FORMER LARIMER SCHOOL

GENERAL OCCUPANCY PERMIT PROJECT

135 WINSLOW STREET
PITTSBURGH PA, 15206

PERMIT SET

JULY 21, 2023

PERSPECTIVE

REVIEWED BY OWNER'S REPRESENTATIVE

DATE

JULY 21, 2023
PERMIT/ BID SET

GENERAL NOTES

ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE

THE CONTRACTOR SHALL VERIFY THE SCALE OF ALL DRAWINGS PRODUCED OR VIEWED FROM AN ELECTRONIC FILE

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File Plot Date:

File Name: 23-07-28_135 Winslow_Fit Out.vwx

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ABBREVIATIONS

& or ⅊	And
∠ or L	Angle
@	At
AB	Anchor bolt
ABV	Above
ACOUST	Acoustic
ACP	Auger cast pile
ACT	Acoustic ceiling tile
ADDTL	Additional
AFF	Above finished floor
ALUM	Aluminum
ANCH	Anchor
AP	Access Panel
ARCH	Architect
BC	Brick courses
BIT	Bituminous
BLDG	Building
BLK	Block
BLKG	Blocking
BM	Beam
BOTT	Bottom
BRK	Brick
BRNG	Bearing
BULKHD	Bulkhead
C	Channel
C/C	Center to Center
℄	Center Line
CB	Catch basin
CEM	Cement
CER	Ceramic
CJ	Control joint
CLG	Ceiling
CLMN	Column
CMU	Concrete masonry unit
CO	Clean out
COMP	Composition
CONC	Concrete
CONSTR	Construction
CONT	Continuous
COORD	Coordinate
CPT	Carpet
CT	Ceramic tile
CW	Curtain wall
DBL	Double
DEMO	Demolish
DET	Detail
DIA or Ø	Diameter
DIAG	Diagonal
DIM	Dimension
DISP	Dispenser
DN	Down
DS	Downspout
DR	Door
DWG	Drawing
E	East
EA	Each
EJ	Expansion joint
ELEC	Electrical
ELEV	Elevator/Elevation
EOS	Edge of slab
EP	Electrical panel
EQ	Equal
EQUIP	Equipment
ETR	Existing to remain
EW	Each way
EWC	Electric water cooler
EXH	Exhaust
EXIST	Existing
EXP	Exposed
EXTER	Exterior
FB	Floor box
FD	Floor drain
FDN	Foundation
FE	Fire extinguisher to be recharged
FEB	Fire extinguisher bracket
FEC	Fire extinguisher cabinet
FE NEW	New fire extinguisher
FIN	Finish
FLR	Floor
FLUOR	Fluorescent
FR	Frame
FRT	Fire retardant treated
FTG	Footing
FV	Field Verify
GA	Gauge
GALV	Galvanized
GL	Glass
GWB	Gypsum Wall board
HDWE	Hardware
HT	Height
HM	Hollow metal
HR	Handrail
HTG	Heating
HVAC	Heating, ventilation and air conditioning
ID	Inside Diameter
IN	Inch
INSUL	Insulated
INT	Interior
INV	Invert
JAN	Janitor
JB	Junction box
JC	Janitor closet
LAM	Laminated
LLV	Long leg vertical
MAINT	Maintenance
MAX	Maximum
MDF	Medium Density Fiberbd.
MECH	Mechanical
MEZZ	Mezzanine
MFR	Manufacturer
MH	Manhole
MIN	Minimum
MISC	Miscellaneous
MO	Masonry opening
MR	Moisture resistant
MTD	Mounted
MTL	Metal
N	North
NIC	Not in contract
#	Number
NTS	Not to scale
OA	Outside air
OC	On Center
OD	Outside Diameter
O.H.	Opposite Hand
OPG	Opening
OS	Overflow Scupper
PART BD	Particle Board
PART	Partition
PC	Pier cap
PERF	Perforated
PL	Plate
PLAM	Plastic laminate
PNL	Panel
POLY	Polyethylene
PSF	Pounds / square foot
PSI	Pounds / square inch
PNT	Paint
PT	Point
PTD	Painted
PVB	Polyvinylbutyral
PVC	Polyvinylchloride
RAD	Radius
R	Riser
RA	Return Air
RCB	Rubber Cove Base
RD	Roof drain
RE	Regarding
REC	Recessed
REINF	Reinforce
REL	Relocated
REP	Represents
REQD	Required
RCP	Reflected Ceiling Plan
RF	Resilient Flooring
RM	Room
RO	Rough opening
RSB	Rubber sanitary base
RWC	Rain Water Conductor
S	South
SA	Supply Air
SCHED	Schedule
SF	Square Foot (Feet)
SGL	Single
SHT	Sheet
SIM	Similar
SL	Slope
SPEC	Specification
SQ	Square
SQ IN	Square Inches
SS	Stainless Steel
STD	Standard
STL	Steel
STRUCT	Structural
SURF	Surface
SUSP	Suspended
SYM	Symmetrical
SYNTH	Synthetic
T	Tread
T/	Top of
T&G	Tongue & groove
TCP	Terra Cotta Pipe
TEL	Telephone
THK	Thick
TLT	Toilet
TR	To remain
TRTD	Treated
TS	Tube steel
TYP	Typical
UNO	Unless noted otherwise
VB	Vapor Barrier
VCT	Vinyl composition tile
VEN	Veneer
VERT	Vertical
V.I.F.	Verify In Field
W/	With
W	West
WC	Water Closet
WD	Wood
WDW	Window
WP	Water Proof
WR	Water Resistant
WWF	Welded Wire Fabric

SYMBOL LEGEND

2 / CS-1 TITLE / Scale	DRAWING TITLE CALL OUT (DRAWING NUMBER TOP, SHEET NUMBER BOTTOM)
1 / A1	BUILDING SECTION OR ELEVATION CALL OUT (DRAWING NUMBER TOP, SHEET NUMBER BOTTOM)
1 / A1	ELEVATION OR DETAIL SECTION CALL OUT (DRAWING NUMBER TOP, SHEET NUMBER BOTTOM)
1 / 4 A1 2 / 3	ELEVATION OR DETAIL SECTION CALL OUT (DRAWING NUMBER OUTSIDE, SHEET NUMBER CENTER)
1 / A1	PLAN DETAIL CALL OUT (DRAWING NUMBER TOP, SHEET NUMBER BOTTOM)
ROOM NAME / RM. #	ROOM NAME & NUMBER
1 / A1	DOOR ID (ROOM NUMBER TOP, DOOR NUMBER BOTTOM)
D-1	PARTITION TAG CALL OUT

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PEIDC
Pittsburgh Economic and Industrial Development Corporation

Project

FORMER LARIMER SCHOOL

GENERAL OCCUPANCY PERMIT PROJECT

Address

135 WINSLOW STREET
PITTSBURGH PA, 15206

Architects Seal

REGISTERED ARCHITECT
COMMONWEALTH OF PENNSYLVANIA
ROBERT W. PFAFFMANN, PA 10001

Sheet Title

Cover Sheet

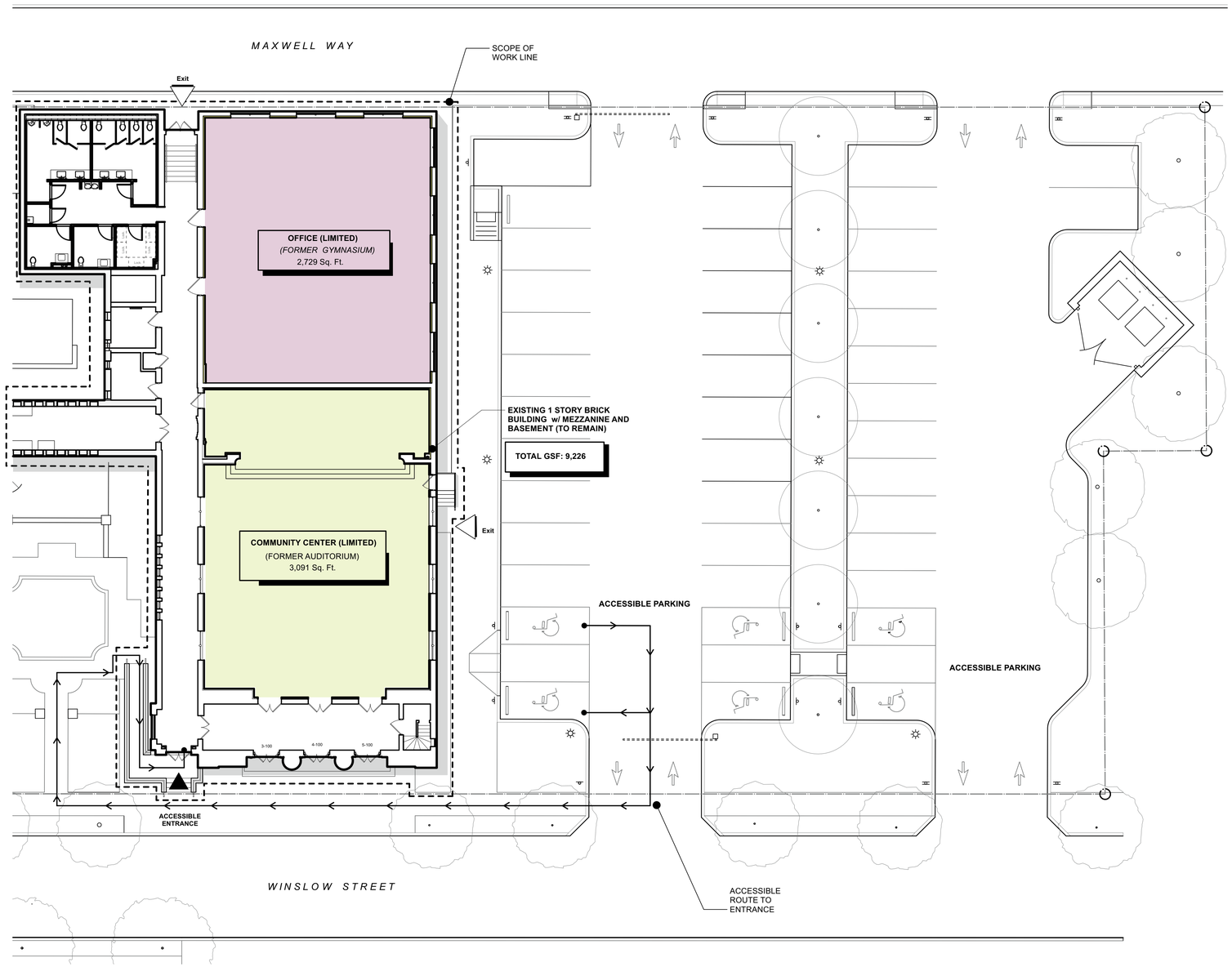
Drawn by: VIVIAN W.

Date issued: **JULY 21, 2023**

Revisions: 1 / 2 / 3 / 4

Sheet Number

CS-1



1 **Zonning**
Scale: 1:150

ZONING SPACE USE TYPES

- Office (Limited)
- Community Center (Limited)
- Service and Storage Circulation/Restrooms

ENTRY/ EXIT TYPES

- Accessible Entrance
- Entrance

PROJECT DESCRIPTION

This project consists of interior renovations of the primary spaces, including the office space, the community event space, mechanical rooms, and restrooms. The renovation will also update the building utilities, including mechanical systems, electrical services, fire protection systems, and plumbing.

The previous zoning use was approved in 2020 as a community center and office space. No change of zonning use is required.
(See below for a picture of the record.)

PREVIOUS ZONING APPROVAL

Department of City Planning
Division of Zoning & Development Review
200 Ross Street, Suite 309

RECORD OF ZONING APPROVAL # DCP-ZDR-2020-01216

PROPERTY INFORMATION

Applicant: Permits PFAFFMANN + ASSOCIATES
Property Address: 135 WINSLOW ST, Pittsburgh, PA 15206-
Parcel ID: 0124J00322000000
Neighborhood: Larimer
Zoning District: LNC
City Historic Landmark: Yes
City Historic District: No
Floodplain: No
Landslide Prone Overlay: No
Undermined Overlay: No
25% Slope Overlay: No
Baum-Centre Overlay: No

ZONING APPROVAL

This document verifies the receipt of a Zoning Application and the fulfillment of all Zoning Code (Title Nine) requirements.
Date Approved: February 27, 2020
Zoning Plan Reviewer: Kathleen Oldrey
Zoning Approved Scope: Exterior stabilization of masonry and roofing on existing former school building.

ASSOCIATED APPROVALS

Zoning Board of Appeals:
Planning Commission:
Art Commission:
Pre-application Review Meeting:

PITTBURGH DIVISION OF ZONING CODE INFORMATION

PARCEL INFORMATION:
(Chapter 9, 902.03)

Project Address:	**135 Winslow Street, Pittsburgh PA, 15206**
Zoning District:	**LNC**
Parcel ID:	**0124J00322000000**
Neighborhood:	**Larimer**
City Historic Landmark:	**Yes**

PROPOSED ZONING USES:
(Chapter 9, 911)

Community Center (Limited)
means a Community Center which primarily serves the community in which it exists, and with a gross floor area of less than 5,000 square feet and for which fewer than 10 off-street parking spaces are provided.

Use Classification = Permitted by Right

Office (Limited)
means an Office with a gross floor area of less than 10,000 square feet.
An establishment providing executive, management, administrative or professional services, but not involving medical or dental services or the sale of merchandise, except as incidental to a permitted use. Typical uses include real estate, insurance, property management, investment, employment, travel, advertising, law, architecture, government, design, engineering, accounting and similar offices.

Use Classification = Permitted by Right

USE STANDARDS:
(Chapter 9, 911.04)

Site Development Standard:	**LNC (Local Neighborhood Commercial District)**
Minimum Lot Size:	**0**
Maximum Floor Area Ratio:	**2:1**
Maximum Lot Coverage:	**90%**
Minimum Front Setback:	**none required**
Minimum Rear Setback:	**20 ft**
Minimum Exterior Sideyard Setback:	**none required**
Minimum interior Sideyard Setback:	**none required**
Maximum Height:	**45 ft 9 (not to exceed 3 stories)**

DEVELOPMENT STANDARDS:
(Chapter 9, 914.02. - Off-Street Parking Schedules)

914.01.B.2 Expansions and Alterations

The parking, loading and access standards of this chapter shall apply when an existing structure or use is expanded or enlarged. Additional offstreet parking and loading spaces shall be required only to serve the enlarged or expanded area, not the entire building or use.

Conclusion: Parking standards to not apply to this project, due to no expaned or enlarged area.

914.01.B.3 Change of Occupancy

Off-street parking and loading facilities shall be provided for any change of occupancy or manner of operation that would, based on Parking Schedules A or B (Sec. 914.02.A and Sec. 914.02.B) or the Off-Street Loading Schedule of Sec. 914.10, result in a requirement for more parking or loading spaces than the existing or more recent use. Additional parking or loading spaces shall be required only in proportion to the extent of the change, not for the entire building or use.

Conclusion: Parking standards to not apply to this project, due to no change in occupancy

REVIEWED BY OWNER'S REPRESENTATIVE

DATE

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Architects Seal

REGISTERED ARCHITECT
COMMONWEALTH OF PENNSYLVANIA
VIVIAN PFAFFMANN PA 401093

Sheet Title

Zonning Plan

Drawn by: VIVIAN W.
Date issued: **JULY 21, 2023**
Revisions:
1
2
3
4

Sheet Number

AG-0.2

BUILDING CONSTRUCTION DATA:

This existing structure was originally built in 1896 and designed by Ulysses J. Lincoln Peoples, a well-known Pittsburgh architect at the time. The school building is made up of three different sections, the first two are old classrooms and the third is the gym and auditorium space.
The Gym and Auditorium wing is under construction for this permit.

It was placed on the **National Registry of Historic Places** in 1986. **Reference Number 86002675**

Fire Areas	Basement	First Floor	Mezzaine
FIRE AREA ***A - 3*** *Assembly/* ***B*** *Business'. Non Seperated Mized Use*	9,644 sq. ft.	9,423 sq. ft.	538 sq. ft.

TOTAL BUILDING AREA **19,605 sq. ft.**

PROJECT LOT DATA:

Project Address:	**135 Winslow Street, Pittsburgh PA, 15206**
Zoning District:	**LNC**
Parcel ID:	**0124-J-00322000000**
Neighborhood:	**Larimer**
City Historic Landmark:	**Yes**

GENERAL CODE INFORMATION: IBC 2018

Section	Description	Section	Conclusion
3	Use and Occupancy	303 - 312	**A - 3** Assembly (Basement) (Below Grade) **A - 3/ B** Assembly and Business (Ground Floor) **B** Business (Mezzanine Floor)
6	Fire Resistance Ratings	601	**Type III B** Structural Frame: 0 hour Bearing Walls: 2 hour Non-bearing Walls: 0 hour Floor Construction: 0 hour Roof Construction: 0 hour
9	Portable Fire Extinguishers	906.2	Max. Floor Area per Extinguisher: 11,250 SF Max. Travel Distance to Extinguisher: 75 SF **- See life safety plans for extinguisher locations:**
10	Occupant Load	1004	Basement | A - 3 | 8.2 Occupants Ground | A - 3 | 208.81 Occupants Ground | B | 18.20 Occupants Second | A - 3 | 1.65 Occupants **- See room occupancy information on Sheet AG-0.1**
10	Means of Egress Sizing	1005	**Stairways:** .3" per Occupant = 120 occupants per 36" width **Gen. Egress:** .2" per Occupant = 180 occupants per 36" width
10	Minimum number of Exits	1006.3.2	**Occupanty Load** / **Min. # of Exits (per story)** 1 - 500 / 2 **-2 exits required; 2 exits provided**
10	Accessible Means of Egress	1009	Accessible spaces shall be provided with not less than one accessible means of egress. Exception: Accessible means of egress are not required in alterations to existing buildings. **- Accessible Means of egress is provided at the Main Entry of the building. See plan for accessible entry.**

ROOM CALCULATIONS PER OCCUPANT

FLR	ROOM NUMBER	ROOM NAME	OCCUPANCY CLASSIFICATION	FUNCTION OF SPACE	NET/ GROSS AREA	OLF	NUMBER OF OCCUPANTS/ OCCUPANCY CLASSIFICATION	
BASEMENT	B02	Unused Space						
	B03	Unused Space						
	B04	Unused Space						
	B05	Mechanical Room	A-3	Mechanical Room	1810	300	6.03	
	B06	Mechanical Room	A-3	Mechanical Room	651	300	2.17	
	B07	Crawl Space						
	B08	Corridor A						
	B09	Stair A						
	B10	Corridor B						
				Sum of Occupants for the Ground Floor			8.20	0
							A-3	*B*
GROUND	100	Vestibule						
	102	Storage	A-3	Storage Area	323	300	1.08	
	103	Stair A						
	104	Auditorium	A-3	Business Area	2365	15	157.67	
	105	Stage	A-3	Assembly, UC	738	15	49.20	
	106	Office Space	B	Assembly, UC	2730	150		18.20
	107	Storage	A-3	Storage Area	84	300	0.28	
	109	Electrical Closet	A-3	Mechanical Room	84	300	0.28	
	110	Storage	A-3	Storage Area	71	300	0.24	
	111	Restroom						
	112	Restroom						
	113	Janitor's Closet	A-3	Storage Area	20	300	0.07	
	114	Men's Restroom						
	115	Women's Closet						
	116	Hall						
				Sum of Occupants for the Ground Floor			208.81	18.20
							A-3	*B*
MEZZANINE	200	Stair A						
	201	Hall						
	202	Telephone Room	B	Business Area	76	150		0.00
	203	Telephone Room	B	Business Area	71	150		0.47
	204	Telephone Room	B	Business Area	176	150		1.17
				Sum of Occupants for the Mezzanine Floor			0	1.65
							A-3	*B*
				Total Occupants (A-3 Occupancy Type)			**217.01**	
				Per gender			*108.51*	
				Total Occupants (B Occupancy Type)				**19.85**
				Per gender				9.92
				TOTAL OCCUPANTS			**236.86**	
				Per gender			*118.43*	

ALLEGHENY COUNTY HEALTH DEPARTMENT PLUMBING FIXTURE REQUIREMENTS

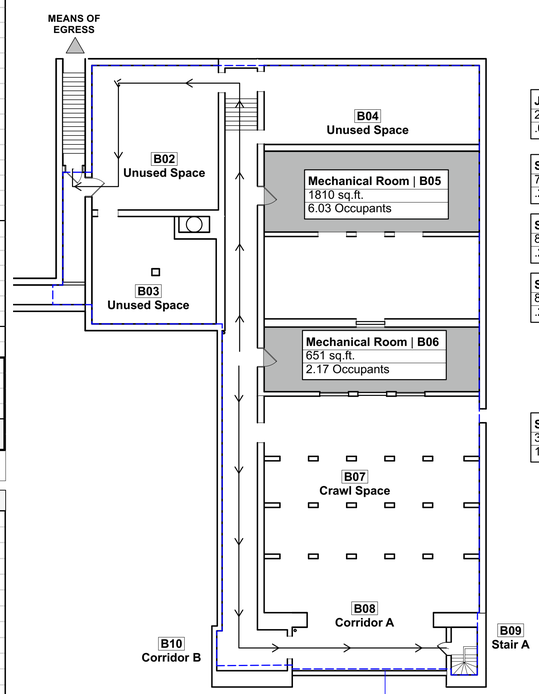
A-3 Occupancy Classification		Water Closets		Lavatories
		Required		Required
	Women Occ:	2	Women Occ:	1
	Men Occ	1	Men Occ:	1
		Drinking Fountains		Service Sink
		Required		Required
		1		1
B Occupancy Classification		Water Closets		Lavatories
		Required		Required
	Women Occ:	1	Women Occ:	1
	Men Occ	1	Men Occ:	1
		Drinking Fountains		Service Sink
	1 per 500	1	1 Service Sink	1
TOTAL Occupancy Classification		**Water Closets**		**Lavatories**
		Required/ **PROVIDED**		Required/ **PROVIDED**
	Women Occ:	3 | **5**	Women Occ:	2 | **3**
	Men Occ	2 | **5**	Men Occ:	2 | **3**
		Drinking Fountains		**Service Sink**
		Required/ **PROVIDED**		Required/ **PROVIDED**
	1 per 500	2 | **2**	1 Service Sink	1 | **1**

SYMBOL KEY

- TES — Tactile Exit Signage
- TRS — Tactile Restroom Signage
- FE — Fire Extinguisher Mounted on Wall
- AE — Accessible Exit/ Entrance Sign w/ Direction Arrow
- Exit Signage w/ Batteries
- Accessible Entrances
- Accessible Clearance

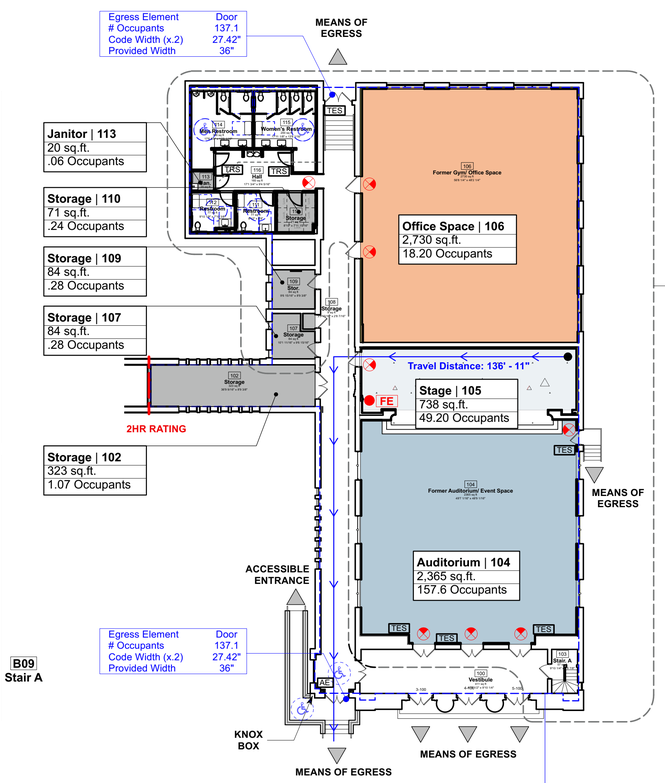
ROOM SPACE USE

- Office
- Assembly, Unconcentrated
- Accessory Storage, Mech Equipment Room
- Circulation/Restrooms



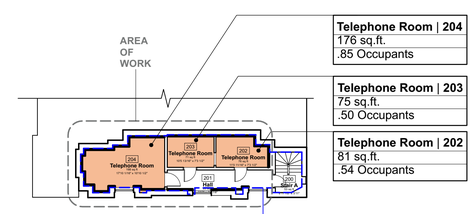
1 **Basement Code Plan**
Scale: 1/16" = 1'-0"

BASEMENT FLOOR
9,644 Sq. Ft.



2 **Ground Floor Code Plan**
Scale: 1/16" = 1'-0"

GROUND FLOOR
9,423 Sq. Ft.



3 Mezzanine Plan
Scale: 1/16" = 1'-0"

MEZZANINE
538 Sq. Ft.

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Architects Seal

REGISTERED ARCHITECT PENNSYLVANIA CARL W. PFAFFMANN RA-019042

Sheet Title

Code Plans

Drawn by: VIVIAN W.

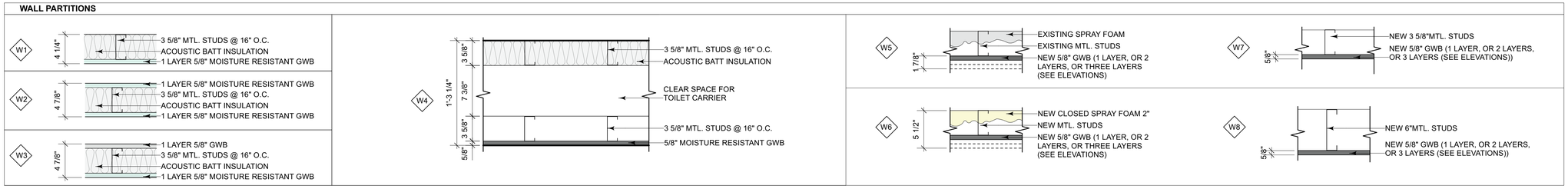
Date issued: **JULY 21, 2023**

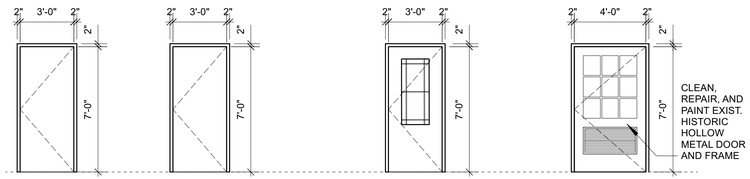
Revisions: 1 2 3 4

Sheet Number

AG-0.1

WALL PARTITIONS



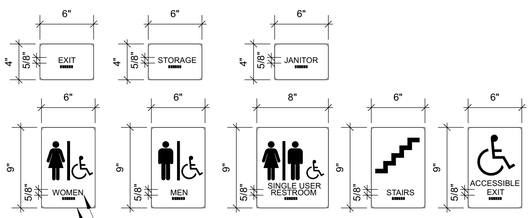


DOORS:	1-114, 1-115	1-110, 1-111 1-112, 1-113,	1-106, 2-106, 1-204, 1-202, 1-203, 1-204	1-106, 2-106
DOOR INFORMATION				
N/E:	NEW	NEW	NEW	EXISTING
MATERIAL:	HM	HM	HM	HM
W x H:	3'-0" x 7'-0"	3'-0" x 7'-0"	3'-0" x 7'-0" (V.I.F.)	4'-0" x 7'-0" (V.I.F.)
THICKNESS:	1-3/4"	1-3/4"	1-3/4"	1-3/4"
FINISH:	PAINT	PAINT	PAINT	PAINT
HARDWARE:	SEE SPECS	SEE SPECS	SEE SPECS	SEE SPECS
FRAME INFORMATION				
N/E:	NEW	NEW	EXISTING	EXISTING
MATERIAL:	HM	HM	HM	HM
W x H:	3'-4" x 7'-4"	3'-4" x 7'-4"	3'-4" x 7'-4" (V.I.F.)	4'-4" x 7'-4" (V.I.F)
JAMB:	TBD	TBD	TBD	TBD
FINISH:	PAINT	PAINT	PAINT	PAINT

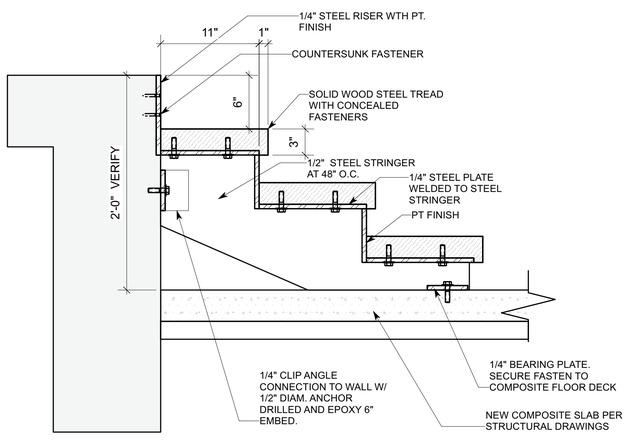
6 Door Schedule
Scale: 1/4" = 1'-0"

*** NOTE: ALL OTHER DOORS SHOWN ON THE FLOOR PLAN ARE EXISTING TO REMAIN DOORS (U.N.O.)**

DOOR NUMBER	SIGNAGE TEXT
1-100	EXIT
1-102	STORAGE
2-100	ACCESSIBLE EXIT
3-100	EXIT
4-100	EXIT
5-100	EXIT
1-103	STAIR
1-104	EXIT
2-104	EXIT
3-104	EXIT
4-104	EXIT
1-105	EXIT
1-106	EXIT
2-106	EXIT
1-107	EXIT
1-108	STORAGE
1-109	STORAGE
1-110	STORAGE
1-111	SINGLE USER RESTROOM
1-112	SINGLE USER RESTROOM
1-113	JANITOR CLOSET
1-114	MEN RESTROOM
1-115	WOMEN RESTROOM
1-116	EXIT



5 Sign Schedule and Details
Scale: 1 1/2" = 1'-0"



3 Auditorium Stair Detail
Scale: 1 1/2" = 1'-0"

FINISH SCHEDULE: GROUND FLOOR

VESTIBULE 100
- **FLOOR**: N/A, **BASE**: N/A,
- **WALLS**: N/A
- **CEILING**: N/A
- **NOTES**: N/A

STORAGE 102
- **FLOOR**: N/A, **BASE**: N/A,
- **WALLS**: N/A
- **CEILING**: N/A
- **NOTES**: N/A

STAIR A 103
- **FLOOR**: N/A, **BASE**: N/A,
- **WALLS**: REPATCH WALLS, AND PAINT
- **CEILING**: REPATCH WALLS, AND PAINT
- **NOTES**: SCRAP RUSTED STAIR, REPAIR, AND PAINT

EVENT SPACE 104
- **FLOOR**: EXISTING CONC., **BASE**: N/A,
- **WALLS**: NOTED ON ELEVATIONS, PAINT
- **CEILING**: NOTED ON RCPs, PAINT
- **NOTES**: N/A

STAGE 106
- **FLOOR**: ARDEX K 520, POLISH, **BASE**: N/A,
- **WALLS**: NOTED ON ELEVATIONS, PAINT
- **CEILING**: NOTED ON ELEVATIONS, PAINT
- **NOTES**: N/A

OFFICE SPACE 106
- **FLOOR**: EXISITNG CONC. **BASE**: N/A,
- **WALLS**: PAINT
- **CEILING**: NOTED ON RCPs PAINT
- **NOTES**: N/A

STORAGE 107
- **FLOOR**: SWEEP CLEAN, **BASE**: N/A,
- **WALLS**: N/A
- **CEILING**: N/A
- **NOTES**: N/A

STORAGE 108
- **FLOOR**: SWEEP CLEAN,, **BASE**: N/A,
- **WALLS**: N/A
- **CEILING**: N/A
- **NOTES**: N/A

STORAGE 109
- **FLOOR**: SWEEP CLEAN,V, **BASE**: N/A,
- **WALLS**: N/A
- **CEILING**: N/A
- **NOTES**: N/A

FINISH SCHEDULE: GROUND FLOOR

STORAGE 110
- **FLOOR**: EXISTING CONC,
- **BASE**: RUBBER BASE,
- **WALLS**: PAINT
- **CEILING**: SUSPENDED DRYWALL, PAINT
- **NOTES**: N/A

RESTROOM 111
- **FLOOR**: CERAMIC TILE,
- **BASE**: CERAMIC TILE/ RUBBER BASE,
- **WALLS**: CERAMIC TILE/ PAINT
- **CEILING**: SUSPENDED DRYWALL PAINT
- **NOTES**: N/A

RESTROOM 112
- **FLOOR**: CERAMIC TILE,
- **BASE**: CERAMIC TILE/ RUBBER BASE,
- **WALLS**: CERAMIC TILE/ PAINT
- **CEILING**: SUSPENDED DRYWALL PAINT
- **NOTES**: N/A

JANITOR 113
- **FLOOR**: EXISTING CONC., **BASE**: N/A,
- **WALLS**: PAINT
- **CEILING**: N/A
- **NOTES**: N/A

MEN RESTROOM 114
- **FLOOR**: CERAMIC TILE,
- **BASE**: CERAMIC TILE/ RUBBER BASE,
- **WALLS**: CERAMIC TILE/ PAINT
- **CEILING**: SUSPENDED DRYWALL PAINT
- **NOTES**: N/A

WOMENS RESTROOM 115
- **FLOOR**: CERAMIC TILE,
- **BASE**: CERAMIC TILE/ RUBBER BASE,
- **WALLS**: CERAMIC TILE/ PAINT
- **CEILING**: SUSPENDED DRYWALL PAINT
- **NOTES**: N/A

FINISH SCHEDULE: MEZZANINE

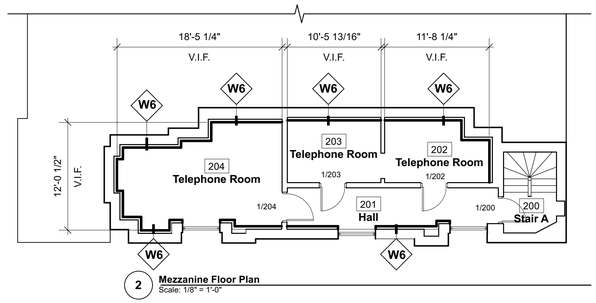
STAIR A 200
- **FLOOR**: N/A, **BASE**: N/A,
- **WALLS**: REPATCH WALLS, AND PAINT
- **CEILING**: REPATCH WALLS, AND PAINT
- **NOTES**: SCRAP RUSTED STAIR, REPAIR, AND PAINT

TELEPHONE ROOM 201
- **FLOOR**: CLEAN, PATCH, REPAIR,
- **BASE**: N/A,
- **WALLS**: PAINT
- **CEILING**: REPAIR, PAINT
- **NOTES**: N/A

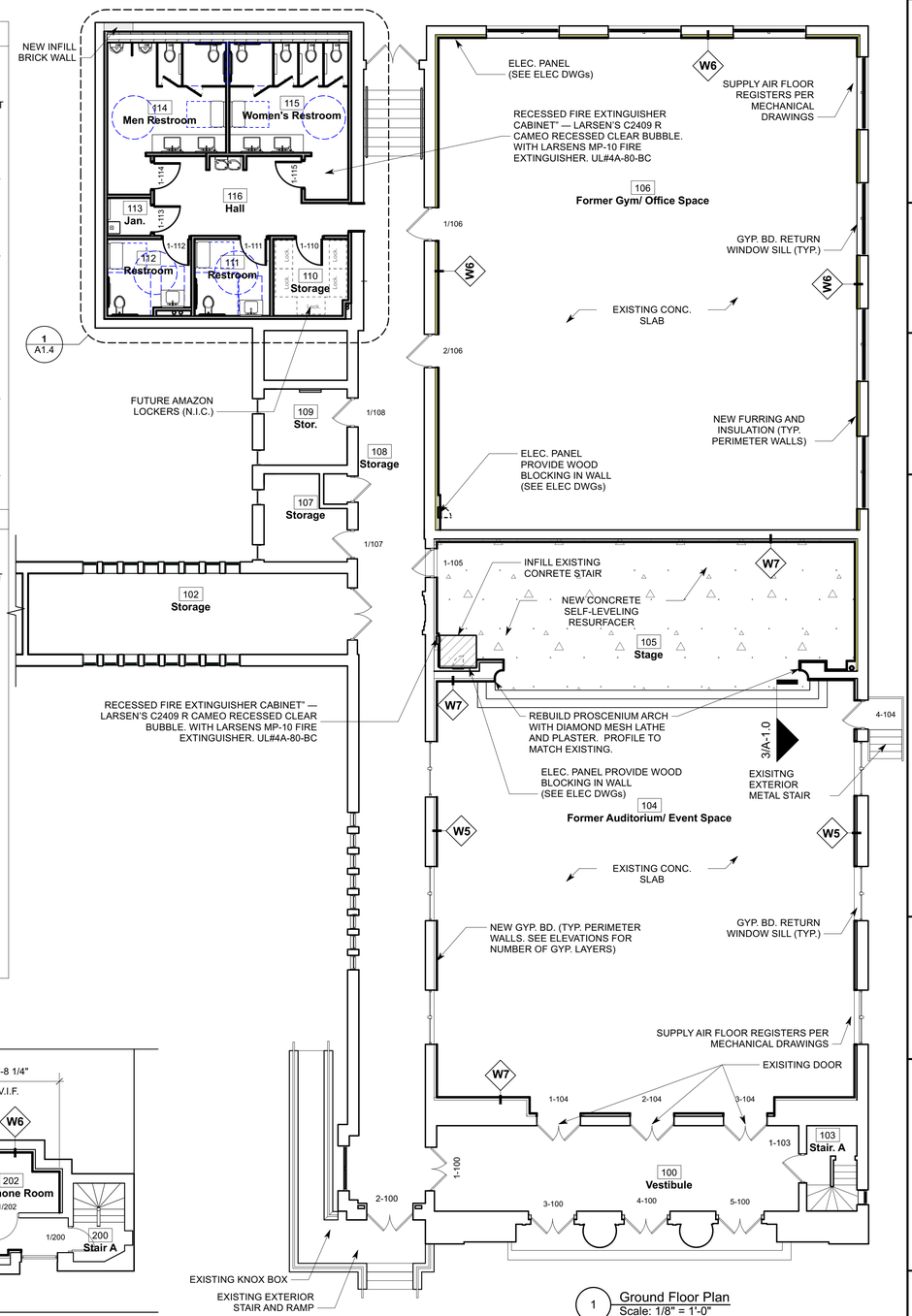
TELEPHONE ROOM 202
- **FLOOR**: CLEAN, PATCH, REPAIR,
- **BASE**: N/A,
- **WALLS**: PAINT
- **CEILING**: REPAIR, PAINT
- **NOTES**: N/A

TELEPHONE ROOM 203
- **FLOOR**: CLEAN, PATCH, REPAIR,
- **BASE**: N/A,
- **WALLS**: PAINT
- **CEILING**: REPAIR, PAINT
- **NOTES**: N/A

TELEPHONE ROOM 204
- **FLOOR**: CLEAN, PATCH, REPAIR,
- **BASE**: N/A,
- **WALLS**: PAINT
- **CEILING**: REPAIR, PAINT
- **NOTES**: N/A



2 Mezzanine Floor Plan
Scale: 1/8" = 1'-0"



1 Ground Floor Plan
Scale: 1/8" = 1'-0"

REVIEWED BY OWNER'S REPRESENTATIVE

DATE

JULY 21, 2023
PERMIT/ BID SET

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Email: rolcarl@pfaffmann.com

Consultants

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PEIDC
Pittsburgh Economic and Industrial Development Corporation

Project

FORMER LARIMER SCHOOL

GENERAL OCCUPANCY PERMIT PROJECT

Address

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PITTSBURGH PA, 15206

Architects Seal

REGISTERED ARCHITECT COMMONWEALTH OF PENNSYLVANIA WILLIAM PFAFFMANN, PA 10293

Sheet Title

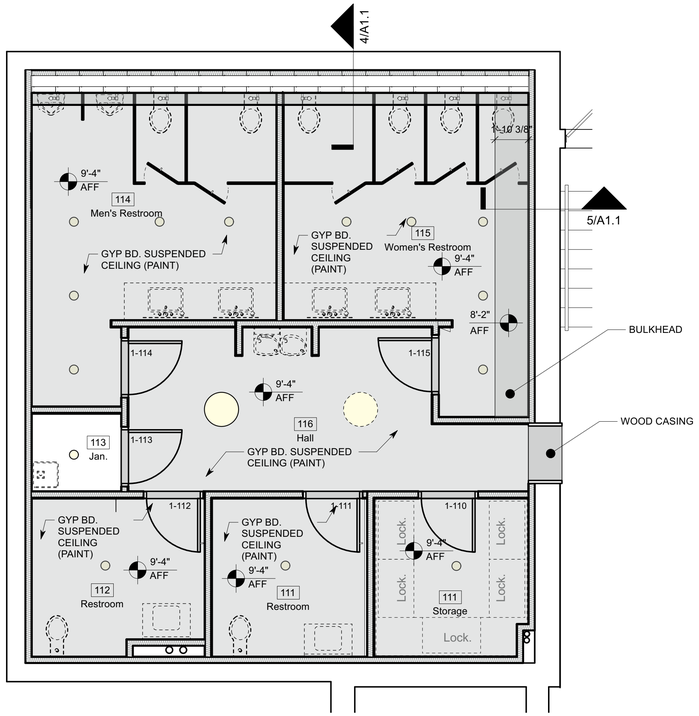
Ground Floor Plan, Mezzanine Floor Plan, and Details

Date issued: JULY 21, 2023

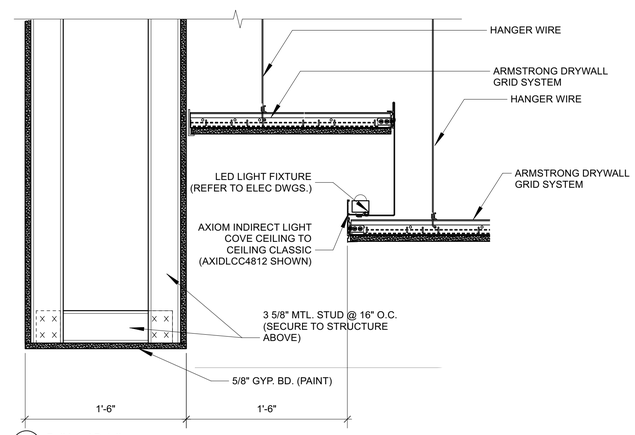
Revisions:
1
2
3
4

Sheet Number

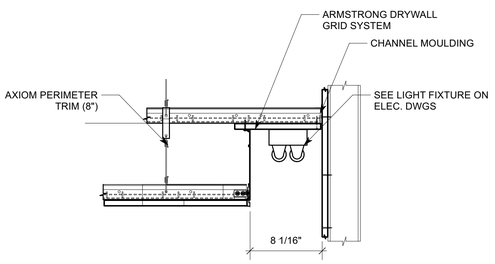
A-1.0



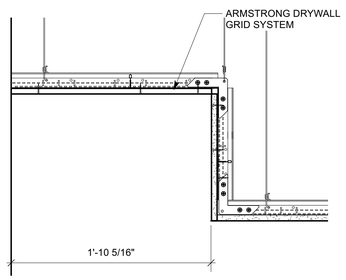
2 **Enlarged Plan**
Scale: 1/4" = 1'-0"



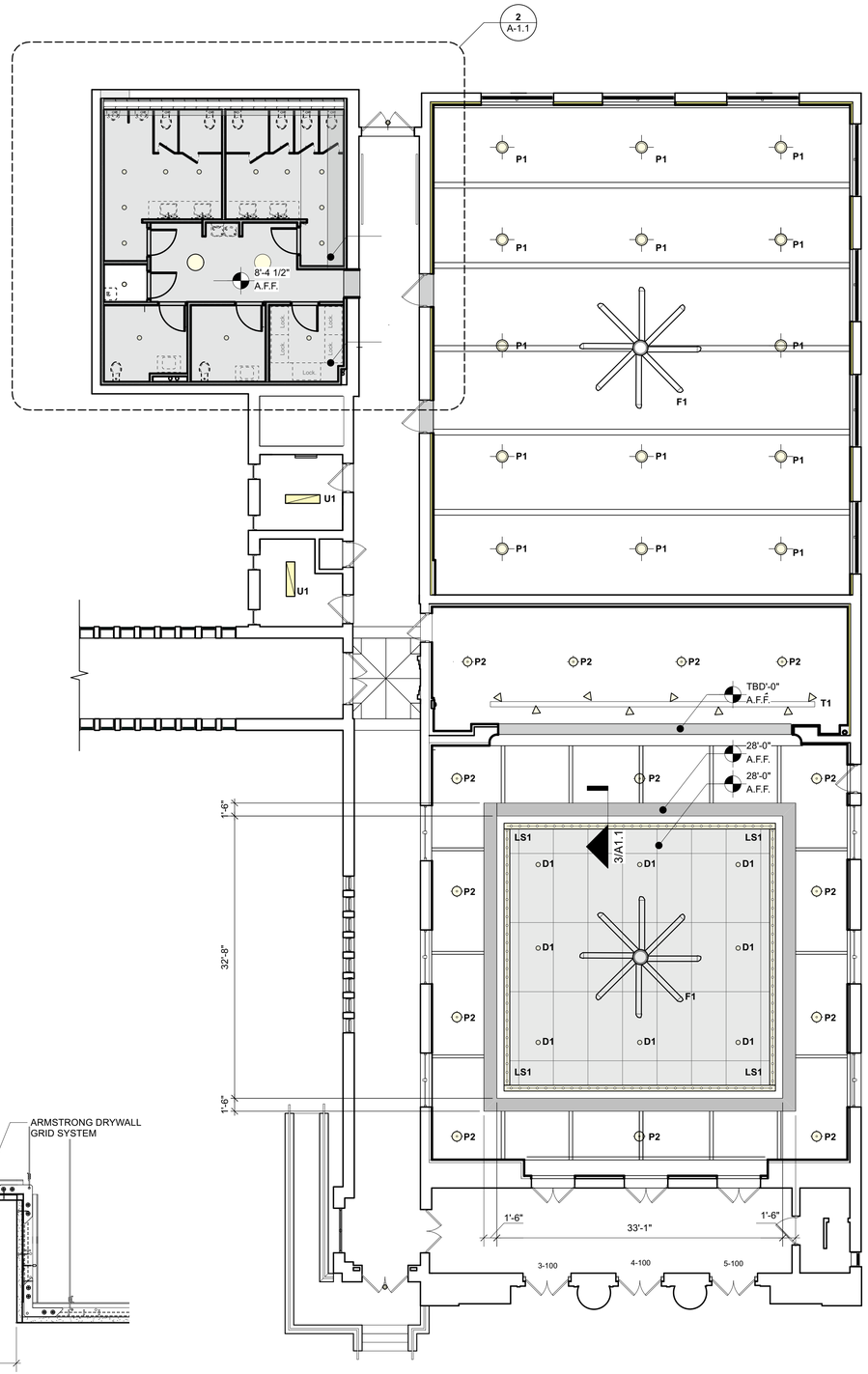
3 **Bulkhead Detail**
Scale: 1 1/2" = 1'-0"



4 **Bulkhead Detail**
Scale: 1 1/2" = 1'-0"



5 **Bulkhead Detail**
Scale: 1 1/2" = 1'-0"



1 **Ground Floor Reflected Ceiling Plan**
Scale: 1/8" = 1'-0"

REFLECTED CEILING PLAN SCHUEDULES AND NOTES

LIGHTING KEY

P1	Pendant Light Fixture
P2	Pendant Light Fixture
W1	Wall Mounted Light Fixture -Round Surface
U1	Utility Light Fixture -Suspended
D1	Downlight Fixture -Suspended
LS1	LED Wall Wash Glow -Suspended
T1	Track and Track Light Fixtures -Suspended
F1	Fan w/ Light -Suspended

*See Reflected Ceiling Plans for fixture mounting heights

CEILING KEY

	Drywall Ceiling or Bulkhead -Suspended
	Drywall Ceiling -Suspended `

REVIEWED BY OWNER'S REPRESENTATIVE

DATE

JULY 21, 2023
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Email: rolcarl@pfaffmann.com

Consultants

Client

PEIDC
Pittsburgh Economic and Industrial Development Corporation

Project

FORMER LARIMER SCHOOL

GENERAL OCCUPANCY PERMIT PROJECT

Address

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PITTSBURGH PA, 15206

Architects Seal

REGISTERED ARCHITECT COMMONWEALTH OF PENNSYLVANIA
WILLIAM PFAFFMANN III
RA-019492

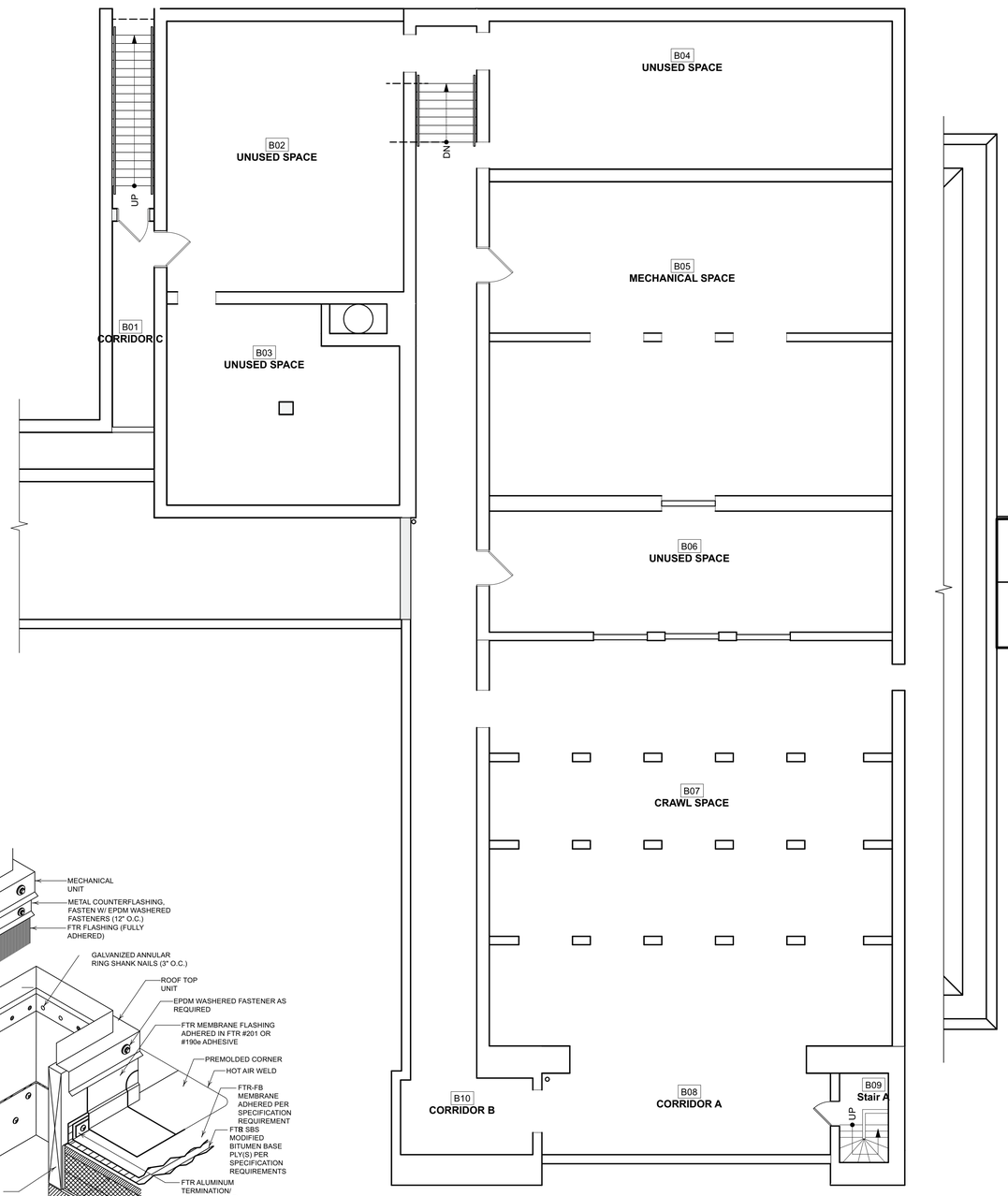
Sheet Title

Ground Floor RCP and Details

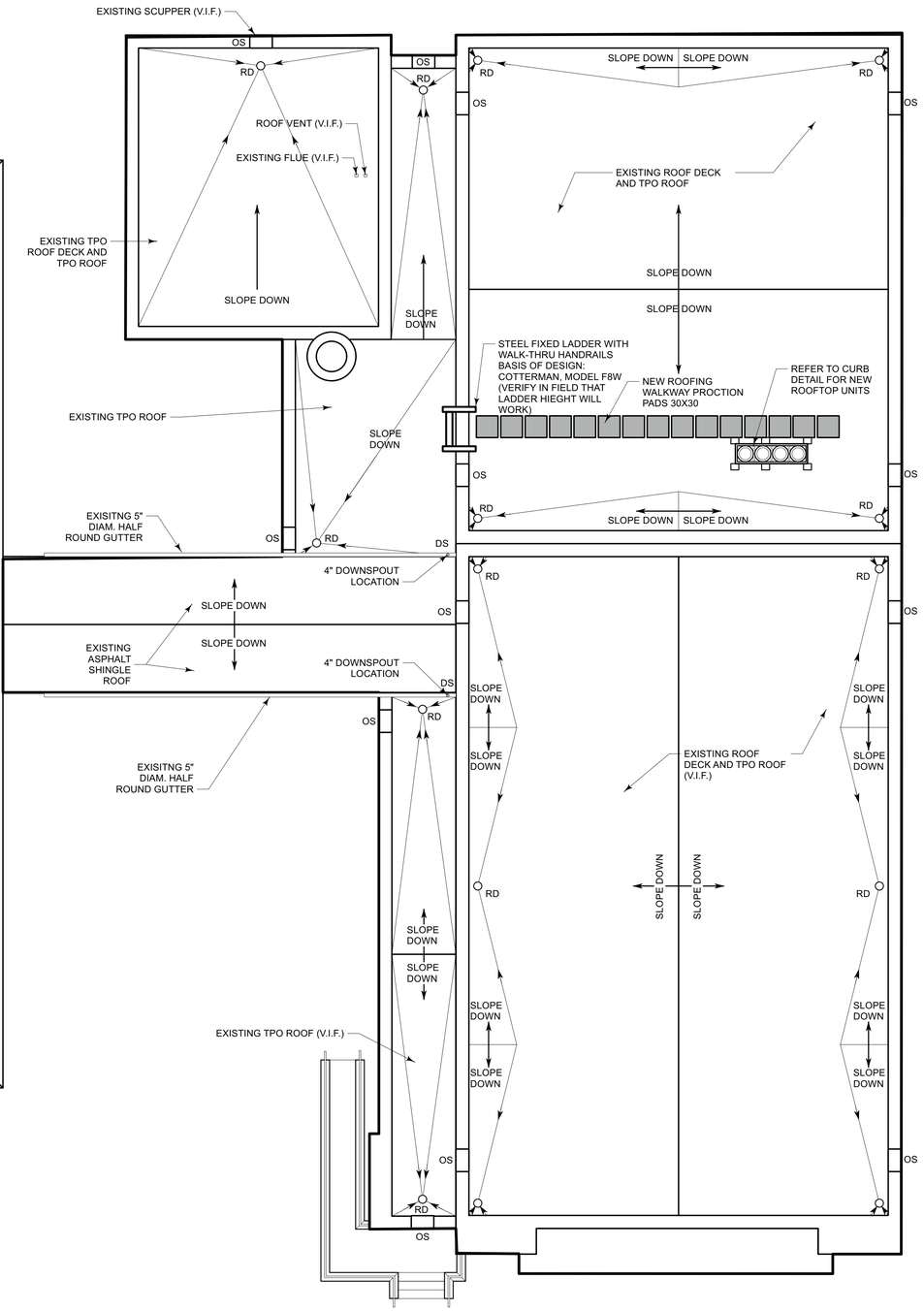
Drawn by: VIVIAN W.
Date issued: JULY 21, 2023
Revisions: 1 2 3 4

Sheet Number

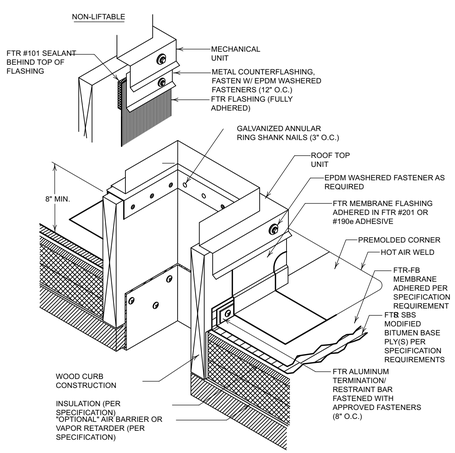
A-1.1



1 **Basement Plan**
Scale: 1/8" = 1'-0"



2 **Roof Plan**
Scale: 1/8" = 1'-0"



3 **RooftopCurb Detail**
Scale: 3/4" = 1'-0"

REVIEWED BY OWNER'S REPRESENTATIVE

DATE

JULY 21, 2023
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REGISTERED ARCHITECT PENNSYLVANIA
MARK PFAFFMANN No. 040942

Sheet Title

Basement and Roof Plans

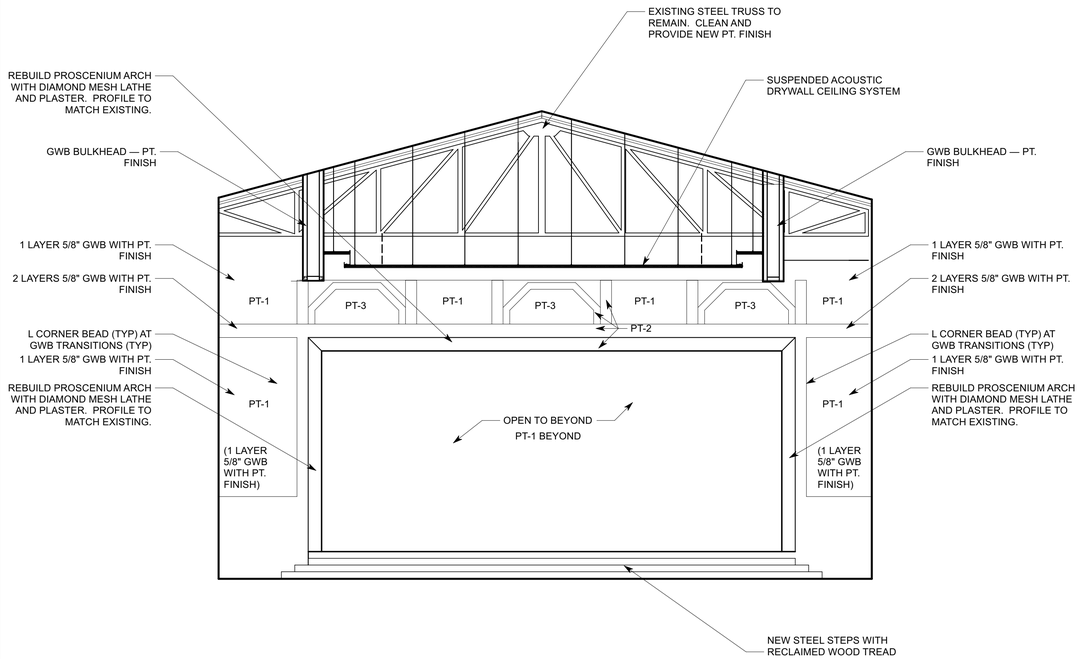
Drawn by: VIVIAN W.

Date issued: JULY 21, 2023

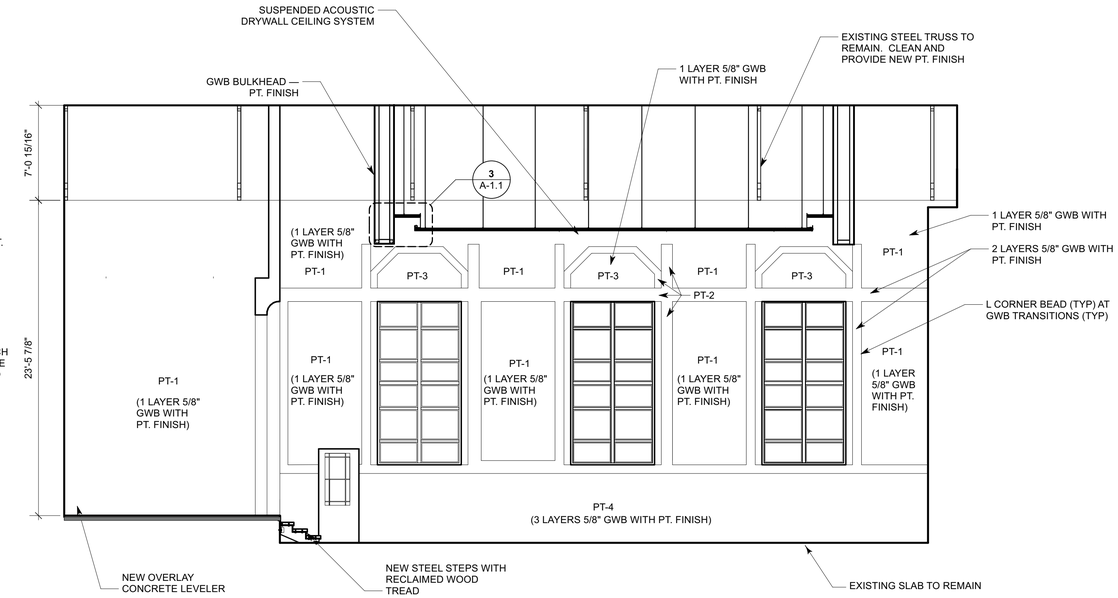
Revisions:
1
2
3
4

Sheet Number

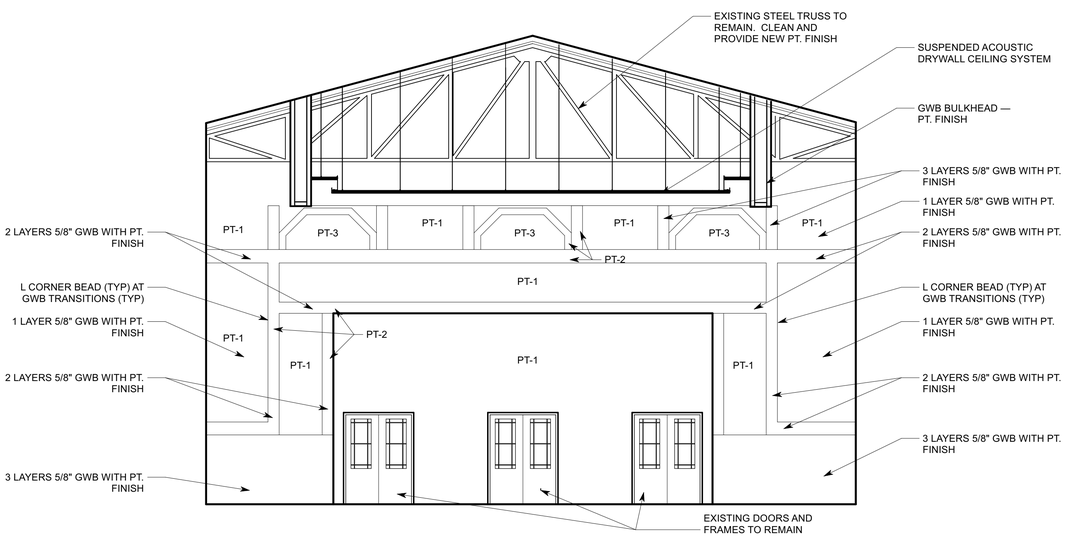
A-1.2



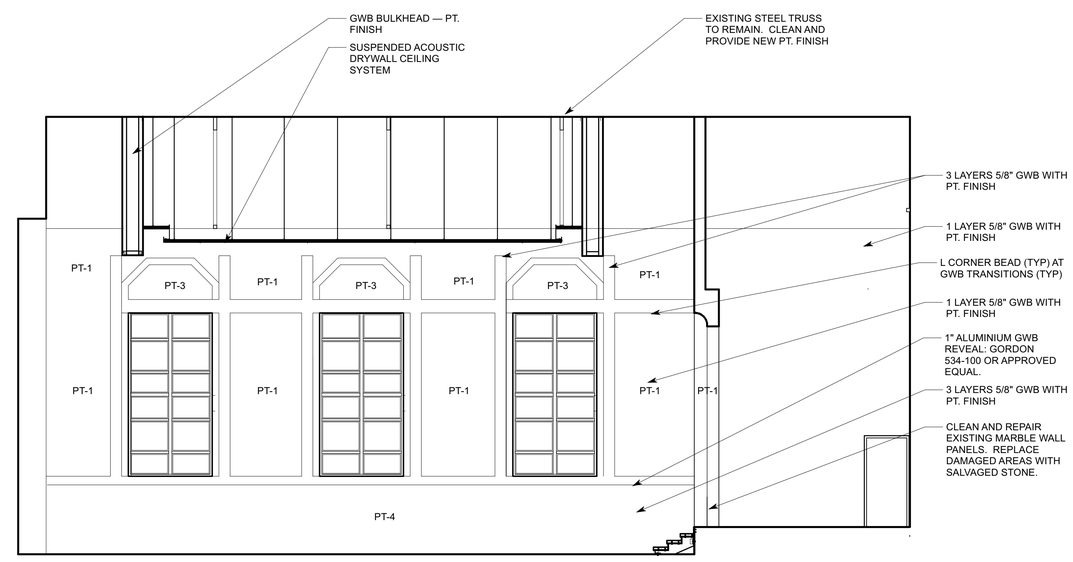
3 North Auditorium Elevation
Scale: 3/16" = 1'-0"



1 East Auditorium Elevation
Scale: 3/16" = 1'-0"



4 South Auditorium Elevation
Scale: 3/16" = 1'-0"



2 West Auditorium Elevation
Scale: 3/16" = 1'-0"

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REGISTERED ARCHITECT PENNSYLVANIA CARL A. PFAFFMANN RA-012049

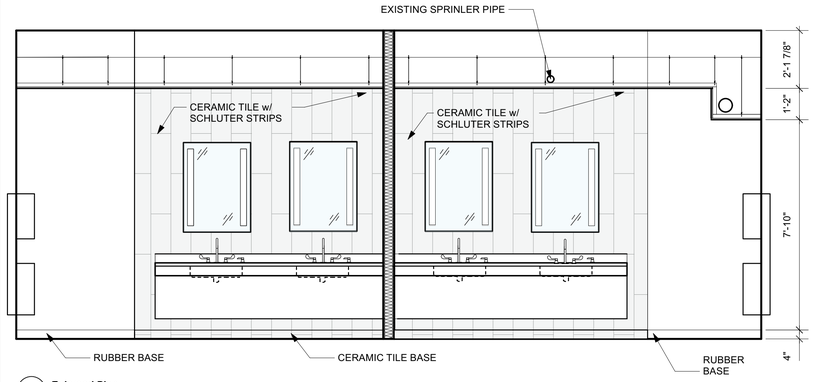
Sheet Title

Interior Elevations

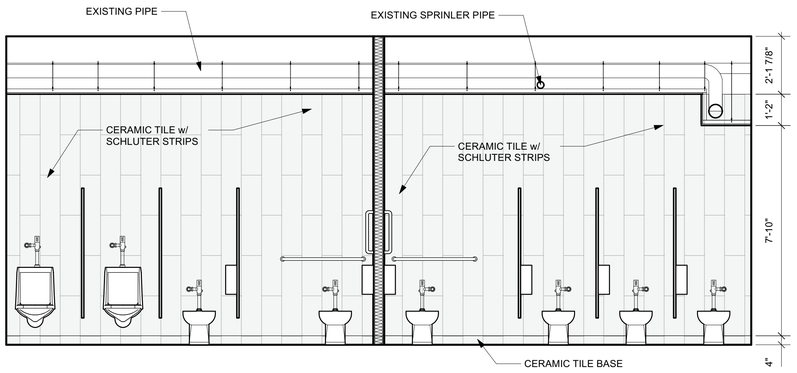
Drawn by: VIVIAN W.
Date issued: JULY 21, 2023
Revisions: 1 2 3 4

Sheet Number

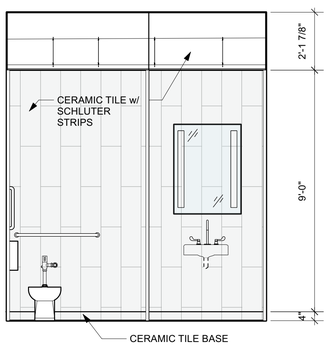
A-2.0



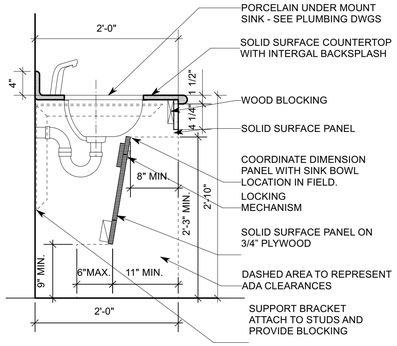
A Enlarged Plan
Scale: 3/8" = 1'-0"



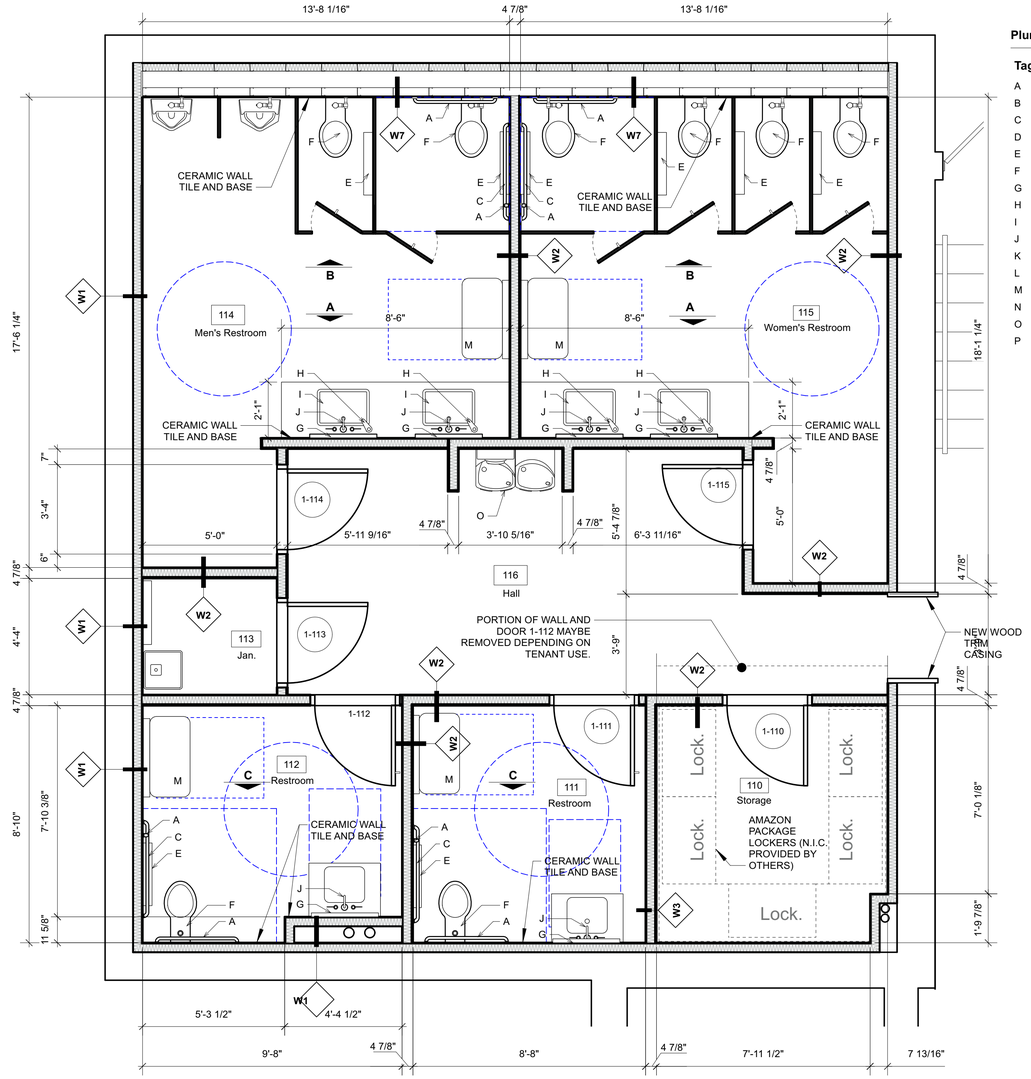
B Enlarged Plan
Scale: 3/8" = 1'-0"



C Enlarged Plan
Scale: 3/8" = 1'-0"



10 Solid Surface Counter Detail
Scale: 1" = 1'-0"



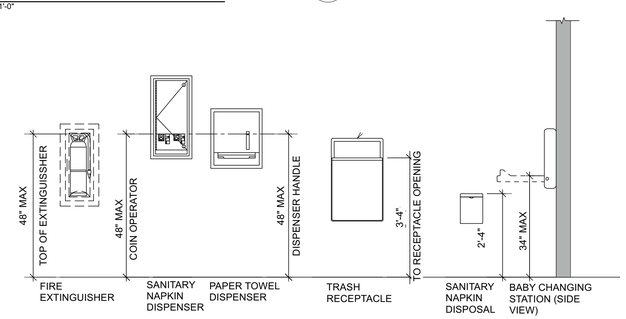
1 Enlarged Plan
Scale: 3/8" = 1'-0"

Plumbing Accessories Legend:

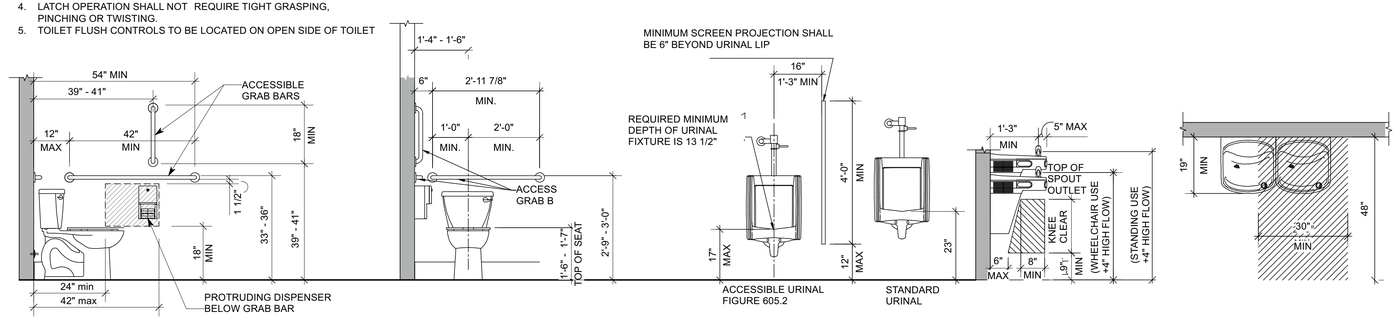
Tag	Type	Basis of Design
A	18" Vertical Grab Bar	Bobrick, B-6806 x 18
B	36" Horizontal Grab Bar	Bobrick, B-6806 x 36
C	42" Horizontal Grab Bar	Bobrick, B-6806 x 42
D	Hook	Bobrick, B-2116
E	Toilet Paper Dispenser	Bobrick, B-9890
F	Floor Mounted Toliet	-See Plumbing Dwgs
G	Mirror	Bobrick, B-169 3040: 30"W X 40"H
H	Soap Dispenser	Bobrick, B-84
I	Sink	Kohler, Ladena, K-2214
J	Faucet	-See Plumbing Drawings
K	Paper Towel and Trash Can	Bobrick, B-39747
L	Hand Dryer	Bobrick, B-7179
M	Baby Changer	Koala Kare, KB310
N	Room Sign	-See Sign Schedule
O	Drinking Fountain	Halsey Taylor, HTHB-OVLSEBP-I
P	P-Trap Cover	Rejuvenation

ACCESSIBLE TOILET COMPARTMENT NOTES:

1. DOOR SHALL BE 32" MIN IN WIDTH & SELF-CLOSING.
2. DOOR PULL SHALL BE PLACED ON BOTH SIDES OF THE DOOR NEAR THE LATCH
3. COAT HOOK SHALL BE LOCATED ON INSIDE OF DOOR AT 4'-0" AFF.
4. LATCH OPERATION SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING.
5. TOILET FLUSH CONTROLS TO BE LOCATED ON OPEN SIDE OF TOILET



3 Mounting Hieghts
Scale: 1/2" = 1'-0"



4 ADA Restroom Fixture Details
Scale: 1/2" = 1'-0"

REVIEWED BY OWNER'S REPRESENTATIVE

DATE

JULY 21, 2023
PERMIT/ BID SET

GENERAL NOTES

ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE

THE CONTRACTOR SHALL VERIFY THE SCALE OF ALL DRAWINGS PRODUCED OR VIEWED FROM AN ELECTRONIC FILE

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File Plot Date:

File Name: 23-07-28_135 Winslow_Fit Out.vwx

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FORMER LARIMER SCHOOL

GENERAL OCCUPANCY PERMIT PROJECT

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Architects Seal

REGISTERED ARCHITECT PENNSYLVANIA
CARL PFAFFMANN RA 019392

Sheet Title

Enlarged Restroom Plan and Details

Drawn by: VIVIAN W.

Date issued: JULY 21, 2023

Revisions: 1 2 3 4

Sheet Number

A-2.3

DUCTWORK SYMBOLS

	EXISTING TO REMAIN
	DEMOLITION WORK
	NEW WORK
	DUCTWORK TRANSITION – SINGLE LINE
	FLEXIBLE DUCTWORK – SINGLE LINE
X x X	DUCTWORK SIZE – WIDTH x DEPTH (FREE AREA)
	SUPPLY AIR UP
	SUPPLY AIR DOWN
	RETURN / EXHAUST AIR UP
	RETURN / EXHAUST AIR DOWN
	DIRECTION OF SUPPLY AIR FLOW
	DIRECTION OF RETURN/EXHAUST AIR FLOW
	SUPPLY DIFFUSER
	CEILING SUPPLY REGISTER
	BOTTOM MOUNTED DUCT SUPPLY REGISTER
	SIDE MOUNTED DUCT SUPPLY REGISTER
	CEILING EXHAUST / RETURN REGISTER
	BOTTOM MOUNTED DUCT EXHAUST / RETURN REGISTER
	SIDE MOUNTED DUCT RETURN REGISTER
	CEILING RETURN GRILLE
	LINEAR DIFFUSER
	LINEAR SLOT DIFFUSER
	VOLUME DAMPER
M	MOTORIZED DAMPER
FD	FIRE DAMPER – HORIZONTAL DUCT PENETRATION
FD	FIRE DAMPER – VERTICAL DUCT PENETRATION
SD	SMOKE DAMPER – HORIZONTAL DUCT PENETRATION
SD	SMOKE DAMPER – VERTICAL DUCT PENETRATION
FSD	FIRE/SMOKE DAMPER – HORIZONTAL DUCT PENETRATION
FSD	FIRE/SMOKE DAMPER – VERTICAL DUCT PENETRATION
	AUTOMATIC AIR DAMPER
	BACKDRAFT DAMPER
	SPIN-IN WITH VOLUME DAMPER
	SOUND ATTENUATOR
AD	ACCESS DOOR
AMS	AIR FLOW MEASURING STATION
L	LOUVERED DOOR
U	UNDERCUT DOOR

ANNOTATION SYMBOLS

	DEMOLITION – POINT OF DISCONNECT
	NEW WORK – CONNECT NEW TO EXISTING
X	NUMBERED DEMOLITION DRAWING NOTE
X	NUMBERED NEW WORK DRAWING NOTE
X x X	DUCTWORK SIZE – WIDTH x DEPTH (FREE AREA)
CFM XXX MARK X X DIA.	DIFFUSER OR REGISTER IDENTIFICATION – MARK NUMBER/CFM
X–X	EQUIPMENT DESIGNATION

ABBREVIATIONS

AD	ACCESS DOOR
A.F.F.	ABOVE FINISHED FLOOR
A.P.D.	AIR PRESSURE DROP
A.T.C.	AUTOMATIC TEMPERATURE CONTROL
BHP	BRAKE HORSEPOWER
BTU	BRITISH THERMAL UNITS
BTUH	BTU PER HOUR
CAP.	CAPACITY
CFM	CUBIC FEET PER MINUTE
DB	DRY BULB
DIA. or ø	DIAMETER
DX	DIRECT EXPANSION
EA	EXHAUST AIR
E.A.T.	ENTERING AIR TEMPERATURE
E.S.P.	EXTERNAL STATIC PRESSURE
E.W.T.	ENTERING WATER TEMPERATURE
°F	DEGREES FAHRENHEIT
FD	FIRE DAMPER
FSD	COMBINATION FIRE/SMOKE DAMPER
FLA	FULL LOAD AMPS
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FRPM	FAN REVOLUTIONS PER MINUTE
FT.	FEET
FT. W.G.	FEET OF WATER GAUGE
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
H	HEIGHT
HP	MOTOR HORSEPOWER
I.D.	INSIDE DIAMETER
IN.	INCHES
IN. W.G.	INCHES OF WATER GAUGE
KW	1,000 WATTS
L	LENGTH
LAT.	LATENT
L.A.T.	LEAVING AIR TEMPERATURE
LBS.	POUNDS
LRA	LOCK ROTOR AMPS
L.W.T.	LEAVING WATER TEMPERATURE
MAX.	MAXIMUM
MBH	1,000 BTUH
MCA	MINIMUM CIRCUIT AMPS
MIN.	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION AMPS
N.C.	NORMALLY CLOSED
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
N.O.	NORMALLY OPEN
N.T.S.	NOT TO SCALE
OA	OUTDOOR AIR
O.D.	OUTSIDE DIAMETER
O.V.	OUTLET VELOCITY
QTY.	QUANTITY
RA	RETURN AIR
RLA	RUNNING LOAD AMPS
RPM	REVOLUTION PER MINUTE
SA	SUPPLY AIR
SENS.	SENSIBLE
SQ. FT.	SQUARE FEET
TDH	TOTAL DYNAMIC HEAD
TEMP.	TEMPERATURE
TYP.	TYPICAL
VD	VOLUME DAMPER
V/PH/HZ	VOLTS/PHASE/HERTZ
W	WATTS
W	WIDTH
WB	WET BULB
WGT.	WEIGHT
W.P.D.	WATER PRESSURE DROP

MECHANICAL PROJECT NOTES

1	THE CONTRACT DOCUMENT DRAWINGS ARE DIAGRAMMATIC ONLY, AND ARE INTENDED TO CONVEY THE SCOPE AND GENERAL ARRANGEMENT OF THE OF WORK.
2	CONTRACTOR SHALL CHECK AND VERIFY ALL EXISTING CONDITIONS AT THE PROJECT SITE. CONTRACTOR SHALL NOTE ALL INTERFERENCE AND INCLUDE IN HIS BASE PRICE THE COST OF RELOCATING ALL ITEMS THAT INTERFERE WITH THE WORK INCLUDING THOSE OF OTHER TRADES.
3	CONTRACTOR SHALL GIVE ALL NOTICES, OBTAIN ALL PERMITS, AND PAY ALL TAXES, FEES, AND OTHER COSTS ASSOCIATED WITH HIS WORK. CONTRACTOR SHALL FILE ALL APPROVALS OF ALL REQUIRED CERTIFICATES OF INSPECTION FOR HIS WORK JURISDICTION, AND DELIVER SAME TO THE ARCHITECT BEFORE REQUEST FOR ACCEPTANCE AND FINAL PAYMENT FOR THE WORK. CONTRACTOR SHALL INCLUDE IN HIS SCOPE OF WORK, WITHOUT EXTRA COST TO THE OWNER, ALL LABOR, MATERIALS, SERVICES, APPARATUS, DRAWINGS (IN ADDITION TO CONTRACT AND DOCUMENTS) IN ORDER TO COMPLY WITH ALL APPLICABLE CODES, LAWS, ORDINANCES, RULES AND REGULATIONS.
4	CONTRACTOR SHALL FURNISH ALL EQUIPMENT, MATERIALS, APPLIANCES, TOOLS, RIGGING, AND ACCESSORIES, AND PERFORM ALL LABOR REQUIRED TO PROVIDE, INSTALL, CONNECT, AND TEST COMPLETE HEATING, VENTILATING AND AIR CONDITIONING EQUIPMENT AND SYSTEMS IN ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS, AND THE APPLICABLE CODES.
5	CONTRACTOR SHALL INSTALL ALL HVAC EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL VERIFY ALL EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS.
6	CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION AND HEIGHT OF ALL HVAC EQUIPMENT AND COORDINATED WITH ALL OTHER MECHANICAL, ELECTRICAL, ARCHITECTURAL, AND STRUCTURAL SYSTEMS.
7	CONTRACTOR SHALL COORDINATE WORK WITH ALL TRADES INVOLVED. ALL RISERS, DROPS, OFFSETS, AND TRANSITIONS IN DUCTWORK AND PIPING AROUND OBSTACLES SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
8	CONTRACTOR SHALL COORDINATE THE LOCATION AND SIZE OF ALL ARCHITECTURAL WALL LOUVERS. CONTRACTOR SHALL FURNISH AND INSTALL ALL LOUVERS UNLESS OTHERWISE NOTED.
9	CONTRACTOR SHALL FURNISH ALL CURBS AND RAILS FOR ROOF MOUNTED EQUIPMENT. CONTRACTOR SHALL INSTALL THE ROOF CURBS AND EQUIPMENT RAILS UNLESS OTHERWISE NOTED.
10	CONTRACTOR SHALL COORDINATE THE LOCATION AND SIZE OF ALL FLOOR, WALL, AND ROOF OPENINGS. CONTRACTOR SHALL PROVIDE ALL OPENINGS UNLESS OTHERWISE NOTED.
11	CONTRACTOR SHALL COORDINATE THE LOCATION AND SIZE OF ALL EQUIPMENT, DUCTWORK, AND PIPING SUSPENDED FROM THE BUILDING STRUCTURE.
12	CONTRACTOR SHALL SUPPORT ALL EQUIPMENT, DUCTWORK, AND PIPING MOUNTED ABOVE THE CEILING DIRECTLY FROM THE BUILDING STRUCTURE. CONTRACTOR SHALL PROVIDE ALL SUPPLEMENTARY STRUCTURAL STEEL REQUIRED AND/OR AS SPECIFIED AND SHOWN IN THE DETAILS (UNLESS OTHERWISE NOTED). ALL EQUIPMENT SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE WITH COMBINATION SPRING AND NEOPRENE-IN-SHEAR HANGER RODS. ALL SUPPORTS SHALL BE PROVIDED AS REQUIRED TO ASSURE A VIBRATION FREE INSTALLATION. PROVIDE SEISMIC SUPPORTS AS REQUIRED BY APPLICABLE CODES. ALL ATTACHMENTS TO BEAMS, TRUSSES, OR JOIST SHALL BE MADE AT PANEL POINTS WITH BEAM CLAMPS MEETING MSS STANDARDS.
13	CONTRACTOR SHALL VERIFY THE VOLTAGE OF ALL HVAC EQUIPMENT WITH THE ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.
14	CONTRACTOR SHALL PROVIDE MOTORS AND STARTERS FOR ALL HVAC EQUIPMENT. CONTRACTOR SHALL PROVIDE ALL POWER WIRING.
15	CONTRACTOR SHALL PROVIDE DISCONNECT SWITCHES FOR ALL HVAC EQUIPMENT, INCLUDING WEATHERPROOF UNITS AS REQUIRED.
16	CONTRACTOR SHALL PROVIDE PHASE LOSS PROTECTION FOR POLY-PHASE MOTOR DEVICES FOR ALL HVAC EQUIPMENT.
17	CONTRACTOR SHALL MOUNT ALL SMOKE DETECTORS IN DUCTWORK IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL FURNISH AND WIRE THE SMOKE DETECTOR.
18	CONTRACTOR SHALL PROVIDE ALL REQUIRED ACCESS DOORS IN DUCTWORK FOR OPERATION, ADJUSTMENT, AND MAINTENANCE OF MECHANICAL EQUIPMENT MOUNTED IN DUCTWORK,.
19	CONTRACTOR SHALL PROVIDE ALL REQUIRED CEILING ACCESS PANELS WHERE REQUIRED FOR OPERATION, ADJUSTMENT, AND MAINTENANCE OF MECHANICAL EQUIPMENT.
20	CONTRACTOR SHALL COORDINATE THE LOCATION OF GRILLES, REGISTERS, AND DIFFUSERS WITH THE REFLECTED CEILING PLAN.
21	CONTRACTOR SHALL NOT ROUTE DUCTWORK DIRECTLY ABOVE LIGHTING FIXTURES. REFER TO REFLECTED CEILING PLANS
22	ALL DUCTWORK AND PIPING SHALL BE ROUTED AS CLOSE TO AND PARALLEL TO THE BUILDING STRUCTURE AS POSSIBLE TO MAINTAIN GRADIENT AND BE INSTALLED AT A COMMON ELEVATION WHEREVER PRACTICAL.
23	ALL CONTROL WIRING AND CONDUIT PROVIDED BY THE AUTOMATIC TEMPERATURE CONTROLS CONTRACTOR SHALL BE IN ACCORDANCE WITH NEC AND ELECTRICAL SPECIFICATIONS
24	ALL WORK FOR ROOF PENETRATIONS SHALL BE COORDINATED AND APPROVED BY THE CONTRACTOR WHO WILL MAINTAIN THE ROOF WARRANTY SO THAT ANY WARRANTY WILL NOT BE VOIDED.
25	CONTRACTOR SHALL BALANCE ALL AIR DISTRIBUTION SYSTEMS TO SATISFY THE MINIMUM SUPPLY, RETURN, OUTDOOR, AND EXHAUST AIR CODE REQUIREMENTS. AN INDEPENDENT ENGINEER SHALL PERFORM THE AIR BALANCE AND SUBMIT A REPORT.
26	ALL MATERIALS FURNISHED, AND ALL WORK PERFORMED BY THE CONTRACTOR SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE OWNER AND ALL APPLICABLE CODES AND REGULATIONS, INCLUDING BUT NOT LIMITED TO THE LATEST APPLICABLE EDITIONS OF NFPA, IEEE, OSHA, SMACNA, INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, STATE, COUNTY, AND LOCAL CODES.

NOTES:

1. NOT ALL NOTES LISTED ABOVE APPLY TO THIS PROJECT. NOTES SHALL BE USED IN CONJUNCTION WITH PLANS AND SPECIFICATIONS.

DIFFUSER AND RUNOUT DUCTWORK SCHEDULE

CFM RANGE	DIFFUSER NECK SIZE	MAXIMUM LENGTH RIGID DUCTWORK	MAXIMUM LENGTH FLEXIBLE DUCTWORK
UP TO 100	6"ø	8 FEET	4 FEET
101 TO 230	8"ø	8 FEET	4 FEET
231 TO 420	10"ø	8 FEET	4 FEET
421 TO 500	12"ø	8 FEET	4 FEET

NOTES:

1. ALL RIGID AND FLEXIBLE DUCTWORK SIZES SHALL BE EQUAL TO DIFFUSER NECK SIZE.

CONTROL SYMBOLS

CO	CARBON MONOXIDE SENSOR
CO_2	CARBON DIOXIDE SENSOR
DD	DUCT SMOKE DETECTOR
H	HUMIDISTAT
T	THERMOSTAT/TEMPERATURE SENSOR
HP	HIGH PRESSURE SENSOR
O	OCCUPANCY SENSOR
SP	STATIC PRESSURE SENSOR

DUCTWORK PRESSURE CLASS & MATERIAL SCHEDULE

DUCTWORK APPLICATION	SMACNA PRESSURE CLASS	SMACNA SEAL CLASS	STANDARD	DUCTWORK MATERIAL
FC SUPPLY AND RETURN	1 INCH	CLASS C	ASTM A653	GALVANIZED STEEL
EXHAUST AIR SYSTEMS	2 INCH	CLASS C	ASTM A653	GALVANIZED STEEL
OUTDOOR AIR	2 INCH	CLASS C	ASTM A653	GALVANIZED STEEL

NOTES:

1. ALL DUCTWORK SHALL BE INSTALLED AND SEALED IN ACCORDANCE WITH SMACNA METAL AND FLEXIBLE HVAC DUCT CONSTRUCTION STANDARDS.
2. ALL DUCTWORK SHALL BE SEALED TO SMACNA LISTED CLASSES.
3. ALL DUCTWORK HANGERS AND SUPPORTS SHALL BE PROVIDED IN ACCORDANCE WITH SMACNA STANDARDS.
4. ALL THREADED ROD DUCTWORK SUPPORTS SHALL BE PROVIDED WITH DOUBLE NUTS AND LOCKWASHERS.
5. ALL FLEXIBLE DUCTWORK SHALL BE CONNECTED TO RIGID METAL DUCTWORK IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
6. TEMPORARY SHEET METAL OR POLYETHYLENE CLOSURES SHALL BE PROVIDED ON ALL OPEN DUCTWORK DURING CONSTRUCTION.
7. SEE SPECIFICATIONS FOR DUCTWORK GAUGES, REINFORCING, BRACING, AND OTHER REQUIREMENTS.

DUCTWORK INSULATION SCHEDULE

SERVICE	INSULATION
OUTDOOR AIR	2 INCH WRAP
EXHAUST AIR IN ATTIC OR WITHIN 10 FEET OF BUILDING EXTERIOR	2 INCH WRAP
SUPPLY AIR	1 INCH WRAP
RETURN AIR	1 INCH WRAP

NOTES:

1. DUCTWORK DIMENSIONS INDICATED ON THE DRAWINGS ARE CLEAR INSIDE DIMENSIONS REQUIRED FOR DESIGN AIRFLOW. DUCTWORK SIZE SHALL BE INCREASED TO ALLOW FOR INSULATION LINER THICKNESS.
2. DUCTWORK SIZES MUST BE VERIFIED FOR CLEARANCE PRIOR TO FABRICATION. DUCTWORK SIZES MAY BE CHANGED TO ACCOMMODATE CONSTRUCTION AS LONG AS EFFECTIVE CROSS-SECTIONAL AREA IS MAINTAINED. ALL DEVIATIONS FROM ORIGINAL DRAWINGS SHALL BE REVIEWED BY THE ENGINEER DURING THE SHOP DRAWING PROCESS.
3. ALL DUCTWORK LINER SHALL BE SECURED TO DUCTWORK WITH ADHESIVES COMPLYING WITH ASTM 916 FOR 100 PERCENT COVERAGE.
4. ALL DUCTWORK LINER JOINTS SHALL BE SMOOTH AND SEALED.
5. ALL DUCTWORK LINER SURFACE PENETRATIONS SHALL BE SEALED WITH ADHESIVE.
6. ALL DUCTWORK LINER SHALL BE CUT TO ASSURE COMPRESSED AND OVERLAPPED LONGITUDINAL CORNER JOINTS.
7. ALL TRANSVERSE DUCTWORK LINER JOINTS SHALL BE NEATLY BUTTED TO PREVENT INTERRUPTIONS OR GAPS. ALL TRANSVERSE DUCT JOINTS AND EXPOSED EDGES SHALL BE COATED.
8. ALL DUCTWORK INSULATION SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
9. ALL DUCTWORK INSULATION SHALL COMPLY WITH 25/50 FLAME AND SMOKE HAZARD RATINGS PER ASTM E-84, NFPA 255 AND UL 723.
10. SECURE INSULATION TO DUCTWORK WITH IMPACT DRIVEN OR WELD FASTENERS NO FEWER THAN INDICATED BY MANUFACTURER'S INSTRUCTIONS.
11. DUCT INSULATION COVERINGS AND LININGS SHALL NOT FLAME, GLOW, SMOLDER OR SMOKE WHEN TESTED IN ACCORDANCE WITH ASTM C411.
12. FLEXIBLE DUCTS AND CONNECTORS SHALL BE TESTED IN ACCORDANCE WITH UL 181 AND LIMITED TO 10 FEET IN LENGTH.

PIPING MATERIAL SCHEDULE

PIPING APPLICATION	MATERIAL	DETAIL	STANDARD
REFRIGERANT LIQUID AND SUCTION	COPPER TUBING	TYPE L COPPER, HARD DRAWN	ASTM B88
HVAC COIL CONDENSATE DRAIN PIPING	COPPER TUBING	TYPE L COPPER, HARD DRAWN	ASTM B88

NOTES:

1. ROUTE PIPING PARALLEL TO BUILDING STRUCTURE AND MAINTAIN GRADIENT.
2. GROUP PIPING WHENEVER PRACTICAL AT COMMON ELEVATIONS.
3. SLEEVE PIPE PASSING THROUGH PARTITIONS, WALLS, AND FLOORS.
4. ALL REFRIGERANT PIPING SHALL BE IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

PIPING INSULATION SCHEDULE

PIPING APPLICATION	APPLICABLE PIPE SIZES	INSULATION THICKNESS	INSULATION TYPE	MINIMUM "K" VALUE	MANUFACTURER
REFRIGERANT (RS/RL)	ALL	1/2 INCH	ELASTOMERIC	0.26	ARMAFLEX
HVAC COIL CONDENSATE	ALL	1/2 INCH	ELASTOMERIC	0.26	ARMAFLEX

NOTES:

1. FIBERGLASS PIPE INSULATION SHALL BE INSTALLED WITH FACTORY PRECUT INSULATION INSERTS FOR ALL FITTINGS, INSTALLED ACCORDING TO MANUFACTURER'S INSTRUCTIONS. INSERTS SHALL BE OF EQUAL THICKNESS TO ADJOINING PIPE INSULATION AND SHALL BE PROVIDED WITH VAPOR RETARDER EQUAL TO ADJOINING PIPE INSULATION.
2. INSULATION SHALL BE APPLIED OVER CLEAN, DRY PIPE WITH ALL JOINTS BUTTED FIRMLY TOGETHER, SECURED ACCORDING TO MANUFACTURER'S INSTRUCTIONS. FINISH INSULATION AT SUPPORTS, PROTRUSIONS, AND INTERRUPTIONS. ALL PIPES CONVEYING FLUIDS BELOW 70 DEGREES SHALL HAVE A CONTINUOUS VAPOR BARRIER INCLUDING ALL FITTINGS AND VALVES.
3. ALL INSULATION TO BE APPLIED IN FULL ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ALL INSULATION SHALL COMPLY WITH 25/50 FLAME AND SMOKE HAZARD RATINGS PER ASTM E-84, NFPA 255 AND UL 723
4. RUNOUT PIPING NOT EXCEEDING 4 FEET IN LENGTH AND 1 INCH IN DIAMETER BETWEEN CONTROL VALVE AND HEATING COIL MAY BE UNINSULATED.
5. REFRIGERANT PIPING INSULATION SHALL BE AS RECOMMENDED BY SYSTEM MANUFACTURER. OTHERWISE SCHEDULED VALUES SHALL BE USED.

ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE

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Urban Redevelopment Authority of Pittsburgh

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Larimer School Gym and Auditorium Core-Shell Rehab

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Seal

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
GARY M. ALBERT
ENGINEER
PE-062003

Sheet Title

MECHANICAL COVER SHEET

Drawn by: JO

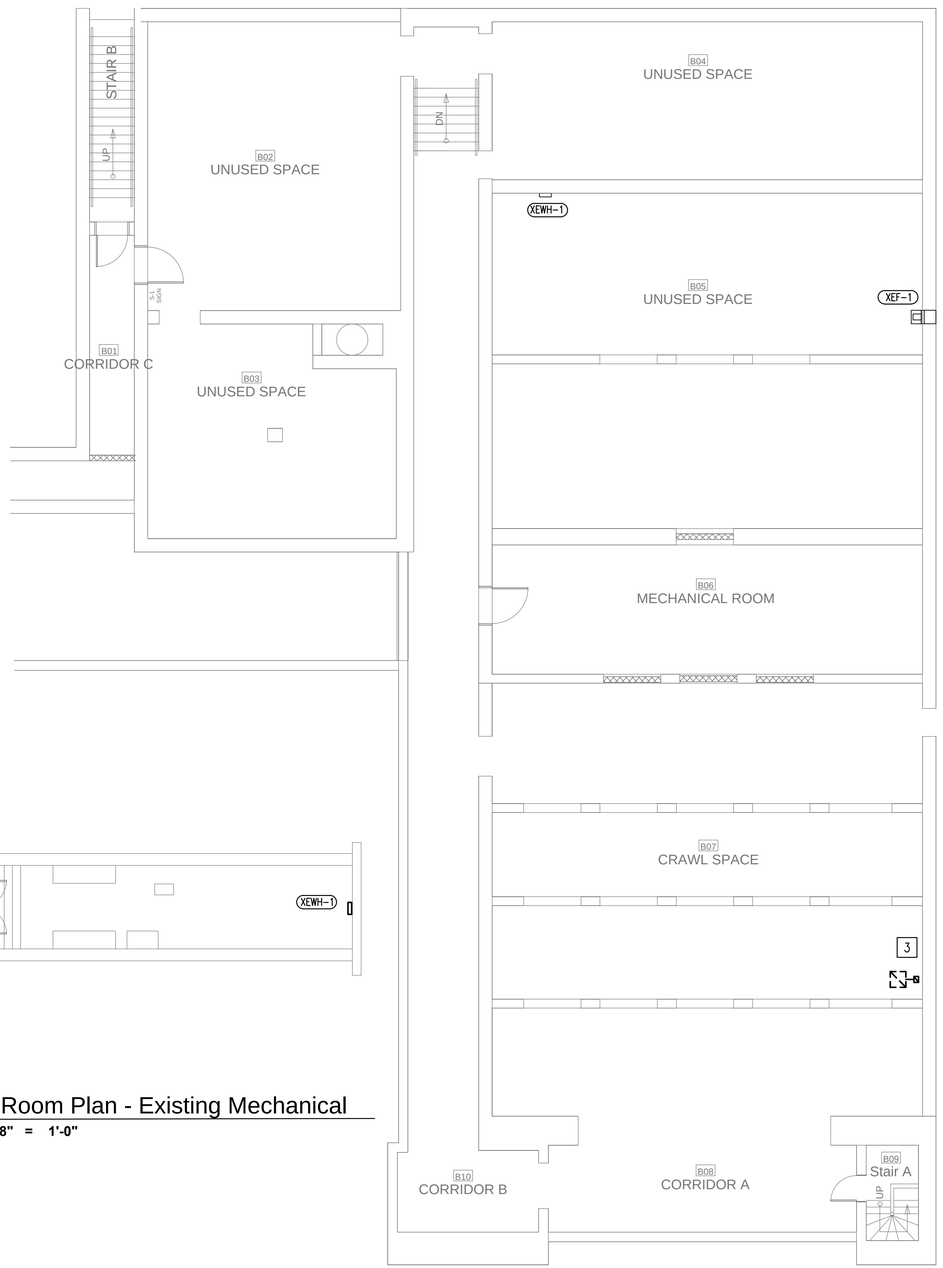
Scale: NA AS NOTED

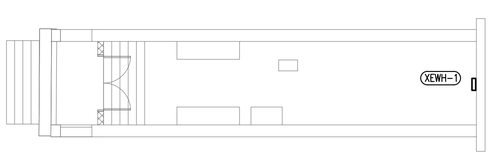
Date Issued: July 20, 2023

Revisions: 1 2 3 4 5

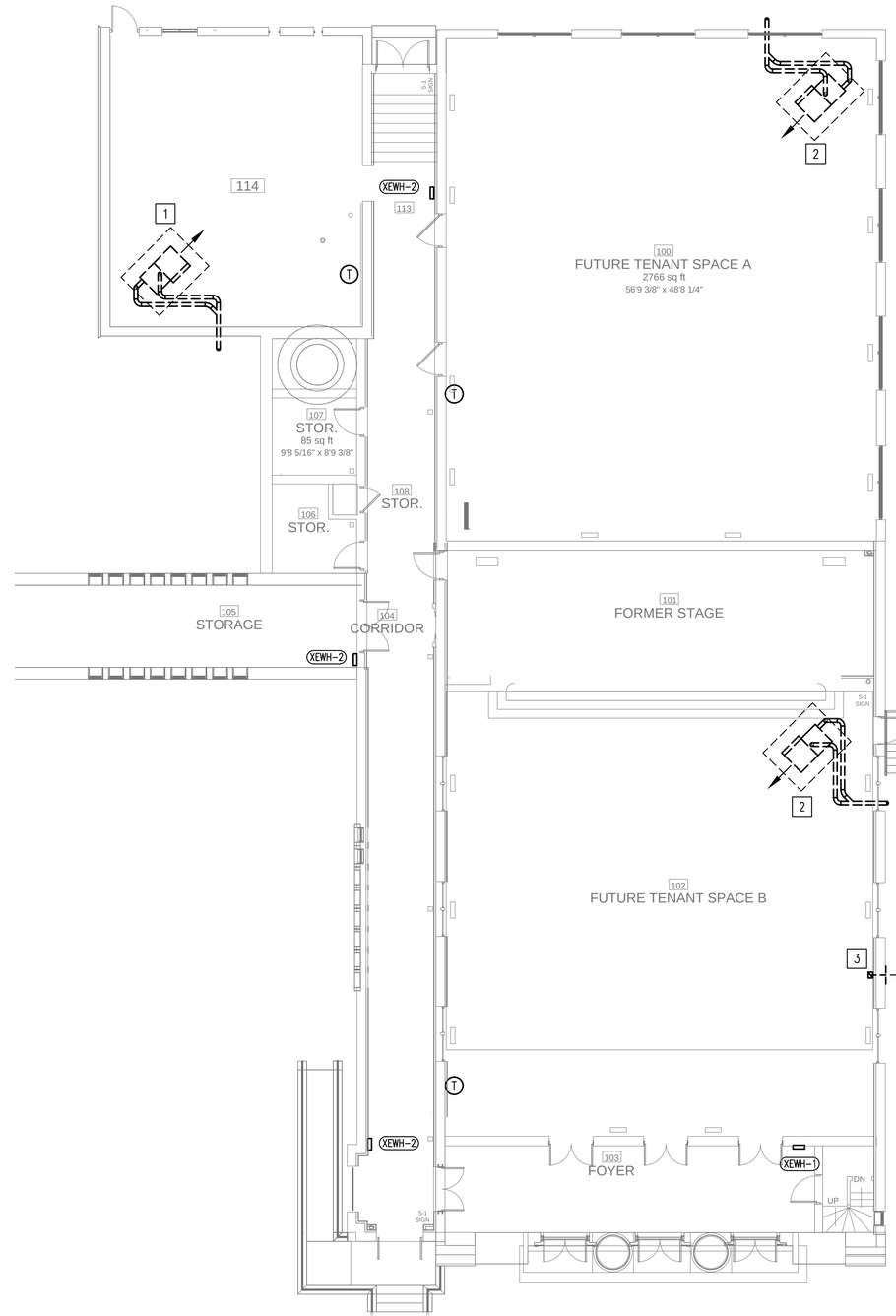
Sheet Number

M0.0





3 Water Room Plan - Existing Mechanical
SCALE: 1/8" = 1'-0"



1 Basement Floor Plan - Mechanical Demo Work
SCALE: 1/8" = 1'-0"

2 First Floor Plan - Mechanical Demo Work
SCALE: 1/8" = 1'-0"

KEYED DRAWING NOTES:

1. REMOVE DAYTON 150 MBH UNIT HEATER WITH SEPARATED COMBUSTION, 5" FLUE AND 5" COMBUSTION AIR INTAKE, AND CONCENTRIC FITTING. REMOVE ALL HANGERS, SUPPORTS, CONTROLS, AND APPURTENANCES, INCLUDING THERMOSTAT. 1-1/2" GAS REMOVAL BY P.C., POWER REMOVAL BY E.C.
2. REMOVE DAYTON 200 MBH UNIT HEATER WITH SEPARATED COMBUSTION, 5" FLUE AND 5" COMBUSTION AIR INTAKE, AND CONCENTRIC FITTING. REMOVE ALL HANGERS, SUPPORTS, CONTROLS, AND APPURTENANCES, INCLUDING THERMOSTAT. 2" GAS REMOVAL BY P.C., POWER REMOVAL BY E.C.
3. REMOVE EXISTING CRAWL SPACE EXHAUST FAN, DUCT THROUGH FLOOR, AND DISCHARGE PENETRATION.

ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE

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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
GARY M. ALBERT
ENGINEER
PE-062003

Sheet Title
MECHANICAL BASEMENT AND FIRST FLOOR DEMO PLAN

Drawn by:
Scale: 1/8" = 1'-0" AS NOTED
Date Issued: July 20, 2023
Revisions:
1
2
3
4
5

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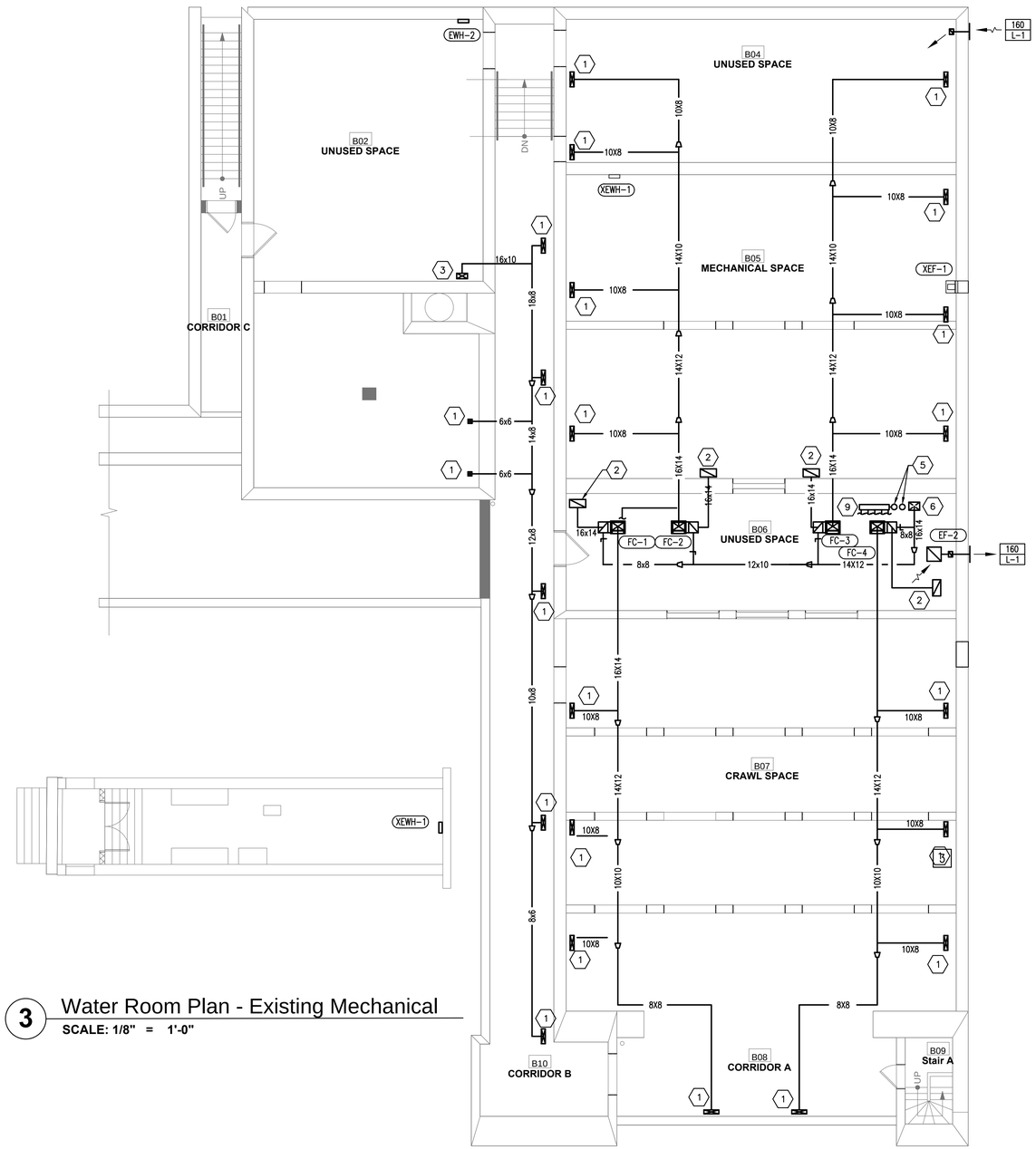
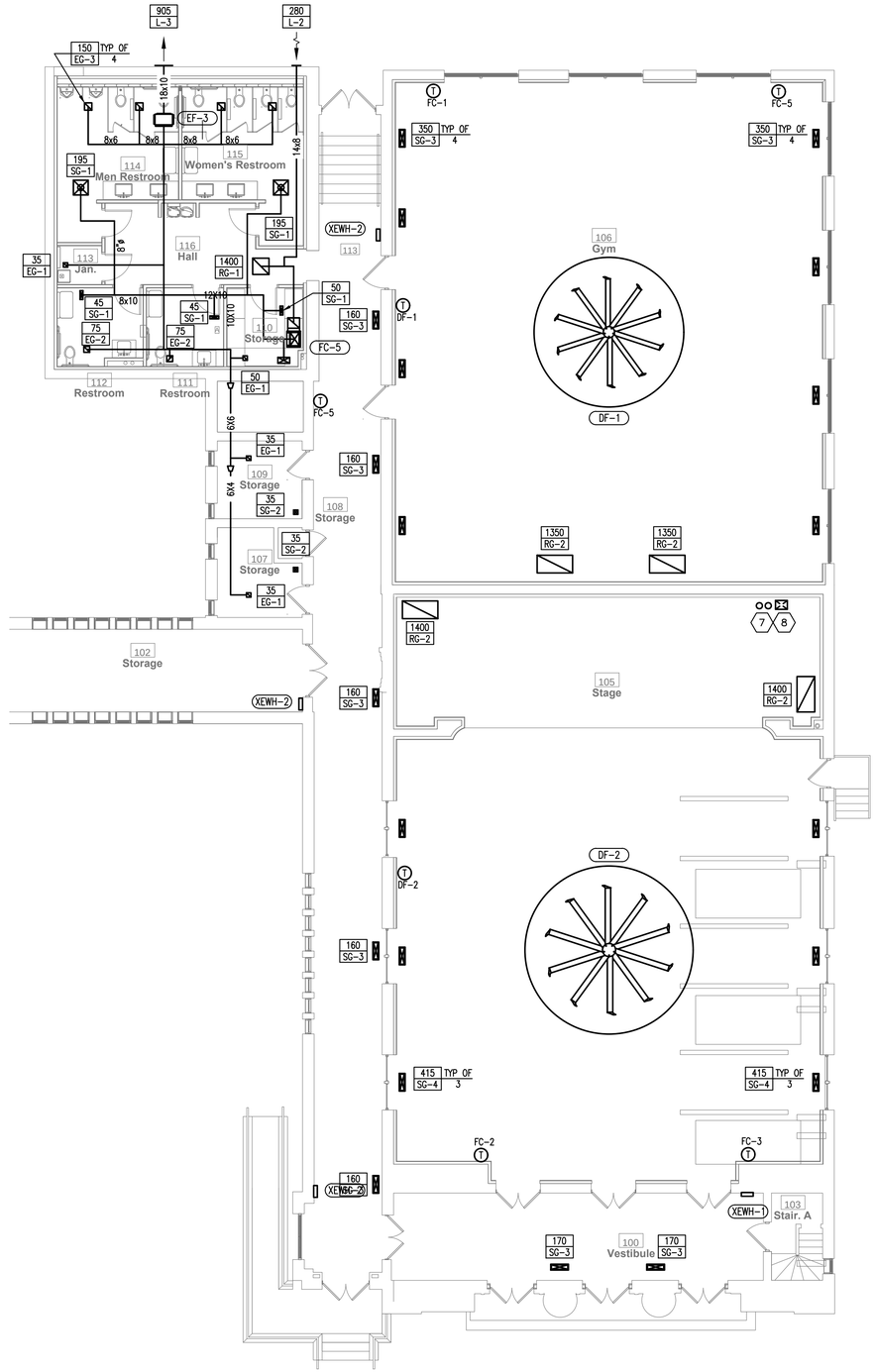
M1.0



3 Water Room Plan - Existing Mechanical

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



1 First Floor Plan - Mechanical New Work

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

2 First Floor Plan - Mechanical New Work

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

KEYED DRAWING NOTES:

1. DUCT UP TO REGISTER ABOVE. REFER TO DRAWING 2/M2.0 FOR CONTINUATION.
2. DUCT UP TO RETURN GRILLE ABOVE. REFER TO DRAWING 2/M2.0 FOR CONTINUATION.
3. SUPPLY DUCT UP TO FLOOR ABOVE. REFER TO DRAWING 2/M2.0 FOR CONTINUATION.
4. 8X6 EXHAUST AIR DUCT UP TO FLOOR ABOVE. REFER TO 2/M.1.0 FOR CONTINUATION
5. REFRIGERANT PIPING UP TO FLOOR ABOVE. REFER TO DRAWING 2/M2.0 FOR CONTINUATION.
6. OUTSIDE AIR DUCT UP TO FLOOR ABOVE. REFER TO DRAWING 2/M2.0 FOR CONTINUATION.
7. REFRIGERANT PIPING UP/DOWN TO ROOF/BASEMENT. REFER TO DRAWINGS 1/M2.0 AND 1/M2.1 RESPECTIVELY FOR CONTINUATION.
8. 16x12 OUTSIDE AIR DUCT UP/DOWN TO ROOF/BASEMENT. REFER TO DRAWINGS 1/M2.0 AND 1/M2.1 RESPECTIVELY FOR CONTINUATION.
9. REFRIGERANT HEADER BY VRF MANUFACTURER. PROVIDE REFRIGERENAT PIPING TO EACH OF FC-1 THROUGH FC-5 FROM HEADER. COORDINATE ALL PIPING WITH VRF MANUFACTURER.

ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE

THE CONTRACTOR SHALL VERIFY THE SCALE OF ALL DRAWINGS PRODUCED OR VIEWED FROM AN ELECTRONIC FILE

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Larimer School Gym and Auditorium Core-Shell Rehab

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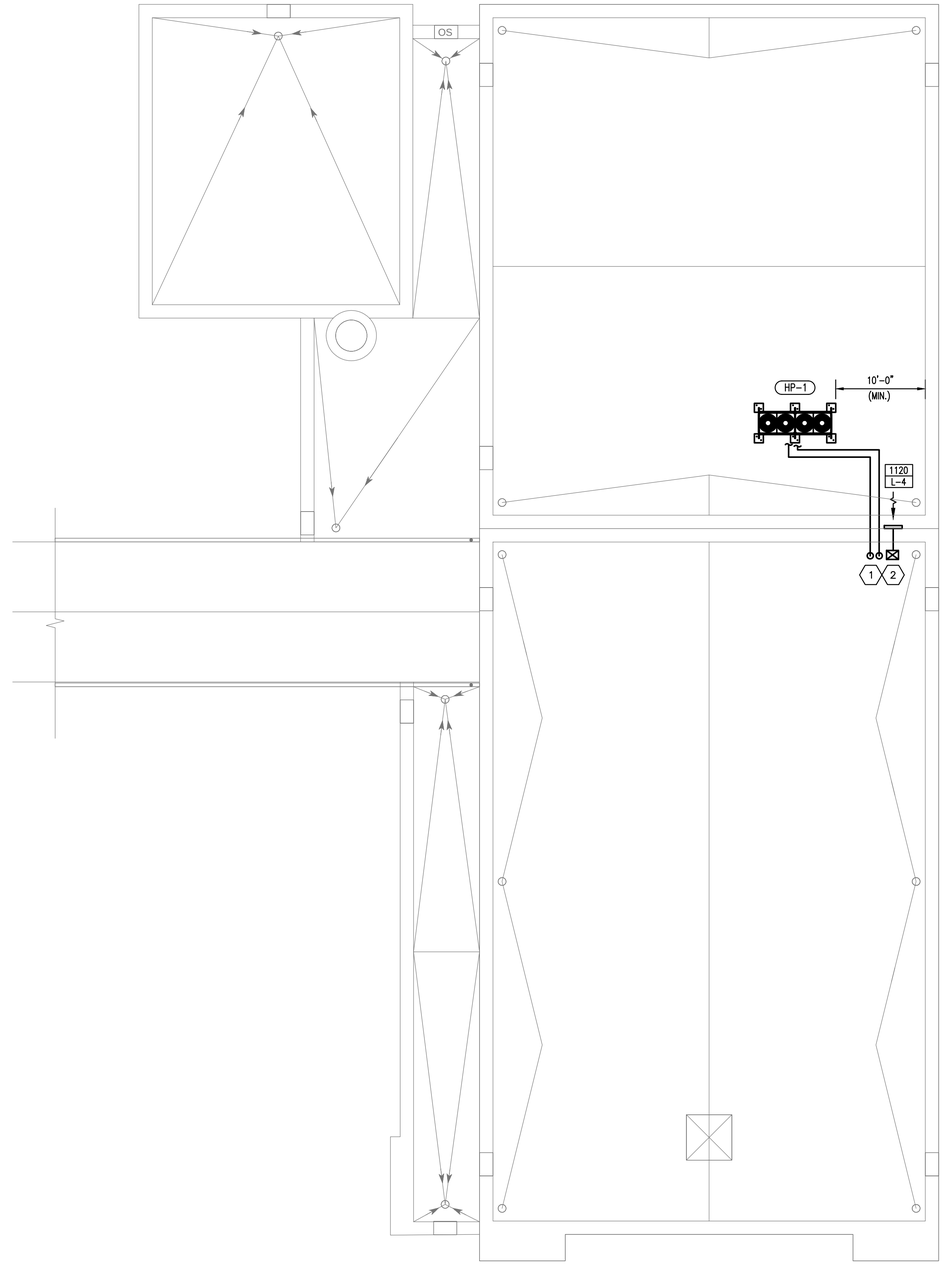
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
GARY M. ALBERT
ENGINEER
PE-062003

Sheet Title
MECHANICAL BASEMENT AND FIRST FLOOR NEW WORK PLAN

Drawn by:
Scale: AS NOTED
Date Issued: July 20, 2023
Revisions: 1 2 3 4 5

Sheet Number
M2.0



1 Roof Plan - Mechanical New Work
SCALE: 1/8" = 1'-0"

KEYED DRAWING NOTES:

1. REFRIGERANT PIPING DOWN TO FLOOR BELOW. REFER TO DRAWING 2/M2.0 FOR CONTINUATION.
2. 16X12 OUTSIDE AIR DUCT DOWN TO FLOOR BELOW. REFER TO DRAWING 2/M2.0 FOR CONTINUATION.

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For Permit and Construction

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PE-062003

Sheet Title

MECHANICAL
ROOF NEW WORK PLAN

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

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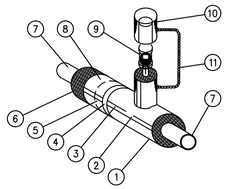
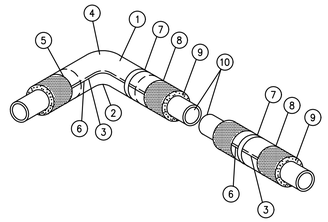


1. CHILDERS UNIVERS TEE –JACS INSULATION COVERS
2. CIRCUMFERENTIAL LAP
3. RIVETS
4. BAND FOR SECURING ELBOW COVER
5. JACKETING OVERLAP
6. INSULATION
7. PIPELINE
8. PIPELINE JACKETING (STAINLESS STEEL)
9. FULL SIZE TEE x 3/8" VALVED AND CAPPED CHARGING CONNECTION
10. INSULATED CHARGING VALVE CAP
11. CAP RETAINING CHAIN

REFRIGERANT CHARGING VALVE INSULATION DETAIL

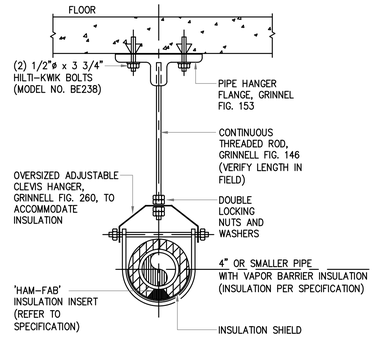
SCALE: NOT TO SCALE



1. CHILDERS UNIVERS ELL–JACS INSULATION COVERS
2. THROAT OF FITTING
3. CIRCUMFERENTIAL LAP
4. HUMP OF FITTING
5. JACKETING OVERLAP
6. RIVETS
7. BAND FOR SECURING ELBOW COVER
8. PIPELINE JACKETING (STAINLESS STEEL)
9. INSULATION
10. PIPELINE

WEATHER PROOF INSULATION JACKET DETAIL

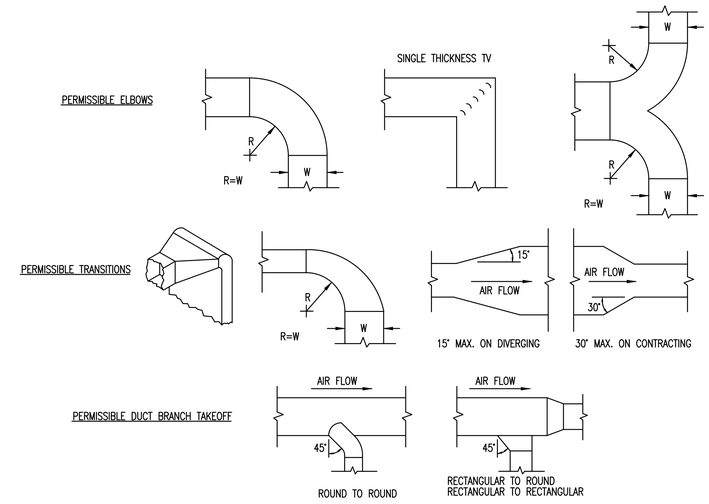
SCALE: NOT TO SCALE



NOTE:
PIPE SHALL BE SUPPORTED FROM EXISTING STEEL WHENEVER FEASIBLE.

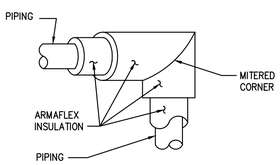
1 M3.0 PIPE HANGER DETAIL

SCALE: NOT TO SCALE



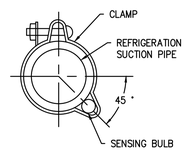
4 M3.0 DUCT TRANSITIONS

SCALE: NONE



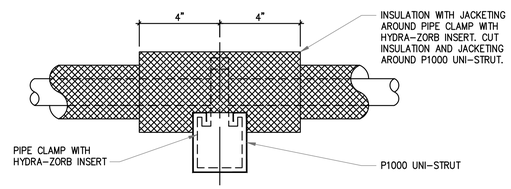
TYPICAL INSULATED ELBOW & PIPING

SCALE: NOT TO SCALE



REFRIGERANT SUCTION PIPE SENSING BULB

SCALE: NOT TO SCALE

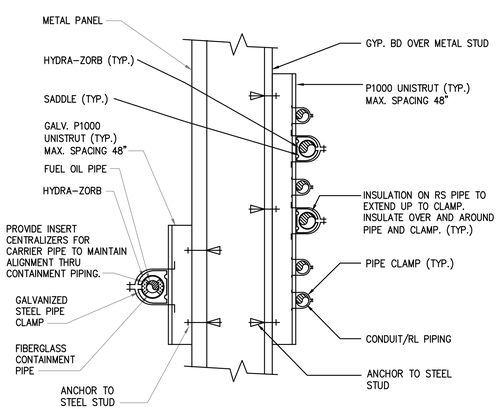


2 M3.0 REFRIGERANT PIPING DETAILS

SCALE: NOT TO SCALE

3 M3.0 INSULATION AT PIPE SUPPORT DETAIL

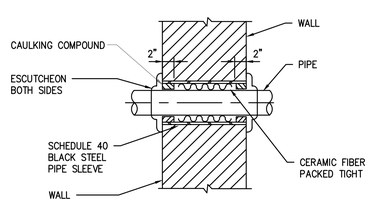
SCALE: N.T.S.



NOTE:
THE PIPE SUPPORT SHOWN INDICATES GENERAL ARRANGEMENT FOR THE PIPING ON THE PIPE SUPPORT. REFER TO PLAN DRAWINGS FOR PIPE ROUTING TO DETERMINE EXACT AMOUNT OF PIPES REQUIRED ON EACH PIPE SUPPORT.

5 M3.0 PIPING SUPPORT AT WALL DETAIL

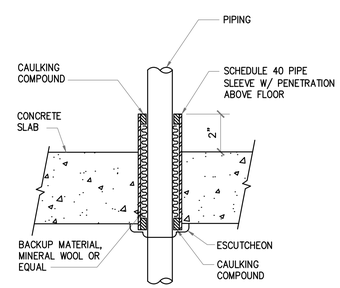
SCALE: NOT TO SCALE



NOTE:
FOR PIPE SLEEVES THRU FIRE RATED WALLS, REFER TO SPECIFICATIONS.

6 M3.0 PIPE SLEEVE THROUGH WALL DETAIL

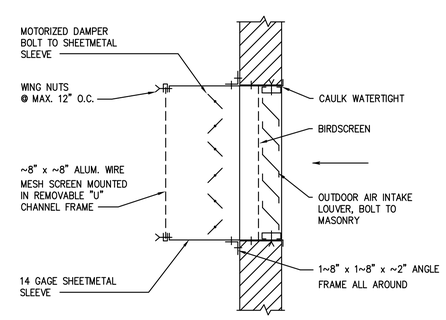
SCALE: NOT TO SCALE



NOTE:
FOR PIPE SLEEVES THRU FIRE RATED FLOORS, REFER TO SPECIFICATIONS.

7 M3.0 PIPE THROUGH FLOOR DETAIL

SCALE: NOT TO SCALE



8 M3.0 OUTDOOR AIR LOUVER DETAIL

SCALE: NONE

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MECHANICAL DETAILS

Drawn by:
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M3.0

DIFFUSER, REGISTER AND GRILLE SCHEDULE

TAG	TYPE	MAX AIRFLOW (CFM)	NOMINAL SIZE (in x in) or (in)	MAX S.P. (in WG)	BASED ON		REMARKS
					MANUF.	MODEL	
SD-1	SUPPLY DIFFUSER - 8" NK.	210	20" x 20"	0.022	TITUS	OMNI	1
SG-1	2-WAY CEILING REGISTER	75	12" x 4"	0.016	TRUAIRE	132M	1
SG-2	FLOOR DIFFUSER	95	6" x 6"	0.016	TITUS	272FL	1
SG-3	FLOOR DIFFUSER	350	22" x 6"	0.016	TITUS	272FL	1
SG-4	FLOOR DIFFUSER	450	22" x 6"	0.022	TITUS	272FL	1
RG-1	RETURN GRILLE	1250	22" x 22"	-0.030	TITUS	50F	1
RG-2	FLOOR RETURN GRILLE	1500	48" x 24"	-0.021	TITUS	23RL	1
EG-1	EXHAUST GRILLE	55	6" x 6"	-0.013	TITUS	50F	1
EG-2	EXHAUST GRILLE	110	8" x 8"	-0.013	TITUS	50F	1
EG-3	RETURN GRILLE	175	10" x 10"	-0.013	TITUS	50F	1
TG-1	TRANSFER GRILLE	-	-	-	-	-	1

REMARKS:
1. PROVIDE WITH OPPOSED BLADE DAMPER.

LOUVER SCHEDULE

MARK	BASIS OF DESIGN		TYPE	DIMENSIONS (LENGTH X WIDTH)	FREE AREA	REMARKS
	MANUFACTURER	MODEL				
L-1	RUSKIN	L375D	INTAKE/EXHAUST	12"x12"	0.35 SQ FT	1, 2
L-2	RUSKIN	L375D	INTAKE	18"x12"	0.45 SQ FT	1, 2
L-3	RUSKIN	L375D	EXHAUST	24"x24"	1.70 SQ FT	1, 2
L-4	RUSKIN	L375D	INTAKE	30"x24"	2.17 SQ FT	1, 2

Notes:
1. PROVIDE WITH RODENT/INSECT SCREEN AND <5 INCH MESH
2. PROVIDE 8" TO 10" TRANSITION AT CONNECTION.

VARIABLE REFRIGERANT SYSTEM SPACE FAN COIL SCHEDULE

UNIT TAG	LEVEL	AREA SERVED	ASSOCIATED HEAT PUMP UNIT	NOMINAL AIRFLOW HI (CFM)	OA AIRFLOW HI (CFM)	NOMINAL COOLING						NOMINAL HEATING				ELECTRICAL DATA		BASED ON				REMARKS
						TOTAL MBH	SENS. MBH	EDB	EWB	LAT	ADB	TOTAL MBH	EAT	LAT	ADB	UNIT MCA	VOLTS/PHASE	MFGR.	MODEL	SIZE	TYPE	
FC-1	LOWER	OPEN MARKET AREA	HP-1	1400	280	48.0	31.7	80	67	59	95	54.0	70	105	47	5.63	208 / 1	MITSUBISHI	PVFY	P48	NAMU	1, 2
FC-2	LOWER	OPEN OFFICE AREA	HP-1	1400	280	48.0	31.7	80	67	59	95	54.0	70	105	47	5.63	208 / 1	MITSUBISHI	PVFY	P48	NAMU	1, 2
FC-3	LOWER	OPEN OFFICE AREA	HP-1	1400	280	48.0	31.7	80	67	59	95	54.0	70	105	47	5.63	208 / 1	MITSUBISHI	PVFY	P48	NAMU	1, 2
FC-4	LOWER	OPEN MARKET AREA	HP-1	1400	280	48.0	31.7	80	67	59	95	54.0	70	105	47	5.63	208 / 1	MITSUBISHI	PVFY	P48	NAMU	1, 2
FC-5	MAIN	COMMON AREAS	HP-1	1400	280	48.0	31.7	80	67	59	95	54.0	70	105	47	5.63	208 / 1	MITSUBISHI	PVFY	P48	NAMU	1, 2

REMARKS:
1. PROVIDE PRODUCT INTEGRATED CONTROL SYSTEM WITH PROGRAMMABLE TOUCH SCREEN THERMOSTAT.
2. PROVIDE WITH PLENUM BASE FOR RETURN AIR CONNECTION.
3. AUTOMATIC RESTART AFTER POWER FAILURE.

VARIABLE REFRIGERANT OUTDOOR UNIT SCHEDULE

TAG	SERVES	COOLING		HEATING		REFRIGERANT TYPE	ELECTRICAL DATA			BASED ON		WEIGHT (LBS)	REMARKS
		CAPACITY (MBH)	MAX ADB	CAPACITY (MBH)	MIN ADB		UNIT MCA	UNIT MOCP	VOLTS/PHASE	MFGR.	MODEL		
HP-1	FC-1 THROUGH FC-5	240	126	270	-27.4	R410A	47 / 47	70 / 70	208 / 3 / 60	MITSUBISHI	PUHY-HP240TSNU-A	1,310	1, 2, 3

REMARKS:
1. REQUIRES TWINNING KIT CMY-Y100CBK3.
2. PROVIDE MANUFACTURER PROVIDED NON PENETRATING ROOF SUPPORTS SPECIFIC TO SCHEDULED EQUIPMENT.
3. EACH OF TWO INDIVIDUAL OUTDOOR UNIT SECTIONS REQUIRE A SEPARATE ELECTRICAL CONNECTION. REFERENCE ELECTRICAL DATA FOR EACH INDIVIDUAL OUTDOOR UNIT.
4. PROVIDE CAPACITIES SCHEDULED. REDUCTION IN CAPACITY BASED ON MANUFACTURER DIVERSITY RATIOS SHALL NOT BE ACCEPTED.

EXHAUST FAN SCHEDULE

MARK	SERVES	TYPE	DRIVE TYPE	CFM	ESP IN. WG	VOLTAGE	SONES/ INLET dBA	ENERGY STAR	BASIS OF DESIGN		REMARKS
									MANUFACTURER	MODEL	
XEF-1	ELEC ROOM	SIDEWALL	DIRECT	430	0.250	115/60/1	5.1	NO	GREENHECK	SE1-12-432-VG	EXISTING TO REMAIN
EF-2	CRAWL SPACE	MULTI-SPEED	DIRECT	160	1.500	115/1/60	19.2/71	NO	GREENHECK	SQ-97-VG	PROVIDE DISCONNECT AND BACKDRAFT DAMPER. NOTE 1, 2, 3
EF-3	RESTROOMS	INLINE	DIRECT	905	0.350	115/1/60	2.0/34	NO	GREENHECK	CSP-A1050-VG	PROVIDE DISCONNECT AND BACKDRAFT DAMPER. NOTE 1, 2, 3

NOTES:
1. FAN SHALL OPERATE DURING OCCUPIED HOURS.
2. FAN SHALL INCLUDE VARI-GREEN MOTOR.
3. FAN SHALL INCLUDE INTERNAL HUMIDISTAT AND ADJUSTABLE TIME DELAY. FAN SHALL ENERGIZE WHEN RELATIVE HUMIDITY EXCEEDS 60%.

DESTRATIFICATION FAN SCHEDULE

MARK	SERVES	DIAMETER ('ø)	WEIGHT (LBS)	RPM	ELEC.	BASIS OF DESIGN		REMARKS
						MANUFACTURER	MODEL	
DF-1	GYMNASIUM	12'ø	88	76	120 / 1 / 60	BIG ASS FANS	ESSENCE	
DF-2	AUDITORIUM	14'ø	96	56	120 / 1 / 60	BIG ASS FANS	ESSENCE	

NOTES:
1. MAINTAIN ALL MANUFACTURER CLEARANCES DURING INSTALLATION.

ELECTRIC HEATER SCHEDULE

MARK	BASIS OF DESIGN		TYPE	CFM	KW	BTUH	ELECTRICAL		REMARKS
	MANUFACTURER	MODEL					SOURCE	AMPS	
XEWH-1	BERKO	VFK-151	WALL	-	1.5	5,120	120/1ø/60	12.5	EXISTING TO REMAIN
XEWH-2	BERKO	VFK-304	WALL	-	3.0	10,239	240/1ø/60	12.5	EXISTING TO REMAIN
EWH-2	BERKO	VFK-304	WALL	-	3.0	10,239	240/1ø/60	12.5	W/ DISCONNECT, 2" SEMI-RECESSED MOUNTING FRAME & INTEGRAL THERMOSTAT

NOTES:

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M4.0

HVAC SPECIFICATIONS

GENERAL INFORMATION

A. GENERAL

1. CONFORM TO ALL GENERAL AND SPECIAL CONDITIONS OF CONTRACT AS SPECIFIED BY ARCHITECT AND/OR OWNER.
2. SPECIFICATIONS ARE APPLICABLE TO ALL CONTRACTORS AND/OR SUBCONTRACTORS FOR MECHANICAL AND ELECTRICAL SYSTEMS.
3. CHECK OTHER PLANS AND SPECIFICATIONS AND FULLY COORDINATE WITH OTHER TRADES, OWNER AND ARCHITECT REQUIREMENTS.
4. VISIT SITE, CHECK FACILITIES AND CONDITIONS MAKE ALL NECESSARY OBSERVATIONS, MEASUREMENTS, NOTE CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED, AND TAKE ALL ITEMS INTO CONSIDERATION IN BID.
5. SYSTEMS ARE TO BE COMPLETE AND WORKABLE IN ALL RESPECTS, PLACED IN OPERATION AND PROPERLY ADJUSTED.
6. EACH CONTRACTOR SHALL PROVIDE FOR HIS OWN CLEAN-UP, REMOVAL AND LEGAL DISPOSAL OF ALL RUBBISH DAILY. CONTRACTOR SHALL PROTECT THEIR WORK AND EXISTING OR ADJACENT PROPERTY AGAINST WEATHER, TO MAINTAIN THEIR WORK, MATERIALS, APPARATUS AND FIXTURES FREE FROM INJURY OR DAMAGE. ANY WORK DAMAGED BY FAILURE TO PROVIDE PROTECTION REQUIRED, SHALL BE REMOVED AND REPLACED WITH NEW WORK AT THE CONTRACTOR'S EXPENSE.
7. CONTRACTORS MUST CONFIRM ALL UTILITY COMPANY REQUIREMENTS AND CONNECTION POINTS IN FIELD, PRIOR TO STARTING WORK.
8. ARRANGE FOR AND OBTAIN OWNER'S AND INSURANCE REPRESENTATIVE'S PERMISSION FOR ANY SERVICE SHUTDOWNS.
9. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, SEQUENCES OF CONSTRUCTION AND THE SAFETY OF WORKMEN.
10. NO PIPING, DUCTWORK, CONTROLS, ETC., SHALL BE INSTALLED OR ROUTED ABOVE ELECTRICAL PANELS AND EQUIPMENT OR THROUGH ELEVATOR ROOMS.
11. THE CONTRACTOR SHALL COORDINATE AND OBTAIN A WRITTEN LISTING OF ELECTRICAL CHARACTERISTICS OF ALL MECHANICAL EQUIPMENT FROM ELECTRICAL CONTRACTOR PRIOR TO ORDERING OF EQUIPMENT. NO ADDITIONAL PAYMENT WILL BE MADE FOR LACK OF CONTRACTOR COORDINATION OF ELECTRICAL CHARACTERISTICS.
12. DURING THE BUILDING CONSTRUCTION SOME EXISTING INSTALLATION MAY BE EXPOSED THAT WILL HAVE TO BE CHANGED, ALTERED, REROUTED AND/OR ABANDONED. ANY SUCH WORK WHICH COMES UNDER THE JURISDICTION OF THIS CONTRACTOR SHALL BE DONE BY THIS CONTRACTOR WITHOUT EXTRA COST TO THE OWNER, AS THOUGH FULLY DETAILED ON PLANS AND/OR DESCRIBED IN THE SPECIFICATIONS.
13. WORK RELATED TO THE EXISTING BUILDING SHALL BE COORDINATED TO MINIMIZE INTERFERENCE OR INTERRUPTION OF NORMAL BUILDING USE BY OWNER. REFER TO ARCHITECTURAL PLANS FOR PHASING REQUIREMENTS.

B. CODES, PERMITS, STANDARDS AND REGULATIONS

1. CONFORM TO ALL APPLICABLE CODES (LOCAL, STATE, NATIONAL CODES, NFPA, OSHA, ETC.), GOVERNMENT REGULATIONS, UTILITY COMPANY REQUIREMENTS, AND APPLICABLE STANDARDS.
2. OBTAIN PERMITS AND PAY ALL FEES. ARRANGE FOR ALL REQUIRED INSPECTIONS AND APPROVALS.

C. RELATED WORK SPECIFIED ELSEWHERE

1. OPENINGS AND CHASES, WHEN SHOWN ON ARCHITECTURAL DRAWINGS.
2. TEMPORARY WATER SERVICE, SANITARY FACILITIES, FIRE PROTECTION AND HEATING DURING CONSTRUCTION.
3. POURED-IN-PLACE CONCRETE.
4. FINISHED PAINTING.
5. ELECTRIC POWER WIRING.

D. DRAWINGS

1. THE SYSTEMS AS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC. CONFIRM ALL DIMENSIONS BY FIELD MEASUREMENT.
2. THE EXACT LOCATIONS FOR APPARATUS, FIXTURES, EQUIPMENT AND PIPING WHICH IS NOT COVERED BY DRAWINGS, SHALL BE OBTAINED FROM THE ARCHITECT OR HIS REPRESENTATIVE IN THE FIELD, AND THE WORK SHALL BE LAID OUT ACCORDINGLY.
3. DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT ONE ANOTHER. ANY MATERIALS OR LABOR CALLED FOR IN ONE BUT NOT THE OTHER SHALL BE FURNISHED AS IF BOTH WERE MENTIONED IN THE SPECIFICATIONS AND SHOWN ON THE DRAWINGS.

E. DEMOLITION AND REMOVAL

1. DISCONNECT, DISASSEMBLE, CAP, PLUG AND REMOVE ALL PIPING, DUCTS AND EQUIPMENT INDICATED ON THE DRAWINGS OR REQUIRED FOR THE PROJECT.
2. ANY EQUIPMENT DESIGNATED BY OWNER TO BE SALVAGED SHALL BE PROTECTED AND DELIVERED TO THE OWNER ON SITE.
3. DEMOLITION TO BE DONE IN A MANNER SO AS NOT TO DAMAGE ADJACENT WORK AND NOT AFFECT THE OPERATION OF SYSTEMS TO REMAIN IN USE. ANY ITEM TO REMAIN THAT IS DAMAGED BY THE CONTRACTOR OR THAT REQUIRES DAMAGE DUE TO THE ABSOLUTE NECESSITY FOR DEMOLITION REQUIREMENTS SHALL BE REPLACED AND/OR REPAIRED AT HIS EXPENSE.
4. ALL OPENINGS ON PIPING AND DUCTS THAT REMAIN SHALL BE CAPPED AND PROPERLY SECURED.
5. ALL ABANDONED ELECTRICAL DEVICES, WIRING, CONDUIT, ETC., SHALL BE REMOVED. WIRING SHALL BE DISCONNECTED AT CIRCUIT BREAKERS AND REMOVED AND BREAKERS MARKED "SPARE."
6. MECHANICAL CONTRACTOR SHALL REMOVE AND RECLAIM ANY REFRIGERANT IN EXISTING SYSTEMS PRIOR TO DEMOLITION OF ANY EQUIPMENT ACCORDING TO FEDERAL REQUIREMENTS.
7. ALL ASBESTOS REMOVAL WILL BE HANDLED BY THE OWNER AND IS NOT A PART OF THIS WORK.
8. EXAMINE AREAS AND CONDITIONS UNDER WHICH DEMOLITION WORK MUST BE PERFORMED. THIS CONTRACTOR WILL NEED TO COORDINATE HIS WORK WITH OTHER TRADES PERFORMING DEMOLITION WORK AND/OR DEMOLITION WORK PERFORMED BY THE OWNER.
9. REMOVE ALL SUPPORTS AND HANGERS FROM EQUIPMENT AND MATERIAL INDICATED TO BE REMOVED.
10. WHERE TEMPERATURE CONTROLS ARE INDICATED FOR DEMOLITION, RETAIN THE SERVICES OF A TEMPERATURE CONTROL CONTRACTOR TO PERFORM SUCH DEMOLITION.

F. BASE EQUIPMENT, MATERIALS AND SUBSTITUTIONS

1. ALL EQUIPMENT AND MATERIALS SHALL BE NEW, FREE OF DEFECTS AND U.L. LABELED.
2. BASE BID MANUFACTURERS ARE INCLUDED IN SPECIFICATIONS OR LISTED IN SCHEDULE ON DRAWING. ANY OTHER MANUFACTURER IS CONSIDERED A SUBSTITUTION.
3. THE NAME OR MAKE OF ANY ARTICLE, DEVICE, MATERIAL, FORM OF CONSTRUCTION, FIXTURE, ETC., STATED IN THIS SPECIFICATION, WHETHER OR NOT THE WORDS "OR APPROVED EQUAL" ARE USED, SHALL BE KNOWN AS A "STANDARD".
4. ALL PROPOSALS SHALL BE BASED ON "STANDARDS" SPECIFIED.
5. THE EQUIPMENT SCHEDULES ON DRAWINGS INDICATE MANUFACTURERS EQUIPMENT MODEL NUMBERS THAT DESIGN HAS BEEN BASED ON. THE USE OF OTHER MANUFACTURERS EQUIPMENT THAT IS LISTED AS ACCEPTABLE ALTERNATES THAT ENTAILS STRUCTURAL CHANGES, CHANGES IN ROOF OPENINGS, CHANGE OF PIPE SIZES & BUILDING CONFIGURATION, ARCHITECT CHANGES, ETC., IS THIS CONTRACTOR'S RESPONSIBILITY. ANY ADDITIONAL COST OF SUCH CHANGES SHALL BE PAID BY THE CONTRACTOR SUBMITTING THE ACCEPTABLE ALTERNATES WHICH NECESSITATES CHANGES IN INSTALLING SUCH SUBMITTED ALTERNATE EQUIPMENT, EVEN THOUGH SUCH COSTS MAY BE PART OF ANOTHER DIVISION OF WORK.
6. SUBSTITUTIONS ARE SUBJECT TO THE APPROVAL OF THE OWNER. IF SUBSTITUTION IS SUBMITTED, IT IS THE CONTRACTOR'S RESPONSIBILITY TO EVALUATE IT AND CERTIFY THAT THE SUBSTITUTION IS EQUIVALENT IN ALL RESPECTS TO THE BASE SPECIFICATIONS.
7. IF SUBSTITUTIONS ARE APPROVED, NOTIFY ALL OTHER CONTRACTORS, SUBCONTRACTORS OR TRADES AFFECTED BY SUBSTITUTION AND FULLY COORDINATE. ANY COSTS RESULTING FROM SUBSTITUTION, WHETHER BY CONTRACTOR OR OTHERS, SHALL BE RESPONSIBILITY OF AND PAID FOR BY SUBSTITUTING CONTRACTOR. APPROVED SHOP DRAWINGS DOES NOT ABSOLVE THIS CONTRACTOR FROM THIS RESPONSIBILITY.
8. ALL EQUIPMENT SHALL BE INSTALLED IN FULL ACCORDANCE WITH THE MANUFACTURER'S DATA AND INSTALLATION INSTRUCTIONS. IT IS THIS CONTRACTOR'S RESPONSIBILITY TO CHECK AND CONFORM TO THESE REQUIREMENTS PRIOR TO STARTING WORK.

G. CHECK, TEST, START, ADJUST, BALANCE AND INSTRUCTIONS

1. AFTER INSTALLATION, CHECK ALL EQUIPMENT, AND PERFORM START UP IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
2. ALL PIPING SHALL BE TESTED AND FREE OF LEAKS.
3. CONCEALED OR INSULATED WORK SHALL REMAIN UNCOVERED UNTIL REQUIRED TESTS HAVE BEEN COMPLETED, BUT IF CONSTRUCTION SCHEDULE REQUIRES IT, ARRANGE FOR PRIOR TESTS ON PARTS OF SYSTEM AS APPROVED BY THE TENANT.
4. BALANCE ALL SYSTEMS, CALIBRATE CONTROLS, CHECK FOR PROPER OPERATION AND SEQUENCE UNDER ALL CONDITIONS AND MAKE ALL NECESSARY ADJUSTMENTS.
5. INSTRUCT OWNER IN OPERATION OF SYSTEMS AND SUBMIT OPERATING AND MAINTENANCE MANUAL ON ALL EQUIPMENT AND SYSTEMS.
6. SUBMIT AIR AND WATER BALANCE REPORT FROM INDEPENDENT AABC OR NEBB CERTIFIED SUBCONTRACTOR FOR ALL AIR SYSTEMS AND EQUIPMENT PER AABC OR NEBB STANDARDS.

H. CUTTING, PATCHING AND DRILLING

1. ALL CUTTING AND PATCHING OF THE BUILDING CONSTRUCTION REQUIRED FOR THIS WORK SHALL BE BY THIS CONTRACTOR UNLESS SHOWN ON ARCHITECTURAL DRAWINGS AND CONFIRMED AS TO SIZE AND LOCATION PRIOR TO NEW CONSTRUCTION. CUTTING SHALL BE IN A NEAT AND WORKMANLIKE MANNER.
2. NEATLY SAW CUT ALL RECTANGULAR OPENINGS, SET SLEEVE THROUGH OPENING, AND FINISH PATCH OR PROVIDE TRIM FLANGE AROUND OPENING.
3. NEATLY SAW CUT FLOORS FOR SEWER INSTALLATION AND PATCH FLOOR TO MATCH EXISTING, INCLUDING FLOOR COVERING.
4. CORE DRILL AND SLEEVE ALL ROUND OPENINGS.
5. DO NOT CUT ANY STRUCTURAL COMPONENTS WITHOUT ARCHITECT'S APPROVAL.
6. PATCH AND FINISH TO MATCH ADJACENT AREAS THAT HAVE BEEN CUT, DAMAGED OR MODIFIED AS A RESULT OF THE INSTALLATION OF THE MECHANICAL OR ELECTRICAL EQUIPMENT. FIRE STOP ALL PENETRATIONS OF FIRE RATED CONSTRUCTION IN A CODE APPROVED MANNER.
7. ALL CONTRACTORS SHALL CONFIRM WITH OWNER, PRIOR TO BID, TIMES AVAILABLE FOR NOISE PRODUCING WORK SUCH AS CUTTING AND CORE DRILLING OF FLOORS, WALLS, ETC., AS WELL AS TIMES FOR WORK WHICH REQUIRE ACCESS INTO ADJOINING TENANT SPACES. INCLUDE ANY PREMIUM TIME IN BID.
8. EXACT LOCATION OF ROOF TOP AIR CONDITIONING UNITS SHALL BE APPROVED BY OWNER'S STRUCTURAL ENGINEER. MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SUPPLEMENTAL SUPPORT STEEL FOR AIR CONDITIONING UNITS AND ROOF DUCT PENETRATIONS AFTER APPROVAL OF STRUCTURAL ENGINEER.
9. INFORMATION REGARDING REQUIRED PIPE OPENINGS IN WALLS, FLOORS, CHASES, ETC., AND CONCRETE EQUIPMENT PADS OR FOUNDATIONS SHALL BE GIVEN TO THE GENERAL CONTRACTOR BY THIS CONTRACTOR PRIOR TO THE CONSTRUCTION PERIOD. IF THIS CONTRACTOR FAILS TO COMPLY WITH THIS REQUEST, OR IF INCORRECT INFORMATION IS GIVEN, THE NECESSARY CUTTING AND PATCHING WILL BE PERFORMED BY THE GENERAL CONTRACTOR, AT THIS CONTRACTOR'S EXPENSE.

I. WARRANTY

1. FULLY WARRANT ALL MATERIALS, EQUIPMENT AND WORKMANSHIP FOR ONE (1) YEAR FROM DATE OF ACCEPTANCE.
2. EXTEND ALL MANUFACTURER'S WARRANTIES TO OWNER, INCLUDING FIVE YEAR (5) COMPRESSOR AND TEN (10) YEAR HEAT EXCHANGER EXTENDED WARRANTY ON HVAC EQUIPMENT.
3. REPAIR OR REPLACE WITHOUT CHARGE TO THE OWNER ALL ITEMS FOUND DEFECTIVE DURING THE WARRANTY PERIOD. IN THE CASE OF REPLACEMENT OR REPAIR DUE TO FAILURE WITHIN THE WARRANTY PERIOD, THE WARRANTY ON THAT PORTION OF THE WORK SHALL BE EXTENDED FOR A MINIMUM PERIOD OF ONE (1) YEAR FROM THE DATE OF SUCH REPLACEMENT OR REPAIR.

J. SHOP DRAWING SUBMITTALS

1. SUBMIT SHOP DRAWINGS FOR MECHANICAL EQUIPMENT, FIRE PROTECTION SYSTEMS, DUCTWORK, AND PLUMBING FIXTURES AND EQUIPMENT WITH ADEQUATE DETAILS AND SCALES TO CLEARLY SHOW CONSTRUCTION. INDICATE THE OPERATING CHARACTERISTICS FOR EACH REQUIRED ITEM. CLEARLY IDENTIFY EACH ITEM ON THE SUBMITTAL AS TO MARK, LOCATION AND USE, USING SAME IDENTIFICATION AS PROVIDED ON DESIGN DRAWINGS.
2. DUCTWORK AND FIRE PROTECTION DRAWINGS SHALL BE FULLY DIMENSIONED BASED ON FIELD VERIFIED BUILDING CLEARANCES AND ARCHITECTURAL CEILING LAYOUTS, AND INDICATE STRUCTURAL, LIGHTING, DUCTWORK AND PIPING AT ALL CRITICAL LOCATIONS.
3. CONTRACTOR SHALL REVIEW AND INDICATE HIS APPROVAL OF EACH SHOP DRAWING PRIOR TO SUBMITTAL FOR REVIEW. DO NOT START WORK OR FABRICATION UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED BY THE ENGINEER AND RETURNED TO THE CONTRACTOR.
4. SUBMITTALS WILL BE REVIEWED ONLY FOR GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS AND NOT FOR DIMENSIONS OR QUANTITIES. THE SUBMITTAL REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PURCHASE OF ANY ITEM IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS OR ITS COMPLETE AND PROPER INSTALLATION.
5. WHERE SUBMITTALS VARY FROM THE CONTRACT REQUIREMENTS, THE CONTRACTOR SHALL CLEARLY INDICATE ON SUBMITTAL OR ACCOMPANYING DOCUMENTS THE NATURE AND REASON FOR VARIATIONS.
6. REFER TO VARIOUS SECTIONS FOR LISTING OF SHOP DRAWINGS REQUIRED ON THIS PROJECT.
7. EACH MANUFACTURER OR HIS REPRESENTATIVE MUST CHECK THE APPLICATION OF HIS EQUIPMENT AND CERTIFY AT TIME OF SHOP DRAWING SUBMITTAL THAT EQUIPMENT HAS BEEN PROPERLY APPLIED AND CAN BE INSTALLED, SERVICED AND MAINTAINED WHERE INDICATED ON DRAWINGS. ADVISE ENGINEER IN WRITING WITH SUBMITTAL DRAWINGS OF ANY POTENTIAL PROBLEMS. THE MANUFACTURER SHALL BE RESPONSIBLE FOR ANY CHANGES THAT MIGHT BE NECESSARY BECAUSE OF PHYSICAL CHARACTERISTICS OF EQUIPMENT THAT HAVE NOT BEEN CALLED TO THE ENGINEER'S ATTENTION AT THE TIME OF SUBMITTAL.

K. RECORD DRAWINGS

1. EACH CONTRACTOR OR SUBCONTRACTOR SHALL KEEP ONE (1) COMPLETE SET OF THE CONTRACT WORKING DRAWINGS ON THE JOB SITE ON WHICH HE SHALL REGULARLY RECORD ANY DEVIATIONS OR CHANGES FROM SUCH CONTRACT DRAWINGS MADE DURING CONSTRUCTION.
2. THESE DRAWINGS SHALL RECORD THE LOCATION OF ALL CONCEALED EQUIPMENT, PIPING, ELECTRIC SERVICE, SEWERS, WASTES, VENTS, DUCTS, CONDUIT AND OTHER PIPING, BY MEASURED DIMENSIONS TO EACH SUCH ITEM FROM READILY IDENTIFIABLE AND ACCESSIBLE WALLS OR CORNERS OF THE BUILDING. PLANS ALSO SHALL SHOW INVERT ELEVATION OF SEWERS AND TOP ELEVATION OF ALL OTHER BELOW-GRADE LINES.
3. RECORD DRAWINGS SHALL BE KEPT CLEAN AND UNDAMAGED AND SHALL NOT BE USED FOR ANY PURPOSE OTHER THAN RECORDING DEVIATIONS FROM WORKING DRAWINGS AND EXACT LOCATIONS OF CONCEALED WORK.
4. AFTER THE PROJECT IS COMPLETED, THESE SETS OF DRAWINGS SHALL BE DELIVERED TO THE ARCHITECT IN GOOD CONDITION, AS A PERMANENT RECORD OF THE INSTALLATION AS ACTUALLY CONSTRUCTED.

HEATING, VENTILATING AND AIR CONDITIONING

A. SCOPE

1. FURNISH ALL EQUIPMENT, MATERIALS, LABOR, TOOLS, ETC., FOR THE COMPLETE HVAC SYSTEM. INSTALL COMPLETE AND PLACE IN OPERATION.
2. HVAC SYSTEM ESSENTIALLY CONSISTS OF BUT NOT LIMITED TO THE FOLLOWING:

   a. VRF HVAC SYSTEM.
   b. DESTRATIFICATION FANS.
   c. REFRIGERANT SYSTEMS.
   d. DUCTWORK, GRILLES, DIFFUSERS AND OTHER ACCESSORIES.
   e. PERFORM ALL MECHANICAL DEMOLITION FOR PROJECT.
   f. INSULATION OF HVAC ITEMS.
   g. BALANCING, TESTING AND START UP.
   h. TEMPERATURE CONTROL SYSTEM.
   i. OTHER ITEMS INDICATED ON DRAWINGS OR REQUIRED FOR COMPLETE INSTALLATION.
3. VERIFY EXACT CONDITIONS IN FIELD AND COORDINATE WITH THESE DRAWINGS AND OTHER TRADES BEFORE BEGINNING NEW WORK.
4. DETERMINE EXACT LOCATIONS FOR ALL NEW AND RELOCATED EQUIPMENT, PIPING, CONDUITS AND DUCTWORK IN FIELD.
5. COORDINATE WORK OF THIS CONTRACT WITH OTHER TRADES. CONFLICTS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. ARCHITECT'S RESOLUTION TO CONFLICTS SHALL BE FINAL.
6. ANY DISCREPENCIES BETWEEN WHAT IS SHOWN ON DRAWINGS OR SPECIFIED AND THE ACTUAL CONDITIONS IN THE FIELD SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING.
7. BUILDING AND SURFACES DAMAGED DURING INSTALLATION SHALL BE REPAIRED, REPLACED, AND/OR RESTORED TO ORIGINAL CONDITION AFTER COMPLETION OF WORK AND BEFORE ACCEPTANCE BY OWNER.
8. CONTRACTORS BIDDING THIS PROJECT SHALL VISIT THIS SITE AND FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THEIR WORK. SUBMISSION OF A BID ON THIS PROJECT SHALL BE CONSTRUED AS HAVING SUCH KNOWLEDGE.

B. DUCTWORK

1. FABRICATE AND ERECT ALL DUCTWORK TO ASHRAE AND SMACNA STANDARDS FROM NO. 1 GALVANIZED STEEL. COMPLY WITH NFPA BULLETIN 90A REQUIREMENTS.
2. DUCTWORK SHALL BE SMACNA LOW PRESSURE CONSTRUCTION 2" STATIC PRESSURE RATING WITH SEAL CLASS B SEAMS AND JOINTS.
3. DUCTWORK UPSTREAM OF VAV AND FPVAV TERMINALS SHALL BE SMACNA MEDIUM PRESSURE CONSTRUCTION 3" STATIC PRESSURE RATING WITH SEAL CLASS A SEAMS AND JOINTS SEALED WITH EC-800 COMPOUND OR SIMILAR.
4. FLEXIBLE DUCTS SHALL BE INDEPENDENTLY SUPPORTED FROM THE STRUCTURE AND CONNECTED WITH PLASTIC DRAW BANDS TIGHTENED WITH MANUFACTURER'S TOOL. FLEXIBLE DUCTS SHALL BE LIMITED TO 48" STRAIGHT LENGTHS. FLEXIBLE DUCTS SHALL BE ATCO RUBBER TYPE 070, 1 1/2" INSULATION WITH VINYL VAPOR BARRIER JACKET AND RATED AT 10" W.C. FOR SIZES THROUGH 12", U.L. LISTED, AND MEET 25/50 FLAME AND SMOKE TEST. FLEXIBLE DUCTS ARE NOT PERMITTED IN ROOMS WITHOUT CEILINGS. EQUIVALENT BY VALUFLEX, FLEX-AIRE, FLEXIBLE TECHNOLOGIES, THERMAFLEX OR GENFLEX.
5. INCLUDE ALL ACOUSTIC, AIRFOIL SHAPED PERFORATED ALUMINUM TURNING VANES, MANUAL DAMPERS, FLEXIBLE CONNECTORS, GRILLES AND DIFFUSERS, ACOUSTIC LINING, AND OTHER SHEET METAL ACCESSORIES FOR THE PROJECT. VOLUME DAMPERS TO BE OF OPPOSED BLADE TYPE CONSTRUCTED IN ACCORDANCE WITH "SMACNA" STANDARDS.
6. ALL BRANCH CONNECTION FITTINGS IN RECTANGULAR DUCTWORK SHALL BE 45 DEGREE TRANSITION TYPE, CONICAL FITTINGS OR SPIN-IN FITTINGS WITH INTEGRAL AIR SCOOPS. BUTT FITTINGS ARE NOT ACCEPTABLE.
7. ACOUSTIC LINE ALL RECTANGULAR DUCTS INDICATED ON DRAWINGS WITH MINIMUM ONE (1) INCH THICK NON-FLAKING, COATED MEDIUM DENSITY LINER. ALL RECTANGULAR DUCTWORK DOWNSTREAM OF VAV AND FPVAV BOXES SHALL BE LINED WITH 1/2" LINER. APPLY TO MANUFACTURER'S RECOMMENDATIONS. DUCT DIMENSIONS ARE OUTSIDE DIMENSIONS, INCLUDING ANY ACOUSTIC LINING.
8. INSTALL FIRE DAMPERS WITH ACCESS DOORS AT ALL FIRE RATED WALLS, PARTITIONS AND CEILINGS. DAMPERS SHALL HAVE RATING EQUIVALENT TO BARRIER.
9. INSTALL FLUES FOR ALL EQUIPMENT. PROVIDE ROOF FLASHING, STORM COLLAR AND VENT CAP, METALBESTOS TYPE RV, QC OR EQUAL.
10. PROVIDE CURBS FOR ALL ROOF OPENINGS FOR DUCTS, FLUES, PIPING AND EQUIPMENT. CURBS SHALL BE FURNISHED AS ACCESSORIES TO THE EQUIPMENT OR 8" HIGH PATE OR EQUAL EQUIPMENT SUPPORTS SPANNING STRUCTURE AND FLASHED INTO ROOFING. ALL CUTTING, FLASHING, AND PATCHING OF ROOF SHALL BE BY OWNER'S ROOFING CONTRACTOR AND PAID FOR BY MECHANICAL CONTRACTOR.
11. PROVIDE ALUMINUM WEATHERPROOF WALL LOUVERS WITH INTERIOR BIRD SCREENS FOR ALL WALL PENETRATIONS WITH FRAME TO MATCH CONSTRUCTION. FLASH AND SEAL AROUND ALL OPENINGS.
12. PROVIDE FOUR (4) INCH CONCRETE BASE FOR CONDENSING UNITS ON GRADE, AND FOR MECHANICAL EQUIPMENT AS INDICATED IN MECHANICAL EQUIPMENT ROOM.
13. INSTALL EXHAUST DUCT UP THROUGH ROOF WITH TALL CONE FLASHING, WEATHER SKIRT AND VENT CAP. MAINTAIN A MINIMUM OF 10'-0" FROM ALL OUTSIDE AIR INTAKES. TERMINATE VENT 3'-0" ABOVE ROOF.
14. KITCHEN HOOD EXHAUST DUCT SHALL BE MINIMUM THICKNESS .060 INCH STEEL WITH LIQUID-TIGHT WELDED JOINTS, WHERE CONCEALED, AND OF 18-GA. MINIMUM STAINLESS STEEL WHERE EXPOSED. INSTALL PER OBBC AND NFPA 96 REQUIREMENTS. MAINTAIN 18" CLEARANCE FROM DUCT TO COMBUSTIBLES.

C. REFRIGERANT PIPING

3. INSTALL REFRIGERANT PIPING BETWEEN CONDENSING UNIT AND DX COIL. PIPING SHALL BE REFRIGERANT GRADE TYPE "L" COPPER WITH SILVER SOLDERED JOINTS. PIPE PER MANUFACTURER'S PIPING DIAGRAMS AND RECOMMENDATIONS.
4. ISOLATE PIPING FROM STRUCTURE WITH ONE (1) INCH INSULATION BETWEEN ALL PIPING AND SUPPORT POINTS. INSULATE SUCTION LINES WITH 3/8" FOAM PLASTIC ARMAFLEX INSULATION.
5. AFTER COMPLETION, PRESSURE TEST PIPING, PURGE AND EVACUATE SYSTEM TWICE AND CHARGE SYSTEM WITH REFRIGERANT AND OIL.
6. INSTALL PIPING IN AS SHORT AND DIRECT ARRANGEMENT AS POSSIBLE TO MINIMIZE PRESSURE DROP.
7. INSTALL UNIONS TO ALLOW REMOVAL OF SOLENOID VALVES, PRESSURE REDUCING VALVES, EXPANSION VALVES, AND AT CONNECTIONS TO COMPRESSORS AND EVAPORATORS.
8. INSTALL FLEXIBLE CONNECTORS AT INLET AND DISCHARGE CONNECTION OF COMPRESSORS.
9. FILL THE PIPE AND FITTINGS DURING BRAZING, WITH NITROGEN OR CARBON DIOXIDE TO PREVENT FORMATION OF SCALE.

D. INSULATION

1. INSULATE ALL NON-LINED SUPPLY DUCTS WITH 1 1/2" THICK FOIL FACED REINFORCED KRAFT JACKET, FIBERGLASS DUCT WRAP FULLY SECURED TO DUCT. LAP AND TAPE SEAMS AND SECURE TIGHTLY TO THE DUCTS WITH WIRE OR STICK PINS. INSULATE DUCTWORK IN MACHINE, FAN, AND EQUIPMENT ROOMS WITH 2" THICK RIGID FIBERGLASS INSULATION.
2. INSULATE REFRIGERANT SUCTION LINE WITH 1/2" FRP FOAM PLASTIC INSULATION WITH JOINTS AND SEAMS SEALED VAPOR TIGHT.
3. INSULATE EXHAUST DUCTS FOR HOODS WITH 2-1/2" THICK PABCO SUPERFIRE TEMP TYPE L ONE (1) HOUR FIRE RATED INSULATION BOARD INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE REMOVABLE SECTIONS AT DUCT CLEANOUT PANELS.
4. INSULATE EXHAUST DUCTS FOR STEAM HOODS AND TOPS OF ALL HOODS WITH 2" THICK O.C.F. THERMAL INSULATING WOOL, MODEL TIW TYPE 2.
5. ALL INSULATION TO BE APPLIED IN FULL ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ALL INSULATION SHALL COMPLY WITH 25/50 FLAME AND SMOKE HAZARD RATINGS PER ASTM E-84, NFPA 255 AND UL 723.
6. PROVIDE REMOVABLE INSULATION SECTIONS TO COVER PARTS OF EQUIPMENT WHICH MUST BE OPENED PERIODICALLY FOR MAINTENANCE; INCLUDE METAL VESSEL COVERS, FASTENERS, FLANGES, CHILLED WATER PUMPS, FRAMES AND ACCESSORIES.
7. REPAIR DAMAGED SECTIONS OF EXISTING MECHANICAL INSULATION, BOTH PREVIOUSLY DAMAGED OR DAMAGED DURING THIS CONSTRUCTION PERIOD. USE INSULATION OF SAME THICKNESS AS EXISTING INSULATION, INSTALL NEW JACKET LAPPING AND SEALED OVER EXISTING.
8. REPLACE DAMAGED INSULATION WHICH CANNOT BE REPAIRED SATISFACTORILY, INCLUDING UNITS WITH VAPOR BARRIER DAMAGE AND MOISTURE SATURATED UNITS.

E. CONDENSATE AND OTHER DRAINS

1. FROM EACH AIR CONDITIONING UNIT, INSTALL FOUR (4) INCH DEEP TRAPPED CONDENSATE DRAIN WITH CLEANOUT OF 1-1/4" PVC RIGID PLASTIC AND TERMINATE AT CONCRETE SPLASH PAD ON ROOF.

F. EQUIPMENT

1. HVAC CONTRACTOR TO FURNISH ALL HVAC EQUIPMENT INDICATED AND/OR SCHEDULED ON THE DRAWINGS COMPLETE WITH BASES, ISOLATORS, SUPPORTS AND OTHER REQUIRED ACCESSORIES.
2. INSTALL COMPLETE AND PLACE IN PROPER OPERATION PER MANUFACTURER'S RECOMMENDATIONS, LUBRICATE AND ADJUST AS REQUIRED. FURNISH AND INSTALL CLEAN SET OF FILTERS PRIOR TO BALANCING.
3. EQUIPMENT TO BE MAKE AND MODEL AS SCHEDULED UNLESS OWNER APPROVED, EQUIVALENT QUALITY AND PERFORMANCE EQUIPMENT IS SUBMITTED AS SUBSTITUTION. ALL SUBSTITUTIONS SUBJECT TO ACCEPTANCE WITHOUT QUALIFICATION BY OWNER, LANDLORD AND ARCHITECT.
4. THIS CONTRACTOR SHALL PERFORM ROUTINE SERVICE INSPECTION OF ALL EXISTING HVAC UNITS TO BE REUSED FOR THIS PROJECT. LUBRICATE BEARINGS, SERVICE CONTROL SYSTEMS, REPLACE FAN BELTS AND INSTALL NEW FILTERS IN EACH UNIT. CONTRACTOR SHALL FIELD VERIFY REFRIGERANT CHARGE AND NOTIFY OWNER IF THE CHARGE IS LESS THAN MANUFACTURER'S SPECIFICATIONS. SUBMIT SERVICE REPORT TO TENANT INDICATING CONDITION OF UNIT AND REPORT ANY MAJOR COMPONENT FAILURES OR MALFUNCTIONS. REPORT SHALL INCLUDE COST TO SERVICE ALL ITEMS ABOVE AND BEYOND THE ITEMS LISTED ABOVE. COST SHALL INCLUDE PARTS AND LABOR. EQUIPMENT SHALL BE PLACED IN FULL OPERATION WITH CONTROLS CALIBRATED UPON COMPLETION OF PROJECT.

G. BALANCING, START UP AND INSTRUCTIONS

1. AFTER INSTALLATION AND EQUIPMENT IS PLACED IN OPERATION, HVAC CONTRACTOR IS RESPONSIBLE FOR BALANCING SYSTEMS TO DESIGN FLOW WITH REPORT SUBMITTED TO OWNER. BALANCING SHALL BE PERFORMED BY AN INDEPENDENT AABC CERTIFIED SUBCONTRACTOR.
2. ADJUST AND BALANCE THE AIR SYSTEMS BEFORE HYDRONIC, STEAM, AND REFRIGERANT SYSTEMS. TEST, ADJUST AND BALANCE AIR CONDITIONING SYSTEMS DURING SUMMER SEASON AND HEATING SYSTEMS DURING WINTER SEASON, INCLUDING AT LEAST A PERIOD OF OPERATION AT OUTSIDE CONDITIONS WITHIN 5 DEG F WET BULB TEMPERATURE OF MAXIMUM SUMMER DESIGN CONDITION, AND WITHIN 10 DEG F DRY BULB TEMPERATURE OF MINIMUM WINTER DESIGN CONDITION. TAKE FINAL TEMPERATURE READINGS DURING SEASONAL OPERATION.
3. START UP AND PLACE ALL SYSTEMS IN OPERATION AND TAG ALL SWITCHES AND CONTROLS WITH PERMANENT LABELS.
4. INSTRUCT OWNER ON PROPER OPERATION AND PREVENTATIVE MAINTENANCE OF SYSTEM.

H. CONTROLS

1. FURNISH AND INSTALL COMPLETE TEMPERATURE CONTROLS FOR ALL HVAC SYSTEMS. PROVIDE NEW CONTROL DEVICES INCLUDING DAMPER OPERATORS, TEMPERATURE SENSORS, STAGING RELAYS AND OTHER REQUIRED DEVICES TO PROVIDE A COMPLETE OPERATIONAL SYSTEM PER THE FOLLOWING OPERATING SEQUENCE. MOUNT ALL CONTROLS FURNISHED AS ACCESSORIES TO EQUIPMENT AND PROVIDE ALL CONTROL WIRING REQUIRED FOR PROPER OPERATION WHERE NOT SPECIFICALLY SHOWN ON ELECTRICAL PLANS. ALL WIRING SHALL BE IN CONDUIT PER N.E.C. AND LOCAL CODE REQUIREMENTS.

K. PIPE IDENTIFICATION

1. CONTRACTOR SHALL PROVIDE IDENTIFICATION LABELS, TAGS, ETC., FOR PLUMBING AND FIRE PROTECTION PIPING

SYMBOLS LIST (AS APPLICABLE)

- $ — 120/277 VOLT, SINGLE POLE AC WALL SWITCH, QUIET STYLE, 20 AMP
- $3 — 120/277 VOLT, AC WALL SWITCH, QUIET STYLE, 3 WAY, 20 AMP
- $D — LED STYLE DIMMER WALL SWITCH, 1000 WATT
- $4 — 120/277 VOLT, AC WALL SWITCH, QUIET STYLE, 4 WAY, 20 AMP
- $P — 120 VOLT, SINGLE POLE AC WALL SWITCH, WITH PILOT HANDLE, PILOT ON WITH LOAD ON., 20 AMP
- $F — FAN SWITCH, FURNISHED BY HC, INSTALLED BY EC.
- A15 — 125 VOLT, AC DUPLEX CONVENIENCE OUTLET, GROUNDED STYLE. THE NUMBER NEXT TO THE OUTLET INDICATES THE CIRCUIT TO WHICH IT IS CIRCUITED (TYPICAL)., 20 AMP, TAMPERPROOF
- 125 VOLT, AC DUPLEX CONVENIENCE OUTLET, GROUNDED STYLE, 20 AMP, TAMPERPROOF
- CH — 125 VOLT, AC DUPLEX CONVENIENCE OUTLET, MOUNTED AT COUNTER HEIGHT, 20 AMP, TAMPERPROOF
- GFI — 125 VOLT, AC DUPLEX CONVENIENCE OUTLET, WITH GROUND FAULT INTERRUPTION, 20 AMP, TAMPERPROOF
- MONUMENT BOX WITH TWIN 20 AMP DUPLEX RECEPTACLES (TAMPERPROOF) AND QUAD CAT 6 RECEPTACLES FOR DATA OR TELEPHONE PLUS COVER PLATES
- WP GFI — 125 VOLT, AC DUPLEX CONVENIENCE OUTLET, WITH GROUND FAULT INTERRUPTION AND WEATHERPROOF "WHILE-IN-USE" COVER PLATE, 20 AMP
- 50 — 208/240 VOLT POLARIZED RECEPTACLE, AMPACITY INDICATED
- PHASE
- JUNCTION BOX, SIZED AS PER NEC
- PANELBOARD
- SAFETY DISCONNECT SWITCH, FUSED OR NON-FUSED AS SHOWN
- T — TRANSFORMER
- MOTOR
- STARTER OR CONTACTOR
- EXHAUST FAN
- THERMOSTAT
- 1 PHASE HOMERUN TO PANEL – 120 VOLT – 2 WIRES + GREEN GROUND WIRE
- 1 PHASE HOMERUN TO PANEL – 208 VOLT – 2 WIRES + GREEN GROUND WIRE
- 1 PHASE HOMERUN TO PANEL – 120/208 VOLT – 3 WIRES + GREEN GROUND WIRE
- 3 PHASE HOMERUN TO PANEL – 208 VOLT – 3 WIRES + GREEN GROUND WIRE
- 3 PHASE HOMERUN TO PANEL – 120/208 VOLT – 4 WIRES + GREEN GROUND WIRE
- INDICATES NEW WIRING
- INDICATES #10 AWG WIRE
- INDICATES GREEN GROUND WIRE
- TV — CABLE TELEVISION SYSTEM OUTLET BOX AND MODULAR RECEPTACLE/COVER PLATE
- F — MANUAL FIRE ALARM PULL STATION
- F — FIRE ALARM HORN (A.D.A. APPROVED STYLE)
- 15 — FIRE ALARM STROBE LIGHT, CANDELA INDICATED
- 15 F — COMBINATION FIRE ALARM HORN AND FLASHING LIGHT (IN COMPLIANCE W/A.D.A. REQUIREMENTS); NUMBER INDICATES STROBE CANDELA RATING (F=FUTURE UNIT; PROVIDE JB AND WIRING)
- FA — INDICATES FIRE ALARM WIRING
- FACP — FIRE ALARM CONTROL PANEL
- W — SPRINKLER WATER FLOW SWITCH
- T — SPRINKLER TAMPER SWITCH
- $OS — OCCUPANCY SENSOR WALL SWITCH (120 VOLT, 800 WATT – 1 CCT AS SHOWN), VACANCY SENSING
- $LV — LOW VOLTAGE CONTROL SWITCH
- $LVD — DIMMING LOW VOLTAGE CONTROL SWITCH
- OS — OCCUPANCY SENSOR – LIGHTING CONTROL
- DS — DAYLIGHT SENSOR – LIGHTING CONTROL
- PS — POWER PACK
- EM — BATTERY EMERGENCY UNIT
- EX — EXIT SIGN
- RH, WPRH — EMERGENCY REMOTE HEAD
- WAP — WIRELESS ACCESS POINT, FURNISHED BY OWNER, INSTALLLED BY EC

ABBREVIATIONS – (AS APPLICABLE)

A	AMPERE	MH	METAL HALIDE
AC	ALTERNATING CURRENT	NC	NORMALLY CLOSED
A/C	AIR CONDITIONER	N & E	NORMAL AND EMERGENCY
A.D.A.	AMERICAN DISABILITY ACT	N.E.C.	NATIONAL ELECTRICAL CODE
AFC	ABOVE FINISHED CEILING	NEUT	NEUTRAL
AFF	ABOVE FINISHED FLOOR	NF	NON-FUSED
AFG	ABOVE FINISHED GRADE	NIC	NOT IN CONTRACT
AWG	AMERICAN WIRE GAUGE	NL	NIGHT LIGHT
BKR	BREAKER	NO	NORMALLY OPEN
BX	ARMORED CABLE	OH	OVERHEAD
CCT	CIRCUIT	PB	PUSHBUTTON
C. COND	CONDUIT	PC	PLUMBING CONTRACTOR
CH	COUNTER HEIGHT	PEC	PHOTO-ELECTRIC CELL
CO	CONVENIENCE OUTLET	PR	PRESENT ITEM REMAINS AS IS
CT	CURRENT TRANSFORMER	PRN	REMOVE PRESENT AND REPLACE W/NEW
DC	DIRECT CURRENT	PRR	PRESENT ITEM REMOVED AND RELOCATED
DISC	DISCONNECT	PT	POTENTIAL TRANSFORMER
DL	DAMP LOCATION LABEL	PVC	POLY-VINYL CHLORIDE
DPDT	DOUBLE POLE – DOUBLE THROW	REL	RELOCATED ITEM
DPST	DOUBLE POLE – SINGLE THROW	RP	REMOVE PRESENT ITEM
DX	DELUXE WHITE LAMP	RPC	REMOVE PRESENT ITEM AND CAP OUTLET
EC	ELECTRICAL CONTRACTOR	RPN	REMOVE PRESENT ITEM AND REPLACE W/NEW
ELEV	ELEVATOR	RPP	REMOVE PRESENT ITEM AND PATCH SURFACE
EM, E	EMERGENCY		TO MATCH EXISTING
EWC	ELECTRIC WATER COOLER	RPR	REMOVE PRESENT ITEM AND RELOCATE
EX	EXIT OR EXIT SIGN	SMR	SURFACE METAL RACEWAY
FA	FIRE ALARM	SPDT	SINGLE POLE – DOUBLE THROW
FACP	FIRE ALARM CONTROL PANEL	SPST	SINGLE POLE – SINGLE THROW
FHC	FIRE HOSE CABINET	SU	STUBBED UP (CONDUIT)
FLUOR	FLUORESCENT	SW	SWITCH
GC	GENERAL CONTRACTOR	T	THERMOSTAT
GFI	GROUND FAULT INTERRUPTION	TC	TIME CLOCK
GG,GR/GD	GREEN GROUND WIRE	TEL	TELEPHONE
GRS	GALVANIZED RIGID STEEL	TELCO	TELEPHONE COMPANY
HC	HEATING CONTRACTOR	THHN,THWN	WIRE INSULATION TYPES
HID	HIGH INTENSITY DISCHARGE	TRXR,TX	TRANSFORMER
HPS	HIGH PRESSURE SODIUM	T/S	TRANSFER SWITCH
IC	INTERRUPTING CAPACITY	TV	TELEVISION
IF	INSIDE FROSTED	TYP	TYPICAL
IMC	INTERMEDIATE METALLIC CONDUIT	UG	UNDERGROUND
INC	INCANDESCENT	V	VOLT
J.JB	JUNCTION BOX	VP	VANDALPROOF
KW	KILOWATT	W	WATT
LT	LIGHT	WP	WEATHERPROOF
MC	METAL CLAD CABLE	3PDT	THREE POLE – DOUBLE THROW
MDP	MAIN DISTRIBUTION PANEL	3PST	THREE POLE – SINGLE THROW
MERC	MERCURY	4PST	FOUR POLE – SINGLE THROW

FIXTURE SCHEDULE

LTR	LOCATION	STYLE	MOUNTING	MANUFACTURER	CATALOG NUMBER	LAMP	VOLTS	REMARKS
A	MECH AREAS, ETC.	4' STRIP	PENDANT/STEM	DAYBRITE	FSS 430L 835-UNV-DIM	24 WATT LED	120	
B	CORRIDOR, TOILETS	LED DN LT	RECESSED	INTENSE LTG.	SD6DR-L3-35-D101FL/IC630-C-SFW/1 100 SERIES	19 WATT LED	120	
C	UTILITY/STORAGE	LED MODULE	PENDANT/STEM	LIGHTOLIER	S10R 835-K22W	24 WATT LED	120	
D	TOILETS	INTEGRAL MIRROR LIGHT	WALL	____	FURNISHED AND INSTALLED BY G.C., WIRED BY E.C.	20 WATT LED	120	
EM	THROUGHOUT	EM BATTERY UNIT	WALL	EVENLITE	TEBL5W	2-3 WATT LED	120/12	11.4 WATT CAPACITY
EX	THROUGHOUT	EXIT SIGN	UNIVERSAL	EVENLITE	TLX-EM-RUW SERIES	INTEGRAL LED	120	INTEGRAL BATTERY
RH	THROUGHOUT	EM REMOTE	WALL	EVENLITE	TS LED1 MVW (1-3 WATT)	1.3 WATT LED	12	
WPRH	THROUGHOUT	WEATHERPROOF EM REMOTE	WALL	EVENLITE	PRW LED1 MV-HL-12	1-1.5 WATT LED	12	
F	OFFICE OPEN AREAS	RLM LED MODULE	PENDANT/STEM	PACE ILLUMINATIONS	HPDL-500-822-DT-120-105W-TWH-CWXX CFL	105 WATT LED	120	
G	OFFICE OPEN AREAS	LED MODULE	PENDANT/STEM	IMPACT	P5117-35 HX-35-HX-35-MW-WH-PC-BL	73 WATT LED	120	
K	WORK ROOM AREAS	LED DN LT	RECESSED	H. E. WILLIAMS	6DR-TL-L80-835-DIM-UNV-OW-OF-CS-MWT-N-F1	80 WATT LED	120	
L	CORRIDOR, TOILETS	LED MODULE	SURFACE	H. E. WILLIAMS	RNDS-2-L45/835-FXA-DIM-UNV	46 WATT LED	120	
M	TOILETS	LED STRIP	SURFACE	DAYBRITE	FSS 430L 835-UNV-DIM	24 WATT LED	120	
N	STAGE	TRACK/FLOODS	PENDANT/STEM	INTENSE LTG.	ITLP20-L2-308-B-FL-IS8B-MOD	20 WATT LED (EACH)	120	WITH 4 AMP TRACK LOAD LIMITER

IEEC LIGHTING ENERGY BUDGET

(IEEC 2018) INTERIOR (SPACE BY SPACE USED)

TOTAL AREA	TOTAL WATTS ALLOWED	TOTAL WATTS USED
9218 SQ.FT	6676 WATTS	4364 WATTS

NOTES

1. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE.
2. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS OR INSTRUCTIONS FOR CONSTRUCTION SAFETY. THE ELECTRICAL ENGINEER ASSUMES NO RESPONSIBILITY FOR ANY WORKMAN'S OR TRANSIENT'S SAFETY, OR FOR THE ADEQUACY OF EQUIPMENT, BUILDING COMPONENTS, SCAFFOLDS, FORMS, OR OTHER WORK AIDS, OR ANY NECESSITY TO WORK ON "LIVE" ELECTRICAL COMPONENTS. FURTHER, NO SUPERINTENDENCE IS INCLUDED OR INTENDED.
3. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AS WELL AS PREPARING AND ENFORCING A JOB SAFETY PROGRAM. IN ADDITION, THE CONTRACTOR SHALL REPORT ANY UNSAFE CONDITIONS TO THE ARCHITECT/OWNER. THE CONTRACTOR AND SUB-CONTRACTORS SHALL DEFEND AND INDEMNIFY THE DESIGN ENGINEER FOR VICARIOUS LIABILITY FOR ANY OF THEIR NEGLIGENT ERRORS AND OMISSIONS.
4. THESE DRAWINGS, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF CAPLAN ENGINEERING COMPANY AND ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CAPLAN ENGINEERING COMPANY.

BRANCH CIRCUIT WIRING NOTES TO E.C.

ARRANGE BRANCH CIRCUIT WIRING TO AVOID PROBLEMS WITH "HARMONIC CURRENTS" FOR ALL CIRCUITS FEEDING DUPLEX CONVENIENCE OUTLETS IN ALL GENERAL OR OFFICE AREAS, FOR ALL COMPUTER OR RELATED EQUIPMENT CIRCUITS AND FOR ALL LIGHTING CIRCUITS AS FOLLOWS:

A. USE INDIVIDUAL 2-WIRE + GROUND IN ONE BRANCH RACEWAY OR CABLE. INCLUDE A SEPARATE EQUIPMENT GROUND CONDUCTOR.

B. THE EQUIPMENT GROUND CONDUCTOR SHALL BE GREEN.

C. INCREASE THE PHASE AND GROUND CONDUCTORS TO #10 AWG FOR CIRCUIT LENGTHS GREATER THAN 75 FEET FROM THE PANELBOARD TO THE FIRST OUTLET, AS REQUIRED IN THE SPECIFICATIONS.

BRANCH WIRING NOTES TO E.C. (AS APPLICABLE)

THE COMPLETE BRANCH WIRING SYSTEM IS NOT SHOWN ON THE DRAWINGS. AN ABBREVIATED FORMAT IS USED TO INDICATE WHICH LUMINAIRES ARE CONNECTED TO A COMMON CIRCUIT OR SWITCH CONTROL. CIRCUIT NUMBERS ARE SHOWN NEXT TO WIRING DEVICES AND/OR LUMINAIRES.

THE E.C. IS RESPONSIBLE FOR A COMPLETE AND OPERABLE BRANCH WIRING SYSTEM.

PROVIDE THE CORRECT QUANTITY OF CONDUCTORS PLUS GROUND WIRE TO ALL INDICATED ELECTRICAL ITEMS.

IN GENERAL, WIRE QUANTITIES ARE AS FOLLOWS:

A. ALL 120 VOLT HOMERUNS ARE 2-WIRE + GROUND.

B. ALL 208 VOLT, SINGLE PHASE HOMERUNS ARE EITHER 2-WIRE + GROUND OR 3-WIRE + GROUND, AS APPLICABLE.

C. SINGLE POLE SWITCH LEGS ARE 3-WIRE + GROUND. TAPE UP NEUTRAL CONDUCTOR FOR FUTURE USE, PER NEC.

D. 3-WAY SWITCH LEGS ARE 4-WIRE + GROUND. TAPE UP NEUTRAL CONDUCTOR FOR FUTURE USE, PER NEC.

E. 4-WAY SWITCH LEGS ARE 4-WIRE + GROUND.

F. 208 VOLT, 3 PHASE HOMERUNS ARE 3-WIRE + GROUND.

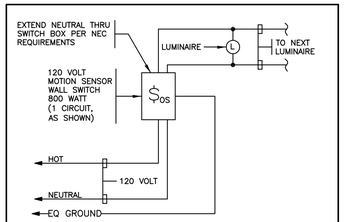
G. 120 VOLT CONNECTIONS TO EMERGENCY BATTERY UNITS ARE 2-WIRE + GROUND.
120 VOLT CONNECTIONS TO EXIT SIGNS ARE 2-WIRE + GROUND.
12 VOLT CONNECTIONS TO EXIT SIGNS ARE 2-WIRE + GROUND (#10 AWG).
12 VOLT CONNECTIONS TO EM REMOTE HEAD ARE 2-WIRE + GROUND (#10 AWG).

H. SWITCH LEGS TO PHOTO-CELLS ARE 3-WIRE + GROUND.

I. WIRING TO SURGE SUPPRESSORS IS 4-WIRE + GROUND (#10 AWG).

J. SEE DETAILS ON DRAWINGS FOR MOTION SENSOR WIRING.

E.C. SHALL REQUEST ASSISTANCE FROM THE ENGINEER DURING BIDDING, IF WIRING TO ANY ITEM IS UNCLEAR.



OCCUPANCY SENSOR CONTROLLED LUMINAIRES (SMALL AREA)

NO SCALE — SCHEMATIC ONLY PRESENTATION

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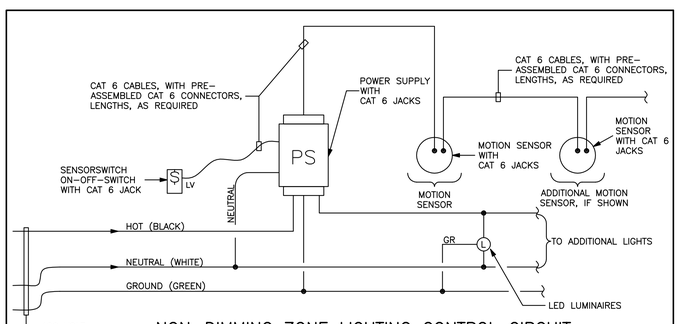

NON-DIMMING ZONE LIGHTING CONTROL CIRCUIT (1 CIRCUIT)

NO SCALE — SCHEMATIC ONLY PRESENTATION

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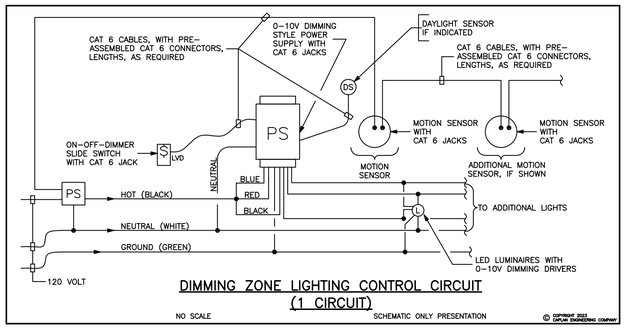

DIMMING ZONE LIGHTING CONTROL CIRCUIT (1 CIRCUIT)

NO SCALE — SCHEMATIC ONLY PRESENTATION

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USE OC. SENSOR DEVICES BY WATT STOPPER, OR APPROVED EQUAL MFR.

CONSTRUCTION DOCUMENTS

JULY 15, 2023

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PEIDC
Pittsburgh Economic and Industrial Development Corporation

Client

A Project Of:

The Pittsburgh Economic & Industrial Development Corporation

Project

Larimer Old School Building Tenant Fit Out

Address

135 Winslow Street
Pittsburgh, PA 15206

23-06-06_135 Winslow_E1-Cs.pwn

Architects Seal

SEAL

Sheet Title

SYMBOLS, ABBREVIATIONS, FIXTURE SCHEDULE, NOTES AND MISCELLANEOUS DETAILS

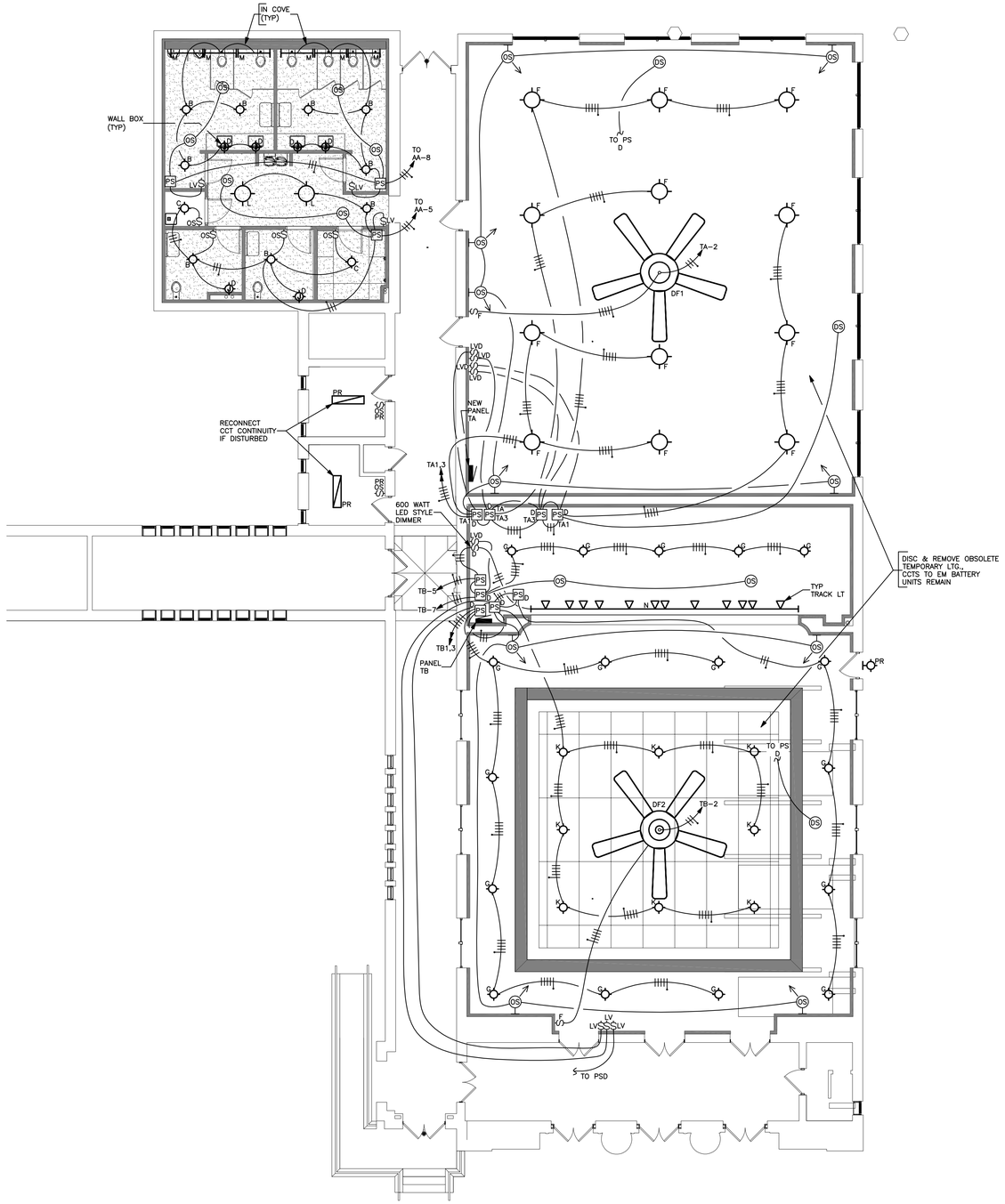
Drawn by: CEC

Date issued: 7/15/23

Revisions: 1, 2, 3, 4, 5

Sheet Number

E1 of 5



1 Ground Floor Lighting Plan
Scale: 1/8" = 1'-0"

CONSTRUCTION DOCUMENTS

JULY 15, 2023

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23-06-05_135 Winslow_F2 Outcomes

Architects Seal

SEAL

Sheet Title

Ground Floor Plan - Lighting

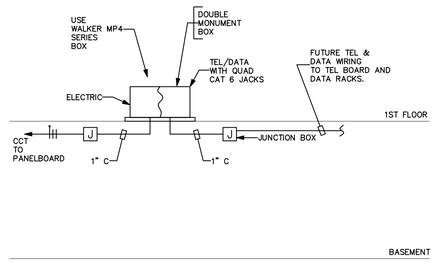
Drawn by: CEC

Date issued: 7/15/23

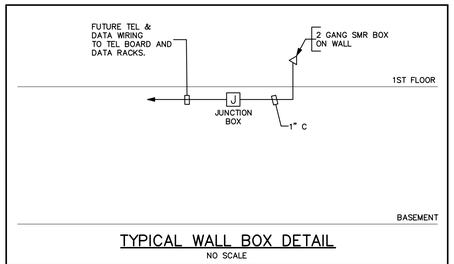
Revisions: 1 2 3 4 5

Sheet Number

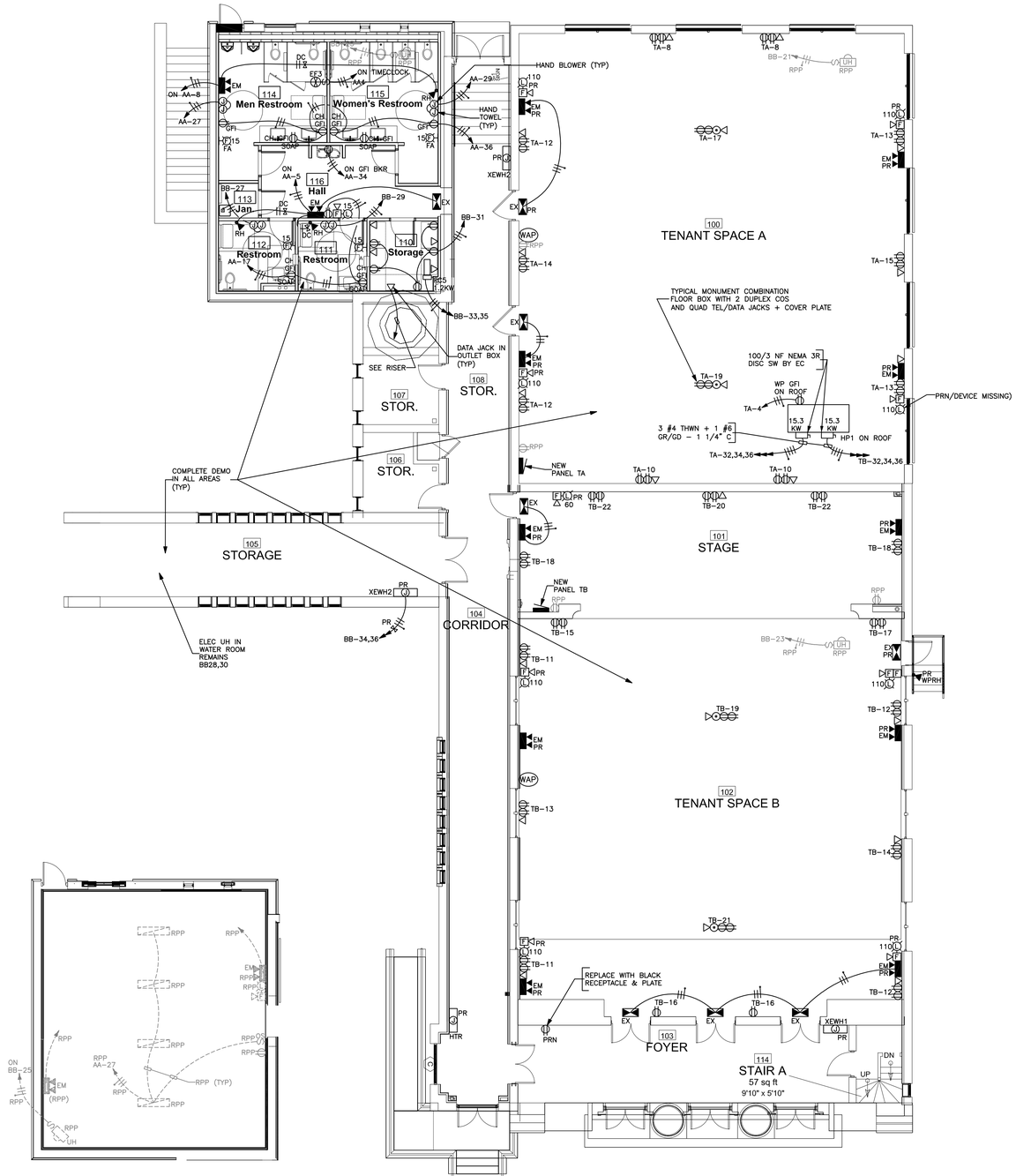
E2 of 5



TYPICAL MONUMENT BOX DETAIL
NO SCALE



TYPICAL WALL BOX DETAIL
NO SCALE



1 Partial Ground Floor Plan
Scale: 1/8" = 1'-0"

2 Ground Floor Power Plan
Scale: 1/8" = 1'-0"

CONSTRUCTION DOCUMENTS

JULY 15, 2023

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Architects Seal

SEAL

Sheet Title

Ground Floor Power Plan - Panelboard Details

Drawn by: CEC

Date issued: 7/15/23

Revisions: 1 2 3 4 5

Sheet Number

E3 of 5

KVA	DESCRIPTION		LUGS			DESCRIPTION	KVA
0.3	GROUND FLOOR EM LTS	1	20–1	20–1	2	GROUND FLOOR CORRIDOR LTS	0.8
0.3	GROUND FLOOR EM LTS	3	20–1	20–1	4	NEW TOILET FAN — SPST 7-DAY TIMECLOCK	1.0
0.8	NEW STORAGE, TOILET LTS + EM	5	20–1	20–1	6	GROUND FLOOR STORAGE ROOM LTS	0.3
0.6	GROUND FLOOR HALLWAY	7	20–1	20–1	8	TOILET LTS + EM NEW	0.8
0.5	ELECTRICAL AND MECH ROOM LTS & EM LTS	9	20–1	20–1	10	EXTERIOR LTS	0.5
1.0	GROUND FLOOR CORRIDOR COS	11	20–1	20–1	12	DIALER	0.1
1.0	GROUND FLOOR CORRIDOR COS	13	20–1	20–1	14	TELEPHONE BOARD COS	1.0
1.0	ELECTRICAL & MECH ROOM COS	15	20–1	20–1	16	TELEPHONE BOARD COS	1.0
1.0	NEW TOILET COS	17	20–1	20–1	18	CABLE TV BOARD COS	1.0
1.0	NEW SUMP PUMP	19	*20–1	20–1	20	FACP PANEL	1.5
4.5	NEW WATER HEATER	21	30	20–1	22	FACP PANEL	1.5
		23	2	20–1	24	WATER ROOM LTS & EM LTS	0.4
1.0	MEZZANINE FLOOR COS	25	20–1	20–1	26	WATER ROOM COS	0.5
1.5	NEW TOWEL DISP HAND DRYER	27	20–1	20–1	28	BASEMENT LIGHTING CRAWL SPACES	1.1
1.5	NEW TOWEL DISP HAND DRYER	29	20–1	20–1	30	BASEMENT LIGHTING UNUSED SPACES	0.3
---	SPARE	31	20–1	20–1	32	BASEMENT COS	1.0
2.1	NEW AHU	33	15	20–1*	34	EWC NEW	1.2
		35		20–1	36	TOILET COS NEW	1.0
		37	3	30	38		
2.0	PARKING LOT LIGHTS	39	20		40	TVSS	---
		41	2	3	42		
			NEUTRAL				
			EQ. GR. BUS				

VOLTAGE: 120/208 VOLT 3 PHASE 4 WIRE
225 AMPS LUGS AND BUSES
TOTAL CONNECTED LOAD: 35.2 KVA

EXISTING PANEL AA

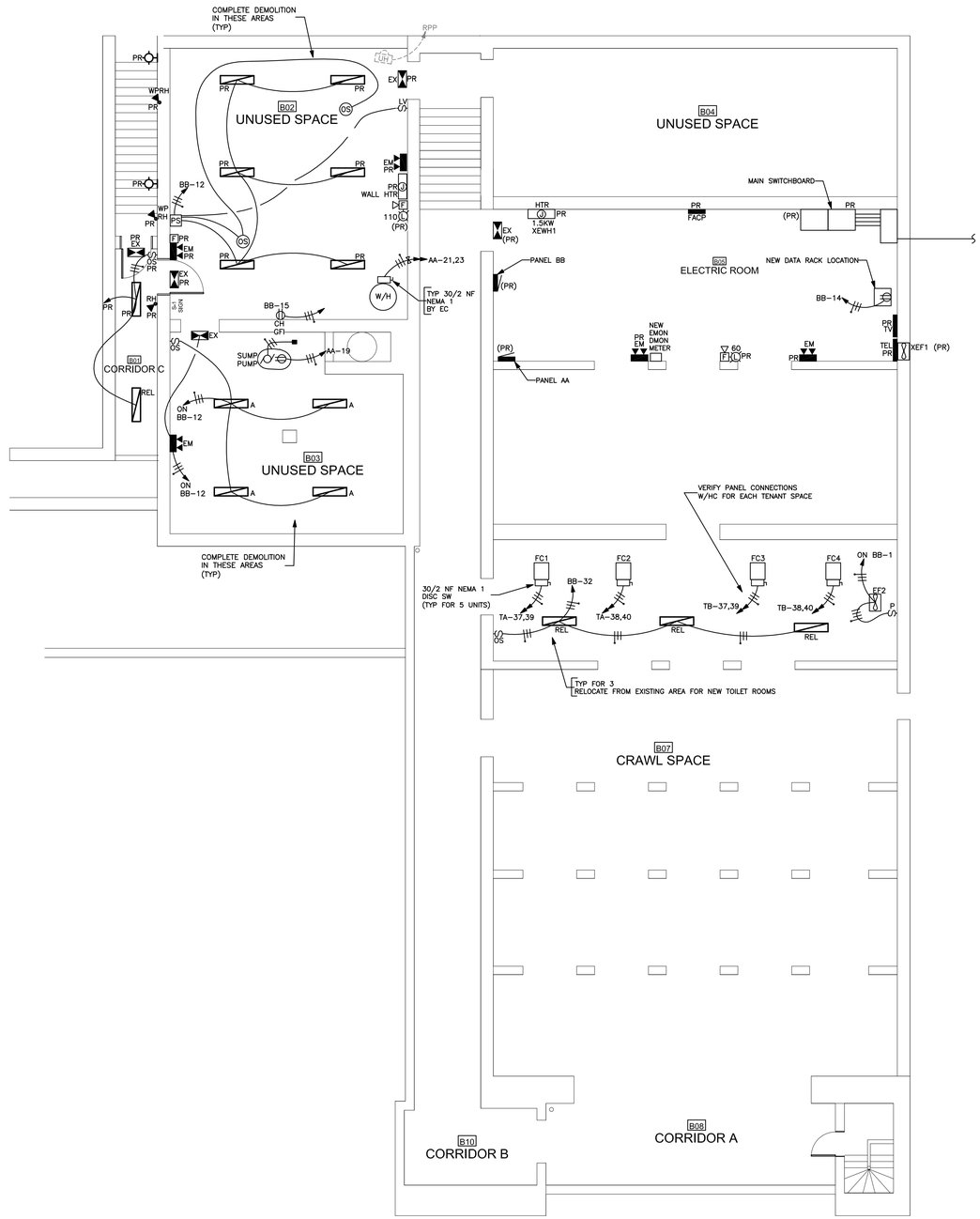
*LOCK–ON DEVICE
*GFI STYLE CIRCUIT BREAKER
SURFACE MOUNTED
WITH DOOR AND LOCKING LATCH
SERIES RATED WITH UPSTREAM BREAKER
PROVIDE NEW BREAKERS FOR CCTS NEW 19,21,23,33,35,37,34 SIEMENS PANEL

KVA	DESCRIPTION		LUGS			DESCRIPTION	KVA
1.0	EF–1 & EF–2	1	20–1	20–1	2	WALL HEATER	1.5
---	SPARE	3	20–1	20–1	4	WALL HEATER	1.5
1.0	POWER DOORS	5	20–1	20–1	6	SPARE	---
1.0	POWER DOORS	7	20–1	20–1	8	BASEMENT CORRIDOR LTS & EM LTS	0.7
0.7	BASEMENT, MEZZANINE, STAIRS, LTS & EM LTS	9	20–1	20–1	10	BASEMENT FLOOR LTS & EM LTS	0.4
0.3	BASEMENT EXTERIOR LTS	11	20–1	20–1	12	BASEMENT FLOOR LTS & EM LTS	0.5
1.0	BASEMENT FLOOR CORRIDOR COS	13	20–1	20–1	14	DATA RACK NEW	1.0
1.0	BASEMENT FLOOR COS	15	20–1	20–1	16	BASEMENT CORRIDOR LTS & EM LTS	0.3
---	SPARE	17	20–1	20–1	18	MECH ROOM FURNACE	1.5
---	SPARE	19	20–1	20	20	WALL HEATER	3.0
---	NEW SPARE	21	20–1	2	22		
---	NEW SPARE	23	20–1	20	24	WALL HEATER	3.0
1.0	UNIT HEATER	25	20–1	2	26		
1.5	NEW TOWEL DISP HAND DRYER	27	20–1	20	28	WALL HEATER WATER ROOM	3.0
1.5	NEW TOWEL DISP HAND DRYER	29	20–1	2	30		
0.5	NEW LOCKER POWER	31	20–1	20–1	32	BASEMENT MECH LTS	0.2
1.2	FC–5	33	15	20	34	STORAGE HEATER	3.0
		35	2	2	36		
---	SPARE	37	#20–1	30	38		
3.0	MECH RM WALL HTR	39	#20		40	TVSS	---
		41	2	3	42		
			NEUTRAL				
			EQ. GR. BUS				

VOLTAGE: 120/208 VOLT 3 PHASE 4 WIRE
225 AMPS LUGS AND BUSES
TOTAL CONNECTED LOAD: 33.1 KVA

EXISTING PANEL BB

*LOCK–ON DEVICE
*GFI STYLE CIRCUIT BREAKER
SURFACE MOUNTED
WITH DOOR AND LOCKING LATCH
SERIES RATED WITH UPSTREAM BREAKER
PROVIDE NEW BREAKERS FOR CCTS 39,41 , 33,35 SIEMENS PANEL



1 Basement Plan
Scale: 1/8" = 1'-0"

CONSTRUCTION DOCUMENTS

JULY 15, 2023

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Pittsburgh, PA 15206

23-06-05_135 Winslow_FS Outyrev

Architects Seal

SEAL

Sheet Title

Basement Lighting and Floor Plan

Drawn by: CEC

Date issued: 7/15/23

Revisions: 1 2 3 4 5

Sheet Number

E4 of 5

FIRE ALARM NOTES

ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS BELOW UNLESS OTHERWISE NOTED BY OTHERS.

F1: EXISTING ADDRESSABLE FIRE ALARM SYSTEM CONTROL PANEL (FACP). SYSTEM IS "EST" EDWARDS. CONTACT INTELLIGENT ELECTRONIC SYSTEMS.

F2: EXISTING REMOTE FIRE ALARM ANNUNCIATOR PANEL.

F3: INDICATES FIRE ALARM WIRING SIZED AS PER MANUFACTURER'S REQUIREMENTS IN SEPARATE METALLIC CONDUITS.

F4: PROVIDE A SEPARATE ADDRESS FOR EACH INITIATING DEVICE.

F5: NOTE DELETED.

F6: NOTE DELETED.

F7: ALL FIRE ALARM SIGNAL DEVICES SHALL BE IN COMPLIANCE WITH A.D.A. REQUIREMENTS.

F8: TYPICAL PULL STATION – SEE PLANS FOR ALL REQUIRED LOCATIONS.

F9: NOTE DELETED.

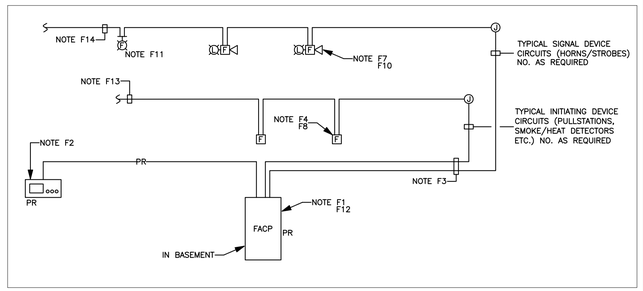
F10: TYPICAL COMBINATION HORN/FLASHING LIGHTS – SEE PLANS FOR ALL REQUIRED LOCATIONS.

F11: TYPICAL STROBE ONLY (FLASHING LIGHT) – SEE PLANS FOR ALL REQUIRED LOCATIONS.

F12: THE FIRE ALARM SYSTEM MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE A COMPLETE SYSTEM INSTALLATION WIRING DIAGRAM AND BACK-UP BATTERY CALCULATIONS. (SEE SPECIFICATIONS).

F13: TO NEXT INITIATING DEVICES (PULL STATION, SMOKE DETECTOR, ETC.)

F14: TO NEXT ALARM SIGNAL DEVICE (HORN/STROBE, ETC.)



EXISTING FIRE ALARM SYSTEM RISER DIAGRAM (SPRINKLERED BUILDING)

NO SCALE — SCHEMATIC ONLY PRESENTATION

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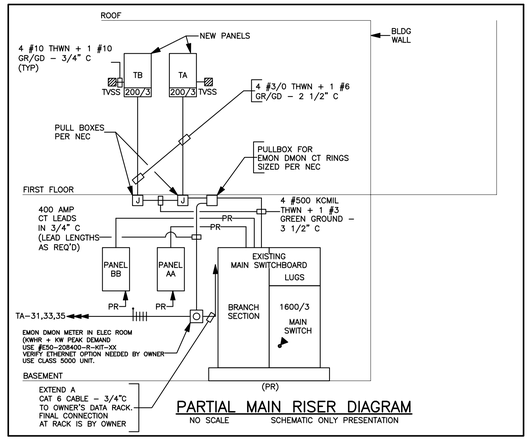
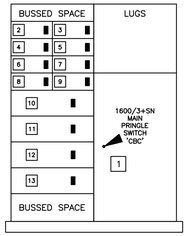


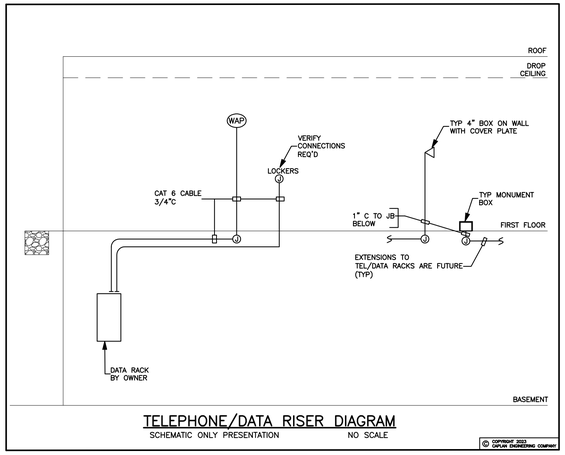
PARTIAL MAIN RISER DIAGRAM

NO SCALE — SCHEMATIC ONLY PRESENTATION



EXISTING MAIN SWITCHBOARD DETAIL

NO SCALE:



TELEPHONE/DATA RISER DIAGRAM

SCHEMATIC ONLY PRESENTATION — NO SCALE

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EXISTING MAIN SWITCHBOARD DIRECTORY

EXISTING POSITION	EXISTING SWITCH/ BREAKER SIZE	POSITION TYPE	ITEM SERVED	FEEDER SIZE	KVA LOAD
1	1600/3 PRINGLE SWITCH "CBC"		MAIN SWITCH	BUSSED	133.3
2	200/3	CIRCUIT BREAKER	PANEL AA		35.2
3	200/3	CIRCUIT BREAKER	PANEL BB		33.1
4	200/3	CIRCUIT BREAKER	SPARE		----
5	200/3	CIRCUIT BREAKER	SPARE		----
6	100/3	CIRCUIT BREAKER	SPARE		----
7	100/3	CIRCUIT BREAKER	FUTURE SOLAR		----
8	30/3	CIRCUIT BREAKER	TVSS		----
9	60/3	CIRCUIT BREAKER	SPARE		----
10	400/3	CIRCUIT BREAKER	FUTURE PANEL CC		----
11	400/3	CIRCUIT BREAKER	NEW PANELS TA/TB	4 #500 KCMIL THWN + 1 #3 GR/GD – 3 1/2" CONDUIT (NEW)	65.0
12	400/3	CIRCUIT BREAKER	SPARE		----
13	400/3	CIRCUIT BREAKER	---		----

KVA	DESCRIPTION		NEUTRAL	EQ. GR. BUS		DESCRIPTION	KVA
0.7	OPEN AREA LTS	1	20-1	20-1	2	EXHAUST FAN + LT	1.5
0.7	OPEN AREA LTS	3	20-1	20-1	4	ROOF CO	0.5
---	SPARE	5	20-1	20-1	6	SPARE	---
---	SPARE	7	20-1	20-1	8	WALL COS	1.0
---	SPARE	9	20-1	20-1	10	WALL COS	1.0
---	SPARE	11	20-1	20-1	12	WALL COS	1.0
1.0	FLOOR COS	13	20-1	20-1	14	WALL COS	1.0
1.0	FLOOR COS	15	20-1	20-1	16	SPARE	---
1.0	FLOOR COS	17	20-1	20-1	18	SPARE	---
1.0	FLOOR COS	19	20-1	20-1	20	SPARE	---
---	SPARE	21	20-1	20-1	22	SPARE	---
---	SPARE	23	20-1	20-1	24	SPARE	---
---	SPARE	25	20-1	30	26	TVSS	
---	SPARE	27	20-1		28		
---	SPARE	29	20-1	3	30		
0.1	EMON-DMON METER	31	20	70	32	HP 1 UNIT A	15.3
		33	*		34		
		35	3	3	36		
1.2	FC 1	37	15	15	38	FC 2	1.2
		39	2	2	40		
---	SPARE	41	20-1	20-1	42	SPARE	---
			200 / 3			MAIN BREAKER	

VOLTAGE: 120/208 3 PHASE 4 WIRE
225 AMPS LUGS AND BUSES
TOTAL CONNECTED LOAD: 29.2 KVA

NEW PANEL TA

*LOCK-ON DEVICE
FLUSH MOUNTED
WITH HINGED DOOR AND LOCKING LATCH
SERIES RATED WITH UPSTREAM BREAKER
USE SIEMENS PANEL

KVA	DESCRIPTION		NEUTRAL	EQ. GR. BUS		DESCRIPTION	KVA
1.0	OPEN AREA LTS	1	20-1	20-1	2	EXHAUST FAN + LT	1.5
0.7	OPEN AREA LTS	3	20-1	20-1	4	SPARE	---
0.6	STAGE LTS	5	20-1	20-1	6	SPARE	---
0.6	STAGE LTS	7	20-1	20-1	8	SPARE	---
---	SPARE	9	20-1	20-1	10	SPARE	---
1.0	WALL COS	11	20-1	20-1	12	WALL COS	1.0
1.0	WALL COS	13	20-1	20-1	14	WALL COS	1.0
1.0	WALL COS	15	20-1	20-1	16	WALL COS	1.0
1.0	WALL COS	17	20-1	20-1	18	STAGE COS	1.0
1.0	FLOOR COS	19	20-1	20-1	20	STAGE COS	1.0
1.0	FLOOR COS	21	20-1	20-1	22	STAGE COS	1.0
---	SPARE	23	20-1	20-1	24	SPARE	---
---	SPARE	25	20-1	30	26	TVSS	
---	SPARE	27	20-1		28		
---	SPARE	29	20-1	3	30		
---	SPARE	31	20-1	70	32	HP 1 UNIT B	15.3
---	SPARE	33	20-1		34		
---	SPARE	35	20-1	3	36		
1.2	FC 3	37	15	15	38	FC 4	1.2
		39	2	2	40		
---	SPARE	41	20-1	20-1	42	SPARE	---
			200 / 3			MAIN BREAKER	

VOLTAGE: 120/208 3 PHASE 4 WIRE
225 AMPS LUGS AND BUSES
TOTAL CONNECTED LOAD: 34.1 KVA

NEW PANEL TB

*LOCK-ON DEVICE
SURFACE MOUNTED
WITH HINGED DOOR AND LOCKING LATCH
SERIES RATED WITH UPSTREAM BREAKER
USE SIEMENS PANEL

CONSTRUCTION DOCUMENTS

JULY 15, 2023

Notes:

ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE

THE CONTRACTOR SHALL VERIFY THE SCALE OF ALL DRAWINGS PRODUCED OR VIEWED FROM AN ELECTRONIC FILE

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Client

A Project Of:

The Pittsburgh Economic & Industrial Development Corporation

PEIDC
Pittsburgh Economic and Industrial Development Corporation

Project

Larimer Old School Building Tenant Fit Out

Address

135 Winslow Street
Pittsburgh, PA 15206

23-06-05_135 Winslow_PR OsLaren

Architects Seal

SEAL

Sheet Title

ELECTRICAL RISER, TELEPHONE RISER, CABLE TELEVISION RISER, FIRE ALARM RISER

Drawn by: CEC

Date issued: 7/15/23

Revisions:
1
2
3
4
5

Sheet Number

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PLUMBING GENERAL NOTES

1	THE CONTRACT DOCUMENT DRAWINGS ARE DIAGRAMMATIC ONLY, AND ARE INTENDED TO CONVEY THE SCOPE AND GENERAL ARRANGEMENT OF THE WORK.
2	THE CONTRACTOR SHALL CHECK AND VERIFY ALL EXISTING CONDITIONS AT THE PROJECT SITE. THE CONTRACTOR SHALL NOTE ALL INTERFERENCE AND INCLUDE IN HIS BASE PRICE THE COST OF RELOCATING ALL ITEMS THAT INTEREFERE WITH THE WORK INCLUDING THOSE OF OTHER TRADES.
3	THE CONTRACTOR SHALL GIVE ALL NOTICES, OBTAIN ALL PERMITS, AND PAY ALL TAXES, FEES AND OTHER COSTS ASSOCIATED WITH HIS WORK.
4	THE CONTRACTOR SHALL FILE ALL APPROVALS OF ALL REQUIRED CERTIFICATES OF INSPECTION FOR HIS WORK JURISDICTION, AND DELIVER SAME TO THE ARCHITECT BEFORE REQUEST FOR ACCEPTANCE AND FINAL PAYMENT FOR THE WORK.
5	THE CONTRACTOR SHALL INCLUDE IN HIS SCOPE OF WORK, WITHOUT EXTRA COST TO THE OWNER, ALL LABOR, MATERIALS, SERVICES, APPARATUS, DRAWINGS (IN ADDITION TO CONTRACT AND DOCUMENTS) IN ORDER TO COMPLY WITH ALL APPLICABLE CODES, LAWS, ORDINANCES, RULES AND REGULATIONS.
6	THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT, MATERIALS, APPLIANCES, TOOLS, RIGGING, AND ACCESSORIES, AND PERFORM ALL LABOR REQUIRED TO PROVIDE, INSTALL, CONNECT, AND TEST COMPLETE SPECIFIED SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS, AND THE APPLICABLE CODES.
7	THE CONTRACTOR SHALL INSTALL ALL PLUMBING EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR SHALL VERIFY ALL EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS.
8	THE CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION AND HEIGHT OF ALL PLUMBING EQUIPMENT AND COORDINATED WILL ALL OTHER PLUMBING, ELECTRICAL, ARCHITECTURAL, AND STRUCTURAL SYSTEMS.
9	THE CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES INVOLVED. ALL RISERS, DROPS, OFFSETS, AND TRANSITIONS IN PIPING AROUND OBSTACLES SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
10	THE CONTRACTOR SHALL COORDINATE THE LOCATION AND SIZE OF ALL FLOOR, WALL, AND ROOF OPENINGS WITH THE GENERAL CONTRACTOR. THE CONTRACTOR SHALL PROVIDE ALL OPENINGS UNLESS OTHERWISE NOTED.
11	THE CONTRACTOR SHALL COORDINATE THE LOCATION AND SIZE OF ALL EQUIPMENT AND PIPING SUSPENDED FROM THE BUILDING STRUCTURE WITH THE GENERAL CONTRACTOR.
12	THE CONTRACTOR SHALL SUPPORT ALL EQUIPMENT AND PIPING MOUNTED ABOVE THE CEILING DIRECTLY FROM THE BUILDING STRUCTURE.
13	ALL EQUIPMENT SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE WITH COMBINATION SPRING AND NEOPRENE-IN-SHEAR HANGER RODS. ALL SUPPORTS SHALL BE PROVIDED AS REQUIRED TO ASSURE A VIBRATION FREE INSTALLATION.
14	PROVIDE SEISMIC SUPPORTS AS REQUIRED BY APPLICABLE CODES. ALL ATTACHMENTS TO BEAMS, TRUSSES, OR JOIST SHALL BE MADE AT PANEL POINTS WITH BEAM CLAMPS MEETING MSS STANDARDS.
15	THE CONTRACTOR SHALL VERIFY THE VOLTAGE OF ALL PLUMBING EQUIPMENT WITH THE ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.
16	THE CONTRACTOR SHALL PROVIDE ALL REQUIRED CEILING ACCESS PANELS WHERE REQUIRED FOR OPERATION, ADJUSTMENT, AND MAINTENANCE OF PLUMBING EQUIPMENT.
17	ALL PIPING SHALL BE ROUTED AS CLOSE TO AND PARALLEL TO THE BUILDING STRUCTURE AS POSSIBLE TO MAINTAIN GRADIENT AND BE INSTALLED AT A COMMON ELEVATION WHEREVER PRACTICAL.
18	ALL WORK FOR ROOF PENETRATIONS SHALL BE COORDINATED AND APPROVED BY THE CONTRACTOR WHO WILL MAINTAIN THE ROOF WARRANTY SO THAT ANY WARRANTY WILL NOT BE VOIDED.
19	ALL WATER PIPING WITHIN EXTERIOR WALLS SHALL BE RUN OVER BUILDING INSULATION (ON THE INTERIOR SIDE OF THE WALL).
20	VENTS SHALL BE ROUTED THROUGH THE ROOF A MINIMUM OF 10'-0" FROM AIR INTAKES, COORDINATE WITH ARCHITECTURAL PLANS.
21	ALL 1.5" TO 3" DIAMETER SANITARY PIPING SHALL BE SLOPED AT 1/4" PER FOOT UNLESS OTHERWISE NOTED.
22	ALL 4" TO 8" DIAMETER SANITARY PIPING SHALL BE SLOPED AT 1/8" PER FOOT UNLESS OTHERWISE NOTED.
23	PROVIDE STOPS AT ALL FIXTURES, STOPS IN PUBLIC BATHROOMS SHALL BE KEYED.
24	ALL FIXTURE VENTING TO AMIN BRANCHES, UNLESS NOTED, SHALL BE SIZED PER THE DRAIN, WASTE, AND VENT (DWV) SCHEDULE.
25	PROVIDE SHOCK ABSORBERS ON ALL BRANCH PIPING SERVICING WATER CLOSETS AND QUICK ACTING VALVES, SIZE, AND LOCATION PER PDI STANDARDS.
26	COORDINATE FLOOR DRAIN LOCATIONS WITH FLOOR SLOPE, REFER TO ARCHITECTURAL DRAWINGS.
27	CONTRACTOR SHALL COORDINATE ROUTING OF ALL VENTS THROUGH ROOF WITH ARCHITECT.
28	SEAL ALL PIPE PENETRATIONS THROUGH FIRE RATED WALLS WITH UL LISTED FIRE RATED COMPOUND.
29	ALL PIPING SHALL BE REAMED TO BE FREE OF BURRS. KEEP PIPING FREE FROM SCALE AND DIRT, PROTECT OPEN END OF PIPE ENDS WHEVEVER WORK IS SUSPENDED DURING CONSTRUCTION TO PREVENT FOREIGN MATERIAL ENTERING & LODGING THERE.
30	PROVIDE A LOCAL ISOLATION VALVE IN THE WATER SUPPLY TO EACH FIXTURE, RISER, GROUPING OF FIXTURES, OR PIECE OF EQUIPMENT, ALL WALL HYDRANTS SHALL BE CONTROLLED BY A DEDICATED ISOLATION VALVE WITHIN THE BUILDING.

NOT ALL NOTES LISTED ABOVE APPLY TO THIS PROJECT.
NOTES SHALL BE USED IN CONJUNCTION WITH PLANS AND SPECIFICATIONS.

PLUMBING FIXTURE SCHEDULE

FIXTURE TAG	FIXTURE DATA			CONNECTIONS				SPECIFICATION
	MANUFACTURER	MODEL NAME	MODEL NO.	CW	HW	SAN	VENT	
CO-1	SIOUX CHIEF	ADJUSTABLE CLEANOUT	834 SERIES	-	-	4"	-	PVC SCHEDULE 40 FLOOR CLEANOUT, INTERNAL CLEANOUT PLUG, ADJUSTABLE HOUSING WITH MEDIUM-DUTY ROUND NICKEL BRONZE COVER.
CO-2	SIOUX CHIEF	CLEANOUT COVER KIT	873 SERIES	-	-	3"/4"	-	430 STAINLESS STEEL ADJUSTABLE WALL CLEANOUT COVER FOR USE WITH CLEANOUT AS APPLICABLE TO INSTALLED CONDITION.
FD-1	SIOUX CHIEF	FLOOR DRAIN	832-64NR	-	-	3"/4"	2"	3"/4" ADJUSTABLE FLOOR DRAIN; PROVIDE OVAL NICKEL CONDENSATE FUNNEL ACCESSORY 863-FNO AND 1/2" PRIMER TRAP WITH PLUG.
FD-2	SIOUX CHIEF	FLOOR DRAIN	822-3PNR	-	-	3"	2"	3" ABOVE GRADE FLASHING FLOOR DRAIN; PROVIDE OVAL NICKEL CONDENSATE FUNNEL ACCESSORY 863-FNO AND 1/2" PRIMER TRAP WITH PLUG.
LAV-1	KOHLER	KATHRYN	K-2297	1/2"	1/2"	1-1/2"	1-1/2"	UNDER-MOUNT BATHROOM SINK, VITREOUS CHINA, ADA COMPLIANT, COLOR SELECTED BY ARCHITECT.
LAV-2	KOHLER	VERTICYL	K-8189	1/2"	1/2"	1-1/2"	1-1/2"	UNDER-MOUNT BATHROOM SINK, VITREOUS CHINA, ADA COMPLIANT, COLOR SELECTED BY ARCHITECT.
WC-1A	GERBER	NORTH POINT	G0025733	1-1/2"	-	3"/4"	2"	ADA COMPLIANT, ELONGATED TOP SPUD BOWL, 1.1GPF OR 1.28GPF HIGH EFFICENCY RO 1.6GPF LOW CONSUMPTION, INCLUDE ELONGATED TOILET SEAT AND FLUSHOMETER
WC-1	GERBER	NORTH POINT	G0025733	1-1/2"	-	3"/4"	2"	ADA COMPLIANT, ELONGATED TOP SPUD BOWL, 1.1GPF OR 1.28GPF HIGH EFFICENCY RO 1.6GPF LOW CONSUMPTION, INCLUDE ELONGATED TOILET SEAT AND FLUSHOMETER
U-1	GERBER	NORTH POINT	GHE27710	3/4"	-	2"	1-1/2"	WALL HUNG URINAL, TOP SPUD, 1.0 GPF, INTEGRAL STRAINER, ADA COMPLIANT, INCLUDE FLUSHOMETER
EWC-1	ELKAY	EZH20	EMABFTL8WSLK	1/2"	-	2"	1-1/2"	ADA BI-LEVEL WATER COOLER, BOTTLE FILLING STATION, 8 GPH, WALL MOUNT, 115V/60HZ, 6 F.L.A
MS-1	KROWN	FLOOR MOUNT UTILITY SINK	MS-1818	1/2"	1/2"	3"	2"	FLOOR MOUNT UTILITY SINK, 18X18, STAINLESS STEEL. PROVIDE UTILITY SINK FAUCET

NOTES:
1. SEE PLANS AND RISER DIAGRAMS FOR SANITARY AND VENT SIZES AND CONNECTIONS.
2. COORDINATE ALL FIXTURES, SELECTIONS, AND REQUIREMENTS WITH ARCHITECT.
3. INSULATE ALL PIPING BELOW LAVATORIES WITH PRE-FORMED HEAVY-DUTY INSULATION SYSTEM.
4. PROVIDE TRAP PRIMERS FOR ALL FLOOR DRAINS.
5. PROVIDE ALL REQUIRED COMPONENTS FOR COMPLETE FIXTURE ROUGH-IN, I.E. SUPPLIES, STOPS, TRAPS, CARRIERS, GRID
6. THE PRICING FOR THE FIXTURES IN THE DOCUMENTS ARE TO BE WHAT IS SPECIFIED AND WE WILL TAKE THE SUBSTITUTE ONLY AS SUGGESTED AS DEDUCT ALTERNATES.

PIPING MATERIAL SCHEDULE

PIPING APPLICATION	MATERIAL	SIZE	DETAIL	STANDARD
DOMESTIC WATER	COPPER TUBING	> 2 INCH	TYPE L COPPER, HARD DRAWN	ASTM B88
DOMESTIC WATER	CPVC	< 2 INCH	CPVC FLOWGUARD GOLD	ASTM F441
DOMESTIC WATER	POLYETHYLENE	-	CROSS LINKED POLYETHYLENE	ASTM F877
SANITARY PIPING - BELOW GRADE	PVC	ALL	PVC	ASTM D2665
SANITARY PIPING - ABOVE GRADE	PVC	2" AND LESS	PVC	ASTM D2665
SANITARY PIPING - ABOVE GRADE	CAST IRON	> 2"	SCHEDULE 40 STEEL	ASTM A74
STORM PIPING - BELOW GRADE	PVC	ALL	PVC	ASTM D2665
STORM PIPING - ABOVE GRADE	PVC	ALL	PVC	ASTM D2665
VENT PIPING	PVC	ALL	PVC	ASTM D2665
NATURAL GAS	STEEL	ALL	SCHEDULE 40 STEEL	ASTM A53
NATURAL GAS	CSST	UNDERGROUND	STAINLESS STEEL TUBING WITH YELLOW POLYETHYLENE JACKET	ASTM A240
NATURAL GAS	CSST	ABOVE GROUND	STAINLESS STEEL TUBING WITH POLYETHYLENE JACKET	ASTM A240

NOTES:
1. ROUTE PIPING PARALLEL TO BUILDING STRUCTURE AND MAINTAIN GRADIENT.
2. GROUP PIPING WHENEVER PRACTICAL AT COMMON LEVELS.
3. ALL PIPE PENETRATIONS THROUGH FLOORS, WALLS AND PARTITIONS SHALL BE MADE WITH SLEEVES.

WATER HEATER SCHEDULE

TAG No.	STORAGE (GAL.)	RECOVERY GPH	RECOVERY TEMP RISE(°F)	ELECTRICAL DATA WATTAGE	ELECTRICAL DATA VOLTAGE	BASED ON MANUFACTURER	BASED ON MODEL	NOTES
WH-1	55	23	80	4500	208 / 1	BRADFORD WHITE	LE255T3-3	1

NOTES:
1. PROVIDE INLET AND OUTLET TMPERATURE SENSORS, TEMPERATURE AND PRESSURE GAUGES, FLOW SWITCH AND T&P VALVE.

PLUMBING SYMBOLS & ABBREVIATIONS

—— G ——	GAS (G)		CHECK VALVE
— — — — —	VENT (V)		SHUT-OFF VALVE
— — — — —	SANITARY BELOW FLOOR (SAN)		BALL VALVE
—— - ——	COLD WATER (CW)	A.F.F.	ABOVE FINISHED FLOOR
—-- —-- —	HOT WATER (HW)	CO	CLEAN OUT
—— - - - ——	HOT WATER RETURN (HWR)	FD	FLOOR DRAIN
— — — ST — — —	STORM	MB	MOP BASIN
—///— —///—	BELOW GRADE PIPE	VTR	VENT THROUGH ROOF
——o	ELBOW TURNED UP		HOSE BIBB OR WALL HYDRANT
——o	ELBOW TURNED DOWN		

PIPING INSULATION SCHEDULE

PIPE	PIPE SIZES	THICKNESS	MATERIAL	MANUFACTURER	MINIUM "K" VALUE
DOMESTIC WATER	ALL	1 INCH	FIBERGLASS	OWENS-CORNING	0.23
STORM WATER	ALL	1 INCH	FIBERGLASS	OWENS-CORNING	0.23

NOTES:
1. INSULATION SHALL BE APPLIED OVER CLEAN, DRY PIPE WITH ALL JOINTS BUTTED FIRMLY TOGETHER, SECURED ACCORDING TO MANUFACTURER'S INSTRUCTIONS. FINISH INSULATION AT SUPPORTS, PROTRUSIONS, AND INTERRUPTIONS. ALL PIPES CONVEYING FLUIDS BELOW 70 DEGREES SHALL HAVE A CONTINUOUS VAPOR BARRIER INCLUDING ALL FITTINGS AND VALVES.
2. ALL INSULATION SHALL BE APPLIED IN FULL ACCORDANCE WITH THE NANUFACTURER'S RECOMMENDATIONS. ALL INSULATION SHALL COMPLY WITH 25/50 FLAME AND SMOKE HAZARD RATINGS PER ASTM E-84, NFPA 255 AND UL 723.
3. ALL PIPING CONVEYING FLUIDS WITH TEMPERATURES LESS THAN 70 DEGREES FAHRENHEIT SHALL BE PROVIDED WITH INSULATION HAVING CONTINUOUS REINFORCED VAPOR BARRIER.

ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE

THE CONTRACTOR SHALL VERIFY THE SCALE OF ALL DRAWINGS PRODUCED OR VIEWED FROM AN ELECTRONIC FILE

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HOMESTEAD, PA 15120 BDA # - 230107

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Project
Larimer School Gym and Auditorium Core-Shell Rehab

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Seal
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REGISTERED PROFESSIONAL
GARY M. ALBERT
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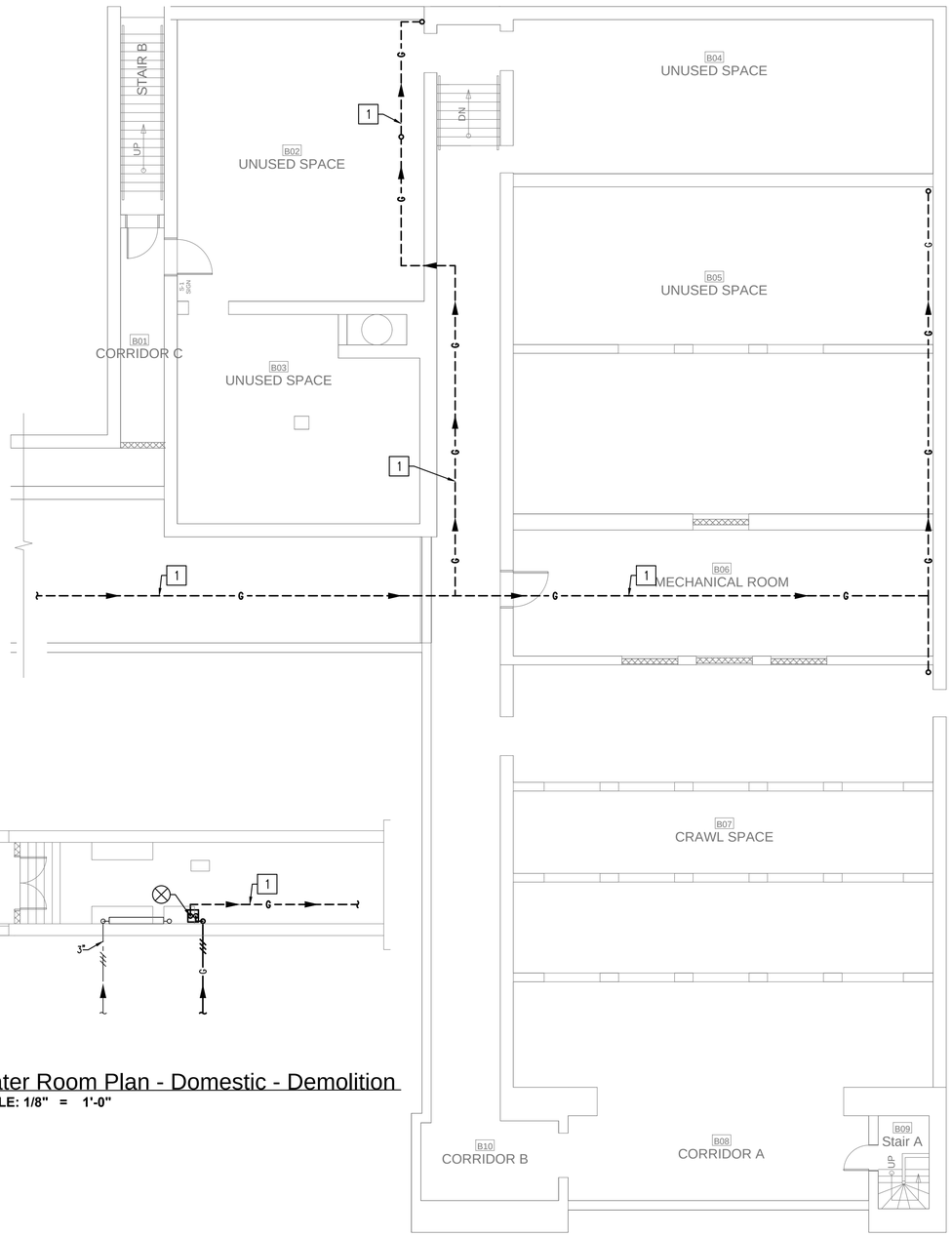
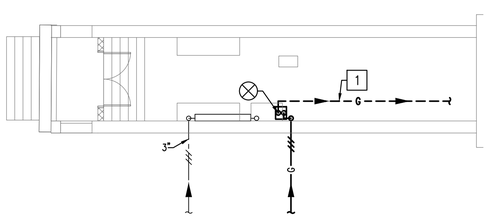
PE-062003

Sheet Title
COVER SHEET
PLUMBING

Drawn by:
Scale: AS NOTED
Date Issued: July 20, 2023
Revisions: 1 2 3 4 5

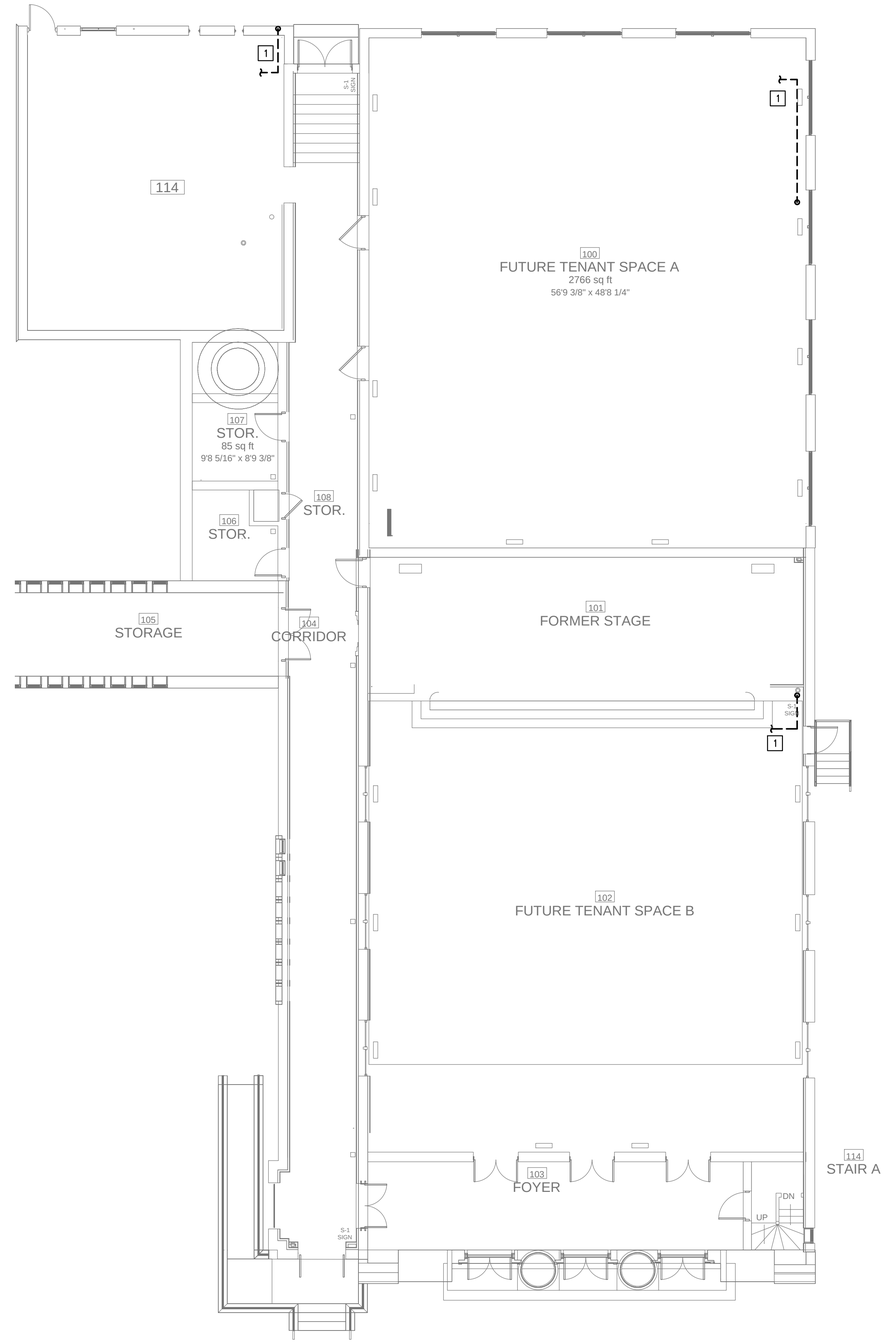
Sheet Number
P0.0





2 Water Room Plan - Domestic - Demolition
SCALE: 1/8" = 1'-0"

1 Basement Floor Plan - Domestic - Demolition
SCALE: 1/8" = 1'-0"



2 First Floor Plan - Domestic - Demolition
SCALE: 1/8" = 1'-0"

KEYED DRAWING NOTES:

1 REMOVE GAS LINE TO POINT INDICATED AND CAP AT GAS METER.

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Client
Urban Redevelopment Authority of Pittsburgh

Project
Larimer School Gym and Auditorium Core-Shell Rehab

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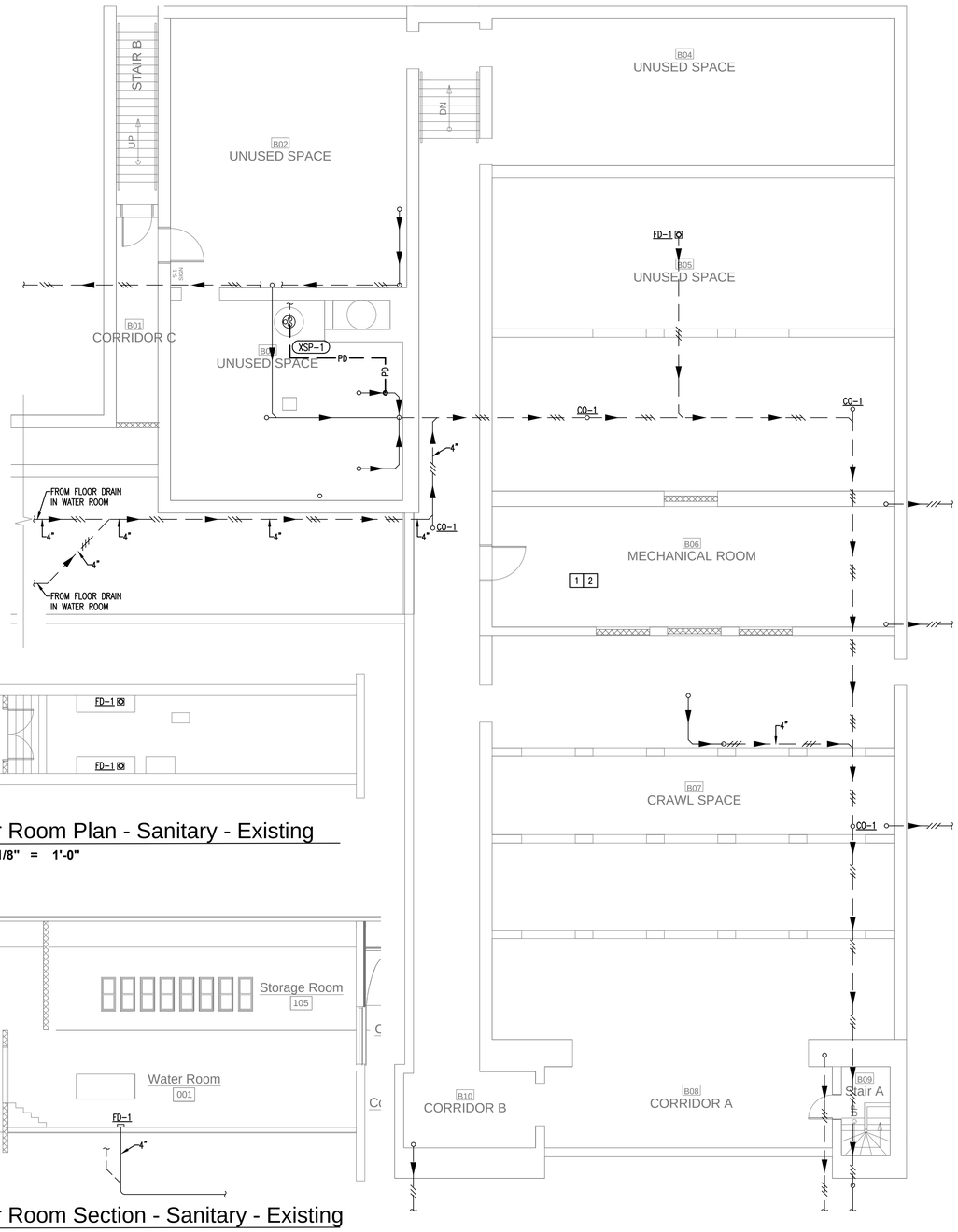
540 Larimer Avenue
Pittsburgh, PA 15206

Seal
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
GARY M. ALBERT
ENGINEER
PE-062003

Sheet Title
BASEMENT & FIRST FLOOR PLANS - DOMESTIC DEMOLITION

Drawn by:
Scale: AS NOTED
Date issued: July 20, 2023
Revisions: 1 2 3 4 5

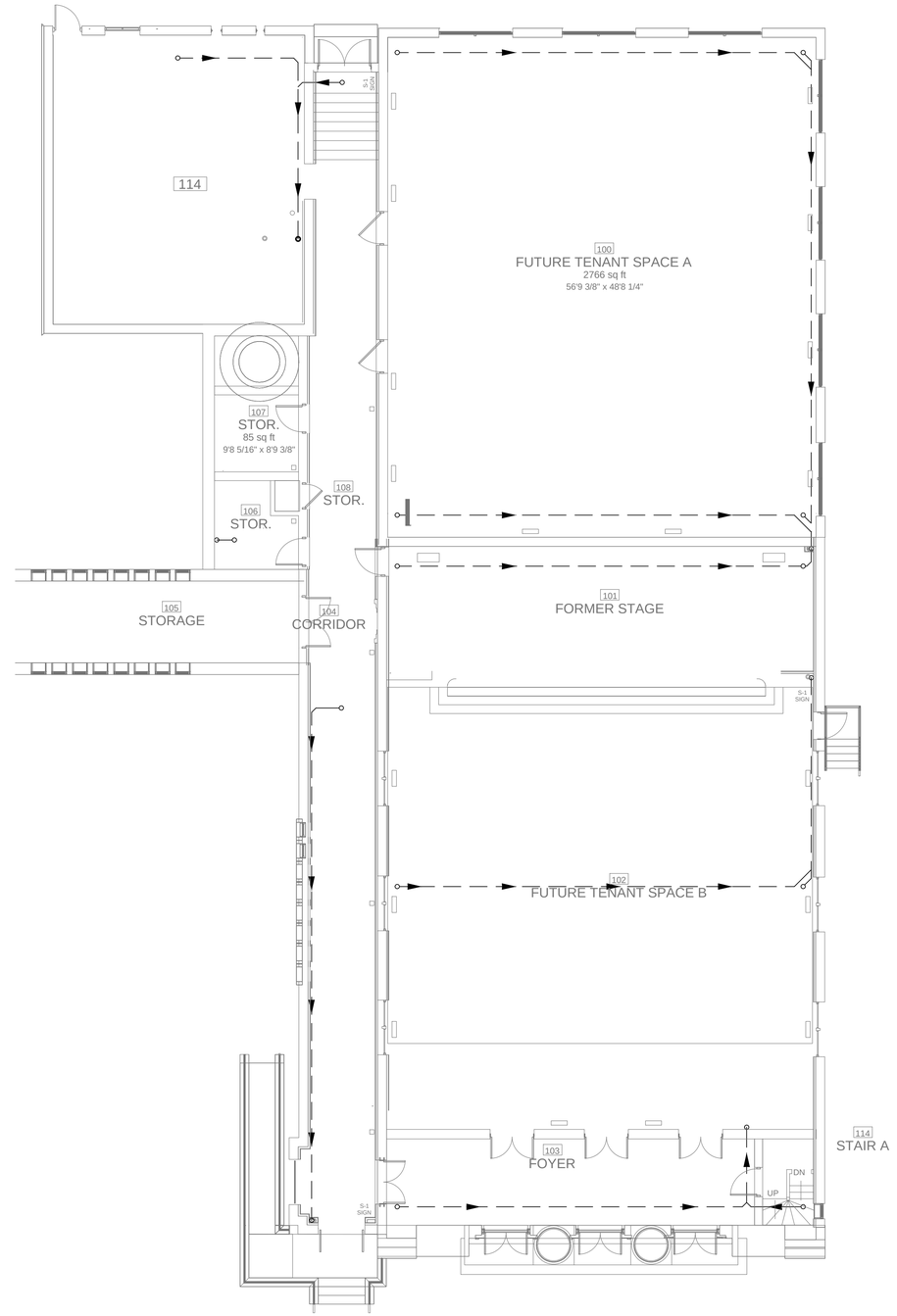
Sheet Number
P1.0



3 Water Room Plan - Sanitary - Existing
SCALE: 1/8" = 1'-0"

4 Water Room Section - Sanitary - Existing
SCALE: 1/8" = 1'-0"

1 Basement Floor Plan - Sanitary - Existing 1 2
SCALE: 1/8" = 1'-0"



2 First Floor Plan - Sanitary - Existing 1 2
SCALE: 1/8" = 1'-0"

KEYED DRAWING NOTES:

1. STORM PIPING TO REMAIN.
2. SANITARY PIPING TO REMAIN.
3. EXISTING DUPLEX PUMPING SYSTEM.

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Sheet Title
BASEMENT & FIRST FLOOR PLANS - SANITARY EXISTING

Drawn by: MGK
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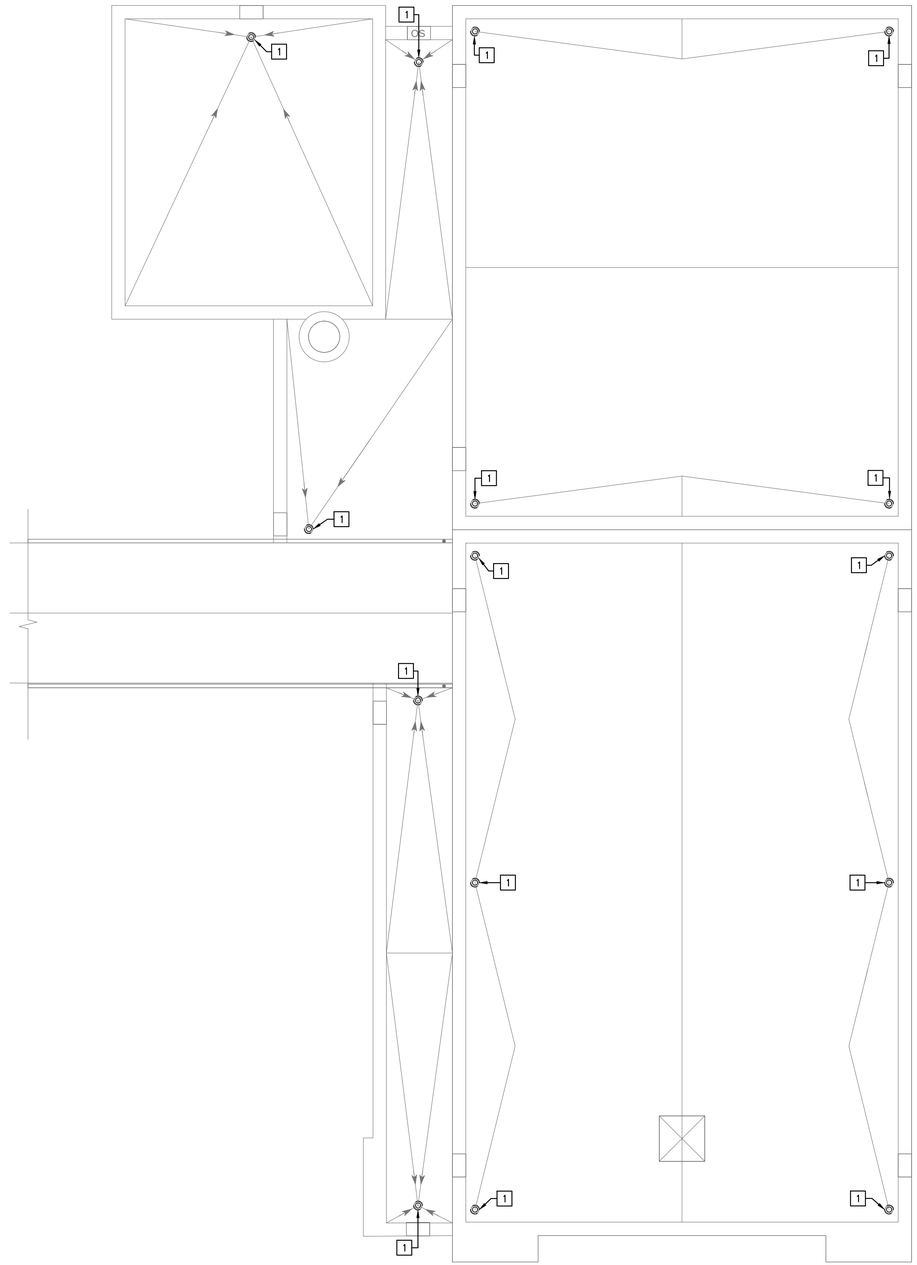
P1.1



1 Roof Plan - Sanitary - Existing

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

KEYED DRAWING NOTES:

1 EXISTING ROOF DRAIN TO REMAIN.

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Sheet Title

ROOF PLAN - SANITARY EXISTING

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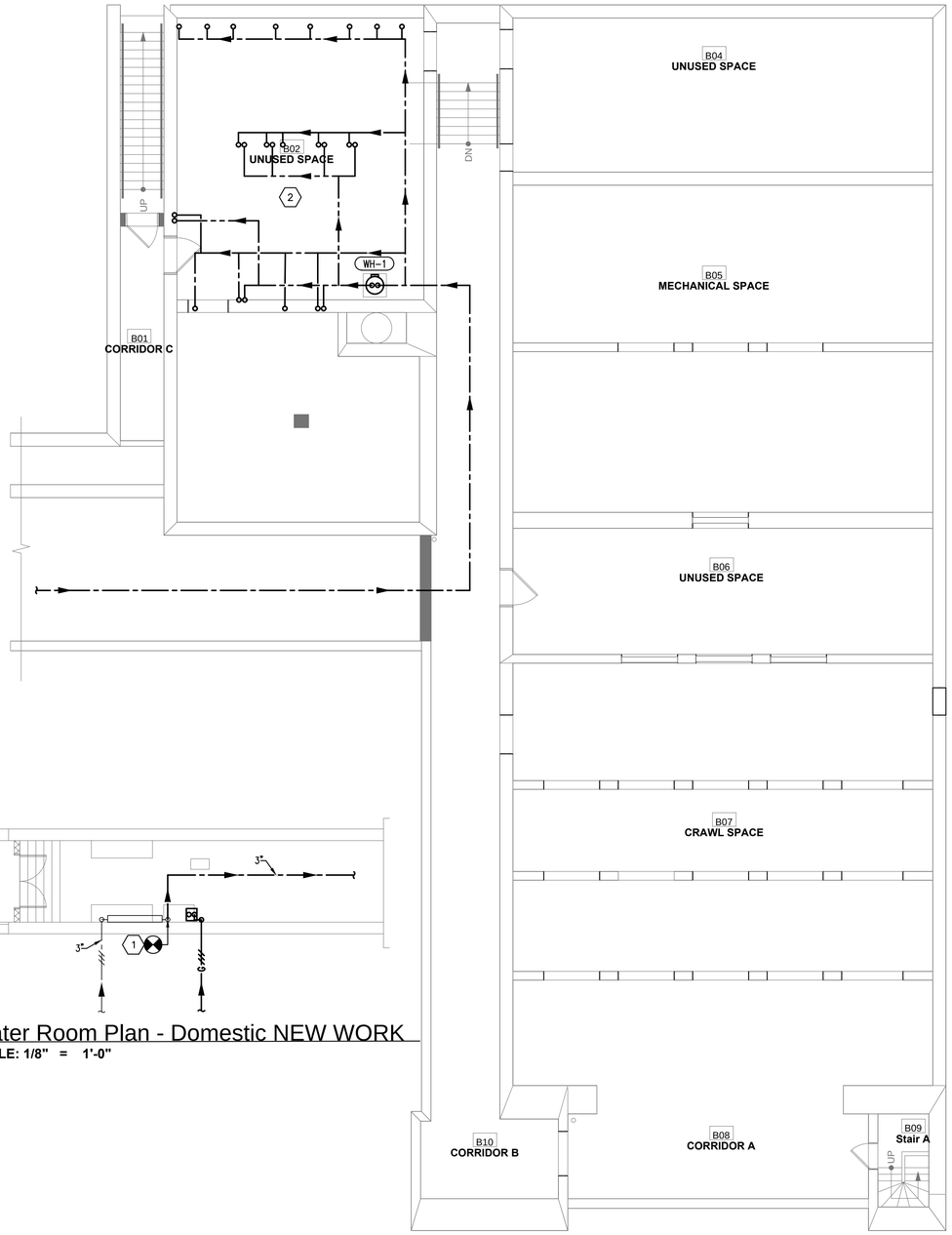
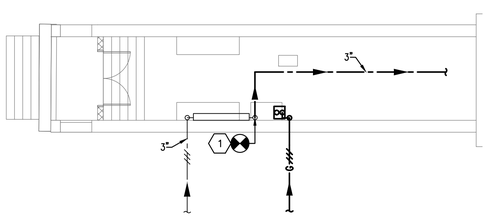
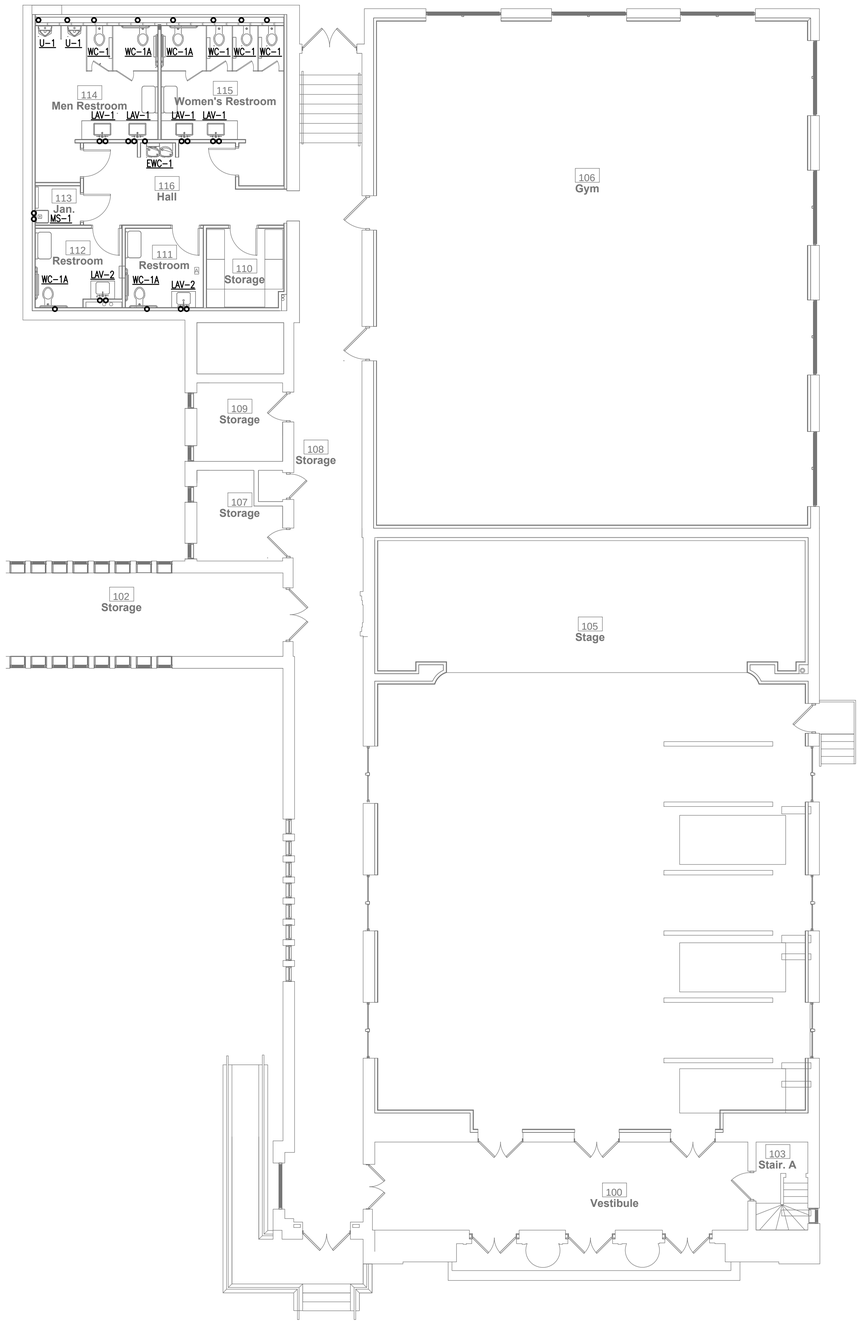




2 Water Room Plan - Domestic NEW WORK
SCALE: 1/8" = 1'-0"

1 Basement Floor Plan - Domestic - NEW WORK
SCALE: 1/8" = 1'-0"



2 First Floor Plan - Domestic - NEW WORK
SCALE: 1/8" = 1'-0"

KEYED DRAWING NOTES:

1. CONNECT NEW 3" CW PIPE TO EXISTING DOMESTIC WATER SERVICE ENTRANCE.
2. CW AND HW UP TO SERVE FIXTURES ON FIRST FLOOR.

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Sheet Title
BASEMENT AND FIRST FLOOR PLAN DOMESTIC NEW WORK

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Revisions: 1 2 3 4 5

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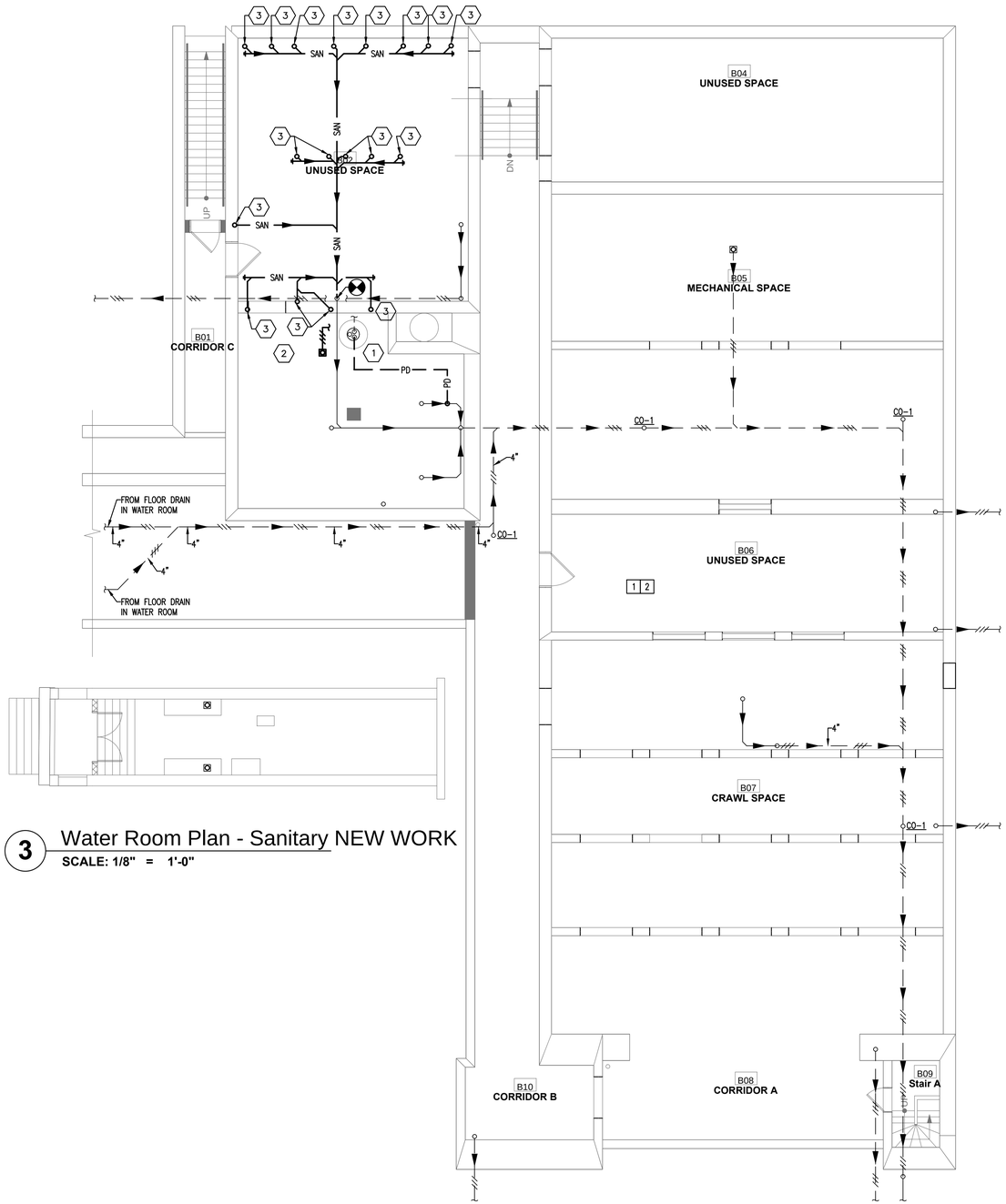
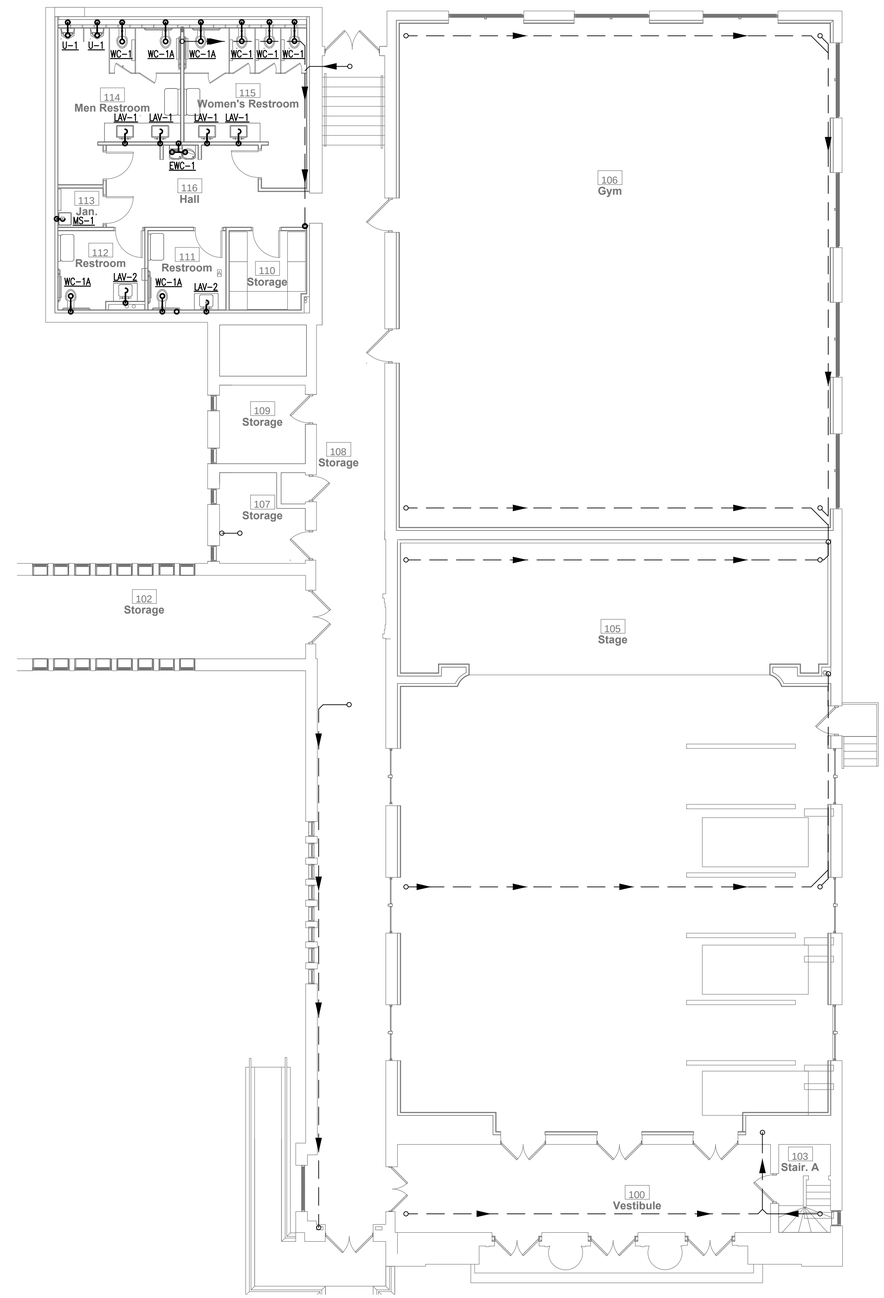


3 Water Room Plan - Sanitary NEW WORK

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

1 Basement Floor Plan - Sanitary NEW WORK

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



2 First Floor Plan - Sanitary NEW WORK

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

KEYED DRAWING NOTES:

1. EXISTING SUMP PUMP.
2. COORDINATE LOCATION OF FLOOR DRAIN IN FIELD.
3. SANITARY PIPING FROM PLUMBING FIXTURE ABOVE.

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Sheet Title
BASEMENT & FIRST FLOOR PLAN SANITARY NEW WORK

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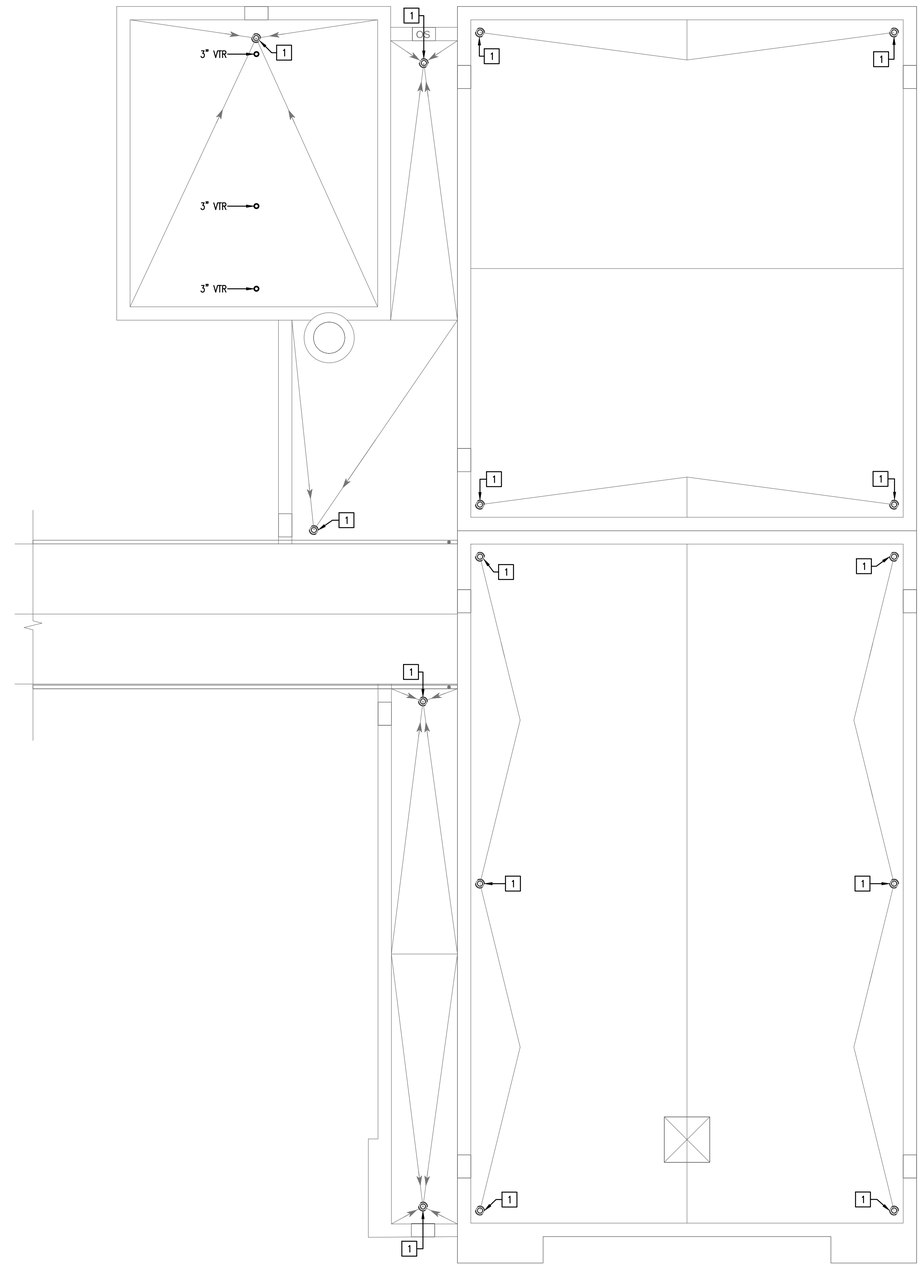

1 Roof Plan - Sanitary NEW WORK

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

KEYED DRAWING NOTES:

1 EXISTING ROOF DRAIN TO REMAIN.

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Sheet Title

ROOF PLAN
SANITARY NEW WORK

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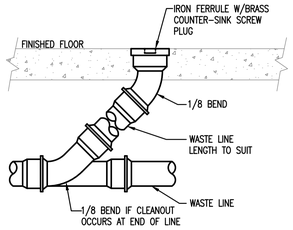
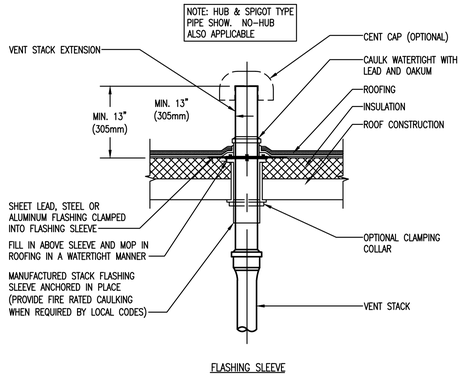


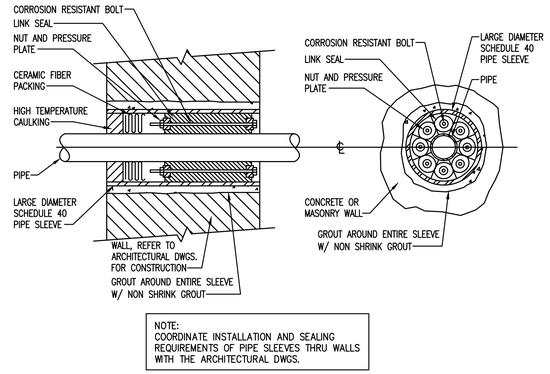
1 CLEANOUT DETAIL

SCALE: NONE



2 VENT THRU ROOF (VTR) DETAIL

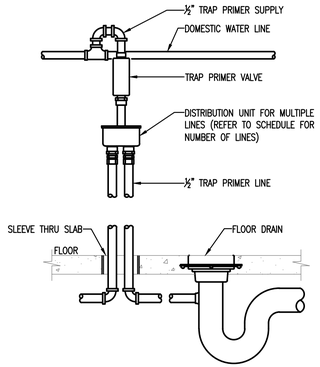
SCALE: NONE



NOTE:
COORDINATE INSTALLATION AND SEALING REQUIREMENTS OF PIPE SLEEVES THRU WALLS WITH THE ARCHITECTURAL DWGS.

3 EXTERIOR PIPE WALL SLEEVE DETAIL

SCALE: NONE



4 TRAP SEAL PRIMER DETAIL

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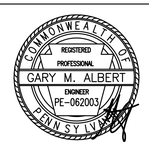

Sheet Title
DETAILS
PLUMBING

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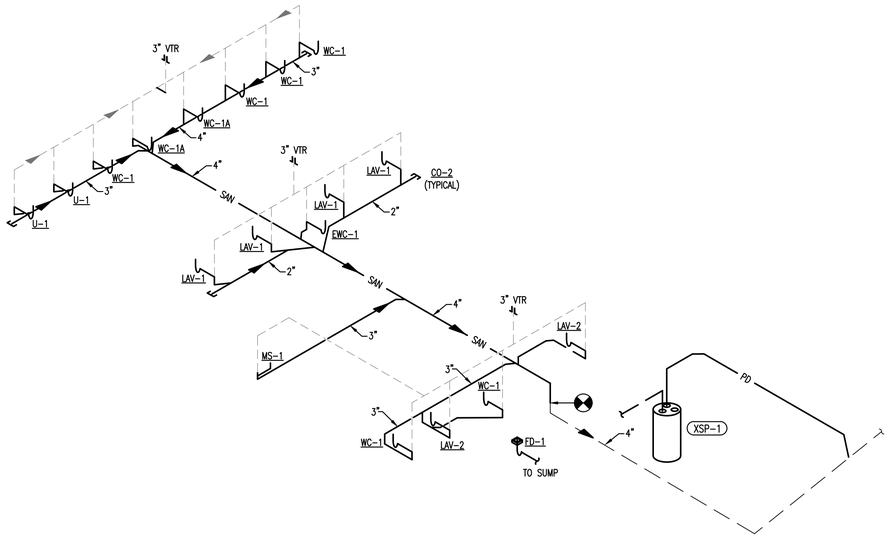
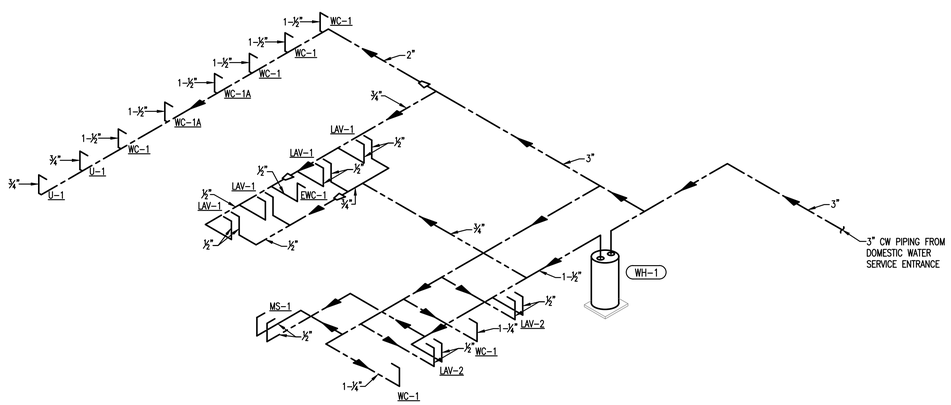


1 Riser Diagram - Sanitary
NO SCALE



2 Riser Diagram - Domestic
NO SCALE

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RISERS
PLUMBING

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PLUMBING SPECIFICATIONS

A. GENERAL

1. CONFORM TO ALL GENERAL AND SPECIAL CONDITIONS OF CONTRACT AS SPECIFIED BY OWNER/ARCHITECT.

2. SPECIFICATIONS ARE APPLICABLE TO ALL CONTRACTORS AND/OR SUBCONTRACTORS FOR PLUMBING SYSTEMS.

3. CHECK OTHER PLANS AND SPECIFICATIONS AND FULLY COORDINATE WITH OTHER TRADES, AND OWNER/ARCHITECT REQUIREMENTS.

4. VISIT SITE, CHECK FACILITIES AND CONDITIONS, MAKE ALL NECESSARY OBSERVATIONS, MEASUREMENTS, NOTE CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED, AND TAKE ALL ITEMS INTO CONSIDERATION IN BID.

5. SYSTEMS ARE TO BE COMPLETE AND WORKABLE IN ALL RESPECTS, PLACED IN OPERATION AND PROPERLY ADJUSTED.

6. EACH CONTRACTOR SHALL PROVIDE FOR HIS OWN CLEAN-UP, REMOVAL AND LEGAL DISPOSAL OF ALL CONSTRUCTION WASTE DAILY. CONTRACTOR SHALL PROTECT THEIR WORK AND EXISTING OR ADJACENT PROPERTY AGAINST WEATHER, TO MAINTAIN THEIR WORK, MATERIALS, APPARATUS AND FIXTURES FREE FROM INJURY OR DAMAGE. ANY WORK DAMAGED BY FAILURE TO PROVIDE PROTECTION REQUIRED, SHALL BE REMOVED AND REPLACED WITH NEW WORK AT THE CONTRACTOR'S EXPENSE.

7. CONTRACTORS MUST CONFIRM ALL UTILITY CONNECTION POINTS IN FIELD, PRIOR TO STARTING WORK.

8. ARRANGE FOR AND OBTAIN OWNER'S AND INSURANCE REPRESENTATIVE'S PERMISSION FOR ANY SERVICE SHUTDOWNS.

9. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, SEQUENCES OF CONSTRUCTION AND THE SAFETY OF WORKMEN.

10. NO PIPING, CONTROLS, ETC., SHALL BE INSTALLED OR ROUTED ABOVE ELECTRICAL PANELS AND EQUIPMENT OR THROUGH ELEVATOR MACHINE ROOMS.

B. CODES, PERMITS, STANDARDS AND REGULATIONS

1. CONFORM TO ALL APPLICABLE CODES (LOCAL, STATE, NATIONAL CODES, NFPA, OSHA, ETC.), GOVERNMENT REGULATIONS, UTILITY COMPANY REQUIREMENTS, AND APPLICABLE STANDARDS. INCLUDING PA DEPARTMENT OF HEALTH.

2. OBTAIN PERMITS AND PAY ALL FEES. ARRANGE FOR ALL REQUIRED INSPECTIONS AND APPROVALS.

C. DRAWINGS

1. THE SYSTEMS AS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC. CONFIRM ALL DIMENSIONS BY FIELD MEASUREMENT.

2. THE EXACT LOCATIONS FOR APPARATUS, FIXTURES, EQUIPMENT AND PIPING WHICH IS NOT COVERED BY DRAWINGS, SHALL BE OBTAINED FROM THE OWNER/ARCHITECT OR HIS REPRESENTATIVE IN THE FIELD, AND THE WORK SHALL BE LAID OUT ACCORDINGLY.

3. DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT ONE ANOTHER. ANY MATERIALS OR LABOR CALLED FOR IN ONE BUT NOT THE OTHER SHALL BE FURNISHED AS IF BOTH WERE MENTIONED IN THE SPECIFICATIONS AND SHOWN ON THE DRAWINGS.

D. BASE EQUIPMENT, MATERIALS AND SUBSTITUTIONS

1. ALL EQUIPMENT AND MATERIALS SHALL BE NEW, FREE OF DEFECTS AND U.L. LABELED UNLESS OTHERWISE NOTED.

2. BASE BID MANUFACTURERS ARE INCLUDED IN SPECIFICATIONS OR LISTED IN SCHEDULE ON DRAWING. ANY OTHER MANUFACTURER IS CONSIDERED A SUBSTITUTION.

3. THE NAME OR MAKE OF ANY ARTICLE, DEVICE, MATERIAL, FORM OF CONSTRUCTION, FIXTURE, ETC., STATED IN THIS SPECIFICATION, WHETHER OR NOT THE WORDS "OR APPROVED EQUIVALENT" ARE USED, SHALL BE KNOWN AS A "STANDARD".

4. ALL PROPOSALS SHALL BE BASED ON "STANDARDS" SPECIFIED.

5. THE EQUIPMENT SCHEDULES ON DRAWINGS INDICATE MANUFACTURERS EQUIPMENT MODEL NUMBERS THAT DESIGN HAS BEEN BASED ON. THE USE OF OTHER MANUFACTURERS EQUIPMENT THAT IS LISTED AS ACCEPTABLE ALTERNATES THAT ENTAILS STRUCTURAL CHANGES, CHANGES IN PARTITION OPENINGS, CHANGE OF PIPE SIZES & BUILDING CONFIGURATION, ETC., IS THIS CONTRACTOR'S RESPONSIBILITY. ANY ADDITIONAL COST OF SUCH CHANGES SHALL BE PAID BY THE CONTRACTOR SUBMITTING THE ACCEPTABLE ALTERNATES WHICH NECESSITATES CHANGES FOR INSTALLATION OF SUBMITTED ALTERNATE EQUIPMENT, EVEN THOUGH SUCH COSTS MAY BE PART OF ANOTHER DIVISION OF WORK.

6. SUBSTITUTIONS ARE SUBJECT TO THE APPROVAL OF THE OWNER. IF SUBSTITUTION IS SUBMITTED, IT IS THE CONTRACTOR'S RESPONSIBILITY TO EVALUATE IT AND CERTIFY THAT THE SUBSTITUTION IS EQUIVALENT IN ALL RESPECTS TO THE BASE SPECIFICATIONS.

7. IF SUBSTITUTIONS ARE APPROVED, NOTIFY ALL OTHER CONTRACTORS, SUBCONTRACTORS OR TRADES AFFECTED BY THE SUBSTITUTION AND FULLY COORDINATE CHANGES. ANY COSTS RESULTING FROM THE SUBSTITUTION, WHETHER BY CONTRACTOR OR OTHERS, SHALL BE THE RESPONSIBILITY OF AND PAID FOR BY SUBSTITUTING CONTRACTOR. APPROVED SHOP DRAWINGS BY OWNER/ARCHITECT DOES NOT ABSOLVE THIS CONTRACTOR FROM THIS RESPONSIBILITY.

8. ALL EQUIPMENT SHALL BE INSTALLED IN FULL ACCORDANCE WITH THE MANUFACTURER'S DATA AND INSTALLATION INSTRUCTIONS. IT IS THIS CONTRACTOR'S RESPONSIBILITY TO CHECK AND CONFORM TO THESE REQUIREMENTS PRIOR TO STARTING WORK.

E. CHECK, TEST, START, ADJUST, BALANCE AND INSTRUCTIONS

1. AFTER INSTALLATION, CHECK ALL EQUIPMENT, AND PERFORM START UP IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

2. ALL PIPING SHALL BE TESTED AND FREE OF LEAKS.

3. CONCEALED OR INSULATED WORK SHALL REMAIN UNCOVERED UNTIL REQUIRED TESTS HAVE BEEN COMPLETED, BUT IF CONSTRUCTION SCHEDULE REQUIRES IT, ARRANGE FOR PRIOR TESTS ON PARTS OF SYSTEM AS APPROVED BY THE TENANT.

4. BALANCE ALL SYSTEMS, CALIBRATE CONTROLS, CHECK FOR PROPER OPERATION AND SEQUENCE UNDER ALL CONDITIONS AND MAKE ALL NECESSARY ADJUSTMENTS.

5. INSTRUCT OWNER/ARCHITECT IN OPERATION OF SYSTEMS AND SUBMIT OPERATING AND MAINTENANCE MANUAL ON ALL EQUIPMENT AND SYSTEMS.

6. CLEAN AND FLUSH DOMESTIC WATER SYSTEM.

F. CUTTING, PATCHING AND DRILLING

1. ALL CUTTING AND PATCHING OF THE BUILDING CONSTRUCTION REQUIRED FOR THIS WORK SHALL BE BY THIS CONTRACTOR UNLESS NOTED OTHERWISE AND CONFIRMED AS TO SIZE AND LOCATION PRIOR TO NEW CONSTRUCTION. CUTTING SHALL BE IN A NEAT AND WORKMANLIKE MANNER.

2. NEATLY SAW CUT ALL RECTANGULAR OPENINGS, SET SLEEVE THROUGH OPENING, AND FINISH PATCH OR PROVIDE TRIM FLANGE AROUND OPENING.

3. NEATLY SAW CUT FLOORS FOR SEWER INSTALLATION AND PATCH FLOOR TO MATCH EXISTING, INCLUDING FLOOR COVERING.

4. CORE DRILL AND SLEEVE ALL ROUND OPENINGS.

5. DO NOT CUT ANY STRUCTURAL COMPONENTS WITHOUT OWNER/ARCHITECT & ENGINEER'S APPROVAL.

6. PATCH AND FINISH TO MATCH ADJACENT AREAS THAT HAVE BEEN CUT, DAMAGED OR MODIFIED AS A RESULT OF THE INSTALLATION OF THE MECHANICAL OR ELECTRICAL EQUIPMENT. FIRE STOP ALL PENETRATIONS OF FIRE RATED CONSTRUCTION IN A CODE APPROVED MANNER.

7. INFORMATION REGARDING REQUIRED PIPE OPENINGS IN WALLS, FLOORS, CHASES, ETC., AND CONCRETE EQUIPMENT PADS OR FOUNDATIONS SHALL BE GIVEN TO THE GENERAL CONTRACTOR BY THIS CONTRACTOR PRIOR TO THE CONSTRUCTION PERIOD. IF THIS CONTRACTOR FAILS TO COMPLY WITH THIS REQUEST, OR IF INCORRECT INFORMATION IS GIVEN, THE NECESSARY CUTTING AND PATCHING WILL BE PERFORMED BY THE GENERAL CONTRACTOR, AT THIS CONTRACTOR'S EXPENSE.

G. SHOP DRAWING SUBMITTALS

1. SUBMIT SHOP DRAWINGS FOR PLUMBING EQUIPMENT AND PIPING SPECIFICATIONS AND EQUIPMENT WITH ADEQUATE DETAILS AND SCALES TO CLEARLY SHOW CONSTRUCTION. INDICATE THE OPERATING CHARACTERISTICS FOR EACH REQUIRED ITEM. CLEARLY IDENTIFY EACH ITEM ON THE SUBMITTAL AS TO MARK, LOCATION AND USE, USING SAME IDENTIFICATION AS PROVIDED ON DESIGN DRAWINGS.

2. PIPING DRAWINGS SHALL BE FULLY DIMENSIONED BASED ON FIELD VERIFIED BUILDING CLEARANCES AND ARCHITECTURAL CEILING LAYOUTS, AND INDICATE STRUCTURAL, LIGHTING, DUCTWORK AND PIPING AT ALL CRITICAL LOCATIONS.

3. CONTRACTOR SHALL REVIEW AND INDICATE HIS APPROVAL OF EACH SHOP DRAWING PRIOR TO SUBMITTAL FOR REVIEW. DO NOT START WORK OR FABRICATION UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED BY THE OWNER/ARCHITECT AND RETURNED TO THE CONTRACTOR.

4. SUBMITTALS WILL BE REVIEWED ONLY FOR GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS AND NOT FOR DIMENSIONS OR QUANTITIES. THE SUBMITTAL REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PURCHASE OF ANY ITEM IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS OR ITS COMPLETE AND PROPER INSTALLATION.

5. WHERE SUBMITTALS VARY FROM THE CONTRACT REQUIREMENTS, THE CONTRACTOR SHALL CLEARLY INDICATE ON SUBMITTAL OR ACCOMPANYING DOCUMENTS THE NATURE AND REASON FOR VARIATIONS.

6. EACH MANUFACTURER OR HIS REPRESENTATIVE MUST CHECK THE APPLICATION OF HIS EQUIPMENT AND CERTIFY AT TIME OF SHOP DRAWING SUBMITTAL THAT EQUIPMENT HAS BEEN PROPERLY APPLIED AND CAN BE INSTALLED, SERVICED AND MAINTAINED WHERE INDICATED ON DRAWINGS. ADVISE ENGINEER IN WRITING WITH SUBMITTAL DRAWINGS OF ANY POTENTIAL PROBLEMS. THE MANUFACTURER SHALL BE RESPONSIBLE FOR ANY CHANGES THAT MIGHT BE NECESSARY BECAUSE OF PHYSICAL CHARACTERISTICS OF EQUIPMENT THAT HAVE NOT BEEN CALLED TO THE OWNER'S ATTENTION AT THE TIME OF SUBMITTAL.

H. RECORD DRAWINGS

1. EACH CONTRACTOR OR SUBCONTRACTOR SHALL KEEP ONE (1) COMPLETE SET OF THE CONTRACT WORKING DRAWINGS ON THE JOB SITE ON WHICH HE SHALL REGULARLY RECORD ANY DEVIATIONS OR CHANGES FROM SUCH CONTRACT DRAWINGS MADE DURING CONSTRUCTION.

2. THESE DRAWINGS SHALL RECORD THE LOCATION OF ALL CONCEALED EQUIPMENT, PIPING, ELECTRIC SERVICE, SEWERS, WASTES, VENTS, DUCTS, CONDUIT AND OTHER PIPING, BY MEASURED DIMENSIONS TO EACH SUCH ITEM FROM READILY IDENTIFIABLE AND ACCESSIBLE WALLS OR CORNERS OF THE BUILDING. PLANS ALSO SHALL SHOW INVERT ELEVATION OF SEWERS AND TOP ELEVATION OF ALL OTHER BELOW-GRADE LINES.

3. RECORD DRAWINGS SHALL BE KEPT CLEAN AND UNDAMAGED AND SHALL NOT BE USED FOR ANY PURPOSE OTHER THAN RECORDING DEVIATIONS FROM WORKING DRAWINGS AND EXACT LOCATIONS OF CONCEALED WORK.

4. AFTER THE PROJECT IS COMPLETED, THESE SETS OF DRAWINGS SHALL BE DELIVERED TO THE OWNER/ARCHITECT IN GOOD CONDITION, AS A PERMANENT RECORD OF THE INSTALLATION AS ACTUALLY CONSTRUCTED.

I. WARRANTY

1. FULLY WARRANT ALL MATERIALS, EQUIPMENT AND WORKMANSHIP FOR ONE (1) YEAR FROM DATE OF ACCEPTANCE.

2. REPAIR OR REPLACE WITHOUT CHARGE TO THE OWNER/ARCHITECT ALL ITEMS FOUND DEFECTIVE DURING THE WARRANTY PERIOD. IN THE CASE OF REPLACEMENT OR REPAIR DUE TO FAILURE WITHIN THE WARRANTY PERIOD, THE WARRANTY ON THAT PORTION OF THE WORK SHALL BE EXTENDED FOR A MINIMUM PERIOD OF ONE (1) YEAR FROM THE DATE OF SUCH REPLACEMENT OR REPAIR.

PLUMBING SYSTEM

A. SCOPE

1. FURNISH ALL PLUMBING FIXTURES, EQUIPMENT AND MATERIAL INDICATED AND SHOWN ON DRAWINGS AND INSTALL COMPLETE AND PLACE IN PROPER OPERATION.

2. PLUMBING SYSTEMS TO ESSENTIALLY CONSIST OF, BUT SHALL NOT BE LIMITED TO THE FOLLOWING:

   a. SANITARY WASTE AND VENT PIPING.

   b. DOMESTIC WATER.

   c. PLUMBING FIXTURES, DRAINS AND EQUIPMENT WITH ALL REQUIRED TRIM, CONTROLS AND ACCESSORIES.

   d. INSULATION OF PLUMBING ITEMS BOTH FURNISHED BY P.C..

   e. OTHER ITEMS INDICATED ON DRAWINGS OR REQUIRED FOR COMPLETE INSTALLATION.

B. WATER PIPING

1. REFER TO PIPING MATERIAL SCHEDULE FOR DOMESTIC WATER PIPING MATERIALS.

2. ALL DOMESTIC WATER PIPING SYSTEMS SHALL BE DISINFECTED IN ACCORDANCE WITH THE APPLICABLE CODES AND AWWA C651.

3. HYDRAULICALLY PRESSURE TEST ALL PIPING AT THE FULL WORKING PRESSURE FOR A MINIMUM PERIOD OF 24-HOURS. STOP-LEAK COMPOUNDS WILL NOT BE ALLOWED. ALL PRESSURIZED WATER PIPING SYSTEMS SHALL BE RATED FOR 150 PSI WORKING PRESSURE. REPAIR ANY LEAKS AND RETEST TO DEMONSTRATE TIGHTNESS.

C. INSULATION

1. REFER TO PIPING INSULATION SCHEDULE.

2. FITTINGS, VALVES, AND FLANGES SHALL BE INSULATED WITH THE SAME MATERIALS AND OF THE SAME THICKNESS AS THE ADJOINING PIPE.

D. VALVES

1. DOMESTIC WATER BALL VALVES FOR COPPER PIPING UP TO AND INCLUDING 2 1/2 INCHES SHALL BE WATTS SERIES B6000 OR APPROVED EQUIVALENT, 600 PSIG WOG, 2-PIECE, STANDARD PORT BRONZE BALL VALVE WITH NPT FEMALE CONNECTIONS. THE ABOVE BALL VALVE SHALL BE USED FOR STOP OR ISOLATION VALVE APPLICATIONS.

2. SHOCK ARRESTORS SHALL BE LOCATED DOWNSTREAM OF THE DOMESTIC WATER SERVICE VALVE, AT EACH SERVICE TO A GROUP OF FIXTURES, OR AS INDICATED ON THE DRAWINGS. SHOCK ARRESTORS SHALL BE AS MANUFACTURED BY PRECISION PLUMBING PRODUCTS OR APPROVED EQUIVALENT AND CONFORM TO THE REQUIREMENTS OF THE PLUMBING AND DRAINING INSTITUTE.

3. PROVIDE STOP VALVES AT ALL FIXTURE AND EQUIPMENT SUPPLIES. ALL EXPOSED FIXTURE CONNECTIONS SHALL BE CHROME PLATED, STAINLESS STEEL OR FITTED WITH CHROME PLATED SLEEVES. PROVIDE VACUUM BREAKERS WHERE REQUIRED BY CODE.

E. SANITARY, WASTE AND VENT

1. REFER TO PIPING MATERIAL SCHEDULE FOR SANITARY, WASTE, VENT, AND STORM PIPING MATERIALS. ALL DRAINAGE PIPE SHALL BE SUPPORTED DIRECTLY ON EACH SIDE OF A JOINT. ALL PIPING SUPPORTS AND RESTRAINTS SHALL BE IN STRICT ACCORDANCE WITH THE DRAINAGE PIPE MANUFACTURER'S RECOMMENDATIONS AND INSTALLATION GUIDES.

2. EXCEPT WHERE OTHERWISE INDICATED, HORIZONTAL SANITARY, SEWAGE AND WASTE VENT PIPING SHALL SLOPE AT 1/4 INCH PER FOOT PER PIPES 3 INCHES AND SMALLER, PIPES 4 INCHES AND LARGER SHALL SLOPE AT 1/8 PER FOOT. ALL VERTICAL SANITARY SEWER AND STORM WATER PIPING, WHICH TURN 90° AFTER PASSING THROUGH A FLOOR, SHALL BE INSTALLED AS TIGHT AS POSSIBLE TO THE UNDERSIDE OF THE STRUCTURE.

3. CLEANOUTS SHALL BE PROVIDED IN PIPING AT EACH CHANGE IN DIRECTION, IN ALL HORIZONTAL STRAIGHT RUNS MORE THAN 50 FEET LONG, AND AT ALL OTHER LOCATIONS AS NOTED ON DRAWINGS. ALL CLEANOUTS SHALL BE THE SAME SIZE AS THE PIPE DIAMETER UP TO AND INCLUDING PIPE 4 INCHES IN DIAMETER. FOUR-INCH CLEANOUTS SHALL BE USED FOR ALL PIPE LARGER THAN 4 INCHES, UNLESS NOTED OTHERWISE. ALL CLEAN-OUT LOCATIONS SHALL BE NO MORE THAN 5 FEET ABOVE BASE OF THE HORIZONTAL OFFSET AND BE APPROVED BY THE ARCHITECT. FOR CARPETED AREAS, PROVIDE A PERMANENT IDENTIFYING MARK IN THE CARPET DIRECTLY ABOVE CLEAN-OUT. REFER TO PLUMBING FIXTURE SCHEDULE FOR MODEL & TYPE. NO SANITARY, SOIL OR WASTE PIPE SHALL EXTEND GREATER THAN 2'-0" TO A DEAD-END.

F. PIPING & EQUIPMENT IDENTIFICATION.

1. ALL PIPING SYSTEMS, VALVES, AND EQUIPMENT SHALL BE PROPERLY IDENTIFIED. ALL VALVES SHALL HAVE THEIR NORMAL (IN OPERATION) POSITION IDENTIFIED, SUCH AS "NORMALLY OPEN" OR "NORMALLY CLOSED".

2. ALL PACKAGED EQUIPMENT SHALL BE INDEPENDENTLY THIRD PARTY LABELED AS A SYSTEM FOR ITS INTENDED USE BY A NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL) IN ACCORDANCE WITH OSHA FEDERAL REGULATIONS 29CFR1910.303 AND .399, AS WELL AS NFPA PAMPHLET NO. 70, NATIONAL ELECTRIC CODE (NEC), ARTICLE 90-7.

G. HANGERS AND SUPPORTS.

1. HANGERS FOR CAST IRON PIPE SHALL BE INSTALLED BY MANUFACTURER'S STANDARDS.

2. HANGERS FOR COPPER TUBING SHALL BE INSTALLED BY MANUFACTURER'S STANDARDS.

3. TRAPEZE HANGERS OF A TYPE APPROVED BY THE ENGINEER MAY BE USED WHERE PIPES ARE DESIGNED TO RUN PARALLEL AND AT THE SAME ELEVATION.

4. CONTRACTOR SHALL PROVIDE INSULATION HANGER, SUCH AS MICHIGAN HANGER CO., MODEL NO. 103 OR APPROVED EQUAL FOR ALL INSULATED PIPING. 5 INCH LONG SECTION OF 1/2" THICK CALCIUM SILICATE SECTIONAL PIPE INSULATION WITH FACTORY LONGITUDINAL LAP SHALL BE PROVIDED AT ALL HANGER POINTS. BUTT JOINTS SHALL BE SEALED WITH INSULATING CEMENT.

5. STRAP HANGERS SHALL NOT BE PERMITTED.

6. CONTRACTOR SHALL PROVIDE RISER CLAMPS FOR VERTICAL PIPING AT EACH LEVEL. RISER CLAMPS SHALL BE MICHIGAN HANGER CO., MODEL NO. 510 FOR STEEL PIPING AND MODEL NO. 511 FOR COPPER TUBING OR APPROVED EQUAL. USE "SHORT-END" RISER CLAMPS WHERE SPACE IS LIMITED.

7. IN CONCRETE, MICHIGAN HANGER CO., MODEL NO. 355 INSERTS OR APPROVED EQUAL INSERTS SHALL PERMIT ADJUSTMENT FROM 3/4" THROUGH 1-1/4". IN METAL DECKS, CONTRACTOR SHALL PROVIDE REDHEAD SDI INSERTS, OR APPROVED EQUAL. POWDER PROPELLED INSERTS WILL BE PERMITTED IN NEW CONSTRUCTION WHERE TYPE AND LOCATION ARE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

8. CONTRACTOR SHALL PROVIDE SIDE BEAM CLAMPS FOR SUPPORTING PIPING FROM STRUCTURAL STEEL MEMBERS. BEAM CLAMPS SHALL BE MANUFACTURED BY MICHIGAN HANGER CO., MODEL NO. 300 OR APPROVED EQUAL.

9. WHERE OTHER MEANS OF SUPPORT PIPING ARE REQUIRED OR DESIRED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE ENGINEERS APPROVAL PRIOR TO INSTALLATION.

10. HANGER SHALL BE PROVIDED AT EACH CHANGE OF DIRECTION.

11. HANGERS AND SUPPORTS SHALL BE SPACED AT INTERVALS WHICH WILL PREVENT SAGGING AND REDUCE STRAIN ON VALVES AND SPECIALTIES. HANGER SPACING SHALL BE NO GREATER AND ROD SIZE SHALL BE NO SMALLER THAN THAT SHOWN IN THE FOLLOWING TABLE. HANGERS SHALL ALLOW FOR EXPANSION AND CONTRACTION.

12. RISER CLAMPS SHALL BE INSTALLED ABOVE THE FLOOR AT EACH LEVEL. RISER CLAMPS MAY BE SUSPENDED BELOW FLOOR LEVEL, WITH HANGER RODS AND INSERTS, WHERE THE INSTALLATION OF ESCUTCHEON PLATES IS REQUIRED.

ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE

THE CONTRACTOR SHALL VERIFY THE SCALE OF ALL DRAWINGS PRODUCED OR VIEWED FROM AN ELECTRONIC FILE

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