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by tim.b P:\428_1444 South Potomac\428007_Front Range Spine and Neurosurgery suite 175\drawings\construction documents\428007c.dwg
by Tim Beeney layout tab: A0

Front Range Spine & Neurosurgery

Abbreviations

Ø	diameter
℄	centerline
A	ampere
A/C	air conditioning
A/V	audio/ visual
ADA	Americans with Disabilities Act
AFF	above finished floor
alt.	alternate
amp.	ampere
approx	approximately
C.	conduit
CKT.	circuit
clg.	ceiling
clr.	clear
const.	construction
d.	depth/ deep
dia.	diameter
dim.	dimension
DN	down
DW	dishwasher
E	*existing (device or fixture to remain)*
Elev.	elevator
eq.	equal
EWC	electric water cooler
EWH	electric water heater
F.D.	floor drain
F.E.	fire extinguisher
F/A	fire alarm
FEC	fire extinguisher cabinet
FHC	fire hose connection
fin.	finish *or* finished
ga.	gauge
gyp.	gypsum board
hd.	height/ high
H.C.	hollow core
H.M.	hollow metal
HVAC	heating, ventilating, air conditioning
I.F.	inside face
I.T.	information technology
Jan.	janitor(s')/ janitorial
J-Box	junction box
l.	length/ long
mfd.	manufactured
mil	millimeter
min.	minimum *or minute (per context)*
mm	millimeter
mw	microwave
N	new *(device or fixture)*
NIC	not in contract
nom.	nominal
NTS	not to scale
o.c.	on center
O.H.	opposite hand
Occ.	occupants
oz.	ounces
P.Lam.	plastic laminate
R	relocated *(device or fixture)*
R.O.	rough opening
Re:	refer to:
reqd.	required
R/A	return air
RM.	room
RSF	Rentable Square Feet
S.C.	solid core
S.M.	surface mounted
S.Stl.	stainless steel
S/A	supply air
SDT	static dissipative tile
SF.	square feet
sim.	similar
sq.yd.	square yard
std.	standard
T.O.	throughout
TBD	to be determined
th.	thickness/ thick
typ.	typical
U.L.	Underwriters Laboratory
UNO	unless noted otherwise
USF	Usable Square Feet
V.	volt
VCT	vinyl composition tile
VIF	verify in field
w.	width/ wide
W.S.	work station
w/	with
WC	wallcovering
WF	water fountain

Reference Symbols

- Keyed Note
- Center Line
- Detail Reference / Detail Number Sheet Reference
- Section Reference / Section Number Sheet Reference
- Elevation Reference / Elevation Number Sheet Reference
- Door Reference Tag, refer to Door Schedule
- PL1 — Plastic Laminate Reference, Refer to Finish Treatment Schedule
- P1 — Wall Treatment Reference, Refer to Finish Treatment Schedule
- CT / RBT — Floor Treatments Reference, Refer to Finish Treatment Schedule

General Notes

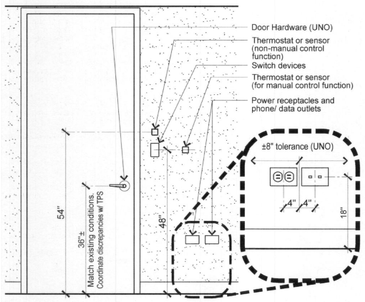
1. **GENERAL STANDARDS**: All work defined herein shall be constructed in accordance with the approved drawings and specifications and shall be in compliance with all applicable codes, ordinances, and regulations. Work performed in the shop or on-site shall be performed by mechanics, craftsmen and workers skilled and experienced in the fabrication and installation of the work involved. The work shall be performed in accordance with the best established practices of the industry standard for the trade involved.
2. **FEES AND PERMITS**: The General Contractor shall obtain all licenses and permits required by the jurisdiction and/or its agencies, not withstanding licenses and permits that may be required of respective subcontractors. The cost of said licenses and permits shall be incurred by that contractor responsible for the procurement of same.
3. **DRAWINGS AND SPECIFICATIONS**: The General Contractor shall maintain a complete and current set of project documents, drawings and specifications on the job site at all times and shall include all approved shop drawings and submittals. The General Contractor shall be responsible for distribution of adequate copies of all drawings and specifications to all applicable trades. Upon completion of the work, the General Contractor shall submit one complete set of red-lined drawings to TPS indicating any and all changes, omissions, or modifications made.
4. **ENGINEERED DRAWINGS**: Refer to structural, mechanical, electrical and plumbing drawings (when provided) for detailed design of the structural, mechanical, electrical, and plumbing systems. Portions of this work may be shown on the architectural drawings for reference to, and in coordination with, other work.
   - 4.1. When indicated on the drawings, the General Contractor shall provide engineering drawings on a design/build basis for mechanical systems, electrical systems and plumbing. Provide one copy of all drawings to TPS for review prior to construction.
   - 4.2. The General Contractor is responsible for required permits and approvals necessary for the work as described above. Precedence: the architectural drawings shall precede the engineered drawings (if provided) relative to device and fixture locations.
5. **OMISSIONS AND DISCREPANCIES**: The General Contractor shall field verify all conditions and dimensions shown on the drawings, and shall notify TPS of any discrepancies, omissions or conflicts prior to commencing with construction.
6. **MATERIALS**: Unless otherwise specified, all materials shall be new, unused, and in compliance with the specifications set forth in these documents. All materials used throughout the project shall be of the same brand name and quality for consistency. All materials must meet the ASTM and ANSI standards and be in compliance with all applicable codes, ordinances and regulations. Unless authorized in writing by the owner or its representative, no existing fixture, device or component shall be removed from adjacent areas or buildings to facilitate this project.
7. **MATERIAL INVENTORY**: Upon award of the construction contract, and when building materials are stocked and made available for the project, coordinate with the Building Representative for purchase of materials. All materials shall be bid as if new. Do not assume use of materials from building stock.
8. **SUBMITTALS/DEVIATIONS**: No substitutions, variations and deviations from these documents shall be permitted without prior approval of TPS, the Building and/or Tenant's Representative. Application for any substitutions and/or variations shall be submitted to TPS by the General Contractor for approval. Application shall be made in writing accompanied with product specifications and/or samples. Five complete sets of submittals are required.
9. **SHOP DRAWINGS**: When requested on the drawings, the General Contractor shall prepare, review, approve and submit shop drawings to TPS. The General Contractor shall check and coordinate all product data and samples and verify all materials, field measurements and related field construction criteria contained in such submittal conforms to the requirements of the work, and the contract documents. Five complete sets of submittals are required.
10. **SUBCONTRACTORS**: The General Contractor shall coordinate and review the work of all subcontractors, trades and suppliers, and to make known all requirements of the contract documents, and to assure that all parties are fully aware of the requirements, regardless of whether the requirements occur in the contract documents, which might affect the work of that party. Subcontractors shall conform to the following:
    - 10.1. Subcontractors shall coordinate all installations, schedules, locations, decisions, sizes, and resolve all conflicts and interferences of their trade with other trades.
    - 10.2. Subcontractors shall be responsible for coordinating routes of water, sprinkler, mechanical and electrical services.
    - 10.3. Light fixtures/ fittings, diffusers/ ducts, sprinkler heads, etc. as depicted on the drawings, both above and below the ceiling, which conflict with any existing services shall be reported immediately when it becomes apparent that a conflict will prevail. All costs incurred by the General Contractor or other subcontractors for failure to report conflicts immediately shall be borne by the contractor.
11. **TENANT VENDORS**: The General Contractor shall be responsible for coordinating with the Tenant and the Tenant's vendors for scheduling and providing access to the space for the Tenant's movable partition systems, communications/ data processing systems, security systems, and audio/ video systems.
12. **INSPECTIONS**: the General Contractor shall permit and facilitate inspection, by the owner and the architect or their representatives, during the course of construction.
13. **TENANT RESPONSIBILITIES**: Unless specified otherwise in the contract documents, the following items are not a part of these drawings and if so desired shall be provided by the Tenant.
    - 13.1. Furnishings, files and accessories
    - 13.2. Portable or movable office partitions
    - 13.3. Racks, bins, prefabricated shelving systems
    - 13.4. Coffee makers, microwaves, refrigerators, vending machines
    - 13.5. Copy/fax equipment and computer equipment
    - 13.6. Security systems, sound systems, intercom systems
    - 13.7. Telephone equipment including wiring/cabling
    - 13.8. Clocks, time clocks
    - 13.9. Connection of all equipment, furnishings and panels
    - 13.10. Moving or relocation of Tenant's furnishings, fixtures, and equipment
    - 13.11. Schedule and coordination of Tenant vendors
14. **PROTECTION**: The General Contractor shall protect the work, adjacent space/property, common areas, public utilities, and the public, and shall be responsible for any damage or injury due to neglect. Protection shall include but not be limited to the following:
    - 14.1. Draw window coverings and wrap or bag with plastic for dust protection.
    - 14.2. Provide plywood or masonite floor protection with tape sealed joints completely along routes used for delivery and removal of materials.
    - 14.3. Provide and/or use protective pads at designated freight elevator cab walls and around openings.
    - 14.4. When necessary, x-ray the floor slab to confirm locations of objects embedded in the concrete prior to making any penetrations in the slab.
15. **DAMAGES**: Should the General Contractor or any associated subcontractor cause damage to any adjacent fixture or structure while completing or cleaning current construction, that contractor or subcontractor shall be responsible for repair or replacement of said damaged fixture or structure.
16. **INSURANCE**: The General Contractor shall purchase and maintain certifications of insurance with respect to workers compensation, public liability and property damage for the limits as required by law. The certificates shall name the client and Tenant Planning Services, Inc. as additional insured. The General Contractor and subcontractors performing work on-site shall conform to the Landlord's insurance requirements.
17. **GUARANTEE/WARRANTY**: The General Contractor shall enforce a specific and unconditional warranty on all materials, workmanship, equipment, fixtures and sub-assemblies subject to normal use and maintenance for a period not to exceed one (1) year from date of substantial completion. Said warranty shall not be exclusive of implied or specific warranties enforced by manufacturers and/or suppliers of aforementioned materials, equipment, fixtures and/or sub-assemblies.
18. **SECURITY**: The General Contractor shall be responsible for securing and controlling access to the job site during construction and for disconnecting power and lighting when not in use.
19. **INTERRUPTION OF SERVICES**: All work requiring dangerous, toxic, or noisy operations and installations which might affect the operation of the existing tenants shall be performed during non-business hours. Coordinate with Building Management.
20. **HAZARDOUS MATERIALS**: TPS has no knowledge of, and shall not be held liable for, any asbestos or other hazardous materials on the project site. Prior to commencing with the work on-site, it shall be the responsibility of the General Contractor to inspect and make a good faith effort to identify the presence of asbestos, toxic or other hazardous materials. Should hazardous materials be discovered at any time before or during construction, stop the work immediately and report to the Building Management for further instructions before proceeding.
21. **BUILDING RULES AND REGULATIONS**: The General Contractor shall be responsible for consulting with the Building Representative for rules and regulations governing the building and pertaining to deliveries, removal of materials and debris, use of building facilities, noise restrictions, protection of existing conditions, hours of operation, building access, etc.
22. **CLEANING**: The General Contractor shall clean the job site and adjoining areas during construction and upon completion. Cleaning includes, but is not limited to, vacuuming carpets; wet mopping floor tile and other resilient flooring; cleaning all glass, including interior side of exterior glazing; dusting and wiping clean all lint and soiled areas on doors, millwork, window coverings, baseboard, etc.; removing all construction debris, scraps, materials and equipment; and water seal all marble, granite and ceramic tile and grout.
23. **FIRE RESISTIVE STANDARDS**: Conform to the following:
    - 23.1. Materials and assemblies required to be fire resistive shall bear a label affixed to the product indicating fire resistive rating and testing agency with approved test certification number.
    - 23.2. All blocking and nailer strips used in connection with fire resistive partitions shall be fire retardant wood as defined by the Building Code.
    - 23.3. All concealed wood shall be treated with an approved fire retardant.
    - 23.4. Fire ratings of existing materials and/or systems which may become damaged or modified due to the work shall be maintained with a fire rating equal to or greater than the existing rating.
    - 23.5. All pipe and conduit penetrations in fire rated partitions and floors/ceilings shall be sealed in accordance with a U.L. listed "fire stop" compatible with the material and fire rating required.
    - 23.6. Flame-spread: minimum ratings for flame spread shall be as follows:
      - 23.6.1. Enclosed vertical exit ways: Class I (0-25 F.S.I.)
      - 23.6.2. Other exit ways: Class II (26-75 F.S.I.)
      - 23.6.3. Rooms or areas: Class III (76-200 F.S.I.)
24. **ARCHITECTURAL WOODWORK**: Provide architectural woodwork as specified on the drawings. The "quality standards" of the architectural woodwork institute shall apply and hereby made a part of this document. All prefabricated work shall be economy grade. All other work shall be custom grade as defined by the quality standards of the AWI, unless noted otherwise.
25. **SURFACE PREPARATION**: Inspect existing conditions of all floor and wall surfaces for voids, holes, cracks, and other damages and make repairs. Grind and/or fill imperfections, fill holes, cracks, and other damages prior to installation. **The General Contractor shall provide budget for floor prep as required. The General Contractor shall provide RH moisture testing for any concrete locations less than one year old and for all slab on grade (regardless of age) locations.**
26. **CLEARANCES**: The General Contractor shall verify ceiling height and clearances above ceiling to the underside of structure above for installation of ductwork and diffusers; conduits and junction boxes; fire sprinkler pipes and heads; and light fixtures. All work shall be coordinated by all trades to avoid interference with methods of installation. Notify TPS of conflicts immediately and prior to commencing with construction.
27. **FIRE SPRINKLER SYSTEM**: In buildings equipped with fire sprinkler systems, furnish all labor, materials, fixtures, trim, equipment and services necessary for the installation of a complete and properly functioning fire sprinkler system. All work shall conform to the following:
    - 27.1. Relocate and/or add fire sprinkler heads as required for new conditions as shown on the drawings.
    - 27.2. Rework and/or add to existing pipes, fittings, hangers and support as necessary for new sprinkler head locations.
    - 27.3. Design standards, materials and workmanship shall be compatible with existing conditions.
    - 27.4. Install new sprinkler head locations in the center of the ceiling board or section and symmetrical throughout rooms and open areas.
28. **FIRE EXTINGUISHERS:** Provide portable, wall mounted fire extinguishers every 75' of exit travel distance throughout limit of construction or as required by the local fire department or life safety department. Portable fire extinguishers shall comply with uniform fire code standard 10-1.
29. **PLUMBING SYSTEM**: Furnish all labor, materials, fixtures, trim, equipment and services necessary for the installation of a complete and properly functioning plumbing system. All work shall conform to the following:
    - 29.1. Refer to drawings for specific information pertaining to materials, fixtures, etc. scheduled as new and not contained herein.
    - 29.2. Re-use existing plumbing piping and/or fixtures and components where possible. Inspect and confirm existing conditions are within specifications.
    - 29.3. New materials shall be compatible with existing conditions, where possible.
    - 29.4. Provide fixtures with all anchors, supports, traps and trim, for a complete installation.
    - 29.5. Provide stop valves on all hot and cold water connections to fixtureSF
    - 29.6. Caulk around all fixtures with silicone based caulking compound.
    - 29.7. Install all fixtures level and square with surrounding enclosures.
    - 29.8. Install escutcheons for all pipes exposed to view passing through walls, floors and ceilings.
    - 29.9. Provide templates or cut-outs of fixtures to the millwork subcontractor for cutting of openings.
    - 29.10. All materials and workmanship shall be in compliance with state and local codes and ordinances, and the Americans with Disabilities Act (ADA).
30. **HVAC SYSTEM**: Furnish all labor, materials, fixtures, trim, equipment and services necessary for the installation of a complete and properly functioning HVAC system. All work shall conform to the following:
    - 30.1. Standards: all standards and specifications established in the base building construction documents, or as evidenced in the existing conditions of construction shall govern, unless noted otherwise. All work shall be coordinated with the building maintenance manager. Refer to base building construction documents and specifications and existing conditions of system for equipment or materials not specified on the engineered drawings or contained herein. All materials and workmanship shall be in compliance with ASHRAE and SMACNA, state and local codes and ordinances, and the Americans with Disabilities Act (ADA).
    - 30.2. Repairs and replacement: the contractor shall verify proper operation of existing ductwork for breaks and leaks. In the event that the contractor has observed system failure or defects, notify the Owner's construction manager immediately for further direction. For bid purposes, it shall be assumed that all HVAC equipment and associated ductwork and components are in proper operating condition. Repairs or replacement of materials and workmanship shall be performed as a separate portion of the work.
    - 30.3. Abandoned equipment: all abandoned HVAC equipment and components within the area of construction shall be removed and all duct connections patched, capped and/or sealed.
    - 30.4. Fire dampers shall be installed in all ducts which penetrate fire resistive partitions (one-hour rated and above). Fire dampers shall be 100% free area design.
    - 30.5. Return air plenum: allow for transfer of air above Tenant demising partitions and spaces continuously and unobstructed to the building system return air shaft. Refer to engineered drawings (if provided) and detailed drawings for wall construction and opening size. During construction, the contractor shall place temporary filters over openings to the return air shaft. Remove filters upon completion of construction. Coordinate this work with the building maintenance manager.
    - 30.6. Thermostats: locate thermostats so as not to interfere with the occupants' furnishings and systems, avoiding locations in the middle of walls, in traffic areas, in file/supply rooms, etc.
    - 30.7. Air testing, adjusting, and balancing: adjust and balance terminal units, diffusers, dampers and registers to provide design condition air flow or to the air quantities shown on the drawings (if provided). Balance work shall be performed in accordance with NEBB standards by a certified contractor. Submit a balancing report to TPS. Calibrate and adjust all thermostats.
31. **FIRE/SMOKE ALARM SYSTEMS**: In buildings equipped with fire and/or smoke alarm systems, furnish all labor, materials, fixtures, trim, equipment and services necessary for the installation of a complete and properly functioning fire/smoke alarm system. All work shall conform to the following:
    - 31.1. Relocate and/or add fire alarms, smoke or heat detectors, strobe alarms, pull stations, remote indicator lights and other components of the system as required for new conditions of the space.
    - 31.2. Rework systems to be compatible with existing design standards and conditions.
    - 31.3. Locations and specifications of alarms shall comply with the Americans with Disabilities Act (ADA).
32. **ELECTRICAL SYSTEM**: Furnish all labor, materials, fixtures, trim, equipment and services necessary for the installation of a complete and properly functioning electrical system. All work shall conform to the following:
    - 32.1. Standards: all standards and specifications established in the base building construction documents, or as evidenced in the existing conditions of construction shall govern, unless noted otherwise. All work shall be coordinated with the building maintenance manager. Refer to base building construction documents and specifications and existing conditions of system for equipment or materials not specified on the engineered drawings or contained herein.
    - 32.2. All materials and workmanship shall be in compliance with the national electric code (NEC), state and local codes and ordinances, and the Americans with Disabilities Act (ADA).
    - 32.3. Repairs and replacement: the contractor shall verify proper operation of existing panels and switch-gear. In the event that the contractor has observed system failure or defects, notify the Owner's construction manager immediately for further direction. For bid purposes, it shall be assumed that all equipment and associated components are in proper operating condition. Repairs or replacement of materials and workmanship shall be performed as a separate portion of the work.
    - 32.4. Panels: provide new typed panel circuit directory for each panel affected.

Definitions

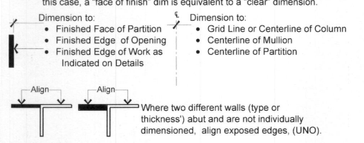
- **Approve**: where used in conjunction with TPS's or its consultant's response to submittals, requests, applications, inquiries, reports and claims by the contractor, the meaning of the term 'approved' will be held to the limitations of TPS's responsibilities and duties as specified in the general conditions and supplementary conditions. In no case will 'approved' by TPS be interpreted as an assurance to the contractor that the requirements of the contract documents have been fulfilled.
- **Furnish**: except as otherwise defined in greater detail, the term "furnish' is used to mean to supply and deliver to the project site, ready for unloading, unpacking, assembly and installation, etc. as applicable in each instance.
- **Install**: except as otherwise defined in greater detail, the term 'install' is used to describe operations at the project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finish, curing protection, cleaning and similar operations, as applicable in each instance.
- **Provide**: except as otherwise defined in greater detail, the term 'provide' means to furnish and install, complete and ready for the intended use as applicable in each instance.
- **Products**: defined as products which must be substantially cut, shaped, worked, mixed, furnished, refined otherwise fabricated, processed, installed or applied to form units of work.
- **Equipment**: defined as products with operational parts, regardless of whether motorized or manually operated, and particularly including connections (wiring, piping, etc.).
- **Typical**: 'typical' or 'typ' means identical for all similar conditions.
- **Similar**: 'similar' or 'sim' means comparable to characteristics for the condition noted. Verify dimensions and orientation on plan.
- **As required**: 'as required' means as required by regulatory requirements, by referenced standards, by existing conditions, by generally accepted construction practice, or by the contract documents.
- **Align**: 'align' means accurately locate finish faces of materials in same plane.
- **Relocate**: means to reuse a particular device, fixture, or item in a new location.
- **Remain**: to continue unchanged.
- **Reused**: to use again especially in a new way or in a new location.

Dimensional Conventions

1. Except where directed to place items of the work at the "approximate location shown," do **not** scale drawings for dimensional information. All elements of the drawings **may** not be drawn to exact scale. All dimensions required are shown, or may be derived from those shown on the floor plans, detail plans, elevations, sections, details, schedules, and specifications. See notes on this sheet and symbols on the "Architectural Symbols" drawing for dimensions conventions used on this project.
2. Do not scale drawings; dimensions shall govern, details shall govern over plans and elevations. Large scale plans shall govern over small scale plans. Large scale details shall govern over small scale details. If unable to locate dimensions for any item of work, consult the Architect prior to construction.
3. All heights are dimensioned from top of existing slab unless noted "AFF". (Above Finished Floor).



4. Dimensions are not adjustable, unless noted (+/-), without TPS' written approval.
5. Except where specifically noted to the contrary, all dimensions shown on the architectural drawings conform to the following conventions:
   - A. Dimensions utilizing the "centerline" symbol are measured to:
     - Structural or dimensional grid lines.
     - Centerline of wall or partition assemblies, exclusive of any applied finish having thickness
     - Centerline of door, window, cased opening and window mullion.
   - B. Dimensions typically utilized are to the face of finished wall and are measured to:
     - Face of finished wall
     - Inside edge of finished door opening. Refer to "door schedule" for additional information.
     - Finish faces at the most narrow or constricted points of the section where dimension is shown when the dimension occurs across an open space. In this case, a "face of finish" dim is equivalent to a "clear" dimension.



6. Where dimensions are not provided on the floor plans to locate door openings, apply the following rules, in order, to determine the location of door openings.
   - A. Door openings may be dimensioned on drawings other than the floor plans. Refer to the sections, elevations, details, and door schedule notes for additional dimensional information.
   - B. Where the hinge-side of a door is shown adjacent to a wall, or walls, perpendicular to the wall in which the door opening occurs, locate the hinge-side finished edge of the door opening 4 inches from the face (exclusive of any applied finish) of the closest perpendicular wall or partition assembly.

Dimensional Key
- A = 4" (min.)
- B = Refer to Door Schedule
- C = 12" (min.) at Push Side
- D = 18" (min.) at Pull Side

Project Alternates

- None

Building construction type IIB-SPK

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

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

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.

This work must also comply with **2015 IECC.**

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.

An after-hours inspection to verify required egress illumination may be required during field inspection. **2015 IBC 1008**

Codes and Regulations

Building Profile

City/ County:	Aurora / Arapahoe
Fire District:	Aurora Fire Rescue
Construction Classification:	Type V-B
Building Height / Levels:	Unknown / Three
	Automatic Sprinklers Throughout

Use and Occupancy

Occupant Name:	Front Range Spine & Neurosurgery
Occupant Use:	General Business Office
Occupancy Classification:	Business Group B

Tenant Area

(approx.) Useable SF:	1,405

City of AURORA

Applicable Codes

2015 IBC (International Building Code) with Amendments
2015 IPC (International Plumbing Code)
2015 IMC (International Mechanical Code)
2015 IFC (International Fire Code)
2015 IECC (International Energy Conservation Code)
2017 NEC (National Electric Code)

Interpretations

Occupancy Load Analysis

Suite	Function Per Table 1004.1.1	Floor Area (USF)	Floor Area (SF/Occ)	Number of Occupants
175	Business	1405	÷100 gross =	15

Means of Egress

	Required	Provided
Egress Width:	min: 34"	34"
Number of Exits:	min: 1	1
Common Path of Travel:	max: 100'	79'
Exit Access Travel Distance	max: 300'	94'

Provide U.L. Class 2A10BC minimum rating fire extinguishers at a maximum 50'-0" travel distance prior to the Certificate of Occupancy issuance 2015 IFC Table 906.3[1] and 2013 NFPA 10

Consultation for fire extinguisher placement is available upon request. Call 303-739-7420 prior to final Life Safety inspection to verify proposed locations.

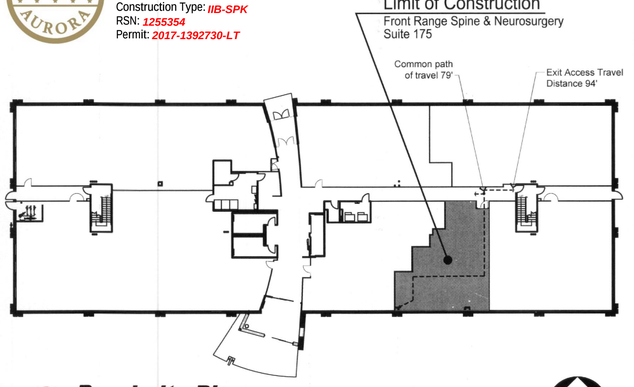
SEPARATE FIRE ALARM PERMIT REQUIRED: Due to the proposed work the general contractor is required to obtain the services of a fire alarm contractor to determine if a separate alarm permit is required. If it is determined that the spacing of the fire alarm devices is not in compliance, then a separate 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.**

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: **Kirk Nagle**
Date: **Dec 08, 2017**
2015 INTERNATIONAL CODES & 2017 NEC

City of Aurora Building Division
Project: ***Front Range Spine***
Address: ***1444 S Potomac St #175***
Occupancy Group: ***B***
Construction Type: ***IIB-SPK***
RSN: ***1255354***
Permit: ***2017-1392730-LT***

Limit of Construction
Front Range Spine & Neurosurgery
Suite 175



1 **Proximity Plan**
Level One
Not to Scale
North

Project Team

Designer/ Space Planner

Tenant Planning Services
1660 Lincoln Street, Suite 100
Denver, Colorado 80264

Contact: Gene Summers
Phone: 303.861.4800 x108
Fax: 303.861.1621
email: gene@tps.design

Building Representative

CBRE
8390 East Crescent Parkway, Suite 300
Greenwood Village, Colorado 80111

Contact: Kory Fasing
Phone: 720.528.6316
Fax: 720.528.6333
email: kory.fasing@cbre.com

Tenant Representative

Front Range Spine & Neurosurgery
10099 RidgeGate Parkway
Lone Tree, Colorado 80124

Contact: Natalia Reese
Phone: 303.790.1800
email: coloradospine1@aol.com

Mechanical Engineer

Brian Seyferth & Associates
5583 Prince Street
Littleton, Colorado 80125

Contact: Brian Seyferth
Phone: 303.797.7772
Fax: 303.797.7773
email: brian@seyferth.com

Electrical Engineer

Corey Electrical Engineering
7822 South Wheeling Court, Ste. B
Englewood, Colorado 80112

Contact: Eric McCloskey
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Drawing List

A0	Cover Sheet
A1	Demolition Plan Demolition Ceiling Plan Construction Plan Door Schedule Standard Interior Partitions
A2.0	Reflected Ceiling Plan Power & Communications Plan Millwork & Finish Treatment Plan
A2.1	Glazing Details Millwork Details
A2.2	Restroom Details
M1.0	Mechanical Plan & Schedule
P1.0	Plumbing Plan and Schedule
P2.0	Waste Plan & Isometric
E.0	Electrical General Notes
E.1	Electrical Plans
E.2	Electrical COMcheck

Approvals

☒ Issued For Construction
☐ Preliminary - Not Issued for Construction

Construction Document Approval

Construction work shall not proceed until the Owner and the intended occupant have given approval to these Construction Documents. Approval by these parties shall be interpreted as approval of the drawings for content, scope of work, and all dimensions regarded by either party as being necessary to their operations, use of the space, furnishings, equipment installation, and any agreements between the Owner and the intended occupant.

Construction and/or initiation of construction authorized by the Owner from these Construction Documents, shall be interpreted by the Designer as approval in full of these Construction Documents by both the Owner and intended occupant.

☐ Approved - No Exceptions Taken
☐ Approved As Noted
☐ Approved As Noted - Resubmit
☐ Revise And Resubmit

Signature _____ Date _____

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1444 South Potomac
1444 South Potomac
Aurora, CO 80012
Suite 175

STATE OF COLORADO — ROBERT J. KLAP — B-3282 — LICENSED ARCHITECT
11/14/17

Front Range Spine & Neurosurgery

Dates of Record
Project Start Date: 31 October 2017

Issued On	Issued For
14 Nov 2017	Tenant Review & Approval; and Construction

Project #	Proj Mgr	Designed by	Drafted by	Checked by
428007	GBS	APC	TB	GBS

A0

RSN: ***1255354***
Permit #: ***2017-1392730-LT***

project start date: 31 October 2017
dwg create date: 11/1/2017 6:39:47 PM
dwg save date: 11/10/2017 12:37:12 PM
plt create date: 11/14/2017 7:33:59 AM
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by: Tim Berney layout tab: A1

1444 South Potomac • Front Range Spine & Neurosurgery

Sheet A1 Plan Notes

1. **Refer to General Notes** for additional requirements.
2. **GENERAL DEMOLITION**: Demolish and remove all partitions, materials and debris as shown on the drawings or specified otherwise herein. Removal as described shall be accomplished without storing excessive quantities of any material, rubbish, dirt, debris or waste of any kind within this demised area of construction or adjacent areas.
3. **FINISH TREATMENTS** scheduled to be removed are as follows: carpet, resilient flooring, base trim, wall treatments.
4. **DISPOSAL**: All existing equipment, materials and fixtures not scheduled for re-use shall remain the property of the Owner. Coordinate with the Building Representative and comply with all regulations and/or requirements pertaining to removal, salvage and storage of materials demolished as scheduled.
5. **RE-USE**: Investigate condition of all materials scheduled for demolition and not re-used on this project. Document characteristics of each material or component and submit inventory statement to building representative. Include characteristics such as type, color, size, quantity, physical condition and make/model number, if possible.
6. **CLEAN AND REPAIR**: Verify condition of all materials scheduled for demolition and re-use where possible. Clean and/or repair materials as needed.
7. **PREPARATION**: Unless otherwise specified, remove all existing wall coverings, floor coverings, and baseboards throughout and prepare existing surfaces for new finish treatments. The Demolition Contractor shall scrape existing adhesives to a smooth condition. Refer to finish plans and/or schedules.
8. **PATCHING**: Remove all unused sleeves through the floor slab and fill/patch all penetrations.
9. **ELECTRICAL DEMOLITION**: Existing electrical and communications/data wiring within partitions, raceways or above the ceiling which are not scheduled for re-use shall be removed entirely, including hangers, supports, terminals, conduit and junctions from source to point of termination. Maintain circuit and/or transmission continuity to remaining devices, where necessary.
10. **PIPES AND CONDUITS**: All pipes and conduit in partitions scheduled for demolition shall be removed entirely when not scheduled for re- use.
11. **ABANDONED APPARATUS**: Abandoned electrical circuits, fixtures and devices discovered by the contractor and not scheduled for re-use shall be reported to the building representative for further direction.
12. **TELEPHONE/DATA REMOVAL**: Unless otherwise indicated on the drawings, remove of all existing telephone equipment or components not currently in use.
13. **DOOR ASSEMBLIES:**
    - 13.1. All assemblies shown on the drawings and not referenced to the Door Schedule are existing to remain (unless noted otherwise).
    - 13.2. Inspect, make repairs to, and clean ALL existing assemblies and components to like new conditions. Re-use existing door assemblies and/or components where possible.
    - 13.3. Provide new door assemblies and/or components as specified on the drawings. Door frames shall be securely fastened in place and the entire assembly shall be installed plumb and square with maximum diagonal distortion of 1/8". Undercut doors as needed for specified floor coverings.
14. **INSULATION and ATTENUATION**: Provide insulation or sound attenuation in walls and above suspended ceiling if indicated on the drawings. Specifications shall conform to the following:
    - 14.1. Sound attenuation in walls shall be unfaced fiberglass, 16" to 24" wide to correspond with stud width.
    - 14.2. Thermal insulation in walls shall be Kraft faced fiberglass, 16" to 24" wide, with R-13 thermal value.
    - 14.3. Sound attenuation in ceilings shall be foil faced fiberglass, 24" wide, for use in return air plenums.
15. **BACKING/BLOCKING**: Provide solid wood blocking in partitions for plumbing fixtures, door stops, wall mounted equipment (including televisions), millwork, etc., and as indicated on the drawings. Plywood backing may be used for shelving. Framing material for blocking, nailers, etc. shall be Western Douglas Fir or Hemlock.
16. **PARTITIONS**: Conform to the following:
    - 16.1. Partitions shall be erected plumb and true.
    - 16.2. Drywall partitions and joints shall be taped and finished smooth and prepared for specified finish treatment. Coat vertical joints from floor to ceiling for additional substrate to the base trim.
    - 16.3. Skim coat existing partitions as needed.
    - 16.4. All exposed corners shall be fitted with metal corner bead and top of walls at underside of suspended ceilings shall be straight and true.
    - 16.5. Provide "kickers" or metal stud support from the top of the partition to the underside of the structure above for:
      - 16.5.1. Runs in excess of 9 feet;
      - 16.5.2. At all strike side jambs of door assembly openings ;
      - 16.5.3. At any glazed opening within 36" of the strike side of swinging doors; and
      - 16.5.4. At 8 feet on center, maximum.
17. **EXISTING LIFE SAFETY SYSTEMS**: Modify (fire alarm/smoke detection) on a ***DESIGN-BUILD*** basis. Conform to these drawings and documents and as required for obtaining a building permit. Refer to General Notes.

Door Schedule[1]

Mark	State[2]	DOOR Type	DOOR Leaf Size	DOOR Material	DOOR Finish	DOOR FRR[3]	FRAME Material	FRAME Finish	FRAME FRR[3]	HARDWARE Latch Func.	HARDWARE Additional Components	Remarks	Mark
001	N	FI	3'-0" x 7'-0" x 1 3/4"	S.C.Wood	Stained	45	H.M.	Paint	45	2	CI Ga	Attached sidelite	001
002	N/R	FI	3'-0" x 7'-0" x 1 3/4"	S.C.Wood	Stained	None	H.M.	Paint	None	1	--	--	002
003	N	FI	3'-0" x 7'-0" x 1 3/4"	S.C.Wood	Stained	None	H.M.	Paint	None	1	--	--	003
004	N	FI	3'-0" x 7'-0" x 1 3/4"	S.C.Wood	Stained	None	H.M.	Paint	None	1	--	--	004
005	N	FI	3'-0" x 7'-0" x 1 3/4"	S.C.Wood	Stained	None	H.M.	Paint	None	3	--	--	005
006	E	FI	3'-0" x 7'-0" x 1 3/4"	S.C.Wood	Stained	None	H.M.	Paint	None	1	--	--	006
007	E	FI	3'-0" x 7'-0" x 1 3/4"	S.C.Wood	Stained	None	H.M.	Paint	None	1	--	--	007
008	N/R	FI	3'-0" x 7'-0" x 1 3/4"	S.C.Wood	Stained	None	H.M.	Paint	None	1	--	--	008
009	N/R	FI	3'-0" x 7'-0" x 1 3/4"	S.C.Wood	Stained	None	H.M.	Paint	None	1	--	--	009
010	E	FI	3'-0" x 7'-0" x 1 3/4"	S.C.Wood	Stained	None	H.M.	Paint	None	1	--	--	010
011	E	FI	3'-0" x 7'-0" x 1 3/4"	S.C.Wood	Stained	None	H.M.	Paint	None	1	--	--	011
012	N/R	FI	3'-0" x 7'-0" x 1 3/4"	S.C.Wood	Stained	None	H.M.	Paint	None	1	--	--	012

Footnotes:
[1] **The General Contractor shall field verify that all door and hardware specifications match Building Standards** (unless noted otherwise) **and coordinate ANY AND ALL discrepancies directly with the TPS representative** (as indicated on the cover sheet Project Team list) ***prior* to proceeding**. This includes, but is not limited to, species, stain, finish, style, function, part/ product numbers, and design specifications as well as extent of inclusions / exclusions to component lists and the like.
[2] State: E = Existing to remain. Assure proper working condition. N = Provide New Door, Frame or Hardware in its entirety. N/R = Provide New OR Relocate salvaged Door, Frame or Hardware if available. Determine available components in field.
[3] Rating: Minimum Fire-resistive Rating (per UL) required in minutes

Door, Frame, and Hardware Specifications

Wood Doors:
Wood veneer interior doors shall be 1¾" thick, 5-ply particle board core complying with CS 236, Type I, Density C, Class 1, and with AWI standard PC-5 construction, NWWDA I.S. 1.6 Type II adhesive, solid core, flush slab style.
(The General Contractor shall confirm the Building Standard specifications and match accordingly.)

Door Frames:
Entry/Exit: Hollow Metal (painted)
Interior: Hollow Metal (painted)
(The General Contractor shall confirm the Building Standard specifications and match accordingly.)

Hardware:
Hardware shall meet Building Standard specifications, with Building Standard finish.

Standard hardware to be included with every door in the Door Schedule shall include:
- Latchset: Lever Handle at interior and exterior (UNO), with 1" minimum throws.
- Hinges
- Dust Proof Strike Plate
- Silencers
- Wall or Door Stop

The General Contractor shall provide separate cost to label all keys (locksets). Coordinate with Tenant and Building Management on labeling numbers.

Latch Function Legend

Hardware shall meet Building Standard specifications.
1 Passage
2 Keyed Lock
3 Privacy

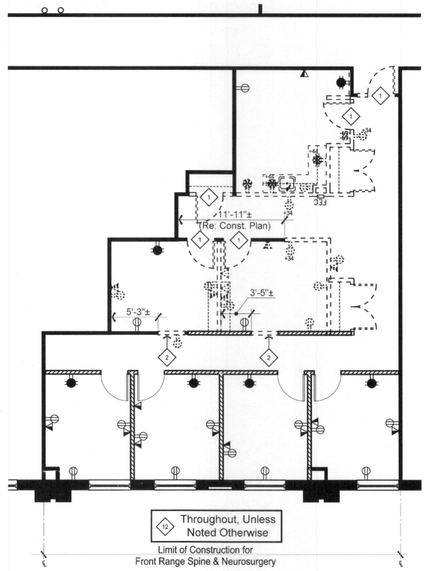
Additional Hardware Components Legend

Hardware shall meet Building Standard specifications, with Building Standard finish.
CI Closer, Automatic Door (1 per leaf)
Ga Gasketing

Door Types

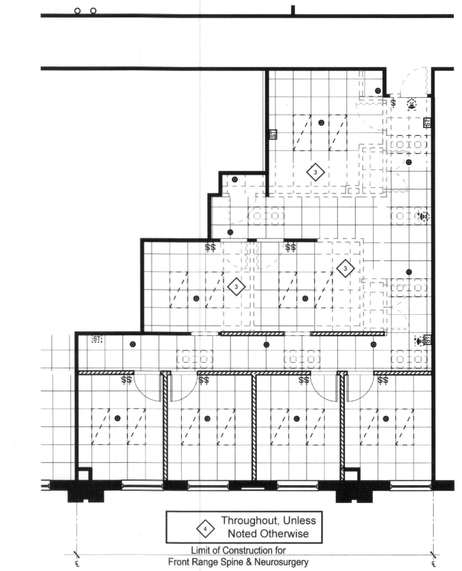


Type "FI"
Standard Flush Swinging Door



1 Demolition Plan
Suite 175 — Scale: 1/8" = 1'-0"

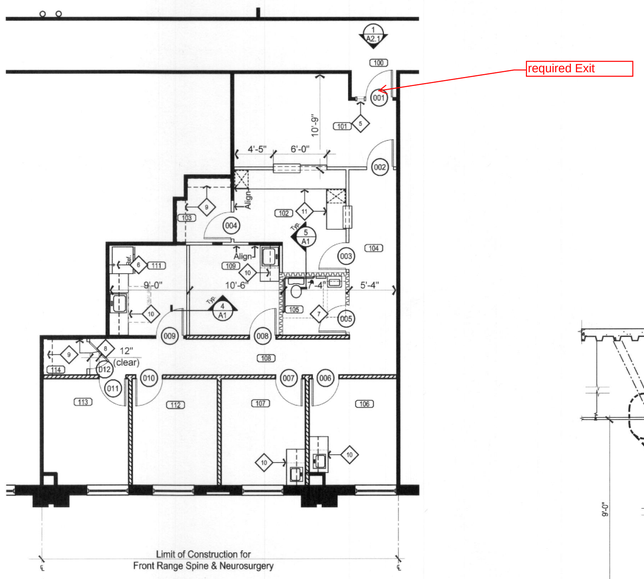
North



2 Demo Reflected Ceiling Plan
Suite 175 — Scale: 1/8" = 1'-0"

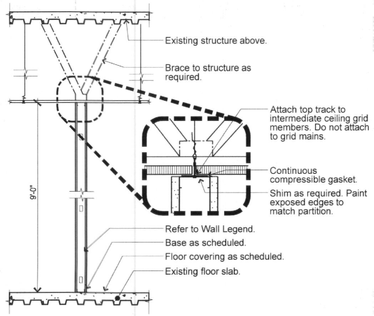
North

Provide lever or other approved hardware on all new and relocated doors.
2009 ICC/ANSI 117.1 309.4

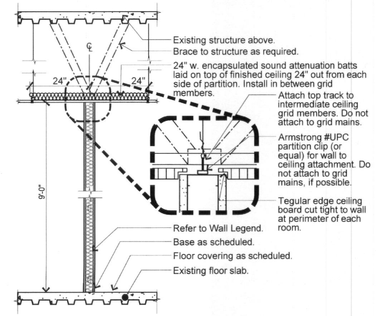


3 Construction Plan
Suite 175 — Scale: 1/8" = 1'-0"

North



4 Section: Partition
Typical Standard Interior Partition — Scale: 1/2" = 1'-0"



5 Section: Partition
Typical Sound Attenuating Partition — Scale: 1/2" = 1'-0"

Room Schedule

100	Public Corridor	108	Tenant Hallway
101	Waiting Area	109	Exam Room
102	Reception	110	--------
103	Storage Room	111	Break Room
104	Tenant Hallway	112	Office
105	Unisex Restroom	113	Office
106	Exam Room	114	Storage Room
107	Exam Room	115	--------

Sheet Keyed Notes

1. SALVAGE DOOR. Remove existing door assembly and all components and salvage as possible for re-use. Refer to Construction Plan and Door Schedule.
2. CUT OPENING IN PARTITION for new 36" wide door location. Demolish and rework partition as necessary to install new/ relocated door as scheduled. Refer to Construction Plan and Door Schedule.
3. REMOVE SUSPENDED CEILING grid and tile system where indicated. Prepare to rework/ receive new. Refer to the Reflected Ceiling Plan.
4. DEMO ALL LIGHT FIXTURES throughout Limit of Construction. Prepare for new Building Standard LED fixtures. Re: Electrical engineering drawings.
5. NEW ENTRY/EXIT FRAMED DOOR AND ATTACHED 10" wide sidelite assembly. Refer to detail(s).
6. NEW WATER SUPPLY. Refer to Plumbing Drawings
7. NEW BARRIER FREE UNISEX RESTROOM. Refer to Enlarged Plan and Plumbing Drawings.
8. NEW BACKBOARD. Provide 48" × 48" × 3/4" A/D plywood board for telephone equipment. Mount bottom of board at 48" AFF. Paint to match wall.
9. NEW MILLWORK. Refer to Millwork Plan.
10. NEW MILLWORK & PLUMBING fixtures. Refer to Millwork Plan & Details and Plumbing Drawings.
11. NEW BUILT-IN DESK. Refer to Millwork Plan and Detail Drawings.
12. Recycle all demolished/removed finishes and construction debris.

Wall Legend

DEMO EXISTING. Partitions, door assemblies, electrical devices and/or millwork to be demolished/ removed (typ.). Return all millwork/ fixtures and/or door assemblies, not re-used in this limit of construction, to Building Management. Patch partitions and prepare to receive the scheduled finish treatments.
NOTE: At exterior curtain wall sill partitions (only), where power/ phone/ data devices are designated to be removed/ demolished, all conduit and J-boxes shall remain. *Provide building standard blank face plates. All demolition of power/ phone/ data devices at interior partitions shall include removal of all associated conduit and J-boxes and patching/ painting of partitions.*

EXISTING PARTITION to remain.

Re: 4/A1 — **NEW STANDARD INTERIOR PARTITION**. Non-rated assembly. 25 gauge 3-5/8" metals studs at 24" o.c. with 5/8" gypsum board each side floor to finished ceiling.
5/8" Gypsum Board each side to finished ceiling — Metal studs at 24" o.c. Typ.

Re: 5/A1 — **EXISTING PARTITION TO BE REWORKED** as a Sound Attenuated Partition: (See below)

Re: 5/A1 — **NEW SOUND ATTENUATED PARTITION**. Non-rated assembly. 25 gauge, 3-5/8" metal studs at 24" o.c. with 5/8" gypsum board each side and 3-5/8" fiberglass sound attenuation batts floor to finished ceiling. Match Building Standard.
5/8" Gypsum Board each side floor to finished ceiling. — Metal studs at 24" o.c. Typ.
Sound attenuation batts from floor to finished ceiling height

Re: 10/A2.1 — **NEW PARTIAL HEIGHT PARTITION** (Shown underneath a millwork surface). 5/8" gypsum board each side of 20 Gauge, 3⅝" metal studs at 24" o.c. Refer to Millwork Section Detail.
5/8" Gypsum Board each side to finished ceiling — Metal studs at 24" o.c. Typ.

Match existing construction. Field verify existing construction for extent of work and verify match to these partition types.

Symbol Legend

Wall Mounted Fixtures/ Devices

- Duplex electrical receptacle & face plate
- Duplex electrical receptacle & face plate on dedicated circuit
- Quadplex electrical receptacle & face plate on dedicated circuit
- Combination telephony/ data outlet rough-in (3/4"Ø conduit) w/ double gang J-box and single gang plaster ring with pull string to above finished ceiling.
- Water supply line
- Symbols shown shaded and/or dashed indicate devices to be removed/ demolished.

Refer to Engineering Drawings for complete specifications

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1444 South Potomac
1444 South Potomac
Aurora, CO 80012
Suite 175

STATE OF COLORADO — ROBERT J. KLAP — B-3282 — LICENSED ARCHITECT
11/14/17

Front Range Spine & Neurosurgery

Dates of Record

Project Start Date: 31 October 2017

Issued On	Issued For
14 Nov 2017	Tenant Review & Approval, and Construction

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: Kirk Nagle
Date: Dec 08, 2017
2015 INTERNATIONAL CODES & 2017 NEC

Sheet Contents: Demolition Plan; Demolition Ceiling Plan; Construction Plan; Door Schedule; Standard Interior Partitions

Project #	Proj Mgr	Designed by	Drafted by	Checked by
428007	GBS	APC	TB	GBS

RSN: 1255354
Permit #: 2017-1392730-LT

A1

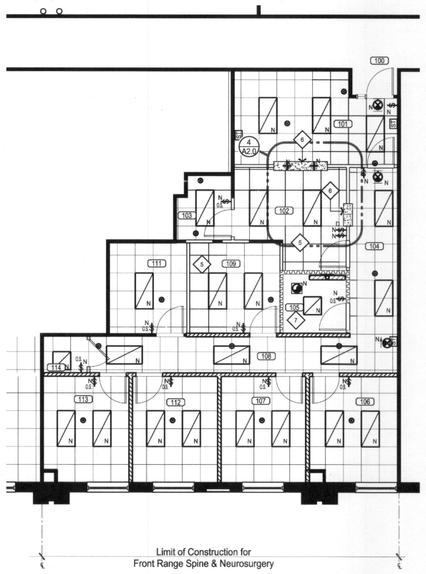
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by Tim Blemley layout tab: A2.0

1444 South Potomac • Front Range Spine & Neurosurgery

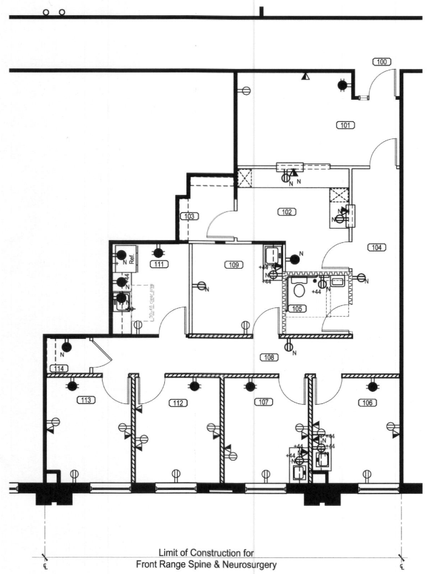
Sheet A2.0 Plan Notes

1. **Refer to General Notes** for additional requirements.
2. **The SUSPENDED CEILING SYSTEM** is existing-to-remain throughout (unless noted otherwise), and shall be refurbished as follows:
   - 2.1. Suspended grid and components shall be cleaned or touched-up where soiled or discolored. Repair and/or replace damaged members. Caulk fill all holes. Match existing conditions.
   - 2.2. Clean, touch-up and/or replace soiled, discolored and damaged ceiling tiles. Replacement ceiling board shall be per specifications or building standards.
   - 2.3. Inspect grid suspension system and adjust ceiling plane, if necessary. Provide additional support where necessary.
   - 2.4. Replacement of materials, when required, shall occur consistently and completely in individual rooms and/or spaces for uniformity of appearance and aesthetics.
   - 2.5. Installation of tiles shall be continuous over walls or individually cut-in at rooms or areas. Refer to drawings for specific requirements.
   - 2.6. All tiles shall be seated tight, level and true within the grid system.
3. **CEILING HEIGHT**: 9'-0" AFF (UNO). Refer to construction details for ceiling construction and interface with partitions.
4. **FIXTURES AND DEVICES**: Provide and/or relocate light fixtures, switches, and controls indicated on the drawings.
   - 4.1. Refer to Symbols Legend for fixture type and/or specification.
   - 4.2. Install and support fixtures from the structure in accordance with the code.
   - 4.3. Install all new light fixtures, sprinkler heads, diffusers, speakers, detectors, alarms, etc. in the center of the ceiling board or section and symmetrical throughout rooms and open areas, unless noted otherwise.
   - 4.4. The contractor shall field verify all proposed locations of light fixtures prior to commencing construction and shall notify TPS of any discrepancies and/or conflicts with existing installations.
   - 4.5. Existing fixtures scheduled to remain or be re-used shall be inspected and reworked, if necessary. Fixtures shall be cleaned, including lenses and lamps. Defective ballasts and other components shall be replaced. Match existing conditions.
   - 4.6. All light fixtures, exit signs, and switch devices shown throughout are to be assumed existing to remain (unless noted otherwise).
     'R' indicates relocated fixture or device
     'N' indicates new fixture or device
5. **EXISTING FIRE SPRINKLER HEADS** mounted in the ceiling may be shown on the drawings, and are intended for informational purposes only. Drawings shall be submitted by the General Contractor for any new work required.
6. **MODIFY EXISTING FIRE SPRINKLER SYSTEM** on a ***DESIGN-BUILD*** basis. Conform to these drawings and documents and as required for obtaining a building permit. Refer to General Notes.
7. **PROVIDE ELECTRICAL POWER AND COMMUNICATIONS OUTLETS**, receptacles and devices indicated on the drawings.
   - 7.1. Refer to symbols legend for device type and/or specification.
   - 7.2. Install in locations as shown on the drawings.
   - 7.3. All power and communications receptacles provided for general purposes shall be installed at 18" from the finished floor to the center of the device (unless noted otherwise).
   - 7.4. Unless noted otherwise, all electrical power and communications outlets, receptacles and devices are dimensioned to the centerline of the device or pair of devices.
   - 7.5. Confirm *all* box locations with Tenant prior to wiring.
   - 7.6. All rectangular outlet boxes shall be installed with the long side in the horizontal position, except above counters and cabinets, or otherwise shown on the drawings.
   - 7.7. All rectangular switch and control boxes for lighting and other devices shall be installed with the long side in the vertical position, recessed flush with the wall surface and at 48" above finished floor to the center of the control unit (unless noted otherwise).
   - 7.8. Outlets shall not be installed back to back in sound insulated partition.
   - 7.9. All outlets indicated to be installed in existing partitions or furred partitions or columns shall be cut-in or recessed flush with wall surface. Furr and/or remove sheathing, if necessary.
   - 7.10. All electrical power and communications outlets, receptacles and devices shown throughout are to be assumed existing to remain (unless noted otherwise).
     'R' indicates relocated outlet or device
     'N' indicates new fixture or device
8. **NEW WIRING DEVICES** shall be specification grade; 15 amp. For general application, 20 amp. or greater for dedicated circuits and as required by circuit load. Provide smooth nylon cover plates for all outlets and devices. Color: match existing
9. **COMMUNICATION/ DATA OUTLETS** shall conform to the following:
   - 9.1. Communication/data outlets shall consist of an opening in the sheathing with a single gang plaster ring and pullwire with plastic bushing up through wall to the ceiling plenum.
   - 9.2. When inaccessible by the method described above or when indicated on the drawings, include one (1) ¾" conduit (min.) and 2" deep single gang box for outlet.
   - 9.3. Where communications/data outlets are located in low height partitions or mounted in floors, a maximum of three (3) outlets shall be fed from one (1) ¾" conduit.
   - 9.4. All communication/data cables, plates, jacks, and final connections shall be provided under a separate contract by the Tenant. All materials shall be installed in compliance with all codes and ordinances and these documents. Cables and fittings installed above the ceiling in the return air plenum shall be rated and labeled for use in plenums. Cables shall be supported from the structure, independent of other support hangers.
10. **REMOVE ALL EXISTING FINISH TREATMENTS** including carpet, VCT, baseboard, and wall treatment and provide new finish treatments as specified throughout lease space (unless noted otherwise).
11. **COMMON AREA FINISH TREATMENTS:** Rework and/or add new finish treatments as necessary at all common areas of the building where construction occurs. All materials and workmanship shall match existing conditions (unless noted otherwise).
12. **RE-USE EXISTING WINDOW COVERINGS** at exterior glazing throughout. Wrap and bag all window coverings during construction.



1 Reflected Ceiling Plan
Suite 175 — Scale: 1/8" = 1'-0"

North



2 Power & Communications Plan
Suite 175 — Scale: 1/8" = 1'-0"

North

Locate receptacles a minimum of 15" AFF and locate light switches, pull boxes, thermostats, etc. a maximum of 44" AFF.
2009 ICC/ANSI 117.1 308

Room Schedule

100	Public Corridor	108	Tenant Hallway
101	Waiting Area	109	Exam Room
102	Reception	110	--------
103	Storage Room	111	Break Room
104	Tenant Hallway	112	Office
105	Unisex Restroom	113	Office
106	Exam Room	114	Storage Room
107	Exam Room	115	-------

Symbol Legend

Ceiling Mounted Fixtures/ Devices

- Building Standard 2×4 LED light fixture
- Building Standard 2×2 LED light fixture
- Low voltage pendant light fixture
- Vent fan assembly
- Existing as-built sprinkler head location
- Building Standard Exit Sign. Green letters on white face. Battery backup. Shade indicated face(s) and arrows (if any) indicate direction.

Wall Mounted Fixtures/ Devices

- Building Standard single pole switch
  Special function switches:
  "D" = dimable switch and ballast
- WM Wall mounted fire strobe
- Duplex electrical receptacle & face plate
- Duplex electrical receptacle & face plate on dedicated circuit
- Quadplex electrical receptacle & face plate on dedicated circuit
- Combination telephony/ data outlet rough-in (¾"Ø conduit) w/ double gang J-box and single gang plaster ring with pull string to above finished ceiling.
- Water supply line
- "N" New fixture/ device to be installed at this location.
- "R" Relocated fixture/ device to be installed in this location.

Refer to Engineering Drawings for complete specifications

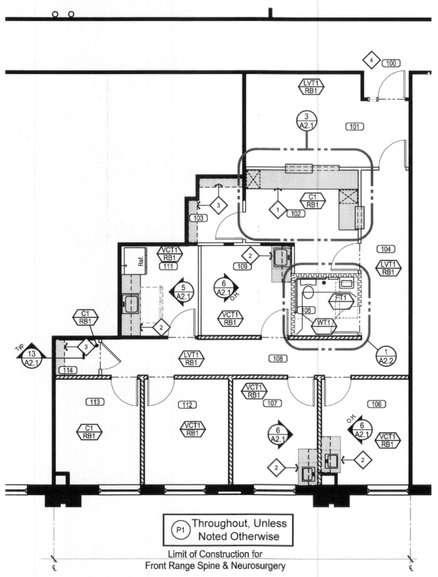
Sheet Keyed Notes

1. At Reception 102:
   NEW BUILT-IN DESK. Refer to detail(s).
2. NEW MILLWORK & PLUMBING. Refer to Details and Plumbing Engineering Drawings.
   Include backing in partition per Sheet A1 Plan Note 14.
3. NEW ADJUSTABLE SHELVING. Refer to detail(s).
   Include backing in partition per Sheet A1 Plan Note 14.
4. REWORK PUBLIC AREA FINISH TREATMENTS. Repair, replace and/or provide new finish treatments to match existing at this public area as necessary due to remodel work. Coordinate specifications with Building Management.
5. NEW SUSPENDED CEILING. Provide suspended grid and acoustical tile system where indicated. Match existing specifications and install to align and run continuous with existing ceiling system.
6. At Reception 102:
   Provide NEW FRAMED GYPSUM BOARD SOFFIT at 8'-0" AFF.
7. At Restroom 105:
   Provide NEW SUSPENDED GYPSUM BOARD SOFFIT at 8'-0" AFF.

Finish Treatment Schedule

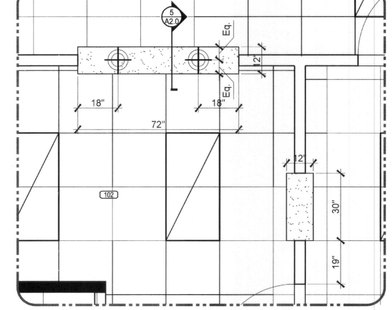
NOTE: all surfaces must be clean, dull, and dry before coatings are applied
All product is assumed to be NEW, unless noted otherwise

	Material	Manufacturer	Style/ Line	Color	MARK	Remarks/Comments
Wallcovering	Primer	Sherwin-Williams	ProMar 200 Zero VOC Primer	White	(Not Shown)	Primer for all new exposed gypsum board surfaces.
			B66W1	White		Primer for new steel, galvanized or aluminum substrate
	Interior Paint	Sherwin-Williams	ProMar 200 Zero VOC Interior Latex Eg-Shel B20-2600 Series	TBD	P1	Provide two (2) coats (minimum) at all new surfaces. • P1: Paint all exposed gypsum board surfaces throughout Limit of Construction (UNO). • P2 & P3: Accent paints where indicated.
				TBD	P2	
				TBD	P3	
			B21W200 ProMar200	TBD	P4	Paint for all exposed gypsum board surfaces at restrooms.
			B34 Series ProClassic	TBD	P5	Paint for hollow metal doors frames.
			B30W00206 ProMar 200 Latex Flat	TBD	P6	Paint for gyp. board ceilings/soffits/headers throughout Limit of Construction.
Millwork	Plastic Laminate	TBD	TBD	TBD	PL1	Countertops and Splashes, UNO
		TBD	TBD	TBD	PL2	Vertical Surfaces, UNO. Plastic laminate pattern shall run vertically on all surfaces, UNO. Confirm with Tenant Planning Services.
	Solid Surface	TBD	TBD	TBD	SS1	
Floorcovering	Broadloom patterned loop carpet	TBD	TBD	TBD	C1	Provide an allowance of $22/sq.yd material only. Include schluter strip at flooring transition.
	Luxury Vinyl Tile	TBD	TBD	TBD	LVT1	Provide an allowance of $4/SF (material only, excluding tax and freight). Include schluter strip at flooring transition.
	12" x 12" Ceramic Floor Tile	TBD	TBD	TBD	FT1	Provide an allowance of $3.00/sf material only (excluding installation & floor leveling if required). Grout color: TBD
Base Trim	4" Straight or Coved Rubber Base Trim	TBD	TBD	TBD	RB1	Only coiled base trim approved (*no 4' sections*).

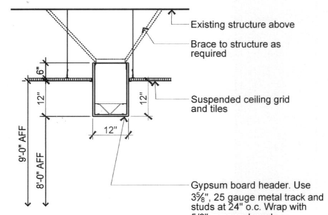


3 Millwork & Finish Treatment Plan
Suite 175 — Scale: 1/8" = 1'-0"

North



4 Enlarged Plan View
At Reception 102 — Scale: 3/8" = 1'-0"



5 Section: Gypsum Board Header
At Reception 102 — Scale: 1/2" = 1'-0"

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: Kirk Nagle
Date: Dec 08, 2017
2015 INTERNATIONAL CODES & 2017 NEC

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Suite 175

STATE OF COLORADO
ROBERT J. KLAP
B-3282
LICENSED ARCHITECT
11/14/17

Front Range Spine & Neurosurgery

Dates of Record

Project Start Date: 31 October 2017

Issued On	Issued For
14 Nov 2017	Tenant Review & Approval, and Construction

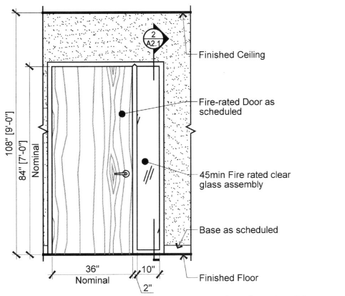
Sheet Contents: Reflected Ceiling Plan; Power & Communications Plan; Millwork & Finish Treatment Plan

Project #	Proj Mgr	Designed by	Drafted by	Checked by
428007	GBS	APC	TB	GBS

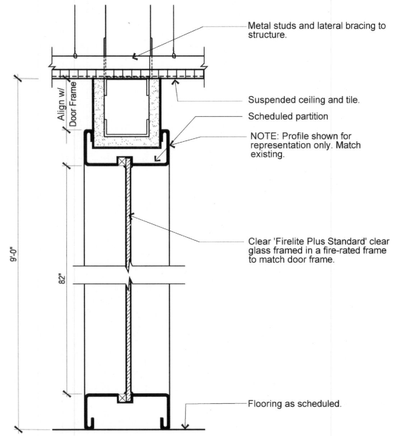
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RSN: 1255354
Permit #: 2017-1392730-LT

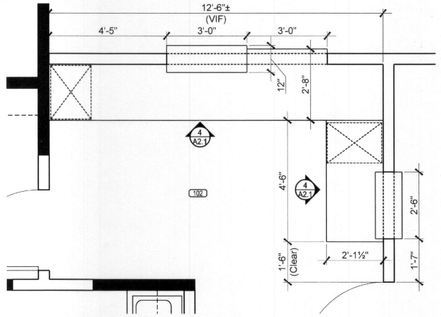
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by Tim Berney layout tab: A2.1



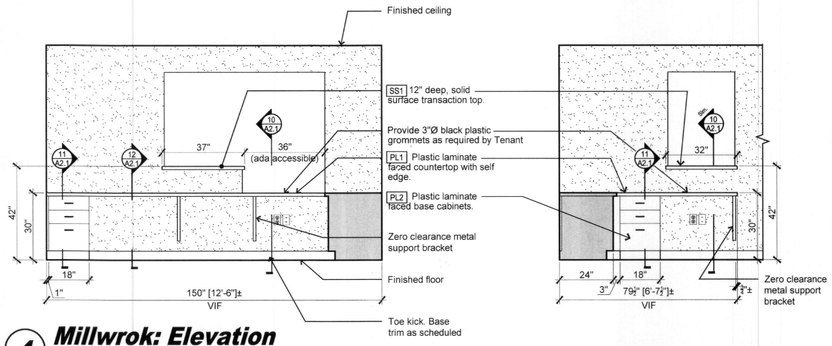
1 Elevation: Door & Sidelite
At Entry Door — Scale: 3/8" = 1'-0"



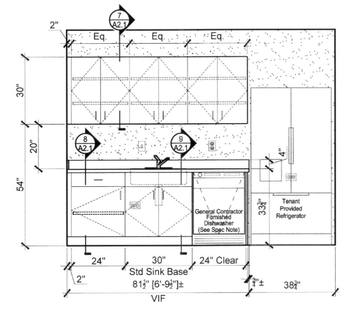
2 Section: Sidelite Assembly
At Entry Door — Scale: 3" = 1'-0"



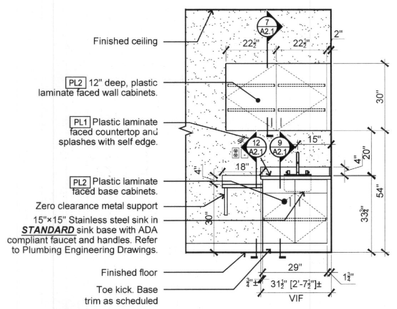
3 Enlarged Plan View
At Reception 102 — Scale: 3/8" = 1'-0"



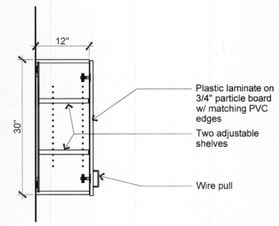
4 Millwrok: Elevation
At Reception 102 — Scale: 3/8" = 1'-0"



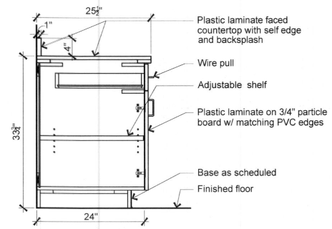
5 Millwrok: Elevation
At Break Room 111 — Scale: 3/8" = 1'-0"



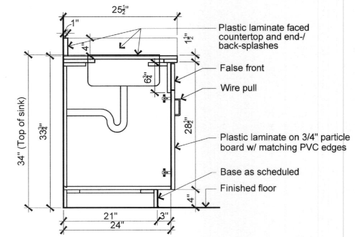
6 Millwrok: Elevation
At Exam Rooms — Scale: 3/8" = 1'-0"



7 Section:
Wall Cabinet — Scale: 3/8" = 1'-0"



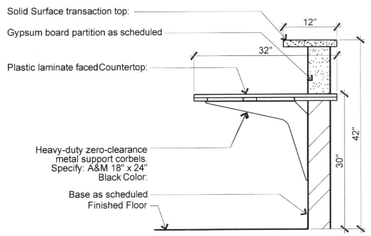
8 Section
Base Cabinet — Scale: 3/8" = 1'-0"



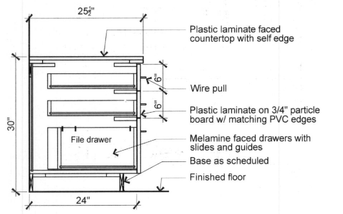
9 Section
Sink Base Cabinet — Scale: 3/8" = 1'-0"

Provide lever or other approved hardware on all new and relocated doors.
2009 ICC/ANSI 117.1 309.4

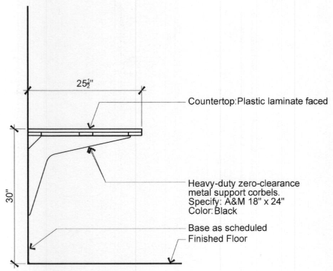
City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: **Kirk Nagle**
Date: **Dec 08, 2017**
2015 INTERNATIONAL CODES & 2017 NEC



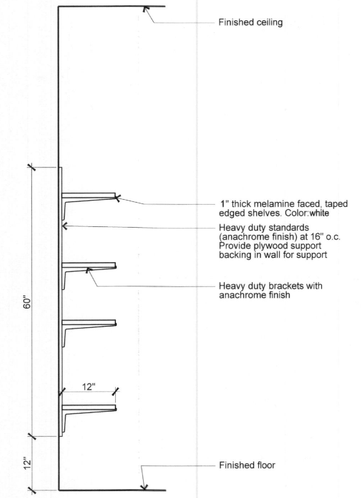
10 Section
Worksurface — Scale: 3/8" = 1'-0"



11 Section
Drawer Ped — Scale: 3/8" = 1'-0"



12 Section
Drawer Ped — Scale: 3/8" = 1'-0"



13 Section
Adjustable Shelves — Scale: 3/8" = 1'-0"

Architectural Casework Specifications

Construction:

- Cabinet Casework: All cabinet casework shall be 3/4" melamine covered particle board. All cabinet pieces shall be multiple doweled, using aliphatic resin glue and machine clamped under pressure for a square secure fit.
- Toeboard Assemblies: Toe-board assemblies shall be assembled loose for base and tall units for field installation. Rubber base shall be furnished and installed by others. Toe-board material to be fabricated from mill option material.
- Cabinet Top and Bottom: Cabinet top and bottom shall be 3/4" melamine covered particle board. Bottoms of upper cabinets to be melamine to match cabinets interior. Base cabinets shall have a 4 5/8" wide stretcher on top for fastening counter top. Edge banding to match cabinet ends.
- Cabinet Ends: Ends shall be 3/4" thick melamine covered particle board interior. Exterior finished ends are to be high pressure laminate. Holes for adjustable shelf clips shall be 1 1/4" on center. Front edges to be banded with PVC. Color to match plastic laminate used on door faces.
- Adjustable Shelves: Shelving shall be 3/4" thick melamine covered particle board both sides. Front edges shall be banded with matching color PVC material.
- Cabinet Back: Backs shall be 1/4" thick melamine covered particle board, one face. Backs shall be rabbeted and securely glued into sides and bottom. A 1/2" hanger cleat is securely glued and nailed through cabinet back into top of wall cabinets and into back stretcher of base cabinets.
- Cabinet Doors and Drawer Fronts: Doors and drawer fronts shall be 3/4" thick particle board laminated on both faces with high pressure laminate. All edges shall be banded with PVC material coordinating with face color. Maximum door width to be 24".
- Drawers: Sides, back and subfront shall be 5/8" melamine covered particle board. Bottom shall be 1/4" melamine covered particle board to match cabinet interiors. Drawer sides are machined with a lock joint and glued and stapled together for secure fit. Bottom to be rabbeted into sides and subfront.
- Counter Top: Cabinets shall have continuous one piece counter tops up to 12'-0" length constructed of 3/4" particle board with 1 1/2" shelf edge. Tops over 12'-0" long shall be splined and joined together with metal fasteners.
- Fillers: All fillers shall be 3/4" particle board material covered on one face with high pressure laminate to match door and drawer fronts.

Materials:

- Plastic Laminate: Shall be used on all door and drawer faces. All laminate shall meet all NEMA standards. Colors to be selected from full range of colored laminates by Wilsonart, Formica or Nevamar. Refer to Finish Schedule.
- Counter Tops: Counter tops shall be horizontal grade high pressure laminate with a suitable backing sheet on a 45 pound industrial particle board.
- Casework Interiors: Covered 45 pound industrial particle board. Color of interiors shall be white, unless noted otherwise.
- Plastic Edging: Edge banding on all casework to be PVC to match plastic laminate on door and drawer faces. Edge banding on doors and drawer fronts to be PVC material coordination

Hardware:

- Hinges: Hinges shall be concealed steel type, chrome finish, 110°, with automatic spring (heavy duty).
- Pulls: Pulls for doors and drawers shall be a metal wire pull in satin aluminum, anodized
- Drawer Slides: Drawer suspension shall be of a side-bottom mounted white epoxy type with 3/4" extension. Load rating of 100 pounds. Files drawers shall be full extension
- Door Catches: Door catches shall be European style, self-closing concealed hinge with adjustment.
- Shelf Supports: Adjustable shelf supports shall be a nylon covered 5mm diameter steel pin for predrilled holes in cabinet ends.

CONTRACTOR TO PROVIDE SHOP DRAWINGS TO TPS FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

TPS
TENANT PLANNING SERVICES INCORPORATED
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Aurora, CO 80012
Suite 175

STATE OF COLORADO — ROBERT J. KLAP — B-3282 — LICENSED ARCHITECT
11/14/17

Front Range Spine & Neurosurgery

Dates of Record
Project Start Date: 31 October 2017

Issued On	Issued For
14 Nov 2017	Tenant Review & Approval; and Construction

Sheet Contents: Glazing Details, Millwork Details

Project #	Proj Mgr.	Designed by	Drafted by	Checked by
428007	GBS	APC	TB	GBS

A2.1

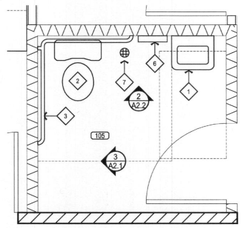
RSN: *1255354*
Permit #: *2017-1392730-LT*

1444 South Potomac • Front Range Spine & Neurosurgery

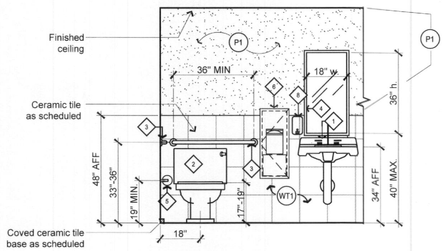
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by Tim Bernley layout tab: A2.2

1444 South Potomac • Front Range Spine & Neurosurgery

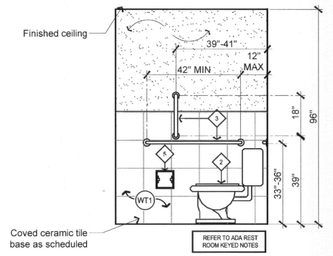


1 Enlarged Restroom Plan
At Unisex Restroom 105 — Scale: 3/8" = 1'-0"



2 Elevation: Restroom
At Unisex Restroom 105 — Scale: 3/8" = 1'-0"

REFER TO ADA REST ROOM KEYED NOTES



3 Elevation: Restroom
At Unisex Restroom 105 — Scale: 3/8" = 1'-0"

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.

Provide self-closing or metered faucets in public restrooms.
2015 COA 22-326 (a)

Sheet Keyed Notes

1. NEW WALL HUNG LAVATORY CHINA SINK. Provide new ADA compliant lavatory fixture & handles. Refer to Plumbing Drawings.
2. NEW WHITE FLOOR MOUNTED WATER CLOSET. Refer to Plumbing Drawings.
3. NEW 18", 36" & 42" GRAB BAR. Provide Bobrick B-6806x18, 36, & 42 (or equal) stainless steel grab bar with concealed mounting.
4. NEW MIRROR. Provide Bobrick B-165 1836 (or equal) framed mirror assembly.
5. NEW TOILET TISSUE DISPENSER. Provide Bobrick B-76867 (or equal) surface mounted unit.
6. NEW RECESSED PAPER TOWEL DISPENSER/WASTE RECEPTACLE. Provide Bobrick B-36903 (or equal).
7. NEW FLOOR DRAIN with trap primer. Provide 3" diameter floor drain. Include core drill and x-ray of slab for location of ductwork, etc. that may interfere with installation as shown
8. NEW WALL MOUNTED SOAP DISPENSER. Provide Bobrick B-2111 soap dispenser or approved equal.

ICC / ANSI A117.1-2003 References

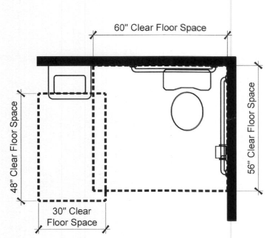


Fig. 604.3
Size of Clearance for Water Closet

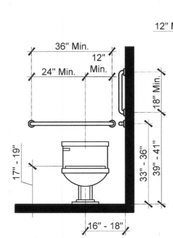


Fig. 604.4
Water Closet Height
Fig. 604.5.2
Rear Wall Grab Bar
for Water Closet

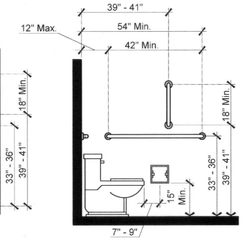
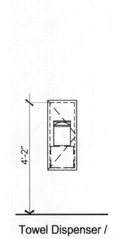


Fig. 604.5.1
Side Wall Grab Bar for Water Closet
Fig. 604.7
Dispenser Location Below Grab Bar



Towel Dispenser /
Trash Receptacle

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STATE OF COLORADO
ROBERT J. KLAP
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Front Range Spine & Neurosurgery

Dates of Record
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Reviewed for Code Compliance
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Date: Dec 08, 2017
2015 INTERNATIONAL CODES & 2017 NEC

Sheet Contents: Restroom Details

Project #	Proj Mgr	Designed by	Drafted by	Checked by
428007	GBS	APC	TB	GBS

RSN: 1255354
Permit #: 2017-1392730-LT

A2.2

PLUMBING GENERAL NOTES

GENERAL

SCOPE
THE INTENT OF THE SPECIFICATION AND THE DRAWINGS IS TO PROVIDE A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM. THE PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO COMPLETE THE PLUMBING WORK.

SITE EXAMINATION
THE PLUMBING CONTRACTOR SHALL THOROUGHLY EXAMINE ALL AREAS WHERE FIXTURES, EQUIPMENT, AND PIPING WILL BE INSTALLED AND WILL REPORT ANY CONDITION THAT, IN HIS OPINION, PREVENTS THE PROPER INSTALLATION OF THE PLUMBING WORK.

STANDARDS
EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF ASME, ASTM, UL, NEMA, ANSI, ASHRAE, NFPA, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY.

CODES
ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE DRAWINGS/SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE PLUMBING CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD WITHOUT ANY EXTRA COST.

PERMITS AND FEES
THE PLUMBING CONTRACTOR SHALL PROCURE AND PAY FOR ALL PERMITS, FEES AND INSPECTIONS NECESSARY TO COMPLETE THE PLUMBING WORK.

WARRANTY
THE PLUMBING CONTRACTOR SHALL UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY OWNER AND WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE AND RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE MATERIALS AND WORKMANSHIP.

PIPING

SOIL, WASTE AND VENT PIPING
SOIL, WASTE AND VENT PIPING 10" AND SMALLER SHALL BE SERVICE WEIGHT, HUBLESS, CAST IRON PIPE AND FITTINGS CONFORMING WITH THE REQUIREMENTS OF CISPI STD 301, ASTM A888 OR ASTM A74, WITH NEOPRENE GASKET AND STAINLESS STEEL SHIELD AND CLAMP. PROVIDE HUB-TYPE PIPE AND FITTINGS BELOW GRADE WHERE REQUIRED BY LOCAL CODES. PIPE AND FITTINGS SHALL BE MARKED WITH THE CISPI TRADEMARK. HORIZONTAL RUNS SHALL DRAIN AT A GRADE OF 1/4 INCH PER FOOT WHERE POSSIBLE BUT IN NO CASE LESS THAN 1/8" PER FOOT. COORDINATE WITH LOCAL AUTHORITIES FOR DRAINAGE REQUIREMENTS FOR EQUIPMENT DESIGNATED WITH INDIRECT WASTE TO FLOOR DRAINS. PROVIDE PIPED DRAIN TO SANITARY IF REQUIRED BY LOCAL JURISDICTION.

DOMESTIC WATER PIPING
DOMESTIC WATER PIPING 2" AND SMALLER SHALL BE COPPER TUBE WITH WROUGHT COPPER SWEAT FITTINGS JOINED WITH LEAD FREE SOLDER. PROVIDE TYPE "L" COPPER TUBE ABOVE GRADE AND TYPE "K" BELOW GRADE.

HANGERS & SUPPORTS
THE PLUMBING CONTRACTOR SHALL FURNISH ALL PIPE SUPPORTS REQUIRED FOR HIS EQUIPMENT AND MATERIAL. HANGERS AND PIPE ATTACHMENTS TO BE FACTORY FABRICATED WITH GALVANIZED COATINGS; NONMETALLIC COATED FOR HANGERS IN DIRECT CONTACT WITH COPPER TUBING.

CONNECTIONS
INSTALL UNIONS ADJACENT TO EACH VALVE AND AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. INSTALL DIELECTRIC COUPLINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS. SCREW JOINT STEEL PIPING UP TO AND INCLUDING 1-1/2". WELD PIPING USE LEAD FREE SOLDER FOR SOLDERING DOMESTIC WATER COPPER PIPE.

CLEANOUTS
PROVIDE J.R. SMITH OR EQUIVALENT FLOOR AND WALL CLEANOUTS AS INDICATED ON THE DRAWINGS OR WHERE REQUIRED IN ALL SOIL, WASTE, AND DRAIN LINES. IN AREAS WITH CERAMIC TILE OR CARPETED FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP. IN AREAS WITH RESILIENT FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP WITH TILE RECESS. CLEANOUTS SHALL BE SAME SIZE AS PIPE EXCEPT THAT CLEANOUTS LARGER THAN 4" WILL NOT BE REQUIRED. WHERE CLEANOUTS OCCUR IN WALLS OF FINISHED AREAS, THEY SHALL BE CONCEALED BEHIND CHROME PLATED ACCESS COVERS.

INSTALLATION
INSTALL PIPING FREE OF SAGS AND BENDS. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS. INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, CONCRETE FLOOR, AND ROOF SLABS.

SEAL PIPE PENETRATIONS THROUGH RATED CONSTRUCTION WITH FIRESTOPPING SEALANT MATERIAL. UNDERGROUND WATER AND SEWER LINES SHALL BE LAID IN SEPARATE TRENCHES WITH A MINIMUM HORIZONTAL SPACING AS REQUIRED BY CODE, EXCAVATED TO THE PROPER DEPTH AND GRADED TO PRODUCE THE REQUIRED FALL.

TESTING
ALL PIPES SHALL BE TESTED BY AN APPROVED METHOD BEFORE THEY ARE BACKFILLED OR CONCEALED.

VALVES

GENERAL
PLUMBING CONTRACTOR TO PROVIDE VALVES WHERE INDICATED ON PLANS AND AS NECESSARY FOR PROPER SYSTEM OPERATION AND COMPONENT ISOLATION. INSTALL VALVES FOR EACH FIXTURE AND ITEM OF EQUIPMENT. PROVIDE BRAIDED STAINLESS STEEL HOSE (UNLESS OTHERWISE NOTED) BETWEEN VALVE AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. LOCATE SHUT-OFF VALVES ADJACENT TO EQUIPMENT FOR EASY ACCESS SUCH THAT VALVES CAN BE REACHED WITHOUT MOVING EQUIPMENT.

VALVES
PROVIDE VALVES FOR WORKING PRESSURE IN WATER PIPING OF 125 PSI OR GREATER.

INSULATION

WATER PIPING
PROVIDE THERMAL INSULATION ON ALL HOT & COLD WATER PIPING. USE SELF-SEALING CLOSED CELL FOAM OR JACKETED FIBERGLASS INSULATION WITH MANUFACTURER APPROVED ADHESIVES, SEALERS, AND COATINGS. ALL MATERIALS USED SHALL NOT EXCEED 25 FOR FLAME SPREAD, 50 FOR FUEL CONTRIBUTED, OR 50 FOR SMOKE DEVELOPED.

SAFETY COVERS
INSTALL NO-SCALD SAFETY COVERS WITH INSULATED FOAM LINER AND TAMPER PROOF STRAP AT ALL EXPOSED HOT WATER & WASTE PIPING.

MISC PLUMBING FIXTURES

WATER HEATER
PROVIDE AN A.O. SMITH OR EQUIVALENT, GLASS-LINED, ENERGY EFFICIENT, WATER HEATER, WITH CAPACITY AS INDICATED IN THE PLANS. PROVIDE INSTALLATION COMPLETE WITH FITTINGS AS SHOWN IN THE DRAWINGS. PROVIDE HEAT TRAPS ON BOTH SUPPLY AND DISCHARGE TO WATER HEATER.

OWNER FURNISHED CONTRACTOR INSTALLED
PLUMBING FIXTURES/EQUIPMENT

THE PLUMBING CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS TO EQUIPMENT INCLUDING REQUIRED MATERIAL SUCH AS PIPING, VALVES, FILTERS, TRAPS, CHECKS VALVES, VACUUM BREAKERS, AND FLEXIBLE AND RIGID TUBING.

MINIMUM HYDRONIC & DOMESTIC HOT WATER PIPE INSULATION THICKNESS (IN INCHES)

FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)				
	CONDUCTIVITY BTU - IN./(H - FT² - °F)[B]	MEAN RATING TEMPERATURE, °F	1	1 TO < 1-1/2	1-1/2 TO < 4	4 TO < 8	≥ 8
201 -250	0.27 - 0.30	150	2.5	2.5	2.5	3.0	3.0
141 - 200	0.25 - 0.29	125	1.5	1.5	2.0	2.0	2.0
105 - 140	0.21 - 0.28	100	1.0	1.0	1.5	1.5	1.5
40 - 60	0.21 - 0.27	75	0.5	0.5	1.0	1.0	1.0

PIPE HANGER SPACING REQUIREMENTS

MATERIAL	SIZE	MAX HORIZONTAL SPACING	MAX VERTICAL SPACING
ABS	ALL	4'	10'
CAST IRON < 10'	ALL	5'	15'
CAST IRON - 10'	ALL	10'	15'
COPPER	< 1-1/2	6'	10'
COPPER	≥ 1-1/2	10'	10'
PEX	ALL	32"	10'
PVC	ALL	4'	10'

PIPE SIZE EQUIVALENTS

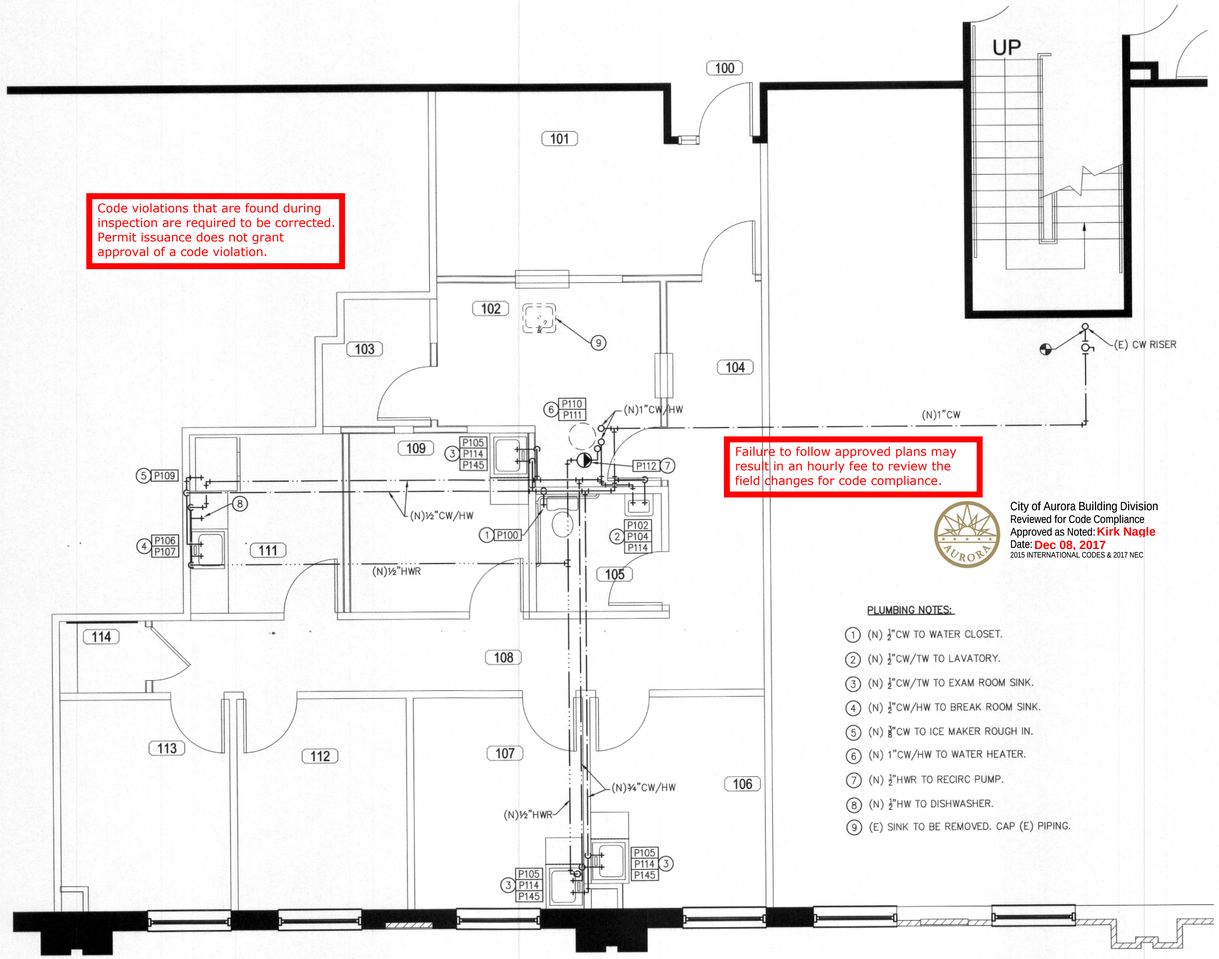
DESIGN SIZE	NOMINAL COPPER TUBE	NOMINAL PEX	NOMINAL BLACK IRON	CSST EHD
½"	½"	½"	½"	18
¾"	¾"	1"	¾"	23
1"	1"	1¼"	1"	31
1¼"	1¼"	1½"	1¼"	37
1½"	1½"	2"	1½"	47
2"	2"	-	2"	60

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	MODEL	CW	HW	HWR	TW	W	REMARKS
P100	WATER CLOSET	AMERICAN STANDARD	211AA.104	1/2"				3"	SEAT: 5325.010 ELONGATED CHAMPION, 1.6 GPF, WHITE FINISH
P102	LAVATORY	CRANE	1304V					1 1/4"	COLOR WHITE
P104	LAVATORY FAUCET	DELTA	515LF HDF	1/2"			1/2"		
P105	EXAM ROOM SINK	ELKAY	BCR15					1 1/4"	
P106	BREAK ROOM SINK	ELKAY	LRAD2521					2"	PROVIDE IN-SINK-ERATOR DISPOSER BADER V, 1/2 HP
P107	BREAK ROOM SINK FAUCET	DELTA	100LF-HDF	1/2"	1/2"				
P109	ICE MAKER ROUGH IN	IPS WATERTITE	AB9700HA	3/8"					W/ HAMMER ARRESTOR. PROVIDE ASSE 1022 BACKFLOW PREVENTER
P110	WATER HEATER	A.O. SMITH	DEL-10						10 GALLON, 5kW, 277V/1
P111	EXPANSION TANK	AMTROL	ST-5	1/2"					
P112	RECIRC PUMP	BELL & GOSSETT	E3-4V			1/2"			120V, 80W, Cord Connected. Provide thermostat control & timer.
P114	BELOW SINK TEMPERING VALVE	WATTS	LFUSG-B	1/2"	1/2"		1/2"		
P122	FLOOR DRAIN	ZURN	FD-2201-FMT					2"	With RectorSeal Trap Guard Model #SS2009V
P145	EXAM ROOM SINK FAUCET	DELTA	1501T3320	1/2"			1/2"		

Room Schedule

100	Public Corridor	108	Tenant Hallway
101	Waiting Area	109	Exam Room
102	Reception	110	———
103	Storage Room	111	Break Room
104	Tenant Hallway	112	Office
105	Unisex Restroom	113	Office
106	Exam Room	114	Storage Room
107	Exam Room	115	———



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

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: Kirk Nagle
Date: Dec 08, 2017
2015 INTERNATIONAL CODES & 2017 NEC

PLUMBING NOTES:

1. (N) ½"CW TO WATER CLOSET.
2. (N) ½"CW/TW TO LAVATORY.
3. (N) ½"CW/TW TO EXAM ROOM SINK.
4. (N) ½"CW/HW TO BREAK ROOM SINK.
5. (N) ⅜"CW TO ICE MAKER ROUGH IN.
6. (N) 1"CW/HW TO WATER HEATER.
7. (N) ½"HWR TO RECIRC PUMP.
8. (N) ½"HW TO DISHWASHER.
9. (E) SINK TO BE REMOVED. CAP (E) PIPING.

1 P1.0 PLUMBING PLAN
SCALE: 1/4" = 1'-0"

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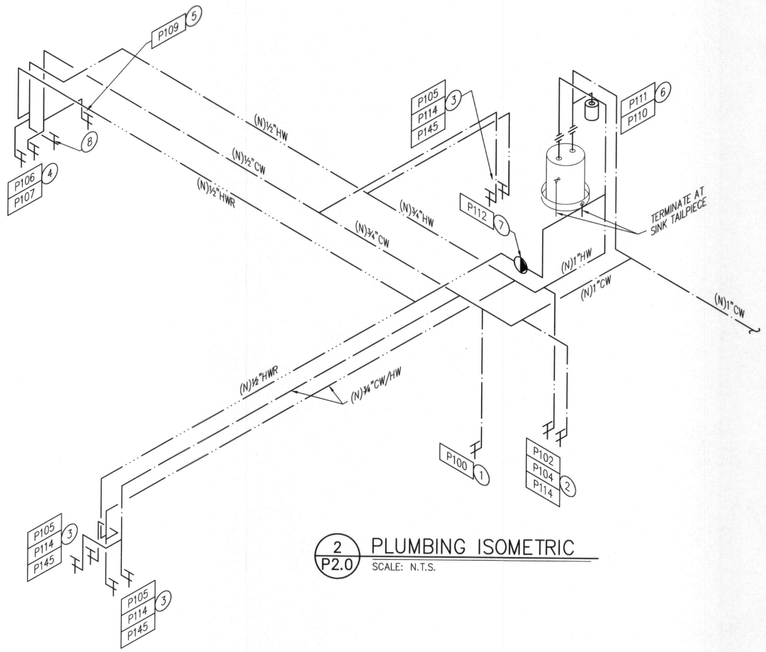
Front Range Spine & Neurosurgery

Dates of Record
Project Start Date:

Issued On	Issued For
16 NOV 2017	Tenant's Review & Approval; and Construction

Sheet Contents: PLUMBING PLAN &SCHEDULE
Project Team: BS/LC
Project Number:
Sheet Mark: P1.0

RSN: 1255354
Permit #: 2017-1392730-LT



2 P2.0 PLUMBING ISOMETRIC
SCALE: N.T.S.

Provide for thermal expansion on hot-water supply system as required by **2015 IPC 607.3 or IRC 2903.4**

PLUMBING NOTES:

1. (N) ½"CW TO WATER CLOSET.
2. (N) ½"CW/TW TO LAVATORY.
3. (N) ½"CW/TW TO EXAM ROOM SINK.
4. (N) ½"CW/HW TO BREAK ROOM SINK.
5. (N) ⅜"CW TO ICE MAKER ROUGH IN.
6. (N) 1"CW/HW TO WATER HEATER.
7. (N) ½"HWR TO RECIRC PUMP.
8. (N) ½"HW TO DISHWASHER.
9. (E) SINK TO BE REMOVED. CAP (E) PIPING.

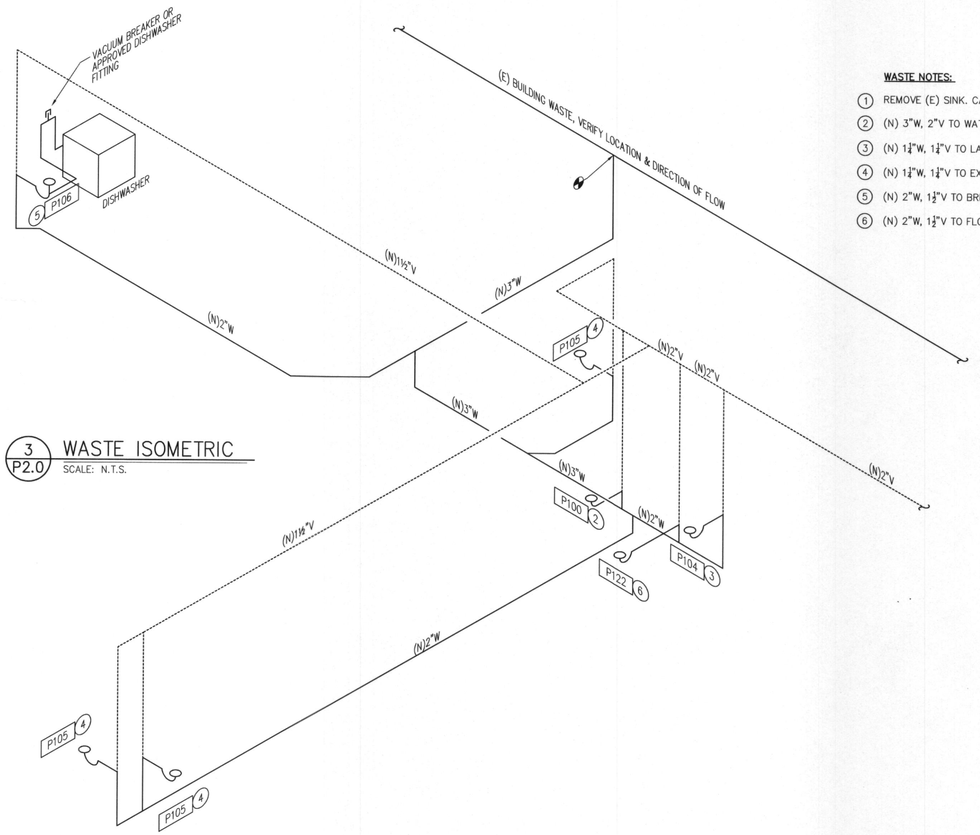
The dry vent must rise 6" vertically above the flood level rim of the highest trapped fixture being vented. **2015 IPC 905.4**

Provide drains no smaller than allowed by **2015 IPC 709.1 and 710.1(1)**

Provide self-closing or metered faucets in public restrooms. **2015 COA 22-326 (a)**

Room Schedule

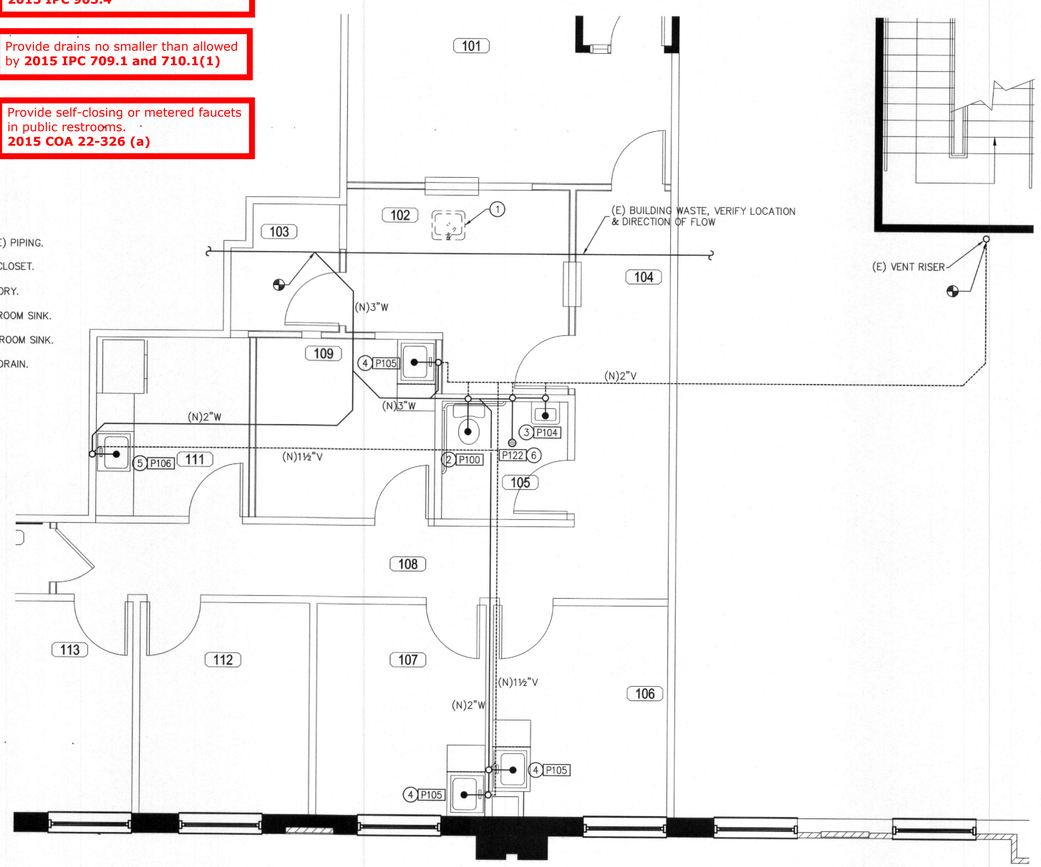
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107	Exam Room	115	———



3 P2.0 WASTE ISOMETRIC
SCALE: N.T.S.

WASTE NOTES:

1. REMOVE (E) SINK. CAP (E) PIPING.
2. (N) 3"W, 2"V TO WATER CLOSET.
3. (N) 1½"W, 1½"V TO LAVATORY.
4. (N) 1½"W, 1½"V TO EXAM ROOM SINK.
5. (N) 2"W, 1½"V TO BREAK ROOM SINK.
6. (N) 2"W, 1½"V TO FLOOR DRAIN.



1 P2.0 WASTE PLAN
SCALE: 1/4" = 1'-0"

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Front Range Spine & Neurosurgery

Dates of Record

Project Start Date:

Issued On	Issued For
16 NOV 2017	Tenant's Review & Approval; and Construction

Sheet Contents	WASTE PLAN &ISOMETRICS
Project Team	BS/LC
Project Number	
Sheet Mark	**P2.0**

RSN: *1255354*
Permit #: *2017-1392730-LT*

MECHANICAL GENERAL NOTES

GENERAL

SCOPE
THE INTENT OF THE SPECIFICATION AND THE DRAWINGS IS TO PROVIDE A COMPLETE AND FULLY OPERATIONAL MECHANICAL SYSTEM. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO COMPLETE THE MECHANICAL WORK.

SITE EXAMINATION
THE MECHANICAL CONTRACTOR SHALL THOROUGHLY EXAMINE ALL AREAS WHERE EQUIPMENT, DUCTWORK, AND PIPING WILL BE INSTALLED AND WILL REPORT ANY CONDITION THAT, IN HIS OPINION, PREVENTS THE PROPER INSTALLATION OF THE MECHANICAL WORK.

STANDARDS
EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF ARL, ASME, ASTM, UL, NEMA, ANSI, SMACNA, ASHRAE, AND NFPA, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY.

CODES
ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE DRAWINGS AND SPECIFICATION AND THE CODES AND THE ORDINANCES, THE HIGHEST STANDARDS SHALL APPLY. THE MECHANICAL CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD WITHOUT ANY EXTRA COST TO OWNER/TENANT.

PERMITS AND FEES
THE MECHANICAL CONTRACTOR SHALL PROCURE AND PAY FOR ALL PERMITS, FEES AND INSPECTORS NECESSARY TO COMPLETE THE MECHANICAL WORK.

WARRANTY
THE MECHANICAL CONTRACTOR SHALL UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY OWNER/TENANT AND WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE AND RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE MATERIAL AND WORKMANSHIP.

FILTERS
PROVIDE TWO (2) SETS OF PLEATED DISPOSABLE FILTERS. USE ONE SET UNTIL COMPLETION OF CONSTRUCTION. INSTALL ONE SET AT COMPLETION OF CONSTRUCTION. FILTERS TO BE FARR, OR SIMILAR.

DUCTWORK & ACCESSORIES

SHEETMETAL DUCTWORK
ALL DUCTWORK TO BE RIGID SHEETMETAL CONSTRUCTED FROM GALVANIZED SHEET STEEL IN ACCORDANCE WITH SMACNA 1" PRESSURE CLASS DUCT CONSTRUCTION STANDARDS ALL EXPOSED DUCTWORK TO BE ROUND, SPIRAL, OR RECTANGULAR LOCK-SEAM TYPE, AS SHOWN ON HVAC PLAN. ASSEMBLE AND INSTALL DUCTWORK IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICE FOR ACHIEVING AIR TIGHT (5% LEAKAGE) AND NOISELESS (NO OBJECTIONABLE NOISE) SYSTEMS, CAPABLE OF PERFORMING EACH INDICATED SERVICE. FURNISH ALL REQUIRED DAMPERS, TRANSITIONS, CONNECTIONS TO AIR TERMINALS, AND OTHER ACCESSORIES NECESSARY FOR A COMPLETE OPERATING SYSTEM. NO VARIATION OF DUCT CONFIGURATION OR SIZES WILL BE PERMITTED EXCEPT BY PERMISSION FROM THE ENGINEER.

DUCT SEALANT
SEAL ALL CONCEALED LONGITUDINAL AND TRANSVERSE JOINTS WITH A NON-HARDENING, NON-MIGRATING MASTIC OR LIQUID ELASTIC SEALANT OF A TYPE RECOMMENDED BY THE MANUFACTURER FOR SEALING JOINTS AND SEAMS IN SHEET METAL DUCTWORK. COVER ALL FIELD JOINTS, JOINTS AROUND SPIN-IN FITTINGS AND FASTENING SCREWS WITH MASTIC. DO NOT SEAL EXPOSED DUCT.

SUPPORTS
PROVIDE HOT-DIPPED GALVANIZED STEEL FASTENERS, ANCHORS, RODS, STRAPS, TRIM, AND ANGLES FOR SUPPORT OF DUCTWORK.

DAMPERS
PROVIDE OPPOSED-BLADE, MULTI-LEAF VOLUME CONTROL DAMPERS WHERE INDICATED ON DRAWINGS AND AT POINTS ON LOW PRESSURE SUPPLY, RETURN AND EXHAUST DUCTS WHERE BRANCHES ARE TAKEN FROM LARGER DUCTS. PROVIDE UL LISTED FIRE DAMPERS WHERE REQUIRED AND IN ACCORDANCE WITH NFPA AND LOCAL CODES. PROVIDE CONVENIENTLY LOCATED ACCESS DOORS OF AMPLE SIZE AND QUANTITY FOR SERVICING THE DAMPERS.

GRILLES, REGISTERS, & DIFFUSERS
GRILLES, REGISTERS AND DIFFUSERS SHALL BE MANUFACTURED BY PRICE. DIFFUSERS SHALL BE INSTALLED AS INDICATED ON THE DRAWINGS AND SCHEDULES. THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS ITEMS NECESSARY FOR A COMPLETE AND PROPER INSTALLATION IN THE TYPE OF CEILING AND WALLS USED IN THIS PROJECT.

TESTING, ADJUSTING, AND BALANCING

TESTING, ADJUSTING, BALANCING
MECHANICAL CONTRACTOR OR AN INDEPENDENT NEBB OR AABC CERTIFIED AIR BALANCE CONTRACTOR SHALL ACCURATELY BALANCE THE AIR SYSTEM TO PROVIDE AIR QUANTITIES INDICATED ON THE DRAWINGS AND IN THE SPECIFICATION. OPERATE AUTOMATIC CONTROLS SYSTEM AND VERIFY SET POINTS DURING BALANCING. SUBMIT TWO (2) COPIES OF THE BALANCE REPORT TO THE ENGINEER FOR APPROVAL. INCLUDE A COPY OF THE BALANCE REPORT AS APPROVED BY THE ENGINEER WITH APPLICATION FOR FINAL CONTRACT PAYMENT.

LEGEND

- DIFFUSER, SEE SCHEDULE
- GRILLE, SEE SCHEDULE
- NEW RIGID RECTANGULAR DUCTWORK
- EXISTING RIGID RECTANGULAR DUCTWORK
- NEW RIGID ROUND DUCTWORK
- EXISTING RIGID ROUND DUCTWORK
- EXPOSED SPIRAL DUCTWORK
- DUCTWORK TO BE REMOVED
- FLEX, DUCTWORK.
- (T) THERMOSTAT TO MATCH EQUIPMENT
- (200) CFM, BALANCE WITHIN 10%
- (M 1) EQUIPMENT DESIGNATION
- SPIN-IN WITH DAMPER
- RETURN AIR ARROW
- SUPPLY AIR ARROW
- CONNECT TO EXISTING

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

Provide proof of a flame spread less than 26 and a smoke development less than 50 for any material used in a plenum.
2015 IMC 602.2.1

EXHAUST FAN SCHEDULE

MARK	AREA SERVED	SERVICE	LOCATION	CFM	S.P. @ ALTITUDE (IN W.C.)	RPM	HP OR WATTS	PRE-FAB CURB	TYPE	VIB. ISOL.	MFR. & MODEL NO.	VOLTS/ PHASE	REMARKS
EF-1	RESTROOM	EXHAUST	CEILING	75	0.3	935	60W	NO	CENTRIFUGAL	NO	GREENHECK SP-80-VG	120/1	1, 2

1. PROVIDE DIAL ON MOTOR CONTROL
2. PROVIDE WALL SWITCH CONTROL.

OUTSIDE AIR COMPLIANCE

DESCRIPTION	ROOM NUMBER	AREA SF	PEOPLE/1000SF	POPULATION	CFM/PERSON	AREA AIRFLOW RATE	Ez	REQUIRED OUTSIDE AIR CFM	SUPPLY AIR	% OUTSIDE AIR	OUTSIDE AIR PROVIDED	EXHAUST AIR PROVIDED
WAITING AREA	101	165	30	5	5	0.06	0.8	43	205	25%	51	0
RECEPTION OFFICE	102	120	5	1	5	0.06	0.8	13	200	25%	50	0
TENANT HALLWAY	104	120	0	0	0	0.06	0.8	9	35	25%	9	0
UNISEX RESTROOM	105	45	-	-	-	0	0.8	0	0	25%	0	75
EXAM ROOM	106	110	5	1	5.0	0.06	0.8	12	195	25%	49	0
EXAM ROOM	107	110	5	1	5.0	0.06	0.8	12	195	25%	49	0
TENANT HALLWAY	108	105	5	1	5.0	0.06	0.8	11	45	25%	11	0
EXAM ROOM	109	95	5	0	5.0	0.06	0.8	10	100	25%	25	0
BREAK ROOM	111	80	5	0	5.0	0.06	0.8	9	65	25%	16	0
OFFICE	112	110	5	1	5.0	0.06	0.8	12	195	25%	49	0
OFFICE	113	105	5	1	5.0	0.06	0.8	11	195	25%	49	0
TOTALS		1165		9				141	1430		358	75

FAN TERMINAL UNIT SCHEDULE

MARK	MFR. & MODEL NUMBER	AIR INLET SIZE	PRIMARY AIR		HEATING			FAN MOTOR			REMARKS
			MAX. CFM	MIN. CFM	VOLTAGE	KW	HEATING CFM	VOLTAGE	HP	FLA	
FTU-1-4	ENVIRO-TEC VFREH 1011	10"Ø	860	305	277/1	6.0	485	277/1	1/4HP	1.9	1
FTU-1-A	ENVIRO-TEC VFR 0806	8"Ø	1000	250	-	-	-	277/1	1/6HP	1	1

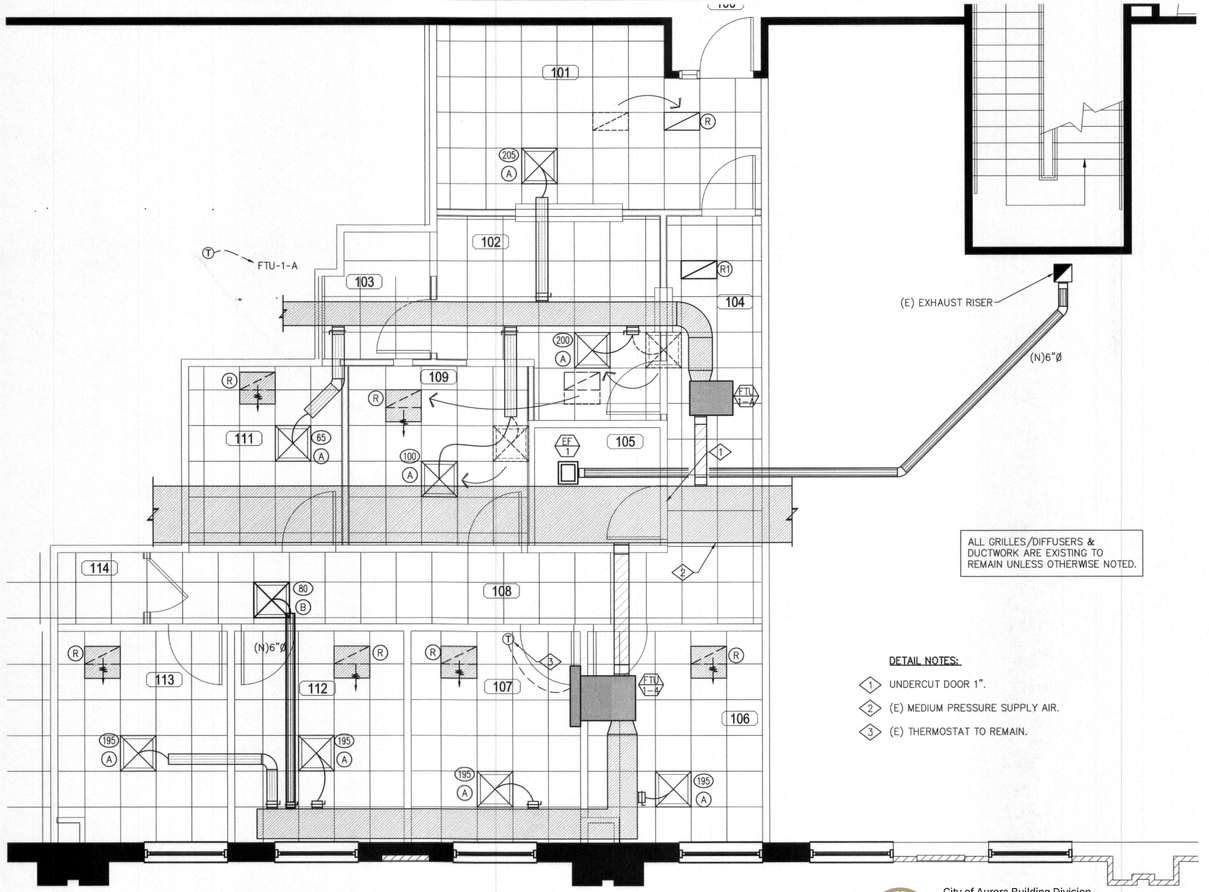
NOTES:
1. EXISTING TO REMAIN.

DIFFUSER SCHEDULE

MARK	SERVICE	FACE SIZE	NECK SIZE	FIRE DAMPER	VOLUME DAMPER	MFR	MODEL	REMARKS
A	SUPPLY	-	-	-	-	-	-	EXISTING TO REMAIN OR BE RELOCATED
B	SUPPLY	24" x 24"	6"Ø	NO	NO	PRICE	SCD/4C	NEW
R	RETURN	-	-	-	-	-	-	EXISTING TO REMAIN OR BE RELOCATED
R1	RETURN	24" x 12"	22" x 10"	NO	NO	PRICE	PFRF	NEW

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1 M1.0 MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: W. Griffin
Date: Dec 08, 2017
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Front Range Spine & Neurosurgery

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Sheet Contents: MECHANICAL PLAN &SCHEDULES
Project Team: BS/LC
Project Number:
Sheet Mark: **M1.0**

ELECTRICAL GENERAL NOTES - APPLICABLE TO ALL ELECTRICAL SHEETS

1. PRIOR TO SUBMITTING BIDS THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE TO VERIFY EXISTING ELECTRICAL EQUIPMENT CONDITIONS AND DIFFICULTIES THAT WILL AFFECT EXECUTION OF THE WORK. FIELD VERIFY QUANTITIES OF EXISTING LIGHT FIXTURES, ELECTRICAL DEVICES, COMMUNICATION DEVICES, FIRE ALARM DEVICES, AND ELECTRICAL EQUIPMENT. NOTIFY THE ARCHITECT AND ENGINEER OF ANY EXISTING CONDITIONS WHICH MODIFY THE SCOPE OF WORK AS SHOWN ON THE CONSTRUCTION DOCUMENTS. SUBMISSION OF A BID PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR MOBILIZATION, LABOR, EQUIPMENT, AND/OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED.
2. THE ELECTRICAL CONTRACTOR SHALL EXAMINE THE DRAWINGS OF ALL TRADES WHOSE WORK RELATES TO OR IS DEPENDENT ON ELECTRICAL WORK TO BECOME FULLY INFORMED OF THE EXTENT AND CHARACTER OF THEIR SPECIFIED WORK AND BE ABLE TO COORDINATE IT WHILE AVOIDING POSSIBLE INTERFERENCE WITH THE ELECTRICAL WORK.
3. IT IS THE INTENTION OF THESE SPECIFICATIONS AND DRAWINGS TO CALL FOR FINISHED WORK, TESTED AND READY FOR OPERATION. WHEREVER THE WORD "PROVIDE" IS USED, IT SHALL MEAN "FURNISH AND INSTALL COMPLETE AND READY FOR USE." "REPLACE" SHALL MEAN TO PUT NEW IN PLACE OF EXISTING. THE ARCHITECTURAL GENERAL AND SPECIAL CONDITIONS FOR THE WORK OF THIS PROJECT AND BASE BUILDING SPECIFICATIONS SHALL BE PART OF THE ELECTRICAL SPECIFICATIONS. THE ELECTRICAL CONTRACTOR SHALL EXAMINE THE GENERAL AND SPECIAL CONDITIONS BEFORE SUBMITTING A BID.
4. ALONGSIDE SUBMISSION OF THEIR BID, THE ELECTRICAL CONTRACTOR SHALL GIVE WRITTEN NOTICE TO THE ARCHITECT/ENGINEER OF ANY NECESSARY ITEMS OR WORK THAT HAVE BEEN OMITTED FROM THE DRAWINGS OR SPECIFICATIONS. IN THE ABSENCE OF SUCH WRITTEN NOTICE, IT IS MUTUALLY AGREED THAT THE ELECTRICAL CONTRACTOR HAS INCLUDED THE COST OF ALL REQUIRED ITEMS IN HIS BID, AND THAT THE ELECTRICAL CONTRACTOR WILL BE RESPONSIBLE FOR THE APPROVED SATISFACTORY FUNCTIONING OF THE ENTIRE SYSTEM WITHOUT EXTRA COMPENSATION.
5. THE CONTRACTOR IS RESPONSIBLE FOR THE COMPLETE AND SATISFACTORY ELECTRICAL INSTALLATION IN ACCORDANCE WITH THE TRUE INTENT OF THE DRAWINGS AND SPECIFICATIONS. HE SHALL PROVIDE, WITHOUT EXTRA CHARGE, ALL INCIDENTAL ITEMS REQUIRED, AS A PART OF THIS ELECTRICAL INSTALLATION. THE INSTALLATION SHALL BE SO MADE THAT ITS SEVERAL COMPONENT PARTS WILL FUNCTION TOGETHER AS A WORKABLE SYSTEM AND SHALL BE LEFT WITH ALL PARTS ADJUSTED AND IN WORKING ORDER.
6. ELECTRICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL LOCAL FEES, PERMITS, AND SERVICES OF INSPECTION AUTHORITIES REQUIRED BY ELECTRICAL WORK FOR THIS ELECTRICAL CONSTRUCTION. FILE ALL NECESSARY PLANS, PREPARE ALL DOCUMENTS, AND OBTAIN ALL NECESSARY APPROVALS REQUIRED BY ALL GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION. ALL WORK PERFORMED UNDER THIS CONTRACT SHALL REMAIN EXPOSED TO VIEW UNTIL APPROVED BY THE INSPECTION AUTHORITY.
7. ELECTRICAL CONTRACTOR SHALL FULLY COORDINATE WITH OWNER REPRESENTATIVES. ALL ELECTRICAL WORK PERFORMED UNDER THIS CONTRACT SHALL CONFORM WITH LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE, INTERNATIONAL BUILDING CODE, LOCAL BUILDING AND FIRE DEPARTMENT REQUIREMENTS. PERFORM WORK IN ACCORDANCE WITH REQUIREMENTS OF OWNER REPRESENTATIVE.
8. ELECTRICAL CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER OF ANY CHANGES REQUIRED BY THE BUILDING MANAGEMENT AND TENANT REPRESENTATIVES.
9. BEFORE STARTING WORK, ELECTRICAL CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ARCHITECT/ENGINEER FIVE (5) SETS OF SHOP DRAWINGS, BROCHURES, INSTALLATION INSTRUCTIONS, AND DESCRIPTIVE EQUIPMENT DATA RELATED TO SPECIFIED EQUIPMENT, WIRING DEVICES, AND ACCESSORIES FOR APPROVAL. ELECTRONIC SUBMITTALS (PDF OR SIMILAR) ARE ACCEPTABLE WITH PRIOR APPROVAL FROM THE ARCHITECT. THE CONTRACTOR SHALL IDENTIFY ANY "LONG LEAD TIME" ITEMS WHICH MAY IMPACT THE OVERALL PROJECT SCHEDULE. ALL BIDS SHALL INCLUDE COSTS ASSOCIATED WITH THE PURCHASE AND DELIVERY OF EQUIPMENT TO MEET THE PROJECT SCHEDULE. NO EQUIPMENT SHALL BE ORDERED, PURCHASED, OR INSTALLED PRIOR TO THE APPROVAL OF SHOP DRAWINGS, BROCHURES, INSTALLATION INSTRUCTIONS, AND SCHEDULES. APPROVAL BY THE ARCHITECT/ENGINEER IS INTENDED TO ESTABLISH CONFORMANCE WITH THE PROJECT DESIGN CONCEPT AND THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS.
10. THE NAMING OF THE MANUFACTURER OR BRAND WITH CATALOG NUMBER OR OTHER PRODUCT IDENTIFICATION WITHOUT THE WORDS "OR EQUAL" IN THE SPECIFICATIONS OR NOTES SHALL INDICATE THAT IT IS THE ONLY PRODUCT APPROVED FOR PURCHASE. IF THE WORDS "OR EQUAL" ARE USED THEY SHALL BE INTERPRETED AS ESTABLISHING A QUALITY OR PERFORMANCE STANDARD FOR THE MATERIAL OR PRODUCT TO BE PURCHASED. THIS SHALL INDICATE THAT THE ELECTRICAL CONTRACTOR IS NOT RESTRICTED TO THE USE OF THE NAMED AND IDENTIFIED PRODUCT IF A SUBSTITUTE APPROVED BY THE ARCHITECT/ENGINEER IS AVAILABLE. HOWEVER, WHERE A SUBSTITUTION IS REQUESTED, IT WILL BE PERMITTED ONLY WITH THE WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER. NO SUBSTITUTE MATERIAL OR PRODUCT SHALL BE ORDERED, FABRICATED, SHIPPED OR PROCESSED IN ANY MATTER PRIOR TO THE APPROVAL OF THE ARCHITECT/ENGINEER. THE ELECTRICAL CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR ADDITIONAL EXPENSES AS REQUIRED MAKING CHANGES FROM THE ORIGINAL MATERIAL OR PRODUCT SPECIFIED.
11. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF ELECTRICAL WORK. LOCATIONS ARE APPROXIMATE AND SHALL BE SUBJECT TO MINOR MODIFICATIONS AS DIRECTED BY THE GENERAL CONTRACTOR AND OWNER REPRESENTATIVES. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXACT FITTING OF ALL MATERIALS, EQUIPMENT, ETC., IN THE BUILDING AND TENANT SPACE. ALL DIMENSIONS SHALL BE VERIFIED ON THE JOB.
12. DRAWINGS SHALL NOT BE SCALED FOR ROUGH-IN MEASUREMENTS OR USED AS SHOP DRAWINGS, WHERE DIMENSIONS ARE SHOWN ON PLANS OR DETAILS, THESE DIMENSIONS ARE TO BE FIELD-VERIFIED BY THE ELECTRICAL CONTRACTOR AGAINST EXISTING FIELD CONDITIONS, INSTALLATION REQUIREMENTS OF OTHER TRADES, AND THE MANUFACTURER'S SUBMITTALS FOR EQUIPMENT TO BE INSTALLED. SHOULD ANY CONFLICTS ARISE WHICH CANNOT BE EASILY RESOLVED IN THE FIELD WITHOUT CHANGING THE DESIGN INTENT, THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
13. WHILE ALL WORK IS IN PROGRESS, EXCEPT FOR SHORT DESIGNATED INTERVALS DURING WHICH CONNECTIONS ARE TO BE MADE, CONTINUITY OF SERVICE TO ALL EXISTING SYSTEMS SERVING OCCUPIED SPACES SHALL BE MAINTAINED. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH OWNER AT ALL TIMES FOR ALL NEW-TO-EXISTING CONNECTIONS, SYSTEM SHUTDOWNS, AND RESTART-UP.
14. ANY WORK WHICH WILL AFFECT THE BUILDING OCCUPANTS, INCLUDING, BUT NOT LIMITED TO WORK WHICH GENERATES EXCESSIVE NOISE, DUST, SMOKE, OR INCONVENIENCE TO BUILDING OCCUPANTS, SHALL BE PERFORMED AFTER BUSINESS HOURS. UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE BUILDING MANAGER OR OWNER.
15. ELECTRICAL ITEMS AFFECTED BY REMODEL WORK ARE SHOWN ON DRAWINGS ALONG WITH EXISTING ELECTRICAL INSTALLATION SHOWN WITH LIGHT LINE WEIGHT. EXISTING ELECTRICAL INSTALLATION SHOWN IS NOT NECESSARILY ALL-INCLUSIVE. RETAIN CIRCUIT CONTINUITY FOR EXISTING ELECTRICAL EQUIPMENT, FIXTURES, AND DEVICES THAT ARE TO REMAIN. SUCH EQUIPMENT SHALL BE RECONNECTED TO EXISTING CIRCUITS OR CONNECTED TO NEW CIRCUIT(S) AS INDICATED ON DRAWINGS. ENSURE ALL ELECTRICAL DEVICES IN WORK AREA ARE FULLY FUNCTIONAL. FOR DEVICES OR JUNCTION BOXES LOCATED IN WALLS, THAT MUST REMAIN IN PLACE FOR CIRCUIT CONTINUITY, PROVIDE BLANK COVER PLATES TO MATCH WALL PLATES STYLE IN THE AREA OF WORK. FOR ALL OTHER UNUSED JUNCTION BOXES, REMOVE WIRING AND PROVIDE BLANK COVER PLATE, OR COORDINATE WITH GENERAL CONTRACTOR FOR PATCHING OF WALL TO MATCH ADJACENT SURFACE AS DIRECTED BY ARCHITECT. WHERE EXISTING DEVICES CONFLICT WITH NEW WALL CONSTRUCTION, RELOCATE EXISTING DEVICE AND REWORK CIRCUITRY AS REQUIRED TO MAINTAIN CIRCUIT CONTINUITY. DEVICES MAY ONLY BE REMOVED WITH PRIOR APPROVAL FROM THE DESIGN TEAM AND BUILDING MANAGEMENT. COORDINATE FINAL DIRECTIONS WITH ARCHITECT PRIOR TO DEMOLITION.
16. REPORT ANY EXISTING DAMAGED EQUIPMENT OR SYSTEMS TO THE OWNER PRIOR TO BEGINNING THE PROJECT.
17. BEFORE ANY EQUIPMENT IS INSTALLED, DETERMINE THAT SAID EQUIPMENT WILL PROPERLY FIT WITHIN THE SPACE ALLOCATED. INSTALL ALL EQUIPMENT AND MATERIALS IN SUCH A MANNER AS TO PROVIDE REQUIRED ACCESS FOR SERVICING AND MAINTENANCE. ALLOW AMPLE SPACE FOR REMOVAL OF ALL PARTS THAT REQUIRE REPLACEMENT OR SERVICING.
18. MINIMUM WORKING CLEARANCES PER THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE SHALL BE PROVIDED AROUND AND IN FRONT OF ALL ELECTRICAL EQUIPMENT.
19. ALL CIRCUIT BREAKER LUGS SHALL BE RATED FOR A MINIMUM OF 75 DEGREES CELSIUS.
20. ALL MATERIALS AND EQUIPMENT SHALL BE NEW, UNDAMAGED, BEAR THE UL LABEL WHERE APPLICABLE, AND BE AS SPECIFIED FOR USE IN EACH SPECIFIC LOCATION. ANY INCIDENTAL ACCESSORIES NECESSARY TO COMPLETE THE WORK IN ALL RESPECTS AND MAKE IT READY FOR OPERATION, EVEN IF NOT SPECIFICALLY SPECIFIED, SHALL BE FURNISHED, DELIVERED, AND INSTALLED BY THE ELECTRICAL CONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE CLIENT.
21. MINOR DETAILS NOT USUALLY SHOWN OR SPECIFIED, BUT NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF A SYSTEM OR EQUIPMENT, SHALL BE INCLUDED IN THE ELECTRICAL CONTRACTOR'S ESTIMATE, AS IF SPECIFIED HEREIN OR SHOWN.
22. ALL NEW, RELOCATED AND EXISTING MATERIALS, IN CEILING PLENUMS NOT ENCLOSED IN CONDUIT SHALL HAVE CLASS 1, FLAME SPREAD AND SMOKE DEVELOPMENT RATINGS AS REQUIRED FOR USE IN OPEN PLENUMS. REMOVE AND REPLACE ALL EXISTING MATERIALS IN WORK AREA NOT IN COMPLIANCE.
23. COORDINATE THE INSTALLATION OF ELECTRICAL MATERIALS AND EQUIPMENT ABOVE AND BELOW CEILINGS WITH SUSPENSION SYSTEM, MECHANICAL EQUIPMENT, AND OTHER BUILDING COMPONENTS. ALL COMPONENTS SHALL BE LOCATED AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE CEILING CAVITY SPACE CAREFULLY WITH ALL TRADES.
24. NEUTRALS, RACEWAYS, AND NON-CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT AND ASSOCIATED ENCLOSURES SHALL BE GROUNDED IN FULL ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. PROVIDE HARD WIRE GROUND CONNECTIONS TO ALL DEVICES AND SEPARATE, CONTINUOUS, INSULATED GROUND WIRE IN EACH CIRCUIT (#12 CU MINIMUM "GREEN" TRACER GROUND). COORDINATE EQUIPMENT GROUNDING CONDUCTOR WIRE SIZE WITH MANUFACTURER REQUIREMENTS.
25. CONDUIT JOINTS SHALL BE CUT SQUARE, THREADED, REAMED SMOOTH, AND DRAWN UP TIGHT. BENDS OR OFFSETS SHALL BE MADE WITH AN APPROVED BENDER OR HICKEY, OR HUB-TYPE CONDUIT FITTINGS. THE NUMBER OF BENDS PER RUN SHALL CONFORM TO THOSE STATED IN CURRENT NEC.
26. WHERE POSSIBLE ALL WIRING SHALL BE RUN CONCEALED. ALL HOME RUNS SHALL BE EMT. CONCEALED CONDUIT SYSTEMS SHALL BE RUN IN A DIRECT LINE WITH LONG SWEEP BENDS AND AND OFFSETS. EXPOSED CONDUIT RUNS SHALL BE PARALLEL TO AND AT RIGHT ANGLES TO BUILDING LINES, USING CONDUIT FITTINGS FOR ALL TURNS AND OFFSETS. ALL EMPTY CONDUITS SHALL BE SUPPLIED WITH PULL WIRES AND BUSHINGS.
27. "MC" AND "AC" TYPE CABLE WITH INTERNAL GROUND WIRES SHALL BE PERMITTED FOR BRANCH CIRCUIT WIRING WHERE APPROVED IN WRITING BY BUILDING MANAGEMENT AND THE LOCAL AHJ ONLY AND INSTALLED PER NATIONAL ELECTRICAL CODE AND LOCAL BUILDING DEPARTMENT REQUIREMENTS. USE LISTED AND APPROVED TYPE COUPLINGS AND CONNECTORS. PROVIDE CONDUIT SUPPORTS AS REQUIRED BY THE NATIONAL ELECTRICAL CODE AS A MINIMUM.
28. ALL ROOF PENETRATIONS SHALL BE SEALED WATER TIGHT, PROVIDE FLASHING AND COUNTER FLASHING AS REQUIRED. COORDINATE ROOFING WORK WITH THE GENERAL CONTRACTOR.
29. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL JUNCTION AND PULL BOXES TO PROVIDE ACCESS POINTS FOR PULLING AND FEEDING CONDUCTORS INTO A RACEWAY SYSTEM. JUNCTION AND PULL BOXES AND THEIR COVERS SHALL BE FORMED FROM SHEET STEEL AND SHALL BE FINISHED IN GRAY ENAMEL PAINT. BOXES SHALL BE IN INDUSTRY STANDARD SIZES. OUTLET BOXES WITH THE CORRECT FITTING FOR THE APPLICATION SHALL BE LOCATED AT EACH CONDUCTOR SPLICE POINT, AT EACH OUTLET, SWITCH POINT, OR JUNCTION POINT, AND AT EACH PULL POINT FOR THE CONNECTION OF CONDUIT AND OTHER RACEWAYS. OUTLET BOXES FOR CONCEALED WIRING SHALL BE MADE FROM GALVANIZED OR CADMIUM-PLATED SHEET STEEL, AND THEY SHALL HAVE A DEPTH OF AT LEAST 1.5 INCHES, WHETHER SINGLE OR GANGED. THE BOXES SHALL BE LARGE ENOUGH SIZE TO ACCOMMODATE THE NUMBER OF WIRING DEVICES AND CONDUCTORS AS SPECIFIED IN THE FILL SCHEDULE OF THE CURRENT NEC. SECURE BOXES WITH MOUNTING BRACKET, BRACES, HANGER OR BOX MOUNTING SUPPORT.
30. ALL NEW SWITCHES, POWER OUTLETS, TELEPHONE OUTLETS, FIRE ALARM DEVICES, AND COMMUNICATIONS OUTLETS SHALL MEET THE REQUIREMENTS FOR AMERICANS WITH DISABILITIES (A.D.A) MOUNTING HEIGHTS AND LOCATIONS, TYPICAL UNLESS OTHERWISE NOTED. RECEPTACLES SHALL BE A MINIMUM OF 15" A.F.F. AND SWITCHES A MAXIMUM OF 48" A.F.F. TO CENTERLINE, TYPICAL UNLESS OTHERWISE NOTED.
31. ALL WALL MOUNTED OUTLETS SHALL BE OFFSET SO THEY ARE NOT BACK TO BACK, FOR SOUND TRANSMISSION PURPOSES. A HORIZONTAL DISTANCE OF AT LEAST 6 INCHES SHALL SEPARATE OUTLET BOXES ON OPPOSITE SIDES OF WALLS AND PARTITIONS. MOUNT ELECTRICAL AND COMMUNICATIONS OUTLETS ON WALLS AS CLOSE TOGETHER AS POSSIBLE.
32. WIRING DEVICES SHALL BE SPECIFICATION GRADE. MINIMUM DEVICE RATING SHALL BE 20 AMPS FOR ALL WIRING DEVICES UNLESS SPECIFICALLY NOTED OTHERWISE. DEVICES WITH DEDICATED CIRCUITS SHALL BE RATED AS REQUIRED BY CIRCUIT LOAD. ISOLATED GROUND RECEPTACLES SHALL BE ORANGE. MATCH COLOR AND TYPE TO EXISTING BUILDING STANDARD. PROVIDE MATCHING NYLON COVER PLATES FOR ALL OUTLETS. ELECTRICAL CONTRACTOR SHALL VERIFY ALL OUTLETS WITH ARCHITECTURAL PLANS AND TENANT BEFORE ORDERING AND PURCHASING OF MATERIALS.
33. FIRE RESISTIVE WALLS AND PARTITIONS MAY HAVE OPENINGS FOR STEEL ELECTRICAL OUTLET BOXES NOT EXCEEDING 16 SQUARE INCHES IN AREA, PROVIDED THE AGGREGATE AREA OF SUCH OPENINGS IS NOT MORE WITH THAN 100 SQUARE INCHES FOR ANY 100 SQUARE FEET OF WALL. A HORIZONTAL DISTANCE OF AT LEAST 24 INCHES SHALL SEPARATE OUTLET BOXES ON OPPOSITE SIDES OF FIRE RESISTIVE WALLS AND PARTITIONS.
34. ALL JUNCTION BOX COVERS SHALL BE INDELIBLY LABELED WITH PANEL DESIGNATION AND BRANCH CIRCUIT NUMBER OF EACH WIRE WITHIN THE JUNCTION BOX.
35. ALL WIRING SHALL BE COPPER, TYPE THHN OR THWN INSULATION, UNLESS SPECIFICALLY NOTED OTHERWISE. MINIMUM SIZE SHALL BE #12 AWG. CONDUCTORS SHALL BE FACTORY COLOR-CODED WITH WIRE COLOR CODING AS REQUIRED BY THE NATIONAL ELECTRICAL CODE AND USING STANDARD CONDUCTOR COLOR CODES:

120/208 VOLTS:		277/480 VOLTS:	
A:	BLACK	A:	BROWN
B:	RED	B:	ORANGE
C:	BLUE	C:	YELLOW
NEU:	WHITE	NEU:	GRAY
GND:	GREEN	GND:	GREEN

ISO. G: GREEN W/YELLOW STRIPE

36. RECEPTACLES FOR COMPUTERS, COPIERS, AND PRINTERS, WHICH ARE SEMI-DEDICATED, DEDICATED, OR ISOLATED, SHALL HAVE A SEPARATE NEUTRAL AND DEDICATED GROUND CONDUCTOR RUN FROM THE BRANCH CIRCUIT PANEL BOARD.
37. ALL JOINTS OR SPLICES FOR 10 AWG. CONDUCTORS OR SMALLER SHALL BE MADE WITH UL-APPROVED WIRE NUTS, OR COMPRESSION-TYPE CONNECTORS.
38. ALL JOINTS OR SPLICES FOR CONDUCTORS 8 AWG AND LARGER SHALL BE MADE WITH A MECHANICAL COMPRESSION OR BOLTED CONNECTOR. AFTER THE CONDUCTORS HAVE BEEN MADE MECHANICALLY AND ELECTRICALLY SECURE, THE ENTIRE JOINT OR SPLICE SHALL BE COVERED WITH 3M SCOTCH BRAND NO. 33 TAPE OR APPROVED EQUAL, TO MAKE THE INSULATION VALUE AT THE JOINT OR SPLICE EQUAL TO THE VALUE OF THE CONDUCTOR INSULATION. ALL CONNECTORS SHALL BE UL APPROVED.
39. ALL NEW MULTI-WIRE BRANCH CIRCUITS SHALL INCLUDE SEPARATE NEUTRAL CONDUCTORS OR BREAKER TIES AS REQUIRED BY CURRENT NEC SECTION 210.4 (B).
40. VOLTAGE DROP: THE ELECTRICAL CONTRACTOR SHALL ENSURE THAT VOLTAGE DROP FOR FEEDERS TO DISTRIBUTION EQUIPMENT DOES NOT EXCEED 2% AND VOLTAGE DROP IN BRANCH CIRCUITING DOES NOT EXCEED 3% FOR OVERALL VOLTAGE DROP OF 5% (MAXIMUM). FEEDERS LISTED ON SCHEDULES AND THE ELECTRICAL ONE-LINE DIAGRAM ARE A BASE FEEDER/BRANCH CIRCUIT SIZE AND SHALL BE ADJUSTED AS NEEDED BASED ON ACTUAL LENGTHS OF CONDUCTORS.
41. ELECTRICAL CONTRACTOR SHALL UP SIZE SHARED NEUTRAL CONDUCTOR WITHIN FURNITURE SYSTEMS TO A #10 AWG CU CONDUCTOR. ELECTRICAL CONTRACTOR TO CONSIDER THE NEUTRAL CONDUCTOR AS A CURRENT CARRYING CONDUCTOR WHEN FEEDING ELECTRONIC LOADS.
42. ALL LIGHT FIXTURES SHALL BE SUPPORTED INDEPENDENTLY FROM STRUCTURE. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS OF LIGHT FIXTURES AND ELECTRICAL DEVICES.
43. FOR ALUMINUM CONDUCTOR TERMINATIONS, ALUMINUM BI-METALLIC PIN CONNECTORS ARE REQUIRED UNLESS COMPACT CONDUCTORS ARE USED. THESE CONNECTORS SHALL BE UL LISTED PER UL 486B AND RATED FOR USE UP TO 600V AND TEMPERATURE UP TO 90°C. CONNECTORS SHALL BE INSTALLED WITH MANUFACTURER'S SPECIFIED CRIMPING TOOLS AND DIES.
44. INSTALLATION IN AREAS OF DRYWALL CEILING SHALL BE COORDINATED SUCH THAT ACCESS PANELS ARE NOT REQUIRED. ELEMENTS REQUIRING ACCESS SHALL BE LOCATED IN THE AREAS OF ACCESSIBLE CEILING OR IN THE LOCATIONS COORDINATED WITH ARCHITECT. ACCESS PANELS REQUIRED WITHIN DRYWALL CEILINGS SHALL BE INSTALLED SYMMETRICALLY WITH OTHER PANELS OR DEVICES AND SHALL BE MINIMUM SIZE REQUIRED. "MUD-IN" TYPE, AND FIRE RATED, IF REQUIRED. ACCESS PANELS IN FIRE-RATED WALLS AND CEILINGS SHALL HAVE DOOR UL LABEL AND FIRE RATING LISTING.
45. WALL AND CEILING ROUGH-IN INSTALLATIONS FOR LOW-VOLTAGE CONTROL WIRING OF ANY TYPE SUCH AS DATA/COMMUNICATIONS WIRING, FIRE ALARM WIRING, HVAC CONTROL WIRING, SECURITY SYSTEM WIRING, TV CABLING, AND OTHER CABLING, ETC., SHALL BE COMPLETE AND READY FOR INSPECTION AT THE TIME ELECTRICAL ROUGH-IN INSPECTIONS ARE REQUESTED. ALL SHARP EDGES, CONDUIT ENDS AND METAL STUDS, ETC. FOR LOW-VOLTAGE CABLING SHALL BE PROTECTED BY INSTALLED BUSHINGS OR GROMMETS AND SECURELY FASTENED IN THE OPENINGS FOR THE WALL ROUGHT-IN INSPECTIONS. WORK SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER (GROUPED CABLES ROUTED WITH SQUARE CORNERS AND PARALLEL TO BUILDING LINES.) CABLES SHALL BE INSTALLED PER NEC REQUIRED SEPARATIONS AND SUPPORTED FROM THE BUILDING STRUCTURE. CABLE TIES USED IN DUCTS, PLENUMS, AND OTHER AIR-HANDLING SPACES ARE REQUIRED TO HAVE A TESTING LABORATORY LISTING NUMBER AND LABEL ON EACH UNOPENED PACKAGE AS BEING APPROVED FOR USE IN THESE LOCATIONS.
46. COORDINATE MOUNTING HEIGHTS AND LOCATIONS OF ALL ELECTRICAL DEVICES LOCATED WITHIN, ABOVE, OR NEAR MILLWORK WITH ARCHITECTURAL DRAWINGS, APPROVED "SHOP DRAWINGS", AND MILLWORK CONTRACTOR. MAINTAIN CONSISTENT MOUNTING HEIGHTS AND SYMMETRICAL APPEARANCE. VERIFY ALL OUTLET REQUIREMENTS PRIOR TO ROUGH IN.
47. ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF LIGHTING FIXTURES IN MECHANICAL ROOMS/SPACES WITH MECHANICAL DUCT WORK INSTALLER PRIOR TO ROUGH IN. LOCATE BELOW DUCT WORK (8'-0" A.F.F. MIN.) CENTERED IN ROOM AS MUCH AS POSSIBLE.
48. ELECTRICAL CONTRACTOR SHALL COMPLY WITH NEC AND LOCAL CODES FOR CONDUIT FILL REQUIREMENTS DEPENDING ON WIRE SIZES, QUANTITY, AND CORRECTION FACTORS. COORDINATE WITH LOCAL AUTHORITY HAVING JURISDICTION IF UPGRADE OF THE EXISTING ELECTRICAL INSTALLATION IS REQUIRED. THIS UPGRADE MAY INCLUDE REPLACEMENT OF THE EXISTING CONDUITS AND WIRING AFFECTED BY SCOPE OF THIS PROJECT TO ACCOMMODATE CURRENT CODE CONDUIT FILL AND CORRECTION REQUIREMENTS. INCLUDE COST ASSOCIATED WITH THIS UPGRADE IN THE BID.
49. ELECTRICAL CABINETS AND ENCLOSURES LOCATED IN PUBLIC AREAS SHALL BE LOCKABLE TYPE.
50. PENETRATIONS THROUGH STRUCTURAL MEMBERS SHALL NOT BE PERMITTED WITHOUT SPECIFIC WRITTEN PERMISSION FROM STRUCTURAL ENGINEER AND ARCHITECT. SUBMIT REQUESTS FOR PENETRATIONS TO ARCHITECT FOR REVIEW AND DISPOSITION. PRIOR TO CORE, DRILLING THROUGH FLOORS, VERIFY CLEARANCE OF BEAMS, DUCTWORK, ETC IN CEILING SPACE BELOW, AND X-RAY FOR CONDUIT AND/OR REBAR IN SLAB. COORDINATE WITH BUILDING MANAGEMENT/OWNER TO NOTIFY TENANT BELOW FOR SCHEDULING OF CORE DRILLING AND TO ADVICE CONCERNING PROTECTION FOR ANY SENSITIVE EQUIPMENT PRIOR TO COMMENCEMENT OF WORK. ALL X-RAYS AND CORE DRILLS MUST BE SCHEDULED FOR AFTER HOURS UNLESS BUILDING MANAGEMENT/OWNER AUTHORIZES OTHERWISE.
51. RACEWAYS SHALL BE PROVIDED WITH EXPANSION FITTINGS WHERE NECESSARY TO COMPENSATE FOR THERMAL EXPANSION AND CONTRACTION, AND TO ALLOW FOR MINOR MOVEMENT OF THE STRUCTURAL ELEMENTS OF THE BUILDING EXPANSION FITTINGS FOR METAL RACEWAYS SHALL BE MADE ELECTRICALLY CONTINUOUS BY EQUIPMENT BONDING JUMPERS OR OTHER MEANS.
52. PROVIDE TYPEWRITTEN, UPDATED PANELBOARD DOOR DIRECTORIES FOR ALL AFFECTED PANELBOARDS PER NEC 408.4(A). REFLECTING ACCURATE BRANCH CIRCUIT DESTINATIONS. CLEARLY MARK JUNCTION BOXES IN CEILING SPACE WITH PANEL DESIGNATIONS AND CIRCUIT NUMBERS. PROVIDE NEW ENGRAVED PLASTIC LABELS TO REPLACE ANY DAMAGED MISLABELED, FADED, OR OTHERWISE ILLEGIBLE EXISTING IDENTIFICATION LABELS FOR DISTRIBUTION EQUIPMENT AFFECTED BY THIS CONTRACT. ATTACH THESE LABELS PERMANENTLY TO EQUIPMENT WITH RIVETS OR SCREWS. ALL PANEL SCHEDULES SHALL INDICATE THE NAME OF THE UPSTREAM PANEL OR SWITCHBOARD PROVIDING POWER.
53. CLEAN EXPOSED PANEL BOARD SURFACES AND CHECK TIGHTNESS OF ELECTRICAL CONNECTIONS. REPLACE DAMAGED CIRCUIT BREAKERS AS REQUIRED AND PROVIDE CLOSURE PLATES FOR VACANT SPACES. ALL NEW PANELS PROVIDED UNDER THIS CONTRACT SHALL BE DOOR-IN-DOOR CONSTRUCTION TYPE, WITH BOLT-ON CIRCUIT BREAKERS AND COPPER BUSSING, UNLESS SPECIFICALLY NOTED OTHERWISE.
54. PROVIDE FIRE STOPPING MATERIAL AND SYSTEMS AS LISTED IN THE UL FIRE RESISTANCE DIRECTORY EQUAL TO THE FIRE RESISTANCE RATING OF THE RESPECTIVE WALL OR FLOOR ASSEMBLY FOR ALL PENETRATIONS OF CONDUIT, SLEEVES, WIRING, CABLES AND OTHER ELECTRICAL ITEMS THROUGH FIRE-RATED CORRIDOR WALLS, FIRE RESISTIVE WALLS, FIRE RESISTIVE SHAFTS, AND FLOOR PENETRATIONS.
55. VERIFY ALL SPECIFIC KITCHEN AND BREAK ROOM EQUIPMENT REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH IN. COORDINATION SHALL INCLUDE MOUNTING HEIGHTS, CONNECTION TYPE AND POWER REQUIREMENTS. ALL CONNECTIONS FOR KITCHEN EQUIPMENT SHALL BE IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S AND SUPPLIER'S RECOMMENDATIONS. PROVIDE CORD AND PLUG FOR DISHWASHERS AND GARBAGE DISPOSER PER NEC 422.16(B)(1) AND (2).
56. SECURITY: ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATIONS AND REQUIREMENTS FOR J-BOX ROUGH-INS, CONDUIT RUNS WITH PULL WIRE AND POWER REQUIREMENTS FOR SECURITY SYSTEM WITH SECURITY SYSTEM CONTRACTOR PRIOR TO ROUGH-IN. THE SECURITY SYSTEM CONTRACTOR SHALL ALSO COORDINATE WORK WITH FIRE ALARM CONTRACTOR FOR COORDINATION OF THE INTERCONNECTION OF THE SECURITY SYSTEM WITH FIRE ALARM SYSTEM AS REQUIRED PER LOCAL CODES AND FIRE DEPARTMENT REGULATIONS.
57. AUDIO-VISUAL EQUIPMENT: ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATIONS AND REQUIREMENTS FOR J-BOX ROUGH-INS, CONDUIT RUNS WITH PULL WIRE, REQUIRED PENETRATIONS, AND POWER REQUIREMENTS FOR AUDIO-VIDEO EQUIPMENT WITH AUDIO-VIDEO CONTRACTOR PRIOR TO ROUGH-IN.
58. COORDINATE CONTROL OF LUMINAIRES IN BUILDING COMMON CORRIDOR AREAS WITH BUILDING MANAGEMENT.
59. EXISTING LIGHT FIXTURES TO BE RELOCATED: LUMINAIRES SCHEDULED TO BE RELOCATED ARE CONSIDERED AS NEW INSTALLATION AND SHALL BE EITHER RETROFITTED WITH AN INDIVIDUAL DISCONNECTING MEANS WHICH SIMULTANEOUSLY DISCONNECTS ALL BALLAST CONDUCTORS FROM THE SOURCE OF SUPPLY OR RETROFITTED WITH NEW BALLASTS AND LAMP POSTS COMPLYING WITH THE REQUIREMENTS SET IN NEC 410.130 (G). THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN THEIR BID A SEPARATE LINE ITEM COST FOR EACH LUMINAIRE RETROFIT. FIELD VERIFY QUANTITY UPON AWARD OF BID AND ADJUST PRICE ACCORDINGLY.
60. UNLESS OTHERWISE INDICATED ON THE PLANS, ELECTRICAL CONTRACTOR SHALL PROVIDE A #6 STRANDED COPPER INSULATED EQUIPMENT GROUNDING CONDUCTOR AT EACH PERMANENTLY INSTALLED SERVER RACK IN THE PROJECT AREA. THI

Legibly identify each breaker or switch for it's use or purpose on the circuit directory in the panel/switchboard per 2017 NEC 408.4.

Room Schedule

100	Public Corridor	108	Tenant Hallway
101	Waiting Area	109	Exam Room
102	Reception	110	------
103	Storage Room	111	Break Room
104	Tenant Hallway	112	Office
105	Unisex Restroom	113	Office
106	Exam Room	114	Storage Room
107	Exam Room	115	------

SUPPLIED FROM: PANEL "L1A1" (EXISTING)

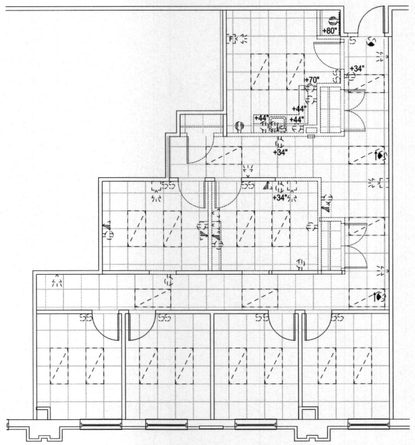
PANEL "L1A2" (EXISTING) VOLTAGE 120 / 208 V 3 Φ 4 W
FLUSH ____ M.C.B. ____ MLO X I.G. BAR ____ MANF. ____
SURFACE X BUS 100A CU A.I.C. 10,000 C.B. BOLTON

TYPE	DESCRIPTION	BKR	CIR	LOAD (VOLT AMPS) / PHASE A	B	C	CIR	BKR	DESCRIPTION	TYPE	
L	REC DWN LTS	20	1	1920	180		2	20	DED REC 175	R	1
L	CONF RM LTS	20	3		1920	870	4	20	FRIDGE/EF 175	MK	1
R	REC CONF	20	5			720 | 180	6	20	BR DED REC 175	K	1
R	CONF RM	20	7	720	1160		8	20	RECS/CRC PMP 175	RM	1
G	NP	20	9		1200 | 0		10	20	SPARE		
G	FILE COPIER	20	11			1000 | 180	12	20	DED REC 175	R	1
RG	FILE	20	13	1220	200		14	20	VIEW BX DR EXM	G	
R	RECEPT	20	15		720	1200	16	20	TEMP POWER	G	
1 R	OFFICE RECS 175	20	17			1080 | 1200	18	20	TEMP POWER	G	
1 R	DED REC 175	20	19	180	120		20	20	HEALTH ONE TC	G	
1 R	DED REC 175	20	21		180	0	22	20	SPARE		
1 R	DED REC 175	20	23			180 | 1500	24	20	EWH	K	1,2
1 R	DED REC 175	20	25	180	0		26	20	SPARE		
1 R	DED REC 175	20	27		180	0	28	20	SPARE		
R	N EXAM	20	29			720 | 0	30	20	SPARE		
R	N EXAM	20	31	720	1200		32	20	HIGHWAY SIGN	L	
1 R	EXAM RECS 175	20	33		1080	1200	34	/	-	L	
1 R	RECS 175	20	35			1080 | 1200	36	3P	-	L	
1 K	DISPOSAL 175	20	37	1200	200		38	20	DIRECTORY SGN	G	
1 K	MW 175	20	39		1000	0	40	50	SPARE		
	SPARE	20	41			0 | 0	42	50	SPARE		
				9200	9550	9040					

LOAD TYPE	CONNECTED KVA A	B	C	TOTAL ALL PHASES	FACTOR	DEMAND KVA A	B	C	TOTAL ALL PHASES
LIGHTING	3.1	3.1	1.2	7.4	125%	3.9	3.9	1.5	9.3
RECEPTACLE (10KVA OR LES	3.3	2.2	3.3	9.9	100%	3.3	2.2	3.3	8.8
RECEPTACLE (OVER 10KVA)	0.5	0.0	0.6	0.0	50%	0.2	0.0	0.3	0.5
HVAC/MOTOR	0.0	0.0	0.0	0.0	100%	0.0	0.0	0.0	0.0
MOTOR(LARGEST)	0.1	0.1	0.0	0.2	125%	0.1	0.1	0.0	0.3
KITCHEN EQUIPMENT	1.2	1.8	1.7	4.6	70%	0.8	1.2	1.2	3.2
MISCELLANEOUS	1.0	2.4	2.2	5.6	100%	1.0	2.4	2.2	5.6
TOTAL KVA	9.2	9.6	9.0	27.8	TOTAL KVA	9	10	9	27.8
WITH GROUND BUS					TOTAL AMPS	79	82	71	77.1

LEGEND L = LIGHTING R = RECEPTACLE M = HVAC / MOTOR K = KITCHEN G = MISCELLANEOUS
MAX PERCENT DIFFERENCE BETWEEN PHASES (A,B,C) 5%

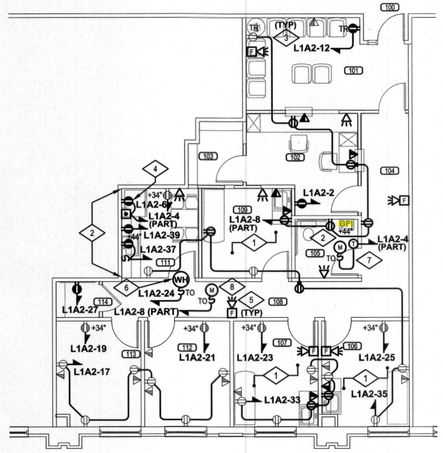
1 CIRCUIT REVISED THIS CONTRACT.
2 LOAD ADDED TO SPARE BREAKER.



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

GENERAL NOTES:
A. REMOVED ITEMS SHOWN AS DASHED AND LIGHT - - - -

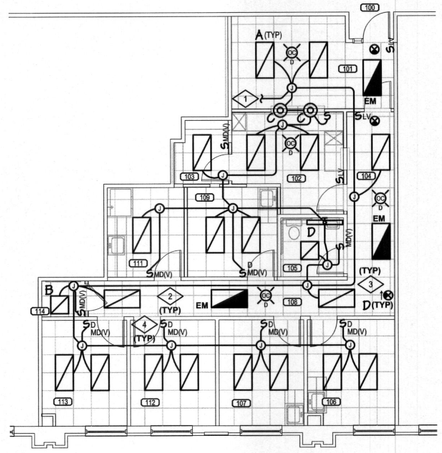
DETAIL NOTES
1. E.C. TO REMOVE ALL ABANDONED CONDUIT/CABLING/WIRING FROM SPACE INCLUDING ABOVE THE CEILING BACK TO SOURCE. ANY CIRCUITS MADE SPARE TO BE TURNED OFF AND LABELED AS SUCH WITH NEW TYPED PANEL SCHEDULES.
2. RETURN LIGHTING NOT RE-USED TO BUILDING MANAGEMENT.
3. SALVAGE ALL FIRE ALARM DEVICES AND EXIT SIGNS FOR RE-USE. RETURN ITEMS NOT RE-USED TO BUILDING MANAGEMENT STOCK.



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

GENERAL NOTES:
A. NEW AND RELOCATED ITEMS SHOWN AS BOLD ——
EXISTING ITEMS SHOWN AS LIGHT ——

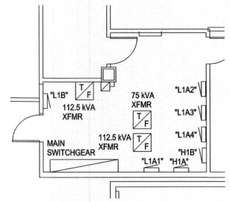
DETAIL NOTES
1. PROVIDE HOSPITAL-GRADE RECEPTACLES FOR ALL DEVICES IN EXAM ROOMS. ALL BRANCH CIRCUITS IN THIS AREA SHALL BE RUN ENTIRELY IN EMT CONDUIT IN ORDER TO UTILIZE CONDUIT AS REDUNDANT GROUND PER CODE REQUIREMENTS OR PROVIDE GREEN HOSPITAL-GRADE AC/MC CABLE FOR REDUNDANT GROUND. PROVIDE GFCI DEVICES THROUGHOUT. PROVIDE EQUIPMENT GROUNDING CONDUCTOR THROUGHOUT.
2. E.C. TO ENSURE RECEPTACLES WITHIN 6' OF SINK EDGE HAVE ACCESSIBLE GFCI PROTECTION. PROVIDE IF NEEDED.
3. RECIRCUIT EXISTING RECEPTACLE AS SHOWN.
4. PROVIDE ABOVE COUNTER DEADFRONT GFI DEVICE AHEAD OF KITCHEN OUTLET TO PROVIDE AN ACCESSIBLE GFI PROTECTION FOR KITCHEN DEVICE. PROVIDE ADHESIVE LABEL TO COVER INDICATING DEVICE SERVED, P&S MODEL 2085 OR EQUAL.
5. NEW/RELOCATED FIRE ALARM DEVICE. SEE FIRE ALARM GENERAL NOTES.
6. NEW 1500W WATER HEATER, 120V. CONNECT THROUGH NEW DISCONNECT SWITCH USING 2-#12CU;#12GND IN 3/4"C.
7. TRANSFER FAN CONNECTED TO M.C. SUPPLIED LINE VOLTAGE THERMOSTAT. THERMOSTAT WIRED/INSTALLED BY E.C.. CONNECT FAN THROUGH THERMAL SWITCH USING 2-#12 CU AND #12 GND IN 3/4"C.
8. NEW 120V, 80W, CORD CONNECTED CIRCULATION PUMP. E.C. TO COORDINATE WITH M.C. FOR EXACT REQUIREMENTS PRIOR TO INSTALLATION.



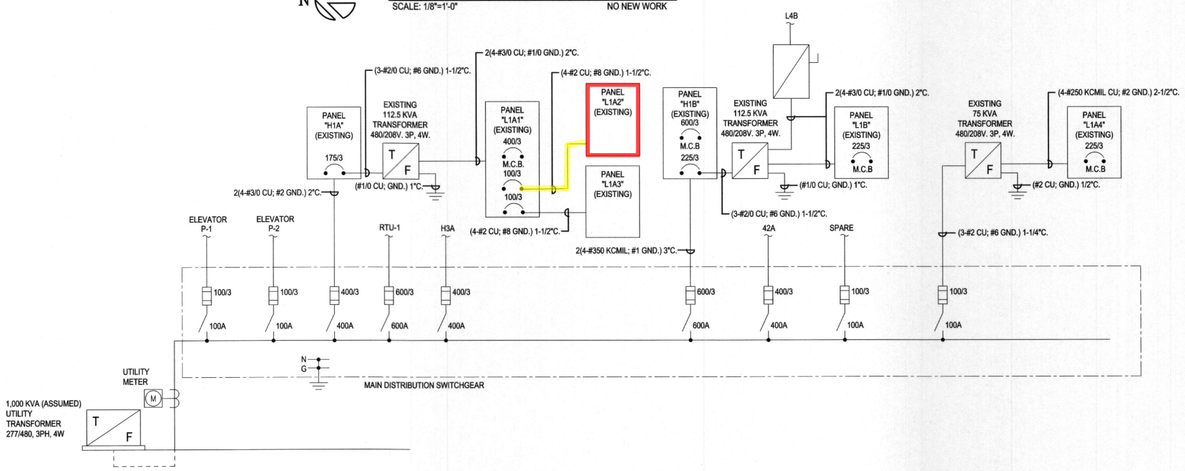
LIGHTING PLAN
SCALE: 1/8"=1'-0"

GENERAL NOTES:
A. NEW AND RELOCATED ITEMS SHOWN AS BOLD ——
EXISTING ITEMS SHOWN AS LIGHT ——

DETAIL NOTES
1. CONNECT TO LOCAL LIGHTING CIRCUIT (AND CONTROLS, AS APPLICABLE). E.C. TO VERIFY NO MORE THAN 70% LOAD ON A SINGLE 277V LIGHTING CIRCUIT.
2. PROVIDE FIXTURE WITH 90-MIN BATTERY BACKUP AND TEST SWITCH AND CIRCUIT TO LOCAL LIGHTING CIRCUIT AHEAD OF CONTROL. SENSING CIRCUIT TO BE AHEAD OF ALL CONTROL. CONNECT SWITCH LEADS SO POWER FAILURE OVERRIDES SENSOR CONTROL.
3. NEW/RELOCATED EXIT SIGN. FOR NEW, MATCH BUILDING STANDARD, GREEN LED LETTERING WITH WHITE HOUSING AND 90-MIN BATTERY BACKUP. CONNECT TO LOCAL LIGHTING CIRCUIT AHEAD OF CONTROL.
4. NEW DIMMABLE VACANCY MODE WALL MOUNTED MOTION SENSOR FOR LIGHTING CONTROL. E.C. TO FIELD COORDINATE WITH ARCHITECT'S VENDOR PRIOR TO ORDERING.



ELECTRICAL ROOM LAYOUT
SCALE: 1/8"=1'-0" NO NEW WORK



PARTIAL ONE-LINE DIAGRAM
SCALE: NONE NO NEW WORK

Install electrical connections per 2017 NEC 110.14, identify disconnects per 2017 NEC 110.22 and provide working space around electrical equipment per 2017 NEC 110.26.

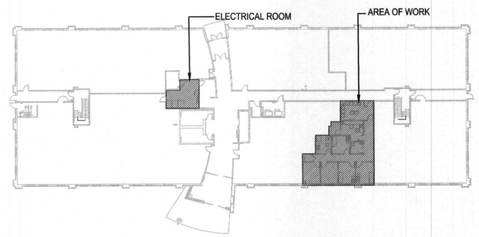
Wiring in air handling spaces must comply with 2017 NEC 300.22. Firestop penetrations per 2017 NEC 300.21. Secure and support equipment per 2017 NEC 300.11.

Provide emergency illumination equipment that complies with 2014 NEC 700.12 (F) or 2014 NEC 700.

Suspended ceiling systems and the luminaires they support shall meet the requirements of 2017 NEC 410.36(B).

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	MOUNTING	VOLTAGE	WATTS
A	ORION	CLRL-032L-FO-UNV-FDX-835-24-1P-CT-M-LF	2X4 NEW CONSTRUCTION FIXTURE	CEILING RECESSED	277	32W
B	ORION	CLRL-030L-FO-UNV-FDX-835-22-1P-CT-M-LF	2X2 NEW CONSTRUCTION FIXTURE	CEILING RECESSED	277	32W
C	TBD	COORDINATE WITH ARCHITECT	LED PENDANT LIGHT	CEILING RECESSED	277	20W
D	TBD	COORDINATE WITH ARCHITECT	LED VANITY LIGHT	WALL SURFACE	277	30W
E	SIMKAR	SLEDB GW	UNIVERSAL MOUNT GREEN LETTER EXIT SIGN WITH BATTERY BACKUP	CEILING SURFACE	120/277	3W



KEY PLAN

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: W. Griffin
Date: Dec 08, 2017
2015 INTERNATIONAL CODES & 2017 NEC

RSN: 1255354
Permit #: 17-1392730 LT

COREY
Electrical Engineering, Inc.
Commercial and Transportation Design
7522 S. Wheeling Ct, Suite B, Englewood, CO 80112 | P: (303) 696-1257 | projects@coreyeng.com

1444 South Potomac
1444 South Potomac
Aurora, CO 80012
Suite 175

COLORADO LICENSED STEVEN L STRETCH 32200 PROFESSIONAL ENGINEER

Front Range Spine & Neurosurgery

Dates of Record
Project Start Date: 18 AUG 2017

Issued On:	Issued For:
13 NOVEMBER 2017	Tenant's Review & Approval; and Budget Pricing

Sheet Contents	ELECTRICAL PLANS
Project Team	EM,SLS
Project Number	17447
Sheet Mark	E.1

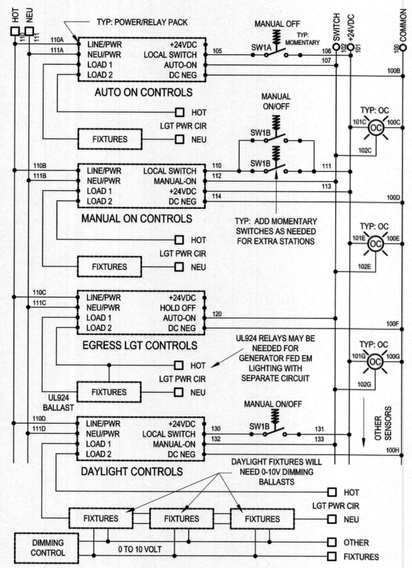
F:\DATA\CAD\17 Archives\17400 - 17499\17447 Front Range Spine and Neuro\17447 E1 ELEC PLANS.dwg, 11/13/2017 9:48:47 AM, ARCH full bleed D (24.00 x 36.00 Inches), EM

2015 IECC MINIMUM CONTROLS BY AREA CHART

AREA TYPE:	CONTROL TYPE:
PRIVATE OFFICE	OCC, MANUAL ON, AUTO OFF (VACANCY MODE)
OPEN OFFICE AREA	OCC, 50% FULL AUTO ON, 50%, MANUAL ON AUTO OFF, 100% MANUAL OFF CAPABLE
DAYLIGHT ZONES	OCC, AUTO, MANUAL ON \ OFF, DAYLIGHT CONTROLLED DIMMERS
EGRESS LIGHTS, OPEN OFF, FACTORY, ETC.	OCC, FULL AUTO ON, BATT OR GEN BACKED
EGRESS LIGHTS, WITH ALT EM LIGHTING	OCC, FULL AUTO ON, NO BACK UP POWER
WALK-IN COOLER, FREEZER	OCC, AUTO, MANUAL ON
TRAINING, CONFERENCE, COPY, BREAK	OCC, AUTO, MANUAL ON, MANUAL OFF CAPABLE
STORAGE, CLOSETS & LOCKER ROOMS.	OCC, AUTO, MANUAL ON, MANUAL OFF CAPABLE
HALLWAY WITH EGRESS LGTS CONNECTED TO OPEN AREA	OCC, AUTO, MANUAL OFF CAPABLE. EGRESS FIXTURES, OCC, FULL AUTO
HALLWAYS, STAIRS, RESTRMS, LOBBIES, CORRIDOR	OCC, FULL AUTO
FACTORY	OCC, MANUAL ON, AUTO OFF (VACANCY MODE)
WAREHOUSE	OCC BY ROW, MANUAL ON AUTO OFF. EGRESS LIGHTS OCC AUTO

2015 IECC LIGHTING CONTROLS GENERAL NOTES:

1. WIRING DIAGRAM REPRESENTS DIAGRAMIC DESIGN TO OPERATE OPEN OFFICE PACKS USING SAME SET OF OCC. SENSORS, SOME WIRING MAY NOT BE NEEDED.
2. LEVITON OSP20-RDH POWER PACK IS THE BASIS OF DESIGN FOR THIS WIRING DIAGRAM. PROVIDE WIRING ADJUSTMENTS TO ACCOMMODATE ACTUAL POWER PACK/RELAYS PROVIDED. EXPAND WIRING AS NEEDED FOR MULTIPLE ZONES.
3. GENERIC +24VDC OCC. SENSORS CAN BE USED SUCH AS COOPER OAC-DT-1000
4. POWER PACK CONTROL POWER CAN BE THE SAME CIRCUIT SERVING FIXTURES.
5. PROVIDE EXTRA POWER PACKS AS REQUIRED TO ACCOMMODATE QUANTITIES OF OCCUPANCY SENSORS BEYOND THE SUPPLY CAPACITY OF A SINGLE POWER PACK.
6. CONTRACTOR TO CONFIRM ALL PARTS, PIECES, AND WIRING WILL WORK TOGETHER AND MEET 2015 IECC CODE REQUIREMENTS PRIOR TO INSTALLATION.
7. CONTROLLED ZONES SHALL NOT EXCEED 5000 SQ-FT PER SET OF SWITCHES.
8. PROVIDE AS-BUILTS, MANUALS, CALIBRATION, AND TESTING PER 2015 IECC. PREFER REMOTE TYPE CALIBRATION. PROVIDE ADHESIVE LABELS FOR SWITCHES.



City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: W. Griffin
Date: Dec 08, 2017
2015 INTERNATIONAL CODES & 2017 NEC

COMcheck Software Version 4.0.7.0
Interior Lighting Compliance Certificate

Project Information

Energy Code: 2015 IECC
Project Title: Front Range Spine and Neurosurgery
Project Type: Alteration

Construction Site:
1444 South Potomac
Suite 175
Aurora, CO 80012

Owner/Agent:

Designer/Contractor:
Eric McCloskey
Corey Electrical Engineering
7822 South Wheeling Court
Suite B
Englewood, CO 80112

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B X C)
1-Healthcare Facility:Exam/Treatment	1560	1.66	2590
		Total Allowed Watts =	2590

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)
Healthcare Facility:Exam/Treatment (1560 sq.ft.)				
LED 1: 2X4: Other:	1	22	32	704
LED 2: 2X2: Other:	1	2	32	64
LED 3: Pendant: Other:	1	2	20	40
LED 4: Vanity: Other:	1	1	30	30
		Total Proposed Watts =		838

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 COMcheck Version 4.0.7.0 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Eric McCloskey - Project Manager — Signature — 11/13/2017
Name - Title — Date

COMcheck Software Version 4.0.7.0
Inspection Checklist

Energy Code: 2015 IECC

Requirements: 0.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR4][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

RSN: 1255354
Permit #: 17-1392730 LT

COREY Electrical Engineering, Inc.
Electrical Engineering & Lighting Design
7822 S. Wheeling Ct., Suite B, Englewood, CO 80112 | P (303) 996-1821 | jpippel@coreyepm

1444 South Potomac
1444 South Potomac
Aurora, CO 80012
Suite 175

COLORADO LICENSED STEVEN L STIPP 32200 PROFESSIONAL ENGINEER

Front Range Spine & Neurosurgery

Dates of Record
Project Start Date: 18 AUG 2017

Issued On:	Issued For:
13 NOVEMBER 2017	Tenant's Review & Approval; and Budget Pricing

Sheet Contents	COMCHECK SHEETS
Project Team	EM,SLS
Project Number	17447
Sheet Mark	**E.2**

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COMcheck Software Version 4.0.2.8

Mechanical Compliance Certificate

Project Information

Energy Code:	2015 IECC
Project Title:	Front Range Spine & Neurosurgery
Location:	Aurora, Colorado
Climate Zone:	5b
Project Type:	Alteration

Construction Site:
1444 S. Potomac
Aurora, CO 80012

Owner/Agent:

Designer/Contractor:
Brian Seyferth
Brian Seyferth & Associates
5583 S. Prince St.
Littleton, CO 80120

Mechanical Systems List

Quantity	System Type & Description
1	Water Heater 1: Electric Storage Water Heater, Capacity: 10 gallons w/ Circulation Pump No minimum efficiency requirement applies

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical 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.

Name - Title _____ Signature _____ Date _____



RSN: *1255354*
Permit #: *17-1392730 LT*

COMcheck Software Version 4.0.2.8

Inspection Checklist

Energy Code: 2015 IECC

Requirements: 0.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR3][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the service water heating systems and equipment and document where exceptions to the standard are claimed. Hot water system sized per manufacturer's sizing guide.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

RSN: *1255354*
Permit #: *17-1392730 LT*

Section # & Req.ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
C404.5, C404.5.1, C404.5.2 [PL6][3]	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C404.6.1, C404.6.2 [PL3][1]	Automatic time switches installed to automatically switch off the recirculating hot-water system or heat trace.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C404.6.3 [PL7][3]	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C404.7 [PL8][3]	Water distribution system that pumps water from a heated-water supply pipe back to the heated-water source through a cold-water supply pipe is a demand recirculation water system. Pumps within this system have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

RSN: *1255354*
Permit #: *17-1392730 LT*

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C402.2.6 [ME41][3]	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.6.2 [ME115][3]	Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.2.8 [ME116][3]	Approved field test used to evaluate design air flow rates and demonstrate proper capture and containment of kitchen exhaust systems.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.2.1 [ME53][3]	Air outlets and zone terminal devices have means for air balancing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

RSN: *1255354*
Permit #: *17-1392730 LT*

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C404.3 [FI11][3]	Heat traps installed on supply and discharge piping of non-circulating systems.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C404.4 [FI25][2]	All piping insulated in accordance with section details and Table C403.2.10.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C404.6.1 [FI12][3]	Controls are installed that limit the operation of a recirculation pump installed to maintain temperature of a storage tank. System return pipe is a dedicated return pipe or a cold water supply pipe.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

RSN: *1255354*
Permit #: *17-1392730 LT*

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