERE THE CONDCUTOR IS BELOW #1/0 IN SIZE.
"CI": PROVIDE CIRCUIT INTEGRITY CABLE; TYPE TWO-HOUR FIRE RESISTIVE CABLES IN CONDUIT OR PROVIDE FEEDER ENCASED IN CONCRETE.
"FG" FULL SIZE GROUND, SIZE EQUIPMENT GROUNDING CONDUCTOR TO BE SAME SIZE AS THE PHASE CONDUCTORS.
"HH": NEUTRAL CURRENTS EXIST DUE TO HIGH HARMONIC "NONLINEAR" LOADS. CURRENT CARRYING CONDUCTORS DERATED ACCORDINGLY. PROVIDE THE IG/HH SIZE FOR THE EQUIPMENT GROUNDING CONDUCTOR.
"IG": INCLUDE IG (INSULATED/ISOLATED GROUND CONDUCTOR) SCHEDULED ALONG WITH THE GROUND OF EQUIPMENT GROUND CONDUCTOR.
"MC": PROVIDE FEEDER IN METAL-CLAD CABLE; TYPE MC IN PLACE OF SINGLE CONDUCTORS IN CONDUIT.
"SE": SUBSTITUTE "SE" CONDUCTOR FOR "G" CONDUCTOR SHOWN, WHICH IS SIZED FOR THE GROUNDING OF THE SECONDARY OF THE SEPARATELY DERIVED SYSTEM.
"SER": PROVIDE SERVICE-ENTRANCE CABLE; TYPE SE OR SER IN PLACE OF SINGLE CONDUCTORS IN CONDUIT.
6. RACEWAY ONLY. CONDUCTORS PROVIDED BY UTILITY.

GENERAL SHEET NOTES

1. PROVIDE NEMA 3R ENCLOSURES FOR EQUIPMENT LOCATED OUTDOORS. REFER TO PLANS FOR EQUIPMENT LOCATIONS.
2. REFER TO PLANS FOR CONSTRAINTS ON PHYSICAL DIMENSIONS AND CLEARANCE REQUIREMENTS OF EQUIPMENT. PROVIDE EQUIPMENT DIMENSIONS THAT FALLWITHIN THE CONSTRAINTS OF EACH SPECIFIC LOCATION.
3. ALL EQUIPMENT SHALL BE CONSTRUCTED AND BRACED FOR THE SEISMIC CONDITIONS OF THE PROJECT. REFER TO ELECTRICAL SPECIFICATIONS FOR REQUIREMENTS.
4. PROVIDE PERFORMANCE TESTING FOR GROUND-FAULT PROTECTION SYSTEMS ON SITE WITH WRITTEN RECORD OF THIS TEST SUBMITTED TO THE AUTHORITY HAVING JURISDICTION PER NEC 230.95(C).

SHEET KEYNOTES

1. PROVIDE 208/208 VOLT TRANSFORMER IN ISOLATION PANEL FOR CRITICAL BRANCH "A" FEEDER BACK TO PANEL "CBL33".
2. PROVIDE 480/208 VOLT TRANSFORMER IN ISOLATION PANEL FOR CRITICAL BRANCH "B" FEEDER BACK TO PANEL "CBBHDPB".

FFKR ARCHITECTS
730 Pacific Avenue · Salt Lake City, Utah 84104
O 801.521.6186 · FFKR.COM

ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
09/19/22

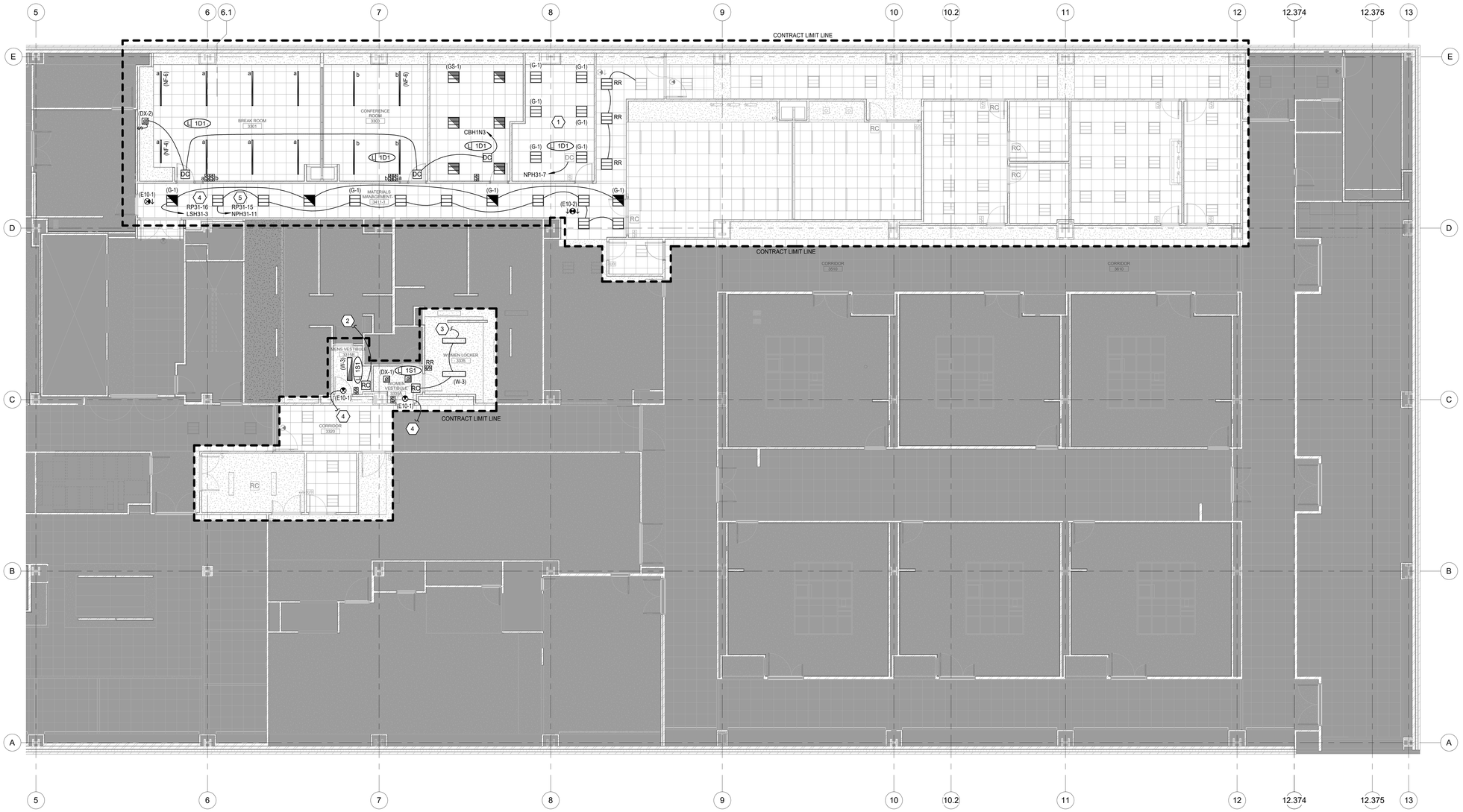
△ DATE REVISION

U of U PROJECT NUMBER

PARTIAL ONE LINE DIAGRAM

EP601

Autodesk Docs://22042 UofUACCOR#/220272 ELEC CENTRAL.rvt



GENERAL SHEET NOTES

1 CIRCUIT ALL NEW EXIT SIGNS TO EGRESS LIFE SAFETY CIRCUIT FEEDING EXISTING CORRIDOR EXIT SIGNS.

SHEET KEYNOTES

1 PROVIDE TEMP LIGHTING IN PHASE 1 TO BE RELOCATED IN PHASE 2.

2 CIRCUIT WITH MENS LOCKER ROOM LIGHTS.

3 CIRCUIT WITH WOMENS LOCKER ROOM LIGHTS.

4 CIRCUIT TO EGRESS LIGHT CONTROLLED CIRCUIT WHICH PREVIOUSLY FED NORTH HALLWAY 3030 (CORRIDOR IS BEING DEMOLISHED IN THIS PROJECT). COORDINATE WITH USERS TO REPROGRAM HOURS OF OPERATION IF NECESSARY.

5 CIRCUIT TO NORMAL POWER LIGHT CONTROLLED CIRCUIT WHICH PREVIOUSLY FED NORTH HALLWAY 3030 (CORRIDOR IS BEING DEMOLISHED IN THIS PROJECT). COORDINATE WITH USERS TO REPROGRAM HOURS OF OPERATION IF NECESSARY.

A1 LEVEL 3 LIGHTING PLAN - PHASE 1
SCALE: 1/8" = 1'-0"

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
09/19/22

△ DATE REVISION

U of U PROJECT NUMBER

LEVEL 3 LIGHTING PLAN - PHASE 1

EL103-1

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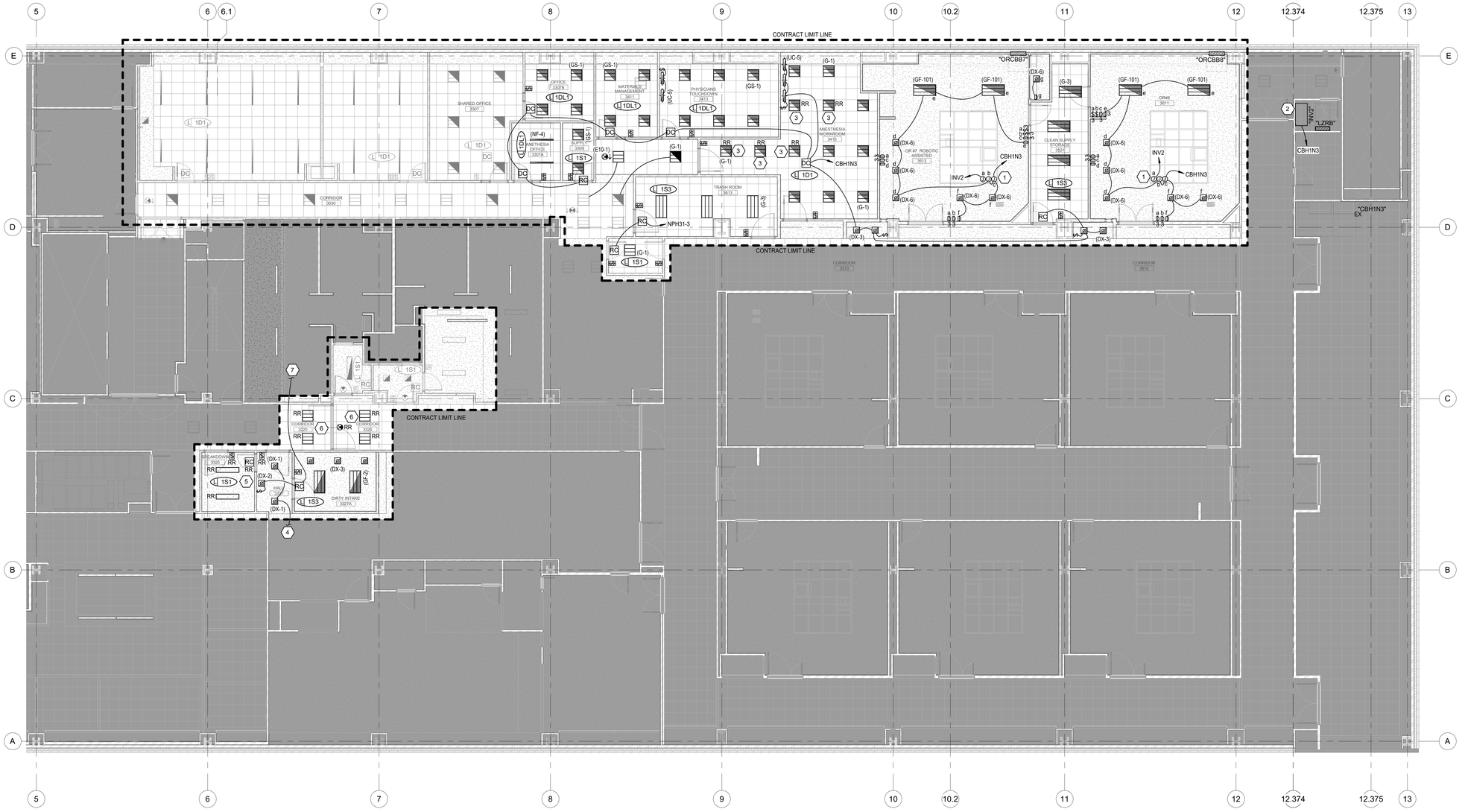

A1 LEVEL 3 LIGHTING PLAN - PHASE 2
SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

SHEET KEYNOTES

1 PROVIDE THREE J-BOX CONNECTIONS AND CIRCUITING FOR SLD INTEGRATED LIGHTING: INDEGO CLEANING LIGHTS, GREEN LIGHTS. PROVIDE 3-WAY SWITCHING WITH DIMMING CONTROLS.

2 MYERS INVERTER 1 IE 3 S BD203 C 2YW5YP (OR EQUIVALENT MANUFACTURER).

3 SIX G-1 FIXTURES RELOCATED FROM PHASE 1.

4 CIRCUIT WITH CENTRAL STERILE STORAGE LIGHTS. RELOCATED LIGHTING CONTROL DEVICES TO NEW DOOR LOCATION.

5 RELOCATE LIGHTS FIXTURES AND LIGHTING CONTROLS FOR MATERIAL BREAKDOWN. RECONNECT TO EXISTING CIRCUIT.

6 RELOCATED AND HALLWAY LIGHTS AND RECONNECT TO EXISTING CIRCUITS.

7 CIRCUIT TO EMERGENCY CIRCUIT FEEDING LOCKER ROOM LIGHTS.

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LEVEL 3 LIGHTING PLAN - PHASE 2

EL103-2

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INTERIOR LIGHTING FIXTURE SCHEDULE

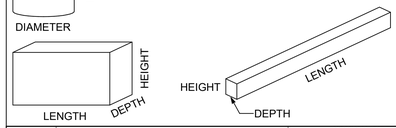
ABBREVIATIONS

MOUNTING

- B - BASE
- C - CEILING
- F - FLANGE
- G - GRID
- P - PENDANT
- PL - POLE
- R - RECESSED
- S - SURFACE
- W - WALL

LUMINAIRE OPTIONS

- ARHR - AIR RETURN AND HEAT REJECTION
- DL - DAMP LOCATION
- EQC - EARTHQUAKE CLIPS
- F - FUSING
- HLD - HINGED AND LATCHED DOOR
- HS - HOUSE SIDE SHIELD
- PS - PHOTOCELL SWITCH
- QRS - QUARTZ RESTRIKE
- ST - STATIC
- WG - WIRE GUARD
- WL - WET LOCATION



FINISH

- MW - MATTE WHITE
- BL - BLACK
- SL - SILVER
- GL - GOLD
- CL - CLEAR
- PW - PAINTED WHITE
- EA - EXTRUDED ALUMINUM
- S - STEEL
- GS - GALVANIZED STEEL
- C - CAST
- CBA - COLOR BY ARCHITECT
- SCBA - STANDARD COLOR BY ARCHITECT
- CCA - CUSTOM COLOR BY ARCHITECT
- FS 209D - MEETS FEDERAL STANDARD 209D
- TP - THERMALLY PROTECTED
- FL - FLUSH
- R - REGRESS
- M - MITERED

DIFFUSER/LENS

- #A - ACRYLIC #THICK
- #OA - ACRYLIC #THICK (OPAL)
- GC - GLASS (CLEAR)
- GO - GLASS (OPAL)
- GF - GLASS (FROSTED)
- SGL - SOFT GLOW LENS
- HPL - HIGH PERFORMANCE LENS
- DO - DROP OPAL
- CGL - CONVEX GLASS LENS
- S - SATIN LENS

REFLECTOR

- OP - NONE/OPEN
- SP - SPECULAR
- SS - SEMI-SPECULAR
- D - DIFFUSE (WHITE ENAMEL)
- SC - SPECULAR (COLORED)
- PR - PRISMATIC
- FDR - FULL DEPTH REFLECTOR
- DS - DIFFUSE (SEMI SPECULAR) SILVER
- LI - LOW IRIDESCENT
- IR - IRIDESCENT
- SL - SILVER
- GL - GOLD
- CA - CLEAR ALZAK

NOTES

GENERAL NOTES

1. PROVIDE UNIT PRICES AND FIXTURE BRAND SELECTED FOR ADD/DELETE CHANGES FOR EACH FIXTURE TYPES SHOWN WITHIN 48 BUSINESS HOURS OF THE BID DATE. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY DISQUALIFY THE PRODUCTS AND EMPOWER THE ENGINEER TO DETERMINE FAIR VALUE FOR FIXTURE AND INSTALLATION CHANGES, WITHOUT FURTHER INPUT FROM THE CONTRACTOR OR INSTALLER.
2. CONTRACTOR ALLOWANCE PRICES ARE ACCURATE WHEN THIS JOB WAS SPECIFIED, CONTRACTOR AND ELECTRICAL DISTRIBUTOR SHALL VERIFY THIS ALLOWANCE AND REPORT ANY PROBLEMS TO THE ENGINEER BEFORE THE BID. ALLOWANCE PRICE MAY OR MAY NOT INCLUDE LAMP(S) OR FREIGHT AS NOTED, AND DO NOT INCLUDE ANY TAXES.
3. SUBSTITUTIONS AND/OR EQUAL FIXTURES MUST RECEIVE APPROVAL PRIOR TO BIDDING, THEY MUST BE SUBMITTED TO THE ENGINEER NO LESS THAN 2 WEEKS PRIOR TO BID OPENING.
4. SAMPLES MUST BE PROVIDED FOR ANY AND ALL FIXTURES UPON A/E REQUEST PRIOR TO RELEASING FIXTURES.
5. ALL FIXTURES SHALL BE LISTED AND APPROVED FOR THEIR INTENDED USE AND LOCATION.
6. VERIFY THE PROPER MOUNTING KITS OR ACCESSORIES TO FACILITATE INSTALLATION AS SHOWN AT EACH LOCATION ON THE DRAWINGS.
7. COMPLY WITH THE "INTERIOR LIGHTING" SECTION OF THE SPECIFICATIONS.
8. REFER TO SPECIFICATIONS FOR IMPORTANT TECHNICAL REQUIREMENTS FOR LIGHTING FIXTURES, DRIVERS, AND LAMPS.
9. ALL LIGHT FIXTURES TO BE EITHER "DLC" OR "LIGHTING FACTS" LISTED OR TO BE APPROVED BY ARCHITECT/ENGINEER AND OWNER.

		NOMINAL SIZE																	MANUFACTURER (CATALOG SERIES)		
ID	DESCRIPTION	LENGTH	DEPTH	HEIGHT	DIAMETER/ APERTURE	MOUNTING	TYPE	COLOR TEMP	CRI	DRIVER CONFIGURATION	VOLTAGE	WATTS	FINISH	FIXTURE LUMENS	DIFFUSER/LENS	REFLECTOR	OPTIONS	NOTES	OPTION 1	OPTION 2	OPTION 3
(DX-1)	6" ROUND, RECESSED LED DOWNLIGHT, SEMI-SPECULAR REFLECTOR, WHITE TRIM FINISH	-	-	-	0' - 6"	CR	LED	4000K		0-10V DIMMING (10%)	120/277	19	-	1500			-		GOTHAM (EVO-35/15-6AR-WD-LSS-MVOLT-EZ10)		
(DX-2)	6" ROUND, RECESSED LED DOWNLIGHT, SEMI-SPECULAR REFLECTOR, WHITE TRIM FINISH	-	-	-	0' - 6"	CR	LED	4000K		0-10V DIMMING (10%)	120/277	23	-	2000			-		GOTHAM (EVO-35/20-6AR-WD-LSS-MVOLT-EZ10)		
(DX-3)	6" ROUND, RECESSED LED DOWNLIGHT, SEMI-SPECULAR REFLECTOR, WHITE TRIM FINISH	-	-	-	0' - 6"	CR	LED	3500K		0-10V DIMMING (10%)	120/277	42	-	3500			-		GOTHAM (EVO-35/35-6AR-WD-LSS-MVOLT-EZ10)		
(DX-6)	6" ROUND, RECESSED LED LENSED DOWNLIGHT, WET LOCATION, REGRESSED LENS, WHITE REFLECTOR, WHITE TRIM FINISH	-	-	-	0' - 6"	CR	LED	3500K		0-10V DIMMING (<1%)	120/277	23	-	2000			-		GOTHAM (EVO-35/20-6WR-WD-MVOLT-EZ10)		
(E10-1)	<varies>	11 3/4"	8 1/4"	2"	-	W, C, S, P	LED	GREEN	-	LED DRIVER	120/277	2	WH	0	-	-	-		LITHONIA (LES-W-1-G)	SURE-LITES (CX-)	DUAL LITE (SE-)
(G-1)	2' X 2' LED FLAT PANEL, GRID LAY-IN	2' - 0"	2' - 0"	-	-	CR	LED	4000K		0-10V DIMMING (10%)	120/277	40	-	3400			-		VIVIDLEDS (VVDES2240-35-UNV-WH-D1)		
(G-3)	2' X 4' LED FLAT PANEL, GRID LAY-IN	4' - 0"	2' - 0"	-	-	CR	LED	4000K		0-10V DIMMING (10%)	120/277	60	-	6700			-		VIVIDLEDS (VVDES2461-35-V27-WH-D1)		
(GF-2)	2' X 4' LED FLAT PANEL, GRID LAY-IN, PROVIDE FLANGE KIT	4' - 0"	0' - 2"			CR	LED	4000K		0-10V DIMMING (10%)	120/277	50		4300			FLANGE KIT		VIVIDLEDS (VVDES2450-35-V27-WH-D1)		
(GF-101)	2' X 4' LED FLAT PANEL, PROVIDE FLANGE KIT	4' - 0"	2' - 0"	-	-	CR	LED	3500K		0-10V DIMMING (10%)	120/277	50	-	4300			FLANGE KIT		VIVIDLEDS (VVDES2450-35-V27-WH-D1)		
(GS-1)	2' X 2' LED TROFFER, EDGE LIT PANELS, GRID LAY-IN	2' - 0"	2' - 0"	-	-	CR	LED	4000K		0-10V DIMMING (10%)	120/277	29	-	3400			-		METALUX (22EN-LD2-25-UNV-L835-CD1-U)	LEDALITE (4111-D1-ST-L-8B-D-S-7-2-E))	
(NF-4)	4" X 4' LINEAR RECESSED SLOT, GRID MOUNT	4' - 0"	0' - 4"	-	-	CR	LED	4000K		0-10V DIMMING (10%)	120/277	24	-	2000			-		PINNACLE (E4A-835-4'-GX-U-OL1-1-W)		
(UC-5)	LED UNDER CABINET FIXTURE	2' - 0"	0' - 4"	-	-		LED	4000K		ELV DIMMING	120/277	8		600					DAY-BRITE (LINCS100E-L28-935-UNV-WHG-DIM)	KENALL (AUCLED-1-MW-11L35K-24-277)	
(W-3)	4' NARROW BODY WRAPAROUND, OPAL ACRYLIC LENS	4' - 0"				CS	LED	4000K		NO DIMMING	120/277	32	WH	4200					LITHONIA (LBL4-LP835)	COLUMBIA (LWC4-35VL-EU)	METALUX (WNLED-LD1-41-1-UNV-L835-CD1-U)

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PETER E. JOHANSEN
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INTERIOR LIGHTING FIXTURE SCHEDULE

EL601

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LIGHTING/SPACE CONTROL TYPE SCHEDULE

WIRING LEGEND

- ——— LINE VOLTAGE WIRING
- - - - - 0-10V WIRING
- ·-·-·- CAT5E CABLING
- ——— WIRING BY OTHERS
- TMP SEGMENT NETWORK CABLING

APPROVED MANUFACTURERS

1. WATTSTOPPER (BASIS OF DESIGN)
2. NLIGHT
3. HUBBELL BUILDING AUTOMATION
4. GREENGATE

LIGHTING CONTROL ID

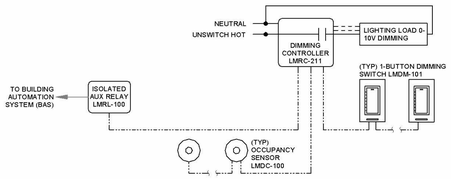
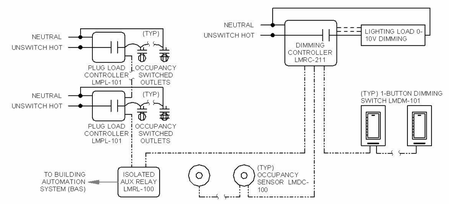
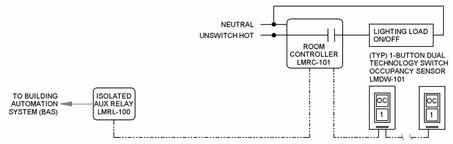
1. # = NUMBER OF ZONES
2. D = DIMMING, S = SWITCHING
3. P = DAYLIGHT PHOTOCELL
4. L = PLUG LOAD CONTROLLER
5. # = INSTANCE

GENERAL NOTES

1. COORDINATE INITIAL PROGRAMMING WITH OWNER AND MODIFY CONTROL TIMES AND OPERATION AS REQUESTED BY OWNER.
2. PROVIDE FINE TUNING PROGRAMMING AND ADJUSTMENTS UPON REQUEST BY OWNER WITHIN FIRST 6 MONTHS AFTER SUBSTANTIAL COMPLETION.
3. PROVIDE CUSTOMIZED ENGRAVED PERMANENT BUTTON LABELS ON EACH SWITCH, LABEL TO MATCH BUTTON LABEL ID OR AS DIRECTED BY OWNER.
4. PART NUMBERS SHOWN ARE BASED ON WATTSTOPPER AS THE BASIS OF DESIGN. ALL APPROVED MANUFACTURERS ARE SUBJECT TO MEETING ALL FUNCTIONS AND CAPABILITIES OF THE BASIS OF DESIGN SYSTEM AND PRODUCTS. FAILURE TO MEET THESE SHALL REQUIRE THE CONTRACTOR TO PROVIDE A SYSTEM THAT DOES AT NOT ADDITIONAL COST.

GENERAL NOTES

5. REFER TO PLANS FOR LOCATIONS AND QUANTITIES OF DEVICES.
6. INSTALL ONE OF EACH CONTROL TYPE WITH PROGRAMMING, ADJUST, AND OBTAIN OWNERS APPROVAL PRIOR TO PROGRAMMING THE REMAINING CONTROLS.
7. WIRING MAY VARY BETWEEN MANUFACTURERS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE REQUIRED WIRING THAT WILL BOTH MEET THE MANUFACTURERS REQUIREMENTS AND MATCH WITH THE SHOWN SYSTEM.
8. PROVIDE COMPLETE SHOP DRAWING SUBMITTALS INCLUDING OCCUPANCY SENSOR LAYOUT AND COVERAGE PATTERNS. PROVIDE ADDITIONAL SENSORS AS REQUIRED FOR 100% COVERAGE OF SPACES WITH OCCUPANCY SENSOR CONTROL.

ID / DETAIL	LIGHTS ON CONTROL	LIGHTS OFF CONTROL	LIGHTING CONTROL TYPE	DAYLIGHT SENSOR SETTING (FC)	TIME DELAY TO OFF (MIN.)	BAS AUX RELAY SIGNAL	PLUG LOAD CONTROLLER	NETWORKED CONTROLS	BUTTON_1	BUTTON_2	BUTTON_3	BUTTON_4	BUTTON_5	BUTTON_6	BUTTON_7	BUTTON_8	BUTTON_9	NOTES
1D1																		
	MANUAL & OCCUPANCY	MANUAL OR OCCUPANCY	DIMMING 0-10V	-	15	RELAY CLOSED ON OCCUPANCY	-	-	FUNCTION: PRESS TOP-ON, HOLD TOP-RAISE LABEL ID: TOP- "ON/RAISE" BOTTOM-"OFF/ LOWER"	-	-	-	-	-	-	-	-	
1DL1																		
	MANUAL & OCCUPANCY	MANUAL OR OCCUPANCY	DIMMING 0-10V	-	15	RELAY CLOSED ON OCCUPANCY	ON-OCCUPANCY, OFF-NONOCCUPIED	-	FUNCTION: PRESS TOP-ON, HOLD TOP-RAISE LABEL ID: TOP- "ON/RAISE" BOTTOM-"OFF/ LOWER"	-	-	-	-	-	-	-	-	
1S1																		
	MANUAL & OCCUPANCY	MANUAL OR OCCUPANCY	ON/OFF	-	15	RELAY CLOSED ON OCCUPANCY	-	-	FUNTION: PRESS-ON PRESS-OFF LABEL ID:"ON/OFF"	-	-	-	-	-	-	-	-	
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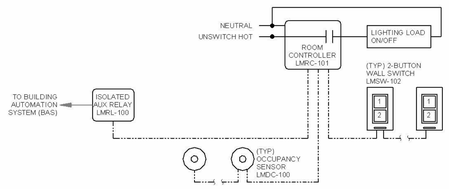	MANUAL & OCCUPANCY	MANUAL OR OCCUPANCY	ON/OFF	-	15	RELAY CLOSED ON OCCUPANCY	-	-	FUNCTION: PRESS-ON LABEL ID: "ON"	FUNCTION: PRESS-OFF LABEL ID: "OFF"	-	-	-	-	-	-	-	

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LIGHTING CONTROL SCHEDULES

EL602

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1 LEVEL 3 TELECOM PLAN - PHASE 1

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 CONTRACTOR TO REUSE AND RELOCATE EXISTING CABLES FOR ALL NEW DATA OUTLETS WHERE POSSIBLE. ALL EXISTING CABLES SHALL BE TESTED AND CERTIFIED AFTER RE-TERMINATION IN THE NEW DATA LOCATION. ANY NEW CABLES REQUIRED FOR PHASE ONE WILL BE PROVIDED AND INSTALLED IN PHASE TWO WHEN VERTICAL PATHWAYS ARE INSTALLED

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LEVEL 3 TELECOM PLAN - PHASE 1

ET103-1

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A1

LEVEL 3 TELECOM PLAN - PHASE 2

SCALE: 1/8" = 1'-0"

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LEVEL 3 TELECOM PLAN - PHASE 2

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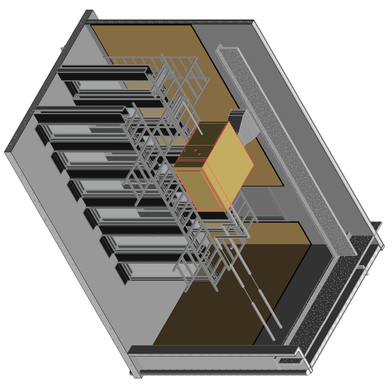
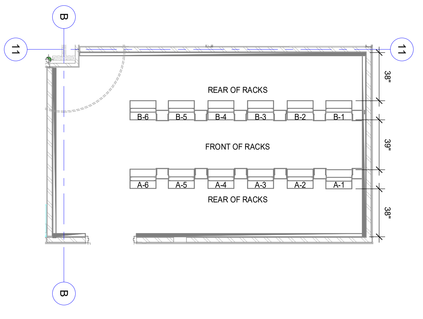
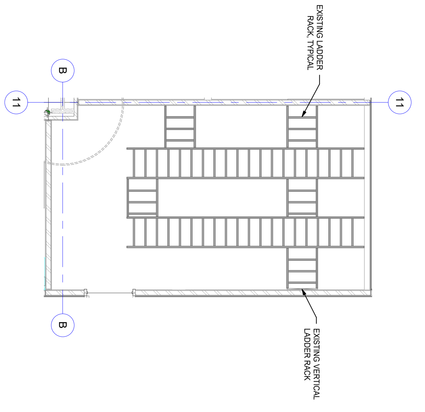
A4 LEVEL 2 COMM ROOM 2616 ISOMETRIC PLAN
SCALE:



A6 ENLARGED LEVEL 2 COMM ROOM 2616 EQUIPMENT RACK PLAN
SCALE: 1/4" = 1'-0"



C6 ENLARGED LEVEL 2 COMM ROOM 2616 LADDER RACK PLAN
SCALE: 1/4" = 1'-0"



ENLARGED TELECOM PLANS

U of U PROJECT NUMBER

ET401

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LICENSED ARCHITECT No. 185978 PETER E. JOHANSEN STATE OF UTAH
09/19/22

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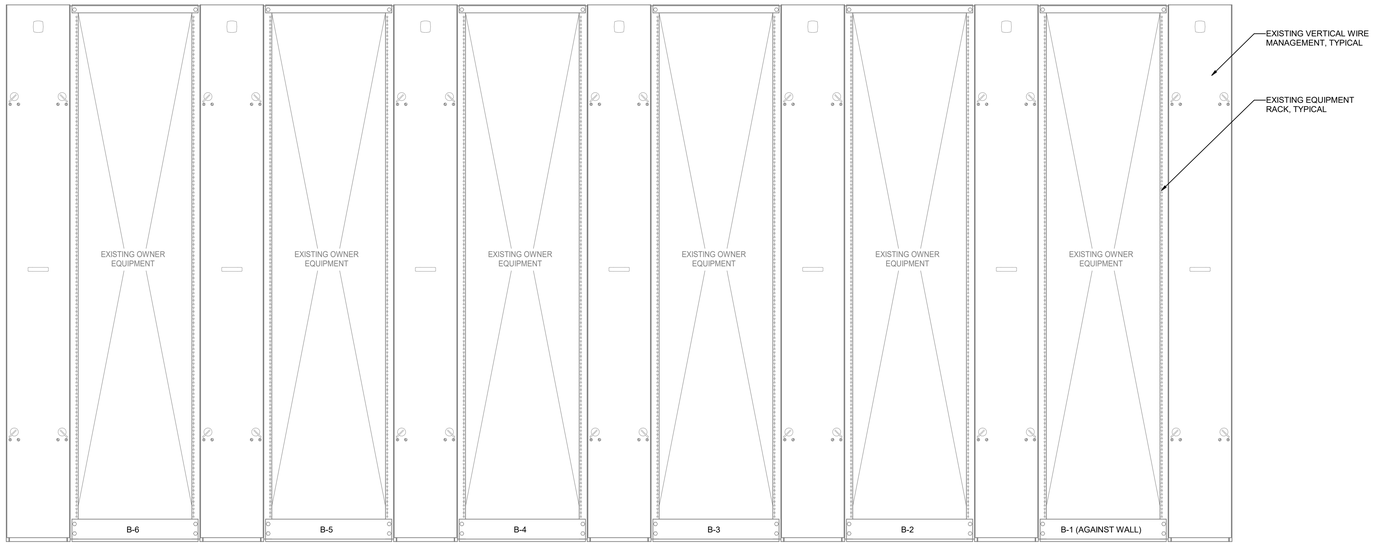
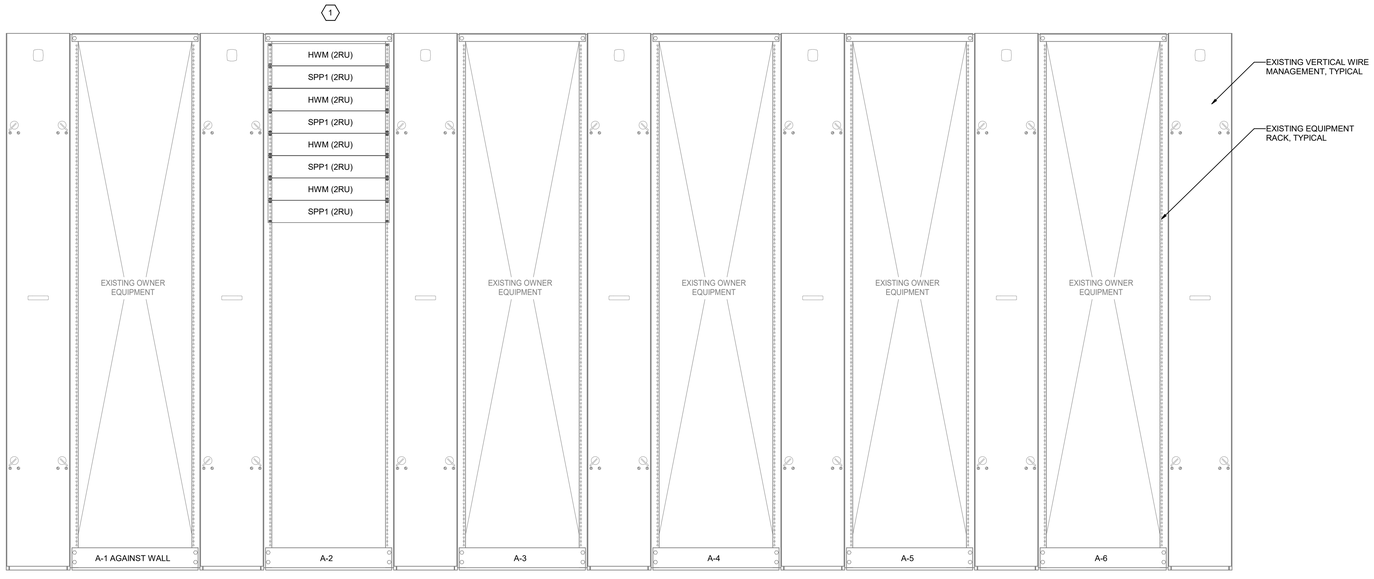
GENERAL SHEET NOTES

1 CONTRACTOR TO COORDINATE FINAL TERMINATION LOCATION WITH OWNER PRIOR TO INSTALLATION.

DATA DEVICE DROP SCHEDULE - LEVEL 2 COMM ROOM 2616 PHASE 2

DATA DEVICE TYPE	DETAIL LOCATION	COMM ROOM LOCATION	TOTAL BY FLOOR	Num of Drops
LEVEL 3				
CEILING DATA (3-DROP)		LEVEL 2 COMM ROOM 2616 PHASE 2	2	6
CEILING DATA (4-DROP)		LEVEL 2 COMM ROOM 2616 PHASE 2	1	4
CEILING DATA - CAMERA (1-DROP)		LEVEL 2 COMM ROOM 2616 PHASE 2	2	2
CEILING DATA - MONITOR (1-DROP)		LEVEL 2 COMM ROOM 2616 PHASE 2	3	3
CEILING WIRELESS ACCESS POINT (2-DROP)		LEVEL 2 COMM ROOM 2616 PHASE 2	3	6
FLOOR DATA (2-DROP)		LEVEL 2 COMM ROOM 2616 PHASE 2	2	0
WALL DATA (1-DROP)		LEVEL 2 COMM ROOM 2616 PHASE 2	5	5
WALL DATA (2-DROP)		LEVEL 2 COMM ROOM 2616 PHASE 2	21	42
WALL DATA (3-DROP)		LEVEL 2 COMM ROOM 2616 PHASE 2	8	24
WALL DATA - ABOVE COUNTER (2-DROP)		LEVEL 2 COMM ROOM 2616 PHASE 2	1	2
WALL DATA - PHONE (1-DROP)		LEVEL 2 COMM ROOM 2616 PHASE 2	3	3
Grand total			51	97





A1 TYPICAL EQUIPMENT RACK ELEVATION DETAIL, LEVEL 2, COMM ROOM 2616
SCALE: 1/8" = 1'-0"

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ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
05/19/22

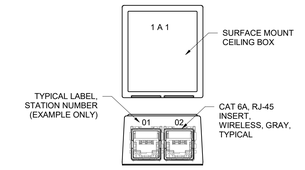
△ DATE REVISION

U of U PROJECT NUMBER

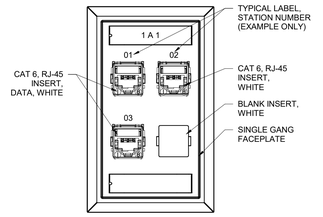
TELECOM EQUIPMENT RACK ELEVATIONS

ET501

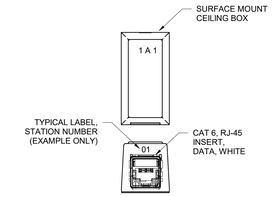
Autodesk Docs://22042 UofUACCORs/220272 ELEC CENTRAL.rvt



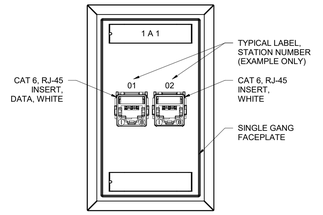
E5 TYPICAL 2-DROP WIRELESS ACCESS POINT DETAIL
SCALE: NTS



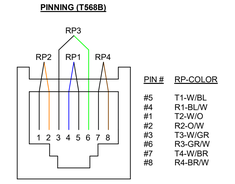
E6 3-DROP WALL DATA DETAIL
SCALE: 1/8" = 1'-0"



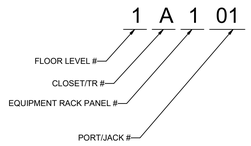
D5 1-DROP CEILING DATA CAMERA DETAIL
SCALE: NTS



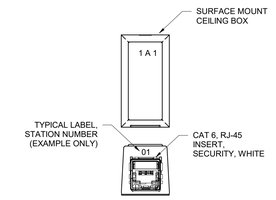
D6 2-DROP WALL DATA DETAIL
SCALE: 1/8" = 1'-0"



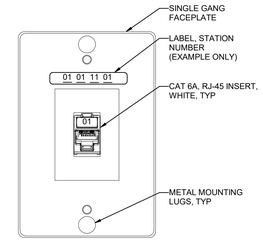
C3 TYPICAL VOICE/DATA OUTLET PINNING DETAIL
SCALE: NTS



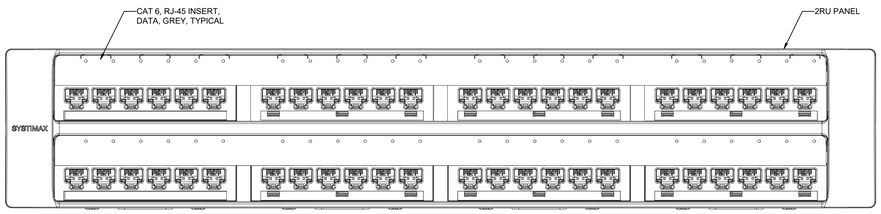
C4 TYPICAL CABLE IDENTIFICATION DETAIL
SCALE: NTS



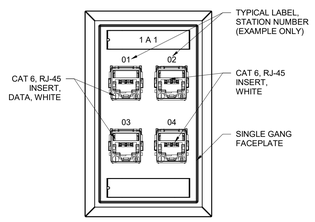
C5 1-DROP CEILING DATA CAMERA DETAIL
SCALE: NTS



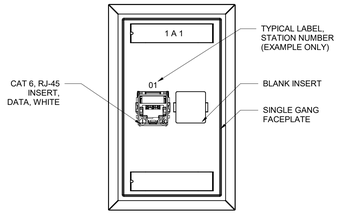
C6 1-PORT WALL PHONE OUTLET
SCALE: NTS



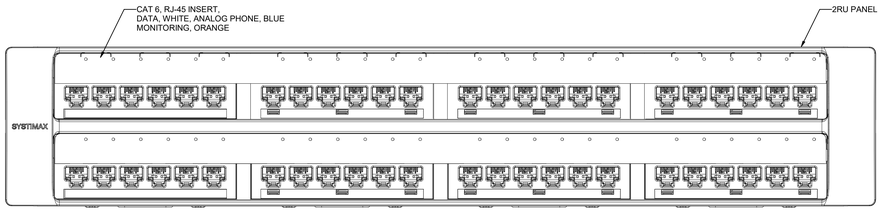
B2 WIRELESS PATCH PANEL, WPP1, TYPICAL
SCALE: NTS



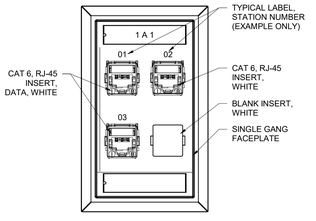
B5 4-DROP CEILING DATA DETAIL
SCALE: NTS



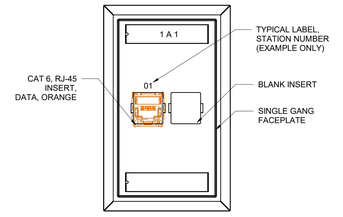
B6 1-DROP WALL DATA DETAIL
SCALE: NTS



A2 STATION PATCH PANEL, SPP2, TYPICAL
SCALE: NTS



A5 3-DROP CEILING DATA DETAIL
SCALE: NTS



A6 1-DROP CEIILING DATA MONITOR DETAIL
SCALE: NTS

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CONSTRUCTION SET
SEPTEMBER 19, 2022

LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
09/19/22

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U of U PROJECT NUMBER

TELECOM DETAILS

ET502

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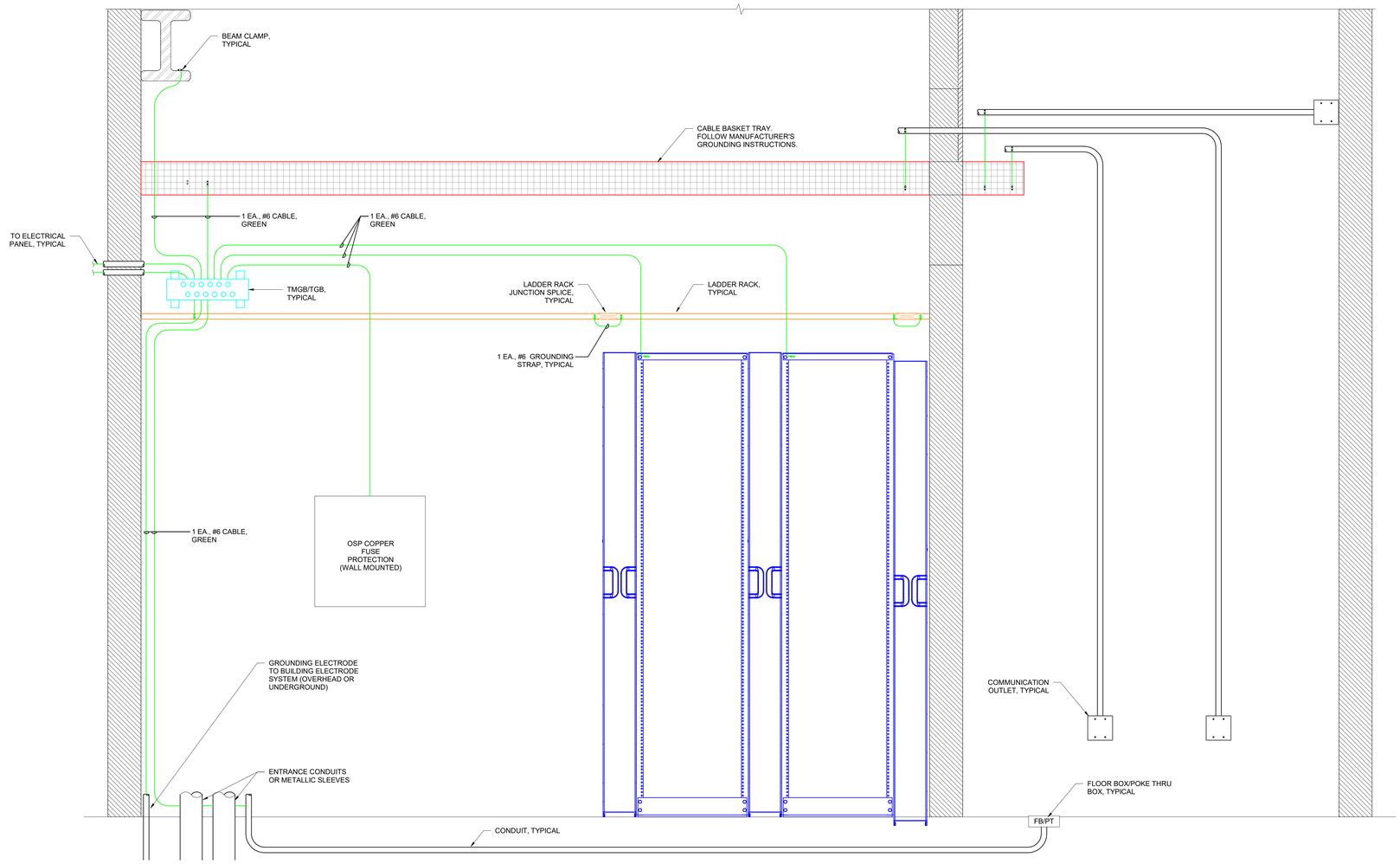
GENERAL NOTES:

1. ALL LOW VOLTAGE COMMUNICATIONS CONDUIT SHALL BE GROUNDED TO BASKET TRAY OR TELECOMMUNICATIONS GROUNDING BUS BAR.
2. "TMGB" SHOULD BE 1/4"x4"x24".
3. "TGB" SHOULD BE 1/4"x2"x24".
4. EMT CONDUIT GROUNDING CLAMP SHOULD BE ELECTROLYTIC CAST BRONZE (PANDUIT PART NUMBER GPL-"X"-"X", OR EQUAL).
5. RIGID CONDUIT GROUND CLAMP SHOULD BE PART NUMBER O-Z/GEDNEY BLG-XXXX, OR HBLG-XXXX, OR EQUAL.
6. GROUNDING LUGS SHOULD BE TWO-HOLE LONG BARREL LUGS (PANDUIT PART NUMBER LCC6, OR EQUAL).



A1 TYPICAL TELECOM EQUIPMENT RACK GROUNDING DETAIL

SCALE: 1/8" = 1'-0"

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TELECOM EQUIPMENT RACK GROUNDING DETAIL

ET503

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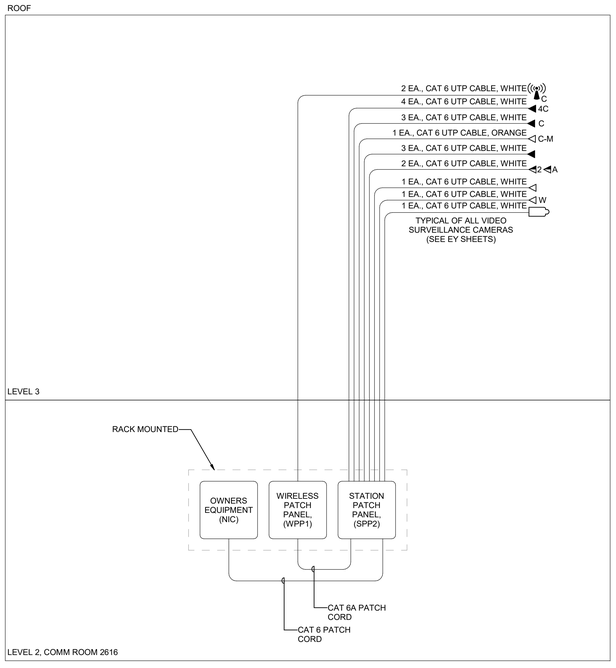
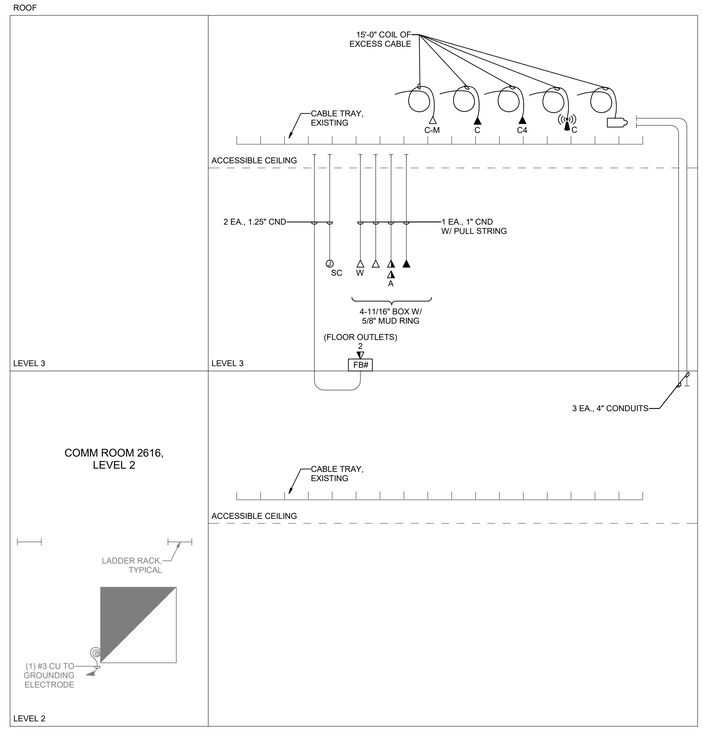


A2 TELECOM CABLE RISER DIAGRAM
SCALE: NTS



A5 TELECOM CONDUIT RISER DIAGRAM
SCALE: NTS

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TELECOM RISER DIAGRAMS

ET601

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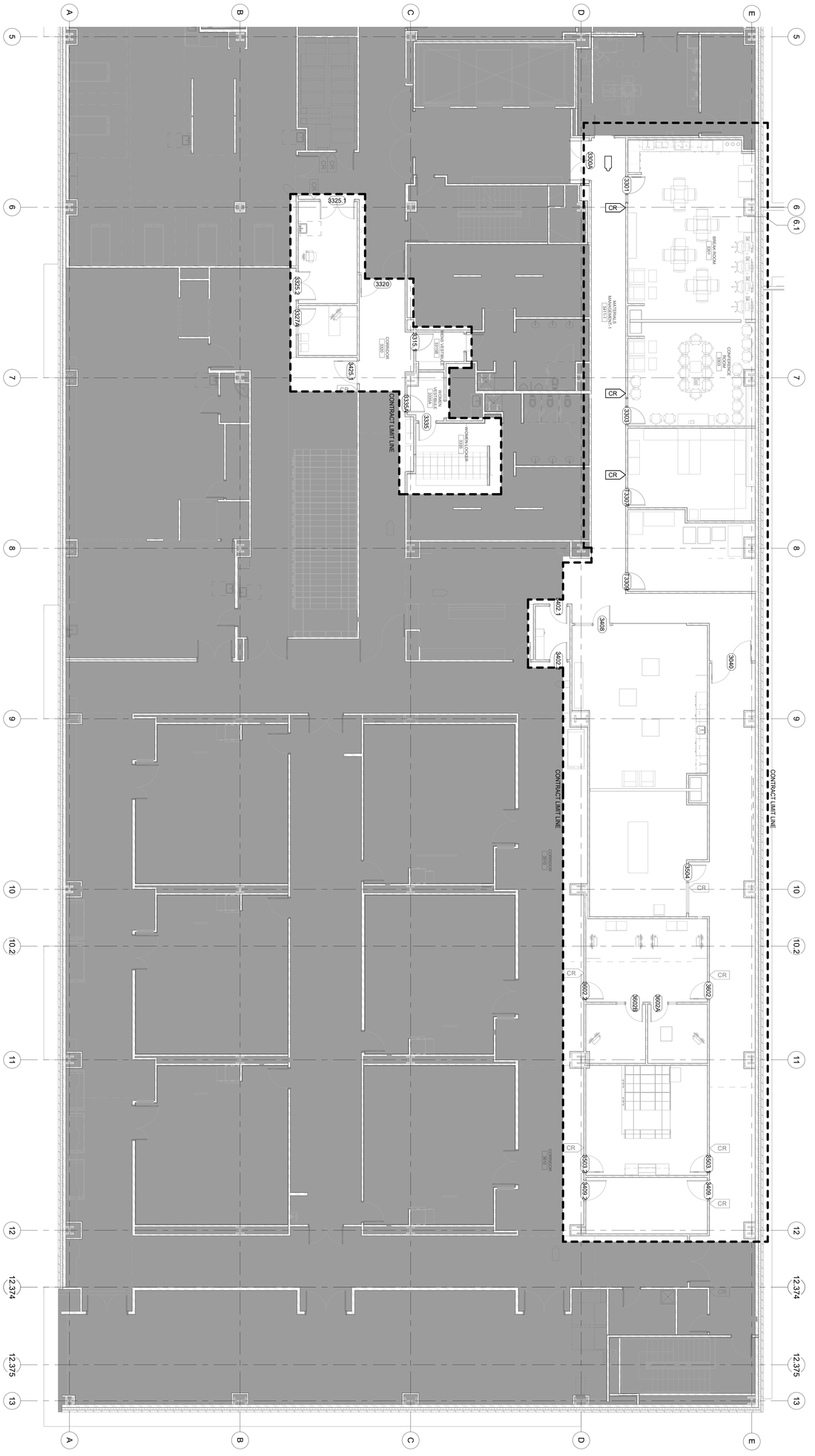
A1 LEVEL 3 SECURITY PLAN - PHASE 1

SCALE: 1/8" = 1'-0"



GENERAL SHEET NOTES

SHEET KEYNOTES

ACC OR EXPANSION REMODEL
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CONSTRUCTION SET
SEPTEMBER 19, 2022

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LEVEL 1 SECURITY PLAN - PHASE 1

EY103-1

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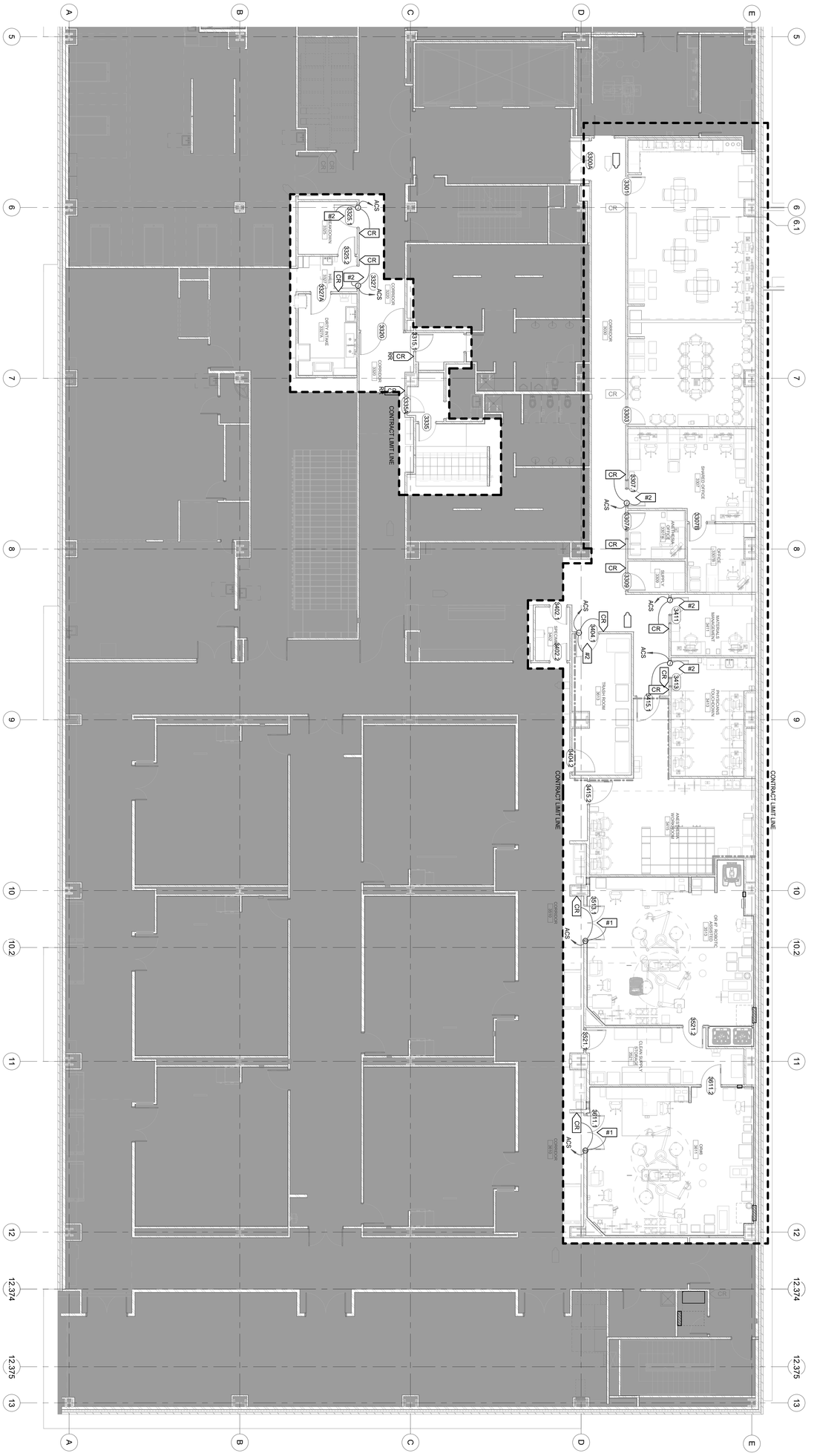
A1 LEVEL 3 SECURITY PLAN - PHASE 2

SCALE: 1/8" = 1'-0"



GENERAL SHEET NOTES		⬡ SHEET KEYNOTES

LEVEL 3 SECURITY PLAN - PHASE 2

EY103-2

U of U PROJECT NUMBER

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LICENSED ARCHITECT — No. 185978 — PETER E. JOHANSEN — UNITED STATES OF AMERICA — 09/19/22

ACC OR EXPANSION REMODEL

UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132

CONSTRUCTION SET

SEPTEMBER 19, 2022

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CARD ACCESS DOOR TYPE SCHEDULE

DOOR TYPE #	SYMBOL	DESCRIPTION	PROTECTED SIDE ELEVATION	UNPROTECTED SIDE ELEVATION	LOCK TYPE(S)	DIVISION OF WORK AND COMMENTS
TYPE 1	CR, #1, TO ACS HARDWARE SET: 01	DOUBLE DOOR, CARD READER, FREE EGRESS	.75" C (TYP) FRAME HARNESS IN .75" C CONTACT INDICATORS 1G BOXES IN FRAME DOOR HARNESS IN DOOR ACTUATOR 4SQ BOX W/ 1G TRIM POWER TRANSFER 1G BOXES IN FRAME AUTO OPENER 4SQ J-BOX ABOVE ACC CEILING .75" C (TYP) EXIT DEVICE (EGRESS SIDE)	AUTO OPENER 4SQ J-BOX ABOVE ACC CEILING .75" C (TYP) ACTUATOR 4SQ BOX W/ 1G TRIM CARD READER 4SQ BOX W/ 1G RING 40"	ELECTRIC EXIT DEVICE	SECURITY CONTRACTOR PROVIDES: • CR HARDWARE CONTRACTOR PROVIDES: • EED, EPT, AO, PP, DH, FH, L/PS, CI LOCK CONTROLLED BY: • CR
TYPE 2	CR, #2, TO ACS HARDWARE SET: 02, 03	SINGLE DOOR, CARD READER, FREE EGRESS	4SQ J-BOX ABOVE ACC CEILING .75" C (TYP) CONTACT INDICATORS 1G BOXES IN FRAME FRAME HARNESS IN .75" C (TYP) HINGE POWER TRANSFER 1G BOX IN FRAME ELECTRIC LOCKSET DOOR HARNESS	4SQ J-BOX ABOVE ACC CEILING .75" C (TYP) 40" CARD READER 4SQ BOX W/ 1G RING	ELECTRIC LOCKSET	SECURITY CONTRACTOR PROVIDES: • CR, L/PS, EPT, DH, FH HARDWARE CONTRACTOR PROVIDES: • EL, CI LOCK CONTROLLED BY: • CR

NOTES

1. PROVIDE RACEWAY AND EQUIPMENT AS INDICATED FOR CARD ACCESS DOOR TYPE INDICATED. REFER TO SECTION 281300 AND CARD ACCESS LOCK CONTROL DETAILS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE CONCEALED .75" C TYPICAL FOR LINES SHOWN TO DEVICE BOXES ON PROTECTED SIDE AND UNPROTECTED SIDE ELEVATIONS.
3. CONFIRM CORRECT CARD ACCESS DOOR RACEWAY, LOCK VOLTAGE, AND EXIT SWITCH CURRENT RATING (2 AMPS MIN.) WITH DIV. 8 FURNISHED CARD ACCESS DOOR HARDWARE PER DIV. 8 DOOR HARDWARE SPECIFICATIONS.
4. LOCATE CARD READER BOX AS INDICATED ON FLOOR PLANS. RACEWAY AND BOXES BY DIV. 26. REFER TO 281300 FOR CARD ACCESS SYSTEM REQUIREMENTS.
5. DOUBLE 4SQ J-BOX ON PROTECTED SIDE OF DOORWAY (SIDE OPPOSITE OF CARD READER) ABOVE ACCESSIBLE CEILING OR IN OTHER ACCESSIBLE LOCATION. PROVIDE COVER FOR J-BOX.
6. ELECTRIC LOCKING HARDWARE (MAG LOCKS, ELECTRIC STRIKES, POWER TRANSFER HINGES, ETC.) BY DIV 8. REVIEW DOOR HARDWARE FURNISHED AND VERIFY LOCK VOLTAGES AND OPERATIONAL FUNCTIONALITY OF LOCKS. CONTACT ENGINEER WITH QUESTIONS OR CONCERNS.

ABBREVIATIONS

1G	=	1-GANG OR SINGLE GANG
4SQ	=	FOUR SQUARE JUNCTION BOX
AO	=	AUTO OPENER
A/R	=	AS REQUIRED
ACC	=	ACCESSIBLE
ACS	=	ACCESS CONTROL SYSTEM CONTROLLER
ADA	=	ASSISTED DISABILITY OPENER
AED	=	ELECTRIC EXIT DEVICE/CR COMBO ON DOOR
AEL	=	ELECTRIC LOCK/CR COMBO ON DOOR
C	=	CONDUIT
CI	=	DOOR CONTACT INDICATOR SWITCH
CR	=	CARD READER
CR/MS	=	CARD READER/MAG STRIPE
DH	=	DOOR HARNESS
DBL	=	DOUBLE
DED	=	DELAYED EXIT DEVICE
DIR	=	DIRECTION
ED	=	EXIT DEVICE
EH	=	ELECTRIC HINGE
EL	=	ELECTRIC LOCKSET
ES	=	ELECTRIC STRIKE
EDL	=	ELECTRIC DEADLATCH
EED	=	ELECTRIFIED EXIT DEVICE
ELC	=	EMERGENCY LOCK CONTROL
EPT	=	ELECTRIC POWER TRANSFER
FA	=	FIRE ALARM SYSTEM
FH	=	FRAME HARNESS
HDWR	=	HARDWARE
IDS	=	INTRUSION DETECTION SYSTEM
KS	=	KEY SWITCH
LS	=	LOCK INDICATOR SWITCH IN HARDWARE
LX	=	PANIC HARDWARE LATCH POSITION SWITCH
L/PS	=	LOCK POWER SUPPLY
MD	=	MOTION DETECTOR
ML	=	ELECTROMAGNETIC LOCK
OCC	=	OCCUPANCY
OFP	=	OBTAIN FROM PLANS
PB	=	PUSH BUTTON RELEASE
PH	=	PANIC HARDWARE
PP	=	PUSH PAD ACTUATOR
PS	=	POWER SUPPLY
PED	=	POE EXIT DEVICE
PEL	=	POE ELECTRIC LOCKSET
PWR	=	POWER
QTY	=	QUANTITY
RS	=	REMOTE OPEN SWITCH
REX	=	REQUEST TO EXIT SWITCH/FUNCTION
TLC	=	TIME/SYSTEM LOCK CONTROL
TYP	=	TYPICAL
W/	=	WITH

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SECURITY SCHEDULES

EY601

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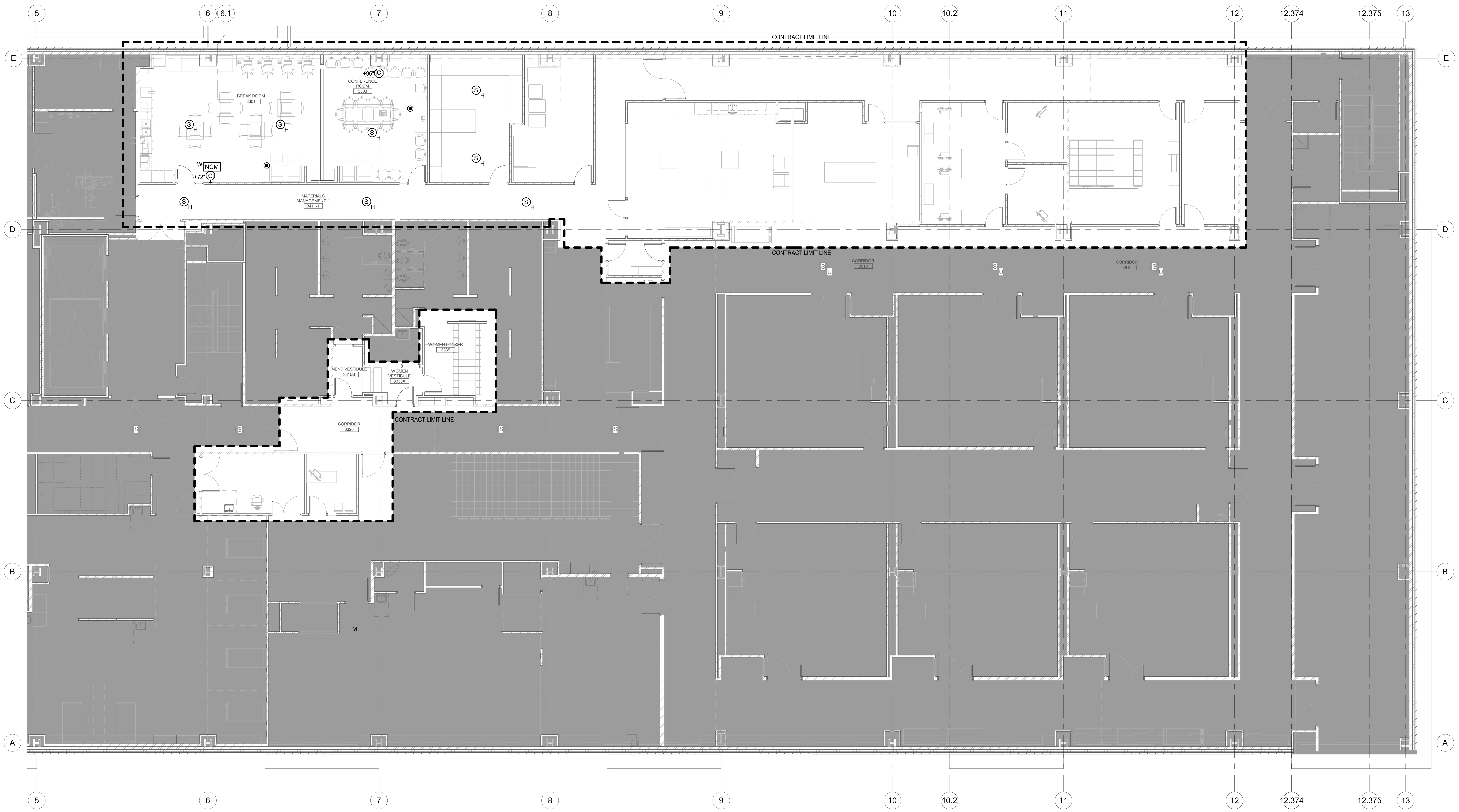
GENERAL SHEET NOTES

SHEET KEYNOTES



A1 LEVEL 3 SYSTEMS PLAN - PHASE 1

SCALE: 1/8" = 1'-0"

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LICENSED PROFESSIONAL ENGINEER No. 185978 PETER E. JOHANSEN STATE OF UTAH 09/19/22

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LEVEL 3 SYSTEMS PLAN - PHASE 1

EC103-1

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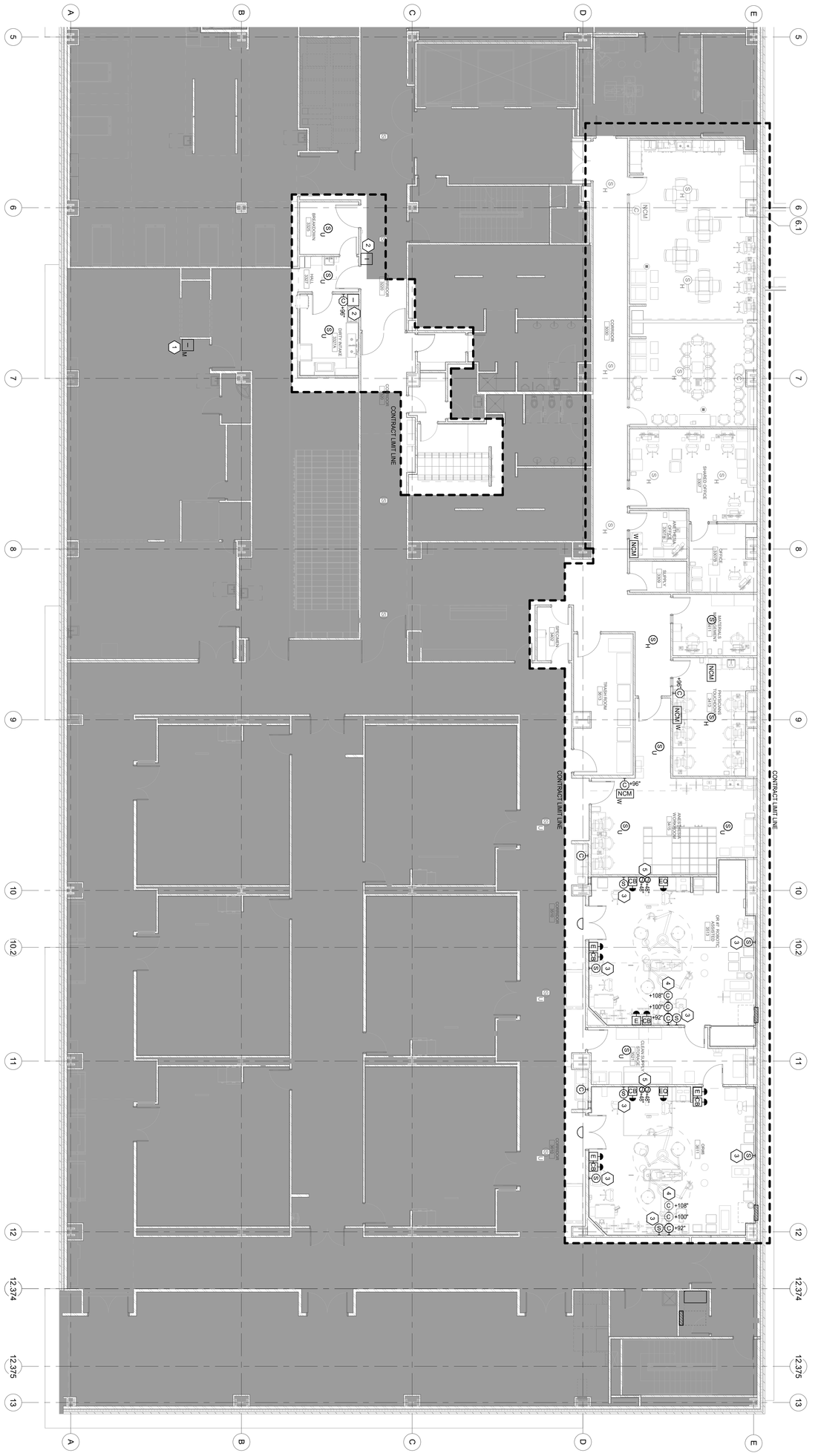
A1 LEVEL 3 SYSTEMS PLAN - PHASE 2

SCALE: 1/8" = 1'-0"



GENERAL SHEET NOTES

SHEET KEYNOTES

1 AIPHONE MASTER STATION.

2 AIPHONE WALL STATIONS.

3 PROVIDE SINGLE GANG J-BOX IN WALL AT 99" AND CONDUIT STUBBED TO CABLE TRAY FOR SOUND SYSTEM SPEAKERS. AMP LOCATED IN TDR.

4 THREE OR CLOCKS (REGULAR, ELAPSED TIME AND 6 DIGIT). ACQUIRE BACK BOXES FROM IDEACOM. RUN 3/4" CONDUIT TO J-BOX ABOVE CEILING IN CORRIDOR FOR CONTROLS.

5 TWO CLOCK CONTROL SWITCHES IN SINGLE GANG BOX. RUN 3/4" CONDUIT TO J-BOX ABOVE CEILING IN CORRIDOR FOR CLOCK CONTROLS.

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LEVEL 3 SYSTEMS PLAN - PHASE 2

EC103-2

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	09/19/22	

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STATE OF UTAH

ACC OR EXPANSION REMODEL

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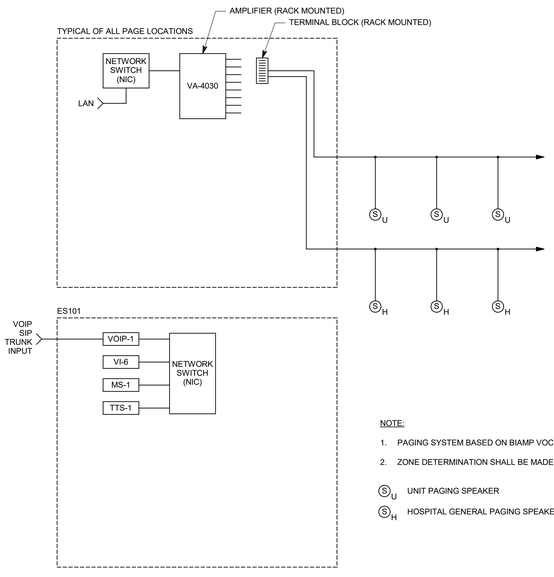

NOTE:

1. PAGING SYSTEM BASED ON BIAMP VOCIA PLATFORM.
2. ZONE DETERMINATION SHALL BE MADE BY HOSPITAL.

SU UNIT PAGING SPEAKER

SH HOSPITAL GENERAL PAGING SPEAKER

A2 OVERHEAD PAGING SYSTEM DIAGRAM (VOCIA)

NO SCALE

NURSE CALL SYMBOL LIST

SYMBOL	DESCRIPTION	MOUNTING HEIGHT	BOXES	INSTRUCTIONS
NCM	NURSE CALL MASTER, DESK MOUNT	DESKTOP RECEPTACLE AT 18"*	4 SQ. BOX W/ 1-GANG TRIM	PROVIDE .75" C TO CABLE TRAY
NCM W	NURSE CALL MASTER, WALL MOUNT	54"	3 GANG DEEP	PROVIDE .75" C TO CABLE TRAY
ACU	AREA CONTROL UNIT AND POWER SUPPLIES	72"	A/R	PROVIDE RACEWAYS AS REQUIRED
LV	NURSE CALL VIEW LIST MONITOR	COORDINATE W/ VENDOR	4 SQ. BOX W/ 1-GANG TRIM	PROVIDE .75" C TO CABLE TRAY
LV2	NURSE CALL VIEW LIST DUAL MONITOR	COORDINATE W/ VENDOR	4 SQ. BOX W/ 1-GANG TRIM	PROVIDE .75" C TO CABLE TRAY
D	DUTY STATION	54"	3 GANG DEEP	PROVIDE .75" C TO CABLE TRAY
P	PATIENT STATION W/ CONNECTION FOR SPECIALTY CALL CORD (CALL TYPE TO BE SELECTED BY USER DURING SHOP DRAWING REVIEW)	54"	3 GANG DEEP	PROVIDE .75" C TO ACC. CEILING
E CB	CODE CAL/STAFF EMERGENCY STATION TWO ROUGH IN BOXES WITH CONDUIT BETWEEN BOXES	54"	4 SQ. BOX W/ 1-GANG TRIM	PROVIDE .75" C TO ACC. CEILING
B	BATH STATION PULL CORD	54"	4 SQ. BOX W/ 1-GANG TRIM	PROVIDE .75" C TO ACC. CEILING
BA	BATH AUDIO STATION PULL CORD	54"	2 GANG DEEP	PROVIDE .75" C TO ACC. CEILING
BC	BED CONNECTOR WITH PILLOW SPEAKER	54"	3 GANG DEEP	PROVIDE .75" C TO ACC. CEILING
EQ	EQUIPMENT MODULE WITH PROGRAMMABLE BUTTONS	54"	4 SQ. BOX W/ 1-GANG TRIM	PROVIDE .75" C TO ACC. CEILING
R	CURBELL ENTERTAINMENT CONTROL STATION	54"	2 GANG DEEP	PROVIDE .75" C TO ACC. CEILING
	NURSE CALL INTERFACE FACEPLATE. INCLUDES NURSE CALL CONNECTOR AND COAX.	54"	2 GANG DEEP	PROVIDE .75" C TO ACC. CEILING
(Z)	DOME LIGHT OR ZONE LIGHT	10" ABOVE DOOR ON ON CEILING	4 SQ. BOX W/ 1-GANG TRIM	REFER TO ROUGH-IN DETAIL
	J-BOX	6" ABOVE DOOR ON ON CEILING	1 GANG	PROVIDE .75" C TO CORRIDOR CABLE TRAY

OFP = OBTAIN FROM PLANS; A/R = AS REQUIRED
* COORDINATE LOCATION WITH FURNITURE

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SEPTEMBER 19, 2022

LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
09/19/22

△ DATE REVISION

U of U PROJECT NUMBER

SYSTEMS DIAGRAMS & DETAILS

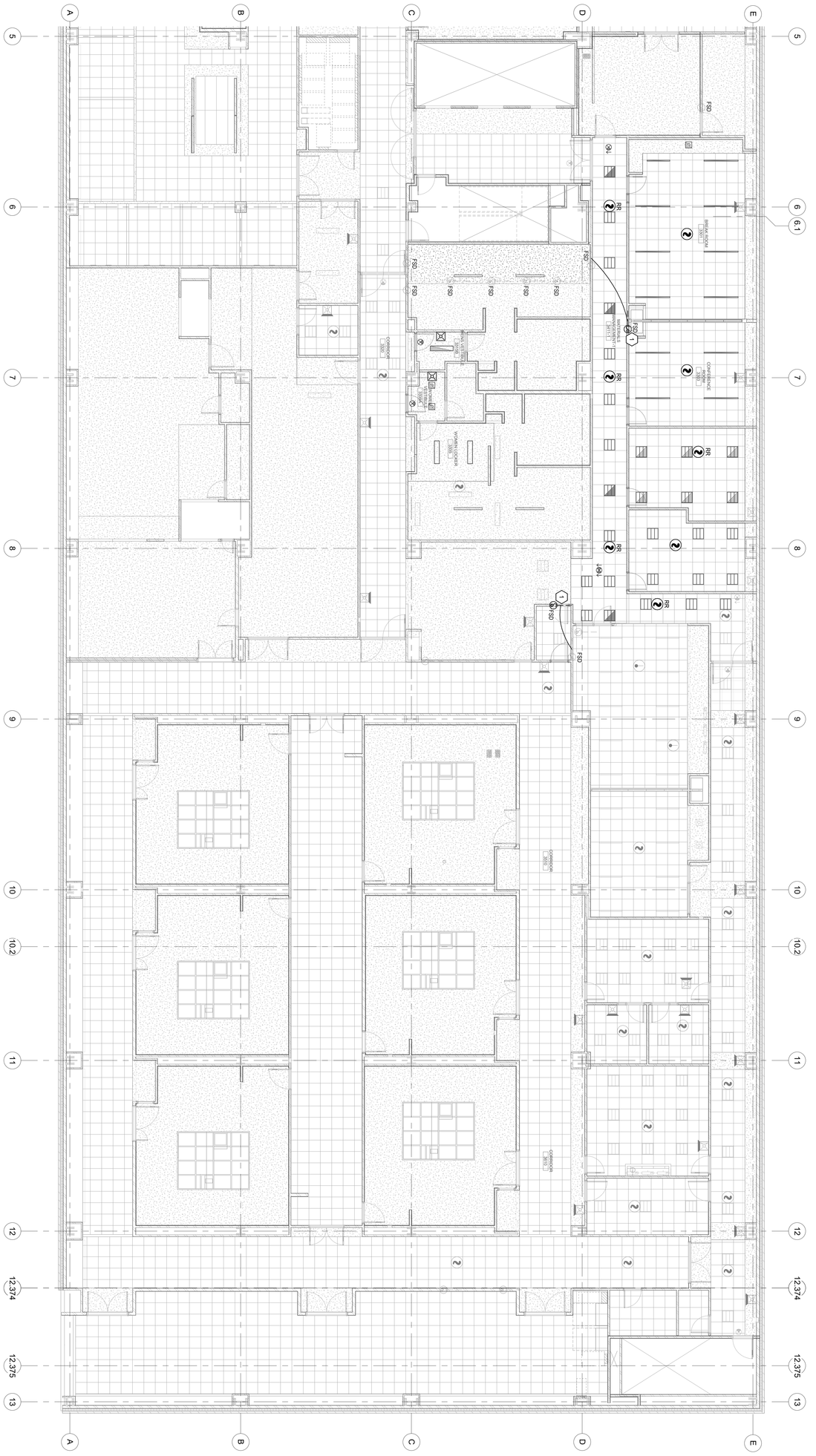
EC601

Autodesk Docs://22042 UofUACCORx/220272 ELEC CENTRAL.rvt

Autodesk Docs://22042 UofUACCORs/220272 ELEC CENTRAL.rvt

A1
SCALE: 1/8" = 1'-0"

LEVEL 3 FIRE ALARM PLAN - PHASE 1



GENERAL SHEET NOTES

SHEET KEYNOTES

1 CIRCUIT NEW FIRE/SMOKE DAMPER WITH EXISTING DAMPERS.

ACC OR EXPANSION REMODEL
UNIVERSITY OF UTAH 50 NORTH MEDICAL DRIVE, SLC, UT. 84132
CONSTRUCTION SET
SEPTEMBER 19, 2022

LICENSED PROFESSIONAL ENGINEER
No. 165078
PETER E. JANSEN
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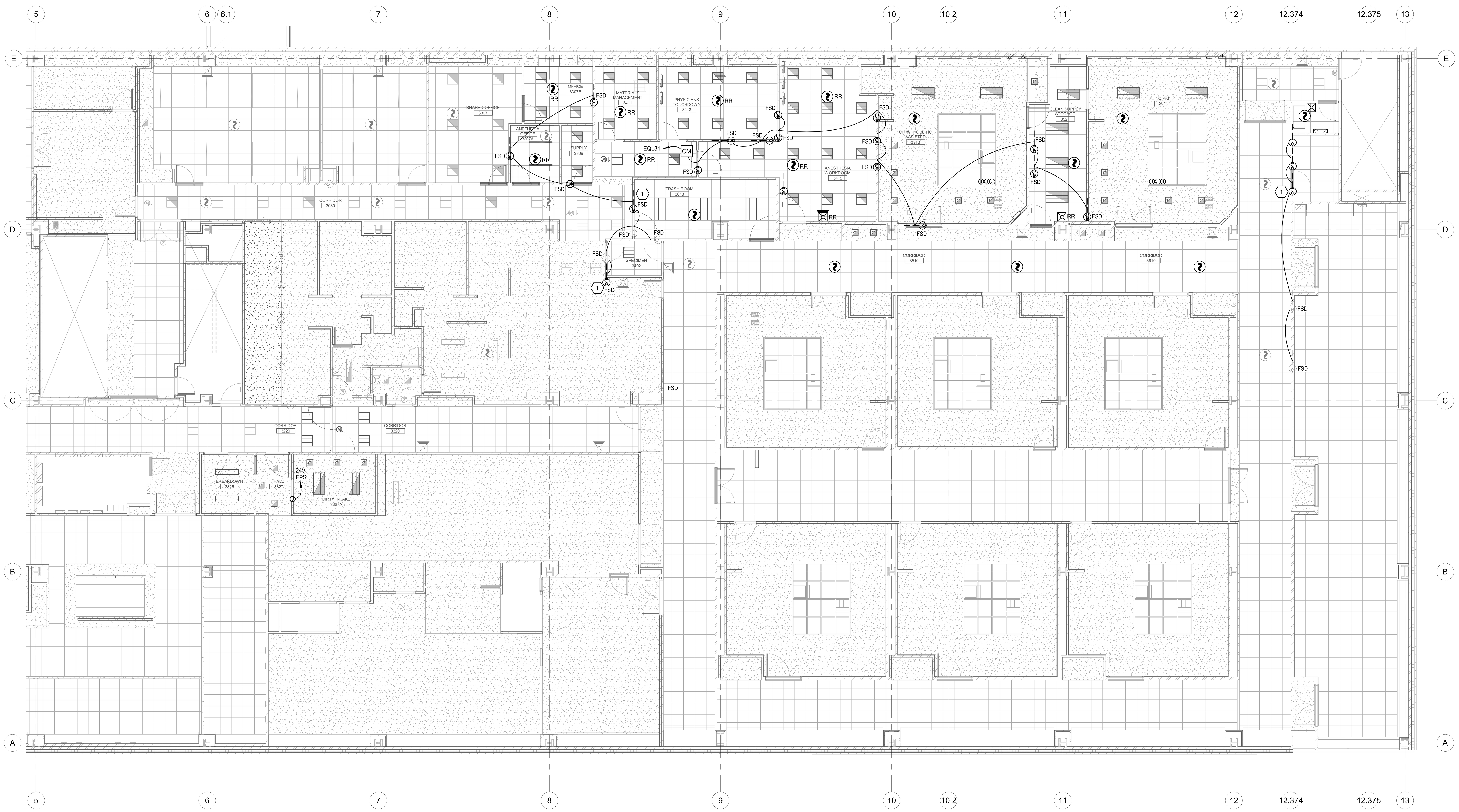
LEVEL 3 FIRE ALARM PLAN - PHASE 1

FA103-1

FFKR ARCHITECTS
730 Pacific Avenue · Salt Lake City, Utah 84104
O 801.521.6186 · FFKR.COM



A1 LEVEL 3 FIRE ALARM PLAN - PHASE 2

SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

SHEET KEYNOTES

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LEVEL 3 FIRE ALARM PLAN - PHASE 2

FA103-2

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