City of Aurora
Building Codes Division
15151 E Alameda Pkwy
Aurora, CO 80012
(303) 739-7420

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Building Permit Application

Permit Center ~15151 E Alameda Pkwy ~ Aurora, CO 80012~ (303) 739-7420

Project Address: 1444 S. POTOMAC Unit # 300 Zip code: 80012

Project Name: ADCA DIAGNOSTICS

Contractor Company Name: BRENT FLEETWOOD CONSTRUCTION Phone: 303-210-3851 Fax: 303-467-3925

Contact Person: BRENT FLEETWOOD Email: BFC.BRENT@COMCAST.NET

Phone: 303-210-3851 Fax: 303-467-3925

Online Services now offers email updates of correction items found during plan review as well as email updates for all inspections during the construction phase of your project. If you are interested in receiving these emails please provide your email address. NOTE: Set your email filter to accept emails from "AmandaSystem".

Plan Corrections - Email address:

Inspection Corrections – Email address: BFC.BRENT@COMCAST.NET

Architect and/or Engineer Contact information for correction items:

Architect or Engineer name: TOM HECKER Email: THOMAS.HECKER@HEALTHOUECARES.COM

Phone # 303-338-7869 Fax:

Owner: (Required for CO) only: THE MEDICAL CENTER OF AURORA

Owner address: 1501 S. POTOMAC Valuation / FDA:$ 80250.00

Email:

Materials Cost: $

FDA = Fee Determination Assessment. (Also known as the value of project) has no relationship to the construction costs for the building which can vary greatly. Rather, The assessment is used only to determine the appropriate level of fees to fund our code compliance activities.

Architect or Engineer Name: TOM THOMPSON ARCH Email: TOM THOMPSONARCHITECT@GMAIL.COM

DESCRIBE THE WORK YOU WILL BE DOING:

TENANT FINISH 3RD FLOOR
UPGRADING SEPERATION WALLS TO 2 HOUR PER STATE REQUIREMENT
MISC UPGRADES, 2 ADDITIONAL SINKS

I declare under penalty that this application has been examined by me and that the statements made herein are made in good faith pursuant to City of Aurora tax and licensing regulations; and to the best of my knowledge and belief are true, correct and complete.

Print Name: X BRENT FLEETWOOD Signature: X Date: X 1/17/13

BOARD OF APPEALS - Contractor's Appeals and Standards Board. Applicants have the right to have the board hear appeals of orders, decisions or determinations made by the building official relative to the application and interpretation of the building code. Any application for appeal to the board shall be based on a claim that the true intent of the code or the rules legally adopted there under have been incorrectly interpreted, the provisions of the building code do not fully apply or an equally good or better form of construction is proposed.

Sprinkler & Alarm permits must be brought in as separate submittals. "FDA" is NOT included in main permit.

◆◆◆◆ THIS SPACE FOR OFFICE USE ONLY ◆◆◆◆

Fee Determination Assessment: $ 80,250.00

Change of occupancy/use: Y ☐ N ☐

REVIEWS		INSPECTIONS	
☒	Structural	☒	Structural
☒	Mechanical	☒	Mechanical
☒	Plumbing	☒	Plumbing
☒	Electrical	☒	Electrical
☐	Fire Life Safety	☒	Life Safety
☒	Bldg Life Safety	☐	Gate/Haz.

Intake Date: 1/17/13 PE Initial PM

Balance Due:

Pre approval Initial

Zoning LR ☐ M. Fielder Hecker

Water ☒ 190

Exterior changes? ☐ Yes ☐ No

Homeowner verified ☐ Yes

Permit Type: LT.

Mid roof / Ave Bldg Height:

Parent Permit RSN:

Plans Examiner: PM

Subtype: TI

RSN: 697386

Plans Picked up by:
Company name:
Phone number:

RSN: 697386
Permit #: 13-640626 LT

THE MEDICAL CENTER OF AURORA

ADCA DIAGNOSTICS

1444 S. POTOMAC ST., SUITE #300 AURORA, CO 80012

SEPARATE FIRE SPRINKLER PERMIT REQUIRED
Due to the proposed construction, or a change of occupancy made within this structure, a separate fire sprinkler permit is required. Approval of documents is required prior to system installation or any request for inspection. A certificate of occupancy or final approval cannot be obtained without this life safety system.
2009 IFC, Section 105.7.1

SEPARATE FIRE ALARM PERMIT REQUIRED
Due to the proposed construction, or a change of occupancy made within this structure, a separate fire alarm permit is required. Approval of documents is required prior to system installation or any request for inspection. A certificate of occupancy or final approval cannot be obtained without this life safety system. 2009 IFC, Section 105.7.5

GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN STRICT CONFORMANCE WITH ALL LOCAL LAWS, ORDINANCES, RULES, REGULATIONS AND CODES OF THE GOVERNMENT AUTHORITIES HAVING JURISDICTION.
2. DIMENSIONS ARE TO FINISHED FACE OF GYPSUM WALL BOARD OR FACE OF EXISTING BASE BUILDING CONSTRUCTION, UNLESS NOTED OTHERWISE.
3. VERIFY ALL ROUGH-IN DIMENSIONS AND ELECTRICAL REQUIREMENTS FOR EQUIPMENT. COORDINATE OUTLET PLACEMENT WITH CASEWORK.
4. CONTRACTOR SHALL NOTIFY OWNER BEFORE COMMENCING WORK ON ANY ITEMS NOT CLEARLY DEFINED.
5. CHANGES OR DEVIATIONS FROM THE PLANS MADE WITHOUT THE CONSENT OF OWNER ARE UNAUTHORIZED.
6. G.C. TO PROVIDE SEALANT AROUND ALL PLUMBING FIXTURES, PIPING AND EQUIPMENT ABUTTING OR PENETRATING A WALL OR PARTITION. COLOR TO MATCH.
7. INSTALL FIRE-SAFING INSULATION, PUTTY OR FIRE-RATED INTUMESCENT-TYPE SEALANT (INCLUDING PIPE-SLEEVES, DAMMING BOARDS AND ACCESSORIES) AROUND ALL PENETRATIONS THROUGH FIRE-RATED PARTITIONS, FLOORS AND WALLS PER MANUFACTURER'S TESTED INSTALLATION FOR APPLICATION AND REQUIRED RATING.
8. ALL ELECTRICAL AND MECHANICAL DEVICES OR APPLIANCES INSTALLED ON THIS PROJECT SHALL BE UL LISTED.
9. WHERE REMODELING IS TO OCCUR, THE CONTRACTOR SHALL PRESENT A WORKABLE PHASING PLAN TO THE OWNER PRIOR TO COMMENCEMENT OF WORK WITHIN THE AFFECTED AREA. CONTRACTOR SHALL ALSO KEEP THE OWNER APPRISED OF ANY VARIATIONS IN PHASING PLAN THAT WILL AFFECT THE OPERATION OF THE OWNER'S BUSINESS.
10. CONTRACTOR SHALL PRESENT A WORKABLE PLAN TO MAINTAIN SECURITY AND SAFETY OF THE OWNER'S BUSINESS FOR AREAS AFFECTED BY CONSTRUCTION DURING THE ENTIRE PHASE OF CONSTRUCTION.
11. CONTRACTOR SHALL MINIMIZE DISRUPTION BY CONSTRUCTION WORK TO THE ONGOING BUSINESSES AND TRAFFIC IN THE VICINITY. CONSTRUCTION AREA SHALL BE ENCLOSED TO KEEP OTHER AREAS FREE OF DUST, DEBRIS & NOISE.
12. EMPLOYEES OR SUBCONTRACTORS OF THE GENERAL CONTRACTOR SHALL REFRAIN FROM PROFANE OR OFFENSIVE LANGUAGE WHILE ON THE PROJECT SITE AND SHALL REFRAIN FROM USING LOUD RADIOS OR OTHER MUSIC PLAYERS WHILE OWNERS AND/OR DESIGN TEAM IS ONSITE.
13. GENERAL CONTRACTOR SHALL COORDINATE APPROPRIATE PARKING ACCOMMODATIONS FOR EMPLOYEE AND SUBCONTRACTOR VEHICLES WITH OWNER PRIOR TO COMMENCEMENT OF WORK.
14. G.C. SHALL COORDINATE APPROPRIATE CONSTRUCTION STAGING AREAS AND TRASH REMOVAL. G.C. WILL BE RESPONSIBLE FOR OBTAINING A DUMPSTER AND TRASH PICKUP FROM JOB SITE ON A REGULAR BASIS.
15. SUBSTITUTIONS OF SPECIFIED PRODUCTS MAY NOT OCCUR UNLESS SPECIFICALLY NOTED ON DRAWINGS THAT "OR EQUAL" IS ACCEPTABLE. OWNER APPROVAL IS REQUIRED FOR ALL SUBSTITUTIONS CONSIDERED BY G.C. TO MEET "OR EQUAL" REQUIREMENTS PRIOR TO BID SUBMISSION/INSTALLATION.
16. APPROVAL OF SHOP DRAWINGS DOES NOT IMPLY APPROVAL OF A SUBSTITUTED COLOR, SIZE OR FUNCTION OF AN ITEM SPECIFIED ON THESE CONTRACT DOCUMENTS UNLESS ATTENTION IS SPECIFICALLY CALLED TO THE REVISION AND APPROVAL IS GIVEN.
17. G.C. SHALL KEEP TOILET FACILITIES ON SITE CLEAN AND USABLE.
18. NO PLUMBING CLEAN-OUTS SHALL EXTEND INTO ROOM MORE THAN IS MINIMALLY REQUIRED. NO PIPE SHALL BE EXPOSED AND THERE SHALL BE ESCUTCHEON PLATES AT ALL GYPSUM WALL BOARD PENETRATIONS.
19. MULTIPLE SWITCHES SHALL BE GANGED IN SINGLE BOXES WITH COVER PLATE COLORS/ DEVICES TO BE WHITE, SWITCH PLATES SHALL ALIGN. .
20. GENERAL CONTRACTOR SHALL PROVIDE FIRE SPRINKLER DESIGN/BUILD AS PART OF SCOPE OF WORK. ALL SPRINKLER HEADS SHALL BE FLUSH MOUNTED CONCEALED STYLE TO MATCH HOSPITAL STANDARDS. SPRINKLER HEADS SHALL BE PLACED IN CENTER OF AFFECTED CEILING TILE.

PROJECT TEAM

CONTRACTOR:
BFC CONSTRUCTION
ARVADA, CO
303.210.3851

CONTACT:
BRENT FLEETWOOD
BFC.BRENT@COMCAST.NET

ARCHITECT:
TOM THOMPSON
ARCHITECT
2510 SOUTH OSCEOLA STREET
DENVER, COLORADO 80219
720.989.6084
TomThompsonArchitect@gmail.com

DESIGNER / DRAFTSMAN:
THE DESIGN PLOT
PARKER, CO 80138
661-810-2671 CELL
303-338-7869
CONTACT:
TOM HECKER
THOMAS.HECKER@HEALTHONECARES.COM

ENGINEER:
CCRD PARTNERS
8301 E. PRENTICE AVENUE, SUITE 200
GREENWOOD VILLAGE, CO 80111
(303) 694-4755 OFFICE
(303) 694-5125 FAX
CONTACT: ANDY BENNETT

OWNER:
MEDICAL CENTER OF AURORA
1501 S. POTOMAC STREET
AURORA, CO 80012
303.873.4895

DIRECTOR OF FACILITIES:
GREG MENKE

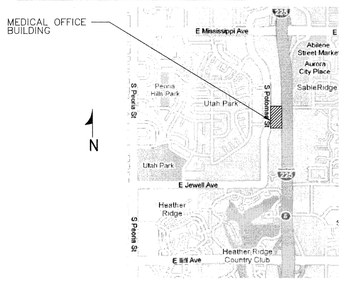
PROJECT MANAGER:
TOM HECKER
THOMAS.HECKER@HEALTHONECARES.COM
303-338-7869

VENDOR LIST

FLOORING
COMMERCIAL FLOORING SERVICES
13100 E. ALBROOK DR. STE 800
AURORA, CO 80239
CONTACT: COREY WERNER (303) 289-4462

LOW VOLTAGE & DATA
GUARANTEE SYSTEMS
21250 EAST 31ST CIRCLE
AURORA, CO 80011
CONTACT: TROY HANNERS (303) 586-9136

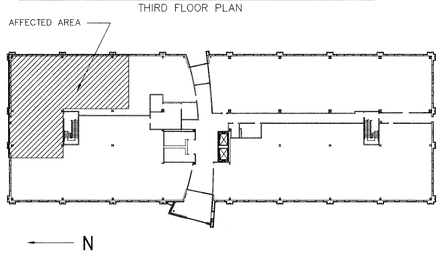
VICINITY MAP



KEY PLAN

NOT TO SCALE

THIRD FLOOR PLAN



DRAWING INDEX

ARCHITECTURAL

COVER	A.0
DEMO PLAN	A1.0
FLOOR PLAN	A1.1
DIMENSION / TAG PLAN	A1.2
SCHEDULE / FINISH PLAN	A1.3
REFLECTED CEILING PLAN	A1.4
LIFE SAFETY PLAN	A1.5
ELEVATIONS	A4.1
SECTIONS/DETAILS	A5.1

MECHANICAL/ELECTRICAL

LEGENDS, NOTES & SCHEDULES	ME100
SPECIFICATIONS	ME101
FLOOR PLAN	ME201
DETAILS	ME300

CODE INFORMATION SUMMARY

PROJECT NAME:	ADCA Suite 300
PROJECT ADDRESS:	1444 S. POTOMAC ST., SUITE #300 AURORA, CO 80012
CONSTRUCTION TYPE:	~~I B~~ II B
OCCUPANCY CLASSIFICATION:	GROUP B MEDICAL OFFICE BUILDING
PROJECT SQUARE FOOTAGE:	LIMITS OF REMODEL FLOOR TOTAL 2,575 SF
OCCUPANT LOAD FACTOR:	100 SF/OCC (BUSINESS)
OCCUPANT LOAD:	2,575 SF/100 = 26 OCCUPANTS (MAXIMUM)
SPRINKLER SYSTEM:	EXISTING, MODIFIED TO ACCOMMODATE NEW ROOM LAYOUTS
APPLICABLE CODES:	2009 INTERNATIONAL BUILDING CODE (IBC) 2009 INTERNATIONAL EXISTING BUILDING CODE (IEBC) 2009 INTERNATIONAL MECHANICAL CODE (IMC) 2009 INTERNATIONAL PLUMBING CODE (IPC) 2009 INTERNATIONAL FIRE CODE (IFC) 2011 NATIONAL ELECTRICAL CODE (NEC) 2009 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) CHAPTER 22 BUILDINGS & REGULATIONS: THE AURORA BUILDING & ZONING CODES CHAPTER 66 FIRE PREVENTION & PROTECTION REGULATIONS: THE AURORA BUILDING & ZONING CODES
EXITS:	2 EXITS, 3RD FLOOR. MAXIMUM DISTANCE - 91'-2"
FIRE PROTECTION:	EXISTING BUILDING IS FULLY SPRINKLERED. AREAS AFFECTED BY WORK UNDER THIS CONTRACT SHALL MAINTAIN FIRE PROTECTION SYSTEM AND BE FULLY SPRINKLERED ON COMPLETION

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

Code violations that are found during inspection are required to be corrected. Permit issuance does not grant approval of a code violation. **2009 IBC 105.4**

City of Aurora Building Division
Project: ***ADCA DIAGNOSTICS***
Address: ***1444 S. POTOMAC ST.***
Occupancy Group: ***B***
Construction Type: ***II B-SPK.***
RSN: ***697386***
Permit: ***13-640626 LT***

DWG. FILENAME:

The Medical Center of Aurora
Health

ADCA Suite 300

MEDICAL CENTER OF AURORA

1444 SOUTH POTOMAC STREET
AURORA, COLORADO 80012

TOM THOMPSON ARCHITECT
2510 SOUTH OSCEOLA STREET
DENVER, COLORADO 80219
720.989.6084
TomThompsonArchitect@gmail.com

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STATE OF COLORADO
TOM THOMPSON
305692
01.08.13
LICENSED ARCHITECT

PROJECT NO.: 12-11

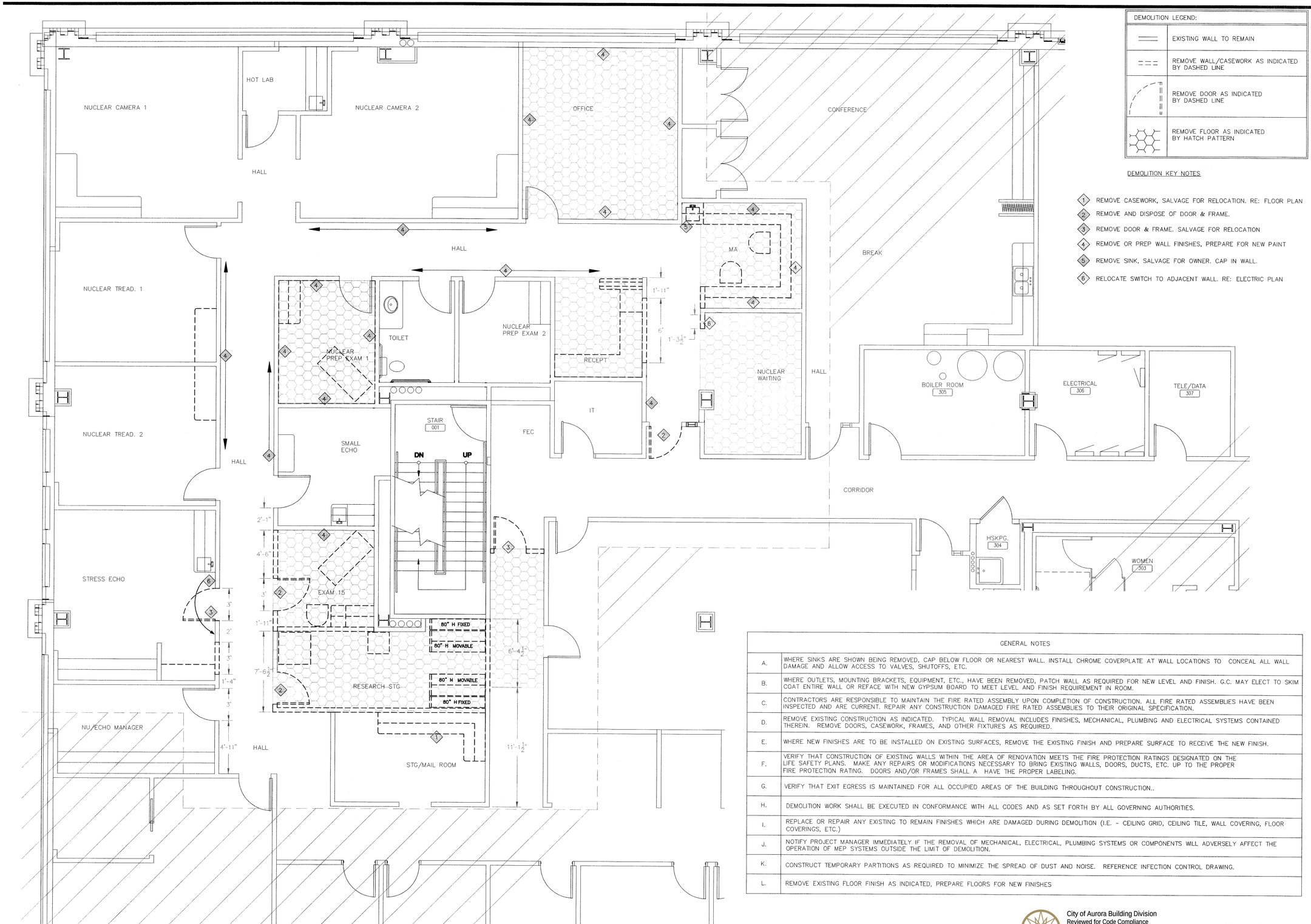
DRAWN BY: TH BW JR
CHECKED BY: TT
SCALE:
DATE: 01/08/2013
ISSUED FOR: CONSTRUCTION
REVISIONS:

SHEET TITLE:

COVER SHEET

SHEET NO.:

A-0



N

DEMO PLAN
1/4" = 1'

DEMOLITION LEGEND:	
	EXISTING WALL TO REMAIN
	REMOVE WALL/CASEWORK AS INDICATED BY DASHED LINE
	REMOVE DOOR AS INDICATED BY DASHED LINE
	REMOVE FLOOR AS INDICATED BY HATCH PATTERN

DEMOLITION KEY NOTES

1. REMOVE CASEWORK, SALVAGE FOR RELOCATION. RE: FLOOR PLAN
2. REMOVE AND DISPOSE OF DOOR & FRAME.
3. REMOVE DOOR & FRAME. SALVAGE FOR RELOCATION
4. REMOVE OR PREP WALL FINISHES, PREPARE FOR NEW PAINT
5. REMOVE SINK, SALVAGE FOR OWNER. CAP IN WALL.
6. RELOCATE SWITCH TO ADJACENT WALL. RE: ELECTRIC PLAN

GENERAL NOTES	
A.	WHERE SINKS ARE SHOWN BEING REMOVED, CAP BELOW FLOOR OR NEAREST WALL. INSTALL CHROME COVERPLATE AT WALL LOCATIONS TO CONCEAL ALL WALL DAMAGE AND ALLOW ACCESS TO VALVES, SHUTOFFS, ETC.
B.	WHERE OUTLETS, MOUNTING BRACKETS, EQUIPMENT, ETC., HAVE BEEN REMOVED, PATCH WALL AS REQUIRED FOR NEW LEVEL AND FINISH. G.C. MAY ELECT TO SKIM COAT ENTIRE WALL OR REFACE WITH NEW GYPSUM BOARD TO MEET LEVEL AND FINISH REQUIREMENT IN ROOM.
C.	CONTRACTORS ARE RESPONSIBLE TO MAINTAIN THE FIRE RATED ASSEMBLY UPON COMPLETION OF CONSTRUCTION. ALL FIRE RATED ASSEMBLIES HAVE BEEN INSPECTED AND ARE CURRENT. REPAIR ANY CONSTRUCTION DAMAGED FIRE RATED ASSEMBLIES TO THEIR ORIGINAL SPECIFICATION.
D.	REMOVE EXISTING CONSTRUCTION AS INDICATED. TYPICAL WALL REMOVAL INCLUDES FINISHES, MECHANICAL, PLUMBING AND ELECTRICAL SYSTEMS CONTAINED THEREIN. REMOVE DOORS, CASEWORK, FRAMES, AND OTHER FIXTURES AS REQUIRED.
E.	WHERE NEW FINISHES ARE TO BE INSTALLED ON EXISTING SURFACES, REMOVE THE EXISTING FINISH AND PREPARE SURFACE TO RECEIVE THE NEW FINISH.
F.	VERIFY THAT CONSTRUCTION OF EXISTING WALLS WITHIN THE AREA OF RENOVATION MEETS THE FIRE PROTECTION RATINGS DESIGNATED ON THE LIFE SAFETY PLANS. MAKE ANY REPAIRS OR MODIFICATIONS NECESSARY TO BRING EXISTING WALLS, DOORS, DUCTS, ETC. UP TO THE PROPER FIRE PROTECTION RATING. DOORS AND/OR FRAMES SHALL A HAVE THE PROPER LABELING.
G.	VERIFY THAT EXIT EGRESS IS MAINTAINED FOR ALL OCCUPIED AREAS OF THE BUILDING THROUGHOUT CONSTRUCTION..
H.	DEMOLITION WORK SHALL BE EXECUTED IN CONFORMANCE WITH ALL CODES AND AS SET FORTH BY ALL GOVERNING AUTHORITIES.
I.	REPLACE OR REPAIR ANY EXISTING TO REMAIN FINISHES WHICH ARE DAMAGED DURING DEMOLITION (I.E. - CEILING GRID, CEILING TILE, WALL COVERING, FLOOR COVERINGS, ETC.)
J.	NOTIFY PROJECT MANAGER IMMEDIATELY IF THE REMOVAL OF MECHANICAL, ELECTRICAL, PLUMBING SYSTEMS OR COMPONENTS WILL ADVERSELY AFFECT THE OPERATION OF MEP SYSTEMS OUTSIDE THE LIMIT OF DEMOLITION.
K.	CONSTRUCT TEMPORARY PARTITIONS AS REQUIRED TO MINIMIZE THE SPREAD OF DUST AND NOISE. REFERENCE INFECTION CONTROL DRAWING.
L.	REMOVE EXISTING FLOOR FINISH AS INDICATED, PREPARE FLOORS FOR NEW FINISHES

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *pmckown*
Date: *Jan 25, 2013*
2009 INTERNATIONAL CODES & 2011 NEC

RSN: *697386*
Permit #: *13-640626 LT*

DWG FILENAME:

The Medical Center of Aurora
Health

ADCA Suite 300

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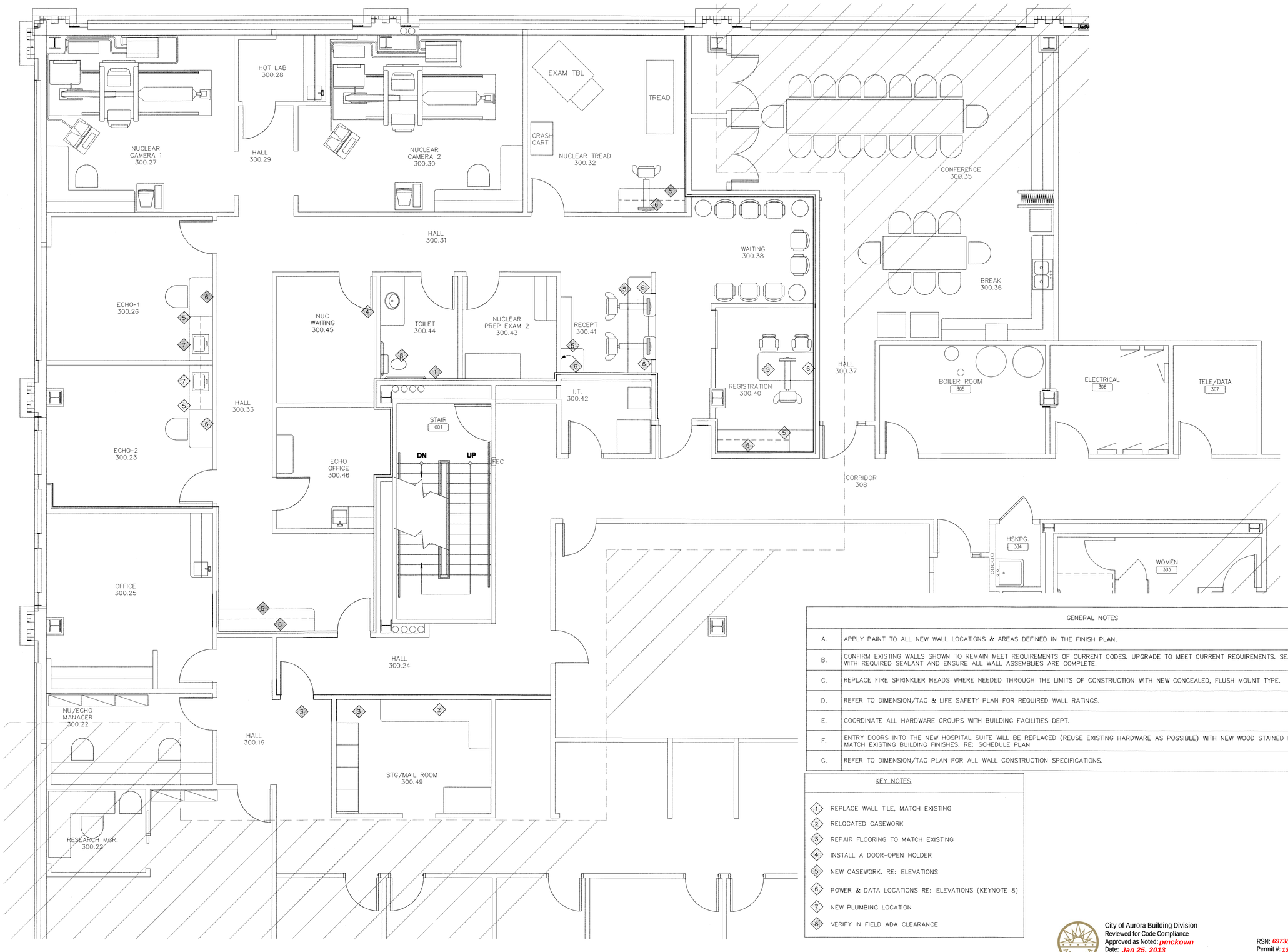
STATE OF COLORADO
TOM THOMPSON
305692
01.08.13
LICENSED ARCHITECT

PROJECT NO.: 12-11

DRAWN BY: TH BW JR
CHECKED BY: TT
SCALE: 1/4" = 1'
DATE: 01/08/2013
ISSUED FOR: CONSTRUCTION
REVISIONS:

SHEET TITLE:
DEMO PLAN

SHEET NO.:
A-1.0



N

FLOOR PLAN
1/4" = 1'

GENERAL NOTES	
A.	APPLY PAINT TO ALL NEW WALL LOCATIONS & AREAS DEFINED IN THE FINISH PLAN.
B.	CONFIRM EXISTING WALLS SHOWN TO REMAIN MEET REQUIREMENTS OF CURRENT CODES. UPGRADE TO MEET CURRENT REQUIREMENTS. SEAL ALL PENETRATIONS WITH REQUIRED SEALANT AND ENSURE ALL WALL ASSEMBLIES ARE COMPLETE.
C.	REPLACE FIRE SPRINKLER HEADS WHERE NEEDED THROUGH THE LIMITS OF CONSTRUCTION WITH NEW CONCEALED, FLUSH MOUNT TYPE.
D.	REFER TO DIMENSION/TAG & LIFE SAFETY PLAN FOR REQUIRED WALL RATINGS.
E.	COORDINATE ALL HARDWARE GROUPS WITH BUILDING FACILITIES DEPT.
F.	ENTRY DOORS INTO THE NEW HOSPITAL SUITE WILL BE REPLACED (REUSE EXISTING HARDWARE AS POSSIBLE) WITH NEW WOOD STAINED DOORS TO MATCH EXISTING BUILDING FINISHES. RE: SCHEDULE PLAN
G.	REFER TO DIMENSION/TAG PLAN FOR ALL WALL CONSTRUCTION SPECIFICATIONS.

KEY NOTES

1. REPLACE WALL TILE, MATCH EXISTING
2. RELOCATED CASEWORK
3. REPAIR FLOORING TO MATCH EXISTING
4. INSTALL A DOOR-OPEN HOLDER
5. NEW CASEWORK. RE: ELEVATIONS
6. POWER & DATA LOCATIONS RE: ELEVATIONS (KEYNOTE 8)
7. NEW PLUMBING LOCATION
8. VERIFY IN FIELD ADA CLEARANCE

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *pmckown*
Date: *Jan 25, 2013*
2009 INTERNATIONAL CODES & 2011 NEC

RSN: *697386*
Permit #: *13-640626 LT*

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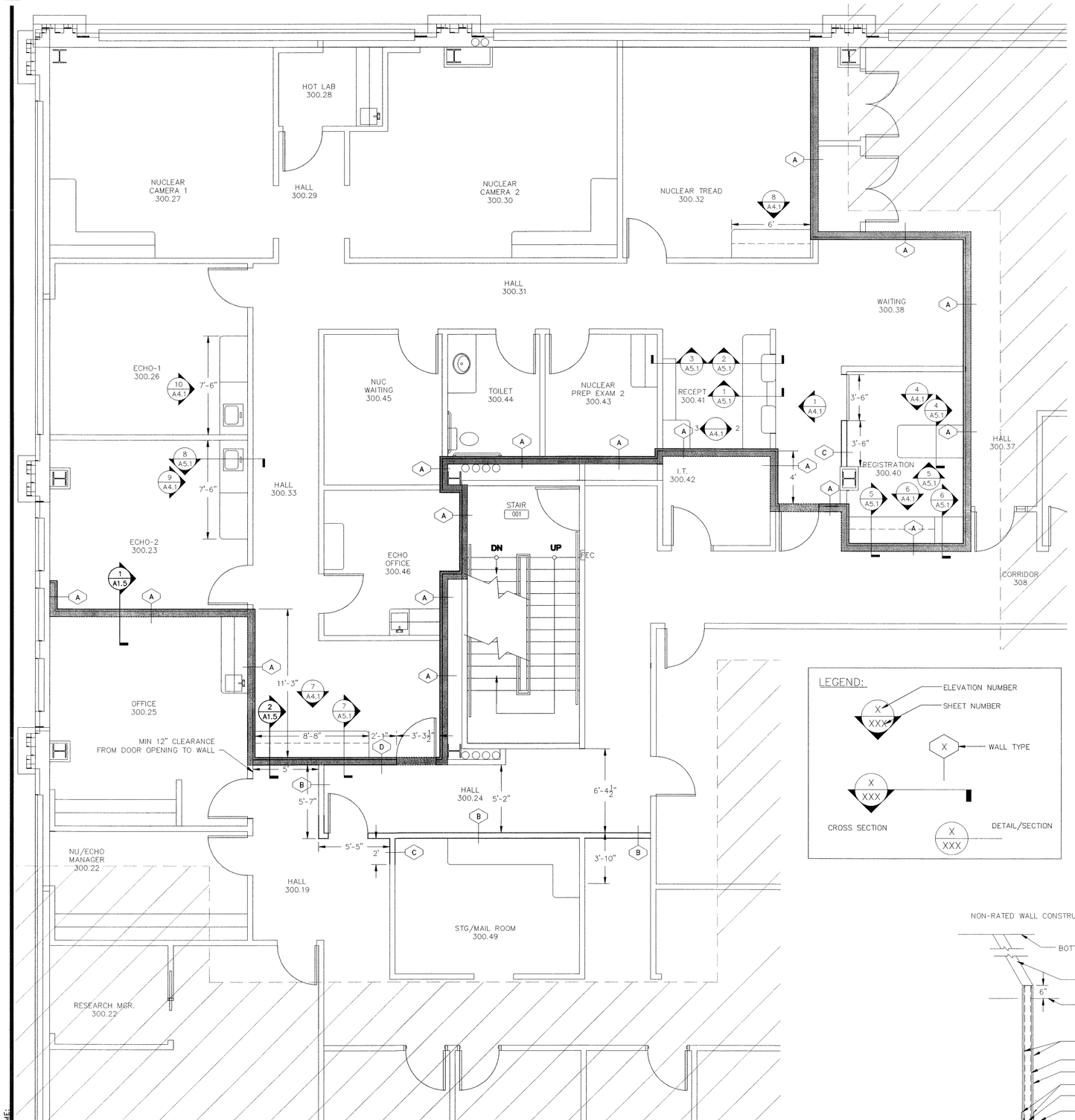
STATE OF COLORADO
THOMAS THOMPSON
305692
01.08.13
LICENSED ARCHITECT

PROJECT NO.: 12-11

DRAWN BY: TH BW JR
CHECKED BY: TT
SCALE: 1/4" = 1'
DATE: 01/08/2013
ISSUED FOR: CONSTRUCTION
REVISIONS:

SHEET TITLE:
FLOOR PLAN

SHEET NO.:
A-1.1



N

DIMENSION/TAG PLAN
1/4" = 1'

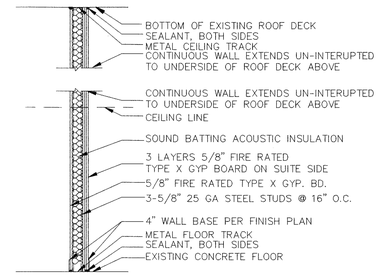
LEGEND:

- ELEVATION NUMBER
- SHEET NUMBER
- WALL TYPE
- CROSS SECTION
- DETAIL/SECTION

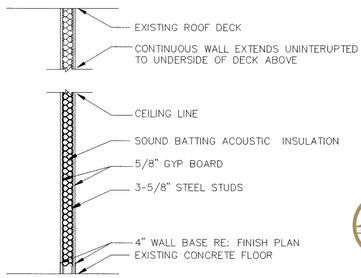
2 HR FIRE BARRIER PARTITION:

- CONSTRUCTED AS SHOWN. ALL PENETRATIONS TO BE SEALED WITH FIRE-RATED SEALANT BOTH SIDES OF WALL AND TOP AND BOTTOM TRACKS.
- TWO HOUR RATED WALL: CONSTRUCTED AS SHOWN ADDING SMOKE AND FIRE (UL) RATED SEALANT
- PIPES, WIRES, CONDUITS SHALL NOT BE EMBEDDED IN STRUCTURAL MEMBER PROTECTION
- SCREW FASTENERS ARE TO BE USED FOR THE ATTACHMENT OF GYPSUM BOARD TO STEEL FRAME MEMBERS PER CODE AND MANUFACTURE'S RECOMMENDATIONS.

UL: V449 5/8" FIRE-SHIELD GYPSUM WALLBOARD SCREW ATTACHED VERTICALLY TO BOTH SIDES 3 5/8" STEEL STUDS @ 16" O.C. TRIPLE LAYER ONE SIDE, SINGLE LAYER ON THE OTHER. WALLBOARD JOINTS STAGGERED.



2-Hr. Rated Wall - Type "A"
1/2" = 1'

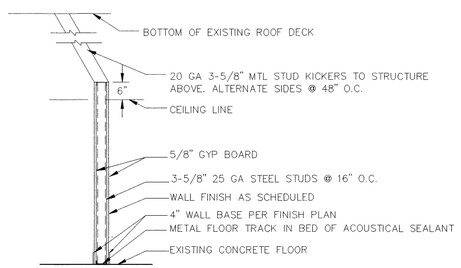


Non-Rated Wall - Type "B"
1/2" = 1'

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: pmckown
Date: Jan 25, 2013
2009 INTERNATIONAL CODES & 2011 NEC

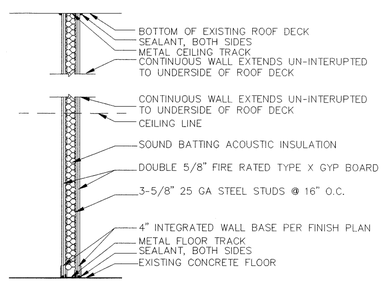
RSN: 697386
Permit #: 13-640626 LT

NON-RATED WALL CONSTRUCTION



Non-Rated Wall - Type "C"
1/2" = 1'

UL: 263 5/8" FIRE-SHIELD GYPSUM WALLBOARD SCREW ATTACHED VERTICALLY TO BOTH SIDES 3-5/8" STEEL STUDS @ 16" O.C. 2 LAYERS ON EACH SIDE. WALLBOARD JOINTS STAGGERED.



2-Hr. Rated Wall - Type "D"
1/2" = 1'

DWG. FILENAME

The Medical Center of Aurora
Health

ADCA Suite 300

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STATE OF COLORADO
TOM W. THOMPSON
305692
01.08.13
LICENSED ARCHITECT

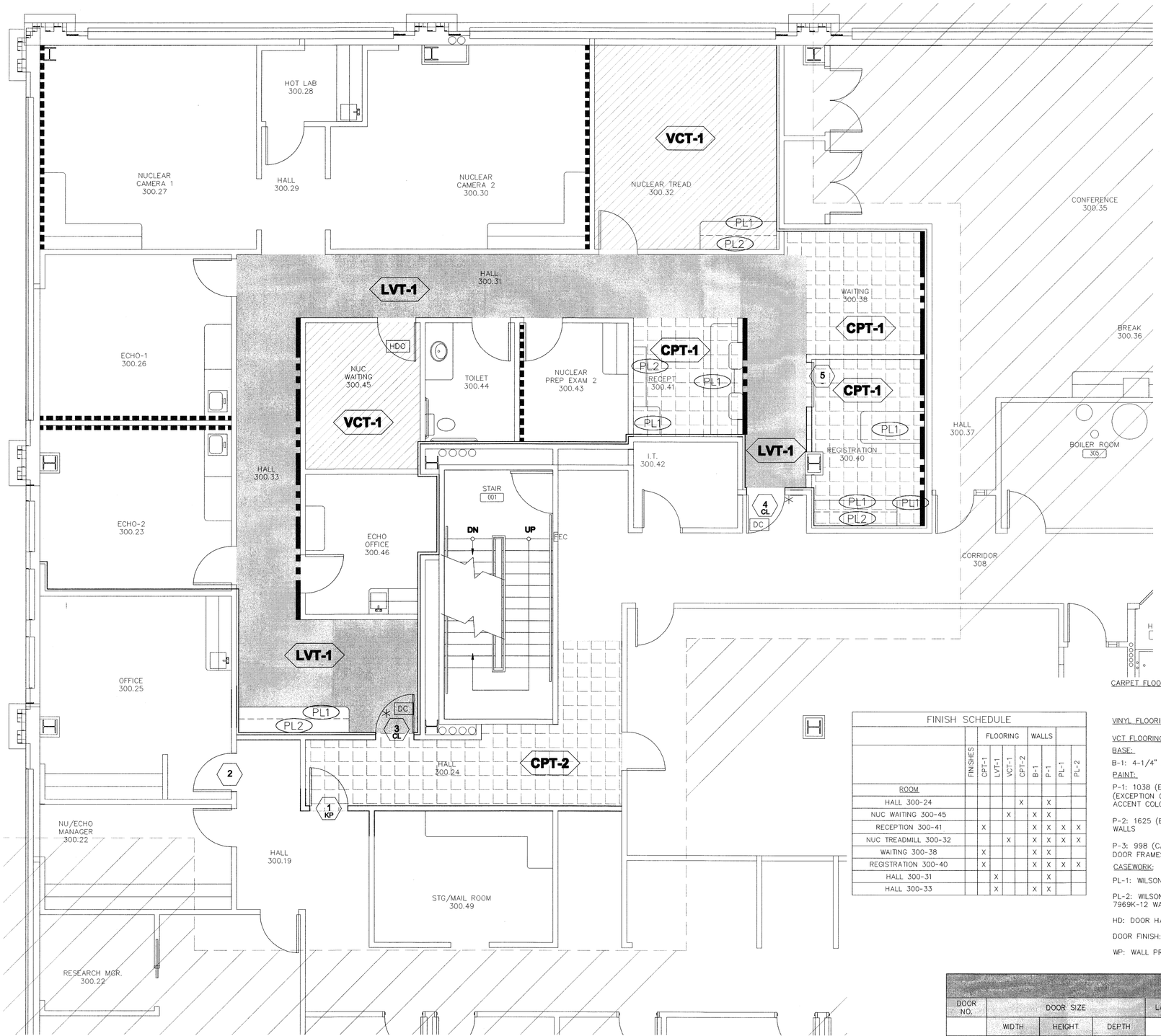
PROJECT NO.:	12-11
DRAWN BY:	TH BW JR
CHECKED BY:	TT
SCALE:	AS NOTED
DATE:	01/08/2013
ISSUED FOR:	CONSTRUCTION
REVISIONS:	

SHEET TITLE:

DIMENSION/TAG PLAN

SHEET NO.:

A-1.2



N

SCHEDULE / FINISHES PLAN
1/4" = 1'

SCHEDULED DOOR NUMBER

LOCK TYPE

DC - DOOR CLOSURE HARDWARE

HDO - HOLD OPEN DOOR HARDWARE

* - REQUIRES NEW 90 MIN RATED HOLLOW METAL DOOR FRAME

LOCK TYPES
KP - KEYPAD
OF - OFFICE
PR - PRIVACY / BATHROOM
CR - CARD READER
CL - CLASSROOM
P - PASSAGE
P/P - PUSH/PULL

-VCT-1

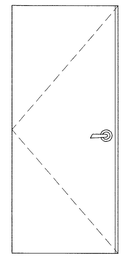
-CPT-1

-LVT-1

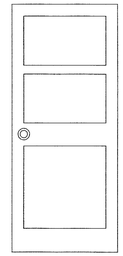
-CPT-2

PAINT ACCENT WALL LEGEND

- P-2
- P-3



TYPE A: FLUSH DOOR
SCALE: 1/2" = 1'



TYPE B: SLIDING DOOR
SCALE: 1/2" = 1'

FINISH SCHEDULE										
		FLOORING				WALLS				
	FINISHES	CPT-1	LVT-1	VCT-1	CPT-2	B-1	P-1	PL-1	PL-2
ROOM										
HALL 300-24					X		X		
NUC WAITING 300-45				X		X	X		
RECEPTION 300-41		X				X	X	X	X
NUC TREADMILL 300-32				X		X	X	X	X
WAITING 300-38		X				X	X		
REGISTRATION 300-40		X				X	X	X	X
HALL 300-31			X				X		
HALL 300-33			X			X	X		

CARPET FLOORING: CPT-1: SHAW COUTURE INSPIRED BY WOOL DISSOLVE 59566, PATTERN 1/4 TURN LAYOUT, COLOR: 66751 UMBER METAL

CPT-2: SHAW, WISDOM 60709, COLOR: VINTAGE AZURE. COLOR #09400. USE 4" CARPET WALL BASE.

VINYL FLOORING: LVT-1: ARMSTRONG NATURAL CREATIONS MYSTIX COLOR: TP743 BUCKSKIN BURNETTE 18" X 18"

VCT FLOORING: VCT-1: ARMSTRONG IMPERIAL TEXTURE STANDARD EXCELON COLOR:51858 SANDRIFT WHITE 12"X12"

BASE:

B-1: 4-1/4" JOHNSONITE RUBBER COVED BASE (TRADITIONAL) 1/8" RUBBER, COLOR: 47 BROWN

PAINT:

P-1: 1038 (EVERLASTING) IN BENJAMIN MOORE ULTRASPEC SEMI GLOSS INTERIOR PAINT, 2 COATS PAINT ON ALL WALLS (EXCEPTION OF ACCENT WALLS). FIELD COLOR, APPLY TO ALL AREAS OF NEW CONSTRUCTION UNLESS NOTED FOR ACCENT COLORS, P2, P3.

P-2: 1625 (BLUE LACE) IN BENJAMIN MOORE ULTRASPEC SEMI GLOSS INTERIOR PAINT, 2 COATS PAINT ON ACCENT WALLS

P-3: 998 (CABOT TRAIL) IN BENJAMIN MOORE ULTRASPEC SEMI GLOSS INTERIOR PAINT, 2 COATS PAINT ON INTERIOR DOOR FRAMES 3. & 4 (RE: A1.3), ACCENT WALLS, & SOFFITS

CASEWORK:

PL-1: WILSONART LAMINATE COLOR: 4871-60 WESTERN SUEDE

PL-2: WILSONART LAMINATE ALL VERTICAL PANELS USE 3MM EDGE ON LIKE SURFACED DRAWERS AND DOORS. COLOR: 7969K-12 WAREHOUSE OAK

HD: DOOR HARDWARE: MATCH BUILDING STANDARD

DOOR FINISH: MATCH EXISTING FINISHES

WP: WALL PROTECTION - KOROSEAL STUDIOS, JAPANESE PLAID, JP21-57 HONSHU BRONZE

DOOR SCHEDULE								
DOOR NO.	DOOR SIZE			LABEL/TYPE	LOCK TYPE	FRAME	FRAME DEPTH	REMARKS
	WIDTH	HEIGHT	DEPTH					
1	3'0"	7'0"	1-3/4"	NON-RATED	REUSE	RHR/HM	4-7/8""	RELOCATED DOOR & FRAME RE: DEMO
2	3'0"	7'0"	1-3/4"	NON-RATED	REUSE	LH/TMLY	4-7/8""	RELOCATED DOOR & FRAME RE: DEMO
3	3'0"	7'0"	1-3/4"	90 MIN/A	CL	LH/HM	6-1/4"	SUITE SIDE FRAME FINISH TO BE PAINTED P-2, CORRIDOR SIDE FRAME AND DOOR FINISH TO MATCH BUILDING STANDARD
4	3'0"	7'0"	1-3/4"	90 MIN/A	CL	LHR/HM	6-1/4"	SUITE SIDE FRAME FINISH TO BE PAINTED P-2, CORRIDOR SIDE FRAME AND DOOR FINISH TO MATCH BUILDING STANDARD
5	3'6"	7'0"	1-3/4"	NON-RATED	N/A	SLIDING	PER SPEC	

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: pmckown
Date: Jan 25, 2013
2009 INTERNATIONAL CODES & 2011 NEC

RSN: 697386
Permit #: 13-640626 LT

DWG FILENAME:

The Medical Center of Aurora
Health

ADCA Suite 300

MEDICAL CENTER OF AURORA

1444 SOUTH POTOMAC STREET
AURORA, COLORADO 80012

TOM THOMPSON ARCHITECT
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STATE OF COLORADO
TOM THOMPSON
305692
01.08.13
LICENSED ARCHITECT

PROJECT NO.: 12-11

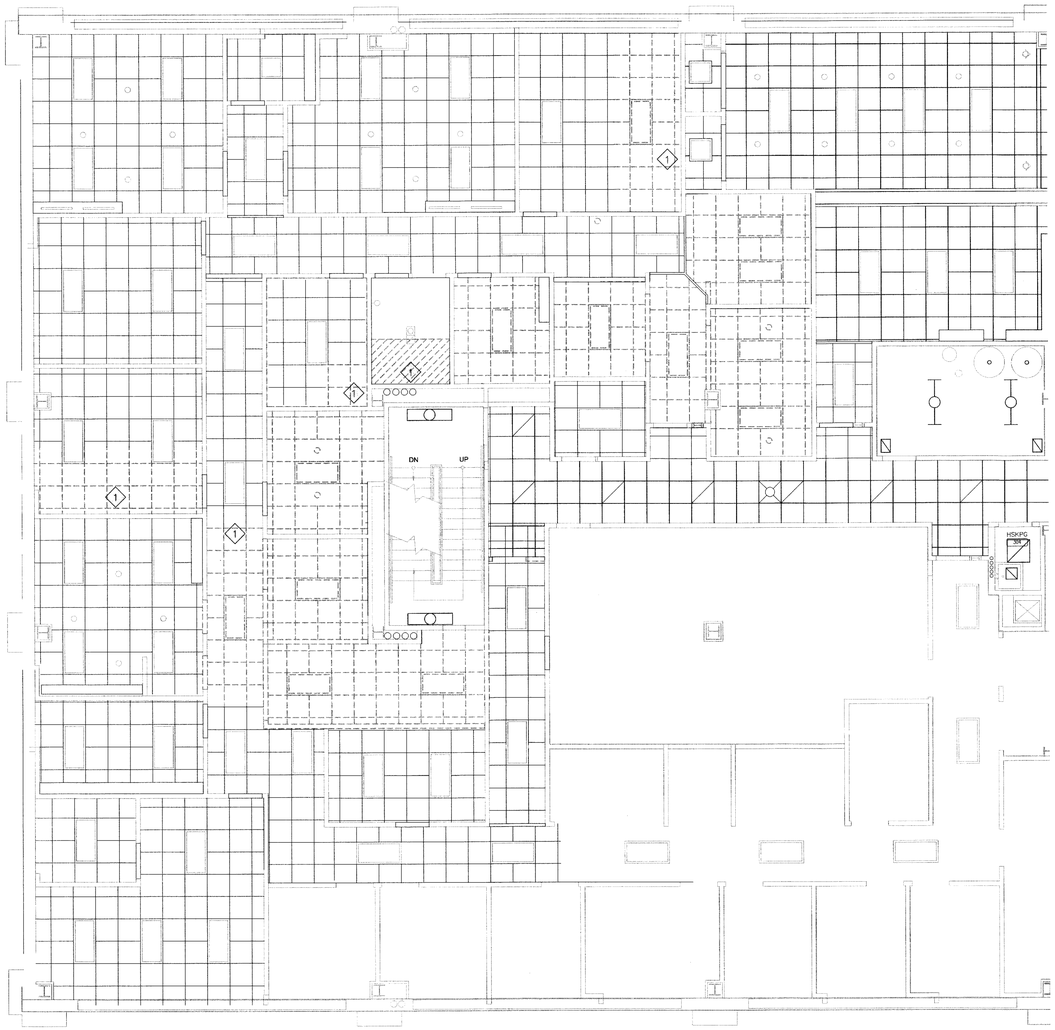
DRAWN BY: TH BW JR
CHECKED BY: TT
SCALE: AS NOTED
DATE: 01/08/2013
ISSUED FOR: CONSTRUCTION
REVISIONS:

SHEET TITLE:

SCHEDULE / FINISHES PLAN

SHEET NO.:

A-1.3



N EXISTING CEILING PLAN
NTS

DEMOLITION NOTES:

1. REMOVE GRID & TILE AS SHOWN IN AREAS AFFECTED BY CONSTRUCTION.
2. WHERE CEILING GRID & TILE ARE REMOVED, SECURE & REPAIR REMAINING GRID SYSTEM.
3. SALVAGE ALL LIGHT FIXTURES & EMERGENCY EXIT SIGNS FOR RELOCATION. RE: CEILING PLAN

SYMBOL LEGEND:

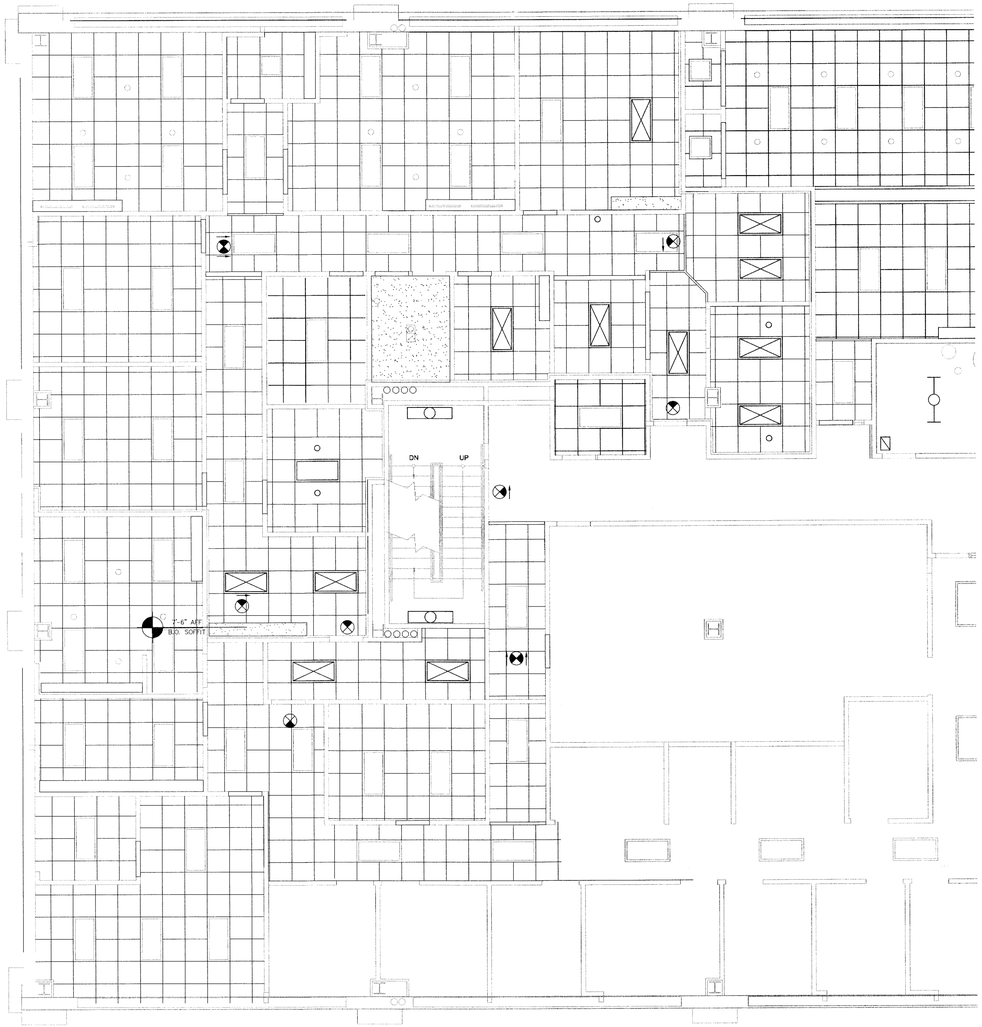
REMOVE SUSPENDED FLUORESCENT LIGHT FIXTURE. SALVAGE FOR RELOCATION

SUSPENDED ACOUSTICAL CEILING SYSTEM REMOVED

DRYWALL CEILING SYSTEM REMOVED

DEMOLITION KEY NOTES:

1 REMOVE PORTION OF CEILING NECESSARY TO ALLOW ACCESS FOR 2 HR FIRE WALL CONSTRUCTION.



N REFLECTED CEILING PLAN
NTS

GENERAL NOTES:

1. CEILING GRID @ 9'-0" AFF UNLESS OTHERWISE NOTED
2. REFER TO MECHANICAL DRAWINGS FOR SUPPLY / RETURN LOCATIONS
3. CONTRACTOR SHALL COMPARE THIS REFLECTED CEILING PLAN WITH MECHANICAL SUPPLY, AND EXHAUST PLANS. THE CONTRACTOR SHALL REPORT ANY OBSTRUCTIONS, OMISSIONS OR INCONSISTENCIES WITH THE PROJECT MANAGER.
4. MATCH NEW CEILING TILES & GRID SYSTEM WITH EXISTING.
5. REUSE ALL EXISTING FIXTURES; RELOCATE AS SHOWN IN PLAN.

SYMBOL LEGEND:

RELOCATED SUSPENDED FLUORESCENT LIGHT FIXTURE

SUSPENDED ACOUSTICAL CEILING SYSTEM

GYPSUM BOARD CEILING OR SOFFIT TO TOP OF CABINET AS NOTED RE: ELEVATIONS.

NEW/RELOCATED EMERGENCY EXIT SIGNS, MATCH BUILDING STANDARDS

CEILING HEIGHT DESIGNATION PER AREA.

CAN DOWNLIGHT

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STATE OF COLORADO
THOMAS WILLIAM THOMPSON
305892
01.08.13
LICENSED ARCHITECT

PROJECT NO.: 12-11

DRAWN BY: TH BW JR
CHECKED BY: TT
SCALE: NTS
DATE: 01/08/2013
ISSUED FOR: CONSTRUCTION
REVISIONS:

SHEET TITLE:

REFLECTED CEILING PLAN

SHEET NO.:

A-1.4

EXISTING 1-HR (45 MIN. DOORS)

EXISTING 1-HR SHAFT WALL

NEW 2-HR FIRE/SMOKE BARRIER WALL

fec — FIRE EXTINGUISHER CABINET

COURSE & DISTANCE OF THE MOST REMOTE EXIT ACCESS PATH - 91'-2".

EMERGENCY EXIT SIGNS

FEC FIRE EXTINGUISHER CABINET

CODE INFORMATION

CITY OF AURORA:

2009 INTERNATIONAL BUILDING CODE (IBC)
2009 INTERNATIONAL EXISTING BUILDING CODE (IEBC)
2009 INTERNATIONAL MECHANICAL CODE (IMC)
2009 INTERNATIONAL PLUMBING CODE (IPC)
2009 INTERNATIONAL FIRE CODE (IFC)
2011 NATIONAL ELECTRICAL CODE (NEC)
2009 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
CHAPTER 22 BUILDINGS & REGULATIONS: THE AURORA BUILDING & ZONING CODES
CHAPTER 66 FIRE PREVENTION & PROTECTION REGULATIONS: THE AURORA BUILDING & ZONING CODES

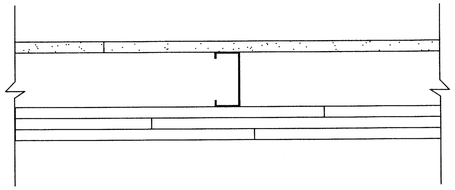
STATE OF COLORADO:
2006 AIA GUIDELINES FOR THE DESIGN AND CONSTRUCTION OF HEALTHCARE FACILITIES
2003 NFPA 101 - LIFE SAFETY CODE

FEDERAL:
1994 AMERICANS WITH DISABILITIES ACT GUIDELINES

- FIRE PROTECTION: EXISTING BUILDING IS FULLY SPRINKLERED. AREAS AFFECTED BY WORK UNDER THIS CONTRACT SHALL MAINTAIN FIRE PROTECTION SYSTEM AND BE FULLY SPRINKLERED UPON COMPLETION.
- CORRIDORS: EXISTING CORRIDOR SEPARATION IS MAINTAINED AT AREAS OF NEW CONSTRUCTION.

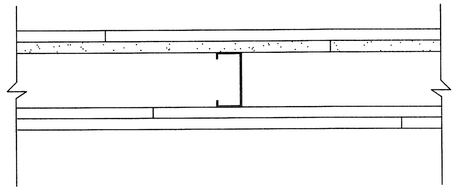
PROJECT INFO

PROJECT NAME:	ADCA Suite 300
PROJECT ADDRESS:	1444 S. POTOMAC ST., SUITE #300 AURORA, CO 80012
CONSTRUCTION TYPE:	~~I B~~ II B
OCCUPANCY CLASSIFICATION:	GROUP B MEDICAL OFFICE BUILDING
PROJECT SQUARE FOOTAGE:	LIMITS OF REMODEL FLOOR TOTAL 2,575 SF
OCCUPANT LOAD FACTOR:	100 SF/OCC (BUSINESS)
OCCUPANT LOAD:	2,575 SF/100 = 26 OCCUPANTS (MAXIMUM)
SPRINKLER SYSTEM:	EXISTING, MODIFIED TO ACCOMMODATE NEW ROOM LAYOUTS



5/8" FIRE-SHIELD GYPSUM WALLBOARD
SCREW ATTACHED VERTICALLY TO BOTH SIDES 3-5/8" STEEL STUDS,
SPACED 16" O.C. TRIPLE LAYER ONE SIDE, SINGLE LAYER ON THE OTHER.
WALLBOARD JOINTS STAGGERED.

1 / A1.5 WALL TYPE A - 2 HR RATING
SCALE: 3" = 1'



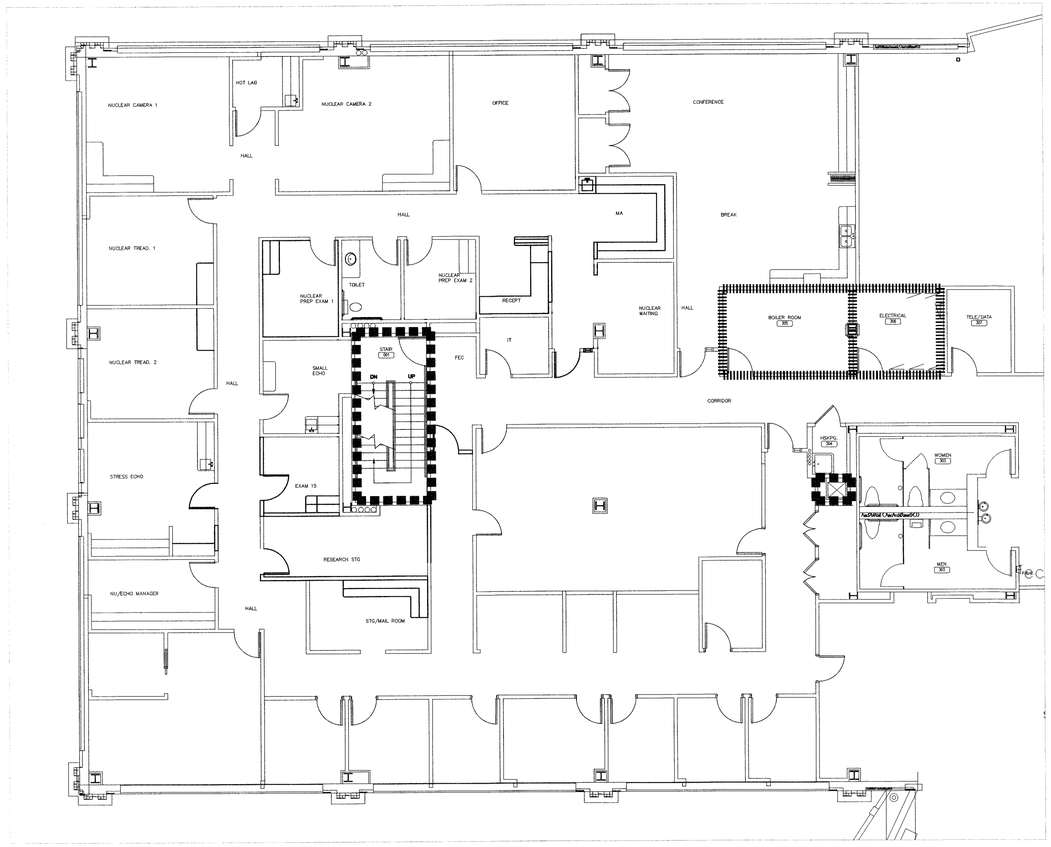
5/8" FIRE-SHIELD GYPSUM WALLBOARD
SCREW ATTACHED VERTICALLY TO BOTH SIDES 3-5/8" STEEL STUDS,
SPACED 16" O.C. DOUBLE LAYER ON EACH SIDE.
WALLBOARD JOINTS STAGGERED.

2 / A1.5 WALL TYPE D - 2 HR RATING
SCALE: 3" = 1'

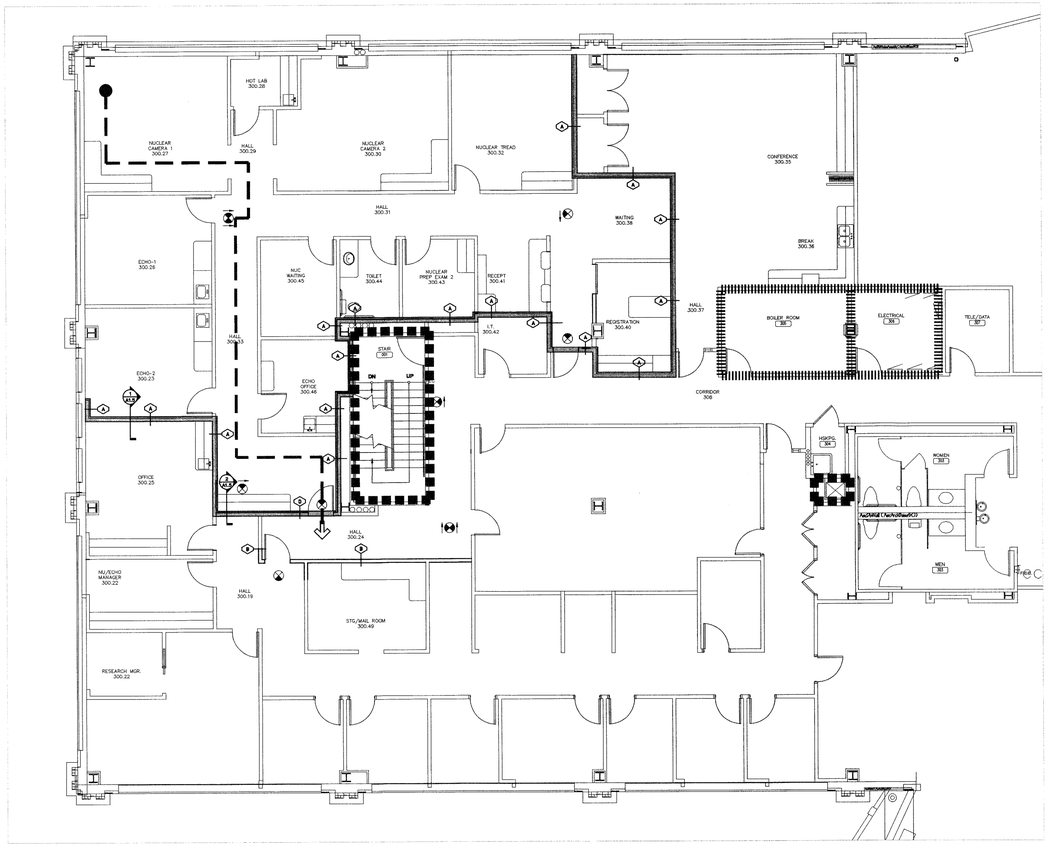
Consultation for fire extinguisher placement is available upon request. Call 303-739-7420 prior to final Life Safety inspection to verify proposed locations.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *pmckown*
Date: *Jan 25, 2013*
2009 INTERNATIONAL CODES & 2011 NEC

RSN: *697386*
Permit #: *13-640626 LT*



N EXISTING LIFE SAFETY FLOOR PLAN
SCALE: NTS



N LIFE SAFETY PLAN
NTS

The Medical Center of Aurora Health

ADCA Suite 300

MEDICAL CENTER OF AURORA

1444 SOUTH POTOMAC STREET
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TOM THOMPSON ARCHITECT
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STATE OF COLORADO
TOM THOMPSON
305892
01.08.13
LICENSED ARCHITECT

PROJECT NO.:	12-11
DRAWN BY:	TH BW JR
CHECKED BY:	TT
SCALE:	NTS
DATE:	01/08/2013
ISSUED FOR:	CONSTRUCTION
REVISIONS:	

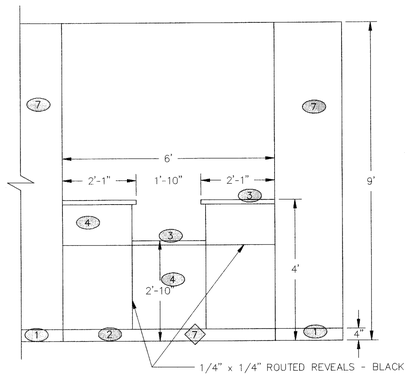
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LIFE SAFETY PLAN

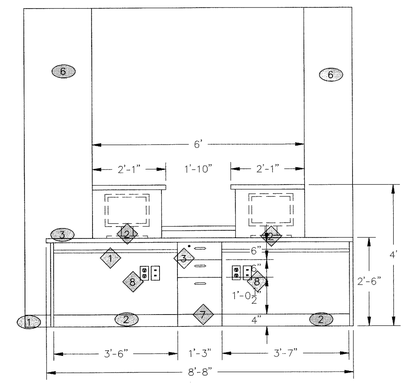
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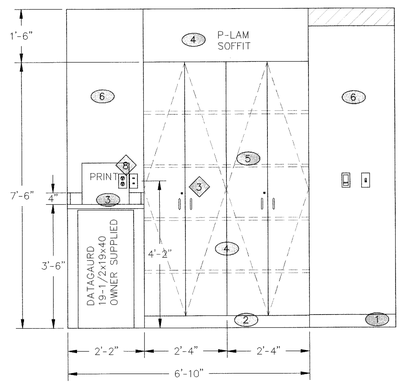
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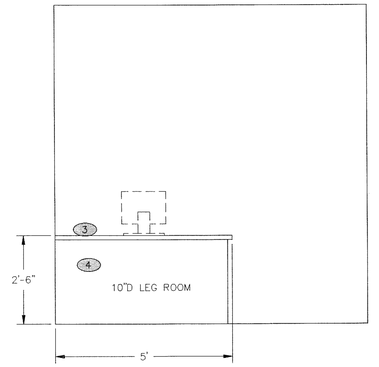
1 A4.1 RECEPTION DESK
SCALE: 1/2" = 1'



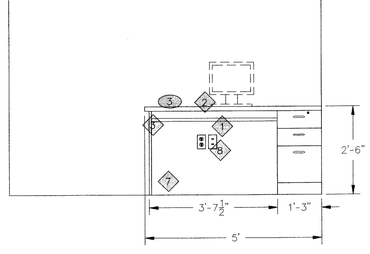
2 A4.1 RECEPTION DESK
SCALE: 1/2" = 1'



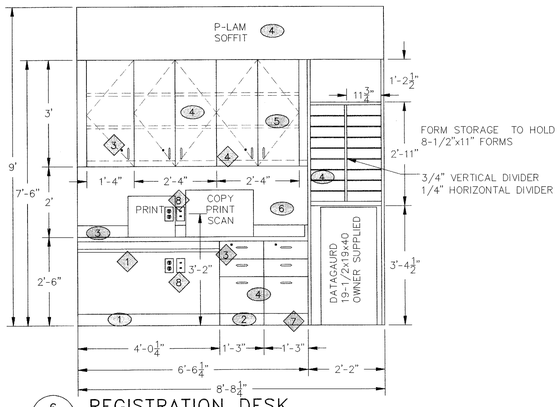
3 A4.1 RECEPTION DESK
SCALE: 1/2" = 1'



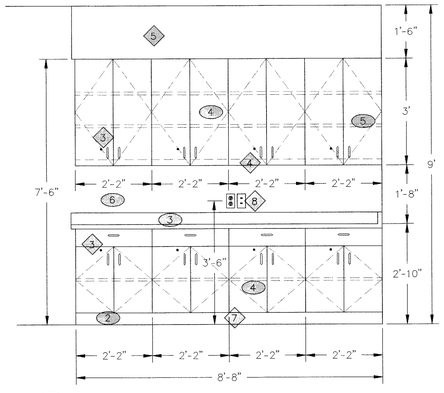
4 A4.1 REGISTRATION DESK
SCALE: 1/2" = 1'



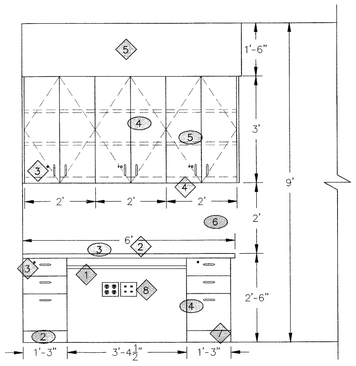
5 A4.1 REGISTRATION DESK
SCALE: 1/2" = 1'



6 A4.1 REGISTRATION DESK
SCALE: 1/2" = 1'



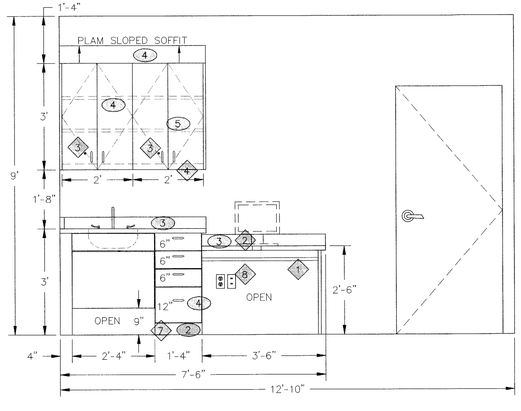
7 A4.1 HALL 300.24
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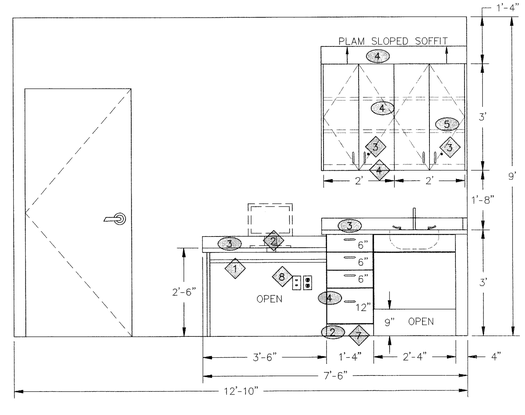
8 A4.1 NUC TREADMILL
SCALE: 1/2" = 1'

DESCRIPTION KEY NOTES			
TAG	MATL. ABBREV.	DESCRIPTION	NOTES
1	CBT	CABLE TRAY	
2	G-1	GROMMET	VIF
3	L	LOCKING CABINET	
4	LR	2" LIGHT RAIL	
5	SOF	B.O. DRYWALL SOFFIT @ 7'-6" A.F.F.	
6	SS	STEEL SUPPORTS	
7	TK	TOE KICK	
8	E/D	ELECTRICAL AND DATA OUTLET LOCATIONS	

FINISHES KEY NOTES			
TAG	MATL. ABBREV.	DESCRIPTION	MATERIAL SPECIFICATION
1	B-1	RUBBER BASE TRIM	JONSONITE 4-1/4" TRADITIONAL PROFILE
2	MD-1	BASE MOULDING	FINISH TO MATCH PL-1
3	PL-1	PLASTIC LAMINATE	WILSONART 4871-60 WESTERN SUEDE
4	PL-2	PLASTIC LAMINATE	WILSONART 7969K-12 WAREHOUSE OAK
5	PL-3	MELAMINE SHELVING	
6	P-1	PAINT	BENJAMIN MOORE 1038 EVERLASTING
7	P-2	PAINT	BENJAMIN MOORE 1625 BLUE LACE
8	P-3	PAINT	BENJAMIN MOORE 998 CABOT TRAIL



9 A4.1 ECHO ROOM 300.23
SCALE: 1/2" = 1'



10 A4.1 ECHO ROOM 300.26
SCALE: 1/2" = 1'

City of Aurora Building Division
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STATE OF COLORADO
TOM THOMPSON
REG. NO. 30562
01.08.13
LICENSED ARCHITECT

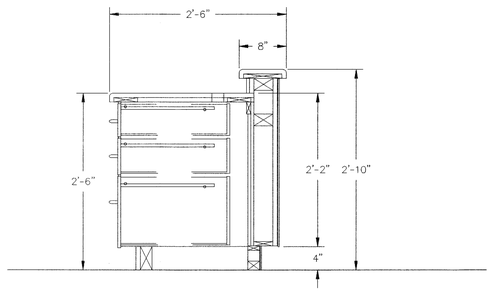
PROJECT NO.: 12-11

DRAWN BY: TH BW JR
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SCALE: 1/2" = 1'
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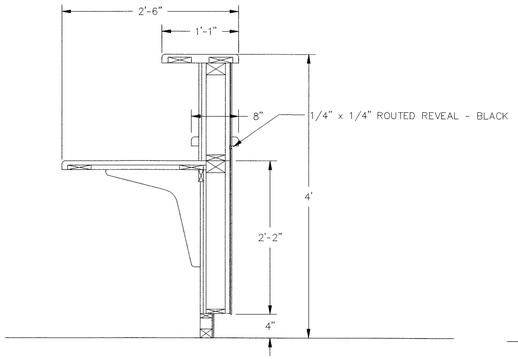
SHEET TITLE:
ELEVATIONS

SHEET NO.:
A-4.1

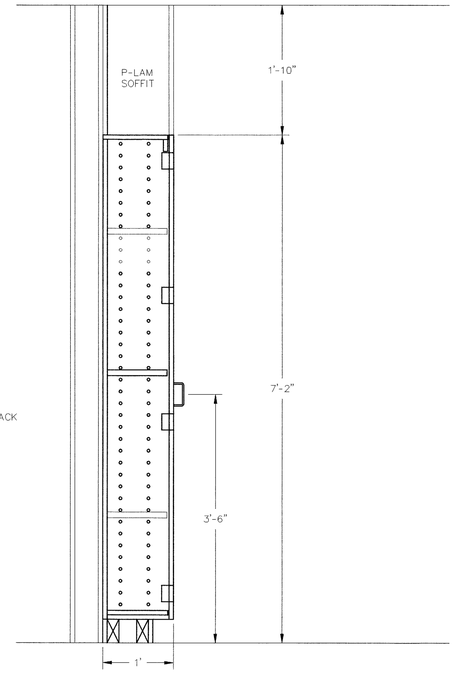
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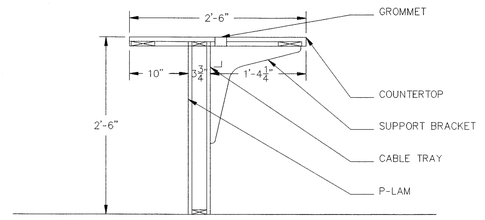
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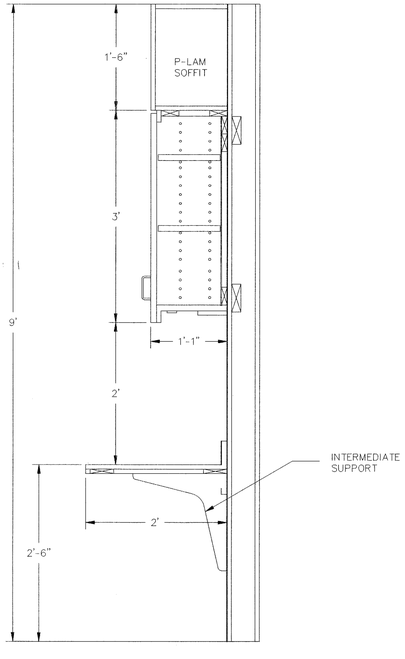
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SCALE: 1" = 1'



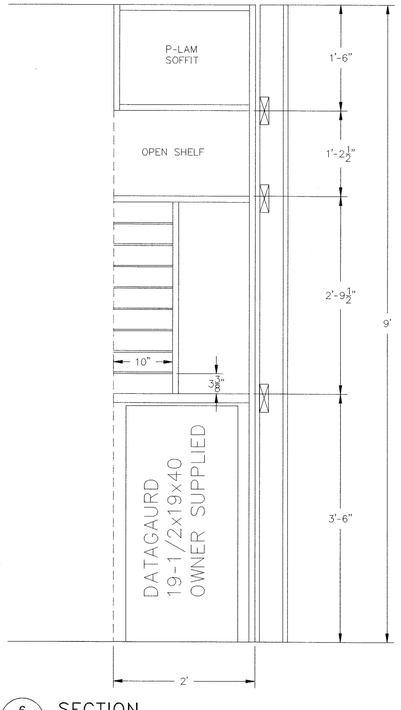
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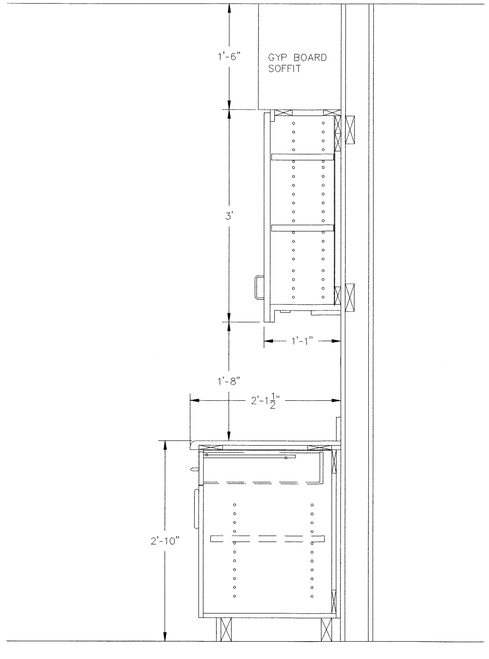
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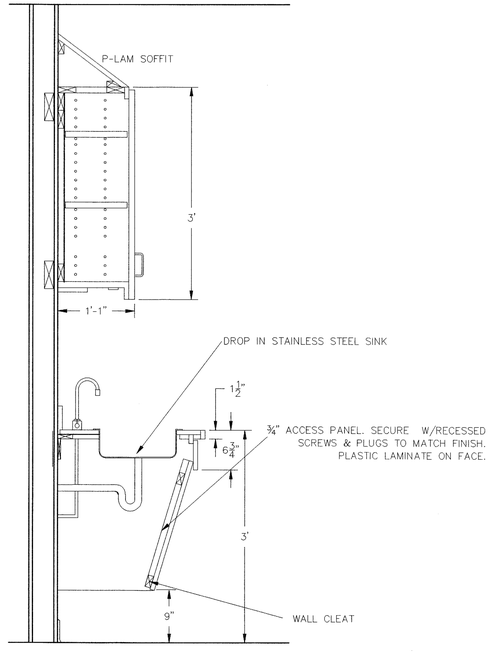
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SCALE: 1" = 1'



6 A5.1 SECTION
SCALE: 1" = 1'



7 A5.1 SECTION
SCALE: 1" = 1'



8 A5.1 SECTION
SCALE: 1" = 1'

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *pmckown*
Date: *Jan 25, 2013*
2009 INTERNATIONAL CODES & 2011 NEC

RSN: *697386*
Permit #: *13-640626 LT*

The Medical Center of Aurora
Health

ADCA Suite 300

MEDICAL CENTER OF AURORA

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STATE OF COLORADO
TOM THOMPSON
305692
01.08.13
LICENSED ARCHITECT

PROJECT NO.:	12-11
DRAWN BY:	TH BW JR
CHECKED BY:	TT
SCALE:	1" = 1'
DATE:	01/08/2013
ISSUED FOR:	CONSTRUCTION
REVISIONS:	

SHEET TITLE:

SECTIONS / DETAILS

SHEET NO.:

A-5.1

DWG FILENAME:

GENERAL NOTES - HVAC

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

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

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

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

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

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

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

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

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

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

K. CONTRACTOR SHALL VISIT JOBSITE AND VERIFY SIZE AND LOCATION OF ALL EXISTING ITEMS AND CONDITIONS.

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

M. CONTRACTOR SHALL COORDINATE ALL WORK CLOSELY WITH EXISTING CONDITIONS AND WITH ALL OTHER TRADES.

N. ALL EXISTING FACILITIES SHALL BE PROTECTED DURING THE CONSTRUCTION ACTIVITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE AND STORE ITEMS WHICH ARE SUBJECT TO DAMAGE.

O. ARCHITECT SHALL HAVE FINAL APPROVAL OF ALL GRILLE, DIFFUSER, AND THERMOSTAT LOCATIONS.

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

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

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

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

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

U. ALL NECESSARY SHUTDOWNS SHALL BE COORDINATED WITH THE BUILDING REPRESENTATIVE.

V. DUCT SIZES ARE NET FREE AREA. TAPE AND SEAL ALL ROUND DUCT CONNECTIONS TO BE PERMANENTLY AIR TIGHT.

W. PROVIDE ROUND DUCTS TO ALL AIR DEVICES UNLESS NOTED OTHERWISE. DO NOT USE FLEXIBLE DUCTS ABOVE NON-LAYIN CEILINGS.

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

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

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

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

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

AC. CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL BY THE ENGINEER ALL MAJOR ITEMS OF MATERIALS AND EQUIPMENT.

FIRE PROTECTION GENERAL NOTES

A. IT IS THE INTENT THAT THE FIRE PROTECTION SUB-CONTRACTOR BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF THE FIRE SUPPRESSION SYSTEMS IN ACCORDANCE WITH APPLICABLE CODES.

B. FIRE PROTECTION SUB-CONTRACTOR SHALL UTILIZE EXISTING PIPING SYSTEM AND SPRINKLER HEADS WHERE POSSIBLE, AND ADD PIPING AND HEADS AS REQUIRED TO PROVIDE CODE APPROVED COVERAGE OR MATCH EXISTING BUILDING SPRINKLER GRID COVERAGE.

C. SPRINKLER HEADS TO BE QUICK RESPONSE HEADS. HEADS WITHIN PHARMACY AREA SHALL BE CLEAN ROOM GRADE WITH GASKETED CONCEALER PLATES. FOR FURTHER INFORMATION SEE FIRE PROTECTION NOTES.

D. COORDINATE HEAD LOCATIONS WITH LIGHT FIXTURES, DIFFUSERS, GRILLES, ETC.

ELECTRICAL GENERAL NOTES

A. CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING HIS PROPOSAL AND BECOME FAMILIAR WITH THE CONDITIONS UNDER WHICH THE WORK WILL BE PERFORMED, AND CORRELATE HIS SITE OBSERVATIONS WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. INCONSISTENCIES DISCOVERED SHALL BE REPORTED TO THE ARCHITECT AND ENGINEER AT ONCE, BEFORE SUBMITTAL OF BID PROPOSAL.

B. ALL ELECTRICAL PRODUCTS AND INSTALLATIONS SHALL COMPLY WITH ALL APPLICABLE STATE AND LOCAL CODES. REFER TO SPECIFICATIONS FOR MATERIALS AND METHODS FOR ELECTRICAL CONSTRUCTION.

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

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

E. UNLESS OTHERWISE NOTED. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND U.L. LISTED OR LABELED. EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, AND LISTING OR LABELING REQUIREMENTS AND RESTRICTIONS. PROVIDE SUBMITTAL DATA AS DEPICTED IN THE ELECTRICAL SPECIFICATIONS.

F. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR APPROVAL FOR ALL ELECTRICAL MATERIALS PROPOSED TO BE PROVIDED UNDER THIS CONTRACT. ANY DEVIATIONS FROM ITEMS SPECIFIED SHALL BE CLEARLY IDENTIFIED. NO WORK IS AUTHORIZED WITHOUT SHOP DRAWINGS REVIEWED BY ENGINEER.

G. ALL POWER WIRING SHALL BE INSTALLED IN CONDUIT. POWER CONDUCTORS SHALL BE STRANDED COPPER THHN/THWN #10 AWG MINIMUM. ONLY SOLID #12 COPPER CONDUCTORS SHALL BE ACCCEPTABLE.

H. ALL EMPTY CONDUIT SYSTEMS SHALL CONTAIN A PULL WIRE FOR FUTURE PULLING OF CONDUCTORS.

I. REFER TO AND COORDINATE WITH ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ALL WIRING DEVICES, LIGHT FIXTURES, AND EQUIPMENT.

J. REFER TO AND COORDINATE WITH ALL DIVISIONS OF WORK FOR THE LOCATION OF ALL ITEMS LOCATED IN THE CEILING INCLUDING, BUT NOT LIMITED TO SUPPLY-AIR DIFFUSERS, RETURN-AIR DIFFUSERS AND FIRE SPRINKLER HEADS.

K. COORDINATE WITH OTHER TRADES ALL NECESSARY WIRING AND CONNECTIONS REQUIRED FOR EACH PIECE OF EQUIPMENT PRIOR TO PULLING CONDUCTORS INTO NEW CONDUITS.

L. VERIFY EXACT LOCATION OF ALL POWER CONNECTIONS AND CONTROL DEVICES WITH OTHER TRADES AND MANUFACTURERS SHOP DRAWINGS BEFORE CONSTRUCTION. CONTRACTOR SHALL COORDINATE ALL REQUIRED ENERGY MANAGEMENT SYSTEM POINTS AND CONTACT CONNECTIONS TO ENSURE THE COMPLETE AND PROPER OPERATION OF ALL SYSTEMS.

M. ALL PENETRATIONS THROUGH FIRE RATED WALLS OR PARTITIONS SHALL BE MADE IN ACCORDANCE WITH U.L. 483 "FIRE RESISTANCE DIRECTORY". PENETRATIONS SHALL BE SLEEVED AND SEALED WITH A UL APPROVED FIRE RATED SEALANT. REFER TO ARCHITECTURAL PLANS FOR FIRE RATED WALLS.

N. CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL POWER OUTAGES WITH OWNER'S REPRESENTATIVE.

O. CIRCUITING FOR LIGHTING AND POWER IS SHOWN DIAGRAMMATICALLY. HOMERUNS SHALL BE COMBINED WHERE POSSIBLE, ACCORDING TO NEC.

P. CONTRACTOR SHALL WARRANTY WORK FOR ONE (1) YEAR FROM THE COMPLETION OF THE PROJECT AND PROVIDE OWNER WITH AS BUILT DRAWINGS.

Q. DISCONNECTING MEANS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT SHALL BE MOUNTED INDEPENDENTLY OF THE PIECE OF EQUIPMENT.

R. SPACE ALLOCATIONS FOR MATERIALS, EQUIPMENT AND DEVICES HAVE BEEN MADE ON THE BASIS OF PRESENT AND KNOWN FUTURE REQUIREMENTS AND THE DIMENSIONS OF ITEMS OF EQUIPMENT OR DEVICES OF A PARTICULAR MANUFACTURER WHETHER INDICATED OR NOT. THE CONTRACTOR SHALL VERIFY THAT ALL MATERIALS, EQUIPMENT AND DEVICES PROPOSED FOR USE ON THIS PROJECT ARE WITHIN THE CONSTRAINTS OF THE ALLOCATED SPACE AND CODE COMPLIANT.

S. NOTE: ANY DEVIATIONS FROM SCHEDULED EQUIPMENT RESULTING IN ADDITIONAL COSTS DUE TO LACK OF COORDINATION WITH DIMENSIONS AND WEIGHTS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SUB-CONTRACTOR.

T. THE ENGINEERED SYSTEMS, INCLUDING: NURSE CALL, DICTATION, INTERCOM, CODE BLUE, SOUND SYSTEMS, TELEVISION, RADIO, ETC. SHALL BE PROVIDED WITH STANDARD BACK BOXES AND CONDUITS STUBBED ABOVE THE CEILING, FURNISHED AND INSTALLED BY THE CONTRACTOR. SPECIAL BOXES WILL BE PROVIDED BY

DWG. FILENAME:

MECHANICAL/ELECTRICAL SYSTEM COORDINATION SCHEDULE

SYSTEM	FURNISHED BY	INSTALLED BY	POWER WIRING BY	CONTROL OR SUPERVISION WIRING BY
LIFE SAFETY SYSTEM	---	---	---	---
FIRE/SMOKE DAMPER/ ACTUATOR	DIV 23	DIV 23	DIV 26	DIV 28
DUCT SMOKE DETECTOR	DIV 28	DIV 23	---	DIV 28
THIS TABLE IS PROVIDED AS A GUIDE TO THE DOCUMENT PREPARATION AND IN NO WAY INDICATES CONTRACTOR MEANS AND METHODS				

HOSPITAL ELECTRICAL SYMBOLS

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

SYMBOL	DESCRIPTION	MNTG. HT. UNO (SEE NOTE 1)
(D)⊢(D)	SMOKE DETECTOR CEILING OR WALL MOUNTED	-
(D)═══⊐	DUCT SMOKE DETECTOR	-
———	CIRCUIT HOME RUN TO PANELBOARD (2 #12, 1 #12G, 3/4"C. 20A/1P CB UNO)	-
(J_E)⊢(J_E)	JUNCTION BOX - SIZE & MOUNTING AS REQUIRED, ON EMERGENCY CIRCUIT	AS REQD.
(J)⊢(J)	JUNCTION BOX - SIZE & MOUNTING AS REQUIRED	AS REQD.

MECHANICAL SYMBOLS

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

SYMBOL	DESCRIPTION
	EXISTING EQUIPMENT
	EXISTING EQUIPMENT TO BE REMOVED OR RELOCATED
	NEW DUCT
	EXISTING DUCT
	EXISTING DUCT TO BE REMOVED OR RELOCATED
	FIRE DAMPER
	SMOKE DAMPER
	FIRE/SMOKE DAMPER

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *pmckown*
Date: *Jan 25, 2013*
2009 INTERNATIONAL CODES & 2011 NEC

RSN: *697386*
Permit #: *13-640626 LT*

PROJECT DESIGN CRITERIA

LOCATION:	
CITY/STATE	AURORA, COLORADO
APPLICABLE CODES:	
BUILDING	2009 IBC
MECHANICAL	2009 IMC
PLUMBING	2009 IPC
ENERGY	2009 IECC
ELECTRICAL	2011 NEC
LATITUDE:	
DEG. N. LAT.	39.75
ELEVATION:	
FT. ABOVE SEA LEVEL	5331

The Medical Center of Aurora
HealthONE

ADCA

MEDICAL CENTER OF AURORA

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PROJECT NO.:

DRAWN BY: ???
CHECKED BY: TT
SCALE: AS NOTED
DATE: 11/14/2012
ISSUED FOR: CONSTRUCTION
REVISIONS:

SHEET TITLE:
MECHANICAL / ELECTRICAL LEGENDS, NOTES, AND SCHEDULES

SHEET NO.:
ME-100

ELECTRICAL SPECIFICATIONS:

I GENERAL CONDITIONS

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

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

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

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

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

F. WHERE ONLY ONE MANUFACTURER'S NAME IS LISTED IN THE EQUIPMENT SPECIFICATION, OTHER MANUFACTURERS OF SIMILAR CHARACTERISTICS AND OF EQUAL OR BETTER PERFORMANCE CAPACITIES MAY BE CONSIDERED FOR "OR EQUAL" ACCEPTANCE BY THE ENGINEER. SUBSTITUTION REQUESTS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL. WHERE MORE THAN ONE MANUFACTURER IS LISTED IN THE NOTES AND EQUIPMENT SPECIFICATIONS, ONLY THOSE NAMED MANUFACTURERS WILL BE CONSIDERED FOR ACCEPTANCE. SHOULD A SUBSTITUTION BE ACCEPTED, AND SHOULD THE SUBSTITUTE MATERIAL PROVE DEFECTIVE, OR OTHERWISE UNSATISFACTORY FOR THE SERVICE INTENDED WITHIN THE GUARANTEE PERIOD, THIS MATERIAL OR EQUIPMENT SHALL BE REPLACED WITH THE MATERIAL OR EQUIPMENT SPECIFIED AT NO COST TO THE OWNER.

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

H. INSTALL EQUIPMENT WITH WORKING CLEARANCES COMPLYING WITH NEC 110-16 AND 110-34.

II PRODUCTS

A. CONDUIT

1. ELECTRIC METALLIC TUBING (EMT): OF HIGH GRADE STEEL MANUFACTURED SPECIFICALLY TO STANDARDS ASSURING MAXIMUM WELDING CHARACTERISTICS AND DUCTILITY, AND SHALL CONFORM TO FED. SPEC. WW-T-806b.

2. FLEXIBLE METAL CONDUIT: MANUFACTURED OF MILD STEEL STRIP MATERIAL HAVING A HOT-DIP GALVANIZED COATING AND MEETING REQUIREMENTS OF FED. SPEC. WW-C-566b.

3. METAL-CLAD CABLE MAY BE USED. TYPE MC METAL CLAD CABLE SHALL CONSIST OF FACTORY ASSEMBLED INSULATED CONDUCTORS ENCLOSED IN A METALLIC SHEATH OF INTERLOCKED GALVANIZED STEEL STRIP MANUFACTURED IN ACCORDANCE WITH UL 1569. THE CONDUCTORS SHALL HAVE AN OPERATING TEMPERATURE OF 90 DEGREE C AND SHALL BE COVERED BY A HIGH DIELECTRIC STRENGTH ASSEMBLY TAPE. TYPE MC CABLE SHALL BE AS MANUFACTURED BY AFC OR EQUAL.

B. COUPLINGS AND TERMINATORS

1. FOR ELECTRICAL METALLIC TUBING: STEEL SET SCREW COUPLINGS; STEEL SET SCREW BOX CONNECTORS WITH NYLON INSULATED THROAT AND LOCKNUTS AT ALL BOXES AND CABINET TERMINATIONS OR NON-INSULATED BOX CONNECTOR, LOCKNUT AND NYLON-INSULATED GROUNDING BUSHING ON ALL TUBING WHERE GROUNDING BUSHINGS ARE REQUIRED.

2. FOR FLEXIBLE METAL CONDUIT: COUPLINGS AT CONNECTIONS BETWEEN FLEXIBLE CONDUIT AND EMT, AND NYLON INSULATED THROAT STEEL CONNECTORS AT BOX OR CABINET TERMINATIONS.

C. JUNCTION AND PULL BOXES

1. SIZE BOXES IN ACCORDANCE WITH THE REQUIREMENTS OF THE NEC. BOXES SHALL BE NO SMALLER THAN 4 INCHES SQUARE BY 1-1/2 INCHES DEEP WITH COVERS ACCESSIBLE AT ALL TIMES. SET BOXES ON CONCEALED CONDUITS WITH COVERS FLUSH WITH THE FINISHED WALL OR CEILING LINE. PROVIDE JUNCTION AND PULL BOXES OF APPROPRIATE DIMENSIONS FOR CONDUITS AND CONDUCTORS NOTED, WHERE SHOWN AND WHERE NECESSARY FOR THE INSTALLATION AND PULLING OF CABLES AND WIRES. INSTALL COVERS ON JUNCTION BOXES AND CONDULETS AFTER WIRING AND CONNECTIONS ARE COMPLETED.

D. CONDUCTORS

1. CONDUCTORS SHALL BE 98% CONDUCTIVITY SOFT DRAWN ANNEALED COPPER, 600 VOLT, THHN/THWN INSULATION, #10 AND SMALLER – SOLID, #8 AND LARGER – STRANDED.

2. NO CONDUCTORS SHALL BE SMALLER THAN NO. 12, EXCEPT FOR SIGNAL OR CONTROL CIRCUITS AND FOR INDIVIDUAL LIGHTING FIXTURE TAPS AS PERMITTED BY NEC.

3. FOR HOME RUNS ON 120-VOLT, 20-AMPERE BRANCH CIRCUITS, WHERE LENGTH OF RUN FROM PANELBOARD TO FIRST OUTLET EXCEEDS 100 LINEAR FEET, USE NO. 10 CONDUCTORS. WHERE LENGTH OF RUN IS 100 LINEAR FEET OR LESS, USE NO. 12 CONDUCTORS.

E. OVERCURRENT PROTECTIVE DEVICES

1. MOLDED CASE CIRCUIT BREAKERS

a. AS MANUFACTURED BY THE MANUFACTURER OF THE PANELBOARD IN WHICH INSTALLED.

b. ONE, TWO OR THREE POLE WITH RATINGS INDICATED ON THE DRAWINGS; (STANDARD) OR (HIGH INTERRUPTING) CONSTRUCTION AS REQUIRED BY THE SHORT CIRCUIT RATINGS INDICATED ON THE DRAWINGS.

c. QUICK-MAKE, QUICK-BREAK, CALIBRATED FOR OPERATION IN AN AMBIENT TEMPERATURE OF 40°C. TRIP INDICATION BY HANDLE POSITION, TRIP-FREE. TWO AND THREE POLE BREAKERS: COMMON TRIP WITH SINGLE OPERATING HANDLE WITHOUT HANDLE TIES, PERMANENT TRIP UNIT CONTAINING INDIVIDUAL THERMAL AND MAGNETIC TRIP ELEMENTS IN EACH POLE. FRAME SIZES GREATER THAN 100 AMPERES: VARIABLE MAGNETIC TRIP ELEMENTS WHICH ARE SET BY A SINGLE ADJUSTMENT.

d. REMOVABLE LUGS, UL LISTED FOR COPPER AND ALUMINUM CONDUCTORS. LISTED FOR INSTALLATION OF MECHANICAL OR COMPRESSION TYPE LUGS.

F. DISCONNECT SWITCHES

1. AS MANUFACTURED BY SQUARE D, GENERAL ELECTRIC, CUTLER-HAMMER OR SIEMENS.

2. FUSIBLE/NON-FUSIBLE SWITCHES

a. ALL SWITCHES: HEAVY DUTY TYPE; UL LISTED AND MEET LATEST NEMA STANDARDS KS-1; HORSEPOWER RATED; QUICK-MAKE, QUICK-BREAK; VISIBLE BLADES IN "OFF" POSITION; REMOVABLE ARC SUPPRESSORS; LUGS FRONT REMOVABLE AND UL LISTED FOR 75°C ALUMINUM OR COPPER WIRE; OPERATING HANDLE IN CONTROL OF SWITCH WITH DOOR OPEN AND CLOSED; HANDLE POSITION CLEARLY INDICATE "ON" AND "OFF" POSITIONS; PROVISIONS FOR PADLOCKING IN "OFF" POSITION; SAFETY INTERLOCKS TO PREVENT THE ENCLOSURE DOOR FROM BEING OPENED WHILE THE HANDLE IS IN THE "ON" POSITION AND TO PREVENT THE HANDLE FROM BEING TURNED TO THE "ON" POSITION WHILE THE ENCLOSURE DOOR IS OPEN; MEANS TO PERMIT AUTHORIZED PERSONNEL TO RELEASE THE SAFETY INTERLOCKS FOR MAINTENANCE OR INSPECTION; AUXILIARY POLES, AS REQUIRED, TO DISCONNECT CONTROL VOLTAGE(S) WHEN POWER VOLTAGE IS DISCONNECTED.

b. ENCLOSURES: NEMA 1 OR NEMA 3R, AS INDICATED ON DRAWINGS; CLEAN STEEL, GALVANIZED AFTER FORMING, PRIMED AND GREY BAKED ENAMEL FINISHED; NEMA 1 COVERS ON PIN TYPE HINGES; NEMA 3R COVERS SECURABLE IN THE OPEN POSITION. INTERCHANGEABLE BOLT-ON THREADED HUBS ON NEMA 3R SWITCHES THRU 200 AMPERE.

G. GROUNDING

1. GROUNDING SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.

2. GROUNDING CONDUCTORS SHALL BE ANNEALED COPPER CABLES OF THE SIZES INDICATED OR REQUIRED.

3. A "GREEN WIRE" EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED WITHIN EACH FEEDER AND BRANCH CIRCUIT RACEWAY, WHETHER METALLIC OR NON-METALLIC, TO FORM A COMPLETE AND CONTINUOUS GROUNDING PATH. CONNECT GROUNDING CONDUCTORS TO GROUND TERMINALS AT EACH END OF THE RUN.

H. FIRE ALARM SYSTEM

1. FURNISH AND INSTALL FIRE ALARM AND DETECTION SYSTEM ADDITIONS AND RELOCATIONS AS INDICATED ON THE DRAWINGS, COMPATIBLE AND CONSISTENT WITH THE EXISTING SYSTEM.

2. THE EXISTING SYSTEM OPERATION SHALL REMAIN UNCHANGED PROVIDING CONTINUAL SERVICE DURING ALL PHASES OF THE RENOVATION AND EXPANSION.

III EXECUTION

A. INSTALLATION OF BUILDING CONDUIT

1. ALL INTERIOR RACEWAYS SHALL BE EMT. RACEWAYS IN DAMP OR WET LOCATIONS, OR IN HAZARDOUS LOCATIONS, SHALL BE GRC OR IMC.

2. CONDUITS SHALL BE OF SUCH SIZE AND SO INSTALLED THAT THE CONDUCTORS MAY BE DRAWN THROUGH WITHOUT INJURY OR EXCESSIVE STRAIN, SHALL BE SECURED AT CABINETS AND BOXES WITH GALVANIZED LOCKNUTS, BOTH INSIDE AND OUTSIDE, AND SHALL HAVE APPROPRIATE BUSHINGS INSIDE. BUSHINGS SHALL BE INSULATING TYPE WITH BOND GROUND CLAMPS.

3. USE LENGTHS OF FLEXIBLE METAL CONDUIT NOT LESS THAN 12 INCHES LONG AT FINAL CONNECTIONS TO ALL MOTORS, TRANSFORMERS AND SIMILAR DEVICES SUBJECT TO MOVEMENT BECAUSE OF VIBRATION OR MECHANICAL ADJUSTMENT. USE FLEXIBLE METAL CONDUITS TO EFFECT FINAL CONNECTIONS TO RECESSED LIGHTING FIXTURES. USE LIQUID TIGHT FLEXIBLE METAL CONDUIT, WITH APPROPRIATE CONNECTIONS, IN DAMP OR WET LOCATIONS, AT MOTOR OR EQUIPMENT LOCATIONS IN MECHANICAL EQUIPMENT ROOMS, AT OR NEAR PUMPS, AND WHEN INSTALLED OUTDOORS.

4. GROUND METALLIC CONDUITS AS REQUIRED BY NEC.

5. INSTALL RACEWAYS CONTINUOUS FROM OUTLET TO OUTLET BOX, OR CABINET, WITH A MAXIMUM OF 150 FEET BETWEEN PULLS. IN AREAS WHERE THERE ARE NO SUSPENDED CEILINGS, RUN ALL CONDUITS PARALLEL/PERPENDICULAR TO BUILDING SURFACE PLANES.

6. WHEREVER RACEWAYS PASS THROUGH FLOORS, WALLS, PENETRATIONS, OR OTHER PARTITIONS, CAREFULLY FILL ANY SPACE BETWEEN THE OUTSIDE OF THE RACEWAY AND THE BUILDING MATERIAL TO PREVENT PASSAGE OF AIR, WATER, SMOKE, AND FUMES. FILLING MATERIAL SHALL BE A UL LISTED, INTUMESCENT SEALING HAVING FIRE/SMOKE RESISTIVE RATING EQUAL TO THE BUILDING MATERIAL PENETRATED.

7. TYPE MC METAL CLAD CABLES SHALL BE ACCEPTABLE TO BE INSTALLED IN WALLS AND CEILINGS IN CONFORMANCE WITH THE REQUIREMENTS OF NEC 334. TYPE MC CABLE SHALL BE USED ONLY FOR BRANCH CIRCUITS FOR LIGHTING AND SPECIFIC AND GENERAL PURPOSE RECEPTACLES. TYPE MC CABLE SHALL NOT BE USED FOR FEEDERS OR MULTIPLE BRANCH CIRCUIT HOMERUNS, AND MORE SPECIFICALLY, SHALL NOT BE USED FOR HVAC, AND KITCHEN EQUIPMENT BRANCH CIRCUITS. TYPE MC CABLE SHALL NOT BE UTILIZED WITHIN ELECTRICAL EQUIPMENT ROOMS. CABLE SHALL TRANSITION TO A RIGID TYPE CONDUIT PRIOR TO ENTERING ELECTRICAL EQUIPMENT ROOMS.

8. CONDUITS UTILIZED THROUGHOUT THE PROJECT SHALL NOT BE SMALLER THAN 3/4 INCH FOR FEEDERS, MULTIPLE BRANCH CIRCUIT HOMERUNS AND HOMERUNS OF CONDUCTORS LARGER THAN NO. 12. INDIVIDUAL BRANCH CIRCUIT WIRING FOR NO. 12 CONDUCTORS SHALL BE ACCEPTABLE IN 1/2" CONDUIT, I.E. 2#12, 1#12G, 1/2"C.

B. INSTALLATION OF PULL AND JUNCTION BOXES

1. FASTEN ALL BOXES SECURELY TO THE BUILDING CONSTRUCTION, INDEPENDENT OF CONDUIT SYSTEMS.

2. ON CONCEALED CONDUIT SYSTEMS WHERE BOXES ARE NOT OTHERWISE ACCESSIBLE, SET BOXES FLUSH WITH FINISHED SURFACES FOR ACCESS, AND PROVIDE OVERLAPPING COVERS.

C. INSTALLATION OF CONDUIT HANGERS AND SUPPORTS

1. FURNISH AND INSTALL ALL HANGERS AND SUPPORTS REQUIRED BY RACEWAY SYSTEMS.

2. SUPPORT ALL ABOVE-GROUND ELECTRICAL CONDUITS FROM THE BUILDING STRUCTURE/CONSTRUCTION. SUPPORT CONDUITS RUNNING VERTICALLY OR HORIZONTALLY ALONG WALLS WITH GALVANIZED MALLEABLE IRON ONE-HOLE CLAMPS. CARRY INDIVIDUALLY SUPPORTED HORIZONTAL CONDUITS 1-1/4 INCH AND LARGER ON SUITABLE HANGERS.

3. LOCATE HANGERS AND TRAPEZES TO SUPPORT HORIZONTAL RACEWAYS WITHOUT APPRECIABLE SAGGING. HANGER SPACING SHALL NOT EXCEED NEC REQUIREMENTS, OR RECOMMENDATIONS OF THE NECA "STANDARD OF INSTALLATION".

4. WHERE CONDUITS SMALLER THAN 1-1/4 INCH ARE INSTALLED ABOVE REMOVABLE TYPE DRY CEILINGS, SUPPORT THEM ON SUITABLE HANGER RODS WITH METAL CLIPS AT A DISTANCE ABOVE THE CEILING SUFFICIENT TO PERMIT REMOVAL OF CEILING PANELS AND LAY-IN LIGHT FIXTURES. LOCATE SUCH CONDUITS SO AS NOT TO HINDER ACCESS TO MECHANICAL EQUIPMENT THROUGH CEILING PANELS.

D. INSTALLATION OF CONDUCTORS

1. PULL NO CONDUCTORS INTO CONDUITS UNTIL ALL WORK OF A NATURE WHICH MAY CAUSE INJURY TO CONDUCTORS IS COMPLETED.

2. RUN FEEDERS IN CONTINUOUS PIECES, WITHOUT JOINTS OR SPLICES, INSOFAR AS PRACTICABLE.

3. RUN CONDUITS FOR EMERGENCY POWER CONDUCTORS SEPARATE FROM ALL OTHER WIRING.

E. SEGREGATION OF WIRING SYSTEMS

1. SEGREGATION OF WIRING SYSTEMS SHALL NOT BE COMPROMISED BY THE USE OF COMMON PULLBOXES, WIREWAYS, CABINETS OR ANY OTHER TYPE OF ENCLOSURE.

2. THE RACEWAY SYSTEM FOR EACH FEEDER SHALL BE A SEPARATE SYSTEM COMPLETELY FAULT ISOLATED FROM ALL OTHER RACEWAY SYSTEMS.

3. THE RACEWAY SYSTEM FOR THE BRANCH CIRCUITS OF EACH PANELBOARD SHALL BE A SEPARATE SYSTEM COMPLETELY FAULT ISOLATED FROM ALL OTHER RACEWAY SYSTEMS.

F. EQUIPMENT CONNECTIONS AND CONTROL WIRING

1. THE FURNISHING AND INSTALLATION OF CONTROL POWER WIRING REQUIRED FOR EQUIPMENT FURNISHED UNDER DIVISION 15 AND NOT SHOWN ON THE ELECTRICAL DRAWINGS SHALL BE FURNISHED UNDER DIVISION 15. CONTROL POWER WIRING IS DEFINED AS THE LINE VOLTAGE (120V) POWER WIRING FOR EQUIPMENT CONTROL CABINETS, TEMPERATURE CONTROL, ENERGY MANAGEMENT, OR BUILDING AUTOMATION SYSTEM PANELS AND LINE VOLTAGE SMOKE/FIRE DAMPERS.

2. THE FURNISHING AND INSTALLATION OF THE TEMPERATURE CONTROL WIRING, ENERGY MANAGEMENT SYSTEM OR BUILDING AUTOMATION WIRING NOT SHOWN ON THE ELECTRICAL DRAWINGS SHALL BE FURNISHED UNDER DIVISION 15. TEMPERATURE CONTROL, ENERGY MANAGEMENT SYSTEM AND BUILDING AUTOMATION SYSTEM WIRING IS DEFINED AS THE INTERLOCK OR INTERCONNECTING WIRING REQUIRED BETWEEN SYSTEM CONTROL DEVICES, APPURTENANCES AND CONTROL PANELS TO ALLOW THE SYSTEM TO FUNCTION AUTOMATICALLY. THIS INCLUDES WIRING BETWEEN THE FIRE ALARM SYSTEM, SMOKE EXHAUST SYSTEMS, DOOR ENTRY SYSTEMS AND ANY OTHER SYSTEM REQUIRING INTERFACE WITH THE TEMPERATURE CONTROL, ENERGY MANAGEMENT AND BUILDING AUTOMATION SYSTEM.

3. PROVIDE POWER WIRING TO EACH MOTOR-DRIVEN AND/OR ELECTRICALLY-OPERATED SYSTEM OR UNIT OF EQUIPMENT. THE WIRING SHALL ALLOW THE MOTOR(S) OR EQUIPMENT TO OPERATE IN A MANUAL MODE.

4. CONTROL WIRING WILL, UNLESS SPECIFICALLY NOTED OTHERWISE, WILL BE FURNISHED AND INSTALLED UNDER OTHER DIVISIONS OF THE SPECIFICATIONS.

5. EXCEPT FOR ITEMS THAT ARE FURNISHED WITH FACTORY-INSTALLED, INTEGRAL MOTORS, AN ELECTRIC MOTOR OF REQUIRED SIZE AND ELECTRICAL CHARACTERISTICS WILL BE PROVIDED AND INSTALLED UNDER OTHER DIVISIONS FOR EACH ITEM OF MOTOR-DRIVEN EQUIPMENT. COMPLETE THE ELECTRICAL INSTALLATION OF THESE MOTORS IN ACCORDANCE WITH APPROVED WIRING DIAGRAMS AND INSTRUCTIONS.

6. WHERE DISCONNECT SWITCHES OR CIRCUIT BREAKERS ARE NOT PROVIDED INTEGRAL WITH CONTROL EQUIPMENT FOR MOTORS AND OTHER ELECTRICAL APPURTENANCES, PROVIDE AND INSTALL ALL DISCONNECT SWITCHES REQUIRED BY THE NATIONAL ELECTRICAL CODE AND/OR INDICATED.

7. WHERE POSSIBLE, TERMINATE CONDUITS IN CONDUIT BOXES ON MOTORS. WHERE MOTORS ARE NOT PROVIDED WITH CONDUIT BOXES, TERMINATE THE CONDUITS IN CONDUIT FITTINGS AT THE MOTORS.

G. EXISTING SYSTEMS TO REMAIN

1. THE CONTRACT DOCUMENTS DO NOT PROPOSE TO SHOW ALL EXISTING SYSTEMS, MATERIAL OR EQUIPMENT. OBTAIN DATA RELATED TO EXISTING CONDITIONS FROM EXISTING DOCUMENTS, MEASUREMENTS, NOTATIONS, PHOTOGRAPHS, SURVEYS AND OTHER OBSERVATIONS AT THE SITE.

2. REMOVE EXISTING WIRE, CONDUIT, EQUIPMENT, FIXTURES AND OTHER ITEMS TO PROVIDE ACCESS FOR WORK IN EXISTING FACILITIES. REINSTALL AND REFINISH ITEMS REMOVED, OR OTHERWISE DAMAGED, TO MATCH EXISTING ADJACENT SURFACED UPON COMPLETION OF THE WORK.

3. WHERE EXISTING FUNCTIONS TO REMAIN IN USE ARE DISRUPTED, THEY SHALL BE FULLY RESTORED AFTER DISRUPTION, IN FULL COMPLIANCE WITH THIS DIVISION OF THE SPECIFICATIONS FOR NEW WORK.

4. MODIFY, REMOVE OR RELOCATE MATERIALS AND ITEMS INDICATED ON THE DRAWINGS OR REQUIRED BY THE INSTALLATION OF NEW WORK.

5. WORKING JOINTLY WITH THE ARCHITECT, ESTABLISH AND MARK SALVAGE AND DEMOLITION ITEMS BEFORE COMMENCING WORK; REPORT ITEMS SCHEDULE FOR RELOCATION, REINSTALLATION OR REUSE, WHICH ARE FOUND TO BE IN DAMAGED CONDITION; AWAIT FURTHER INSTRUCTIONS FROM THE ARCHITECT BEFORE COMMENCING WITH WORK.

6. DEMOLITION EQUIPMENT, DEVICES AND MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR. SALVAGED EQUIPMENT AND DEVICES SHALL BE THE PROPERTY OF THE CONTRACTOR UNLESS NOTED OTHERWISE.

7. MAKE MINOR RELOCATIONS NECESSITATED BY THE CONDITIONS AT THE SITE OR AS DIRECTED BY THE ARCHITECT, WITHOUT ADDITIONAL COST TO THE OWNER. REPAIR AND RESTORE TO GOOD FUNCTIONAL CONDITION, EQUIPMENT, MATERIALS AND ITEMS SCHEDULED FOR RELOCATION, WHICH ARE DAMAGED DURING DISMANTLING OR REASSEMBLY OPERATIONS. NEW MATERIALS AND ITEMS OF SIMILAR DESIGN AND QUALITY MAY BE SUBSTITUTED FOR MATERIALS AND ITEMS INDICATED TO BE RELOCATED UPON APPROVAL OF SHOP DRAWINGS, PRODUCT DATA AND SAMPLES. REMOVE CAREFULLY, IN REVERSE ORDER TO ORIGINAL ASSEMBLY OR PLACEMENT, ITEMS WHICH ARE TO BE RELOCATED. PROTECT ITEMS UNTIL RELOCATION IS COMPLETE. CLEAN AND REPAIR ITEMS TO BE RELOCATED, AND PROVIDE NEW MATERIALS, FITTINGS AND APPURTENANCES REQUIRED TO COMPLETE THE RELOCATIONS AND TO RESTORE TO GOOD OPERATING ORDER. PERFORM THE RELOCATION WORK IN ACCORDANCE WITH APPLICABLE PORTIONS OF THESE SPECIFICATIONS, UTILIZING SKILLED WORKERS.

8. RELOCATING DEVICES: REMOVE AND REINSTALL IN LOCATIONS DESIGNATED BY THE ARCHITECT TEMPERATURE CONTROL SYSTEM DEVICES, RELAYS, WIRE, CONDUIT, FIXTURES, EQUIPMENT AND OTHER DEVICES REQUIRED FOR THE OPERATION OF THE VARIOUS SYSTEMS THAT ARE INSTALLED IN EXISTING-TO-BE-REMOVED CONSTRUCTION.

H. CONTRACTOR SHALL KEEP A CLEAN SET OF DRAWINGS ON THE JOB, NOTING DAILY ALL CHANGES MADE IN THESE DRAWINGS IN CONNECTION WITH THE FINAL INSTALLATION INCLUDING EXACT DIMENSIONED LOCATIONS OF ALL NEW AND UNCOVERED EXISTING UTILITIES AND SHALL, WITH HIS REQUEST FOR FINAL PAYMENT, TURN OVER A CLEAN, NEATLY MARKED SET OF REPRODUCIBLE MYLARS SHOWING "AS INSTALLED" WORK TO THE ARCHITECT FOR SUBSEQUENT REVIEW AND TRANSMITTAL TO THE OWNER. CONTRACTOR SHALL NOTE ALL CONSTRUCTION CHANGES, DATE EACH SHEET AND LABEL "AS-BUILTS" IN THE REVISION BLOCK ON THE DRAWINGS. CONTRACTOR SHALL ALSO FURNISH ONE (1) SET OF □AS-BUILT□ BLUELINE PRINTS.

I. IN ADDITION TO THE ABOVE, CONTRACTOR SHALL ACCUMULATE DURING THE JOB'S PROGRESS, THE FOLLOWING DATA, IN TRIPLICATE, PREPARED IN A NEAT BROCHURE OR PACKET FOLDER AND TURNED OVER TO THE ARCHITECT FOR REVIEW AND SUBSEQUENT DELIVERY TO THE OWNER.

1. ALL WARRANTIES AND GUARANTEES AND MANUFACTURER'S DIRECTIONS ON EQUIPMENT AND MATERIAL COVERED BY THE CONTRACT INCLUDING THE NAMES, ADDRESSES AND TELEPHONE NUMBERS OF THE MANUFACTURER'S REPRESENTATIVE.

2. APPROVED FIXTURE BROCHURES, WIRING DIAGRAMS AND CONTROL DIAGRAMS (ORIGINAL DATA, NO COPIES).

3. COPIES OF APPROVED SHOP DRAWINGS.

4. OPERATING INSTRUCTIONS FOR ALL ELECTRICAL SYSTEM EQUIPMENT. OPERATING INSTRUCTIONS SHALL ALSO INCLUDE RECOMMENDED MAINTENANCE PROCEDURES.

5. TEST REPORTS REQUIRED BY THESE SPECIFICATIONS.

6. ANY AND ALL OTHER DATA AND/OR DRAWINGS REQUIRED DURING CONSTRUCTION.

7. REPAIR PARTS LISTS OF ALL MAJOR ITEMS OF EQUIPMENT INCLUDING NAME, ADDRESS AND TELEPHONE NUMBERS OF LOCAL SUPPLIER OR AGENT.

J. ALL OF THE ABOVE DATA SHALL BE SUBMITTED TO THE ENGINEER FOR HIS REVIEW AT SUCH TIME AS THE CONTRACTOR SUBMITS HIS LAST ESTIMATE PRIOR TO HIS FINAL PAYMENT, BUT IN NO CASE, LESS THAN TWO WEEKS BEFORE FINAL INSPECTION.

MECHANICAL SPECIFICATIONS:

I GENERAL CONDITIONS:

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

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

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

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

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

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

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

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

II MECHANICAL DEMOLITION

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

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

III PRODUCTS, EQUIPMENT AND EXECUTION:

A. RECTANGULAR "LOW PRESSURE" SHEET METAL DUCT SHALL BE FABRICATED OF CONTINUOUS HOT DIP MILL GALVANIZED MINIMUM 26 GAUGE STEEL SHEETS AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS FOR 1.0" W.C. AND FOR THE FIRST 10 TO 15 FEET DOWNSTREAM OF A TERMINAL UNIT SHALL HAVE AN INTERNAL DUCT LINING EQUAL TO JOHNS-MANVILLE PERMACOTE LINACOUSTIC, 1" THICK, 1.5 LB. DENSITY DUCT LINER. DUCTS FOR MEDICAL WORK SHALL NOT BE LINED, BUT WILL BE WRAPPED.

B. ROUND "LOW PRESSURE" DUCT FITTINGS SHALL BE FABRICATED OF CONTINUOUS HOT DIP MILL GALVANIZED MINIMUM 26 GAUGE STEEL SHEETS AND INSTALLED IN ACCORDANCE WITH SMACNA RECOMMENDATIONS FOR 0.5" W.C.

C. RECTANGULAR AND ROUND "PRIMARY AIR" SHEET METAL DUCT AND FITTINGS SHALL BE FABRICATED OF CONTINUOUS HOT DIP MILL GALVANIZED MINIMUM 26 GAUGE STEEL SHEETS AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS FOR 3.0" W.C., AND RECTANGULAR DUCT SHALL HAVE AN INTERNAL DUCT LINING EQUAL TO JOHNS-MANVILLE PERMACOTE LINACOUSTIC, 1" THICK, 1.5 LB. DENSITY DUCT LINER. DUCTS FOR MEDICAL WORK SHALL NOT BE LINED, BUT WILL BE WRAPPED. CONSTRUCTION METHODS:

1. RECTANGULAR – DUCTMATE SYSTEM

2. ROUND – SPIRAL DUCT SYSTEM

D. ROUND DUCTS AND UNLINED RECTANGULAR DUCTS SHALL BE INSULATED WITH 3/4 POUND PER CUBIC FOOT MINIMUM DENSITY, 2" THICK, COMMERCIAL GRADE, OWENS-CORNING FIBERGLASS FOIL BACKED ALL SERVICE DUCT WRAP, OR EQUAL.

E. FLEXIBLE DUCTS SHALL BE FLEXMASTER TYPE 8M, THERMAFLEX MKE OR WIREMOLD WK. FLEXIBLE DUCTS SHALL BE LISTED AS U.L. 181 CLASS (1) AIR DUCT AND SHALL COMPLY WITH NFPA STANDARDS 90A AND 90B.

F. CONTRACTOR SHALL BALANCE THE HVAC SYSTEMS FOR DESIGNATED AIR AND WATER QUANTITIES AND SHALL BE N.E.B.B. OR A.A.B.C. APPROVED. SUBMIT REPORT ON NEBB, AABC, OR SMACNA FORMS FOR APPROVAL BY THE ENGINEER. EXTENT OF BALANCING WORK TO INCLUDE REBALANCING OF EXISTING SUPPLY AND EXHAUST SYSTEMS AS REQUIRED TO ACHIEVE DESIGN CFM ON SUBJECT PROJECT. CONTRACTOR SHALL REBALANCE EXISTING AHU FOR SUPPLY AIR, RETURN AIR AND OUTSIDE AIR.

G. DUCT ACCESS DOORS: PROVIDE RIGID AND CLOSE FITTING DOORS OF GALVANIZED STEEL WITH SEALING GASKETS AND QUICK FASTENING LOCKING DEVICES. FOR INTERNALLY LINED OR INSTALLED DUCTWORK, INSTALL MINIMUM ONE INCH THICK INSULATION WITH SHEET METAL COVER. INSTALL AT EACH FIRE DAMPER. DOORS TO BE EQUAL TO FLEXMASTER " THE INSPECTOR SERIES."

H. FURNISH AND INSTALL SMOKE, FIRE AND/OR FIRE/SMOKE DAMPERS WHERE SHOWN ON THE DRAWINGS, AND REQUIRED BY THE GOVERNING AUTHORITY. DAMPERS SHALL BE INSTALLED AS RECOMMENDED BY SMACNA AND COMPLY WITH U.L. AND LOCAL ORDINANCES AS REQUIRED BY THE GOVERNING AUTHORITY. DUCT SMOKE DETECTORS SHALL BE INTERFACED WITH THE BUILDING FIRE ALARM.
1. SMOKE DETECTORS SHALL MATCH EXISTING AND CONFORM TO THE FOLLOWING SPECIFICATIONS:
a. COMPLY WITH UL 268A; OPERATING AT 120-V AC.
b. SENSOR: LED OR INFRARED LIGHT SOURCE WITH MATCHING SILICON-CELL RECEIVER.
1) DETECTOR SENSITIVITY: SMOKE OBSCURATION BETWEEN 2.5 AND 3.5 PERCENT/FOOT (0.008 AND 0.011 PERCENT/MM) WHEN TESTED ACCORDING TO UL 268A.
c. BASE MOUNTING: DETECTOR AND ASSOCIATED ELECTRONIC COMPONENTS SHALL BE MOUNTED IN A TWIST-LOCK MODULE THAT CONNECTS TO A FIXED BASE. THE FIXED BASE SHALL BE DESIGNED FOR MOUNTING DIRECTLY TO AIR DUCT. PROVIDE TERMINALS IN THE FIXED BASE FOR CONNECTION TO BUILDING WIRING.
1) WEATHERPROOF DUCT HOUSING ENCLOSURE: NEMA 250, TYPE 4X; NRTL LISTED FOR USE WITH THE SUPPLIED DETECTOR.
d. SAMPLING TUBES: DESIGN AND DIMENSIONS AS RECOMMENDED BY MANUFACTURER FOR SPECIFIC DUCT SIZE, AIR VELOCITY, AND INSTALLATION CONDITIONS WHERE APPLIED.
e. RELAY FAN SHUTDOWN: RATED TO INTERRUPT FAN MOTOR-CONTROL CIRCUIT.

I. TEMPERATURE CONTROLS:

1. ALL TEMPERATURE CONTROLS NECESSARY FOR THE RENOVATION AND FINISH-OUT OF THE SPACE SHALL COMPLY TO THE BASE BUILDING SYSTEM AND CONTROL SPECIFICATIONS. BUILDING STANDARD CONTROL SYSTEM COMPONENTS SHALL BE UTILIZED AS AN EXTENSION OF THE EXISTING CONTROL SYSTEM. EXTEND CONTROL WIRING AS NECESSARY TO ACCOMMODATE NEW WALL CONSTRUCTIONS.

2. ALL CONTROL WIRING AND POWER WIRING FOR CONTROLS SHALL BE BY THE CONTROLS SUB-CONTRACTOR.

3. AT THE COMPLETION OF CONSTRUCTION, ALL NEW AND EXISTING THERMOSTATS AND SENSORS SHALL BE CALIBRATED.

J. TEST AND BALANCE:

1. THE GENERAL CONTRACTOR SHALL RETAIN THE SERVICES OF AN INDEPENDENT CERTIFIED AIR BALANCE FIRM TO PERFORM THE TESTING AND BALANCING AND PREPARE REPORTS TO THE GENERAL CONTRACTOR. IF THE MECHANICAL CONTRACTOR IS NEBB CERTIFIED, THEY CAN BALANCE THE SYSTEM.

2. TESTING AND BALANCING SHALL BE PERFORMED IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN ACCORDANCE WITH THE ASSOCIATED AIR BALANCE COUNCIL NATIONAL STANDARDS FOR FIELD MEASUREMENT AND INSTRUMENTATION, SECOND EDITION, 1974, OR NATIONAL ENVIRONMENTAL BALANCING BUREAU STANDARDS.

3. READINGS AND TEST OF DIFFUSERS, GRILLES AND REGISTERS SHALL INCLUDE DESIGN, INITIAL TEST, AND FINAL ADJUSTED FPM VELOCITY AND CFM. ALL DIFFUSERS, GRILLES AND REGISTERS SHALL BE BALANCED BY A HOOD THAT HAS BEEN CALIBRATED, INCLUDING A MANOMETER, AND PILOT TUBE READINGS SHALL BE TAKEN TO ESTABLISH TOTAL CFM FLOW IN ALL MAIN DUCTS.

4. PROVIDE INITIAL AIRFLOW AND WATER FLOW READINGS REPORT PRIOR TO COMMENCEMENT OF WORK TO ENSURE EXISTING EQUIPMENT IS CAPABLE OF MEETING DESIGN CAPACITIES.

IV. RECORDS FOR OWNER:

A. CONTRACTOR SHALL KEEP A CLEAN SET OF DRAWINGS ON THE JOB, NOTING DAILY ALL CHANGES MADE IN THESE DRAWINGS IN CONNECTION WITH THE FINAL INSTALLATION INCLUDING EXACT DIMENSIONED LOCATIONS OF ALL NEW AND UNCOVERED EXISTING UTILITIES AND SHALL, WITH HIS REQUEST FOR FINAL PAYMENT, TURN OVER A CLEAN, NEATLY MARKED SET OF 2 MIL REPRODUCIBLE MYLARS SHOWING "AS INSTALLED" WORK TO THE ARCHITECT FOR SUBSEQUENT REVIEW AND TRANSMITTAL TO THE OWNER. CONTRACTOR SHALL NOTE ALL CONSTRUCTION CHANGES, DATE EACH SHEET AND LABEL "AS-BUILTS" IN THE REVISION BLOCK ON THE DRAWINGS. CONTRACTOR SHALL ALSO FURNISH ONE (1) SET OF BLUELINE PRINTS FROM THE "AS-BUILTS" MYLARS.

B. IN ADDITION TO THE ABOVE, CONTRACTOR SHALL ACCUMULATE DURING THE JOB'S PROGRESS, THE FOLLOWING DATA, IN TRIPLICATE, PREPARED IN A NEAT BROCHURE OR PACKET FOLDER AND TURNED OVER TO THE ARCHITECT FOR REVIEW AND SUBSEQUENT DELIVERY TO THE OWNER.

1. ALL WARRANTIES AND GUARANTEES AND MANUFACTURER'S DIRECTIONS ON EQUIPMENT AND MATERIAL COVERED BY THE CONTRACT INCLUDING THE NAMES, ADDRESSES AND TELEPHONE NUMBERS OF THE MANUFACTURER'S REPRESENTATIVE.

2. APPROVED FIXTURE BROCHURES, WIRING DIAGRAMS AND CONTROL DIAGRAMS (ORIGINAL DATA, NO COPIES).

3. COPIES OF APPROVED SHOP DRAWINGS.

4. OPERATING INSTRUCTIONS FOR HEATING AND COOLING AND OTHER MECHANICAL SYSTEM. OPERATING INSTRUCTIONS SHALL ALSO INCLUDE RECOMMENDED MAINTENANCE AND SEASONAL CHANGEOVER PROCEDURES.

5. TEST AND BALANCE REPORTS REQUIRED BY THESE SPECIFICATIONS.

6. ANY AND ALL OTHER DATA AND/OR DRAWINGS REQUIRED DURING CONSTRUCTION.

7. REPAIR PARTS LISTS OF ALL MAJOR ITEMS AND EQUIPMENT INCLUDING NAME, ADDRESS AND TELEPHONE NUMBERS OF LOCAL SUPPLIER OR AGENT..

C. ALL OF THE ABOVE DATA SHALL BE SUBMITTED TO THE ENGINEER FOR HIS REVIEW AT SUCH TIME AS THE CONTRACTOR SUBMITS HIS LAST ESTIMATE PRIOR TO HIS FINAL PAYMENT, BUT IN NO CASE, LESS THAN TWO WEEKS BEFORE FINAL INSPECTION.

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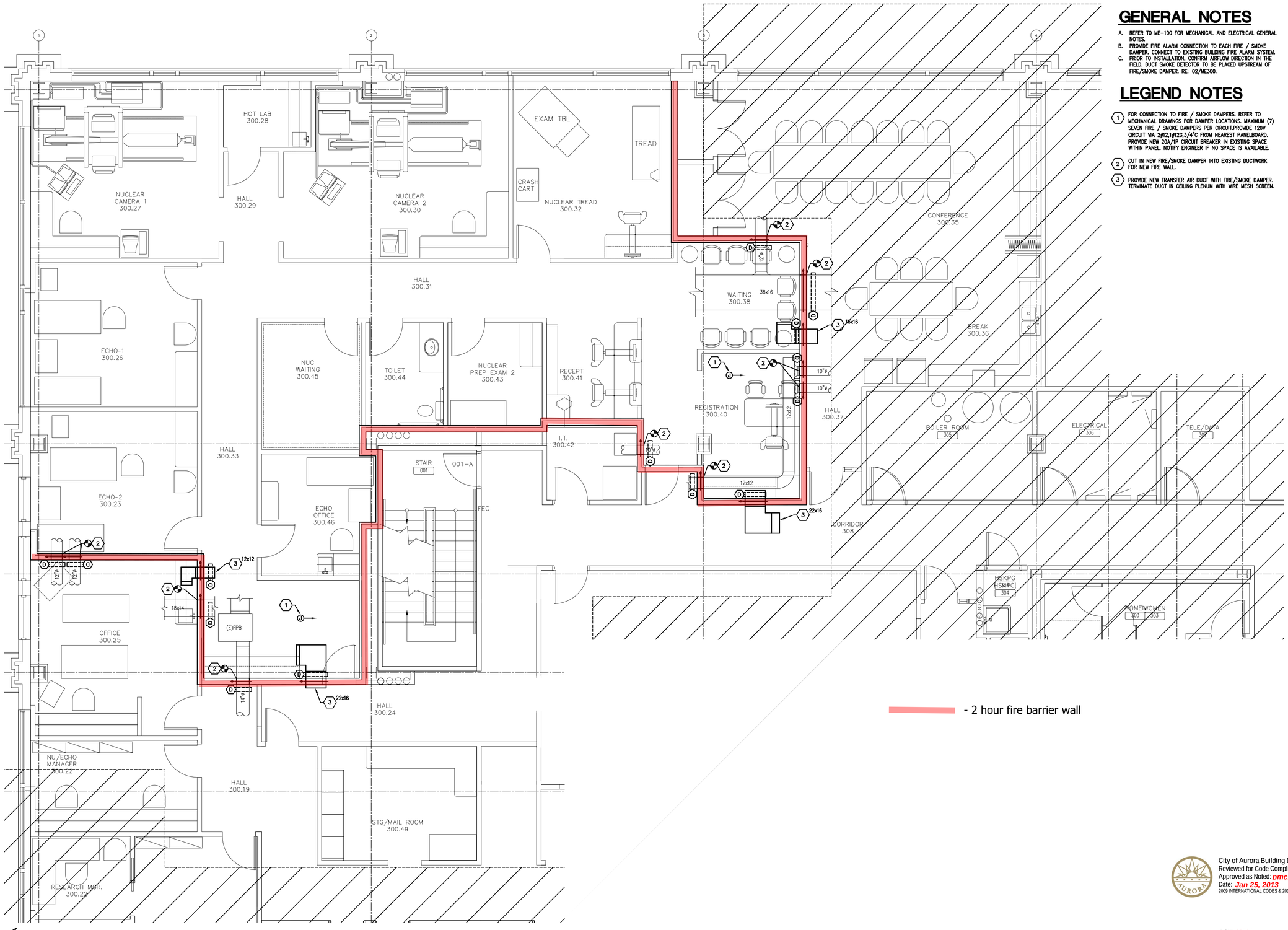
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SCALE:	AS NOTED
DATE:	11/14/2012
ISSUED FOR:	CONSTRUCTION

REVISIONS:
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SHEET TITLE:
MECHANICAL / ELECTRICAL SPECIFICATIONS

SHEET NO.:
ME-101



MECHANICAL/ELECTRICAL FLOOR PLAN

1/4" = 1'

GENERAL NOTES

A. REFER TO ME-100 FOR MECHANICAL AND ELECTRICAL GENERAL NOTES.
B. PROVIDE FIRE ALARM CONNECTION TO EACH FIRE / SMOKE DAMPER. CONNECT TO EXISTING BUILDING FIRE ALARM SYSTEM.
C. PRIOR TO INSTALLATION, CONFIRM AIRFLOW DIRECTION IN THE FIELD. DUCT SMOKE DETECTOR TO BE PLACED UPSTREAM OF FIRE/SMOKE DAMPER. RE: 02/ME300.

LEGEND NOTES

1. FOR CONNECTION TO FIRE / SMOKE DAMPERS. REFER TO MECHANICAL DRAWINGS FOR DAMPER LOCATIONS. MAXIMUM (7) SEVEN FIRE / SMOKE DAMPERS PER CIRCUIT.PROVIDE 120V CIRCUIT VIA 2#12,1#12G,3/4"C FROM NEAREST PANELBOARD. PROVIDE NEW 20A/1P CIRCUIT BREAKER IN EXISTING SPACE WITHIN PANEL. NOTIFY ENGINEER IF NO SPACE IS AVAILABLE.
2. CUT IN NEW FIRE/SMOKE DAMPER INTO EXISTING DUCTWORK FOR NEW FIRE WALL.
3. PROVIDE NEW TRANSFER AIR DUCT WITH FIRE/SMOKE DAMPER. TERMINATE DUCT IN CEILING PLENUM WITH WIRE MESH SCREEN.

- 2 hour fire barrier wall

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *pmckown*
Date: *Jan 25, 2013*
2009 INTERNATIONAL CODES & 2011 NEC

RSN: *697386*
Permit #: *13-640626 LT*

DWG. FILENAME:

The Medical Center of Aurora
HealthONE

ADCA

MEDICAL CENTER OF AURORA

1444 POTOMAC STREET
AURORA, COLORADO 80012

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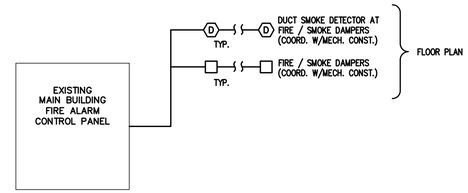
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PROJECT NO.:

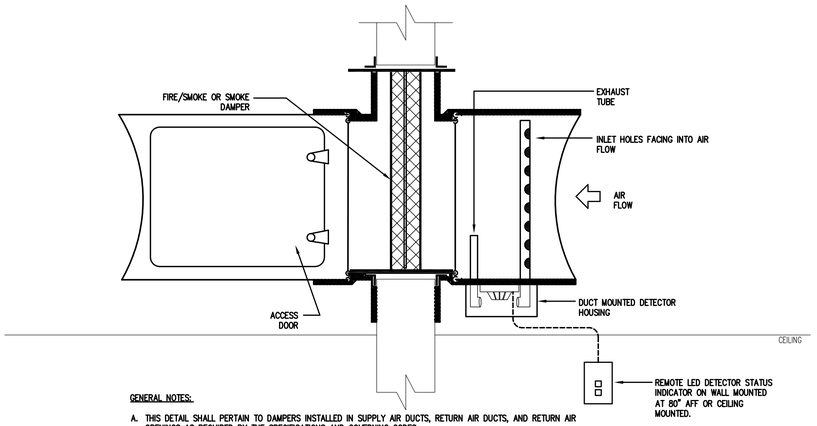
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SHEET TITLE:
MECHANICAL/ELECTRICAL FLOOR PLAN

SHEET NO.:
ME-201



03 FIRE ALARM RISER DIAGRAM
NO SCALE

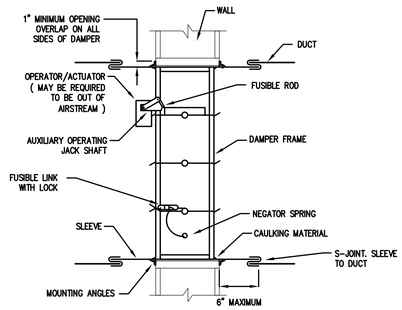


GENERAL NOTES:

A. THIS DETAIL SHALL PERTAIN TO DAMPERS INSTALLED IN SUPPLY AIR DUCTS, RETURN AIR DUCTS, AND RETURN AIR OPENINGS AS REQUIRED BY THE SPECIFICATIONS AND GOVERNING CODES.

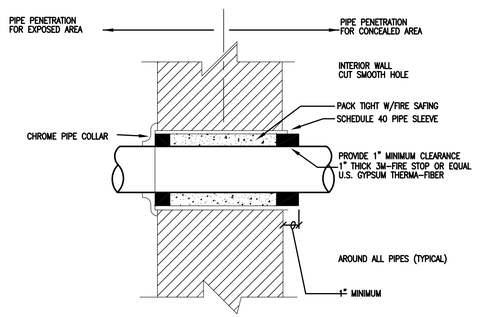
B. PROVIDE SMOKE DETECTORS AT ALL FIRE/SMOKE AND SMOKE DAMPER LOCATIONS. COORDINATE EXACT LOCATION OF ALL FIRE/SMOKE AND SMOKE DAMPERS WITH DIVISION 15 FLOOR PLANS. AS REQUIRED BY LOCAL AUTHORITY HOUSING JURISDICTION.

C. INSTALL DUCT DETECTORS IN ACCORDANCE WITH DUCT MOUNTED SMOKE DETECTOR DETAIL.

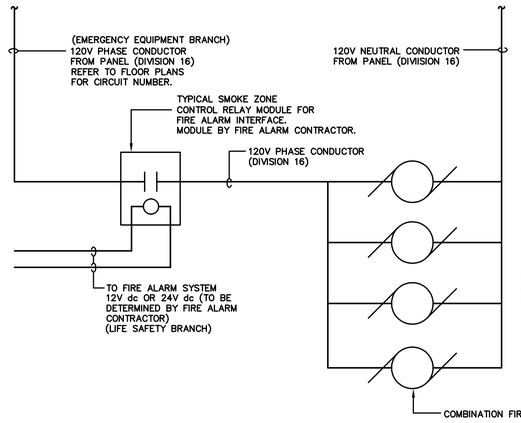


OPERATION:
A. FIRE DAMPER MODE: HIGH TEMPERATURE MELTS FUSIBLE LINK. CLOSING FIRE DAMPER
B. SMOKE DAMPER MODE: SMOKE DETECTOR UPON SENSING HEAT/SMOKE ACTUATES DAMPER MOTOR TO CLOSE DAMPER

05 SMOKE/FIRE DAMPER INSTALLATION
NO SCALE



04 FIRE PENETRATION DETAIL
NO SCALE



02 FIRE/SMOKE DAMPER INSTALLATION DETAIL
NO SCALE

GENERAL NOTES

A. DAMPERS PROVIDED AND INSTALLED BY DIVISION 15.

B. FIRE ALARM CONTROL RELAY MODULE AND CONTROL WIRING FURNISHED AND INSTALLED BY FIRE ALARM VENDOR.

C. 120V POWER WIRING AND TERMINATIONS BY ELECTRICAL CONTRACTOR.

01 TYPICAL SMOKE AND SMOKE/FIRE DAMPER WIRING DIAGRAM
SCALE: NONE

DWG. FILENAME:

The Medical Center of Aurora
Health ONE

ADCA

MEDICAL CENTER OF AURORA

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City of Aurora Building Division
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2009 INTERNATIONAL CODES & 2011 NEC

RSN: 697386
Permit #: 13-640626 LT

SHEET TITLE:
MECHANICAL / ELECTRICAL DETAILS

SHEET NO.:
ME-300

ELECTRICAL SPECIFICATIONS

I GENERAL CONDITIONS

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

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

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

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

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

F. WHERE ONLY ONE MANUFACTURER'S NAME IS LISTED IN THE EQUIPMENT SPECIFICATION, OTHER MANUFACTURERS OF SIMILAR CHARACTERISTICS AND OF EQUAL OR BETTER PERFORMANCE CAPACITIES MAY BE CONSIDERED FOR "OR EQUAL" ACCEPTANCE BY THE ENGINEER. SUBSTITUTION REQUESTS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL. WHERE MORE THAN ONE MANUFACTURER IS LISTED IN THE NOTES AND EQUIPMENT SPECIFICATIONS, ONLY THOSE NAMED MANUFACTURERS WILL BE CONSIDERED FOR ACCEPTANCE. SHOULD A SUBSTITUTION BE ACCEPTED, AND SHOULD THE SUBSTITUTE MATERIAL PROVE DEFECTIVE, OR OTHERWISE UNSATISFACTORY FOR THE SERVICE INTENDED WITHIN THE GUARANTEE PERIOD, THIS MATERIAL OR EQUIPMENT SHALL BE REPLACED WITH THE MATERIAL OR EQUIPMENT SPECIFIED AT NO COST TO THE OWNER.

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

H. INSTALL EQUIPMENT WITH WORKING CLEARANCES COMPLYING WITH NEC 110-16 AND 110-34.

II PRODUCTS

A. CONDUIT

1. ELECTRIC METALLIC TUBING (EMT)- OF HIGH GRADE STEEL MANUFACTURED SPECIFICALLY TO STANDARDS ASSURING MAXIMUM WELDING CHARACTERISTICS AND DUCTILITY, AND SHALL CONFORM TO FED. SPEC. WW-T-806b.

2. METAL-CLAD CABLE MAY BE USED. TYPE MC METAL CLAD CABLE SHALL CONSIST OF FACTORY ASSEMBLED INSULATED CONDUCTORS ENCLOSED IN A METALLIC SHEATH OF INTERLOCKED GALVANIZED STEEL STRIP MANUFACTURED IN ACCORDANCE WITH UL 1569. THE CONDUCTORS SHALL HAVE AN OPERATING TEMPERATURE OF 90 DEGREE C AND SHALL BE COVERED BY A HIGH DIELECTRIC STRENGTH ASSEMBLY TAPE. TYPE MC CABLE SHALL BE AS MANUFACTURED BY AFC OR EQUAL.

B. COUPLINGS AND TERMINATORS

1. FOR ELECTRICAL METALLIC TUBING: STEEL SET SCREW COUPLINGS; STEEL SET SCREW BOX CONNECTORS WITH NYLON INSULATED THROAT AND LOCKNUTS AT ALL BOXES AND CABINET TERMINATIONS OR NON-INSULATED BOX CONNECTOR, LOCKNUT AND NYLON-INSULATED GROUNDING BUSHING ON ALL TUBING WHERE GROUNDING BUSHINGS ARE REQUIRED.

C. JUNCTION AND PULL BOXES

1. SIZE BOXES IN ACCORDANCE WITH THE REQUIREMENTS OF THE NEC. BOXES SHALL BE NO SMALLER THAN 4 INCHES SQUARE BY 1-1/2 INCHES DEEP WITH COVERS ACCESSIBLE AT ALL TIMES. SET BOXES ON CONCEALED CONDUITS WITH COVERS FLUSH WITH THE FINISHED WALL OR CEILING LINE. PROVIDE JUNCTION AND PULL BOXES OF APPROPRIATE DIMENSIONS FOR CONDUITS AND CONDUCTORS NOTED, WHERE SHOWN AND WHERE NECESSARY FOR THE INSTALLATION AND PULLING OF CABLES AND WIRES. INSTALL COVERS ON JUNCTION BOXES AND CONDULETS AFTER WIRING AND CONNECTIONS ARE COMPLETED.

D. OUTLET BOXES

1. OUTLET BOXES SHALL BE UL LISTED, AND OF SIZES AND TYPES REQUIRED FOR THE APPLICATION. OUTLET BOXES SHALL BE SHEET STEEL, NO LIGHTER THAN 14 GAUGE, GALVANIZED AFTER FABRICATION. SET BOX SO FACE OF BOX WILL FINISH FLUSH WITH BUILDING SURFACE.

a. FOR LIGHTING FIXTURE OUTLETS: 4 INCH SQUARE BY 1-1/2 INCHES DEEP WITH RAISED FIXTURE RING.

b. FOR WALL SWITCHES, RECEPTACLES, AND COMMUNICATION USE: 4 INCH SQUARE, BY 1-1/2 INCHES DEEP. USE BOXES WITH PLASTER RINGS IN ALL PLASTERED WALLS WHERE WALL THICKNESS PERMITS. USE BOXES LESS THAN 1-1/2 INCH DEEP ONLY IN LOCATIONS WHERE DEEP BOXES CANNOT BE ACCOMMODATED BY CONSTRUCTION.

E. PULL CORDS

1. PROVIDE A NYLON POLYETHYLENE CORD, WITH A TENSILE STRENGTH OF NOT LESS THAN 200 POUNDS, IN EACH EMPTY CONDUIT TO FACILITATE THE FUTURE INSTALLATION OF CONDUCTORS. INCORPORATE PLASTIC TAGS FOR IDENTIFICATION.

F. CONDUCTORS

1. CONDUCTORS SHALL BE 98% CONDUCTIVITY SOFT DRAWN ANNEALED COPPER, 600 VOLT, THHN/THWN INSULATION, #10 AND SMALLER - SOLID, #8 AND LARGER - STRANDED.

2. NO CONDUCTORS SHALL BE SMALLER THAN NO. 12, EXCEPT FOR SIGNAL OR CONTROL CIRCUITS AND FOR INDIVIDUAL LIGHTING FIXTURE TAPS AS PERMITTED BY NEC.

3. FOR HOME RUNS ON 120-VOLT, 20-AMPERE BRANCH CIRCUITS, WHERE LENGTH OF RUN FROM PANELBOARD TO FIRST OUTLET EXCEEDS 100 LINEAR FEET, USE NO. 10 CONDUCTORS. WHERE LENGTH OF RUN IS 100 LINEAR FEET OR LESS, USE NO. 12 CONDUCTORS.

G. WIRING DEVICES, COVER PLATES AND ACCESSORIES

1. PROVIDE WIRING DEVICES AND ASSOCIATED ACCESSORIES OF SPECIFICATION GRADE. DEVICES OF LEVITON, HUBBELL OR PASS & SEYMORE ARE ACCEPTABLE. SUBMIT FOR REVIEW A COMPLETE LIST OF ANY SUBSTITUTES OFFERED FROM THOSE SPECIFIED.

2. COLOR OF WALL SWITCHES, RECEPTACLES AND FACEPLATES: AS SPECIFIED OR SELECTED BY ARCHITECT.

3. RECEPTACLES

a. STANDARD WALL RECEPTACLES SHALL BE SPECIFICATION GRADE, RATED 20-AMP, 120-VOLT, 2 POLE, 3-WIRE, GROUNDING TYPE, SIDE-WIRED, NEMA 5-20R.

b. GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLES SHALL BE 20 AMP, 120 VOLT, 2 POLE, 3-WIRE, NEMA 5-20R.

4. MAINTAIN GROUNDING CONTINUITY BETWEEN DEVICES AND METALLIC RACEWAY SYSTEM IN ADDITION TO PROVIDING A GREEN EQUIPMENT GROUNDING CONDUCTOR RUN WITH ALL CIRCUIT CONDUCTORS AS INDICATED ON THE DRAWINGS. EXCEPT CARE SHALL BE TAKEN WHEN INSTALLING RECEPTACLES HAVING ISOLATED GROUND POLE SO AS TO NOT BOND THE EQUIPMENT GROUND CONDUCTOR TO THE CONDUIT SYSTEM.

H. GROUNDING

1. GROUNDING SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.

2. GROUNDING CONDUCTORS SHALL BE ANNEALED COPPER CABLES OF THE SIZES INDICATED OR REQUIRED.

3. A "GREEN WIRE" EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED WITHIN EACH FEEDER AND BRANCH CIRCUIT RACEWAY, WHETHER METALLIC OR NON-METALLIC, TO FORM A COMPLETE AND CONTINUOUS GROUNDING PATH. CONNECT GROUNDING CONDUCTORS TO GROUND TERMINALS AT EACH END OF THE RUN.

III EXECUTION

A. INSTALLATION OF BUILDING CONDUIT

1. ALL INTERIOR RACEWAYS SHALL BE EMT. RACEWAYS IN DAMP OR WET LOCATIONS, OR IN HAZARDOUS LOCATIONS, SHALL BE GRC OR IMC.

2. CONDUITS SHALL BE OF SUCH SIZE AND SO INSTALLED THAT THE CONDUCTORS MAY BE DRAWN THROUGH WITHOUT INJURY OR EXCESSIVE STRAIN, SHALL BE SECURED AT CABINETS AND BOXES WITH GALVANIZED LOCKNUTS, BOTH INSIDE AND OUTSIDE, AND SHALL HAVE APPROPRIATE BUSHINGS INSIDE. BUSHINGS SHALL BE INSULATING TYPE WITH BOND GROUND CLAMPS.

3. GROUND METALLIC CONDUITS AS REQUIRED BY NEC.

4. INSTALL RACEWAYS CONTINUOUS FROM OUTLET TO OUTLET BOX, OR CABINET, WITH A MAXIMUM OF 150 FEET BETWEEN PULLS. IN AREAS WHERE THERE ARE NO SUSPENDED CEILINGS, RUN ALL CONDUITS PARALLEL/PERPENDICULAR TO BUILDING SURFACE PLANES.

5. WHEREVER RACEWAYS PASS THROUGH FLOORS, WALLS, PENETRATIONS, OR OTHER PARTITIONS, CAREFULLY FILL ANY SPACE BETWEEN THE OUTSIDE OF THE RACEWAY AND THE BUILDING MATERIAL TO PREVENT PASSAGE OF AIR, WATER, SMOKE, AND FUMES. FILLING MATERIAL SHALL BE A UL LISTED, INTUMESCENT SEALING HAVING FIRE/SMOKE RESISTIVE RATING EQUAL TO THE BUILDING MATERIAL PENETRATED.

6. TYPE MC METAL CLAD CABLES SHALL BE ACCEPTABLE TO BE INSTALLED IN WALLS AND CEILINGS IN CONFORMANCE WITH THE REQUIREMENTS OF NEC 334. TYPE MC CABLE SHALL BE USED ONLY FOR BRANCH CIRCUITS FOR LIGHTING AND SPECIFIC AND GENERAL PURPOSE RECEPTACLES. TYPE MC CABLE SHALL NOT BE USED FOR FEEDERS OR MULTIPLE BRANCH CIRCUIT HOMERUNS, AND MORE SPECIFICALLY, SHALL NOT BE USED FOR HVAC, AND KITCHEN EQUIPMENT BRANCH CIRCUITS. TYPE MC CABLE SHALL NOT BE UTILIZED WITHIN ELECTRICAL EQUIPMENT ROOMS. CABLE SHALL TRANSITION TO A RIGID TYPE CONDUIT PRIOR TO ENTERING ELECTRICAL EQUIPMENT ROOMS.

7. CONDUITS UTILIZED THROUGHOUT THE PROJECT SHALL NOT BE SMALLER THAN 3/4 INCH FOR FEEDERS, MULTIPLE BRANCH CIRCUIT HOMERUNS AND HOMERUNS OF CONDUCTORS LARGER THAN NO. 12. INDIVIDUAL BRANCH CIRCUIT WIRING FOR NO. 12 CONDUCTORS SHALL BE ACCEPTABLE IN 1/2" CONDUIT, I.E. 2#12, 1#12G, 1/2"C.

B. INSTALLATION OF PULL AND JUNCTION BOXES

1. FASTEN ALL BOXES SECURELY TO THE BUILDING CONSTRUCTION, INDEPENDENT OF CONDUIT SYSTEMS.

2. ON CONCEALED CONDUIT SYSTEMS WHERE BOXES ARE NOT OTHERWISE ACCESSIBLE, SET BOXES FLUSH WITH FINISHED SURFACES FOR ACCESS, AND PROVIDE OVERLAPPING COVERS.

C. INSTALLATION OF OUTLET BOXES

1. TERMINATE CONDUITS AT A METAL OUTLET BOX AT EACH OUTLET OR DEVICE. ALL BOXES SHALL CONFORM TO THE NEC.

2. OUTLET BOXES SHALL BE SUPPORTED INDEPENDENT OF THE CONDUIT SYSTEM.

D. INSTALLATION OF CONDUIT HANGERS AND SUPPORTS

1. FURNISH AND INSTALL ALL HANGERS AND SUPPORTS REQUIRED BY RACEWAY SYSTEMS.

2. SUPPORT ALL ABOVE-GROUND ELECTRICAL CONDUITS FROM THE BUILDING STRUCTURE/CONSTRUCTION. SUPPORT CONDUITS RUNNING VERTICALLY OR HORIZONTALLY ALONG WALLS WITH GALVANIZED MALLEABLE IRON ONE-HOLE CLAMPS. CARRY INDIVIDUALLY SUPPORTED HORIZONTAL CONDUITS 1-1/4 INCH AND LARGER ON SUITABLE HANGERS.

3. LOCATE HANGERS AND TRAPEZES TO SUPPORT HORIZONTAL RACEWAYS WITHOUT APPRECIABLE SAGGING. HANGER SPACING SHALL NOT EXCEED NEC REQUIREMENTS, OR RECOMMENDATIONS OF THE NECA "STANDARD OF INSTALLATION".

4. WHERE CONDUITS SMALLER THAN 1-1/4 INCH ARE INSTALLED ABOVE REMOVABLE TYPE DRY CEILINGS, SUPPORT THEM ON SUITABLE HANGER RODS WITH METAL CLIPS AT A DISTANCE ABOVE THE CEILING SUFFICIENT TO PERMIT REMOVAL OF CEILING PANELS AND LAY-IN LIGHT FIXTURES. LOCATE SUCH CONDUITS SO AS NOT TO HINDER ACCESS TO MECHANICAL EQUIPMENT THROUGH CEILING PANELS.

E. INSTALLATION OF CONDUCTORS

1. PULL NO CONDUCTORS INTO CONDUITS UNTIL ALL WORK OF A NATURE WHICH MAY CAUSE INJURY TO CONDUCTORS IS COMPLETED.

2. RUN FEEDERS IN CONTINUOUS PIECES, WITHOUT JOINTS OR SPLICES, INSOFAR AS PRACTICABLE.

F. SEGREGATION OF WIRING SYSTEMS

1. SEGREGATION OF WIRING SYSTEMS SHALL NOT BE COMPROMISED BY THE USE OF COMMON PULLBOXES, WIREWAYS, CABINETS OR ANY OTHER TYPE OF ENCLOSURE.

2. THE RACEWAY SYSTEM FOR EACH FEEDER SHALL BE A SEPARATE SYSTEM COMPLETELY FAULT ISOLATED FROM ALL OTHER RACEWAY SYSTEMS.

3. THE RACEWAY SYSTEM FOR THE BRANCH CIRCUITS OF EACH PANELBOARD SHALL BE A SEPARATE SYSTEM COMPLETELY FAULT ISOLATED FROM ALL OTHER RACEWAY SYSTEMS.

G. EXISTING SYSTEMS TO REMAIN

1. THE CONTRACT DOCUMENTS DO NOT PROPOSE TO SHOW ALL EXISTING SYSTEMS, MATERIAL OR EQUIPMENT. OBTAIN DATA RELATED TO EXISTING CONDITIONS FROM EXISTING DOCUMENTS, MEASUREMENTS, NOTATIONS, PHOTOGRAPHS, SURVEYS AND OTHER OBSERVATIONS AT THE SITE.

2. REMOVE EXISTING WIRE, CONDUIT, EQUIPMENT, FIXTURES AND OTHER ITEMS TO PROVIDE ACCESS FOR WORK IN EXISTING FACILITIES. REINSTALL AND REFINISH ITEMS REMOVED, OR OTHERWISE DAMAGED, TO MATCH EXISTING ADJACENT SURFACED UPON COMPLETION OF THE WORK.

3. WHERE EXISTING FUNCTIONS TO REMAIN IN USE ARE DISRUPTED, THEY SHALL BE FULLY RESTORED AFTER DISRUPTION, IN FULL COMPLIANCE WITH THIS DIVISION OF THE SPECIFICATIONS FOR NEW WORK.

4. MODIFY, REMOVE OR RELOCATE MATERIALS AND ITEMS INDICATED ON THE DRAWINGS OR REQUIRED BY THE INSTALLATION OF NEW WORK.

5. WORKING JOINTLY WITH THE ARCHITECT, ESTABLISH AND MARK SALVAGE AND DEMOLITION ITEMS BEFORE COMMENCING WORK; REPORT ITEMS SCHEDULE FOR RELOCATION, REINSTALLATION OR REUSE, WHICH ARE FOUND TO BE IN DAMAGED CONDITION; AWAIT FURTHER INSTRUCTIONS FROM THE ARCHITECT BEFORE COMMENCING WITH WORK.

6. DEMOLITION EQUIPMENT, DEVICES AND MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR. SALVAGED EQUIPMENT AND DEVICES SHALL BE THE PROPERTY OF THE CONTRACTOR UNLESS NOTED OTHERWISE.

7. MAKE MINOR RELOCATIONS NECESSITATED BY THE CONDITIONS AT THE SITE OR AS DIRECTED BY THE ARCHITECT, WITHOUT ADDITIONAL COST TO THE OWNER. REPAIR AND RESTORE TO GOOD FUNCTIONAL CONDITION, EQUIPMENT, MATERIALS AND ITEMS SCHEDULED FOR RELOCATION, WHICH ARE DAMAGED DURING DISMANTLING OR REASSEMBLY OPERATIONS. NEW MATERIALS AND ITEMS OF SIMILAR DESIGN AND QUALITY MAY BE SUBSTITUTED FOR MATERIALS AND ITEMS INDICATED TO BE RELOCATED UPON APPROVAL OF SHOP DRAWINGS, PRODUCT DATA AND SAMPLES. REMOVE CAREFULLY, IN REVERSE ORDER TO ORIGINAL ASSEMBLY OR PLACEMENT, ITEMS WHICH ARE TO BE RELOCATED. PROTECT ITEMS UNTIL RELOCATION IS COMPLETE. CLEAN AND REPAIR ITEMS TO BE RELOCATED, AND PROVIDE NEW MATERIALS, FITTINGS AND APPURTENANCES REQUIRED TO COMPLETE THE RELOCATIONS AND TO RESTORE TO GOOD OPERATING ORDER. PERFORM THE RELOCATION WORK IN ACCORDANCE WITH APPLICABLE PORTIONS OF THESE SPECIFICATIONS, UTILIZING SKILLED WORKERS.

8. RELOCATING DEVICES: REMOVE AND REINSTALL IN LOCATIONS DESIGNATED BY THE ARCHITECT TEMPERATURE CONTROL SYSTEM DEVICES, RELAYS, WIRE, CONDUIT, FIXTURES, EQUIPMENT AND OTHER DEVICES REQUIRED FOR THE OPERATION OF THE VARIOUS SYSTEMS THAT ARE INSTALLED IN EXISTING-TO-BE-REMOVED CONSTRUCTION.

H. CONTRACTOR SHALL KEEP A CLEAN SET OF DRAWINGS ON THE JOB, NOTING DAILY ALL CHANGES MADE IN THESE DRAWINGS IN CONNECTION WITH THE FINAL INSTALLATION INCLUDING EXACT DIMENSIONED LOCATIONS OF ALL NEW AND UNCOVERED EXISTING UTILITIES AND SHALL, WITH HIS REQUEST FOR FINAL PAYMENT, TURN OVER A CLEAN, NEATLY MARKED SET OF REPRODUCIBLE MYLARS SHOWING "AS INSTALLED" WORK TO THE ARCHITECT FOR SUBSEQUENT REVIEW AND TRANSMITTAL TO THE OWNER. CONTRACTOR SHALL NOTE ALL CONSTRUCTION CHANGES, DATE EACH SHEET AND LABEL "AS-BUILTS" IN THE REVISION BLOCK ON THE DRAWINGS. CONTRACTOR SHALL ALSO FURNISH ONE (1) SET OF □AS-BUILT□ BLUELINE PRINTS.

I. IN ADDITION TO THE ABOVE, CONTRACTOR SHALL ACCUMULATE DURING THE JOB'S PROGRESS, THE FOLLOWING DATA, IN TRIPLICATE, PREPARED IN A NEAT BROCHURE OR PACKET FOLDER AND TURNED OVER TO THE ARCHITECT FOR REVIEW AND SUBSEQUENT DELIVERY TO THE OWNER.

1. ALL WARRANTIES AND GUARANTEES AND MANUFACTURER'S DIRECTIONS ON EQUIPMENT AND MATERIAL COVERED BY THE CONTRACT INCLUDING THE NAMES, ADDRESSES AND TELEPHONE NUMBERS OF THE MANUFACTURER'S REPRESENTATIVE.

2. APPROVED FIXTURE BROCHURES, WIRING DIAGRAMS AND CONTROL DIAGRAMS (ORIGINAL DATA, NO COPIES).

3. COPIES OF APPROVED SHOP DRAWINGS.

4. OPERATING INSTRUCTIONS FOR ALL ELECTRICAL SYSTEM EQUIPMENT. OPERATING INSTRUCTIONS SHALL ALSO INCLUDE RECOMMENDED MAINTENANCE PROCEDURES.

5. TEST REPORTS REQUIRED BY THESE SPECIFICATIONS.

6. ANY AND ALL OTHER DATA AND/OR DRAWINGS REQUIRED DURING CONSTRUCTION.

7. REPAIR PARTS LISTS OF ALL MAJOR ITEMS OF EQUIPMENT INCLUDING NAME, ADDRESS AND TELEPHONE NUMBERS OF LOCAL SUPPLIER OR AGENT.

J. ALL OF THE ABOVE DATA SHALL BE SUBMITTED TO THE ENGINEER FOR HIS REVIEW AT SUCH TIME AS THE CONTRACTOR SUBMITS HIS LAST ESTIMATE PRIOR TO HIS FINAL PAYMENT, BUT IN NO CASE, LESS THAN TWO WEEKS BEFORE FINAL INSPECTION.

END OF SECTION

PROJECT DESIGN CRITERIA

LOCATION:	
CITY/STATE	AURORA, COLORADO
APPLICABLE CODES:	
BUILDING	2009 IBC
MECHANICAL	2009 IMC
PLUMBING	2009 IPC
ENERGY	2009 IECC
ELECTRICAL	2011 NEC
LATITUDE:	
DEG. N. LAT.	39.75
ELEVATION:	
FT. ABOVE SEA LEVEL	5331

HOSPITAL ELECTRICAL SYMBOLS

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

SYMBOL	DESCRIPTION	MNTG. HT. UNO (SEE NOTE 1)
	DUPLEX RECEPTACLE - 20A/125V/2P/3W/G NEMA 5-20R	-
	QUADRAPLEX RECEPTACLE (TWO DUPLEX RCPTS. UNDER ONE COVERPLATE)	-
GFI	DUPLEX RCPT. GFI - 20A/125V/2P/3W/G NEMA 5-20R	-
	DUPLEX RECEPTACLE MOUNTED ABOVE COUNTERTOP	-
	QUADRAPLEX RECEPTACLE (TWO DUPLEX RCPTS. UNDER ONE COVERPLATE) MOUNTED 10" ABOVE COUNTERTOP	-
	CIRCUIT HOME RUN TO PANELBOARD (2 #12, 1 #12G, 3/4"C, 20A/1P CB UNO)	-
◁ ◀	COMBINATION VOICE & DATA OUTLET, DOUBLE GANG BOX 4"X4" WITH A 2"X4" DEVICE COVER, 3/4" CONDUIT STUBBED ABOVE CEILING.	-

ELECTRICAL ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	NF	NONFUSED
AUTO	AUTOMATIC DOOR OPENER	NO (N.O.)	NORMALLY OPEN
BFC	BELOW FINISHED CEILING	(ON)	ON SAME CIRCUIT AS
B.O.D.	BASIS OF DESIGN	PNL	PANEL
BW	BLANKET WARMER	RCPT(S)	RECEPTACLE(S)
C	CONDUIT	RL	RELOCATED
CB	CIRCUIT BREAKER	SO (S.O.)	SPACE ONLY
COPY	COPIER	SP	SPARE
EC	EMPTY CONDUIT	ST (S.T.)	SHUNT TRIP
EWC	ELECTRIC WATER COOLER	SW	SWITCH
EX	EXISTING	TP	TAMPER PROOF
F	FUSE	UF	UNDERFLOOR
G	GROUND (EQUIPMENT)	UG	UNDERGROUND
GFI	GROUND FAULT INTERRUPTER	UNO(U.N.O.)	UNLESS NOTED OTHERWISE
IC	INTERRUPTING CAPACITY	VEND	VENDING MACHINE
IG	ISOLATED GROUND	VIC	VARIABLE INTENSITY CONTROL
IR	HANDS FREE SINK / WATER CLOSET	WG	WIRE GUARD
MTD	MOUNT OR MOUNTED	WP	WEATHERPROOF
NC (N.C.)	NORMALLY CLOSED	XFMR	TRANSFORMER
NIC	NOT IN CONTRACT		

NOTES:

1. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DEVICE MOUNTING HEIGHTS.

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

ELECTRICAL GENERAL NOTES

A. CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING HIS PROPOSAL AND BECOME FAMILIAR WITH THE CONDITIONS UNDER WHICH THE WORK WILL BE PERFORMED, AND CORRELATE HIS SITE OBSERVATIONS WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. INCONSISTENCIES DISCOVERED SHALL BE REPORTED TO THE ARCHITECT AND ENGINEER AT ONCE, BEFORE SUBMITTAL OF BID PROPOSAL.

B. ALL ELECTRICAL PRODUCTS AND INSTALLATIONS SHALL COMPLY WITH ALL APPLICABLE STATE AND LOCAL CODES. REFER TO SPECIFICATIONS FOR MATERIALS AND METHODS FOR ELECTRICAL CONSTRUCTION.

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

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

E. UNLESS OTHERWISE NOTED. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND U.L. LISTED OR LABELED. EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, AND LISTING OR LABELING REQUIREMENTS AND RESTRICTIONS. PROVIDE SUBMITTAL DATA AS DEPICTED IN THE ELECTRICAL SPECIFICATIONS.

F. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR APPROVAL FOR ALL ELECTRICAL MATERIALS PROPOSED TO BE PROVIDED UNDER THIS CONTRACT. ANY DEVIATIONS FROM ITEMS SPECIFIED SHALL BE CLEARLY IDENTIFIED. NO WORK IS AUTHORIZED WITHOUT SHOP DRAWINGS REVIEWED BY ENGINEER.

G. ALL POWER WIRING SHALL BE INSTALLED IN CONDUIT. POWER CONDUCTORS SHALL BE STRANDED COPPER THHN/THWN #10 AWG MINIMUM. ONLY SOLID #12 COPPER CONDUCTORS SHALL BE ACCEPTABLE.

H. ALL EMPTY CONDUIT SYSTEMS SHALL CONTAIN A PULL WIRE FOR FUTURE PULLING OF CONDUCTORS.

I. REFER TO AND COORDINATE WITH ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ALL WIRING DEVICES, LIGHT FIXTURES, AND EQUIPMENT.

J. REFER TO AND COORDINATE WITH ALL DIVISIONS OF WORK FOR THE LOCATION OF ALL ITEMS LOCATED IN THE CEILING INCLUDING, BUT NOT LIMITED TO SUPPLY-AIR DIFFUSERS, RETURN-AIR DIFFUSERS AND FIRE SPRINKLER HEADS.

K. COORDINATE WITH OTHER TRADES ALL NECESSARY WIRING AND CONNECTIONS REQUIRED FOR EACH PIECE OF EQUIPMENT PRIOR TO PULLING CONDUCTORS INTO NEW CONDUITS.

L. VERIFY EXACT LOCATION OF ALL POWER CONNECTIONS AND CONTROL DEVICES WITH OTHER TRADES AND MANUFACTURERS SHOP DRAWINGS BEFORE CONSTRUCTION. CONTRACTOR SHALL COORDINATE ALL REQUIRED ENERGY MANAGEMENT SYSTEM POINTS AND CONTACT CONNECTIONS TO ENSURE THE COMPLETE AND PROPER OPERATION OF ALL SYSTEMS.

M. ALL PENETRATIONS THROUGH FIRE RATED WALLS OR PARTITIONS SHALL BE MADE IN ACCORDANCE WITH U.L. 463 "FIRE RESISTANCE DIRECTORY". PENETRATIONS SHALL BE SLEEVED AND SEALED WITH A UL APPROVED FIRE RATED SEALANT. REFER TO ARCHITECTURAL PLANS FOR FIRE RATED WALLS.

N. CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL POWER OUTAGES WITH OWNER'S REPRESENTATIVE.

O. CIRCUITING FOR LIGHTING AND POWER IS SHOWN DIAGRAMMATICALLY. HOMERUNS SHALL BE COMBINED WHERE POSSIBLE, ACCORDING TO NEC.

P. CONTRACTOR SHALL WARRANTY WORK FOR ONE (1) YEAR FROM THE COMPLETION OF THE PROJECT AND PROVIDE OWNER WITH AS BUILT DRAWINGS.

Q. DISCONNECTING MEANS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT SHALL BE MOUNTED INDEPENDENTLY OF THE PIECE OF EQUIPMENT.

R. SPACE ALLOCATIONS FOR MATERIALS, EQUIPMENT AND DEVICES HAVE BEEN MADE ON THE BASIS OF PRESENT AND KNOWN FUTURE REQUIREMENTS AND THE DIMENSIONS OF ITEMS OF EQUIPMENT OR DEVICES OF A PARTICULAR MANUFACTURER WHETHER INDICATED OR NOT. THE CONTRACTOR SHALL VERIFY THAT ALL MATERIALS, EQUIPMENT AND DEVICES PROPOSED FOR USE ON THIS PROJECT ARE WITHIN THE CONSTRAINTS OF THE ALLOCATED SPACE AND CODE COMPLIANT.

S. NOTE: ANY DEVIATIONS FROM SCHEDULED EQUIPMENT RESULTING IN ADDITIONAL COSTS DUE TO LACK OF COORDINATION WITH DIMENSIONS AND WEIGHTS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SUB-CONTRACTOR.

T. THE ENGINEERED SYSTEMS, INCLUDING: NURSE CALL, DICTATION, INTERCOM, CODE BLUE, SOUND SYSTEMS, TELEVISION, RADIO, ETC. SHALL BE PROVIDED WITH STANDARD BACK BOXES AND CONDUITS STUBBED ABOVE THE CEILING, FURNISHED AND INSTALLED BY THE CONTRACTOR. SPECIAL BOXES WILL BE PROVIDED BY THE VENDOR AND INSTALLED BY THE CONTRACTOR.

RSN: 697386
Permit #: 13-640626 LT

DWG. FILENAME:

The Medical Center of Aurora
HealthONE

ADCA

MEDICAL CENTER OF AURORA

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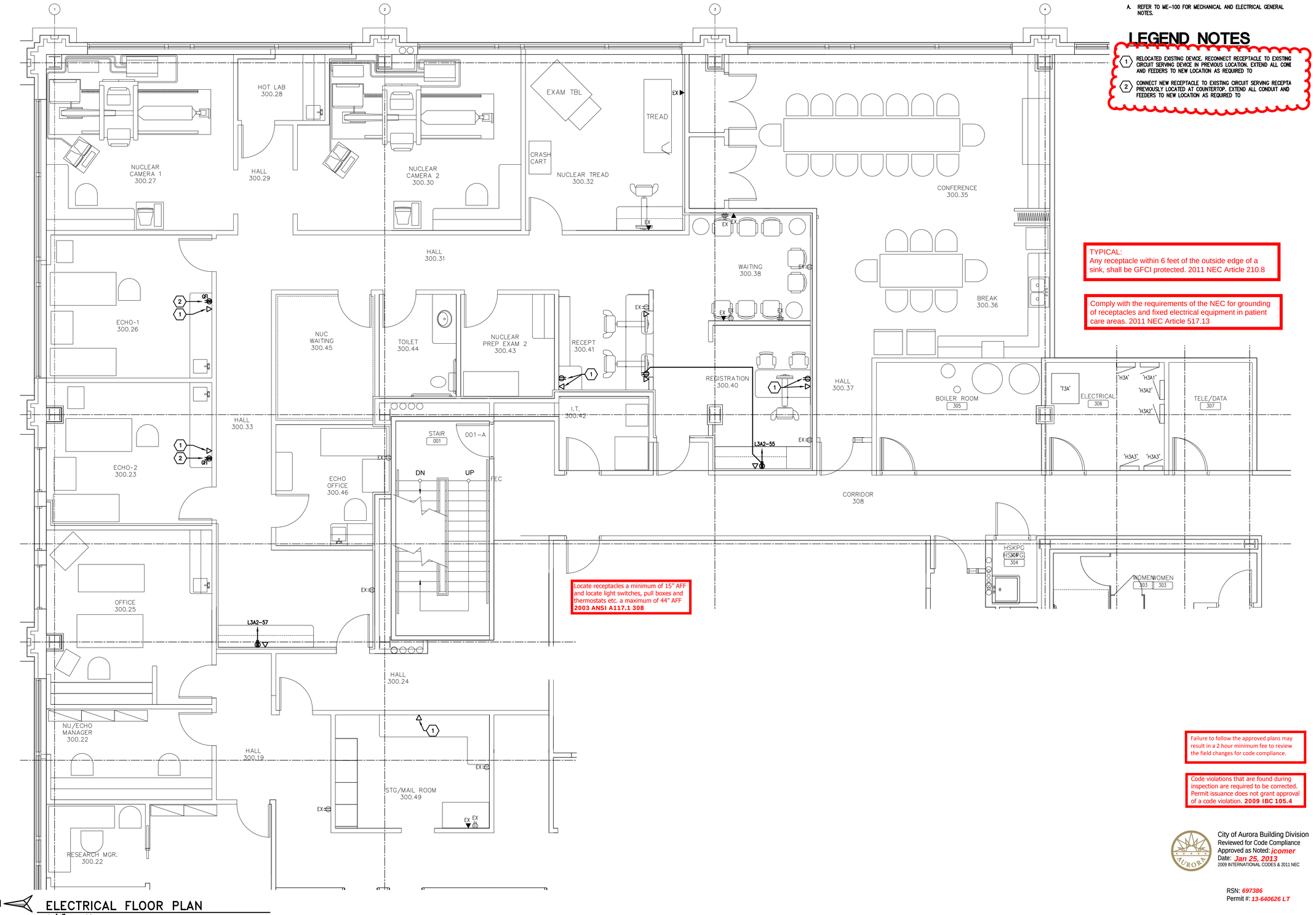
COLORADO LICENSED
CHRISTOPHER GORDON LEONARD
43087
01-16-13
PROFESSIONAL ENGINEER

PROJECT NO.: 812171

DRAWN BY: CL
CHECKED BY: AB
SCALE: AS NOTED
DATE: 01/18/2013
ISSUED FOR: CONSTRUCTION
REVISIONS:
△
△
△
△
△

SHEET TITLE:
ELECTRICAL LEGEND, NOTES, SCHEDULES AND SPECIFICATIONS

SHEET NO.:
E-100



GENERAL NOTES

A. REFER TO ME-100 FOR MECHANICAL AND ELECTRICAL GENERAL NOTES.

LEGEND NOTES

1. RELOCATED EXISTING DEVICE. RECONNECT RECEPTACLE TO EXISTING CIRCUIT SERVING DEVICE IN PREVIOUS LOCATION. EXTEND ALL CONE AND FEEDERS TO NEW LOCATION AS REQUIRED TO
2. CONNECT NEW RECEPTACLE TO EXISTING CIRCUIT SERVING RECEPTA PREVIOUSLY LOCATED AT COUNTERTOP. EXTEND ALL CONDUIT AND FEEDERS TO NEW LOCATION AS REQUIRED TO

TYPICAL:
Any receptacle within 6 feet of the outside edge of a sink, shall be GFCI protected. 2011 NEC Article 210.8

Comply with the requirements of the NEC for grounding of receptacles and fixed electrical equipment in patient care areas. 2011 NEC Article 517.13

Locate receptacles a minimum of 15" AFF and locate light switches, pull boxes and thermostats etc. a maximum of 44" AFF **2003 ANSI A117.1 308**

Failure to follow the approved plans may result in a **2** hour minimum fee to review the field changes for code compliance.

Code violations that are found during inspection are required to be corrected. Permit issuance does not grant approval of a code violation. **2009 IBC 105.4**

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *jcomer*
Date: *Jan 25, 2013*
2009 INTERNATIONAL CODES & 2011 NEC

RSN: *697386*
Permit #: *13-640626 LT*

N

ELECTRICAL FLOOR PLAN
1/4" = 1'

DWG. FILENAME:

The Medical Center of Aurora
Health ONE

ADCA

MEDICAL CENTER OF AURORA

1444 POTOMAC STREET
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COLORADO LICENSED
CHRISTOPHER LEE GOMOLCAK
43087
01-14-13
PROFESSIONAL ENGINEER

PROJECT NO.: 812171

DRAWN BY: CL
CHECKED BY: AB
SCALE: AS NOTED
DATE: 01/18/2013
ISSUED FOR: CONSTRUCTION
REVISIONS:

SHEET TITLE:
ELECTRICAL FLOOR PLAN

SHEET NO.:
E-201

EXISTING PANEL: L3A2

NORMAL

LOCATION: ELECTRICAL RM 306
MAIN BUS: 225A
MCB: N/A
VOLTAGE: 208/120
AIC: 10,000A

FED FROM: L3A1
WIRES: 4W + G
ENCLOSURE: NEMA 1
BUS TYPE: Copper
MOUNTING: Surface
PANEL LUGS: Main Lugs Only

NEUTRAL BUS: Yes
GROUND BUS: Yes
ISOLATED GROUND BUS: No
200% NEUTRAL: No
FEED THROUGH LUGS: Yes

CKT NO.	DESCRIPTION	TOTAL LOAD (VA)	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	PHASE	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	TOTAL LOAD (VA)	DESCRIPTION	CKT NO
1	NUC CAMERA RACK	–	30	2	A	20	1	–	EXISTING LOAD	2
3	---	–	–	–	B	20	1	–	EXISTING LOAD	4
5	R – NUC MED CAMERA	–	20	1	C	15	1	–	SMALL ECHO EQUIP	6
7	R – NUC MED CAMERA	–	20	1	A	15	1	–	EXISTING LOAD	8
9	NUC CAMERA RACK	–	30	2	B	20	1	–	R – RESEARCH	10
11	---	–	–	–	C	20	1	–	R – RESEARCH	12
13	R – NUC MED CAMERA	–	20	1	A	20	1	–	R – MAIL COPIER	14
15	R – TOILET	–	20	1	B	20	1	–	R – MED REC	16
17	NUC – TREAD 3 EQUIP	–	15	2	C	20	1	–	R – MED REC	18
19	---	–	–	–	A	20	1	–	R – MED REC	20
21	R – EXAM PREP	–	20	1	B	20	1	–	R – HOLTER	22
23	R – ECHO READ	–	20	1	C	20	1	–	R – CHECKOUT	24
25	R – MED ASSIST	–	20	1	A	20	1	–	R – WORK / MAIL	26
27	R – MED ASSIST	–	20	1	B	20	1	–	R – EKG STAGING	28
29	R – BREAK ROOM	–	20	1	C	20	1	–	R – WAITING	30
31	R – BREAK VEND	–	20	1	A	20	1	–	R – WAITING	32
33	R – BREAK ROOM	–	20	1	B	20	1	–	R – PRO–TIME	34
35	R – GARBAGE DISPOSAL	–	20	1	C	20	1	–	R – ADMIN / BILLING	36
37	R – BREAK ROOM	–	20	1	A	20	1	–	R – BILLER	38
39	R – BREAK ROOM	–	20	1	B	20	1	–	R – DATA / RECEPT	40
41	R – IT ROOM	–	20	1	C	20	1	–	R – RES WORK	42

NOTES:
LOAD SHOWN IS ADDED LOAD ONLY

EXISTING PANEL: L3A2 (SECTION 2)

NORMAL

LOCATION: ELECTRICAL RM 306
MAIN BUS: 225A
MCB: N/A
VOLTAGE: 208/120
AIC: 10,000A

WIRES: 4W + G
ENCLOSURE: NEMA 1
BUS TYPE: Copper
MOUNTING: Surface
PANEL LUGS: Main Lugs Only

NEUTRAL BUS: Yes
GROUND BUS: Yes
ISOLATED GROUND BUS: No
200% NEUTRAL: No
FEED THROUGH LUGS: No

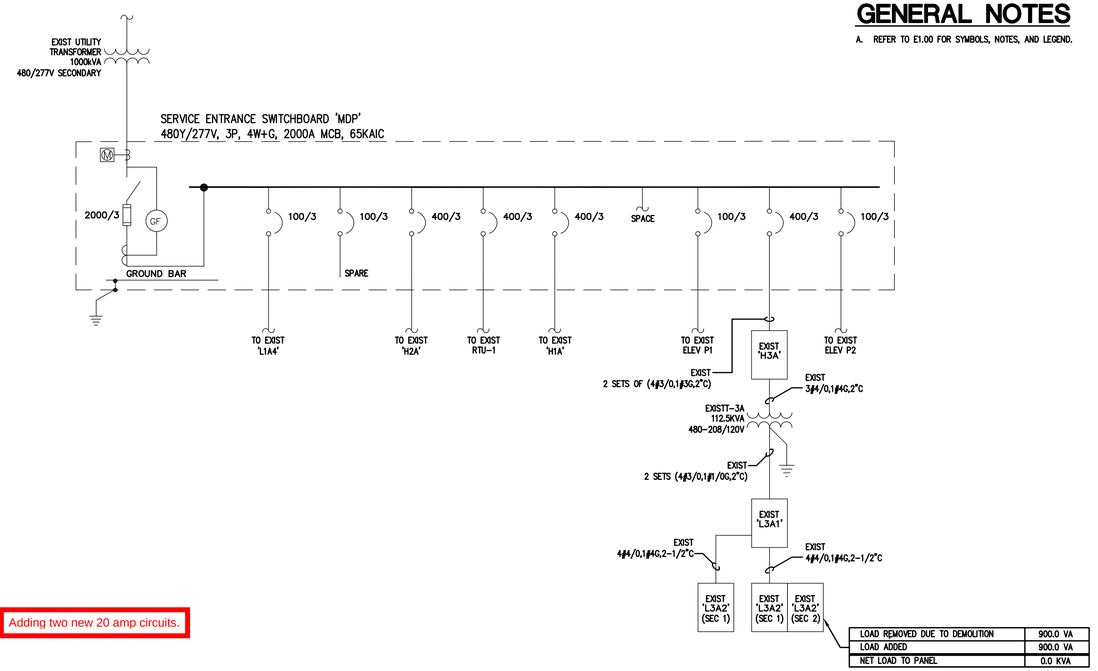
CKT NO.	DESCRIPTION	TOTAL LOAD (VA)	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	PHASE	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	TOTAL LOAD (VA)	DESCRIPTION	CKT NO
43	R – NUC WAIT	–	20	1	A	20	1	–	R – RES WORK	44
45	R – CORRIDOR	–	20	1	B	20	1	–	R – RESEARCH MGR	46
47	L – CONFERENCE	–	20	1	C	20	1	–	R – RES WORK	48
49	L – NUC 1/2	–	20	1	A	20	1	–	R – NUC / ECHO MGR	50
51	L – ECHO	–	20	1	B	20	1	–	R – STRESS ECHO	52
53	L – GENERAL	–	20	1	C				S.O.	54
55	R – REGISTRATION 300.40	360	20	1	A	20	1	–	R – STRESS ECHO	56
57	R – HALL 300.33	180	20	1	B	15	2	–	NUC TREAD 2 EQUIP	58
59	SPARE	–	20	1	C	–	–	–	---	60
61	SPARE	–	20	1	A	15	2	–	NUC TREAD 1 EQUIP	62
63	SPARE	–	20	1	B	–	–	–	---	64
65	SPARE	–	20	1	C	20	1	–	R – NUC TREAD 2	66
67	R – ROOF	–	20	1	A	20	1	–	R – NUC TREAD 1	68
69	ACCU–1	–	20	2	B	20	1	–	R – TREAD 1 MONITOR	70
71	---	–	–	–	C	20	1	–	R – TREAD 2 MONITOR	72
73	ACCU–2	–	20	2	A	20	1	–	R – TREAD 3 MONITOR	74
75	---	–	–	–	B	20	1	–	R – STRESS MONITOR	76
77	AC–1	–	30	2	C	20	1	–	EXISTING LOAD	78
79	---	–	–	–	A	20	1	–	EXISTING LOAD	80
81	AC–2	–	30	2	B	20	1	–	EXISTING LOAD	82
83	---	–	–	–	C	20	1	–	EXISTING LOAD	84

NOTES:
** INDICATES LOAD ADDED TO EXISTING SPARE BREAKER
LOAD SHOWN IS ADDED LOAD ONLY

"L3A2" LOAD SUMMARY

	LTS	RCPTS	MISC	TOTAL (KVA)	TOTAL (AMPS)
TOTAL CONNECTED LOAD	0.0	0.5	0.0	0.5	1.5
DEMAND FACTOR	SEE DEMAND FACTOR TABLE				
TOTAL DEMAND LOAD	0.0	0.5	0.0	0.5	1.5
CONTINUOUS (DESIGN) FACTOR	1.25	1.00	1.00		
TOTAL DESIGN LOAD	0.0	0.5	0.0	0.5	1.5

Adding two new 20 amp circuits.



LOAD REMOVED DUE TO DEMOLITION	900.0 VA
LOAD ADDED	900.0 VA
NET LOAD TO PANEL	0.0 KVA

GENERAL NOTES

A. REFER TO E1.00 FOR SYMBOLS, NOTES, AND LEGEND.

ONE-LINE DIAGRAM AND RISER SYMBOLS

- [XX] XXX/X — CIRCUIT BREAKER [XX] DENOTES CIRCUIT BREAKER TYPE, BASIS OF DESIGN : SQUARE D
- XXX/X, [XX], GF — CIRCUIT BREAKER WITH GROUND FAULT [XX] DENOTES CIRCUIT BREAKER TYPE, BASIS OF DESIGN : SQUARE D
- BYPASS ISOLATION AUTOMATIC TRANSFER SWITCH (ATS)
- X, S.O. — CIRCUIT BREAKER SPACE ONLY
- XXX/X, [XX], S.T. — SHUNT TRIP CIRCUIT BREAKER [XX] DENOTES CIRCUIT BREAKER TYPE, BASIS OF DESIGN : SQUARE D
- AUTOMATIC TRANSFER SWITCH (ATS)
- X, X — FUSE; DISCONNECT RATING / FUSE RATING
- PANELBOARD; XXXX PANEL NAME
- SPD — POWER CONDITIONING TVSS DEVICE
- NORMALLY OPEN CONTACT
- NORMALLY CLOSED CONTACT
- DISCONNECT
- FUSE
- XXX — FEEDER TAG. REFER TO FEEDER SCHEDULE FOR NUMBER AND SIZE OF CONDUCTORS AND CONDUIT.
- TRANSFORMER
- [PG] CIRCUIT BREAKER FRAME DESIGNATION
- DPM — DIGITAL POWER METER, CAPABLE OF PROVIDING 30–DAY INSTANTANEOUS METERING, CALCULATED TO 15 MIN. AVERAGES.
- MOTOR
- CM — POWER CIRCUIT MONITOR
- GROUNDING ELECTRODE

Code violations that are found during inspection are required to be corrected. Permit issuance does not grant approval of a code violation. **2009 IBC 105.4**

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *jcomer*
Date: *Jan 25, 2013*
2009 INTERNATIONAL CODES & 2011 NEC

RSN: *697386*
Permit #: *13-640626 LT*

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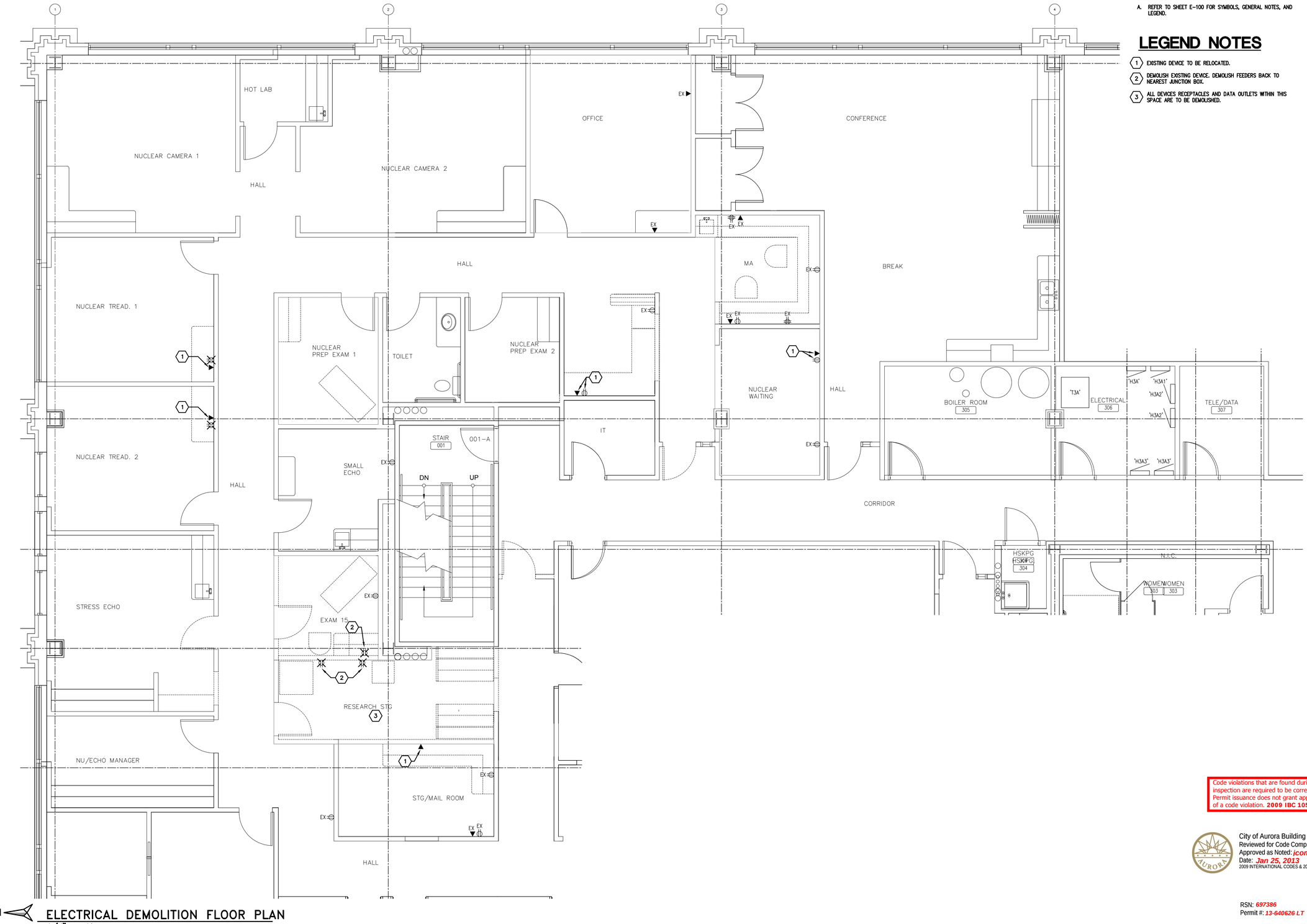
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COLORADO LICENSED — STEVEN GORDON WERNER — 43087 — 01-16-13 — PROFESSIONAL ENGINEER

PROJECT NO.: 812171
DRAWN BY: CL
CHECKED BY: AB
SCALE: AS NOTED
DATE: 01/18/2013
ISSUED FOR: CONSTRUCTION
REVISIONS:

SHEET TITLE:
ELECTRICAL ONE–LINE DIAGRAM AND SCHEDULES

SHEET NO.:
E–301



N

ELECTRICAL DEMOLITION FLOOR PLAN

1/4" = 1'

GENERAL NOTES

A. REFER TO SHEET E-100 FOR SYMBOLS, GENERAL NOTES, AND LEGEND.

LEGEND NOTES

1. EXISTING DEVICE TO BE RELOCATED.
2. DEMOLISH EXISTING DEVICE. DEMOLISH FEEDERS BACK TO NEAREST JUNCTION BOX.
3. ALL DEVICES RECEPTACLES AND DATA OUTLETS WITHIN THIS SPACE ARE TO BE DEMOLISHED.

Code violations that are found during inspection are required to be corrected. Permit issuance does not grant approval of a code violation. **2009 IBC 105.4**

City of Aurora Building Division
Reviewed for Code Compliance
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COLORADO LICENSED
CHRISTOPHER GORDON BROWN
43087
01-14-13
PROFESSIONAL ENGINEER

PROJECT NO.: 812171

DRAWN BY: CL
CHECKED BY: AB
SCALE: AS NOTED
DATE: 01/18/2013
ISSUED FOR: CONSTRUCTION
REVISIONS:

SHEET TITLE:
ELECTRICAL FLOOR DEMOLITION PLAN

SHEET NO.:
ED-201

GENERAL NOTES - PLUMBING

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

B. INDICATED LOCATIONS ARE APPROXIMATE.

C. COORDINATE WITH OWNER AND PERSONNEL THE SHUT-DOWN OF THE EXISTING SITE UTILITIES.

D. ROUTE ALL PLUMBING PIPING AS TIGHT AS POSSIBLE TO STRUCTURE. PIPING SHALL BE INSTALLED PARALLEL/PERPENDICULAR TO WALLS AND COLUMN LINES.

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

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

G. COORDINATE ALL NEW WORK WITH ALL TRADES. WORK SHOWN ON THESE DRAWINGS ARE INTENDED TO PROVIDE THE OVERALL ENGINEERING DESIGN CONCEPT AND DOES NOT PROVIDE FOR RELOCATIONS, OFFSETS, ETC., THAT ARE REQUIRED BY THE COORDINATION OF TRADES. THIS ADDITIONAL WORK SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

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

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

J. ALL WORK SHALL BE SCHEDULED AND PERFORMED IN STRICT COORDINATION WITH ARCHITECTURAL PHASING PLANS. CONTRACTOR SHALL SCHEDULE AND PERFORM WORK IN SEQUENCE WITH THE PHASING PLAN.

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

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

M. ALL CONNECTIONS BETWEEN PIPES OF DISSIMILAR MATERIALS SHALL BE MADE WITH DIELECTRIC UNIONS.

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

O. DO NOT ROUTE PIPING INSIDE ELECTRICAL AND COMMUNICATION ROOMS, IN UNAVOIDABLE INSTANCES, ALL EQUIPMENT SHALL BE PROTECTED FROM OVERHEAD PIPING WITH DRAIN PANS. ROUTE DRAIN FROM DRAIN PANS TO NEAREST FLOOR DRAIN IN MECHANICAL AREAS. WHERE NO FLOOR DRAIN IS ACCESSIBLE ROUTE AS INDIRECT WASTE TO PLUMBING FIXTURE AS INDICATED ON CONTRACT DRAWINGS, OR NEAREST LAVATORY TAILPIECE. PROVIDE SENSOR IN DRAIN PAN TO SEND ALARM TO BAS IN CASE OF LEAKAGE INTO PAN.

P. EACH SUBCONTRACTOR SHALL PROVIDE ADEQUATELY SIZED ACCESS DOORS TO PROVIDE REQUIRED ACCESS THROUGH HARD SURFACES TO THEIR WORK REQUIRING ACCESS (ANY FLOW DEVICES, VALVES, ETC.). SUBCONTRACTOR IS ALSO REQUIRED TO PROVIDE ADEQUATE LOCATION INFORMATION SO ACCESS CAN BE INSTALLED BY INTERIORS SUBCONTRACTOR.

Q. REFER TO ARCHITECTURAL DRAWINGS FOR RATED WALL TYPES.

R. ALL PLUMBING PIPING SHALL BE IDENTIFIED IN ACCORDANCE WITH THE SPECIFICATIONS.

S. SLOPE AND ARRANGE WATER PIPING SYSTEMS TO ESTABLISH HIGH POINTS FOR AIR ELIMINATION AND LOW POINTS TO PERMIT PROPER DRAINING OF EACH LINE.

T. COORDINATE ALL PIPING ROOF PENETRATIONS AND FLOOR PENETRATIONS WITH STRUCTURAL.

U. SPACE LOCATIONS FOR MATERIALS, EQUIPMENT AND FIXTURES HAVE BEEN MADE ON THE BASIS OF PRESENT AND KNOWN FUTURE REQUIREMENTS AND THE DIMENSIONS OF ITEMS OF EQUIPMENT OR FIXTURES OF A PARTICULAR MANUFACTURER WHETHER INDICATED OR NOT. THE CONTRACTOR SHALL VERIFY THAT ALL MATERIALS, EQUIPMENT AND FIXTURES PROPOSED FOR USE ON THIS PROJECT ARE WITHIN THE CONSTRAINTS OF THE ALLOCATED SPACE.

V. PIPE PENETRATIONS THROUGH WALLS SHALL MAINTAIN THE CONSTRUCTION/FIRE RATING OF THE WALL.

GENERAL NOTES - DEMOLITION

A. ALL CAPPED SANITARY WASTE, VENTS AND DOMESTIC WATER PIPING THAT ARE NOT BEING USED ARE TO BE REMOVED BACK TO THE MAINS VALVED AND CAPPED.

B. PROVIDE ADDITIONAL VALVES, FITTINGS AND/OR PIPING AS NECESSARY TO PROVIDE UNINTERRUPTED SERVICE TO AREAS OUTSIDE AND INSIDE OF THE AREA WORK IS BEING PERFORMED.

C. ALL WORK SHALL BE PERFORMED IN STRICT COORDINATION WITH BUILDING SCHEDULES, OCCUPANCIES AND WORK. CONTRACTOR SHALL COORDINATE WITH LANDLORD.

D. ALL NECESSARY SHUTDOWNS OR OUT OF PHASE WORK SHALL BE SCHEDULED WITH THE LANDLORD.

E. INFORMATION PROVIDED ON THESE DRAWINGS HAVE BEEN TAKEN FROM DESIGN DRAWING AND FIELD OBSERVATIONS. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO PRICING AND COMMENCEMENT OF WORK.

F. WHERE EXISTING WALLS ARE DEMOLISHED, REMOVE ALL EXISTING PLUMBING FIXTURES AND THEIR ASSOCIATED PIPING BACK TO THE POINT OF ORIGINATION. ALL EXISTING PIPING THAT WAS SHUT DOWN DURING DEMOLITION SHALL BE TURNED ON AND CHECKED FOR LEAKS.

G. PROVIDE FOR ANY AND ALL DEMOLITION WORK NECESSARY TO ACCOMMODATE ALL NEW CONSTRUCTION, INCLUDING ARCHITECTURAL, MECHANICAL, PLUMBING OR ELECTRICAL WORK.

H. IF DEMOLITION IS REQUIRED TO INSTALL AN ITEM, THE CONTRACTOR SHALL RESTORE THE AREA TO PREVIOUS CONDITION, OR REPLACE DAMAGED ITEMS WITH NEW ITEMS TO MATCH EXISTING.

I. A DEVICE, OR PIPING, WITH AN 'X' INDICATES EXISTING TO BE REMOVED INCLUDING ALL ASSOCIATED VALVES AND FIXTURES. PIPING TO BE VALVED AND CAPPED AT POINT OF ORIGIN.

J. CONTRACTOR SHALL REMOVE ALL FIXTURES AND ASSOCIATED PIPING AND EQUIPMENT TO BE REMOVED AND/OR RELOCATED UNLESS NOTED OTHERWISE. PROVIDE AND INSTALL ALL NECESSARY FIXTURES, EQUIPMENT AND ACCESSORIES REQUIRED TO MAINTAIN SERVICE TO ALL "EXISTING TO REMAIN" FIXTURES AND EQUIPMENT THAT MAY BE INTERRUPTED DURING DEMOLITION.

K. SPACE LOCATIONS FOR MATERIALS, EQUIPMENT AND FIXTURES HAVE BEEN MADE ON THE BASIS OF PRESENT AND KNOWN FUTURE REQUIREMENTS AND THE DIMENSIONS OF ITEMS OF EQUIPMENT OR FIXTURES OF A PARTICULAR MANUFACTURER WHETHER INDICATED OR NOT. THE CONTRACTOR SHALL VERIFY THAT ALL MATERIALS, EQUIPMENT AND FIXTURES PROPOSED FOR USE ON THIS PROJECT ARE WITHIN THE CONSTRAINTS OF THE ALLOCATED SPACE.

L. REMOVE EXISTING PIPING WHERE NOTED AND REQUIRED, TO BEYOND FINISHED SURFACES AND CAP OR AS INDICATED ON PLANS. VERIFY LOCATION OF EXISTING PLUMBING AT SITE.

M. ITEMS REMOVED AND NOT REINSTALLED OR RETURNED TO OWNER SHALL BE DISPOSED OF LEGALLY (COORDINATE WITH OWNER FOR THE DISPOSAL).

N. ALL EXISTING PLUMBING RISER LOCATED IN THE REMOVED WALLS/CHASES MUST BE RELOCATED TO AN APPROVED LOCATION BY THE ARCHITECT THEN RECONNECTED ON FLOOR BELOW.

PLUMBING SPECIFICATIONS:

I GENERAL CONDITIONS:

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

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

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

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

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

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

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

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

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

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

II PLUMBING DEMOLITION

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

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

III PRODUCTS, EQUIPMENT AND EXECUTION:

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

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

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

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

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

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

G. FIXTURE CARRIERS SHALL BE PROVIDED FOR LAVATORIES AS REQUIRED AND SHALL BE FLOOR SUPPORTED AS MANUFACTURED BY JOSAM.

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

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

1. STEEL PIPE OR COPPER TUBING - 1-1/2" OR LESS, 6 FOOT INTERVALS.
2. CAST IRON - ONE (1) HANGER PER LENGTH OF PIPE AND NOT EXCEEDING 10'-0" O.C.
3. FITTINGS - WITHIN 2'-0" OF EACH CHANGE OF DIRECTION.

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

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

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

IV RECORDS FOR OWNER:

A. CONTRACTOR SHALL KEEP A CLEAN SET OF DRAWINGS ON THE JOB, NOTING DAILY ALL CHANGES MADE IN THESE DRAWINGS IN CONNECTION WITH THE FINAL INSTALLATION INCLUDING EXACT DIMENSIONED LOCATIONS OF ALL NEW AND UNCOVERED EXISTING UTILITIES AND SHALL, WITH HIS REQUEST FOR FINAL PAYMENT, TURN OVER A CLEAN, NEATLY MARKED SET OF 2 MIL REPRODUCIBLE MYLARS SHOWING "AS INSTALLED" WORK TO THE ARCHITECT FOR SUBSEQUENT REVIEW AND TRANSMITTAL TO THE OWNER. CONTRACTOR SHALL NOTE ALL CONSTRUCTION CHANGES, DATE EACH SHEET AND LABEL "AS-BUILTS" IN THE REVISION BLOCK ON THE DRAWINGS. CONTRACTOR SHALL ALSO FURNISH ONE (1) SET OF BLUELINE PRINTS FROM THE "AS-BUILTS" MYLARS.

B. IN ADDITION TO THE ABOVE, CONTRACTOR SHALL ACCUMULATE DURING THE JOB'S PROGRESS, THE FOLLOWING DATA, IN TRIPLICATE, PREPARED IN A NEAT BROCHURE OR PACKET FOLDER AND TURNED OVER TO THE ARCHITECT FOR REVIEW AND SUBSEQUENT DELIVERY TO THE OWNER.

1. ALL WARRANTIES AND GUARANTEES AND MANUFACTURER'S DIRECTIONS ON EQUIPMENT AND MATERIAL COVERED BY THE CONTRACT INCLUDING THE NAMES, ADDRESSES AND TELEPHONE NUMBERS OF THE MANUFACTURER'S REPRESENTATIVE.
2. APPROVED FIXTURE BROCHURES, WIRING DIAGRAMS AND CONTROL DIAGRAMS (ORIGINAL DATA, NO COPIES).
3. COPIES OF APPROVED SHOP DRAWINGS.
4. OPERATING INSTRUCTIONS FOR HEATING AND COOLING AND OTHER MECHANICAL SYSTEM. OPERATING INSTRUCTIONS SHALL ALSO INCLUDE RECOMMENDED MAINTENANCE AND SEASONAL CHANGEOVER PROCEDURES.
5. TEST AND BALANCE REPORTS REQUIRED BY THESE SPECIFICATIONS.
6. ANY AND ALL OTHER DATA AND/OR DRAWINGS REQUIRED DURING CONSTRUCTION.
7. REPAIR PARTS LISTS OF ALL MAJOR ITEMS AND EQUIPMENT INCLUDING NAME, ADDRESS AND TELEPHONE NUMBERS OF LOCAL SUPPLIER OR AGENT.
8. VALVE TAG CHARTS AND DIAGRAMS.

C. ALL OF THE ABOVE DATA SHALL BE SUBMITTED TO THE ENGINEER FOR HIS REVIEW AT SUCH TIME AS THE CONTRACTOR SUBMITS HIS LAST ESTIMATE PRIOR TO HIS FINAL PAYMENT, BUT IN NO CASE, LESS THAN TWO WEEKS BEFORE FINAL INSPECTION.

GENERAL PLUMBING NOTES

I LOCATIONS AND SIZES OF EXISTING SYSTEMS ARE APPROXIMATE. EXACT SIZES AND LOCATIONS OF EXISTING SYSTEMS TO BE UTILIZED SHALL BE VERIFIED AT JOB SITE.

II SEAL AROUND ALL PIPE PENETRATIONS THROUGH FLOORS WITH WATER PROOFING AND FIRE-SAFE MATERIALS.

III REMOVE ALL EXISTING ABANDONED PLUMBING PIPING, FITTINGS AND CAP AT STACKS.

IV RE-POUR ALL ABANDONED FLOOR PENETRATIONS.

V CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL BY THE ENGINEER ALL MAJOR ITEMS OF MATERIALS AND EQUIPMENT.

PLUMBING FIXTURE SCHEDULE

DESIG	TYPE	WASTE	VENT	CW	HW	REMARKS
SK-1	SINK SINGLE COMPARTMENT	2"	2"	1/2"	1/2"	SINK: JUST SL-ADA-1617-A-GR 16"W x 17"L (10" x 14"x6.5"D BOWL) TYPE 304 STAINLESS STEEL SELF RIMMING SINGLE COMPARTMENT SINK, SEAMLESS CONSTRUCTION, POLISHED NON-POROUS FINISH, UNDERCOAT FOR INSULATION. FAUCET LEDGE TO HAVE TWO (2) HOLES ON 4" CENTERS, AND CENTERED DRAIN LOCATION. FAUCET: CHICAGO FAUCET MODEL NO. 895-317E2805-54BCP, DECK MOUNTED HOT AND COLD WATER SINK FAUCET , POLISHED CHROME PLATED SOLID BRASS CONSTRUCTION. 4" CENTER TO CENTER RIGID SWING GOOSENECK SPOUT. 0.5 GPM VANDAL PROOF NON-AERATING OUTLET. 4" WRIST BLADE HANDLES WITH SECURED COLOR CODED INDEX BUTTONS. STRAINER AND TAILPIECE: JUST MODEL NO. J-35-SSF TYPE 304 STAINLESS STEEL 2-3/4" REMOVABLE GRID STRAINER, WITH 1-1/2" TYPE 304 STAINLESS STEEL TAILPIECE. P-TRAP: McGUIRE 8912 CAST BODY ADJUSTABLE P-TRAP WITH 1-1/2" TUBULAR WALL BED AND FLANGE. STOPS AND RISERS: McGUIRE H165LK HEAVY DUTY 3/8" IPS X 3/8" OD SUPPLY WITH LOOSE KEY STOPS.

GENERAL NOTES:

1. VERIFY ALL MOUNTING HEIGHTS WITH ARCHITECTURAL DRAWINGS.
2. ALL P-TRAPS SHALL HAVE INTEGRAL CLEANOUT PLUGS & PIPE WRAP.
3. ALL PLUMBING FIXTURES MUST CONFORM TO CURRENT "ADA" REQUIREMENTS FOR PERFORMANCE AND ACCESSIBILITY AS REQUIRED.
4. PROVIDE AND INSTALL WATTS MMV-US-M1 TEMPERATURE MIXING VALVE SET FOR 84° F.
5. ALL EXPOSED PIPING TO BE CHROME PLATTED.

PLUMBING SYMBOLS

SYMBOL	DESCRIPTION
—— - ——	DOMESTIC COLD WATER
—— -- ——	DOMESTIC HOT WATER (120°F UNLESS OTHERWISE NOTED)
—— --- ——	DOMESTIC HOT WATER RETURN (120°F UNLESS OTHERWISE NOTED)
——SS——	SANITARY SEWER PIPING (SOIL OR WASTE)
— — — —	SANITARY VENT PIPING
	CONNECT NEW TO EXISTING
	DISCONNECT EXISTING PIPING
	GATE VALVE
	BALL VALVE
FCO GCO	FLOOR CLEANOUT OR GRADE CLEANOUT
WCO	WALL CLEANOUT
CO CO	CLEANOUT PLUG
	DIRECTION OF FLOW
	CAP OUTLET OR PLUGGED OUTLET

NOTE: ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS.
SYMBOLS ARE SHOWN SCHEMATICALLY AND MAY NOT BE TO SCALE.

PLUMBING ABBREVIATIONS

ABV	AUTOMATIC BALANCING VALVE	GC	GENERAL CONTRACTOR
AFF	ABOVE FINISH FLOOR	GCO	GRADE CLEANOUT
AFG	ABOVE FINISH GRADE	INV	INVERT
A/C	ABOVE HUNG CEILING	I.E.	INVERT ELEVATION
AP	ACCESS PANEL OR DOOR	MH	MANHOLE
BFF	BELOW FINISH FLOOR	NPW	NON-POTABLE/DOWNSTREAM OF A BACKFLOW PREVENTER
B/F	BELOW FLOOR	PRV	PRESSURE REDUCING VALVE
B/G	BELOW GRADE	TP	TRAP PRIMER
DF	DRINKING FOUNTAIN	VTR	VENT THROUGH ROOF

PROJECT DESIGN CRITERIA

LOCATION:	
CITY/STATE	AURORA, COLORADO
APPLICABLE CODES:	
BUILDING	2009 IBC
MECHANICAL	2009 IMC
PLUMBING	2009 IPC
ENERGY	2009 IECC
ELECTRICAL	2011 NEC
LATITUDE:	
DEG. N. LAT.	39.75
ELEVATION:	
FT. ABOVE SEA LEVEL	5331

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: pmckown
Date: Jan 25, 2013
2009 INTERNATIONAL CODES & 2011 NEC

RSN: 697386
Permit #: 13-640626 LT

The Medical Center of Aurora
Health ONE

ADCA

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COLORADO LICENSED GORDON R. ARMED 43087 PROFESSIONAL ENGINEER 01-14-13

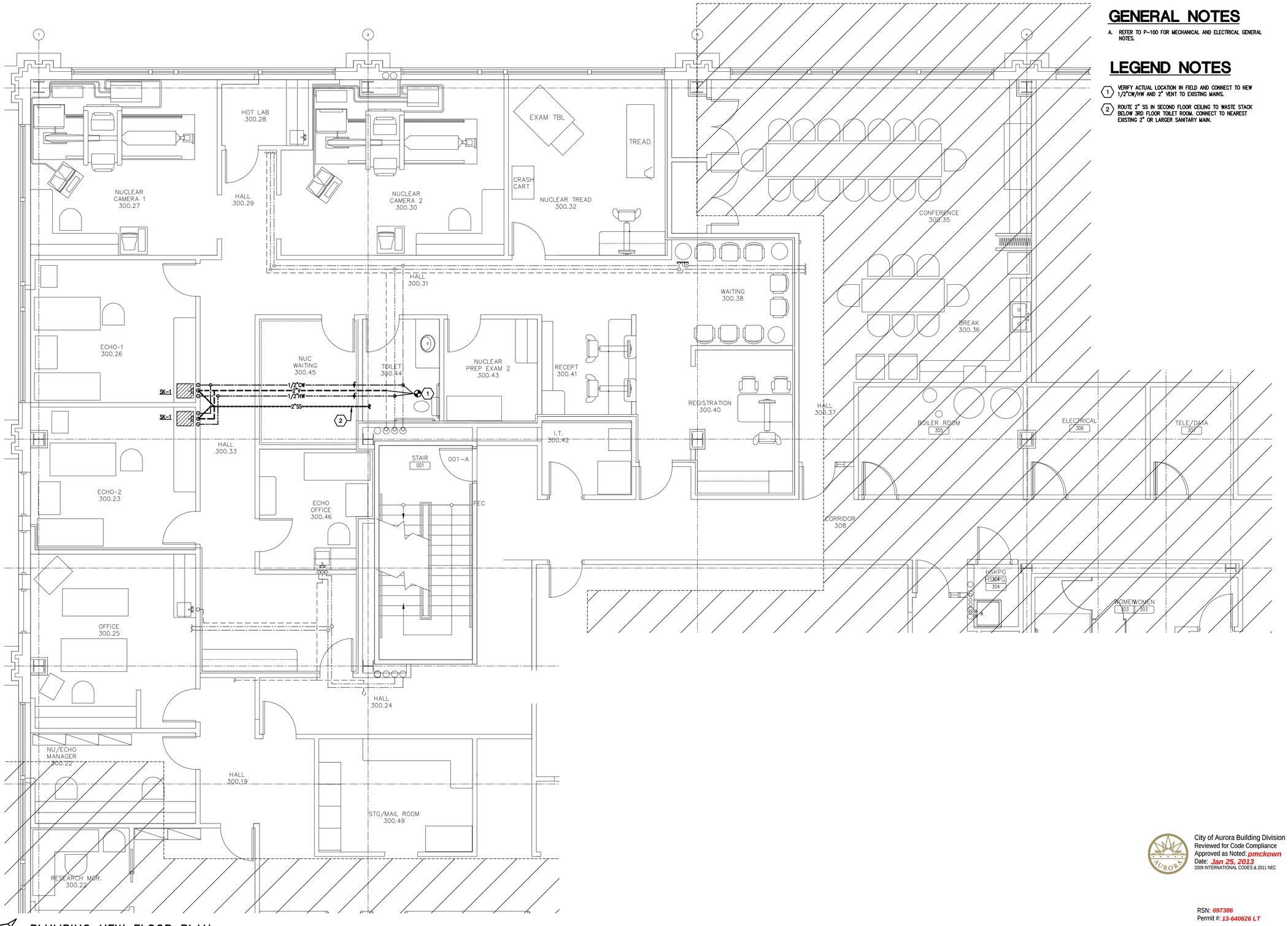
PROJECT NO.: 812171

DRAWN BY: DG
CHECKED BY: CNG
SCALE: AS NOTED
DATE: 01/18/2013
ISSUED FOR: CONSTRUCTION
REVISIONS:
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SHEET TITLE:
PLUMBING LEGENDS, NOTES, AND SCHEDULES

SHEET NO.:
P-100

DWG. FILENAME:



N

PLUMBING NEW FLOOR PLAN

1/4" = 1'

DWG. FILENAME:

GENERAL NOTES

A. REFER TO P-100 FOR MECHANICAL AND ELECTRICAL GENERAL NOTES.

LEGEND NOTES

1. VERIFY ACTUAL LOCATION IN FIELD AND CONNECT TO NEW 1/2"CW/HW AND 2" VENT TO EXISTING MAINS.
2. ROUTE 2" SS IN SECOND FLOOR CEILING TO WASTE STACK BELOW 3RD FLOOR TOILET ROOM. CONNECT TO NEAREST EXISTING 2" OR LARGER SANITARY MAIN.

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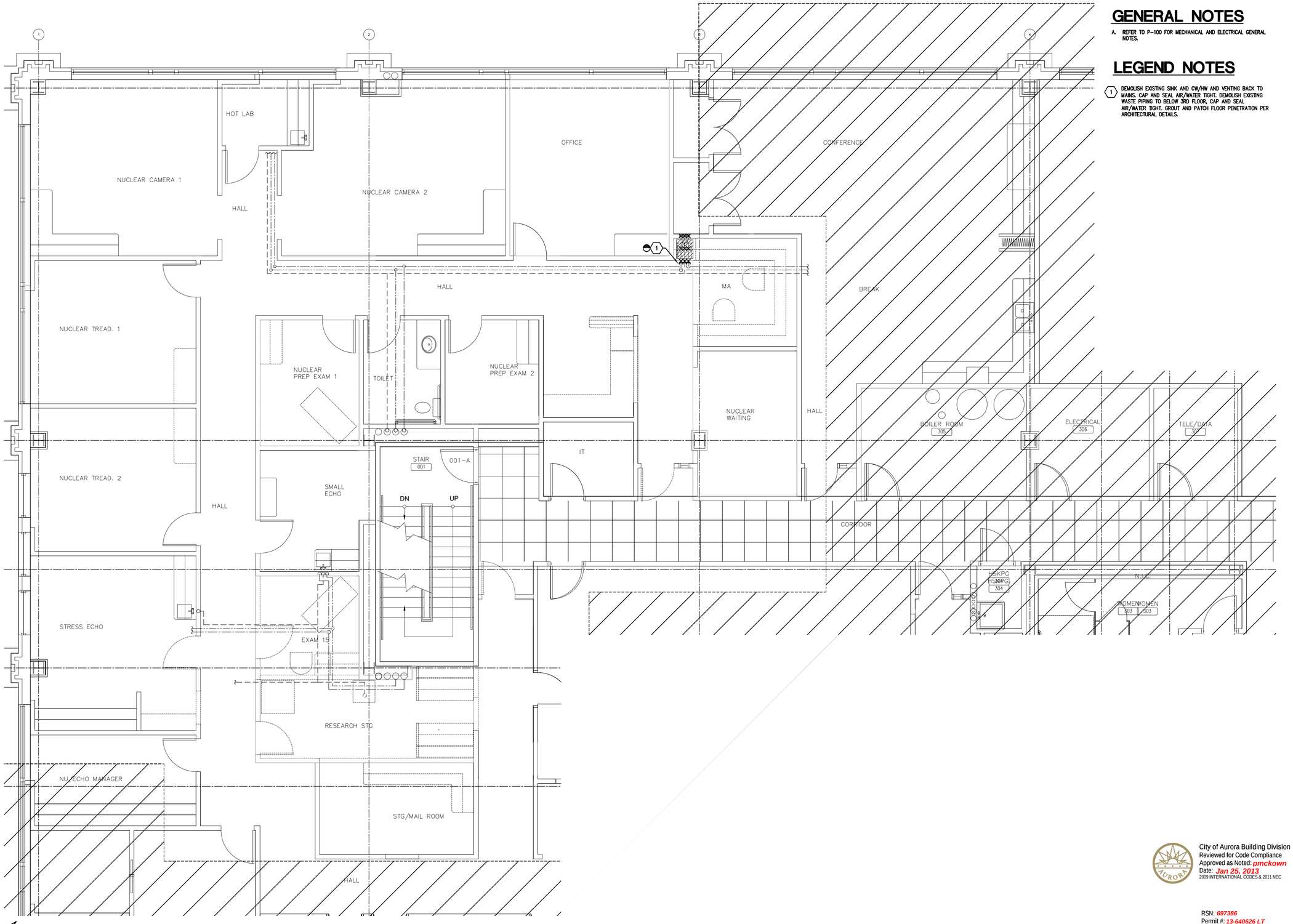
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CHRISTOPHER N. GORDON
43087
01-14-13
PROFESSIONAL ENGINEER

PROJECT NO.: 812171

DRAWN BY: DG
CHECKED BY: CNG
SCALE: AS NOTED
DATE: 01/18/2013
ISSUED FOR: CONSTRUCTION
REVISIONS:

SHEET TITLE:
PLUMBING NEW FLOOR PLAN

SHEET NO.:
P-201



N

PLUMBING DEMOLITION FLOOR PLAN

1/4" = 1'

GENERAL NOTES

A. REFER TO P-100 FOR MECHANICAL AND ELECTRICAL GENERAL NOTES.

LEGEND NOTES

1. DEMOLISH EXISTING SINK AND CW/HW AND VENTING BACK TO MAINS. CAP AND SEAL AIR/WATER TIGHT. DEMOLISH EXISTING WASTE PIPING TO BELOW 3RD FLOOR, CAP AND SEAL AIR/WATER TIGHT. GROUT AND PATCH FLOOR PENETRATION PER ARCHITECTURAL DETAILS.

City of Aurora Building Division
Reviewed for Code Compliance
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43087
01-14-13
PROFESSIONAL ENGINEER

PROJECT NO.:	812171
DRAWN BY:	DG
CHECKED BY:	CNG
SCALE:	AS NOTED
DATE:	01/18/2013
ISSUED FOR:	CONSTRUCTION

REVISIONS:

SHEET TITLE:
PLUMBING DEMOLITION FLOOR PLAN

SHEET NO.:
PD-201