

## INTERMOUNTAIN MEDICAL CENTER

# ARCHITECTS

# CATH LAB #9- BUILDING 4 LEVEL 1 CONSTRUCTION DOCUMENTS

Project No. 20205.00

Project Address: 5121 S Cottonwood Street,

Murray, Utah 84107

Date: July 15, 2020

PROJECT IS LOCATED AT LEVEL 1 OF BUILDING 4.





OWNER INTERMOUNTAIN HEALTHCARE

36 SOUTH STATE STREET 23RD FLOOR

SALT LAKE CITY, UT 84111

ARCHITECT NJRA ARCHITECTS, INC.

5272 SOUTH COLLEGE DRIVE SUITE 104

MURRAY, UT 84123

MECHANICAL/ VAN BOERUM & FRANK ASSOCIATES, INC.

PLUMBING 330 SOUTH 300 EAST SALT LAKE CITY, UT 84111

**ELECTRICAL** SPECTRUM ENGINEERS
ENGINEER 324 SOUTH STATE STREET, SUITE 400

SALT LAKE CITY, UT 84111

STRUCTURAL REAVELEY ENGINEERS

**ENGINEER** 675 EAST 500 SOUTH, SUITE 400

SALT LAKE CITY, UT 84102

INTERMOUNTAIN MEDICAL CENTER- AERIAL VIEW

MIRROR

MOLDING

NOMINAL

NOT TO SCALE

MONUMENT METAL NORTH **NURSE CALL** NEGATIVE NOT IN CONTRACT

MLDG

MO

NTS

MON

MISCELLANEOUS

MASONRY OPENING

DIAMETER

GENERAL NOTES

1. MECHANICAL AND ELECTRICAL DRAWINGS ARE SUPPLEMENTAL TO THE ARCHITECTURAL DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO CHECK WITH THE ARCHITECTURAL DRAWINGS BEFORE THE INSTALLATION OF MECHANICAL OR ELECTRICAL CONSTRUCTION, ANY DISCREPANCIES BETWEEN THE ARCHITECTURAL AND CONSULTING ENGINEERS' DRAWINGS SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION FOR CLARIFICATION, ANY CONSTRUCTION INSTALLED IN CONFLICT WITH THE ARCHITECTURAL DRAWINGS SHALL BE CORRECTED BY THE GENERAL CONTRACTOR AT HIS OWN EXPENSE AND AT NO EXPENSE TO THE OWNER OR ARCHITECT.

2. ALL WORK SHALL COMPLY WITH THE 2010 ADA ACCESSIBILITY GUIDELINES (AMERICANS WITH DISABILITIES ACT).

3. CODES GOVERNING THIS WORK INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING: 2018 INTERNATIONAL BUILDING CODE, APPLICABLE OSHA REGULATIONS. REQUIREMENTS OF CODES AND REGULATIONS SHALL BE CONSIDERED AS MINIMUM. WHERE THE CONTRACT DOCUMENTS EXCEED (WITHOUT VIOLATING) CODE AND REGULATION REQUIREMENTS, CONTRACT DOCUMENTS SHALL TAKE PRECEDENCE. WHERE CODES CONFLICT, THE MORE STRINGENT SHALL

4. THE CONTRACTOR SHALL PROVIDE ADEQUATE BARRICADES AND PROTECTIVE DEVICES SEPARATING CONSTRUCTION AREAS. TEMPORARY PASSAGES SHALL BE PROVIDED AS REQUIRED. THE CORRIDORS AND OTHER AREAS SHALL BE SEPARATED FROM THE CONSTRUCTION ZONE BY A NON-COMBUSTIBLE BARRIER FASTENED SECURELY TOP AND BOTTOM AND AT EACH END. PRIOR TO DELIVERY OF MATERIALS TO CONSTRUCTION ZONE AND REMOVAL OF WASTE FROM SITE THE CONTRACTOR SHALL CHECK WITH THE OWNER FOR AN ACCEPTABLE ROUTE AND TIME. ALL DOORS IN THE TEMPORARY PASSAGES SHALL HAVE A 44" CLEAR WIDTH AND BE FUNCTIONAL AT ALL TIMES TO SERVE AS THE REQUIRED EXIT FROM THE

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER LOCATION AND SIZE OF OPENINGS FOR ALL TRADES AND SHALL COORDINATE ALL CONSTRUCTION AS INDICATED BY THE CONTRACT DOCUMENTS, INCLUDING SHOP DRAWINGS REVIEWED BY THE ARCHITECT.

6. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES PRIOR TO COMMENCEMENT OF WORK.

7. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER ALL MEASURES TO ACCOMPLISH THE WORK WITH THE MINIMUM OF INTERRUPTION TO NORMAL BUILDING PROCEDURES. SYSTEM SHUTDOWNS OF HVAC, PLUMBING, ELECTRICAL, AND NOISY CONSTRUCTION INCLUDING ROTO HAMMER, SAW CUTTING, CONCRETE ANCHORS, ETC. SHALL BE COORDINATED WITH THE OWNER AT LEAST 72 HOURS PRIOR TO COMMENCEMENT.

8. ALL DIMENSIONS ARE SHOWN TO FACE OF FINISH OF NEW CONSTRUCTION AND FACE OF FINISH OF EXISTING CONSTRUCTION, UNLESS NOTED OTHERWISE.

9. ALL DRAWINGS, THOUGH NOTED TO SCALE ARE FOR ILLUSTRATION ONLY. THE CONTRACTOR SHALL NOT SCALE DRAWINGS.

**10.** WHEN A DETAIL IS IDENTIFIED AS TYPICAL, THE CONTRACTOR IS TO APPLY THIS DETAIL IN ESTIMATING AND CONSTRUCTION TO EVERY LIKE CONDITION WHETHER OR NOT THE REFERENCE IS REPEATED IN EVERY INSTANCE.

11. ALL PENETRATIONS INTO SOUND OR FIRE RATED PARTITIONS, FLOORS OR CEILING ASSEMBLIES SHALL BE SEALED WITH APPROVED PERMANENT RESILIENT SEALANT. REFER TO IBC 2018 FOR REQUIREMENTS FOR OPENINGS IN FIRE RATED WALLS. FOR OPENINGS LESS THAN 16 SQUARE INCHES, THE SPACE BETWEEN THE WALL AND ALLOWED PENETRATIONS MUST BE SEALED TO PREVENT THE MOVEMENT OF HOT FLAME OR GASES. ELECTRICAL DEVICES, RECESSED CABINETS, ETC. SHALL BE SEALED, LINED, INSULATED OR OTHERWISE TREATED TO MAINTAIN THE INTEGRITY OF THE ASSEMBLY. SEE PENETRATION DETAILS.

12. DRAWINGS HAVE BEEN DETAILED IN COMPLIANCE WITH U.L. LISTING REQUIREMENTS AND ICBO REPORTS FOR THE MATERIALS SPECIFIED. IF AN ALTERNATE OR SUBSTITUTED MATERIAL IS ACCEPTED AS AN EQUAL BY THE GENERAL CONTRACTOR, HE/SHE WILL ASSUME THE RESPONSIBILITY FOR WHATEVER CONSTRUCTION MODIFICATION AND/OR ADDITIONAL COSTS ARE

**13.** ALL TRASH SHALL BE REMOVED DAILY. BUILDING MATERIALS MAY NOT BE STORED IN THE CORRIDORS AT ANY TIME. BLOCKAGE OF ANY REQUIRED EXIT IS PROHIBITED.

**14.** THE CONTRACTOR SHALL VERIFY SIZES AND LOCATIONS OF WATER AND DRAIN INSTALLATIONS AND OTHER REQUIRED SERVICES WITH EQUIPMENT MANUFACTURERS.

**15.** ABBREVIATIONS THROUGHOUT THE PLAN ARE THOSE IN COMMON USE. THE ARCHITECT SHALL DEFINE THE INTENT OF ANY IN QUESTION.

16. INTERIOR FINISHES SHALL CONFORM TO THE REQUIREMENTS OF 2018 I.B.C. 17. CONTRACTOR SHALL REFER TO THE PROJECT MANUAL FOR A COMPLETE LIST

OF GENERAL CONDITIONS, SPECIAL CONDITIONS AND OTHER NOTES. 18. INSTALL METAL CORNER BEADS AT ALL EXPOSED WALLBOARD EDGES. INSTALL CASING BEADS WHEREVER WALLBOARD, PLASTER, ETC ABUTS A DISSIMILAR FINISH MATERIAL. ALL DOOR SIZES SHOWN ON DOOR SYMBOLS ARE OPENING SIZES. ALLOWANCE FOR THRESHOLDS, ETC. SHOULD BE CONSIDERED. ALL DOORS AND FRAMES SHALL BE REINFORCED WHERE REQUIRED FOR CLOSERS, STOPS AND

19. ALL WOOD TRIMS, SPACER, FILLER, ETC. THROUGHOUT JOB SHALL BE FIRE RETARDANT PRESSURE-TREATED, AS PER 2018 I.B.C. CONTRACTOR SHALL LOCATE BACKING PLATES BEHIND ALL WALL MOUNTED EQUIPMENT, CASEWORK, WALL MOUNTED DOOR STOPS AND ACCESSORIES TO ENSURE POSITIVE ATTACHMENT TO THE STRUCTURE. SEE RELEVANT DETAILS.

20. ELEVATIONS ARE WITH RESPECT TO FINISH FLOOR ELEVATION. VERIFY FINISH FLOOR HEIGHT.

#### INTERIM LIFE SAFETY MEASURES

GENERAL SYMBOL LEGEND

RIGID INSULATION

GYPSUM BOARD

CONCRETE (SECTION)

CONCRETE MASONRY UNIT

ACOUSTICAL CEILING TILE

**GRAVEL** 

PLYWOOD

**BRICK** 

EARTH

ALUMINUM

**BATT INSULATION** 

CORNER GUARD

**ASPHALT PAVING** 

STONE

**GRID LINE** 

**KEYED NOTE** 

DETAIL REFERENCE

DIRECTION NORTH

WINDOW TAG

DOOR TAG

WALL TYPES

**BUILDING / WALL SECTION** 

ROOM NAME AND NUMBER

FINISH WOOD

WOOD FRAMING - CONTINUOUS

WOOD FRAMING - NON-CONTINUOUS

STEEL (SECTION OR STUD PARTITION)

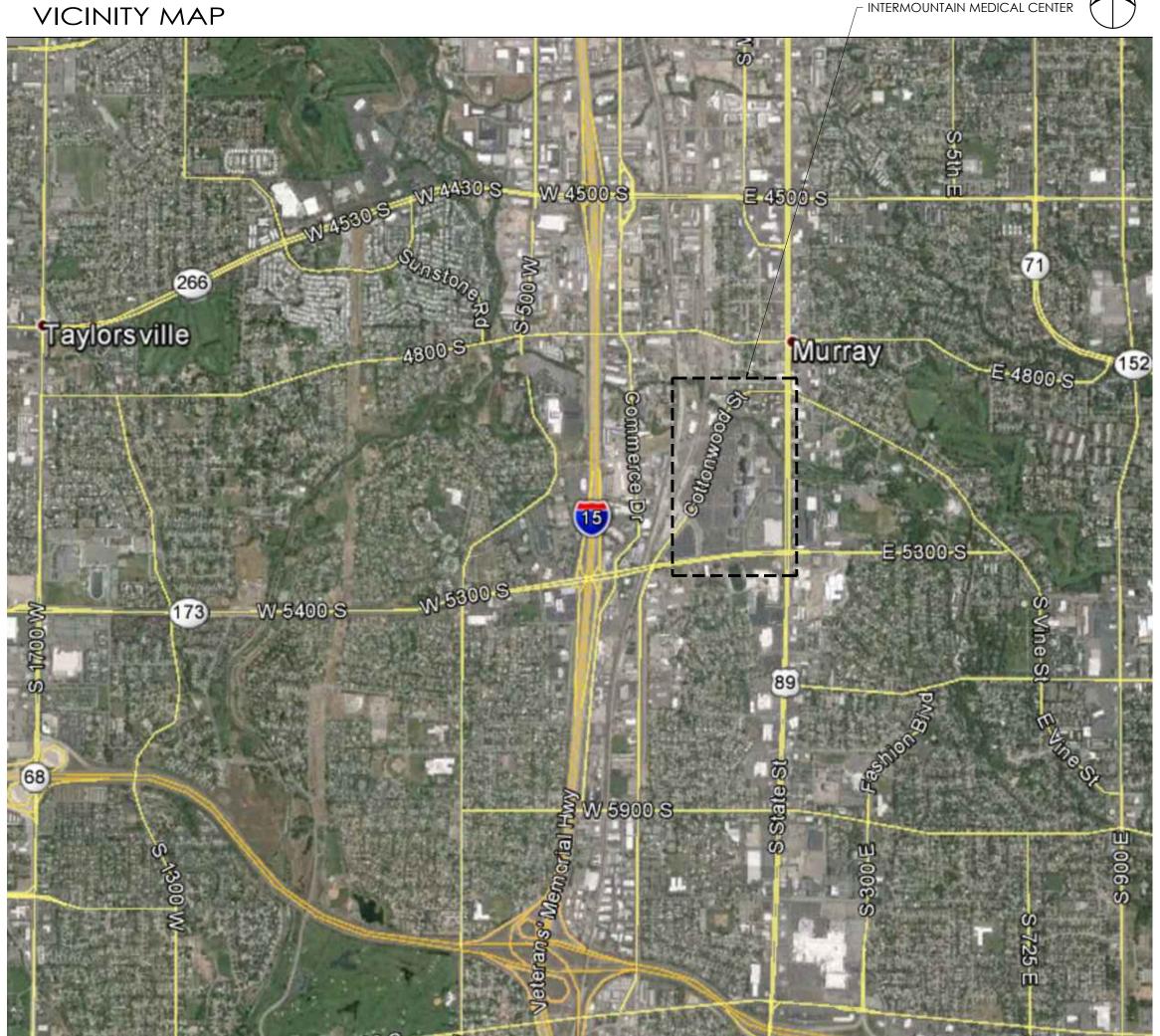
STUCCO OR CONCRETE (ELEVATION)

Implementation of ILSM is required in or adjacent to all construction areas and throughout buildings with existing LSC deficiencies. ILSM apply to all personnel, including construction workers, must be implemented upon project development, and continuously enforced through project completion. ILSM are intended to provide a level of life safety comparable to that described in chapters 1 through 7, 31 and the applicable occupancy chapters of the LSC. Each ILSM action must be documented through written policies and procedures. Except as stated below, frequencies for inspection, testing, training, and ILSM consist of the following actions:

- a. Ensuring exits provide free and unobstructed egress. Personnel shall receive training if alternative exits must be designated. Buildings or areas under construction must maintain escape facilities for construction workers at all times. Means of egress in construction areas must be inspected daily.
- b. Ensuring free and unobstructed access to emergency departments/ services and for emergency forces.
- c. Ensure fire alarm, detection, and suppression systems are not impaired. A temporary, but equivalent, system shall be provided when any fire system is impaired.
- Temporary systems must be inspected and tested monthly. d. Ensuring temporary construction partitions are smoke tight and built of noncombustible or limited combustible materials that will not contribute to the
- e. Providing additional fire-fighting equipment and use training of personnel.

development or spread of fire.

- f. Prohibiting smoking in accordance with MA.1.3.15 and in or adjacent to all construction areas.
- g. Developing and enforcing storage, housekeeping, and debris removal practices that reduce the flammable and combustible fire load of the building to the lowest level necessary for daily operations.
- h. Conducting a minimum of two fire drills per shift per quarter.
- i. Increasing hazard surveillance of buildings, grounds, and equipment with special attention to excavations, construction areas construction storage, and
- j. Training personnel when structural or compartment features of fire safety are compromised.
- k. Conducting organization wide safety education programs to ensure awareness of any LSC deficiencies, construction hazards, and these ILSM.



#### DRAWING INDEX

**GENERAL DRAWINGS** 

G - 001 COVER SHEET

G - 003 CODE COMPLIANCE PLAN

STRUCTURAL DRAWINGS SE001 - GENERAL STRUCTURAL NOTES

G - 002 GENERAL INFORMATION SHEET

SF101 - MEDICAL EQUIPMENT SUPPORT PLANS

SF501 - MEDICAL EQUIPMENT SUPPORT DETAILS

ARCHITECTURAL DRAWINGS

A100 - DEMOLITION PLAN- LOWER LEVEL 1

A101 - DEMOLITION FLOOR AND CEILING PLAN- LEVEL 1

A111 - NEW FLOOR PLAN- LEVEL 1

A131 - REFLECTED CEILING PLAN- LEVEL 1 A151 - FINISH FLOOR PLAN- LEVEL 1

A501 - DETAILS

A502 - INTERIOR ELEVATIONS AND CABINET DETAILS MECHANICAL DRAWINGS

M000 MECHANICAL SYMBOLS & LEGEND

M101 MECHANICAL DEMOLITION PLAN

M001 MECHANICAL GENERAL NOTES

M111 MECHANICAL PLAN

M201 MECHANICAL PIPING DEMOLITION PLAN

M211 MECHANICAL PIPING PLAN

M501 MECHANICAL DETAILS

P101 PLUMBING DEMOLITION PLAN

P111 PLUMBING PLAN

P201 MED GAS DEMOLITION PLAN P211 MED GAS PLAN

P501 PLUMBING SCHEDULES

ELECTRICAL DRAWINGS

EE001 SHEET INDEX, ABBREVIATIONS AND GENERAL NOTES

EE501 ELECTRICAL DETAILS EE701 TYPICAL MOUNTING HEIGHT DETAILS

EP101 LEVEL 1 POWER PLAN

EP601 ONE-LINE DIAGRAM

**EQUIPMENT DRAWINGS** 

EQ101 SIEMENS EQUIPMENT- ARCHITECTURAL

**EQ104 SIEMENS EQUIPMENT- STRUCTURAL** EQ105 SIEMENS EQUIPMENT- ELECTRICAL

EQ107 SIEMENS EQUIPMENT- ELECTRICAL

**EQ108 SIEMENS EQUIPMENT- MECHANICAL** 

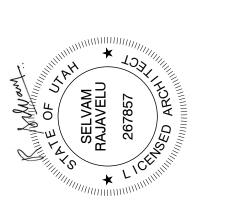
EQ112 SKYTRON EQUIPMENT DRAWINGS

EQ113 SKYTRON EQUIPMENT DRAWINGS

ARCHITECTS

NJRA Architects, Inc. 5272 S. College Drive, Suite 104 Murray, Utah 84123

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EP701 SKYTRON DRAWINGS

EP702 SKYTRON DRAWINGS

EP703 SIEMENS DRAWINGS

EP704 SIEMENS DRAWINGS

EP705 SIEMENS DRAWINGS

ET601 TELECOM CONDUIT RISER DIAGRAM

EQ102 SIEMENS EQUIPMENT- ARCHITECTURAL

**EQ103 SIEMENS EQUIPMENT- STRUCTURAL** 

EQ106 SIEMENS EQUIPMENT- ELECTRICAL

EQ109 SKYTRON EQUIPMENT DRAWINGS

EQ110 SKYTRON EQUIPMENT DRAWINGS

EQ111 SKYTRON EQUIPMENT DRAWINGS

NJRA Project #

Construction Documents

20205

July 15, 2020

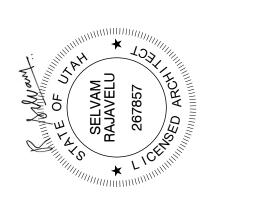
General

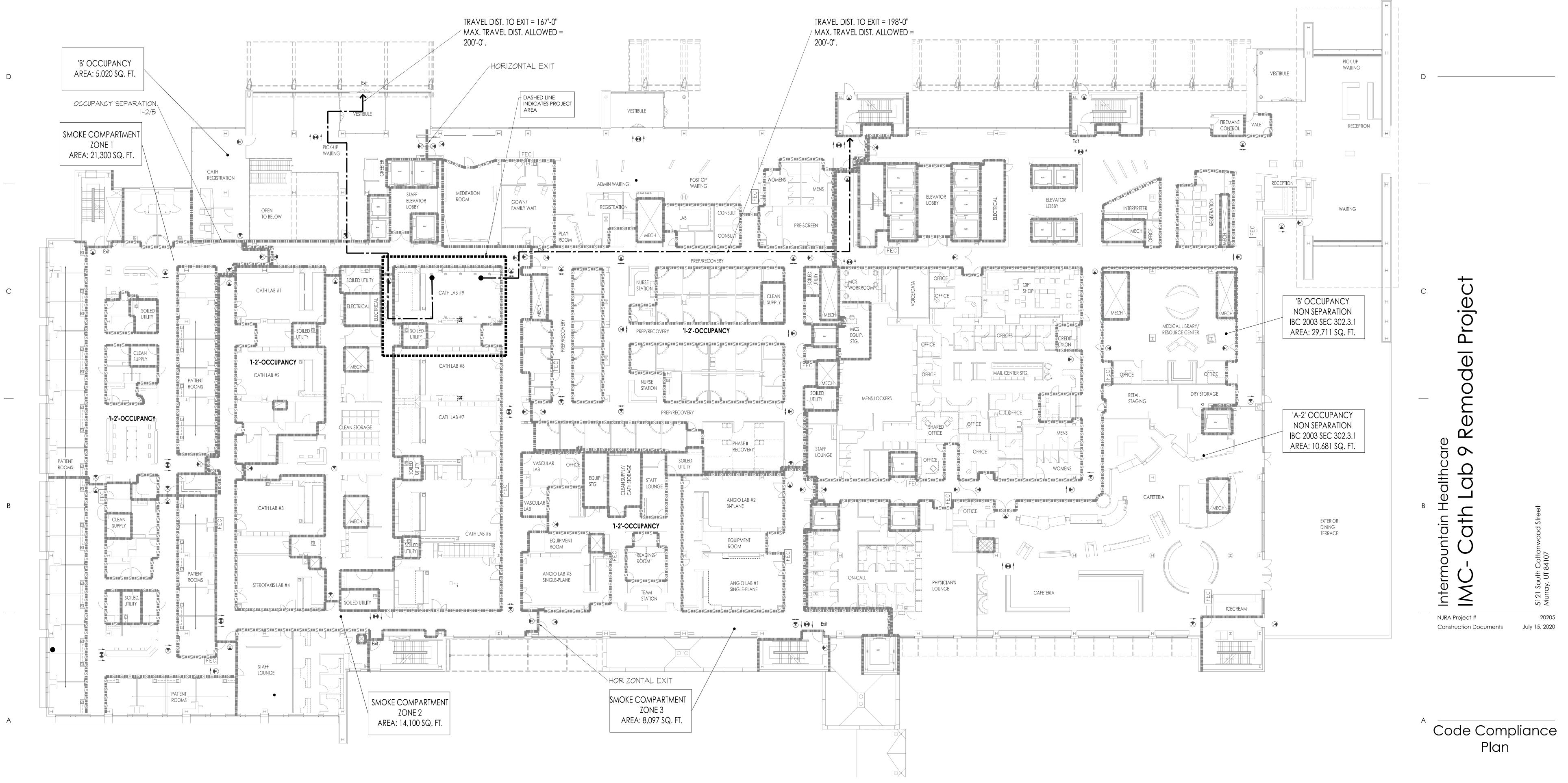
Information

	2018 - I B	C REVIEW		APPLICABLE CODI	ES	LEGEND	
Main Hospital	Allowable Area For I-2 Occupancy & Type I-A Const.: Unlimited sq. ft. per floor (Table 503)	Construction Type : Type I-A	Sprinkler System Entire Building is fully equipped with automatic sprinkler system.	International Building Code (IBC)	2018	<b></b> S <b></b> S <b></b> S <b></b> S <b></b> S <b></b> S	0-HR SMOKE PARTITION WALL
Actual Stories: 15 (New Cath Lab at Level 1 of Building 4)	Area increase due to frontage: N/A  Total allowable area per floor: Unlimited sq. ft. (Table 503)	Fire resistance rating requirements for building elements (Table 601) Structural frame - 3 Hours	Incidental use areas	International Fire Code	2018		1-HR FIRE RATED SMOKE BARRIER
Project Square feet (BGSF): 976	Project Remodel Area: 976 sq. ft. (Total area 1,254 sq. ft.)	Exterior Bearing walls - 3 Hours Interior Non-Bearing walls- 0 Hours	Waste & linen collection rooms located in I-2 occupancy - 1 hour (IBC Table 509) Storage rooms larger than 100 sq.ft. and storing combustible material- 1 hour	International Mechanical Code (IMC)	2018		WALL SEPARATING SMOKE ZONES
Occupancy: I-2	Allowable Stories	Floor Construction - 2 Hours  Roof Construction - $1-\frac{1}{2}$ Hours	(NFPA 18.3.2.1) Storage rooms larger than 50 sq.ft and not exceeding 100 sq.ft- provide door	International Plumbing Code	2018		1-HR FIRE RATED WALL
Construction Type: 1A	For I-2 Occupancy & Type I-A Const.: Unlimited Stories (Table 503) Actual Stories: 13 above grade and 2 below grade		closer. (NFPA 18.3.6.3.11)	National Electric Code	2017		2-HR FIRE RATED WALL
Fireproofing: Yes	Common path of egress travel in exit access areas		Occupant Load (Table 1004.1.1) Inpatient Treatment areas- 240 sq.ft. per person	NFPA 101 Life Safety Code	2018		DENOTES PATH OF TRAVEL TO EXIT.
Highrise: Yes	For I-2 Occupancy - 75 feet (1014.3)		Total Occupant Load = 5 occupants	ANSI 117.1	2009	FEC	FIRE EXTINGUISHER CABINET
Automatically Sprinkled: Yes Structure: Unbonded Brace Frame	Exit access travel distance For I-2 Occupancy - 200 feet (with sprinkler system) (Table 1016.1)		Egress width calculation:  Required egress width per IBC sec. 1005.1 = occupant load x 0.3			$\otimes \uparrow \otimes \uparrow \otimes$	EXIT SIGN
Structure. Officialed brace Frame	Corridor Width For 1-2 Occupancy - 96 inches in areas where required for bed movement (1018.2)	<b>(</b> )	5 x 0.3= 1.5 inches Egress width provided = 36 inches			$\langle 2 \rangle$	OCCUPANT LOAD



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Code Compliance Plan - Building 4 & 5, Level 1

NORTH

G003

- 1.1. Governing Building Code: 2018 International Building Code (IBC) and 2018 International Existing Building Code (IEBC) A. Risk Category:
- 1.2. Earthquake: A. Seismic Design Category... B. Spectral Response Accelerations:  $S_S = 1.55 g$   $S_{DS} = 1.035 g$  $S_1 = 0.529 g$   $S_{D1} = 0.529 g$ 
  - C. Soil Site Class:  $F_{v} = 1.5$  $F_a = 1.0$ D. Importance Factor, I<sub>E</sub>:

#### 2. Structural Steel

- 2.1. Material: A. W-Shapes: ASTM A992,  $(F_v = 50 \text{ ksi})$ , 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) E. Steel Pipe: ASTM A53, Grade B (Fy = 35 ksi)
- F. Deformed Bar Anchors (DBA): ASTM A496 G. Headed Stud Anchors (HSA): ASTM A108, with dimensions complying with AISC specifications H. Anchor Rods: ASTM F1554, Grade 36, unless noted otherwise, with ASTM A563 heavy hex nuts and ASTM F436 hardened washers
- 2.2. Fabrication and construction shall comply with the following Codes and Standards:
- A. American Institute of Steel Construction (AISC) 360-10, "Specification for Structural Steel Buildings"
- B. AISC 341-10, "Seismic Provisions for Structural Steel Buildings" C. AISC 303-10, "Code of Standard Practice for Steel Buildings and Bridges" excluding the following: Section 3.3 (last sentence 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. D. AISC/RCSC 2009, "Specification for Structural Joints Using ASTM A325 or A490 Bolts"
- E. American Welding Society (AWS) D1.1:2010, "Structural Welding Code Steel" (specific items do not apply when they conflict with the AISC requirements) F. American Welding Society (AWS) D1.8:2009, "Structural Welding Code – Seismic Supplement"
- (specific items do not apply when they conflict with the AISC requirements) G. American Iron and Steel Institute (AISI) 2007, "North American Specification for the Design of Cold-Formed Steel Structural Members"
- 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. 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 C. Electrodes: E-70 XX or as noted otherwise. E60 XX may be used for welding steel floor and roof
- 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.
- F. Headed Stud Anchor (HSA) welding and Deformed Bar Anchor (DBA) welding shall conform to the manufacturer's specifications. Welding shall comply with AWS D1.1 Section 7.6 through 7.9 and Annex G.

#### 2.5. Bolted Connections:

- A. Provide snug tightened joints with ASTM A325N Type 1 bolts for steel to steel connections, as noted herein or as noted on the drawings. Snug tightened joints shall be used in connections for simple span framing and beam (or girder) to bearing plate connections. The snug tightened condition is usually attained by a few impacts of an impact wrench or the full effort of a man using an ordinary spud wrench. Bolts shall be tightened until all plies of the joint are in firm contact.
- B. Provide hardened washers beneath the turned element of all bolts or nuts. Provide hardened beveled washers, to compensate for the lack of parallelism, where the outer face of the bolted parts has a slope greater than one in twenty with respect to the plane normal to the bolt axis. Hardened washers or plates installed over oversized holes or slotted holes shall be at least 5/16" thick and shall conform to ASTM F436. Plates or bars installed at slotted holes shall have a size
- sufficient to completely cover the slot after installation. C. Where a steel to steel beam connection is not detailed in the drawings, provide a standard AISC framed connection with the capacity to support one half of the total uniform load capacity of the given shape for the span and for the steel specified. D. Bolts, nuts and washers shall not be reused.

#### 2.6. Beam Web Stiffener Plates:

A. Provide full-height web stiffener plates to each side of all beams above all bearing points. Unless noted otherwise, stiffener plates shall be the thickness indicated in the typical stiffener plate detail.

#### 3. Miscellaneous

- 3.1. 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 (ICC_ES)					
Hilti KWIK HUS-EZ	ESR-3027					
Powers Wedge-Bolt+	ESR-2526					
Simpson Titen HD	ESR-2713					
Steel Expansion/Wedge Anchor	Evaluation Report (ICC_ES)					
Hilti KWIK Bolt TZ	ESR-1917					
ITW Red Head Trubolt+	ESR-2427					
Powers Power-Stud+ SD2	ESR-2502					
Simpson Strong-Bolt 2	ESR-3037					

- 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
- 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 published instructions and applicable
- code evaluation reports including: 1. Hole diameter, depth, and cleaning procedure

is equivalent or exceeds the capacity of the specified anchor.

- 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. . Carbon steel anchors are limited to use in dry, interior locations.

#### 4. Special Instructions

C:\Revit Models\2020\2020.268 R18 IMC Cath Lab # 9\2020-268 IMC Cath Lab #9-RS2018-Centralrvt\_sdelker.rvt

- 4.1. 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
- 4.2. 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.
- 4.3. 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.

4.4. Shoring and Bracing Requirements:

- A. Floor and Roof Structures -- The General Contractor is responsible for the method and sequence of all structural erection. He shall provide temporary shoring and bracing as his method of erection requires to provide adequate vertical and lateral support. Shoring and bracing shall remain in place as the chosen method requires until all permanent members are in place and all final connections are completed, including all roof and floor attachments. The building shall not be considered stable until all connections are complete.
- 4.5. 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 his review. Shop Drawings made from reproductions of (these) contract drawings will be rejected.
- 4.6. 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 his chosen procedure.
- 4.7. 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
- 4.8. Notice of Copyright: The structural drawings, plans, schedules, notes and details are hereby copyrighted by Reaveley Engineers and Associates, Inc., All Rights reserved. 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 and Associates, Inc.'s reserved rights. The documents defining the structure are instruments of service prepared by Reaveley Engineers and Associates, Inc. for one use only. Furthermore, these documents shall not be reproduced, or copied, in whole or in part by the contractor or his subcontractors for preparation of shop drawings or other submittals.

#### 5. Quality Assurance

- 5.1. 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 also disclose possible conflicts of interest to confirm objectivity.
- 2. The QAA shall have adequate equipment to perform required tests. 3. The QAA shall employ experienced personnel educated in conducting, supervising and evaluating tests and/or inspections. Experience or training shall be considered relevant when the documented experience or training is related in complexity to the same type of special inspection activities for projects of similar complexity and material qualities. 4. Prior to the start of construction, the QAA shall submit to the building official, the owner
- architect and engineer copies of the following: a. Current calibration records for all equipment to be used for the work being inspected and/or
- b. Current certification and training records for each individual performing the inspections and/or testing.
- c. Sample inspection and testing reports and the distribution list for the records. d. Proposed inspection procedures and frequency for each inspection required by the work.
- e. Proposed testing methods and frequency of testing required by the work. 5. 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 building official, architect and
- 6. The QAA shall submit a final report documenting required special inspections and correction of any discrepancies noted in the inspections. 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.

#### 5.2. Contractor Responsibilities:

- A. Each contractor responsible for the construction of a system or component requiring special inspections or testing shall submit a written statement of responsibility to the building official, owner, architect and engineer prior to the commencement of the work. The contractor's statement of responsibility shall contain the following: 1. Acknowledgement of awareness of the special requirements defined in the statement of
- special inspections. 2. Acknowledgement that control will be exercised in order to obtain conformance to the
- approved construction documents. 3. Contractor's internal quality control procedures, methods and measures to be used in order to obtain conformance to the approved construction documents. Include copies of quality control
- reports, frequency of reporting and distribution of reports. 4. Identification and qualifications of the person(s) responsible for quality control and their position(s) within the organization.
- B. Notification of Engineer: The contractor shall notify the engineer twenty-four hours prior to the items listed in the Structural Observations by the Engineer of Record section.
- C. 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.

#### 5.3. Structural Observations by the Engineer of Record.

- A. The Engineer of Record will perform structural observations at critical phases of the project as listed below. Observations will be made on a periodic basis throughout the construction of the structural system. During this time frame, one site visits will be made. Copies of the engineer's report will be distributed to the architect, contractor, owner, and building official.
- 1. Completing the structural steel framing B. Observation visits to the site by the Engineer's field representatives shall not be construed as inspection or approval of construction.

#### 6. Statement of Special Inspections

- 6.1. The following materials, systems and components require special inspection or testing per Chapter 17 of the International Building Code (IBC).
- 6.2. 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.

## Structural Steel per IBC Section 1705.2.1, 1705.11.1 & 1705.12.2

ltem	Frequency	Detailed Instructions
Prior to Welding (Table N5.4-1, AISC 36	60-10):	
Verify welding procedures (WPS) and consumable certificates	Continuous	
Material identification	Periodic	Verify type and grade of material.
Welder identification	Periodic	A system shall be maintained by which a welde who has welded a joint or member can be identified.
Fit-up groove welds	Periodic	Verify joint preparation, dimensions, cleanlines tacking, and backing.
Access holes	Periodic	Verify configuration and finish.
Fit-up of fillet welds	Periodic	Verify alignment, gaps at root, cleanliness of st surfaces, and tack weld quality and location.
During Welding (Table N5.4-2, AISC 360	0-10):	
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 win 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 quality of each pa
After Welding (Table N5.4-3, AISC 360-	10):	
Welds cleaned	Periodic	Verify that welds have been propyl cleaned.
Size, length, and location of welds	Continuous	
Welds meet visual acceptance criteria	Continuous	
Arc strikes	Continuous	
k-area	Continuous	
Backing & weld tabs removed	Continuous	
Repair activities	Continuous	
Document acceptance or rejection of welded joint/member	Continuous	

CJP welds (Risk Cat. III or IV)	Continuous	A reduction in the rate of ultrasonic testing is allowed per Section N5.5e.			
Prior to Bolting (Table N5.6-1, AISC :	360-10):				
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.			
Item	Frequency	Detailed Instructions			
Proper storage	Periodic	Verify proper storage of bolts, nuts, washers, and other fastener components.			

Ultrasonic testing shall be performed on 10% of

subject to transversely applied tension loading in

materials 5/16-inch thick or greater. Testing rate

must be increased if > 5% of welds tested have

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.

unacceptable defects.

CJP groove welds in butt, T- and corner joints

Nondestructive Testing (Section N5.5, AISC 360-10):

CJP welds (Risk Cat. II)

Item	Frequency	Detailed Instructions			
Proper storage	Periodic	Verify proper storage of bolts, nuts, washers, and other fastener components.			
During Bolting (Table N5.6-2, AISC 36	0-10):				
Fastener assemblies	Periodic	Verify that fastener assemblies are of suitable condition, paced in all holes, and washers are positioned as required.			
Snug-tight prior to pretensioning	Periodic	Verify that joints are brought to snug-tight condition prior to pretensioning operation.			
Fastener component	Periodic	Verify that fastener component is not turned by wrench prevented from rotating.			
Pretensioned fasteners	Periodic	Verify that fasteners are Pretensioned in accordance with RCSC Specification, progressing systematically from the most rigid point toward the free edges.			
After Bolting (Table N5.6-3, AISC 360-	10):				
Document acceptance or rejection of bolted connections	Continuous				

#### Concrete Construction per IBC Sections 1705.3 & 1705.12.1

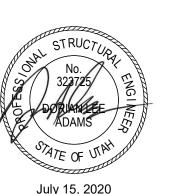
Structural steel details

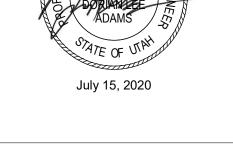
Item	Frequency	Detailed Instructions				
Post-installed anchors or dowels	Continuous	All post-installed anchors/dowels shall be specially inspected as required by the approved ICC-ES report. ACI 318: 17.8.2				



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GENERAL

Construction Documents JULY 15, 2020

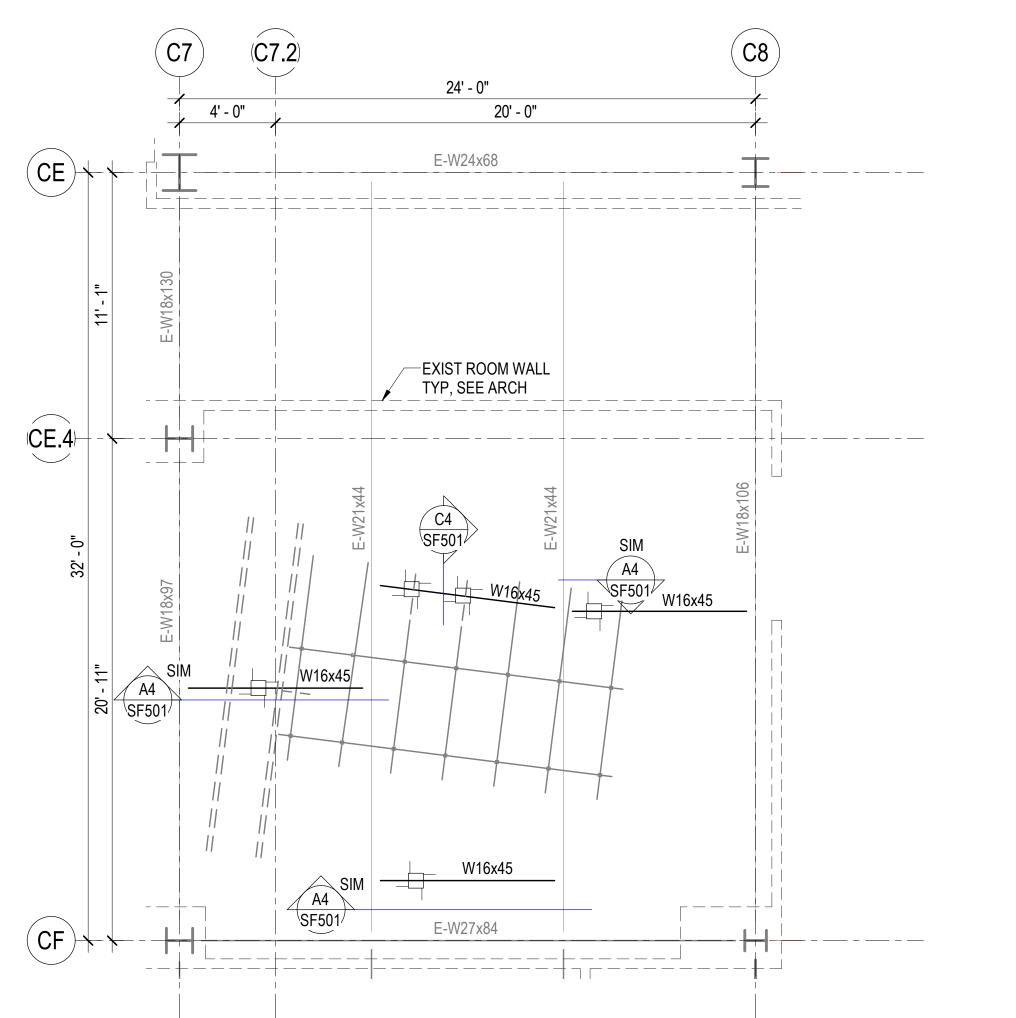
NJRA Project #

18226.00

24' - 0" 20' - 0" EXIST ROOM WALL TYP, SEE ARCH CE.4 REMOVE EXISTING UNISTRUT FOR BOOM INSTALLATION PER ARCH CUT PORTION OF UNISTRUT FOR BOOM **INSTALLATION PER** EXISTING UNISTRUT SYSTEM TO REMAIN TO THE EXTENT SHOWN ON THE ARCHITECTURAL DRAWINGS ----------

PARTIAL MEDICAL UNISTRUT PLAN LEVEL 1

SF101 SCALE: 1/4" = 1'-0"



PARTIAL MEDICAL EQUIPMENT PLAN LEVEL 1

SF101 SCALE: 1/4" = 1'-0"

C:\Revit Models\2020\2020.268 R18 IMC Cath Lab # 9\2020-268 IMC Cath Lab #9-RS2018-Centralrvt\_sdelker.rvt

PLAN NOTES

24' - 0"

EXIST ROOM WALL

TYP, SEE ARCH

PATIENT TABLE

**INSTALLATION PLATE** SUPPLIED BY SIEMENS AND INSTALLED BY THE GENERAL CONTRACTOR

20' - 0"

4' - 0"

CE.4

A4 FLOOR PLAN

SF101 SCALE: 1/4" = 1'-0"

1. Once the ceiling are partially removed to install new medical Boom, contact engineer, with 72 hours' notice, to examine existing unistrut system.

PLAN LEGEND EXISTING STEEL COLUMN - WIDE FLANGE EXISTING STEEL BEAM OR GIRDER EXISTING STEEL JOIST OR PURLIN STEEL BEAM OR GIRDER

MEDICAL EQUIPMENT LEGEND

- STEEL JOIST OR PURLIN

**EQUIPMENT SUPPORT** 

July 15, 2020

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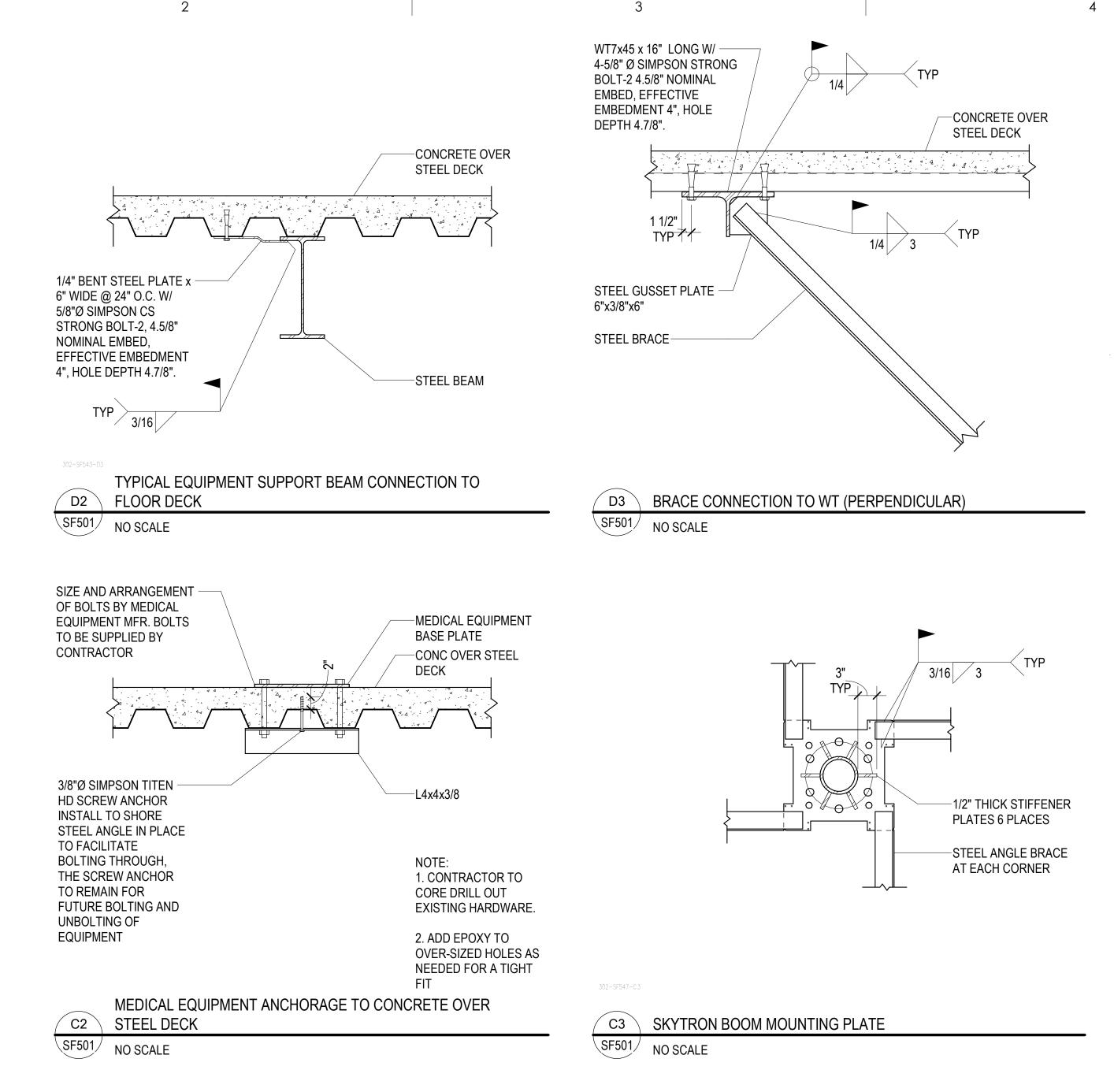
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MEDICAL EQUIPMENT SUPPORT PLANS

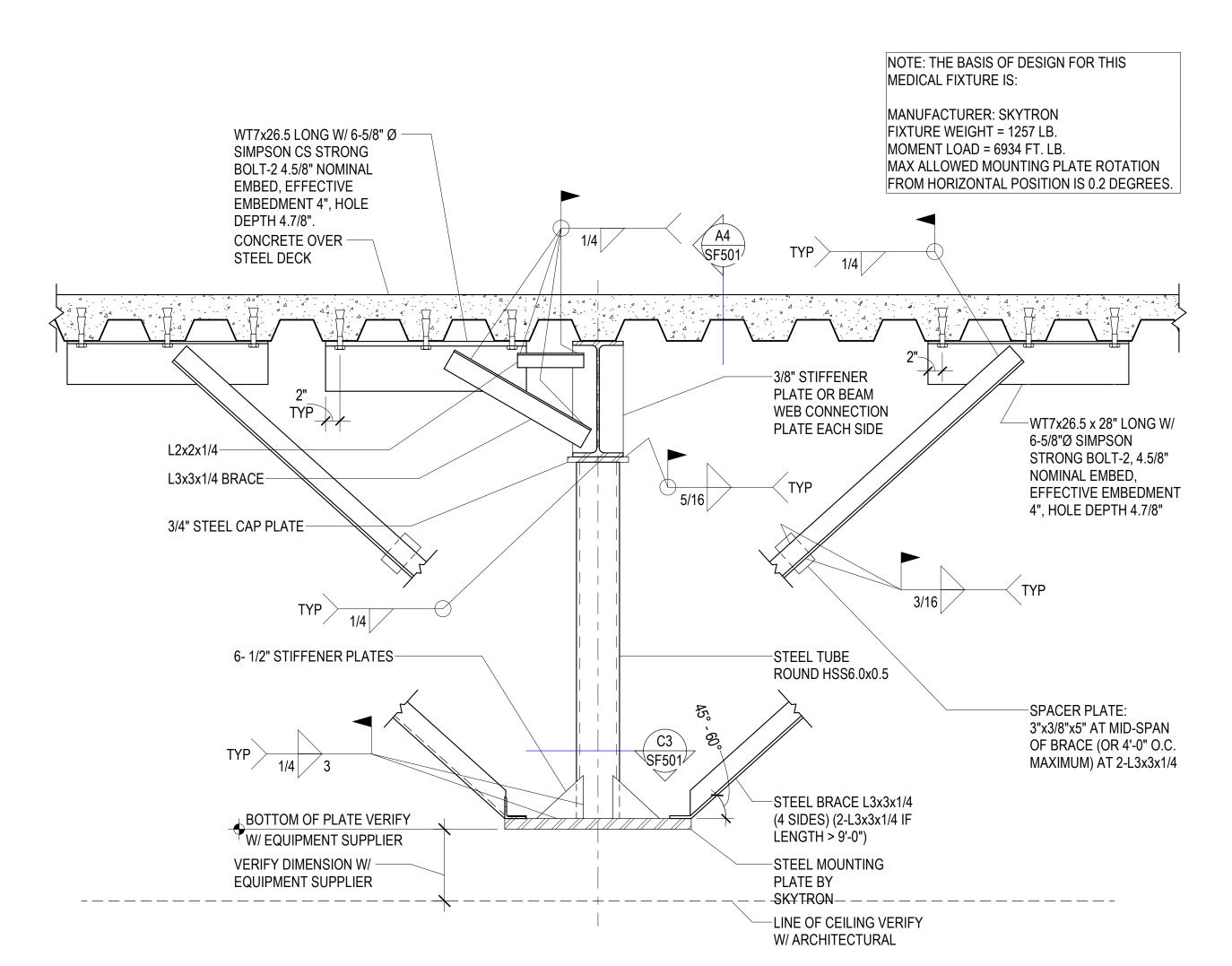
Construction Documents JULY 15, 2020

NJRA Project #

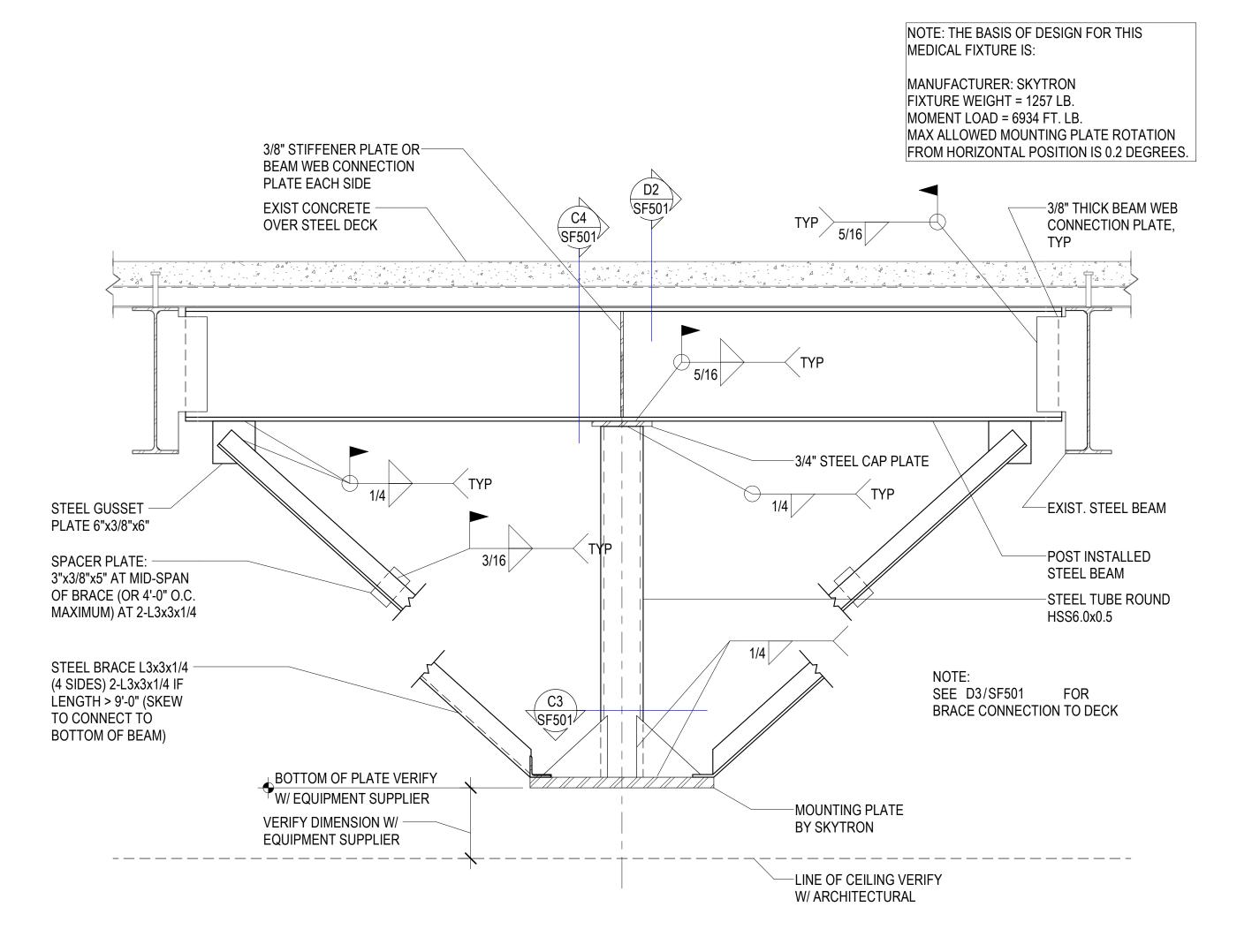
SF101



NOTE: ALL FLOOR POST INSTALLED ANCHORS ARE PROVIDED AND INSTALLED BY THE CONTRACTOR



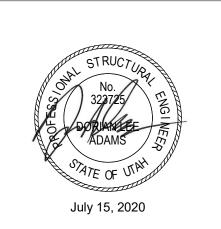
SKYTRON MEDICAL EQUIPMENT MOUNT SUPPORT DETAIL SF501 NO SCALE



SKYTRON MEDICAL EQUIPMENT MOUNT SUPPORT DETAIL

**ARCHITECTS** 

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Remodel 0 alth

MEDICAL EQUIPMENT SUPPORT DETAILS

Construction Documents JULY 15, 2020

NJRA Project #

18226.00

#### KEY NOTES - FLOOR PLAN

- 1. DASHED LINE INDICATES REMOVAL OF PORTIONS OF EXISTING GYPSUM BOARD CEILING, LAY IN CEILING, GRID SYSTEM, LIGHTING, DIFFUSERS ETC. FOR INSTALLATION OF THE NEW STRUCTURAL SUPPORT AT THE BOTTOM OF THE FLOOR DECK ABOVE FOR THE NEW CATH LAB EQUIPMENT AS REQUIRED. GENERAL CONTRACTOR SHALL COORDINATE WORK WITH SIEMENS TO DETERMINE THE EXTENT OF CEILING REMOVAL. SEE STRUCTURAL MECHANICAL, ELECTRICAL DRAWINGS FORE MORE INFORMATION.
- 2. RE-INSTALL REMOVED GYPSUM BOARD AND LAY IN CEILING TO ORIGINAL CONDITION AFTER WORK IS COMPLETED ABOVE CEILING. PATCH, REPAIR, REFINISH AND REPAINT TO MATCH WITH ADJACENT EXISTING. REMOVE AND REINSTALL ELECTRICAL AND MECHANICAL ITEMS ALSO AS REQUIRED IN ORDER TO COMPLETE WORK IN THIS AREA TO ORIGINAL CONDITION.
- 3. DASHED LINE INDICATES FLOOR TO CEILING TEMPORARY DUST PROOF CONSTRUCTION BARRIER TO PREVENT DUST & DIRT MIGRATION AND TO SEPARATE AREAS OCCUPIED BY OWNER FROM FUMES AND NOISE. CONSTRUCTION BARRIER TO BE ERECTED WITH 3 5/8" 20 GA. MTL. STUDS @16" O.C. FRAMING WITH 5/8" TYPE 'X' ABUSE RESISTANT GYPSUM BOARD ON BOTH SIDES. TAPE AND SEAL ALL JOINTS AND OPENINGS. SEAL JOINTS AT PERIMETER. PARTITION TO BE EQUIPPED WITH 4'-0" LOCKABLE MAN DOOR WITH STICKY MATS ON BOTH SIDES OF DOOR. COORDINATE WITH OWNER AND FIELD VERIFY FOR EXACT LOCATION OF CONSTRUCTION BARRIER.EXISTING GYPSUM BOARD CEILING ALONG WITH EXISTING CEILING LIGHTS, MECHANICAL DIFFUSERS ETC. IN THIS AREA TO REMAIN. PROTECT DURING CONSTRUCTION. SEE ELECTRICAL AND MECHANICAL DRAWINGS FOR MORE INFORMATION.
- 4. EXISTING DOORS TO REMAIN. PROTECT DURING CONSTRUCTION.
- 5. NOT USED.
- 6. EXISTING CABINET, COUNTERTOP, PLUMBING FIXTURE, ETC. TO REMAIN. PROTECT DURING CONSTRUCTION.
- 7. EXISTING 4" DIA. HOLE ON FLOOR TO REMAIN AND RE-USED FOR THE NEW CATH LAB EQUIPMENT BY SIEMENS. THIS IS IDENTIFIED AS THE ORIENTATION POINT FOR THE PATIENT TABLE. FIELD VERIFY TO ESTABLISH ACTUAL LOCATION AND EXISTING CONDITIONS. SEE STRUCTURAL DRAWINGS FOR DETAILS ON ANCHORAGE. ALL EXPOSED STEEL TO BE SPRAY APPLIED FIRE PROOFED TO RETAIN FIRE RATINGS OF THE ADJACENT EXISTING AFTER ALL WORK IS COMPLETED.
- 8. EXISTING FLOORING TO REMAIN. PROTECT DURING CONSTRUCTION.
- 9. EXISTING 4" DIA. HOLE & CONDUIT TO REMAIN AND CONTINUE TO FUNCTION WITH THE NEW EQUIPMENT REPLACED BY SIEMENS, IDENTIFIED AS "B10" ON SIEMENS PLANS. FIELD VERIFY EXACT LOCATION.
- 10. EXISTING CEILING, LIGHTING, MECHANICAL DIFFUSER ETC TO REMAIN. PROTECT DURING CONSTRUCTION.
- 11. DASHED LINES INDICATE CATH LAB EQUIPMENT ANCHOR PLATES TO BE INSTALLED UNDER THE FLOOR DECK ABOVE THE CEILING. FIELD VERIFY EXISTING CONDITIONS BEFORE PROCEEDING WITH THE WORK. RELOCATE AND OR RE-ROUTE EXISTING HVAC DUCT DIFFUSER, PLUMBING PIPING, ELECTRICAL ETC. AS REQUIRED TO COMPLETE THE WORK. NOTE THAT REMOVAL OF THE EXISTING ANCHOR THROUGH BOLT AND INSTALLATION OF NEW ANCHORS THROUGH BOLT IS RESPONSIBILITY OF THE GENERAL CONTRACTOR. COORDINATE WITH OWNERS VENDOR SIEMENS FOR MORE INFORMATION.
- 12. EXISTING LEAD SHIELDED WALL TO REMAIN, PROTECT DURING CONSTRUCTION. NOTE THAT PORTION OF THE ANCHOR BOLT FALLS WITHIN THE TOP TRACK OF THE METAL STUD FRAMED WALL. REMOVE TOP PORTION OF THE WALL AS REQUIRED IN ORDER TO INSTALL THE ANCHOR BOLT AND STEEL ANGLE. PATCH, REPAIR AND REPAINT WALL AS REQUIRED TO ORIGINAL CONDITION AFTER ABOVE CEILING WORK IS COMPLETED.
- 13. EXISTING WALL TO REMAIN. PROTECT DURING CONSTRUCTION. REPAINT WALL AS REQUIRED TO ORIGINAL CONDITION AFTER ABOVE CEILING WORK IS COMPLETED.

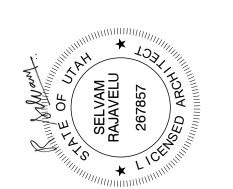


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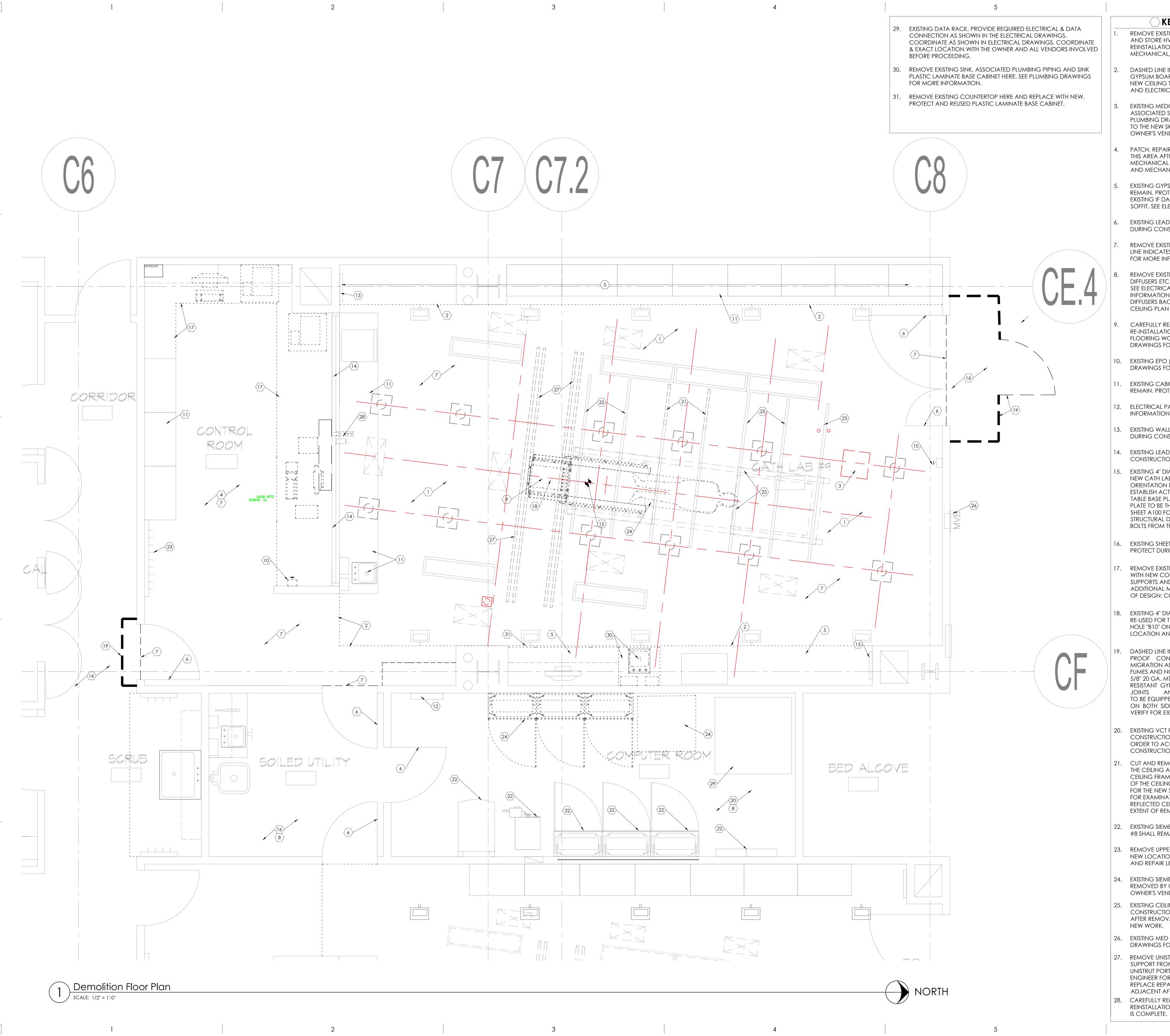
| MC- Cath Lab 9 Remodel Project

Construction Documents July 15, 2020

20205

Demolition Plan-Lower Level 1

A100



#### KEY NOTES - FLOOR PLAN

- . REMOVE EXISTING GYPSUM BOARD CEILING. CAREFULLY REMOVE AND STORE HVAC DIFFUSERS AND LIGHTS SHOWN DASHED FOR REINSTALLATION. SEE NEW FLOOR PLANS, STRUCTURAL MECHANICAL, ELECTRICAL DRAWINGS FOR MORE INFORMATION.
- 2. DASHED LINE INDICATES EXTENT OF DEMOLITION OF THE EXISTING GYPSUM BOARD CEILING. SEE REFLECTED CEILING PLAN A131 FOR NEW CEILING TO BE INSTALLED AFTER STRUCTURAL, MECHANICAL AND ELECTRICAL WORK IS COMPLETED ABOVE CEILING.
- EXISTING MEDGAS COLUMN TO BE REMOVED ALONG WITH
  ASSOCIATED STRUCTURAL SUPPORTS ABOVE. SEE MECHANICAL AND
  PLUMBING DRAWINGS FOR RECONNECTING THE EXISTING GAS LINES
  TO THE NEW SKYTRON MED GAS BOOM. COORDINATE WITH
  OWNER'S VENDOR SKYTRON REGARDING BOOM REQUIREMENTS.
- PATCH, REPAIR AND PAINT CEILING FOR ABOVE CEILING WORK IN THIS AREA AFTER ALL WORK IS COMPLETE. REMOVE AND REINSTALL MECHANICAL DIFFUSERS AND LIGHTS IF REQUIRED. SEE ELECTRICAL AND MECHANICAL DRAWINGS FOR MORE INFORMATION.
- EXISTING GYPSUM BOARD SOFFIT AND WALL SCONCES AT SOFFIT TO REMAIN. PROTECT DURING CONSTRUCTION. REPLACE TO MATCH EXISTING IF DAMAGED DURING CONSTRUCTION. REPAINT ENTIRE SOFFIT. SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION.
- EXISTING LEAD LINED DOORS & HARDWARE TO REMAIN. PROTECT DURING CONSTRUCTION.
- REMOVE EXISTING SHEET VINYL FLOORING & COVED BASE. DASHED LINE INDICATES EXTENT OF REMOVAL. SEE FINISH FLOOR PLAN A151 FOR MORE INFORMATION ON NEW FINISHES.
- REMOVE EXISTING ACOUSTICAL CEILING TILES, GRID SYSTEM, LIGHTS, DIFFUSERS ETC. AS REQUIRED FOR ALL ABOVE CEILING M/E/P WORK. SEE ELECTRICAL AND MECHANICAL DRAWINGS FOR MORE INFORMATION. CLEAN AND RE-INSTALL CEILING TILES, LIGHTS & DIFFUSERS BACK AFTER WORK IS COMPLETED. SEE REFLECTED CEILING PLAN ON SHEET A 131 AND ELECTRICAL DRAWINGS.
- CAREFULLY REMOVE EXISTING MED GAS PEDESTAL FOR RE-INSTALLATION. CLEAN INTERIORS AND RE-INSTALL AFTER ALL FLOORING WORK IS COMPLETE. SEE ELECTRICAL AND MECHANICAL DRAWINGS FOR MORE INFORMATION.
- 10. EXISTING EPO (EMERGENCY POWER OFF) SWITCH. SEE ELECTRICAL DRAWINGS FOR MORE INFO.
- EXISTING CABINET, COUNTERTOP, PLUMBING FIXTURE, ETC. TO REMAIN. PROTECT DURING CONSTRUCTION.
- 12. ELECTRICAL PANELS. SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION.
- 13. EXISTING WALL MOUNTED MECHANICAL GRILL TO REMAIN. PROTECT DURING CONSTRUCTION.
- 14. EXISTING LEAD SHIELDED GLASS TO REMAIN. PROTECT DURING CONSTRUCTION.
- 15. EXISTING 4" DIA. HOLE ON FLOOR TO REMAIN AND RE-USED FOR THE NEW CATH LAB EQUIPMENT BY SIEMENS. THIS IS IDENTIFIED AS THE ORIENTATION POINT FOR THE PATIENT TABLE. FIELD VERIFY TO ESTABLISH ACTUAL LOCATION AND EXISTING CONDITIONS. EXISTING TABLE BASE PLATE TO BE REMOVED TO INSTALL NEW FLOORING. NEW PLATE TO BE THROUGH-BOLTED THROUGH CONCRETE FLOOR. SEE SHEET A 100 FOR LOWER LEVEL CONDITION AND ALSO SEE STRUCTURAL DRAWINGS FOR THROUGH BOLTING. REMOVE EXISTING BOLTS FROM THE FLOOR.
- 16. EXISTING SHEET VINYL FLOORING AND COVED BASE TO REMAIN. PROTECT DURING CONSTRUCTION. SEE FINISH FLOOR PLAN.
- 7. REMOVE EXISTING PLASTIC LAMINATE COUNTERTOP. REPLACE WITH NEW COUNTERTOP AS INDICATED IN THE NEW FLOOR PLAN. SUPPORTS AND BRACKETS SHALL BE RE-USED. PROVIDE TWO ADDITIONAL METAL SUPPORT LEGS UNDER THE COUNTERTOP. BASIS OF DESIGN: COUNTER 34- BRUSHED STEEL SET-NO-CUT.
- EXISTING 4" DIA. HOLE AND CONDUIT ON FLOOR TO REMAIN AND RE-USED FOR THE NEW CATH LAB EQUIPMENT. THIS IS IDENTIFIED AS HOLE "B10" ON SIEMENS PLANS. FIELD VERIFY TO ESTABLISH ACTUAL LOCATION AND EXISTING CONDITIONS.
- PROOF CONSTRUCTION BARRIER TO PREVENT DUST & DIRT MIGRATION AND TO SEPARATE AREAS OCCUPIED BY OWNER FROM FUMES AND NOISE. CONSTRUCTION BARRIER TO BE ERECTED WITH 1 5/8" 20 GA. MTL. STUDS @16" O.C. FRAMING WITH 5/8" TYPE 'X' ABUSE RESISTANT GYPSUM BOARD ON BOTH SIDES. TAPE AND SEAL ALL JOINTS AND OPENINGS. SEAL JOINTS AT PERIMETER. PARTITION TO BE EQUIPPED WITH 4'-0" LOCKABLE MAN DOOR WITH STICKY MATS ON BOTH SIDES OF DOOR. COORDINATE WITH OWNER AND FIELD VERIFY FOR EXACT LOCATION OF CONSTRUCTION BARRIER.
- EXISTING VCT FLOORING TO REMAIN. PROTECT DURING CONSTRUCTION. PATCH AND REPAIR FLOORING AS REQUIRED IN ORDER TO ACCOMPLISH THE WORK OUTLINED IN THE CONSTRUCTION DOCUMENTS.
- CUT AND REMOVE EXTENDED PORTION OF THE EXISTING UNISTRUT AT THE CEILING AND ASSOCIATED STRUCTURAL SUPPORT ABOVE. REDO CEILING FRAMING IN THIS AREA AFTER REMOVAL OF UNISTRUT. REST OF THE CEILING UNISTRUT SYSTEM SHALL REMAIN (U.N.O) AND USED FOR THE NEW SIEMENS EQUIPMENT. NOTIFY STRUCTURAL ENGINEER FOR EXAMINATION BEFORE PROCEEDING WITH THE WORK. SEE REFLECTED CEILING PLAN FOR ADDITIONAL INFORMATION AND EXTENT OF REMOVAL.
- 22. EXISTING SIEMENS EQUIPMENT & CABINET FOR ADJACENT CATH LAB #8 SHALL REMAIN, PROTECT DURING CONSTRUCTION.
- 23. REMOVE UPPER APRON RACK AS REQUIRED AND PREP WALL FOR NEW LOCATION OF SKYTRON LIGHTING CONTROL PANEL. PATCH AND REPAIR LEAD SHIELDED WALL TO MAINTAIN SHIELDING.
- 24. EXISTING SIEMENS CATH LAB EQUIPMENT AND PATIENT TABLE TO BE REMOVED BY OWNERS VENDOR SIEMENS. SCHEDULE WORK WITH OWNER'S VENDOR SIEMENS.
- 25. EXISTING CEILING MOUNTED UNISTUTS TO REMAIN. PROTECT DURING CONSTRUCTION. NOTIFY STRUCTURAL ENGINEER FOR EXAMINATION AFTER REMOVAL OF GYP. BD. CEILING BEFORE PROCEEDING WITH NEW WORK.
- EXISTING MED GAS SHUT OFF VALVE TO REMAIN. SEE MECHANICAL DRAWINGS FOR MORE INFO.
- 7. REMOVE UNISTRUTS SHOWN DASHED AND ASSOCIATED STRUCTURAL SUPPORT FROM CEILING. MAINTAIN STRUCTURAL INTEGRITY OF THE UNISTRUT PORTION THAT IS STAYING. CONTACT STRUCTURAL ENGINEER FOR EVALUATION BEFORE PROCEEDING WITH THE WORK. REPLACE REPAIR GYPSUM CEILING AS REQUIRED TO MATCH ADJACENT AFTER DEMOLITION WORK IS COMPLETED.

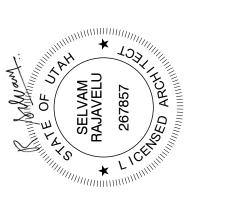
  8. CAREFULLY REMOVE EXISTING CEILING MOUNTED CAMERA FOR
- REINSTALLATION AT THE SAME LOCATION AFTER ALL CEILING WORK IS COMPLETE.



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# Cath Lab 9 Remodel Projet

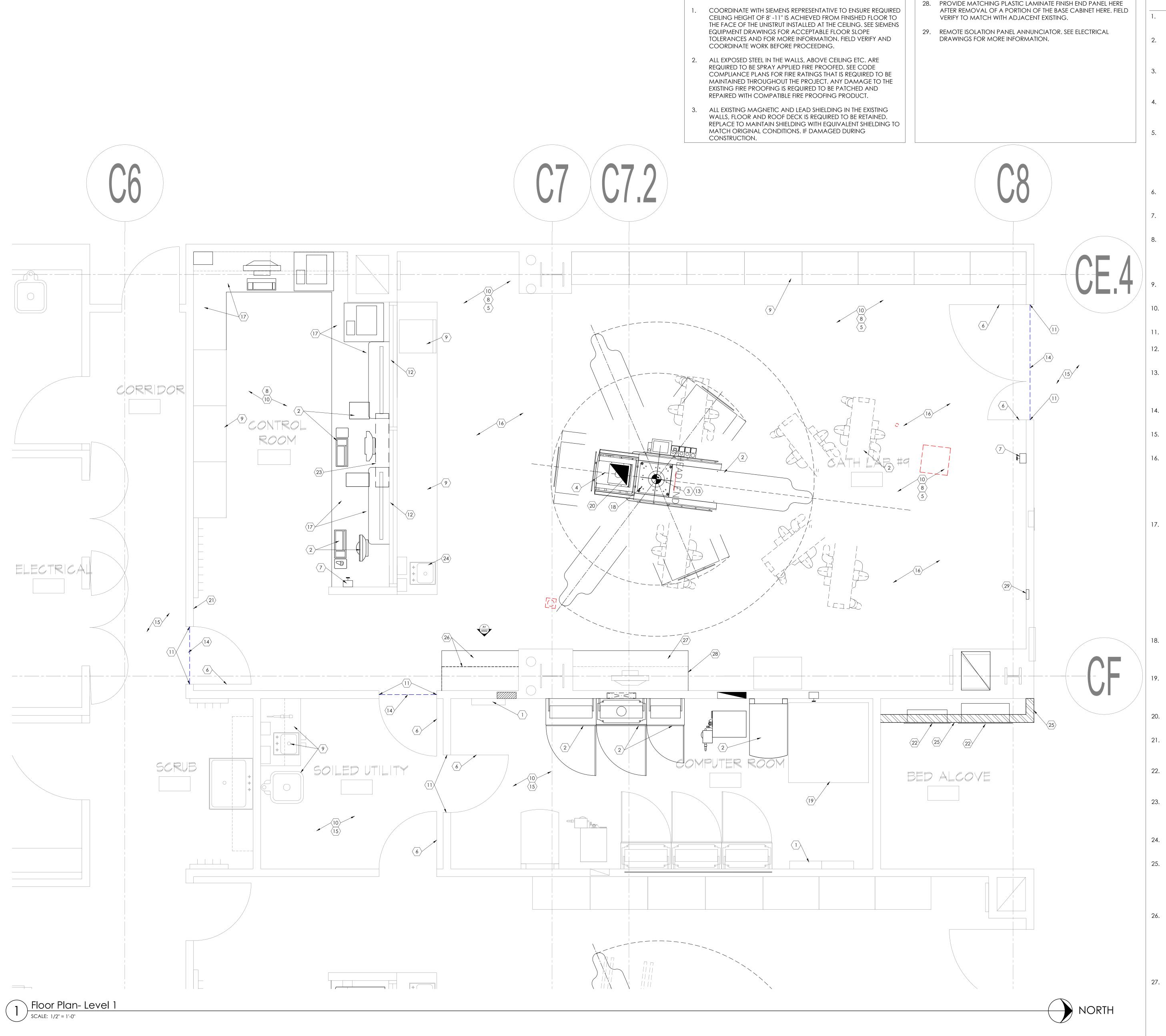
Construction Documents

Demolition Floor and Ceiling Plan -Level 1

20205

July 15, 2020

A101



**GENERAL NOTES** 

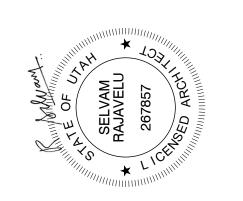
#### KEY NOTES - FLOOR PLAN

- ELECTRICAL PANEL. SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION.
- 2. NEW CATHLAB EQUIPMENT & PATIENT TABLE, PROVIDED & INSTALLED BY OWNERS VENDOR SIEMENS. SEE VENDOR DRAWINGS FOR MORE INFORMATION.
- 3. ISO-CENTER LOCATION OF THE CATH-LAB EQUIPMENT. FIELD VERIFY AND COORDINATE WITH OWNER'S VENDOR (SIEMENS) FOR MORE INFORMATION.
- CAREFULLY REMOVE EXISTING STAINLESS STEEL MED GAS PEDESTAL FOR REINSTALLATION AFTER FLOORING IS COMPLETE. SEE ELECTRICAL AND MECHANICAL DRAWINGS FOR MORE INFORMATION.
- 5. REPLACE ALL EXISTING DUPLEX EMERGENCY POWER OUTLETS TO FOUR PLEX ON THE WALLS. SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION. NOTE THAT ALL EXISTING WALLS HAVE 4 LB LEAD SHIELDING UP TO 7'-0" HIGH. INTEGRATION OF ALL SHIELDING SHALL NEED TO BE RETAINED AND REPAIRED TO ORIGINAL CONDITION AFTER ALL WORK IS COMPLETED, TYPICAL THROUGHOUT THE PROJECT.
- 6. EXISTING LEAD LINED DOORS, FRAME & HARDWARE TO REMAIN. PROTECT DURING CONSTRUCTION.
- EXISTING EMERGENCY POWER OFF SWITCH TO REMAIN. SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION.
- 8. NEW SHEET VINYL FLOORING WITH 4" COVED BASE. COORDINATE WITH OWNERS VENDOR SIEMENS REGARDING ACCEPTABLE SLOPE TOLERANCES ON THE FLOOR BEFORE PROCEEDING WITH THE WORK. SEE FINISH FLOOR PLANS AND SIEMENS DRAWINGS FOR MORE INFORMATION. COVED BASE SHALL FULLY ADHERE TO WALL.
- 9. EXISTING CABINETS, COUNTERTOP, PLUMING FIXTURES, ETC. TO REMAIN. PROTECT DURING CONSTRUCTION.
- 10. REFINISH AND PAINT EXISTING GYPSUM BOARD WALL. SEE FINISH FLOOR PLAN FOR MORE INFORMATION.
- 11. REPAINT EXISTING H.M. DOOR FRAME, TYP. SEE FINISH FLOOR PLAN.
- 12. EXISTING LEAD SHIELDED WINDOW & GLAZING TO REMAIN. PROTECT DURING CONSTRUCTION.
- 13. ORIENTATION POINT OF THE PATIENT TABLE SHALL ALIGN WITH THE EXISTING 4" DIA. HOLE ON THE FLOOR AT THIS LOCATION. FIELD VERIFY EXACT LOCATION AND COORDINATE WITH OWNER'S VENDOR (SIEMENS) FOR MORE INFORMATION.
- 14. DASHED LINE SHOWS EXTENT OF NEW FLOORING. SEE FINISH FLOOR PLAN FOR MORE INFORMATION.
- 15. EXISTING FLOOR FINISH TO REMAIN AT THIS LOCATION. PROTECT DURING CONSTRUCTION.
- 16. VERIFY FLOOR LEVELNESS. FLOOR SHOULD BE ±1/8" IN 10'-0"
  THROUGH THE ROOM. IF FLOOR IS UNEVEN, POUR SELF LEVELING
  EPOXY COMPOUND (ARDEX OR EQUAL) TO ACHIEVE THE REQUIRED
  FLOOR LEVELNESS. UNISTRUTS FOR SIEMENS EQUIPMENT RAILS SHALL
  BE INSTALLED AFTER FLOOR IS LEVELED. MEASURE HEIGHT TO THE
  BOTTOM OF THE UNISTRUTS ABOVE FINISHED FLOOR PER SIEMENS
  DRAWINGS. PREP FLOOR FOR NEW FINISHES. SEE SIEMENS DRAWINGS
  FOR ACCEPTABLE TOLERENCE LEVEL.
- 17. NEW PLASTIC LAMINATE COUNTERTOP WITH BULL-NOSED EDGE. SEE DETAIL A6/A-501 AND FINISH FLOOR PLAN FOR LAMINATE COLOR REQUIRED TO MATCH ADJACENT EXISTING & MORE INFORMATION. HEIGHT OF COUNTERTOP SHALL MATCH WITH THE ADJACENT EXISTING. PROVIDE 4'-0" W X 1'-1" D OPENING IN COUNTERTOP FOR INSTALLATION OF LARGE DISPLAY MONITOR BY OWNER. PROVIDE 2" RADIUS AT ALL INSIDE CORNERS. EXISTING SUPPORTS AND METAL BRACKETS MAY BE RE-USED. THE MONITOR OPENINGS ON THE COUNTERTOP MAY REQUIRE EXISTING BRACKETS TO BE MOVED OR ADJUSTED. PROVIDE BACKING IN THE WALL FOR INSTALLATION OF THE OWNER PROVIDED MONITOR. FIELD VERIFY EXISTING CONDITIONS BEFORE PROCEEDING WITH THE WORK.INSTALL TWO ADJUSTABLE HEIGHT STEEL LEGS FOR SUPPORT OF DEEP COUNTERTOP. DO NOT ANCHOR TO FLOOR. BASIS OF DESIGN: COUNTER 34- BRUSHED STEEL SET-NO-CUT.
- 3. SIEMENS EQUIPMENT BASE PLATES TO BE ANCHORED TO THE EXISTING CONCRETE FLOOR. SEE SHEET A 100 FOR REMOVAL OF CEILING AT LOWER LEVEL FOR INSTALLATION OF THE METAL PLATES. SEE STRUCTURAL & SIEMENS DRAWINGS FOR MORE INFORMATION.
- 19. EXISTING DATA RACK. PROVIDE REQUIRED ELECTRICAL & DATA CONNECTION AS SHOWN IN THE ELECTRICAL DRAWINGS. COORDINATE WORK & EXACT LOCATION WITH THE OWNER AND ALL VENDORS INVOLVED BEFORE PROCEEDING.
- 20. RE-USE EXISTING 4" DIA. HOLE AND CONDUIT AS REQUIRED. THIS IS IDENTIFIED AS HOLE "B10" IN SIEMENS DRAWINGS.
- 21. SKYTRON LIGHTING CONTROL PANEL. SEE DRAWINGS FROM SKYTRON AND ALSO SEE ELECTRICAL DRAWINGS. CONTROL PANEL TO BE WRAPPED IN LEAD TO MAINTAIN INTEGRITY OF SHIELDING.
- 22. NEW ISOLATION PANEL INSTALLED IN THE BOXED STUD FRAMED WALL. SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION. INSTALL NEW REMOTE ISOLATION ANNUNCIATOR IN THE LAB.
- 23. SIEMENS CATH LAB EQUIPMENT INSTALLED UNDER COUNTER. ADJUST LOCATION OF THE COUNTERTOP BRACKET AS REQUIRED TO MAKE ROOM FOR THE EQUIPMENT. COORDINATE WORK WITH LARGE DISPLAY PROVIDED BY OWNER.
- 24. EXISTING PLUMBING FIXTURE, SINK TO REMAIN. PROTECT DURING CONSTRUCTION. PROVIDE LOCK AT THE CABINETS UNDER THE SINK.
- 25. 3 5" THICK METAL STUD FRAMED WALL WITH 5" THICK TYPE-X PAINTED GYPSUM SHEATHING ON ONE SIDE FROM FLOOR TO CEILING ABOVE TO HOUSE NEW ISOLATION PANELS. COORDINATE DEPTH OF BOXED WALL WITH PANELS. PAINT AND FINISH WALL TO MATCH WITH ADJACENT EXISTING HALLWAY. PROVIDE WALL PROTECTION AND CORNER GUARD TO MATCH ADJACENT EXISTING.
- 26. NEW PLASTIC LAMINATE COUNTERTOP, BASE CABINETS AND UPPER WALL CABINETS TO MATCH ADJACENT EXISTING. SEE INTERIOR ELEVATIONS AND DETAILS ON SHEET A502. PROVIDE REQUIRED WALL BACKING. PATCH AND REPAIR EXISTING LEAD LINED WALLS TO ORIGINAL CONDITION AFTER ALL WORK IS COMPLETED TO REMAIN SHIELDING. MEET ALL REQUIREMENTS SET BY THE AUTHORITIES HAVING JURISDICTION FOR DISPOSAL AND WORKING WITH LEAD SHIELDED WALLS WHERE NEEDED.
- 27. REPLACE EXISTING COUNTERTOP WITH NEW MATCHING COUNTERTOP AFTER REMOVAL OF PORTION OF THE BASE CABINET AS SHOWN IN THE DEMOLITION PLANS. SEE ELEVATIONS AND DETAILS ON SHEET A501 & A502. FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS.



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Intermountain Healthcare IMC- Cath Lab 9 Remodel Project

NJRA Project #

Construction Documents

New Floor Plan-

20205

July 15, 2020

A111

Level

Reflected Ceiling Plan

#### KEY NOTES - FLOOR PLAN

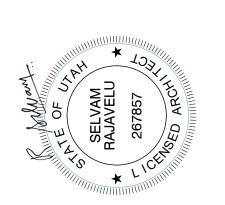
- 1. LOCATION OF THE CATH LAB EQUIPMENT ISO-CENTER. COORDINATE WITH THE OWNER'S VENDOR SIEMENS FOR MORE INFORMATION.
- 2. NEW SKYTRON ANESTHESIA BOOM MOUNTED TO STRUCTURE ABOVE. REMOVE EXISTING MED GAS COLUMN AND RELOCATE ALL MED GAS CONNECTIONS FROM COLUMN TO THE BOOM. SEE OWNERS VENDOR SKYTRON FOR MORE INFORMATION & EXACT LOCATION. SEE STRUCTURAL & MECHANICAL DRAWINGS.
- 8. NEW SKYTRON BOOM FOR RADIATION SHIELD. SEE STRUCTURAL & ELECTRICAL DRAWINGS FOR ALL REQUIREMENTS.
- 4. NEW SKYTRON BOOM FOR SURGICAL LIGHT. SEE STRUCTURAL AND ELECTRICAL DRAWINGS FOR ALL REQUIREMENTS.
- 5. NEW SKYTRON BOOM FOR DISPLAY MONITOR. SEE STRUCTURAL, ELECTRICAL AND SKYTRON DRAWINGS FOR ALL REQUIREMENTS. COORDINATE WITH SKYTRON FOR MORE INFORMATION.
- 6. EXISTING UNISTRUT SUPPORT FOR SIEMENS CATHLAB EQUIPMENT AT THE CEILING ANCHORED TO THE STRUCTURE ABOVE TO REMAIN U.N.O, TYP. REMOVE PORTION OF UNISTRUT WHERE INDICATED WITH KEYNOTE #15 ON THIS SHEET AND KEYNOTE #27 ON DEMOLITION PLAN A101. SEE SIEMENS DRAWINGS & STRUCTURAL DRAWINGS FOR DETAILS AND REQUIREMENTS. ALSO REFER TO DETAIL **C5/A-501**.
- 7. NEW PAINTED GYPSUM BOARD CEILING. INSTALL AFTER ALL STRUCTURAL, MECHANICAL, ELECTRICAL, SKYTRON BOOMS AND SIEMENS EQUIPMENT WORK IS COMPLETE. SEE FINISH FLOOR PLAN FOR PAINT COLOR. ALSO REFER TO CEILING DETAIL **E3/A-501**. CEILING HEIGHT FROM FLOOR TO THE FACE OF THE CEILING MOUNTED UNISTRUT SUPPORT IS REQUIRED TO BE 8'-11". FIELD VERIFY EXISTING AND SEE SIEMENS DRAWINGS FOR ACCEPTABLE TOLERANCES.
- 8. NEW OR RE-USED MECHANICAL DIFFUSER. SEE MECHANICAL DRAWINGS FOR MORE INFORMATION, TYPICAL.
- 9. NEW OR RE-USED CEILING LIGHTS. SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION, TYPICAL.
- 10. REMOVE & RE-INSTALL EXISTING ACOUSTICAL PANEL CEILING, GRID SYSTEM, CEILING DIFFUSER & LIGHTS AS REQUIRED FOR ANY ABOVE CEILING M/E/P WORK. SEE ELECTRICAL, MECHANICAL AND PLUMBING DRAWINGS FOR MORE INFORMATION.
- 11. PATCH/REPAIR EXISTING GYPSUM BOARD CEILING AFTER ALL ABOVE CEILING WORK IS COMPLETE. CLEAN AND RE-INSTALL LIGHTS AND DIFFUSERS. RE-PAINT ENTIRE CEILING. SEE FINISH FLOOR PLANS.
- 12. EXISTING GYPSUM BOARD SOFFIT TO REMAIN. PROTECT DURING CONSTRUCTION. REMOVE & REINSTALL LIGHT, DIFFUSER ETC. AS REQUIRED. REPAINT SOFFIT AND CEILING AFTER WORK IS COMPLETED. SEE FINISH FLOOR PLANS.
- 13. 18" x 18" GASKETTED CEILING MOUNTED FINISHED & PAINTED GFRG ACCESS PANELS TO MATCH HOSPITAL STANDARD. COORDINATE WITH VENDORS, MECHANICAL DRAWINGS FOR EXACT LOCATION & QUANTITY AS REQUIRED BEFORE INSTALLATION.
- 14. NOT USED.
- 15. CUT EXISTING CEILING UNISTRUT HERE AND REMOVE THE PORTION EXTENDING OUT ALONG WITH ASSOCIATED ACCESSORIES & STRUCTURAL SUPPORT IN ORDER TO CLEAR THE AREA FOR INSTALLATION OF NEW CEILING BOOMS FROM SKYTRON.

  CONTRACTOR SHALL REMOVE & DISMANTLE STRUCTURAL SUPPORT OF THE REMOVED UNISTRUT AND MAINTAIN STRUCTURAL INTEGRITY OF THE REMAINING UNISTRUT SYSTEM TO BE RE-USED FOR THE NEW SIEMENS EQUIPMENT. NOTIFY STRUCTURAL ENGINEER AS SOON AS CEILING IS REMOVED IN THIS AREA FOR AN EXAMINATION OF THE EXISTING UNISTRUT SYSTEM. PATCH, REPAIR AND PAINT GYPSUM CEILING TO ORIGINAL CONDITION AFTER WORK IS COMPLETED.
- 16. REMOVE & REINSTALL EXISTING SKYTRON SURGICAL LIGHTS AS REQUIRED. SEE ELECTRICAL DRAWINGS AND MANUFACTURERS MANUAL FOR MORE INFORMATION.
- 17. EXISTING WALL SCONCE TO REMAIN. PROTECT DURING CONSTRUCTION.
- 18. CABLE OUTLET FOR C-ARM TO REMAIN. PROTECT DURING CONSTRUCTION. COORDINATE WITH SIEMENS.

# ARCHITECTS

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Construction Documents July 15, 2020

20205

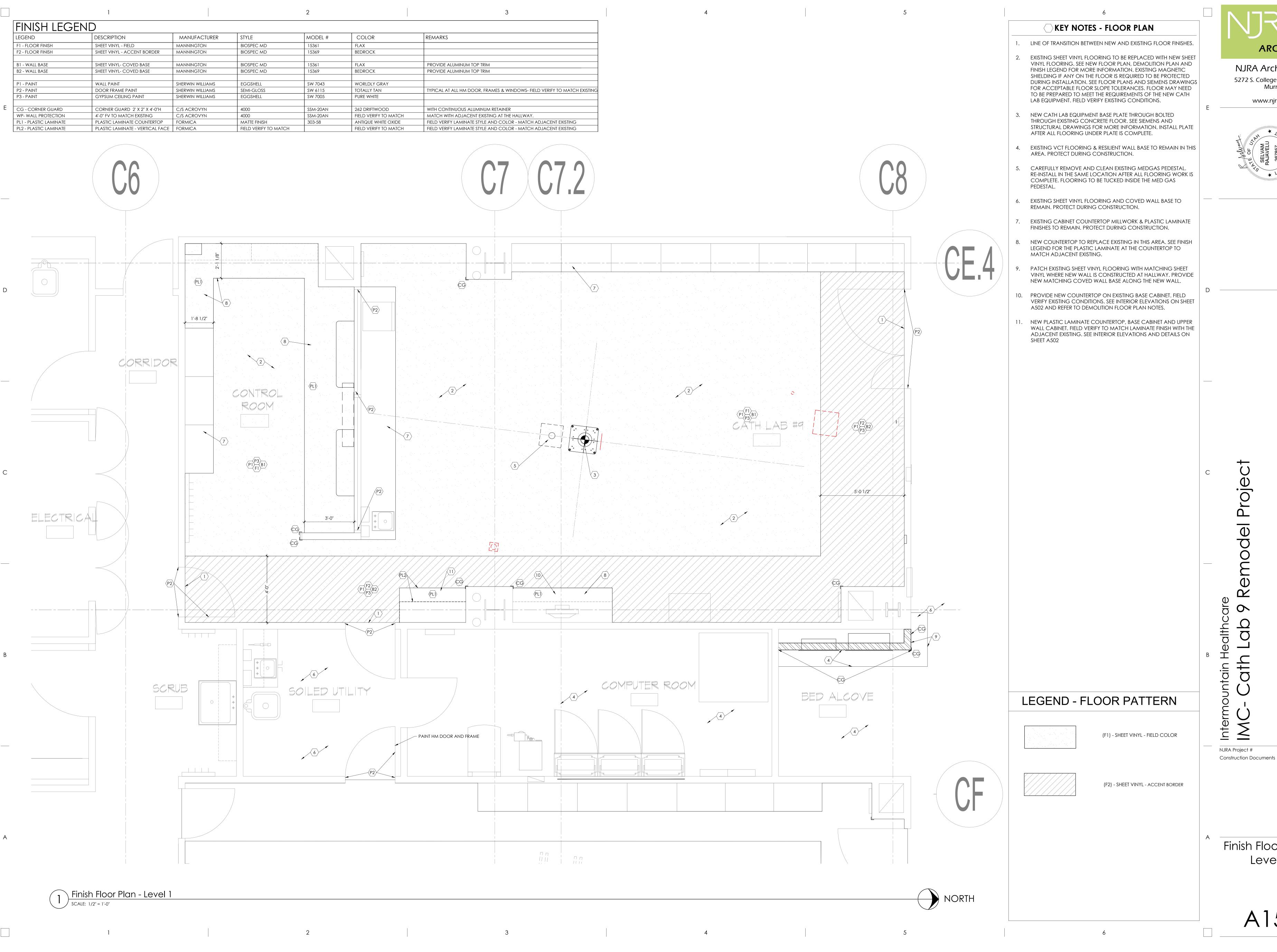
#### GENERAL NOTES

NORTH

- 1. COORDINATE WITH SIEMENS REPRESENTATIVE TO ENSURE REQUIRED CEILING HEIGHT OF 8'-11" IS ACHIEVED FROM FINISHED FLOOR TO THE FACE OF THE UNISTRUT INSTALLED AT THE CEILING. SEE SIEMENS EQUIPMENT DRAWINGS FOR ACCEPTABLE FLOOR SLOPE TOLERANCES AND FOR MORE INFORMATION. FIELD VERIFY AND COORDINATE WORK BEFORE PROCEEDING.
- 2. ALL EXPOSED STEEL IN THE WALLS, ABOVE CEILING ETC. ARE REQUIRED TO BE SPRAY APPLIED FIRE PROOFED. SEE CODE COMPLIANCE PLANS FOR FIRE RATINGS THAT IS REQUIRED TO BE MAINTAINED THROUGHOUT THE PROJECT. ANY DAMAGE TO THE EXISTING FIRE PROOFING IS REQUIRED TO BE PATCHED AND REPAIRED WITH COMPATIBLE FIRE PROOFING PRODUCT.
- ALL EXISTING MAGNETIC AND LEAD SHIELDING IN THE EXISTING WALLS, FLOOR AND ROOF DECK IS REQUIRED TO BE RETAINED. REPLACE TO MAINTAIN SHIELDING WITH EQUIVALENT SHIELDING TO MATCH ORIGINAL CONDITIONS. IF DAMAGED DURING CONSTRUCTION.

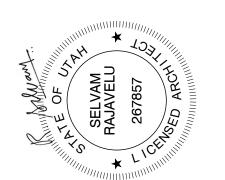
Reflected Ceiling Plan- Level 1

A13





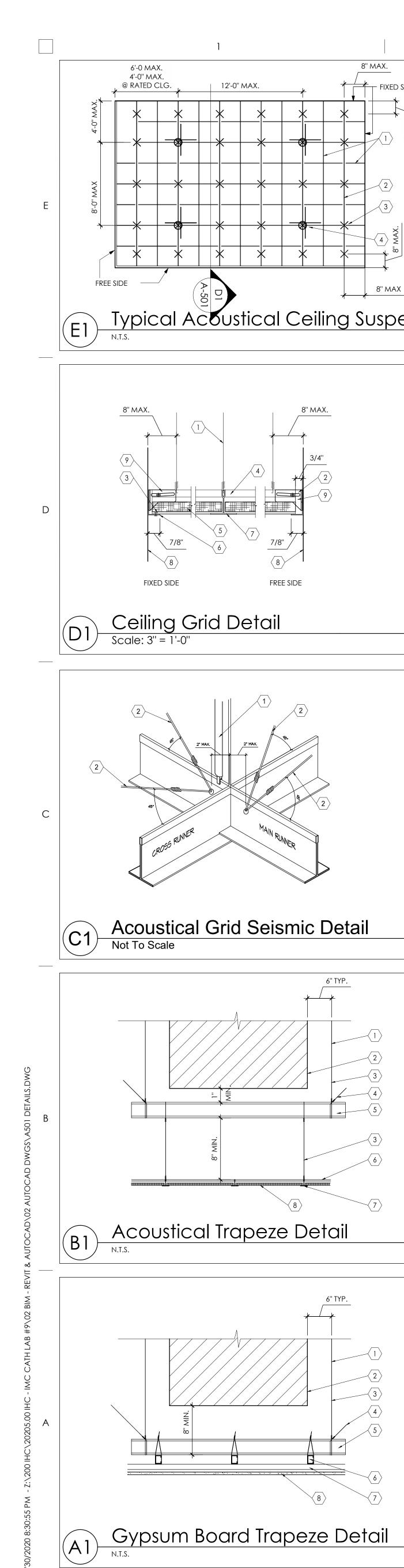
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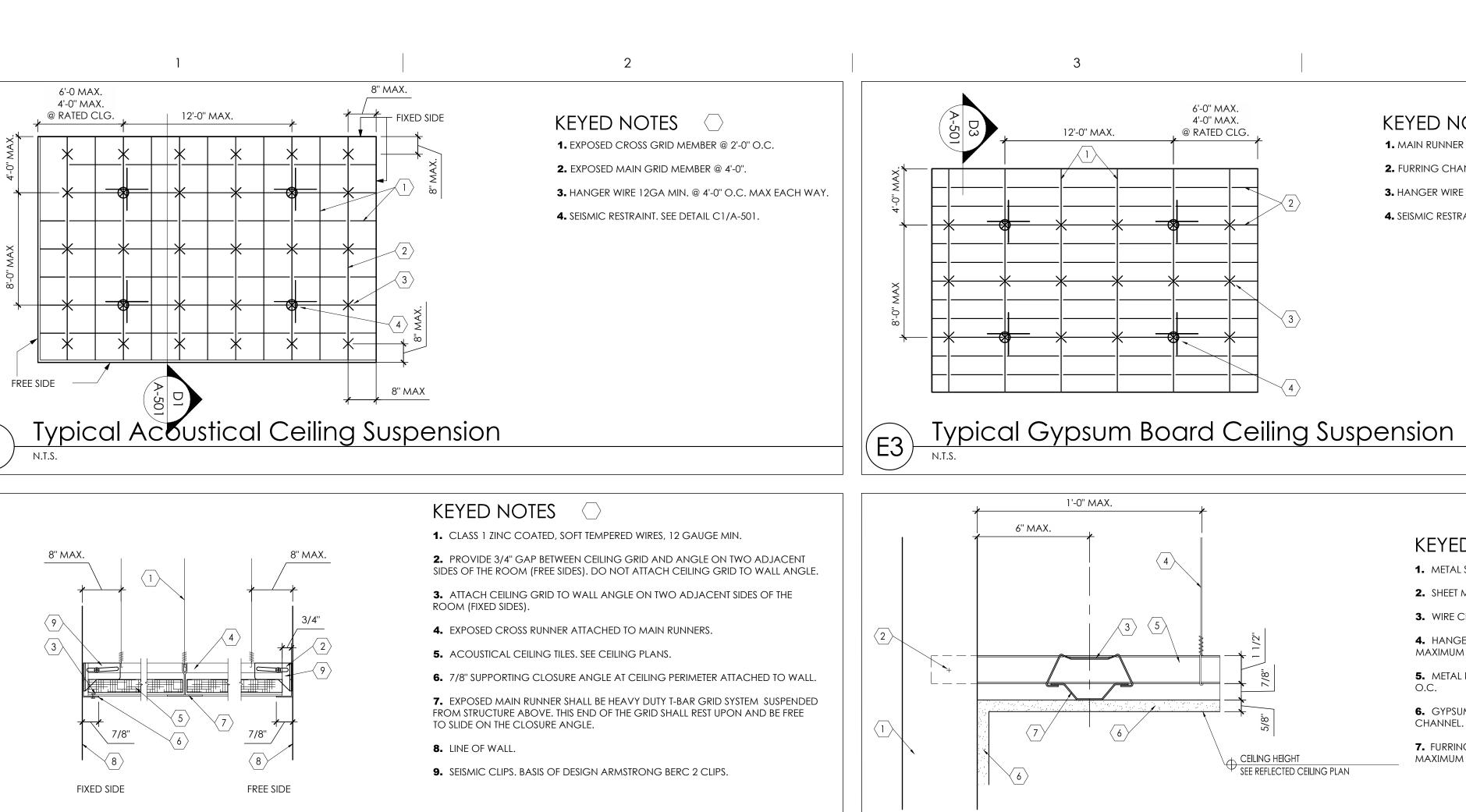


Finish Floor Plan-Level 1

20205

A151





KEYED NOTES

BY CEILING GRID MANUFACTURER AND ARCHITECT.

KEYED NOTES

2. DUCT OR OTHER OBSTRUCTION.

5. METAL CHANNELS AT 4'-0" O.C.

4'-0" SPAN= 1-1/2" x 16GA

6'-0" SPAN= 2-1/2" x 16GA

**6.** CROSS RUNNER BEYOND

KEYED NOTES

2. DUCT OR OTHER OBSTRUCTION.

**5.** METAL CHANNELS AT 4'-0" O.C.

4. DIAGONAL HANGER WIRE 12 GA MIN..

6. METAL RUNNER CHANNELS, 1 1/2" THICK.

8. FURRING CHANNEL, 7/8" THICK, @ 1'-4" O.C. MAXIMUM

7. GYPSUM BOARD, 5/8" THICK, ATTACHED TO METAL FURRING CHANNEL.

3. HANGER WIRE 8 GA MIN.

4'-0" SPAN= 1-1/2" x 16GA

6'-0" SPAN= 2-1/2" x 16GA

8'-0" SPAN= 4" x 16GA 12'-0" SPAN= 6" x 16GA

**1.** SEE DETAIL C1 FOR HANGER WIRE ATTACHMENT.

8'-0" SPAN= 4" x 16GA

12'-0" SPAN= 6" x 16GA

7. MAIN RUNNER

4. DIAGONAL HANGER WIRE 12 GA MIN..

**3.** HANGER WIRE 8 GA MIN.

**1.** SEE DETAIL C1 FOR HANGER WIRE ATTACHMENT.

**8.** ACOUSTICAL CEILING PANEL. SEE DRAWINGS AND SPECS FOR DETAILS

1. RIGID HORIZONTAL RESTRAINT/ COMPRESSION POST FROM CEILING GRID TO STRUCTURE

A. CEILING GRIDS IN ROOMS OR AREAS GREATER THAN 1,000 SQ. FT. SHALL HAVE A RIGID

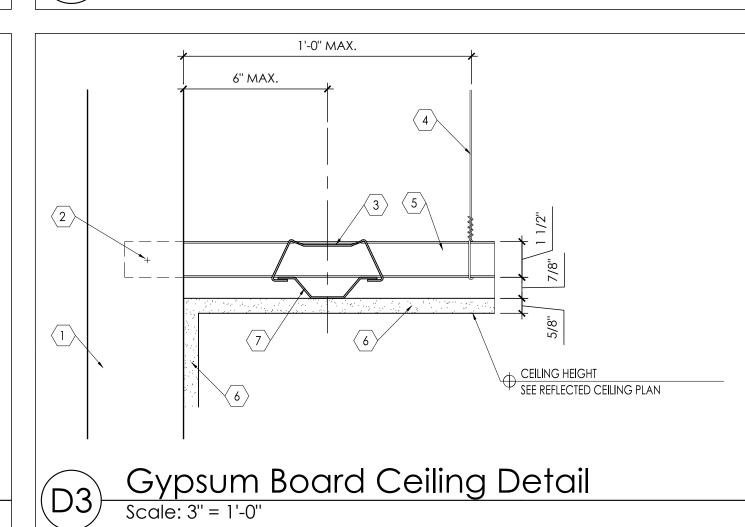
B. ALL SPLAYED WIRES SHALL BE AT MAXIMUM ANGLE OF 45°, 12 GAUGE AND GALVANIZED.

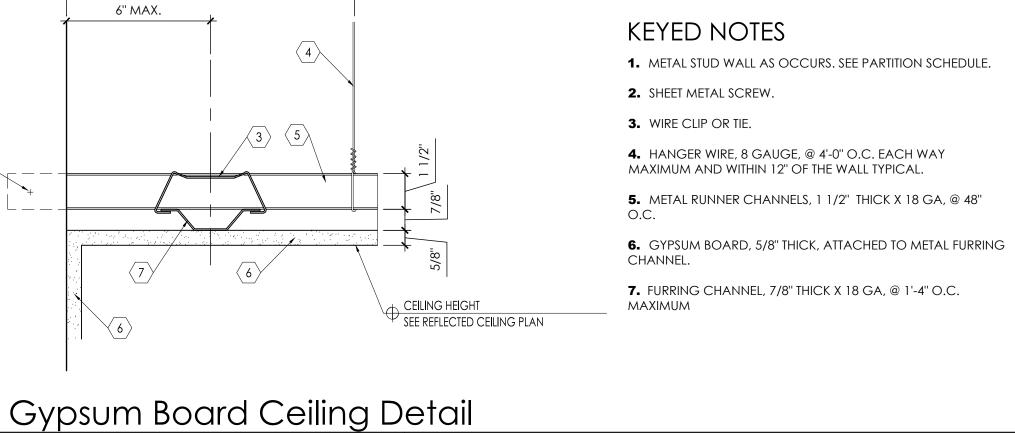
C. WHEN CEILING AREA EXCEEDS 2,500 SQ. FT. PROVIDE SEISMIC SEPARATION JOINT APPROVED

HORIZONTAL RESTRAINT FROM CEILING TO STRUCTURE ABOVE AT EVERY 96 SQ. FT.

EACH OTHER AT AN ANGLE NOT EXCEEDING 45° FROM THE PLANE OF THE CEILING.

2. CLASS 1 ZINC COATED, SOFT TEMPERED WIRES, 12 GAUGE MIN. WIRES ARRANGED AT 90° FROM





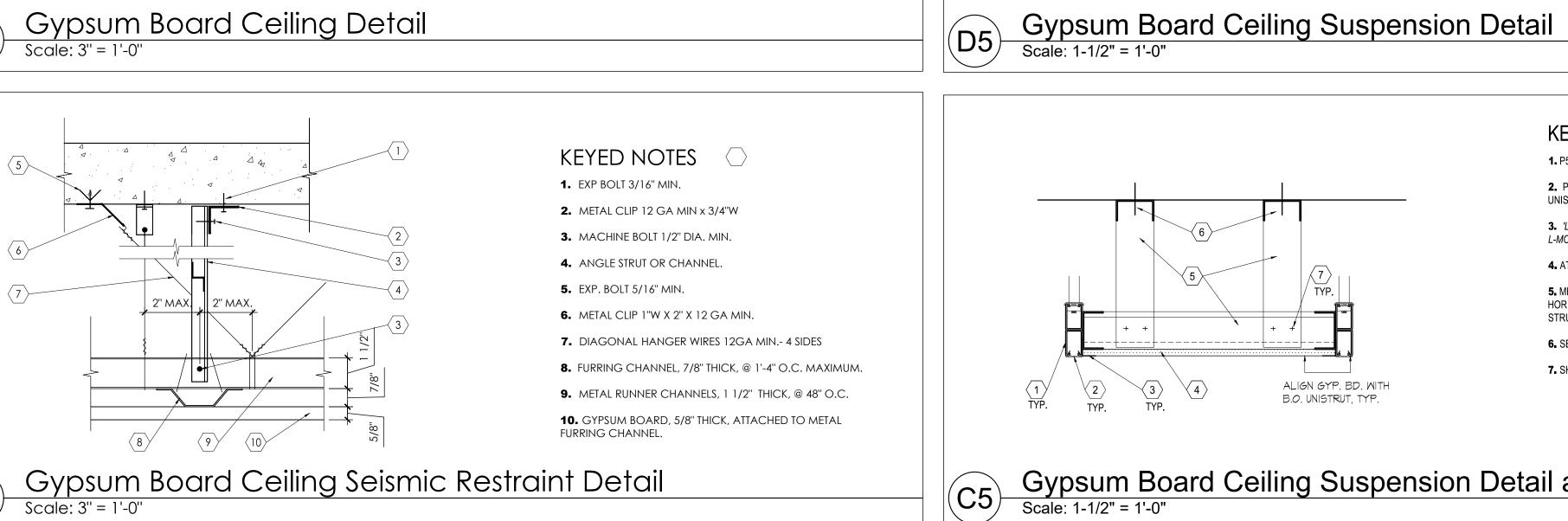
KEYED NOTES

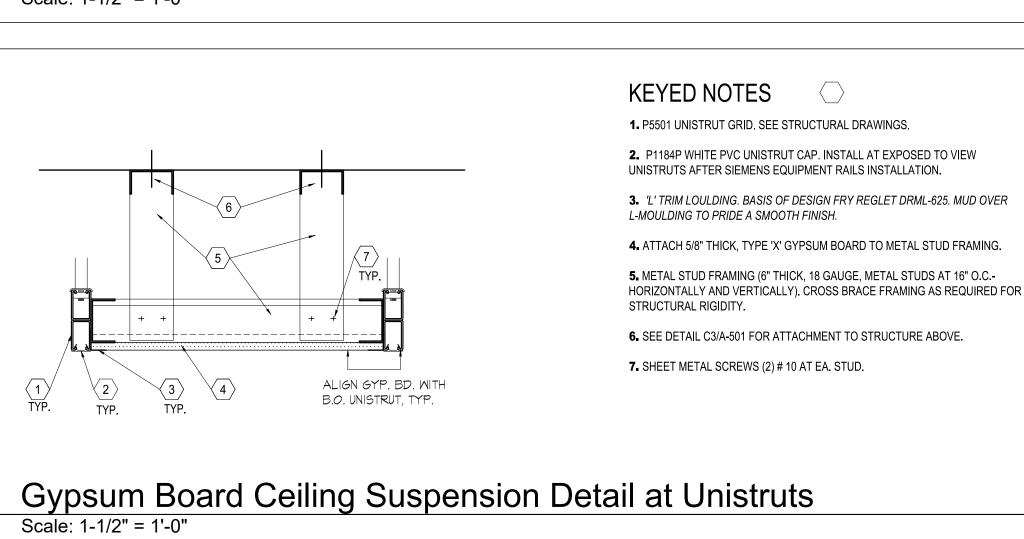
**1.** MAIN RUNNER 1-1/2" @ 4'-0" O.C.

2. FURRING CHANNEL @ 1'-4" O.C.

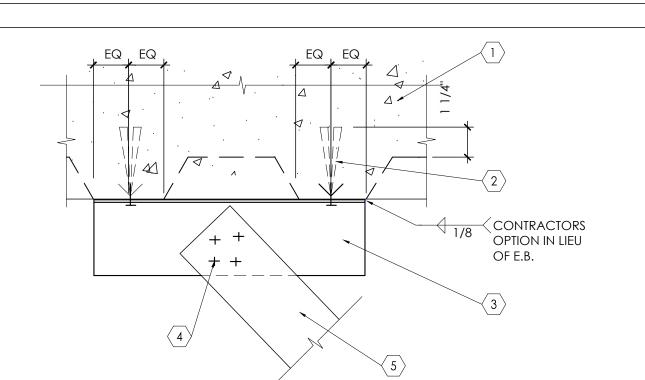
3. HANGER WIRE 8GA MIN. @ 4'-0" O.C. EACH WAY.

4. SEISMIC RESTRAINT. SEE DETAIL C3/A-501.





Gypsum Board Unistrut Suspension Detail
Scale: 3" = 1'-0"

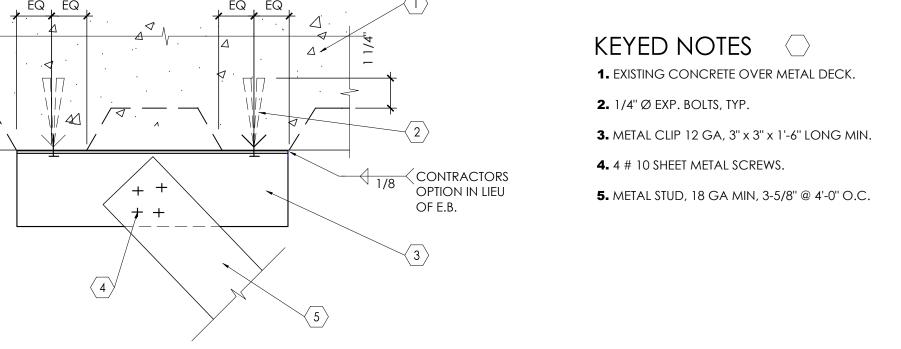


PARALLEL TO DECK

Gypsum Board Bracing Suspension Detail

Typical Suspended Stud Attachment

1 2" MAX



OPTION IN LIEU

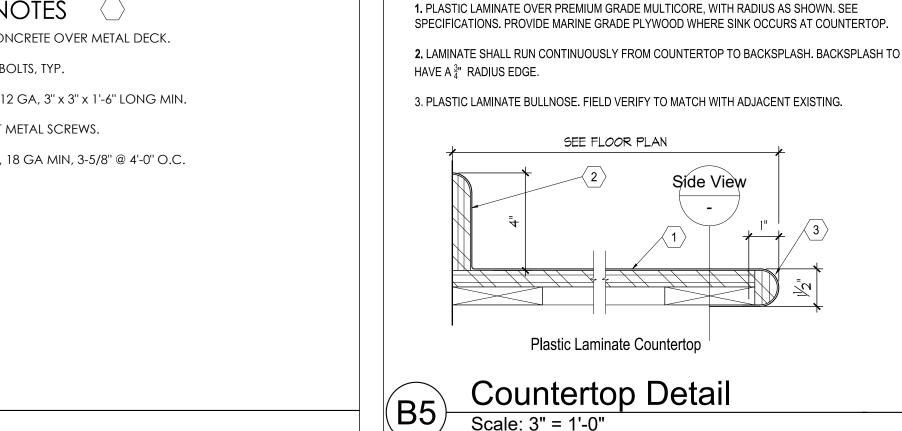
OF E.B.

CONTRACTORS OPTION IN LIEU OF E.B. WHEN STUD IS BELOW DECK PLATE

CONTRACTORS > 1/8

PERPENDICULAR TO DECK

OF E.B.



KEYED NOTES

TWO 1/4" EXP. BOLTS

**5.** PL WASHER 1/8" x 3" x3"

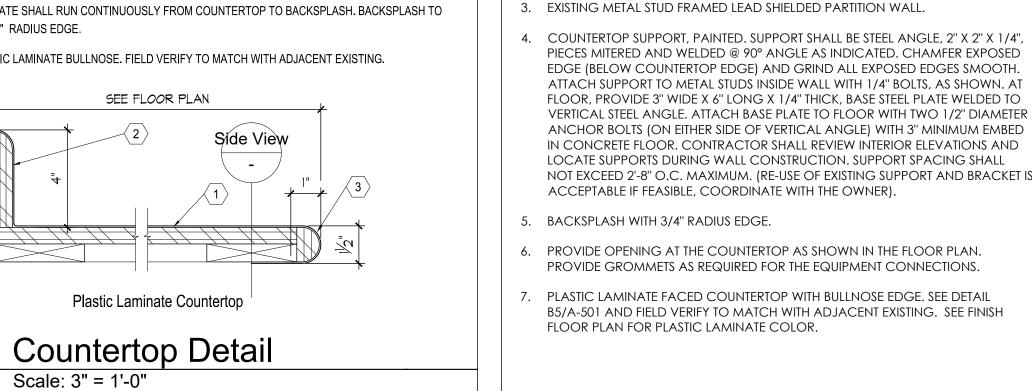
1. EXISTING CONCRETE OVER METAL DECK.

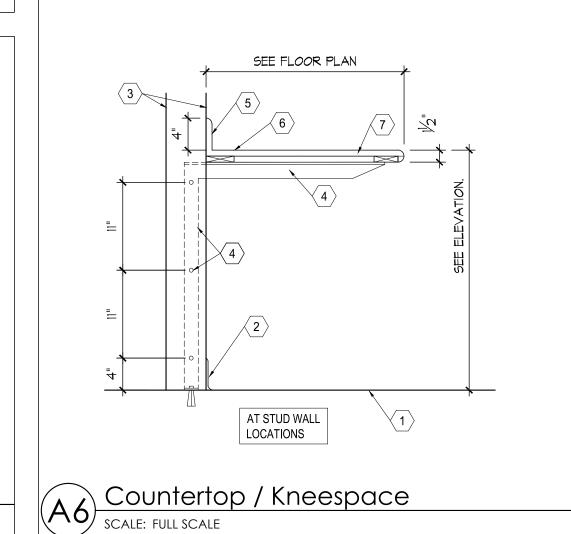
**4.** METAL STUD, 18 GA MIN, 3-5/8" @ 4'-0" O.C.

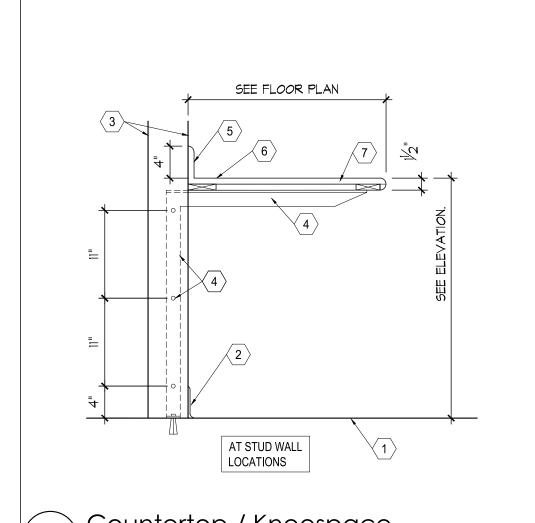
2. CONTINUOUS METAL PLATE, 10 GA x 1'-4" WIDE WITH

**3.** LONG LEG TRACK 16 GA WITH 2 # 10 S.M.S. @ 16" O.C.

**KEYED NOTES** 







KEYED NOTES

E3/A501.

**KEYED NOTES** 

1. LINE OF STRUCTURE ABOVE

2. LINE OF WALL.

KEYED NOTES

2. WALL BASE. SEE FINISH SCHEDULE.

1. LINE OF FLOOR.

1. CEILING MOUNTED UNISTRUT SYSTEM. SEE STRUCTURAL

3. FINISH GYPSUM BOARD ON EITHER SIDE OF THE EQUIPMENT RAIL. BOTTOM OF GYPSUM BOARD TO ALIGN WITH BOTTOM OF

3. METAL STUD FRAMING (6" THICK, 18 GAUGE, METAL STUDS AT 16" O.C.-

4. METAL STUD FRAMING (6" THICK, 18 GAUGE, METAL STUDS AT 32" O.C.-

5. 5/8" THICK TYPE 'X' GYP. BD. ATTACH TO METAL STUD FRAMING.

6. SEE DETAIL C3/A-501 FOR ATTACHMENT TO STRUCTURE ABOVE.

7. SHEET METAL SCREWS (2) # 10 AT EA. STUD.

VERTICAL- BOTH WAYS- PERPENDICULAR AND PARALLEL TO HORIZONTAL FRAMING). CROSS BRACE FRAMING AS REQUIRED FOR STRUCTURAL

2. GYPSUM BOARD CEILING AS SCHEDULED. SEE DETAIL

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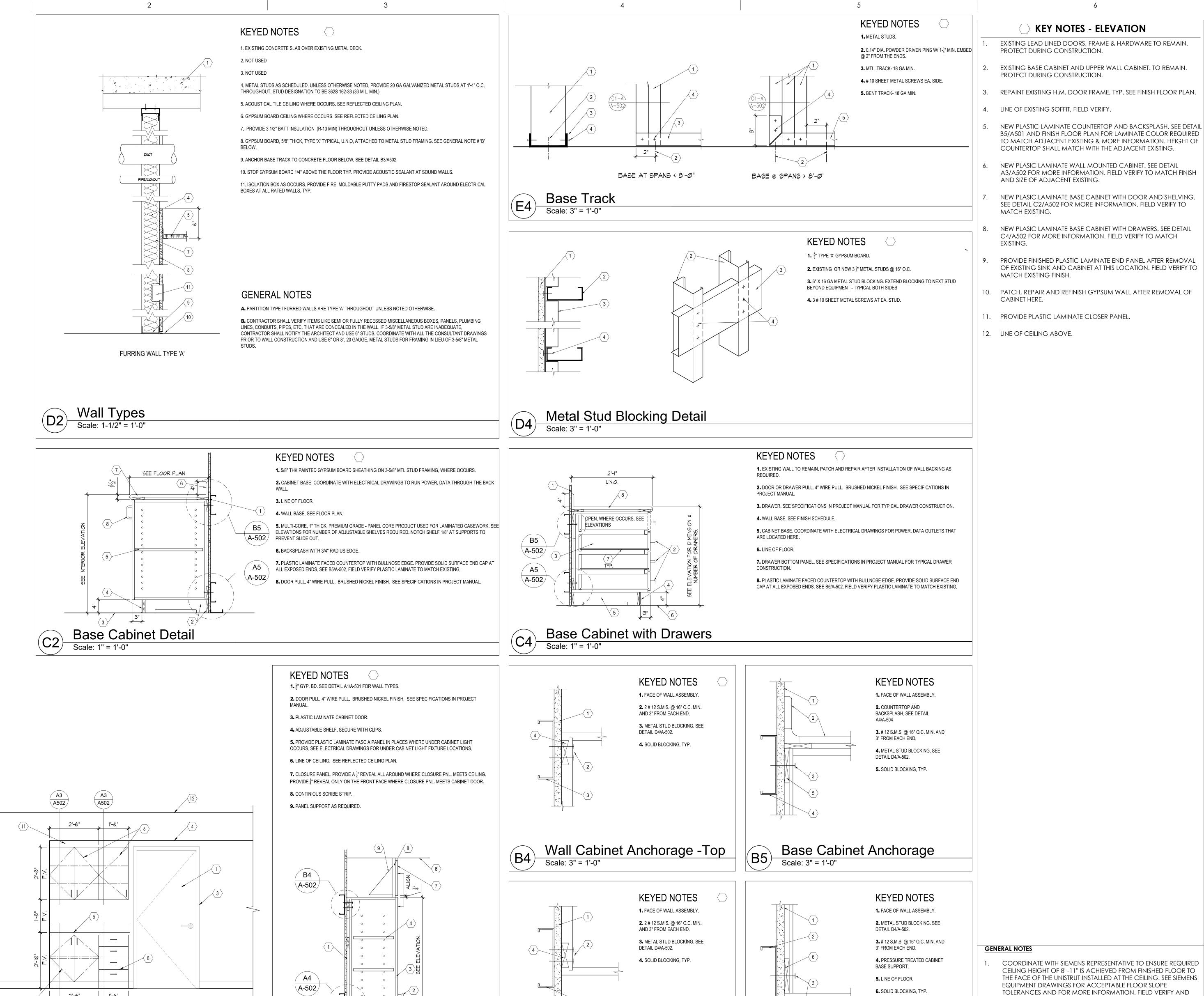
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20205 July 15, 2020 Construction Documents

Details



Wall Cab. Anchorage - Bottom

Scale: 3" = 1'-0"

Base Cabinet Anchorage

Scale: 3" = 1'-0"

2'-6"

C4 A502

1'-4" U.N.O

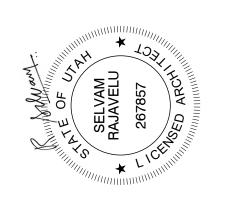
Wall Cabinet

C2 A502

West Wall Elevation

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COORDINATE WITH SIEMENS REPRESENTATIVE TO ENSURE REQUIRED CEILING HEIGHT OF 8'-11" IS ACHIEVED FROM FINISHED FLOOR TO THE FACE OF THE UNISTRUT INSTALLED AT THE CEILING. SEE SIEMENS EQUIPMENT DRAWINGS FOR ACCEPTABLE FLOOR SLOPE TOLERANCES AND FOR MORE INFORMATION. FIELD VERIFY AND COORDINATE WORK BEFORE PROCEEDING.

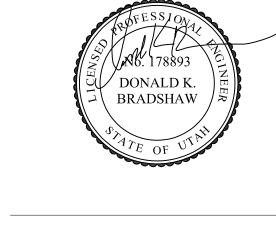
ALL EXPOSED STEEL IN THE WALLS, ABOVE CEILING ETC. ARE REQUIRED TO BE SPRAY APPLIED FIRE PROOFED. SEE CODE COMPLIANCE PLANS FOR FIRE RATINGS THAT IS REQUIRED TO BE MAINTAINED THROUGHOUT THE PROJECT, ANY DAMAGE TO THE EXISTING FIRE PROOFING IS REQUIRED TO BE PATCHED AND REPAIRED WITH COMPATIBLE FIRE PROOFING PRODUCT.

ALL EXISTING MAGNETIC AND LEAD SHIELDING IN THE EXISTING WALLS, FLOOR AND ROOF DECK IS REQUIRED TO BE RETAINED. REPLACE TO MAINTAIN SHIELDING WITH EQUIVALENT SHIELDING TO MATCH ORIGINAL CONDITIONS. IF DAMAGED DURING CONSTRUCTION.

Interior Elevations and Cabinet Details

A502

	NJ2/
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 VBFA Project Number: 20264

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FIXTURE FROM LEVEL ABOVE

MECHANICAL SYMBOLS AND LEGEND

20205

July 15, 2020

			(
SINGLE LINE	DOUBLE LINE		
		POSITIVE PRESSURE DUCT — RISE  POSITIVE PRESSURE DUCT — DROP	
		NEGATIVE PRESSURE DUCT — RISE	
		NEGATIVE PRESSURE DUCT — DROP	
		ROUND DUCT — RISE	
		ROUND DUCT — DROP	
	\(\sigma\)	UNDER FLOOR DUCT	
		TURNING VANES	
	<b>A</b>	FRESH AIR LOUVER	
	<u> </u>	RELIEF AIR OR EXHAUST AIR LOUVER	
	12X12 200	CEILING SUPPLY DIFFUSER	
	20X20 200	CEILING RETURN REGISTER	
	12X12 200	CEILING EXHAUST REGISTER, (BALANCE TO MATCH SUPPLY IF RETURN CFM IS NOT SHOWN)	
<b>─</b>	-\frac{24\text{X10}}{200}	SIDEWALL SUPPLY REGISTER TOP FIGURES INDICATE NECK SIZE. BOTTOM FIGURE INDICATES CFM.	
	24X10, 200	SIDEWALL EXHAUST OR RETURN REGISTER	
~~~~	12X12 200	CEILING SUPPLY DIFFUSER WITH FLEXIBLE DUCT	
	24/24	CEILING RETURN AIR GRILE W/ SOUND BOOT	
	3-1" SLOTS @ 48" 400	LINEAR DIFFUSER WITH PLENUM AND FLEXIBLE DUCT CONNECTION. NO. OF SLOTS ON TOP, ACTIVE LENGTH AND CFM ON BOTTOM	
	<b>}</b>	FLEXIBLE DUCT CONNECTION	
~~~~~	<b> </b>	FLEXIBLE DUCT	
		FAN	
12/8 FO	12/8 F0	FLAT OVAL DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.	
12/8	12/8	RECTANGULAR DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.	
12"ø	\[ 12"\phi \]	ROUND DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.	
	UP	INCLINED RISE  WITH RESPECT TO AIR FLOW  15' NOMINAL INCLINE WITH	
DN	DN	INCLINED DROP RADIUS TURNS=DEPTH OF DUCT.	
	W R	R/W=1. ROUND DUCT SIMILAR TO RECTANGULAR RECTANGULAR TO RECTANGULAR OR ROUND TO ROUND	
12/12 8/8	12/12	DUCT TRANSFORMATION MAXIMUM 15' INCLUDED ANGLE EXCEPT WHERE SHOWN OTHERWISE.	
9/9 > 9"ø	9/9 9"ø 3 R— 7'7	RECTANGULAR TO ROUND DUCT TRANSFORMATION BRANCH DUCT SPLIT WITH 6" WIDTH AND MIN.	
RECT. TO Ø	6 1.50 x 1.250 x	R=WIDTH OF BRANCH DUCT DOWNSTREAM. ELBOW TURNING VANE OPTIONAL.	
RECT ROUND ALL	45' D D D	TAP ENTRY AREA EQUALS 150% OF BRANCH AREA	
		HIGH EFFICIENCY FITTING	
<u> </u>	FD ,	MANUAL VOLUME DAMPER	
IFD I	FSD	FIRE DAMPER IN DUCT, W/ ACCESS PANEL REQD.	
IFSD		COMBINATION FIRE/SMOKE DAMPER W/ ACCESS PANEL	
ISD ATC	SD + ATCL 1	SMOKE DAMPER W/ ACCESS PANEL	
OR	OR	ATC DAMPER	
AD	AD	ACCESS PANEL IN DUCT OR PLENUM	
		HEATING OR COOLING COIL IN DUCT SINGLE DUCT AIR TERMINAL BOX VARIABLE	
~~~	<del>- 1</del>	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
——————————————————————————————————————	LOW PRESSURE CONDENSATE
——— MPC ———	MEDIUM PRESSURE CONDENSATE
——————————————————————————————————————	HIGH PRESSURE CONDENSATE
——————————————————————————————————————	LOW PRESSURE STEAM
——— MPS ———	MEDIUM PRESSURE STEAM
——————————————————————————————————————	HIGH PRESSURE STEAM
——————————————————————————————————————	BOILER BLOW DOWN
——————————————————————————————————————	BOILER FEED WATER
V	VACUUM
	PUMPED CONDENSATE
MUW	MAKE UP WATER
G	NATURAL GAS
—— (E)name ———	EXISTING PIPING
CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
——————————————————————————————————————	CONDENSER WATER SUPPLY
——————————————————————————————————————	CONDENSER WATER RETURN
——————————————————————————————————————	HEATING HOT WATER SUPPLY
——————————————————————————————————————	HEATING HOT WATER RETURN
———— GHR ————	GLYCOL HEAT RECOVERY PIPING
G(NAME)	GLYCOL PIPING SOLUTION
——————————————————————————————————————	LIQUIFIED PETROLEUM GAS
_ <del>×</del> × (NAME) — × ×	EXISTING PIPING TO BE REMOVED
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
———— HG ————	HOT GAS
——F0S——	FUEL OIL SUPPLY
——FOR——	FUEL OIL RETURN
———HFS———	HELICOPTER FUEL SUPPLY
HFR	HELICOPTER FUEL RETURN
CF	CHEMICAL FEED
[S]	SOLENOID VALVE
	EXPANSION JOINT
	ALIGNMENT GUIDE
$\rightarrow$ $\times$ $\times$	DEMOLITION
	AHCHOR
	PRESSURE GAUGE WITH SHUT-OFF COCK
<b>O</b> †	PRESSURE GAUGE WITH PIGTAIL

	<b>─</b>   <b>├</b>	UNION
	GPM     LB/HR.	FLOW METER ORIFICE
		AIR VENT-MANUAL
		AIR VENT—AUTO
	<u> </u>	FLOW SWITCH
		TEMPERATURE AND PRESSURE TEST PORT
		PRESSURE SWITCH
_	RPBP	REDUCED PRESSURE BACKFLOW PREVENTOR
		W/ DRAIN PAN PRESSURE REDUCING, SELF CONTAINED VALVE
		PRESSURE REDUCING, EXTERNAL PRESSURE VALVE
-	— <u></u>	BALL VALVE (PIPE SIZES 2" AND SMALLER) BUTTERFLY VALVE (PIPE SIZES 2-1/2" AND LARGER)
		CHECK VALVE
		MOTOR OPERATED BUTTERFLY VALVE
		GAS COCK
		RELIEF VALVE
	<del></del>	GATE VALVE
	-\\$\_	ATC VALVE - 2 WAY
	C D	ATC VALVE - 3 WAY
	7	GLOBE VALVE
_	GPM -	FLOW CONTROL VALVE
_		CALIBRATED BALANCING VALVE
_		SHUT-OFF COCK FOR USE WITH PRESSURE GAUGE
		PUMP
		FLEXIBLE CONNECTION
		FLOW METER
		90° ELBOW
		45° ELBOW
		REDUCER
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		LATERAL STRAINER WITH BLOW—OFF VALVE, PROVIDE HOSE END WITH CAP
		WHERE DISCHARGE IS NOT PIPED TO  DRAIN THERMOMETER 0-100'F
		THERMOSTAT
		NIGHT THERMOSTAT
		SENSOR
	F&T	STEAM TRAP, F&T=FLOAT & THERMOSTATIC
		B=BUCKET, T=THERMOSTATIC  DUCT SMOKE DETECTOR
	SD	ARROW INDICATES DIRECTION OF FLOW IN PIPE
	DN	LEADER INDICATES DOWNWARD SLOPE
		PIPE INTO PLANE
	<u></u>	PIPE OUT OF PLANE
		PIPE BRANCH - IN TO PLANE
		PIPE BRANCH - OUT OF PLANE
	į l	L S OUT OF TEMPLE

NRS GATE VALVE WITH SUPERVISION FLOW SWITCH KHO HOSE VALVE ROOF DRAIN ROOF DRAIN OVERFLOW ------ RDO ------CLEAN-OUT <del>-----|</del>| FLOOR CLEAN—OUT OR CLEAN—OUT TO GRADE ——ф VENT THRU ROOF o VTR DOMESTIC COLD WATER (DCW) \_\_\_\_\_ DOMESTIC HOT WATER (DHW) DOMESTIC HOT WATER RETURN (DHWR) \_\_\_\_\_ SEWER (BELOW GRADE) SEWER (ABOVE GRADE) VENT (SEWER) PLUMBING FIXTURES <u>P-1</u> POINT OF CONNECTION SECTION TAG — TOP FIGURE IS SECTION NO. BOTTOM FIGURE IS SHEET NO.  $1 \over M1-1$ DETAIL TAG — TOP FIGURE IS DETAIL NO. BOTTOM FIGURE IS SHEET NO. EQUIPMENT IDENTIFICATION KEYED NOTE IDENTIFICATION SOFT DOMESTIC WATER (SW) ----- SW -----ACID WASTE ----- AW -----ACID VENT ----- AV-----HIGH PRESSURE DOMESTIC WATER ——— HP(NAME) ——— REVERSE OSMOSIS WATER SUPPLY ------ RO ------REVERSE OSMOSIS WATER RETURN ------ ROR ------MEDICAL OXYGEN \_\_\_\_\_ OX \_\_\_\_\_ ——— OX 120 —— MEDICAL AIR ----- MA -----MEDICAL AIR AT PRESSURE INDICATED ——— MA 120—— MEDICAL VACUUM ----- MV -----NITROGEN ——— N ———— NITROUS OXIDE ----- N20 -----CARBON DIOXIDE ——— CO2 ——— INSTRUMENT AIR ——— IA ———— INSTRUMENT AIR AT PRESSURE INDICATED ——— IA 120—— COMPRESSED AIR ----- CA -----LAB AIR ——— LA ——— LAB VACUUM

₹ | | |

MEDICAL OXYGEN AT PRESSURE INDICATED

PIPE BRANCH - OUT OF PLANE

\_\_\_

PIPE BRANCH - IN PLANE

#### MEDICAL GAS GENERAL NOTES

- 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**
- PIPING BEING DISCONNECTED AND REMOVED SHALL BE REMOVED BACK TO AN ACTIVE MAIN. NO DEAD LEGS SHALL BE ALLOWED.

## FIRE PROTECTION GENERAL NOTES

- CONTRACTOR SHALL REMOVE AND REROUTE ALL FIRE SUPPRESSION PIPING AS NECESSARY TO ACCOMODATE ROUTING OF MECHANICAL DUCTWORK AND PIPE, PLUMBING LINES, ESPECIALLY WASTE AND VENT PIPING, AND OTHER DISCIPLINES AS NECESSARY TO COMPLETE THE
- 2. 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.
- 3. ALL WORK DONE SHALL BE PERFORMED WITH WATER CONTROL IN MIND. CONTAINMENT OF WATER IS NECESSARY TO PREVENT WATER FROM DAMAGING SURROUNDING AREA.
- 4. 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.
- 5. ALL NEW SPRINKLERS ARE TO BE QUICK RESPONSE, FLAT PLATE CONCEALED WITH A WHITE COVER PLATE. CLEAN ROOM SPRINKLERS ARE TO BE LISTED FOR USE IN CLEAN ROOMS.

#### 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.
- 6. COORDINATE FAN ROOM FLOOR DRAIN AND FLOOR SINK LOCATIONS WITH COOLING COIL, EVAPORATIVE SECTION, AND HEATING COIL LOCATIONS.
- 7. CONTRACTOR TO PROVIDE VALVE IDENTIFICATION AND LOCATION ON ALL CEILING TILES WHERE VALVES ARE LOCATED.
- 8. 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.

9. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE MOUNTING

- HEIGHTS, DIMENSIONS, AND OTHER REQUIREMENTS. 10. CONTRACTOR TO VERIFY CONNECTION SIDE OF ADA FIXTURES AND ADJUST ACCORDINGLY. INSTALL FLUSH VALVES HANDLES ON WIDE SIDE OF
- 11. LOCATE ALL VENTS MINIMUM 25' AWAY FROM AIR INTAKES.

ALL FIXTURES.

- INSTALL ALL DOMESTIC WATER LINES BELOW DUCTWORK.
- 13. INSTALL A 24" X 24" ACCESS DOOR BELOW ALL ISOLATION VALVES, BALANCING VALVES AND WATER HAMMER ARRESTORS WHERE MOUNTED ABOVE HARD CEILINGS.
- 14. MOUNT ALL ISOLATION VALVES, CONTROL VALVES, BALANCING VALVES, ETC. NEAR CEILING HEIGHT FOR ACCESSIBILITY.
- 15. INSTALL ALL EQUIPMENT WITH SUFFICIENT CLEARANCE FOR MAINTENANCE PER MANUFACTURERS RECOMMENDATION.
- 16. COORDINATE ALL FLOOR PENETRATIONS WITH STRUCTURAL AND PROVIDE SLEEVES AS NECESSARY.
- 17. COORDINATE EXACT LOCATION OF PLUMBING WITH STRUCTURAL MEMBERS, LIGHTS, REFLECTED CEILING, CABLE TRAY, DUCTWORK, MECHANICAL PIPING, MEDICAL GASES, FIRE PROTECTION AND OTHER TRADES, TYPICAL.
- 18. COORDINATE THE LOCATION OF THE FLOOR DRAIN. SHOWER DRAIN. OR FLOOR SINK WITH ARCHITECTURAL AND STRUCTURAL, TYPICAL.
- 19. ACCESS DOORS SHALL BE PROVIDED TO ALL WATER HAMMER ARRESTORS IN WALLS OR ABOVE CEILINGS.
- 20. SEE PLUMBING FIXTURE SCHEDULE FOR PIPE SIZES OF WASTE, VENT AND DOMESTIC WATER TO/FROM SINGLE FIXTURE.
- 21. HOSE BIBBS SHOWN AT LAVATORIES ARE TO BE MOUNTED AT AN ACCESSIBLE LOCATION UNDER THE LAVATORY.
- 22. 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.
- 23. LOCATE CIRCUIT SETTERS, VALVES, WATER HAMMER ARRESTORS, ETC. IN ACCESSIBLE LOCATIONS. PROVIDE 24"X24" ACCESS PANEL WHERE ITEM IS LOCATED ABOVE A HARD CEILING.
- 24. ALL PIPE AND DUCT SIZES SHALL REMAIN THE SAME SIZE SHOWN, IN THE DIRECTION OF FLOW, UNTIL SHOWN OTHERWISE.
- 25. 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.

BACK TO AN ACTIVE MAIN. NO DEAD LEGS SHALL BE ALLOWED.

26. PIPING BEING DISCONNECTED AND REMOVED SHALL BE REMOVED

### MECHANICAL PIPING GENERAL NOTES

- 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
- 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.
- SLEEVE PIPING THRU WALLS/FOUNDATIONS WHERE REQUIRED.
- 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.

THE DIRECTION OF FLOW, UNTIL SHOWN OTHERWISE.

- 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
- 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.
- 15. PIPING BEING DISCONNECTED AND REMOVED SHALL BE REMOVED BACK TO AN ACTIVE MAIN. NO DEAD LEGS SHALL BE ALLOWED.

## MECHANICAL GENERAL NOTES

- COORDINATE EXACT PLACEMENT OF DIFFUSERS, GRILLES, AND REGISTERS WITH ARCHITECTURAL REFLECTED CEILING PLAN, TYPICAL.
- SEE DETAIL FOR DIFFUSER CONNECTIONS TO DUCTWORK, TYPICAL.
- BRANCH DUCTWORK SHALL BE SIZED TO MATCH THE NECK INLET SIZE OF THE DIFFUSERS, REGISTER OR GRILLE IT SERVES UNLESS NOTED OTHERWISE, TYPICAL.
- 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.
- 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
- 13. PROVIDE AND INSTALL HIGH EFFICIENCY OR CONICAL TAKE-OFFS AT ALL BRANCH CONNECTIONS TO MEDIUM PRESSURE DUCTWORK.

DUCTWORK.

CONDITIONS.

- 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.

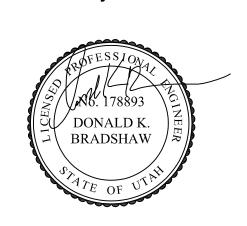
- 21. ALL DUCTWORK ABOVE HARD CEILINGS SHALL BE EXTENDED ALL THE WAY TO THE SUPPLY DIFFUSERS, RETURN GRILLS OR EXHAUST GRILLS WHETHER OR NOT HARD DUCT OR FLEX DUCT IS SHOWN ON PLANS. FLEX DUCT WILL NOT BE ALLOWED TO DIFFUSERS OR GRILLS ABOVE HARD
- 22. NEW DUCTWORK, PIPING AND EQUIPMENT SHALL BE COORDINATED 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

CEILINGS. FLEX DUCT WILL BE REQUIRED IN AREAS ABOVE T-BAR CEILINGS.

- 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.
- 25. UNLESS NOTED OTHERWISE, SUPPLY DIFFUSERS SHALL BE OF THE CD-1 TYPE, RETURN GRILLS SHALL BE OF THE RG-1 TYPE AND EXHAUST GRILLS SHALL BE OF THE EG-1 TYPE. REFER TO DIFFUSER SCHEDULE.



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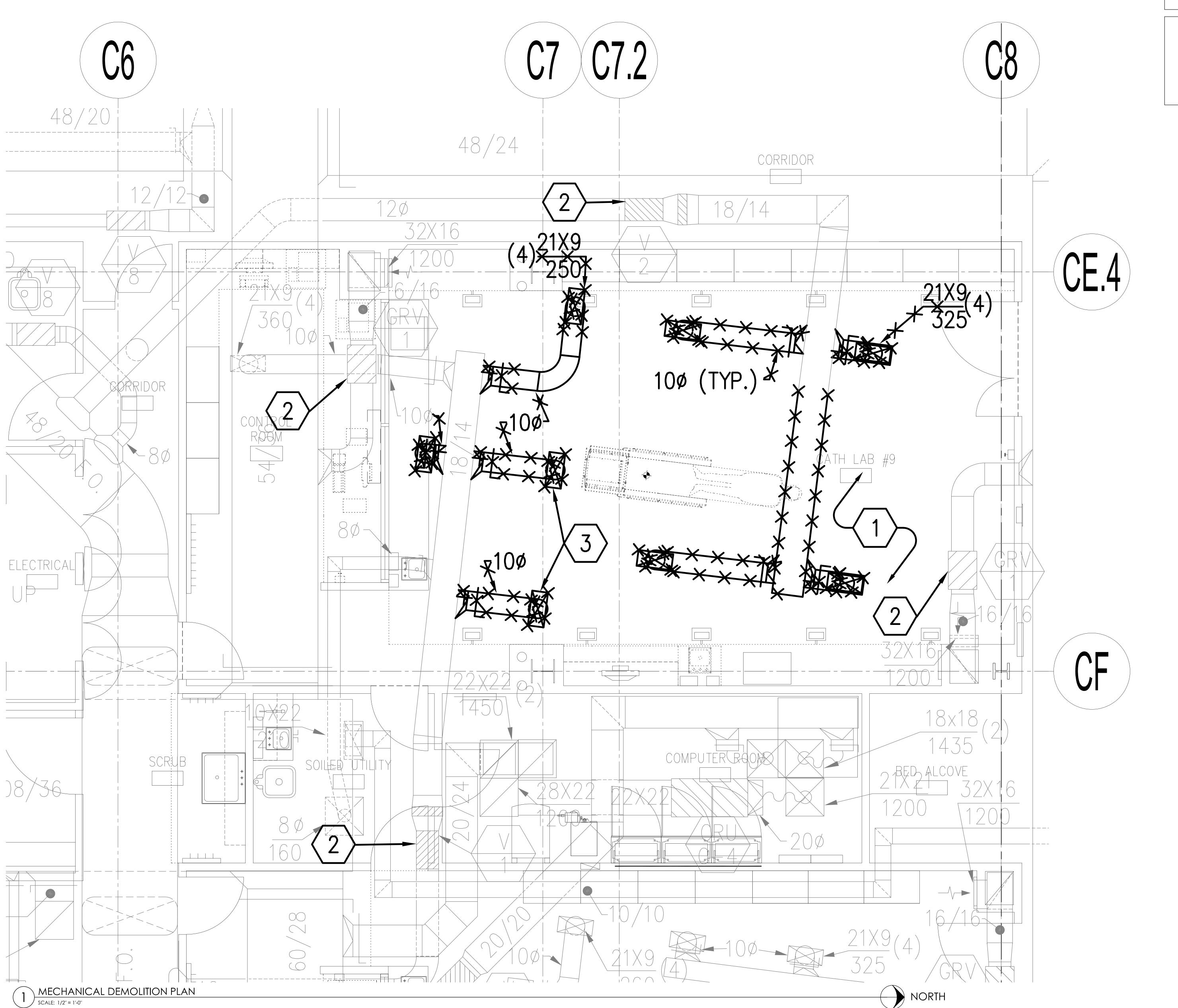
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NJRA Project # July 15, 2020 Construction Documents

20205

MECHANICAL GENERAL NOTES



**#** KEYED NOTES

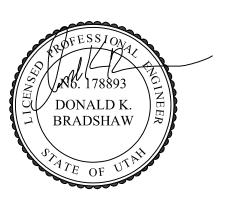
1. EXISTING SHOWN LIGHT TO REMAIN. ITEMS CROSSED OUT TO BE REMOVED. CAP ALL UNUSED DUCTWORK. FIELD VERIFY EXISTING CONDITIONS. TYPICAL.

2. EXISTING VAV BOX TO REMAIN. CLEAN PRESSURE DIFFERENTIAL/AIR FLOW SENSORS AND CHECK BOX FUNCTIONALITY. FIELD VERIFY EXISTING CONDITIONS.

 REMOVE EXISTING DIFFUSERS. CLEAN. KEEP FOR REINSTALLATION IN NEW CEILING. TYPICAL.



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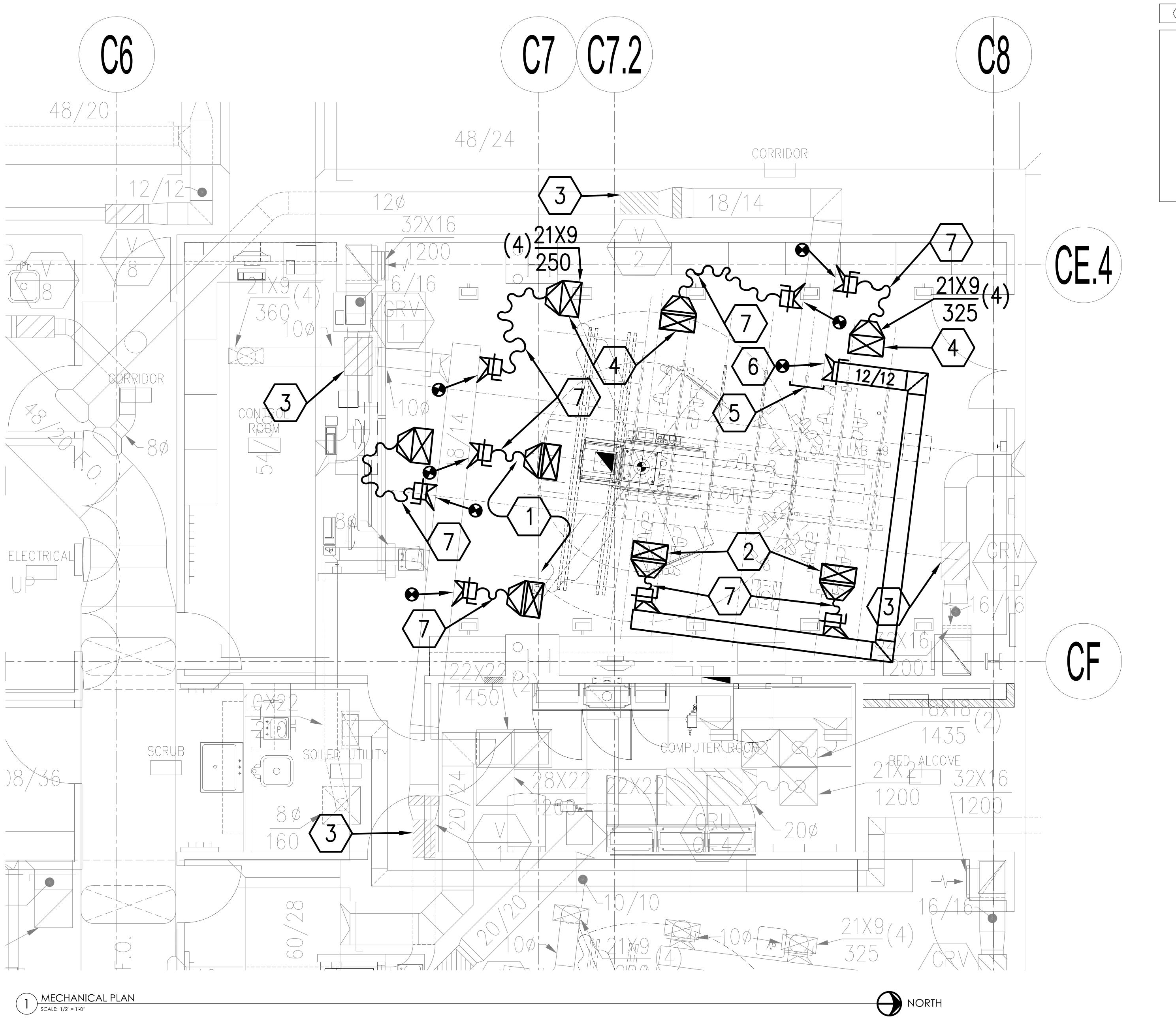
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ntermountain Healthcare MC- Cath Lab 9 Remodel Project

Construction Documents

MECHANICAL
DEMOLITION PLAN

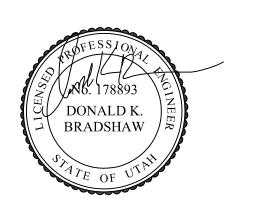


## # KEYED NOTES

- EXISTING SHOWN LIGHT TO REMAIN. NEW WORK SHOWN DARK. FIELD VERIFY EXISTING CONDITIONS. TYPICAL.
- 2. CLEAN AND REINSTALL EXISTING DIFFUSERS. TYPICAL.
- 3. EXISTING VAV BOX TO REMAIN. CLEAN PRESSURE DIFFERENTIAL/AIR FLOW SENSORS AND CHECK BOX FUNCTIONALITY. FIELD VERIFY EXISTING CONDITIONS.
- 4. REBALANCE EXISTING DIFFUSERS TO CFM SHOWN. TYPICAL.
- 5. CAP EXISTING SUPPLY DUCT.
- 6. CONNECT TO EXISTING DUCT AT APPROXIMATELY THIS
- 7. INSTALL 10"Ø FLEXIBLE DUCT FROM MAIN LOW PRESSURE SUPPLY DUCT. ROUTE AS NECESSARY TO ACCOMMODATE AT LEAST 7 FT OF FLEXIBLE DUCT TO EACH DIFFUSER FOR NOISE REDUCTION. PROVIDE ROUND TO RECTANGULAR TRANSITION TO 21/9 DUCT. INSTALL 90 DEGREE TRANSITION AND DROP INTO DIFFUSER. CLEAN AND REINSTALL EXISTING DIFFUSERS.



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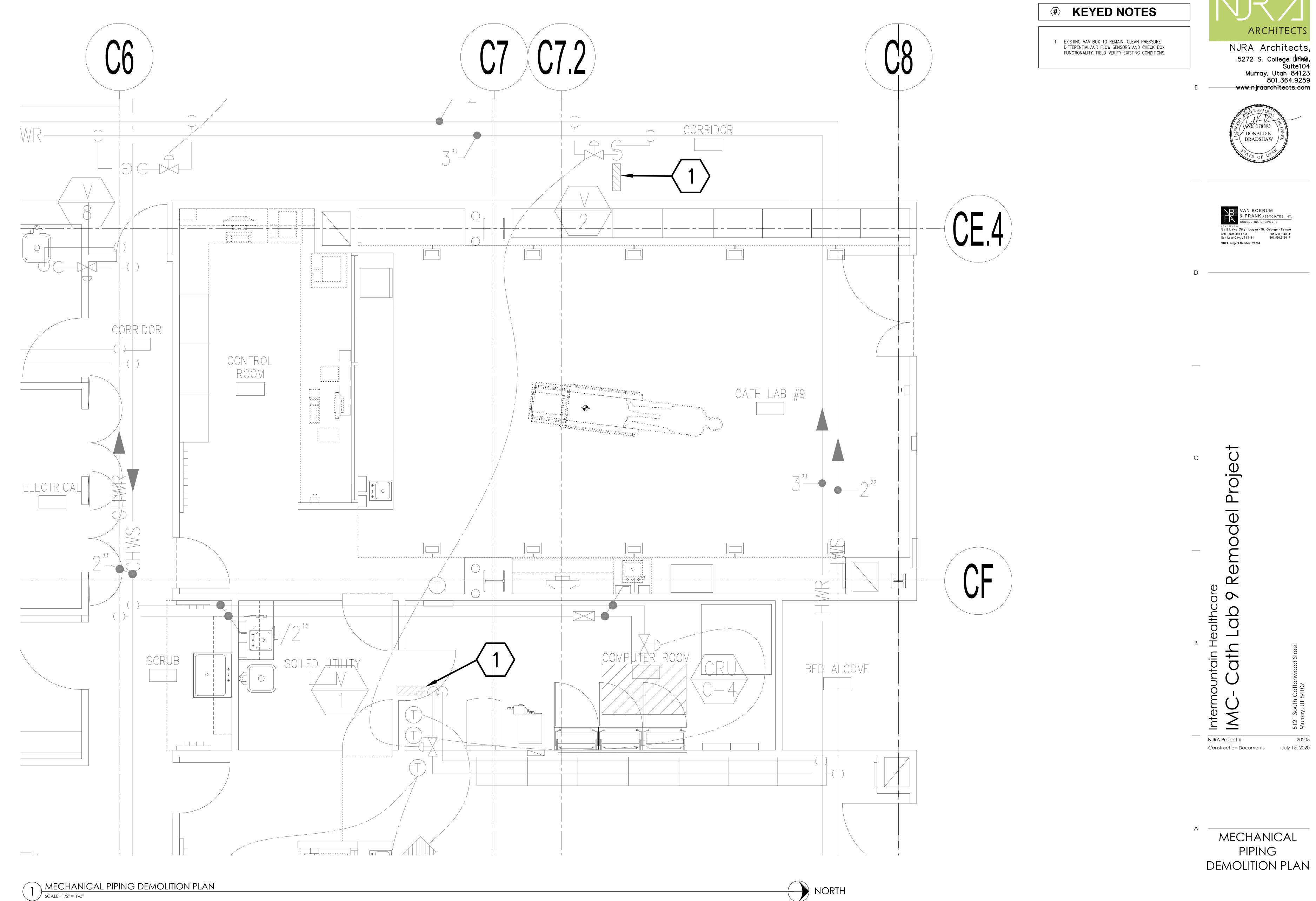
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Intermountain Healthcare

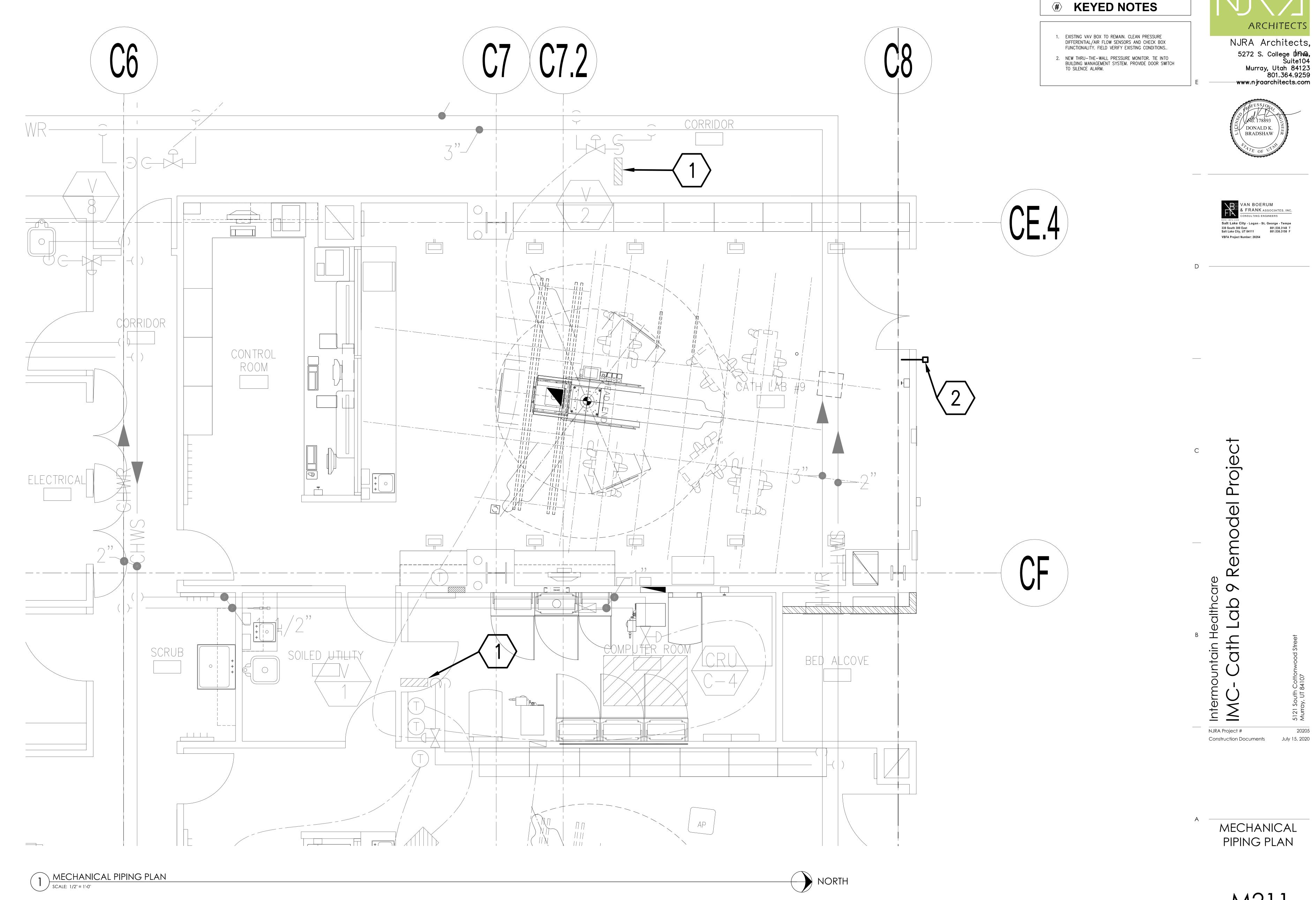
| MC- Cath Lab 9 Remodel Project |

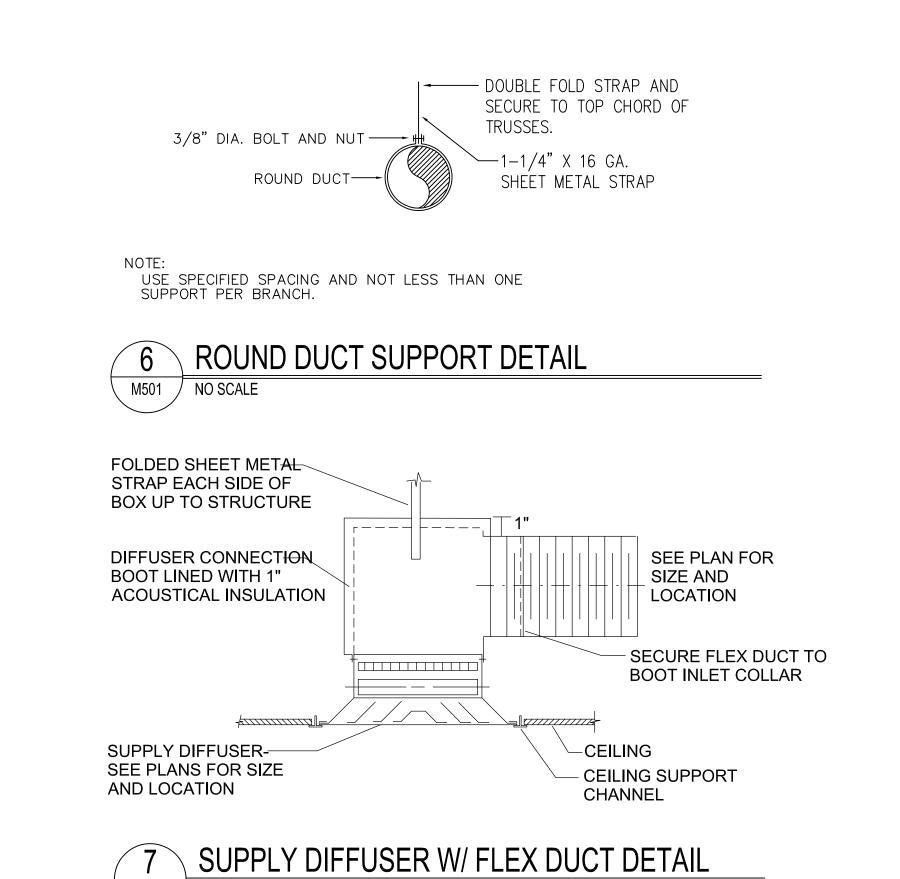
MECHANICAL PLAN

Construction Documents

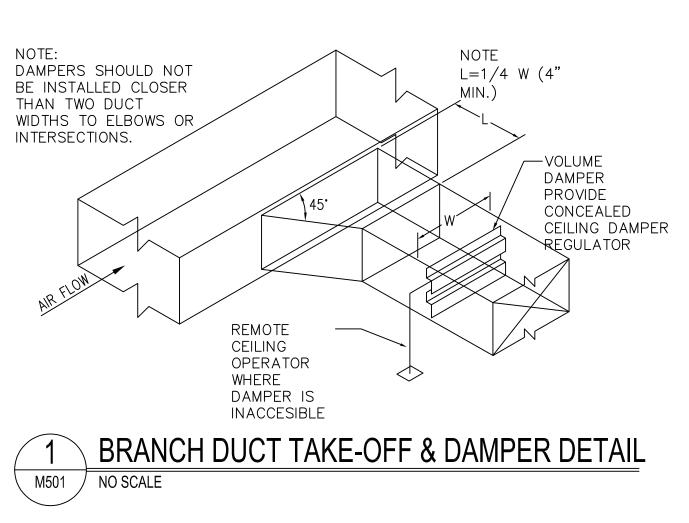


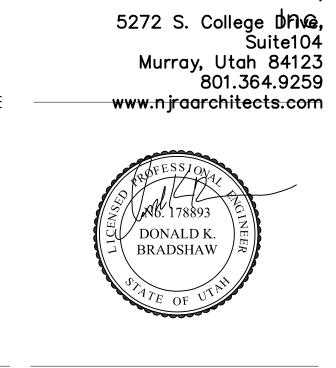
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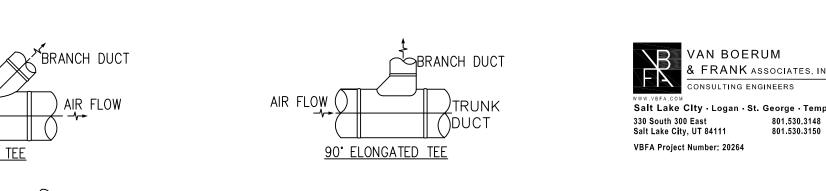
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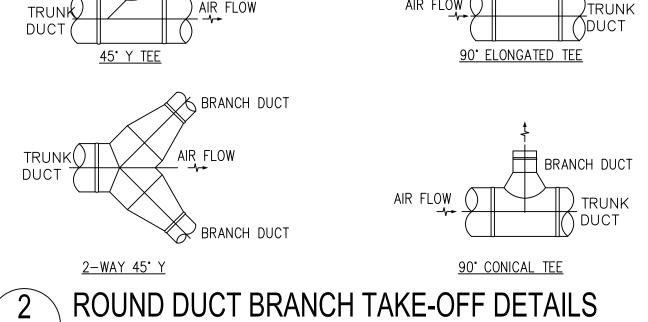


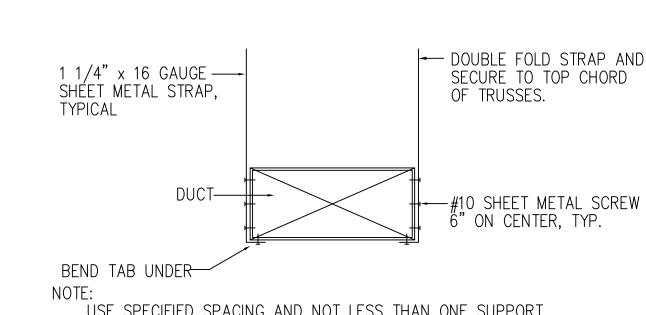
ARCHITECTS

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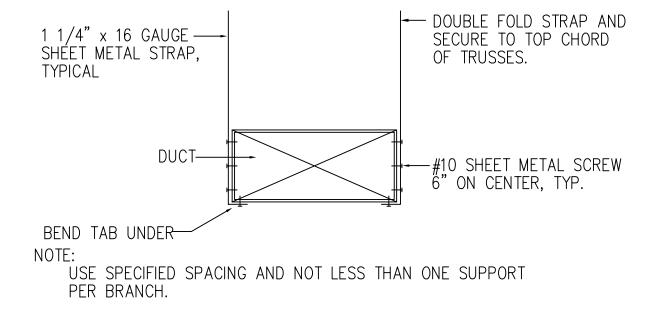




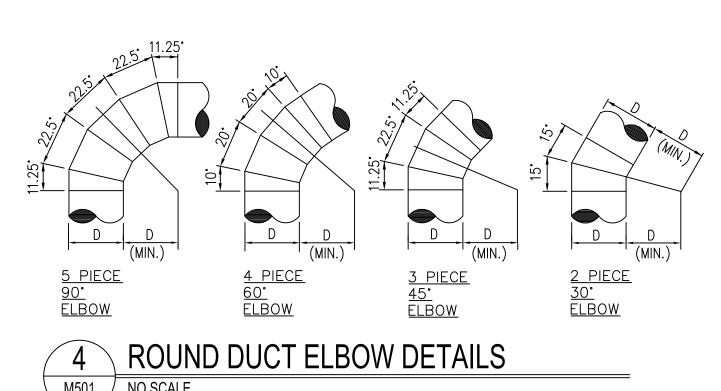


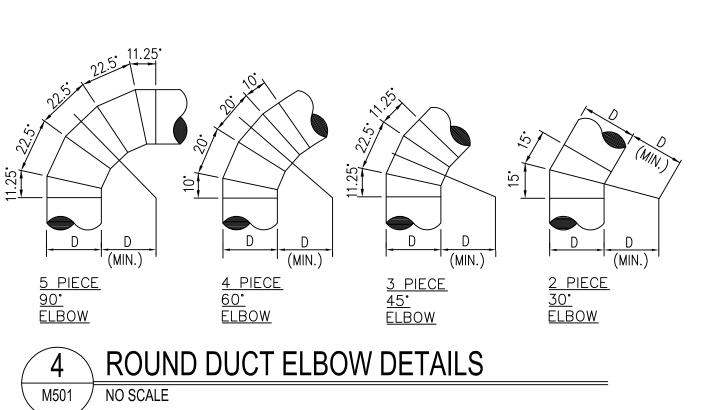


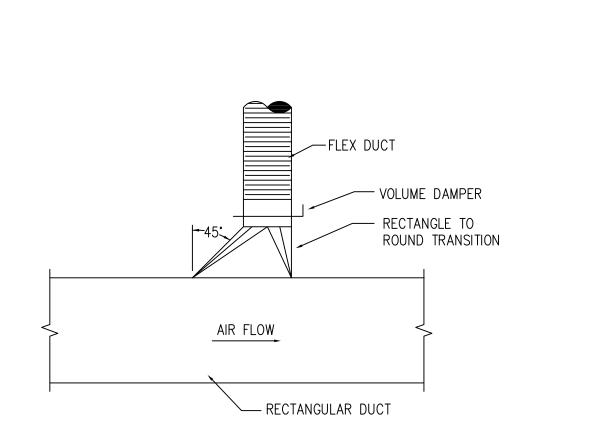
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MECHANICAL DETAILS

NJRA Project #

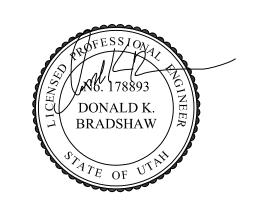
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July 15, 2020

- VERIFY FUNCTIONALITY OF SINK. CLEAN ALL FITTINGS
   AND SURFACES.
- REMOVE WATER LINES IN WALL AND CAP AT NEAREST ACTIVE BRANCH. CAP WASTE AT THE WALL AND LEAVE THE WASTE AND VENT IN THE WALL.





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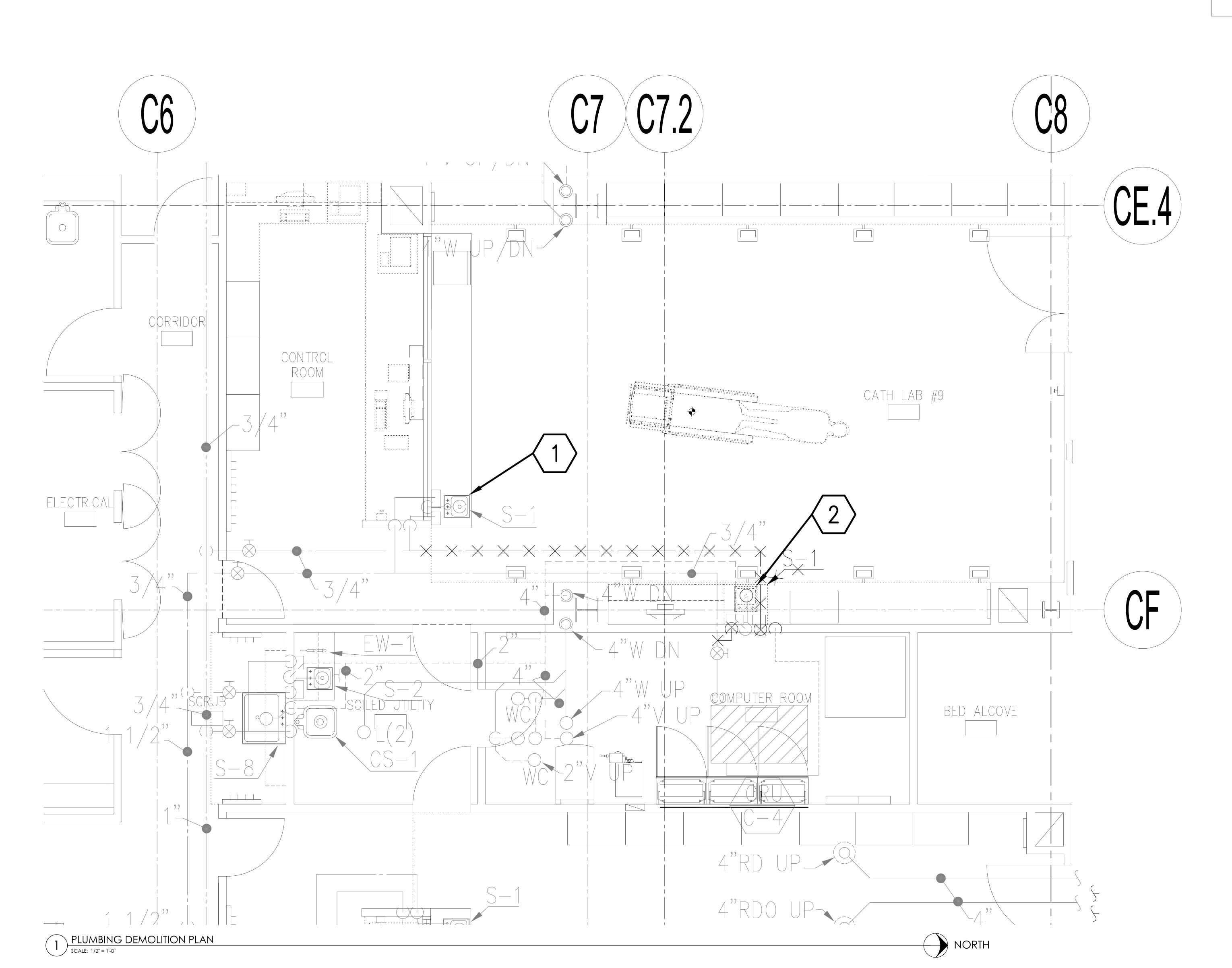
Intermountain Healthcare IMC- Cath Lab 9 Remodel Project

PLUMBING DEMOLITION PLAN

NJRA Project #

Construction Documents

P101



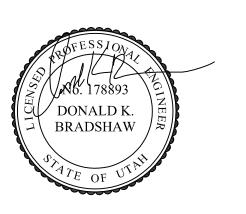
1 5

## **#** KEYED NOTES

- VERIFY FUNCTIONALITY OF SINK. CLEAN ALL FITTINGS AND SURFACES.
- REPLACE EXISTING SPRINKLER HEADS WITH SPACING PER NFPA 13 STANDARDS. REMOVE AND REROUTE SPRINKLER PIPING AS NECESSARY TO ACCOMMODATE OTHER DISCIPLINES.
- REROUTE CONDENSATE LINE TO CLINIC SINK CS-1 IN SOILED UTILITY ROOM.
- 4. ROUTE CONDENSATE LINE DOWN WALL AND DISCHARGE INTO CLINIC SINK.



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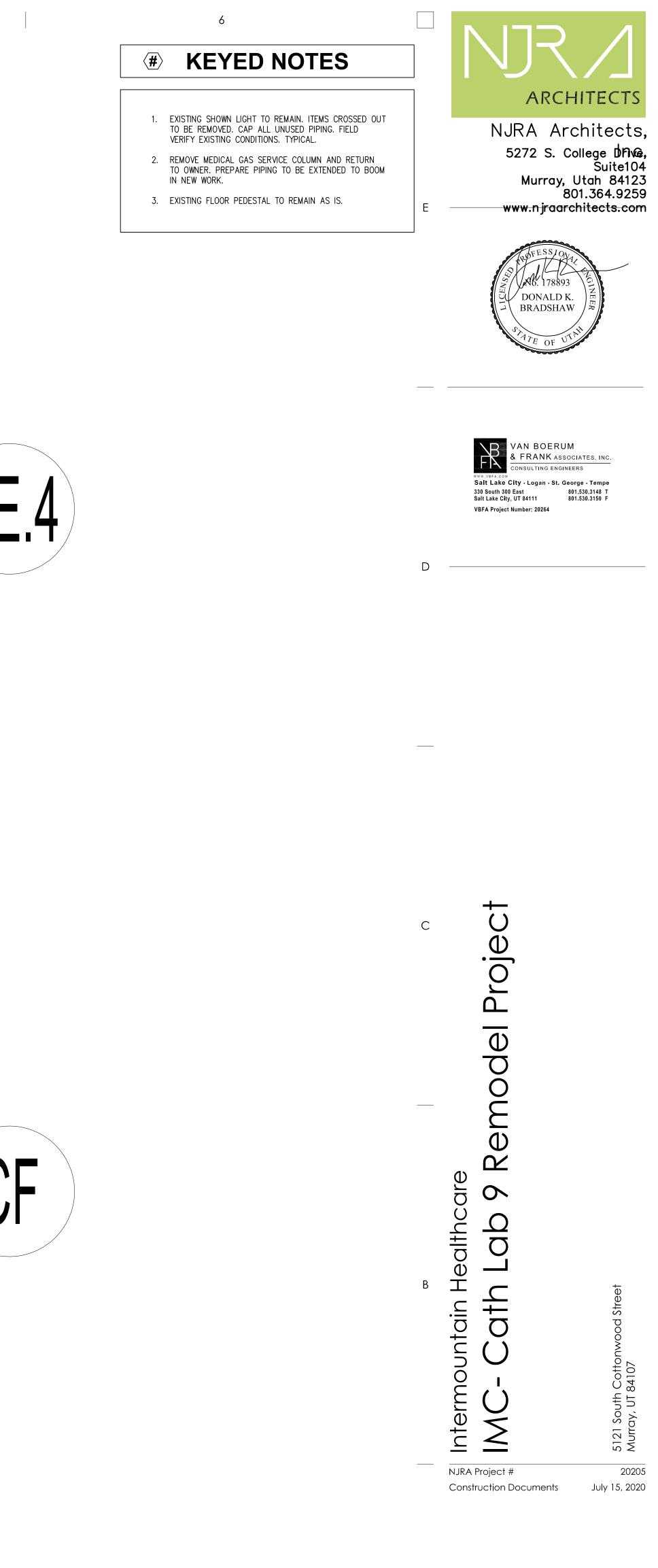
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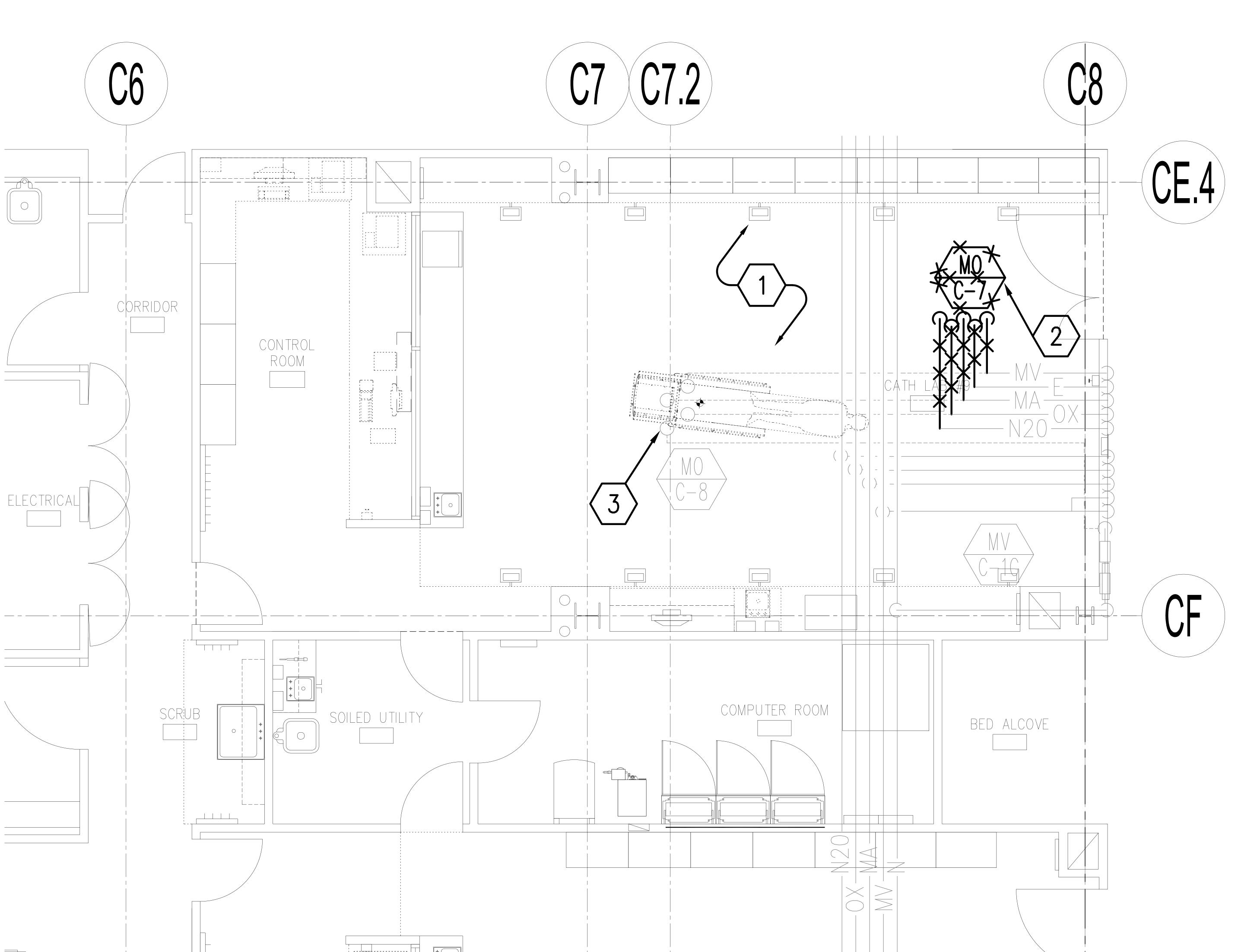
PLUMBING PLAN

P111



MED GAS DEMOLITION PLAN

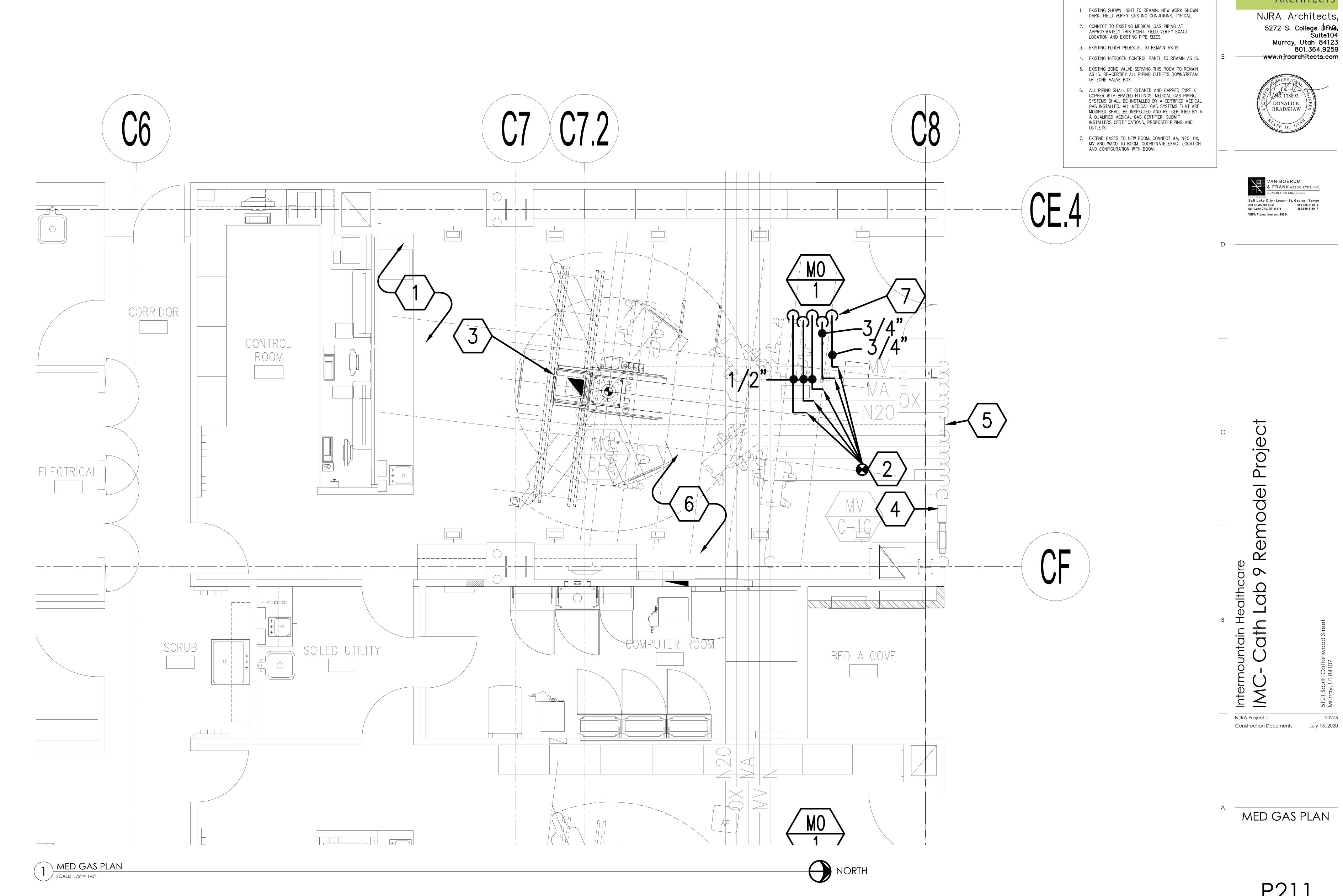
P201



MED GAS DEMOLITION PLAN

SCALE: 1/2" = 1'-0"

NORTH



1 5

**#** KEYED NOTES

ARCHITECTS

P211

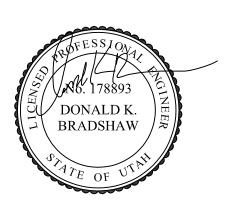
<u> </u>	MEDICAL GAS OUTLETS SCHEDULE																					
# OF OUTLETS						_																
SYMBOL	ROOM TYPE	ОХ	MA	MV	N	N20	CO2	MA100	OX120	MA120	WAGD	OX	MA	MV	N	N20	CO2	MA100	OX120	MA120	WAGD	REMARKS
MO-1	CATH LAB BOOM	2	2	2		1					1	1/2"	1/2"	3/4"		1/2"					3/4"	1,2

1. DISS OUTLETS WITH KEYCHAIN RETRACTORS AND 6-FOOT HOSES

2. BOOM MOUNTED OUTLETS



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Intermountain Healthcare IMC- Cath Lab 9 Remodel Project

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PLUMBING SCHEDULES

20205

July 15, 2020

P501

	SYMBOLS LEGEND			SYMBOLS LEGEND
SYMBOL	DESCRIPTION		SYMBOL	
	CE AND LINE SYMBOLS		IRING DE	EVICES
01 A5	DETAIL INDICATOR: A5 INDICATES DETAIL NUMBER, E-501	02	Ф	RECEPTACLE, DUPLEX: NEMA 5-20R.
E-501	INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.	03	∯ <sub>A</sub>	RECEPTACLE, DUPLEX, ABOVE COUNTER: NEMA 5-20R.
02 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.	05	Фъ	RECEPTACLE, DUPLEX, DEDICATED CIRCUIT: NEMA 5-20R.  RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, DRINKING FOUNTAIN: CONCEAL WATER COOLER RECEPTACLE BEHIND WATER COOLER. SEE MECHANICAL/PLUMBING SHOP DRAWINGS FOR INSTALLATION REQUIREMENTS.
03 A5	ELEVATION OR SECTION INDICATOR, INTERIOR: A5 INDICATES ELEVATION OR SECTION NUMBER, E-201 INDICATES DRAWING	12	•	RECEPTACLE, DUPLEX, HOSPITAL GRADE: NEMA 5-20R.
E-201	SHEET WHERE ELEVATION OR SECTION IS SHOWN.	13	<u> </u>	RECEPTACLE, DUPLEX ON EMERGENCY POWER: NEMA 5-20R.
04 100	ROOM IDENTIFIER WITH ROOM NAME AND NUMBER.	16	<b>b</b>	RECEPTACLE, DUPLEX, HOSPITAL GRADE ON EMERGENCY POWER: NEMA 5-20R.  RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT
06 ^	KEYNOTE INDICATOR.	17	<u> </u>	INTERRUPTER: NEMA 5-20R.  RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT
09 A	REVISION INDICATOR.	18	<b>—</b>	INTERRUPTER, HOSPITAL GRADE: NEMA 5-20R.
10	BREAK, STRAIGHT: TO BREAK PARTS OF DRAWING		<b>#</b>	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, HOSPITAL GRADE ON EMERGENCY POWER: NEMA 5-20R.
12	BREAK, ROUND	19	Ш	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT
13	NEW LINE: MEDIUM LINE.	22	<u> </u>	INTERRUPTER, WEATHERPROOF: NEMA 5-20R.
14	HIDDEN FEATURES LINE: HIDDEN, THIN LINE	23	<del></del>	RECEPTACLE, QUADRAPLEX: NEMA 5-20R.  RECEPTACLE, QUADRAPLEX ON EMERGENCY
15	EXISTING TO REMAIN LINE: THIN LINE.	24	<u>+</u>	POWER: NEMA 5-20R.
00	DEMOLITION LINE: DASHED, MEDIUM LINE	25	<u> </u>	RECEPTACLE, QUADRAPLEX, HOSPITAL GRADE: NEMA 5-20R.  RECEPTACLE, QUADRAPLEX, HOSPITAL GRADE ON EMERGENCY
WIRING ME		27	<u> </u>	POWER: NEMA 5-20R.  RECEPTACLE, QUADRAPLEX WITH GROUND FAULT CIRCUIT
04	WIRING.	28	<del></del>	INTERRUPTER: NEMA 5-20R.  RECEPTACLE, SPECIAL PURPOSE. PROVIDE RECEPTACLE TO
	BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS.	29	Φ	MATCH EQUIPMENT PLUG.  RECEPTACLE, SPECIAL PURPOSE ON EMERGENCY POWER.
A-1,3,5	USE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN THE	33	•	PROVIDE RECEPTACLE TO MATCH EQUIPMENT PLUG.
05	ELECTRICAL SPECIFICATIONS.	34		MULTI-OUTLET ASSEMBLY: NEMA 5-20R.
	BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND	36	(D)	DROP CORD. SEE DETAIL.
A-1,3,5	NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. NUMBER IN BOX REFERS TO THE CONDUCTOR AND CONDUIT SCHEDULE. FOR BRANCH WIRING USE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN THE ELECTRICAL	37	FB#	FLUSH FLOOR BOX. "#" SHOWN ON DRAWINGS. REFER TO WIRING DEVICE SCHEDULE IN THE ELECTRICAL SPECIFICATIONS FOR CONFIGURATION AND DEVICES.
07	SPECIFICATIONS.  FLEXIBLE WIRING.		PP#	POWER POLE. "#" SHOWN ON DRAWINGS. REFER TO WIRING DEVICE SCHEDULE IN THE ELECTRICAL SPECIFICATIONS FOR CONFIGURATION AND DEVICES.
08	WIRING AND/OR RACEWAY: THIN LINE. WHERE "X" = :  CATV = CABLE TELEVISION NC = NURSE CALL CCTV = CLOSED CIRCUIT P = POWER	38	PT#	FLUSH FIRE RATED POKE THRU. "#" SHOWN ON DRAWINGS. REFER TO WIRING DEVICE SCHEDULE IN THE ELECTRICAL SPECIFICATIONS FOR CONFIGURATION AND DEVICES.
x	TELEVISION RC = RIGID CONDUIT  FA = FIRE ALARM S = SOUND  FO = FIBER OPTICS T = TELEPHONE	39	ф	SWITCH, DIMMER.
	FO = FIBER OPTICS T = TELEPHONE I = INTERCOM TV = TELEVISION	40	* *	SWITCH, SINGLE POLE ("x" INDICATES FIXTURES CONTROLLED).
	OTHERS AS NOTED IN OTHER SCHEDULES. RACEWAYS AND WIRING SHALL BE SIZED AS SHOWN AND/OR SPECIFIED.	41	X \$2	SWITCH, DOUBLE POLE ("x" INDICATES FIXTURES CONTROLLED).
09	LOW VOLTAGE WIRING: DIVIDE, MEDIUM LINE.	42	X \$3	SWITCH, THREE-WAY ("x" INDICATES FIXTURES CONTROLLED).
10	CONDUIT STUB. DIMENSION RECORD DRAWINGS AND MARK.	43	X \$4	SWITCH, FOUR-WAY ("x" INDICATES FIXTURES CONTROLLED).
11 (1)	CONDUCTOR & CONDUIT ("CC") SCHEDULE INDICATOR. REFER TO ONE-LINE DIAGRAM.	44	 \$DS	SWITCH, DOOR.
12 (HC)	ADA ACCESS PUSH PLATE	47	 \$м	SWITCH, MOMENTARY.
13 <b>D</b>	JUNCTION BOX.	53	•	RECEPTACLE, QUADRAPLEX WITH GROUND FAULT CIRCUIT
	CABLE TRAY ABOVE ACCESSIBLE CEILING.	54	₩	INTERRUPTER, HOSPITAL GRADE: NEMA 5-20R.  RECEPTACLE, QUADRAPLEX WITH GROUND FAULT CIRCUIT
21	EARTH GROUND (ONE-LINE DIAGRAM).		•	INTERRUPTER, HOSPITAL GRADE ON EMERGENCY POWER: NEMA 5-20R.
22	JUNCTION BOX, CEILING.	56	<u> </u>	RECEPTACLE, SINGLE PLEX, WITH USB OUTLET
23	LADDER RACK.	00 <u>.</u> S		LED CABLING IHC
25	MECHANICAL EQUIPMENT CONNECTION. REFER TO EQUIPMENT SCHEDULE FOR REQUIREMENTS.	01	$\nabla$	IHC COMMUNICATIONS DEVICE (1 DATA).
00 LIGHTING (	REFER TO FIXTURE SCHEDULE FOR SYMBOLS)	02	₩	IHC COMMUNICATIONS DEVICE (1 DATA / 1 ANALOG).
01 (W-3)	FINAL IDE IDENTIFICATION (AV. O) INDICATES FINAL IDE TARE AS	03	₹	IHC COMMUNICATIONS DEVICE (1 DATA WALL PHONE).
	FIXTURE IDENTIFICATION: (W-3) INDICATES FIXTURE TYPE AS SCHEDULED.	04	<u> </u>	IHC COMMUNICATIONS DEVICE (2 DATA).
02 (W-3)	FIXTURE IDENTIFICATION, EMERGENCY WITH BATTERY PACK,	05	▼3	IHC COMMUNICATIONS DEVICE (3 DATA).
	CONNECTED TO GENERATOR AS INDICATED: (W-3) INDICATES FIXTURE TYPE AS SCHEDULED.	06	▼4	IHC COMMUNICATIONS DEVICE (4 DATA).
03 EM	EMERGENCY.	07	<b>▼</b> 6	IHC COMMUNICATIONS DEVICE (6 DATA).
04 NL	NIGHT LIGHT: DO NOT SWITCH.	08	√M	IHC COMMUNICATIONS DEVICE PHYSIOLOGICAL MONITOR
05	EGRESS DIRECTION ARROW (EXIT SIGNS).	09	▼WAP	(1 DATA).  IHC COMMUNICATIONS DEVICE WIRELESS ACCESS POINT (2 DATA).
07	EXIT SIGN: SINGLE FACE; CEILING MOUNTED	00 TI	ECHNOLO	DGY SYSTEMS
08 🕸 👰	EXIT SIGN: SINGLE FACE; WALL MOUNTED	01		TECHNOLOGY SYSTEM CABLE. SEE SPECIFIC JOB EQUIPMENT
09	EXIT SIGN: DOUBLE FACE; CEILING MOUNTED			LIST FOR APPLICABLE DESIGNATIONS.  EXAMPLES:
10	EXIT SIGN: DOUBLE FACE; WALL MOUNTED	-	x	C
LIGHTING (	CONTROL		`	INSULATED  M = MICROPHONE CABLE
01 > <b>¦</b> <	OCCUPANCY SENSOR, DUAL TECHNOLOGY,			S = SPEAKER CABLE, 70 VOLT SYSTEM Z = SPEAKER CABLE, 8 OHM SYSTEM
02	OMNI-DIRECTIONAL, CEILING.  OCCUPANCY SENSOR, DUAL TECHNOLOGY, WALL.	02	(S) <sub>#</sub>	SPEAKER, CEILING MOUNTED.
03	OCCUPANCY SENSOR, DUAL TECHNOLOGY, DIRECTIONAL.	21		EQUIPMENT CABINET.
05 (R)	OCCUPANCY SENSOR CONTROL RELAY.	40	CP#	CONNECTION PANEL.
06	VACANCY SENSOR, DUAL TECHNOLOGY,	00 <b>N</b>	URSE CA	LL
07	OMNI-DIRECTIONAL, CEILING.  VACANCY SENSOR, DUAL TECHNOLOGY, WALL.	01	0	JUNCTION BOX.
08 (P)	PHOTOCELL.	02		CORRIDOR LIGHT.
18 a,b	LOW VOLTAGE DIGITAL LIGHTING CONTROL SWITCH: LETTER	03	В	BATHROOM PULL CORD STATION.
\$	"a,b" INDICATES ZONING WHERE SHOWN (REFER TO PLANS, SCHEDULES, AND DETAILS FOR EXACT BUTTON CONFIGURATION AND PROGRAMMING REQUIREMENTS)	04		DUTY STATION.
19 DC	DIGITAL LIGHTING DIMMING CONTROLLER	05	Ē	EMERGENCY ASSISTANCE CALL STATION.
20 LC	DIGITAL PLUG LOAD CONTROLLER	06	E CB	EMERGENCY ASSISTANCE CODE BLUE CALL STATION.
21 LS	LIGHTING NETWORK SWITCH.	07	P	PATIENT STATION.
22 NR	LIGHTING NETWORK SWITCH.  LIGHTING NETWORK ROUTER.	08	S	STAFF STATION.
23 RC	DIGITAL LIGHTING ROOM CONTROLLER	09	NCM	TOUCH SCREEN NURSE CALL MASTER STATION.
25 SM	LIGHTING NETWORK SEGMENT MANAGER	10	ZLC	ZONE LIGHT CONTROLLER.
26 (L X	LIGHTING SPACE CONTROL TYPE. X INDICATES TYPE. SEE	11	CU	NURSE CALL AREA CONTROL UNIT & POWER SUPPLIES.
	SCHEDULE / DIAGRAM.			•

	SYMBOLS LEGEND
SYMBOL	DESCRIPTION
©LECTRIC <i>E</i>	AL POWER AND DISTRIBUTION
01	FUSE WITH RATING (ONE-LINE DIAGRAM).
02	DISCONNECT, FUSED (ONE-LINE DIAGRAM).
03	
04	DISCONNECT, NONFUSED (ONE-LINE DIAGRAM).
	DISCONNECT WITH FUSE AND MOTOR STARTER COMBINATION (ONE-LINE DIAGRAM).
05	
<u>5</u>	OVERLOAD RELAY (ONE-LINE DIAGRAM).
<u></u>	STARTER (ONE-LINE DIAGRAM).
<u>5</u>	
(	CIRCUIT BREAKER, MOLDED CASE (ONE-LINE DIAGRAM).
08 	CIRCUIT BREAKER, MOLDED CASE WITH SHUNT TRIP (ONE-LINE DIAGRAM).
10	CIRCUIT BREAKER, SOLID STATE (ONE-LINE DIAGRAM).
11	CIRCUIT BREAKER, SOLID STATE WITH GROUND FAULT
GFP	PROTECTION (ONE-LINE DIAGRAM).
12	MOTOR.
16	TRANSFORMER (ONE-LINE DIAGRAM).
<u>m</u>	( - · · · · · · · · · · ·
20	DELTA CONNECTION (ONE-LINE DIAGRAM).
21	WYE CONNECTION (ONE-LINE DIAGRAM).
23 225/3 "1H"	PANELBOARD WITH MAIN LUGS ONLY. BUS SIZE AND PHASE AS SHOWN (ONE-LINE DIAGRAM).
24 225/3 "1H"	PANELBOARD WITH MAIN CIRCUIT BREAKER. SIZE AND PHASE AS SHOWN (ONE-LINE DIAGRAM).
25 225/3 "1H" 60/3	PANELBOARD WITH MAIN AND SUB FEED CIRCUIT BREAKER (ONE-LINE DIAGRAM).
225/3 "1H" 225/3 "1H"	PANELBOARD WITH SUB FEED LUGS (ONE-LINE DIAGRAM).
29 	
	CT CABINET PER UTILITY'S REQUIREMENTS (ONE-LINE DIAGRAM).
31	CT CABINET PER UTILITY'S REQUIREMENTS (ONE-LINE DIAGRAM).  TRANSFER SWITCH (ONE-LINE DIAGRAM).
	TRANSFER SWITCH (ONE-LINE DIAGRAM).
32 DMM	TRANSFER SWITCH (ONE-LINE DIAGRAM).
32 DMM	TRANSFER SWITCH (ONE-LINE DIAGRAM).  DIGITAL MULTIMETER (ONE-LINE DIAGRAM).
32 DMM 33 UII	TRANSFER SWITCH (ONE-LINE DIAGRAM).  DIGITAL MULTIMETER (ONE-LINE DIAGRAM).  SERVICE ENTRANCE SURGE PROTECTION (ONE-LINE DIAGRAM).
33 33 33 35 G 36	TRANSFER SWITCH (ONE-LINE DIAGRAM).  DIGITAL MULTIMETER (ONE-LINE DIAGRAM).  SERVICE ENTRANCE SURGE PROTECTION (ONE-LINE DIAGRAM).  GENERATOR, POWER (ONE-LINE DIAGRAM).
32 DMM 33 DMM 35 G 36 M 38 VFC VFD	TRANSFER SWITCH (ONE-LINE DIAGRAM).  DIGITAL MULTIMETER (ONE-LINE DIAGRAM).  SERVICE ENTRANCE SURGE PROTECTION (ONE-LINE DIAGRAM).  GENERATOR, POWER (ONE-LINE DIAGRAM).  METER.  VARIABLE FREQUENCY MOTOR CONTROLLER (ONE-LINE
32 DMM 33 DMM 35 G 36 M 38 VFC VFD 41 \rightarrow{1}{2}	TRANSFER SWITCH (ONE-LINE DIAGRAM).  DIGITAL MULTIMETER (ONE-LINE DIAGRAM).  SERVICE ENTRANCE SURGE PROTECTION (ONE-LINE DIAGRAM).  GENERATOR, POWER (ONE-LINE DIAGRAM).  METER.  VARIABLE FREQUENCY MOTOR CONTROLLER (ONE-LINE DIAGRAM).
32 DMM 33 DMM 35 G 36 M 38 VFC VFD 41 Z 42 D	TRANSFER SWITCH (ONE-LINE DIAGRAM).  DIGITAL MULTIMETER (ONE-LINE DIAGRAM).  SERVICE ENTRANCE SURGE PROTECTION (ONE-LINE DIAGRAM).  GENERATOR, POWER (ONE-LINE DIAGRAM).  METER.  VARIABLE FREQUENCY MOTOR CONTROLLER (ONE-LINE DIAGRAM).  DISCONNECT SWITCH, FUSED.
32 DMM 33 DI III 35 G 36 M 38 VFC VFD 41 D 42 D 43 M	TRANSFER SWITCH (ONE-LINE DIAGRAM).  DIGITAL MULTIMETER (ONE-LINE DIAGRAM).  SERVICE ENTRANCE SURGE PROTECTION (ONE-LINE DIAGRAM).  GENERATOR, POWER (ONE-LINE DIAGRAM).  METER.  VARIABLE FREQUENCY MOTOR CONTROLLER (ONE-LINE DIAGRAM).  DISCONNECT SWITCH, FUSED.  DISCONNECT SWITCH, UNFUSED.
32 DMM 33	TRANSFER SWITCH (ONE-LINE DIAGRAM).  DIGITAL MULTIMETER (ONE-LINE DIAGRAM).  SERVICE ENTRANCE SURGE PROTECTION (ONE-LINE DIAGRAM).  GENERATOR, POWER (ONE-LINE DIAGRAM).  METER.  VARIABLE FREQUENCY MOTOR CONTROLLER (ONE-LINE DIAGRAM).  DISCONNECT SWITCH, FUSED.  DISCONNECT SWITCH, UNFUSED.  STARTER, COMBINATION WITH DISCONNECT SWITCH.
32 DMM 33 D DMM 33 O DMM 34 DMM 34 DMM 34 DMM 44 DMM 44 DMM 45 O	TRANSFER SWITCH (ONE-LINE DIAGRAM).  DIGITAL MULTIMETER (ONE-LINE DIAGRAM).  SERVICE ENTRANCE SURGE PROTECTION (ONE-LINE DIAGRAM).  GENERATOR, POWER (ONE-LINE DIAGRAM).  METER.  VARIABLE FREQUENCY MOTOR CONTROLLER (ONE-LINE DIAGRAM).  DISCONNECT SWITCH, FUSED.  DISCONNECT SWITCH, UNFUSED.  STARTER, COMBINATION WITH DISCONNECT SWITCH.  STARTER OR MOTOR CONTROLLER.
32 DMM 33 DI 35 G 36 M 38 VFC VFD 41 D 42 D 43 N 44 N 45 •	TRANSFER SWITCH (ONE-LINE DIAGRAM).  DIGITAL MULTIMETER (ONE-LINE DIAGRAM).  SERVICE ENTRANCE SURGE PROTECTION (ONE-LINE DIAGRAM).  GENERATOR, POWER (ONE-LINE DIAGRAM).  METER.  VARIABLE FREQUENCY MOTOR CONTROLLER (ONE-LINE DIAGRAM).  DISCONNECT SWITCH, FUSED.  DISCONNECT SWITCH, UNFUSED.  STARTER, COMBINATION WITH DISCONNECT SWITCH.  STARTER OR MOTOR CONTROLLER.  PUSHBUTTON.
32 DMM 33 DMM 35 G 36 M 38 VFC VFD 41 Z 42 D 43 X 44 X 45 • • • • • • • • • • • • • • • • • • •	TRANSFER SWITCH (ONE-LINE DIAGRAM).  DIGITAL MULTIMETER (ONE-LINE DIAGRAM).  SERVICE ENTRANCE SURGE PROTECTION (ONE-LINE DIAGRAM).  GENERATOR, POWER (ONE-LINE DIAGRAM).  METER.  VARIABLE FREQUENCY MOTOR CONTROLLER (ONE-LINE DIAGRAM).  DISCONNECT SWITCH, FUSED.  DISCONNECT SWITCH, UNFUSED.  STARTER, COMBINATION WITH DISCONNECT SWITCH.  STARTER OR MOTOR CONTROLLER.  PUSHBUTTON.  PUSHBUTTONS, MOTOR CONTROL.
33	TRANSFER SWITCH (ONE-LINE DIAGRAM).  DIGITAL MULTIMETER (ONE-LINE DIAGRAM).  SERVICE ENTRANCE SURGE PROTECTION (ONE-LINE DIAGRAM).  GENERATOR, POWER (ONE-LINE DIAGRAM).  METER.  VARIABLE FREQUENCY MOTOR CONTROLLER (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.
32 DMM 33 F DMM 35 G 36 M 38 VFC VFD 41 P 42 P 43 P 44 P 45 P 46 P 47 P 48 P 50 DP#_	TRANSFER SWITCH (ONE-LINE DIAGRAM).  DIGITAL MULTIMETER (ONE-LINE DIAGRAM).  SERVICE ENTRANCE SURGE PROTECTION (ONE-LINE DIAGRAM).  GENERATOR, POWER (ONE-LINE DIAGRAM).  METER.  VARIABLE FREQUENCY MOTOR CONTROLLER (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.
32 DMM 33 DMM 35 G 36 M 38 VFC VFD 41	TRANSFER SWITCH (ONE-LINE DIAGRAM).  DIGITAL MULTIMETER (ONE-LINE DIAGRAM).  SERVICE ENTRANCE SURGE PROTECTION (ONE-LINE DIAGRAM).  GENERATOR, POWER (ONE-LINE DIAGRAM).  METER.  VARIABLE FREQUENCY MOTOR CONTROLLER (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.
32 DMM 33 DMM 35 G 36 M 38 VFC VFD 41 Z 42   43   44   45   46   47   48   49   50   DP#_ 51	TRANSFER SWITCH (ONE-LINE DIAGRAM).  DIGITAL MULTIMETER (ONE-LINE DIAGRAM).  SERVICE ENTRANCE SURGE PROTECTION (ONE-LINE DIAGRAM).  GENERATOR, POWER (ONE-LINE DIAGRAM).  METER.  VARIABLE FREQUENCY MOTOR CONTROLLER (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.  DISTRIBUTION PANEL OR SWITCHBOARD.

SYMBOL DESCRIPTION  FIRE ALARM  O1 FSA FIRE SYSTEM ANNUM	LS LEGEND
01	
FSA   FIRE QVQTEM ANINI IN	
02	
03	DL PANEL, SEMI-RECESSED.
04	ATION POWER SUPPLY.
	PONDER OR TRANSMITTER.
HVA SMOKE CONTROL PA	ANEL.
AUTOMATIC DOOR C FURNISHED WITH DO	LOSERS: DOOR CLOSERS SHALL BE OOR HARDWARE AND CONNECTED TO
BY FIRE ALARM INST	ALLERS.
CM CONTROL MODULE.	
MM MONITOR MODULE.	
P FIRE ALARM MANUAL	PULL STATION.
	INSTALL RELAY IN CONTROL CIRCUIT E CONTROLLED IN THE EVENT OF A
FIRE.	E CONTROLLED IN THE EVENT OF A
11	DLDER.
12 FIRE SERVICE OR EN	MERGENCY TELEPHONE STATION,
13 FIRE SERVICE OR EN HANDSET.	MERGENCY TELEPHONE STATION,
14	MERGENCY TELEPHONE STATION, JACK.
15 DETECTOR, SMOKE.	
22	
DETECTOR, SMOKE,	DUCT WITH HOUSING AND SAMPLING TUBE.
23 DETECTOR, HEAT.	
24 DETECTOR, REAT.	
INDICATOR LAMP.	
25 STROBE.	
27	ZED WEATHERDROOF
WP ALARM, HORN/SPEAR	KER, WEATHERPROOF.
35 ALARM, HORN/STRO	·
PROVIDED AND INST	WITCH: FLOW SWITCHES SHALL BE ALLED WITH FIRE SPRINKLER SYSTEM IECTED TO LOCATIONS SHOWN ON
THE FIRE SPRINKLEF	R SHOP DRAWINGS.
SHALL BE PROVIDED	SWITCH WITH VALVE: TAMPER SWITCHES AND INSTALLED WITH FIRE SPRINKLER BE CONNECTED TO LOCATIONS SHOWN
I I	LER SHOP DRAWINGS.
SMOKE DAMPER.	
SD 38	
	MPER.
BELL (GONG).	
detector, carbon	I MONOXIDE.
	STROBE, RESIDENTIAL.
	BE, ONE ASSEMBLY, CEILING MOUNTED. 'ES CANDELA RATING.
43 ALARM, HORN, CEILII CANDELA RATING.	NG MOUNTED. SUBSCRIPT INDICATES
44 Ø 75 ALARM, STROBE, CE INDICATES CANDELA	ILING MOUNTED. SUBSCRIPT ARATING.
©CTV	
01—P CCTV CABLE, POWER	₹.
02V CCTV CABLE, VIDEO	SIGNAL.
03 CCTV CCTV HEADEND EQU	JIPMENT.
04 M CCTV MONITOR.	
05 CCTV CAMERA/ENCL	OSURE WITH LENS, TYPICAL. SEE SCHEDUL
06	PAN, TILT AND ZOOM.
07	
360° PANNING CAMERA TI	RANSVERSE ANGLE.
SECURITY	
01—X SECURITY CABLE. S	EE EQUIPMENT SCHEDULE FOR CABLE
O2 ACC ACCESS CONTROL H	IEADEND EQUIPMENT.
03 CTR SECURITY CONTROL	
04	ON HEADEND EQUIPMENT.
05 CARD ACCESS DOOF	R TYPE #1 OR AS NOTED. SEE
SCHEDULE.	
CR CARD READER.	SED COMPINIATION
07 KCB KEYPAD/CABD BEAD	
KCR KEYPAD/CARD READ	ANCED MAGNETIC CONTROL.
08 DOOR SWITCH, BALA	
08 DOOR SWITCH, BALA 09 ER EXIT REQUEST.	
08 DOOR SWITCH, BALA 09 ER EXIT REQUEST.  10 RL REMOTE DOOR RELE	EASE BUTTON.
08 DOOR SWITCH, BALA 09  EXIT REQUEST.  10  RL REMOTE DOOR RELE	EASE BUTTON.
08 DOOR SWITCH, BALA 09 EXIT REQUEST.  10 RL REMOTE DOOR RELE 11 BELL. 12 BUZZER.	EASE BUTTON.
08 DOOR SWITCH, BALA 09 ER EXIT REQUEST.  10 RL REMOTE DOOR RELE 11 BELL. 12 BUZZER. 13 BUZZER, COMBINATI	
08	ON BELL.
KCR   KEYPAD/CARD READ     08	ON BELL. HICULAR.
KCR   KEYPAD/CARD READ	ON BELL. HICULAR. EAK.
KCR   KEYPAD/CARD READ	ON BELL. HICULAR. EAK.

## **ABBREVIATIONS**

NOTE: ALL ABBREVIATIONS MAY NOT BE USED. SINGLE POLE KILOVOLT 1PH SINGLE-PHASE KILOVOLT AMPERE kVA 1WAY ONE-WAY kvar Kilovolt ampere reactive TWO-CONDUCTOR KILOWATT KILOWATT HOUR 2WAY TWO-WAY LED LIGHT EMITTING DIODE THREE-CONDUCTOR 3WAY THREE-WAY LFMC LIQUID TIGHT FLEXIBLE METAL 40UT QUADRUPLE RECEPTACLE CONDUIT LFNC LIQUID TIGHT FLEXIBLE NONMETALLIC CONDUIT 4PDT FOUR-POLE DOUBLE THROW LOW PRESSURE SODIUM 4PST FOUR-POLE SINGLE THROW LOCKED ROTOR AMPS LRA FOUR-WIRE LTG LIGHTING 4WAY FOUR-WAY LOW VOLTAGE ABOVE COUNTER MATV ARMORED CABLE ADA AMERICANS WITH DISABILITIES MAX MAXIMUM

ADJ ADJACENT ABOVE FINISHED FLOOR AFG ABOVE FINISHED GRADE AIC AMPERE INTERRUPTING CAPACITY ALUM ALUMINUM AMPERE ANN ANNUNCIATOR ACCESS POINT (WIRELESS AS REQUIRED AMPS SHORT CIRCUIT ASC ATS AUTOMATIC TRANSFER AUDIO VISUAL AWG AMERICAN WIRE GAGE BUCK-BOOST TRANSFORMER

CEILING MOUNTED CATV COMMUNITY ANTENNA TELEVISION 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 CIRCUIT CONSTRUCTION MANAGER

CKT CM CND CONDUIT CONVENIENCE OUTLET COR CONTRACTING OFFICER'S REPRESENTATIVE CONTROL PANEL CURRENT TRANSFORMER CABLE TELEVISION UNIT OF SOUND LEVEL DPDT DOUBLE POLE, DOUBLE EA EACH EM **EMERGENCY** 

EMT ENT EQUIP EQUIPMENT EX EXISTING FIRE ALARM FCP FLA FULL LOAD AMPS

FURNITURE MOUNTED FREIGHT ON BOARD FVNR FULL VOLTAGE NON-REVERSING GEN GENERATOR GFCI GFP GND GROUND HD **HEAVY DUTY** HID HOA HAND-OFF-AUTOMATIC

J-BOX JUNCTION BOX

HIGH INTENSITY DISCHARGE HORSE POWER HIGH POWER FACTOR HPS HIGH PRESSURE SODIUM HV HIGH VOLTAGE HZ HERTZ I/O INPUT/ OUTPUT ISOLATED GROUND IMC INTERMEDIATE METAL CONDUIT IN/IS INSULATED/ ISOLATED INFRARED

MASTER ANTENNA TELEVISION

METAL CLAD MCA MINIMUM CIRCUIT AMPS MAIN CIRCUIT BREAKER MCB MOTOR CONTROL CENTER MOTOR CIRCUIT PROTECTION MDP MAIN DISTRIBUTION PANEL MOTOR GENERATOR MH MANHOLE MIN MINIMUM MLO MAIN LUGS ONLY MOCP MAXIMUM OVERCURRENT PROTECTION MANUAL TRANSFER SWITCH

NOT APPLICABLE NORMALLY CLOSED NEC NATIONAL ELECTRICAL CODE NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION NFC NATIONAL FIRE CODE NFPA NATIONAL FIRE PROTECTION ASSOCIATION NOT IN CONTRACT NIGHT LIGHT

NORMALLY OPEN NTS NOT TO SCALE ON CENTER OCP OVER CURRENT PROTECTION OWNER FURNISHED/ OF/CI CONTRACTOR INSTALLED OF/OI OWNER FURNISHED/ OWNER INSTALLED OFP OBTAIN FROM PLANS OH DR OVERHEAD (COILING) DOOR OVERLOAD PUSHBUTTON

POWER FACTOR PHASE PANEL POTENTIAL TRANSFORMER PAN/TILT/ZOOM QTY QUANTITY REMOVE RCP REFLECTED CEILING PLAN RIGID METAL CONDUIT RIGID NONMETAL CONDUIT REVOLUTIONS PER MINUTE RPM ELECTRICAL METALLIC TUBING REMOVE AND RELOCATE ELECTRIC NONMETALLIC START/STOP SCA SHORT CIRCUIT AMPS EPO EMERGENCY POWER OFF

SCBA STANDARD COLOR AS SELECTED BY ARCHITECT SQUARE FOOT (FEET) SFBA STANDARD FINISH AS SELECTED BY ARCHITECT FIRE ALARM CONTROL PANEL SPD SURGE PROTECTIVE DEVICE SPDT SINGLE POLE, DOUBLE THROW FLEXIBLE METAL CONDUIT SPEC SPECIFICATION SPST SINGLE POLE, SINGLE THROW SINGLE THROW SWBD SWITCHBOARD FULL VOLTAGE REVERSING SWGR SWITCHGEAR TWIST LOCK GROUND FAULT INTERRUPTER

TELEPHONE POLE GROUND FAULT PROTECTION TWISTED PAIR TELEPHONE TERMINAL BOARD TTB TELEVISION TVSS TRANSIENT VOLTAGE SURGE SUPPRESSER TYP TYPICAL UNDERFLOOR UGND UNDERGROUND

UPS UNINTERRUPTIBLE POWER VOLTS VA VOLT AMPERE VFC/VF VARIABLE FREQUENCY MOTOR CONTROLLER WITH W/O WITHOUT

WEATHERPROOF

XFMR TRANSFORMER

### GENERAL ELECTRICAL NOTES

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.

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.

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.

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.

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.

REFLECTED CEILING PLANS: COORDINATE THE LOCATION OF LIGHT FIXTURES WITH THE ARCHITECTURAL REFLECTED CEILING PLANS. REFER ALL DISCREPANCIES TO THE ARCHITECT AND ENGINEER.

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.

Proje

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No. 11783731-2202

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#### **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...

## ELECTRICAL SHEET INDEX

EE001 SHEET INDEX, ABBREVIATIONS, AND GENERAL NOTES EE501 ELECTRICAL DETAILS

EE701 TYPICAL MOUNTING HEIGHT DETAILS EP101 LEVEL 1 POWER PLAN EP601 ONE-LINE DIAGRAM EP701 SKYTRON DRAWINGS EP702 SKYTRON DRAWINGS

EP704 SIEMENS DRAWINGS EP705 SIEMENS DRAWINGS

ET601 TELECOM CONDUIT RISER DIAGRAM

EP703 SIEMENS DRAWINGS

NJRA Project #

Construction Documents

July 15, 2020

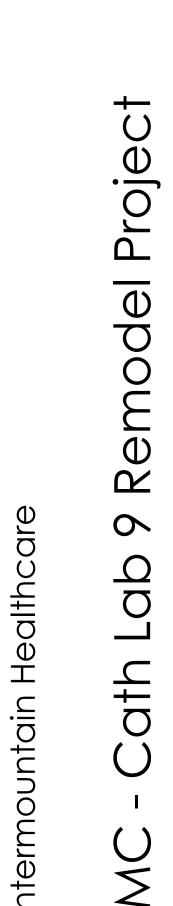
SHEET INDEX, ABBREVIATIONS, AND GENERAL

NOTES



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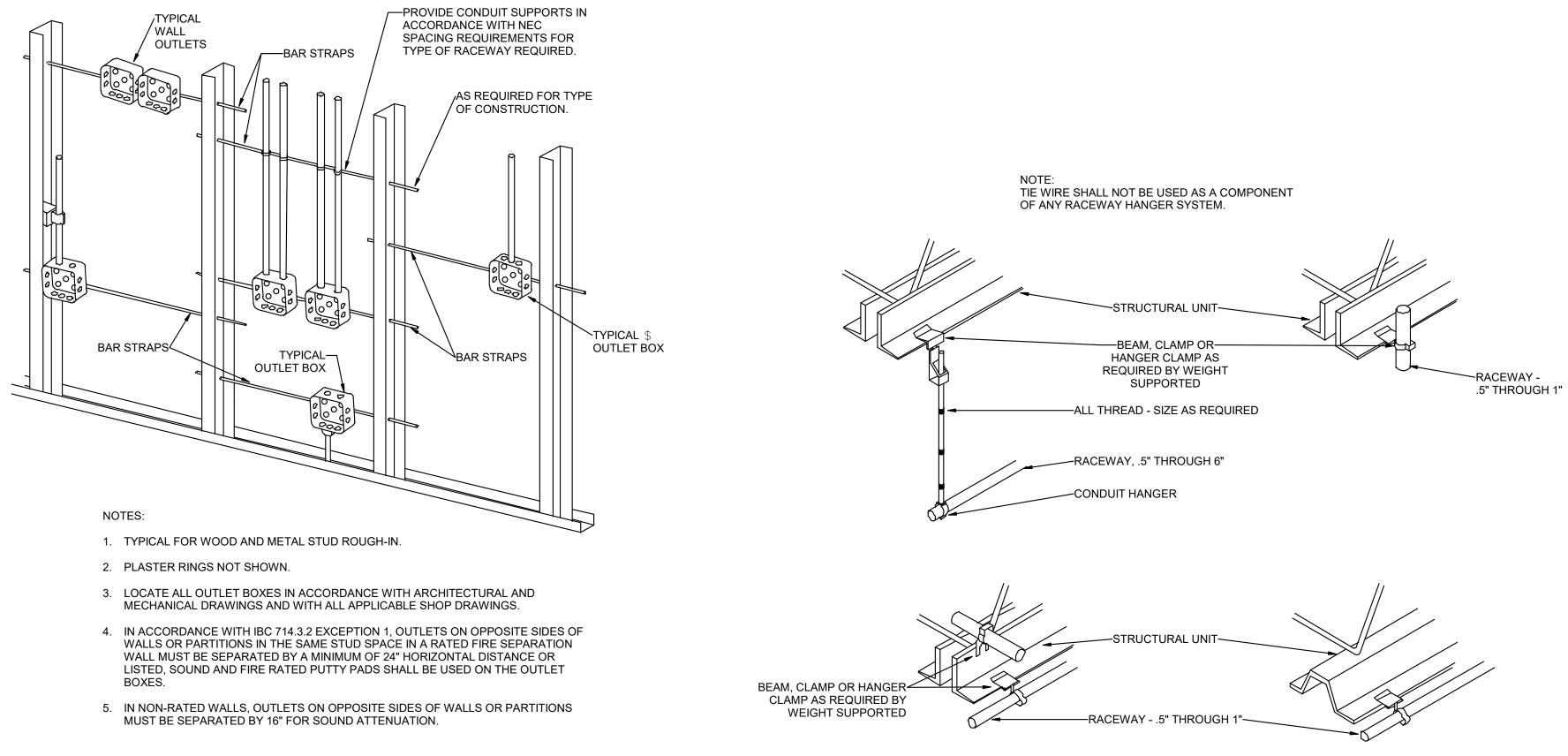




NJRA Project # 20205
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ELECTRICAL DETAILS

EE50



RECESSED FIXTURE MOUNTING DETAIL

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

BEAM CLAMP, HANGER
CLAMP OR APPROVED
SUPPORT, AS REQUIRED BY
WEIGHT SUPPORTED

CONDUIT CHAMP - .5" TO 1"
UNISTRUT 2 PIECE CHANNEL
PIPE STRAPS - 1.25" TO 6"
RACEWAY .5" TO 6" (TYP)

3 TYPICAL CONDUIT RACK DETAIL
SCALE: 1/8" = 1'-0"

FIXTURE CLAMP - PROVIDE ONE PER SIDE OF FIXTURE.

WIRE HANGER AT EACH CORNER OF FIXTURE (TYP)—INDEPENDENT OF CEILING SUPPORT SYSTEM.

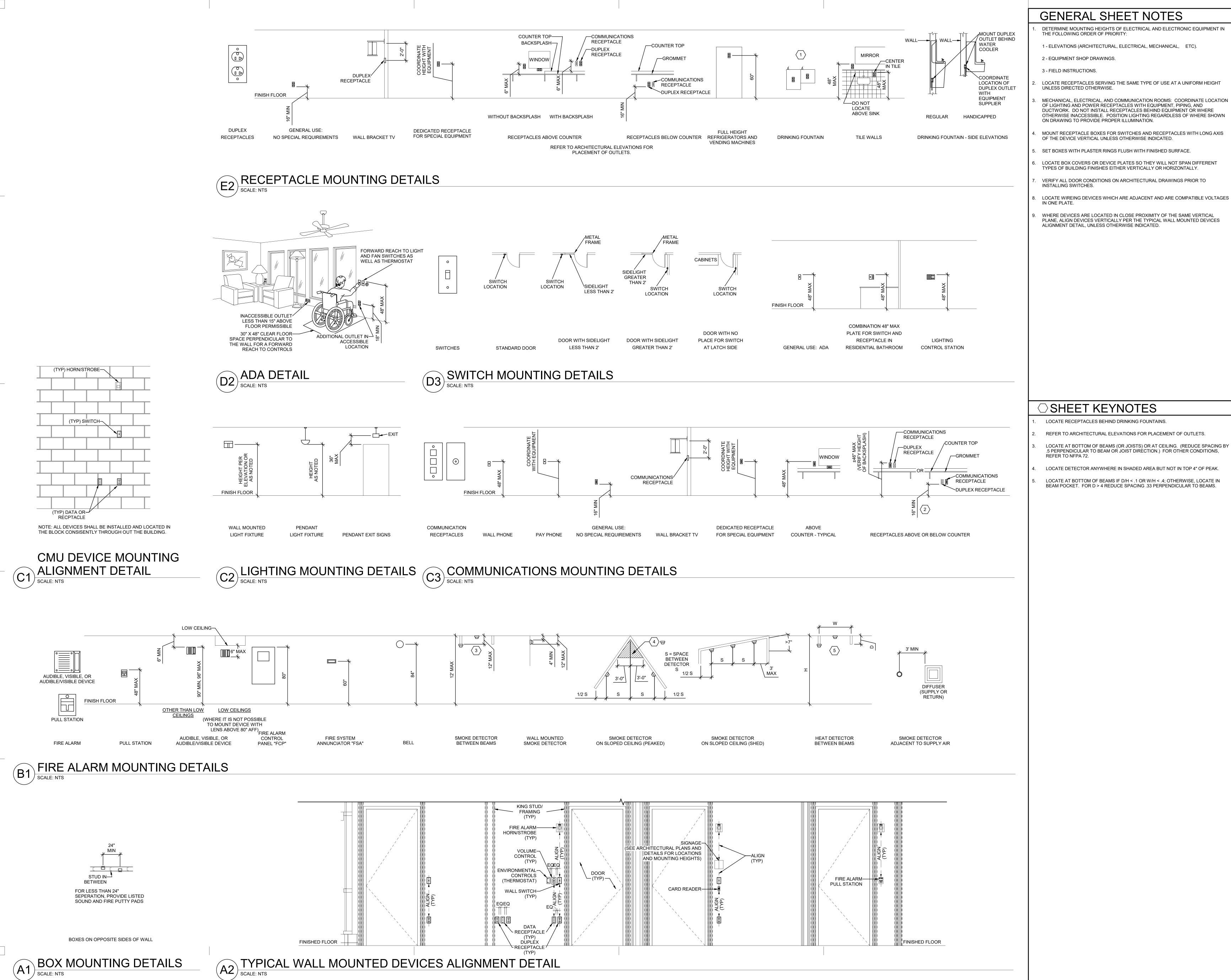
TYPICAL RACEWAY SUPPORT METHODS DETAIL

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

TYPICAL ROUGH-IN REQUIREMENTS DETAIL

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

)20 3:43:40 PN



## **GENERAL SHEET NOTES**

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.

LOCATE RECEPTACLES SERVING THE SAME TYPE OF USE AT A UNIFORM HEIGHT

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.

MOUNT RECEPTACLE BOXES FOR SWITCHES AND RECEPTACLES WITH LONG AXIS OF THE DEVICE VERTICAL UNLESS OTHERWISE INDICATED.

SET BOXES WITH PLASTER RINGS FLUSH WITH FINISHED SURFACE.

LOCATE BOX COVERS OR DEVICE PLATES SO THEY WILL NOT SPAN DIFFERENT TYPES OF BUILDING FINISHES EITHER VERTICALLY OR HORIZONTALLY.

VERIFY ALL DOOR CONDITIONS ON ARCHITECTURAL DRAWINGS PRIOR TO INSTALLING SWITCHES.

WHERE DEVICES ARE LOCATED IN CLOSE PROXIMITY OF THE SAME VERTICAL PLANE, ALIGN DEVICES VERTICALLY PER THE TYPICAL WALL MOUNTED DEVICES

## SHEET KEYNOTES

- LOCATE RECEPTACLES BEHIND DRINKING FOUNTAINS.
- REFER TO ARCHITECTURAL ELEVATIONS FOR PLACEMENT OF OUTLETS. LOCATE AT BOTTOM OF BEAMS (OR JOISTS) OR AT CEILING. (REDUCE SPACING BY
- LOCATE DETECTOR ANYWHERE IN SHADED AREA BUT NOT IN TOP 4" OF PEAK.
- LOCATE AT BOTTOM OF BEAMS IF D/H < .1 OR W/H < .4; OTHERWISE, LOCATE IN

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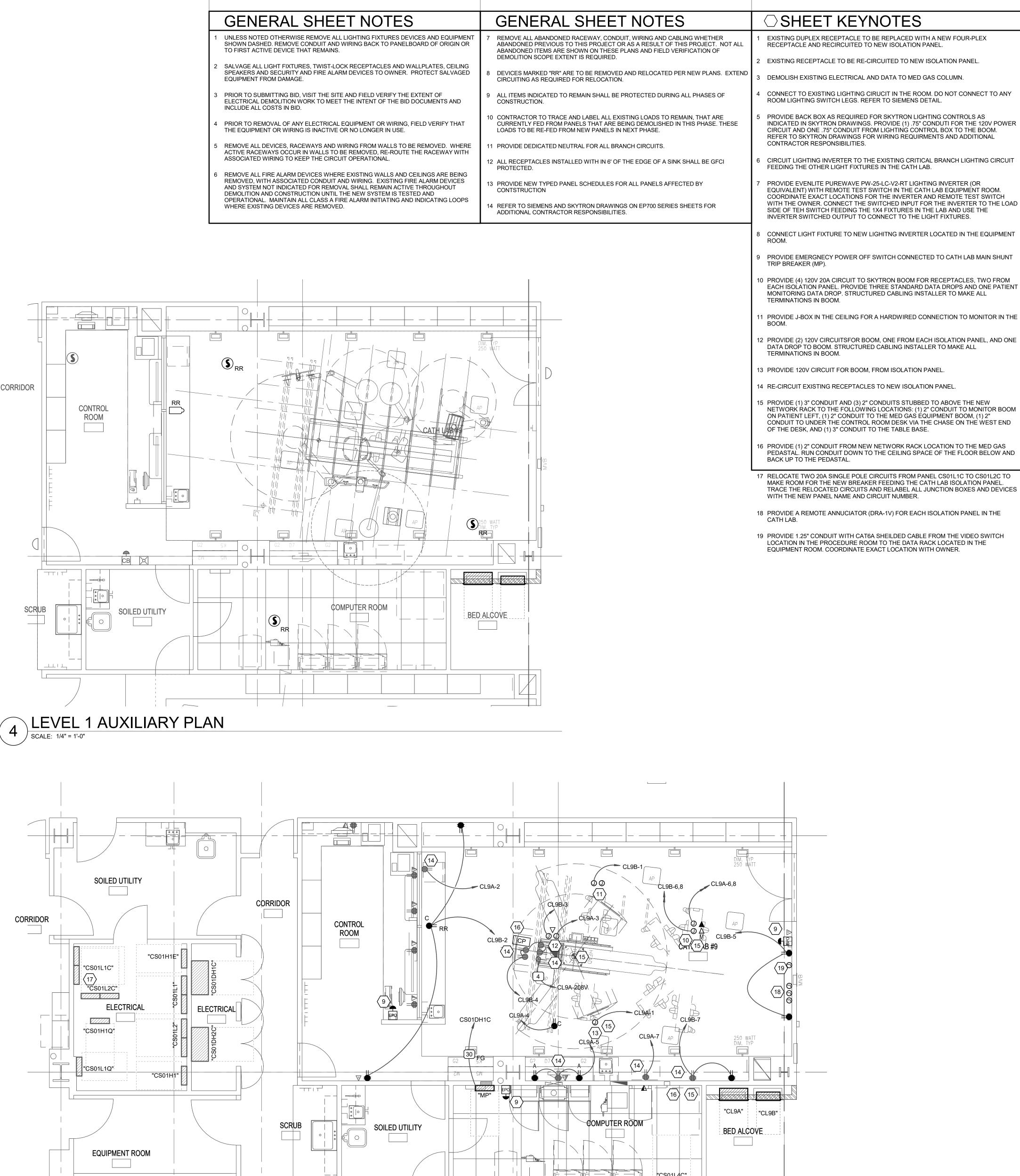
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> TYPICAL MOUNTING HEIGHT DETAILS

EE701



CORRIDOR

BED ALCOVE

BED ALCOVE

CONTROL

ROOM

2 LEVEL 1 POWER PLAN

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

CORRIDOR

LEVEL 1 LIGHTING PLAN

1 LEVEL 1 ELECTRICAL DEMOLITION PLAN

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

(3) SCALE: 1/4'' = 1'-0''

CORRIDOR

SHEET KEYNOTES EXISTING DUPLEX RECEPTACLE TO BE REPLACED WITH A NEW FOUR-PLEX

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LEVEL 1 POWER PLAN

EP101

MINITED   CITY   MOUNT   FLUSH   THE   SOLTON	CLIEN	Τ.					JOB:				6/30/2020		CIRCL	ITS:	32
Marker   M			9A		MOUNT:	FLUSH		BOLT-ON BOLT-O	N				Circo	113.	32
CCCSS-DOMES   PANEL DIRECTORY, IDENTIFICATION GROUNDING BAR, LINE BOLATION MONITORE 7.5 KM 2, 203 120:208 VOLT TRANSFORMERS,				E MAIN	1					120 1021 11111102 0 111112 100211		SIZE:	72"Hx3	2"Wx12"D	
CHI   CASH   C		SSORIES			TORY, IDENTIFI				/208 VOLT TRANS	SFORMERS,					
REAL	INDICA	ATOR ALA	ARMS, IN	DICATO	R LIGHTS, STA	INLESS STEEL COVER (BOTH PANEL	SECTIONS	UNDER COMMON COVER	₹)						
MAP   POLE   LTC   COS   WAR   DESCRIPTION   0.4   0.6   0.2   SUM   DESCRIPTION   0.7   0.0   PAPR   AMP   POLE   PAPR   POLE   PAPR   POLE   PAPR															
1	CIR	O/C PRO	TC	OUTLE	ETS		LCL	LOAD	LCL		OUTLE	TS	O/C PI	ROT	CIR
3	#	AMP	POLE	LTG	CO'S PWR				KVA	DESCRIPTION	LTG	CO'S	PWR AMP	POLE	#
S	1	20	2		2	EAST BOOM	0.4	0.6	0.2	SOUTH RECEPTACLE		1	20	2	2
S															
Part	3	20	2		2	SOUTH BOOM	0.4	0.6	0.2	CEILING RECEPTACLE		1	20	2	4
Part						5407 0505074045	1.0			EQUIPMENT BOOM					
SPARE   O   O   O   O   O   SPARE   O   O   O   O   O   O   O   O   O	5	20	2		6	EAST RECEPTABLE	1.2	2	0.8	EQUIPMENT BOOM		4	20	2	6
SPARE   O   O   O   O   O   SPARE   O   O   O   O   O   O   O   O   O	7	00	0			EAST DESERTANCE	0.4	4.0	0.0	EQUIDMENT DOOM		4	00		
1	/	20	2		2	EAST RECEPTACLE	0.4	1.2	0.8	EQUIPMENT BOOM		4	20	2	8
1	0	20				CDADE	0	0	0	CDADE			20		10
13   20   2	9	20				SPARE	U	U	0	SPARE			20		10
13   20   2	11	20	2			SDADE	0	0	0	SDADE			20	2	12
15   20   2	11	20				SPARE	0	U	0	SPARE			20		12
15   20   2	13	20	2			SPARE	0	0	0	SPARE			20	2	14
NAME   DECLIGAZOBY   MOUNT: FLUSH   TYPE: BOLT-ON BOLT-ON   208 VOLT 1 PHASE 3 WIRE ISOLATION PANEL	10	20				OI AIL		U U		OI AIL			20		+ '-
NAME   DECLIGAZOBY   MOUNT: FLUSH   TYPE: BOLT-ON BOLT-ON   208 VOLT 1 PHASE 3 WIRE ISOLATION PANEL	15	20	2			SPARE	0	0	0	SPARE			20	2	16
AMPS	- 10	20	_			OI / II C		, , ,		OI / II C			20		+ 10
AMPS	TOTAL	S·			KVA			4 4	TOTAL K	VA				4 4	 4
ANSEL ID-CL9A-208V MOUNT: FLUSH TYPE: BOLT-ON BOLT-ON 208 VOLT 1 PHASE 3 WIRE ISOLATION PANEL    CCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, LINE ISOLATION MONITORS, 7 5 KVA, 208-120/208 VOLT TRANSFORMERS,   NDICATOR ALARMS, INDICATOR LIGHTS, STAINLESS STEEL COVER (BOTH PANEL SECTIONS LINDER COMMON COVER)    SECTION   SPACE   SECTION   SPACE   SECTION   SECT	101712	.0.													
STATE   STAT					711711 0			01	71721010						
STATE   STAT	PANEL	ID:CL9A	-208V		MOUNT:	FLUSH	TYPE:	BOLT-ON BOLT-O	N	208 VOLT 1 PHASE 3 WIRE ISOLAT	ION PANEL				
CCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, LINE ISOLATION MONITORS, 7.5 KVA, 208-120/208 VOLT TRANSFORMERS, INDICATOR LIGHTS, STAINLESS STEEL COVER (BOTH PANEL SECTIONS UNDER COMMON COVER)    CRITICAL BRANCH B SECTION												SIZE:	72"Hx3	2"Wx12"D	)
NDICATOR ALARMS, INDICATOR LIGHTS, STAINLESS STEEL COVER (BOTH PANEL SECTIONS UNDER COMMON COVER)    Critical Branch   Section   Section	ACCES			DIRECT	TORY, IDENTIF				/208 VOLT TRANS	SFORMERS,					
CIC   O/C PROT   OUTLETS   OUTLETS   OUTLETS   OUTLETS   O/C PROT   O/C PRO															
CIC   O/C PROT   OUTLETS   OUTLETS   OUTLETS   OUTLETS   O/C PROT   O/C PRO						,			,						-
# AMP POLE LTG CO'S PWR DESCRIPTION KVA NAMP POLE # 1 30 2 2 2 1 LASER 0.4 0.4 0.4 0 SPACE 0 20 2 2 2 3 3 2 0 2 2 3 SPACE 0.4 0.4 0.4 0 SPACE 0 20 2 2 4 5 5 20 2 2 2 SPACE 0.4 0.4 0.4 0 SPACE 0 20 2 2 6 6 7 20 2 2 2 SPACE 0.6 0.6 0.6 0 SPACE 0 20 2 2 8 9 20 2 3 3 SPACE 0.6 0.6 0.6 0 SPACE 0 20 2 2 8 9 20 2 3 3 SPACE 0.6 0.6 0.6 0 SPACE 0 20 2 2 10 11 20 2 3 SPACE 0 4 SPACE 0 5 SPACE		CRITICA	L BRANC	CH B SE	CTION			SECTION 2							
1 30 2 2 2 LASER 0.4 0.4 0.4 0 SPACE 20 2 2 3 3 2 SPACE 0.4 0.4 0.4 0 SPACE 20 2 2 6 7 20 2 2 SPACE 0.4 0.4 0.4 0 SPACE 20 2 2 6 7 20 2 2 SPACE 0.4 0.4 0.4 0 SPACE 20 2 2 8 8 9 20 2 3 SPACE 0.6 0.6 0.6 0 SPACE 20 2 10 11 20 2 SPACE 0 0.6 0.6 0 SPACE 20 2 10 SPACE 20 2	CIR	O/C PRO	TC	OUTLE	ETS		LCLLC	DAD	LCL		OUTLE	TS	O/C PI	ROT	CIR
3 20 2 2 2 SPACE 0.4 0.4 0.4 0 SPACE 20 2 4  5 20 2 2 SPACE 0.4 0.4 0.4 0 SPACE 20 2 6  7 20 2 2 SPACE 0.6 0.6 0.6 0 SPACE 20 2 10  11 20 2 SPACE 0 0.0 0 SPACE 20 2 10  11 20 2 SPACE 0 0.6 0.6 0.6 SPACE 20 2 12  OTALS:  KVA AMPS 18 AVERAGE AMPS 9	#	AMP	POLE	LTG	CO'S PWR	DESCRIPTION	KVA		KVA	DESCRIPTION	LTG		PWR AMP	POLE	#
5 20 2 2 2 SPACE 0.4 0.4 0.4 0 SPACE 20 2 6 7 20 2 3 SPACE 0.6 0.6 0.6 0 SPACE 20 2 10 11 20 2 SPACE 0 0 0 0 SPACE 20 2 12 OTALS:  KVA AMPS 18 AVERAGE AMPS 9 WIRING:	1	30	2		2	LASER	0.4	0.4	0	SPACE			20	2	2
5 20 2 2 2 SPACE 0.4 0.4 0.4 0 SPACE 20 2 6 7 20 2 3 SPACE 0.6 0.6 0.6 0 SPACE 20 2 10 11 20 2 SPACE 0 0 0 0 SPACE 20 2 12 OTALS:  KVA AMPS 18 AVERAGE AMPS 9 WIRING:															
7 20 2 2 SPACE 0.4 0.4 0.4 0 SPACE 20 2 8 9 20 2 3 SPACE 0.6 0.6 0 SPACE 20 2 10 11 20 2 SPACE 0 0 0 0 SPACE 20 2 12 OTALS:  KVA AMPS 18 AVERAGE AMPS 9	3	20	2		2	SPACE	0.4	0.4	0	SPACE			20	2	4
7 20 2 2 SPACE 0.4 0.4 0.4 0 SPACE 20 2 8 9 20 2 3 SPACE 0.6 0.6 0 SPACE 20 2 10 11 20 2 SPACE 0 0 0 0 SPACE 20 2 12 OTALS:  KVA AMPS 18 AVERAGE AMPS 9															
9 20 2 3 SPACE 0.6 0.6 0.6 SPACE 20 2 10  11 20 2 SPACE 0 0 0 0 SPACE 20 2 12  OTALS: KVA 2.2 TOTAL KVA 2.2  AMPS 18 AVERAGE AMPS 9	5	20	2		2	SPACE	0.4	0.4	0	SPACE			20	2	6
9 20 2 3 SPACE 0.6 0.6 0.6 SPACE 20 2 10  11 20 2 SPACE 0 0 0 0 SPACE 20 2 12  OTALS: KVA 2.2 TOTAL KVA 2.2  AMPS 18 AVERAGE AMPS 9															
11 20 2 SPACE 0 0 0 SPACE 20 2 12  OTALS: KVA 2.2 TOTAL KVA 2.2  AMPS 18 AVERAGE AMPS 9	7	20	2		2	SPACE	0.4	0.4	0	SPACE			20	2	8
11 20 2 SPACE 0 0 0 SPACE 20 2 12  OTALS: KVA 2.2 TOTAL KVA 2.2  AMPS 18 AVERAGE AMPS 9															
OTALS: KVA 2.2 TOTAL KVA 2.2 AMPS 18 AVERAGE AMPS 9  VIRING:	9	20	2		3	SPACE	0.6	0.6	0	SPACE			20	2	10
OTALS: KVA 2.2 TOTAL KVA 2.2 AMPS 18 AVERAGE AMPS 9  VIRING:								_							
AMPS 18 AVERAGE AMPS 9 VIRING:	11	20	2			SPACE	0	0	0	SPACE			20	2	12
AMPS 18 AVERAGE AMPS 9 VIRING:	TOT::				10.4					\/A					
VIRING:	TOTAL	.S:													
					AMPS			18	AVERAG	E AMPS					<u> </u>
	WIKIN	G:													
	NOTE														

CLIEN	NT:						JOB:				6/3	30/2020			CIRCUI	TS:	32
PANE	L ID: C	L2B		MOUN	T:	FLUSH	TYPE:	BOLT-ON	BOLT-ON		120 VOLT 1 PHASE 3 WIRE ISOLATIO	N PANEL					
50	)	AMPER	E MAIN			BREAKER	LOCAT	ION:				PANE	L SIZE:		72"Hx32	2"Wx12"D	)
ACCE	SSORIES	S: PANEL	DIRECT	TORY, II	DENTIFI	CATION, GROUNDING BAR, LINE ISC	DLATION MO	NITOR, 7.5 KVA	, 208-120 VOLT	TRANSFOR	RMER,						
INDIC	ATOR AL	ARMS, IN	DICATO	R LIGH	TS, STA	INLESS STEEL COVER (BOTH PANE	L SECTIONS	UNDER COMM	ION COVER)								
			CAL BRA			S	SECTION 1				7						
CIR	O/C PR	OT	OUTLE				LCL	LOAD		LCL		OUTL			O/C PR	_	CIR
#	AMP	POLE	LTG	CO'S	PWR	DESCRIPTION				KVA	DESCRIPTION	LTG	CO'S	PWR	AMP	POLE	#
1	20	2		2		WEST BOOM	0.4	1	4	1	SOUTH RECEPTACLES		5		20	2	2
3	20	2		2		SOUTH BOOM	0.4	1	2	0.8	PEDASTAL RECEPTACLES		4		20	2	4
5	20	2		4		NORTH RECEPTACLES	0.8	0	8	0	EQUIPMENT BOOM				20	2	6
7	20	2		4		EAST RECEPTACLES	0.8	0	8	0	EQUIPMENT BOOM				20	2	8
9	20	2				SPARE	0		0	0	SPARE				20	2	10
11	20	2				SPARE	0		0	0	SPARE				20	2	12
13	20	2				SPARE	0		0	0	SPARE				20	2	14
15	20	2				SPARE	0		0	0	SPARE				20	2	16
ТОТА	LS:			KVA				4	2	TOTAL P	(VA					4.2	2
				AMPS				3	5	AVERAC	GE AMPS					18	3

PANEL SCHEDULE IS TYPICAL FOR OR ROOMS #1, #2, #3, #4, #5 , #6 & #7

### BRANCH CIRCUIT CONDUCTOR AND CONDUIT SIZING TABLE

AND CONDON SIZING TABLE								
CIRCUIT AMPACITY/VOLTAGE	CIRCUIT LENGTH	CONDUCTOR SIZE (PHASE, NEUTRAL AND GR)	CONDUIT SIZE					
20A/120V	0' - 60'	#12 AWG	0.75" Ø					
20A/120V	60' - 95'	#10 AWG	0.75" Ø					
20A/120V	95' - 150'	#8 AWG	1" Ø					
20A/120V	150' - 240'	#6 AWG	1.25" Ø					
20A/277V	0' - 140'	#12 AWG	0.75" Ø					
20A/277V	140' - 220'	#10 AWG	0.75" Ø					
20A/277V	220' - 350'	#8 AWG	1" Ø					
20A/277V	350' - 550'	#6 AWG	1.25" Ø					

NOTES:

- 1. WIRE SIZING IS BASED ON COPPER CONDUCTORS SUPPLYING A 20A, 120V CIRCUIT AT THE INDICATED VOLTAGE, ASSUMED TO BE 80% LOADED (16A), WITH MAXIMUM VOLTAGE DROP OF 3% AT THE LOAD.
- 2. DOWN-SIZED WIRE AT DEVICE/LOAD AS REQUIRED AND TERMINATE CONDUCTORS IN A SAFE AND CODE COMPLIANT MANNER.
- 3. CONDUIT SIZE IS BASED ON A MAXIMUM OF 3 CIRCUITS PER CONDUIT, EACH WITH A SEPARATE NEUTRAL CONDUCTOR.

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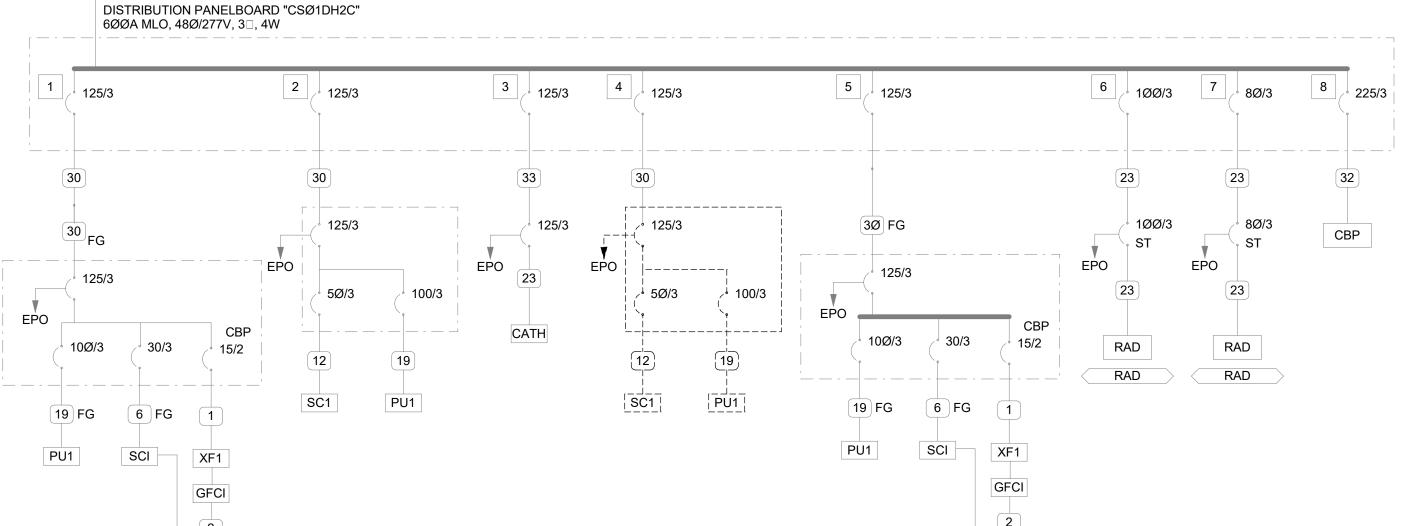
## SHEET KEYNOTES

1. PROVIDE NEW BREAKER IN EXISTING GE PANEL.

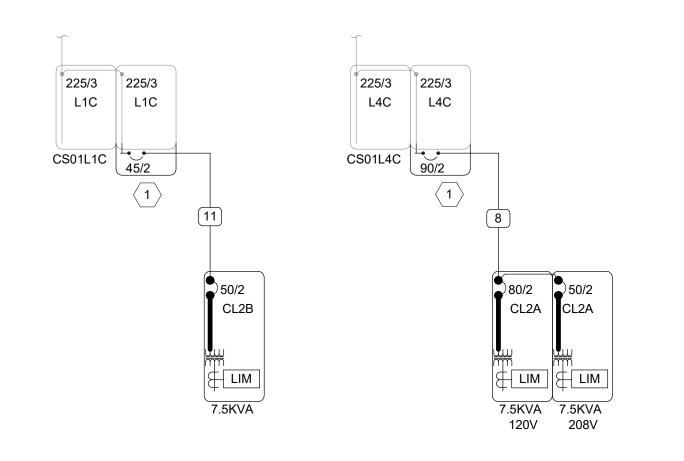


#### TO CNL2DH2C SHEET C-EP6.Ø5

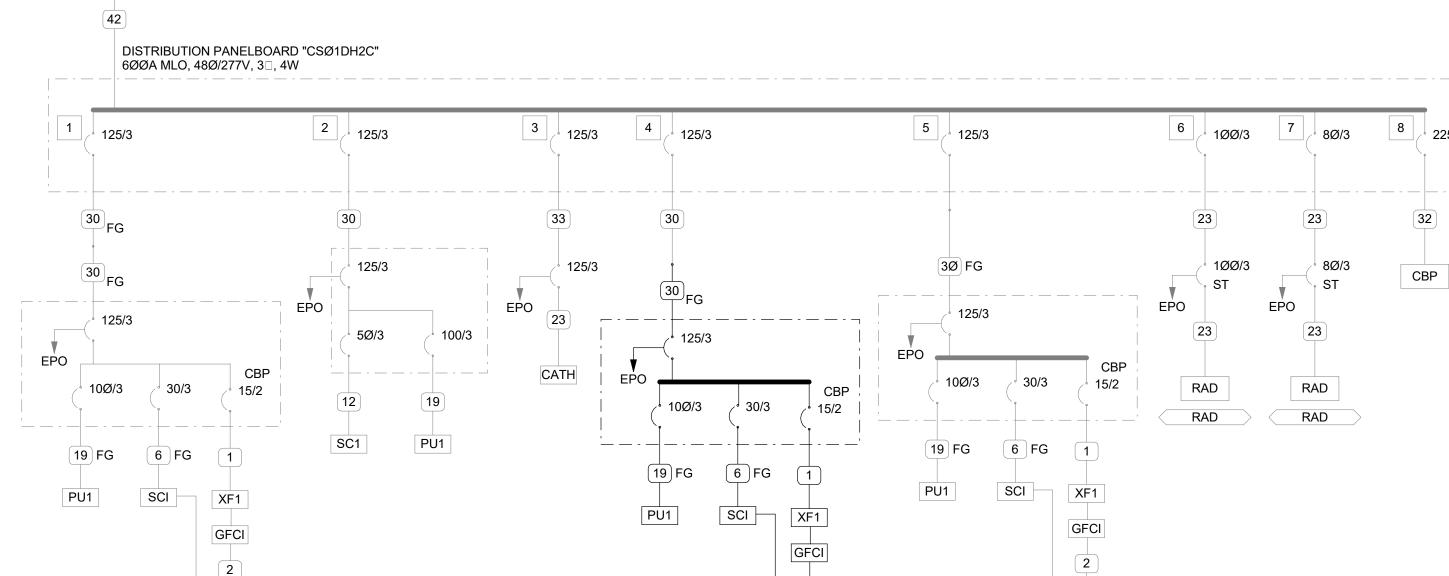
DISTRIBUTION PANELBOARD "CSØ1DH2C"



## **DEMOLITION PLAN**



TO CNL2DH2C SHEET C-EP6.Ø5



2 NEW ONE LINE DIAGRAM
SCALE: NTS

	CONDUCTOR AND CONDUIT SCHEDULE NOTES
۱.	CONDUCTORS SHOWN ARE SHOWN FOR EACH CONDUIT WITH MODIFICATIONS AS NOTED IN NOTE 4. ALL CONDUCTORS SHOWN AITHWN UNLESS OTHERWISE NOTED.

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

## 4. SYMBOL SUBSCRIPTS:

"2N": INCLUDE TWO NEUTRAL CONDUCTORS, SIZED AS SCHEDULED FOR PHASED AND NEUTRAL CONDUCTORS.

"FG": FULL SIZE GROUND, SIZE EQUIPMENT GROUNDING CONDUCTOR TO BE THE 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 GROUND OF EQUIPMENT GROUND CONDUCTOR.

"SE": SUBSTITUTE "SE" CONDUCTOR FOR "G" CONDUCTOR SHOWN, WHICH IS SIZED FOR THE GROUNDING OF THE SECONDARY OF THE SEPARATELY DERIVED SYSTEM.

#### CONDUIT SCHEDULE — SCHEDULE NUMBER (E.G.) 5 IG SUBSCRIPT (NOTE 5)

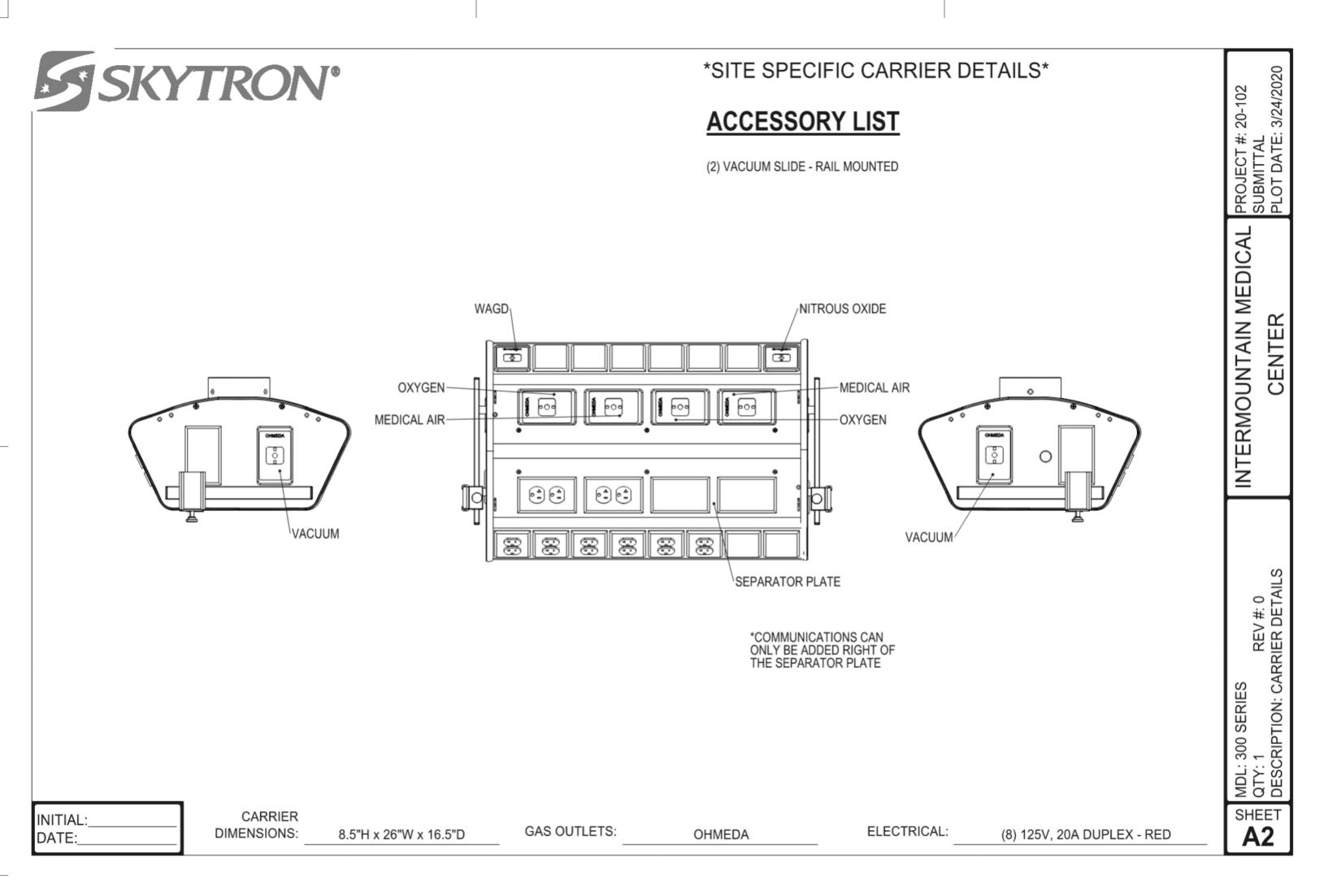
CONDUCTOR AND

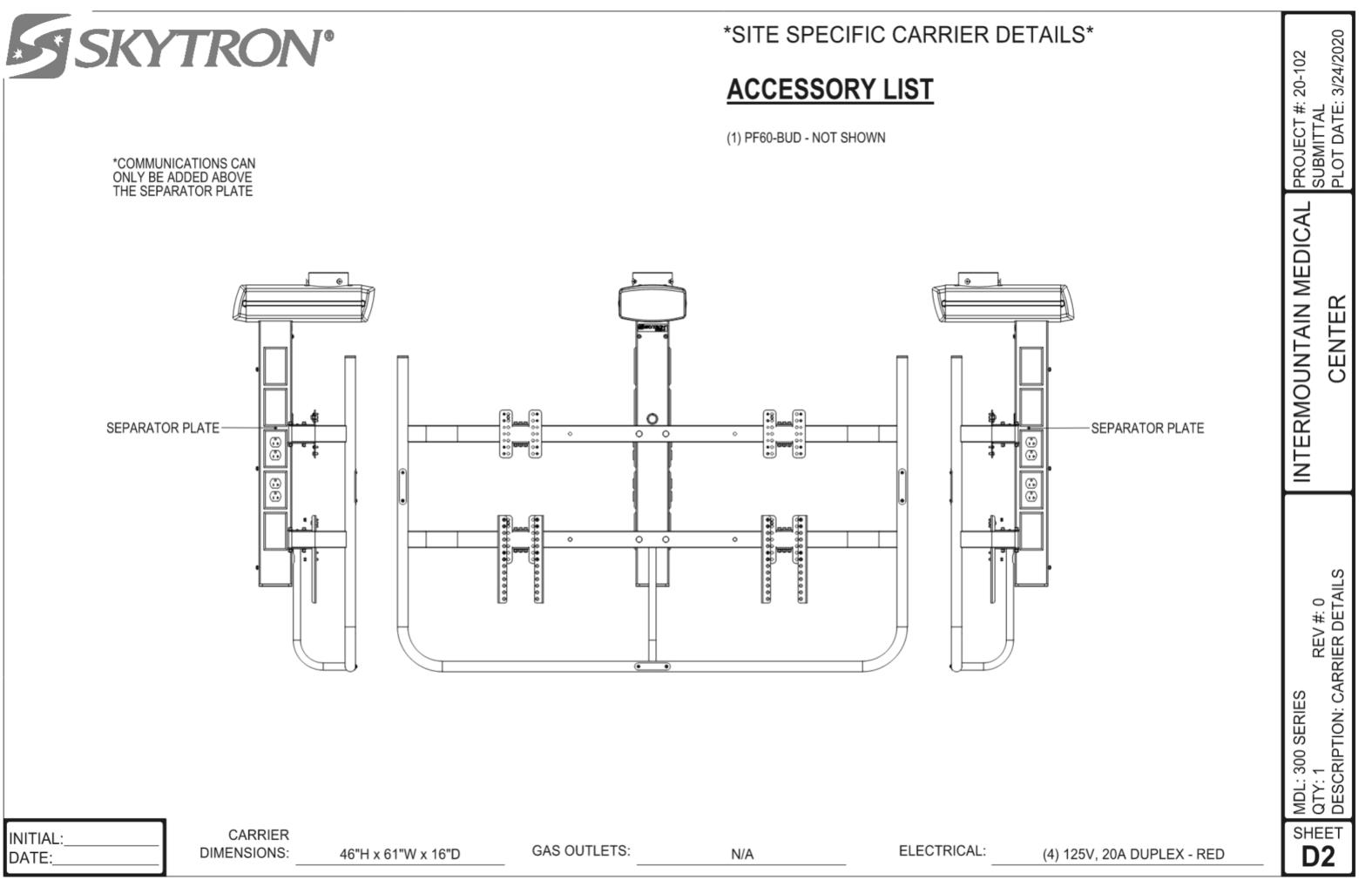
		DOOM! 1 (NOTE						
SYM	AMP	CONDUIT SIZE		JCTOR(N		IG	SE	NOTES
			QTY	SIZE	GR			
1	20	.75	2	12	12	12	8	2
2	20	.75	3	12	12	12	8	2,3
3	20	.75	4	12	12	12	8	2,3
4	30	.75	2	10	10	10	8	2
5	30	.75	3	10	10	10	8	2
=								
6	30	.75	4	10	10	10	8	2
7	40	1	2	8	10	8	6	2
8	40	1	3	8	10	8	6	2
9	40	1	4	8	10	8	6	2
10	55	1	2	6	10	8	4	2
11	55	1	3	6	10	8	4	2
12	55	1.25	4	6	10	8	4	2
=		1.20						
(13)	70		2	4	8	4	2	2
14	70	1.25	3	4	8	4	2	2
<u>[15]</u>	70	1.25	4	4	8	4	2	2
16	85	1.25	2	3	8	3	2	2
<u></u>	85	1.25	3	3	8	3	2	2
18	85	1.25	4	3	8	3	2	2
19	95	1.25	3	2	8	2	2	2
=		1.50	4	2	8	2	2	2
20	95							
<u>[21]</u>	130	1.50	3	1	6	2	2	2
<u>(22)</u>	130	1.50	4	1	6	2	2	2
23	150	2	3	1/0	6	2	1/0	2
24	150	2	4	1/0	6	2	1/0	2
25	175	2	3	2/0	6	2	2/0	2
26	175	2	4	2/0	6	2	2/0	2
27	200	2	3	3/0	6	2	2/0	2
$\overline{}$								
28)	200	2.50	4	3/0	6	2	2/0	2
29	230	2.50	3	4/0	4	2	2/0	2
<b>30</b>	230	2.50	4	4/0	4	2	2/0	2
(31)	255	2.50	3	250	4	1	2/0	2
32	255	2.50	4	250	4	1	2/0	2
33	310	3	3	350	3	1/0	3/0	2
34	310	3	4	350	3	1/0	3/0	2
=								
35	380	3.50	3	500	3	3/0	3/0	2
36	380	4	4	500	3	3/0	3/0	2
<b>(37)</b>	400	2 EA 2	3	3/0	3	3/0	3/0	2
38	400	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	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
$\overline{}$								
(42)	620	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	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	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	3 EA 3.50	4	400	2/0	4/0	3/0	4
49	1140		3	500	3/0	4/0	3/0	4
		3 EA 4						
<u>(50)</u>	1140	3 EA 4	4	500	3/0	4/0	3/0	4
<u>[51]</u>	1240	4 EA 3	3	350	3/0	4/0	3/0	4
52	1240	4 EA 3	4	350	3/0	4/0	3/0	4
53	1675	5 EA 4	4	400	4/0	4/0	4/0	4
54	2010	6 EA 4	4	400	250	250	250	4
55	2660	7 EA 4	4	500	350	350	350	4
56	3040	8 EA 4	4	500	500	500		
$\rightarrow$							500	4
[57]	4180	11 EA 4	4	500	500	500	500	4
58		5 EA 4						6
59		5						6
60		10 EA 4						6

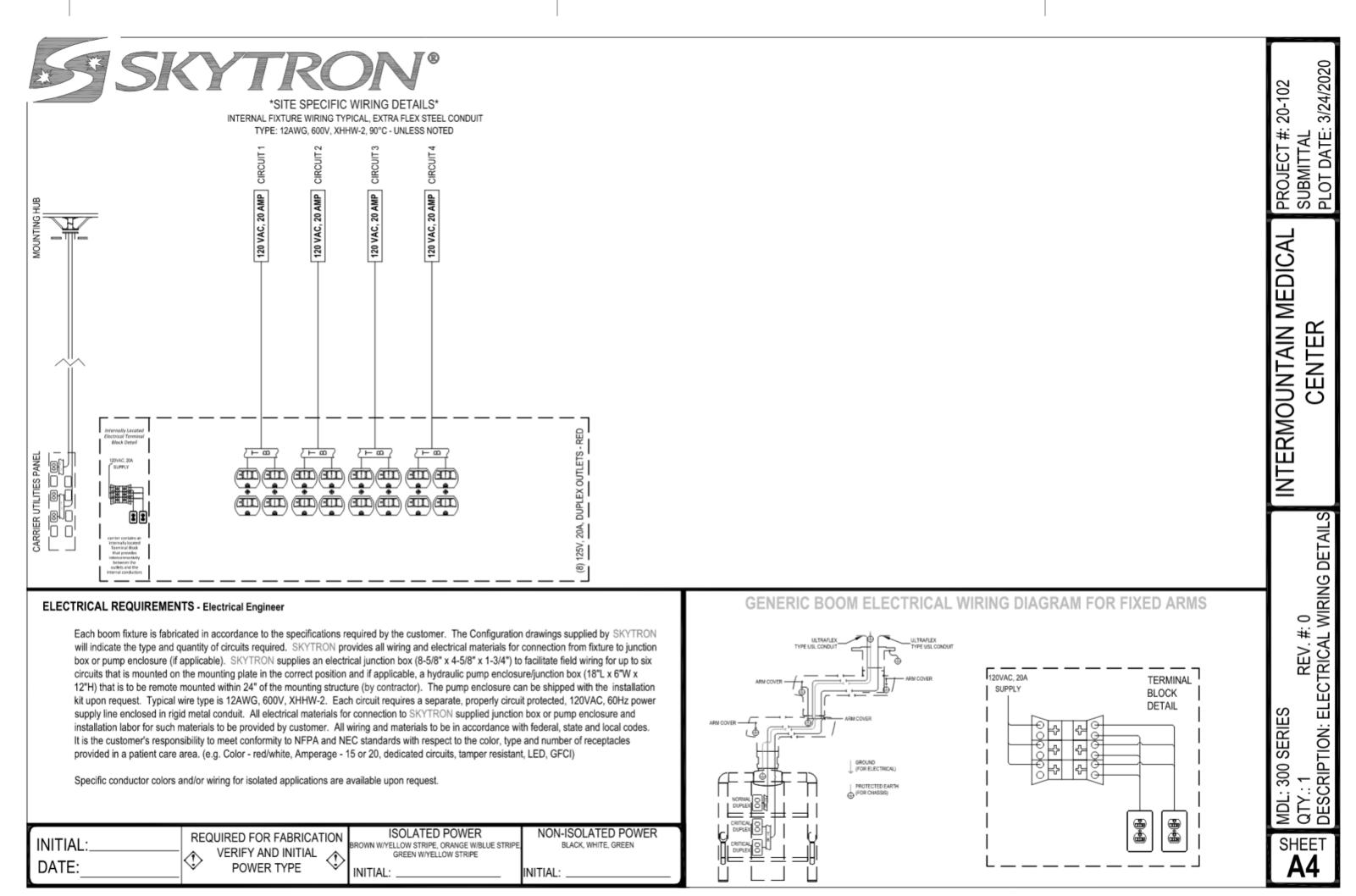
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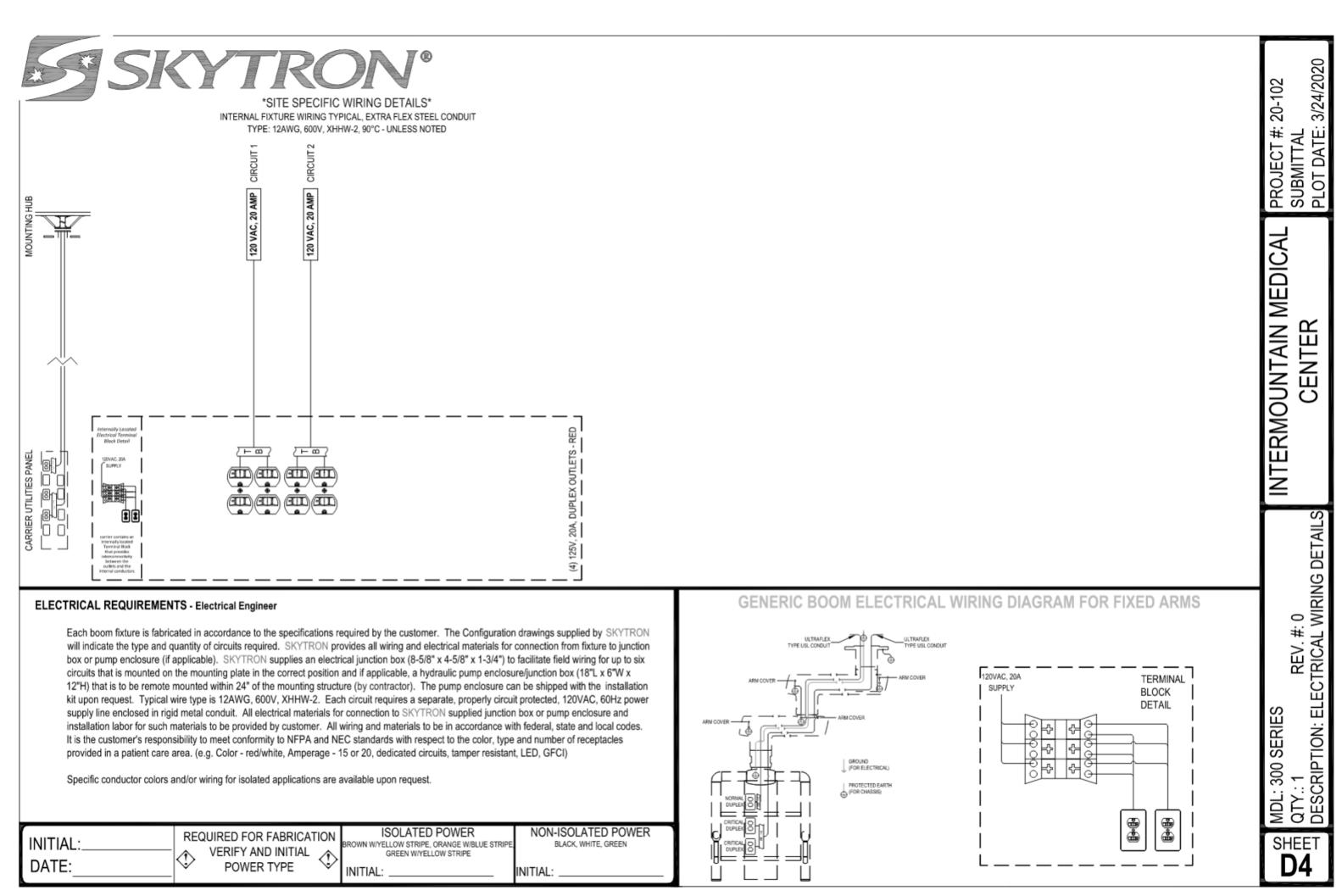
ONE-LINE DIAGRAM

EP601











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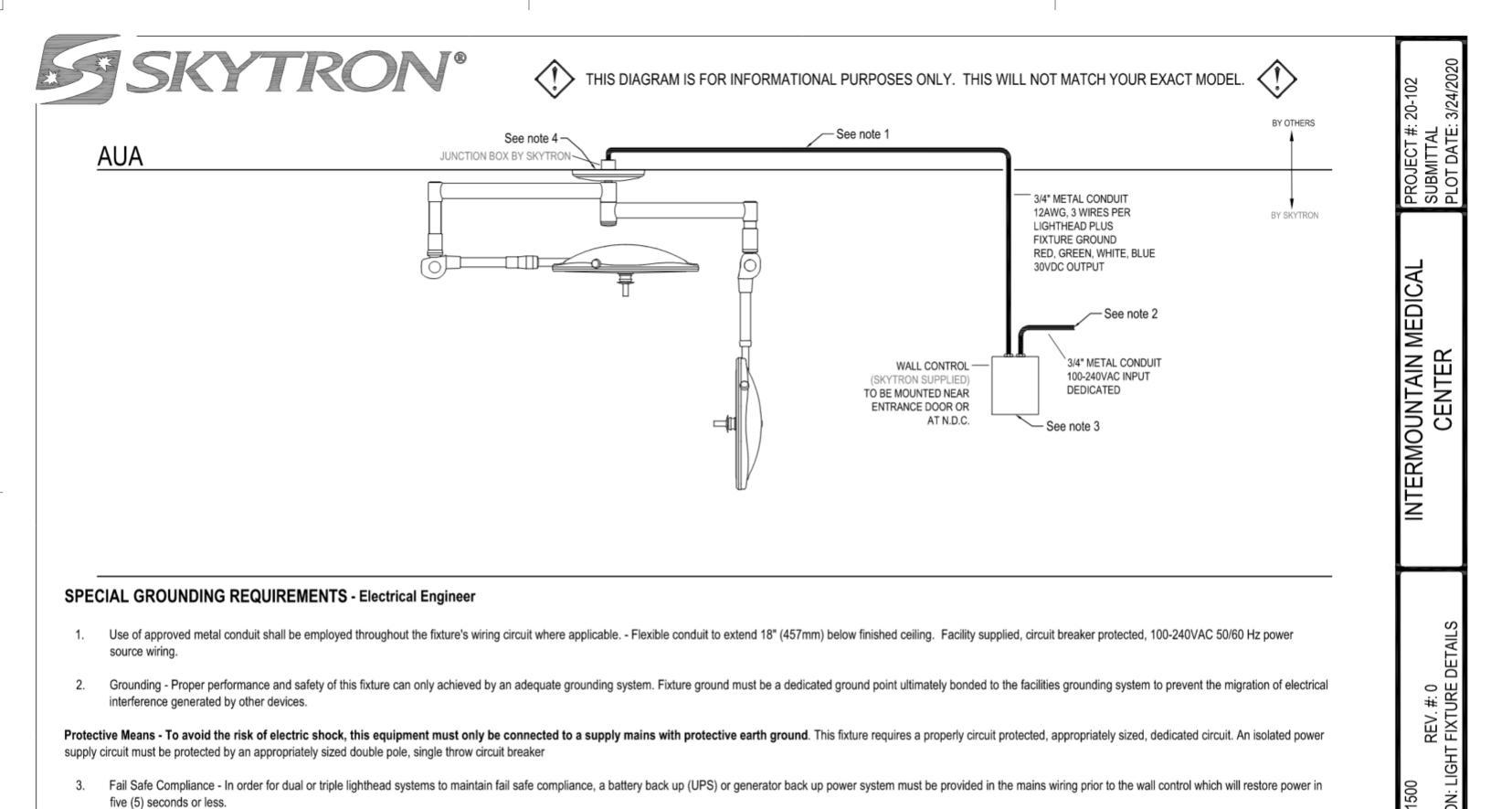


NJRA Project #

SKYTRON DRAWINGS

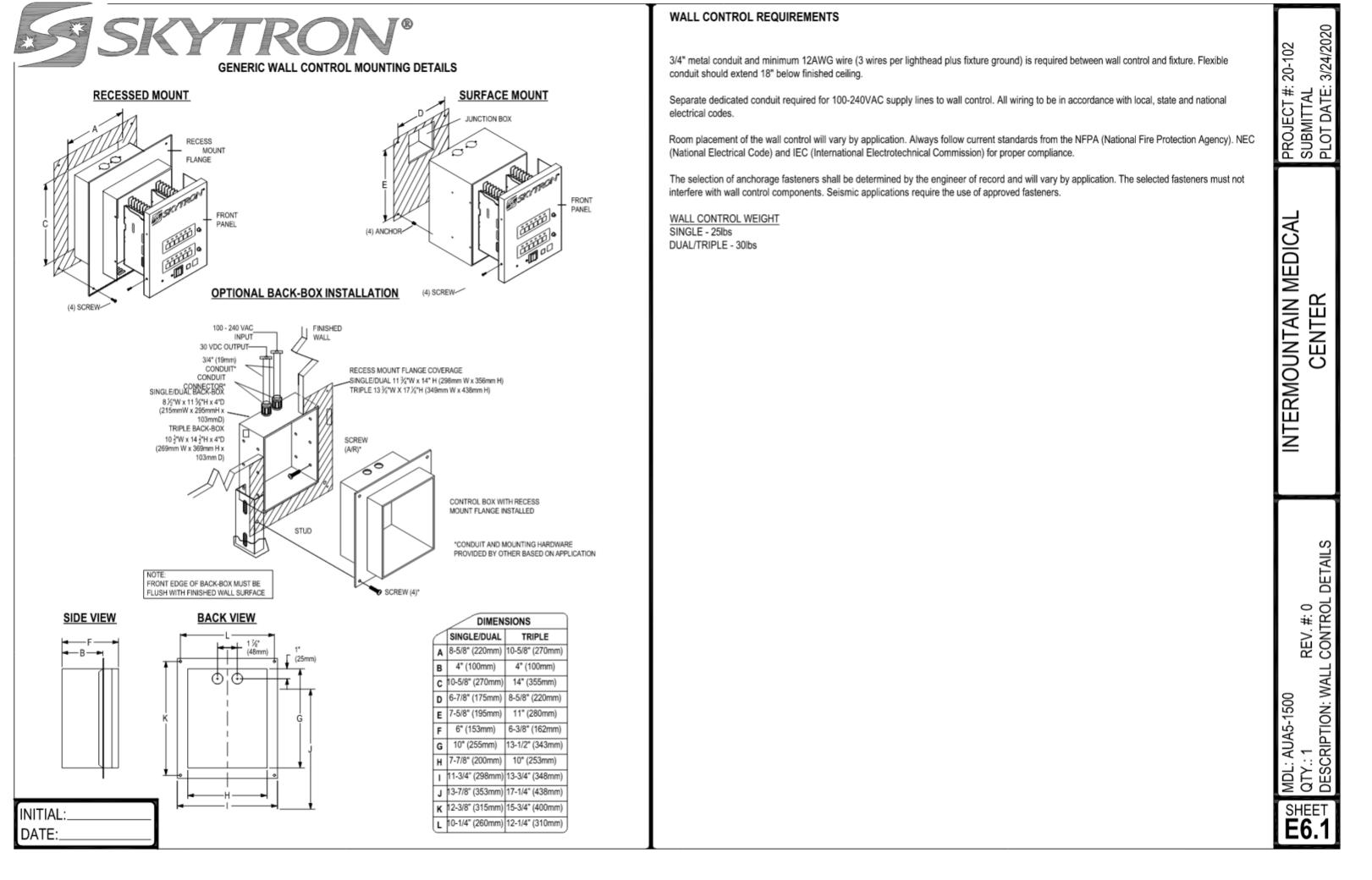
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\_\_EP701



4. Mounting and anchorage: please refer to the Aurora Four Installation Manual for mounting requirements. Seismic applications will differ in construction requirements. Please request seismic calculations and mounting requirements from your

SKYTRON representative.





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- Cath Lab 9 Remodel Project

NJRA Project # 20205
Construction Documents July 15, 2020

SKYTRON DRAWINGS

\_\_EP702

- ALL DIMENSIONS SHOWN ON THIS DRAWING ARE FROM FINISHED SURFACES.

PHYSICIST TO SPECIFY RADIATION PROTECTION.

- THIS DRAWING DOES NOT PROVIDE RADIATION SHIELDING REQUIREMENTS FOR X-RAY AND ASSOCIATED

EQUIPMENT. THE CUSTOMER IS RESPONSIBLE FOR CONSULTING WITH A REGISTERED RADIATION

DATE

DESCRIPTION

-ISSUE BLOCK-

REF. #: CPQ-13227

SCALE: AS NOTED B. CLEATON

04/08/20

- IT IS RECOMMENDED THAT THE SIEMENS DRAWINGS BE INCORPORATED WITH THE CONSTRUCTION

DOCUMENTS FOR REFERENCE.

- THIS DRAWING IS DESIGNED TO CONFORM TO FEATURES AND EQUIPMENT REQUIREMENTS PRESENTED

AT THE TIME OF THEIR PREPARATION. SINCE BOTH THESE FACTORS ARE SUBJECT TO DESIGN

- THIS SET OF PLANS REPRESENTS A COMPLETE SET OF DETAILS AND SHOULD NOT BE SEPARATED.

MODIFICATION, THEY ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES.

ATTENTION:



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IMC - Cath Lab 9 Remodel Project

SIEMENS DRAWINGS

NJRA Project #

Construction Documents

July 15, 2020

EP703

- IT IS RECOMMENDED THAT THE SIEMENS DRAWINGS BE INCORPORATED WITH THE CONSTRUCTION

DOCUMENTS FOR REFERENCE.

- THIS DRAWING IS DESIGNED TO CONFORM TO FEATURES AND EQUIPMENT REQUIREMENTS PRESENTED

AT THE TIME OF THEIR PREPARATION. SINCE BOTH THESE FACTORS ARE SUBJECT TO DESIGN

- THIS SET OF PLANS REPRESENTS A COMPLETE SET OF DETAILS AND SHOULD NOT BE SEPARATED.

MODIFICATION, THEY ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES.

ATTENTION:

- ALL DIMENSIONS SHOWN ON THIS DRAWING ARE FROM FINISHED SURFACES.

PHYSICIST TO SPECIFY RADIATION PROTECTION.

- THIS DRAWING DOES NOT PROVIDE RADIATION SHIELDING REQUIREMENTS FOR X-RAY AND ASSOCIATED

EQUIPMENT. THE CUSTOMER IS RESPONSIBLE FOR CONSULTING WITH A REGISTERED RADIATION

DATE

DESCRIPTION

-ISSUE BLOCK-

CALE: AS NOTED REF. #: CPQ-13227

ARCHITECTS

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ARTIS Q/Q.ZEN/ZEE CEILING **SIEMENS** 

B. CLEATON

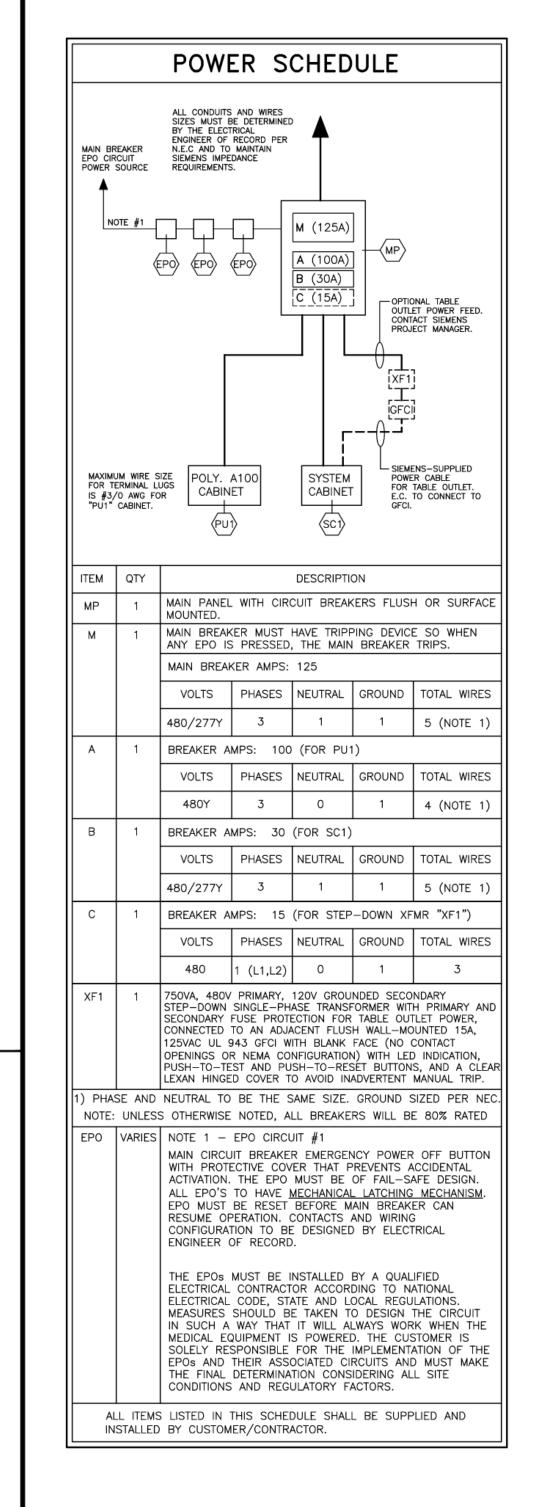
04/08/20

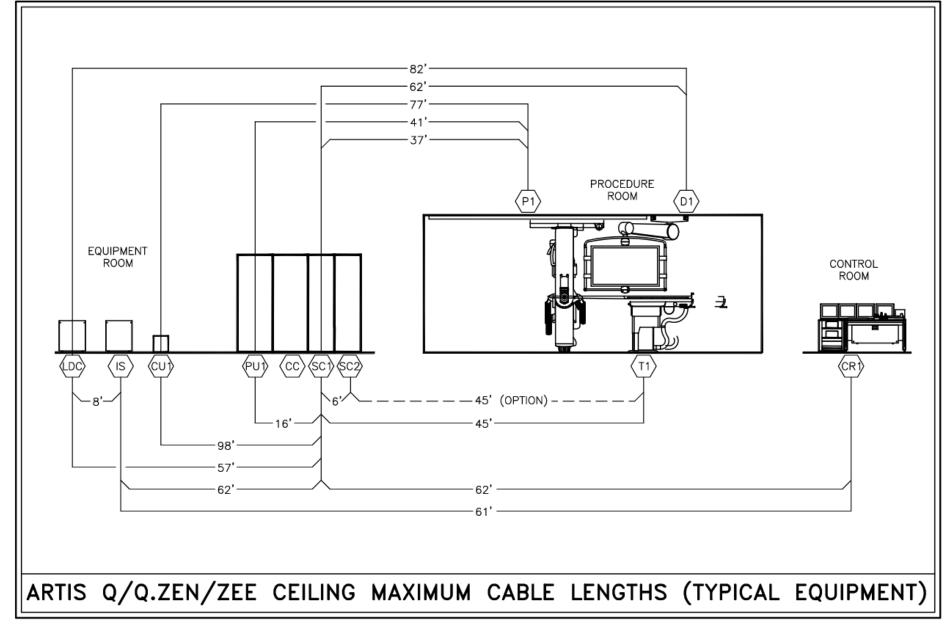
NJRA Project # 20205 Construction Documents July 15, 2020

**Projec** 

SIEMENS DRAWINGS

\_\_EP704





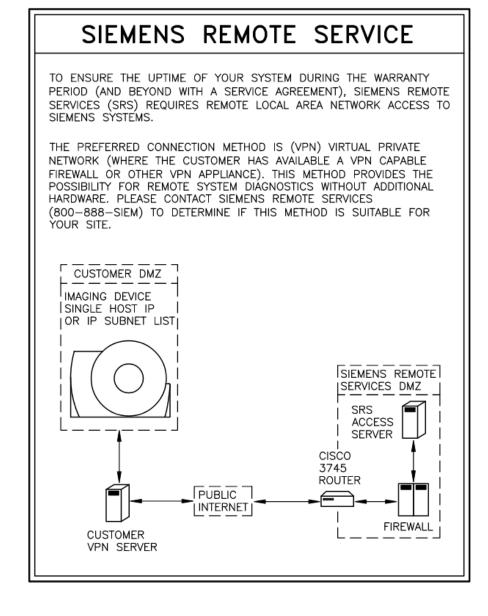
DOWED DEO	LUDENTENTO					
POWER REQ	UIKEMEN 12					
WIRING SYSTEM: 480Y/2	77V, 3 PHASE, 5-WIRE, 60 HZ.					
MINIMUM POWER SUPPLY:						
IF AN ON-SITE TRANSFORMER IS R VOLTAGE, IT MUST BE OF SUFFICIEI CHARACTERISTICS TO MAINTAIN SUPI REQUIREMENTS (TRANSFORMER AND	NT CAPACITY AND PLY VOLTAGE AND IMPEDANCE					
X-RAY GENERATOR (PU1) MOMENTARY RATING: (RADIOGRAPHIC EXPOSURE)	162 KVA					
X-RAY GENERATOR (PU1) LONG-TIME RATING: (FLUOROSCOPY)	14 KVA					
SYSTEM CABINET (SC1) LONG-TIME RATING:	8.5 KVA					
LINE IMPEDANCE	≤ 120 (mΩ)					
POWER QUALITY	PARAMETERS					
MAXIMUM LINE VOLTAGE VARIATION	10% OF SYSTEM VOLTAGE					
PHASE IMBALANCE: 2	%					
FREQUENCY VARIATION:	: 1 HZ					
POWER SUPPLY NOTES:  1. INCOMING POWER SUPPLIES FOR SIEMENS EQUIPMENT SHOULD BE DEDICATED (BACK TO SOURCE), ISOLATED AND INSULATED FROM ANY OTHER EQUIPMENT SUCH AS ELEVATORS, GENERATORS, HVAC SYSTEMS, ETC.						
2. SIEMENS HEALTHCARE REQUIRES 1	THAT THE INCOMING POWER MEETS					

THE POWER QUALITY REQUIREMENTS.

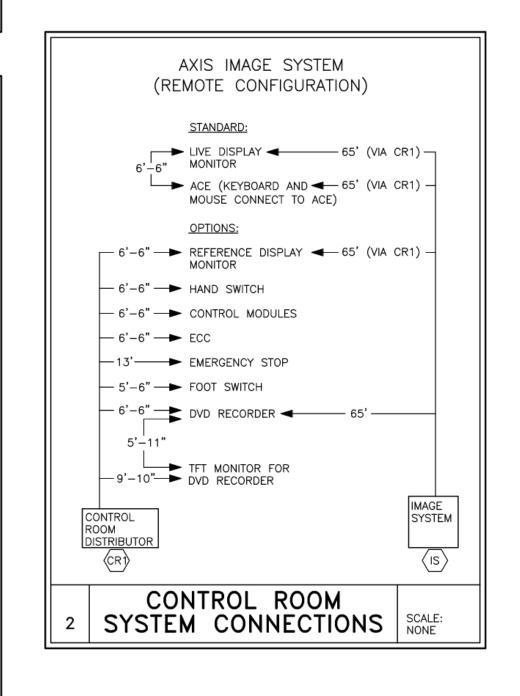
EQUIPMENT GROUNDING CONDUCTOR TO COMPLY WITH THE FOLLOWING:
1) SIZE GROUNDING WIRE TO SIEMENS EQUIPMENT PER POWER SCHEDULE REQUIREMENTS. 2) DERIVED FROM THE ELECTRICAL SERVICE, TRANSFORMER OR MAIN DISTRIBUTION PANEL FEEDING THE SIEMENS EQUIPMENT. 3) RUN IN THE SAME CONDUIT, TROUGH OR RACEWAY AS THE PHASE CONDUCTORS. 4) CONTINUOUS, WITH NO BREAKS OR USE OF CONDUIT, CHASSIS OR EARTH AS THE SOLE GROUNDING PATH. 5) BONDED TO CHASSIS AND/OR CONDUIT IN ACCORDANCE WITH THE NEC REQUIREMENTS. 6) MINIMIZE CONNECTIONS OR TERMINALS TO ENSURE CONTINUITY OVER THE LIFE OF THE INSTALLATION. 7) AS A NORM, THERE SHOULD NOT BE ANY CURRENT PRESENCE ON THE GROUND CONDUCTOR, BUT IT IS ACCEPTABLE TO HAVE ≤500mA DURING OPERATION OF THE IMAGING EQUIPMENT.

**GROUNDING NOTES** 

POWER QUALITY POOR POWER WILL ALTER EQUIPMENT PERFORMANCE IT IS IN THE CUSTOMER'S INTEREST THAT THE ELECTRICAL CONTRACTOR BE RESPONSIBLE FOR TESTING AND VERIFYING THAT THE EQUIPMENT POWER SUPPLY COMPLIES WITH THE SIEMENS



NETWORK REQUIREMENT
A GIGABIT NETWORK IS REQUIRED FOR ADEQUATE IMAGE DATA TRANSFER SPEED BETWEEN THE IMAGER AND 3D RECONSTRUCTION WORKSTATION. WORKFLOW AND CLINICAL NEEDS DEMAND 3D IMAGES BE AVAILABLE FOR REVIEW BY CLINICAL STAFF IMMEDIATELY UPON ACQUISITION.



FROM	VIA	то	DESCRIPTION	REMARKS					
PANEL	1	MP	ELECTRICAL CONTRACTOR TO SIZE PLUS GROUND	SEE "POWER SCHEDULE"					
MP	2	PU1	3#2, 1#2 GROUND AND CONNECT	SEE "POWER SCHEDULE"					
MP	3	SC1	3#6, 1#6 NEUTRAL, 1#6 GROUND AND CONNECT	SEE "POWER SCHEDULE"					
MP	4	EPO	2#12, PLUS GROUND	SEE "POWER SCHEDULE"					
EP0	5	EPO	2#12, PLUS GROUND	EMERGENCY POWER					
SC1	6	WL	2#14-18 AWG	SEE "LIGHTING DETAIL" SHEE E-501					
SC1	7	DS	24V SIGNAL, 2#14-18 AWG	DOOR SWITCH					
WL	8	WL	3#12, PLUS GROUND	WARNING LIGHT					
DS	9	DS	24V SIGNAL, 2#14-18 AWG	DOOR SWITCH					
MP	10	XF1	EC TO SIZE (OPTIONAL TABLE POWER OUTLET)	SEE "POWER SCHEDULE"					

SIEMENS SUPPLIED CABLES								
FROM	VIA	то	DESCRIPTION	REMARKS				
P1	11,VD1	PU1	P1 LEFT SIDE	MAXIMUM LENGTH 41'				
P1	12,VD1	PU1	(2) HIGH VOLTAGE CABLES P1 LEFT SIDE	MAXIMUM LENGTH 41'				
P1	13,VD1	SC1	P1 LEFT SIDE	MAXIMUM LENGTH 37'				
P1	14	CU1	FOR LIQUID COOLING HOSES (P1 LEFT SIDE)	MAXIMUM LENGTH 77'				
SC1	VD1,15,VD3,HD1	CR1	FOR CONTROL ROOM OPTIONS (CONTROL MODULES, FOOT SWITCH, DISPLAY, ECC)	MAXIMUM LENGTH 62'				
SC1	SC,16	T1	NOT WITH OR TABLE	MAXIMUM LENGTH 45'				
SC1	VD1,17	CU1		MAXIMUM LENGTH 98'				
SC1	CABINETS	PU1		MAXIMUM LENGTH 16'				
SC1	VD1,18,VD2	IS	62' CABLES SELECTABLE ON FACTORY CHECKLIST	MAXIMUM LENGTH 28'				
SC1	VD1,19	D1	OEM DISPLAY CONNECTION	MAXIMUM LENGTH 98'				
SC1	VD1,20	D1	OEM DISPLAY CONNECTION	MAXIMUM LENGTH 62'				
IS	VD2,21	D1	OEM DISPLAY CONNECTION	MAXIMUM LENGTH 75'				
IS	VD2,22,VD3,HD1	CR1		MAXIMUM LENGTH 61'				
S	VD2,23,VD3,HD1	CR1		MAXIMUM LENGTH 61'				
CRB	24	T1	VOLCANO IVUS (VOLCANO S51 CABLE SET)	MAXIMUM LENGTH 98'				
SC1	VD1,25	IW	INJECTOR WALL CONNECTION	MAXIMUM LENGTH 62'				
T1	26	B10						
CRB	27	B10	CUSTOMER PATIENT MONITORING, ETC.					
XF1	28,SC1,SC,16	T1	OPTIONAL TABLE POWER OUTLET	MAXIMUM LENGTH 91'				
Й	VD2,29	CUSTOMER MONITOR	LIVE+REF VIDEO INTERFACE TO OEM (OPTION)	MAXIMUM LENGTH 110'				

**ARCHITECTS** 

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No. 11783731-2202 JASON R. WORTHEN

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SIEMENS DRAWINGS

EP705

- THIS DRAWING IS DESIGNED TO CONFORM TO FEATURES AND EQUIPMENT REQUIREMENTS PRESENTED AT THE TIME OF THEIR PREPARATION. SINCE BOTH THESE FACTORS ARE SUBJECT TO DESIGN

- IT IS RECOMMENDED THAT THE SIEMENS DRAWINGS BE INCORPORATED WITH THE CONSTRUCTION DOCUMENTS FOR REFERENCE.

TABLE POWER OUTLET SAFETY

NOTE: LIFE-SUSTAINING EQUIPMENT MUST NOT BE CONNECTED TO

SIEMENS SYSTEM CABINET "SC1"

ROOM LIGHTS

X-RAY ON

WARNING LIGHT

CONTROL RELAY

\_\_\_\_\_

1N4002 OR EQUIVALENT).

NOTES:

CONTROL RELAY

THE TABLE POWER OUTLET (IF INSTALLED) IN THE SIEMENS PATIENT TABLE. POWER WILL BE DISCONNECTED IF EPO BUTTON IS PRESSED. TABLE OUTLET IS 120V, FUSED AT 5A.

> LIGHTING POWER FROM WALL

100-277 VAC

SCALE: NONE

----- LIGHT POWER

— SWITCH 100-277

NEUTRAL

NEUTRAL

ROOM LIGHTS

24 VDC POWER SUPPLY

"X-RAY ON"

24 VDC RELAYS MUST INCLUDE A FREE-WHEELING DIODE (P/N

. ALL ITEMS PROVIDED BY CUSTOMER ELECTRICAL CONTRACTOR EXCEPT

CONTACTS INSIDE SIEMENS "SC1" CABINET (ITEMS INSIDE DOTTED

3. ALL WIRING THAT CONNECTS TO SIEMENS "SC1" CABINET MUST BE 14-18 AWG STRANDED WIRE.

4. ONLY 3 WIRES LABELED "24 VDC", "ROOM LIGHTS" AND "X-RAY ON"

HANDLE THE VOLTAGE AND AMPERAGE OF LIGHTING CURCUIT.

LIGHTING DETAIL

6. IF NEEDED, A SWITCH TO BLOCK RADIATION CAN BE INSTALLED IN

\* THE SWITCH (24 VDC / 20 MA) MUST BE PROVIDED ON SITE. \* CONTROL USING +24 V FROM THE SYSTEM CONTROL CABINET \* PLAN THE SWITCH SO THAT UNINTENTIONAL OPERATION IS NOT

\* THE SWITCH MUST BE PROVIDED WITH AN APPROPRIATE SYMBOL (OR DESIGNATION) FROM WHICH THE FUNCTION CAN BE RECOGNIZED. WARNING LIGHT/ROOM LIGHT SCHEMATIC

5. 24 VDC RELAYS ARE TO BE SELECTED BY ELECTRICAL CONTRACTOR TO

SHOULD BE SENT TO SIEMENS "SC1" CABINET.

SERIES WITH THE DOOR CONTACT.

ARTIS Q/Q.ZEN/ZEE CEILING **SIEMENS** (801) 209-6582 INTERMOUNTAIN MEDICAL CENTER 5121 COTTONWOOD STREET, MURRAY, UT 84107 CATH LAB #9 - ARTIS Q.ZEN CEILING THE USE OR REPRODUCTION OF THIS TITLE BLOCK WITHOUT PROJECT #: SIEMENS AUTHORIZATION WILL RESULT IN PROSECUTION UNDER 2001281 R-101RA VERSION DATED 03/24/20 04/08/20 APPROVED BY CUSTOMER FOR FINALS FULL EXTENT OF THE LAW. ALL RIGHTS ARE RESERVED. DATE DESCRIPTION B. CLEATON AS NOTED REF. #: CPQ-13227 -ISSUE BLOCK-04/08/20

ATTENTION:

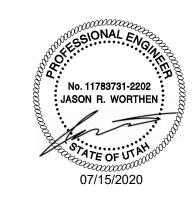
MODIFICATION, THEY ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES. - THIS SET OF PLANS REPRESENTS A COMPLETE SET OF DETAILS AND SHOULD NOT BE SEPARATED.

- ALL DIMENSIONS SHOWN ON THIS DRAWING ARE FROM FINISHED SURFACES. - THIS DRAWING DOES NOT PROVIDE RADIATION SHIELDING REQUIREMENTS FOR X-RAY AND ASSOCIATED EQUIPMENT. THE CUSTOMER IS RESPONSIBLE FOR CONSULTING WITH A REGISTERED RADIATION PHYSICIST TO SPECIFY RADIATION PROTECTION.

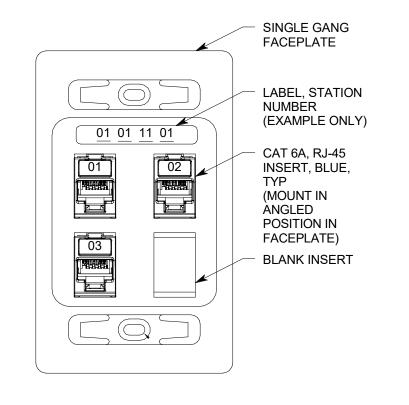
NJRA Project #

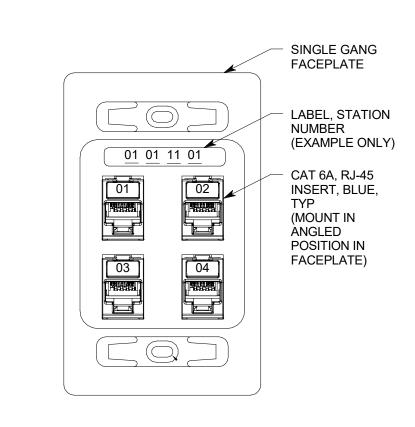
20205 July 15, 2020

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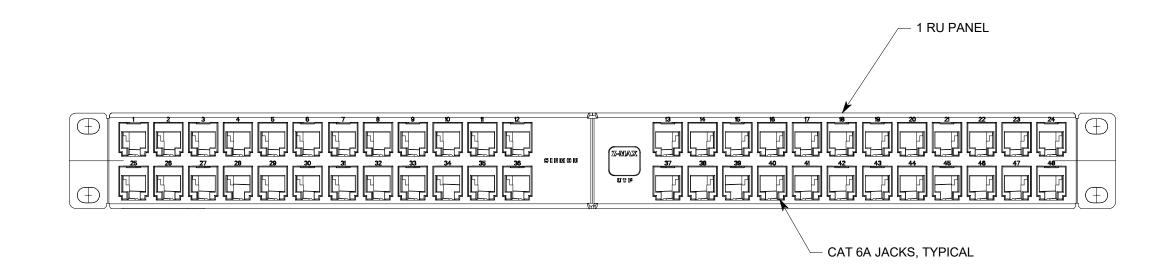




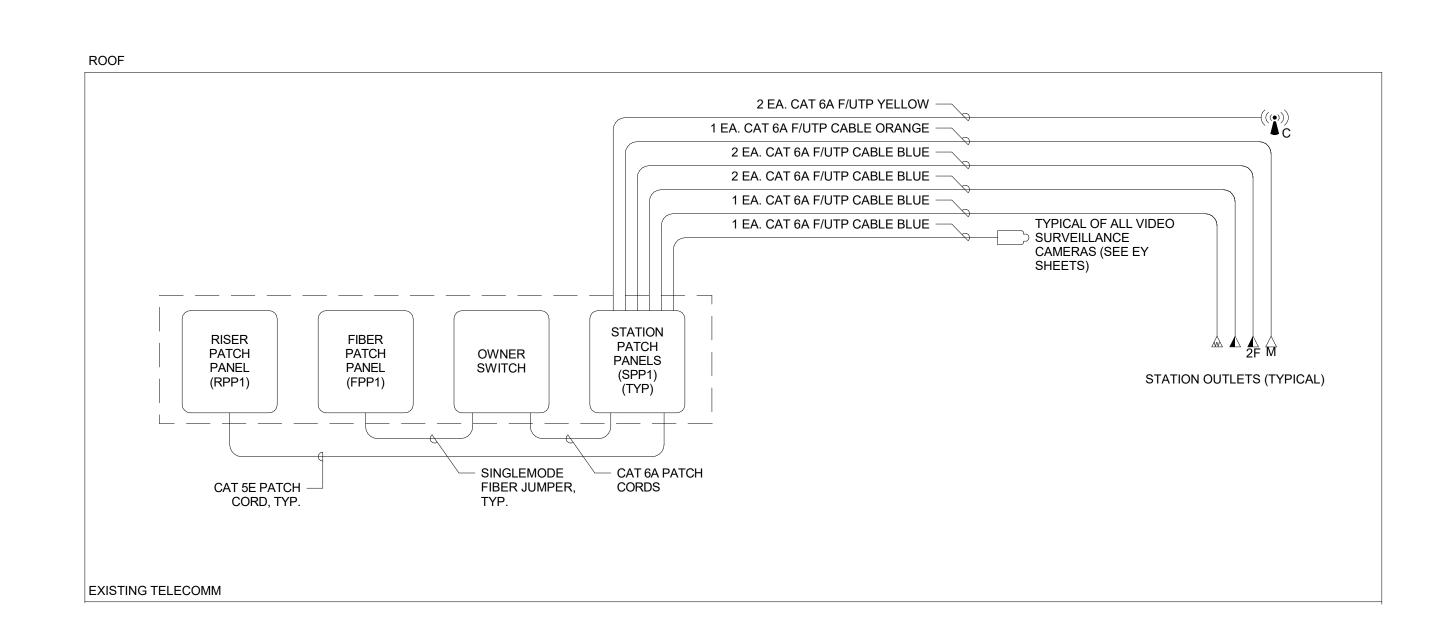


TYPICAL 3-PORT DATA OUTLET

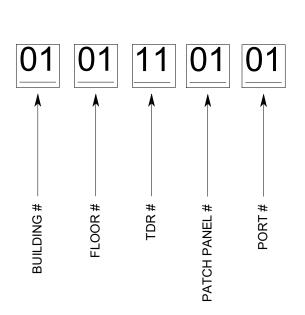




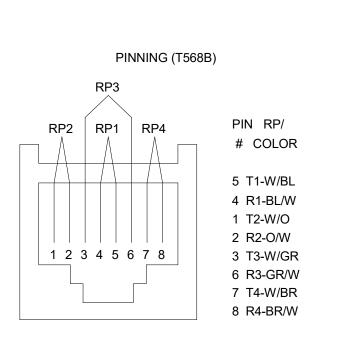
STATION PATCH PANEL, (SPP1), TDR

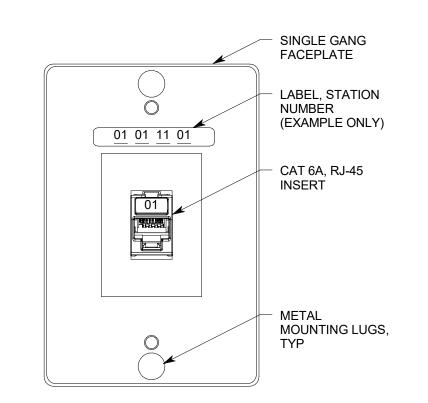


TELECOM CABLE RISER DIAGRAM



CABLE ID EXAMPLE DETAIL





SINGLE GANG FACEPLATE

LABEL, STATION

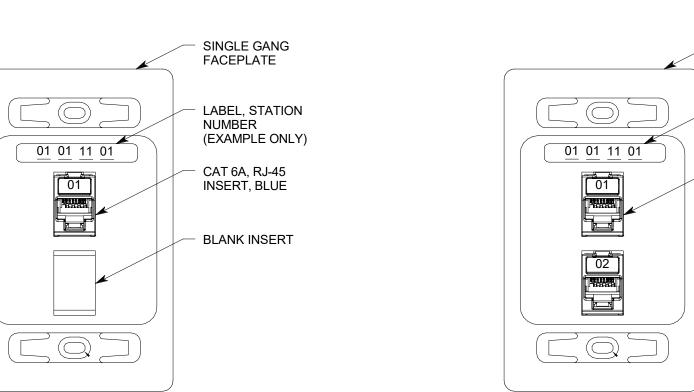
CAT 6A, RJ-45 INSERT, BLUE, TYP

NUMBÉR (EXAMPLE ONLY)

TYPICAL WALL PHONE OUTLET

NO SCALE

TYPICAL VOICE-DATA OUTLET PINNING DETAIL



TYPICAL 1-PORT DATA OUTLET



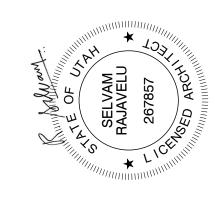
NJRA Project # Construction Documents July 15, 2020

20205

TELECOM CONDUIT RISER DIAGRAM

ET601

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ARCHITECTURAL NOTES ALL PRELIMINARY EQUIPMENT LAYOUTS SUBMITTED BY SIEMENS HEALTHCARE ARE BASED ON THE RECOMMENDED SPACE NECESSARY FOR THE OPERATION AND SERVICEABILITY OF THE EQUIPMENT BEING PROPOSED. SIEMENS WILL NOT SUBMIT AN EQUIPMENT LAYOUT THAT IS NOT IN THE BEST INTEREST OF BOTH THE CUSTOMER AND SIEMENS. ALL EQUIPMENT LAYOUTS ARE BASED EITHER ON AN ACTUAL SITE SURVEY OR ARCHITECTURAL DRAWINGS SUPPLIED TO SIEMENS. SIEMENS WILL NOT BE RESPONSIBLE FOR ANY ALTERATIONS THAT ENCROACH WITHIN DESIGNATED SAFETY AND SERVICE CLEARANCE ZONES AS INDICATED ON DRAWINGS (I.E., PIPE CHASES, VENTILATION DUCTS, CASEWORK, AND SOFFITS, ETC.) MADE BY THE CUSTOMER OR REQUIRED BY A CUSTOMER'S ARCHITECTURAL FIRM ONCE PRELIMINARY DRAWINGS HAVE BEEN SUBMITTED AND APPROVED. DO NOT ALTER ANY SPECIFICATIONS AND/OR DIMENSIONS WITHOUT CONTACTING AND RECEIVING WRITTEN CONFIRMATION FROM SIEMENS PROJECT MANAGER. 2) SIEMENS HEALTHCARE IS NOT AN ARCHITECTURAL OR ENGINEERING

AND PROFESSIONAL DESIGN REQUIREMENTS INCLUDING OSHA/NEC SAFETY CLEARANCE REQUIREMENTS IN ADDITION TO SIEMENS-REQUIRED SAFETY/SERVICE CLEARANCES SHOWN. 3) THE CUSTOMER IS RESPONSIBLE FOR ALL ROOM AND AREA PREPARATION COSTS, PROFESSIONAL FEES, PERMITS, REPORTS, AND INSPECTION FEES. 4) EQUIPMENT WARRANTIES, EXPRESSED OR IMPLIED ON THE PART OF SIEMENS SHALL BE CONTINGENT UPON STRICT COMPLIANCE WITH THE ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL AND RECOMMENDATIONS AND REQUIREMENTS CONTAINED IN THESE DRAWINGS, UNLESS SPECIFIED OTHERWISE. 5) ALL DIMENSIONS SHOWN ARE FROM FINISHED SURFACES UNLESS SPECIFIED OTHERWISE.

FÍRM. DRAWINGS SUPPLIED BY SIEMENS ARE NOT CONSTRUCTION

INFORMATION TO COMPLEMENT ACTUAL CONSTRUCTION DRAWINGS AVAILABLE FROM A CUSTOMER APPOINTED ARCHITECTURAL

CUSTOMER'S ARCHITECT AND GENERAL CONTRACTOR SHALL BE

DRAWINGS. THEREFORE. THESE DRAWINGS ARE TO BE USED ONLY FOR

REPRESENTATIVE OR A CUSTOMER'S ENGINEERING DESIGN GROUP. THE

ULTIMATELY RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE CODES

6) THIS DRAWING DOES NOT PROVIDE RADIATION SHIELDING REQUIREMENTS FOR X-RAY AND ASSOCIATED EQUIPMENT. THE CUSTOMER IS RESPONSIBLE FOR CONSULTING WITH A REGISTERED RADIATION PHYSICIST. ACTUAL PROTECTION REQUIREMENTS SHALL BE SPECIFIED BY A REGISTERED RADIATION PHYSICIST AT CUSTOMER'S ENGAGEMENT AND EXPENSE. RESPONSIBILITY FOR ALL INFORMATION AS TO THE ROOM LOCATION, USE, AND NUMBER OF ANTICIPATED EXAMINATIONS TO BE PERFORMED PER TIME PERIOD SHALL BE PROVIDED TO THE PHYSICIST BY THE CUSTOMER. THE CUSTOMER SHALL FURTHER TAKE ALL RESPONSIBILITY IN THE COMMUNICATION AND COORDINATION OF ACTIVITIES OF THE RADIATION PHYSICIST AND THE ARCHITECTURAL REPRESENTATIVE.

7) SIEMENS HEALTHCARE SHALL BE RESPONSIBLE FOR SIEMENS EQUIPMENT INSTALLATION, CALIBRATION, CONNECTION AND INSTALLAT OF SIEMENS PROVIDED CABLES. THE CUSTOMER/ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR TERMINATIONS OF CUSTOMER/ELECTRICAL CONTRACTOR-SUPPLIED CABLES TO SIEMENS EQUIPMENT. IN THE EVENT THAT SPECIFIC TRADE RULES OR LICENSE REQUIREMENTS PROHIBIT THIS, THE CUSTOMER SHALL INITIATE THE SERVICES OF APPROVED OTHER CONTRACTORS AND PAY FOR SELECTED, APPROVED PARTIES TO PERFORM THIS WORK WITH SUPERVISION PROVIDED BY SIEMENS. CALIBRATION WHEN ACCOMPLISHED OUTSIDE OF NORMAL INSTALLATION SEQUENCES DUE TO CONTRACTOR OR TRADE RULE ACTIONS OR REQUIREMENTS SHALL BE SUPPORTED BY, CHARGED TO, AND ACCEPTED BY THE CUSTOMER AS AN ADDITIONAL INSTALLATION EXPENSE. 8) THE CUSTOMER SHALL COORDINATE WITH SIEMENS PROJECT MANAGER THE LOCATIONS AND TRAVEL OF ALL ANCILLARY EQUIPMENT TO BE CEILING OR WALL MOUNTED (I.E.: O.R. LIGHTS, MEDICAL GAS COLUMNS, PHYSIOLOGICAL MONITORING INJECTORS, CRT PLATFORMS, SPRINKLER HEADS, SMOKE DETECTORS, ELECTRICAL OUTLETS, HVAC GRILLES, SPEAKERS, AND GENERAL ROOM LIGHTING, ETC.). 9) THE GENERAL CONTRACTOR/CUSTOMER SHALL BE RESPONSIBLE FOR ALL FINAL PAINT, TOUCH-UP AND ANY COSMETIC OR TRIM WORK WHICH NEEDS TO BE OR IS REQUIRED TO BE COMPLETED AFTER THE INSTALLATION OF THE SIEMENS EQUIPMENT AND ANY ASSOCIATED SUPPORT APPARATUS.

10) CUSTOMER/CONTRACTOR MUST ASSIST SIEMENS INSTALLERS WITH

INSTALLATION OF EQUIPMENT ABOVE 14'-0". REFER TO THE ELECTRICAL

### TRANSPORT/STORAGE FLAT PANEL DETECTOR

RELATIVE HUMIDITY: 20% TO 95% NON CONDENSING

NOTES ON SIEMENS SHEET E-101 FOR MORE DETAILS.

IN SYSTEMS WITH FLAT PANEL DETECTORS, THE DETECTOR IS REMOVED FROM THE STAND FOR TRANSPORT TO THE CUSTOMER. THE LIMITED TRANSPORT AND STORAGE CONDITIONS APPLY FOR THE DETECTOR. FLAT PANEL DETECTOR: TEMPERATURE RANGE: 14° F TO 131° F

700 hPa TO 1060 hPa

## TRANSPORTING REQUIREMENTS

LARGEST CRATE WITH PACKING: 103.6"(L) x 46.5"(D) x 81.5"(H), 2,590 LBS. LARGEST INDIVIDUAL PIECE WITH CARRIAGE (MIN. DOOR OPENING): 97 1/4"(L) x 39 1/2"(W) x 75"(H), 2,006 LBS. CEILING RAILS ARE 14 FT.(L) x 3"(W) x 3"(H) MIN. CORRIDOR WIDTH: 82.7"

DESIGNATION PG NUMBER DA ARTIS Q / Q.ZEN CEILING AXAQ-060.891.01.01.02 04.	PG NUMBER	DA
ARTIS Q / Q.ZEN CEILING AXAQ-060.891.01.01.02 04.		
	XAQ-060.891.01.01	.02 04.
, , , , , , , , , , , , , , , , , , , ,		

**SIEMENS** 

CATH LAB #9 - ARTIS Q.ZEN CEILING PROJECT #: 2001281

INTERMOUNTAIN MEDICAL CENTER THIS TITLE BLOCK WITHOUT SIEMENS AUTHORIZATION WILL RESULT IN PROSECUTION UNDER FULL EXTENT OF THE LAW.

DRAWN BY: B. CLEATON

CONFIGURATION MAY REQUIRE A REVISION TO THIS PROJECT PLAN. STRETCHER SIZE (6'-5" X 2'-7") SHOWN F REQUESTED, SIEMENS WILL PRODUCE A REVISED SET OF FINAL IS FOR REFERENCE ONLY. VERIFICATION SINKS, COUNTERTOPS AND ALL DRAWINGS TO REFLECT THE CHANGES, HOWEVER SIEMENS IS NOT AND COORDINATION BY CUSTOMER IS CASEWORK SHOWN IS SUGGESTED AND RESPONSIBLE FOR ANY CONSTRUCTION COSTS ASSOCIATED WITH REQUIRED TO ENSURE PROPER MUST BE DESIGNED SUPPLIED AND THE CHANGES THAT OCCUR FROM THIS PLAN MODIFICATION. TRANSPORT AND WORKFLOW ACCESS. INSTALLED BY CUSTOMER/CONTRACTOR. - ORIENTATION POINT OF PATIENT TABLE CONTROL ROOM CL01G02 PATIENT TABLE MOVEMENT RANGE (FOOT-END) CUSTOMER EQUIPMENT — ----KETID CUSTOMER'S EXISTING COUNTERTOP — MOVEMENT RANGE (HEAD-END) POSITION LIVE/REF DISPLAYS MOUNTED ON THIRD PARTY BOOM — INJECTOR CONNECTION BOX LOCATED BY CUSTOMER IN EQUIP. COORDINATION WITH SIEMENS PROJECT MANAGER -ROOM CL01G37

- THIS DRAWING IS DESIGNED TO CONFORM TO FEATURES AND EQUIPMENT REQUIREMENTS PRESENTED

AT THE TIME OF THEIR PREPARATION. SINCE BOTH THESE FACTORS ARE SUBJECT TO DESIGN

MODIFICATION, THEY ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES.

- THIS SET OF PLANS REPRESENTS A COMPLETE SET OF DETAILS AND SHOULD NOT BE SEPARATED.

THIS SET OF FINAL DRAWINGS IS REFLECTIVE OF THE LATEST

SALES CONFIGURATION. ANY CHANGES TO THIS SALES

ARCHITECTURAL EQUIPMENT PLAN

ATTENTION:

STATE AGENCY REVIEW

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

PRIOR TO SIEMENS EQUIPMENT INSTALLATION, APPROVAL OF CONSTRUCTION OR STRUCTURAL MODIFICATIONS UTILIZING X-RAY FOR DIAGNOSTIC OR THERAPEUTIC PURPOSES, MUST BE OBTAINED BY THE CUSTOMER FROM THE APPROPRIATE STATE AGENCY, IF APPLICABLE.

MAGNETIC	FIELD PRECAUTIONS		
THE PRESENCE OF MAGNETIC FIELDS IN THE VICINITY OF EQUIPMENT MAY HAVE AN ADVERSE EFFECT. IT IS THE CUSTOMER'S RESPONSIBILITY TO VERIFY THAT THE FOLLOWING VALUES ARE NOT EXCEEDED.			
MAXIMUM ALLOWABLE MAGNETIC FIELD	DEVICES		
1.0mT (10 GAUSS)	COMPUTERS, MAGNETIC DISK DRIVES, OSCILLOSCOPES, PROCESSORS		
0.5mT (5 GAUSS)	X-RAY TUBES, B/W MONITORS, MAGNETIC DATA CARRIERS, DATA STORAGE DRIVES		
0.2mT (2 GAUSS)	SIEMENS CT SCANNERS		
0.15mT(1.5 GAUSS)	COLOR MONITORS, SIEMENS LINEAR ACCELERATORS		
0.05mT(0.5 GAUSS)	X-RAY IMAGE INTENSIFIERS, GAMMA CAMERAS, PET/CYCLOTRON, OTHER LINEAR ACCELERATORS		
MAGNETIC FIELDS SHOULD BE MEASURED PRIOR TO DELIVERY			

- IT IS RECOMMENDED THAT THE SIEMENS DRAWINGS BE INCORPORATED WITH THE CONSTRUCTION

DOCUMENTS FOR REFERENCE.

CEILING HEIGHT REQUIREMENT 8 FT. - 11 IN.

- ALL DIMENSIONS SHOWN ON THIS DRAWING ARE FROM FINISHED SURFACES.

PHYSICIST TO SPECIFY RADIATION PROTECTION.

04/08/2 DATE - THIS DRAWING DOES NOT PROVIDE RADIATION SHIELDING REQUIREMENTS FOR X-RAY AND ASSOCIATED EQUIPMENT. THE CUSTOMER IS RESPONSIBLE FOR CONSULTING WITH A REGISTERED RADIATION

**EQUIPMENT LEGEND** 

SMS | WEIGHT | BTU/HR | DIMENSIONS (INCHES)

N/A | 12 1/4 | 11 3/4 | 4 | ON COUNTER

342 | 17 1/2 | 6 1/8 | 2 1/8 | ON COUNTER

256 | 16 1/2 | 8 1/4 | 13 1/2 | ON COUNTER

--- | 12 3/4 | 4 | 10 1/2 | WALL MOUNTED

4,094 31 1/2 17 1/8 87 FLOOR MOUNTED

--- 31 1/2 | 17 1/8 | 87 | FLOOR MOUNTED

5,460 | 31 1/2 | 17 1/8 | 87 | FLOOR MOUNTED

15,355 | 16 1/2 | 28 1/4 | 19 1/4 | FLOOR MOUNTED

4,347 | 23 3/4 | 37 1/4 | 28 | ON CASTERS

--- | 16 1/2 | 8 3/4 | 3 1/2 | ON TABLE OR TROLLEY

512 | 33 | 8 1/4 | 13 1/2 | OEM BOOM MOUNTED

342 | 41 1/2 | 8 1/4 | 16 1/8 | WALL MOUNTED

SYM (LBS) TO AIR W D

REQUIRED MINIMUM HEIGHT IN DROP

CEILING FOR CORRUGATED HOSE

DETAILS REGARDING THE CEILING

OUTLET SEE SHEET S-102.

PATIENT TABLE

WITH NON-TILTING TABLE

PROJECT MILESTONES TO BE COMPLETED BEFORE EQUIPMENT DELIVERY

Floor thickness and anchoring spec's verified. If req'd, alt solutions per engineer of record in place

All conduits, troughs, in-floor pull boxes and/or core drills avoid conflict with floor plate anchors

Unistrut installed to correct height, location, and levelness (check minimum ceiling height)

Network drops active and IP addresses obtained for Siemens Remote Services (SRS)

ARTIS Q/Q.ZEN/ZEE CEILING TYPICAL ELEVATION

HOLDER AND LAYING CABLES; FOR

REMARKS

--- C-ARM CEILING SUSPENDED

THE "B10" FIXPOINT IS A

THRU-FLOOR PENETRATION

PROVIDED AS A MEANS OF

TABLE BASE WOULD BE

CONNECTING A TABLE INJECTOR OR

OTHER NON-SIEMENS ACCESSORIES

AT THE TABLE FOR WHICH CABLE

PROHIBITED. THIS OPENING CAN BE

ELIMINATED AS REQUIRED, OR IT CAN BE COMBINED INTO A

CUSTOMER-SUPPLIED GAS/UTILITY

BOX ON THE FLOOR. NOTE: THE

2'-0" DISTANCE FROM TABLE
SOCENTER SHOWN HERE APPLIES
TO A CABLE PENETRATION POINT

ONLY. SEE DIAGRAM FOR POSSIBLE

PLACEMENT WITH SIEMENS PROJECT

SCALE: NONE

REFERENCE SHEET

A-101

A-101

A-101

A-101

A-101

A-101

A-101

A-102

A-102

S-101

S-101

S-102 E-101

E-101

E-102

E-102

E-102

E-102

E-102

E-501

BOX PLACEMENT AND HEIGHT

OPTIONS. VALIDATE EXACT

ROUTING THROUGH THE SIEMENS

DESCRIPTION

ACE (ARCHIVE CONTROL EXTENSION)

BOOM 1 KIT 19" (2) DISPLAYS LIVE+REF

PATIENT TABLE (BASIC, STANDARD TABLE)

ARTIS Q.ZEN CEILING C-ARM STAND

INJECTOR WALL CONNECTION BOX

POLYDOROS A100 GENERATOR CABINET

CONTROL ROOM DISTRIBUTOR

TABLE CONTROL MODULES

SYSTEM CONTROL CABINET

AXIS IMAGE SYSTEM

TUBE COOLING UNIT

KEYBOARD

19" LIVE DISPLAY

CABLE CABINET

FINISHED CEILING -

ARTIS ZEE CEILING

C-ARM SYSTEM

MOVEMENT —

FINISHED —

5'-6 1/16"

\* ROOM HEIGHT MEASURED FROM THE HIGHEST POINT OF THE FINISHED FLOOR

(INCLUDING FLOOR COVERING) TO THE LOWEST POINT OF THE CEILING

Storage area available for storing items during installation

Delivery path verified for largest piece, including rails

Climate control functioning 24 hours a day, 7 days a week

Nothing hanging below ceiling in area shaded on drawing

Cable runs checked to ensure maximum lengths not exceeded

Lead shielding (walls, doors, windows) complete

All walls primed and painted. Flooring installed

X-Ray warning light and wiring installed

Breakers installed and facility power available

Cable inlets located per plans

EPO's installed and functional

UPS started and functional

Contractor supplied electrical wiring / pigtails installed

Ancillary equipment (OEM items, booms, etc) installed

Casework complete in control room

Room lighting complete and functional

**FLOOR** 

APPROVED BY CUSTOMER FOR FINALS DESCRIPTION -ISSUE BLOCK-

SCALE: REF. #: CPQ-132274

DATE: 04/08/20 J

Siemens Equipment-Architectural

20205

July 15, 2020

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alt

ntaj

NJRA Project #

Construction Documents