THE MEDICAL CENTER OF AURORA

TMCA CATH LAB - PREP RECOVERY RENOVATION

1501 S Potamac St, Aurora, CO 80012

ISSUE DATE: 07/15/16
PROJECT #: 16-003

FOR CONSTRUCTION

Owner
The Medical Center of Aurora
Medical Center of Aurora
1501 S Potamac Street
Aurora, CO 80012
www.auroramed.com
ph: 303.695.2600

Contact
Thomas Hecker
thomas.hecker@healthonecares.com

Architect
Path21 Architecture
2245 Curtis St. Ste. 100
Denver, Colorado 80205
www.path21arch.com
ph: 303.534.5221
fx: 303.534.5215

Contact
John Nap
jnap@path21arch.com

MPE
WSP/CCRD
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
www.ccrd.com
ph: 303.694.4755
fx: 303.694.5125

Contact
Jon Grant
jong@ccrd.com

Structural
Structural Consultants Inc.
3400 East Bayaud Ave., #300
Denver, CO 80209
www.sci-denver.com
ph: 303.399.5154
fx: 303.333.9501

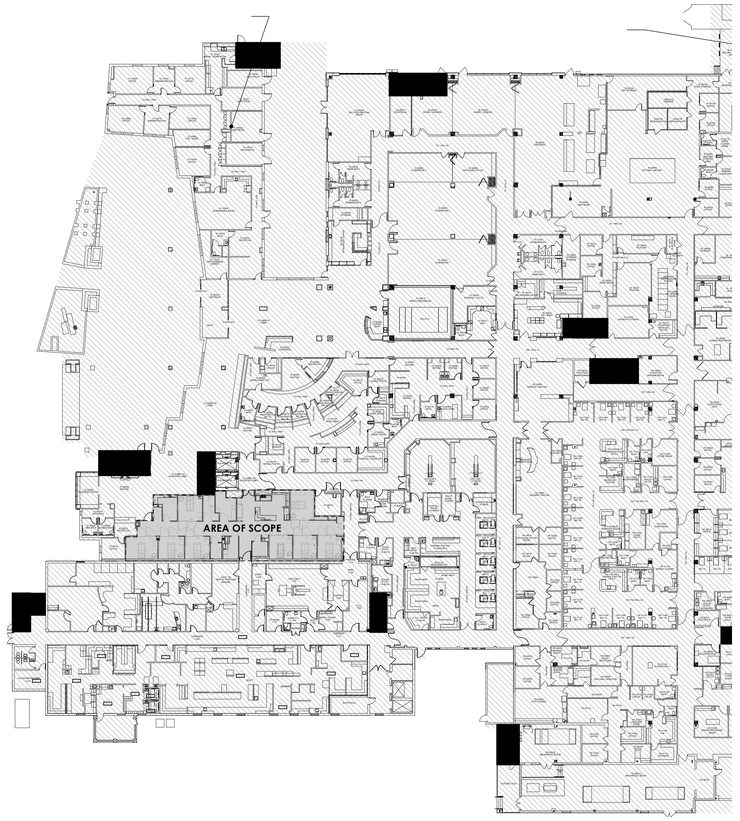
Contact
Paul Hause
paul@sci-denver.com

INDEX OF DRAWINGS

SHEET NO	SHEET NAME	ISSUE FOR PERMIT - 07/15/16	ADD 01 - 08/05/16 (1)	ADD 02 - 08/10/16 (2)
01 - GENERAL				
G.101	COVER & DRAWING INDEX	•	•	•
G.201	PROJECT SPECIFICATIONS	•		
G.202	PROJECT SPECIFICATIONS	•		
G.203	PROJECT SPECIFICATIONS	•		
G.204	PROJECT SPECIFICATIONS	•		
G.301	CODE COMPLIANCE DETAILS	•		
G.401	CODE COMPLIANCE PLANS	•		
05 - DEMOLITION				
D.201	DEMOLITION PLANS	•		
06 - ARCHITECTURAL				
A.201	FLOOR PLANS	•	•	
A.211	EQUIPMENT PLANS	•	•	
A.221	REFLECTED CEILING PLANS	•		
A.501	INTERIOR PARTITION TYPE CHARTS AND DETAILS	•		
A.511	ENLARGED TOILET ROOM PLANS, ELEVATIONS, AND ACCESSORIES	•		
A.531	INTERIOR DETAILS	•		
A.541	DOOR SCHEDULE, HARDWARE, & DETAILS	•		
A.561	INTERIOR ELEVATIONS	•	•	
A.571	TYPICAL CASEWORK SECTIONS & DETAILS	•		
A.581	CUSTOM CASEWORK SECTIONS & DETAILS	•		
07 - INTERIORS				
I.101	FINISH LEGEND	•		
I.201	FINISH PLANS	•		
09 - MECHANICAL				
M.001	MECHANICAL LEGENDS, GENERAL NOTES, AND ABBREVIATIONS	•		
M.002	MECHANICAL SPECIFICATIONS	•		
MD.201	LEVEL 01- MECHANICAL DEMOLITION PLAN	•		
MD.301	LEVEL 01 - HVAC PIPING DEMOLITION PLAN	•		
M.201	LEVEL 01 - HVAC PLAN	•		
M.301	LEVEL 01 - HVAC PIPING PLAN	•		
M.701	MECHANICAL DETAILS	•		
M.801	MECHANICAL SCHEDULES	•		
10 - PLUMBING				
P.001	PLUMBING LEGENDS, GENERAL NOTES, AND ABBREVIATIONS	•	•	
PD.101	UNDERFLOOR - PLUMBING DEMOLITION PLAN	•		
PD.201	LEVEL 01 - PLUMBING DEMOLITION PLAN	•		
PD.301	LEVEL 01 - MEDICAL GAS DEMOLITION PLAN	•		
P.101	UNDERFLOOR - PLUMBING PLAN	•		
P.201	LEVEL 01 - PLUMBING PLAN	•		
P.301	LEVEL 01 - MEDICAL GAS PLAN	•	•	
P.501	PLUMBING DETAILS AND SCHEDULES	•		
11 - ELECTRICAL				
E.001	ELECTRICAL LEGENDS, GENERAL NOTES, AND ABBREVIATIONS	•		
E.002	ELECTRICAL LEGENDS, GENERAL NOTES, AND ABBREVIATIONS	•		
ED.201	LEVEL 01 - ELECTRICAL DEMOLITION PLAN	•		
E.100	LEVEL 01 - OVERALL - ELECTRICAL PLAN	•		
E.201	LEVEL 01 - POWER PLAN	•	•	
E.301	LEVEL 01 - LIGHTING PLAN	•		
E.401	LEVEL 01 - SPECIAL SYSTEMS PLAN	•	•	
E.501	ELECTRICAL ONE-LINE DIAGRAM	•		•
E.502	ELECTRICAL ONE-LINE DIAGRAM	•		•
E.601	ELECTRICAL DETAILS	•		
E.701	ELECTRICAL SCHEDULES	•		
E.702	ELECTRICAL SCHEDULES	•		

City of Aurora Building Division
Project: *TMCA Cath Lab*
Address: *1501 S Potomac St*
Occupancy Group: *IBC I-2*
Construction Type: *IBC TYPE I-A SPK*
RSN: *1131831*
Permit: *16-1141686*

KEY PLAN



SEPARATE FIRE ALARM PERMIT REQUIRED: Due to the proposed work the general contractor is required to obtain the services of a fire alarm contractor to determine if a separate alarm permit is required. If it is determined that the spacing of the fire alarm devices is not in compliance, then a separate fire alarm permit is required. Approval of the documents is required prior to system installation or any request for inspection. A certificate of occupancy or final approval cannot be issued by the Building Division without this fire protection system. **2015 IFC, Section 105.7.6.**

SEPARATE FIRE SPRINKLER PERMIT REQUIRED: Due to the proposed work the general contractor is required to obtain the services of a fire sprinkler contractor to determine if a separate sprinkler permit is required. If it is determined that the spacing of the fire sprinkler heads is not in compliance, then a separate fire sprinkler permit is required. Approval of the documents is required prior to system installation or any request for inspection. A certificate of occupancy or final approval cannot be issued by the Building Division without this fire protection system. **2015 IFC, Section 105.7.1.**

This plan was reviewed for adopted codes and **NOT** for compliance with **ADA** or **FHA** accessibility requirements. Contact 800-949-4232 (**ADA**) and 303-894-7822 x 325 (**FHA**) for federal accessibility requirements that apply to your project.

Field Inspection consultation is available upon request. Call 303-739-7420 to request a consultation

Failure to follow approved plans may result in an hourly fee to review the field changes for code compliance.

Code violations that are found during inspection are required to be corrected. Permit issuance does not grant approval of a code violation.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

GENERAL PROJECT NOTES

1. CONTRACTOR IS RESPONSIBLE FOR **COMPLETE** SET OF ISSUED CONTRACT DOCUMENTS.
2. DO NOT SCALE THE DRAWING, IF DIMENSIONS ARE IN QUESTION, OBTAIN CLARIFICATION FROM THE ARCHITECT BEFORE CONTINUING.
3. DIMENSIONS SHOWN ON THE FLOOR PLANS FOR NEW CONSTRUCTION ARE TO THE FACE OF FINISH OF INTERIOR WALLS, TO CENTER LINE OF COLUMNS, AND TO FACE OF CONCRETE OR MASONRY WALLS, UNLESS OTHERWISE INDICATED. DIMENSIONS IN RENOVATED AREAS ARE FROM FINISH FACE OF EXISTING WALLS AND TO FINISH FACE OF NEW STUD WALLS, UNLESS OTHERWISE INDICATED.
4. FIELD MEASURE AND CONFIRM DIMENSIONS FOR OWNER PROVIDED EQUIPMENT AND FURNISHINGS. COORDINATE WITH THE OWNER ON DELIVERY AND INSTALLATION OR OF/CI EQUIPMENT, MINIMUM REQUIRED OPENINGS AND ACCESSIBLE ROUTES TO THE INSTALLATION AREA SHALL BE COORDINATED WITH THE SUPPLIER.
5. FINISH FLOOR ELEVATIONS ARE TO TOP OF FINISHED FLOORING PRODUCT, OFTEN NOTED BY AFF (ABOVE FINISH FLOOR) UNLESS OTHERWISE NOTED.
6. COORDINATE EXACT SIZE AND PLACEMENT OF EQUIPMENT BASE AND HOUSEKEEPING PADS WITH EQUIPMENT TO BE PROVIDED.
7. WHERE NEW GYPSUM BOARD PARTITIONS ARE A CONTINUATION OF AN EXISTING PARTITION OR COLUMN ENCASEMENT, THE FACE OF THE NEW GYPSUM BOARD SHALL BE ALIGNED WITH THE FACE OF THE EXISTING SURFACE. WHERE A ONE HOUR PARTITION IS SHOWN AS A CONTINUATION OF A TWO-HOUR PARTITION OR COLUMN ENCASEMENT, THE FACE OF THE GYPSUM BOARD SHALL BE OFFSET AS REQUIRED TO PROVIDE FACE ALIGNMENT OF GYPSUM BOARD ON BOTH SIDES.
8. LEVEL FLOORS SO THAT THEY DO NOT EXCEED A 1/4" VARIANCE IN A 10'-0" RADIUS.
9. PIPING LOCATED ABOVE GRADE AND INSIDE THE BUILDING SHALL BE CONCEALED IN FURRED SPACES WITH THE EXCEPTION OF PIPING IN STAIRWAYS, EQUIPMENT ROOMS, AND POWERHOUSE. COORDINATE WITH OTHER TRADES TO PROVIDE FURRING FOR PIPING INSTALLED IN FINISHED AREAS.
10. PARTITION TYPES AND FIRE RESISTIVE RATINGS INDICATED ON A WALL ARE TO BE CONTINUOUS FOR THE LENGTH AND HEIGHT OF A PARTITION.
11. OPENINGS IN A RATED WALL, FLOOR, CEILING, AND ROOF ASSEMBLIES SHALL BE SEALED WITH A FIRE RESISTANT JOINT SYSTEM OR PROTECTED WITH A FIRE RATED CHASE.
12. EXIT SIGNS AND SMOKE DETECTORS LOCATED IN CEILINGS SHALL BE POSITIONED AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
13. WHERE MATERIALS ARE APPLIED TO, OR ARE IN DIRECT CONTACT WITH WORK INSTALLED BY ANOTHER SUBCONTRACTOR, COMMENCEMENT OF WORK IMPLIES ACCEPTANCE OF THE SUBSTRATE AS SUITABLE FOR THE APPLICATION INTENDED.
14. ISOLATE DISSIMILAR METALS TO PREVENT GALVANIC CORROSION.
15. SEALANTS EXPOSED TO VIEW SHALL BE CUSTOM COLOR AS SELECTED BY THE ARCHITECT AND LABELED.
16. COORDINATE LOCATION OF SEALANT AND COMPATIBILITY OF SEALANTS WITH ADJACENT WORK, INCLUDING MATERIALS AND OTHER CONTIGUOUS SEALANTS
17. CAULK AT JUNCTURE OF INTERIOR FACES OF DOOR FRAMES, VIEW WINDOW FRAMES, EXTERIOR WINDOW FRAMES, AND CABINET WORK WITH ADJACENT MATERIALS. MAINTAIN THE FIRE RATING OF CONSTRUCTION AROUND CABINETS, PANELS, AND BOXES RECESSED IN FIRE RATED WALL, FLOOR, AND CEILING ASSEMBLIES.
18. ACCESSORIES SUCH AS GRAB BARS, TOWEL BARS, PAPER DISPENSERS AND SOAP DISHES INSTALLED WITHIN 2' OF A URINAL, WATER CLOSET, SINK OR LAVATORY SHALL BE MOISTURE SEALED.
19. DO NOT HANG (SUPPORT) ANY ITEMS FROM METAL ROOF DECK. IT IS ACCEPTABLE TO ATTACH, I.E. CEILING SYSTEM WIRE HANGERS FROM JOISTS AND/OR BEAMS. IF NO JOIST OR BEAM, PROVIDE A STEEL STRIP.

DEDUCTIVE ALTERNATIVES

1 PROVIDE SOLID CORE WOOD VENEER DOORS IN LIEU OF ACROVYN DOORS WHERE ACROVYN DOORS ARE SCHEDULED. PAT TLT ROOMS, SOILED UTILITY, CLEAN UTILITY WILL RECEIVE EXISTING RELOCATED DOORS AND HARDWARE. VERIFY EXISTING HARDWARE AGAINST THE REQUIRED HARDWARE IN THE HARDWARE SCHEDULE. WOOD VENEER TO BE QUARTER CUT, CHERRY, SATIN FINISH. STAIN COLOR TO MATCH EXISTING DOORS IN THE AREA WHICH ARE A COLOR MATCH TO WILSONART 7935-07 SHAKER CHERRY.

2 PROVIDE VCT1 AND VCT2 IN LIEU OF SV1 AND SV2 IN ALL AREAS EXCEPT FOR THE 8 PREP RECOVERY ROOMS.

3 PROVIDE INTEGRAL BLINDS IN LIEU OF ELECTROCHROMIC GLAZING WHERE ELECTROCHROMIC GLAZING IS SCHEDULED.

DRAWING NUMBER KEY

DISCIPLINE

A	ARCHITECTURAL
C	CIVIL
L	LANDSCAPE
M	MECHANICAL
E	ELECTRICAL
P	PLUMBING
S	STRUCTURAL
K	KITCHEN
R	RADIOLOGY

XX/A.XXX

NUMBER OF PLAN, DETAIL, ETC. ON SHEET

DRAWING SERIES

PROJECT DATA

- **PROJECT INFORMATION**

RENOVATION WORK: RENOVATION AND DEPARTMENTAL EXPANSION WITHIN EXISTING SQUARE FOOTAGE OF THE FACILITY. EXISTING PRE OPERATIVE AND ECHO, STRESS, NUC MED AREA TO BE REMOVED AND REPLACED WITH NEW EIGHT BED, RECOVERY UNIT, NEW SOILED UTILITY AND CLEAN SUPPLY STORAGE ROOMS TO BE PROVIDED. ALL OTHER REMAINING SPACES ARE PATIENT FOCUSED RECOVERY SPACES.

- **ADOPTED CODES / LAWS**

CITY OF AURORA:
2015 INTERNATIONAL BUILDING CODE (IBC)
2014 NATIONAL ELECTRIC CODE (NEC)
2015 INTERNATIONAL MECHANICAL CODE
2015 INTERNATIONAL PLUMBING CODE
2015 INTERNATIONAL FUEL GAS CODE
2015 INTERNATIONAL EXISTING BUILDING CODE
2015 INTERNATIONAL ENERGY CONSERVATION CODE

STATE OF COLORADO:
2012 NFPA 101 - LIFE SAFETY CODE
2009 COLORADO DEPARTMENT OF HEALTH AND ENVIRONMENT - HOSPITAL LICENSING RULES

FEDERAL:
2010 AMERICANS WITH DISABILITIES ACT GUIDELINES
2009 ICC/ANSI A117.1 ACCESSIBLE USABLE BUILDINGS AND FACILITIES

- **OCCUPANCY CLASSIFICATION:**
2015 IBC - GROUP I-2 (SECTION 308.4.1.2)
CMS - 2012 NFPA 101 - OCCUPANCY TYPE (CHAPTER 18)
STATE OF COLORADO - 2012 NFPA 101 - NEW HEALTHCARE OCCUPANY CHAPTER 18
- **PRINCIPAL OCCUPANCY TYPE:** HEALTHCARE
- **CONSTRUCTION TYPE:**
EXISTING: TYPE 1A, UNRESTRAINED, FULLY SPRINKLERED
NEW: 2015 IBC - TYPE 1A, FULLY SPRINKLERED
- **FIRE RESISTANCE:** (FOR TYPE 1A CONSTRUCTION)

BUILDING ELEMENT	FIRE RATING	U.L. ASSEMBLY
STRUCTURAL FRAME (INCLUDING COLUMNS AND GIRDERS)		
SUPPORTING ROOF ONLY	2-HR	COLUMNS X-772 (W-BEAM) COLUMNS X-771(TUBES) GIRDERS S-735 (W/ P936) GIRDERS S-734 (W/ P732)
SUPPORTING ONE OR MORE FLOORS	3-HR	COLUMNS X-771(TUBE) COLUMNS X-772 (W-BEAM) GIRDERS N-782
BEARING WALLS		
EXTERIOR	3-HR	NA
INTERIOR (SUPPORTING ROOF ONLY)	2-HR	NA
NON-BEARING WALLS		
EXTERIOR	0-HR	
INTERIOR	0-HR	
FLOOR CONSTRUCTION (INCLUDING SUPPORTING BEAMS AND JOISTS (SECONDARY MEMBERS))	2-HR	D-925 (COMPOSITE DECK) (USING NORMAL OR LIGHTWEIGHT WEIGHT CONCRETE)
ROOF CONSTRUCTION (INCLUDING SUPPORTING BEAMS AND JOISTS (SECONDARY MEMBERS))	1-HR	U-732 (FULLY ADHERED SINGL PLY TPO ROOFING MEMBRANE ON 3" RIGID INSULATION BOARD MECHANICALLY FASTENED TO STEEL ROOF DECK)

NOTES:
1. ALL FIRE RESISTIVE DESIGN TO BE CONSIDERED THERMALLY RESTRAINED.
2. ALL BEAM AND COLUMN FIRE PROOFING TO BE ADJUSTED USING W/ D RATIO

VICINITY MAP



SITE MAP

Path21 Architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Project Team

MEP
CCRD Partners
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 214.521.1661

Structural
Structural Consultants Inc
3400 East Bayaud Ave., #300
Denver CO, 80209
ph: 303.399.5154

No.	Description	Date
1	ADD 01	08/05/16
2	ADD 02	08/10/16

STATE OF COLORADO
JOHN MENNO NAP
401729
LICENSED ARCHITECT
08/10/16

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	KL
Checked by	JMN

Sheet Title:
COVER & DRAWING INDEX

Sheet Number
G.101

CONTRACT © 2015 path21 architecture

8/11/16 8:23 AM

SECTION 011000 - SUMMARY

1.1 PROJECT INFORMATION

A. Project Identification: Cath Lab – Prep Recovery Renovation, The Medical Center of Aurora, Aurora, Colorado, Architect's Project No. 16-003 TMCA Cath Recovery Renovation.
   1. 1501 S. Potomac St, Aurora, CO, 80012.

B. Owner: The Medical Center of Aurora.

C. Architect: PATH21 Architecture, 2245 Curtis Street, Suite 100, Denver, Colorado 80205.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. The work in this project consists of approximately 2000sf. of renovation on the first floor of the facility. Existing space will be renovated to include eight prep and recovery rooms, nurse station, patient toilets, and clean and soiled supply rooms. Work will include demolition of interior partitions and construction of new partitions, installation of updated casework and finishes. Modifications to the existing MPE systems serving the space are included as well.

B. Project will be constructed under a single main contract.

C. Owner Furnished Products: Refer to Drawings.

1.3 ACCESS TO SITE

A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

B. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
   1. Limits: Confine construction operations to areas indicated.
   2. Driveways, Walkways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
      a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
      b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.4 COORDINATION WITH OCCUPANTS

A. Full Owner Occupancy: Owner will occupy site and existing building during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.
   1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
   2. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.

B. Owner Limited Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed portions of the Work, prior to Substantial Completion of the Work, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and limited occupancy shall not constitute acceptance of the total Work.
   1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied prior to Owner acceptance of the completed Work.
   2. Obtain a Certificate of Occupancy from authorities having jurisdiction before limited Owner occupancy.
   3. Before limited Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of Work.
   4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of Work.

1.5 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.
   1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.

B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7:00 a.m. to 5:00 p.m., Monday through Friday, unless otherwise indicated.
   1. Patient Areas of Medical Care Facilities: 24 hours per day, seven days a week.
   2. Weekend Hours: 8:00 a.m. to 5:00 p.m.
   3. Early Morning or Late Night Hours: Coordinate with Owner.
   4. Hours for Utility Shutdowns: Coordinate with Owner.
   5. Hours for Noisy Activities: Coordinate with Owner.

C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
   1. Notify Owner not less than three days in advance of proposed utility interruptions.
   2. Obtain Owner's written permission before proceeding with utility interruptions.

D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
   1. Notify Owner not less than three days in advance of proposed disruptive operations.
   2. Obtain Owner's written permission before proceeding with disruptive operations.

E. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet (8 m) of entrances, operable windows, or outdoor-air intakes.

F. Controlled Substances: Use of tobacco products and other controlled substances on Project site is not permitted.

G. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.

H. Employee Screening: Comply with Owner's requirements for drug and background screening of Contractor personnel working on Project site.
   1. Maintain list of approved screened personnel with Owner's representative.

I. Refer to Owner's "Requirements for Contractors Performing Construction" attached to this section.

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

1.1 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
   1. General project coordination procedures.
   2. Administrative and supervisory personnel.
   3. Coordination drawings.
   4. Requests for Information (RFIs).
   5. Project meetings.

B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.

1.1 COORDINATION

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work.
   1. Schedule construction operations in sequence required where installation of one part of the Work depends on installation of other components.

B. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work.
   1. Preparation of Contractor's construction schedule.
   2. Preparation of the schedule of values.
   3. Installation and removal of temporary facilities and controls.
   4. Delivery and processing of submittals.
   5. Progress meetings.
   6. Pre-Installation conferences.
   7. Project closeout activities.
   8. Startup and adjustment of systems.
   9. Project closeout activities.
   10. Structural Penetrations: Indicate penetrations and openings required for all disciplines.

1.2 REQUESTS FOR INFORMATION (RFIs)

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI. All RFIs should be sent directly to the Architect via email.

B. RFI Forms: Software-generated form acceptable to Architect. Sketches or other necessary documents should be attached to email in PDF format.

C. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow 7 business days for Architect's response for each RFI.

D. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties.

1.3 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

B. Pre-construction Conference: Schedule and conduct a pre-construction conference before starting construction but no later than 15 days after execution of the Agreement.

C. Pre-Installation Conferences: Conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction.

D. Progress Meetings: Conduct progress meetings at agreed upon intervals.

E. Coordination Meetings: Conduct Project coordination meetings at regular intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and pre-installation conferences.

SECTION 013300 - SUBMITTAL PROCEDURES

1.1 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Architect's Digital Data Files: Electronic copies of CAD Drawings will be provided by Architect for Contractor's use in preparing coordination submittals.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals. Submittals received after 1:00 pm will be considered to have been received the following day.
   1. Allow 10 business days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.

D. Identification and Information: Identify and incorporate information in each electronic submittal file.
   1. Assemble complete submittal package into a single indexed file with links enabling navigation to each item.
   2. Name file with submittal number or other unique identifier, including revision identifier.

E. Options: Identify options requiring selection by the Architect.

F. Deviations: Identify deviations from the Contract Documents on submittals.

G. Use for Construction: Use only final submittals that are marked with 'Reviewed' , 'Furnish as Corrected' notation from Architect's action stamp. , or with approval notation from alternate reviewer.

1.2 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
   1. Email or upload electronic submittals as PDF electronic files directly to Architect.

H. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

I. Shop Drawings: Prepare Project-specific information, drawn accurately to scale.

J. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

K. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

L. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

M. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

1.3 CONTRACTOR'S REVIEW

B. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

N. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

1.4 ARCHITECT'S ACTION

C. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.

O. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark appropriately to indicate action, as follows:
   1. Reviewed
   2. Revise and Resubmit
   3. Rejected
   4. Furnish As Corrected
   5. No Action Taken.

P. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

Q. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.

R. Incomplete submittals are not acceptable; will be considered non-responsive, and will be returned without review.

S. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

T. Material safety data sheets shall not be submitted to the architect for review.

SECTION 017300 – EXECUTION

1.1 SECTION INCLUDES

A. Installation of the Work.

B. Cutting and patching.

C. Progress cleaning.

D. Protection of installed construction.

1.1 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.2 QUALITY ASSURANCE

A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
   1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from the Architect before proceeding. Shore, brace, and support structural element during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection or stress. Restore structural elements so they will function properly and meet original fire-resistance ratings.
   2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
   3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
   4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

1.3 INSTALLATION

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

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

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

H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

1.4 CUTTING AND PATCHING

A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
   1. Cut and patch construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Temporary Support: Provide temporary support of work to be cut.

C. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

D. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching in accordance with requirements of Division 01 Section "Summary."

E. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.

F. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
   1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
   2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
   3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
   4. Excavating and Backfilling: Comply with requirements in applicable Division 31 Sections where required by cutting and patching operations.
   5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
   6. Proceed with patching after construction operations requiring cutting are complete.

G. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Specification Sections, where applicable.
   1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
   2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
      a. Clean joints, curbs, and similar features before applying paint or other finishing materials.
      b. Restore damaged pipe covering to its original condition.
   3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
      a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
   4. Ceilings: Patch, repair, or re-hang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
   5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weather-tight condition.

H. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

1.5 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
   1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
   2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
   3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
   4. Utilize containers intended for holding waste materials of type to be stored.
   5. Coordinate progress cleaning for joint-use areas where more than one installer has worked.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
   1. Remove liquid spills promptly.
   2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Division 01 Section "Temporary Facilities and Controls." Division 01 Section "Construction Waste Management and Disposal."

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

1.6 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temporary protection and maintenance.

1.7 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.
   1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Restore permanent facilities used during construction to their specified condition.

C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

SECTION 017700 – CLOSEOUT PROCEDURES

1.1 SUBSTANTIAL COMPLETION

A. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
   1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.
   2. Results of completed inspection will form the basis of requirements for final completion.

1.1 FINAL COMPLETION

A. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
   1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected. Include cost for re-inspection based on incomplete work of the Contractor.

1.2 LIST OF INCOMPLETE ITEMS (PUNCHLIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction. Use CSI Form 14.1A attached or form provide by Contractor and approved by Architect.

1.3 WARRANTIES

A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

1.4 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

SECTION 017823 – OPERATION AND MAINTENANCE DATA

1.1 CLOSEOUT SUBMITTALS

A. Manual Content: Operations and maintenance manual content is specified in individual specification sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.

1.1 MANUALS

A. Emergency manuals.

B. Operation Manuals.

C. Product maintenance manuals.

D. Systems and equipment maintenance manuals.

SECTION 017839 – PROJECT RECORD DOCUMENTS

1.1 CLOSEOUT SUBMITTALS

A. Record drawings.

B. Record specifications.

C. Record product data.

D. Miscellaneous record submittals.

1.1 SUBMITTALS

A. Provide product record documents in electronic format.

SECTION 024129 – SELECTIVE DEMOLITION

1.1 SECTION INCLUDES

A. Demolition and removal of selected portions of building or structure.

B. Salvage of existing items to be reused or recycled.

1.1 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.2 FIELD CONDITIONS

A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

B. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
   1. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

C. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
   1. Maintain fire-protection facilities in service during selective demolition operations.

1.3 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

1.4 EXAMINATION

A. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

B. Engage a professional engineer to perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
   1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.
   2. Steel Tendons: Locate tensioned steel tendons and include recommendations for de-tensioning.

C. Survey of Existing Conditions: Record existing conditions by use of measured drawings and preconstruction photographs or preconstruction videos.
   1. Comply with requirements specified in Section 01 32 33 "Photographic Documentation."
   2. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.

1.5 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
   1. Owner will arrange to shut off indicated services/systems when requested by Contractor.

C. Refrigerant: Remove refrigerant from mechanical equipment to be selectively demolished according to 40 CFR 82 and regulations of authorities having jurisdiction.

1.6 PREPARATION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

1.7 SELECTIVE DEMOLITION

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations.

B. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, then remove concrete between saw cuts.

C. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.

D. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.

E. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings." Do not use methods requiring solvent-based adhesive strippers.

F. Roofing: Remove no more existing roofing than what can be covered in one day by new roofing and so that building interior remains watertight and weathertight.

1.8 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.

1.9 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

SECTION 061053 – MISCELLANEOUS ROUGH CARPENTRY

1.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
   1. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
   2. Provide dressed lumber, S4S, unless otherwise indicated.

1.1 WOOD-PRESERVATIVE-TREATED MATERIALS

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with the ground, Use Category UC3b for exterior construction not in contact with the ground.

B. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
   1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece or omit marking and provide certificates of treatment compliance issued by inspection agency.

C. Application: Treat miscellaneous carpentry unless otherwise indicated.

1.2 FIRE-RETARDANT-TREATED MATERIALS

A. General: Where fire-retardant-treated materials are indicated, use materials complying with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.

B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.
   1. Use treatment that does not promote corrosion of metal fasteners.
   2. Exterior Type: Treated materials shall comply with requirements specified below for fire-retardant-treated lumber and plywood by pressure process after being subjected to accelerated weathering according to ASTM D 2898. Use for exterior locations and where indicated.
   3. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D 3201 at 92 percent relative humidity. Use where exterior type is not indicated.

C. Identify fire-retardant-treated wood with appropriate classification marking of testing and inspecting agency acceptable to authorities having jurisdiction.
   1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece or omit marking and provide certificates of treatment compliance issued by inspection agency.

D. For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not bleed through, contain colorants, or otherwise adversely affect finishes.

E. Application: Treat items indicated on Drawings, and the following:
   1. Framing for raised platforms.
   2. Concealed blocking.
   3. Roof framing and blocking.
   4. Wood cants, nailers, curbs, equipment support bases, blocking, and similar members in connection with roofing.
   5. Plywood backing panels.

1.1 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
   1. Blocking.
   2. Nailers.
   3. Rooftop equipment bases and support curbs.

B. For items of dimension lumber size, provide No. 2 grade lumber and any of the following species:
   1. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.

C. For blocking not used for attachment of other construction, Utility, Stud, or No. 2 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.

D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

1.3 PLYWOOD BACKING PANELS

A. Equipment Backing Panels: DOC PS 1, Exterior, AC, fire-retardant treated, in thickness indicated or, if not indicated, not less than 3/4-inch (19-mm) nominal thickness.

1.4 INSTALLATION

A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.

B. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.

C. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

D. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels. Install fire-retardant treated plywood backing panels with classification marking of testing agency exposed to view.

E. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.

F. Provide fire blocking in furred spaces, stud spaces, and other concealed cavities as indicated and as follows:
   1. Fire block furred spaces of walls, at each floor level, at ceiling, and at not more than 96 inches o.c. with solid wood blocking or noncombustible materials accurately fitted to close furred spaces.
   2. Fire block concealed spaces of wood-framed walls and partitions at each floor level, at ceiling and floor top plates, and at not more than 96 inches o.c. Where fire blocking is not inherent in framing system used, provide closely fitted solid wood blocks of same width as framing members and 2-inch nominal thickness.
   3. Fire block concealed spaces between floor sleepers with same material as sleepers to limit concealed spaces to not more than 100 sq. ft. and to solidly fill space below partitions.

G. Securely attach carpentry work to substrate by anchoring and fastening

SECTION 064023 - INTERIOR ARCHITECTURAL WOODWORK

1.1 SUMMARY

A. This Section includes the following:
   1. Plastic-laminate cabinets.
   2. Plastic-laminate countertops.
   3. Shop finishing of interior woodwork.
   4. Cabinet hardware.
   5. Interior finish carpentry including standing and running trim.

B. Interior architectural woodwork includes wood furring, blocking, shims, and hanging strips for installing woodwork items unless concealed within other construction before woodwork installation.

1.1 QUALITY ASSURANCE

A. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate products similar to those required for this Project and whose products have a record of successful in-service performance. Shop is a certified participant in AWI's Quality Certification Program.

B. Installer Qualifications: Certified participant in AWI's Quality Certification Program.

C. Quality Standard: Unless otherwise indicated, comply with AWI's "Architectural Woodwork Quality Standards" for grades of interior architectural woodwork indicated for construction, finishes, installation, and other requirements.

D. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1.2 DELIVERY, STORAGE, AND HANDLING

A. Do not deliver woodwork until painting and similar operations that could damage woodwork have been completed in installation areas. If woodwork must be stored in other than installation areas, store only in areas where environmental conditions comply with requirements specified in "Project Conditions" Article.

1.3 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

B. Field Measurements: Where woodwork is indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1.4 COORDINATION

A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that interior architectural woodwork can be supported and installed as indicated.

1.5 MATERIALS

A. General: Provide materials that comply with requirements of AWI's quality standard for each type of woodwork and quality grade specified, unless otherwise indicated.

B. Wood Products: Comply with the following:
   1. Hardboard: Tempered, AHA A135.4.
   2. Medium-Density Fiberboard: ANSI A208.2, Grade MD, made with binder containing no added urea formaldehyde.
      a. Type A (standard): MDF, MR10 – ANSI A208.2, Grade 130.
      b. Type B (where additional moisture resistance is needed): MDF, MR30 – ANSI A208.2, Grade 155.
      c. Type C (near sinks, splashes, and other high humidity locations): MDF, MR50 – ANSI A208.2, Grade 150.
   3. Softwood Plywood: DOC PS 1, Medium Density Overlay.

C. Thermoset Decorative Laminate (melamine): Particleboard or medium-density fiberboard finished with thermally fused, melamine-impregnated decorative paper complying with LMA SAT-1.
   1. Provide PVC or polyester edge banding complying with LMA EDG-1 on components with exposed or semi-exposed edges. Color to match face material.

D. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated or, if not indicated, as required by woodwork quality standard.

1.6 CABINET HARDWARE AND ACCESSORIES

A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets, except for items specified in Division 08 Section "Door Hardware (Scheduled by Describing Products)."

B. Frameless Concealed Hinges (European Type): BHMA A156.9, B01602, 135 degrees of opening, self-closing.

C. Back-Mounted Pulls: BHMA A156.9, B02011.
   1. Subject to compliance with requirements, provide "DP3 series, 3-inch" by Doug Mockett & Company, Inc.

D. Wire Pulls: Back mounted, solid metal, 5 inches 127 mm long, 2-1/2 inches 63.5 mm deep, and 5/16 inch 8 mm in diameter.

E. Elbox Latches: BHMA A156.9, B02023.

F. Adjustable Shelf Standards and Supports: BHMA A156.9, B04071; with shelf rests, B04081.

G. Shelf Rests: BHMA A156.9, B04013; metal, equal to Hafele 282.04.711.

H. Drawer Slides: BHMA A156.9, B05091.
   1. Heavy Duty (Grade 1HD-100 and Grade 1HD-200): Side mounted; full-extension type; zinc-plated steel ball-bearing slides.
   2. File Drawer Slides: Grade 1HD-100; for drawers more than 6 inches 150 mm high or 24 inches 600 mm wide.
   3. Pencil Drawer Slides: Grade 2; for drawers not more than 3 inches 75 mm high and 24 inches 600 mm wide.

I. Door Locks: BHMA A156.11, E07121.
   1. Basis of Design
      a. National CAM door lock #C8053-14A w/elbow catch at 2-door cabinet.

J. Drawer Locks: BHMA A156.11, E07041.

K. Grommets for Cable Passage through Countert

to, but not limited to, the following: CAJ6006, CAJ 6017 by Hilti or CAJ6012, CAJ6013, CAJ6027 by Grace.
2. Type of Fill Materials: One or more of the following:
a. Intumescent sealant.
b. Latex sealant
c. Intumescent putty.
d. Mortar.

L. Firestop Systems for Miscellaneous Mechanical Penetrations (FS-9): Comply with the following:
1. Acceptable UL-Classified Systems with CAJ 7000 Series Systems equivalent to, but not limited to, the following: CAJ7046, CAJ7051, CAJ7040, CAJ7021 by Hilti or CAJ7067, CAJ7075, CAJ7082 by Grace.
2. Type of Fill Materials: One or both of the following:
a. Intumescent sealant.
b. Latex sealant.
c. Mortar.
d. Acrylic sealant.
e. Silicone sealant.

M. Firestop Systems for Groupings of Penetrations (FS-10): Comply with the following:
1. Acceptable UL-Classified Systems with CAJ or WL 8000 Series Systems, equivalent to, but not limited to, the following: CAJ8056, CAJ8096, WJ8007, WL8014, WL8019 by Hilti or CAJ8042, CAJ8101, CAJ8133, WL8007 by Grace.
2. Type of Fill Materials: One or more of the following:
a. Latex sealant.
b. Mortar.
c. Intumescent wrap strips.
d. Firestop device.
e. Intumescent composite sheet.
f. Pre-formed intumescent blocks.

SECTION 078446 – FIRE-RESISTIVE JOINT SYSTEMS

1.1 SECTION INCLUDES
A. Joints in or between fire-resistance-rated constructions.
B. Joints at exterior curtain-wall/floor intersections.
C. Joints in smoke barriers.

1.1 MANUFACTURERS
A. Manufacturers: Subject to compliance with requirements, provide products by one of the following without substitution:
1. Hilti, Inc.

1.2 FIRE-RESISTIVE JOINT SYSTEMS
A. Where required, provide fire-resistive joint systems that are produced and installed to resist spread of fire according to requirements indicated, resist passage of smoke and other gases, and maintain original fire-resistance rating of assemblies in or between which fire-resistive joint systems are installed. Fire-resistive joint systems shall accommodate building movements without impairing their ability to resist the passage of fire and hot gases.
B. Joints in or between Fire-Resistance-Rated Construction: Provide fire-resistive joint systems with ratings determined per ASTM E 1966 or UL 2079:
1. Joints include those installed in or between fire-resistance-rated walls floor or floor/ceiling assemblies and roofs or roof/ceiling assemblies.
2. Fire-Resistance Rating: Equal to or exceeding the fire-resistance rating of construction they will join.
C. Joints at Exterior Curtain-Wall/Floor Intersections: Provide fire-resistive joint systems with rating determined by ASTM E 119 based on testing at a positive pressure differential of 0.01-inch wg or ASTM E 2307.
1. Fire-Resistance Rating: Equal to or exceeding the fire-resistance rating of the floor assembly.
D. Joints in Smoke Barriers: Provide fire-resistive joint systems with ratings determined per UL 2079.
1. L-Rating: Not exceeding 5.0 cfm/ft of joint at 0.30 inch wg at both ambient and elevated temperatures.
E. VOC Content: Provide fire-resistive joint systems that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
1. Architectural Sealants: 250 g/L.
2. Sealant Primers for Nonporous Substrates: 250 g/L.
3. Sealant Primers for Porous Substrates: 775 g/L.
F. Accessories: Provide components of fire-resistive joint systems, including primers and forming materials, that are needed to install fill materials and to maintain ratings required. Use only components specified by fire-resistive joint system manufacturer and approved by the qualified testing agency for systems indicated.

1.3 INSTALLATION
A. General: Install fire-resistive joint systems to comply with manufacturer's written installation instructions and published drawings for products and applications indicated.
B. Install forming materials and other accessories of types required to support fill materials during their application and in position needed to produce cross-sectional shapes and depths required to achieve fire ratings indicated.
C. Install fill materials for fire-resistive joint systems by proven techniques.

SECTION 079200 – JOINT SEALANTS

1.1 SECTION INCLUDES
A. Sealants and joint backing.
B. Pre-compressed foam sealers.

1.2 SUBMITTALS
A. Product Data: Provide data indicating sealant chemical characteristics.

1.3 WARRANTY
A. Correct defective workmanship within a five year period after Date of Substantial Completion.
B. Correct defective materials for 5 years for urethane sealants and 20 years for silicone sealants.
C. Warranty: Include coverage for installed sealants and accessories which fail to achieve airtight seal, exhibit loss of adhesion or cohesion, or do not cure.

1.4 MANUFACTURERS
A. Silicone Sealants:
1. Bostik Inc: www.bostik-us.com.
2. Momentive Performance Materials, Inc (formerly GE Silicones): www.momentive.com.
3. Pecora Corporation: www.pecora.com.
4. BASF Construction Chemicals-Building Systems: www.buildingsystems.basf.com.
5. Tremco Global Sealants: www.tremcosealants.com.
B. Polyurethane Sealants:
1. Bostik Inc: www.bostik-us.com.
2. Pecora Corporation: www.pecora.com.
3. BASF Construction Chemicals-Building Systems: www.buildingsystems.basf.com.
C. Acrylic Sealants (ASTM C920):
1. Tremco Global Sealants: www.tremcosealants.com.
D. Acrylic Emulsion Latex Sealants:
1. Bostik Inc: www.bostik-us.com.
2. Pecora Corporation: www.pecora.com.
3. BASF Construction Chemicals-Building Systems: www.buildingsystems.basf.com.
4. Tremco Global Sealants: www.tremcosealants.com.
E. Preformed Compressible Foam Sealers:
1. EMSEAL Joint Systems, Ltd: www.emseal.com.
2. Sandell Manufacturing Company, Inc: www.sandellmfg.com.
3. Dayton Superior Corporation: www.daytonsuperior.com.
4. Tremco Global Sealants: www.tremcosealants.com.

1.5 SEALANTS
A. Type AL-A - Acoustical Sealant: Butyl or acrylic sealant; ASTM C 920, Grade NS, Class 12-1/2, Uses M and A; single component, solvent release curing, non-skinning.
1. Product: BA-98 manufactured by Pecora.
B. Type AL - Acrylic Sealant: ASTM C 920, Grade NS, Class 12-1/2, Uses NT, M, A, O; single component, solvent curing, non-staining, non-bleeding, non-sagging.
1. Color: Standard colors matching finished surfaces.
2. Product: Sonolac manufactured by Sonneborn.
3. Movement Capability: Plus and minus 12-1/2 percent.
4. Service Temperature Range: -13 to 180 degrees F.
5. Shore A Hardness Range: 25 to 50.
C. Type U-MC – Non-sag Polyurethane Sealant: ASTM C 920, Grade NS, Class 25, Uses NT, I, M, A, G, O; single component, chemical curing, non-staining, non bleeding, capable of continuous water immersion, non-sagging type.
1. Color: Standard colors matching finished surfaces.
2. Product: NP-2 manufactured by Sonneborn.
3. Movement Capability: Plus and minus 25 percent.
4. Service Temperature Range: -40 to 180 degrees F.
5. Shore A Hardness Range: 20 to 35.
D. Type U-SL - Self-Leveling Polyurethane Sealant: ASTM C 920, Grade P, Class 25, Uses T, I, M, A, O; single component, chemical curing, non staining, non bleeding, capable of continuous water immersion, self-leveling type.
1. Color: Color as selected.
2. Product: SL-2 manufactured by Sonneborn.
3. Movement Capability: Plus and minus 25 percent.
4. Service Temperature Range: -40 to 180 degrees F.
5. Shore A Hardness Range: 20 to 35.
E. Type S-GP - Silicone Sealant: ASTM C 920, Grade NS, Class 25, Uses NT, A, G, M, O; single component, solvent curing, non-sagging, non-staining, fungus resistant, non-bleeding.
1. Color: Standard colors matching finished surfaces.
2. Product: 795 manufactured by Dow Corning.
3. Movement Capability: Plus and minus 25 percent.
4. Service Temperature Range: -65 to 180 degrees F.
5. Shore A Hardness Range: 15 to 35.
F. Type S-S - Silicone Sealant: ASTM C 920, Grane NS, Class 25, Uses NG, A, G, M, O; single component, non-sagging, non-staining, sanitary.
1. Color: Standard colors matching finished surfaces.
2. Product: 786 manufactured by Dow Corning.
3. Service Temperature Range: -65 to 180 degrees F.
4. Shore A Hardness Range: 15 to 35.
G. Pre-Formed Elastomeric Foam Seal (PF): Prototechnap Triple Guard energy Sill Sealer.

1.6 ACCESSORIES
A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
B. Joint Backing: Round foam rod compatible with sealant; ASTM D 1667, closed cell PVC; oversized 30 to 50 percent larger than joint width .
C. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

1.7 PREPARATION
A. Remove loose materials and foreign matter that could impair adhesion of sealant.
B. Clean and prime joints in accordance with manufacturer's instructions.
C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
D. Protect elements surrounding the work of this section from damage or disfigurement.

1.8 INSTALLATION
A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
B. Perform installation in accordance with ASTM C1193.
C. Perform acoustical sealant application work in accordance with ASTM C919.
D. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer , except where specific dimensions are indicated.
E. Install bond breaker where joint backing is not used.
F. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
G. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
H. Tool joints concave.
I. Pre-compressed Foam Sealant: Do not stretch; avoid joints except at corners, ends, and intersections; install with face 1/8 to 1/4 inch below adjoining surface.

1.9 SCHEDULE
A. Exterior Joints for Which No Other Sealant Type is Indicated: Type S-GP.
B. Control and Expansion Joints in Paving: Type U-SL.
C. Interior Wall Expansion Joints: Type U-NS.
D. Exterior Wall Expansion Joints: Type S-GP.
E. Joints Between Concrete Panels and Between Panels and Adjacent Work: Type S-SP.
F. Control, Expansion, and Soft Joints in Masonry, and Between Masonry and Adjacent Work: Type S-GP.
G. Lap Joints in Exterior Sheet Metal Work: Type S-GP.
H. Joints Between Exterior Metal Frames and Adjacent Work: Type S-GP.
I. Under Exterior Door Thresholds: Type G-GP.
J. Interior Joints for Which No Other Sealant is Indicated: Type AL.
K. Control and Expansion Joints in Interior Concrete Slabs and Floors: Type U-SL.
L. Joints Between Plumbing Fixtures and Walls and Floors, and Between Countertops and Walls: Type S-S.
M. In STC-Rated Walls, Between Metal Stud Track/Runner and Adjacent Construction: Type AL-A.
N. Beneath Exterior Stud Walls at Foundations: Type PF.

END OF SECTION

SECTION 079210 – INTERIOR JOINT SEALANTS

1.1 PRECONSTRUCTION TESTING
A. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.
1. Use ASTM C 1087 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
2. Testing will not be required if joint-sealant manufacturers submit joint preparation data that are based on previous testing, not older than 24 months, of sealant products for adhesion to, and compatibility with, joint substrates and other materials matching those submitted.

1.1 WARRANTY
A. Special Manufacturer's Warranty: Manufacturer's standard form in which joint-sealant manufacturer agrees to furnish joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
1. Warranty Period: 20 years from date of Substantial Completion for silicone sealants.

1.2 MATERIALS, GENERAL
A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
B. VOC Content of Interior Sealants: Provide sealants and sealant primers for use inside the weatherproofing system that comply with the following limits for VOC content when calculated according to 40 CFR 59, Part 59, Subpart D (EPA Method 24):
1. Architectural Sealants: 250 g/L.
2. Sealant Primers for Nonporous Substrates: 250 g/L.
3. Sealant Primers for Porous Substrates: 775 g/L.
C. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
1. Suitability for Immersion in Liquids. Where sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C 1247. Liquid used for testing sealants is deionized water, unless otherwise indicated.
D. Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.
E. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

1.3 SILICONE JOINT SEALANTS
A. Mildew-Resistant, Single-Component, Acid-Curing Silicone Joint Sealant(S-S:) ASTM C 920, Type S, Grade NS, Class 25, for Use NT.
1. Products: Subject to compliance with requirements, provide one of the following:
a. BASF Building Systems; Omniplus.
b. Dow Corning Corporation; 786 Mildew Resistant.
c. GE Advanced Materials - Silicones; Sanitary SCS1700.
d. Tremco Incorporated; Tremsil 200 Sanitary.

1.4 LATEX JOINT SEALANTS
A. Latex Joint Sealant (AL): Acrylic latex or silicionized acrylic latex, ASTM C 834, Type OP, Grade NF.
1. Products: Subject to compliance with requirements, provide one of the following:
a. BASF Building Systems; Sonolac.
b. Bostik, Inc.; Chem-Calk 600.
c. May National Associates, Inc.
d. Pecora Corporation; AC-20+.
e. Tremco Incorporated; Tremflex 834.

1.5 ACOUSTICAL JOINT SEALANTS (AC)
A. Acoustical Joint Sealant: Manufacturer's standard non-sag, paintable, non-staining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
1. Products: Subject to compliance with requirements, provide one of the following:
a. Pecora Corporation; AC-20 FTR .
b. USG Corporation; SHEETROCK Acoustical Sealant.

1.6 PREPARATION
A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.
B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

1.7 INSTALLATION OF JOINT SEALANTS
A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
1. Place sealants so they directly contact and fully wet joint substrates.
2. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
1. Remove excess sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
4. Provide flush joint profile where indicated per Figure 8B in ASTM C 1193.
F. Acoustical Sealant Installation: At sound-rated assemblies and elsewhere as indicated, seal construction at perimeters, behind control joints and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations.

1.8 FIELD QUALITY CONTROL
A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:
1. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
a. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
2. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.
B. Evaluation of Field-Adhesion Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

1.9 CLEANING
A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

1.10 JOINT-SEALANT SCHEDULE
A. Sealant Schedule:
1. Interior Joints:
a. Wall and ceiling joints subject to movement: Designation U-MC.
b. Wall and ceiling joints not subject to movement: Designation AL.
c. Wall and ceiling joints between frames and their rough opening: Designation AL.
d. Wall and ceiling joints between frames and adjoining surfaces: Designation AL.
e. Interior Sanitary Joints; Joints Between Plumbing Fixtures and Adjoining Floor, Wall, and Ceiling Surfaces; Joints Between Shower Door Enclosure Components and Adjacent Finish Surfaces; Joints in Dietary and Food Preparation Areas, Kitchens, Food Storage Areas, and Areas Subject to Frequent Wet Cleaning, including joints between walls and Wfloors, Joints Between Back Splashes and Wall Substrates: Designation S-S.

SECTION 08 11 14 - HOLLOW METAL FRAMES

PART 1 - GENERAL

1.1 SUMMARY
A. Section includes hollow-metal work.

1.2 DEFINITIONS
A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

1.3 COORDINATION
A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

1.4 PREINSTALLATION MEETINGS
A. Preinstallation Conference: Conduct conference at Project site.

1.5 ACTION SUBMITTALS
A. Product Data: For each type of product.
1. Include construction details, material descriptions, core descriptions, fire-resistance ratings, and finishes.
B. Shop Drawings: Include the following:
1. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
2. Locations of reinforcement and preparations for hardware.
3. Details of each different wall opening condition.
4. Details of anchorages, joints, field splices, and connections.
5. Details of accessories.
6. Details of moldings, removable stops, and glazing.
7. Details of conduit and preparations for power, signal, and control systems.
C. Schedule: Provide a schedule of hollow-metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final Door Hardware Schedule.

1.6 INFORMATIONAL SUBMITTALS
A. Product Test Reports: For each type of hollow-metal door and frame assembly, for tests performed by a qualified testing agency.
B. Oversize Construction Certification: For assemblies required to be fire rated and exceeding limitations of labeled assemblies.

1.7 DELIVERY, STORAGE, AND HANDLING
A. Deliver hollow-metal work palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.
1. Provide additional protection to prevent damage to factory-finished units.
B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
C. Store hollow-metal work vertically under cover at Project site with head up. Place on minimum 4-inch-high wood blocking. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS
A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Amweld International, LLC.
2. Ceco Door Products; an Assa Abloy Group company.
3. Curries Company; an Assa Abloy Group company.
4. Steelcraft; an Ingersoll-Rand company.
B. Source Limitations: Obtain hollow-metal work from single source from single manufacturer.

2.2 REGULATORY REQUIREMENTS
A. Fire-Rated Assemblies: Complying with NFPA 80 and listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.
1. Smoke- and Draft-Control Assemblies: Provide an assembly with gaskets listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing according to UL 1784 and installed in compliance with NFPA 105.
B. Fire-Rated, Borrowed-Light Assemblies: Complying with NFPA 80 and listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction for fire-protection ratings indicated, based on testing according to NFPA 257 or UL 9.

2.3 INTERIOR FRAMES
A. Construct interior frames to comply with the standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.
B. Extra-Heavy-Duty Frames: SDI A250.8, Level 3.
1. Physical Performance: Level A according to SDI A250.4.
2. Frames:
a. Materials: Uncoated, steel sheet, minimum thickness of 0.053 inch.
b. Construction: Full profile welded.
3. Exposed Finish: Prime.

2.4 FRAME ANCHORS
A. Jamb Anchors:
1. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch thick.
2. Postinstalled Expansion Type for In-Place Concrete or Masonry: Minimum 3/8-inch-diameter bolts with expansion shields or inserts. Provide pipe spacer from frame to wall, with throat reinforcement plate, welded to frame at each anchor location.
B. Floor Anchors: Formed from same material as frames, minimum thickness of 0.042 inch, and as follows:
1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.

2.5 MATERIALS
A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
C. Frame Anchors: ASTM A 879/A 879M, Commercial Steel (CS), 04Z coating designation; mill phosphatized.
1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.
D. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.
E. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.
F. Grout: ASTM C 476, except with a maximum slump of 4 inches, as measured according to ASTM C 143/C 143M.
G. Glazing: Comply with requirements in Section 08 80 00 "Glazing."
H. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.6 FABRICATION
A. Fabricate hollow-metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for metal thickness. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.
B. Hollow-Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
1. Sidelight Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
3. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
4. Floor Anchors: Weld anchors to bottoms of jambs with at least four spot welds per anchor; however, for slip-on drywall frames, provide anchor clips or countersunk holes at bottoms of jambs.
5. Jamb Anchors: Provide number and spacing of anchors as follows:
a. Stud-Wall Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:
1) Three anchors per jamb up to 60 inches high.
2) Four anchors per jamb from 60 to 90 inches high.
3) Five anchors per jamb from 90 to 96 inches high.
4) Five anchors per jamb plus one additional anchor per jamb for each 24 inches or fraction thereof above the 96 inches high.
b. Postinstalled Expansion Type: Locate anchors not more than 6 inches from top and bottom of frame. Space anchors not more than 26 inches o.c.
6. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.
a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.
C. Fabricate concealed stiffeners and edge channels from either cold- or hot-rolled steel sheet.
D. Hardware Preparation: Factory prepare hollow-metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.
1. Reinforce frames to receive nontemplated, mortised, and surface-mounted door hardware.
2. Comply with applicable requirements in SDI A250.6 and BHMA A156.115 for preparation of hollow-metal work for hardware.
E. Stops and Moldings: Provide stops and moldings around glazed lites and louvers where indicated. Form corners of stops and moldings with mitered hairline joints.
1. Single Glazed Lites: Provide fixed stops and moldings welded on secure side of hollow-metal work.
2. Provide fixed frame moldings on secure side of interior frames.
3. Provide loose stops and moldings on inside of hollow-metal work.
4. Coordinate rabbet width between fixed and removable stops with glazing and installation types indicated.

2.7 STEEL FINISHES
A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.
1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

2.8 ACCESSORIES
A. Mullions: Join to adjacent members by welding or rigid mechanical anchors.
B. Grout Guards: Formed from same material as frames, not less than 0.016 inch thick.

PART 3 - EXECUTION

3.1 EXAMINATION
A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.
C. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION
A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.
B. Drill and tap frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.3 INSTALLATION
A. General: Install hollow-metal work plumb, rigid, properly aligned, and securely fastened in place. Comply with Drawings and manufacturer's written instructions.
B. Hollow-Metal Frames: Install hollow-metal frames of size and profile indicated. Comply with SDI A250.11 or NAAMM-HMMA 840 as required by standards specified.
1. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
a. At fire-rated openings, install frames according to NFPA 80.
b. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
c. Install frames with removable stops located on secure side of opening.
d. Install door silencers in frames before grouting.
e. Remove temporary braces necessary for installation only after frames have been properly set and secured.
f. Check plumb, square, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
g. Field apply bituminous coating to backs of frames that will be filled with grout containing antifreezing agents.
2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.
a. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.
3. Metal-Stud Partitions: Solidly pack mineral-fiber insulation inside frames.
4. In-Place Concrete or Masonry Construction: Secure frames in place with postinstalled expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
5. Installation Tolerances: Adjust hollow-metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
b. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
c. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.
C. Glazing: Comply with installation requirements in Section 08 80 00 "Glazing" and with hollow-metal manufacturer's written instructions.
1. Secure stops with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches o.c. and not more than 2 inches o.c. from each corner.

3.4 ADJUSTING AND CLEANING
A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow-metal work that is warped, bowed, or otherwise unacceptable.
B. Remove grout and other bonding material from hollow-metal work immediately after installation.
C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.
D. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION

SECTION 081416 - FLUSH WOOD DOORS

1.1 SECTION INCLUDES
A. Solid-core doors with wood-veneer and plastic-laminate faces.
B. Factory finishing flush wood doors.
C. Factory fitting flush wood doors to frames and factory machining for hardware.

1.1 QUALITY ASSURANCE
A. Source Limitations: Obtain flush wood doors and wood paneling from single manufacturer.
B. Quality Standard: In addition to requirements specified, comply with AWI's "Architectural Woodwork Quality Standards Illustrated" for veneers faces and WDMA I.S.1-A, "Architectural Wood Flush Doors" for performance of the door, along with "WI's "Manual of Millwork."
C. Fire-Rated Wood Doors: Doors complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.
1. Temperature-Rise Limit: At vertical exit enclosures and exit passageways, provide doors that have a maximum transmitted temperature end point of not more than 450 deg F above ambient after 30 minutes of standard fire-test exposure.
2. Indicate rating and listing agent with permanently attached label on edge of door, if continuous hinge is used adhere label on top of door.

1.2 WARRANTY
A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.
1. Failures include, but are not limited to, the following:
a. Warping (bow, cup, or twist) more than 1/4 inch in a 42-by-84-inch section.
b. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch span.
c. Telegraphing of core construction and delamination of face in decorative laminated faced doors.
2. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.
3. Warranty Period for Solid-Core Interior Doors: Life of installation.

1.3 DOOR CONSTRUCTION, GENERAL
A. WDMA I.S.1-A Performance Grade: Extra Heavy Duty.
B. Particleboard-Core Doors:
1. Particleboard: ANSI A208.1, Grade LD-1.
2. Agrifiber board: Straw-based particleboard complying with ANSI A208.1, Grade LD-2 or M-2, except for density.
3. Blocking: Provide wood blocking in particleboard-core doors as needed to eliminate through-bolting hardware.
a. 8-inch top-rail blocking, in doors indicated to have closers.
b. 5-inch bottom-rail blocking, in exterior doors and doors indicated to have kick, mop, or armor plates.
c. 5-inch midrail blocking, in doors indicated to have exit devices.
4. Provide doors with structural-composite-lumber (SCL) cores instead of particleboard cores for the following door types:
a. Doors indicated to receive exit devices.
b. Doors with more than 40 percent of core removed.
c. Lock and Light cutout stiles less than 5 1/2 inches between cutouts.
d. Shipping and receiving doors.
C. Fire-Protection-Rated Doors: Provide core specified or mineral core as needed to provide fire-protection rating indicated.
1. Edge Construction: Provide edge construction with intumescent seals concealed by outer stile. Comply with specified requirements for exposed edges.
2. Pairs: Provide fire-retardant stiles that are listed and labeled for applications indicated without formed-steel edges and astragals. Provide stiles with concealed intumescent seals. Comply with specified requirements for exposed edges.
D. Mineral-Core Doors:
1. Core: Noncombustible mineral product complying with requirements of referenced quality standard and testing and inspecting agency for fire-protection rating indicated.
2. Blocking: Provide composite blocking with improved screw-holding capability approved for use in doors of fire-protection ratings indicated as needed to eliminate through-bolting hardware.
a. 8-inch top-rail blocking.
b. 5-inch bottom-rail blocking, in doors indicated to have protection plates.
c. 5-inch midrail blocking, in doors indicated to have armor plates.
d. 4-1/2-by-10-inch lock blocks, in doors indicated to have exit devices.
3. Edge Construction: At hinge stiles, provide laminated-edge construction with improved screw-holding capability and split resistance. Comply with specified requirements for exposed edges exceeding WDMA.

1.4 VENEERED-FACED DOORS FOR TRANSPARENT FINISH
A. Interior Solid-Core Doors:
1. Grade: Custom (Grade A faces).
2. Species and Cut: As scheduled.
3. Match between Veneer Leaves: Book match.
4. Assembly of Veneer Leaves on Door Faces: Center-balance match.
5. Pair and Set Match: Provide for doors hung in same opening or separated only by mullions.
6. Room Match: Match door faces within each separate room or area of building. Corridor-door faces do not need to match where they are separated by 10 feet or more.
7. Room Match: Provide door faces of compatible color and grain within each separate room or area of building.
8. Exposed Vertical Edges: Applied wood-veneer edges of same species as faces and covering edges of faces
9. Core: Particleboard and comply with section 2.2.
10. Construction: Five plies. Stiles and rails are bonded to core, then entire unit abrasive planed before veneering.
11. WDMA I.S.1-A Performance Grade: Extra Heavy Duty.

1.5 PLASTIC-LAMINATE-FACED DOORS
A. Interior Solid-Core Doors:
1. Grade: Custom.
2. Plastic-Laminate Faces: High-pressure decorative laminates complying with NEMA LD 3, Grade HGS.
3. Finishes: Refer to Master Schedule.
4. Exposed Vertical and Top Edges plastic laminate Plastic laminate edge before face.
5. Core: Particleboard and comply with section 2.2.
6. Construction: Five plies. Stiles and rails are bonded to core, then entire unit abrasive planed before faces and crossbands are applied. Faces are bonded to core using a hot press.
7. WDMA I.S.1-A Performance Grade: Extra Heavy Duty.

1.6 LOUVERS AND LIGHT FRAMES
A. Metal Louvers:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. Air Louvers Inc.
b. Anemostat; a Mestek company.
c. Hiawatha Incorporated.
d. McGill Architectural Products.
e. Pemko Manufacturing Company, Inc.
2. Blade Type: Vision-proof, inverted V or inverted Y.
3. Metal and Finish: Galvanized steel, 0.040 inch thick, factory primed for paint finish with baked-enamel- or powder-coated finish.
B. Louvers for Fire-Rated Doors: Metal louvers with fusible link and closing device

quarterly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper door opening operation. Furnish parts and supplies as used in the manufacture and installation of original products.

1.3 HINGES AND PIVOTS
A. Standards: BHMA Certified products complying with the following:
1. Butts and Hinges: BHMA A156.1.
2. Continuous Geared Hinges: BHMA A156.26.
3. Pivots: BHMA A156.4.
4. Template Hinge Dimensions: BHMA A156.7.
5. Self-Closing Hinges: BHMA A156.17.
6. Floor Hinges: BHMA A156.4.
B. Quantity: Furnish the following, unless otherwise indicated:
1. Two Hinges: For doors with heights up to 60 inches
2. Three Hinges: For doors with heights 61 to 90 inches
3. Four Hinges: For doors with heights 91 to 120 inches
4. For doors with heights more than 120 inches, furnish 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.
C. Pivot Hinges: Furnish 3/4" offset, single acting pivots with one intermediate pivot for doors less than 91 inches high and two intermediate pivots for doors between 91 inches and 121 inches in height. Space intermediate pivots equally not less than 25 inches on center apart or not more than 35 inches on center for doors over 121 inches high.
D. Floor Pivots: Furnish 3/4" offset, single acting floor closer complete with top and intermediate pivots according to manufacturer's recommendations. Options include availability for use on fire labeled; lead lined and extra heavy weight doors. Furnish independent and adjustable valves for closing speed, latch speed, and backcheck with built in dead stop and hold open features as specified.
1. Flush Floor Plates and Thresholds: Furnish finish cover plates or thresholds as indicated in door hardware sets for floor hinges. Match door hardware finish, unless otherwise indicated.
E. Hinge Size: Furnish the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
F. Hinge Weight and Base Material: Unless otherwise indicated, furnish the following:
1. Exterior Doors: Heavy weight, non-ferrous, ball bearing hinges.
2. Interior Doors: Heavy weight, ball bearing hinges unless Hardware Sets indicate standard weight.
a. Standard weight hinges can be used at Mechanical, Electrical, IDF, Data, and Offices with out closers openings, regardless of specified hinge weight in hardware sets.
G. Hinge Height Clarifications: Where uneven door leafs occur, the widest door leaf in the pair determines the height and weight of the hinges on the inactive and active door leafs; to ensure equal size hinges on opening.
H. Hinge Weight Clarification: If heavy weight hinges are specified in hardware sets for interior aluminum frames then standard weight hinges can be used. If aluminum frame opening has a door 42 inches or greater then provide an additional hinge in lieu of heavy weight or 5 inch hinges.
I. Hinge Options: Comply with the following where indicated in the Door Hardware Schedule or on Drawings:
1. Non-removable Pins: Furnish set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the following applications:
a. Out-swinging exterior doors.
b. Out-swinging access controlled doors.
2. Electric Hinges: Furnish electric transfer hinges with standardized plug connectors to accommodate up to twelve (12) wires. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Furnish sufficient number of concealed wires to accommodate electric function of specified hardware.
J. Continuous-Geared Hinges (Aluminum): Minimum 0.120-inch thick, hinge leaves with minimum overall width of 4 inches; fabricated to full height of door and frame. Fabricate hinges non-handed and to template screw locations. Continuous hinges guaranteed for the life of the opening.
K. Continuous Barrel Hinges (Stainless Steel): Hinges to be made of 14 GA. type 304 Stainless Steel with concealed Teflon-coated stainless steel pin, and twin self-lubricated nylon bearings at each 2 inch knuckle. Fabricate hinges non-handed and to template screw locations.
L. Accessible Electrical Transfer Continuous Hinges: Furnish electric transfer continuous hinges with a 12' removable hinge modification accessible without de-mounting door from the frame and standardized plug connectors to accommodate up to twelve (12) wires. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Furnish sufficient number of concealed wires to accommodate electric function of specified hardware.
M. Electrical Power Transfer: Furnish EPT where it is required per exit device manufactures requirements and warranty for more then 1 amp of inrush for latch retraction of exit device bolt. Furnish prep in door, frame, and continuous hinge. Furnish a secure and unobtrusive means of channeling electrical wiring from the door frame into the door itself by concealing internal wires for low voltage electrified door hardware. Furnish an Electrical Power Transfer fully manufactured with metal.
1. Acceptable Manufacturers:
a. Securitron Door Controls (SN) – EL-CEPT-12/22 series
b. Von Duprin (VD) – EPT-10 Series
N. Furnish mortar guard enclosure on frames at each electrical hinge location specified.

1.4 DOOR BOLTS
A. Standards: Comply with the following:
1. Surface Bolts: BHMA A156.16.
2. Automatic and Self-Latching Flush Bolts: BHMA A156.3.
3. Manual Flush Bolts: BHMA A156.16.
B. Surface Bolts and Flush Bolts: BHMA Certified Grade 1.
C. Furnish bolts with top rod of sufficient length to allow bolt location approximately six feet from the floor regardless if detailed as such in hardware sets. Furnish dust proof strikes for bottom bolts. Surface bolts to be 8" in length, unless otherwise noted and U.L. listed for labeled fire doors.
D. Furnish Self-Latching flush bolts as follows:
1. Access control inactive door leaf.
2. Uneven inactive door leaf.
E. Bolt Throw: Comply with testing requirements for length of bolts to comply with labeled fire door requirements, and as follows:
1. Mortise Flush Bolts: Minimum 3/4-inch throw.

1.5 LOCKS AND LATCHES
A. Standards: Comply with the following:
1. Mortise Locks and Latches: BHMA A156.13.
2. Bored Locks and Latches: BHMA A156.2.
3. Interconnected Locks and Latches: BHMA A156.12.
4. Auxiliary Locks: BHMA A156.5.
B. Mortise Locks: BHMA Certified Grade 1, Series 1000.
C. Bored Locks: BHMA Certified Grade 1, Series 4000.
D. Interconnected Locks: BHMA Certified Grade 2, Series 5000.
E. Auxiliary Locks: BHMA Certified Grade 1
F. Lock Trim: Match the following design style:
1. Levers:
a. Best Access System (BE) – 15H/15D
b. Corbin Russwin Hardware (CR) - NSA/NZD
c. Sargent Manufacturing (SA) – LNL/LL
d. Schlage (SC) – 06A/RHO
G. Lock Functions: Function numbers and descriptions indicated in the Door Hardware Schedule comply with the following:
1. Mortise Locks: BHMA A156.13.
2. Bored Locks: BHMA A156.2.
3. Interconnected Locks: BHMA A156.12.
H. Lock Throw: Comply with testing requirements for length of bolts to comply with labeled fire door requirements, and as follows:
1. Mortise Locks: Minimum 3/4-inch/latchbolt throw, with stainless steel bolt.
2. Bored Locks: Minimum 1/2-inch/latchbolt throw, 3/4" latchbolt throw at fire rated pairs.
3. Deadbolts: Minimum 1-inch bolt throw.
I. Backset: 2-3/4 inchesunless otherwise indicated.

1.6 ELECTRIFIED LOCKS
A. Electromagnetic Locks: Electromagnetic locks shall be heavy duty, surface mounted type conforming to ANSI A156.23, Grade 1 with a minimum holding force of 1,200 lbs.. Locks shall be capable of either 12 or 24 voltage and be UL listed for use on fire rated door assemblies. Electronics are to be fully sealed against tampering and shall allow exterior weatherproof applications. As indicated in hardware sets, furnish specified mounting brackets and housings. Power supply to be by the same manufacturer as the lock with combined products having unlimited lifetime warranty.
1. Surface Mount Electromagnetic Locks (Fail Safe):
a. Folger Adam EDC (FO) - FAM60 Series.
b. Securitron Door Controls (SE) - M62 Series.
c. Security Door Controls
2. Concealed Mount Electromagnetic Locks (Fail Safe):
a. Folger Adam EDC (FO) - FASAM Series.
b. Securitron Door Controls (SE) - SAM Series.
c. Security Door Controls

1.7 CYLINDERS AND KEYING
A. Furnish Patented, High, Security cylinders utilizing a unique factory code pattern that is both geographically and time zoned protected. A letter of authorization under the letterhead of the End User must accompany purchases of any products which involve patented cylinders, keys and accessories. Manufacturers of patented security cylinders to allow the ability for both security and conventional cylinders to be used together under the same facility master or grandmaster key system. The End User is required to have the ability for on-site cylinder pinning and original key cutting.
B. Standards: Comply with the following:
1. Cylinders: BHMA A156.5.
2. Key Control System: BHMA A156.5.
C. Cylinder Grade: BHMA Certified Grade 1.
D. Permanent Cores: Manufacturer's standard; finish face to match lockset; complying with the following:
1. Removable Cores: Core insert, removable by use of a special key, and for use with only the core manufacturer's cylinder and door hardware.
E. Construction Keying: Comply with the following:
1. Construction Master keying: Furnish temporary construction master keyed cores that are replaceable by permanent cores. Furnish construction master keys in quantity as required by project Contractor.
F. Keying System: Unless otherwise indicated, furnish for a keying system complying with the following requirements:
1. New Grand Master Key System: Cylinders are factory keyed operated by a change key, master key, and a grand master key. Conduct keying meeting with End User to define and document keying system instructions and requirements.
G. Keys: Furnish nickel-silver keys complying with the following:
1. Stamping: Permanently inscribe each key with a visual key control number and as directed by Owner.
2. Quantity: Furnish the following:
a. Cylinder Change Keys (Per Key Set): Four.
b. Master Keys (Per Level): Five.
c. Grand Master Keys: Two.
d. Construction Control Keys: Two.
e. Permanent Control Keys: Two.
f. Extra Keyed Permanent Cores: Ten.
g. Extra Blank Keys: Fifty.
H. Key Registration List: Furnish keying transcript list to Owner's representative for lock cylinders.
I. Key Control System: Furnish one lockable cabinet for key control and storage for up to 150 percent capacity, type and model to be determined in the keying meeting with the owner. Furnish End User with one copy of "Key Wizard" key management software program.

1.8 STRIKES
A. Standards: Comply with the following:
1. Strikes for Bored Locks and Latches: BHMA A156.2.
2. Strikes for Mortise Locks and Latches: BHMA A156.13.
3. Strikes for Interconnected Locks and Latches: BHMA A156.12.
4. Strikes for Auxiliary Deadlocks: BHMA A156.5.
5. Dustproof Strikes: BHMA A156.16.
6. Electric Strikes: BHMA A156.5.
B. Strikes: Furnish manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:
1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
3. Aluminum-Frame Strike Box: Furnish manufacturer's special strike box fabricated for aluminum framing.
C. Furnish electrified products with an in-line power controller that enables the hardware to operate from 12 to 32 volts. On board safety features shall include an in-line fuse to protect the hardware and host system from any possible reverse current surges. The controller shall regulate current to furnish continuous duty operation without the typical head build up. Adding the in-line power controller with electrified products furnishes unlimited lifetime warranty of electrified products.

1.9 MULTI-POINT DEVICES
A. Standard: BHMA A156.3.
B. Multi-Point (Exit) Devices: BHMA Certified Grade 1.

1.10 ACCESSORIES FOR PAIRS OF DOORS
A. Standards: Comply with the following:
1. Coordinators: BHMA A156.3.

1.11 CLOSERS AND POWER OPERATORS
A. Standards: Comply with the following:
1. Closers: BHMA A156.4.
2. Power Operators: BHMA A156.19.
B. Size of Units: Unless otherwise indicated, comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Furnish non-handed, factory-sized closers adjustable to meet field conditions and requirements for opening force.
C. Closer Options: As indicated in hardware sets, furnish door closer options including: delayed action, hold open arms, extra duty parallel arms, positive stop/hold open arms, compression stop/hold open arms, special mounting brackets, spacers and drop plates. Through bolt type mounting is required as indicated in the door hardware sets. Where through bolts are used, coordinate the color of bolt on opposite of device with BHMA finish color similar to the color of door finish surface.
1. Furnish Delayed Action (DA) feature in closers at Laboratories, Shipping and Receiving doors and where cart traffic is active.
2. Furnish shock absorbing arm such as Spring or Rubber Cushion at exterior outswing openings.
D. Power assist operators as surface mounted, electric low energy type conforming to ANSI A156.19 requirements and capable of meeting ANSI A117.1 guidelines. Outputs and relays required to be on board in the operator to allow for coordination of exit device latch retraction, electric strikes, magnetic locks, card readers, safety and motion sensors and specified auxiliary contacts.
1. Outputs and relays on board the operator allow for coordination of exit device latch retraction, electric strikes, magnetic locks, card readers, safety and motion sensors and specified auxiliary contacts.
2. Electronic Controls to be microprocessor controlled unit shall control the operation and switching of the swing power operator. The electronic control furnished with low voltage power supply for all means of actuation. Electronic encoder to determine absolute open and close position.

1.12 OPERATING and PROTECTIVE TRIM UNITS
A. Standard: Comply with BHMA A156.6.
B. Materials: Fabricate protection plates from the following:
1. Brass/Bronze and Stainless Steel: .050 inchesthick, beveled four sides (B4E) with countersunk screw holes.
C. Push-Pull Design: 1" Round with 10" Centers. Furnish 90 degree offset pulls at exterior openings.
D. Fasteners: Furnish manufacturer's designated fastener type as indicated in door hardware sets.
E. Furnish protection plates sized 2 inchesless than door width (LDW) on push side and 1 inch less door width on pull side by height specified in door hardware sets.
F. Coordinate stainless steel hinges, door edges, kickplates and armor plates with less then .09375 inches between meeting edges, regardless of specified sizes in hardware sets.

1.13 STOPS AND HOLDERS
A. Standards: Comply with the following:
1. Stops and Bumpers: BHMA A156.16.
2. Electromagnetic Door Holders: BHMA A156.15.
3. Combination Overhead Holders and Stops: BHMA A156.8.
4. Door Silencers: BHMA A156.16.
B. Stops and Bumpers: BHMA Certified Grade 1.
C. Electromagnetic Door Holders for Labeled Fire Door Assemblies: Coordinate with fire detectors and interface with fire alarm system. Magnetic door holders shall meet or exceed ANSI A156.15 and be UL listed 228 for Door Closer and Holders, with or without integral smoke detectors. Holding force shall be 25 to 40 pounds and shall be fail-safe. Pushpin release that eliminates residual magnetism shall be standard. Furnish magnetic hold-opens with triple-voltage coil that can receive 12 VDC, 24 VAC/DC, or 120VAC; or coordinate required voltage with electrical. Subject to compliance with requirements, furnish products by one of the following:
1. Rixson Hardware (RX) - 980 Series.
2. LCN (LC) – SEM7800 Series.
D. Combination Overhead Stops and Holders: Certified BHMA Grade 1.
1. Rixson Hardware (RX) – 1 Concealed and 9 Surface Series.
E. Provide Overhead Concealed stops at public spaces such as conference, corridors, and office spaces where wall or floor stops are not applicable condition.
F. Provide Overhead Surface stops at non-public spaces such as mechanical, electrical, storage spaces.
G. Floor Stops: For doors, unless wall or other type stops are scheduled or indicated. Do not mount floor stops where they will impede traffic.
1. Where floor or wall stops are not appropriate, furnish overhead stops.
H. Silencers for Metal Door Frames: BHMA Grade 1; neoprene or rubber, minimum diameter 1/2 inchfabricated for drilled-in application to frame. Furnish (3) per single door and (2) per paired door frame if applied gasketing is not specified in Hardware Sets.

1.14 DOOR, GASKETING
A. Standard: Comply with BHMA A156.22.
B. General: Furnish continuous weatherstrip seal on exterior doors and smoke, light, or sound gasketing on interior doors where specified. Furnish non-corrosive fasteners for exterior applications.
1. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame. Install header seal before mounting door closer arms.
2. Meeting Stile Astragals: Fasten to meeting stiles, forming seal when doors are closed.
3. Door Sweep: Apply to bottom of door, forming seal with threshold when door is closed.
C. Basic Sound Seal Requirement: Whether indicated on the drawings or not, furnish gasketing MCKS888BL at sound rated wall types and at the following areas for limiting of sound transmission: private offices, exams, conference, private toilets, corridor openings, rooms and similar sound sensitive area.
D. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.
1. Furnish smoke labeled perimeter gasketing at all smoke labeled openings.
E. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.
1. Intumescent Seals and Gasketing: Furnish concealed, Category A type gasketing systems on assemblies where an intumescent seal is required to meet IBC and UL-10C positive pressure labeling.
F. Provide Meeting Stile and Astragals at Pairs of Doors:
1. Meeting Edge Astragal Pair (Set) with Exit Devices and Cross Corridor Doors, and fire rated pairs:
a. Pemko Manufacturing (PE): 18041CNB
2. Meeting Edge Overlapping Astragal at with Doors with Bolts:
a. Pemko Manufacturing (PE): 355CPK

1.15 POWER SUPPLIES
A. Power Supplies: Furnish Nationally Recognized Testing Laboratory Listed 12VDC or 24VDC (field selectable) filtered and regulated power supplies. Modular unit in NEMA ICS 6, Type 4 enclosure. Furnish the least number of units, at the appropriate amperage level, sufficient to exceed the required total draw for the specified electrified hardware and access control equipment. Third party listed and labeled for use with fire alarm systems. Power supply shall be furnished with a minimum of four (4) 4 Amp/hour batteries providing battery back up. An integral battery charging circuit shall be standard. Furnish key locking cover to prevent tampering. Furnish all control boards and relay panels to sufficiently operate the opening as described and intended per hardware sets. Subject to compliance with requirements, furnish products by one of the following:
1. Boxed Power Supplies:
a. Securitron Door Controls (SE) - BPS Series.

1.16 ELECTRIC DOOR CORDS
A. Electric Door Hardware Cords: Furnish electric transfer wiring with standardized plug connectors to accommodate up to twelve (12) wires. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Furnish sufficient number of concealed wires to accommodate electric function of specified hardware. Furnish a connector for through-door electronic locking devices and another one for hinge to junction box above the opening. Wire nut connections are not acceptable at low voltage electrified hardware. Determine the length required for each electrified hardware component for the door type, size and construction, minimum of two per electrified door:
1. McKinney: Inner Door Cord 3 inches: QC-C003P
2. McKinney: Inner Door Cord 3 foot door: QC-C206P
3. McKinney: Inner Door Cord 4 foot door: QC-C306P
4. McKinney: Inner Door Cord 15 feet: QC-C1500P
5. McKinney: Hinge to Junction Panel 15 feet: QC-C1500P
6. Furnish one each of the following tools as part of the base bid contract:
a. McKinney: Hand Tool for Connectors: QC-R003

1.17 ELECTRIC WALL MOUNT KEYSWITCHES
A. Key Switches shall be furnished on a stainless steel single gang face plate with a 12/24VDC bi-color LED and an integral backing bracket that shall permit integration with any 1.25" or 1.125" mortise cylinder. Key Switches shall be available for momentary or maintained action and in narrow stile designs. Subject to compliance with requirements, furnish products by one of the following:
1. Electric Wall Mount Key Switches
a. Securitron Door Controls (SE) – MK Series

1.18 FABRICATION
A. Fasteners: Furnish door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Furnish screws according to manufacturers recognized installation standards for application intended.
1. Furnish manufactures templated and approved stainless steel screws and fasteners for stainless steel hardware specified in the hardware sets.
B. Mounting Accessories: Furnish drop plates, filler brackets, extended length screws, through bolts, and accessories for complete mounting with door, frame, light kits, applied molding and special applications as part of the base bid with complete installation per manufactures recommendations.
1. In healthcare facilities install surface mount magnetic locks on the pull side of the doors when specified in hardware sets and located on openings in corridors. Furnish all mounting brackets with finish and beauty covers.

1.19 FINISHES
A. Standard: Comply with BHMA A156.18.
B. Furnish quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.
C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable and temporary protective covering before shipping to jobsite.
D. Finishes on locksets, latchsets and exit devices to incorporate an FDA recognized antimicrobial coating (MicroShield™) listed for use on medical and food preparation equipment that will suppress the growth and spread of a broad range of bacteria, algae, fungus, mold and mildew.
E. Furnish clear powder coat finish at exit devices located on exterior openings such as gates and at pool exit doors.

1.20 EXAMINATION
A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
B. Examine roughing-in for electrical source power to verify actual locations of wiring connections before electrified door hardware installation.
C. Proceed with installation only after unsatisfactory conditions have been corrected.
D. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

1.21 INSTALLATION
A. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
2. Custom Steel Doors and Frames: DHI's "Recommended Locations for Builders' Hardware for Custom Steel Doors and Frames."
3. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
B. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another manner, coordinate removal, storage and installation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
C. Furnish and coordinate concealed wood blocking for wall mount stops as detailed in Door Hardware Schedule.
D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

1.22 FIELD QUALITY CONTROL
A. The Contractor shall comply with AIA A201 1997 section 3.3.1 which reads as follows: "The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the contract Documents give other specific instructions concerning these matters."
B. Field Inspection: Supplier and Door Hardware Manufacturer will perform a final inspection of installed door hardware and state in report whether work complies with or deviates from requirements, including whether door hardware is properly installed, operating and adjusted.

SECTION 088000 - GLAZING

1.1 PERFORMANCE REQUIREMENTS
A. General: Installed glazing systems shall withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: movement of the supporting structure; fabrication or installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.

1.1 QUALITY ASSURANCE
A. Manufacturer Qualifications for Insulating-Glass Units with Sputter-Coated, Low-E Coatings: A qualified insulating-glass manufacturer who is approved and certified by coated-glass manufacturer.
B. Installer Qualifications: A qualified installer who employs glass installers for this Project who are certified under the National Glass Association's Certified Glass Installer Program.
C. Source Limitations for Glass: Obtain insulating glass from single source from single manufacturer for each glass type.

1.2 WARRANTY
A. Manufacturer's Special Warranty for Coated-Glass Products: Manufacturer's standard form in which coated-glass manufacturer agrees to replace coated-glass units that deteriorate within specified warranty period. Deterioration of coated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning coated glass contrary to manufacturer's written instructions. Defects include peeling, cracking, and other indications of deterioration in coating.
1. Warranty Period: 10 years from date of Substantial Completion.
B. Manufacturer's Special Warranty on Laminated Glass: Manufacturer's standard form in which laminated-glass manufacturer agrees to replace laminated-glass units that deteriorate within specified warranty period. Deterioration of laminated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning laminated glass contrary to manufacturer's written instructions. Defects include edge separation, delamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated-glass standard.
1. Warranty Period: 10 years from date of Substantial Completion.

1.3 GLASS PRODUCTS, GENERAL
A. Thickness: Where glass thickness is indicated, it is a minimum. Provide glass lites in thicknesses as needed to comply with requirements indicated.
1. Minimum Glass Thickness for Exterior Lites: Not less than 6.0 mm.
2. Thickness of Tinted Glass: Provide same thickness for each tint color indicated throughout Project.
B. Strength: Where float glass is indicated, provide annealed float glass, Kind HS heat-treated float glass, or Kind FT heat-treated float glass as needed to comply with "Performance Requirements" Article. Where heat-strengthened glass is indicated, provide Kind HS heat-treated float glass or Kind FT heat-treated float glass as needed to comply with "Performance Requirements" Article. Where fully tempered glass is indicated, provide Kind FT heat-treated float glass.
C. Thermal and Optical Performance Properties: Provide glass with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated below:
1. For monolithic-glass lites, properties are based on units with lites 6.0 mm thick.
2. For laminated-glass lites, properties are based on products of construction indicated.
3. U-Factors: Center-of-glazing values, according to NFRC 100 and based on LBL's WINDOW 5.2 computer program, expressed as Btu/sq. ft. x h x deg F.
4. Solar Heat-Gain Coefficient and Visible Transmittance: Center-of-glazing values, according to NFRC 200 and based on LBL's WINDOW 5.2 computer program.
5. Visible Reflectance: Center-of-glazing values, according to NFRC 300.

1.4 GLASS PRODUCTS
A. Float Glass: ASTM C 1036, Type I, Quality-Q3, Class I (clear) unless otherwise indicated.
B. Heat-Treated Float Glass: ASTM C 1048; Type I, Quality-Q3; Class I (clear) unless otherwise indicated; of kind and condition indicated.
1. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed unless otherwise indicated.
2. For uncoated glass, comply with requirements for Condition A.
3. For coated vision glass, comply with requirements for Condition C (other coated glass).

1.5 LAMINATED GLASS
A. Laminated Glass: ASTM C 1172, and complying with testing requirements in 16 CFR 1201 for Category II materials, and with other requirements specified. Use materials that have a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after fabrication and installation.
1. Construction: Laminate glass with polyvinyl butyral interlayer to comply with interlayer manufacturer's written recommendations.
2. Interlayer Thickness: Provide thickness not less than that indicated and as needed to comply with requirements.
3. Interlayer Color: Clear unless otherwise indicated.

1.6 FIRE-PROTECTION-RATED GLAZING
A. Fire-Protection-Rated Glazing, General: Listed and labeled by a testing agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing according to NFPA 252 for door assemblies.

1.7 GLAZING GASKETS
A. Dense Compression Gaskets: Molded or extruded gaskets of profile and hardness required to maintain watertight seal, made from one of the following:

1.8 GLAZING SEALANTS
A. General:
1. Compatibility: Provide glazing sealants that are compatible with one another and with other materials they will contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
3. VOC Content: For sealants used inside of the weatherproofing system, not more than 250 g/L when calculated according to 40 CFR 59, Subpart D.
4. Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range.
B. Glazing Sealant: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.
1. Products: Subject to compliance with requirements, provide one of the following:
a. Dow Corning Corporation; 790.
b. GE Advanced Materials - Silicones; SilPruf LM SCS2700.
c. Pecora Corporation; 890.
d. Tremco Incorporated; Spectrem 1.
C. Glazing Sealant: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 50, Use NT.
1. Products: Subject to compliance with requirements, provide one of the following:
a. Dow Corning Corporation; 795 .
b. GE Advanced Materials - Silicones; SilGlaze II SCS2800.
c. Pecora Corporation; 864 .
d. Tremco Incorporated; Spectrem 2.
D. Glazing Sealants for Fire-Rated Glazing Products: Products that are approved by testing agencies that listed and labeled fire-resistant glazing products with which they are used for applications and fire-protection ratings indicated.

1.9 GLAZING TAPES
A. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C 1281 and AAMA 800 for products indicated below:
1. AAMA 804.3 tape, where indicated.
2. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
3. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.

1.10 GLAZING, GENERAL
A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

SECTION 092216 - NON-STRUCTURAL METAL FRAMING

1.1 PERFORMANCE REQUIREMENTS
A. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated, according to ASTM E 119 by an independent testing agency.
B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated, according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

1.1 FRAMING SYSTEMS
A. Framing Members, General: Comply with ASTM C 754 for conditions indicated.
1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal unless otherwise indicated.
2. Protective Coating: ASTM A 653/A 653M, G40 (Z120), hot-dip galvanized unless otherwise indicated.
B. Studs and Runners: Comply with ASTM C 645.
1. Steel Studs and Runners: Minimum base-metal thickness:
a. 25 gage unless indicated otherwise on Drawings or below.
b. Interior Metal Stud/Gypsum Board Assemblies, Typical Locations: Withstand lateral loading (air pressure) of 5 psf with deflection limit not more than L/240 of partition height
c. Interior Metal Stud/Gypsum Board Assemblies at Atriums, Lobbies, Service Corridors, Exit Corridors, Elevator Lobbies, Vertical Shafts, and walls supporting plaster veneer: Withstand lateral loading (air pressure) of 7.5 psf with deflection limit not more than L/360 of partition height
d. Interior Metal Stud/Gypsum Board Assemblies at Locations with Ceramic Tile or Other Hard Surface Finishes: Withstand typical lateral loading (air pressure) with deflection limit not more than L/360 of partition height
e. Where wall mounted equipment, woodwork, and casework items are indicated or elsewhere as shown on Drawings, provide minimum 16 gage studs
f. At partitions scheduled to receive tile backing panels or ceramic tile finish, provide minimum 22 gage studs
g. At jambs of openings provide two minimum 20 gage studs
h. Refer to Division 5 for stud framing for studs carrying heavy vertical loads (manufactured stone veneer, stone tile thicker than ¾ inch, etc)
i. Depth: As indicated on Drawings.
C. Head Joints: Provide one of the following at all partitions that extend to underside of structure:
1. Deflection Track: Steel sheet top runner manufactured to prevent cracking of finishes applied to interior partition framing resulting from deflection of structure above; in thickness not less than indicated for studs and in width to accommodate depth of studs.
a. Products: Subject to compliance with requirements, provide one of the following:
b. Manufacturer's standard deep leg track for non fire rated partitions.
c. Dietrich Metal Framing; SLP-TRK Slotted Deflection Track (for non-rated partitions).
d. Fas Track, CEMCO (for fire rated partitions only).
D. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.
1. Minimum Base-Metal Thickness: 0.012 inch.
E. Cold-Rolled Channel Bridging: Steel, 0.053-inch minimum base-metal thickness, with minimum 1/2-inch- wide flanges.
1. Depth: As indicated on Drawings.
2. Clip Angle: Not less than 1-1/2 by 1-1/2 inches, 0.068-inch- thick, galvanized steel.
F. Hat-Shaped, Rigid Furring Channels: ASTM C 645.
1. Minimum Base-Metal Thickness: 0.018 inch.
2. Depth: 7/8 inch
G. Resilient Furring Channels: 1/2-inch- deep, steel sheet members designed to reduce sound transmission.
1. Configuration: Asymmetrical.
H. Cold-Rolled Furring Channels: 0.053-inch uncoated-steel thickness, with minimum 1/2-inch-wide flanges.
1. Depth: 3/4 inch
2. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with minimum uncoated-steel thickness of 0.0312 inch
3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062-inch-diameter wire, or double strand of 0.048-inch- diameter wire.

1.2 SUSPENSION SYSTEMS
A. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062-inch- diameter wire, or double strand of 0.048-inch- diameter wire.
B. Hanger Attachments to Concrete:
1. Anchors: Fabricated from corrosion-resistant materials with holes or loops for attaching wire hangers and capable of sustaining, without failure, a load equal to 5 times that imposed by construction as determined by testing according to ASTM E 488 by an independent testing agency.
a. Type: Post-installed, expansion anchor.
2. Powder-Actuated Fasteners: Suitable for application indicated, fabricated from corrosion-resistant materials with clips or other devices for attaching hangers of type indicated, and capable of sustaining, without failure, a load equal to 10 times that imposed by construction as determined by testing according to ASTM E 1190 by an independent testing agency.
C. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.1055 inch in diameter.
D. Carrying Channels: Cold-rolled, commercial-steel sheet with a base-metal thickness of 0.053 inch and minimum 1/2-inch- wide flanges, ASTM A653-A (653M), G40 hot dipped galvanized coating.
1. Depth: 2-1/2 inches
E. Furring Channels (Furring Members):
1. Cold-Rolled Channels: 0.053-inch uncoated-steel thickness, with minimum 1/2-inch- wide flanges, 3/4 inch deep.
2. Hat-Shaped, Rigid Furring Channels: ASTM C645, 7/8 inch deep.
a. Minimum Base-Metal Thickness: 0.018 inch
3. Resilient Furring Channels: 1/2-inch- deep members designed to reduce sound transmission.
a. Configuration: Asymmetrical.
F. Grid Suspension System for Gypsum Board Ceilings: ASTM C645, direct-hung system composed of main beams and cross-furring members that interlock.
1. Products: Subject to compliance with requirements, provide one of the following:
a. Armstrong World Industries, Inc.; Drywall Grid Systems.
b. Chicago Metallic Corporation; Drywall Grid System.
c. USG Corporation; Drywall Suspension System.

1.3 AUXILIARY MATERIALS
A. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.
B. Isolation Strip at Exterior Walls: Provide the following:
1. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch thick, in width to suit steel stud size.

1.4 INSTALLATION, GENERAL
A. Installation Standard: ASTM-C754.
1. Gypsum Board Assemblies: Also comply with requirements in ASTM-C840 that apply to framing installation.
B. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
C. Install bracing at terminations in assemblies.
D. Do not bridge building expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

1.5 INSTALLING FRAMED ASSEMBLIES
A. Install framing system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.

1.6 INSTALLING SUSPENSION SYSTEMS
A. Install suspension system components according to spacings indicated, but not greater than spacing required by referenced installation standards for assembly types.
1. Hangers: 48 inches o.c.
2. Carrying Channels (Main Runners): 48 inches o.c.
3. Furring Channels (Furring Members): 16 inches o.c.
B. Fire-Resistance-Rated Assemblies: Wire tie furring channels to supports.
C. Grid Su

SECTION 096513 - RESILIENT BASE AND ACCESSORIES

1.1 RESILIENT BASE
A. Resilient Base Standard: ASTM F 1861.
1. Material Requirement: Type TS (rubber, vulcanized thermoset).
2. Manufacturing Method: Group I (solid, homogeneous).
3. Style: Cove (base with toe) at hard surfaces; straight (flat or toeless) at carpet.
B. Minimum Thickness: 0.125 inch.
C. Lengths: Coils in manufacturer's standard length.
D. Outside Corners: Job formed.
E. Inside Corners: Job formed.
F. Finish: Satin.

1.1 RESILIENT MOLDING ACCESSORY
A. Description: Cap for cove resilient floor covering, Carpet edge for glue-down applications, Reducer strip for resilient floor covering, Joiner for tile and carpet, Transition strips.
B. Material: Rubber.

1.2 INSTALLATION MATERIALS
A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by manufacturer for applications indicated.
B. Adhesives: Water-resistant type recommended by manufacturer to suit resilient products and substrate conditions indicated.
1. Use adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
a. Cove Base Adhesives: Not more than 50 g/L.
b. Rubber Floor Adhesives: Not more than 60 g/L.
C. Floor Polish: Provide protective liquid floor polish products as recommended by resilient stair tread manufacturer.

1.3 RESILIENT BASE INSTALLATION
A. Comply with manufacturer's written instructions for installing resilient base.
B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.

1.4 RESILIENT ACCESSORY INSTALLATION
A. Comply with manufacturer's written instructions for installing resilient accessories.

1.5 CLEANING AND PROTECTION
A. Comply with manufacturer's written instructions for cleaning and protection of resilient products.
B. Perform the following operations immediately after completing resilient product installation:
1. Remove adhesive and other blemishes from exposed surfaces.
2. Sweep and vacuum surfaces thoroughly.
3. Damp-mop surfaces to remove marks and soil.
C. Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
D. Floor Polish: Remove soil, visible adhesive, and surface blemishes from resilient stair treads before applying liquid floor polish.
1. Apply two coat(s).
E. Cover resilient products until Substantial Completion.

SECTION 096516 - RESILIENT SHEET FLOORING

1.1 QUALITY ASSURANCE
A. Installer Qualifications: A qualified installer who employs workers for this Project who are competent in techniques required by manufacturer for floor covering installation and seaming method indicated.
1. Engage an installer who employs workers for this Project who are trained or certified by floor covering manufacturer for installation techniques required.

1.1 VINYL SHEET FLOOR COVERING
A. Unbacked Vinyl Sheet Floor Covering: ASTM F 1913, 0.080 inchthick, as indicated by product designations.
B. Vinyl Sheet Floor Covering with Backing: ASTM F 1303, as indicated by product designations.
1. Type (Binder Content): Type I, minimum binder content of 90 percent.
2. Wear-Layer Thickness: Grade 1.
3. Overall Thickness: As standard with manufacturer.
C. Wearing Surface: Smooth.
D. Sheet Width: As standard with manufacturer.
E. Seaming Method: Heat welded.

1.2 INSTALLATION MATERIALS
A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by manufacturer for applications indicated.
B. Adhesives: Water-resistant type recommended by manufacturer to suit floor covering and substrate conditions indicated.
1. Use adhesives that have a VOC content of not more than 50 g/L when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
C. Seamless-Installation Accessories:
1. Heat-Welding Bead: Manufacturer's solid-strand product for heat welding seams.
1) Color: Match floor covering.
D. Integral-Flash-Cove-Base Accessories: As indicated in Master Schedule.
1. Cove Strip: 1-inch radius provided or approved by manufacturer.
2. Cap Strip: Square metal, vinyl, or rubber cap provided or approved by manufacturer.
3. Corners: Metal inside and outside corners and end stops provided or approved by manufacturer.
E. Floor Polish: Provide protective liquid floor polish products as recommended by manufacturer.

1.3 PREPARATION
A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of floor coverings.
B. Concrete Substrates: Prepare according to ASTM F 710.
1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
4. Moisture Testing: Perform tests recommended by manufacturer and as follows. Proceed with installation only after substrates pass testing.
a. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb. of water/1000 sq. ft.in 24 hours.
b. Perform relative humidity test using in situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.
C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.
D. Do not install floor coverings until they are same temperature as space where they are to be installed.
1. Move floor coverings and installation materials into spaces where they will be installed at least 48 hours in advance of installation.
E. Sweep and vacuum clean substrates to be covered by floor coverings immediately before installation.

1.4 FLOOR COVERING INSTALLATION
A. Comply with manufacturer's written instructions for installing floor coverings.
B. Extend floor coverings into toe spaces, door reveals, closets, and similar openings.
C. Install floor coverings on covers for telephone and electrical ducts and similar items in installation areas. Maintain overall continuity of color and pattern between pieces of floor coverings installed on covers and adjoining floor covering. Tightly adhere floor covering edges to substrates that abut covers and to cover perimeters.
D. Adhere floor coverings to substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.
E. Seamless Installation:
1. Heat-Welded Seams: Comply with ASTM F 1516. Rout joints and use welding bead to permanently fuse sections into a seamless floor covering. Prepare, weld, and finish seams to produce surfaces flush with adjoining floor covering surfaces.
F. Integral-Flash-Cove Base: Cove floor coverings up vertical surfaces a dimension as indicated. Support floor coverings at horizontal and vertical junction by cove strip. Butt at top against cap strip.
1. Install metal corners at inside and outside corners.

1.5 CLEANING AND PROTECTION
A. Comply with manufacturer's written instructions for cleaning and protection of floor coverings.
B. Perform the following operations immediately after completing floor covering installation:
1. Remove adhesive and other blemishes from floor covering surfaces.
2. Sweep and vacuum floor coverings thoroughly.
3. Damp-mop floor coverings to remove marks and soil.
C. Protect floor coverings from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
D. Floor Polish: Remove soil, visible adhesive, and surface blemishes from floor covering before applying liquid floor polish. Apply two coats.

SECTION 098116 – ACOUSTICAL BLANKET INSULATION

1.1 QUALITY ASSURANCE
A. Source Limitations: Obtain each type of building insulation through one source.
B. Fire-Test-Response Characteristics: Provide insulation and related materials with the fire-test-response characteristics indicated, as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.
1. Surface-Burning Characteristics: ASTM E 84.
2. Fire-Resistance Ratings: ASTM E 119.
3. Combustion Characteristics: ASTM E 136.

1.1 ACOUSTICAL INSULATION
A. Unfaced Mineral-Fiber Blanket Insulation (in walls): ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool; with maximum flame-spread and smoke-developed indices of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.
B. Unfaced, Flexible Glass-Fiber Board Insulation (above ceilings): ASTM C 612, Type IA; ASTM C 553, Types I, II, and III; or ASTM C 665, Type I; with maximum flame-spread and smoke-developed indices of 25 and 50, respectively; and of the following properties:
1. Nominal density of 1.0 lb/cu. ft., thermal resistivity of 3.7 deg F x h x sq. ft./Btu x in. at 75 deg F.
2. Nominal density of not less than 1.5 lb/cu. ft. nor more than 1.7 lb/cu. ft., thermal resistivity of 4 deg F x h x sq. ft./Btu x in. at 75 deg F.
3. Combustion Characteristics: Passes ASTM E 136.

1.2 INSTALLATION
A. Install mineral-fiber blankets in cavities formed by framing members according to the following requirements:
1. Use blanket widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill cavity, provide lengths that will produce a snug fit between ends.
2. Place blankets in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
3. For metal-framed wall cavities where cavity heights exceed 96 inches, support unfaced blankets mechanically and support faced blankets by taping stapling flanges to flanges of metal studs.

SECTION 099100 - PAINTING

1.1 QUALITY ASSURANCE
A. Product Manufacturer: Company specializing in manufacturing quality paint and finish products with 3 years experience.
B. Applicator: Company specializing in commercial painting and finishing with 2 years experience.
C. Product Labels: Include manufacturer's name, type of paint, stock number, color and label analysis on label of containers.

1.1 REGULATORY REQUIREMENTS
A. Conform to applicable building code for flame spread/fuel contribution/smoke development rating requirements for finishes.
B. Comply with applicable city, county, state, and federal requirements and ordinances regarding maximum VOC (Volatile Organic Compound) content of all coatings.

1.2 TESTS
A. Provide periodic testing with Wet Film Thickness gage to verify that proper thickness of finish coatings are being applied.

1.3 FIELD SAMPLES
A. Provide field sample panel, 96 inches long by 96 inches wide, illustrating each coating color, texture, and finish intended for use.
B. Locate where directed.
C. Accepted sample may remain as part of the Work.

1.4 MANUFACTURERS
A. Acceptable Manufacturers: Subject to compliance with requirements indicated, provide products of one of the following:
1. Basis of Design: Sherwin-Williams.
B. Materials selected for coating systems for each type surface shall be product of a single manufacturer unless otherwise specified. Secondary products such as linseed oil, turpentine and shellacs shall be first quality products of a reputable manufacturer.

1.5 MATERIALS
A. Coatings: Ready mixed. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating with good flow and brushing properties; capable of drying or curing free of streaks or sags.
B. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.
C. Patching Materials: Latex filler.

1.6 INTERIOR PAINT SCHEDULE
A. Drywall (Gypsum):
1. Latex: 1 coat Sherwin Williams ProMar 400 Zero VOC Interior Latex Primer, 2 coats Sherwin Williams ProMar 400 Zero VOC Interior Latex Paint.
B. Galvanized Metal:
1. N/A
C. Shop Primed Ferrous Metal:
1. Acrylic Latex: 1 coat Sherwin Williams Pro Industrial Pro-Cryl Universal Acrylic Primer, 2 coats Sherwin Williams ProMar 400 Zero VOC Interior Latex Paint.

1.7 PREPARATION
A. Remove electrical plates, hardware, light fixture trim, and fittings prior to preparing surfaces or finishing.
B. Correct minor defects and clean surfaces which affect work of this Section. Remove existing coatings which exhibit loose surface defects.
C. Shellac and seal marks which may bleed through surface finishes.
D. Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
E. Aluminum Surfaces Scheduled for Paint Finish: Remove surface contamination by steam or high pressure water. Remove oxidation with acid etch and solvent washing. Apply etching primer immediately following cleaning.
F. Insulated Coverings: Remove dirt, grease, and oil from canvas and cotton.
G. Concrete Floors: Remove contamination, acid etch, and rinse floors with clear water. Verify required acid- alkali balance is achieved. Allow to dry.
H. Gypsum Board Surfaces: Latex fill minor defects. Spot prime defects after repair.
I. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.
J. Concrete and Unit Masonry Surfaces Scheduled to Receive Paint Finish: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.
K. Plaster Surfaces: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.
L. Uncoated Steel and Iron Surfaces: Remove grease, scale, dirt, and rust. Where heavy coatings of scale are evident, remove by wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.
M. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.
N. Aluminum with Alodine Finish: Clean by lightly scuff with sandpaper. Remove all dust.
O. Interior Wood Items Scheduled to Receive Paint Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats.
P. Interior Wood Items Schedule to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats.
Q. Shop Finished Items: Finish in accordance with AWI standards and guide lines.
R. Wood and Metal Doors Scheduled for Painting: Seal top and bottom edges with primer.

1.8 SURFACE PREPARATION OF PREVIOUSLY COATED SURFACES
A. General:
1. Remove cracked and deteriorated sealants and calking.
2. Remove chalk deposits and loose, blistered, peeling, scaling, or crazed finish to bare base material or sound substrate by scraping and sanding.
3. Wash surfaces with solution of TSP to remove wax, oil, grease, and other foreign material; rinse, and allow to dry. Exercise caution that TSP solution does not soften existing coating.
4. Abrade glossy surfaces by sanding or wiping with liquid de-glosser.
5. Remove mildew as specified above.
6. Test compatibility of existing coatings by applying new coating to small, inconspicuous area. If new coatings lift or blister existing coatings, request recommendation from Architect.
7. Apply specified primer to surfaces scheduled to receive coatings.
B. Gypsum Wallboard:
1. Fill cracks and voids with spackling compound.
2. Apply primer over bare surfaces and newly applied texture coatings.
C. Metal:
1. Remove rust from surfaces to bare metal in accordance with SP3 "Power Tool Cleaning".
2. Exercise care not to remove galvanizing.
3. Complete preparation as specified for new work.

1.9 APPLICATION
A. The intent of these Specifications is to produce the highest quality appearance of paint and finish surfaces. Employ skilled mechanics only. The proper preparation of all surfaces will be strictly enforced and wherever finished surfaces show any defects due to improper preparation, workmanship, etc., the defects shall be removed and the work refinished at the expense of the Contractor.
B. Apply products in accordance with manufacturer's instructions. Final finish coats shall have visual evidence of solid hiding and uniform appearance, and shall be free and smooth of brush marks, streaks, sags, runs, laps, or skipped areas.

1.10 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT
A. Paint shop primed equipment. Paint shop prefinished items where exposed to view in finished spaces. In mechanical rooms, repair shop pre-finished coatings which have been scratched or otherwise damaged with identical touch-up paint. Sand prior to touching up as required.
B. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
C. Paint grilles, registers, diffusers, and speaker grilles to match adjacent wall and ceiling surfaces, except that factory pre-finished items need not be painted if installed in a suspended acoustical ceiling system where the acoustical panels match the mechanical or electrical item color.
D. In finished spaces, prime and paint exposed pipes, conduit, boxes, ducts, hangers, brackets, collars and supports. Paint to match adjacent surfaces.
E. Repair or replace identification markings on mechanical or electrical equipment when painted accidentally.
F. Paint interior surfaces of air ducts and convectors that are visible through grilles and louvers with one coat of flat black paint, to limit of sight line. Paint dampers exposed behind louvers, grilles, and convector to match face panels.
G. Paint surfaces of plywood backboards for electrical and telephone equipment before installing equipment.
H. Replace electrical plates, hardware, light fixture trim, and fittings removed prior to finishing.
I. Paint exposed air handlers, roof ventilators, goose necks, exhaust fans and other items on the roof with 2 coats exterior enamel. Prepare surfaces in accordance with the base metal or primer as specified herein.
J. Paint concrete support bases with gray floor deck enamel.
K. Pipe hangers and other supports need not be painted except where installed in crawl spaces, where they shall be painted with a thick coat of asphaltic paint.

SECTION 102600 - WALL AND DOOR PROTECTION

PART 1 - GENERAL
1.1 SUMMARY
A. Section Includes:
1. Corner guards.
2. Protective wall coverings.
1.2 QUALITY ASSURANCE
A. Surface-Burning Characteristics: Provide impact-resistant, plastic wall protection units with surface-burning characteristics as determined by testing identical products per ASTM E 84, NFPA 255, or UL 723 by UL or another qualified testing agency.

PART 2 - PRODUCTS
2.1 MATERIALS
A. PVC Plastic: ASTM D 1784, Class 1, textured, chemical- and stain-resistant, high-impact-resistant PVC or acrylic-modified vinyl plastic with integral color throughout; extruded and sheet material, thickness as indicated.
1. Impact Resistance: Minimum 25.4 ft-lbf/in. of notch when tested according to ASTM D 256, Test Method A.
2. Chemical and Stain Resistance: Tested according to ASTM D 543.
3. Self-extinguishing when tested according to ASTM D 635.
4. Flame-Spread Index: 25 or less.
5. Smoke-Developed Index: 450 or less.
B. Polycarbonate Plastic Sheet: ASTM D 6098, S-PC01, Class 1 or 2, abrasion resistant; with a minimum impact-resistance rating of 15 ft-lbf/in. of notch when tested according to ASTM D 256, Test Method A.
C. Fasteners: Aluminum, nonmagnetic stainless-steel, or other non-corrosive metal screws, bolts, and other fasteners compatible with items being fastened. Use security-type fasteners where exposed to view.
D. Adhesive: As recommended by impact-resistant plastic wall protection manufacturer and with a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
2.2 CORNER GUARDS
A. Surface-Mounted, Resilient, Plastic Corner Guards [Insert drawing designation]: Assembly consisting of snap-on plastic cover installed over continuous retainer; including mounting hardware; fabricated with 90- or 135-degree turn to match wall condition.
1. Cover: Extruded rigid plastic, minimum 0.100-inch wall thickness; as follows:
a. Profile, Color, Texture, Height: As scheduled.
b. Basis of Design: As scheduled.
2. Retainer: Minimum 0.060-inch- thick, one-piece, extruded aluminum.
3. Retainer Clips: Manufacturer's standard impact-absorbing clips.
4. Top and Bottom Caps: Prefabricated, injection-molded plastic; color matching cover; field adjustable for close alignment with snap-on cover.
B. Surface-Mounted, Metal Corner Guards: Fabricated from one-piece, formed or extruded metal with formed edges; with 90- or 135-degree turn to match wall condition.
1. Material: Stainless steel, Type 304.
a. Thickness: Minimum 0.0500 inch.
b. Finish: Directional satin, No. 4.
2. Wing Size: Refer to Finish Legend.
3. Corner Radius: 1/8 inch.
4. Mounting: Flat-head, countersunk screws through factory-drilled mounting holes.
2.3 IMPACT-RESISTANT WALL COVERINGS
A. Impact-Resistant Sheet Wall Covering: Fabricated from plastic sheet wall-covering material.
1. Size: 48 by 120 inches for roll.
2. Sheet Thickness: 0.060 inch.
3. Color, Texture, Height: As scheduled.
4. Trim and Joint Moldings: Extruded rigid plastic that matches sheet wall covering color.
5. Mounting: Adhesive.
2.4 FABRICATION
A. Fabricate components with tight seams and joints with exposed edges rolled. Provide surfaces free of wrinkles, chips, dents, uneven coloration, and other imperfections. Fabricate members and fittings to produce flush, smooth, and rigid hairline joints.

PART 3 - EXECUTION
3.1 INSTALLATION
A. General: Install impact-resistant wall protection units level, plumb, and true to line without distortions. Do not use materials with chips, cracks, voids, stains, or other defects that might be visible in the finished Work.
1. Install impact-resistant wall protection units in locations and at mounting heights indicated on Drawings.
B. Impact-Resistant Wall Covering: Install top and edge moldings, corners, and divider bars as required for a complete installation.

END OF SECTION

SECTION 104400 – FIRE PROTECTION SPECIALTIES

1.1 SECTION INCLUDES
A. Fire protection cabinets for portable fire extinguishers.
B. Portable fire extinguishers.

1.2 QUALITY ASSURANCE
A. Fire-Rated, Fire Protection Cabinets: Listed and labeled to comply with requirements in ASTM E 814 for fire-resistance rating of walls where they are installed.
B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
C. NFPA Compliance: Fabricate and label fire extinguishers to comply with NFPA 10, "Portable Fire Extinguishers."
D. Fire Extinguishers: Listed and labeled for type, rating, and classification by an independent testing agency acceptable to authorities having jurisdiction.
1. Provide fire extinguishers approved, listed, and labeled by FMG.

1.3 MATERIALS
A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B.
B. Aluminum: Alloy and temper recommended by aluminum producer and manufacturer for type of use and finish indicated, and as follows:
C. Sheet: ASTM B 209.
D. Stainless-Steel Sheet: ASTM A 666, Type 304.
E. Tempered Float Glass: ASTM C 1048, Kind FT, Condition A, Type I, Quality q3, 3 mm thick, Class 1 (clear).

1.4 FIRE EXTINGUISHER CABINET
A. Cabinet Type: Suitable for fire extinguisher.
1. Manufacturer: Subject to compliance with requirements, provide products by one of the following:
a. J. L. Industries, Inc., a division of Activar Construction Products Group.
b. Larsen's Manufacturing Company.
c. Potter Roemer LLC.
B. Cabinet Construction: Non-rated in non-rated walls; 1-or- 2-hour fire rated in rated walls to match rating of wall.
1. Fire-Rated Cabinets: Construct fire-rated cabinets with double walls fabricated from 0.0428-inch- thick, cold-rolled steel sheet lined with minimum 5/8-inch-thick, fire-barrier material. Provide factory-drilled mounting holes.
C. Cabinet Material: Steel sheet.
1. Shelf: Same metal and finish as cabinet.
D. Semi-recessed Cabinet: Cabinet box partially recessed in walls of sufficient depth to suit style of trim indicated; with one-piece combination trim and perimeter door frame overlapping surrounding wall surface with exposed trim face and wall return at outer edge (backbend). Provide where walls are of insufficient depth for recessed cabinets but are of sufficient depth to accommodate semi-recessed cabinet installation.
1. Rolled-Edge Trim: 2-1/2-inch backbend depth.
E. Cabinet Trim Material: Stainless steel sheet.
F. Door Material: Stainless-steel sheet.
G. Door Style: Vertical duo panel with frame.
H. Door Glazing: Tempered float glass (clear).
I. Door Hardware: Manufacturer's standard door-operating hardware of proper type for cabinet type, trim style, and door material and style indicated.
1. Provide projecting lever handle with cam-action latch.
2. Provide continuous hinge, of same material and finish as trim, permitting door to open 180 degrees.
J. Accessories:
1. Mounting Bracket: Manufacturer's standard steel, designed to secure fire extinguisher to fire protection cabinet, of sizes required for types and capacities of fire extinguishers indicated, with plated or baked-enamel finish.
2. Identification: Lettering complying with authorities having jurisdiction for letter style, size, spacing, and location. Locateas directed by Architect.
a. Identify fire extinguisher in fire protection cabinet with the words "FIRE EXTINGUISHER."
b. Location: Applied to cabinet door.
c. Application Process: Decals.
d. Lettering Color: Black.
e. Orientation: Vertical.
K. Finishes:
1. Exterior of cabinet , door, and trim except for those surfaces indicated to receive another finish:
a. No. 4 stainless steel.
2. Interior of cabinet and door: Baked enamel.

1.5 PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS
A. Fire Extinguishers: Type, size, and capacity for each mounting bracket indicated.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. J. L. Industries, Inc.; a division of Activar Construction Products Group.
b. Larsen's Manufacturing Company.
c. Potter Roemer LLC.
2. Valves: Manufacturer's standard.
3. Handles and Levers: Manufacturer's standard.
4. Instruction Labels: Include pictorial marking system complying with NFPA 10, Appendix B and bar coding for documenting fire extinguisher location, inspections, maintenance, and recharging.
B. Mounting Brackets: Manufacturer's standard galvanized steel, designed to secure fire extinguisher to wall or structure, of sizes required for types and capacities of fire extinguishers indicated, with plated or red baked-enamel finish.

1.6 INSTALLATION
A. General: Install fire protection cabinets in locations and at mounting heights indicated or, if not indicated, at heights acceptable to authorities having jurisdiction.
1. Fire Protection Cabinets: Mount such that top of fire extinguisher inside is not more than 48 inches above finished floor.
B. Fire Protection Cabinets: Fasten cabinets to structure, square and plumb.
C. Install fire extinguishers and mounting brackets in locations indicated and in compliance with requirements of authorities having jurisdiction.
D. Identification: Apply vinyl lettering at locations indicated.

END OF SECTION

SECTION 123661 – SIMULATED STONE COUNTERTOPS

1.1 SECTION INCLUDES
A. Countertops

1.2 QUALITY ASSURANCE
B. Fabricator Qualifications: Company specializing in fabricating engineered stone surfacing material with minimum 5 years experience.
C. Fire-Test-Response Characteristics: Provide surfacing material with the following surface-burning characteristics (if required by code) as determined by testing identical products per ASTM E 84 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
1. Class 1 per ASTM E 84 including;
a. Flame Spread: 25 or less.

1.3 WARRANTY
D. Manufacturer's 10 year warranty for materials and labor to repair or replace defective materials.

1.4 MATERIALS
E. Solid Surfacing: Nonporous surfacing material composed of a unique blend of natural minerals and high-performance acrylic meeting the following criteria:
1. Wear and Cleanability: Passes per ASI Z124.3.
2. Abrasion Resistance: No loss of pattern per NEMA LD3-3.01 and ANSI Z 124.3; weight loss, 1,000 cycles, 0.2 gm; wear, 10,000 cycles, 0.008 inches.
3. Boiling Water Surface Resistance: No change per NEMA LD3-3.05.
4. High Temperature Resistance: No change per NEMA LD3-3.06.
5. Conductive Heat Resistance: No change per NEMA LD3-3.08.
6. Impact Resistance, Notched Izod: 0.28 ft-lbs/in of notch per ASTM D 256, Method A.
7. Impact Resistance, Ball Drop: 3/4 inch thick sheet, 36 inches with 1/2 pound ball, no failure per NEMA LD3-3.03.
8. Stain Resistance: Passes, Rating-41, modified with additional stains used, per ANSI Z124.3.
9. Weatherability: No change, 1000 hours, per ASTM D 1499.
10. Fungi and Bacteria: No attack per ASTM G 21, G 22.
11. Water Absorption: 3/4 inch sheet, 0.04 percent after 24 hours, 0.94 percent long term, per ASTM D 570.
12. Flammability: Solid colors per ASTM E 84.
a. Flame Spread: Less than 5.
b. Smoke Developed: Less than 15.
c. Class Rating: 1.
13. Thickness: 1/2 inch unless noted or scheduled otherwise.
14. Colors, Sheen, and Basis of Design: As scheduled.

1.5 MISCELLANEOUS MATERIALS
F. Adhesives and Cements: Non-staining, type as recommended by engineered stone manufacturer.
1. Waterproof, permanent material which will not induce mildew and fungus growth.
G. Joint Sealants: Two part color matched polyester knife grade adhesive.

1.6 FABRICATIONS
H. Assemble work at shop and deliver to job ready for installation. Manufacture in largest practical lengths with seams in least conspicuous locations.
I. Fabricate work square and to required lines.
J. Recess and conceal fasteners, connections, and reinforcing.
K. Design construction and installation details to allow for expansion and contraction of materials. Properly frame material with tight, hairline joints held rigidly in place.
L. Comply with adhesive manufacturer's recommendations for adhesive shelf life, pot life, working life, mixing, spreading, assembly time, time under pressure and ambient temperatures.
M. Fabricate countertops with backsplash and side splashes to profiles indicated or detailed.
N. Fabricate items to profiles shown with connections and supports as detailed or as required for proper installation per manufacturer's recommendations.
O. Provide cut-outs for plumbing fixtures and trim, washroom accessories, appliances, and related items. Confirm layout with manufacturer's cut-outs templates before beginning work. Round corners of cut outs and sand edges smooth.
P. Do not exceed manufacturer's recommended unsupported overhang distances.
Q. Finish exposed surfaces smooth and polish to a sheen indicated.
R. Radius corners and edges.

1.7 INSTALLATION
S. Install in accordance with manufacturer's printed instructions and approved shop drawings. Provide templates and rough in measurements.
T. Install surfacing true in line and plane, level, rigid and solidly adhered to substrate.
U. Pre-fit items: Adjust supports to make fit. Align joints over support framing.
1. Provide intermediate supports to that material will not span more than 3 feet in any direction.
2. Cantilevers shall not exceed 12 inches without supplementary support.
V. Apply dabs of mastic on supports; place items on supports and attach.
W. Install with minimum number of joints practical, using full-length pieces from maximum lengths available. Cope at returns and square at corners to produce tight-fitting joints with full-surface contact throughout length of joint. Radius cutouts with minimum 3/8 inch corner radius.
X. Install splashes using adhesive. Apply adhesive to back surface only. Place thin bead of seam adhesive along edge where splashes seat.

1.8 TOLERANCES
Y. Variation in Component Size: Plus or minus 1/8 inch over 10'-0" length.
Z. Location of Openings: Plus or minus 1/8 inch from indicated location.
AA. Install countertops level to within 1/8 inch in 10 feet.
AB. Allow minimum 1/16 inch clearance between edges of countertops and adjacent walls.
AC. Maximum Offset From True Position: 1/8 inch.

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Project Team

MEP
CCRD Partners
6400 South Fiddlers Green Circle Ste. 1150
Greenwood Village, CO 80111
ph: 214.521.1661

Structural
Structural Consultants Inc
3400 East Bayaud Ave., #300
Denver CO, 80209
ph: 303.399.5154

No.	Description	Date

STATE OF COLORADO
JOHN MENNO MAY
401729
LICENSED ARCHITECT
07/15/16

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St, Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	KL
Checked by	JMN

Sheet Title:
PROJECT SPECIFICATIONS

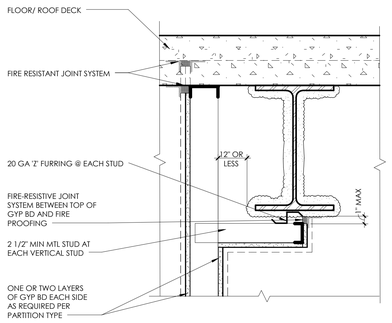
Sheet Number
G.204

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

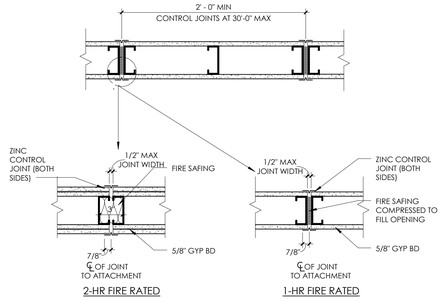
RSN: *1131831*
Permit #: *16-1141686*

07/15/16

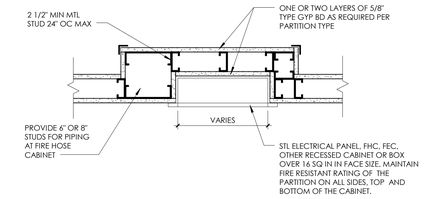
CONTRACT © 2012 DAVIS CONSTRUCTION



12 - HEAD OF WALL AT BEAM - WALL WITHIN 12" OF A BEAM
1 1/2" = 1'-0"

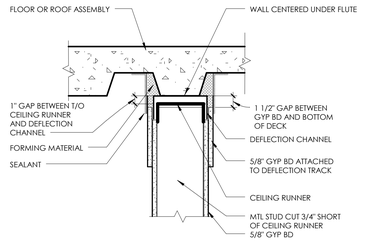


08 - DETAILS OF JOINTS IN RATED GYP BD PARTITIONS
1 1/2" = 1'-0"



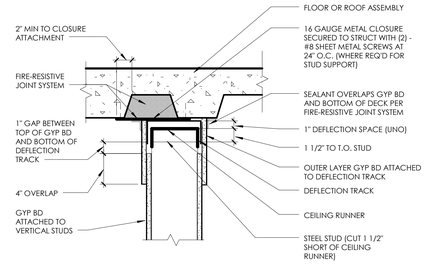
NOTES: PER 2015 IBC: 714.3.2.
1. MAINTAINING FIRE RATING AROUND A GREATER THAN 16 SQ IN CABINET IS NOT NECESSARY IF THE BOX HAS BEEN TESTED FOR USE IN A FIRE-RESISTANT RATED ASSEMBLY.
2. REFER TO THE A.500 SERIES FOR SOUND ATTENUATION DETAIL.

04 - RECESSED CABINETS IN RATED WALL
1 1/2" = 1'-0"



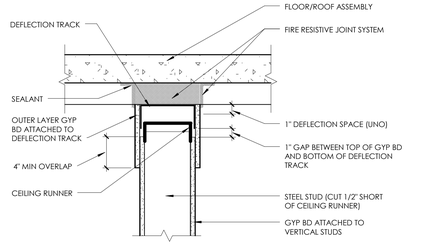
NOTES:
1. UL SYSTEM NO. HW-D-0107.
2. CONTRACTOR TO COMPLY WITH DEFLECTION DETAIL SHOWN OR COMPLY WITH PROPRIETARY SYSTEM AS SPECIFIED.

11 - HEAD OF WALL @ RATED PARTITION CENTERED UNDER FLUTE
1 1/2" = 1'-0"



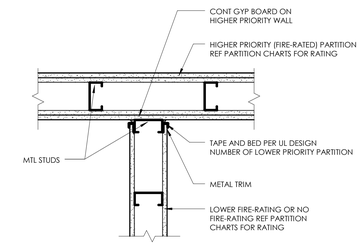
NOTES:
1. UL SYSTEM NO: HW-D-0118 (HW-D-0107 CAN ALSO BE USED).
2. SIMILAR AT NON-RATED WALL EXCEPT USE ACOUSTICAL SEALANT AND BATTS IN LIEU OF FIRE-RESISTIVE JOINT SYSTEM.
3. CONTRACTOR TO COMPLY WITH DETAIL SHOWN OR USE PROPRIETARY SYSTEM AS DESCRIBED IN THE SPECIFICATIONS.

07 - HEAD OF WALL @ RATED PARTITION PARALLEL TO METAL DECK
1 1/2" = 1'-0"

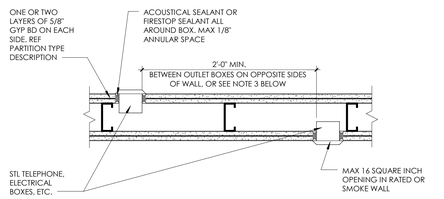


NOTES:
1. UL SYSTEM NO: HW-D-0118 (HW-D-0045 OR 0046 CAN ALSO BE USED).
2. CONTRACTOR TO COMPLY WITH DETAIL SHOWN OR COMPLY WITH PROPRIETARY SYSTEM AS SPECIFIED.
3. SIMILAR AT NON-RATED WALL EXCEPT USE ACOUSTICAL SEALANT AND BATS IN LIEU OF FIRE-RESISTIVE JOINT SYSTEM.

03 - HEAD OF WALL @ RATED PARTITION PERPENDICULAR TO METAL DECK
1 1/2" = 1'-0"

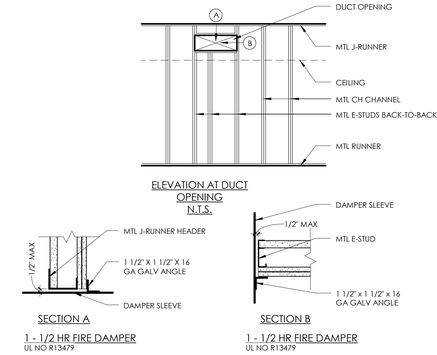


10 - INTERSECTION OF RATED WALL
1 1/2" = 1'-0"

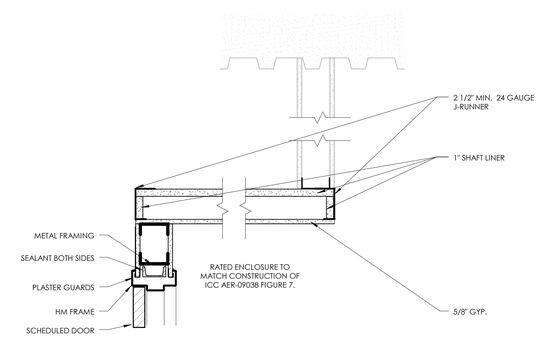


NOTES: PER 2015 IBC: 714.3.2.
1. FOR ALL ONE HOUR RATED PARTITIONS, TWO HOUR RATED PARTITIONS AND SMOKE PARTITIONS, SURFACE AREA OF INDIVIDUAL METALLIC OUTLET OR SWITCH BOXES SHALL NOT EXCEED 16 SQUARE INCHES. THE AGGREGATED SURFACE OF ALL BOXES SHALL NOT EXCEED 100 SQUARE INCHES PER 100 SQUARE FEET OF WALL AREA. BOXES WHICH EXCEED THESE STANDARDS SHALL BE RECESSED AS SHOWN IN "RECESSED WALL CABINET DETAIL". BOXES < 16 SQ IN AND LOCATED ON OPPOSITE SIDES OF RATED FIRE SMOKE PARTITIONS SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF 24 INCHES MINIMUM.
2. REFER TO THE A.500 SERIES FOR SOUND ATTENUATION DETAIL.
3. WHERE WALL CAVITY IS FILLED WITH MINERAL FIBER INSULATION, BOXES SHALL BE OF ANY MATERIAL AND SEPARATED BY NOT LESS THAN THE DEPTH OF THE WALL CAVITY.
4. MEMBRANE PENETRATIONS FOR LISTED ELECTRICAL OUTLETS ARE PERMITTED PROVIDED THEY HAVE BEEN TESTED FOR USE IN FIRE-RESISTANT RATED ASSEMBLIES.
5. UL DESIGN TESTED MOLDABLE PUTTY PADS MAY BE USED IN LIEU OF SEPARATING THE BOXES BY 24" AND TO PROTECT > 16" SQ BOXES.

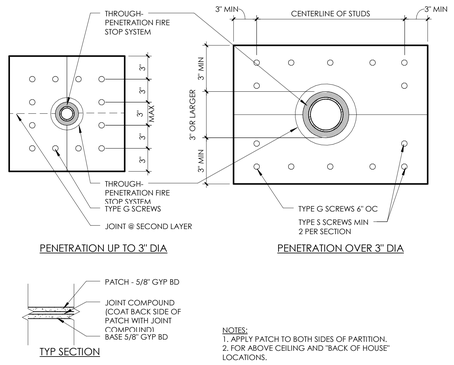
06 - BACK TO BACK ELECTRICAL OUTLETS
1 1/2" = 1'-0"



02 - DUCT OPENING THRU SHAFT WALL
1 1/2" = 1'-0"

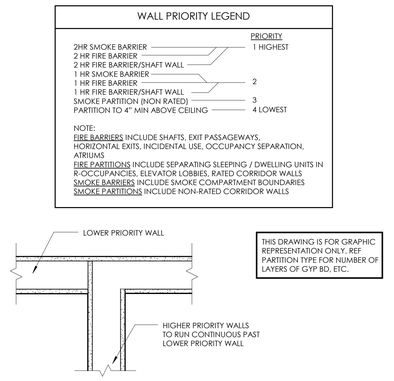


13 - SECTION DETAIL @
1 1/2" = 1'-0"

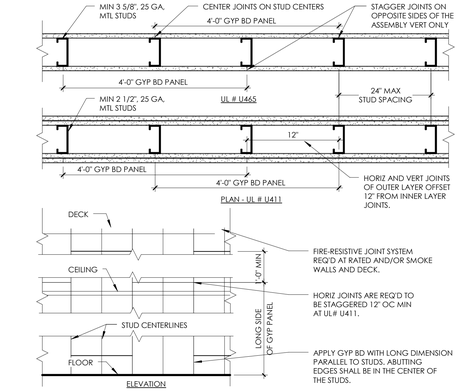


NOTES:
1. APPLY PATCH TO BOTH SIDES OF PARTITION.
2. FOR ABOVE CEILING AND "BACK OF HOUSE" LOCATIONS.

09 - OVERSIZED HOLES IN RATED PARITION
1 1/2" = 1'-0"



05 - PARTITION PRIORITY LEGEND
1 1/2" = 1'-0"



01 - LOCATION OF JOINTS IN RATED GYP BD PARTITION
1 1/2" = 1'-0"

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Project Team

MEP
CCRD Partners
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 214.521.1661

Structural
Structural Consultants Inc
3400 East Bayaud Ave., #300
Denver CO, 80209
ph: 303.399.5154

No.	Description	Date

STATE OF COLORADO
JOHN MENNO MAE
401729
LICENSED ARCHITECT
07/15/16

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	KL
Checked by	JMN

Sheet Title:
CODE COMPLIANCE DETAILS

Sheet Number
G.301

CONTRACT & SPECIFICATIONS CONVENTION

7/14/16, 5:08:08 PM

SMOKE BARRIER COMPARTMENT DATA SC 1C

EXISTING SMOKE COMPARTMENT TO REMAIN.

TOTAL SMOKE COMPARTMENT SQUARE FOOTAGE:
UNCHANGED

SMOKE BARRIER COMPARTMENT DATA SC 1D

EXISTING SMOKE COMPARTMENT TO REMAIN.

TOTAL SMOKE COMPARTMENT SQUARE FOOTAGE:
UNCHANGED



01 - CODE COMPLIANCE PLAN - LEVEL 01
1/8" = 1'-0"

SUITE DATA SUITE 1.1

1. 3,015 SQ. FT. SHOWN - 10,000 SQ. FT. ALLOWED.
2. 46 LINEAR FT. SHOWN TO EXIT ACCESS DOOR - 100' ALLOWED
3. MAXIMUM NUMBER OF EXITS REQUIRED - 2

CODE COMPLIANCE PLAN GENERAL NOTES

1. EXISTING WALLS SHOWN WITH NEW LIFE SAFETY RATINGS ARE TO BE UPGRADED TO THE NEW RATING. THE UPGRADING INCLUDES PROTECTING ALL OPENINGS IN THE PARTITION.
2. REFER TO ELECTRICAL DRAWINGS FOR LOCATION AND QUANTITY OF SMOKE DETECTORS.
3. DOORS IN CORRIDOR PARTITIONS SHALL BE INSTALLED TO RESIST THE PASSAGE OF SMOKE UNLESS NOTED OTHERWISE.
4. REFER TO THE G.300 SERIES FOR FIRE EXTINGUISHER CABINET DETAIL.
5. VERIFY THAT ALL EXISTING DOORS IN RATED WALLS ARE LABELED WITH THE APPROPRIATE MARK WITHIN THE SMOKE COMPARTMENTS THAT ARE IN THE SCOPE OF THIS WORK.
6. VERIFY THAT ALL EXISTING WALLS WITHIN MODIFIED SMOKE COMPARTMENTS THAT ARE LABELED AS FIRE RATED OR SMOKE TIGHT MEET THE REQUIREMENTS OF THE LABELING.
7. SMOKE COMPARTMENTS IN AREAS OUTSIDE OF THIS PROJECT SCOPE OF WORK ARE SHOWN FOR REFERENCE ONLY.

CODE COMPLIANCE LEGEND

- SMOKE PARTITION
- SMOKE BARRIER FOR COMPARTMENTATION. 1-HOUR FIRE RATING
- SMOKE BARRIER FOR COMPARTMENTATION. 2-HOUR FIRE RATING
- 1-HOUR FIRE BARRIER
- 2-HOUR FIRE BARRIER
- 3-HOUR FIRE BARRIER
- 2-HOUR FIRE BARRIER REQUIRED TO HAVE SMOKE DAMPERS

* THE LETTER "X" IN FRONT OF THE FIRE TAPE LABELS ABOVE DENOTES EXISTING RATED WALL (E.G. **X1FP**)

- NEW PARTITION
- EXISTING PARTITION
- EXIT SIGN W/ DIRECTION
- FEC — FIRE EXTINGUISHER & CABINET RECESSED (SCREENED IF EXISTING)
- FEC — FIRE EXTINGUISHER SURFACE MOUNTED (SCREENED IF EXISTING)
- 36 — EXIT LOCATION AND WIDTH (IN INCHES)(SCREENED IF EXISTING)
- 45 — FIRE RATING OF DOOR IN MINUTES (SCREENED IF EXISTING)
- EXTENT OF SUITE 1.1
- OUT OF SCOPE
- LONGEST ROUTE TO AN EXIT
- REQUIRED ACCESSIBLE PATH
- MHO — MAGNETIC HOLD OPEN

CODE COMPLIANCE KEYNOTES

1. CONTRACTOR TO FIELD VERIFY EXISTING WALL COMPLIES WITH REQUIREMENTS FOR SMOKE PARTITION.
2. NEW EXIT LIGHT
3. MODIFY EXISTING EXIT LIGHT TO INDICATE SINGLE DIRECTION OF EGRESS
4. REMOVE EXISTING EXIT LIGHT
5. VERIFY DOOR IS SMOKE RESISTANT
6. OFFSET EXISTING RATED WALL SYSTEM FROM ABOVE CEILING BACK TO NEW DOOR SET. SEE SECTIONS PROVIDED 13/G.301
7. USE FACILITY STANDARD FIRE EXTINGUISHER CABINET AND FIRE EXTINGUISHER MANUFACTURER.

Provide a sign stating "EXIT" in raised, visual characters and braille adjacent to each door in an area of refuge, an exterior area for assisted rescue, an exit stairway or ramp, an exit passageway and the exit discharge. **2015 IBC 1013.4**

path 21 architecture

2245 Curtis Street, Suite 100
Denver, CO 80205

Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com

www.path21arch.com

Project Team

MEP
CCRD Partners
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 214.521.1661

Structural
Structural Consultants Inc
3400 East Bayaud Ave., #300
Denver CO, 80209
ph: 303.399.5154

No.	Description	Date

STATE OF COLORADO
JOHN MENNO HW
401729
LICENSED ARCHITECT
07/15/16

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	KL
Checked by	JMN

Sheet Title:
CODE COMPLIANCE PLANS

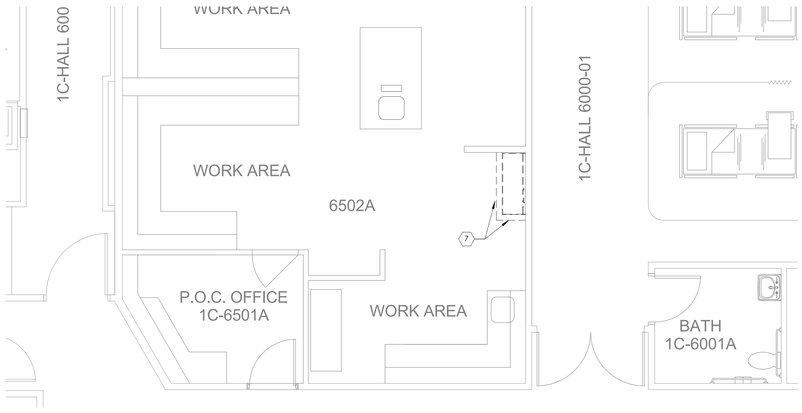
Sheet Number
G.401

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

CONTRACT & DESIGNED DOCUMENTS

7/14/16 5:06:04 PM



2 - DEMOLITION PLAN - LEVEL 01- CATH LAB
1/4" = 1'-0"



01 - DEMOLITION PLAN - LEVEL 01- PREP RECOVERY
1/4" = 1'-0"

DEMOLITION GENERAL NOTES

1. REFER TO SPECIFICATIONS FOR INTERIM LIFE SAFETY MEASURES.
2. CONSTRUCT TEMPORARY PARTITIONS AS REQUIRED BY PHASING TO MINIMIZE THE SPREAD OF DUST AND NOISE.
3. THESE DRAWINGS HAVE BEEN DEVELOPED FROM EXISTING DRAWINGS WHICH MAY NOT REFLECT ACTUAL FIELD CONDITIONS. VERIFY THESE DRAWINGS WITH EXISTING FIELD CONDITIONS AND NOTIFY THE ARCHITECT IMMEDIATELY OF INCONSISTENCIES BETWEEN THEM AND ACTUAL CONDITIONS BEFORE PROCEEDING WITH CONSTRUCTION.
4. CEILING TILE, CEILING GRID SYSTEM OR GYP CEILING TO BE DEMOLISHED WITHIN DEMOLITION SCOPE OF WORK. SALVAGE LIGHTING AND RETURN TO FACILITY. REMOVE ALL EXISTING CEILING DEVICES IN PREPERATION FOR NEW.
5. REMOVE EXISTING CONSTRUCTION AS INDICATED. TYPICAL WALL REMOVAL INCLUDES FINISHES AND MECHANICAL PLUMBING AND ELECTRICAL SYSTEMS CONTAINED THEREIN. REMOVE DOORS, CASEWORK, WINDOWS, FRAMES, AND OTHER FIXTURES AS REQUIRED. AFTER REMOVAL OF PIPE CHASES, PATCH HOLES IN EXISTING FLOORS OR WALLS TO REMAIN TO MEET ORIGINAL FIRE PROTECTION AND STRUCTURAL REQUIREMENTS. PATCH ADJOINING WALLS.
6. WHERE NEW FINISHES ARE TO BE INSTALLED ON EXISTING SURFACES, REMOVE THE EXISTING FINISH AND PREPARE SURFACE TO RECEIVE THE NEW FINISH.
7. DEMOLISH EXISTING PARTITIONS ENCLOSING PNEUMATIC TUBE UNIT. COORDINATE WITH FACILITY PNEUMATIC VENDOR FOR RELOCATION AND RE PIPING OF PNEUMATIC UNIT. REMAINING SCOPE OF WORK TO TAKE PLACE IN SEPARATELY PERMITTED PROJECT IN THIS AREA. COORDINATE WITH THE OWNER ANY ADDITIONAL ITEMS TO BE STORED AND/OR RELOCATED.
8. SEE MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR DEMOLITION OF UTILITIES.
9. VERIFY THAT EXIT EGRESS IS MAINTAINED FOR ALL OCCUPIED AREAS OF THE BUILDING THROUGHOUT CONSTRUCTION.
10. DEMOLITION WORK SHALL BE EXECUTED IN CONFORMANCE WITH ALL CODES AND AS SET FORTH BY ALL GOVERNING AUTHORITIES.
11. DO NOT CUT ANY STRUCTURAL WORK WITHOUT PRIOR APPROVAL FROM THE STRUCTURAL ENGINEER.
12. REPLACE OR REPAIR ANY EXISTING TO REMAIN FINISHES WHICH ARE DAMAGED DURING DEMOLITION (I.E. - CEILING GRID, CEILING TILE, WALL COVERING, FLOOR COVERING, ETC.

DEMOLITION LEGEND

- EXISTING PARTITION TO REMAIN
- EXISTING PARTITION TO BE REMOVED
- EXISTING FLOOR SLAB TO BE REMOVED AS NECESSARY FOR UNDERFLOOR PLUMBING WITHIN AREA INDICATED RE: PLUMBING DRAWINGS.
- EXISTING FLOOR, WALL, AND CEILING FINISHES ONLY, TO BE REMOVED WITHIN AREA INDICATED.
- AREA OUT OF SCOPE

DEMOLITION KEYNOTES

1. REMOVE MEDICAL GAS ZONE VALVE BOX
2. SALVAGE FIXTURES AND ACCESSORIES FOR RELOCATION IN NEW LOCATIONS.
3. SALVAGE LOCKERS AND RETURN TO FACILITY
4. EXISTING IMAGING EQUIPMENT TO BE REMOVED BY FACILITY.
5. EXISTING DOOR AND HARDWARE TO REMAIN; PROTECT DURING DEMOLITION
6. SALVAGE DOOR AND HARDWARE AND RETURN TO FACILITY.
7. DEMOLISH EXISTING PARTITIONS ENCLOSING PNEUMATIC TUBE UNIT. COORDINATE WITH FACILITY PNEUMATIC VENDOR FOR RELOCATION AND RE PIPING OF PNEUMATIC UNIT. REMAINING SCOPE OF WORK TO TAKE PLACE IN SEPARARTELY PERMITTED PROJECT IN THIS AREA.
8. SALVAGE DOOR AND HARDWARE FOR REUSE. SEE ALTERNATE #1 AND DOOR SCHEDULE.
9. COORDINATE ACCESS REQUIREMENTS TO OFFICE AND RECEPTION AREA WITH FACILITY. ACCESS MUST BE RESTRICTED FOR AS SHORT OF A TIME AS POSSIBLE.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Project Team

MEP
CCRD Partners
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 214.521.1661

Structural
Structural Consultants Inc
3400 East Bayaud Ave., #300
Denver CO, 80209
ph: 303.399.5154

No.	Description	Date

STATE OF COLORADO
JOHN MENNO MAP
401729
LICENSED ARCHITECT
07/15/16

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	KL
Checked by	JMN

Sheet Title:
DEMOLITION PLANS

Sheet Number
D.201

COPYRIGHT © 2015 path21 architecture

7/14/16 5:05:58 PM



01 - FLOOR PLAN - LEVEL 01 - PREP RECOVERY
1/4" = 1'-0"

FLOOR PLAN GENERAL NOTES

1. PARTITION TYPES ARE SCHEDULED IN THE A.500 SERIES. RE: G.300 SERIES "CODE COMPLIANCE PLANS" FOR GRAPHIC EXTENT OF FIRE RATED PARTITIONS. REFER TO PARTITION TYPE SCHEDULE FOR LOCATION OF SOUND ATTENUATION BLANKETS.
2. REFER TO SHEET G.101 FOR ADDITIONAL GENERAL NOTES.
3. ALL PARTITIONS ARE TYPE "A41" UNLESS OTHERWISE NOTED.
4. DIMENSIONS SHOWN ON THE FLOOR PLANS FOR NEW CONSTRUCTION ARE TO THE FACE OF FINISH OF INTERIOR WALLS, TO CENTER LINE OF COLUMNS AND TO THE FACE OF CONCRETE OR MANSONRY WALLS, UNLESS OTHERWISE INDICATED. DIMENSIONS IN RENOVATED AREAS ARE FROM FINISH FACE OF EXISTING WALLS TO FINISH FACE OF NEW STUD WALL, UNLESS OTHERWISE INDICATED.
5. WHERE NEW GYPSUM BOARD PARTITIONS ARE A CONTINUATION OF AN EXISTING PARTITION OR COLUMN ENCASEMENT, THE FACE OF THE NEW GYPSUM BOARD SHALL BE ALIGNED WITH THE FACE OF THE EXISTING SURFACE. WHERE A ONE HOUR PARTITION IS SHOWN AS A CONTINUATION OF A TWO-HOUR PARTITION OR COLUMN ENCASEMENT, THE FACE OF THE GYPSUM BOARD SHALL BE ALIGNED, STUDS SHALL BE OFFSET AND ADDITIONAL LAYERS OF GYPSUM BOARD SHALL BE PROVIDED AS REQUIRED TO PROVIDE FACE ALIGNMENT OF GYPSUM BOARD.
6. SEE ARCHITECTURAL ENLARGED PLANS FOR TYPICAL MOUNTING HEIGHTS OF PLUMBING FIXTURES AND TOILET ACCESSORIES.
7. REFER TO A.531 FOR MISCELLANEOUS DETAILS.
8. PROVIDE MINIMUM 1'-0" CLEAR FLOOR SPACE AT THE PUSH SIDE OF EVERY DOOR WITH A CLOSER. PROVIDE MINIMUM 1'-6" CLEAR AT THE PULL SIDE OF EVERY DOOR (EXCLUDING PATIENT BEDROOMS), UNLESS SPECIFICALLY DIMENSIONED, NOTED OR SHOWN OTHERWISE.
9. ALL LAVATORIES AND SINKS SHALL BE MOUNTED A MINIMUM OF 1'- 3" FROM THE CENTERLINE OF THE FIXTURE TO THE FINISHED FACE OF THE ADJACENT PARTITION.
10. SEE OWNER FURNISHED VENDOR DRAWINGS FOR CRITICAL DIMENSIONS IN THESE SPACES. REFERENCE INDEX SHEET FOR LOCATION OF VENDOR DRAWINGS IN SET.
11. REFER TO THE A.210 SERIES, "EQUIPMENT PLANS" FOR WALL PROTECTION LOCATIONS.
12. POUR BACK FLOOR SLAB WHERE NECESSARY AFTER SLAB DEMOLITION FOR UNDERFLOOR PLUMBING.

FLOOR PLAN LEGEND

- NEW PARTITION
- EXISTING PARTITION TO REMAIN
- EXISTING COLUMN TO REMAIN
- EXPANSION JOINT
- XXX — DOOR TAG REF. A.XXX FOR DOOR SCHEDULE
- A41 — PARTITION TAG REF. A.XXX FOR TYPE CHARTS
- FD — FLOOR DRAIN
- OUT OF SCOPE
- CONTRACTOR FURNISHED EQUIPMENT/ITEM
- OWNER FURNISHED EQUIPMENT/ITEM

FLOOR PLAN KEYNOTES

1. CONSTRUCT NEW PARTITION AS A CONTINUATION OF THE EXISTING SMOKE COMPARTMENT BARRIER.
2. PROVIDE FIRE TREATED PLYWOOD BACKING FOR BIN SYSTEM.
3. UPGRADE EXISTING WALL TO A SMOKE COMPARTMENT WALL (1SB) PER G.401.
4. COORDINATE FRAMING DIMENSIONS WITH WALL BOX LOCATION FOR ICE MAKER.
5. VERIFY FINAL CASEWORK DIMENSIONS BASED ON PNEUMATIC TUBE INSTALL BEFORE FABRICATION.
6. COORDINATE PNEUMATIC CHASE SIZE WITH PNEUMATIC CHASE VENDORS REQUIREMENTS
7. REPLACE EXISTING 5'-0" X 1'-6" ACCESS PANEL WITH NEW PANEL WITH KEY LOCK. VERIFY ACCESS PANEL SIZE IN THE FIELD AND MATCH. COORDINATE TOILET ACCESSORIES WITH CLEAR ACCES TO ACCESS PANEL.
8. FRAME TIGHT TO COLUMN FIREPROOFING.
9. COORDINATE DIMENSION WITH RELOCATED PNUEMATIC TUBE UNIT

Provide a sign stating "EXIT" in raised, visual characters and braille adjacent to each door in an area of refuge, an exterior area for assisted rescue, an exit stairway or ramp, an exit passageway and the exit discharge.
2015 IBC 1013.4

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Project Team

MEP
CCRD Partners
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 214.521.1661

Structural
Structural Consultants Inc
3400 East Bayaud Ave., #300
Denver CO, 80209
ph: 303.399.5154

No.	Description	Date
1	ADD 01	08/05/16

STATE OF COLORADO
JOHN MENNO MAES
401729
LICENSED ARCHITECT
08/05/16

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

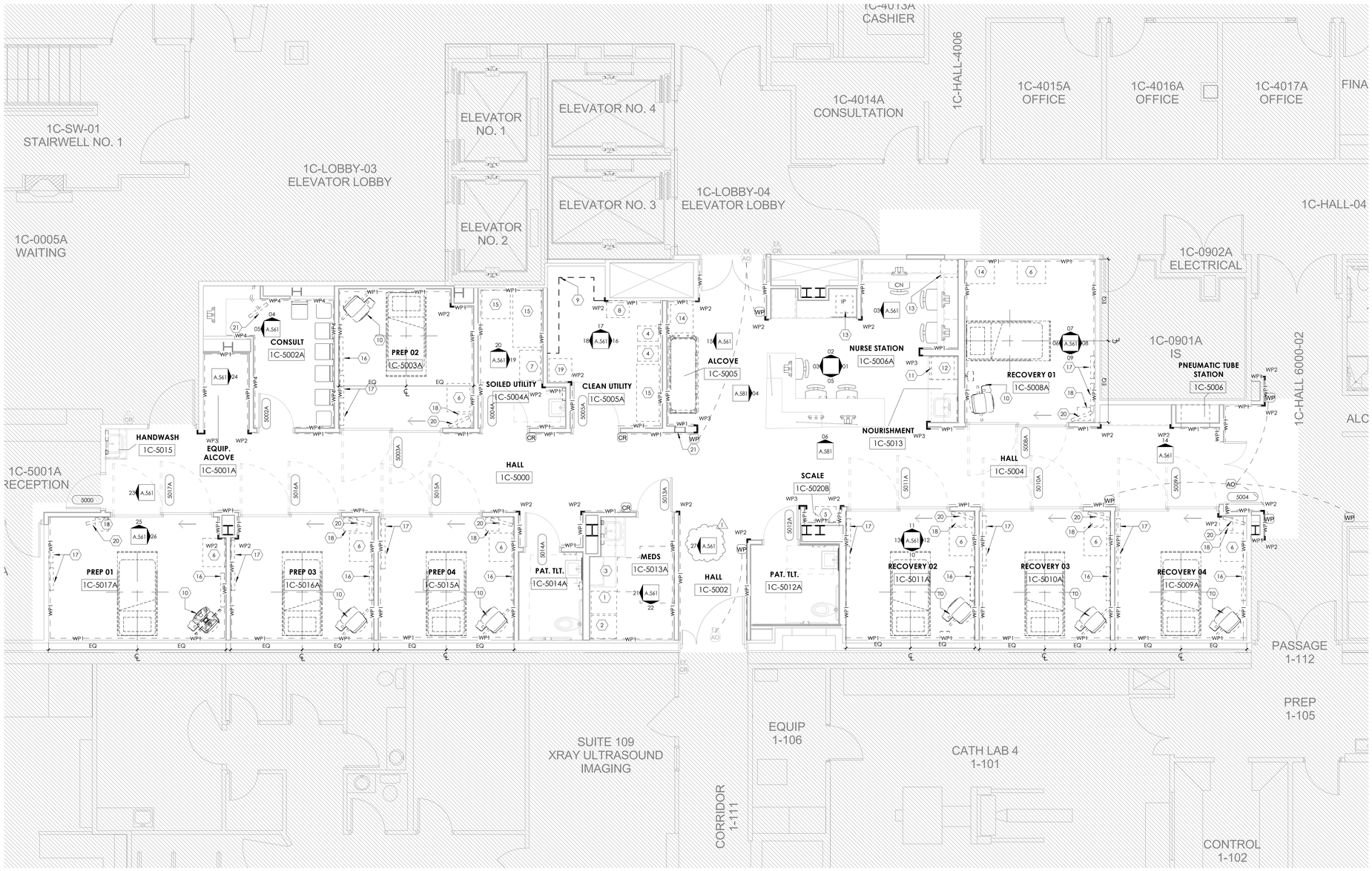
Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	KL
Checked by	JMN

Sheet Title:
FLOOR PLANS

Sheet Number
A.201

COPYRIGHT © 2015 path21 architecture

JUN 29, 2016 4:45 PM



01 - EQUIPMENT PLAN - LEVEL 01- PREP RECOVERY
1/4" = 1'-0"

EQUIPMENT PLAN GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY AND COORDINATE CLEAR DIMENSIONS REQUIRED FOR OWNER FURNISHED EQUIPMENT THAT IS LOCATED WITHIN OR ADJACENT TO BUILT IN CABINETS.
2. ALL GLOVE DISPENSERS ARE TO BE OWNER FURNISHED CONTRACTOR INSTALLED.
3. CONTRACTOR SHALL PROVIDE BLOCKING/STRAPPING FOR ALL MOUNTING BRACKETS OF WALL HUNG EQUIPMENT. COORDINATE FURNISHED EQUIPMENT REQUIREMENTS AND VENDOR DRAWINGS.
4. ALL SINKS ARE TO RECEIVE TA3 PAPER TOWEL DISPENSER AND A TA8 SOAP DISPENSER UNLESS NOTED OTHERWISE.
5. ALL CEILING AND/OR WALL MOUNTED EQUIPMENT SHALL BE MOUNTED AT 80" CLEAR ABOVE FINISH FLOOR UNLESS OTHERWISE NOTED.
6. CONTRACTOR SHALL COORDINATE WITH THE OWNER ON THE DELIVERY AND INSTALLATION OF OWNER FURNISHED EQUIPMENT.
7. ACCESS CONTROL CONDUITS AND BOXES ARE TO BE INSTALLED BY THE CONTRACTORS. FACILITY ACCESS CONTROL VENDOR WILL INSTALL ACCESS CONTROL DEVICES.
8. LAVATORIES AND SINKS SHALL BE ACCOMPANIED BY A PAPER TOWEL DISPENSER 'TA2/3' AND SOAP DISPENSER 'TA8' UNLESS OTHERWISE NOTED ON THE FLOOR PLANS.

EQUIPMENT PLAN LEGEND

- OUT OF SCOPE
- CONTRACTOR FURNISHED EQUIPMENT/ITEM
- OWNER FURNISHED EQUIPMENT/ITEM
- WP1 — WP1 — SHEET/RAIL WALL PROTECTION RE: DETAILS ON SHEET I.101
- WP4 — WP4 — CHAIR RAIL WALL PROTECTION RE: DETAILS ON SHEET I.101
- WP2 — WALL PROTECTION CORNER GUARD RE: DETAILS ON SHEET I.101
- WP3 — WALL PROTECTION CORNER GUARD RE: DETAILS ON SHEET I.101
- CT — CURTAIN TRACK
- 1 A.1001 1 — INTERIOR ELEVATION TAG
- TA00 — TOILET ACCESSORY TAG
- COMPUTER WORKSTATION WITH CPU HOLDER AND KEYBOARD.
- CR — CARD READER
- AP — AIPHONE
- AO — AUTO OPENER
- WP — WAVE PLATE

EQUIPMENT PLAN KEYNOTES

1. TYPICAL PYXIS MAIN, O.F.O.I.
2. PYXIS TOWER, O.F.O.I.
3. UNDER COUNTER MEDS REFRIGERATOR W/ AUTOMATED LOCK, O.F.O.I.
4. OXYGEN TANK RACK, O.F.O.I.
5. SCALE, O.F.O.I.
6. MOBILE LOCKABLE SUPPLY CART, O.F.O.I.
7. EMPTY CASE CART, O.F.O.I.
8. POU COMPUTER - O.F.O.I. WALL MTD. BRACKET - O.F.C.I.
9. BIN SYSTEM, O.F.O.I., METAL MOUNTING PLATES, O.F.C.I.
10. DUAL COMPUTER SYSTEM CART WITH 2 CPU HOLDERS, 2 MONITORS, 2 KEYBOARDS, AND TWO MICE. O.F.O.I.
11. UNDER COUNTER REFRIGERATOR, O.F.O.I.
12. COUNTER TOP ICE MAKER, O.F.C.I., WALL BOX, DRAIN, AND SUPPLY WATER C.F.C.I.
13. PRINTER, O.F.O.I.
14. CRASH CART, O.F.O.I.
15. LINEN CART, O.F.O.I.
16. MARKER BOARD, O.F.C.I.
17. FOLDING CHAIR, C.F.C.I. RE: I.101 FOR FINISHES AND PRODUCT DATA
18. TRASH CAN, O.F.O.I.
19. BLANKET WARMER, O.F.C.I.
20. 27" MONITOR - O.F.C.I., WALL MTD. BRACKET - O.F.C.I.
21. REMOTE MAC LAB STATION. CONTRACTOR TO PROVIDE BLOCKING FOR ARTICULATING MONITOR MOUNT ARM (C.F.C.I.) AND SLAVE MONITOR (O.F.O.I.).

path21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Project Team

MEP
CCRD Partners
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 214.521.1661

Structural
Structural Consultants Inc
3400 East Bayaud Ave., #300
Denver CO, 80209
ph: 303.399.5154

No.	Description	Date
1	ADD 01	08/05/16

STATE OF COLORADO
JOHN MENNO MAE
401729
LICENSED ARCHITECT
08/05/16

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	KL
Checked by	JMN

Sheet Title:
EQUIPMENT PLANS

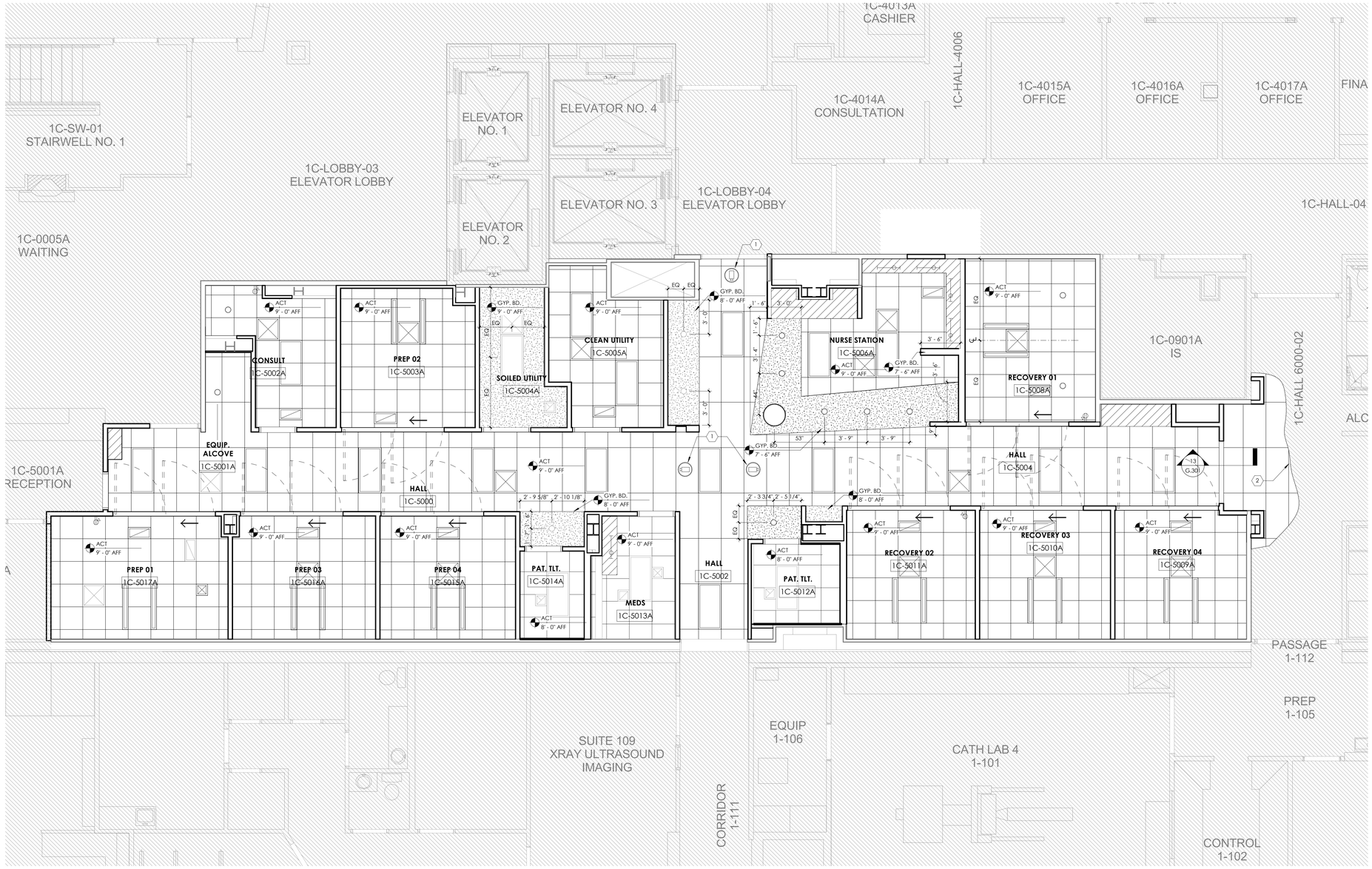
Sheet Number
A.211

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

CONTRACT & SPECIFICATIONS CONFIDENTIAL

AUG 16 12:05:48 PM



01 - REFLECTED CEILING PLAN - LEVEL 01
1/4" = 1'-0"

REFLECTED CEILING PLAN GENERAL NOTES

1. THE CONTRACTOR SHALL COMPARE THIS REFLECTED CEILING PLAN WITH ELECTRICAL LIGHTING PLANS, MECHANICAL SUPPLY, RETURN, AND EXHAUST PLANS. THE CONTRACTOR SHALL REPORT ANY OMISSIONS OR INCONSISTENCIES TO THE ARCHITECT.
2. SEE ELECTRICAL DRAWINGS FOR THE LOCATIONS OF CEILING MOUNTED SMOKE DETECTORS, SPEAKERS, EXIT SIGNAGE, FIRE ALARM DEVICES, WALL MOUNTED EXIT LIGHTS, ETC.
3. FOR FURTHER DIMENSIONS SEE ENLARGED PLANS, SECTIONS, ELEVATIONS, AND DETAILS.
4. COORDINATE GYPSUM BOARD FURR DOWN HEIGHTS WITH FULL HEIGHT CABINETS AND INTERIOR ELEVATIONS.
5. SPRINKLER HEAD LOCATIONS ARE NOT SHOWN ON ARCHITECTURAL REFLECTED CEILING PLANS.
6. 18" MINIMUM VERTICAL CLEARANCE SHALL BE MAINTAINED BETWEEN THE BOTTOM OF EXTENDED SPRINKLER HEADS AND THE TOP OF ANY FILES, SHELVING, LOCKERS, ETC.
7. THE CONTRACTOR SHALL VERIFY THAT ACCESS PANELS OF TYPE SPECIFIED ARE INSTALLED IN NON-ACCESSIBLE TYPE CEILINGS WHERE SERVICE OR ADJUSTMENT TO MECHANICAL, PLUMBING, OR ELECTRICAL ITEMS MAY BE REQUIRED. ACCESS PANELS SHALL BE THE FIRE RATED TYPE EQUAL TO THE RATING OF THE CEILING IN WHICH THEY OCCUR.
8. RELOCATE SUPPLY DRAIN AND VENT PIPES TO MAINTAIN SCHEDULED CEILING HEIGHTS. COORDINATE RELOCATIONS WITH MEP ENGINEERS.
9. WHERE EXISTING LAY-IN CEILINGS ARE TO REMAIN, THE CONTRACTOR SHALL REPLACE ANY TILE THAT HAS BEEN DAMAGED WITH MATERIALS THAT MATCH THE EXISTING FOR COLOR, TEXTURE, PATTERN, ETC.. IF UNIFORMITY CANNOT BE ACHIEVED, THE CONTRACTOR SHALL REPLACE THE ENTIRE CEILING WITHIN THE SPACE WITH NEW MATERIAL.
10. WHERE LAY-IN CEILING TILES ARE CUT AND THE TILES ARE NOT HOMOGENEOUS, ALL EXPOSED EDGES ARE TO BE PAINTED WITH THE MANUFACTURES COMPATIBLE EDGE PAINT TO MATCH TILE COLOR/TEXTURE. PAINTED EDGES ARE TO BE DRIED BEFORE BEING SET INTO THE GRID.

REFLECTED CEILING PLAN LEGEND

- SUSPENDED 2' x 2' ACOUSTICAL CEILING SYSTEM
- SUSPENDED 2' x 4' ACOUSTICAL CEILING SYSTEM
- GB — GYPSUM WALL BOARD CEILING
- GYPSUM BOARD FURR DOWN OVER WALL CABINET OR LOCKER
- CEILING TYPE / 1' - 0" AFF — CEILING HEIGHT DESIGNATION
- NEW RECESSED FLUORESCENT LIGHT FIXTURE
- EXISTING RECESSED FLUORESCENT LIGHT FIXTURE TO REMAIN
- SUPPLY AIR GRILLE REF: MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION
- RETURN AIR GRILLE REF: MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION
- EXHAUST AIR GRILLE REF: MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION
- ACCESS PANEL
- RECESSED CAN LIGHT FIXTURE
- UNDER COUNTER TASK LIGHTING
- CEILING MOUNTED SECURITY CAMERA
- EXIT SIGN W/ DIRECTION

REFLECTED CEILING PLAN KEYNOTES

1. NEW CEILING MOUNTED SECURITY CAMERA. CONDUIT PATHWAYS BY CONTRACTOR, CAMERA INSTALL AND CABLING BY FACILITY VENDOR.
2. TIE NEW GRID INTO EXISTING GRID PATTERN.

path 21 architecture

2245 Curtis Street, Suite 100
Denver, CO 80205

Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com

www.path21arch.com

Project Team

MEP
CCRD Partners
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 214.521.1661

Structural
Structural Consultants Inc
3400 East Bayaud Ave., #300
Denver CO, 80209
ph: 303.399.5154

No.	Description	Date

STATE OF COLORADO
JOHN MENNO MAY
401729
LICENSED ARCHITECT
07/15/16

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	KL
Checked by	JMN

Sheet Title:
REFLECTED CEILING PLANS

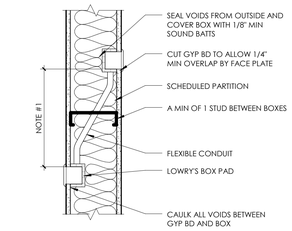
Sheet Number
A.221

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

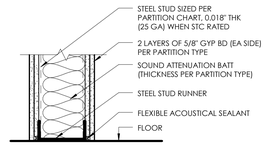
CONTRACT © 2012 path 21 architecture

7/14/16, 5:05:28 PM

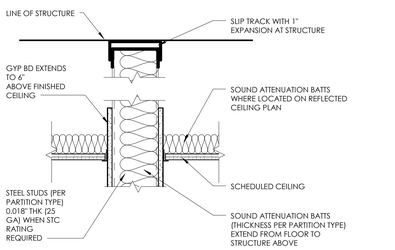


NOTES:
1. 12" MINIMUM UNLESS NOTED OTHERWISE IN PARTITION CHART.
2. REFER TO G.300 SERIES FOR BACK TO BACK BOXES IN A RATED PARTITION.

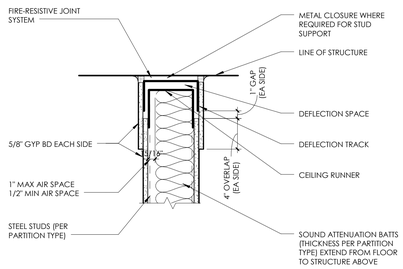
04 - ACOUSTICAL PARTITION PLAN DETAIL
1 1/2" = 1'-0" @ BACK BOX INSTALLATION DETAIL @ NON-FIRE RATED PARTITION



03 - ACOUSTICAL PARTITION FLOOR SECTION
1 1/2" = 1'-0" @ FLOOR OF 2-HR RATED PARTITION OF NON-RATED PARTITION WITH AN STC REQUIREMENT

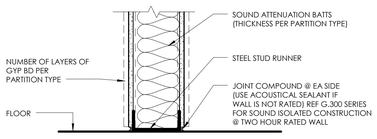


06 - PARTITION HEAD SECTION
1 1/2" = 1'-0" @ NON-RATED W/ GYP BD TO 6" ABOVE CEILING

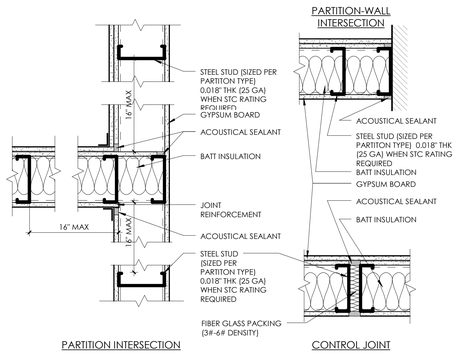


NOTES:
1. REFER TO G.300 SERIES FOR SIMILAR DETAIL AT RATED CONDITION.
2. CONTRACTOR TO COMPLY WITH DETAIL SHOWN OR USE PROPRIETARY SYSTEM AS DESCRIBED IN THE SPECIFICATIONS.
3. U419 - 1-HR RATED STUDS TO BE CUT 3/8" TO 3/4" LESS THAN ASSEMBLY HEIGHT.

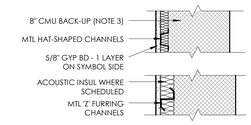
02 - PARTITION HEAD SECTION
1 1/2" = 1'-0" @ RATED WALL TO STRUCTURE U465 (1-HR), U411 (2-HR), U419 (1-HR)



05 - PARTITION FLOOR SECTION
1 1/2" = 1'-0" WHERE STUDS & GYPSUM BOARD STOP AT THE CEILING



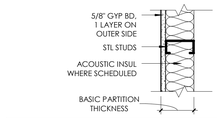
01 - ACOUSTICAL PARTITION PLAN DETAILS
1 1/2" = 1'-0"



M

NOTE:
1. PROVIDE ADDITIONAL SPACE FOR SHIMS AS REQUIRED.
2. STC MODIFIED FROM REFERENCE.
3. ALL STC RATINGS FOR PARTITION TYPE "M" ARE CALCULATED USING AN 8" HOLLOW CMU WALL BACK UP TO THE FURRING AND "Z" CHANNELS.
4. REFER TO A.500 SERIES FOR DETAILS OF PERIMETER OF PARTITION

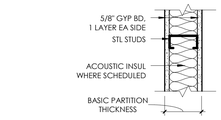
	M1_	STC	M2_	STC	M3_	STC	M4_	STC	M5_	STC	M6_	STC	M7_	STC	M8_	STC
NON-RATED WITH GYP BD TO STRUCTURE ABOVE	M11	50	M21	51	M31	51	M41	57	M51	52	M61	59	M71	57	M81	61
NON-RATED WITH GYP BD TO 6" ABOVE CEILING	M12		M22		M32		M42		M52		M62		M72		M82	
NON-RATED WITH GYP BD AND FURRING TO CEILING	M13		M23		M33		M43		M53		M63		M73		M83	
FURRING CHANNEL	7/8"		-		-		-		-		-		-		-	
"Z" CHANNEL	-		1"		1 1/2"		1 1/2"		2"		2"		3"		3"	
BASIC PARTITION THICKNESS. NOTE 1	1 1/2" +		1 5/8" +		2 1/8" +		2 1/8" +		2 5/8" +		2 5/8" +		3 5/8" +		3 5/8" +	
ACOUSTICAL INSULATION THICKNESS	-		-		-		1 1/2"		-		2"		-		3"	
ACOUSTICAL TEST NUMBER	NOTE 2		NOTE 2		NOTE 2		NOTE 2		TMS 0320		OCBA		-		-	



D

NOTE:
1. STC'S ARE PREDICTED USING THE "INSUL" COMPUTER PROGRAM.
2. STC'S ARE BASED ON 0.018" THICK (25 GA) STUDS.
3. REFER TO A.500 SERIES FOR BRACING.

	D1_	STC	D2_	STC	D3_	STC	D4_	STC
NON-RATED WITH GYP BD TO STRUCTURE ABOVE	D11	27	D21	29	D31	27	D41	30
NON-RATED WITH GYP BD TO 6" ABOVE CEILING	D12		D22		D32		D42	
NON-RATED WITH STUDS & GYP BD TO FINISHED CEILING	D13		D23		D33		D43	
STUD SIZE	2 1/2"		2 1/2"		3 5/8"		3 5/8"	
BASIC PARTITION THICKNESS	3 1/8"		3 1/8"		4 1/4"		4 1/4"	
ACOUSTICAL INSULATION THICKNESS	-		2"		-		3"	
ACOUSTICAL TEST NUMBER	NOTE 1		NOTE 1		NOTE 1		NOTE 1	
FIRE TEST NUMBER (WHERE APPLICABLE)								



A

NOTE:
1. STC IS PREDICTED USING THE "INSUL" COMPUTER PROGRAM.
2. STC IS MODIFIED FROM THE REFERENCE.
3. STC IS BASED ON 0.018" THICK (25 GA) STUDS
4. WHERE AN * NEXT TO THE PARTITION TAG, PROVIDE 3/4" PLYWOOD BEHIND THE GYP BD ON THE STORE ROOM SIDE.

	A1_	STC	A2_	STC	A3_	STC	A4_	STC	A5_	STC	A6_	STC	A7_	STC	A8_	STC
1-HR RATED WITH GYP BD TO STRUCTURE ABOVE			A20	46	A30	39	A40	47	A50	39	A60	47	A70	40	A80	48
NON-RATED WITH GYP BD TO STRUCTURE ABOVE (SMOKE RESIST)	A11	39	A21	46	A31	39	A41	47	A51	39	A61	47	A71	40	A81	48
NON-RATED WITH GYP BD TO 6" ABOVE CEILING	A12		A22		A32		A42		A52		A62		A72		A82	
NON-RATED WITH STUDS & GYP BD TO FINISHED CEILING	A13		A23		A33		A43		A53		A63		A73		A83	
PARTIAL HEIGHT PARTITION. SEE FLOOR PLANS FOR HEIGHTS.	A14		A24		A34		A44		A54		A64		A74		A84	
STUD SIZE	2 1/2"		2 1/2"		3 5/8"		3 5/8"		4"		4"		6"		6"	
BASIC PARTITION THICKNESS	3 3/4"		3 3/4"		4 7/8"		4 7/8"		5 1/4"		5 1/4"		7 1/4"		7 1/4"	
ACOUSTICAL INSULATION THICKNESS	-		2"		-		3"		-		3"		-		5 1/2"	
ACOUSTICAL TEST NUMBER	SIM USG 860808		SIM SA 831001		SIM USG 860808		SIM USG 870717		SIM USG 860808		SIM SA 870717		SIM USG 860808 NOTE 3		SIM USG 870717 NOTE 4	
FIRE TEST NUMBER (WHERE APPLICABLE)	-		UL DES U419		UL DES U465		UL DES U465		UL DES U465		UL DES U465		UL DES U465		UL DES U465	

PARTITION TYPE GENERAL NOTES

1. REFER TO FLOOR PLAN SERIES A.200 FOR LOCATION OF PARTITION TYPES. ALL PARTITIONS ARE TYPE " A41 " UNLESS NOTED OTHERWISE. NOT ALL PARTITION TYPES SHOWN ARE UTILIZED.
2. REFER TO THE I.200 SERIES FOR FINAL FINISHES ON PARTITIONS. PARTITION TYPES IN CHARTS REFER TO BASE WALL ONLY.
3. WHEN BLOCKING REQUIRED IN A PARTITION, USE A MINIMUM .033" (20 GA) STUD.
4. PROVIDE ONE LAYER OF 5/8" GLASS MATT INTERIOR AT WALLS BEHIND SINKS AND LAVATORIES WITHOUT TILE. GLASS MATT INTERIOR TYPE BOARD SHALL BE INSTALLED WITHIN 2' OF ALL URINALS AND WATER CLOSETS, TO A HEIGHT OF A 4' AFF (AT WALLS W/ OUT TILE).
5. PROVIDE TILE BACKER GLASS MATT AT ALL WALLS IN TOILET ROOMS WITH SHOWER AND AT TILED WALLS OR WALL PANELS IN SHOWERS AND BATHTUBS.
6. PENETRATIONS IN LEAD-LINED PARTITIONS SHALL BE SEALED TO MEET LEAD SHIELDING REQUIREMENTS.
7. ALL LOAD BEARING WALLS SHALL BE CONSTRUCTED PER STRUCTURAL DRAWINGS AND SPECIFICATIONS.
8. PROVIDE FIRE TREATED WOOD BLOCKING, SHEET METAL OR STEEL BACKING IN PARTITIONS TO SUPPORT WALL MOUNTED ITEMS AND EQUIPMENT. FOR EXAMPLE: AT CABINETS, HANDRAILS, GUARDRAILS, TOILET PARTITIONS AND ACCESSORIES, WALL-MOUNTED EQUIPMENT, ETC.
9. "LINE OF STRUCTURE" AS SHOWN AT THE HEAD CONDITIONS OF THE PARTITION DETAIL DOES NOT INDICATE THE EXACT CONSTRUCTION CONDITION. REFER TO THE G.300 SERIES "CODE COMPLIANCE DETAILS" FOR ADDITIONAL INFORMATION CONCERNING RATED PARTITIONS.
10. ISOLATE NON-LOAD BEARING FRAMING FROM STRUCTURAL ELEMENTS TO PREVENT THE TRANSFER OF LOAD TO PARTITION FRAMING. STOP STUD BELOW METAL RUNNER (TOP TRACK) TO ALLOW FOR VERTICAL EXPANSION. SET TOP TRACK 1" BELOW DEFLECTION TRACK. DO NOT ATTACH STUDS TO TOP TRACK. DO NOT ATTACH GYPSUM BOARD TO THE DEFLECTION TRACK. THIS MAY ALSO BE ACHIEVED, AT THE CONTRACTORS OPTION, BY UTILIZING THE PROPRIETARY SYSTEM DESCRIBED IN THE PROJECT MANUAL.
11. REFER TO DOOR AND WINDOW SCHEDULES FOR NOTES REGARDING STUDS AT OPENINGS.
12. REFER TO THE A.500 SERIES FOR HEAD OF WALL DETAILS FOR NON-RATED PARTITIONS.

ACOUSTICAL PARTITIONS

THE FOLLOWING NOTES APPLY TO ALL PARTITIONS DESIGNATED TO HAVE A SOUND TRASMISSION CLASS (STC) RATING ON THE PARTITION CHARTS. REFER TO DETAILS ON THE A.500 SERIES FOR PARTITION TYPES WITH A DESIGNATED STC RATING.

1. ALL ACOUSTICALLY CLASSED PARTITIONS SHALL BE CONSTRUCTED IN STRICT ACCORDANCE TO THE REFERENCED TEST.
2. STAGGER AND SEAL ALL JOINTS ON MULTIPLE GYPSUM BOARD LAYER PARTITIONS.
3. SEAL PARTITIONS AIR TIGHT AT FLOORS, SIDES, AND CEILINGS ON BOTH SIDES WITH NON-HARDENING ACOUSTICAL SEALANT.
4. ALL BATTS AND BLANKETS IN RATED PARTITIONS MUST BEAR THE REQUIRED UL CLASSIFICATION MARKING AS TO FIRE- RESISTANCE. REFER TO CODE COMPLIANCE DETAILS IN THE G.300 SERIES.
5. AT ACOUSTICALLY RATED PARTITIONS, DO NOT FILL THE STUD CAVITY (DEPTH) FULLY WITH SOUND BATTS. THE WIDTH OF THE SOUND BATTS SHOULD BE SLIGHTLY SMALLER THAN CAVITY TO AVOID BATT COMPRESSION; HOWEVER, THE ENTIRE LENGTH AND HEIGHT OF THE PARTITION SHOULD HAVE CONTINUOUS AND UNINTERRUPTED SOUND ATTENUATION BATTS.
6. SEAL ALL WALL INTERSECTIONS AND CONTROL JOINTS AT ACOUSTICALLY CLASSED PARTITIONS IN ACCORDANCE WITH DETAILS IN THE A.500 SERIES.
7. SEAL ALL CONDUIT, STRUCTURAL, DUCT AND LARGE PIPE PENETRATIONS ACCORDING TO DETAILS IN THE A.500 SERIES TO MAINTAIN THE ACOUSTICAL RATING OF THE WALL. IF THE PARTITION IS FIRE RATED, REF THE CODE COMPLIANCE DETAILS ON THE G.300 SERIES.
8. OUTLETS ON OPPOSITE SIDES OF ACOUSTICALLY CLASSED PARTITIONS SHOULD BE SEPARATED BY A MINIMUM OF ONE STUD. SEAL OUTLETS IN ACCORDANCE WITH DETAILS IN THE A.500 SERIES TO MAINTAIN ACOUSTICAL RATING. IF THE PARTITION IS FIRE RATED REFER TO G.300 SERIES.
9. THE ARCHITECT SHALL OBSERVE THAT ALL BOXES REQUIRED TO BE ACOUSTICALLY SEALED ARE SEALED PRIOR TO CLOSING IN PARTITIONS AND INSTALLING DEVICES AND COVER PLATES.
10. "Z" FURRINGS OR RESILIENT CHANNELS ARE REQUIRED AT CMU WALLS TO MAINTAIN DESIGNATED STC.
11. HEAVIER GAGE STUDS, WITH THEIR ADDED THICKNESS HAVE A NEGATIVE IMPACT ON THE SOUND INSULATION OF A PARTITION.

FIRE RATED PARTITIONS

1. REFER TO THE G.300 SERIES "CODE COMPLIANCE DETAILS" FOR ADDITIONAL INFORMATION ON THRU PENETRATIONS AT RATED PARTITIONS, FIRE RESISTANT JOINT SYSTEMS, SLIP TRACKS AT NON-BEARING PARTITIONS CONNECTION TO STRUCTURE AND WALL PRIORITY.
2. UL DESIGN REFERS TO FIRE RESISTANCE DIRECTORY'S MOST RECENT ISSUE.
3. CONSTRUCT RATED PARTITIONS BEFORE NON-RATED.
4. REFER TO THE G.300 SERIES FOR HEAD OF WALL DETAILS FOR RATED PARTITIONS.

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Project Team

MEP
CCRD Partners
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 214.521.1661

Structural
Structural Consultants Inc
3400 East Bayaud Ave., #300
Denver CO, 80209
ph: 303.399.5154

No.	Description	Date

COPYRIGHT © 2012 path 21 architecture

STATE OF COLORADO
JOHN MENNO MAAT
401729
LICENSED ARCHITECT
07/15/16

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	KL
Checked by	JMN

Sheet Title:
INTERIOR PARTITION TYPE CHARTS AND DETAILS

Sheet Number
A.501

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

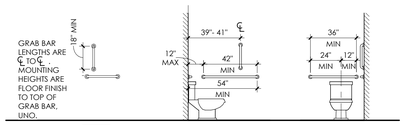
7/14/16 5:05:33 PM

TYPICAL TOILET ACCESSORY MOUNTING HEIGHTS

TOILET ACCESSORY TAG

TA?? REFER TO TOILET ROOM ELEVATIONS AND INTERIOR ELEVATIONS FOR LOCATIONS.

*NOTE: TYPICAL MOUNTING HEIGHTS AND CLEARANCES ONLY - REFER TO FLOOR PLANS OR ELEVATIONS FOR ACTUAL FIXTURE ORIENTATION, WHERE APPLICABLE.



TA9A 18"
TA9B 24"
TA9C 30"
TA9D 36"
TA9E 42"
TA9F 48"
TA9G REF PLAN FOR LENGTH

GRAB BARS @ WC SIDEWALL

GRAB BARS @ WC REAR WALL

REACH RANGE (RR) TO OPERATION

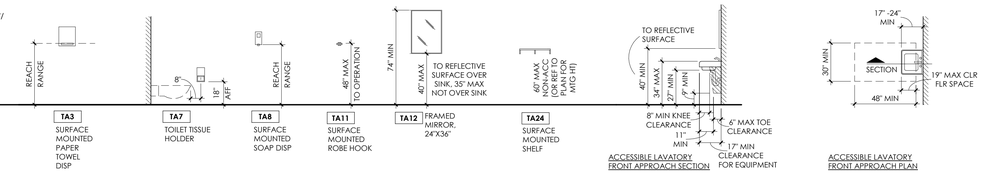
RR: ≤ 48" AFF WHERE ≤ 20" COUNTER DEPTH

RR: ≤ 44" AFF WHERE >20"-25" COUNTER DEPTH W/ ACC KNEE SPACE BELOW

RR: ≤ 48" AFF WHERE COUNTERTOP W/ CABINET BELOW W/ 10" DEPTH & 34" MAX. HEIGHT

RR: ≤ 44" AFF WHERE COUNTERTOP W/ CABINET BELOW W/ > 10" - 24" DEPTH & 34" MAX. HEIGHT

RR: 15"-48" AFF WHERE NO COUNTERTOP



TA3 SURFACE MOUNTED PAPER TOWEL DISP

TA7 TOILET TISSUE HOLDER

TA8 SURFACE MOUNTED SOAP DISP

TA11 SURFACE MOUNTED ROBE HOOK

TA12 FRAMED MIRROR, 24"X36"

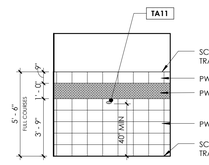
TA24 SURFACE MOUNTED SHELF

ACCESSIBLE LAVATORY FRONT APPROACH SECTION

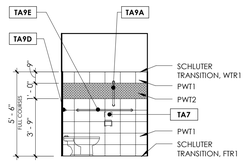
ACCESSIBLE LAVATORY FRONT APPROACH PLAN

This plan was reviewed for adopted codes and **NOT** for compliance with **ADA** or **FHA** accessibility requirements. Contact 800-949-4232 (**ADA**) and 303-894-7822 x 325 (**FHA**) for federal accessibility requirements that apply to your project.

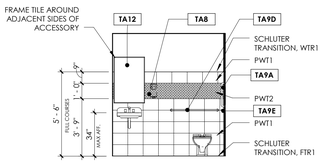
ICC/ANSI A117.1-2009
606.4 FAUCETS. Faucets shall comply with Section 309. Hand-Operated metering faucets shall remain open for 10 seconds minimum.
606.6 EXPOSED PIPES AND SURFACES. Water supply and drainpipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks.
606.2 CLEAR FLOOR SPACE. A clear floor space complying with Section 305.3 positioned for forward approach, shall be provided. Knee and toe clearance complying with Section 306 shall be provided. The dip of the overflow shall not be considered in determining knee and toe clearance.
606.3 HEIGHT. The front of lavatories and sinks shall be 34 inches maximum above the floor, measured to the higher of the rim or counter surface.



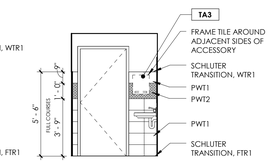
07 - 1C-5014A - ADA TOILET - WEST
1/4" = 1'-0"



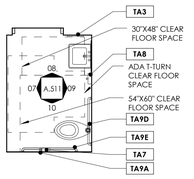
10 - 1C-5014A - ADA TOILET - SOUTH
1/4" = 1'-0"



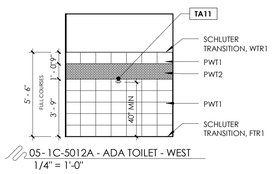
09 - 1C-5014A - ADA TOILET - EAST
1/4" = 1'-0"



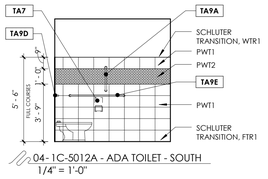
08 - 1C-5014A - ADA TOILET - NORTH
1/4" = 1'-0"



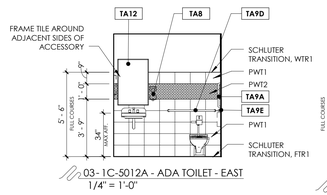
06 - 1C-5014A - ADA TOILET
1/4" = 1'-0"



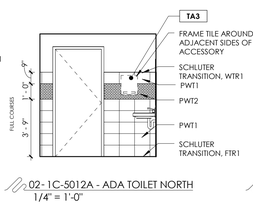
05 - 1C-5012A - ADA TOILET - WEST
1/4" = 1'-0"



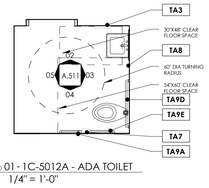
04 - 1C-5012A - ADA TOILET - SOUTH
1/4" = 1'-0"



03 - 1C-5012A - ADA TOILET - EAST
1/4" = 1'-0"



02 - 1C-5012A - ADA TOILET NORTH
1/4" = 1'-0"



01 - 1C-5012A - ADA TOILET
1/4" = 1'-0"

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Project Team

MEP
CCRD Partners
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 214.521.1661

Structural
Structural Consultants Inc
3400 East Bayaud Ave., #300
Denver CO, 80209
ph: 303.399.5154

No.	Description	Date

STATE OF COLORADO
JOHN MENNO MAY
401729
LICENSED ARCHITECT
07/15/16

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

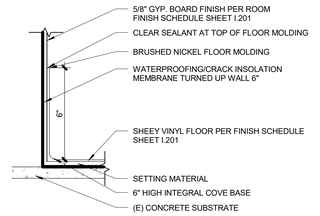
Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	KL
Checked by	JMN

Sheet Title
ENLARGED TOILET ROOM PLANS, ELEVATIONS, AND ACCESSORIES

Sheet Number
A.511

CONTRACT & DESIGNED BY PATH21 ARCHITECTURE

7/14/16, 5:05:37 PM

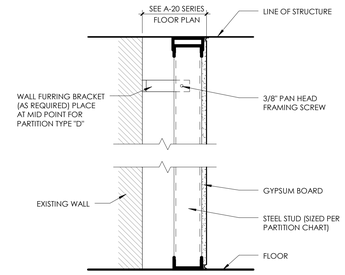


04 - TYPICAL INTEGRAL BASE DETAIL
3" = 1'-0"

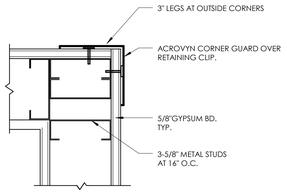


*NOTE: CORNER GUARD TO BE MOUNTED ABOVE SCHEDULED BASE TO 4'-6" A.F.F.

07 - WP3 - TYPICAL DOUBLE CORNER GUARD
1 1/2" = 1'-0"

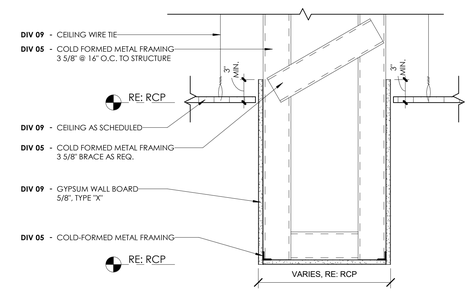


03 - PARTITION BRACING SECTION
1 1/2" = 1'-0"
@ FREE STANDING FURRING

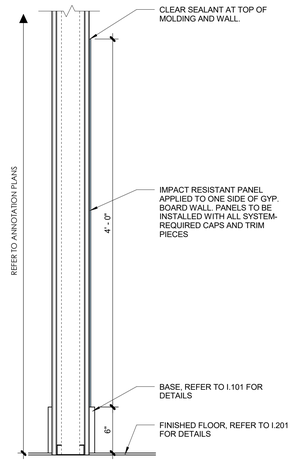


*NOTE: CORNER GUARD TO BE MOUNTED ABOVE SCHEDULE BASE

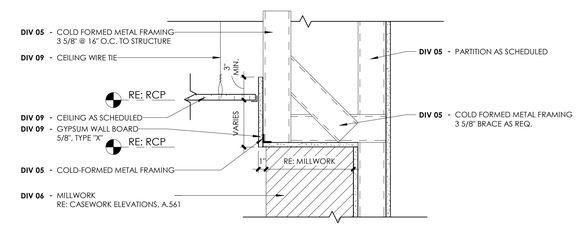
06 - WP2 - TYPICAL SINGLE CORNER GUARD DETAIL
1 1/2" = 1'-0"



02 - DETAIL @ FURR DOWN
1 1/2" = 1'-0"



05 - WP1 - TYPICAL WALL PROTECTION SECTION
1 1/2" = 1'-0"



01 - DETAIL @FURR DOWN
1 1/2" = 1'-0"

Structural plan review is limited to a general survey for code compliance. No review is implied nor was undertaken to verify structural adequacy.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Project Team

MEP
CCRD Partners
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 214.521.1661

Structural
Structural Consultants Inc
3400 East Bayaud Ave., #300
Denver CO, 80209
ph: 303.399.5154

No.	Description	Date

STATE OF COLORADO
JOHN MENNO HAP
401729
LICENSED ARCHITECT
07/15/16

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	KL
Checked by	JMN

Sheet Title:
INTERIOR DETAILS

Sheet Number
A.531

COPYRIGHT © 2015 path21 architecture

7/14/16 5:05:38 PM

DOOR SCHEDULE

DOOR NO	ROOM NAME	DOOR SIZE W	DOOR SIZE HT	DOOR SIZE THK	DOOR TYPE	DOOR MTL	DOOR FINISH	DOOR GLZ	FRAME TYPE	FRAME MTL	FRAME DETAILS HEAD	FRAME DETAILS JAMB	FIRE RATING	HARDWARE HDWR NO (REF SPECS)	REMARKS
5000	RECEPTION	3' - 0"	7' - 0"	1 3/4"	F	WD	ACR	-	A	HM	02/A541	01/A541	SR	EXIST	1, 3
5002A	CONSULT	3' - 0"	7' - 0"	1 3/4"	F	WD	ACR	-	A	HM	02/A541	01/A541	-	4.01	
5003A	PREP 02	9' - 0"	7' - 4"	4 1/2"	S	AL	AL1	GL-2	-	AL	06/A541	05/A541	-	-	4, 5
5004	HALL	5' - 6"	7' - 0"	1 3/4"	N	WD	ACR	-	D	HM	04/A541	03/A541	20	7.01	2
5004A	SOILED UTILITY	4' - 0"	7' - 0"	1 3/4"	F	WD	ACR	-	A	HM	02/A541	01/A541	45	2.01	2, 6
5005A	CLEAN UTILITY	4' - 0"	7' - 0"	1 3/4"	F	WD	ACR	-	A	HM	02/A541	01/A541	45	2.01	2, 6
5008A	RECOVERY 01	9' - 0"	7' - 4"	4 1/2"	S	AL	AL1	GL-2	-	AL	06/A541	05/A541	-	-	4, 5
5009A	RECOVERY 04	9' - 0"	7' - 4"	4 1/2"	S	AL	AL1	GL-2	-	AL	06/A541	05/A541	-	-	4, 5
5010A	RECOVERY 03	9' - 0"	7' - 4"	4 1/2"	S	AL	AL1	GL-2	-	AL	06/A541	05/A541	-	-	4, 5
5011A	RECOVERY 02	9' - 0"	7' - 4"	4 1/2"	S	AL	AL1	GL-2	-	AL	06/A541	05/A541	-	-	4, 5
5012A	PAT. TLT.	3' - 0"	7' - 0"	1 3/4"	F	WD	ACR	-	A	HM	02/A541	01/A541	-	3.01	6
5013A	MEDS	3' - 0"	7' - 0"	1 3/4"	N	WD	ACR	GL-1	A	HM	02/A541	01/A541	-	2.02	2
5014A	PAT. TLT.	3' - 0"	7' - 0"	1 3/4"	F	WD	ACR	-	A	HM	02/A541	01/A541	-	3.01	6
5015A	PREP 04	9' - 0"	7' - 4"	4 1/2"	S	AL	AL1	GL-2	-	AL	06/A541	05/A541	-	-	4, 5
5016A	PREP 03	9' - 0"	7' - 4"	4 1/2"	S	AL	AL1	GL-2	-	AL	06/A541	05/A541	-	-	4, 5
5017A	PREP 01	9' - 0"	7' - 4"	4 1/2"	S	AL	AL1	GL-2	-	AL	06/A541	05/A541	-	-	4, 5
Grand total: 16															

REMARKS:

1) EXISTING DOOR TO BE INSTALLED IN NEW FRAME. CONTRACTOR TO VERIFY DOOR SIZE BEFORE FABRICATION OF FRAME.

2) ACCESS CONTROL REQUIREMENTS TO BE COORDINATED WITH FACILITY SECURITY VENDOR. ROUGH IN TO BE PROVIDED BY CONTRACTOR.

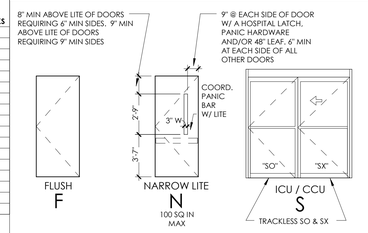
3) RE-INSTALL EXISTING HARDWARE FROM RELOCATED DOOR. VERIFY EXISTING HARDWARE AGAINST THE REQUIRED HARDWARE IN HARDWARE SCHEDULE.

4) TWO LEAF SLIDING BREAKAWAY DOOR UNITIZED SYSTEM.

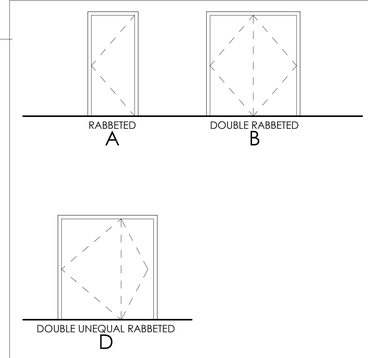
5) CHROMATIC GLASS IN BOTH LEAFS. SEE ALTERNATE #3 FOR DEDUCTIVE CRITERIA.

6) ALTERNATE #1: REINSTALL SALVAGED DOOR AND HARDWARE. VERIFY EXISTING HARDWARE AGAINST THE REQUIRED HARDWARE IN HARDWARE SCHEDULE.

DOOR TYPES



DOOR FRAME TYPES



DOOR SCHEDULE ABBREVIATIONS

MATERIAL:

HM - HOLLOW METAL

HC - HOLLOW CORE

WD - SOLID CORE WOOD DOOR

SR - SMOKE RESISTANT

EXT - EXTERIOR

(E) - EXISTING

ME - MATCH EXISTING

N/A - NOT APPLICABLE

GL-1 - GLAZING 1. REFER TO SPECIFICATIONS FOR MORE INFORMATION

FINISH:
*REFER TO FINISH LEGEND FOR MORE INFORMATION.

AL1 - ANODIZED ALUMINUM

PNT - PAINTED FINISH

SST - STAINLESS STEEL FINISH

PL - PLASTIC LAMINATE

ACR - ACROVYN CLAD (COLOR/PATTERN TO BE SELECTED BY ARCHITECT)

HARDWARE MANUFACTURERS:

IVE - IVES

SCH - SCHLAGE

LCN - LCN

NGP - NATIONAL GUARD PRODUCTS

MCK - MCKINNEY

GLY - GLYNN-JOHNSON

RIX - RIXSON

SU - SECURITRON

VON - VON DUPRIN

BES - BESAM

PEM - PEMKO

ME - MATCH EXISTING

SAR - SARGENT

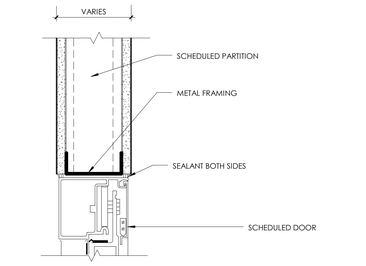
HARDWARE SCHEDULE

GENERAL HARDWARE NOTES:
1) FACILITY STANDARD KEYWAY: KABA PEAKS 250 (SFIC)*
2) CLOSERS TO BE MOUNTED ON THE INTERIOR SIDE OF DOORS SO THAT THEY ARE NOT VISIBLE FROM THE CORRIDOR.

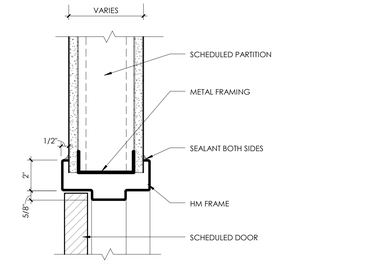
HARDWARE GROUP: 2.01 - STOREROOM				**45 MIN.**
NOTES: 45 MIN. FIRE RATED DOOR & FRAME				
3 EA	HINGE	HD 5BB1 4.5 X 4.5	619	IVE
1 EA	STORE ROOM LOCK SET	10G04-L-L*	619	SAR
1 EA	CLOSER	4041R	619	LCN
1 EA	WALL STOP	WS407/CVX	619	IVE
1 SET	SMOKE GASKET	505B	BLK	PEM
1 EA	CARD READER	BY OWNER VENDOR	--	--
1 EA	POWER SUPPLY	BY OWNER VENDOR	--	--
HARDWARE GROUP: 2.02 - STOREROOM				
NOTES:				
3 EA	HINGE	HD 5BB1 4.5 X 4.5	619	IVE
1 EA	STORE ROOM LOCK SET	10G04-L-L*	619	SAR
1 EA	CLOSER	4041R	619	LCN
1 EA	WALL STOP	WS407/CVX	619	IVE
1 SET	DOOR SILENCERS	SR64	GRY	IVE
1 EA	CARD READER	BY OWNER VENDOR	--	--
1 EA	POWER SUPPLY	BY OWNER VENDOR	--	--
HARDWARE GROUP: 3.01 - PRIVACY SET				
NOTES:				
3 EA	HINGE	5BB1 4.5 x 4.5	619	IVE
1 EA	PRIVACY LOCK SET	10U65-L-L*	619	SAR
1 EA	CLOSER	4041R	619	LCN
1 EA	WALL STOP	WS407 CCV	619	IVE
3 EA	DOOR SILENCERS	SR64	GRY	IVE
HARDWARE GROUP: 4.01 - PASSAGE SET				
NOTES:				
3 EA	HINGES	5BB1 4.5X4.5	619	IVE
1 EA	PASSAGE SET	10G13-L-L	619	SAR
1 EA	CLOSER W/ HOLD OPEN	4041HO	619	LCN
3 EA	DOOR SILENCERS	SR64	GRY	IVE
HARDWARE GROUP: 7.01 - ENTRY/EGRESS SET				**20 MIN.**
NOTES: 90 MIN. FIRE RATED DOOR AND FRAME				
2 EA	S.C. CONT. GEARED HINGE	210HD	619	IVE
2 EA	EXIT DEVICE	QEL9827-TL-06-F-LBR	619	VON
1 EA	AUTO FLUSH BOLT	FB51T	619	IVE
1 EA	CLOSER 48" LEAF	4041R	619	LCN
1 EA	CLOSER 12" LEAF	4041R	619	LCN
1 EA	COORDINATOR	COR42	619	IVE
1SET	SMOKE GASKET	505B	BLK	PEM
1 EA	ASTRAGAL	375CR	619	PEM
1 EA	AUTO OPENER	BESAM SW200I-2	619	BES
1 EA	POWER SUPPLY	BY OWNER VENDOR	--	--
3 EA	WAVE PLATE	MATCH STANDARD	--	--

GLAZING LEGEND

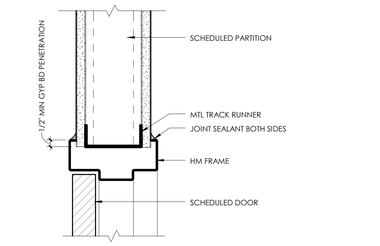
GL-1	TEMPERED FLOAT GLASS
GL-2	ELECTROCHROMIC GLAZING UNITS



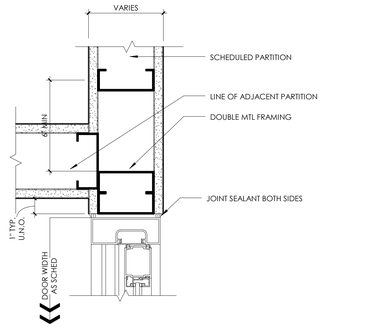
06 - HEAD DETAIL
3" = 1'-0" @ PREP/RECOVERY DOORS



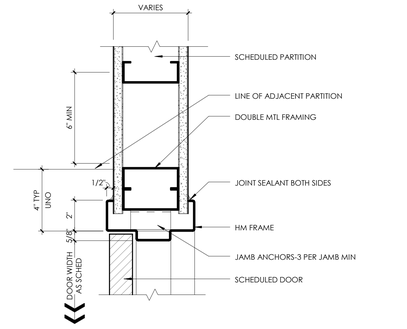
04 - HEAD DETAIL
3" = 1'-0" @ PAIR OF DOORS



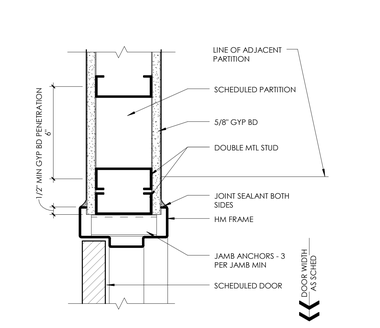
02 - HEAD DETAIL
3" = 1'-0" @ TYP RATED/ NON-RATED DOORS



05 - JAMB DETAIL
3" = 1'-0" @ PREP/RECOVERY DOORS



03 - JAMB DETAIL
3" = 1'-0" @ PAIR OF DOORS



01 - JAMB DETAIL
3" = 1'-0" @ TYP RATED/ NON-RATED DOOR

Structural plan review is limited to a general survey for code compliance. No review is implied nor was undertaken to verify structural adequacy.

RSN: *1131831*
Permit #: *16-1141686*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

path 21 architecture

2245 Curtis Street, Suite 100
Denver, CO 80205

Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com

www.path21arch.com

Project Team

MEP
CCRD Partners
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 214.521.1661

Structural
Structural Consultants Inc
3400 East Bayaud Ave., #300
Denver CO, 80209
ph: 303.399.5154

No.	Description	Date

STATE OF COLORADO
JOHN MENNO MAY
401729
LICENSED ARCHITECT
07/15/16

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	KL
Checked by	JMN

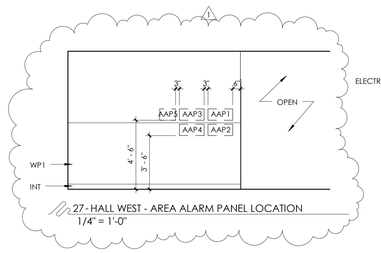
Sheet Title:
DOOR SCHEDULE, HARDWARE, & DETAILS

Sheet Number
A.541

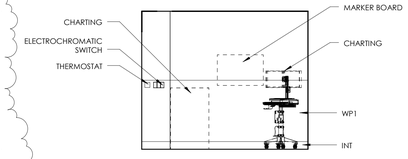
COPYRIGHT © 2015 path21 architecture

7/14/16 5:05:41 PM

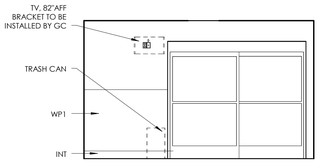
Structural plan review is limited to a general survey for code compliance. No review is implied nor was undertaken to verify structural adequacy.



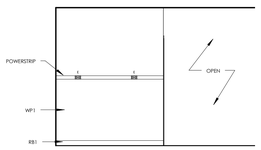
27 - HALL WEST - AREA ALARM PANEL LOCATION
1/4" = 1'-0"



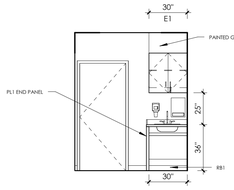
26 - RECOVERY ROOM 1C-5017A EAST
1/4" = 1'-0"



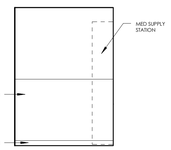
25 - RECOVERY ROOM 1C-5017A NORTH
1/4" = 1'-0"



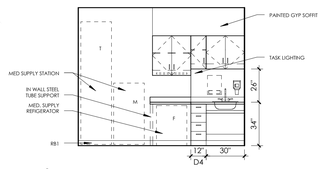
24 - EQUIPMENT ALCOVE
1/4" = 1'-0"



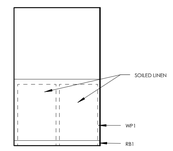
23 - HANDWASH STATION
1/4" = 1'-0"



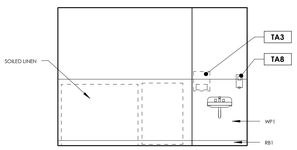
22 - MED SUPPLY SOUTH
1/4" = 1'-0"



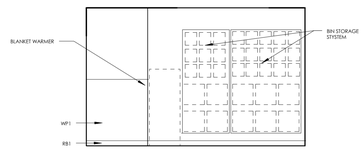
21 - MED SUPPLY WEST
1/4" = 1'-0"



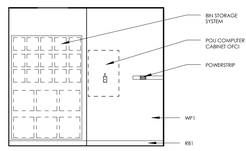
20 - SOILED UTILITY NORTH
1/4" = 1'-0"



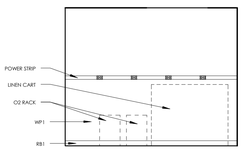
19 - SOIL UTILITY EAST
1/4" = 1'-0"



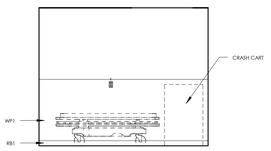
18 - CLEAN UTILTIY WEST
1/4" = 1'-0"



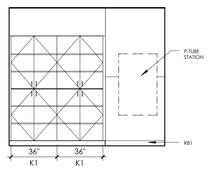
17 - CLEAN UTILITY NORTH
1/4" = 1'-0"



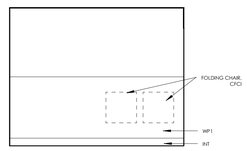
16 - CLEAN UTILITY EAST
1/4" = 1'-0"



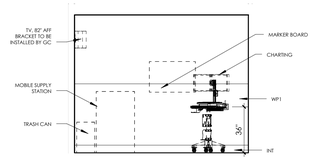
15 - ALCOVE
1/4" = 1'-0"



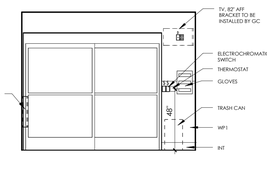
14 - P TUBE STATION
1/4" = 1'-0"



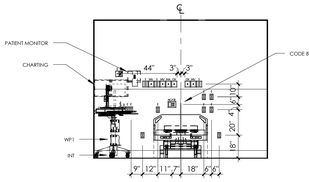
13 - RECOVERY ROOM WEST - TYPICAL
1/4" = 1'-0"



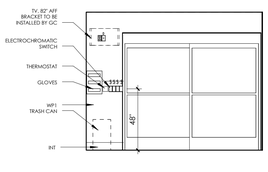
12 - RECOVERY ROOM EAST - TYPICAL
1/4" = 1'-0"



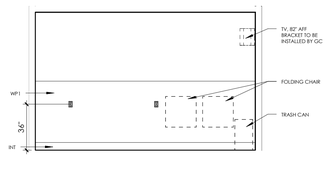
11 - RECOVERY ROOM FOOTWALL - TYPICAL
1/4" = 1'-0"



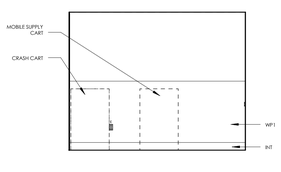
10 - RECOVERY ROOM HEADWALL - TYPICAL
1/4" = 1'-0"



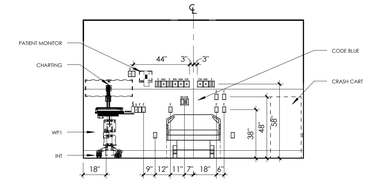
09 - RECOVERY ROOM SOUTH - LARGE
1/4" = 1'-0"



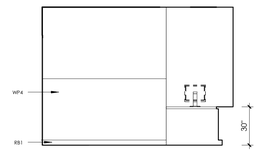
08 - RECOVERY ROOM FOOTWALL - LARGE
1/4" = 1'-0"



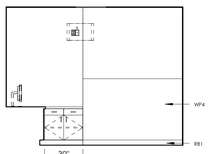
07 - RECOVERY ROOM NORTH - LARGE
1/4" = 1'-0"



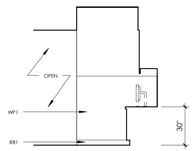
06 - RECOVERY ROOM HEADWALL - LARGE
1/4" = 1'-0"



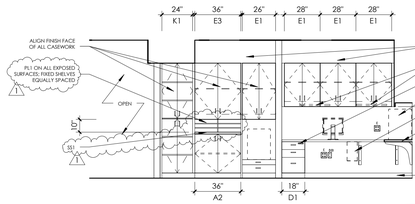
05 - CONSULT - WEST
1/4" = 1'-0"



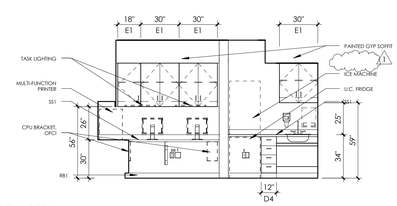
04 - CONSULT - NORTH
1/4" = 1'-0"



03 - NURSE STATION WEST
1/4" = 1'-0"



02 - NURSE STATION - NORTH
1/4" = 1'-0"



01 - NURSE STATION - EAST
1/4" = 1'-0"

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: Erick B.
Date: Jul 29, 2016
2015 INTERNATIONAL CODES & 2014 NEC

RSN: 1131831
Permit #: 16-1141686

path 21 architecture

2245 Curtis Street, Suite 100
Denver, CO 80205

Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com

www.path21arch.com

Project Team

MEP
CCRD Partners
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 214.521.1661

Structural
Structural Consultants Inc
3400 East Bayaud Ave., #300
Denver CO, 80209
ph: 303.399.5154

No.	Description	Date
1	ADD 01	08/05/16

STATE OF COLORADO
JOHN MENNO MAP
401729
LICENSED ARCHITECT
08/05/16

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	LS
Checked by	JMN

Sheet Title:

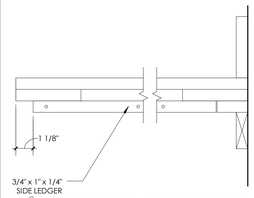
INTERIOR ELEVATIONS

Sheet Number

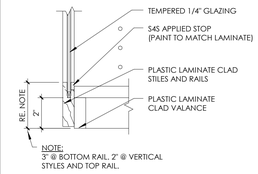
A.561

8/8/16 12:03:56 PM

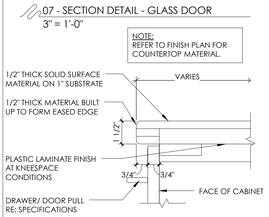
CONTRACT & SPECIFICATIONS INFORMATION



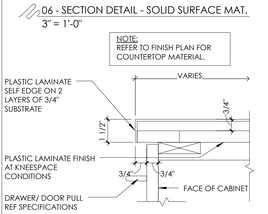
08 - SECTION DETAIL - LEDGER AT COUNTER
3" = 1'-0"



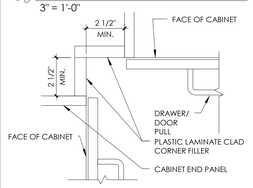
07 - SECTION DETAIL - GLASS DOOR
3" = 1'-0"



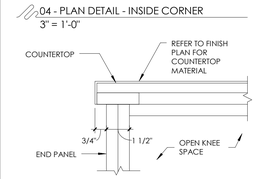
06 - SECTION DETAIL - SOLID SURFACE MAT.
3" = 1'-0"



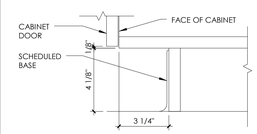
05 - SECTION DETAIL - PLASTIC LAMINATE
3" = 1'-0"



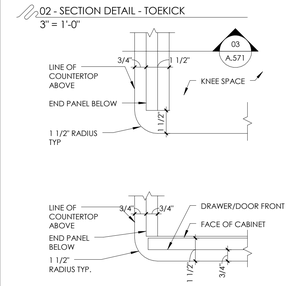
04 - PLAN DETAIL - INSIDE CORNER
3" = 1'-0"



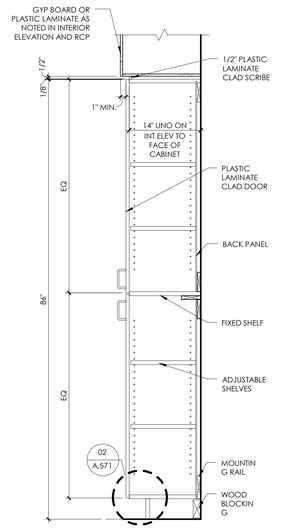
03 - SECTION DETAIL - FINISHED END PANEL
3" = 1'-0"



02 - SECTION DETAIL - TOEKICK
3" = 1'-0"



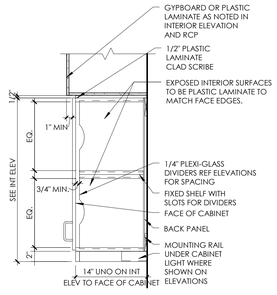
01 - PLAN DETAIL COUNTER TOP CORNER
3" = 1'-0"



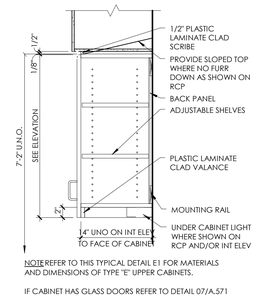
NOTE REFER TO THIS TYPICAL DETAIL K1 FOR MATERIALS, DIMENSIONS AND DETAIL ENLARGEMENTS OF TYPE "K" FULL HEIGHT CABINETS.

IF CABINET HAS GLASS DOORS REFER TO DETAIL 07/A.571.

K1 - FULL HEIGHT CABINET
1" = 1'-0" WITH DOORS



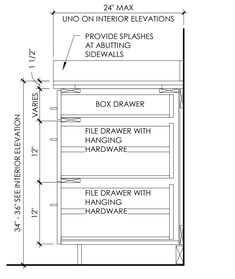
E3 - UPPER CABINET
1" = 1'-0" ALL DIVIDERS



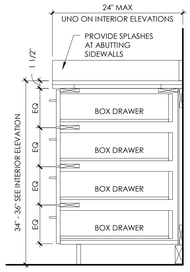
NOTE REFER TO THIS TYPICAL DETAIL E1 FOR MATERIALS AND DIMENSIONS OF TYPE "E" UPPER CABINETS.

IF CABINET HAS GLASS DOORS REFER TO DETAIL 07/A.571

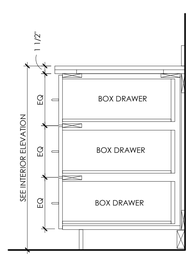
E1 - UPPER CABINET
1" = 1'-0" WITH DOORS



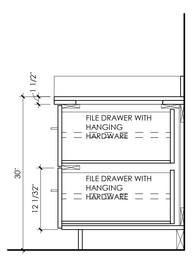
D6 - BASE CABINET
1" = 1'-0" 1 BOX, 2 FILE DRAWERS



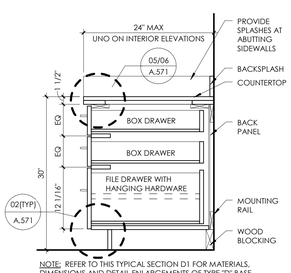
D4 - BASE CABINET
1" = 1'-0" 4 BOX DRAWERS



D3 - BASE CABINET
1" = 1'-0" 3 BOX DRAWERS

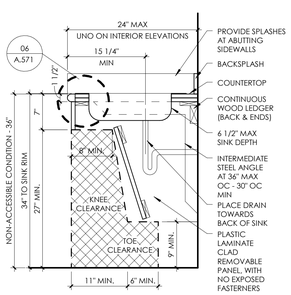


D2 - BASE CABINET
1" = 1'-0" 2 FILE DRAWERS

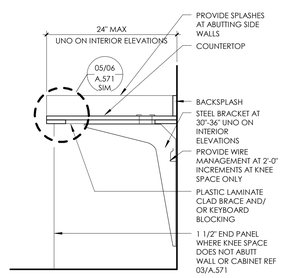


NOTE: REFER TO THIS TYPICAL SECTION D1 FOR MATERIALS, DIMENSIONS AND DETAIL ENLARGEMENTS OF TYPE "D" BASE CABINETS. REFER TO INTERIOR FINISH PLAN FOR COUNTERTOP MATERIAL. REF 05/A.571 IF PLASTIC LAMINATE, 06/A.571 IF SIM.

D1 - BASE CABINET
1" = 1'-0" 2 BOX, 1 FILE DRAWER

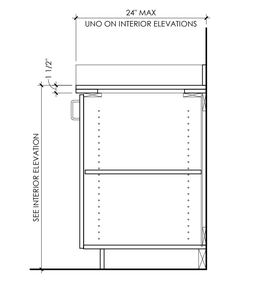


C2 - ACCESSIBLE SINK
1" = 1'-0"

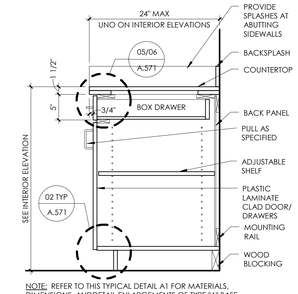


NOTE: PROVIDE APRON AND FILLER PANELS, AT UNDER COUNTER EQUIPMENT LOCATIONS. REF INTERIOR ELEVATIONS FOR LOCATIONS. REF TO INTERIOR FINISH PLAN FOR COUNTERTOP MATERIAL. IF PLASTIC LAMINATE COUNTERTOP REF 05/A.571, IF SSM REF 06/ A.571.

B1 - KNEE SPACE W/O DRAWER
1" = 1'-0" KNEE SPACE OR U/C EQUIPMENT CONDITION



A2 - BASE CABINET
1" = 1'-0" WITH DOOR



NOTE: REFER TO THIS TYPICAL DETAIL A1 FOR MATERIALS, DIMENSIONS, ANDDETAIL ENLARGEMENTS OF TYPE "A" BASE CABINETS. REFER TO INTERIOR FINISH PLAN FOR COUNTERTOP MATERIAL. IF PLASTIC LAMINATE RE: 05/A.571, IF SSM RE: 06/A.571

A1 - KNEE SPACE W/DRAWER
1" = 1'-0" W/ DOOR & 1 DRAWER

Structural plan review is limited to a general survey for code compliance. No review is implied nor was undertaken to verify structural adequacy.

ARCHITECTURAL CASEWORK GENERAL NOTES

ALL CASEWORK:

1. ALL SECTION DETAILS ON THIS SHEET MAY NOT APPLY TO THIS PROJECT.
2. ARCHITECTURAL WOODWORK TYPES, WIDTHS, AND HEIGHTS ARE INDICATED ON THE A.560 SERIES SHEETS.
3. FIELD VERIFY EXISTING DIMENSIONS PRIOR TO FABRICATION. NOTIFY ARCHITECT OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO FABRICATION.
4. VERIFY AND COORDINATE CLEAR DIMENSIONS REQUIRED FOR OWNER-FURNISHED EQUIPMENT LOCATED WITHIN OR ADJACENT TO ANY CABINETS.
5. COORDINATE INSTALLATION OF SINKS WITH ASSOCIATED PIPING AND FITTINGS PLUS WITH INSTALLATION OF ACCESSIBLE COVER PANELS.
6. REQUIRED SCRIBES AND FILLER PIECES SHALL BE INSTALLED TO ALLOW PROPER OPERATION OF DRAWERS/DOORS. THEY SHALL BE EVENLY DISTRIBUTED AND OF EQUAL WIDTH ALONG A SINGLE RUN OF CABINETS. THEY SHALL BE 3" WIDE, MAXIMUM EXCEPT INSIDE CORNER FILLERS SHALL BE 2 1/2" WIDE MINIMUM. REF TO TYP. CASEWORK DETAILS ON SHEET A.571, INSIDE CORNER DETAIL.
7. WHERE BASE CABINETS INTERSECT AT INSIDE CORNER CONDITION PROVIDE WALL MOUNTED LEDGERS TO SUPPORT COUNTERTOP AT CORNERS. WHERE UPPER CABINETS INTERSECT AT INSIDE CORNER CONDITIONS PROVIDE HORIZONTAL FILLER PANEL FLUSH WITH BOTTOM OF CABINETS.
8. PROVIDE PLASTIC SCREW COVERS TO CONCEAL SCREW HEADS AT ALL SEMI-EXPOSED CABINET SURFACES. ALL EXPOSED SCREWS SHALL BE COUNTERSUNK.
9. CORE MATERIAL FOR SHELVING GREATER THAN 30" WIDE SHALL BE 1" THICK.
10. REFERENCE TOILET ACCESSORY LEGEND AND MOUNTING HEIGHTS IN A.500 SERIES.
11. PROVIDE KEYBOARD TRAYS & CPU HOLDERS AT ALL COMPUTER WORK STATION LOCATIONS UNLESS NOTED OTHERWISE.
12. PROVIDE FILLER PANELS AS NEEDED BETWEEN BUILT-IN APPLIANCES AND ADJACENT CABINETS OR WALLS.
13. ALL VERTICAL JOINTS BETWEEN CABINETS SHALL BE BUTT JOINTS. THEY SHALL LOOK "SEAMLESS" AND BE COVERED IN PLASTIC LAMINATE.
14. ALL EXPOSED SURFACES ON CABINETS WITHOUT DOORS SHALL BE CLAD IN PLASTIC LAMINATE UNO. NO EXPOSED MELAMINE UNO ON INTERIOR ELEVATIONS.

BASE CABINETS:

1. PROVIDE PLASTIC LAMINATE CLADDING ON ALL SURFACES OF BUILT IN DESKS AT KNEE SPACES AND EXPOSED ENDS OF DESK UNLESS NOTED OTHERWISE ON INTERIOR ELEVATIONS.
2. PROVIDE SCHEDULED BASE ALONG BOTTOM OF EXPOSED FRONTS, BACKS, SIDES, AND ENDS OF ALL FIXED CABINETS, PEDESTALS, VERTICAL SUPPORT PANELS, AND KNEE SPACES, ETC UNLESS NOTED OTHERWISE ON THE INTERIOR ELEVATIONS.
3. ALL DRAWER LENGTHS SHALL BE 20" UNLESS NOTED OTHERWISE. ALL DRAWERS GREATER THAN 30" WIDE SHALL HAVE TWO PULLS.
4. ALL HORIZONTAL AND VERTICAL REVEALS SHALL BE 1/8".
5. ALL TOEKICK SPACES SHALL BE 4 1/8" TALL X 3 1/4" DEEP UNLESS NOTED OTHERWISE. REF TO TYP CASEWORK DETAILS ON SHEET A.571.

COUNTERTOPS:

1. ALL COUNTERTOPS ARE TO BE 24" DEEP UNO ON INTERIOR ELEVATIONS.
2. ALL OUTSIDE COUNTERTOP CORNERS TO BE 1 1/2" RADIUS (IN PLAN) UNLESS NOTED OTHERWISE REF TO TYP. CASEWORK DETAILS ON SHEET A.571, COUNTERTOP CORNER DETAIL.
3. PROVIDE WALL MOUNTED BRACKETS (FIELD PAINTED) FOR SUPPORT OF COUNTERTOPS AT KNEE SPACES. COUNTERTOPS SHALL BE SUPPORTED 30" MINIMUM - 36" MAXIMUM OC COORDINATE LOCATION WITH KEYBOARD TRAYS AND CPU HOLDERS. REF. INTERIOR ELEVATIONS FOR LOCATIONS OF COUNTERTOP BRACKETS.
4. LOCATE GROMMETS AT BACK OF COUNTERTOPS EVERY 36" OC WITH A MINIMUM OF 1 PER KNEE SPACE UNLESS NOTED OTHERWISE ON THE EQUIPMENT PLAN. COORDIANTE FINAL GROMMET LOCATIONS WITH OWNER. EXCEPTION: DO NOT PROVIDE GROMMETS AT ACCESSIBLE PORTION OF COUNTER, AS INDICATED ON THE EQUIPMENT PLANS.
5. REFER TO INTERIOR ELEVATIONS AND FINISH LEGEND FOR COUNTERTOP MATERIAL. ALL COUNTERTOPS AT SINKS TO BE SOLID SURFACE MATERIAL UNLESS NOTED OTHERWISE ON INTERIOR ELEVATIONS. REF TO TYP. CASEWORK DETAILS ON SHEET A.571 FOR SOLID SURFACE MATERIAL COUNTERTOP EDGE DETAIL AND FOR PLASTIC LAMINATE COUNTEROP EDGE DETAIL.
6. ALL BACK AND SIDE SPLASHES SHALL BE 4" TALL X 3/4" THICK IF PLASTIC LAMINATE. 1/2" THICK IF SOLID SURFACE MATERIAL UNO ON THE INTERIOR ELEVATIONS. ALL SPLASHES SHALL BE SCRIBED TO CONFORM TO THE SURFACE OF ABUTTING WALLS. ALL SPLASHES SHALL BE SEALED TO THE WALL WITH CLEAR SILICONE SEALANT. IF SOLID SURFACE, PROVIDE SPLASHES ON ALL REAR AND SIDE WALLS AT BASE CABINETS.

UPPER CABINETS:

1. TOP OF UPPER AND FULL HEIGHT CABINETS SHALL BE 7'-2" AFF UNLESS NOTED OTHERWISE ON INTERIOR ELEVATIONS. REF A.560 SERIES SHEETS.
2. REFERENCE SERIES A.220 AND A.560 FOR FURDOWN LOCATIONS. WALL CABINETS WITHOUT A FURR DOWN ABOVE SHALL RECEIVE A CONTINUOUS 6" HIGH SLOPED PANEL, FINISHED TO MATCH CABINETS UNLESS NOTED OTHERWISE.
3. WALL MOUNTED UPPER CABINETS SHALL INCLUDE ADJUSTABLE SHELVES UNLESS NOTED OTHERWISE.

CABINET HEIGHT	NUMBER OF SHELVES
UP TO 24"	1
25" THROUGH 42"	2
43" THROUGH 48"	3

4. TOPS AND BOTTOMS OF WALL HUNG CABINETS SHALL BE 3/4" THICK WITH PLASTIC LAMINATE ON ALL EXPOSED SURFACES.
5. BACKS OF WALL HUNG CABINETS SHALL BE 1/4" THICK UNLESS NOTED OTHERWISE. BACKS OF BASE CABINETS SHALL BE 1/4" THICK UNLESS NOTED OTHERWISE.

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Project Team

MEP
CCRD Partners
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 214.521.1661

Structural
Structural Consultants Inc
3400 East Bayaud Ave., #300
Denver CO, 80209
ph: 303.399.5154

No.	Description	Date

STATE OF COLORADO JOHN MENNO MAP 401729 LICENSED ARCHITECT 07/15/16

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	LS
Checked by	JMN

Sheet Title:
TYPICAL CASEWORK SECTIONS & DETAILS

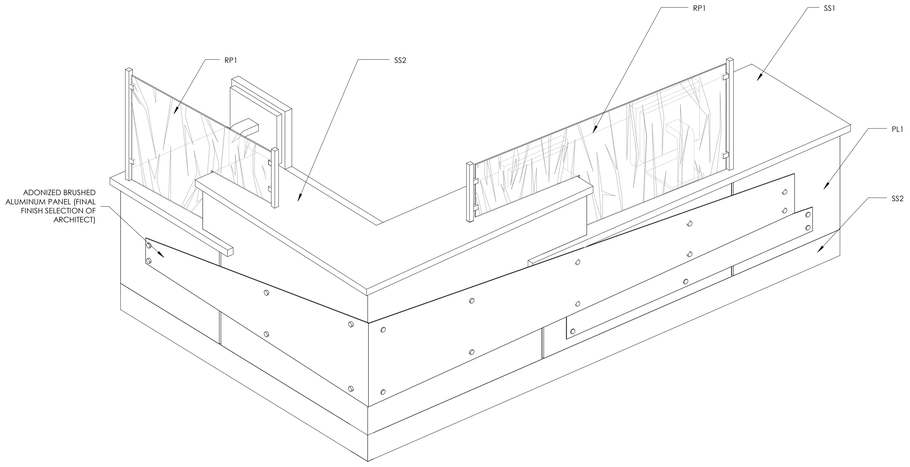
Sheet Number
A.571

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

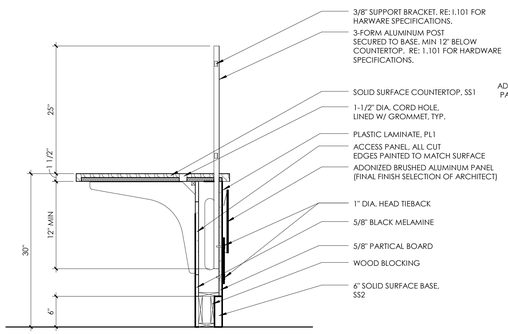
RSN: *1131831*
Permit #: *16-1141686*

CONTRACT & DOCUMENTS OWNERSHIP

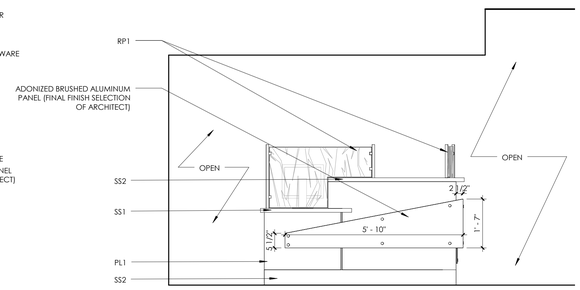
7/14/16 8:05:51 PM



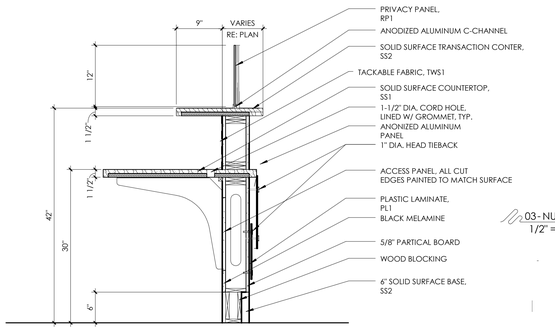
02 - NURSING STATION - AXONOMETRIC VIEW



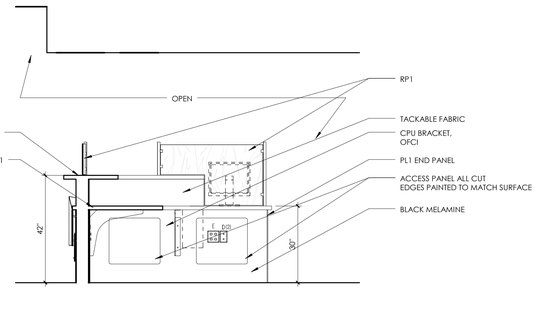
9 - NURSING STATION - SECTION 3
1" = 1'-0"



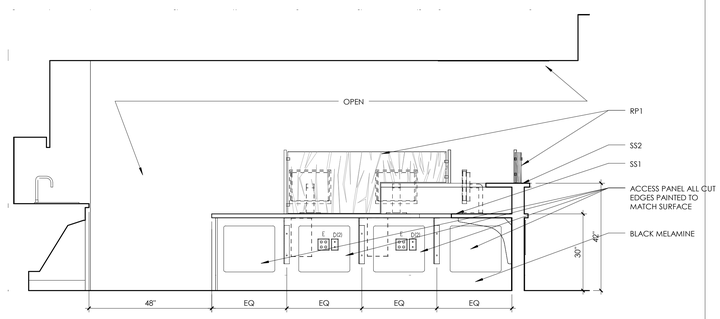
04 - NURSING STATION EXTERIOR - WEST
1/2" = 1'-0"



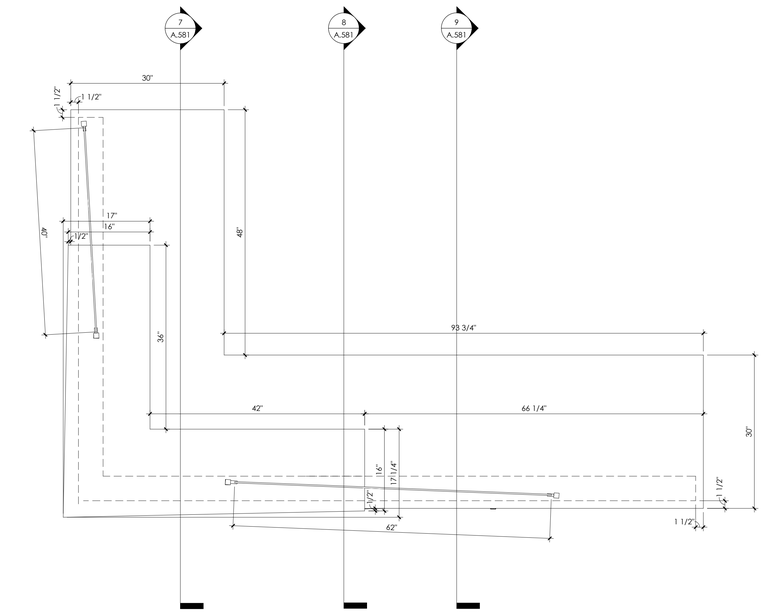
8 - NURSING STATION - SECTION 2
1" = 1'-0"



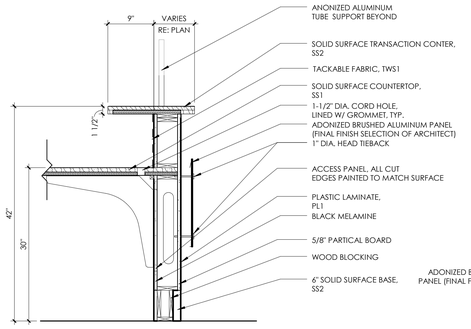
03 - NURSE STATION WEST - 2
1/2" = 1'-0"



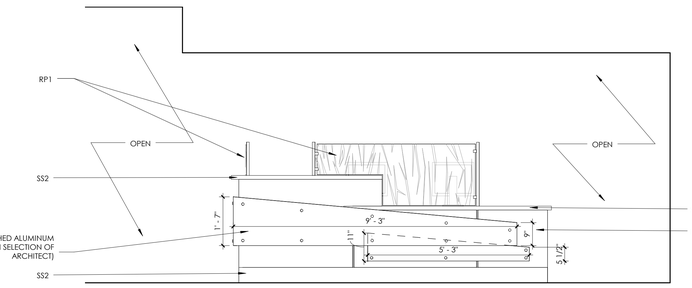
05 - NURSE STATION SOUTH
1/2" = 1'-0"



01 - FLOOR PLAN - ENLARGED NURSING STATION
1" = 1'-0"



7 - NURSING STATION - SECTION 1
1" = 1'-0"



06 - NURSING STATION EXTERIOR - SOUTH
1/2" = 1'-0"

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC
RSN: *1131831*
Permit #: *16-1141686*

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Project Team

MEP
CCRD Partners
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 214.521.1661

Structural
Structural Consultants Inc
3400 East Bayaud Ave., #300
Denver CO, 80209
ph: 303.399.5154

No.	Description	Date

STATE OF COLORADO
JOHN MENNO MAE
401729
LICENSED ARCHITECT
07/15/16

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

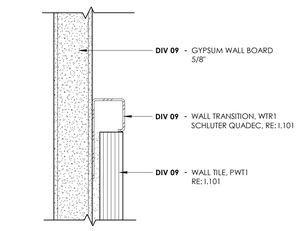
Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	KL
Checked by	JMN

Sheet Title:
CUSTOM CASEWORK SECTIONS & DETAILS

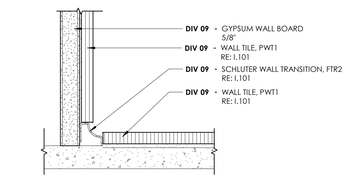
Sheet Number
A.581

CONTRACT & DESIGNED BY PATH21 ARCHITECTURE

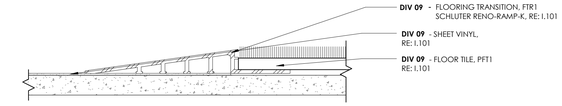
7/14/16 3:05:06 PM



2 - FT2 - WOOD TO RESILIENT FLOOR
12" = 1'-0"



3 - FT2 - WOOD TO RESILIENT FLOOR1
6" = 1'-0"



01 - FTR1 - TILE TO SHEET VINYL TRANSITION
12" = 1'-0"

FINISH LEGEND

FLOORING

VCT1
Manuf: Mannington
Style: Progressions
Color: Almond Bluff #167
Size: 12" x 12" x 0.125" thick
Contact: Gail Montressor @ 303-945-1843

VCT2
Manuf: Mannington
Style: Progressions
Color: Frosted Jade #55255
Size: 12" x 12" x 0.125" thick
Contact: Gail Montressor @ 303-945-1843

SV1
Manuf: Mannington
Style: Biospec
Color: Cool Beige #15240
Size: 6' x 30-68 sq. yards x 0.08" thick
Contact: Gail Montressor @ 303-945-1843

SV2
Manuf: Mannington
Style: Biospec
Color: Brownstone #15385
Size: 6' x 30-68 sq. yards x 0.08" thick
Contact: Gail Montressor @ 303-945-1843

SV3
Manuf: Mannington
Style: Biospec
Color: Deep Fern #15399
Size: 6' x 30-68 sq. yards x 0.08" thick
Contact: Gail Montressor @ 303-945-1843

SV4
Manuf: Mannington
Style: Biospec
Color: Hot Sauce #15392
Size: 6' x 30-68 sq. yards x 0.08" thick
Contact: Gail Montressor @ 303-945-1843

PFT1
Manuf: Dalite
Style: Parkway
Color: Beige PK96
Size: 12" x 12" x 3/8" Thick
Grout Joint Size: 3/16"

FTR1 - Sheet Vinyl to Tile (at Tlt. door)
Manuf: Schluter Systems
Style: Reno Ramp-K
Size: 3/8" H x 2 1/2" L
Color: Satin anodized aluminum (AE)

FTR2 - Floor tile to wall tile
Manuf: Schluter Systems
Style: Dilex - HKU
Size: 3/8" radius
Color: Brushed stainless steel 304

BASE

INT
6" H Integral Base

RB1
Manuf: Johnsonite
Style: 4" h Traditional Cove Base x 120' roll
Color: #49 Beige
NOTE: Miter inside corners. Do not use premolded outside corners

WALLS

P1
Manuf: Sherwin Williams
Color: Kilim Beige # SW6106
Finish: Eggshell

P2
Manuf: Sherwin Williams
Color: Nomadic Desert # SW6107
Finish: Eggshell

P3
Manuf: Sherwin Williams
Color: At Ease Soldier # SW9127
Finish: Eggshell

P4
Manuf: Sherwin Williams
Color: Divine White # SW6105
Finish: Eggshell

FURNITURE

FOLDAWAY WALL CHAIR
Manuf: Store More Store
Model: SMS-38-BF-JUWW01-B
Chair Finish: Walnut
Fabric: Beeline - Portobello
Size: 19.75"W X 4'D X 38" H

CEILING

ACT1
Manuf: Armstrong
Tile Style: Dune Second Look
Tile Model: #2712
Tile Size: 24" x 48" x 5/8"
Tile Color: White
Grid Style: 15/16" Prelude
Grid Color: White
*NOTE: Refer to A.220 series for size location

ACT2
Manuf: Armstrong
Tile Style: Optima Healthzone
Tile Model: #3114
Tile Size: 24" x 24" x 1"
Tile Color: White
Grid Style: 15/16" Square Lay-in
Grid Color: White
*NOTE: Refer to A.220 series for size location

GYP
Gypsum Board ceiling, painted as noted on finish plan

MILLWORK

PL1
Manuf: Wilsonart
Color: Shaker Cherry #7935K-07
Finish: Textured Gloss

SS1
Manuf: DuPont Corian
Collection: Private Collection
Color: Tumbleweed
Size: 1-1/2" Thick
Price Group: D
Edge Detail: Eased Edge

SS2
Manuf: Dupont Corian
Collection: Terra
Color: Pine
Size: 1-1/2" Thick
Price Group: C
Edge Detail: Eased Edge

RP1
Manuf: 3-Form
Style: Branch Etch, Scale D, Inverse, 1/4" Tempered
Color: Glass
Finish: Clear Float
Hardware
Manuf: 3-Form
Style: Versa
Finish: Satin Anodized
Post: Bar, 50mm X 36mm
Backet: 3/8" Side Bracket, 3-15-0787-K

WALL PROTECTION

WP1 Sheet
Manuf: Inpro Corp.
Style: Rigid Sheet
Size: 4' x 10' x 0.060" Thick
Color: Chamois
*Include manuf trim pieces as required.

WP2 Single Corner Guard
Manuf:
Style:
Size: (1) 2 x 2 x refer to detail height
Color:

WP3 Double Corner Guard
Manuf:
Style:
Size: (2) 2 x 2 x refer to detail height
Color:

WALL TILE

PWT1
Manuf: Dalite
Style: Parkway
Color: Beige PK96
Size: 9" x 12" x 3/8" Thick
Grout Joint Size: 3/16"

PWT2
Manuf: Dalite
Style: Cilo Mosaics
Color: Hera CL1
Size: 12" x 12" x 3/8" Thick

WTR1 - Wall tile to gyp board transition
Manuf: Schluter Systems
Style: Quadec
Size: 3/8" H
Color Satin anodized aluminum (AE)

MISC.
TW01 Tackable Fabric
Class A Homosote Panels wrapped in:
Manuf: National Office Furniture
Style: Repetition
Color: Tawny

(ME) Match Existing

(E) Existing to Remain

GENERAL NOTES

FLOOR FINISH:
A. ALL FLOOR TRANSITIONS ARE TO OCCUR AT THE CENTERLINE OF DOOR WHEN DOOR IS IN CLOSED POSITION.

B. REFER TO I.101 SERIES FOR TRANSITION AND THRESHOLD DETAILS.

C. REFER TO INTERIOR FLOOR FINISH PLANS FOR ALL FLOOR PATTERNS.

D. INSTALL ALL LUXURY VINYL TILE IN ONE DIRECTION ONLY, TO MATCH THROUGHOUT, UNLESS NOTED OTHERWISE.

WALL BASE:
A. ALL RUBBER BASE SHALL BE SEALED TIGHT TO FINISHED FLOOR.

WALL FINISH:
A. WALL TEXTURE SHALL MATCH FACILITY STANDARD, UNLESS NOTED OTHERWISE.

B. PAINT ALL WALLS LATEX EGGSHELL, UNLESS NOTED OTHERWISE. SEE FINISH LEGEND FOR DEFINITION.

C. PAINT ALL ELECTRICAL AND ACCESS WALL PANELS TO MATCH ADJACENT WALL FINISH.

CEILING FINISH:
A. FURR-DOWN FINISH: VERTICAL AND HORIZONTAL SURFACES OF FURR-DOWN TO MATCH ADJACENT WALLS, UNLESS NOTED OTHERWISE.

B. REFER TO REFLECTED CEILING PLAN FOR ALL CEILING HEIGHTS.

C. PAINT ALL GYP. BD. CEILINGS LATEX EGGSHELL, UNLESS NOTED OTHERWISE. SEE FINISH LEGEND FOR DEFINITION.

D. PAINT ALL ACCESS PANELS IN CEILING TO MATCH ADJACENT CEILING FINISH.

E. PAINT ALL SIDES OF SOFFIT FOR GYP. CEILING ABOVE COLOR LISTED ON REFLECTED CEILING PLAN.

F. ALL CEILING GRID WALL ANGLES TO BE SEALED AT WALL WHERE PAINT OCCURS.

DOORS/WINDOWS:
A. NEW DOORS TO BE WOOD LOOK ACROVYN CLAD TO MATCH EXISTING DOOR FINISH IN SURROUDNING AREAS WHICH IS A COLOR MATCH TO WILSONART 7935-07 SHAKER CHERRY, RE: SPECIFICATIONS FOR MORE DETAIL (ALTERNATE #1 NEW DOORS TO BE WOOD VENEER TO MATCH EXISTING DOOR FINISH IN THE SURROUDNING AREA, EXISTING DOORS ARE WOOD VENEER DOORS STAINED TO MATCH WILSONART 7935-07 SHAKER CHERRY)

B. EXISTING WOOD DOORS TO BE RESURFACED AND DAMAGED LAMINATE DOORS TO BE REPAIRED. SLABS ARE TO BE TAKEN OFF SITE FOR THIS SCOPE OF WORK AND NOT REFINISHED IN PLACE.

C. INTERIOR HOLLOW METAL DOOR & FRAME, AND INTERIOR SURFACE OF EXTERIOR HOLLOW METAL DOOR & FRAME TO BE PAINTED TO MATCH FACILITY STANDARD, UNLESS NOTED OTHERWISE.

ACCESSORIES:
A. REFER TO EQUIPMENT PLAN AND DETAILS FOR WALL PROTECTION (WP) LOCATIONS. REFER TO INTERIOR FINISH LEGEND FOR SPECIFIC PROFILES AND COLORS.

B. PROVIDE AND INSTALL ADA COMPLAINT SIGNAGE, AS REQUIRED BY CODE FOR ALL ADA TOILET ROOMS, STAIR LEVELS AND SERVICE ROOMS.

C. PROVIDE PAPER TOWEL DISPENSER AT ALL SINK LOCATIONS.

This sheet of drawings has not been reviewed for code compliance.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Project Team

MEP
CCRD Partners
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 214.521.1661

Structural
Structural Consultants Inc
3400 East Bayaud Ave., #300
Denver CO, 80209
ph: 303.399.5154

No.	Description	Date

STATE OF COLORADO
JOHN MENNO MAES
401729
LICENSED ARCHITECT
07/15/16

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

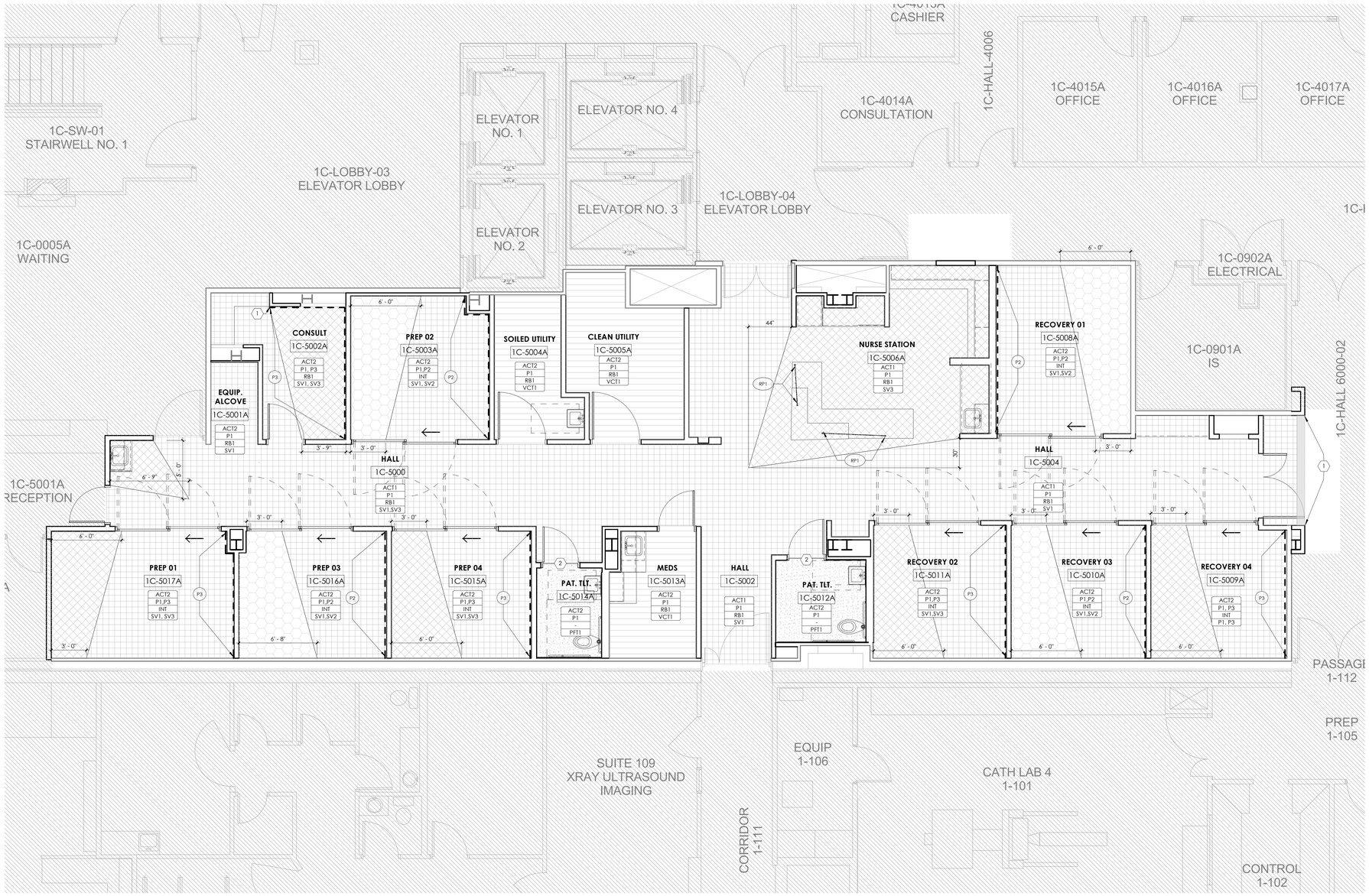
Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	KL/LU
Checked by	JMN

Sheet Title:
FINISH LEGEND

Sheet Number
I.101

CONTRACT © 2012 path 21 architecture

7/14/16 5:08:08 PM



01 - FINISH PLAN - LEVEL 01 - PREP RECOVERY
1/4" = 1'-0"

FINISH PLAN GENERAL NOTES

1. REFER TO INTERIOR FINISH LEGEND I.101 FOR FINISH MANUFACTURER AND COLOR INFORMATION.
2. REFER TO A.531 SERIES FOR FLOOR TRANSITION DETAILS.
3. REFER TO A.220 SERIES REFLECTED CEILING PLANS FOR LOCATION OF CEILING FINISHES AND CEILING HEIGHTS.

FINISH PLAN LEGEND

ROOM FINISH TAG (REFERENCE I.101 SHEET)

ACT	CEILING FINISH
P	WALL FINISH
RB	WALL BASE FINISH
SV	FLOOR FINISH

* DENOTES MULTIPLE FINISHES, PLEASE REFER TO ENLARGED PLANS, DETAILS AND/OR ELEVATIONS FOR MORE INFORMATION.

1 — KEYNOTE

NOT IN SCOPE OF WORK

P4 — PAINT ACCENT

CPT — FINISH TAG

FINISH PATTERN LEGEND

FLOOR FINISH

- SV1
- SV2
- SV3
- SV4
- VCT1
- PFT1

FINISH PATTERN LEGEND

1. ALIGN FLOORING INTERSECTION WITH FACE OF FINISH WALL.
2. SCHLUTER RENO-RAMP-K TRANSTION AT SHEET VINYL TO TILE TRANSITION. RE: I.101 FOR DETAILS.

This sheet of drawings has not been reviewed for code compliance.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Project Team

MEP
CCRD Partners
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 214.521.1661

Structural
Structural Consultants Inc
3400 East Bayaud Ave., #300
Denver CO, 80209
ph: 303.399.5154

No.	Description	Date

STATE OF COLORADO
JOHN MENNO HAM
401729
LICENSED ARCHITECT
07/15/16

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	KL
Checked by	JMN

Sheet Title:
FINISH PLANS

Sheet Number
I.201

CONTRACT & SPECIFICATIONS DOCUMENTS

7/14/16 5:08:06 PM

GENERAL NOTES - ALL HVAC SHEETS:

A. ANY DISCREPANCY THAT PREVENTS THE CONTRACTOR FROM MEETING THE DESIGN INTENT OF THE DRAWINGS SHALL BE DOCUMENTED ON THE PROJECT RECORD DOCUMENTS AND BE REPORTED TO THE ARCHITECT/ENGINEER IMMEDIATELY.

B. ALL DEVIATIONS FROM SCHEDULED EQUIPMENT THAT RESULTS IN ADDITIONAL COST DUE TO LACK OF COORDINATION WITH DIMENSIONS, WEIGHTS, AND CONNECTION POINTS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

C. CONTRACTOR SHALL VISIT JOBSITE AND VERIFY SIZE AND LOCATION OF ALL EXISTING ITEMS AND CONDITIONS. CONTRACTOR SHALL COORDINATE ALL WORK CLOSELY WITH EXISTING CONDITIONS AND WITH ALL OTHER TRADES.

D. ALL MECHANICAL, ELECTRICAL, AND PLUMBING WORK SHALL COMPLY WITH ALL APPLICABLE STATE AND LOCAL BUILDING CODES. REFER TO SPECIFICATIONS FOR MATERIALS AND METHODS FOR MECHANICAL AND PLUMBING CONSTRUCTION.

E. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, PAY ALL FEES, AND COMPLY WITH ALL NATIONAL, STATE, AND MUNICIPAL LAWS, CODES, AND ORDINANCES RELATING TO BUILDING AND PUBLIC SAFETY.

F. THE CONTRACTOR SHALL PREPARE A FULL SET OF COORDINATION DRAWINGS, SHOWING THE RELATIONSHIP OF ALL SYSTEMS TO BE INSTALLED. THESE DRAWINGS SHALL INDICATE SIZES, ELEVATIONS, AND EXACT LOCATIONS OF ALL STRUCTURAL, ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING SYSTEMS. THESE DRAWINGS SHALL BE COMPLETED PRIOR TO BEGINNING ANY WORK AND SUBMITTED TO THE ARCHITECT/ENGINEER FOR REVIEW. CONTRACTOR SHALL NOTE ANY ITEMS THAT PREVENT HIM FROM MEETING THE DESIGN INTENT OF THE CONSTRUCTION DOCUMENTS ON THESE DRAWINGS.

G. CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, AND LABOR REQUIRED FOR A COMPLETE WORKING AND COORDINATED SYSTEM.

H. COORDINATE THE EXACT LOCATION OF MECHANICAL AND PLUMBING EQUIPMENT AND DEVICES WITH THE LOCATIONS OF LIGHT FIXTURES, PIPING, CONDUIT, AND OTHER CONSTRUCTION, TO ALLOW FOR PROPER ACCESS TO SERVICE EQUIPMENT.

I. COORDINATE THE LOCATION OF DUCTWORK AND PIPING WITH ALL OTHER TRADES AND PROVIDE OFFSETS IN DUCTWORK AND PIPING AS REQUIRED.

J. IT IS THE INTENT OF THESE DOCUMENTS TO ALLOW ALL CEILING CONSTRUCTION AND HEIGHTS TO BE AS SHOWN ON THE ARCHITECTURAL DRAWINGS. COORDINATE THE LOCATION OF DUCTWORK AND PIPING AND PROVIDE OFFSETS IN DUCTWORK AND PIPING AS REQUIRED TO MEET THIS INTENT.

K. CONDUIT, PIPING, AND DUCTWORK SHALL BE INDEPENDENTLY SUPPORTED, AND EACH SUPPORT SHALL BE INDEPENDENT OF PARTITION AND CEILING SYSTEM SUPPORTS. WHERE INDEPENDENT SUPPORT IS NOT POSSIBLE AN ENGINEERED SUPPORT SYSTEM SHALL BE UTILIZED.

L. INSTALL ALL FLOOR MOUNTED EQUIPMENT ON PADS AS SPECIFIED. PAD BY GENERAL CONTRACTOR. COORDINATE REQUIREMENTS WITH GENERAL CONTRACTOR.

M. ALL WORK SHALL BE SCHEDULED AND PERFORMED IN STRICT COORDINATION WITH ARCHITECTURAL PHASING PLANS AND WITH BUILDING SCHEDULES, OCCUPANCIES, AND WORK.

N. PROTECT EQUIPMENT AND WORK FROM DAMAGE DURING HANDLING AND INSTALLATION UNTIL COMPLETION OF CONSTRUCTION.

O. REMOVE ALL EXCESS MATERIAL AND DEBRIS AND CLEAN ALL EQUIPMENT UPON COMPLETION OF WORK. TOUCH UP WITH PAINT WHERE REQUIRED.

P. CONTRACTOR SHALL COORDINATE ALL WORK CLOSELY WITH ALL OTHER TRADES.

Q. CLIENT/ARCHITECT SHALL HAVE FINAL APPROVAL OF ALL GRILLE, DIFFUSER, AND THERMOSTAT LOCATIONS.

R. COORDINATE ALL AIR DEVICE LOCATIONS AND MOUNTING FRAME STYLES WITH LIGHTING PLANS AND ARCHITECTURAL REFLECTED CEILING PLANS.

S. COORDINATE ALL WALL MOUNTED DEVICE LOCATIONS WITH ARCHITECTURAL INTERIOR ELEVATIONS.

T. PROVIDE ADDITIONAL VALVES, TAPS, TEMPORARY DUCTWORK, ETC. AS NECESSARY TO PROVIDE UNINTERRUPTED SERVICE TO AREAS OUTSIDE OF THE PHASE IN WHICH WORK IS BEING PERFORMED.

U. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF WALLS THAT EXTEND TO STRUCTURE. EACH HVAC DUCT OR PIPE PENETRATION THROUGH THESE WALLS SHALL BE INSTALLED AS SPECIFIED OR DETAILED. WHERE FLEXIBLE DUCT WOULD PENETRATE A WALL WHICH EXTENDS TO STRUCTURE, PROVIDE INSULATED RIGID DUCT EXTENDING 12" ON EITHER SIDE OF THE PARTITION.

V. ALL DEVIATIONS FROM SCHEDULED EQUIPMENT THAT RESULTS IN ADDITIONAL COST DUE TO LACK OF COORDINATION WITH DIMENSIONS, WEIGHTS, AND CONNECTION POINTS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

W. DUCT SIZES ARE NET FREE AREA.

X. PROVIDE ROUND DUCTS TO ALL AIR DEVICES UNLESS NOTED OTHERWISE. DUCT SIZE SHALL MATCH AIR DEVICE NECK SIZE OR THE TABLE IN AIR DEVICE SCHEDULE, WHICHEVER IS LARGER. FLEXIBLE DUCTS SHALL BE SIZED SIMILARLY. DO NOT USE FLEXIBLE DUCTS ABOVE NON-LAYIN CEILINGS.

Y. PROVIDE FRAMED O.5" BY 0.5" BIRD SCREEN (GALVANIZED STEEL ASSEMBLY) AT ALL DUCTS TERMINATING WITHOUT AN AIR DEVICE, AT INDOOR FACE OF LOUVERS, AND AT UNDUCTED AIR FLOW OPENINGS AT EQUIPMENT.

Z. PROVIDE MANUAL VOLUME DAMPER IN EACH AIR DEVICE RUNOUT DUCT AS FAR FROM AIR DEVICE AS POSSIBLE.

AA. INSTALL TURNING VANES IN ALL 90 DEGREE SQUARE ELLS IN SUPPLY, RETURN, AND EXHAUST DUCTS. (NONE ALLOWED IN COMBUSTION AIR DUCTS).

AB. MULTI-BLADE DAMPERS OF ANY TYPE INSTALLED WITHIN 36" OF AN ELL OR OTHER FITTING SHALL BE INSTALLED WITH THE DAMPER BLADE SHAFTS PARALLEL TO THE AIRSTREAM FLOW DIRECTION UPSTREAM OF THE FITTING.

AC. ALL FIRE AND COMBINATION FIRE/SMOKE DAMPERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION DETAILS AND BE U.L. TESTED AND LISTED.

AD. SLOPE & ARRANGE CONDENSATE PIPING TO ESTABLISH HIGH POINTS FOR AIR ELIMINATION AND LOW POINTS TO PERMIT PROPER DRAINING OF EACH LINE. PROVIDE MANUAL AIR VENTS AT HIGH POINTS AND DRAIN VALVES AT LOW POINTS.

AE. COORDINATE LOCATION OF ALL DUCT AND PIPING FLOOR SLEVE/CORE PENETRATIONS WITH STRUCTURAL DRAWINGS.

AB. INSTALL SPACE THERMOSTAT ADJACENT TO LATCH SIDE OF DOOR IN SPACE INDICATED. INDICATED LOCATIONS ARE APPROXIMATE. AVOID HEAT PRODUCING EQUIPMENT. FINAL SPACE THERMOSTAT/SENSOR LOCATIONS SHALL BE AS DIRECTED BY THE ARCHITECT.

AE. COORDINATE LOCATION OF ALL DISCONNECTS, CONTROL PANELS AND ELECTRICAL CONNECTIONS FOR MECHANICAL AND PLUMBING EQUIPMENT TO MAINTAIN NEC REQUIRED CLEARANCES OF 42" DEEP AND 30" WIDE IN FRONT OF EQUIPMENT.

GENERAL PIPING NOTES:

A. REFER TO THE ARCHITECTURAL PHASING PLAN FOR THE AREAS SHOWN ON THIS SET OF PLANS. WORK SHALL BE SCHEDULED AND PERFORMED IN SEQUENCE WITH THE PHASING PLAN.

B. ARCHITECT SHALL HAVE FINAL APPROVAL OF ALL THERMOSTAT LOCATIONS. COORDINATE ALL WALL MOUNTED DEVICE LOCATIONS WITH ARCHITECTURAL INTERIOR ELEVATIONS.

N. ALL CONNECTION BETWEEN PIPES OF DISSIMILAR MATERIALS SHALL BE MADE WITH DIELECTRIC UNIONS.

O. G.C. TO PROVIDE ACCESS DOORS IF REQUIRED FOR ACCESS TO VAV'S AND ANY VALVES THAT ARE NOT ACCESSIBLE. VERIFY SIZE AND LOCATIONS WITH MECHANICAL CONTRACTOR.

P. PROVIDE DRAIN PAN UNDER PIPES INSIDE ELECTRICAL AND COMMUNICATION ROOMS.

Q. PROVIDE CONDENSATE DRAIN PIPING FROM ALL COOLING COILS TO DRAIN.

R. LOCATE ISOLATION VALVES FOR EQUIPMENT AS CLOSE TO THE MAIN AS POSSIBLE.

GENERAL DEMOLITION NOTES:

A. ALL CAPPED DUCT TAPS AND CONNECTING DUCTS THAT ARE NOT BEING USED ARE TO BE REMOVED BACK TO THE MAIN DUCT AND PATCHED AS PER ITEM B BELOW.

B. PATCH OPENINGS IN EXISTING DUCTWORK THAT IS TO REMAIN INCLUDING OPENINGS. WHERE TAPS OR DUCTWORK ARE TO BE REMOVED, THE FOLLOWING SHALL OCCUR:

- OPENINGS IN THE MAIN DUCTS ARE TO BE COVERED WITH A SHEET METAL PATCH. THE PATCH IS TO BE LARGER THAN THE EXISTING OPENING AND IS TO BE SECURED WITH SHEET METAL SCREWS FOUR INCHES ON CENTERS.
- A LIBERAL QUANTITY OF FIRE RESISTANT ADHESIVE IS TO BE APPLIED TO THE EDGES OF THE METAL PATCH AND THE ASSEMBLY SCREWED IN PLACE.

C. REFER TO THE ARCHITECTURAL PHASING PLAN FOR THE AREAS SHOWN ON THIS PLAN. WORK SHALL BE SCHEDULED AND PERFORMED IN SEQUENCE WITH THE PHASING PLAN.

D. DEMOLITION OF EACH PHASE SHALL OCCUR AS PART OF THE WORK FOR THAT PHASE. REMOVE ONLY THE WORK THAT SERVES THE AREA OF DEMOLITION.

E. PROVISIONS SHALL BE MADE BY THE CONTRACTOR TO PREVENT DISRUPTING ADJACENT AREAS OF THE PHASE IN WHICH WORK IS BEING PERFORMED.

F. PROVIDE ADDITIONAL VALVES, TAPS, TEMPORARY DUCTWORK AND/OR PIPING AS NECESSARY TO PROVIDE UNINTERRUPTED SERVICE TO AREAS OUTSIDE OF THE PHASE IN WHICH WORK IS BEING PERFORMED.

G. ALL WORK SHALL BE PERFORMED IN STRICT COORDINATION WITH HOSPITAL SCHEDULES, OCCUPANCIES AND WORK. CONTRACTOR SHALL COORDINATE WITH HOSPITAL REPRESENTATIVE.

H. ALL NECESSARY SHUTDOWNS OR OUT OF PHASE WORK SHALL BE SCHEDULED WITH THE HOSPITAL REPRESENTATIVE.

Heating system shall be capable of maintaining 68 degrees F a 3'0" above the floor.
2015 IMC 309, IRC 303.9 and IBC 1204.1

MECHANICAL SYMBOLS

ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS.
SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

SYMBOL	DESCRIPTION
A / #	NEW EQUIPMENT DESIGNATION (TOP - EQUIP. ABBREV., BOTTOM - MARK)
A / #	NEW DIFFUSER DESIGNATION (TOP - SCHEDULE DESIG., BOTTOM - CFM)
	NEW EQUIPMENT
	EXISTING EQUIPMENT
	NEW DUCT
	EXISTING DUCT
	EXISTING DUCT TO BE REMOVED OR RELOCATED
	NEW SUPPLY DIFFUSER
	EXISTING SUPPLY DIFFUSER
	EXISTING SUPPLY DIFFUSER TO BE REMOVED OR RELOCATED
	NEW R/A OR EXHAUST GRILLE
	EXISTING R/A OR EXHAUST GRILLE
	EXISTING R/A OR EXHAUST GRILLE TO BE REMOVED OR RELOCATED
	NEW SLOT DIFFUSER
	FLEXIBLE DUCT
	EXISTING SLOT DIFFUSER
	EXISTING SLOT DIFFUSER TO BE REMOVED OR RELOCATED
T	THERMOSTAT
T	EXISTING THERMOSTAT TO BE REMOVED OR RELOCATED
	45° PRESSURE TAP W/ VOLUME DAMPER
	CONICAL TAP WITH VOLUME DAMPER
	CONICAL TAP W/O VOLUME DAMPER
	MANUAL VOLUME DAMPER
	FIRE DAMPER
	SMOKE DAMPER
	FIRE/SMOKE DAMPER
M	MOTORIZED DAMPER
B	BAROMETRIC DAMPER
CHS	CHILLED WATER SUPPLY PIPE
CHR	CHILLED WATER RETURN PIPE
CS	CONDENSER WATER SUPPLY PIPE
CR	CONDENSER WATER RETURN PIPE
RL	REFRIGERANT LIQUID PIPE
RG	REFRIGERANT GAS PIPE
HS	HEATING WATER SUPPLY
HR	HEATING WATER RETURN
HPS	HIGH PRESSURE STEAM
HPR	HIGH PRESSURE CONDENSATE RETURN
LPS	LOW PRESSURE STEAM
LPR	LOW PRESSURE CONDENSATE RETURN
PCR	PUMPED CONDENSATE RETURN
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RETURN
	SANITARY WASTE LINE
CD	CONDENSATE DRAIN
P	PUMPED SANITARY LINE
	VENT LINE
	DIRECTION OF SLOPE
	DIRECTION OF FLOW
	EXPANSION LOOP
	GATE VALVE
	BUTTERFLY VALVE
	BALL VALVE
	GLOBE VALVE
	TEMPERATURE AND PRESSURE RELIEF VALVE
	AUTOMATIC 2-WAY CONTROL VALVE
	AUTOMATIC 3-WAY CONTROL VALVE
	PLUG VALVE/BALANCING COCK
	SOLENOID VALVE
	CHECK VALVE
	HYDRAULIC SHOCK ARRESTOR
	VALVE IN VERTICAL
	UNION
V	VACCUUM BREAKER
	P-TRAP
	FLOOR DRAIN W/ P-TRAP
	HUB DRAIN
	FLOOR CLEANOUT OR GRADE CLEANOUT
	CLEANOUT OR WALL CLEANOUT
	PETE'S PLUG
	GAUGE COCK
	THERMOMETER
	THERMOMETER WELL
	STRAINER WITH BLOW-OFF VALVE
	F & T STEAM TRAP
	STEAM BUCKET TRAP
	CONNECT TO EXISTING
EP	ELECTRIC PNEUMATIC SWITCH

CONTROL DIAGRAM SYMBOLS

SYMBOL	DESCRIPTION
AI	ANALOG INPUT
AO	ANALOG OUTPUT
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
TT-X	TEMPERATURE TRANSMITTER #X
HT-X	RELATIVE HUMIDITY TRANSMITTER #X
V-X	CONTROL VALVE #X
SPT-X	STATIC PRESSURE TRANSMITTER #X
ESC-X	END SWITCH, NORMALLY CLOSED #X
ESO-X	END SWITCH, NORMALLY OPEN #X
TS-X	TEMPERATURE SENSOR #X
SD-X	SMOKE DETECTOR #X
OL	OVERLOAD RELAY #X
DPS-X	DIFFERENTIAL PRESSURE SENSOR #X
CSR-X	CURRENT SENSING RELAY #X
FM-X	FLOW METER #X
FS-X	FLOW SWITCH #X
EAS-X	EMERGENCY AIR HANDLER SHUTDOWN BUTTON - AHU-#X

PROJECT DESIGN CRITERIA

LOCATION:	
CITY/STATE	AURORA, COLORADO
APPLICABLE CODES:	
BUILDING	2015 IBC
MECHANICAL	2015 IMC
PLUMBING	2015 IPC
ENERGY	2015 IECC
ELECTRICAL	2014 NEC
LATITUDE:	
DEG. N. LAT.	39.61
ELEVATION:	
FT. ABOVE SEA LEVEL	5470

MECHANICAL ABBREVIATIONS

AC	ABOVE CEILING	RLA	RELIEF AIR
AFF	ABOVE FINISHED FLOOR	SLA	SUPPLY LOW PRESSURE AIR
AI	ANALOG INPUT	SMA	SUPPLY MEDIUM PRESSURE AIR
AO	ANALOG OUTPUT	UH	UNIT HEATER
BFC	BELOW FINISHED CEILING	VAV	VARIABLE AIR VOLUME
BF	BELOW FLOOR, BLIND FLANGE	WH	WATER HEATER
BG	BELOW GRADE	WHP	WATER-SOURCE HEAT PUMP
BV	BUTTERFLY VALVE	FMB	FILTER MIXING BOX
CA	COMBUSTION AIR	IN HG	INCHES MERCURY (PRESSURE)
CRU	COMPUTER ROOM UNIT	IN WC	INCHES WATER COLUMN (PRESSURE)
CRU	CONDENSATE RETURN UNIT	IBT	INVERTED BUCKET TRAP
CU	CONDENSING UNIT	TAV	THERMOSTATIC AIR VENT (STEAM SYSTEM)
DI	DIGITAL INPUT	MA	MIXED AIR
DO	DIGITAL OUTPUT	LE	LAUNDRY EQUIPMENT
DS	DISCONNECT SWITCH	CLPR	C LOW PRESSURE RETURN (CONDENSATE)
E	EXISTING	CLPS	C LOW PRESSURE STEAM
EDH	ELECTRIC DUCT HEATER	CHWR	CHILLED WATER RETURN
EUH	ELECTRIC UNIT HEATER	CHWS	CHILLED WATER SUPPLY
EF	EXHAUST FAN	CR	CONDENSER RETURN
EOMD	END OF MAIN DRIP (STEAM)	CS	CONDENSER SUPPLY
SF	SUPPLY FAN	GWR	GLYCOL WATER RETURN
EX	EXHAUST AIR	GWS	GLYCOL WATER SUPPLY
OSA	OUTSIDE AIR	HWR	HEATING WATER RETURN
TA	TRNASFER AIR	HWS	HEATING WATER SUPPLY
UNO	UNLESS NOTED OTHERWISE	HPR	HIGH PRESSURE RETURN (CONDENSATE)
PRV	PRESSURE RELIEF VALVE	HPS	HIGH PRESSURE STEAM
SV	SAFETY VALVE	LCA	LAB COMP. AIR
GD	GREASE DUCT	LHWC	LAB HEATING WATER
SS	STAINLESS STEEL	LPR	LOWER PRESSURE RETURN (CONDENSATE)
FCU	FAN COIL UNIT	LPS	LOW PRESSURE STEAM
FPB	FAN POWERED BOX	LTCWR	LOW TEMP. CHILLED WATER RETURN
FPI	FINS PER INCH	LTCWS	LOW TEMP. CHILLED WATER SUPPLY
GC	GENERAL CONTRACTOR	LTHWS	LOW TEMP. HEATING WATER SUPPLY
GEF	GENERAL EXHAUST FAN	PCWWR	PROCESS CHILLED WATER RETURN
GSF	GENERAL SUPPLY FAN	PCWS	PROCESS CHILLED WATER SUPPLY
MVD	MANUAL VOLUME DAMPER	SCWR	SECONDARY CHILLED WATER RETURN
N	NEW	SCWS	SECONDARY CHILLED WATER SUPPLY
OBD	OPPOSED BLADE DAMPER		
R	RELOCATED		
RA	RETURN AIR		
RCA	RECIRCULATED (RETURN) AIR		

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: ***Jul 29, 2016***
2015 INTERNATIONAL CODES & 2014 NEC

RSN: ***1131831***
Permit #: ***16-1141686***

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

CONTRACT © 2016 path21 architecture

Consultant Team

MEP
WSP + CCRD
3613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date

COLORADO LICENSED MECHANICAL ENGINEER
47964
7/15/16
PROFESSIONAL ENGINEER

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	BS/AL
Checked by	WS

Sheet Title:
MECHANICAL LEGENDS, GENERAL NOTES, AND ABBREVIATIONS

Sheet Number
M.001

7/14/2016 8:53:54 AM

MECHANICAL AND PLUMBING SPECIFICATIONS

I GENERAL CONDITIONS:

A. THE SCOPE OF THE WORK SHALL INCLUDE THE FURNISHING AND INSTALLATION OF THE NECESSARY MATERIAL AND LABOR TO ACCOMPLISH THE WORK INDICATED BY THE DRAWINGS AND HEREIN SPECIFIED. ALL WORK BY THIS CONTRACTOR SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL BUILDING CODES.

B. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THE EXISTING CONDITIONS AT THE JOB SITE BEFORE SUBMITTING PROPOSALS. SUBMISSION OF PROPOSALS SHALL BE TAKEN AS EVIDENCE THAT SUCH INSPECTION HAS TAKEN PLACE. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE COMPLETE SET OF CONSTRUCTION DOCUMENTS, AND THE LACK OF SPECIFIC INFORMATION ON THE DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY.

C. MATERIALS AND EQUIPMENT FURNISHED UNDER THIS CONTRACT SHALL BE NEW AND SHALL BEAR THE UL. LABEL WHERE APPLICABLE. UNLESS NOTED OTHERWISE. ALL WORK SHALL BE GUARANTEED AGAINST DEFECTIVE MATERIALS AND WORKMANSHIP FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR AFTER COMPLETION AND ACCEPTANCE BY THE OWNER.

D. CONTRACTOR SHALL INSTALL MECHANICAL SYSTEMS WITHOUT INTERFERENCE AND IN STRICT COORDINATION WITH OTHER TRADES.

E. MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE CONTRACT DOCUMENTS AND APPLICABLE CODES AND STANDARDS. IN CASE OF DIFFERENCE BETWEEN APPLICABLE CODES AND STANDARDS AND THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ARCHITECT/ENGINEER AND THE OWNER IN WRITING OF SUCH DIFFERENCE. SHOULD THE CONTRACTOR PERFORM ANY WORK THAT DOES NOT COMPLY WITH THE REQUIREMENTS OF APPLICABLE CODES AND STANDARDS, HE SHALL BEAR ALL COSTS ARISING IN CORRECTING SUCH DEFECTS. APPLICABLE CODES AND STANDARDS SHALL INCLUDE ALL ORDINANCES, UTILITY COMPANY REGULATIONS, AND APPLICABLE REQUIREMENTS OF NATIONALLY ACCEPTED CODES AND STANDARDS. SHOULD THE CONTRACTOR SUPPLY EQUIPMENT DIFFERING FROM THE SPECIFIED ITEMS IN THE CONTRACT DOCUMENTS WITHOUT NOTIFICATION TO THE ENGINEER, HE SHALL BEAR ALL COSTS TO UPGRADE DEFICIENCIES ARISING FROM SUCH.

F. WHERE ONLY ONE MANUFACTURER'S NAME IS LISTED IN THE EQUIPMENT SPECIFICATION, OTHER MANUFACTURERS OF SIMILAR CHARACTERISTICS AND OF EQUAL OR BETTER PERFORMANCE CAPACITIES MAY BE CONSIDERED FOR "OR EQUAL" APPROVAL BY THE ENGINEER. WHERE MORE THAN ONE MANUFACTURER IS LISTED IN THE NOTES AND EQUIPMENT SPECIFICATIONS, ONLY THOSE NAMED MANUFACTURERS WILL BE CONSIDERED FOR APPROVAL.

G. SHOULD A SUBSTITUTION BE ACCEPTED, AND SHOULD THE SUBSTITUTE MATERIAL PROVE DEFECTIVE, OR OTHERWISE UNSATISFACTORY FOR THE SERVICE INTENDED WITHIN THE GUARANTEE PERIOD, THIS MATERIAL OR EQUIPMENT SHALL BE REPLACED WITH THE MATERIAL OR EQUIPMENT SPECIFIED AT NO COST TO THE OWNER.

H. PROVIDE ACCESS, INCLUDING NECESSARY ACCESS DOORS, FOR NEW AND EXISTING EQUIPMENT REQUIRING OPERATION AND/OR MAINTENANCE. RELOCATE EXISTING AND LOCATE ALL NEW EQUIPMENT SUCH THAT OPERATION OR MAINTENANCE IS NOT RESTRICTED.

I. DO NOT RUN PIPING OR DUCTWORK, OR LOCATE EQUIPMENT, WITH RESPECT TO SWITCHBOARDS, PANELBOARDS, POWER PANELS, MOTOR CONTROL CENTERS OR DRY TYPE TRANSFORMERS, WITHIN 42 INCHES IN FRONT OF EQUIPMENT, OVER EQUIPMENT, OR WITHIN 36 INCHES HORIZONTALLY OF SAME SPACE.

J. PROVIDE SNAP-ON OR ADHESIVES LABELS INDICATING CHILLED OR HOT WATER SUPPLY AND RETURN, CONDENSATE DRAINAGE, DOMESTIC HOT AND COLD WATER, MEDICAL GASES, ETC.

II MECHANICAL DEMOLITION

A. UNLESS NOTED OTHERWISE, THE MECHANICAL DEMOLITION SHALL BE CARRIED OUT TO THE EXTENT THAT THE FLOORS ARE RETURNED TO THE ORIGINAL BASE BUILDING CONDITIONS. CONTRACTOR SHALL VERIFY ALL EXISTING FIELD CONDITIONS IN ORDER TO ACCURATELY DETERMINE THE EXTENT OF THE WORK UNDER THIS SECTION.

B. UNLESS NOTED OTHERWISE, REMOVE EXISTING INTERIOR DIFFUSERS, GRILLES, AND DUCTWORK AS INDICATED PLANS. EXISTING DIFFUSERS AND GRILLES MAY BE REUSED IF THEY MEET THE SCHEDULED SPECIFICATIONS. EXISTING BASE BUILDING SLOT DIFFUSERS ARE TO REMAIN EXCEPT WHERE INDICATED ON PLANS.

C. EXISTING THERMOSTATS AND/OR TEMPERATURE SENSORS ARE TO BE RELOCATED AND REUSED IF IN GOOD WORKING CONDITION.

D. WASTE, DOMESTIC WATER, AND VENT PIPING SHALL BE REMOVED BACK TO RISER STACK CONNECTIONS AND CAPPED, UNLESS NOTED OTHERWISE.

E. EXISTING DUCTWORK SHOWN ON PLANS MAY NOT EXACTLY MATCH THE ACTUAL FIELD CONDITIONS. IT IS NOT NECESSARY TO REWORK THE DUCTWORK IN ORDER TO MATCH WHAT IS DEPICTED ON THE PLANS. CONTRACTOR SHALL VERIFY EXISTING DUCTWORK ROUTING AND LOCATIONS AND MAKE ADJUSTMENTS AS REQUIRED AVOIDING CONFLICTS WITH NEW DUCTWORK, EQUIPMENT, LIGHT FIXTURES, ETC.

III PRODUCTS, EQUIPMENT AND EXECUTION:

A. SANITARY DRAIN LINES (SOIL, WASTE AND VENT) SHALL BE AMERICAN MANUFACTURED SERVICE WEIGHT CAST IRON OR DWV COPPER PIPE. JOINTS SHALL BE FABRICATED BY THE USE OF COMPRESSION JOINTS SIMILAR TO TYLER PIPE AND FOUNDRY'S "TY-SEAL" FOR CAST IRON PIPE OR 95/5 SOLDER FOR DWV COPPER PIPE. NO-HUB CAST IRON PIPE ASSEMBLED WITH STAINLESS STEEL/NEOPRENE HUBLESS COUPLINGS SHALL BE LIMITED TO ABOVE GROUND INSTALLATIONS.

B. DOMESTIC WATER PIPING INSTALLED ABOVE GROUND SHALL BE AMERICAN MANUFACTURED TYPE "L" HARD DRAWN COPPER ASSEMBLED WITH 95/5 SOLDER AND WROUGHT COPPER JOINT FITTINGS.

C. RELIEF AND DRAIN PIPING SHALL BE AMERICAN MANUFACTURED TYPE "M" COPPER WITH 95/5 SOLDER JOINT FITTINGS OR SCHEDULE 40 BLACK STEEL PIPES WITH SCREWED FITTINGS.

D. CHILLED AND HOT WATER PIPING SHALL BE AMERICAN MANUFACTURED SCHEDULE 40 BLACK STEEL OR TYPE "L" COPPER PIPE IN ACCORDANCE WITH THE FOLLOWING:

1. 2-1/2" AND SMALLER: STANDARD WEIGHT, BLACK STEEL (AMERICAN MANUFACTURED) PIPE WITH BLACK MALLEABLE IRON SCREWED FITTINGS OR TYPE "L" COPPER WITH WROUGHT COPPER FITTINGS ASSEMBLED WITH 95/5 SOLDER.

2. 3" AND LARGER: STANDARD WEIGHT, BLACK STEEL (AMERICAN MANUFACTURED) PIPE ASSEMBLED WITH FLANGED COUPLINGS/FITTINGS OR FACTORY FABRICATED WELDED FITTINGS.

E. MEDICAL GAS PIPING SHALL BE INSTALLED IN STRICT ACCORDANCE WITH CURRENT NFPA-99 AND HOSPITAL LICENSING CODE REQUIREMENTS, GCA P-2.1 RECOMMENDATIONS FOR MEDICAL-SURGICAL VACUUM SYSTEMS IN HEALTH CARE FACILITIES.

1. PIPING SHALL BE AMERICAN MANUFACTURED SEAMLESS TYPE 'K' HARD-DRAWN COPPER TUBING CLEANED AND SEALED FOR MEDICAL GAS USE. FITTINGS SHALL BE WROUGHT, BRASS OR BRONZE, MADE ONLY FOR BRAZED CONNECTIONS. ALL JOINTS IN THE PIPING, EXCEPT AT VALVES AND EQUIPMENT REQUIRING SCREW CONNECTIONS, SHALL BE ASSEMBLED WITH A SILVER BRAZING ALLOY. SCREWED JOINTS SHALL BE MADE-UP WITH GLYCERIN.

2. MEDICAL GAS WALL OUTLETS SHALL MATCH EXISTING MANUFACTURER, MODEL NUMBER AND FINISH OR MAY BE BEACON MEDICAL PRODUCTS TO MATCH EXISTING.

3. PROVIDE NECESSARY PIPING, FITTINGS, VALVES, ALARMS, SENSORS, WIRING, OUTLETS, ETC. AND LABOR FOR COMPLETE OPERATING SYSTEMS.

4. COLOR-CODED ADHESIVE PIPE MARKERS SHALL BE INSTALLED AT NO MORE THAN 20 FEET APART, OR ONE IN EACH ROOM, OR EACH FLOOR OF THE BUILDING. LABELS SHALL INCLUDE GAS CONTENTS, OPERATING PRESSURE AND THE DIRECTION OF FLOW ON ALL MEDICAL GASES, COMPRESSED AIR AND VACUUM PIPING.

5. THE MEDICAL AIR VACUUM PIPING SHALL ORIGINATE FROM THE EXISTING AIR AND VACUUM PIPING SYSTEMS LOCATED ABOVE THE CORRIDOR CEILING.

6. THE OXYGEN PIPING SHALL ORIGINATE FROM THE EXISTING OXYGEN DISTRIBUTION LINE ABOVE THE CORRIDOR CEILING.

7. THE MANUFACTURER OF MEDICAL GAS EQUIPMENT SHALL TEST ALL MEDICAL GAS PIPING SYSTEMS AFTER INSTALLATION TO INSURE THAT NO CROSSED LINES EXIST AND THAT THE PROPER SERVICE IS BROUGHT TO EACH OUTLET. THE TEST SHALL BE PERFORMED IN ACCORDANCE WITH NFPA 99-4-5 GAS SYSTEM PERFORMANCE CRITERIA AND TESTING. FURNISH THE OWNER, THROUGH THE ARCHITECT, A WRITTEN CERTIFICATION, SIGNED BY AN OFFICER OF THE COMPANY, THAT THE SYSTEM HAS BEEN CHECKED AND IS CONSTRUCTED AND TESTED IN ACCORDANCE WITH NFPA 99 AND IS SAFE FOR PATIENT USE. MANUFACTURER MUST SUBMIT A LETTER SIGNED BY AN OFFICER OF THE COMPANY TO THE ARCHITECT 10 DAYS PRIOR TO BID OPENING THAT THIS SERVICE WILL BE PERFORMED.

8. VALVES NOT IN BOXES SHALL BE BEACON BRONZE-BODY, DOUBLE-SEAL, FULL-FLOW UNION BALL TYPE, WITH TEFLON SEATS AND SEALS, DESIGNED FOR A WORKING PRESSURE OF 27" Hg VACUUM TO 400 PSI WITH CHROME-PLATED BRASS BALLS WHICH SEAL IN BOTH DIRECTIONS. EACH VALVE SHALL BE SO DESIGNED THAT ONLY A QUARTER TURN OF THE LEVER TYPE HANDLE IS NECESSARY BETWEEN THE OPEN AND CLOSED POSITIONS. VALVE DESIGN SHALL ELIMINATE THE NEED FOR UNIONS BY PERMITTING REMOVAL OR SWING-AWAY OF THE CENTER VALVE SECTION OUT-OF-LINE. VALVES SHALL CONFORM TO NFPA STANDARDS. VALVES SHALL BE SUPPLIED PROPERLY WASHED FOR OXYGEN SERVICE. GAS SERVICE LABELS SHALL BE PROVIDED FOR EACH SERVICE AS REQUIRED.

9. PROVIDE GAUGES ON SYSTEMS AS REQUIRED BY NFPA 99, CURRENT EDITION, AND WHERE INDICATED ON THE DRAWINGS.

10. GAUGES FOR PIPELINE INSTALLATION SHALL BE EQUAL TO OHMEDA MAIN LINE GAUGES AS FOLLOWS:

	SERVICE	CALIBRATION	STOCK NO.
a.	OXYGEN, N20, AIR	0-100 PSI	841-0014-300
b.	VACUUM	0-30" Hg.	395-7558-300
c.	NITROGEN	0-400 PSI	841-0007-300

11. WALL SERVICE OUTLETS SHALL BE INSTALLED WHERE INDICATED ON THE DRAWINGS AND SHOWN ON ARCHITECTURAL ELEVATIONS.

12. MEDICAL GAS OUTLETS SHALL MATCH EXISTING.

13. BEFORE ERECTION, ALL PIPE, TUBING, VALVES AND FITTINGS (EXCEPT THOSE SUPPLIED EXPRESSLY CLEANED FOR OXYGEN SERVICES BY MANUFACTURER) SHALL BE THOROUGHLY CLEANSED OF ALL GREASE, OIL OR OTHER READILY OXIDIZABLE MATERIALS BY WASHING IN A HOT SOLUTION OF SODIUM CARBONATE OR TRISODIUM PHOSPHATE MIXED IN EQUAL PROPORTIONS OF ONE POUND TO THREE GALLONS OF WATER. SCRUBBING AND CONTINUOUS AGITATION OF THE PARTS SHALL BE EMPLOYED WHERE NECESSARY TO REMOVE ALL DEPOSITS AND INSURE COMPLETE CLEANSING. AFTER WASHING, ALL MATERIALS SHALL BE RINSED THOROUGHLY IN CLEAN, HOT WATER. AFTER CLEANSING, GREAT CARE MUST BE EXERCISED IN THE STORAGE AND HANDLING OF ALL MATERIALS AND IN THE CONDITION OF TOOLS USED IN CUTTING AND REAMING TO PREVENT OIL OR GREASE BEING INTRODUCED INTO THE TUBING. WHERE SUCH CONTAMINATION IS KNOWN TO HAVE OCCURRED, THE MATERIALS AFFECTED MUST BE REWASHED AND THEN RINSED.

14. AFTER INSTALLATION OF THE PIPING, BUT BEFORE INSTALLATION OF THE STATION OUTLETS AND OTHER MEDICAL GAS SYSTEM COMPONENTS (e.g., PRESSURE-ACTUATING SWITCHES FOR ALARMS, MANIFOLDS, PRESSURE GAUGES OR PRESSURE RELIEF VALVES), THE LINE SHALL BE BLOWN CLEAR BY MEANS OF OIL-FREE, DRY AIR OR NITROGEN. THE SYSTEM SHALL BE TESTED IN ACCORDANCE WITH NFPA 99 4-5.1.3 "MEDICAL GAS SYSTEM TEST".

15. ALL PIPING SHALL BE SUPPORTED WITH COPPER-CLAD HANGERS WITH POLYSTYRENE OR NEOPRENE INSERTS OR PADS AT APPROPRIATE INTERVALS AND NOT SUPPORTED BY OTHER PIPING.

F. FITTINGS AND PIPING CONNECTED WITH PLUMBING FIXTURES SHALL BE BRASS AND, WHEREVER EXPOSED, SHALL BE POLISHED CHROME-PLATED.

G. FURNISH AND INSTALL ALL REQUIRED WATER, WASTE, SOIL, AND VENT CONNECTIONS TO ALL PLUMBING FIXTURES AND EQUIPMENT, TOGETHER WITH ALL FITTINGS, SUPPORTS, FASTENING DEVICES, COCKS, VALVES, TRAPS, ETC., LEAVING ALL IN COMPLETE WORKING ORDER.

H. PLUMBING FIXTURES SHALL BE PROVIDED AS SCHEDULED ON THE DRAWINGS. PLUMBING FIXTURES SHALL BE NEW, EXCEPT WHERE NOTED, AND SHALL BE APPROVED BY THE APPLICABLE WATER CONSERVATION AUTHORITY. THE PLUMBING CONTRACTOR SHALL PROVIDE NECESSARY CHROME PLATED P-TRAPS, SUPPLIES WITH STOPS, RISERS, INLET DRAINS, ETC.

I. SHOCK ARRESTORS SHALL BE SIMILAR TO JOSAM 75000 OR AS MANUFACTURED BY PPP AND SIOUX CHIEF SIZED AS PER THE PDI.

J. FIXTURE CARRIERS SHALL BE PROVIDED FOR WATER CLOSETS, URINALS AND LAVATORIES AS REQUIRED AND SHALL BE FLOOR SUPPORTED AS MANUFACTURED BY JOSAM.

K. TRAP PRIMERS SHALL BE AS REQUIRED BY LOCAL CODES AND SIMILAR TO J.R. SMITH FIR 2698 WATER SAVER TRAP PRIMER.

L. FLOOR DRAINS SHALL BE SIMILAR TO JOSAM SERIES 30000 CAST IRON FLOOR DRAIN WITH NICKALOY STRAINER.

M. CLEANOUTS SHALL BE PROVIDED IN SANITARY WASTE LINES AS SHOWN AND AT EACH CHANGE OF DIRECTION GREATER THAN 45 DEGREES. WALL CLEANOUTS SHALL BE SIMILAR TO JOSAM 5879 WITH BRONZE PLUG AND STAINLESS STEEL COVER. FLOOR CLEANOUTS SHALL BE SIMILAR TO JOSAM 56020 WITH CARPET MARKER FOR CARPETED FLOORS.

N. PIPE, EQUIPMENT, ETC., SHALL BE PROPERLY SUPPORTED FROM STRUCTURE WITH THE USE OF APPROVED TYPE CLEVIS, TRAPEZE HANGERS OR FLOOR STANDS WITH SPACING AS FOLLOWS:

1. STEEL PIPE OR COPPER TUBING - 1-1/2" OR LESS, 6 FOOT INTERVALS.

2. CAST IRON - ONE (1) HANGER PER LENGTH OF PIPE AND NOT EXCEEDING 10'-0" O.C.

3. FITTINGS - WITHIN 2'-0" OF EACH CHANGE OF DIRECTION.

O. INSULATION SHALL BE PROTECTED AT HANGERS BY A SECTION OF CALCIUM SILICATE PIPE INSULATION AND A 12" LONG HALF-ROUND SHEET METAL SHIELD ON THE OUTSIDE OF THE INSULATION. EXTEND PIPING INSULATION FULL THICKNESS WITHOUT INTERRUPTION THROUGH WALLS, FLOORS AND SIMILAR PENETRATIONS.

P. PROVIDE AND INSTALL UNIONS AT PROPER POINTS TO PERMIT REMOVAL OF A PIPE, EQUIPMENT, ETC., WITHOUT INJURY TO OTHER PARTS OF THE SYSTEM AND TO PREVENT CORROSION DUE TO ELECTROLYSIS. ALL EQUIPMENT SHALL BE INSTALLED IN A MANNER TO PERMIT ACCESS FOR SERVICE WITHOUT DISASSEMBLY. UNIONS SHALL BE DIELECTRIC WHERE DISSIMILAR MATERIALS OCCUR. PRESSURE RATINGS SAME AS FITTINGS.

Q. ALL DOMESTIC COLD WATER AND HOT WATER PIPE AND FITTINGS SHALL BE INSULATED WITH ½" THICK OWENS-CORNING FIBERGLASS 25 ASJ/SSL OR APPROVED EQUAL.

R. ROOF DRAIN BODIES AND HORIZONTAL STORM DRAIN PIPING OR DOWNSPOUTS, AND ANY DRAINS RECEIVING CONDENSATE SHALL BE INSULATED WITH 1 ½ " THICK OWENS-CORNING FIBERGLASS FOIL-BACKED ALL SERVICE BLANKET WRAP INSULATION.

S. CHILLED WATER AND HOT WATER HEATING PIPES SHALL BE INSULATED WITH OWENS-CORNING ASJ-SSL-II OR APPROVED EQUAL 1" THICK FOR HOT WATER 1-1/2" THICK FOR CHILLED WATER PIPE INSULATION. FITTINGS AND VALVES SHALL BE FINISHED WITH WHITE 25/50 PVC COVERS OVER MOLDED INSULATION FITTINGS. ALL JOINTS AND LAPS SHALL BE VAPOR SEALED.

T. CONDENSATE DRAIN PIPING, AUXILIARY DRAIN PIPING AND ALL REFRIGERANT PIPING SHALL BE INSULATED WITH 1/2" THICK OWENS-CORNING FIBERGLASS 25 ASJ/SSL OR EQUAL. AUXILIARY DRAIN PAN SHALL BE INSULATED WITH 3/8" THICK ARMAFLEX SHEET INSULATION.

U. PROVIDE INSULATION PRODUCTS MANUFACTURED BY JOHNS-MANVILLE, OWENS-CORNING, ARMSTRONG AND CERTAINTEED. FIBERGLASS PIPE INSULATION SHALL BE ASTM C547-77, CLASS 1. PROVIDE BANDS, WIRES, AND CEMENT AS RECOMMENDED BY INSULATION MANUFACTURER FOR THE APPLICATIONS INDICATED. FLEXIBLE FIBERGLASS DUCTWORK INSULATION SHALL BE ASTM C553-70, TYPE I, CLASS B3.

1. PROVIDE COMPOSITE INSULATION (INSULATION JACKETS, COVERINGS, SEALERS, MASTICS AND ADHESIVE) WITH FLAME-SPREAD RATINGS OF 25 OR LESS AND A SMOKE-DEVELOPED RATING OF 50 OR LESS, AS TESTED BY ASTM K04 (HFFA 255) METHOD.

2. MAINTAIN INTEGRITY OF VAPOR BARRIER JACKETS ON PIPE AND DUCTWORK INSULATION, AND PROTECT TO PREVENT PUNCTURE OR OTHER DAMAGE. SEAL OPEN ENDS OF INSULATION WITH MASTIC. SECTIONALLY SEAL ALL BUTT ENDS OF CHILLED WATER INSULATION OF FITTINGS WITH WHITE VAPOR BARRIER COATING. EXTEND PIPING INSULATION WITHOUT INTERRUPTION THROUGH WALLS, FLOORS AND SIMILAR PIPING PENETRATIONS, EXCEPT WHERE OTHERWISE INDICATED. INSTALL PROTECTIVE METAL SHIELDS AND FOAM GLASS INSERTS WHERE PIPE HANGERS BEAR ON OUTSIDE OF INSULATION.

V. ISOLATION VALVES FOR HOT AND CHILLED WATER SYSTEM SHALL BE EQUAL TO MILWAUKEE "BUTTERBALL" OR NIBCO BALL VALVES AND PROVIDED AT EACH PIECE OF EQUIPMENT. PROVIDE AUTO AIR VENTS IN HEATING WATER PIPING WHERE HIGH POINTS OCCUR.

W. RECTANGULAR "LOW PRESSURE" SHEET METAL DUCT SHALL BE FABRICATED OF CONTINUOUS HOT DIP MILL GALVANIZED MINIMUM 26 GAUGE STEEL SHEETS AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS FOR 1.0" W.C. AND FOR THE FIRST 10 TO 15 FEET DOWNSTREAM OF A TERMINAL UNIT (FP/VAV OR VAV) SHALL HAVE AN INTERNAL DUCT LINING EQUAL TO JOHNS-MANVILLE PERMACOTE LINACOUSTIC, 1" THICK, 1.5 LB. DENSITY DUCT LINER. (DUCTS FOR MEDICAL WORK SHALL NOT BE LINED, BUT WILL BE WRAPPED.)

X. ROUND "LOW PRESSURE" DUCT FITTINGS SHALL BE FABRICATED OF CONTINUOUS HOT DIP MILL GALVANIZED MINIMUM 26 GAUGE STEEL SHEETS AND INSTALLED IN ACCORDANCE WITH SMACNA RECOMMENDATIONS FOR 0.5" W.C.

Y. RECTANGULAR AND ROUND "PRIMARY AIR" SHEET METAL DUCT AND FITTINGS SHALL BE FABRICATED OF CONTINUOUS HOT DIP MILL GALVANIZED MINIMUM 26 GAUGE STEEL SHEETS AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS FOR 3.0" W.C., AND RECTANGULAR DUCT SHALL HAVE AN INTERNAL DUCT LINING EQUAL TO JOHNS-MANVILLE PERMACOTE LINACOUSTIC, 1" THICK, 1.5 LB. DENSITY DUCT LINER (DUCTS FOR MEDICAL WORK SHALL NOT BE LINED, BUT WILL BE WRAPPED). CONSTRUCTION METHODS:

1. RECTANGULAR - DUCTMATE SYSTEM

2. ROUND - SPIRAL DUCT SYSTEM

Z. ROUND DUCTS AND UNLINED RECTANGULAR DUCTS SHALL BE INSULATED WITH 3/4 POUND PER CUBIC FOOT MINIMUM DENSITY, 2" THICK, COMMERCIAL GRADE, OWENS-CORNING FIBERGLASS FOIL BACKED ALL SERVICE DUCT WRAP, OR EQUAL.

AA. FLEXIBLE DUCTS SHALL BE FLEXMASTER TYPE 8M, THERMAFLEX MKE OR WIREMOLD WK. FLEXIBLE DUCTS SHALL BE LISTED AS U.L. 181 CLASS (1) AIR DUCT AND SHALL COMPLY WITH NFPA STANDARDS 90A AND 90B.

BB. CONTRACTOR SHALL BALANCE THE HVAC SYSTEMS FOR DESIGNATED AIR AND WATER QUANTITIES AND SHALL BE N.E.B.B. OR A.A.B.C. APPROVED. SUBMIT REPORT ON NEBB, AABC, OR SMACNA FORMS FOR APPROVAL BY THE ENGINEER. EXTENT OF BALANCING WORK TO INCLUDE REBALANCING OF EXISTING SUPPLY AND EXHAUST SYSTEMS AS REQUIRED ACHIEVING DESIGN CFM ON SUBJECT PROJECT.

CC. DUCT ACCESS DOORS. PROVIDE RIGID AND CLOSE FITTING DOORS OF GALVANIZED STEEL WITH SEALING GASKETS AND QUICK FASTENING LOCKING DEVICES. FOR INTERNALLY LINED OR INSTALLED DUCTWORK, INSTALL MINIMUM ONE INCH THICK INSULATION WITH SHEET METAL COVER. INSTALL AT EACH FIRE DAMPER. DOORS TO BE EQUAL TO FLEXMASTER "THE INSPECTOR SERIES."

DD. FURNISH AND INSTALL SMOKE, FIRE AND/OR FIRE/SMOKE DAMPERS WHERE SHOWN ON THE DRAWINGS, AND REQUIRED BY THE GOVERNING AUTHORITY. DAMPERS SHALL BE INSTALLED AS RECOMMENDED BY SMACNA AND COMPLY WITH U.L. AND LOCAL ORDINANCES AS REQUIRED BY THE GOVERNING AUTHORITY.

EE. "VARIABLE-VOLUME" AND "CONSTANT-VOLUME" SINGLE DUCT TERMINAL BOX SHALL BE MEDIUM PRESSURE, VARIABLE AIR VOLUME, SINGLE DUCT, PRESSURE INDEPENDENT TERMINAL UNIT WITH 2 P.C.F. DENSITY MINIMUM INSULATED CASING AND FLOW CONTROLLER. ACCEPTABLE MANUFACTURERS INCLUDE ENVIRO-TEC, TITUS, KRUEGER AND PRICE.

FF. MOTOR STARTER/DISCONNECT:

1. MOTOR STARTER/DISCONNECT SWITCH FOR 3/4 HP, 3 PHASE MOTORS AND LARGER SHALL BE ACROSS-THE-LINE NON-REVERSING COMBINATION STARTERS WITH FUSIBLE DISCONNECT SWITCH TYPE RATED IN ACCORDANCE WITH NEMA STANDARDS, SIZES AND HORSEPOWER RATINGS. UNITS SHALL BE MOUNTED IN NEMA 1 ENCLOSURES WHERE INSTALLED INDOORS, AND NEMA 4 ENCLOSURES WHERE INSTALLED OUTDOORS. MINIMUM SIZE SHALL BE NEMA SIZE 1.

   a. OVERLOAD RELAYS OF THE MELTING ALLOY TYPE SHALL BE PROVIDED IN ALL PHASES. THERMAL UNITS SHALL BE OF ONE-PIECE CONSTRUCTION AND INTERCHANGEABLE.
   b. STARTERS SHALL BE EQUIPPED WITH ONE SET OF AUXILIARY CONTACTS AND BE SUITABLE FOR THE ADDITION OF AT LEAST THREE EXTERNAL ELECTRICAL INTERLOCKS OF ANY ARRANGEMENT NORMALLY OPEN OR NORMALLY CLOSED.
   c. ALL MAGNETIC STARTERS WITH "HAND-OFF-AUTO" SELECTOR SWITCH AND PILOT LIGHT SHALL BE EQUAL TO SQUARE D CLASS 8538 OR SIEMENS CLASS SCF WITH MELTING ALLOY OVERLOAD RELAYS AND FOR EACH PHASE, AND RED PILOT LIGHT IN COVER OF GENERAL PURPOSE ENCLOSURE. COIL VOLTAGE SHALL BE 120 VOLT AND STARTER SHALL HAVE A CONTROL VOLTAGE TRANSFORMER.
   d. PUSH BUTTON STATIONS AND/OR HAND-OFF-AUTOMATIC SWITCHES SHALL BE REMOTE LOCATED AND WIRED UNDER THIS SECTION WHERE SO SHOWN OR SCHEDULED ON THE DRAWINGS.

2. MOTOR STARTER/DISCONNECT SWITCH FOR SINGLE PHASE MOTORS 1 H.P. AND SMALLER SHALL BE COMBINATION STARTER/TOGGLE SWITCH IN ACCORDANCE WITH NEMA STANDARDS. UNITS SHALL BE SUPPLIED WITH HEAVY DUTY POWER RELAYS. ALL UNITS MOUNTED INDOORS SHALL BE IN NEMA 1 ENCLOSURES, AND WHERE INSTALLED OUTDOORS SHALL BE IN NEMA 4 ENCLOSURES. MINIMUM SIZE SHALL BE NEMA SIZE 0.

   a. UNITS SHALL BE EQUAL TO SIEMENS CLASS MSF AND TYPE SRD POWER RELAYS WITH ENCLOSURES.

GG. TEMPERATURE CONTROLS:

1. ALL TEMPERATURE CONTROLS NECESSARY FOR THE RENOVATION AND FINISH-OUT OF THE SPACE SHALL BE PROVIDED BY SIEMENS AND COMPLY WITH THE BASE BUILDING SYSTEM AND CONTROL SPECIFICATIONS. BUILDING STANDARD ,PNEUMATIC, CONTROL SYSTEM COMPONENTS SHALL BE UTILIZED.

2. NEW THERMOSTATS OR SENSORS SHALL MATCH THE EXISTING THERMOSTATS OR SENSORS.

3. ALL CONTROL WIRING AND POWER WIRING FOR CONTROLS SHALL BE BY THE CONTROLS SUB-CONTRACTOR.

4. TERMINAL UNITS, FAN-COIL UNITS AND MOTORIZED SUPPLY AIR DAMPERS SHALL BE CONTROLLED BY ROOM THERMOSTATS PIPED WITH MAIN CONTROL PRESSURE AND BRANCH PRESSURE FROM THERMOSTAT TO OPERATORS, CONTROL VALVES, ETC.

5. THE FAN COIL UNITS SHALL BE CONNECTED TO THE BASE BUILDING ENERGY MANAGEMENT SYSTEM FOR START AND STOP SCHEDULES. THE AUXILIARY CONTACTS IN THE STARTER/DISCONNECTS SHALL BE USED TO AUTOMATE THE START AND STOP FUNCTIONS.

6. AT THE COMPLETION OF CONSTRUCTION, ALL NEW AND EXISTING THERMOSTATS AND SENSORS SHALL BE CALIBRATED.

HH. TEST AND BALANCE:

1. THE GENERAL CONTRACTOR SHALL RETAIN THE SERVICES OF AN INDEPENDENT CERTIFIED AIR BALANCE FIRM TO PERFORM THE TESTING AND BALANCING AND PREPARE REPORTS TO THE GENERAL CONTRACTOR. IF THE MECHANICAL CONTRACTOR IS NEBB CERTIFIED, THEY CAN BALANCE THE SYSTEM.

2. TESTING AND BALANCING SHALL BE PERFORMED IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN ACCORDANCE WITH THE ASSOCIATED AIR BALANCE COUNCIL NATIONAL STANDARDS FOR FIELD MEASUREMENT AND INSTRUMENTATION, SECOND EDITION, 1974, OR NATIONAL ENVIRONMENTAL BALANCING BUREAU STANDARDS.

3. THE CONTRACTOR SHALL CORRECT ALL DEFICIENCIES IN THE OPERATION OF FACTORY SET VAV UNITS.

4. READINGS AND TEST OF DIFFUSERS, GRILLES AND REGISTERS SHALL INCLUDE DESIGN, INITIAL TEST, AND FINAL ADJUSTED FPM VELOCITY AND CFM. ALL DIFFUSERS, GRILLES AND REGISTERS SHALL BE BALANCED BY A HOOD THAT HAS BEEN CALIBRATED, INCLUDING A MANOMETER, AND PILOT TUBE READINGS SHALL BE TAKEN TO ESTABLISH TOTAL CFM FLOW IN ALL MAIN DUCTS. DIRECT READING INSTRUMENTS SUCH AS VELOMETERS AND ANEMOMETERS MAY BE USED AT TERMINAL UNITS.

IV RECORDS FOR OWNER:

A. CONTRACTOR SHALL KEEP A CLEAN SET OF DRAWINGS ON THE JOB, NOTING DAILY ALL CHANGES MADE IN THESE DRAWINGS IN CONNECTION WITH THE FINAL INSTALLATION INCLUDING EXACT DIMENSIONED LOCATIONS OF ALL NEW AND UNCOVERED EXISTING UTILITIES AND SHALL, WITH HIS REQUEST FOR FINAL PAYMENT, TURN OVER A CLEAN, NEATLY MARKED SET OF 2 MIL REPRODUCIBLE MYLARS SHOWING "AS INSTALLED" WORK TO THE ARCHITECT FOR SUBSEQUENT REVIEW AND TRANSMITTAL TO THE OWNER. CONTRACTOR SHALL NOTE ALL CONSTRUCTION CHANGES, DATE EACH SHEET AND LABEL "AS-BUILTS" IN THE REVISION BLOCK ON THE DRAWINGS. CONTRACTOR SHALL ALSO FURNISH ONE (1) SET OF BLUELINE PRINTS FROM THE "AS-BUILTS" MYLARS.

B. IN ADDITION TO THE ABOVE, CONTRACTOR SHALL ACCUMULATE DURING THE JOB'S PROGRESS, THE FOLLOWING DATA, IN TRIPLICATE, PREPARED IN A NEAT BROCHURE OR PACKET FOLDER AND TURNED OVER TO THE ARCHITECT FOR REVIEW AND SUBSEQUENT DELIVERY TO THE OWNER.

1. ALL WARRANTIES AND GUARANTEES AND MANUFACTURER'S DIRECTIONS ON EQUIPMENT AND MATERIAL COVERED BY THE CONTRACT INCLUDING THE NAMES, ADDRESSES AND TELEPHONE NUMBERS OF THE MANUFACTURER'S REPRESENTATIVE.

2. APPROVED FIXTURE BROCHURES, WIRING DIAGRAMS AND CONTROL DIAGRAMS (ORIGINAL DATA, NO COPIES).

3. COPIES OF APPROVED SHOP DRAWINGS.

4. OPERATING INSTRUCTIONS FOR HEATING AND COOLING AND OTHER MECHANICAL SYSTEM. OPERATING INSTRUCTIONS SHALL ALSO INCLUDE RECOMMENDED MAINTENANCE AND SEASONAL CHANGEOVER PROCEDURES.

5. TEST AND BALANCE REPORTS REQUIRED BY THESE SPECIFICATIONS.

6. ANY AND ALL OTHER DATA AND/OR DRAWINGS REQUIRED DURING CONSTRUCTION.

7. REPAIR PARTS LISTS OF ALL MAJOR ITEMS AND EQUIPMENT INCLUDING NAME, ADDRESS AND TELEPHONE NUMBERS OF LOCAL SUPPLIER OR AGENT.

8. VALVE TAG CHARTS AND DIAGRAMS.

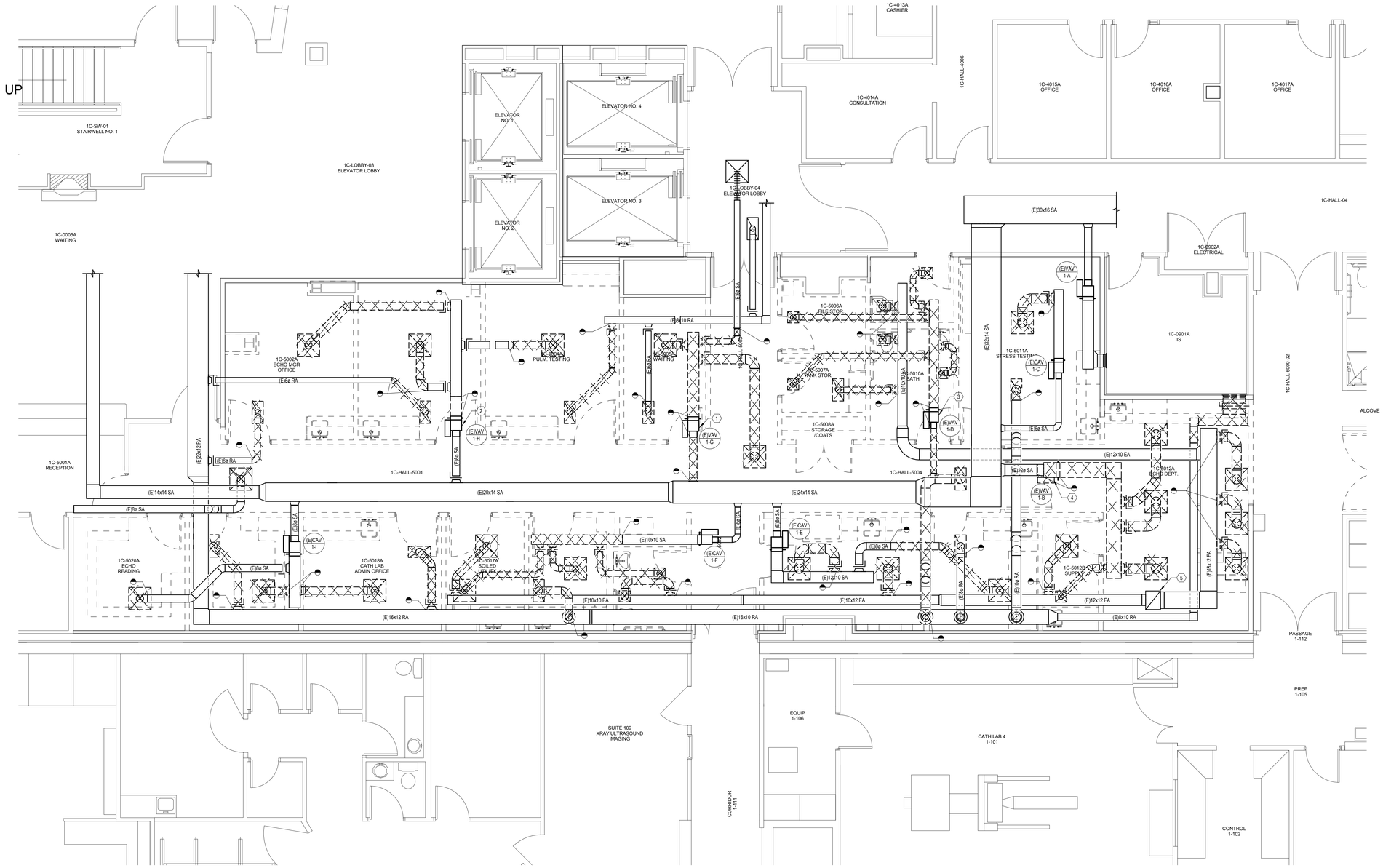
C. ALL OF THE ABOVE DATA SHALL BE SUBMITTED TO

GENERAL NOTES:

A. REFER TO SHEET M.001 FOR LEGENDS, GENERAL NOTES, AND ABBREVIATIONS.
B. CONTRACTOR TO VERIFY EXISTING FIELD CONDITIONS.

(#) LEGEND NOTES:

1. EXISTING VAV 1-G TO BE RELOCATED. REFER TO SHEET M.201 FOR RELOCATION DETAILS.
2. EXISTING VAV 1-H TO BE RELOCATED. REFER TO SHEET M.201 FOR RELOCATION DETAILS.
3. EXISTING VAV 1-D TO BE RELOCATED. REFER TO SHEET M.201 FOR RELOCATION DETAILS.
4. EXISTING VAV 1-B TO BE DEMOLISHED.
5. PREMEASURE EXISTING EXHAUST FAN AND AIRFLOW SERVING LEVEL 1. REBALANCE EXISTING FAN TO MATCH NEW AIRFLOW AT END OF PROJECT.



1 LEVEL 01 - HVAC DEMOLITION PLAN
1/4" = 1'-0"

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

CONTRACT & SPECIFICATION DOCUMENTS

Consultant Team

MEP
WSP + CCRD
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date

COLORADO LICENSED
47964
7/15/16
PROFESSIONAL ENGINEER

TMCA CATH LAB PREP RECOVERY RENOVATION

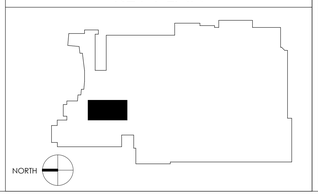
1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	BS/AL
Checked by	WS

Sheet Title:
LEVEL 01 - MECHANICAL DEMOLITION PLAN

Sheet Number
MD.201

KEY PLAN



City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

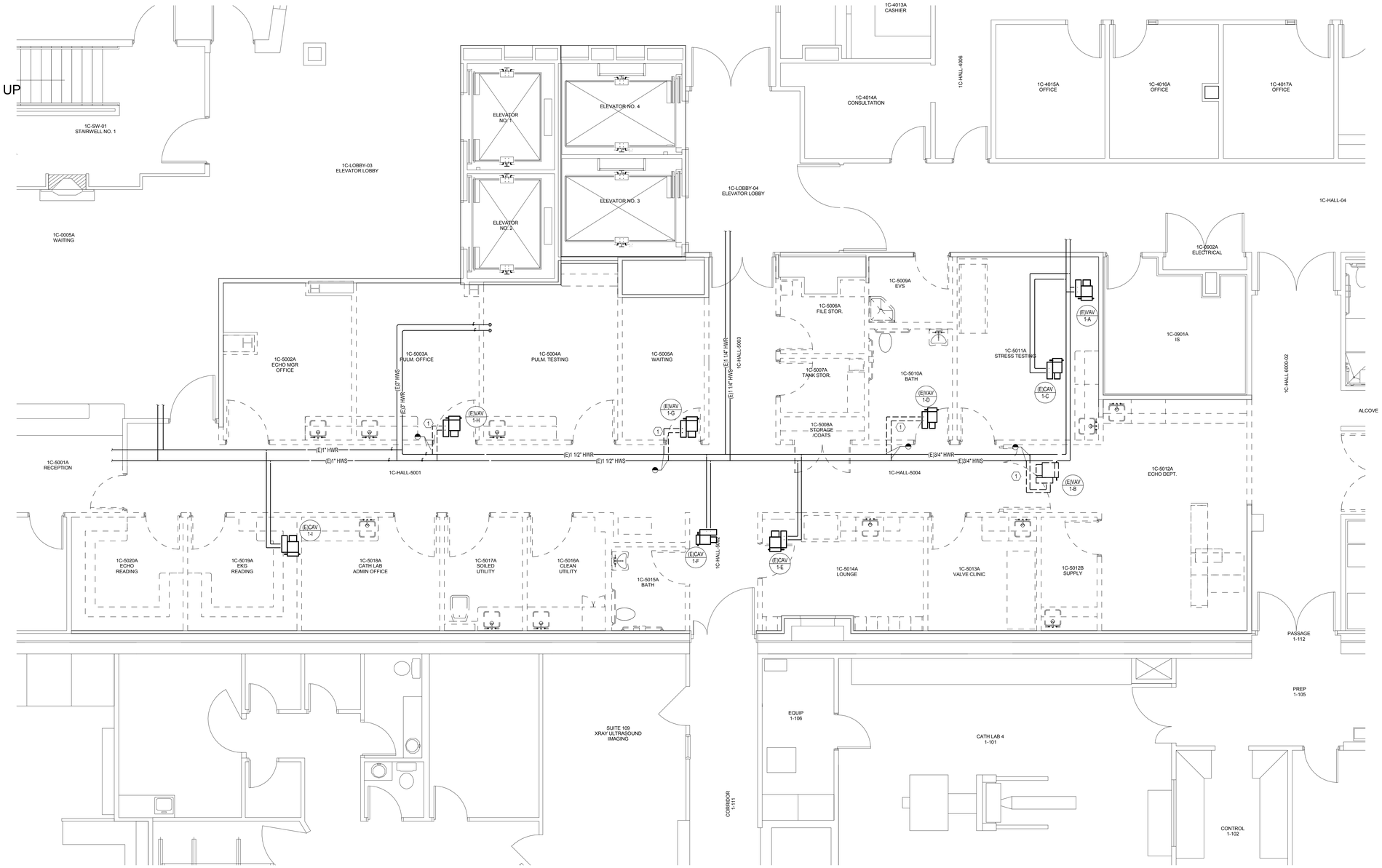
7/14/2016 8:44:33 AM

GENERAL NOTES:

A. REFER TO SHEET M.001 FOR LEGENDS, GENERAL NOTES, AND ABBREVIATIONS.
B. CONTRACTOR TO VERIFY EXISTING FIELD CONDITIONS.

(#) LEGEND NOTES:

1 DEMOLISH EXISTING RUN-OUT TO EXISTING CAV BOX. SEE NEW WORK PLANS ON SHEET M.301 FOR REVISED PIPING.



1 LEVEL 01 - PIPING DEMOLITION PLAN
1/4" = 1'-0"

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Consultant Team

MEP
WSP + CCRD
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date

COLORADO LICENSED MECHANICAL ENGINEER 47964 7/15/16 PROFESSIONAL ENGINEER

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	BS/AL
Checked by	WS

Sheet Title:
LEVEL 01 - HVAC PIPING DEMOLITION PLAN

Sheet Number
MD.301

KEY PLAN



City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

CONTRACT & project construction

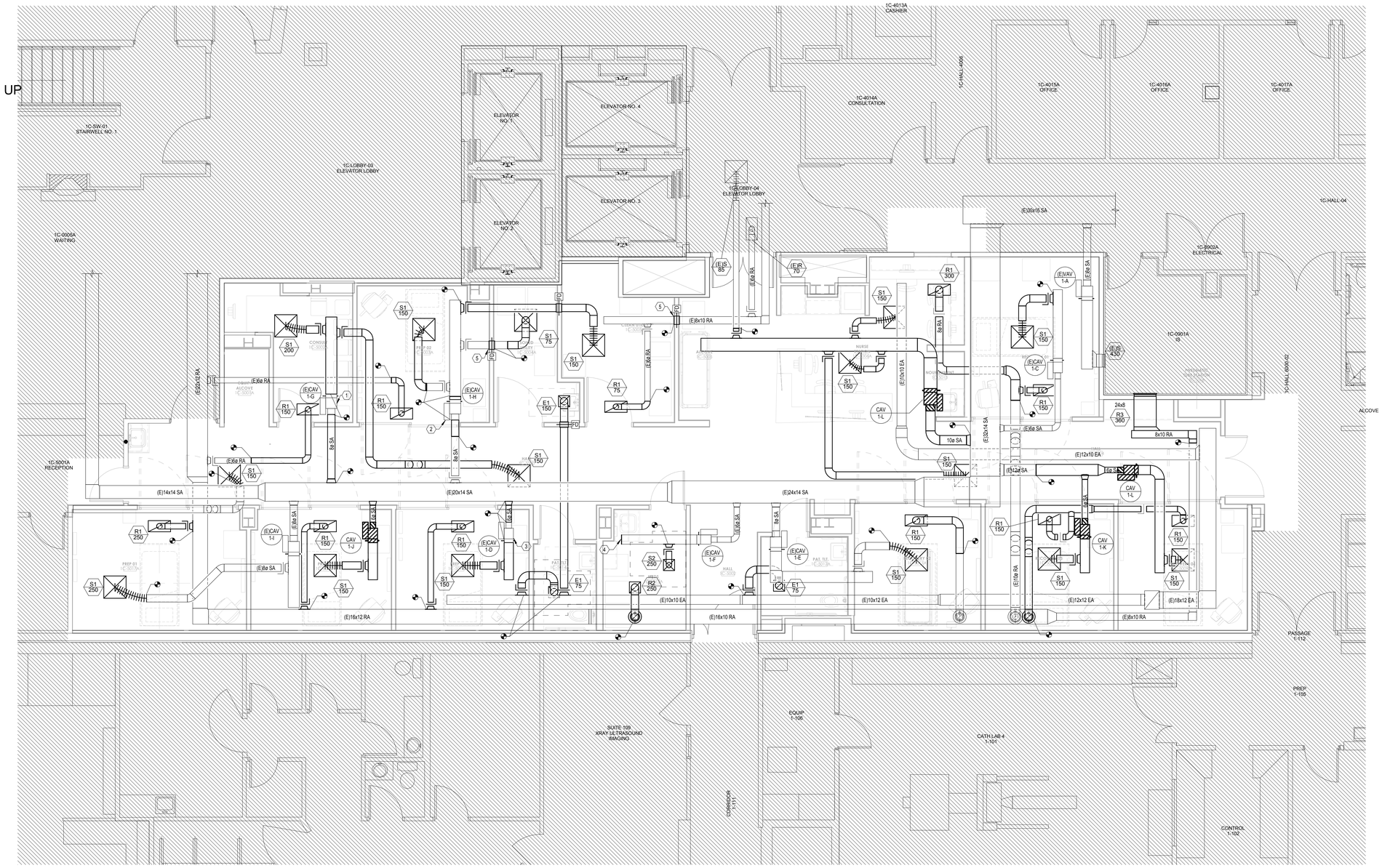
7/14/2016 8:54:37 AM

GENERAL NOTES:

A. REFER TO SHEET M.001 FOR LEGENDS, GENERAL NOTES, AND ABBREVIATIONS.
B. CONTRACTOR TO VERIFY EXISTING FIELD CONDITIONS.

LEGEND NOTES:

1 RELOCATED EXISTING VAV 1-G. CONTRACTOR TO COORDINATE FINAL VAV LOCATION WITH FULL HEIGHT WALLS.
2 RELOCATED EXISTING VAV 1-H. CONTRACTOR TO COORDINATE FINAL VAV LOCATION WITH FULL HEIGHT WALLS.
3 RELOCATED EXISTING VAV 1-D. CONTRACTOR TO COORDINATE FINAL VAV LOCATION WITH FULL HEIGHT WALLS.
4 CAP AND SEAL EXISTING DUCTWORK. REFER TO SHEET MD.201 FOR DEMOLITION SCOPE.
5 CONTRACTOR TO PROVIDE FIRE DAMPER TO EXISTING DUCTWORK.


UP
1C-4013A CASHIER
1C-HALL-4006
1C-4015A OFFICE
1C-4016A OFFICE
1C-4017A OFFICE
1C-4014A CONSULTATION
1C-SW-01 STAIRWELL NO. 1
1C-LOBBY-03 ELEVATOR LOBBY
ELEVATOR NO. 1
ELEVATOR NO. 4
ELEVATOR NO. 3
ELEVATOR NO. 2
1C-LOBBY-04 ELEVATOR LOBBY
1C-HALL-04
1C-0006A WAITING
1C-9002A ELECTRICAL
1C-0901A IS
1C-5001A RECEPTION
1C-HALL-6006-02
ALCOVE
PASSAGE 1-112
PREP 1-105
SUITE 108 XRAY I.I./ TRASOUND IMAGING
EQUIP 1-106
CATH LAB 4 1-101
CONTROL 1-102
CORRIDOR 1-111
(E)14x14 SA
(E)20x14 SA
(E)24x14 SA
(E)16x12 RA
(E)10x10 EA
(E)16x10 RA
(E)10x12 EA
(E)12x12 EA
(E)18x12 EA
(E)8x10 RA
(E)12x8 SA
(E)10x14 SA
(E)10x16 SA
(E)12x10 EA
(E)20x18 RA
(E)6x8 RA
(E)8x8 SA
(E)8x6 SA
(E)8x10 RA
(E)10x8 RA
(E)8x14 SA
(E)6x8 SA
(E)8x12 SA
(E)10x6 RA
(E)8x6 SA
(E)8x SA
(E)6x SA
(E)8x SA
(E)8x SA
(E)8

GENERAL NOTES:

A. REFER TO SHEET M.001 FOR LEGENDS, GENERAL NOTES, AND ABBREVIATIONS.
B. CONTRACTOR TO VERIFY EXISTING FIELD CONDITIONS.

(#) LEGEND NOTES:



1 LEVEL 01 - PIPING PLAN
1/4" = 1'-0"

KEY PLAN



City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Consultant Team

MEP
WSP + CCRD
3613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date

COLORADO LICENSED PROFESSIONAL ENGINEER 47964 7/15/16

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

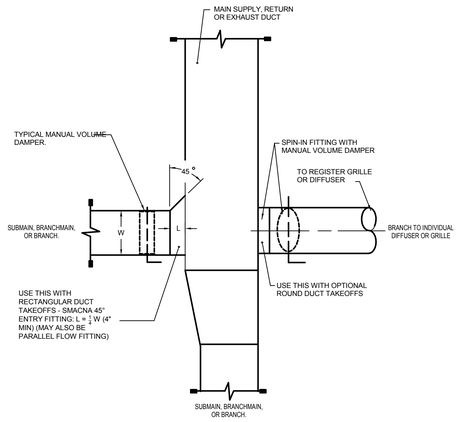
Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	BS/AL
Checked by	WS

Sheet Title:
LEVEL 01 - HVAC PIPING PLAN

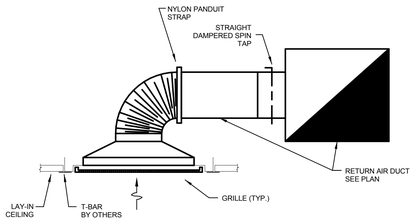
Sheet Number
M.301

CONTRACT & SPECIFICATION CONFIDENCE

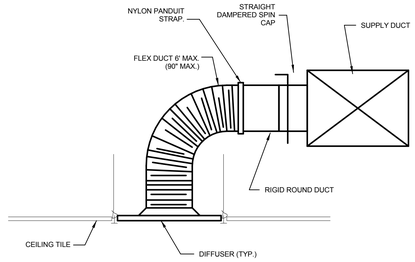
7/14/2016 9:42:24 AM



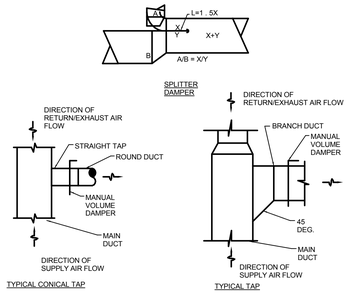
08 LOW PRESSURE DUCT VOLUME DAMPER REQUIREMENTS
NO SCALE



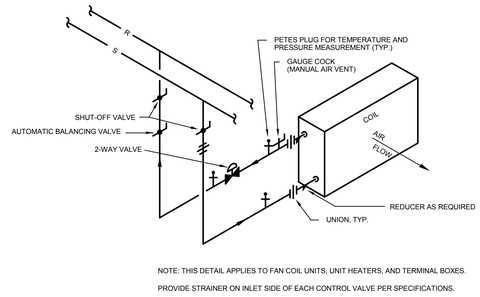
06 RETURN AIR GRILLE DUCT CONNECTION
NO SCALE



03 DIFFUSER CONNECTION DETAIL
NO SCALE



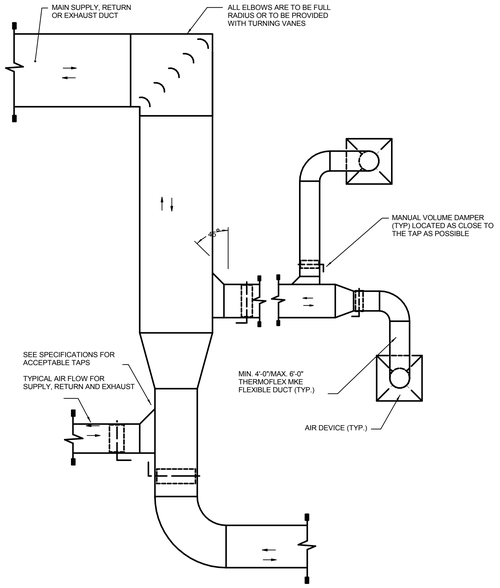
05 LOW PRESSURE DUCT DETAILS
NO SCALE



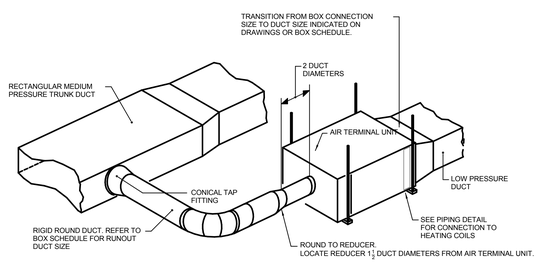
NOTE: THIS DETAIL APPLIES TO FAN COIL UNITS, UNIT HEATERS, AND TERMINAL BOXES.

PROVIDE STRAINER ON INLET SIDE OF EACH CONTROL VALVE PER SPECIFICATIONS.

02 HEATING WATER - PIPING OF SINGLE WATER COIL WITH AUTOMATIC CONTROL AND 2-WAY VALVE
NO SCALE



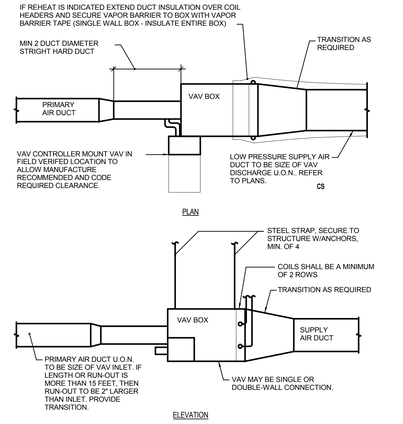
07 TYPICAL LOW PRESSURE SUPPLY RETURN AND EXHAUST DUCT DETAIL
NO SCALE



NOTE:

1. THIS DETAIL REFERS TO VAV AND CONSTANT VOLUME HOT WATER REHEAT AIR TERMINAL UNITS AND VAV AIR TERMINAL UNITS WITHOUT REHEAT.
2. PROVIDE 2" DUCT DIAMETERS OF STRAIGHT DUCT BETWEEN REDUCER AND AIR TERMINAL UNIT.
3. TAP FITTING TO RECTANGULAR MEDIUM PRESSURE DUCT MAY ALSO BE RECTANGULAR 45° ENTRY, SIZED PER SMACNA RECOMMENDATIONS, AND THEN TRANSITIONING TO ROUND.
4. MEDIUM PRESSURE ROUND TRUNK DUCT TO HAVE CONICAL TEE FITTING, WITH OTHER REQUIREMENTS AS SHOWN.
5. BOXES 1400 CFM OR LESS TO BE SUPPORT OF REINFORCING ANGLE WITH ⅜" GALVANIZED ALL THREAD ROD HANGERS.
6. COORDINATE REQUIREMENT FOR CEILING ACCESS PANELS WITH DIVISION 8.

04 DUCT CONNECTION TO AIR TERMINAL UNIT
NO SCALE



01 VAV BOX INSTALLATION DETAIL
NO SCALE

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Consultant Team

MEP

WSP + CCRD
3613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

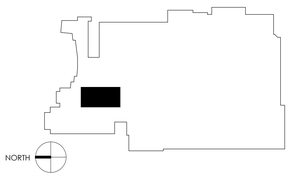
No.	Description	Date

COLORADO LICENSED MARK SAMPLE 47964 7/15/16 PROFESSIONAL ENGINEER

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

KEY PLAN



TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	BS/AL
Checked by	WS

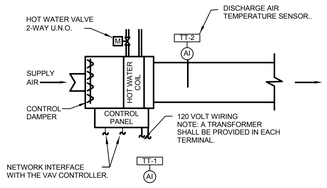
Sheet Title:

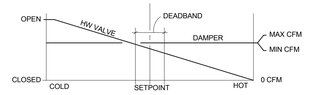
MECHANICAL DETAILS

Sheet Number

M.701

7/14/2016 8:54:28 AM





TYPICAL CONSTANT VOLUME BOX WITH HOT WATER REHEAT COIL

COOLING AND HEATING
ON A RISE IN SPACE TEMPERATURE TRANSMITTERS (TT-1) SETPOINT (75 DEG. ADJ.), TT-1 SHALL, THROUGH THE DDC, MODULATE THE HOT WATER VALVE CLOSED. ON A FALL IN SPACE TEMPERATURE (70 DEG. ADJ.), TT-1 SHALL, THROUGH THE DDC, MODULATE OPEN THE HOT WATER VALVE.

THE DAMPER SHALL MODULATE TO MAINTAIN THE CFM SETTING AS INDICATED ON THE DRAWINGS AT ALL TIMES. UNDER NO CIRCUMSTANCES (EXCEPT SMOKE CONTROL IF APPLICABLE) SHALL THE CFM SETTING BE BELOW THAT OF THE MINIMUM CFM AS INDICATED ON THE DRAWINGS.

TEMPERATURE SETPOINT SHALL BE ADJUSTABLE THROUGH THE DDC CONTROL SYSTEM AND SHALL HAVE USER ADJUSTABLE OFFSETS. THE DEADBAND SHALL BE ADJUSTABLE THROUGH THE DDC CONTROL SYSTEM.

GAIN OF VAV DAMPER CONTROL SHALL NOT EXCEED 20%.

THE DEADBAND SHALL BE A MINIMUM OF 5°F.

THE FOLLOWING POINTS SHALL BE MAPPED TO BE TRENDED FROM THE OPERATORS WORKSTATION. A VAV BOX SUMMARY SHALL BE PROGRAMMED TO ALLOW THE OPERATOR TO VIEW THE FOLLOWING POINTS IN TABULAR FORM:
- SPACE TEMPERATURE SETPOINT
- CURRENT SPACE TEMPERATURE
- CFM SETTING
- CURRENT CFM
- DAMPER POSITION
- VALVE POSITION
- VAV DISCHARGE AIR TEMP

01 TYPICAL CONSTANT VOLUME BOX WITH HOT WATER COIL

SCALE: NTS

AIR DEVICE SCHEDULE

DESIG.	FRAME SIZE	OBD	FINISH	THROW	NECK SIZE	MANUFACTURER/MODEL NO.	REMARKS/NOTES
S1	24x24	NO	WHITE	4-WAY (ADJUSTABLE)	NOTE 1	TITUS TMSA-AA	SQUARE CONE DIFFUSER
S2	12x12	NO	WHITE	4-WAY (ADJUSTABLE)	NOTE 1	TITUS TMSA	SQUARE CONE DIFFUSER (LAY IN)
R1	24x24	NO	WHITE	N/A	NOTE 3	TITUS 355FL	LOUVERED RETURN (LAY IN)
R2	12x24	NO	WHITE	N/A	NOTE 4	TITUS 355FL	LOUVERED RETURN (LAY IN)
E1	12x12	NO	WHITE	N/A	NOTE 4	TITUS 355RL	LOUVERED EXHAUST (LAY IN)

NOTES:

1.

NECK*	AIRFLOW
6":	0-100 CFM
8":	101-200 CFM
10":	201-350 CFM
12":	351-560 CFM
14":	561-850 CFM

* AND/OR DUCT RUNOUT

2.

NECK*	AIRFLOW
6x6	0-100 CFM
8x8	101-230 CFM
10x10	231-360 CFM
12x12	361-450 CFM
16x16	451-800 CFM
22x22	801-1200 CFM

* AND/OR DUCT RUNOUT

3. ON ALL R1 DUCTED RETURN AIR GRILLES: PROVIDE 22"x22" NECK GRILLE AND INSTALL 22"x22"x6" TALL PLENUM BOX ON BACK OF GRILLE. SEE PLANS FOR DUCT RUN OUT SIZE TO PLENUM BOX. SEE NOTE 2 IF NO SIZE IS INDICATED.
4. SEE NOTE 1 FOR RUNOUT SIZE IF NOT INDICATED ON PLANS (NOTE 2 MAY BE USED AS AN ALTERNATE). PROVIDE SQUARE TO ROUND ADAPTER AS REQUIRED.

VAV BOX W/ HOT WATER COIL SCHEDULE

	VAV				H.W. COIL								
SIZE	VAV VALVE SIZE (IN)	CFM RANGE COOLING MIN.-MAX.	MAX. S.P.D. IN. W.G.	MAX. N.C.	EAT. DB °F	MIN. MBH	MAX. GPM	EWT °F	LWT °F	MAX. P.D. AIR IN. W.G.	MAX. WATER P.D. (FT.)	# ROWS	MANUFACTURER/MODEL	NOTES
A	6"	75-250	0.10	27	55	NOTE 1	NOTE 1	180	160	0.20	2	2	SEE SPECIFICATIONS	ALL
B	8"	145-550	0.12	31	55	NOTE 1	NOTE 1	180	160	0.46	2	2	SEE SPECIFICATIONS	ALL
C	10"	235-950	0.12	32	55	NOTE 1	NOTE 1	180	160	0.46	4	2	SEE SPECIFICATIONS	ALL
D	12"	340-1500	0.15	32	55	NOTE 1	NOTE 1	180	160	0.46	5	2	SEE SPECIFICATIONS	ALL
E	14"	475-2200	0.15	36	55	NOTE 1	NOTE 1	180	160	0.46	5	2	SEE SPECIFICATIONS	ALL
F	16"	625-2800	0.15	38	55	NOTE 1	NOTE 1	180	160	0.50	5	2	SEE SPECIFICATIONS	ALL

NOTES:

1. REFER TO PLANS FOR H.W. COIL OPERATING GPM; MBH= GPM x 10
2. REFER TO PLANS FOR ACTUAL MAX. COOLING CFM AND MINIMUM CFM.
3. MAX. N.C. RELATES TO DISCHARGE AT 1.0" INLET S.P.
4. NOT INCLUDING HOT WATER COIL S.P.D.
5. MAX. N.C. INCLUDING HOT WATER COIL.
6. PROVIDE 24V CONTROL TRANSFORMER WHERE ELECTRIC/ELECTRONIC CONTROL IS SPECIFIED.

KEY:

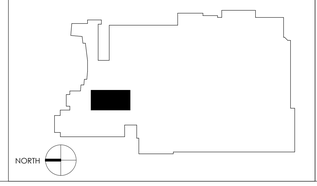
VAV # — SIZE - MAXIMUM CFM / GPM - MINIMUM CFM

BOX # REPRESENTS THE ROOM SERVED AND/OR LOCATION OF TERMINAL

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

KEY PLAN



path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Consultant Team

MEP

WSP + CCRD
5613 DTC Parkway, Suite 550
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date

COLORADO LICENSED PROFESSIONAL ENGINEER
47964
7/15/16

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	BS/AL
Checked by	WS

Sheet Title:

MECHANICAL SCHEDULES

Sheet Number

M.801

CONTRACT & SPECIFICATIONS ARCHITECTURE

7/14/2016 9:34:30 AM

PLUMBING SPECIFICATIONS

I. GENERAL CONDITIONS:

A. THE SCOPE OF THE WORK SHALL INCLUDE THE FURNISHING AND INSTALLATION OF THE NECESSARY MATERIAL AND LABOR TO ACCOMPLISH THE WORK INDICATED BY THE DRAWINGS AND HEREIN SPECIFIED. ALL WORK BY THIS CONTRACTOR SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL BUILDING CODES.

B. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THE EXISTING CONDITIONS AT THE JOB SITE BEFORE SUBMITTING PROPOSALS. SUBMISSION OF PROPOSALS SHALL BE TAKEN AS EVIDENCE THAT SUCH INSPECTION HAS TAKEN PLACE. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE COMPLETE SET OF CONSTRUCTION DOCUMENTS, AND THE LACK OF SPECIFIC INFORMATION ON THE DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY.

C. MATERIALS AND EQUIPMENT FURNISHED UNDER THIS CONTRACT SHALL BE NEW AND SHALL BEAR THE U.L. LABEL WHERE APPLICABLE, UNLESS NOTED OTHERWISE. ALL WORK SHALL BE GUARANTEED AGAINST DEFECTIVE MATERIALS AND WORKMANSHIP FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR AFTER COMPLETION AND ACCEPTANCE BY THE OWNER.

D. CONTRACTOR SHALL INSTALL PLUMBING SYSTEMS WITHOUT INTERFERENCE AND IN STRICT COORDINATION WITH OTHER TRADES.

E. MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE CONTRACT DOCUMENTS AND APPLICABLE CODES AND STANDARDS. IN CASE OF DIFFERENCE BETWEEN APPLICABLE CODES AND STANDARDS AND THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ARCHITECT/ENGINEER AND THE OWNER IN WRITING OF SUCH DIFFERENCE. SHOULD THE CONTRACTOR PERFORM ANY WORK THAT DOES NOT COMPLY WITH THE REQUIREMENTS OF APPLICABLE CODES AND STANDARDS, HE SHALL BEAR ALL COSTS ARISING IN CORRECTING SUCH DEFECTS. APPLICABLE CODES AND STANDARDS SHALL INCLUDE ALL ORDINANCES, UTILITY COMPANY REGULATIONS, AND APPLICABLE REQUIREMENTS OF NATIONALLY ACCEPTED CODES AND STANDARDS. SHOULD THE CONTRACTOR SUPPLY EQUIPMENT DIFFERING FROM THE SPECIFIED ITEMS IN THE CONTRACT DOCUMENTS WITHOUT NOTIFICATION TO THE ENGINEER, HE SHALL BEAR ALL COSTS TO UPGRADE DEFICIENCIES ARISING FROM SUCH.

F. WHERE ONLY ONE MANUFACTURER'S NAME IS LISTED IN THE EQUIPMENT SPECIFICATION, OTHER MANUFACTURERS OF SIMILAR CHARACTERISTICS AND OF EQUAL OR BETTER PERFORMANCE CAPACITIES MAY BE CONSIDERED FOR "OR EQUAL" APPROVAL BY THE ENGINEER. WHERE MORE THAN ONE MANUFACTURER IS LISTED IN THE NOTES AND EQUIPMENT SPECIFICATIONS, ONLY THOSE NAMED MANUFACTURERS WILL BE CONSIDERED FOR APPROVAL.

G. SHOULD A SUBSTITUTION BE ACCEPTED, AND SHOULD THE SUBSTITUTE MATERIAL PROVE DEFECTIVE, OR OTHERWISE UNSATISFACTORY FOR THE SERVICE INTENDED WITHIN THE GUARANTEE PERIOD, THIS MATERIAL OR EQUIPMENT SHALL BE REPLACED WITH THE MATERIAL OR EQUIPMENT SPECIFIED AT NO COST TO THE OWNER.

H. PROVIDE ACCESS, INCLUDING NECESSARY ACCESS DOORS, FOR NEW AND EXISTING EQUIPMENT REQUIRING OPERATION AND/OR MAINTENANCE. RELOCATE EXISTING AND LOCATE ALL NEW EQUIPMENT SUCH THAT OPERATION OR MAINTENANCE IS NOT RESTRICTED.

I. DO NOT RUN PIPING, OR LOCATE EQUIPMENT, WITH RESPECT TO SWITCHBOARDS, PANELBOARDS, POWER PANELS, MOTOR CONTROL CENTERS OR DRY TYPE TRANSFORMERS, WITHIN 42 INCHES IN FRONT OF EQUIPMENT, OVER EQUIPMENT, OR WITHIN 36 INCHES HORIZONTALLY OF SAME SPACE.

II. PRODUCTS, EQUIPMENT AND EXECUTION:

A. SANITARY DRAIN LINES (SOIL, WASTE AND VENT) SHALL BE AMERICAN MANUFACTURED SERVICE WEIGHT CAST IRON OR DWV COPPER PIPE. JOINTS SHALL BE FABRICATED BY THE USE OF COMPRESCON JOINTS SIMILAR TO TYLER PIPE AND FOUNDRY'S "TY-SEAL." FOR CAST IRON PIPE OR 95/5 SOLDER FOR DWV COPPER PIPE. NO-HUB CAST IRON PIPE ASSEMBLED WITH STAINLESS STEEL/NEOPRENE HUBLESS COUPLINGS SHALL BE LIMITED TO ABOVE GROUND INSTALLATIONS.

B. DOMESTIC WATER PIPING INSTALLED ABOVE GROUND SHALL BE AMERICAN MANUFACTURED TYPE "L" HARD DRAWN COPPER ASSEMBLED WITH 95/5 SOLDER AND WROUGHT COPPER JOINT FITTINGS.

C. RELIEF AND DRAIN PIPING SHALL BE AMERICAN MANUFACTURED TYPE "M" COPPER WITH 95/5 SOLDER JOINT FITTINGS OR SCHEDULE 40 BLACK STEEL PIPES WITH SCREWED FITTINGS.

D. FITTINGS AND PIPING CONNECTED WITH PLUMBING FIXTURES SHALL BE BRASS AND, WHEREVER EXPOSED, SHALL BE POLISHED CHROME-PLATED.

E. FURNISH AND INSTALL ALL REQUIRED WATER, WASTE, SOIL, AND VENT CONNECTIONS TO ALL PLUMBING FIXTURES AND EQUIPMENT, TOGETHER WITH ALL FITTINGS, SUPPORTS, FASTENING DEVICES, COCKS, VALVES, TRAPS, ETC., LEAVING ALL IN COMPLETE WORKING ORDER.

F. PLUMBING FIXTURES SHALL BE PROVIDED AS SCHEDULED ON THE DRAWINGS. PLUMBING FIXTURES SHALL BE NEW, EXCEPT WHERE NOTED, AND SHALL BE APPROVED BY THE APPLICABLE WATER CONSERVATION AUTHORITY. THE PLUMBING CONTRACTOR SHALL PROVIDE NECESSARY CHROME PLATED P-TRAPS, SUPPLIES WITH STOPS, RISERS, INLET DRAINS, ETC.

G. SHOCK ARRESTORS SHALL BE SIMILAR TO JOSAM 75000 OR AS MANUFACTURED BY PPP AND SIOUX CHIEF SIZED AS PER THE PDI.

H. CLEANOUTS SHALL BE PROVIDED IN SANITARY WASTE LINES AS SHOWN AND AT EACH CHANGE OF DIRECTION GREATER THAN 45 DEGREES. WALL CLEANOUTS SHALL BE SIMILAR TO JOSAM 5879 WITH BRONZE PLUG AND STAINLESS STEEL COVER. FLOOR CLEANOUTS SHALL BE SIMILAR TO JOSAM 56020 WITH CARPET MARKER FOR CARPETED FLOORS.

I. PIPE, EQUIPMENT, ETC., SHALL BE PROPERLY SUPPORTED FROM STRUCTURE WITH THE USE OF APPROVED TYPE CLEVIS, TRAPEZE HANGERS OR FLOOR STANDS WITH SPACING AS FOLLOWS:
   1. STEEL PIPE OR COPPER TUBING - 1-1/2" OR LESS, 6 FOOT INTERVALS.
   2. CAST IRON - ONE (1) HANGER PER LENGTH OF PIPE AND NOT EXCEEDING 10'-0" O.C.
   3. FITTINGS - WITHIN 2'-0" OF EACH CHANGE OF DIRECTION.

J. INSULATION SHALL BE PROTECTED AT HANGERS BY A SECTION OF CALCIUM SILICATE PIPE INSULATION AND A 12" LONG HALF-ROUND SHEET METAL SHIELD ON THE OUTSIDE OF THE INSULATION. EXTEND PIPING INSULATION FULL THICKNESS WITHOUT INTERRUPTION THROUGH WALLS, FLOORS AND SIMILAR PENETRATIONS.

K. PROVIDE AND INSTALL UNIONS AT PROPER POINTS TO PERMIT REMOVAL OF A PIPE, EQUIPMENT, ETC., WITHOUT INJURY TO OTHER PARTS OF THE SYSTEM AND TO PREVENT CORROSION DUE TO ELECTROLYSIS. ALL EQUIPMENT SHALL BE INSTALLED IN A MANNER TO PERMIT ACCESS FOR SERVICE WITHOUT DISASSEMBLY. UNIONS SHALL BE DIELECTRIC WHERE DISSIMILAR MATERIALS OCCUR. PRESSURE RATINGS SAME AS FITTINGS.

L. ALL DOMESTIC COLD WATER AND HOT WATER PIPE AND FITTINGS SHALL BE INSULATED WITH ½" THICK OWENS-CORNING FIBERGLASS 25 ASJ/SSL OR APPROVED EQUAL.

M. PROVIDE INSULATION PRODUCTS MANUFACTURED BY JOHNS-MANVILLE, OWENS-CORNING, ARMSTRONG AND CERTAINTEED. FIBERGLASS PIPE INSULATION SHALL BE ASTM C547-77, CLASS 1. PROVIDE BANDS, WIRES, AND CEMENT AS RECOMMENDED BY INSULATION MANUFACTURER FOR THE APPLICATIONS INDICATED. FLEXIBLE FIBERGLASS DUCTWORK INSULATION SHALL BE ASTM C553-70, TYPE I, CLASS B3.
   1. PROVIDE COMPOSITE INSULATION (INSULATION JACKETS, COVERINGS, SEALERS, MASTICS AND ADHESIVE) WITH FLAME-SPREAD RATINGS OF 25 OR LESS AND A SMOKE-DEVELOPED RATING OF 50 OR LESS, AS TESTED BY ASTM K04 (HFFA 255) METHOD.
   2. MAINTAIN INTEGRITY OF VAPOR BARRIER JACKETS ON PIPE INSULATION, AND PROTECT TO PREVENT PUNCTURE OR OTHER DAMAGE. SEAL OPEN ENDS OF INSULATION WITH MASTIC. SECTIONALLY SEAL ALL BUTT ENDS OF WATER INSULATION OF FITTINGS WITH WHITE VAPOR BARRIER COATING. EXTEND PIPING INSULATION WITHOUT INTERRUPTION THROUGH WALLS, FLOORS AND SIMILAR PIPING PENETRATIONS, EXCEPT WHERE OTHERWISE INDICATED. INSTALL PROTECTIVE METAL SHIELDS AND FOAM GLASS INSERTS WHERE PIPE HANGERS BEAR ON OUTSIDE OF INSULATION.

IV. RECORDS FOR OWNER:

A. CONTRACTOR SHALL KEEP A CLEAN SET OF DRAWINGS ON THE JOB, NOTING DAILY ALL CHANGES MADE IN THESE DRAWINGS IN CONNECTION WITH THE FINAL INSTALLATION INCLUDING EXACT DIMENSIONED LOCATIONS OF ALL NEW AND UNCOVERED EXISTING UTILITIES AND SHALL, WITH HIS REQUEST FOR FINAL PAYMENT, TURN OVER A CLEAN, NEATLY MARKED SET SHOWING "AS INSTALLED" WORK TO THE ARCHITECT FOR SUBSEQUENT REVIEW AND TRANSMITTAL TO THE OWNER. CONTRACTOR SHALL NOTE ALL CONSTRUCTION CHANGES, DATE EACH SHEET AND LABEL "AS-BUILTS" IN THE REVISION BLOCK ON THE DRAWINGS. CONTRACTOR SHALL ALSO FURNISH ONE (1) SET OF PRINTS FROM THE "AS-BUILTS".

B. IN ADDITION TO THE ABOVE, CONTRACTOR SHALL ACCUMULATE DURING THE JOB'S PROGRESS, THE FOLLOWING DATA, IN TRIPLICATE, PREPARED IN A NEAT BROCHURE OR PACKET FOLDER AND TURNED OVER TO THE ARCHITECT FOR REVIEW AND SUBSEQUENT DELIVERY TO THE OWNER.
   1. ALL WARRANTIES AND GUARANTEES AND MANUFACTURER'S DIRECTIONS ON EQUIPMENT AND MATERIAL COVERED BY THE CONTRACT INCLUDING THE NAMES, ADDRESSES AND TELEPHONE NUMBERS OF THE MANUFACTURER'S REPRESENTATIVE.
   2. ANY AND ALL OTHER DATA AND/OR DRAWINGS REQUIRED DURING CONSTRUCTION.
   3. REPAIR PARTS LISTS OF ALL MAJOR ITEMS AND EQUIPMENT INCLUDING NAME, ADDRESS AND TELEPHONE NUMBERS OF LOCAL SUPPLIER OR AGENT.

GENERAL NOTES - PLUMBING

A. ALL MECHANICAL, ELECTRICAL, AND PLUMBING WORK SHALL COMPLY WITH ALL APPLICABLE STATE AND LOCAL BUILDING CODES. REFER TO SPECIFICATIONS FOR MATERIALS AND METHODS FOR MECHANICAL AND PLUMBING CONSTRUCTION.

B. INDICATED LOCATIONS ARE APPROXIMATE.

C. COORDINATE WITH OWNER AND PERSONNEL THE SHUT-DOWN OF THE EXISTING SITE UTILITIES.

D. ROUTE ALL PLUMBING PIPING AS TIGHT AS POSSIBLE TO STRUCTURE. PIPING SHALL BE INSTALLED PARALLEL/PERPENDICULAR TO WALLS AND COLUMN LINES.

E. CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, AND LABOR REQUIRED FOR A COMPLETE WORKING AND COORDINATED SYSTEM.

F. COORDINATE THE EXACT LOCATION OF MECHANICAL, PLUMBING, AND FIRE PROTECTION EQUIPMENT WITH THE LOCATIONS OF LIGHT FIXTURES, PIPING, CONDUIT, AND OTHER CONSTRUCTION, TO ALLOW FOR PROPER ACCESS TO SERVICE EQUIPMENT.

G. COORDINATE ALL NEW WORK WITH ALL TRADES. WORK SHOWN ON THESE DRAWINGS ARE INTENDED TO PROVIDE THE OVERALL ENGINEERING DESIGN CONCEPT AND DOES NOT PROVIDE FOR RELOCATIONS, OFFSETS, ETC., THAT ARE REQUIRED BY THE COORDINATION OF TRADES. THIS ADDITIONAL WORK SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

H. IT IS THE REQUIREMENT OF THESE DOCUMENTS TO ALLOW ALL CEILING CONSTRUCTION AND HEIGHTS TO BE AS SHOWN ON THE ARCHITECTURAL DRAWINGS. COORDINATE THE LOCATION OF PIPING AND PROVIDE OFFSETS IN PIPING AS REQUIRED TO MEET THIS REQUIREMENT.

I. CONDUIT, PIPING, AND DUCTWORK SHALL BE INDEPENDENTLY SUPPORTED, AND EACH SUPPORT SHALL BE INDEPENDENT OF PARTITION AND CEILING SYSTEM SUPPORTS. WHERE INDEPENDENT SUPPORT IS NOT POSSIBLE AN ENGINEERED SUPPORT SYSTEM SHALL BE UTILIZED.

J. ALL WORK SHALL BE SCHEDULED AND PERFORMED IN STRICT COORDINATION WITH ARCHITECTURAL PHASING PLANS. CONTRACTOR SHALL SCHEDULE AND PERFORM WORK IN SEQUENCE WITH THE PHASING PLAN.

K. PROTECT EQUIPMENT AND WORK FROM DAMAGE DURING HANDLING AND INSTALLATION UNTIL COMPLETION OF CONSTRUCTION.

L. REMOVE ALL EXCESS MATERIAL AND DEBRIS AND CLEAN ALL EQUIPMENT UPON COMPLETION OF WORK. TOUCH UP WITH PAINT WHERE REQUIRED.

M. ALL CONNECTIONS BETWEEN PIPES OF DISSIMILAR MATERIALS SHALL BE MADE WITH DIELECTRIC UNIONS.

N. LOCATE ISOLATION VALVES FOR EQUIPMENT AS CLOSE TO THE MAIN AS POSSIBLE.

O. PROVIDE CLEANOUTS AT THE BASE OF ALL STORM AND SANITARY STACKS.

P. ALL SANITARY SEWER AND STORM DRAIN SYSTEM WALL CLEANOUTS SHALL BE PLACED AT 18" AFF UNLESS OTHERWISE NOTED.

Q. COORDINATE ALL FIRE PROTECTION SPRINKLER LOCATIONS AND MOUNTING STYLES WITH LIGHTING PLANS AND ARCHITECTURAL REFLECTED CEILING PLANS.

R. DO NOT ROUTE PIPING INSIDE ELECTRICAL AND COMMUNICATION ROOMS, IN UNAVOIDABLE INSTANCES, ALL EQUIPMENT SHALL BE IMPROTECTED FROM OVERHEAD PIPING WITH DRAIN PANS. ROUTE DRAIN FROM DRAIN PANS TO NEAREST FLOOR DRAIN IN MECHANICAL AREAS. WHERE NO FLOOR DRAIN IS ACCESSIBLE ROUTE AS INDIRECT WASTE TO PLUMBING FIXTURE AS INDICATED ON CONTRACT DRAWINGS, OR NEAREST LAVATORY TAILPIECE. PROVIDE SENSOR IN DRAIN PAN TO SEND ALARM TO BAS IN CASE OF LEAKAGE INTO PAN.

S. EACH SUBCONTRACTOR SHALL PROVIDE ADEQUATELY SIZED ACCESS DOORS TO PROVIDE REQUIRED ACCESS THROUGH HARD SURFACES TO THEIR WORK REQUIRING ACCESS (ANY FLOW DEVICES, VALVES, ETC.). SUBCONTRACTOR IS ALSO REQUIRED TO PROVIDE ADEQUATE LOCATION INFORMATION SO ACCESS CAN BE INSTALLED BY INTERIORS SUBCONTRACTOR.

T. REFER TO ARCHITECTURAL DRAWINGS FOR RATED WALL TYPES.

U. ALL PLUMBING PIPING SHALL BE IDENTIFIED IN ACCORDANCE WITH THE SPECIFICATIONS.

V. SLOPE AND ARRANGE WATER PIPING SYSTEMS TO ESTABLISH HIGH POINTS FOR AIR ELIMINATION AND LOW POINTS TO PERMIT PROPER DRAINING OF EACH LINE.

W. COORDINATE ALL PIPING FLOOR PENETRATIONS WITH STRUCTURAL.

X. SPACE LOCATIONS FOR MATERIALS, EQUIPMENT AND FIXTURES HAVE BEEN MADE ON THE BASIS OF PRESENT AND KNOWN FUTURE REQUIREMENTS AND THE DIMENSIONS OF ITEMS OF EQUIPMENT OR FIXTURES OF A PARTICULAR MANUFACTURER WHETHER INDICATED OR NOT. THE CONTRACTOR SHALL VERIFY THAT ALL MATERIALS, EQUIPMENT AND FIXTURES PROPOSED FOR USE ON THIS PROJECT ARE WITHIN THE CONSTRAINTS OF THE ALLOCATED SPACE.

Y. PIPE PENETRATIONS THROUGH WALLS SHALL MAINTAIN THE CONSTRUCTION/FIRE RATING OF THE WALL.

DEMOLITION

A. ALL CAPPED SANITARY WASTE, VENTS AND DOMESTIC WATER PIPING THAT ARE NOT BEING USED, NEED TO BE REMOVED BACK TO THE MAINS AND CAPPED.

B. PROVIDE ADDITIONAL VALVES, FITTINGS AND/OR PIPING AS NECESSARY TO PROVIDE UNINTERRUPTED SERVICE IN AREAS OUTSIDE AND INSIDE OF THE AREA WORK.

C. ALL WORK SHALL BE PERFORMED IN STRICT COORDINATION WITH HOSPITAL SCHEDULES, OCCUPANCIES AND WORK. CONTRACTOR SHALL COORDINATE WITH HOSPITAL REPRESENTATIVE.

D. ALL NECESSARY SHUTDOWNS OR OUT OF PHASE WORK SHALL BE SCHEDULED WITH THE HOSPITAL REPRESENTATIVE.

E. INFORMATION PROVIDED ON THESE DRAWINGS HAVE BEEN TAKEN FROM DESIGN DRAWING AND FIELD OBSERVATIONS. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO PRICING AND COMMENCEMENT OF WORK.

F. WHERE EXISTING WALLS ARE DEMOLISHED, REMOVE ALL EXISTING PLUMBING FIXTURES AND THEIR ASSOCIATED PIPING BACK TO THE POINT OF ORIGINATION. ALL EXISTING PIPING THAT WAS SHUT DOWN DURING DEMOLITION SHALL BE TURNED ON AND CHECKED FOR LEAKS.

G. PROVIDE FOR ANY AND ALL DEMOLITION WORK NECESSARY TO ACCOMMODATE ALL NEW CONSTRUCTION, INCLUDING ARCHITECTURAL, MECHANICAL, PLUMBING OR ELECTRICAL WORK.

H. IF DEMOLITION IS REQUIRED TO INSTALL AN ITEM, THE CONTRACTOR SHALL RESTORE THE AREA TO PREVIOUS CONDITION, OR REPLACE DAMAGED ITEMS WITH NEW ITEMS TO MATCH EXISTING.

I. A DEVICE OR PIPING WITH AN 'X' INDICATES EXISTING TO BE REMOVED INCLUDING ALL ASSOCIATED VALVES AND FIXTURES. PIPING TO BE VALVED AND CAPPED AT POINT OF ORIGIN.

J. CONTRACTOR SHALL REMOVE ALL FIXTURES, ASSOCIATED PIPING AND EQUIPMENT INDICATED TO BE REMOVED AND/OR RELOCATED UNLESS NOTED OTHERWISE. PROVIDE AND INSTALL ALL NECESSARY FIXTURES, EQUIPMENT AND ACCESSORIES REQUIRED TO MAINTAIN SERVICE TO ALL "EXISTING TO REMAIN" FIXTURES AND EQUIPMENT THAT MAY BE INTERRUPTED DURING DEMOLITION.

K. WHERE EXISTING MECHANICAL EQUIPMENT IS DEMOLISHED, REMOVE ALL RELATED PLUMBING TO THE EQUIPMENT AND THEIR ASSOCIATED PIPING BACK TO THE POINT OF ORIGINATION AND VALVE & CAP.

L. ITEMS REMOVED AND NOT REINSTALLED OR RETURNED TO OWNER SHALL BE DISPOSED OF LEGALLY (COORDINATE WITH OWNER FOR THE DISPOSAL).

M. ALL EXISTING PLUMBING RISER(S) LOCATED IN THE DEMOLISHED WALLS/CHASES MUST BE RELOCATED TO AN APPROVED LOCATION BY THE ARCHITECT THEN RECONNECTED ON ADJACENT FLOORS.

N. ANY FLOOR DRAINS OR FLOOR SINKS NOT REQUIRED SHALL BE REMOVED COMPLETELY. DRAINS ON THE GROUND FLOOR SHALL BE PERMANENTLY PLUGGED WITH GROUT AND CUT BACK TO ACCEPT NEW FLOORING MATERIAL.

RENOVATION

A. COORDINATE ALL PIPING ROUTING WITH OTHER TRADES BEFORE INSTALLING PIPING. OFFSET PIPING WHERE POSSIBLE, TO COORDINATE WITH OTHER TRADES.

B. CONNECT VENT AND WATER FOR NEW FIXTURES TO NEAREST PIPING IN CEILING SPACE ON THIS FLOOR. CONNECT WASTE FOR NEW FIXTURES TO NEAREST PIPING IN CEILING SPACE OF FLOOR BELOW.

C. WHERE POSSIBLE, REUSE EXISTING FLOOR PENETRATIONS AFTER REVIEW AND APPROVAL BY ARCHITECT. LOCATIONS SHOWN ON THESE DRAWINGS REFLECT DESIGN INTENT AND ARE BASED ON AS-BUILT DRAWINGS MADE AVAILABLE TO THE ENGINEER. CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL LOCATIONS OF NEW FLOOR PENETRATIONS BASED ON FIELD INVESTIGATION AND VERIFICATION, PRIOR TO STARTING NEW WORK.

D. WHERE UNAVOIDABLE, PIPE ROUTING MAY REQUIRE BORING THROUGH STRUCTURAL GIRDERS. CONTRACTOR SHALL X-RAY GIRDER AND PREPARE A DRAWING AND SUPPORTING DOCUMENTS SHOWING THE PROPOSED BORE LOCATIONS FOR PIPING. SUBMIT THIS PROPOSED PIPING LAYOUT FOR ENGINEER/ARCHITECT/OWNER REVIEW AND APPROVAL PRIOR TO COMMENCING WORK. PROCEED WITH NEW WORK ONLY WITH WRITTEN STATEMENT TO PROCEED FROM ARCHITECT OR STRUCTURAL ENGINEER.

E. FOR ALL EXISTING FLOOR PENETRATIONS NOT USED, CUT PIPING JUST BELOW FLOOR LEVEL, PLUG PIPING WATER-TIGHT AND FILL WITH GROUT. REPAIR AND PATCH FLOOR TO MATCH EXISTING.

F. CONFIRM WITH ARCHITECTURAL DRAWINGS THE REQUIRED MOUNTING HEIGHTS PRIOR TO INSTALLATION/RE-INSTALLATION OF FIXTURES.

G. ALL CONNECTIONS TO EXISTING PIPING SHALL BE MADE TO SAME SIZE OR LARGER EXISTING PIPING. IF IT IS DETERMINED BY FIELD INVESTIGATION THAT THE EXISTING PIPE SIZE TO BE CONNECTED TO IS SMALLER THAN THE NEW PIPE SIZE, NOTIFY ARCH/ENGR BEFORE PROCEEDING WITH WORK.

H. CONNECTIONS TO EXISTING SANITARY PIPING IS BASED ON EXISTING DRAWINGS AND LIMITED FIELD INVESTIGATION DUE TO INACCESSIBLE AREAS. PIPING LESS THAN 4" SHALL HAVE A 1/4" SLOPE PER FOOT, PIPING 4" AND LARGER A 1/8" SLOPE PER FOOT. IF IT IS DETERMINED DURING CONSTRUCTION/FIELD SURVEY THAT THE PIPE ROUTING CAN NOT TIE-IN TO EXISTING SANITARY PIPING AS SHOWN ON THESE DRAWINGS BECAUSE OF ELEVATION DIFFERENCES, CONTRACTOR SHALL PREPARE AN ADJUSTED PIPING ROUTING AND CONNECTION TO EXISTING PIPING BASED ON ACTUAL FIELD CONDITIONS. SUBMIT THIS PROPOSED PIPING LAYOUT FOR ENGINEER/ARCHITECT/OWNER REVIEW PRIOR TO CONTINUING WITH CONSTRUCTION.

FIRE PROTECTION NOTES

A. FIRE PROTECTION CONTRACTOR SHALL REFER TO THE PLUMBING DRAWINGS FOR SCOPE OF WORK INCLUDING THE GENERAL NOTES ON THIS SHEET.

B. THE BUILDING'S FIRE PROTECTION SYSTEM MUST REMAIN IN SERVICE DURING CONSTRUCTION. FIRE PROTECTION ENGINEER IS RESPONSIBLE FOR EXTENT OF DEMOLITION, RELOCATION, AND RENOVATION OF THE FIRE PROTECTION SYSTEM.

C. RENOVATION AND DEMOLITION SCOPE OF WORK FOR FIRE PROTECTION SYSTEM IS THE RESPONSIBILITY OF THE FIRE PROTECTION ENGINEER.

D. DESIGN OF THE SPRINKLER SYSTEM SHALL BE UNDER DIRECT SUPERVISION OF AN RME (RESPONSIBLE MANAGING EMPLOYEE) EXPERIENCED IN DESIGN OF THIS WORK AND LICENSED IN THE STATE OF COLORADO. ALL DESIGN SUBMITTAL DOCUMENTS SHALL BEAR THE RME'S SIGNED AND DATED REGISTRATION NUMBER. THE SYSTEM SHALL BE INSTALLED BY A FIRM HAVING MINIMUM THREE YEARS EXPERIENCE REGULARLY ENGAGED IN THE DESIGN AND INSTALLATION OF AUTOMATIC FIRE PROTECTION SYSTEMS IN ACCORDANCE WITH REQUIREMENTS OF THE NATIONAL FIRE PROTECTION ASSOCIATION AND THE STATE OF COLORADO FIRE MARSHALL'S OFFICE. EVIDENCE TO SUPPORT THE ABOVE REQUIREMENTS SHALL BE SUBMITTED WITH SHOP DRAWINGS. WORKING PLANS SHALL BE SEALED BY AN ENGINEER REGISTERED BY THE COLORADO STATE BOARD FOR PROFESSIONAL ENGINEERS IN THE FIRE PROTECTION SPECIALTY.

E. DEMOLISH/RELOCATE/PROVIDE NEW SPRINKLER HEADS AS REQUIRED BY THE RENOVATION/EXPANSION SPACE FLOOR PLANS. FIRE PROTECTION SYSTEM FOR THE BUILDING MUST REMAIN IN SERVICE DURING CONSTRUCTION.

F. PROVIDE STANDARD QUICK RESPONSE SPRINKLER HEADS FOR ALL AREAS, UNLESS OTHERWISE NOTED.

G. COORDINATE SPRINKLER AND FIRE MAIN LOCATIONS WITH ALL TRADES.

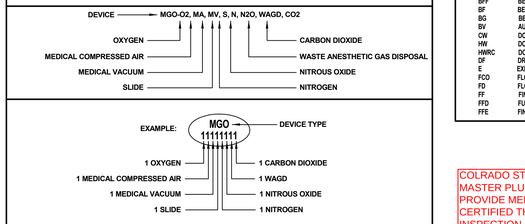
H. COORDINATE ALL FIRE PROTECTION SPRINKLER LOCATIONS AND MOUNTING STYLES WITH LIGHTING PLANS AND ARCHITECTURAL REFLECTED CEILING PLANS.

MEDICAL GAS SYMBOLS

SYMBOL	DESCRIPTION
O2	MEDICAL OXYGEN PIPING
MA	MEDICAL AIR PIPING
MV	MEDICAL VACUUM PIPING
WAGD	WASTE ANESTHETIC GAS DISPOSAL PIPING
N	MEDICAL NITROGEN PIPING
N2O	MEDICAL NITROUS OXIDE PIPING
CO2	CARBON DIOXIDE PIPING
000	MEDICAL GAS PIPING DROPS IN WALL FULL SIZE
MGO	MEDICAL GAS OUTLETS
AA	AREA ALARM
MA	MASTER ALARM
ZVB	ZONE VALVE BOX
	MASTER ALARM SENSOR
	AREA ALARM SENSOR
	LOCKABLE TYPE BALL VALVE

MEDICAL GAS LEGEND

MAP	= MASTER ALARM PANEL	MED AIR	= MEDICAL COMPRESSED AIR
MGB	= MEDICAL GAS CEILING BOOM	MV	= MEDICAL VACUUM
MGC	= MEDICAL GAS CEILING COLUMN	02	= OXYGEN
MGD	= MEDICAL GAS DROP	S	= SLIDE
MGH	= MEDICAL GAS HEADWALL	AAP	= AREA ALARM PANEL
MGO	= MEDICAL GAS WALL OUTLET	ZVB	= ZONE VALVE BOX
MGP	= MEDICAL GAS PEDESTAL	NCP	= NITROGEN CONTROL PANEL
MVE	= MEDICAL GAS VACUUM EXHAUST	N	= NITROGEN
ME	= MEDICAL EQUIPMENT	N2O	= NITROUS OXIDE GAS
	COMPRESSED AIR (FOR BRAKES ON MEDICAL BOOMS)	CO2	= CARBON DIOXIDE GAS
		WAGD	= WASTE ANESTHETIC GAS DISPOSAL



MEDICAL GAS NOTES:

A. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF MEDICAL GAS OUTLETS, ZONE VALVE BOXES AND ALARM PANELS.
B. NOT ALL GASES ARE TO BE USED AT EACH LOCATION. THE GAS ORDER SHOWN IN THE EXAMPLE IS TYPICAL FOR ALL OUTLETS.
C. COORDINATE MEDICAL GAS PIPE ROUTINGS WITH ALL OTHER TRADES BEFORE INSTALLATION.

TYPICAL MOUNTING HEIGHTS FOR MEDICAL GAS DEVICES*:

WALL OUTLETS:	5' (60 INCHES) TO THE CENTER OF THE OUTLET
ZONE VALVE BOX:	5'-6" (66 INCHES) TO THE TOP OF THE ZONE VALVE BOX
AREA ALARM:	5'-6" (66 INCHES) TO THE TOP OF THE ALARM
MASTER ALARM:	5'-6" (66 INCHES) TO THE TOP OF THE ALARM
NITROGEN CONTROL CABINET:	5'-2" (62 INCHES) TO THE BOTTOM OF THE PANEL
FIXED CEILING COLUMN:	5'-2" (63 INCHES) TO THE BOTTOM OF THE COLUMN
RETRACTABLE CEILING COLUMN:	5'-10" (70 INCHES) TO THE BOTTOM OF THE COLUMN
CEILING HOSE DROP:	6'-4" (76 INCHES) TO THE BOTTOM OF THE HOSE
ASSEMBLY CEILING ARMS/BOOMS:	CONSULT MANUFACTURERS RECOMMENDATIONS

* ALL DIMENSION HEIGHTS SHALL BE COORDINATED WITH ARCHITECTURAL ELEVATION.

PLUMBING SYMBOLS

ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS. SYMBOLS ARE SHOWN SCHEMATICALLY AND MAY NOT BE TO SCALE.

SYMBOL	DESCRIPTION
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER (TEMP. AS NOTED)
	DOMESTIC HOT WATER RETURN (TEMP. AS NOTED)
	EXISTING PIPING TO BE REMOVED
SS	SANITARY SEWER PIPING (SOIL OR WASTE)
	SANITARY VENT PIPING
W	INDIRECT WASTE
CD	CONDENSATE DRAIN PIPING
D	DRAIN PIPING
	CONNECT NEW TO EXISTING
F	FIRE PROTECTION (STANDPIPE, SPRINKLER, SERVICE)
	GATE VALVE
	BUTTERFLY VALVE
	BALL VALVE
FD	FLOOR DRAIN
WCO	WALL CLEANOUT
CO	CLEANOUT PLUG
	DIRECTION OF SLOPE
	DIRECTION OF FLOW
	CAP OUTLET OR PLUGGED OUTLET
	CAP SANITARY SEWER OR STORM PIPING

PLUMBING ABBREVIATIONS

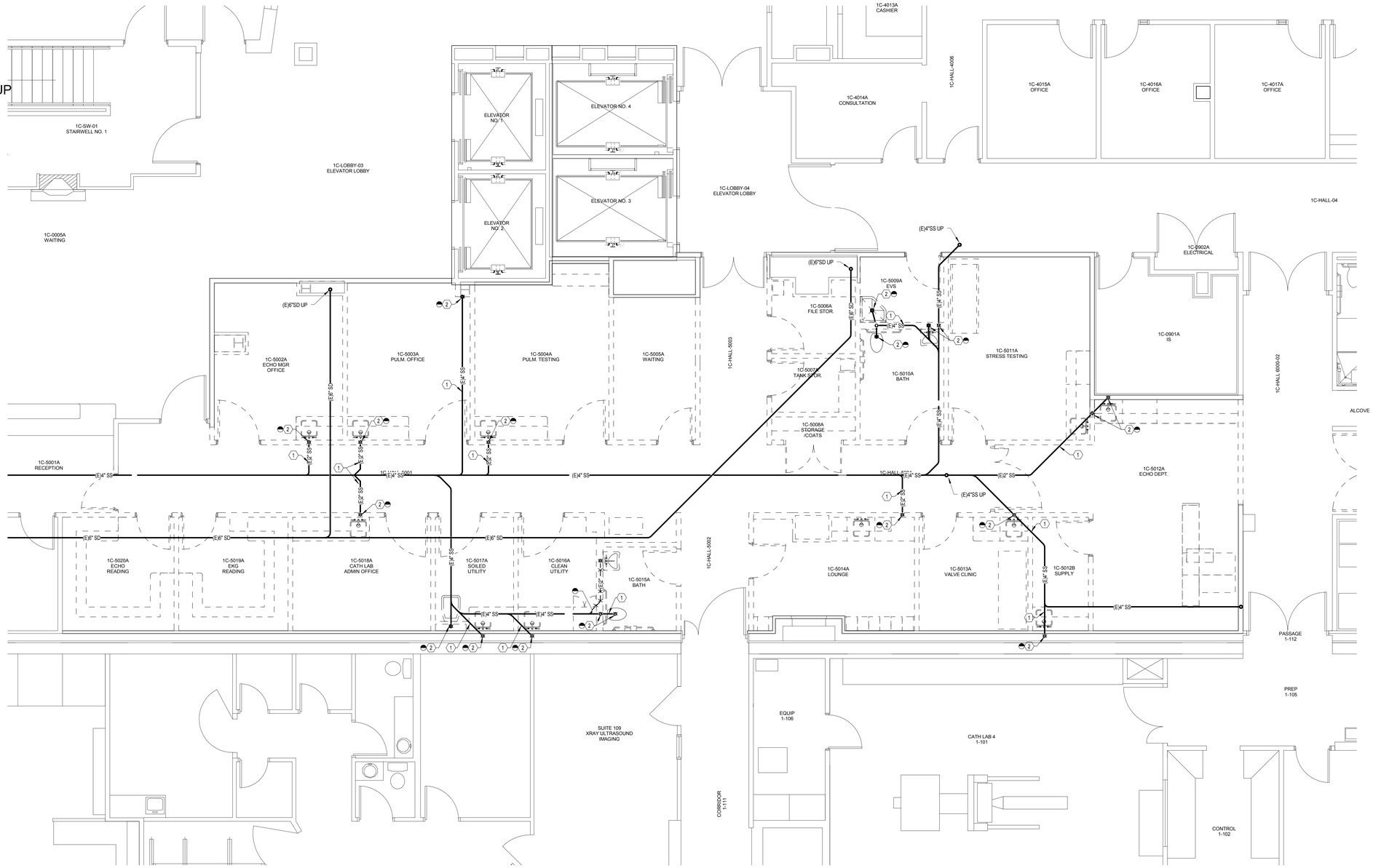
ABV	ABOVE	FLR	FLOOR
AFF	ABOVE FINISH FLOOR	FS	FIRE SPRINKLER
AFG	ABOVE FINISH GRADE	GC	GENERAL CONTRACTOR
A/C	ABOVE CEILING	GCO	GRADE CLEANOUT
AP	ACCESS PANEL OR DOOR	IE	INVERT ELEVATION
BFF	BELOW FINISH FLOOR	INV	INVERT
BF	BELOW FLOOR	LV	LAVATORY
BG	BELOW GRADE	MS	MOPSINK
BV	AUTOMATIC BALANCING VALVE	NC	NORMALLY CLOSED
CW	DOMESTIC COLD WATER	RPPBP	REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER.
HW	DOMESTIC HOT WATER	SK	SINK
HWRC	DOMESTIC HOT WATER RETURN	SS	SANITARY SEWER
DF	DRINKING FOUNTAIN	SS	SANITARY WASTE
E	EXISTING	TP	TRAP PRIMER
FCO	FLOOR CLEANOUT	V	VENT
FD	FLOOR DRAIN	VTR	VENT THROUGH ROOF
FF	FINISH FLOOR	WCO

GENERAL NOTES:

A. REFER TO SHEET P.001 FOR LEGENDS, CENERAL NOTES, AND ABBREVIATIONS.

(#) LEGEND NOTES:

1. EXISTING SANITARY SEWER PIPING TO BE ABANDONED IN PLACE.
2. EXISTING SANITARY SEWER PIPING TO BE ABANDONED IN PLACE. CAP & SEAL WATER/AIR TIGHT AT FLOOR.

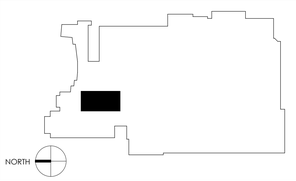


1 UNDERFLOOR - PLUMBING DEMOLITION PLAN
1/4" = 1'-0"

RSN: *1131831*
Permit #: *2016-1141686 LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Craig Macy*
Date: *Aug 05, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

KEY PLAN



path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Consultant Team

MEP
WSP + CCRD
3613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date

COLORADO LICENSED
47964
7/15/16
PROFESSIONAL ENGINEER

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	AL
Checked by	WS

Sheet Title:
UNDERFLOOR - PLUMBING DEMOLITION PLAN

Sheet Number
PD.101

CONTRACT & drawings property of path 21 architecture

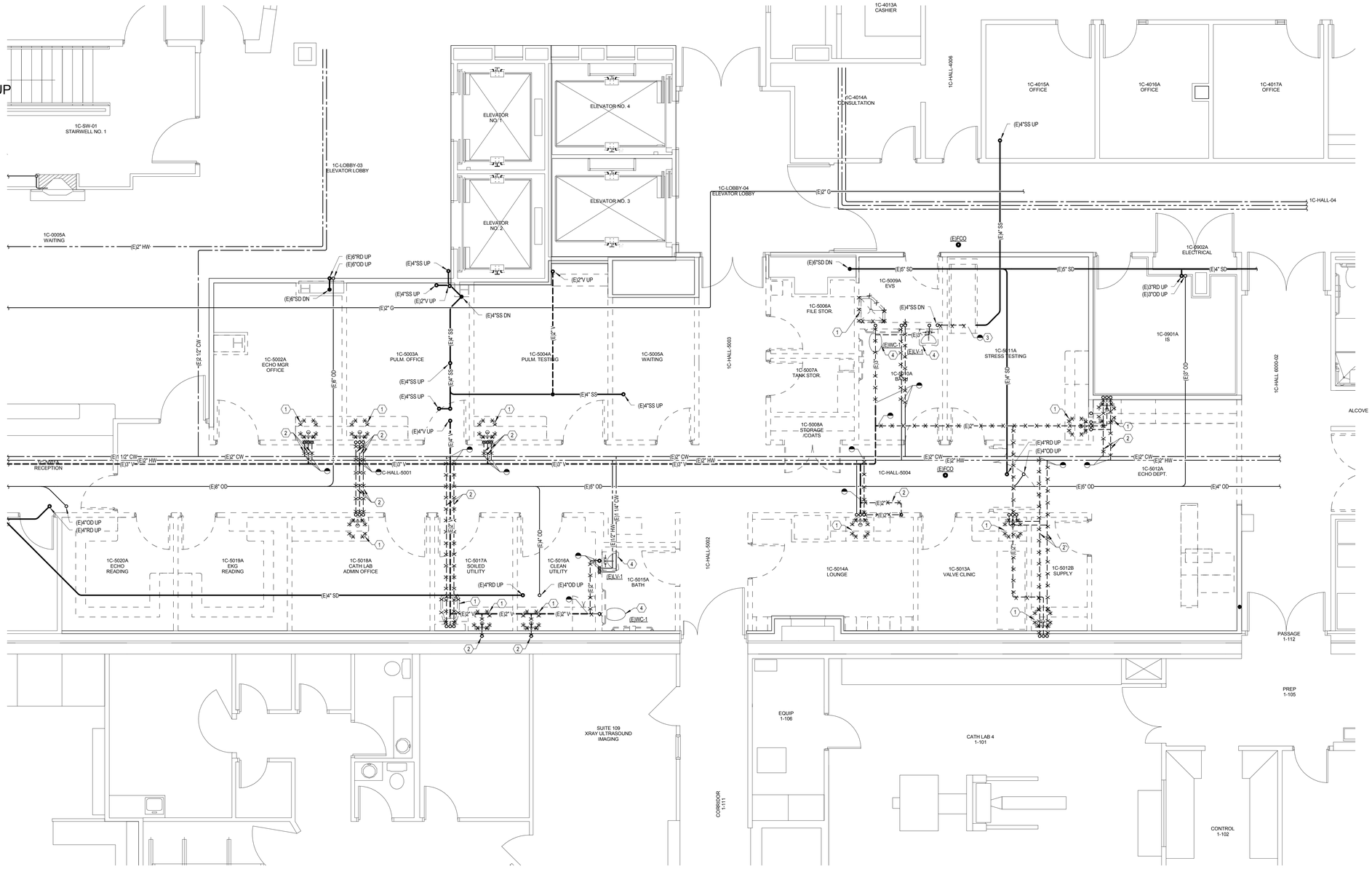
7/14/2016 9:50:02 AM

GENERAL NOTES:

A. REFR TO SHEET P.001 FOR LEGENDS, CENERAL NOTES, AND ABBREVIATIONS.

(#) LEGEND NOTES:

1 DEMOLISH EXISTING PLUMBING FIXTURE.
2 DEMOLISH EXISTING PIPING BACK TO EXISTING MAIN. CAP AND SEAL AIR AND WATER TIGHT.
3 RELOCATE EXISTING 4"SS RISER TO BELOW GRADE. REFER TO SHEETS P.101 AND P.201 FOR RECONNECTION.
4 REMOVE EXISTING PLUMBING FIXTURE AND STORE FOR RE-INSTALLATION. REFER TO SHEET P.201 FOR RELOCATION.

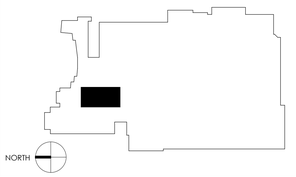


1 LEVEL 01 - PLUMBING DEMOLITION PLAN
1/4" = 1'-0"

RSN: *1131831*
Permit #: *2016-1141686 LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Craig Macy*
Date: *Aug 05, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

KEY PLAN



path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Consultant Team

MEP
WSP + CCRD
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date

COLORADO LICENSED
WILLIAM SCHMIDT
47964
7/15/16
PROFESSIONAL ENGINEER

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	AL
Checked by	WS

Sheet Title:
LEVEL 01 - PLUMBING DEMOLITION PLAN

Sheet Number
PD.201

CONTRACT & SPECIFICATIONS CONFIDENTIAL

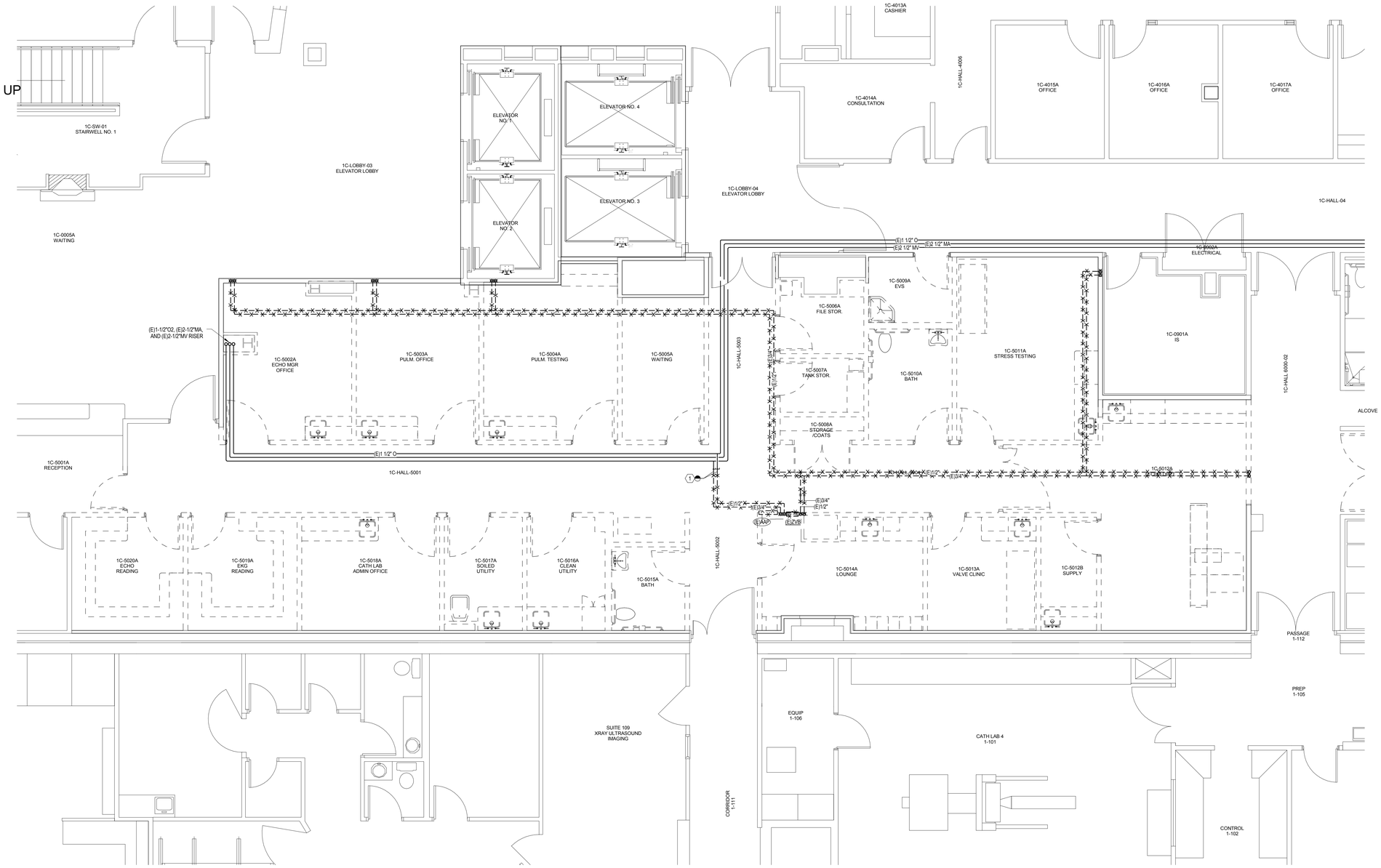
7/14/2016 9:55:05 AM

GENERAL NOTES:

A. REFER TO SHEET P.001 FOR LEGENDS, CENERAL NOTES, AND ABBREVIATIONS.

⬡ LEGEND NOTES:

1 DEMOLISH EXISTING 2"O2 AND 3/4"MV PIPING BACK TO MAINS. CAP AND SEAL AIR TIGHT.

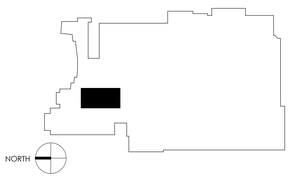


1 LEVEL 01 - MEDICAL GAS DEMOLITION PLAN
1/4" = 1'-0"

RSN: *1131831*
Permit #: *2016-1141686 LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Craig Macy*
Date: *Aug 05, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

KEY PLAN



path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Consultant Team

MEP
WSP + CCRD
5613 DTC Parkway, Suite 550
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date

COLORADO LICENSED
47964
7/15/16
PROFESSIONAL ENGINEER

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	AL
Checked by	WS

Sheet Title:
LEVEL 01 - MEDICAL GAS DEMOLITION PLAN

Sheet Number
PD.301

7/14/2016 9:00:08 AM

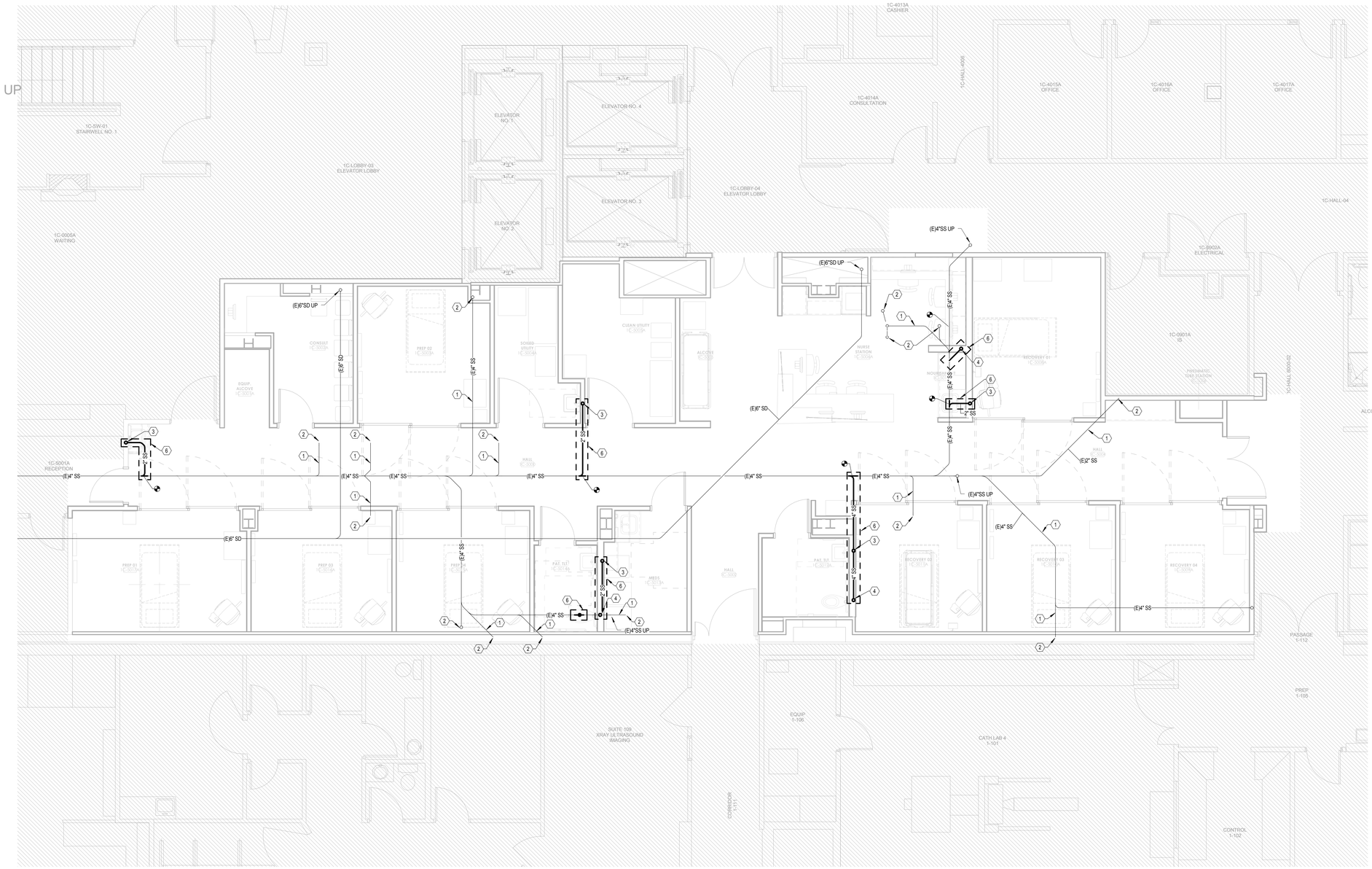
CONTRACT & IP is property of path21 architecture

GENERAL NOTES:

A. REFER TO SHEET P.001 FOR LEGENDS, GENERAL NOTES, AND ABBREVIATIONS.

(#) LEGEND NOTES:

1 EXISTING SANITARY SEWER PIPING TO BE ABANDONED IN PLACE.
2 EXISTING SANITARY SEWER PIPING TO BE ABANDONED IN PLACE. CAP & SEAL WATER/AIR TIGHT AT FLOOR.
3 (N)2"SS UP.
4 (N)4"SS UP.
6 SAWCUT & PROVIDE TRENCHING AS NECESSARY TO ROUTE NEW SANITARY SEWER PIPING TO EXISTING SANITARY SEWER.

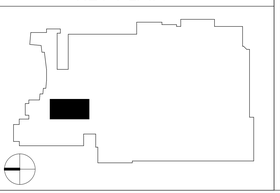


1 UNDERFLOOR - PLUMBING PLAN
1/4" = 1'-0"

RSN: *1131831*
Permit #: *2016-1141686 LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Craig Macy*
Date: *Aug 05, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

KEY PLAN



path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Consultant Team

MEP
WSP + CCRD
3613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date

COLORADO LICENSED MARK S. SCHLOSSBERG 47964 7/15/16 PROFESSIONAL ENGINEER

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	AL
Checked by	WS

Sheet Title:
UNDERFLOOR - PLUMBING PLAN

Sheet Number
P.101

CONTENTS © 2016 path21 architecture

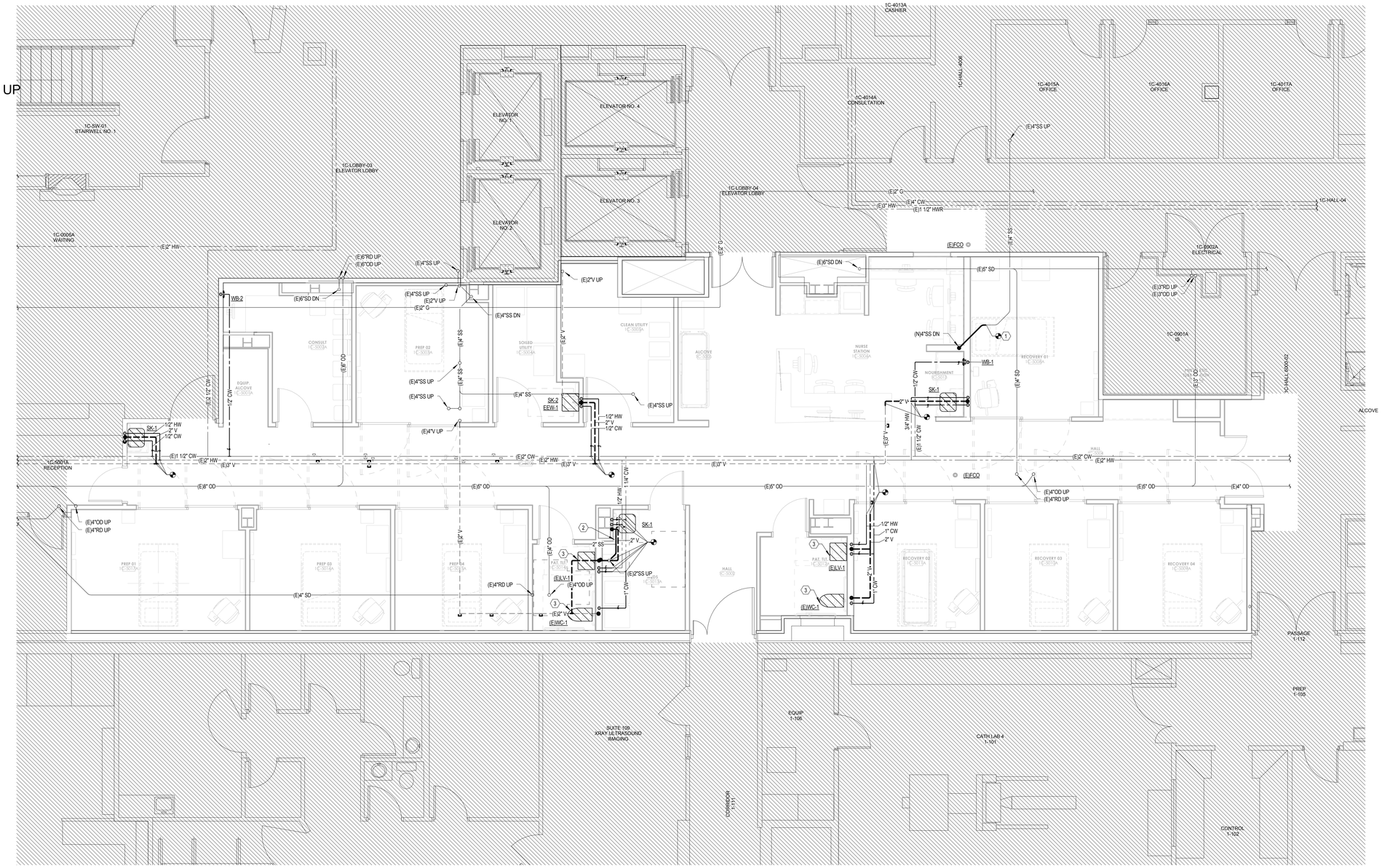
7/14/2016 9:54:44 AM

GENERAL NOTES:

A. REFER TO SHEET P.001 FOR LEGENDS, CENERAL NOTES, AND ABBREVIATIONS.

LEGEND NOTES:

1 CONNECT EXISTING 4"SS TO RELOCATED SS RISER.
2 DIRTY ARM SINK DRAIN.
3 RELOCATED EXISTING PLUMBING FIXTURE.



1 LEVEL 01 - PLUMBING PLAN
1/4" = 1'-0"

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Consultant Team

MEP
WSP + CCRD
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

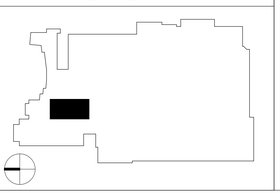
No.	Description	Date

COLORADO LICENSED 47964 7/15/16 PROFESSIONAL ENGINEER

RSN: *1131831*
Permit #: *2016-1141686 LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Craig Macy*
Date: *Aug 05, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

KEY PLAN



TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	AL
Checked by	WS

Sheet Title:
LEVEL 01 - PLUMBING PLAN

Sheet Number
P.201

7/14/2016 5:54:52 AM



1 LEVEL 01 - MEDICAL GAS PLAN
1/4" = 1'-0"

GENERAL NOTES:

A. REFER TO SHEET P.001 FOR LEGENDS, CENERAL NOTES, AND ABBREVIATIONS.

LEGEND NOTES:

1 CONNECT 3/4"O2, 3/4"MA, AND 1"MV TO EXISTING MAINS. PROVIDE PROVISIONS FOR "SMART TAP" CONNECTION IN THE EVENT THAT ISOLATION VALVES DO NOT EXIST.

2 MEDICAL GAS OUTLETS SHALL BE CENTERED IN EXAMINATION ROOM.

3 PROVIDE ROUGH-INS FOR EXISTING CATH LAB #1 AND #2 AREA ALARM PANELS TO BE RELOCATED IN THE FUTURE. PROVIDE CONDUIT ROUTING FOR CONTROL WIRING. COORDINATE ROUGH-IN SIZE WITH EXISTING BOXES LOCATED IN CATH LAB SUITE.

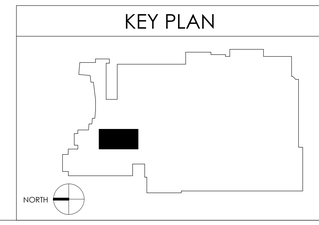
4 PROVIDE ROUGH-INS FOR EXISTING CATH LAB #3 AND #4 AREA ALARM PANELS TO BE RELOCATED IN THE FUTURE. PROVIDE CONDUIT ROUTING FOR CONTROL WIRING. COORDINATE ROUGH-IN SIZE WITH EXISTING BOXES LOCATED IN CATH LAB SUITE.

REFER TO MEDICAL GAS REVIEW COMMENT ON PLAN SHEET P.001.

RSN: *1131831*
Permit #: *2016-1141686 LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Craig Macy*
Date: *Aug 05, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

KEY PLAN



path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Consultant Team

MEP
WSP + CCRD
3613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date
1	ADD 01	08/05/2016

COLORADO LICENSED PROFESSIONAL ENGINEER 47964 7/15/16

TMCA CATH LAB PREP RECOVERY RENOVATION

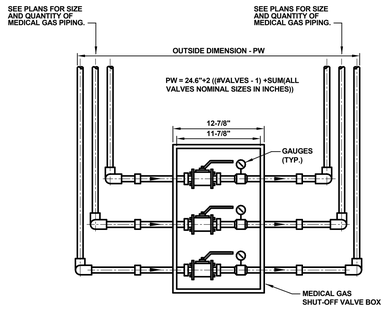
1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	AL
Checked by	WS

Sheet Title:
LEVEL 01 - MEDICAL GAS PLAN

Sheet Number
P.301

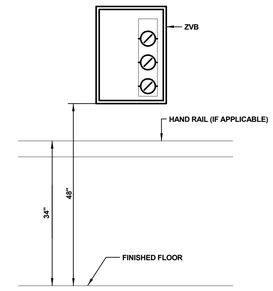
8/2/2016 10:48:52 AM



NOTE: ALL ZONE VALVE BOXES TO BE PIPED LEFT TO RIGHT.

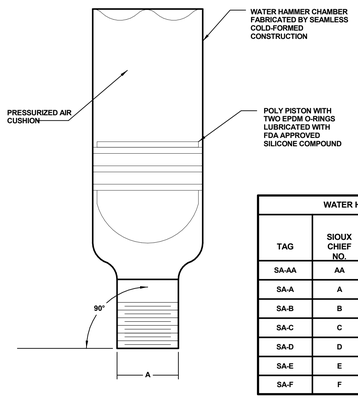
FRONT VIEW

10 ZONE VALVE BOX DETAIL
NO SCALE



NOTE:
PROVIDE CONSISTENCY THROUGHOUT HOSPITAL FOR MOUNTING HEIGHT OF ZVB. COORDINATE EXACT LOCATION WITH ALL OTHER ITEMS ASSOCIATED WITH WALL IN IMMEDIATE VICINITY OF ZVB.

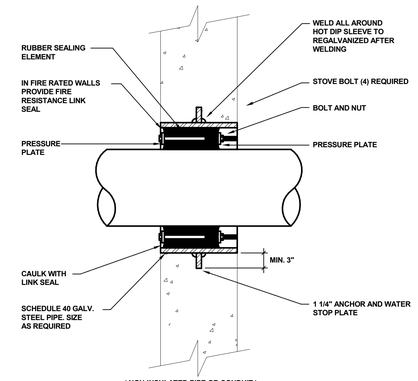
09 ZONE VALVE BOX MOUNTING DETAIL
NO SCALE



WATER HAMMER ARRESTOR SCHEDULE					
TAG	SIOUX CHIEF NO.	FIXTURE UNIT RATING	DIMENSIONS - FOR THREADED CONN.		
			OVERALL HEIGHT	CHAMBER WIDTH	CONN. SIZE
SA-AA	AA	1-4	3-3/8"	7/8"	1/2"
SA-A	A	4-11	8-1/4"	1-3/8"	1/2"
SA-B	B	12-32	8-3/4"	1-3/8"	3/4"
SA-C	C	33-60	11"	1-3/8"	1"
SA-D	D	61-113	10-1/8"	2-1/8"	1"
SA-E	E	114-154	12-5/8"	2-1/8"	1"
SA-F	F	155-330	15-1/8"	2-1/8"	1"

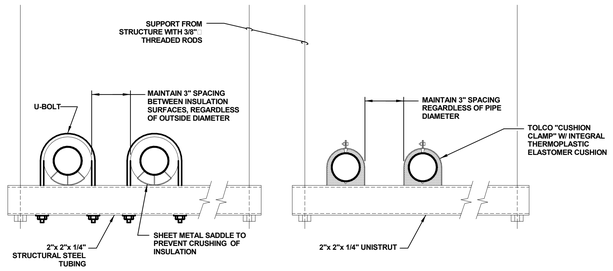
NOTE:
1. ALWAYS INSTALL IN UPRIGHT POSITION. PROVIDE PANEL IN WALL FOR ACCESS.
2. SHOCK ARRESTORS SHALL BE PROVIDED AT ALL FIXTURES AND BATTERIES OF FIXTURES WHETHER OR NOT SHOWN ON DRAWINGS.

08 WATER HAMMER ARRESTOR
NO SCALE

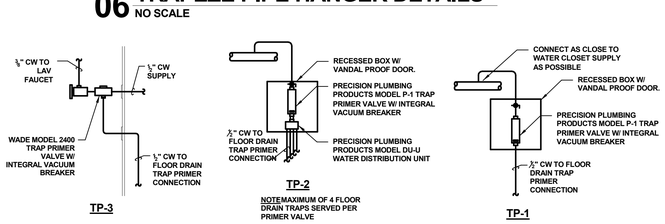


(NON-INSULATED PIPE OR CONDUIT)

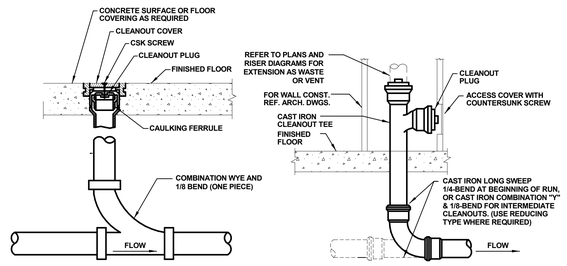
07 PIPE SLEEVE THRU NEW WALL
NO SCALE



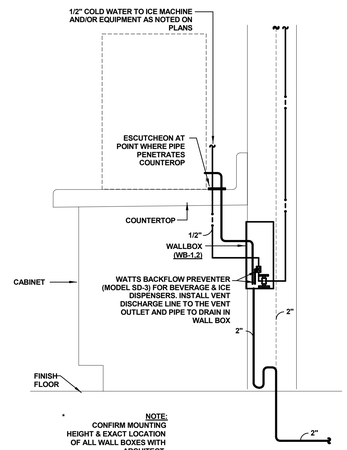
06 TRAPEZE PIPE HANGER DETAILS
NO SCALE



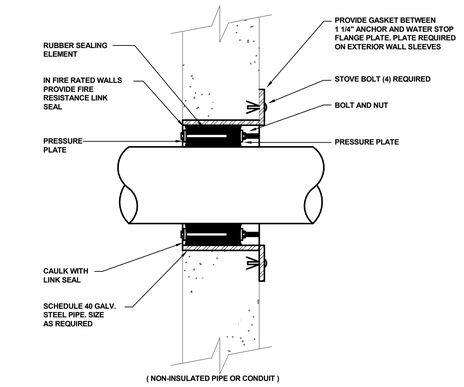
05 TRAP PRIMER DETAILS
NO SCALE



04 INTERIOR CLEANOUT DETAIL - FINISHED ROOMS
NO SCALE

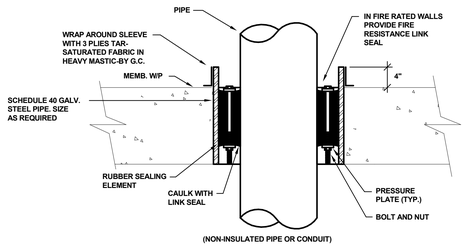


03 WALL BOX DETAIL
NO SCALE



(NON-INSULATED PIPE OR CONDUIT)

02 PIPE SLEEVE THRU EXISTING WALL
NO SCALE



(NON-INSULATED PIPE OR CONDUIT)

01 PIPE SLEEVE THRU EXISTING FLOOR
NO SCALE

RSN: *1131831*
Permit #: *2016-1141686 LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Craig Macy*
Date: *Aug 05, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Consultant Team

MEP
WSP + CCRD
3613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date

COLORADO LICENSED PROFESSIONAL ENGINEER 47964 7/15/16

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	AL
Checked by	WS

Sheet Title:
PLUMBING DETAILS AND SCHEDULES

Sheet Number
P.501

CONTRACT & drawings property of path 21 architecture

7/14/2016 9:54:59 AM

GENERAL NOTES

GENERAL CONDITIONS

A1 THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND IT IS THE INTENT AND MEANING OF THE CONTRACT DOCUMENTS THAT THE CONTRACTOR SHALL PROVIDE AN ELECTRICAL INSTALLATION THAT IS COMPLETE AND ALL ITEMS AND APPURTENANCES NECESSARY, REASONABLE INCIDENTAL, OR CUSTOMARILY INCLUDED, EVEN THOUGH EACH AND EVERY ITEM IS NOT SPECIFICALLY CALLED OUT OR SHOWN. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIALS, LABOR, SUPERVISION AND SERVICE NECESSARY SO AS TO PROVIDE A COMPLETE, FUNCTIONING ELECTRICAL SYSTEM IN SAFE WORKING ORDER.

A2 SYMBOLS FOR VARIOUS ELEMENTS AND SYSTEMS ARE SHOWN ON THE DRAWINGS. SHOULD THERE BE ANY DOUBT REGARDING THE MEANING OR INTENT OF THE SYMBOLS USED, AN INTERPRETATION SHALL BE OBTAINED FROM THE ARCHITECT IN WRITING. THE DECISION OF THE ARCHITECT SHALL BE FINAL.

A3 IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO EXAMINE THE CONTRACT DOCUMENTS CAREFULLY BEFORE SUBMITTING HIS BID, WITH PARTICULAR ATTENTION TO ERRORS, OMISSIONS, CONFLICTS WITH PROVISIONS OF LAWS AND CODES HAVING JURISDICTION, CONFLICTS BETWEEN DRAWINGS OR DRAWINGS AND SPECIFICATIONS, AND AMBIGUOUS DEFINITION OF THE EXTENT OF COVERAGE BETWEEN CONTRACTS. ANY SUCH DISCREPANCY SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE ARCHITECT FOR CORRECTION. SHOULD ANY OF THESE ERRORS, OMISSIONS, CONFLICTS, OR AMBIGUITIES EXIST, THE CONTRACTOR SHALL HAVE THEM EXPLAINED AND ADJUSTED IN WRITING BEFORE SIGNING THE CONTRACT OR PROCEEDING WITH THE WORK; OTHERWISE, HE SHALL, AT HIS OWN EXPENSE, SUPPLY THE PROPER MATERIALS AND LABOR TO MAKE GOOD ANY DAMAGE OR DEFECTS IN HIS WORK OR THE RESULTS OBTAINED THEREFROM, CAUSED BY SUCH DISCREPANCY.

A4 WHEREVER CONFLICTS OCCUR BETWEEN DIFFERENT PARTS OF THE CONTRACT DOCUMENTS, THE GREATER QUANTITY, THE BETTER QUALITY, OR LARGER SIZE SHALL PREVAIL UNLESS THE ARCHITECT INFORMS THE CONTRACTOR OTHERWISE IN WRITING.

A5 THE SCALE OF EACH DRAWING IS RELATIVELY ACCURATE; ANY DIMENSIONS SHOWN ARE APPROXIMATE TO CENTERLINE FROM ASSUMED BUILDING PERIMETER. THE CONTRACTOR SHALL OBTAIN THE NECESSARY DIMENSIONS FOR ANY EXACT TAKEOFFS FROM THE ARCHITECT. NO ADDITIONAL COST TO THE OWNER WILL BE CONSIDERED FOR FAILURE TO OBTAIN EXACT DIMENSIONS WHERE NOT CLEAR OR IN ERROR ON THE DRAWINGS. ANY DEVICE OR FIXTURE ROUGHED IN IMPROPERLY AND NOT POSITIONED ON IMPLIED CENTER-LINES OR AS REQUIRED BY GOOD PRACTICE MUST BE REPOSITIONED AT NO COST TO THE OWNER.

A6 ALL WORK AND MATERIALS SHALL BE GUARANTEED FREE FROM DEFECTS FOR A MINIMUM PERIOD OF ONE YEAR UNLESS NOTED OTHERWISE. THE WARRANTY PERIOD SHALL BEGIN AT THE DATE OF BENERICIAL OCCUPANCY OF THE FACILITY.

A7 THE CONTRACTOR IS RESPONSIBLE FOR FILING AND PAYING ALL FEES AND OBTAINING NECESSARY PERMITS AND CERTIFICATES OF INSPECTION. THE CONTRACTOR SHALL DELIVER ALL CERTIFICATES OF INSPECTION TO OWNER/CONSTRUCTION MANAGER INCLUDING COPIES WITH MAINTENANCE MANUALS.

A8 ONLY EXPERENCED CRAFTSMEN KNOWLEDGEABLE IN THEIR RESPECTIVE TRADE SHALL PERFORM THE WORK DESCRIBED IN THE CONSTRUCTION DOCUMENTS.

A9 ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADDITION OF NFPA STANDARD 70 (NATIONAL ELECTRICAL CODE). CONTRACTOR SHALL ALSO CONFORM TO ALL APPLICABLE LOCAL CODES AND AMENDMENTS.

A10 ALL ELECTRICAL EQUIPMENT, INCLUDING BUT NOT LIMITED TO SWITCHGEAR, CONDUIT, WIRE, BOXES AND FITTINGS SHALL BE NEW AND SHALL MEET NEMA AND ANSI STANDARDS AND SHALL BEAR THE UL LABEL.

A11 PROVIDE SHOP DRAWINGS FOR ENGINEER'S REVIEW FOR ALL ELECTRICAL EQUIPMENT, DEVICES, AND MATERIALS PROPOSED TO BE PROVIDED UNDER THIS CONTRACT. ANY DEVIATIONS FROM ITEMS SPECIFIED SHALL BE CLEARLY IDENTIFIED AND SEPARATELY SUBMITTED WITH A FORMAL SUBSTITUTION REQUEST. REFER TO SPECIFICATIONS (PROJECT MANUAL) FOR REQUIREMENTS.

ELECTRICAL EQUIPMENT

B1 PROVIDE AN IDENTIFICATION NAMEPLATE FOR EACH ELECTRICAL EQUIPMENT, APPURTENANCE DEPICTING THE DESIGNATION INDICATED ON THE DRAWINGS. REFER TO SPECIFICATIONS FOR EXACT REQUIREMENTS.

B2 WEATHERPROOF ENCLOSURES SHALL BE PROVIDED FOR ALL ELECTRICAL EQUIPMENT, DEVICES AND APPURTENANCES (ALL SYSTEMS) INSTALLED OUTDOORS.

B3 CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL POWER OUTAGES WITH OWNER'S REPRESENTATIVE.

B4 CONTRACTOR SHALL NOT USE PERMANENT INK WHEN MAKING FIELD MARKINGS OR TEMPORARY CIRCUIT LABELS ON PANELS. CONTRACTOR SHALL USE REMOVABLE TAPE/TAGS FOR ALL TEMPORARY MARKINGS AND SHALL REMOVE THESE TEMPORARY MARKINGS AT THE CONCLUSION OF THIS PROJECT.

CONDUIT & RACEWAY

C1 ALL WORK SHALL BE COORDINATED SO THAT INTERFERENCES ARE AVOIDED. PROVIDE ALL NECESSARY OFFSETS IN CONDUITS, RACEWAYS, ETC., REQUIRED TO PROPERLY INSTALL THE WORK. EXPOSED WORK MUST BE KEPT AS CLOSE AS POSSIBLE TO WALLS, CEILINGS, COLUMNS, ETC., SO AS TO TAKE UP MINIMUM AMOUNT OF SPACE. ALL OFFSETS, FITTINGS, ETC., REQUIRED SHALL BE PROVIDED WITHOUT ADDITIONAL EXPENSE TO THE OWNER. WORK SHALL BE COORDINATED WITH OTHER TRADES.

C2 CONDUIT RUNS ARE DIAGRAMMATIC IN NATURE. CONTRACTOR IS RESPONSIBLE FOR SIZING AND LOCATING PULL BOXES PER N.E.C. AND FOR COORDINATION WITH OTHER DISCIPLINES.

C3 CONTRACTOR SHALL PROVIDE AND INSTALL ADEQUATE SUPPORTS NECESSARY FOR THE RACEWAY SYSTEM. THIS INCLUDES BUT IS NOT LIMITED TO BLOCKING FOR SURFACE AND FLUSH MOUNTED PANELS. CONTRACTOR SHALL REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SIZES AND QUANTITIES OF ALL SUPPORTING MEANS.

C4 PENETRATIONS OF WALLS, FLOORS, AND ROOFS FOR THE PASSAGE OF ELECTRICAL RACEWAYS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO THE COMMENCEMENT OF WORK. ALL SUCH PENETRATIONS SHALL BE PROPERLY SEALED OFF AFTER INSTALLATION OF RACEWAY SO AS TO MAINTAIN THE STRUCTURAL, WATER PROOF, AND FIRE-PROOF INTEGRITY OF THE WALL, FLOOR, OR ROOF SYSTEM PENETRATED.

C5 THE CONTRACTOR SHALL SEAL ALL CONDUITS THAT PENETRATE THE FLOOR SLAB TO MAKE THEM WATER TIGHT. THE CONDUITS SHALL BE DRIED PRIOR TO INSTALLATION OF WIRE/CABLE AND SHALL BE SEALED AT TERMINATIONS.

C6 ALL PENETRATIONS THROUGH FIRE RATED WALLS OR PARTITIONS SHALL BE MADE IN ACCORDANCE WITH U.L. 483 "FIRE RESISTANCE DIRECTORY". PENETRATIONS SHALL BE SLEEVED AND SEALED WITH A UL APPROVED FIRE RATED SEALANT. REFER TO ARCHITECTURAL PLANS FOR FIRE RATED WALLS.

C7 ALL EMPTY CONDUIT SYSTEMS SHALL CONTAIN A PULL WIRE FOR FUTURE PULLING OF CONDUCTORS.

BRANCH CIRCUITS AND FEEDERS

D1 UNLESS NOTED OTHERWISE, ALL CIRCUITS 100' OR LESS SHALL BE MINIMUM #12 AWG WIRE SIZE. CIRCUITS OVER 100' BUT LESS THAN 200' SHALL BE MINIMUM #10 AWG WIRE SIZE. CIRCUITS OVER 200' SHALL BE MINIMUM #8 AWG WIRE SIZE.

D2 ALL POWER WIRING SHALL BE INSTALLED IN CONDUIT. CONDUCTOR SIZES #12 AWG AND SMALLER SHALL BE SOLID. CONDUCTOR SIZES #10 AWG AND LARGER MAY BE STRANDED.

D3 A SEPARATE INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE PULLED WITH THE CIRCUIT CONDUCTORS FOR GROUNDING WHETHER OR NOT INDICATED ON THE DRAWINGS. METAL RACEWAY, OR A CABLE ARMOR OR SHEATH SHALL NOT BE USED AS AN EQUIPMENT GROUNDING CONDUCTOR.

D4 CONTRACTOR SHALL GROUND ALL EQUIPMENT AND ELECTRICAL SYSTEM PER N.E.C.

WIRING DEVICES

E1 REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR LOCATION AND MOUNTING HEIGHT OF ALL WALL AND FLOOR MOUNTED ELEMENTS (OUTLETS, LIGHT SWITCHES, CONTROLLERS, POKE-THRU, ETC). ALL WALL/FLOOR MOUNTED ITEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE ARCHITECTURAL DIMENSIONED DRAWINGS. IF LOCATION FOR AN ITEM IS NOT SHOWN ON THE ARCHITECTURAL DRAWINGS, VERIFY THE EXACT LOCATION OF THE ITEM WITH THE ARCHITECT PRIOR TO INSTALLATION. THESE REQUIREMENTS APPLY TO ALL WALL/FLOOR TYPES IN ALL AREAS. DO NOT SCALE OR DIMENSION LOCATIONS FROM THESE DRAWINGS.

E2 CONTRACTOR SHALL COORDINATE THE LOCATION AND INSTALLATION DETAIL OF OUTLETS IN MILLWORK WITH ARCHITECTURAL DRAWINGS (WALL ELEVATIONS, MILLWORK DETAILS, ETC.) AND WITH MILLWORK MANUFACTURER PRIOR TO ELECTRICAL ROUGH-IN.

E3 WALL AND FLOOR MOUNTED POWER RECEPTACLES SHOWN NEAR DATA OUTLETS SHALL BE LOCATED WITHIN SIX (6) INCHES OF THE DATA OUTLET. LOCATE AT SAME MOUNTING HEIGHT UNLESS NOTED OTHERWISE.

E4 PROVIDE METAL BACKBOX MOUNTING BRACKET (CADDY #BBS SERIES OR SIMILAR) TO MOUNT DEVICE BETWEEN METAL/WOOD STUDS AT SAME ELEVATION AND EQUAL SPACING.

E5 CONTRACTOR SHALL VERIFY THE EXACT POWER CONNECTION TYPE AND NEMA CONFIGURATION OF RECEPTACLES FOR EQUIPMENT FURNISHED BY THE OWNER, OTHER TRADES, OR UNDER A SEPARATE SECTION OF THIS CONTRACT PRIOR TO ELECTRICAL ROUGH-IN.

E6 MOUNT ALL RECEPTACLES THROUGHOUT THE PROJECT WITH THE GROUND POLE AT THE TOP OF THE CONFIGURATION WHEN MOUNTED VERTICALLY, AND ON THE RIGHT WHEN MOUNTED HORIZONTALLY.

E7 ALL RECEPTACLES WITHIN SIX FEET OF ANY PLUMBING FIXTURE AND/OR SINK SHALL BE EQUIPPED WITH GFCI FOR PERSONNEL PROTECTION.

E8 ALL RECEPTACLES LOCATED OUTSIDE THE BUILDING ENVELOPE SHALL BE HOUSED IN ENCLOSURES THAT ARE RATED 'WEATHER-PROOF-WHILE-IN-USE' AND SHALL BE EQUIPPED WITH GFCI FOR PERSONNEL PROTECTION.

E9 ALL GFCI RECEPTACLES SHALL BE CONNECTED SO THAT ALL DEVICES ON THE SAME CIRCUIT AS THE GFCI RECEPTACLE DO NOT DE-ENERGIZE UPON TRIPPING. ALL GFCI RECEPTACLES SHALL INCLUDE A LOCK-OUT FUNCTION TO PROTECT AGAINST THE USE OF MISWIRED DEVICES OR DEVICES THAT HAVE BEEN DAMAGED DUE TO DISABLING SURGES.

E10 FINISH COLORS OF DEVICES AND CORRESPONDING COVER PLATES SHALL BE SELECTED AND APPROVED BY THE ARCHITECT. SPECIALTY RECEPTACLES AND COVERPLATES (I.E. ISOLATED GROUND, EMERGENCY, CRITICAL BRANCH, SURGE SUPPRESSION, ETC.) SHALL BE THE COLOR NOTED IN ELECTRICAL CONSTRUCTION DOCUMENTS.

LIGHTING SYSTEM

G1 REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR LOCATION OF ALL CEILING ELEMENTS (LIGHTS, SPRINKLERS, DIFFUSERS, ETC). ALL CEILING MOUNTED ITEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE ARCHITECTURAL DIMENSIONED DRAWINGS. IF LOCATION FOR AN ITEM IS NOT SHOWN ON THE ARCHITECTURAL DRAWINGS, VERIFY THE EXACT LOCATION OF THE ITEM WITH THE ARCHITECT PRIOR TO INSTALLATION. THESE REQUIREMENTS APPLY TO ALL CEILING TYPES IN ALL AREAS. DO NOT SCALE OR DIMENSION LOCATIONS FROM THESE DRAWINGS.

G2 CONTRACTOR SHALL PROVIDE AND INSTALL ALL SUPPORTS FOR LIGHT FIXTURES. SUPPORTS SHALL BE INDEPENDENT OF THE CEILING GRID SUPPORT SYSTEM.

G3 LIGHT SWITCHES LOCATED IN A ROOM SHALL CONTROL ALL THE LIGHT FIXTURES IN THAT ROOM UNLESS NOTED OTHERWISE. CONTRACTOR SHALL GANG TOGETHER ALL SWITCHES/DIMMERS UNDER A SINGLE COVER PLATE IN ALL AREAS THAT REQUIRE MORE THAN ONE SWITCH TO CONTROL ELECTRICAL DEVICES.

G4 WALLBOX DIMMERS SHALL BE INSTALLED IN A MANNER SUCH THAT THEIR LISTED WATTAGE IS NOT DERATED DUE TO HEAT. SPACE ACCORDING TO DIMMER MANUFACTURER'S RECOMMENDATIONS AND PROVIDE 'WIDE-FIN' DESING DIMMERS WHERE REQUIRED.

G5 ALL LIGHT FIXTURES SHALL BE INSTALLED WITH APPROPRIATE LAMPS AS INDICATED. FIXTURES SHALL ALSO BE INSTALLED WITH BALLASTS WHERE NECESSARY.

OCCUPANCY SENSOR NOTES:

H1 ALL SENSOR LOCATIONS ARE APPROXIMATE. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS PRIOR TO INSTALLATION.

H2 ULTRASONIC CEILING MOUNT SENSORS SHOULD BE LOCATED A MINIMUM OF SIX (6) FEET FROM HVAC SUPPLY/RETURN VENTS.

H3 CONTRACTOR IS RESPONSIBLE FOR PROPER SENSITIVITY AND TIME DELAY SETTINGS FOR NON-ADAPTIVE PRODUCTS, FOLLOWING THE MANUFACTURER'S RECOMMENDED PLACEMENT, AND FIELD VERIFICATION OF CIRCUITS WITH RESPECT TO POWER PACK PLACEMENT.

H4 CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF REQUIRED NUMBER OF POWER PACKS:
- A. ONE POWER PACK IS REQUIRED FOR EACH CONTROLLED CIRCUIT;
- B. SEVERAL SENSORS AND ADD-A-RELAYS CAN BE WIRED IN PARALLEL TO A SINGLE POWER PACK, NOT TO EXCEED 150mA TOTAL POWER CONSUMPTION;
- C. IF MULTIPLE CIRCUITS ARE TO BE CONTROLLED BY A SINGLE SENSOR, AUXILIARY RELAYS MAY BE USED IN CONJUNCTION WITH A POWER PACK.

H5 SENSORS MOUNTED OVER DOORWAYS SHOULD BE PLACED ONE (1) FOOT INSIDE THRESHOLD.

MECHANICAL & PLUMBING COORDINATION

I1 CONTRACTOR SHALL REFERENCE THE MECHANICAL AND PLUMBING DRAWINGS FOR ALL EQUIPMENT NEEDING ELECTRICAL CONNECTIONS. MAKE ALL CONNECTIONS AND PROVIDE APPROPRIATE WIRE, CONDUIT, AND OVERCURRENT PROTECTION FOR ALL EQUIPMENT.

I2 DISCONNECTING MEANS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT SHALL BE MOUNTED INDEPENDENTLY OF THE EQUIPMENT.

I3 ALL CIRCUIT BREAKERS SERVING MECHANICAL EQUIPMENT SHALL BEAR AN 'HACR' RATING.

I4 CONTRACTOR SHALL COORDINATE BETWEEN TRADES AND PROVIDE CONTROL POWER FOR ALL VAV BOXES/DAMPERS/ETC, AS REQUIRED TO ENSURE A COMPLETE, FULLY FUNCTIONAL HVAC SYSTEM. SHOULD AN EXACT CIRCUIT NUMBER NOT BE INDICATED ON ELECTRICAL DRAWINGS, CONTRACTOR SHALL UTILIZE AVAILABLE 20A/1P SPACE FROM THE NEAREST 208Y/120V PANEL OR FROM BUILDING CONTROL POWER DISTRIBUTION SYSTEM.

I5 CONTRACTOR SHALL COORDINATE MOTOR DISCONNECT AND CONTROL WITH MECHANICAL DRAWINGS AND BETWEEN TRADES.

I6 COORDINATE ALL REQUIRED ENERGY MANAGEMENT SYSTEM POINTS AND CONTACT CONNECTIONS TO ENSURE THE COMPLETE AND PROPER OPERATION OF ALL SYSTEMS.

I7 ALL DISCONNECTS DOWN STREAM OF VFDs SHALL BE PROVIDED WITH AUXILIARY CONTACTS TO SHUT DOWN UPSTREAM VFD WHEN SWITCH IS OPENED.

EMERGENCY POWER SYSTEM

J1 ALL EMERGENCY SYSTEMS SHALL BE RUN IN A SEPARATE RACEWAY/CONDUIT SYSTEM AND SHALL BE CLEARLY LABELED AS SUCH.

LIGHTNING PROTECTION SYSTEM

K1 THE EXISTING FACILITY PROVECTRON SYSTEM SHALL BE EXTENDED AS REQUIRED TO SERVE THE NEW BUILDING. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL THE REQUIRED UPGRADES TO THE EXISTING PROVECTRON SYSTEM IN ORDER TO PROTECT THE NEW BUILDING.

DOOR HARDWARE COORDINATION

L1 CONTRACTOR SHALL PROVIDE 120V, 20A CIRCUIT CONNECTION TO ALL DOOR HEADERS WITH ELECTRONIC DEVICES. EACH DOOR CONNECTION SHOULD BE PROVIDED WITH LOCAL DISCONNECTING MEANS.

COORDINATE ALL DOOR CONNECTIONS WITH FIRE ALARM SYSTEM. FIRE ALARM SYSTEM SHALL PROVIDE ALL RELAYS FOR CONNECTION TO ELECTRONICALLY OPERATED DOORS. FIRE ALARM SYSTEM SHALL PROVIDE ALL RELAYS WITH AN EXTERNAL TEST SWITCH FOR FACILITY TESTING.

L1

ELECTRICAL DEMOLITION NOTES

A. PROVIDE UPDATED, TYPE-WRITTEN PANEL DIRECTORY OF ALL CORRECT CIRCUITS WITH LOAD DEFINITIONS FOR EACH PANEL BOARD. DIRECTORY SHALL BE LOCATED INSIDE PANEL DOOR.

B. INFORMATION PROVIDED ON THESE DRAWINGS HAS BEEN TAKEN FROM DESIGN DRAWINGS AND FIELD OBSERVATIONS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO PRICING AND COMMENCEMENT OF WORK.

C. WHERE EXISTING WALLS ARE DEMOLISHED, REMOVE ALL EXISTING ELECTRICAL DEVICES AND THEIR ASSOCIATED CONDUITS AND WIRING BACK TO THE POINT OF ORIGINATION. ENERGIZE ALL EXISTING DEVICES THAT WERE INTERRUPTED DURING DEMOLITION. WHERE ENTIRE CIRCUITS ARE REMOVED, TURN THE CIRCUIT BREAKER OFF AND LABEL AS "SPARE".

D. PROVIDE FOR ANY AND ALL DEMOLITION WORK NECESSARY TO ACCOMMODATE ALL NEW CONSTRUCTION, INCLUDING ARCHITECTURAL, MECHANICAL, PLUMBING OR ELECTRICAL WORK.

E. IF DEMOLITION IS REQUIRED TO INSTALL AN ITEM, THE CONTRACTOR SHALL RESTORE THE AREA TO PREVIOUS CONDITION, OR REPLACE DAMAGED ITEMS WITH NEW ITEMS TO MATCH EXISTING.

F. DESIGNATION 'EX' REPRESENTS EXISTING DEVICE OR LIGHT FIXTURE TO REMAIN AS CIRCUITED AND SWITCHED UNLESS NOTED OTHERWISE. EXISTING LIGHT FIXTURES SHALL BE CLEANED AND REPAIRED AS REQUIRED.

G. CONTRACTOR SHALL REMOVE ALL CONDUIT AND WIRING ASSOCIATED WITH DEVICES AND EQUIPMENT TO BE REMOVED AND/OR RELOCATED UNLESS NOTED OTHERWISE. PROVIDE AND INSTALL ALL NECESSARY DEVICES, EQUIPMENT AND ACCESSORIES REQUIRED TO MAINTAIN SERVICE TO ALL "EXISTING TO REMAIN" DEVICES AND EQUIPMENT THAT MAY BE INTERRUPTED DURING DEMOLITION.

H. WHERE EXISTING MECHANICAL/PLUMBING EQUIPMENT IS DEMOLISHED, REMOVE ALL RELATED ELECTRICAL FEEDS TO THE EQUIPMENT AND THEIR ASSOCIATED CONDUITS BACK TO THE POINT OF ORIGINATION.

I. SPACE ALLOCATIONS FOR MATERIALS, EQUIPMENT AND DEVICES HAVE BEEN MADE ON THE BASIS OF PRESENT AND KNOWN FUTURE REQUIREMENTS AND THE DIMENSIONS OF ITEMS OF EQUIPMENT OR DEVICES OF A PARTICULAR MANUFACTURER, WHETHER INDICATED OR NOT. THE CONTRACTOR SHALL VERIFY THAT ALL MATERIALS, EQUIPMENT AND DEVICES PROPOSED FOR USE ON THIS PROJECT ARE WITHIN THE CONSTRAINTS OF THE ALLOCATED SPACE.

J. REFER TO ARCHITECTURAL PLANS FOR AREAS WHERE CEILING IS DEMOLISHED. REMOVE ALL LIGHTING FIXTURES AND ASSOCIATED CONDUIT AND WIRING FROM THESE LOCATIONS.

K. ALL RECEPTACLES WITHIN THE PROJECT SCOPE SHALL BE HOSPITAL GRADE TYPE. IF A DEVICE IS INDICATED AS EXISTING TO REMAIN AND IS NOT A HOSPITAL GRADE RECEPTACLE, REPLACE THE EXISTING DEVICE WITH A HOSPITAL GRADE RECEPTACLE AND RECONNECT TO EXISTING CIRCUIT.

L. ALL LIGHTING FIXTURES DEMOLISHED UNDER THESE DRAWINGS SHALL BE RETURNED TO THE OWNER.

M. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL SERVICE OUTAGES REQUIRED TO PROPERLY EXECUTE THIS PROJECT WITH OWNERS AUTHORIZED REPRESENTATIVE AND UTILITY COMPANY. PERFORM ALL WORK AS DIRECTED. INCLUDE SUITABLE ALLOWANCE IN BASE BID FOR ALL REQUIRED PREMIUM TIME, TEMPORARY EXTRA EQUIPMENT AND/OR MATERIALS FOR A COMPLETE AND OPERABLE INSTALLATION.

ELECTRCIAL ABBREVIATIONS

AAP	AREA ALARM PANEL
AFC	ABOVE FINISHED COUNTER
AFF	ABOVE FINISHED FLOOR
ATS	AUTOMATIC TRANSFER SWITCH
BFC	BELOW FINISHED CEILING
BOF	BOTTOM OF FIXTURE
C	CONDUIT
CB,C/B OR CKT BKR	CIRCUIT BREAKER
CKT	CIRCUIT
CCTV	CLOSED CIRCUIT T.V.
CLG	CEILING
CUH	CABINET HEATER
EC	EMPTY CONDUIT
ELEC	ELECTRIC
E	EMERGENCY
EMS	ENERGY MANAGEMENT SYSTEM
EP	EXPLOSION PROOF
EWC	ELECTRIC WATER COOLER
EX	EXISTING
F	FUSE
FA	FIRE ALARM
FACP, FAP	FIRE ALARM CONTROL PANEL
FCU	FAN COIL UNIT
FIXT	FIXTURE
FLR	FLOOR
FLUOR	FLUORESCENT
FTP, FTS	FAN TERMINAL UNIT
FTU	FAN TERMINAL UNIT
FUT	FUTURE
G, GND	GROUND (EQUIPMENT)
GEF	GENERAL EXHAUST FAN
GEN	GENERATOR
GFCI, GFI	GROUND FAULT CIRCUIT INTERRUPTER
HP	HORSE POWER
HV	HIGH VOLTAGE
HWAT	HEAT TRACE
IC	INTERRUPTING CAPACITY
ICAND	INCANDESCENT
IG	ISOLATED GROUND
JB	JUNCTION BOX
KEF	KITCHEN EXHAUST FAN
LTG	LIGHTING
LTS	LIGHTS
LV	LOW VOLTAGE
MATV	MASTER ANTENNA
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MH	MANHOLE
MLO	MAIN LUGS ONLY
MTD	MOUNT OR MOUNTED
N	NEW DEVICE
NC (N.C.)	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NF	NONFUSED
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO (N.O.)	NORMALLY OPEN
PB	PULL BOX
PNL	PANEL
PWR	POWER
R	REMOVE DEVICES
RL	RELOCATED DEVICE
RCPT(S) OR RECEPT	RECEPTACLE(S)
RF	RETURN AIR FAN
SEF	SMOKE EXHAUST FAN
SF	SUPPLY AIR FAN
SO (S.O.)	SPACE ONLY
SP	SPARE
ST (S.T.)	SHUNT TRIP
SW	SWITCH
TEL	TELEPHONE
TF	TRANSFER FAN
TP	TAMPER PROOF
TV	TELEVISION
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
UF	UNDERFLOOR
UG	UNDERGROUND
UH	UNIT HEATER
UNO (U.N.O.)	UNLESS NOTED OR INDICATED OTHERWISE
V	VOLTAGE
VFD	VARIABLE FREQUENCY DRIVE
VP	VAPOR PROOF
VV	VARIABLE VOLUME UNIT
W	WIRE
WI	WITH
WG	WIRE GUARD
WP	WEATHER PROOF
WT	WATER TIGHT
XFMR	TRANSFORMER
+xx	MOUNTING HEIGHT IN INCHES. AFF UNO.

KEY TO GENERAL NOTATIONS AND MOUNTING HEIGHTS

48" AFF INDICATES TO TOP OF DEVICE;
16" AFF INDICATES TO CENTER OF DEVICE;
60" AFF INDICATES TO BOTTOM OF DEVICE;
80" AFF INDICATES TO BOTTOM OF DEVICE;
ALL OTHER MOUNTING HEIGHTS REFER TO CENTERLINE OF DEVICE.

ARCHITECTURAL ELEVATIONS AND MOUNTING HEIGHTS SHALL TAKE PRECEDENCE OVER VALUES IN THIS SCHEDULE

(2) - **LEGEND NOTES: DENOTES "SEE LEGEND NOTE NO. 2"**

—7 - **EQUIPMENT (ID) NUMBER FOR FOOD SERVICE EQUIPMENT. REFER TO FOOD SERVICE DOCUMENTS FOR DEFINITION AND REQUIREMENTS.**

717/20 OR 717/20 - **EQUIPMENT (ID) NUMBER FOR OWNER PROVIDED EQUIPMENT. REFER TO OWNER'S EQUIPMENT BOOK / FF&E DOCUMENTS FOR DEFINITION AND REQUIREMENTS.**

02/E-202 - **DENOTES: REFERENCE 2 IN DRAWING (SHEET) E-202**

20.4 - **FEEDER TAG. FEEDER SIZES ARE DETERMINED BY THE FEEDER SCHEDULE ON E-6000**

PROJECT DESIGN CRITERIA

LOCATION:	
CITY/STATE	AURORA, CO
APPLICABLE CODES:	
BUILDING	2015 IBC
MECHANICAL	2015 IMC
PLUMBING	2015 IPC
ENERGY	2015 IECC
ELECTRICAL	2014 NEC
LATITUDE:	
DEG. N. LAT.	39°41 N
ELEVATION:	
FT. ABOVE SEA LEVEL	5470

LIGHTING SYMBOLS LEGEND

ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS. SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

SYMBOL	DESCRIPTION	MNTG. HT. UNO (SEE NOTE 1)
	2'x4' FLUORESCENT LIGHT FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	2'x4' FLUORESCENT LIGHT FIXTURE ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	2'x4' FLUORESCENT LIGHT FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	2'x4' FLUORESCENT LIGHT FIXTURE WITH INBOARD LAMPS ON NORMAL CIRCUIT AND OUTBOARD LAMPS ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	2'x4' FLUORESCENT LIGHT FIXTURE WITH INBOARD LAMPS ON LIFE SAFETY CIRCUIT AND OUTBOARD LAMPS ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	2'x4' FLUORESCENT LIGHT FIXTURE WITH INBOARD LAMPS ON CRITICAL CIRCUIT AND OUTBOARD LAMPS ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	2'x2' FLUORESCENT LIGHT FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	2'x2' FLUORESCENT LIGHT FIXTURE ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	2'x2' FLUORESCENT LIGHT FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	2'x2' FLUORESCENT LIGHT FIXTURE WITH INBOARD LAMPS ON NORMAL CIRCUIT AND OUTBOARD LAMPS ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	2'x2' FLUORESCENT LIGHT FIXTURE WITH INBOARD LAMPS ON LIFE SAFETY CIRCUIT AND OUTBOARD LAMPS ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	2'x2' FLUORESCENT LIGHT FIXTURE WITH INBOARD LAMPS ON CRITICAL CIRCUIT AND OUTBOARD LAMPS ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	WALL MOUNTED LINEAR FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	WALL MOUNTED LINEAR FIXTURE ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	WALL MOUNTED LINEAR FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	RECESSED/SURFACE MOUNTED LINEAR FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	RECESSED/SURFACE MOUNTED LINEAR FIXTURE ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	RECESSED/SURFACE MOUNTED LINEAR FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	RECESSED/SURFACE DOWNLIGHT FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	RECESSED/SURFACE DOWNLIGHT FIXTURE ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	RECESSED/SURFACE DOWNLIGHT FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	WALL MOUNTED FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	WALL MOUNTED FIXTURE

I GENERAL CONDITIONS

A. THE SCOPE OF THE WORK SHALL INCLUDE THE FURNISHING AND INSTALLATION OF THE NECESSARY MATERIAL AND LABOR TO ACCOMPLISH THE WORK INDICATED BY THE DRAWINGS AND HEREIN SPECIFIED. ALL WORK BY THIS CONTRACTOR SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL BUILDING CODES.

B. THE CONTRACT DOCUMENTS DO NOT PROPOSE TO SHOW ALL EXISTING SYSTEMS, EQUIPMENT OR MATERIAL. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THE EXISTING CONDITIONS AT THE JOB SITE BEFORE SUBMITTING PROPOSALS. SUBMISSION OF PROPOSALS SHALL BE TAKEN AS EVIDENCE THAT SUCH INSPECTION HAS TAKEN PLACE. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE COMPLETE SET OF CONSTRUCTION DOCUMENTS, AND THE LACK OF SPECIFIC INFORMATION ON THE DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY.

C. MATERIALS AND EQUIPMENT FURNISHED UNDER THIS CONTRACT SHALL BE NEW AND SHALL BEAR THE U.L. LABEL WHERE APPLICABLE, UNLESS NOTED OTHERWISE. ALL WORK SHALL BE GUARANTEED AGAINST DEFECTIVE MATERIALS AND WORKMANSHIP FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR AFTER COMPLETION AND ACCEPTANCE BY THE OWNER.

D. CONTRACTOR SHALL INSTALL ELECTRICAL SYSTEMS WITHOUT INTERFERENCE AND IN STRICT COORDINATION WITH OTHER TRADES.

E. MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE CONTRACT DOCUMENTS AND APPLICABLE CODES AND STANDARDS. IN CASE OF DIFFERENCE BETWEEN APPLICABLE CODES AND STANDARDS AND THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF SUCH DIFFERENCE. SHOULD THE CONTRACTOR PERFORM ANY WORK THAT DOES NOT COMPLY WITH THE REQUIREMENTS OF APPLICABLE CODES AND STANDARDS, HE SHALL BEAR ALL COSTS ARISING IN CORRECTING SUCH DEFECTS. APPLICABLE CODES AND STANDARDS SHALL INCLUDE ALL ORDINANCES, UTILITY COMPANY REGULATIONS, AND APPLICABLE REQUIREMENTS OF NATIONALLY ACCEPTED CODES AND STANDARDS. SHOULD THE CONTRACTOR SUPPLY EQUIPMENT DIFFERING FROM THE SPECIFIED ITEMS IN THE CONTRACT DOCUMENTS WITHOUT NOTIFICATION TO THE ENGINEER, HE SHALL BEAR ALL COSTS TO UPGRADE DEFICIENCIES ARISING FROM SUCH.

F. WHERE ONLY ONE MANUFACTURER'S NAME IS LISTED IN THE EQUIPMENT SPECIFICATION, OTHER MANUFACTURERS OF SIMILAR CHARACTERISTICS AND OF EQUAL OR BETTER PERFORMANCE CAPACITIES MAY BE CONSIDERED FOR "OR EQUAL" ACCEPTANCE BY THE ENGINEER. SUBSTITUTION REQUESTS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL. WHERE MORE THAN ONE MANUFACTURER IS LISTED IN THE NOTES AND EQUIPMENT SPECIFICATIONS, ONLY THOSE NAMED MANUFACTURERS WILL BE CONSIDERED FOR ACCEPTANCE. SHOULD A SUBSTITUTION BE ACCEPTED, AND SHOULD THE SUBSTITUTE MATERIAL PROVE DEFECTIVE, OR OTHERWISE UNSATISFACTORY FOR THE SERVICE INTENDED WITHIN THE GUARANTEE PERIOD, THIS MATERIAL OR EQUIPMENT SHALL BE REPLACED WITH THE MATERIAL OR EQUIPMENT SPECIFIED AT NO COST TO THE OWNER.

G. PROVIDE ACCESS, INCLUDING NECESSARY ACCESS DOORS, FOR NEW AND EXISTING EQUIPMENT REQUIRING OPERATION AND/OR MAINTENANCE. RELOCATE EXISTING AND LOCATE ALL NEW EQUIPMENT SUCH THAT OPERATION OR MAINTENANCE IS NOT RESTRICTED.

H. INSTALL EQUIPMENT WITH WORKING CLEARANCES COMPLYING WITH NEC 110-16 AND 110-34.

II PRODUCTS

A. CONDUIT

1. RIGID STEEL CONDUIT (GRC - GALVANIZED RIGID CONDUIT): CONSTRUCTED OF MILD STEEL PIPING, GALVANIZED INSIDE AND OUTSIDE, CONFORMING WITH FED. SPEC. WW-C-581C, ANSI C80.1 AND APPLICABLE UL STANDARDS.
2. INTERMEDIATE METAL CONDUIT (IMC): CONSTRUCTED OF ZINC COATED STEEL TUBING MANUFACTURED IN ACCORDANCE WITH UL-1242 AND MEETING THE REQUIREMENTS OF THE NEC.
3. ELECTRIC METALLIC TUBING (EMT): OF HIGH GRADE STEEL MANUFACTURED SPECIFICALLY TO STANDARDS ASSURING MAXIMUM WELDING CHARACTERISTICS AND DUCTILITY, AND SHALL CONFORM TO FED. SPEC. WW-T-806b.
4. FLEXIBLE METAL CONDUIT: MANUFACTURED OF MILD STEEL STRIP MATERIAL HAVING A HOT-DIP GALVANIZED COATING AND MEETING REQUIREMENTS OF FED. SPEC. WW-C-566b.
5. LIQUIDTIGHT FLEXIBLE CONDUIT: FLEXIBLE METAL CONDUIT AS SPECIFIED HEREIN WITH A COPPER GROUNDING STRAND AND FACTORY-APPLIED NEOPRENE JACKET. LIQUID TIGHT FLEXIBLE CONDUIT SHALL BE UL LISTED, EQUIVALENT TO ANACONDA "SEALTITE", TYPE UA.
6. METAL-CLAD CABLE MAY BE USED. TYPE HCF-MC METAL CLAD CABLE SHALL CONSIST OF FACTORY ASSEMBLED INSULATED CONDUCTORS ENCLOSED IN A METALLIC SHEATH OF INTERLOCKED GALVANIZED STEEL STRIP MANUFACTURED IN ACCORDANCE WITH UL 5169. THE CONDUCTORS SHALL HAVE AN OPERATING TEMPERATURE OF 90 DEGREE C AND SHALL BE COVERED BY A HIGH DIELECTRIC STRENGTH ASSEMBLY TAPE. TYPE HCF-MC CABLE SHALL BE AS MANUFACTURED BY AFC OR EQUAL.

B. COUPLINGS AND TERMINATORS

1. FOR RIGID STEEL OR INTERMEDIATE METAL CONDUIT: FACTORY-MADE THREADED COUPLINGS OF SAME MATERIAL AS THE CONDUIT.
2. FOR ELECTRICAL METALLIC TUBING: STEEL SET SCREW COUPLINGS; STEEL SET SCREW BOX CONNECTORS WITH NYLON INSULATED THROAT AND LOCKNUTS AT ALL BOXES AND CABINET TERMINATIONS OR NON-INSULATED BOX CONNECTOR, LOCKNUT AND NYLON-INSULATED GROUNDING BUSHING ON ALL TUBING WHERE GROUNDING BUSHINGS ARE REQUIRED.
3. FOR FLEXIBLE METAL CONDUIT: COUPLINGS AT CONNECTIONS BETWEEN FLEXIBLE CONDUIT AND EMT, AND NYLON INSULATED THROAT STEEL CONNECTORS AT BOX OR CABINET TERMINATIONS.

C. JUNCTION AND PULL BOXES

1. SIZE BOXES IN ACCORDANCE WITH THE REQUIREMENTS OF THE NEC. BOXES SHALL BE NO SMALLER THAN 4 INCHES SQUARE BY 1-1/2 INCHES DEEP WITH COVERS ACCESSIBLE AT ALL TIMES. SET BOXES ON CONCEALED CONDUITS WITH COVERS FLUSH WITH THE FINISHED WALL OR CEILING LINE. PROVIDE JUNCTION AND PULL BOXES OF APPROPRIATE DIMENSIONS FOR CONDUITS AND CONDUCTORS NOTED, WHERE SHOWN AND WHERE NECESSARY FOR THE INSTALLATION AND PULLING OF CABLES AND WIRES. INSTALL COVERS ON JUNCTION BOXES AND CONDULETS AFTER WIRING AND CONNECTIONS ARE COMPLETED.

D. OUTLET BOXES

1. OUTLET BOXES SHALL BE UL LISTED, AND OF SIZES AND TYPES REQUIRED FOR THE APPLICATION. OUTLET BOXES SHALL BE SHEET STEEL, NO LIGHTER THAN 14 GAUGE, GALVANIZED AFTER FABRICATION. SET BOX SO FACE OF BOX WILL FINISH FLUSH WITH BUILDING SURFACE.
   a. FOR LIGHTING FIXTURE OUTLETS: 4 INCH SQUARE BY 1-1/2 INCHES DEEP WITH RAISED FIXTURE RING.
   b. FOR WALL SWITCHES, RECEPTACLES, AND COMMUNICATION USE: 4 INCH SQUARE, BY 1-1/2 INCHES DEEP. USE BOXES WITH PLASTER RINGS IN ALL PLASTERED WALLS WHERE WALL THICKNESS PERMITS. USE BOXES LESS THAN 1-1/2 INCH DEEP ONLY IN LOCATIONS WHERE DEEP BOXES CANNOT BE ACCOMMODATED BY CONSTRUCTION.

E. PULL CORDS

1. PROVIDE A NYLON POLYETHYLENE CORD, WITH A TENSILE STRENGTH OF NOT LESS THAN 200 POUNDS, IN EACH EMPTY CONDUIT TO FACILITATE THE FUTURE INSTALLATION OF CONDUCTORS. INCORPORATE PLASTIC TAGS FOR IDENTIFICATION.

F. CONDUCTORS

1. CONDUCTORS SHALL BE 98% CONDUCTIVITY SOFT DRAWN ANNEALED COPPER, 600 VOLT, THHN/THWN INSULATION, #10 AND SMALLER - SOLID, #8 AND LARGER - STRANDED.
2. NO CONDUCTORS SHALL BE SMALLER THAN NO. 12, EXCEPT FOR SIGNAL OR CONTROL CIRCUITS AND FOR INDIVIDUAL LIGHTING FIXTURE TAPS AS PERMITTED BY NEC.
3. FOR HOME RUNS ON 120-VOLT, 20-AMPERE BRANCH CIRCUITS, WHERE LENGTH OF RUN FROM PANELBOARD TO FIRST OUTLET EXCEEDS 100 LINEAR FEET, USE NO. 10 CONDUCTORS. WHERE LENGTH OF RUN IS 100 LINEAR FEET OR LESS, USE NO. 12 CONDUCTORS.
4. FOR HOME RUNS ON 277-VOLT, 20-AMPERE BRANCH CIRCUITS, WHERE LENGTH OF RUN FROM PANELBOARD TO FIRST OUTLET EXCEEDS 200 LINEAR FEET, USE NO. 10 CONDUCTORS. WHERE LENGTH OF RUN IS 100 LINEAR FEET OR LESS, USE NO. 12 CONDUCTORS.

G. WIRING DEVICES, COVER PLATES AND ACCESSORIES

1. PROVIDE WIRING DEVICES AND ASSOCIATED ACCESSORIES OF SPECIFICATION GRADE. DEVICES OF LEVITON, HUBBELL OR PASS & SEYMORE ARE ACCEPTABLE. SUBMIT FOR REVIEW A COMPLETE LIST OF ANY SUBSTITUTES OFFERED FROM THOSE SPECIFIED.
2. COLOR OF WALL SWITCHES, RECEPTACLES AND FACEPLATES: AS SPECIFIED OR SELECTED BY ARCHITECT.
3. WHERE LIGHTING CIRCUITS ARE SHOWN TO BE LINE VOLTAGE SWITCHED, PROVIDE WITH SPECIFICATION GRADE, HORSEPOWER RATED, UL LISTED, BACK- AND SIDE-WIRED, TOGGLE SWITCHES RATED 20-AMP, 120 VOLTS OR 277 VOLTS. SWITCHES SHALL BE SPST, DPST, 3-WAY OR 4-WAY, WITH OR WITHOUT PILOT LIGHT, AS INDICATED ON THE DRAWINGS.
4. RECEPTACLES
   a. STANDARD WALL RECEPTACLES SHALL BE SPECIFICATION GRADE, RATED 20-AMP, 120-VOLT, 2 POLE, 3-WIRE, GROUNDING TYPE, SIDE-WIRED, NEMA 5-20R.
   b. SPECIAL PURPOSE RECEPTACLES SHALL BE SPECIFICATION GRADE DEVICES FOR THE NEMA CONFIGURATIONS SCHEDULED OR INDICATED ON THE DRAWINGS.
   c. GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLES SHALL BE 20 AMP, 120 VOLT, 2 POLE, 3-WIRE, NEMA 5-20R.
5. MAINTAIN GROUNDING CONTINUITY BETWEEN DEVICES AND METALLIC RACEWAY SYSTEM IN ADDITION TO PROVIDING A GREEN EQUIPMENT GROUNDING CONDUCTOR RUN WITH ALL CIRCUIT CONDUCTORS AS INDICATED ON THE DRAWINGS. EXCEPT CARE SHALL BE TAKEN WHEN INSTALLING RECEPTACLES HAVING ISOLATED GROUND POLE SO AS TO NOT BOND THE EQUIPMENT GROUND CONDUCTOR TO THE CONDUIT SYSTEM.

H. OVERCURRENT PROTECTIVE DEVICES

1. MOLDED CASE CIRCUIT BREAKERS
   a. AS MANUFACTURED BY THE MANUFACTURER OF THE PANELBOARD IN WHICH INSTALLED.
   b. ONE, TWO OR THREE POLE WITH RATINGS INDICATED ON THE DRAWINGS; (STANDARD) OR (HIGH INTERRUPTING) CONSTRUCTION AS REQUIRED BY THE SHORT CIRCUIT RATINGS INDICATED ON THE DRAWINGS.
   c. QUICK-MAKE, QUICK-BREAK, CALIBRATED FOR OPERATION IN AN AMBIENT TEMPERATURE OF 40°C. TRIP INDICATION BY HANDLE POSITION, TRIP-FREE. TWO AND THREE POLE BREAKERS: COMMON TRIP WITH SINGLE OPERATING HANDLE WITHOUT HANDLE TIES, PERMANENT TRIP UNIT CONTAINING INDIVIDUAL THERMAL AND MAGNETIC TRIP ELEMENTS IN EACH POLE. FRAME SIZES GREATER THAN 100 AMPERES: VARIABLE MAGNETIC TRIP ELEMENTS WHICH ARE SET BY A SINGLE ADJUSTMENT.
   d. REMOVABLE LUGS, UL LISTED FOR COPPER AND ALUMINUM CONDUCTORS. LISTED FOR INSTALLATION OF MECHANICAL OR COMPRESSION TYPE LUGS.

I. GROUNDING

1. GROUNDING SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
2. GROUNDING CONDUCTORS SHALL BE ANNEALED COPPER CABLES OF THE SIZES INDICATED OR REQUIRED.
3. A "GREEN WIRE" EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED WITHIN EACH FEEDER AND BRANCH CIRCUIT RACEWAY, WHETHER METALLIC OR NON-METALLIC, TO FORM A COMPLETE AND CONTINUOUS GROUNDING PATH. CONNECT GROUNDING CONDUCTORS TO GROUND TERMINALS AT EACH END OF THE RUN.

J. LIGHTING FIXTURES

1. INSURE EACH LIGHTING FIXTURE HAS AN OPERATING SET OF LAMPS EQUAL TO EXISTING OR OF THE TYPES SHOWN ON THE DRAWINGS AND/OR SPECIFIED HEREIN. LAMPS SHALL BE MANUFACTURED BY GENERAL ELECTRIC, PHILIPS, OR OSRAM/SYLVANIA, EXCEPT WHERE SCHEDULED OTHERWISE.
2. PROVIDE A LIGHTING FIXTURE COMPLETE WITH LAMPS, BALLASTS, AND OTHER REQUIRED APPURTENANCES FOR EACH LIGHTING OUTLET SHOWN ON THE DRAWINGS. LIGHT FIXTURES SHALL BE AS DESCRIBED IN THE "LIGHTING FIXTURE SCHEDULE". EACH UNIT SHALL BE FURNISHED WITH ALL MOUNTING AND TRIM ACCESSORIES TO SUIT THE SPECIFIC SERVICES APPLIED. FINISHES SHALL BE FACTORY-STANDARD, EXCEPT WHERE SCHEDULED OTHERWISE.
3. PROVIDE LIGHTING FIXTURES IN ACCORDANCE WITH THE DESIGNATIONS AND DESCRIPTIONS ON THE DRAWINGS. WHERE A SINGLE MANUFACTURER AND ASSOCIATED CATALOG NUMBER IS SCHEDULED, IT IS TO ESTABLISH A DESIRED TYPE AND STANDARD OF QUALITY.
4. LIGHTING FIXTURES SHALL BE UL LABELED.

K. FIRE ALARM SYSTEM

1. FURNISH AND INSTALL FIRE ALARM AND DETECTION SYSTEM ADDITIONS AND RELOCATIONS AS INDICATED ON THE DRAWINGS, COMPATIBLE AND CONSISTENT WITH THE EXISTING SYSTEM.
2. THE EXISTING SYSTEM OPERATION SHALL REMAIN UNCHANGED PROVIDING CONTINUAL SERVICE DURING ALL PHASES OF THE RENOVATION AND EXPANSION.

L. TELEPHONE/DATA SYSTEM

1. AT ALL WALL DATA/VOICE OUTLET LOCATIONS, PROVIDE BACK BOXES AND 3/4" EMPTY CONDUIT WITH PULL CORD TO ABOVE CEILING.

III EXECUTION

A. INSTALLATION OF BUILDING CONDUIT

1. ALL INTERIOR RACEWAYS SHALL BE EMT. RACEWAYS IN DAMP OR WET LOCATIONS, OR IN HAZARDOUS LOCATIONS, SHALL BE GRC OR IMC.
2. CONDUITS SHALL BE OF SUCH SIZE AND SO INSTALLED THAT THE CONDUCTORS MAY BE DRAWN THROUGH WITHOUT INJURY OR EXCESSIVE STRAIN, SHALL BE SECURED AT CABINETS AND BOXES WITH GALVANIZED LOCKNUTS, BOTH INSIDE AND OUTSIDE, AND SHALL HAVE APPROPRIATE BUSHINGS INSIDE. BUSHINGS SHALL BE INSULATING TYPE WITH BOND GROUND CLAMPS.
3. USE LENGTHS OF FLEXIBLE METAL CONDUIT NOT LESS THAN 12 INCHES LONG AT FINAL CONNECTIONS TO ALL MOTORS, TRANSFORMERS AND SIMILAR DEVICES SUBJECT TO MOVEMENT BECAUSE OF VIBRATION OR MECHANICAL ADJUSTMENT. USE FLEXIBLE METAL CONDUITS TO EFFECT FINAL CONNECTIONS TO RECESSED LIGHTING FIXTURES. USE LIQUID TIGHT FLEXIBLE METAL CONDUIT, WITH APPROPRIATE CONNECTIONS, IN DAMP OR WET LOCATIONS, AT MOTOR OR EQUIPMENT LOCATIONS IN MECHANICAL EQUIPMENT ROOMS, AT OR NEAR PUMPS, AND WHEN INSTALLED OUTDOORS.
4. GROUND METALLIC CONDUITS AS REQUIRED BY NEC.
5. INSTALL RACEWAYS CONTINUOUS FROM OUTLET TO OUTLET BOX, OR CABINET, WITH A MAXIMUM OF 150 FEET BETWEEN PULLS. IN AREAS WHERE THERE ARE NO SUSPENDED CEILINGS, RUN ALL CONDUITS PARALLEL/PERPENDICULAR TO BUILDING SURFACE PLANES.
6. IN SYSTEMS OPERATING AT MORE THAN 300 VOLTS BETWEEN PHASE CONDUCTORS, AND WHERE DIFFERENT PHASE CONDUCTORS ARE TO BE RUN TO A COMMON GANG WALL SWITCH BOX, PROVIDE SUBSTANTIAL BARRIERS BETWEEN ADJACENT SWITCHES IN THE BOX SO THAT TWO DIFFERENT PHASE WIRES WILL NOT BE IN THE SAME COMPARTMENT.
7. WHEREVER RACEWAYS PASS THROUGH FLOORS, WALLS, PENETRATIONS, OR OTHER PARTITIONS, CAREFULLY FILL ANY SPACE BETWEEN THE OUTSIDE OF THE RACEWAY AND THE BUILDING MATERIAL TO PREVENT PASSAGE OF AIR, WATER, SMOKE, AND FUMES. FILLING MATERIAL SHALL BE A UL LISTED, INTUMESCENT SEALING HAVING FIRE/SMOKE RESISTIVE RATING EQUAL TO THE BUILDING MATERIAL PENETRATED.
8. TYPE HCF-MC METAL CLAD CABLES SHALL BE ACCEPTABLE TO BE INSTALLED IN WALLS AND CEILINGS IN CONFORMANCE WITH THE REQUIREMENTS OF NEC 334. TYPE MC CABLE SHALL BE USED ONLY FOR BRANCH CIRCUITS FOR LIGHTING AND SPECIFIC AND GENERAL PURPOSE RECEPTACLES. TYPE MC CABLE SHALL NOT BE USED FOR FEEDERS OR MULTIPLE BRANCH CIRCUIT HOMERUNS, AND MORE SPECIFICALLY, SHALL NOT BE USED FOR HVAC, AND KITCHEN EQUIPMENT BRANCH CIRCUITS. TYPE MC CABLE SHALL NOT BE UTILIZED WITHIN ELECTRICAL EQUIPMENT ROOMS. CABLE SHALL TRANSITION TO A RIGID TYPE CONDUIT PRIOR TO ENTERING ELECTRICAL EQUIPMENT ROOMS.
9. CONDUITS UTILIZED THROUGHOUT THE PROJECT SHALL NOT BE SMALLER THAN 3/4 INCH FOR FEEDERS, MULTIPLE BRANCH CIRCUIT HOMERUNS AND HOMERUNS OF CONDUCTORS LARGER THAN NO. 12. INDIVIDUAL BRANCH CIRCUIT WIRING FOR NO. 12 CONDUCTORS SHALL BE ACCEPTABLE IN 1/2" CONDUIT, I.E. 2#12, 1#12G, 1/2"C.

B. INSTALLATION OF PULL AND JUNCTION BOXES

1. FASTEN ALL BOXES SECURELY TO THE BUILDING CONSTRUCTION, INDEPENDENT OF CONDUIT SYSTEMS.
2. ON CONCEALED CONDUIT SYSTEMS WHERE BOXES ARE NOT OTHERWISE ACCESSIBLE, SET BOXES FLUSH WITH FINISHED SURFACES FOR ACCESS, AND PROVIDE OVERLAPPING COVERS.

C. INSTALLATION OF OUTLET BOXES

1. TERMINATE CONDUITS AT A METAL OUTLET BOX AT EACH OUTLET OR DEVICE. ALL BOXES SHALL CONFORM TO THE NEC.
2. OUTLET BOXES SHALL BE SUPPORTED INDEPENDENT OF THE CONDUIT SYSTEM.

D. INSTALLATION OF CONDUIT HANGERS AND SUPPORTS

1. FURNISH AND INSTALL ALL HANGERS AND SUPPORTS REQUIRED BY RACEWAY SYSTEMS.
2. SUPPORT ALL ABOVE-GROUND ELECTRICAL CONDUITS FROM THE BUILDING STRUCTURE/CONSTRUCTION. SUPPORT CONDUITS RUNNING VERTICALLY OR HORIZONTALLY ALONG WALLS WITH GALVANIZED MALLEABLE IRON ONE-HOLE CLAMPS. CARRY INDIVIDUALLY SUPPORTED HORIZONTAL CONDUITS 1-1/4 INCH AND LARGER ON SUITABLE HANGERS.
3. LOCATE HANGERS AND TRAPEZES TO SUPPORT HORIZONTAL RACEWAYS WITHOUT APPRECIABLE SAGGING. HANGER SPACING SHALL NOT EXCEED NEC REQUIREMENTS, OR RECOMMENDATIONS OF THE NECA "STANDARD OF INSTALLATION".
4. WHERE CONDUITS SMALLER THAN 1-1/4 INCH ARE INSTALLED ABOVE REMOVABLE TYPE DRY CEILINGS, SUPPORT THEM ON SUITABLE HANGER RODS WITH METAL CLIPS AT A DISTANCE ABOVE THE CEILING SUFFICIENT TO PERMIT REMOVAL OF CEILING PANELS AND LAY-IN LIGHT FIXTURES. LOCATE SUCH CONDUITS SO AS NOT TO HINDER ACCESS TO MECHANICAL EQUIPMENT THROUGH CEILING PANELS.

E. INSTALLATION OF CONDUCTORS

1. PULL NO CONDUCTORS INTO CONDUITS UNTIL ALL WORK OF A NATURE WHICH MAY CAUSE INJURY TO CONDUCTORS IS COMPLETED.
2. RUN FEEDERS IN CONTINUOUS PIECES, WITHOUT JOINTS OR SPLICES, INSOFAR AS PRACTICABLE.
3. RUN CONDUITS FOR EMERGENCY POWER CONDUCTORS SEPARATE FROM ALL OTHER WIRING.

F. SEGREGATION OF WIRING SYSTEMS

1. SEGREGATION OF WIRING SYSTEMS SHALL NOT BE COMPROMISED BY THE USE OF COMMON PULLBOXES, WIREWAYS, CABINETS OR ANY OTHER TYPE OF ENCLOSURE.
2. THE RACEWAY SYSTEM FOR EACH FEEDER SHALL BE A SEPARATE SYSTEM COMPLETELY FAULT ISOLATED FROM ALL OTHER RACEWAY SYSTEMS.
3. THE RACEWAY SYSTEM FOR THE BRANCH CIRCUITS OF EACH PANELBOARD SHALL BE A SEPARATE SYSTEM COMPLETELY FAULT ISOLATED FROM ALL OTHER RACEWAY SYSTEMS.

G. EQUIPMENT CONNECTIONS AND CONTROL WIRING

1. THE FURNISHING AND INSTALLATION OF CONTROL POWER WIRING REQUIRED FOR EQUIPMENT FURNISHED UNDER DIVISION 15 AND NOT SHOWN ON THE ELECTRICAL DRAWINGS SHALL BE FURNISHED UNDER DIVISION 15. CONTROL POWER WIRING IS DEFINED AS THE LINE VOLTAGE (120V) POWER WIRING FOR EQUIPMENT CONTROL CABINETS, TEMPERATURE CONTROL, ENERGY MANAGEMENT, OR BUILDING AUTOMATION SYSTEM PANELS AND LINE VOLTAGE SMOKE/FIRE DAMPERS.
2. THE FURNISHING AND INSTALLATION OF THE TEMPERATURE CONTROL WIRING, ENERGY MANAGEMENT SYSTEM OR BUILDING AUTOMATION WIRING NOT SHOWN ON THE ELECTRICAL DRAWINGS SHALL BE FURNISHED UNDER DIVISION 15. TEMPERATURE CONTROL, ENERGY MANAGEMENT SYSTEM AND BUILDING AUTOMATION SYSTEM WIRING IS DEFINED AS THE INTERLOCK OR INTERCONNECTING WIRING REQUIRED BETWEEN SYSTEM CONTROL DEVICES, APPURTENANCES AND CONTROL PANELS TO ALLOW THE SYSTEM TO FUNCTION AUTOMATICALLY. THIS INCLUDES WIRING BETWEEN THE FIRE ALARM SYSTEM, SMOKE EXHAUST SYSTEMS, DOOR ENTRY SYSTEMS AND ANY OTHER SYSTEM REQUIRING INTERFACE WITH THE TEMPERATURE CONTROL, ENERGY MANAGEMENT AND BUILDING AUTOMATION SYSTEM.
3. PROVIDE POWER WIRING TO EACH MOTOR-DRIVEN AND/OR ELECTRICALLY-OPERATED SYSTEM OR UNIT OF EQUIPMENT. THE WIRING SHALL ALLOW THE MOTOR(S) OR EQUIPMENT TO OPERATE IN A MANUAL MODE.
4. CONTROL WIRING WILL, UNLESS SPECIFICALLY NOTED OTHERWISE, WILL BE FURNISHED AND INSTALLED UNDER OTHER DIVISIONS OF THE SPECIFICATIONS.
5. EXCEPT FOR ITEMS THAT ARE FURNISHED WITH FACTORY-INSTALLED, INTEGRAL MOTORS, AN ELECTRIC MOTOR OF REQUIRED SIZE AND ELECTRICAL CHARACTERISTICS WILL BE PROVIDED AND INSTALLED UNDER OTHER DIVISIONS FOR EACH ITEM OF MOTOR-DRIVEN EQUIPMENT. COMPLETE THE ELECTRICAL INSTALLATION OF THESE MOTORS IN ACCORDANCE WITH APPROVED WIRING DIAGRAMS AND INSTRUCTIONS.
6. WHERE DISCONNECT SWITCHES OR CIRCUIT BREAKERS ARE NOT PROVIDED INTEGRAL WITH CONTROL EQUIPMENT FOR MOTORS AND OTHER ELECTRICAL APPURTENANCES, PROVIDE AND INSTALL ALL DISCONNECT SWITCHES REQUIRED BY THE NATIONAL ELECTRICAL CODE AND/OR INDICATED.
7. WHERE POSSIBLE, TERMINATE CONDUITS IN CONDUIT BOXES ON MOTORS. WHERE MOTORS ARE NOT PROVIDED WITH CONDUIT BOXES, TERMINATE THE CONDUITS IN CONDUIT FITTINGS AT THE MOTORS.

H. EXISTING SYSTEMS TO REMAIN

1. THE CONTRACT DOCUMENTS DO NOT PROPOSE TO SHOW ALL EXISTING SYSTEMS, MATERIAL OR EQUIPMENT. OBTAIN DATA RELATED TO EXISTING CONDITIONS FROM EXISTING DOCUMENTS, MEASUREMENTS, NOTATIONS, PHOTOGRAPHS, SURVEYS AND OTHER OBSERVATIONS AT THE SITE.
2. REMOVE EXISTING WIRE, CONDUIT, EQUIPMENT, FIXTURES AND OTHER ITEMS TO PROVIDE ACCESS FOR WORK IN EXISTING FACILITIES. REINSTALL AND REFINISH ITEMS REMOVED, OR OTHERWISE DAMAGED, TO MATCH EXISTING ADJACENT SURFACED UPON COMPLETION OF THE WORK.
3. WHERE EXISTING FUNCTIONS TO REMAIN IN USE ARE DISRUPTED, THEY SHALL BE FULLY RESTORED AFTER DISRUPTION, IN FULL COMPLIANCE WITH THIS DIVISION OF THE SPECIFICATIONS FOR NEW WORK.
4. MODIFY, REMOVE OR RELOCATE MATERIALS AND ITEMS INDICATED ON THE DRAWINGS OR REQUIRED BY THE INSTALLATION OF NEW WORK.
5. WORKING JOINTLY WITH THE ARCHITECT, ESTABLISH AND MARK SALVAGE AND DEMOLITION ITEMS BEFORE COMMENCING WORK; REPORT ITEMS SCHEDULE FOR RELOCATION, REINSTALLATION OR REUSE, WHICH ARE FOUND TO BE IN DAMAGED CONDITION; AWAIT FURTHER INSTRUCTIONS FROM THE ARCHITECT BEFORE COMMENCING WITH WORK.
6. DEMOLITION EQUIPMENT, DEVICES AND MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR. SALVAGED EQUIPMENT AND DEVICES SHALL BE THE PROPERTY OF THE CONTRACTOR UNLESS NOTED OTHERWISE.
7. MAKE MINOR RELOCATIONS NECESSITATED BY THE CONDITIONS AT THE SITE OR AS DIRECTED BY THE ARCHITECT, WITHOUT ADDITIONAL COST TO THE OWNER. REPAIR AND RESTORE TO GOOD FUNCTIONAL CONDITION, EQUIPMENT, MATERIALS AND ITEMS SCHEDULED FOR RELOCATION, WHICH ARE DAMAGED DURING DISMANTLING OR REASSEMBLY OPERATIONS. NEW MATERIALS AND ITEMS OF SIMILAR DESIGN AND QUALITY MAY BE SUBSTITUTED FOR MATERIALS AND ITEMS INDICATED TO BE RELOCATED UPON APPROVAL OF SHOP DRAWINGS, PRODUCT DATA AND SAMPLES. REMOVE CAREFULLY, IN REVERSE ORDER TO ORIGINAL ASSEMBLY OR PLACEMENT, ITEMS WHICH ARE TO BE RELOCATED. PROTECT ITEMS UNTIL RELOCATION IS COMPLETE. CLEAN AND REPAIR ITEMS TO BE RELOCATED, AND PROVIDE NEW MATERIALS, FITTINGS AND APPURTENANCES REQUIRED TO COMPLETE THE RELOCATIONS AND TO RESTORE TO GOOD OPERATING ORDER. PERFORM THE RELOCATION WORK IN ACCORDANCE WITH APPLICABLE PORTIONS OF THESE SPECIFICATIONS, UTILIZING SKILLED WORKERS.
8. RELOCATING DEVICES: REMOVE AND REINSTALL IN LOCATIONS DESIGNATED BY THE ARCHITECT TEMPERATURE CONTROL SYSTEM DEVICES, RELAYS, WIRE, CONDUIT, FIXTURES, EQUIPMENT AND OTHER DEVICES REQUIRED FOR THE OPERATION OF THE VARIOUS SYSTEMS THAT ARE INSTALLED IN EXISTING-TO-BE-REMOVED CONSTRUCTION.

I. CONTRACTOR SHALL KEEP A CLEAN SET OF DRAWINGS ON THE JOB, NOTING DAILY ALL CHANGES MADE IN THESE DRAWINGS IN CONNECTION WITH THE FINAL INSTALLATION INCLUDING EXACT DIMENSIONED LOCATIONS OF ALL NEW AND UNCOVERED EXISTING UTILITIES AND SHALL, WITH HIS REQUEST FOR FINAL PAYMENT, TURN OVER A CLEAN, NEATLY MARKED SET OF REPRODUCIBLE MYLARS SHOWING "AS INSTALLED" WORK TO THE ARCHITECT FOR SUBSEQUENT REVIEW AND TRANSMITTAL TO THE OWNER. CONTRACTOR SHALL NOTE ALL CONSTRUCTION CHANGES, DATE EACH SHEET AND LABEL "AS-BUILTS" IN THE REVISION BLOCK ON THE DRAWINGS. CONTRACTOR SHALL ALSO FURNISH ONE (1) SET OF "AS-BUILT" BLUELINE PRINTS.

J. IN ADDITION TO THE ABOVE, CONTRACTOR SHALL ACCUMULATE DURING THE JOB'S PROGRESS, THE FOLLOWING DATA, IN TRIPLICATE, PREPARED IN A NEAT BROCHURE OR PACKET FOLDER AND TURNED OVER TO THE ARCHITECT FOR REVIEW AND SUBSEQUENT DELIVERY TO THE OWNER.

1. ALL WARRANTIES AND GUARANTEES AND MANUFACTURER'S DIRECTIONS ON EQUIPMENT AND MATERIAL COVERED BY THE CONTRACT INCLUDING THE NAMES, ADDRESSES AND TELEPHONE NUMBERS OF THE MANUFACTURER'S REPRESENTATIVE.
2. APPROVED FIXTURE BROCHURES, WIRING DIAGRAMS AND CONTROL DIAGRAMS (ORIGINAL DATA, NO COPIES).
3. COPIES OF APPROVED SHOP DRAWINGS.
4. OPERATING INSTRUCTIONS FOR ALL ELECTRICAL SYSTEM EQUIPMENT. OPERATING INSTRUCTIONS SHALL ALSO INCLUDE RECOMMENDED MAINTENANCE PROCEDURES.
5. TEST REPORTS REQUIRED BY THESE SPECIFICATIONS.
6. ANY AND ALL OTHER DATA AND/OR DRAWINGS REQUIRED DURING CONSTRUCTION.
7. REPAIR PARTS LISTS OF ALL MAJOR ITEMS OF EQUIPMENT INCLUDING NAME, ADDRESS AND TELEPHONE NUMBERS OF LOCAL SUPPLIER OR AGENT.

K. ALL OF THE ABOVE DATA SHALL BE SUBMITTED TO THE ENGINEER FOR HIS REVIEW AT SUCH TIME AS THE CONTRACTOR SUBMITS HIS LAST ESTIMATE PRIOR TO HIS FINAL PAYMENT, BUT IN NO CASE, LESS THAN TWO WEEKS BEFORE FINAL INSPECTION.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Jul 29, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

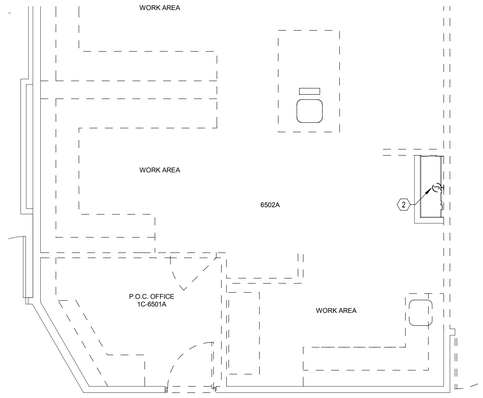
path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Consultant Team

MEP
WSP + CCRD
3613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date

COLORADO LICENSED
J



2 LEVEL 01 - ELECTRICAL DEMOLITION PLAN - CATH LAB
1/4" = 1'-0"

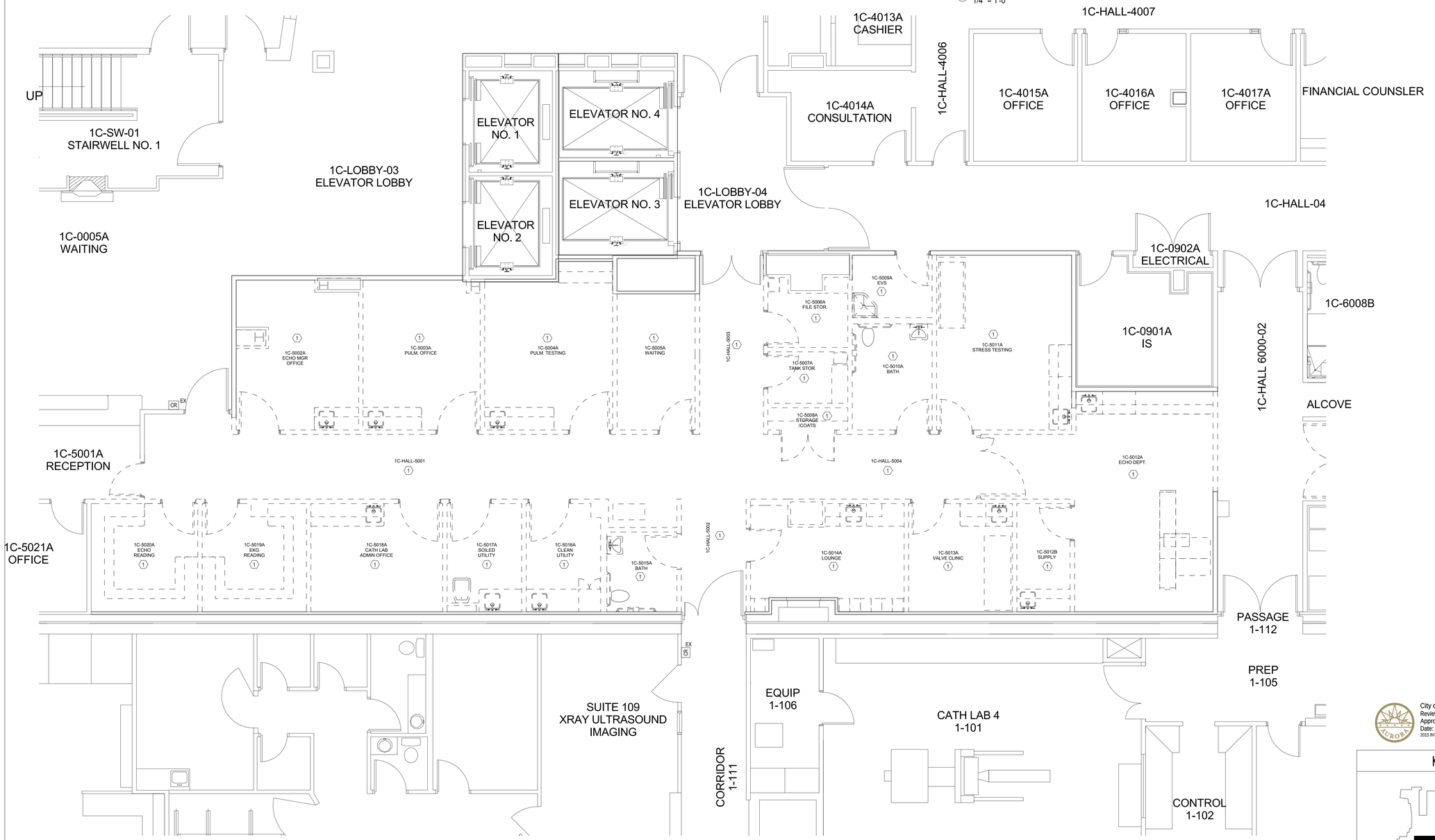
GENERAL NOTES:

A. REFER TO SHEET E.001 & E.002 LEGENDS, GENERAL NOTES, AND ABBREVIATIONS.

LEGEND NOTES:

1 ALL EXISTING ELECTRICAL DEVICES, LIGHTING FIXTURES AND CONTROLS, FIRE ALARM, AND LOW VOLTAGE WITHIN THIS SPACE SHALL BE DEMOLISHED, UNO.

2 EXISTING P-TUBE STATION TO BE RELOCATED. REFER TO E.201 FOR NEW LOCATION AND CIRCUIT INFORMATION.

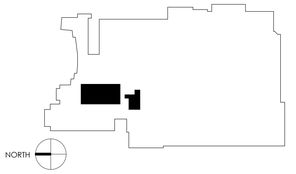


1 LEVEL 01 - ELECTRICAL DEMOLITION PLAN
1/4" = 1'-0"

RSN: *1131831*
Permit #: *16-1141686*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Aug 15, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

KEY PLAN



path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Consultant Team

MEP
WSP + CCRD
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date

COLORADO LICENSED
GREGORY M. GRAY
38502
07/15/16
PROFESSIONAL ENGINEER

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

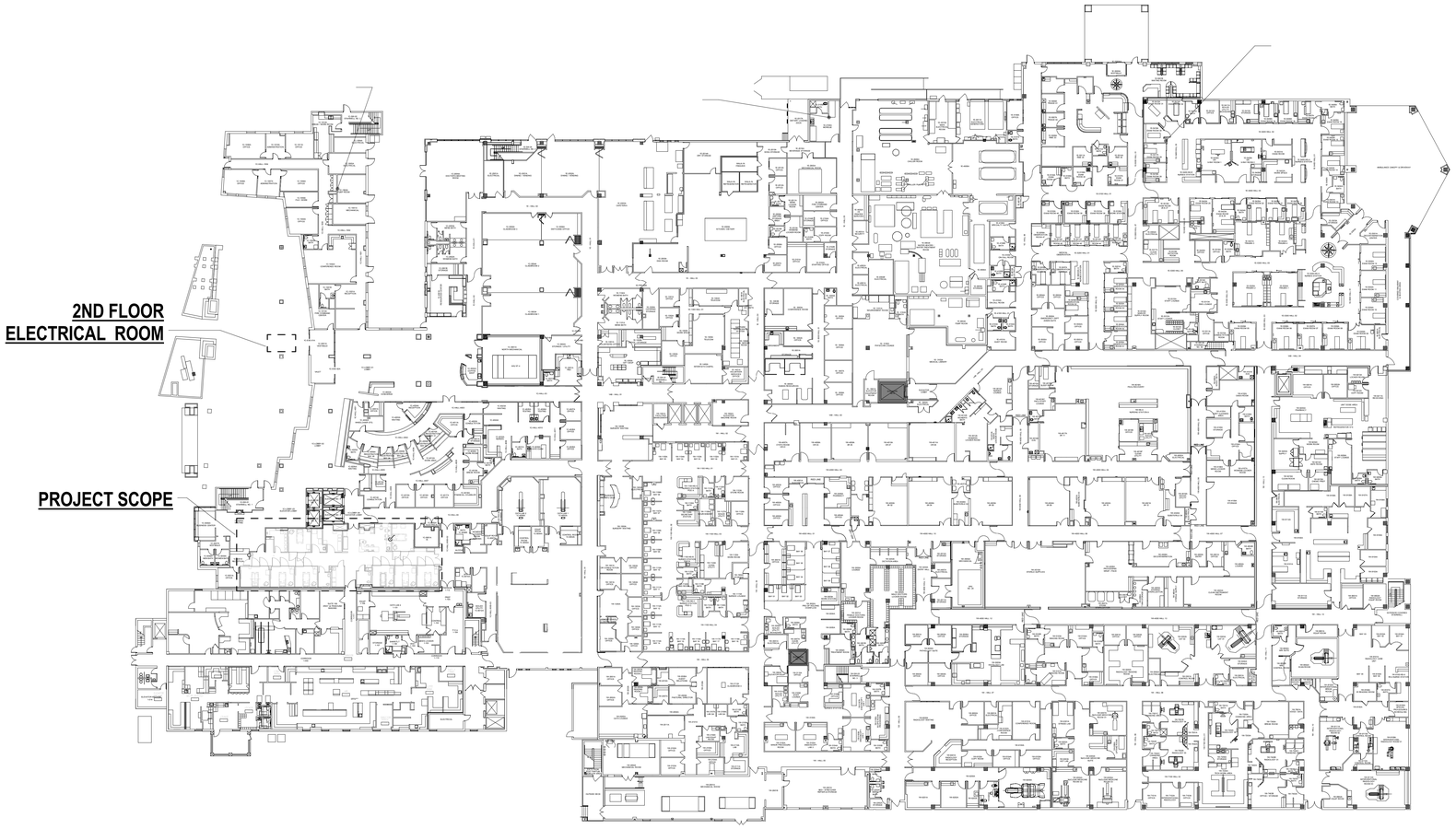
Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	CL
Checked by	JG

Sheet Title:
LEVEL 01 - ELECTRICAL DEMOLITION PLAN

Sheet Number
ED.201

CONTRACT & SPECIFICATIONS ARCHITECTURE

7/15/2016 1:52:57 PM



1 LEVEL 01 - OVERALL - ELECTRICAL PLAN
1" = 30'-0"

path 21 architecture

2245 Curtis Street, Suite 100
Denver, CO 80205

Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com

www.path21arch.com

Consultant Team

MEP

WSP + CCRD
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date

COLORADO LICENSED
JOSHUA M. GRAY
38502
7/15/16
PROFESSIONAL ENGINEER

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Aug 15, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

KEY PLAN



TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	CL
Checked by	JG

Sheet Title:
LEVEL 01 - OVERALL - ELECTRICAL PLAN

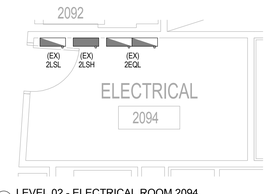
Sheet Number
E.100

CONTRACT & SPECIFICATION DOCUMENTS

7/15/2016 4:52:07 PM

Install electrical connections per 2014 NEC 110.14, identify disconnects per 2014 NEC 110.22 and provide working space around electrical equipment per 2014 NEC 110.26.

Service equipment shall be permanently and legibly marked to show the available fault current and date.
2014 NEC 110.24(A)(B).



2 LEVEL 02 - ELECTRICAL ROOM 2094
1/4" = 1'-0"

GENERAL NOTES:

A. REFER TO SHEET E.001 & E.002 LEGENDS, GENERAL NOTES, AND ABBREVIATIONS.

(#) LEGEND NOTES:

1 PROVIDE 120V CONNECTION FOR AUTO DOOR OPERATOR AND/OR ACCESS CONTROLS. COORDINATE WITH DOOR HARDWARE VENDOR AND SECURITY CONTRACTOR.

2 PROVIDE RECESSED STYLE 2-GANG FLOOR BOX EQUAL TO LEGRAND RFB2 WITH FURNITURE FEED COVER FOR CONNECTION TO MILLWORK. PROVIDE (1) 3/4"C FOR POWER AND (1) 1"C FOR LOW VOLTAGE TO THE NEAREST WALL AND UP TO ABOVE THE ACCESSIBLE CEILING. COORDINATE LOW VOLTAGE REQUIREMENTS WITH OWNER. COORDINATE TRIM RING WITH FLOORING MATERIAL AND FINISH COLOR WITH ARCHITECT.

3 PROVIDE SURFACE MOUNTED RACEWAY EQUAL TO LEGRAND 3000 SERIES MOUNTED AT 54" AFF. PROVIDE (1) HOSPITAL GRADE DUPLEX RECEPTACLE AT 24" OC.

4 REFER TO RECOVERY #2 FOR TYPICAL RECEPTACLE LAYOUT AND CIRCUITING INFORMATION.

5 PROVIDE 120V CONNECTION FOR ELECTROCHROMIC GLASS WITH CONTROLS LOCATED INSIDE AND OUTSIDE PATIENT ROOM. COORDINATE REQUIREMENTS WITH SYSTEM VENDOR.

6 CONNECT NEW AUTO OPERATOR PUSH BUTTON TO EXISTING AUTO DOOR OPERATOR. COORDINATE REQUIREMENTS WITH EXISTING ACCESS CONTROL SYSTEM.

7 120V CIRCUIT FOR COMPUTER CART QUAD RECEPTACLE.

8 TOUCH LESS WAVE PLATE FOR AUTO DOOR OPERATION. COORDINATE ROUGH IN REQUIREMENTS WITH EQUIPMENT VENDOR.

9 120V EQUIPMENT BRANCH CONNECTION TO RELOCATED P-TUBE STATION. EXTEND EXISTING 120V EQUIPMENT BRANCH CIRCUIT CURRENTLY SERVING PTS TO NEW LOCATION. EXTEND EXISTING CONDUIT AND CONDUCTORS AS REQUIRED.

10 CONNECT NEW CAV TO EXISTING TEMPERATURE CONTROLS EQUIPMENT BRANCH CONTROLS CIRCUIT CURRENTLY SERVING SPACE, INDICATED TO BE 2EQL-23 ON RECORD DOCUMENTS.

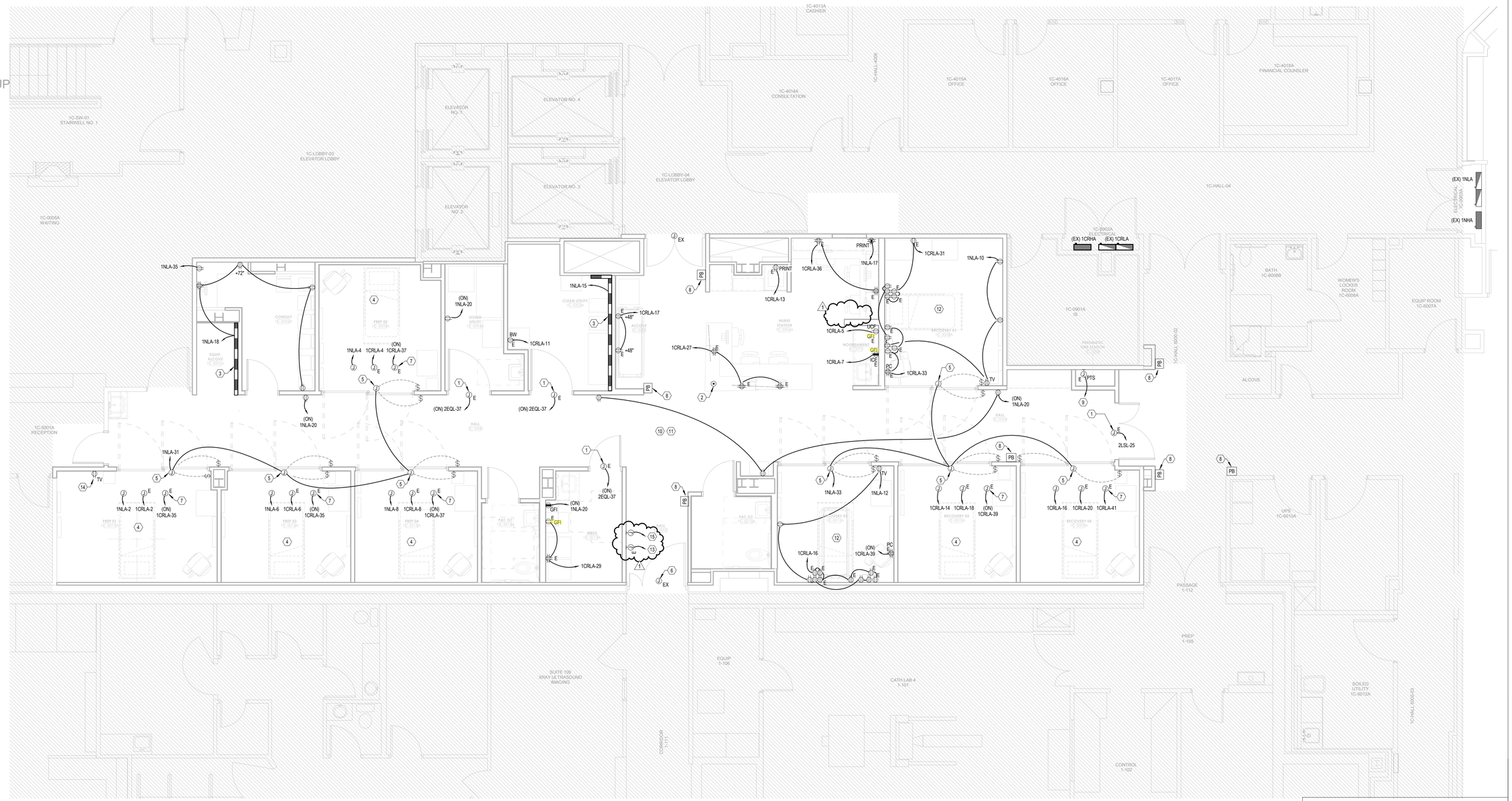
11 CONNECT NEW SMOKE AND FIRE / SMOKE DAMPERS TO EXISTING 120V EQUIPMENT BRANCH SERVING DAMPERS WITHIN THIS SPACE, INDICATED TO BE 2EQL-21 ON RECORD DOCUMENTS.

12 REFER TO ARCHITECTURAL ELEVATION FOR DEVICE HEIGHTS WITHIN TYPICAL PATIENT ROOM.

13 120V LIFE SAFETY BRANCH CONNECTION TO MED GAS AREA ALARM PANEL. EXTEND EXISTING 120V CIRCUIT CURRENTLY SERVING DEMOLISHED AAP TO NEW LOCATION. EXTEND EXISTING CONDUIT AND CONDUCTORS AS REQUIRED.

14 TV RECEPTACLE LOCATION DIFFERS FROM THE TYPICAL ROOM LOCATION FOR THIS ROOM ONLY.

15 PROVIDE ELECTRICAL ROUGH-IN FOR EXISTING CATH LAB 1, 2, 3, AND 4 AREA ALARM PANELS TO BE RELOCATED IN THE FUTURE. PROVIDE ELECTRICAL RACEWAY WILL PULL STRING TO NEAREST JUNCTION BOX OUTSIDE OF SUITE FOR FUTURE EXTENSION OF EXISTING CIRCUIT SERVING PANELS AT EXISTING LOCATION.



1 LEVEL 01 - POWER PLAN
1/4" = 1'-0"

517.33 (A) 2014 NEC Task Illumination and Selected Receptacles. The critical branch of the essential electrical system shall supply power for task illumination, fixed equioment, selected receptacles and special power circuits serving the following areas and functions related to patient care:
(8)
i. Postoperative recovery rooms. (selected)

Code violations that are found during inspection are required to be corrected. Permit issuance does not grant approval of a code violation.

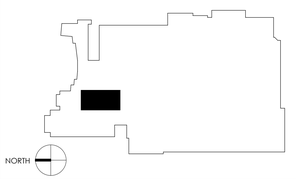
Field Inspection consultation is available upon request. Call 303-739-7420 to request a consultation

Failure to follow approved plans may result in an hourly fee to review the field changes for code compliance.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Aug 15, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

KEY PLAN



path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Consultant Team

MEP
WSP + CCRD
5613 DTC Parkway, Suite 550
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date
1	ADD 01	08/05/2016

COLORADO LICENSED
JAMES M. GOLL
38502
7/15/16
PROFESSIONAL ENGINEER

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	CL
Checked by	JG

Sheet Title:
LEVEL 01 - POWER PLAN

Sheet Number
E.201

CONTRACT © 2014 path21 architecture

8/5/2016 8:08:41 PM

Framing Members of suspended ceiling systems used to support luminaires shall be securely fastened to each other and shall be securely attached to the building structure at appropriate intervals. Luminaires shall be securely fastened to the ceiling framing member by mechanical means such as bolts, screws, or rivets. Listed clips identified for use with the type of ceiling framing member(s) and luminaire(s) shall also be permitted. 410.36 (B) 2014 NEC

In indoor locations in other than dwellings and associated accessory structures, fluorescent luminaires that utilize double ended lamps and contain ballast(s) that can be serviced in place shall have a disconnecting means either internal or external to each luminaire. 410.130 (G)(1) 2014 NEC

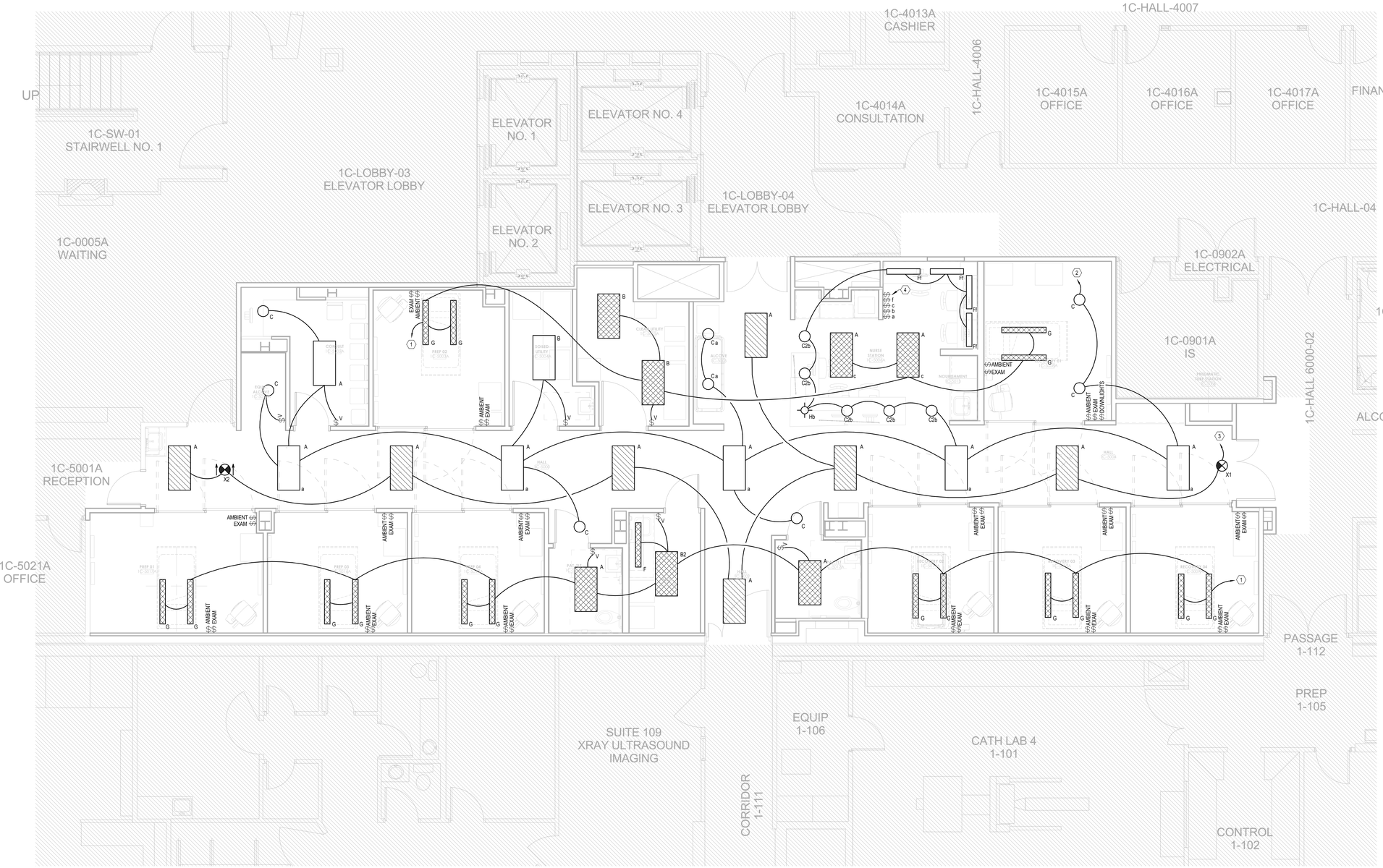
Provide emergency illumination equipment that complies with 2014 NEC 700.12 (F) or 2014 NEC 700.

GENERAL NOTES:

A. REFER TO SHEET E.001 & E.002 LEGENDS, GENERAL NOTES, AND ABBREVIATIONS.

LEGEND NOTES:

1. CONNECT TO EXISTING 277V CRITICAL BRANCH LIGHTING CIRCUIT SERVING SPACE. INDICATED TO BE 1CRH-S ON RECORD DOCUMENTS. DEMOLISHED LOAD = 1690VA, ADDED LOAD = 1106VA, NET LOAD TO CIRCUIT = (584)VA.
2. CONNECT TO EXISTING 277V NORMAL BRANCH LIGHTING CIRCUIT SERVING SPACE. INDICATED TO BE 1NHA-S ON RECORD DOCUMENTS. DEMOLISHED LOAD = 1975VA, ADDED LOAD = 647VA, NET LOAD TO CIRCUIT = -(1332)VA.
3. CONNECT TO EXISTING 277V LIFE SAFETY BRANCH LIGHTING CIRCUIT SERVING SPACE. INDICATED TO BE 1NHA-S ON RECORD DOCUMENTS. DEMOLISHED LOAD = 300VA, ADDED LOAD = 290VA, NET LOAD TO CIRCUIT = -(10)VA.
4. STANDALONE DMX CONTROLLER FOR TYPE H FIXTURE, EQUAL TO ACUITY FRESCO EZ SOLO. CONTROL STATION SHALL PROVIDE USER CONTROL OF RGB COLOR. CONTRACTOR SHALL CONFIRM DMX CONTROLLER AND LIGHT FIXTURE ARE 100% COMPATIBLE. PROVIDE 277V POWER CONNECTION FORM NORMAL BRANCH LIGHTING CIRCUIT.



1 LEVEL 01 - LIGHTING PLAN
1/4" = 1'-0"

517.33 (A) 2014 NEC Task Illumination and Selected Receptacles. The critical branch of the essential electrical system shall supply power for task illumination, fixed equioment, selected receptacles and special power circuits serving the following areas and functions related to patient care:
(8)
i. Postoperative recovery rooms. (selected)

Code violations that are found during inspection are required to be corrected. Permit issuance does not grant approval of a code violation.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Aug 15, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

KEY PLAN



path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Consultant Team

MEP
WSP + CCRD
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date

COLORADO LICENSED
JOHN M. GRAY
43502
7/15/16
PROFESSIONAL ENGINEER

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	CL
Checked by	JG

Sheet Title:
LEVEL 01 - LIGHTING PLAN

Sheet Number
E.301

CONTRACT & PROPERTY OF PATH21 ARCHITECTURE

7/15/2016 5:52:26 PM

GENERAL NOTES:

A. REFER TO SHEET E.001 & E.002 LEGENDS, GENERAL NOTES, AND ABBREVIATIONS.
B. NEW FIRE ALARM DEVICES SHALL BE PRODUCTS OF THE EXISTING FIRE ALARM SYSTEM MANUFACTURER AND SHALL BE CONNECTED TO THE EXISTING FIRE ALARM SYSTEM. UTILIZE EXISTING FIRE ALARM MAINTENANCE CONTRACTOR FOR INSTALLATION OF FIRE ALARM DEVICES AND MODIFICATIONS OF EXISTING FIRE ALARM SYSTEM AS REQUIRED TO ACCOMMODATE NEW INSTALLATION.

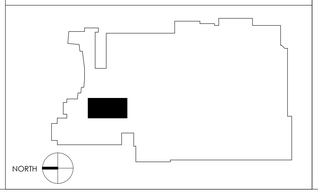
(#) LEGEND NOTES:

1 PROVIDE EMPTY RACEWAY FOR ACCESS CONTROL. REFER TO DETAILS ON E7.3 FOR ADDITIONAL INFORMATION. COORDINATE REQUIREMENTS WITH SECURITY CONTRACTOR.
2 CONNECT NEW AUTO OPERATOR PUSH BUTTON TO EXISTING AUTO DOOR OPERATOR. COORDINATE REQUIREMENTS WITH EXISTING ACCESS CONTROL SYSTEM.
3 REFER TO RECOVERY ROOM #2 FOR TYPICAL LOW VOLTAGE LAYOUT.
4 TOUCH LESS WAVE PLATE FOR AUTO DOOR OPERATION. COORDINATE ROUGH IN REQUIREMENTS WITH EQUIPMENT VENDOR.
5 PROVIDE (1) 3/4"C FROM CAMERA TO NEAREST IT CLOSET. COORDINATE ADDITIONAL REQUIREMENTS WITH SECURITY VENDOR AND FACILITY IT DEPARTMENT.
6 TV OUTLET LOCATION DIFFERS FROM THE TYPICAL ROOM LOCATION FOR THIS ROOM ONLY.
7 PROVIDE CONDUIT FOR MEDICAL GAS ALARM PANEL LOW VOLTAGE CABLE TO ABOVE DOUBLE DOOR FOR FUTURE EXTENSION TO EXISTING ALARM PANEL LOCATIONS. COORDINATE ADDITIONAL REQUIREMENTS WITH MED GAS CONTRACTOR. LOW VOLTAGE CABLING BY OTHERS, PROVIDE EMPTY CONDUIT WITH PULL STRING.



1 LEVEL 01 - SPECIAL SYSTEMS PLAN
1/4" = 1'-0"

KEY PLAN



City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Aug 15, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Consultant Team

MEP
WSP + CCRD
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date
1	ADD 01	08/05/2016

COLORADO LICENSED JONATHAN M. GRAY 43502 07/15/16 PROFESSIONAL ENGINEER

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	CL
Checked by	JG

Sheet Title:
LEVEL 01 - SPECIAL SYSTEMS PLAN

Sheet Number
E.401

CONTRACT & drawings property of path 21 architecture

8/5/2016 8:46:50 PM

COPPER FEEDER SCHEDULE 600V MAX.	
FEEDER TAG & AMPERE RATING	FEEDER DESCRIPTION
60.4	3#4, 1#4 N, 1#10 G, 1 1/4" C
100.4	3#1, 1#1 N, 1#8 G, 1-1/2" C
125.3, 150.3 125.4, 150.4 125.4I, 150.4I	3#1/0, 1#6 G, 1-1/2" C 3#1/0, 1#1/0 N, 1#6 G, 2" C 3#1/0, 1#1/0 N, 1#6 G, 1#6 IG, 2" C
400.4	2 SETS EACH OF [3#3/0, 1#3/0 N, 1#3 G, 2-1/2" C]
600.4	2 SETS EACH OF [3#350KCM, 1#350KCM N, 1#1 G, 2-1/2" C]
800.4	3 SETS EACH OF [3#300KCM, 1#300KCM N, 1#1/0 G, 3" C]
1200.4	4 SETS EACH OF [3#350KCM, 1#350KCM N, 1#3/0 G, 3" C]
2500.4	7 SETS EACH OF [3#500KCM, 1#500KCM N, 1#350KCM G, 3-1/2" C]

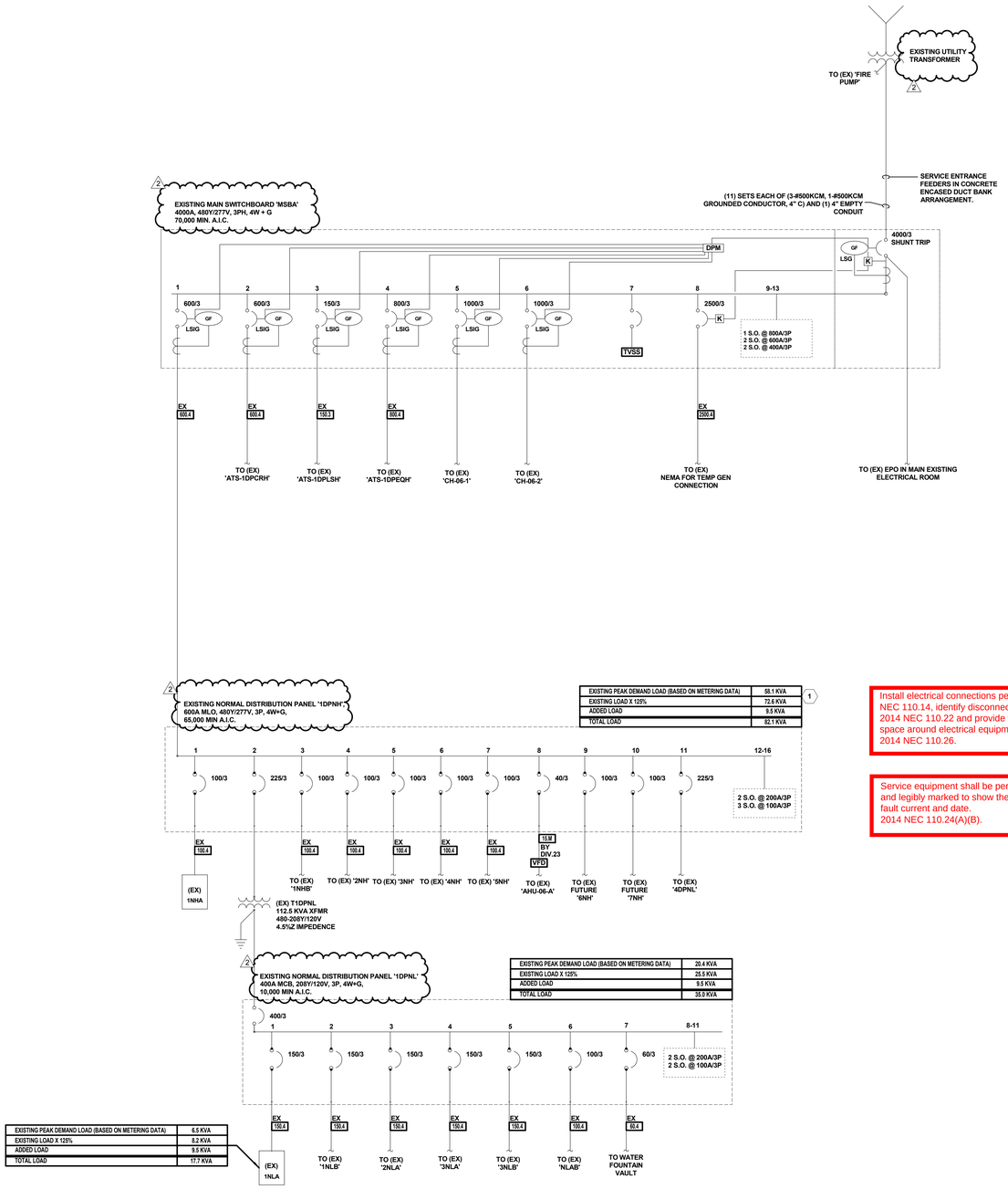
MOTOR FEEDER SCHEDULE 480 VOLT 3 PHASE				
MOTOR FEEDER TAG	HP	FLA	CB	FEEDER DESCRIPTION
5.M	5	7.6	15	3#12, 1#12 G, 3/4" C
15.M	15	21	40	3#10, 1#10 G, 3/4" C
100.M	100	124	225	3#2/0, 1#4 G, 2" C

GENERAL NOTES

A. REFER TO SHEET E.001 FOR LEGENDS, GENERAL NOTES AND ABBREVIATIONS.

LEGEND NOTES

1 ADDED LOAD IS LESS THAN 5%OF THE PANELBOARD/ SWITCHBOARD,S RATED CAPACITY. THEREFORE, METERING IS NOT REQUIRED.



Install electrical connections per 2014 NEC 110.14, identify disconnects per 2014 NEC 110.22 and provide working space around electrical equipment per 2014 NEC 110.26.

Service equipment shall be permanently and legibly marked to show the available fault current and date.
2014 NEC 110.24(A)(B).

01 PARTIAL ONE-LINE DIAGRAM - NORMAL

SCALE: NTS

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Consultant Team

MEP
WSP + CCRD
3613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date
2	ADD 02	08/10/2016

COLORADO LICENSED JOSEPH M. GRIS 43502 7/15/16 PROFESSIONAL ENGINEER

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Aug 15, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	CL
Checked by	JG

Sheet Title:
ELECTRICAL ONE-LINE DIAGRAM

Sheet Number
E.501

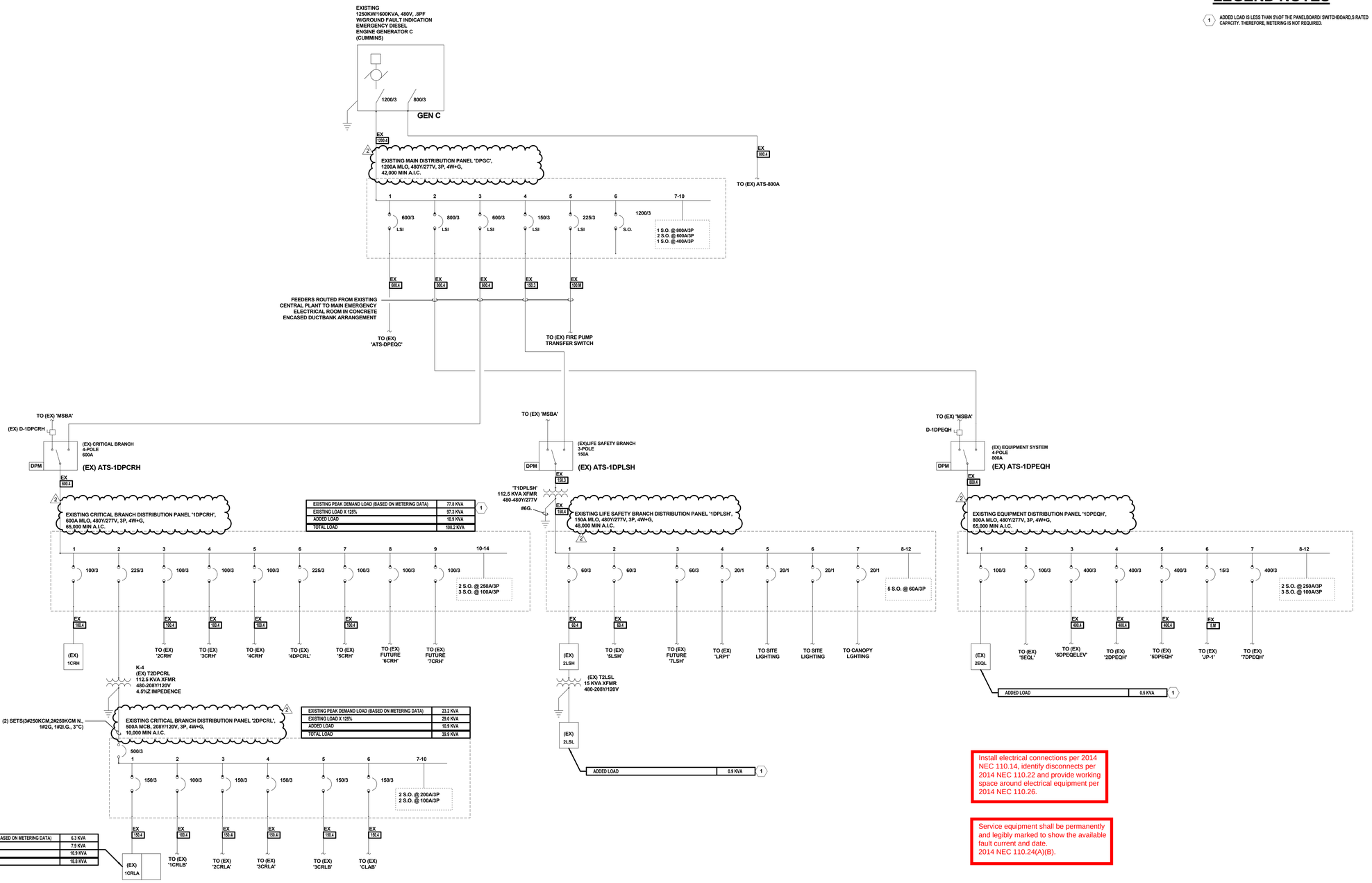
8/11/2016 7:28:50 AM

GENERAL NOTES

A. REFER TO SHEET E.001 FOR LEGENDS, GENERAL NOTES AND ABBREVIATIONS.

LEGEND NOTES

1 ADDED LOAD IS LESS THAN 8%OF THE PANELBOARD/ SWITCHBOARD,S RATED CAPACITY. THEREFORE, METERING IS NOT REQUIRED.



Install electrical connections per 2014 NEC 110.14, identify disconnects per 2014 NEC 110.22 and provide working space around electrical equipment per 2014 NEC 110.26.

Service equipment shall be permanently and legibly marked to show the available fault current and date.
2014 NEC 110.24(A)(B).

01 PARTIAL ONE-LINE DIAGRAM - EMERGENCY

SCALE: NTS

path 21 architecture

2245 Curtis Street, Suite 100
Denver, CO 80205

Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com

www.path21arch.com

Consultant Team

MEP

WSP + CCRD
3613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date
2	ADD 02	08/10/2016

COLORADO LICENSED
JOSEPH M. GRIS
38502
7/15/16
PROFESSIONAL ENGINEER

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	CL
Checked by	JG

Sheet Title:

ELECTRICAL ONE-LINE DIAGRAM

Sheet Number

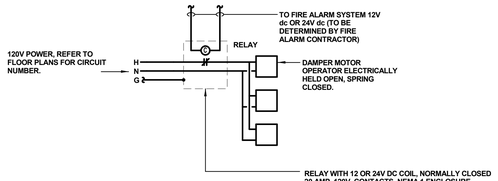
E.502

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Aug 15, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

8/11/2016 7:25:14 AM

CONTRACT & PROPERTY OF PATH21 ARCHITECTURE



GENERAL NOTES:

A. REFER TO AND COORDINATED WITH DIVISION 15 FOR LOCATIONS OF ALL DAMPERS.

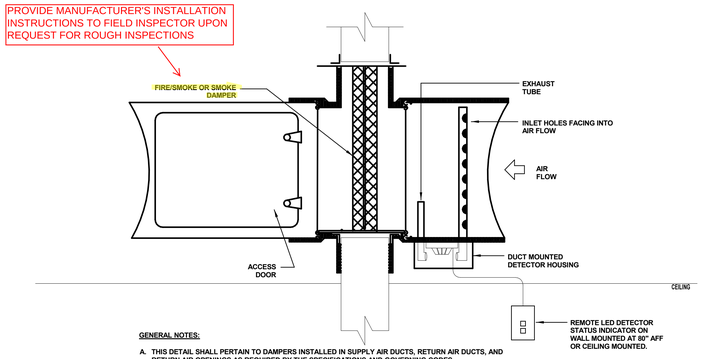
B. PROVIDE FIRE ALARM CONTROL RELAY MODULE AND CONTROL WIRING.

C. PROVIDE ALL 120V POWER WIRING FOR DAMPER.

D. REFER TO DIVISION 15 FOR SMOKE CONTROL SEQUENCE OF OPERATION FOR NUMBER AND LOCATION OF SMOKE CONTROL ZONES. COORDINATE BETWEEN TRADES TO PROVIDE PROPER NUMBER OF FIRE ALARM RELAYS TO MEET REQUIREMENTS OF SEQUENCE OF OPERATION.

06 TYPICAL SMOKE DAMPER AND FIRE/ SMOKE DAMPER WIRING DETAIL
NO SCALE

PROVIDE MANUFACTURER'S INSTALLATION INSTRUCTIONS TO FIELD INSPECTOR UPON REQUEST FOR ROUGH INSPECTIONS



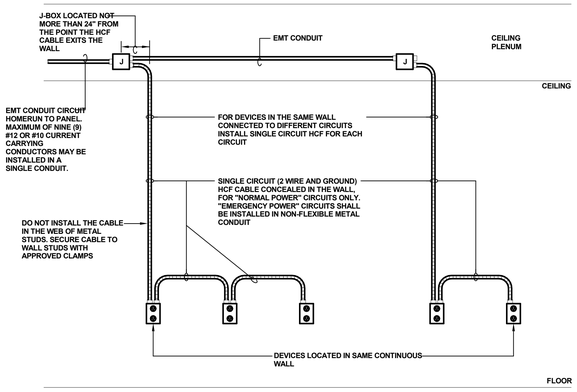
GENERAL NOTES:

A. THIS DETAIL SHALL PERTAIN TO DAMPERS INSTALLED IN SUPPLY AIR DUCTS, RETURN AIR DUCTS, AND RETURN AIR OPENINGS AS REQUIRED BY THE SPECIFICATIONS AND GOVERNING CODES.

B. PROVIDE SMOKE DETECTORS AT ALL FIRE/SMOKE AND SMOKE DAMPER LOCATIONS. COORDINATE EXACT LOCATION OF ALL FIRE/SMOKE AND SMOKE DAMPERS WITH DIVISION 15 FLOOR PLANS. AS REQUIRED BY LOCAL AUTHORITY HOUSING JURISDICTION.

C. INSTALL DUCT DETECTORS IN ACCORDANCE WITH DUCT MOUNTED SMOKE DETECTOR DETAIL.

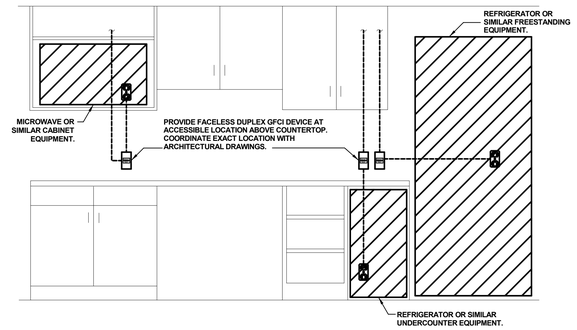
05 FIRE DAMPER INSTALLATION DETAIL
NO SCALE



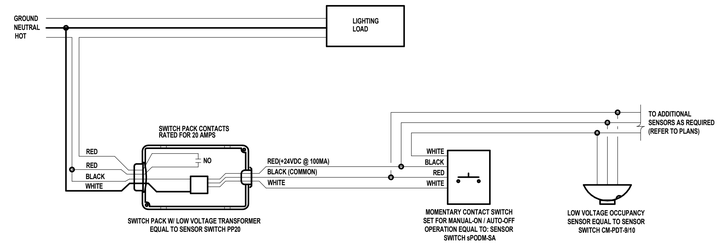
NOTES

1. NOT APPLICABLE FOR EMERGENCY POWER CIRCUITS
2. HFC CABLE MAY BE INSTALLED ONLY CONCEALED IN WALLS.

04 HEALTHCARE FACILITIES CABLE (HFC) INSTALLATION DETAIL
NO SCALE

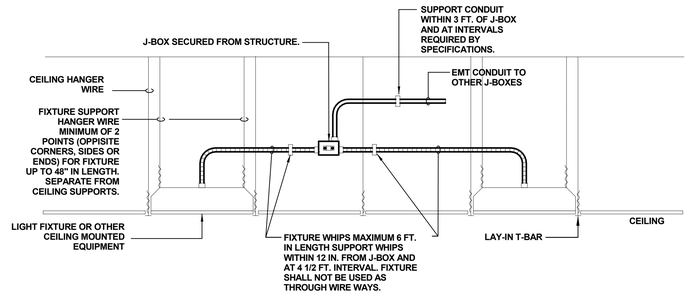


03 ACCESSIBLE GFCI DETAIL
NO SCALE



02 LOW VOLTAGE VACANCY SENSOR W/ LOW-VOLTAGE OVERRIDE
NO SCALE

Framing Members of suspended ceiling systems used to support luminaires shall be securely fastened to each other and shall be securely attached to the building structure at appropriate intervals. Luminaires shall be securely fastened to the ceiling framing member by mechanical means such as bolts, screws, or rivets. Listed clips identified for use with the type of ceiling framing member(s) and luminaire(s) shall also be permitted. 410.36 (B) 2014 NEC



01 LAY-IN FIXTURE MOUNTING DETAIL
NO SCALE

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Aug 15, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

7/13/2016 1:52:44 PM

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

Consultant Team

MEP
WSP + CCRD
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date

COLORADO LICENSED JOHN M. GRAY 43502 7/15/16 PROFESSIONAL ENGINEER

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	CL
Checked by	JG

Sheet Title:
ELECTRICAL DETAILS

Sheet Number
E.601

COPYRIGHT © 2016 path21 architecture

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	
A	DESCRIPTION:	2X4 LED DIRECT / INDIRECT LUMINOUS PANEL FIXTURE, OPAL ACRYLIC DIFFUSER.
	LAMP(S):	4800LM LED, 3500K
	BALLAST(S):	INTEGRAL 0-10V DIMMING DRIVER
	VOLTAGE:	277V
	INSTALLATION:	RECESSED LAY-IN GRID (OR DRYWALL CEILING INSTALL. REF. ARCH. PLANS TO COORDINATE TRIM)
	MANF:	LITHONIA #2ALL4-48L-EZ1-LP835
B	DESCRIPTION:	2' X 4' LED, K12.125" PATTERN ACRYLIC LENS, SPECIFICATION PREMIUM STATIC TROFFER, 20 GA. ROLLED EDGE DIE-FORMED STEEL HOUSING, HINGED AND LATCHED FROM EITHER SIDE, ENCLOSED SPRING LOADED CAM LATCH, WHITE REGRESSED ALUMINUM DOOR WITH MITERED CORNERS, PAINTED AFTER FABRICATION.
	LAMP(S):	4000LM LED, 3500K
	BALLAST(S):	INTEGRAL 0-10V DIMMING DRIVER
	VOLTAGE:	277V
	INSTALLATION:	RECESSED LAY-IN GRID (OR DRYWALL CEILING INSTALL. REF. ARCH. PLANS TO COORDINATE TRIM)
	MANF:	LITHONIA #2GTL-4-40L-EZ1-LP835
B2	DESCRIPTION:	2' X 4' LED, K12.125" PATTERN ACRYLIC LENS, SPECIFICATION PREMIUM STATIC TROFFER, 20 GA. ROLLED EDGE DIE-FORMED STEEL HOUSING, HINGED AND LATCHED FROM EITHER SIDE, ENCLOSED SPRING LOADED CAM LATCH, WHITE REGRESSED ALUMINUM DOOR WITH MITERED CORNERS, PAINTED AFTER FABRICATION.
	LAMP(S):	6000LM LED, 3500K
	BALLAST(S):	INTEGRAL 0-10V DIMMING DRIVER
	VOLTAGE:	277V
	INSTALLATION:	RECESSED LAY-IN GRID (OR DRYWALL CEILING INSTALL. REF. ARCH. PLANS TO COORDINATE TRIM)
	MANF:	LITHONIA #2GTL-4-60L-EZ1-LP835
C	DESCRIPTION:	6" LED DOWNLIGHT, 1500LM OUTPUT, SEMI-SPECULAR REFLECTOR, WHITE TRIM RING.
	LAMP(S):	2000LM LED, 3500K
	BALLAST(S):	INTEGRAL 0-10V DIMMING DRIVER
	VOLTAGE:	277V
	INSTALLATION:	RECESSED LAY-IN GRID (OR DRYWALL CEILING INSTALL. REF. ARCH. PLANS TO COORDINATE TRIM)
	MANF:	GOTHAM #EVO-35-20-6AR-MD-MVOLT
C2	DESCRIPTION:	6" LED DOWNLIGHT, 1500LM OUTPUT, SEMI-SPECULAR REFLECTOR, WHITE TRIM RING.
	LAMP(S):	1000LM LED, 3500K
	BALLAST(S):	INTEGRAL 0-10V DIMMING DRIVER
	VOLTAGE:	277V
	INSTALLATION:	RECESSED LAY-IN GRID (OR DRYWALL CEILING INSTALL. REF. ARCH. PLANS TO COORDINATE TRIM)
	MANF:	GOTHAM #EVO-35-10-6AR-MD-MVOLT
F	DESCRIPTION:	SOLID FRONT LED UNDERCABINET LIGHT, 20 GA. STEEL HOUSING, PLIABLE NON-YELLOWING FLAT P-12 PRISMATIC ACRYLIC LENS, 1'-0", 2'-0", 3'-0", OR 4'-0" AS REQUIRED, PAINTED AFTER FABRICATION. CONTRACTOR SHALL PROVIDE VARYING LENGTHS AS REQ'D BY ARCH. DETAILS AND ELEVATIONS TO RUN FIXTURES END TO END CONTINUOUSLY MAXIMIZING LENGTHS.
	LAMP(S):	(650,1200,1900, 2600)LM LED, 3500K
	BALLAST(S):	REMOTE DRIVER
	VOLTAGE:	277V
	INSTALLATION:	SURFACE
	MANF:	HEALTHCARE-LIGHTING #HUC5 (12)(23)(35)(46) MVOLT-LED35-GW
G	DESCRIPTION:	8"X4' TANDEM PAIR MULTI-FUNCTION OVER-BED FIXTURE. ASYMMETRIC DISTRIBUTION, AMBIENT / EXAM LIGHT LEVELS, STEEL HOUSING, SPECULAR CLEAR ALUMINUM REFLECTORS, PRISMATIC POLYCARBONATE LENS. PROVIDE WITH REMOTELY MOUNTED LOW VOLTAGE CONTROLLER.
	LAMP(S):	AMBIENT: 2850LM LED, EXAM: 3950LM LED, 3500K
	BALLAST(S):	INTEGRAL 0-10V DIMMING DRIVER
	VOLTAGE:	277V
	INSTALLATION:	RECESSED LAY-IN GRID (OR DRYWALL CEILING INSTALL. REF. ARCH. PLANS TO COORDINATE TRIM)
	MANF:	KENALL #MAEC-48-G-2-45L/45L35K-DCC-DV-AC-LVC
H	DESCRIPTION:	24" SURFACE MOUNTED CYLINDER, WHITE FLAT ACRYLIC LENS, RGB COLOR OUTPUT, FINISH AS SELECTED BY ARCHITECT. DMX CONTROL
	LAMP(S):	33W LED - RGB
	BALLAST(S):	INTEGRAL LED DRIVER
	VOLTAGE:	277V
	INSTALLATION:	SURFACE
	MANF:	PINNACLE #F24-A-RGBX-S-UNV-1C-*
X1	DESCRIPTION:	SINGLE FACE, EDGE-LIT EXIT SIGN, GREEN LETERS ON CLEAR PANEL, INTEGRAL BATTERY, PROVIDE ARROWS AS SHOWN ON DRAWINGS.
	LAMP(S):	LED
	BALLAST(S):	N/A
	VOLTAGE:	120V
	INSTALLATION:	CEILING OR WALL MOUNTED, REF: FLOOR PLANS FOR ADDITIONAL INFORMATION
	MANF:	LITHONIA #LRP-W-1-GC-(SEE PLANS)-120/277-ELN-
X2	DESCRIPTION:	DOUBLE FACE, EDGE-LIT EXIT SIGN, GREEN LETERS ON MIRROR PANEL, INTEGRAL BATTERY, PROVIDE ARROWS AS SHOWN ON DRAWINGS.
	LAMP(S):	LED
	BALLAST(S):	N/A
	VOLTAGE:	120V
	INSTALLATION:	CEILING OR WALL MOUNTED, REF: FLOOR PLANS FOR ADDITIONAL INFORMATION
	MANF:	LITHONIA #LRP-W-2-GMR-(SEE PLANS)-120/277-ELN-

LIGHTING FIXTURE SCHEDULE NOTES:

A. COMPLIANCE WITH A PARTICULAR LIGHTING FIXTURE PACKAGE SHALL NOT BE SOLE REASON FOR SUBSTITUTIONS.
B. ALL DIMMING DRIVERS MUST BE 100% COMPATIBLE WITH DIMMING SWITCHES.
C. CONTRACTOR SHALL VERIFY ALL CEILING TYPES PRIOR TO ORDERING FIXTURES.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Aug 15, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

path 21 architecture

2245 Curtis Street, Suite 100
Denver, CO 80205

Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com

www.path21arch.com

CONTRACT & SPECIFICATIONS ARCHITECTURE

Consultant Team

MEP
WSP + CCRD
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date

COLORADO LICENSED
JOSEPH M. GOLDEN
38502
7/15/16
PROFESSIONAL ENGINEER

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	CL
Checked by	JG

Sheet Title:

ELECTRICAL SCHEDULES

Sheet Number

E.701

7/13/2016 5:57:31 PM

EXISTING PANEL: 2LSL — LIFE SAFETY

LOCATION: ELEC 2094 | FED FROM: 2LSH | NEUTRAL BUS: Yes
MAIN BUS: 100A | WIRES: 4W + G | GROUND BUS: Yes
MCB: N/A | ENCLOSURE: NEMA 1 | ISOLATED GROUND BUS: No
VOLTAGE: 208/120 | BUS TYPE: Copper | 200% NEUTRAL: No
AIC: 10,000A | MOUNTING: Surface | FEED THROUGH LUGS: No
PANEL LUGS: Main Lugs Only

CKT NO.	DESCRIPTION	TOTAL LOAD (VA)	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	PHASE	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	TOTAL LOAD (VA)	DESCRIPTION	CKT NO
1	EXISTING LOAD	-	20	1	A	20	1	-	SPARE	2
3	EXISTING LOAD	-	20	1	B	20	1	-	SPARE	4
5	EXISTING LOAD	-	20	1	C	20	1	-	SPARE	6
7	EXISTING LOAD	-	20	1	A	20	1	-	SPARE	8
9	EXISTING LOAD	-	20	1	B	20	1	-	SPARE	10
11	EXISTING LOAD	-	20	1	C	20	1	-	SPARE	12
13	EXISTING LOAD	-	20	1	A	20	1	-	SPARE	14
15	EXISTING LOAD	-	20	1	B	20	1	-	SPARE	16
17	EXISTING LOAD	-	20	1	C	20	1	-	SPARE	18
19	EXISTING LOAD	-	20	1	A	20	1	-	SPARE	20
21	EXISTING LOAD	-	20	1	B	20	1	-	SPARE	22
23	EXISTING LOAD	-	20	1	C	20	1	-	SPARE	24
25	AUTODOOR - FLR 1 P/R	696	20	1	A	20	1	-	SPARE	26
27	SPARE	-	20	1	B	20	1	-	SPARE	28
29	SPARE	-	20	1	C	20	1	-	SPARE	30
31	SPARE	-	20	1	A	20	1	-	SPARE	32
33	SPARE	-	20	1	B	20	1	-	SPARE	34
35	SPARE	-	20	1	C	20	1	-	SPARE	36
37	SPARE	-	20	1	A	20	1	-	SPARE	38
39	SPARE	-	20	1	B	20	1	-	SPARE	40
41	SPARE	-	20	1	C	20	1	-	SPARE	42

NOTES:
* INDICATES LOAD ADDED TO AN EXISTING SPARE CIRCUIT BREAKER.

'2LSL' LOAD SUMMARY

	LTS	RCPTS	MTRS	MISC	TOTAL (KVA)	TOTAL (AMPS)
TOTAL CONNECTED LOAD	0.0	0.0	0.7	0.0	0.7	1.9
DEMAND FACTOR	SEE DEMAND FACTOR TABLE					
TOTAL DEMAND LOAD	0.0	0.0	0.9	0.0	0.9	2.4
CONTINUOUS (DESIGN) FACTOR	1.25	1.00	1.00	1.00		
TOTAL DESIGN LOAD	0.0	0.0	0.9	0.0	0.9	2.4

EXISTING PANEL: 1CRH — CRITICAL

LOCATION: ELEC. CLOSET 1090A | FED FROM: 1DPCRH | NEUTRAL BUS: Yes
MAIN BUS: 100A | WIRES: 4W + G | GROUND BUS: Yes
MCB: N/A | ENCLOSURE: NEMA 1 | ISOLATED GROUND BUS: No
VOLTAGE: 480/277 | BUS TYPE: Copper | 200% NEUTRAL: No
AIC: 10,000A | MOUNTING: Surface | FEED THROUGH LUGS: No
PANEL LUGS: Main Lugs Only

CKT NO.	DESCRIPTION	TOTAL LOAD (VA)	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	PHASE	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	TOTAL LOAD (VA)	DESCRIPTION	CKT NO
1	EXISTING LOAD	-	20	1	A	20	1	-	EXISTING LOAD	2
3	EXISTING LOAD	-	20	1	B	20	1	-	EXISTING LOAD	4
5	EXISTING LOAD	-	20	1	C	20	1	-	EXISTING LOAD	6
7	SPARE	-	20	1	A	20	1	-	SPARE	8
9	SPARE	-	20	1	B	20	1	-	SPARE	10
11	SPARE	-	20	1	C	20	1	-	SPARE	12
13	SPARE	-	20	1	A	20	1	-	SPARE	14
15	SPARE	-	20	1	B	20	1	-	SPARE	16
17	SPARE	-	20	1	C	20	1	-	SPARE	18
19	SPARE	-	20	1	A	20	1	-	SPARE	20
21	SPARE	-	20	1	B	20	1	-	SPARE	22
23	SPARE	-	20	1	C	20	1	-	SPARE	24
25	SPARE	-	20	1	A	20	1	-	SPARE	26
27	SPARE	-	20	1	B	20	1	-	SPARE	28
29	SPARE	-	20	1	C	20	1	-	SPARE	30
31	SPARE	-	20	1	A	20	1	-	SPARE	32
33	SPARE	-	20	1	B	20	1	-	SPARE	34
35	SPARE	-	20	1	C	20	1	-	SPARE	36
37	SPARE	-	20	1	A	20	1	-	SPARE	38
39	SPARE	-	20	1	B	20	1	-	SPARE	40
41	SPARE	-	20	1	C	20	1	-	SPARE	42

NOTES:

'1CRH' LOAD SUMMARY

	LTS	RCPTS	HSPTL	MISC	TOTAL (KVA)	TOTAL (AMPS)
TOTAL CONNECTED LOAD	0.0	0.0	0.0	0.0	0.0	0.0
DEMAND FACTOR	SEE DEMAND FACTOR TABLE					
TOTAL DEMAND LOAD	0.0	0.0	0.0	0.0	0.0	0.0
CONTINUOUS (DESIGN) FACTOR	1.25	1.00	1.00	1.00		
TOTAL DESIGN LOAD	0.0	0.0	0.0	0.0	0.0	0.0

EXISTING PANEL: 1NHA — NORMAL

LOCATION: CORR. 1062 | FED FROM: 1DPNH | NEUTRAL BUS: Yes
MAIN BUS: 100A | WIRES: 4W + G | GROUND BUS: Yes
MCB: N/A | ENCLOSURE: NEMA 1 | ISOLATED GROUND BUS: No
VOLTAGE: 480/277 | BUS TYPE: Copper | 200% NEUTRAL: No
AIC: 10,000A | MOUNTING: Surface | FEED THROUGH LUGS: No
PANEL LUGS: Main Lugs Only

CKT NO.	DESCRIPTION	TOTAL LOAD (VA)	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	PHASE	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	TOTAL LOAD (VA)	DESCRIPTION	CKT NO
1	EXISTING LOAD	-	20	1	A	20	1	-	EXISTING LOAD	2
3	EXISTING LOAD	-	20	1	B	20	1	-	SPARE	4
5	EXISTING LOAD	-	20	1	C	20	1	-	SPARE	6
7	EXISTING LOAD	-	15	3	A	20	1	-	SPARE	8
9	---	-	-	-	B	20	1	-	SPARE	10
11	---	-	-	-	C	20	1	-	SPARE	12
13	SPARE	-	20	1	A	20	1	-	SPARE	14
15	SPARE	-	20	1	B	20	1	-	SPARE	16
17	SPARE	-	20	1	C	20	1	-	SPARE	18
19	SPARE	-	20	1	A	20	1	-	SPARE	20
21	SPARE	-	20	1	B	20	1	-	SPARE	22
23	SPARE	-	20	1	C	20	1	-	SPARE	24
25	SPARE	-	20	1	A	20	1	-	SPARE	26
27	SPARE	-	20	1	B	20	1	-	SPARE	28
29	SPARE	-	20	1	C	20	1	-	SPARE	30
31	SPARE	-	20	1	A	20	1	-	SPARE	32
33	SPARE	-	20	1	B	20	1	-	SPARE	34
35	SPARE	-	20	1	C	20	1	-	SPARE	36
37	SPARE	-	20	1	A	20	1	-	SPARE	38
39	SPARE	-	20	1	B	20	1	-	SPARE	40
41	SPARE	-	20	1	C	20	1	-	SPARE	42

NOTES:

'1NHA' LOAD SUMMARY

	LTS	RCPTS	MTRS	HSPTL	MISC	TOTAL (KVA)	TOTAL (AMPS)
TOTAL CONNECTED LOAD	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DEMAND FACTOR	SEE DEMAND FACTOR TABLE						
TOTAL DEMAND LOAD	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CONTINUOUS (DESIGN) FACTOR	1.25	1.00	1.00	1.00	1.00		
TOTAL DESIGN LOAD	0.0	0.0	0.0	0.0	0.0	0.0	0.0

EXISTING PANEL: 2EQL — EQUIPMENT

LOCATION: ELEC. 2094 | FED FROM: 1DPEQH | NEUTRAL BUS: Yes
MAIN BUS: 225A | WIRES: 4W + G | GROUND BUS: Yes
MCB: 150A | ENCLOSURE: NEMA 1 | ISOLATED GROUND BUS: No
VOLTAGE: 208/120 | BUS TYPE: Copper | 200% NEUTRAL: No
AIC: 10,000A | MOUNTING: Surface | FEED THROUGH LUGS: Yes
PANEL LUGS: Main Circuit Breaker

CKT NO.	DESCRIPTION	TOTAL LOAD (VA)	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	PHASE	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	TOTAL LOAD (VA)	DESCRIPTION	CKT NO
1	SPARE	-	20	1	A	20	1	-	EXISTING LOAD	2
3	SPARE	-	20	1	B	20	1	-	EXISTING LOAD	4
5	EXISTING LOAD	-	20	1	C	20	1	-	EXISTING LOAD	6
7	EXISTING LOAD	-	20	1	A	20	1	-	EXISTING LOAD	8
9	EXISTING LOAD	-	20	1	B	20	1	-	EXISTING LOAD	10
11	EXISTING LOAD	-	20	1	C	20	1	-	EXISTING LOAD	12
13	EXISTING LOAD	-	20	1	A	20	1	-	EXISTING LOAD	14
15	EXISTING LOAD	-	20	1	B	20	1	-	EXISTING LOAD	16
17	EXISTING LOAD	-	20	1	C	20	1	-	EXISTING LOAD	18
19	EXISTING LOAD	-	20	1	A	20	1	-	EXISTING LOAD	20
21	EXISTING LOAD	-	20	1	B	20	1	-	EXISTING LOAD	22
23	EXISTING LOAD	-	20	1	C	20	1	-	EXISTING LOAD	24
25	EXISTING LOAD	-	20	1	A	20	1	-	EXISTING LOAD	26
27	EXISTING LOAD	-	20	1	B	20	1	-	EXISTING LOAD	28
29	EXISTING LOAD	-	20	1	C	20	1	-	EXISTING LOAD	30
31	EXISTING LOAD	-	20	1	A	20	1	-	EXISTING LOAD	32
33	EXISTING LOAD	-	20	1	B	20	1	-	EXISTING LOAD	34
35	EXISTING LOAD	-	20	1	C	20	1	-	SPARE	36
37	ACCESS CNTRL - FLR 1 P/R	500	20*	1	A	20	1	-	SPARE	38
39	SPARE	-	20	1	B	20	1	-	SPARE	40
41	SPARE	-	20	1	C	20	1	-	SPARE	42

NOTES:
* INDICATES LOAD ADDED TO AN EXISTING SPARE CIRCUIT BREAKER.

EXISTING PANEL: 2EQL (SECTION 2) — EQUIPMENT

LOCATION: ELEC. 2094 | WIRES: 4W + G | NEUTRAL BUS: Yes
MAIN BUS: 225A | ENCLOSURE: NEMA 1 | GROUND BUS: Yes
MCB: N/A | BUS TYPE: Copper | ISOLATED GROUND BUS: No
VOLTAGE: 208/120 | MOUNTING: Surface | 200% NEUTRAL: No
AIC: 10,000A | PANEL LUGS: Main Lugs Only | FEED THROUGH LUGS: No

CKT NO.	DESCRIPTION	TOTAL LOAD (VA)	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	PHASE	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	TOTAL LOAD (VA)	DESCRIPTION	CKT NO
43	EXISTING LOAD	-	15	1	A	20	1	-	EXISING LOAD	44
45	EXISING LOAD	-	15	1	B	20	1	-	SPARE	46
47	EXISING LOAD	-	15	1	C	20	1	-	EXISING LOAD	48
49	EXISING LOAD	-	15	1	A	20	1	-	EXISING LOAD	50
51	EXISING LOAD	-	20	1	B	20	1	-	EXISING LOAD	52
53	EXISING LOAD	-	20	1	C	20	1	-	EXISING LOAD	54
55	EXISING LOAD	-	20	1	A	20	1	-	EXISING LOAD	56
57	EXISING LOAD	-	20	1	B	20	1	-	EXISING LOAD	58
59	EXISING LOAD	-	20	1	C	20	1	-	EXISING LOAD	60
61	EXISING LOAD	-	20	1	A	20	1	-	EXISING LOAD	62
63	EXISING LOAD	-	20	1	B	20	1	-	EXISING LOAD	64
65	EXISING LOAD	-	20	1	C	20	1	-	SPARE	66
67	EXISING LOAD	-	20	1	A	20	1	-	SPARE	68
69	SPARE	-	20	1	B	20	1	-	SPARE	70
71	SPARE	-	20	1	C	20	1	-	SPARE	72
73	SPARE	-	20	1	A	20	1	-	SPARE	74
75	SPARE	-	20	1	B	20	1	-	SPARE	76
77	SPARE	-	20	1	C	20	1	-	SPARE	78
79	SPARE	-	20	1	A	20	1	-	SPARE	80
81	SPARE	-	20	1	B	20	1	-	SPARE	82
83	SPARE	-	20	1	C	20	1	-	SPARE	84

NOTES:

'2EQL' LOAD SUMMARY

	LTS	RCPTS	MTRS	MISC	TOTAL (KVA)	TOTAL (AMPS)
TOTAL CONNECTED LOAD	0.0	0.0	0.0	0.5	0.5	1.4
DEMAND FACTOR	SEE DEMAND FACTOR TABLE					
TOTAL DEMAND LOAD	0.0	0.0	0.0	0.5	0.5	1.4
CONTINUOUS (DESIGN) FACTOR	1.25	1.00	1.00	1.00		
TOTAL DESIGN LOAD	0.0	0.0	0.0	0.5	0.5	1.4

EXISTING PANEL: 1CRLA — CRITICAL

LOCATION: ELEC. CLOSET 1090A | FED FROM: 2DPCRL | NEUTRAL BUS: Yes
MAIN BUS: 225A | WIRES: 4W + G | GROUND BUS: Yes
MCB: N/A | ENCLOSURE: NEMA 1 | ISOLATED GROUND BUS: No
VOLTAGE: 208/120 | BUS TYPE: Copper | 200% NEUTRAL: No
AIC: 10,000A | MOUNTING: Surface | FEED THROUGH LUGS: Yes
PANEL LUGS: Main Lugs Only

CKT NO.	DESCRIPTION	TOTAL LOAD (VA)	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	PHASE	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	TOTAL LOAD (VA)	DESCRIPTION	CKT NO
1	EXISTING LOAD	-	20	1	A	+20	1	1080	RCPT - PREP 01	2
3	EXISTING LOAD	-	20	1	B	+20	1	1080	RCPT - PREP 02	4
5	UCF - NURSE ST	360	20*	1	C	+20	1	1080	RCPT - PREP 03	6
7	ICE - NURSE ST	960	20*	1	A	+20	1	1080	RCPT - PREP 04	8
9	EXISTING LOAD	-	20	1	B	20	1	-	EXISTING LOAD	10
11	BLANKET WARM - CLEAN UTIL	1200	20*	1	C	20	1	-	EXISTING LOAD	12
13	PRINT - NURSE ST	960	20*	1	A	20	1	-	EXISTING LOAD	14
15	EXISTING LOAD	-	20	1	B	+20	1	1080	RCPT - RECOVERY 02	16
17	RCPT - ALCOVE 1C-5005	360	+20	1	C	+20	1	1080	RCPT - RECOVERY 03	18
19	EXISTING LOAD	-	20	1	A	+20	1	1080	RCPT - RECOVERY 04	20
21	EXISTING LOAD	-	20	1	B	20	1	-	EXISTING LOAD	22
23	EXISTING LOAD	-	20	1	C	20	1	-	EXISTING LOAD	24
25	SPARE	-	20	1	A	20	1	-	EXISTING LOAD	26
27	RCPT - NURSE STATION	1080	+20	1	B	20	1	-	EXISTING LOAD	28
29	RCPT - MEDS	540	20*	1	C	20	1	-	EXISTING LOAD	30
31	RCPT - RECOVERY 01	900	+20	1	A	20	1	-	EXISTING LOAD	32
33	RCPT - RECOVERY 01	900	+20	1	B	20	1	-	EXISTING LOAD	34
35	RCPT - PREP 01/03	720	20*	1	C	+20	1	720	RCPT - NURSE STATION	36
37	RCPT - PREP 02/04	720	20*	1	A	20	1	-	SPARE	38
39	RCPT - RECOVERY 02/03	720	20*	1	B	20	1	-	SPARE	40
41	RCPT - RECOVERY 04	360	20*	1	C	20	1	-	SPARE	42

NOTES:
* INDICATES LOAD ADDED TO AN EXISTING SPARE CIRCUIT BREAKER.
+ INDICATES CIRCUIT RECOVERED DUE TO DEMOLITION BASED OF RECORD DOCUMENTS. NOTIFY ENGINEER IF CIRCUIT CANNOT BE RECOVERED.

EXISTING PANEL: 1CRLA (SECTION 2) — CRITICAL

LOCATION: ELEC. CLOSET 1090A | WIRES: 4W + G | NEUTRAL BUS: Yes
MAIN BUS: 225A | ENCLOSURE: NEMA 1 | GROUND BUS: Yes
MCB: N/A | BUS TYPE: Copper | ISOLATED GROUND BUS: No
VOLTAGE: 208/120 | MOUNTING: Surface | 200% NEUTRAL: No
AIC: 10,000A | PANEL LUGS: Main Lugs Only | FEED THROUGH LUGS: No

CKT NO.	DESCRIPTION	TOTAL LOAD (VA)	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	PHASE	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	TOTAL LOAD (VA)	DESCRIPTION	CKT NO
43	EXISTING LOAD	-	20	1	A	20	1	-	EXISTING LOAD	44
45	SPARE	-	20	1	B	20	1	-	EXISTING LOAD	46
47	EXISTING LOAD	-	20	1	C	20	1	-	EXISTING LOAD	48
49	EXISTING LOAD	-	20	1	A	20	1	-	EXISTING LOAD	50
51	EXISTING LOAD	-	20	1	B	20	1	-	EXISTING LOAD	52
53	EXISTING LOAD	-	20	1	C	20	1	-	EXISTING LOAD	54
55	EXISTING LOAD	-	20	1	A	20	1	-	EXISTING LOAD	56
57	EXISTING LOAD	-	20	1	B	20	1	-	EXISTING LOAD	58
59	EXISTING LOAD	-	20	1	C	20	1	-	EXISTING LOAD	60
61	EXISTING LOAD	-	20	1	A	20	1	-	SPARE	62
63	EXISTING LOAD	-	20	1	B	20	1	-	SPARE	64
65	EXISTING LOAD	-	20	1	C	20	1	-	SPARE	66
67	SPARE	-	20	1	A	20	1	-	SPARE	68
69	SPARE	-	20	1	B	20	1	-	SPARE	70
71	SPARE	-	20	1	C	20	1	-	SPARE	72
73	SPARE	-	20	1	A	20	1	-	SPARE	74
75	SPARE	-	20	1	B	20	1	-	SPARE	76
77	SPARE	-	20	1	C	20	1	-	SPARE	78
79	SPARE	-	20	1	A	20	1	-	SPARE	80
81	SPARE	-	20	1	B	20	1	-	SPARE	82
83	SPARE	-	20	1	C	20	1	-	SPARE	84

NOTES:

'1CRLA' LOAD SUMMARY

	LTS	RCPTS	HSPTL	MISC	TOTAL (KVA)	TOTAL (AMPS)
TOTAL CONNECTED LOAD	0.0	2.7	11.9	3.5	18.1	50.1
DEMAND FACTOR	SEE DEMAND FACTOR TABLE					
TOTAL DEMAND LOAD	0.0	2.7	4.8	3.5	10.9	30.3
CONTINUOUS (DESIGN) FACTOR	1.25	1.00	1.00	1.00		
TOTAL DESIGN LOAD	0.0	2.7	4.8	3.5	10.9	30.3

Service equipment shall be permanently and legibly marked to show the available fault current and date.
2014 NEC 110.24(A)(B).

Legibly identify each breaker or switch for it's use or purpose on the circuit directory in the panel/switchboard per 2014 NEC 408.4.

EXISTING PANEL: 1NLA — NORMAL

LOCATION: CORR. 1062 | FED FROM: 1DPNL | NEUTRAL BUS: Yes
MAIN BUS: 225A | WIRES: 4W + G | GROUND BUS: Yes
MCB: N/A | ENCLOSURE: NEMA 1 | ISOLATED GROUND BUS: No
VOLTAGE: 208/120 | BUS TYPE: Copper | 200% NEUTRAL: No
AIC: 10,000A | MOUNTING: Surface | FEED THROUGH LUGS: Yes
PANEL LUGS: Main Lugs Only

CKT NO.	DESCRIPTION	TOTAL LOAD (VA)	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	PHASE	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	TOTAL LOAD (VA)	DESCRIPTION	CKT NO
1	EXISTING LOAD	-	20	1	A	+20	1	1260	RCPT - PREP 01	2
3	EXISTING LOAD	-	20	1	B	+20	1	1260	RCPT - PREP 02	4
5	EXISTING LOAD	-	20	1	C	+20	1	1260	RCPT - PREP 03	6
7	EXISTING LOAD	-	20	1	A	+20	1	1260	RCPT - PREP 04	8
9	EXISTING LOAD	-	20	1	B	+20	1	1260	RCPT - RECOVERY 01	10
11	EXISTING LOAD	-	20	1	C	+20	1	1260	RCPT - RECOVERY 02	12
13	EXISTING LOAD	-	20	1	A	+20	1	1260	RCPT - RECOVERY 03	14
15	PLUGMOLD - SOILED UTIL	720	+20	1	B	+20	1	1260	RCPT - RECOVERY 04	16
17	PRINT - NURSE ST	960	+20	1	C	+20	1	1260	RCPT - CONSULT / EQUIP	18
19	EXISTING LOAD	-	20	1	A	+20	1	360	RCPT - SOILED UTIL / MEDS	20
21	EXISTING LOAD	-	20	1	B	20	1	-	EXISTING LOAD	22
23	EXISTING LOAD	-	20	1	C	20	1	-	EXISTING LOAD	24
25	EXISTING LOAD	-	20	1	A	20	1	-	EXISTING LOAD	26
27	EXISTING LOAD	-	20	1	B	20	1	-	EXISTING LOAD	28
29	EXISTING LOAD	-	20	1	C	20	1	-	EXISTING LOAD	30
31	ELECTROCHROMIC DOORS	500	20	1	A	20	1	-	EXISTING LOAD	32
33	ELECTROCHROMIC DOORS	500	20	1	B	20	1	-	EXISTING LOAD	34
35	COFFEE - CONSULT	1200	20	1	C	20	1	-	EXISTING LOAD	36
37	EXISTING LOAD	-	20	1	A	20	1	-	EXISTING LOAD	38
39	SPARE	-	20	1	B	20	1	-	SPARE	40
41	SPARE	-	20	1	C	20	1	-	SPARE	42

NOTES:
* INDICATES LOAD ADDED TO AN EXISTING SPARE CIRCUIT BREAKER.
+ INDICATES CIRCUIT RECOVERED DUE TO DEMOLITION BASED OF RECORD DOCUMENTS. NOTIFY ENGINEER IF CIRCUIT CANNOT BE RECOVERED.

EXISTING PANEL: 1NLA (SECTION 2) — NORMAL

LOCATION: CORR. 1062 | WIRES: 4W + G | NEUTRAL BUS: Yes
MAIN BUS: 225A | ENCLOSURE: NEMA 1 | GROUND BUS: Yes
MCB: N/A | BUS TYPE: Copper | ISOLATED GROUND BUS: No
VOLTAGE: 208/120 | MOUNTING: Surface | 200% NEUTRAL: No
AIC: 10,000A | PANEL LUGS: Main Lugs Only | FEED THROUGH LUGS: No

CKT NO.	DESCRIPTION	TOTAL LOAD (VA)	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	PHASE	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	TOTAL LOAD (VA)	DESCRIPTION	CKT NO
43	EXISTING LOAD	-	20	1	A	20	1	-	EXISTING LOAD	44
45	EXISTING LOAD	-	20	1	B	20	1	-	EXISTING LOAD	46
47	EXISTING LOAD	-	20	1	C	20	1	-	EXISTING LOAD	48
49	EXISTING LOAD	-	20	1	A	20	1	-	EXISTING LOAD	50
51	EXISTING LOAD	-	20	1	B	20	1	-	EXISTING LOAD	52
53	EXISTING LOAD	-	20	1	C	20	1	-	EXISTING LOAD	54
55	EXISTING LOAD	-	20	1	A	20	1	-	EXISTING LOAD	56
57	EXISTING LOAD	-	20	1	B	20	1	-	EXISTING LOAD	58
59	EXISTING LOAD	-	20	1	C	20	1	-	EXISTING LOAD	60
61	EXISTING LOAD	-	20	1	A	20	1	-	EXISTING LOAD	62
63	EXISTING LOAD	-	20	1	B	20	1	-	EXISTING LOAD	64
65	EXISTING LOAD	-	20	1	C	20	1	-	EXISTING LOAD	66
67	EXISTING LOAD	-	20	1	A	20	1	-	EXISTING LOAD	68
69	EXISTING LOAD	-	20	1	B	20	1	-	EXISTING LOAD	70
71	EXISTING LOAD	-	20	1	C	20	1	-	EXISTING LOAD	72
73	EXISTING LOAD	-	35	2	A	20	1	-	EXISTING LOAD	74
75	---	-	-	-	B	20	1	-	EXISTING LOAD	76
77	EXISTING LOAD	-	20	1	C	20	1	-	EXISTING LOAD	78
79	SPARE	-	20	1	A	20	1	-	SPARE	80
81	SPARE	-	20	1	B	20	1	-	SPARE	82
83	SPARE	-	20	1	C	20	1	-	SPARE	84

NOTES:

'1NLA' LOAD SUMMARY

	LTS	RCPTS	HSPTL	HEAT	MISC	TOTAL (KVA)	TOTAL (AMPS)
TOTAL CONNECTED LOAD	0.0	2.3	10.1	0.0	3.2	15.6	43.2
DEMAND FACTOR	SEE DEMAND FACTOR TABLE						
TOTAL DEMAND LOAD	0.0	2.3	4.0	0.0	3.2	9.5	26.5
CONTINUOUS (DESIGN) FACTOR	1.25	1.00	1.00	1.00	1.00		
TOTAL DESIGN LOAD	0.0	2.3	4.0	0.0	3.2	9.5	26.5

Field Inspection consultation is available upon request. Call 303-739-7420 to request a consultation

Failure to follow approved plans may result in an hourly fee to review the field changes for code compliance.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Aug 15, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1131831*
Permit #: *16-1141686*

path 21 architecture
2245 Curtis Street, Suite 100
Denver, CO 80205
Tel: 303.534.5221
Fax: 303.534.5215
Email: info@path21arch.com
www.path21arch.com

CONTRACT © 2016 path21 architecture

Consultant Team

MEP
WSP + CCRD
3613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date

COLORADO LICENSED JOSHUA M. GRAY 38502 7/15/16 PROFESSIONAL ENGINEER

TMCA CATH LAB PREP RECOVERY RENOVATION

1501 S Potamac St,
Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	07/15/16
Project Number	16-003
Drawn by	CL
Checked by	JG

Sheet Title:
ELECTRICAL SCHEDULES

Sheet Number
E.702

7/15/2016 1:52:52 PM

COMcheck Software Version 4.0.2.8
Interior Lighting Compliance Certificate

Project Information

Energy Code:	2015 IECC
Project Title:	TMCA Cath Lab Prep Recovery
Project Type:	Alteration

Construction Site:
1501 S. Potomac St
Aurora, CO 80012

Owner/Agent:

Designer/Contractor:

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B X C)
1-Hospital	2995	1.5	3145
		Total Allowed Watts =	3145

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Hospital (2995 sq.ft.)				
LED 1: A: 2X4 D/I: LED Panel 40W:	1	17	40	680
LED 2: B: 2X4 TROFFER: LED Panel 40W:	1	3	39	117
LED 3: B2: 2X4 TROFFER: LED Panel 70W:	1	1	71	71
LED 4: C: 6" DOWNLIGHT: LED Panel 19W:	1	8	24	192
LED 5: C2: 6" DOWNLIGHT: LED Panel 33W:	1	5	12	60
LED 6: F: UNDERCABINET: LED Panel 33W:	1	5	27	135
LED 7: G: 1X4 EXAM: LED Panel 44W: Exemption:Medical/Dental Procedure Lighting	1	16	49	Exempt
LED 8: H: SURFACE DRUM: LED Panel 33W:	1	1	33	33
LED 9: X1: EXIT SIGN: LED Linear 8W:	1	1	5	5
LED 10: X2: EXIT SIGN: LED Linear 8W:	1	1	5	5
		Total Proposed Watts =		1298

Interior Lighting PASSES

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2015 IECC requirements in COM*check* Version 4.0.2.8 and to comply with the mandatory requirements listed in the Inspection Checklist.

JONATHAN GRANT, P.E. — SENIOR ASSOCIATE
Name - Title

Signature

7/15/16
Date

COLORADO LICENSED
JONATHAN M. GRANT
48502
PROFESSIONAL ENGINEER

RSN: 1131831
Permit #: 16-1141686