GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF GENERAL SERVICES

RENOVATION OF DMV INSPECTION STATION AT HALF STREET, SW

Solicitation No.: DCAM-15-CS-0147

Amendment No. 5
Issued: July 24, 2015

This Amendment No. 5 is issued and hereby published on the DGS website on July 24, 2015. Except as modified hereby, the Invitation for Bids ("IFB") remains unmodified.

Item #1 B.3.1 DGS SPECIFICATIONS

Insert: The Drawings and Specifications have been updated. The addendum should be included as part of the general contractor's response to the IFB.

Item #2 F.3.1 BID OPENING:

A public Bid Opening will be held at 2:30 on July 30, 2015 at the 2nd Floor Community Room Center at the Reeves Center located at 2000 14th Street, NW Washington, DC 20009.

By: James H. Marshall
James Marshall
Supervisory Contract Specialist

Date: 7.24.15

- End of Amendment No. 5-

DMV INSPECTION STATION

PERMIT SET - FOR PRICING

22 JUNE 2015

THE DEPARTMENT OF GENERAL SERVICES

DISTRICT OF COLUMBIA DEPARTMENT OF MOTOR VEHICLES

istudio architecture design planning
1611 Connecticut Ave #200 Washington DC 20009
(t) 202.728.9037

15001 DMV INSPECTION STATION

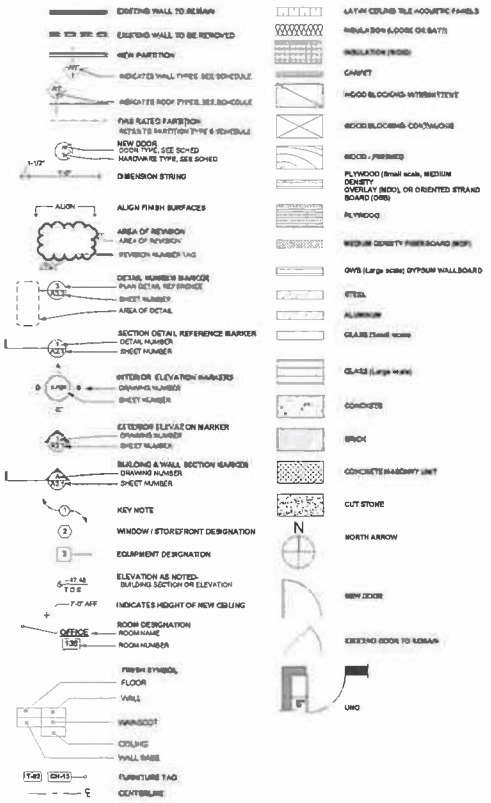
PERMIT SET

22 JUNE 2015

ABBREVIATIONS

<	Angle	INCAN	Incandescent
@	At	INCL	Include(d)
#	Number	INSUL	Insulation
	Centerline	INT	Interior
⌀	Diameter	JAN	Janitor
1X	One-inch nominal thickness	JT	Joint
2X	Two-inch nominal thickness	KIT	Kitchen
ABV	Above	LAV	Lavatory
AC	Air Conditioning	LEV	Level
ACOUST	Acoustical	MAS	Masonry
ACT	Acoustical Ceiling Tile	MAX	Maximum
ADJ	Adjacent, Adjustable	MDF	Medium Density Fiberboard
AFF	Above Finish Floor	MDO	Medium Density Overlay
AHU	Air Handler Unit	MECH	Mechanical
ALT	Alternate	MEZZ	Mezzanine
ALUM	Aluminum	MFR	Manufacturer('S)
ANOD	Anodized	MIN	Minimum
APPROX	Approximate	MISC	Miscellaneous
BD	Board (or Bead, if applicable)	MO	Masonry Opening
BTWN	Between	MTL	Metal
BLDG	Building	MTD	Mounted
BLKG	Blocking	MTG	Mounting
BLT	Bolt	MW	Microwave Oven
BM	Beam	N	North
BOT	Bottom	NIC	Not In Contract
BRG	Bearing	NO	Number
BSMT	Basement	NTS	Not to Scale
CAB	Cabinet	OA	Overall
CER	Ceramic	OD	Outside Diameter
CH	Ceiling Height	OC	On Center
CJ	Control Joint	OFCI	Owner Furnished, Contractor Installed
CLG	Ceiling	OFF	Office
CLAD	Cladding	OH	Opposite Hand
CLO	Closet	OPNG	Opening
CLR	Clear	OPP	Opposite
CMU	Concrete Masonry Unit	PART	Partition
COL	Column	PERF	Perforated
CONC	Concrete	PL	Plate/Property Line
CONST	Construction	PLAM	Plastic Laminate
CONT	Continuous	PLEX	Plexiglass
CORR	Corrugated	PLYWD	Plywood
CPT	Carpet	POLY	Polyethylene
CS	Cast Stone	PR	Pair
CSK	Countersink	PSF	Pound Per Square Foot
CSMT	Casement	PSI	Pound Per Square Inch
CT	Ceramic Tile	PT	Pressure Treated
CTR	Center/Counter	PTD	Painted
CTRD	Centered	PVC	Polyvinyl Chloride
CW	Cold Water	QT	Quarry Tile
DBL	Double	QTY	Quantity
DEMO	Demolish, Demolition	R	Riser(s)
DET	Detail	RO	Rough Opening
DF	Drinking Fountain	Rad	Radius
DH	Double Hung	RCP	Reflected Ceiling Plan
DIA	Diameter	RECPT	Receptacle
DIM	Dimension	REF	Refrigerator
DN	Down	REG	Register
DR	Door	REINF	Reinforcing
DS	Downspout	REQD	Required
DW	Dishwasher	RESIL	Resilient
DWG	Drawing	REV	Revision
E	East	RL	Rain Leader
EA	Each	RM	Room
EJ	Expansion Joint	RTU	Roof Top Unit
EL	Elevation	S	South
ELEC	Electric(al)	S4S	Surface Four Sides
ELEV	Elevator	SC	Solid Core
EMER	Emergency	SCHED	Schedule(d)
EQ	Equal	SECT	Section
EQUIP	Equipment	SHT	Sheet
EWC	Electric Water Cooler	SIM	Similar
EXIST	Existing	SF	Square Feet
EXH	Exhaust	SPEC	Specification
EXP	Expansion, Exposed	SQ	Square
EXT	Exterior	SS	Stainless Steel
FA	Fire Alarm	STD	Standard
FBO	Furnished by Owner	STL	Steel
FD	Floor Drain	STOR	Storage
FND	Foundation	STRUCT	Structure
FEC	Fire Extinguisher Cabinet	SURF	Surface
FF	Finish Floor	SUSP	Suspend
FGL	Fiberglass	T	Tread(s)
FIN	Finish	T&G	Tongue and Groove
FLASH	Flashing	TBD	To Be Determined
FL	Floor	TEL	Telephone
FLUOR	Fluorescent	TEMP	Temperature
FOM	Face of Masonry	THK	Thick
FOS	Face of Structure (or Face of Stud, where applicable)	TOIL	Toilet
		TO_	Top of (____)
FRP	Fiberglass reinforced plastic	TYP	Typical
FRT	Fire Retardant Treated	UL	Underwriters Laboratories, Inc.
FRMG	Framing	UNFIN	Unfinished
FT	Feet	UNO	Unless Noted Otherwise
FTG	Footing	U/S	Underside
FURN	Furniture/Furnish	UTIL	Utility
FURR	Furring	VB	Vapor Barrier
FVC	Fire Valve Cabinet	VCT	Vinyl Composition Tile
GA	Gauge	VENT	Ventilate(or)
GALV	Galvanized	VERT	Vertical
GC	General Contractor	VEST	Vestibule
GFI	Ground Fault Interrupter	VIF	Verify In Field
GL	Glass	VNR	Veneer
GWB	Gypsum Wall Board	W	West
GYP	Gypsum	WC	Water Closet
HB	Hose Bib	WD	Wood
HC	Hollow Core/Handicappd	WF	Wide Flange
HD	Head	WH	Water Heater
HDWE	Hardware	WP	Waterproofing
HM	Hollow Metal	W/	With
HORIZ	Horizontal	W/O	Without
HT	Height	WT	Weight
HTR	Heater	WWM	Welded Mire Mesh
HVAC	Heating/Ventilation/Air-Conditioning		
HW	Hot Water		
IG	Isolated Ground		
IN	Inch		

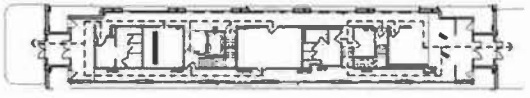
SYMBOLS LEGEND



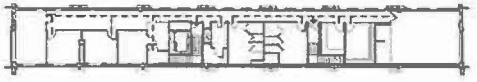
SITE LOCATION

EGRESS PLANS

LEVEL 1



LEVEL 2



PROJECT DIRECTORY

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TCT COST CONSULTANTS
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CONTACT:
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F: 202.787.1915

PROJECT INFORMATION

ADDRESS: 1001 Half Street, SW
Washington, DC 20024

LOT: 0010
SQUARE: 0647

DESCRIPTION: THE TWO-STORY CUSTOMER SERVICE CENTER (ROUGHLY 6,000 SF) WILL RECEIVE A LEVEL 2 RENOVATION TO THE INTERIOR SPACES.

LOT SIZE: 71,716 SF

DESCRIPTION: TWO LEVEL OFFICE, WITH GARAGE SERVICE BAYS ON LEVEL 1

FLOOR AREA:

FLOOR LEVEL 1 CUSTOMER SERVICE CENTER	3,179 SF
FLOOR LEVEL 1 SERVICE BAYS	26,688 SF (NIC)
FLOOR LEVEL 2 CUSTOMER SERVICE CENTER	2,615 SF

ZONING - DCMR TITLE 11

ZONING: C-3-A
USES: COMMERCIAL
HISTORIC DISTRICT: NONE

	PERMITTED	EXISTING	PROPOSED
HEIGHT	65'	35'-4"	NO CHANGE
STORIES	NO LIMIT	2	NO CHANGE
LOT OCC	75%	42%	NO CHANGE
FAR	2.5	0.45	NO CHANGE
SIDE YARD	NO REQUIRED		
REAR YARD	12'	67'	NO CHANGE

BUILDING CODE

(DCMR 12 + 13, NFPA 13, NEC 2005, AND THE ICC'S IBC 2006, IECC 2006, IFC 2006, IMC 2006, IEBC 2006, IPC 2006)

PROPOSED USE:	B - BUSINESS (IBC 305) F-1 FACTORY (IBC 303)
CONSTRUCTION TYPE:	IIB (IBC TABLE 601)
HT LIMIT:	2 STORIES (IBC TABLE 503)
AREA LIMIT:	14,500 PER FLOOR (IBC TABLE 503) + SPRINKLER BONUSES
SPRINKLERS:	YES
ADA:	REQUIRED
# EXITS	2 AT FIRST LEVEL, 2 AT SECOND LEVEL
ELEVATOR:	REQUIRED - EXISTING TO REMAIN
REQUIRED FIRE RATING:	
EXTERIOR WALLS:	2 HR (IBC TABLE 602) SEPERATION BETWEEN CUSTOMER SERVICE CENTER AND SERVICE BAYS
FLOOR:	0 HR (IBC TABLE 601)
ROOF:	0 HR (IBC TABLE 601)
CORRIDOR:	0 HR (IBC TABLE 1017.1)
VERTICAL EGRESS:	0 HR (IBC 1020.1, EX 9)
SHAFTS:	0 HR (IBC 707.2.7)
FIRE WALLS:	2 HR (IBC TABLE 602, TABLE 705.4)

GREEN BUILDING

(DC GREEN BUILDING ACT, DC GREEN CONSTRUCTION CODE, IECC)

GREEN BUILDING ACT NOT REQUIRED
PROPERTY VALUE = $10,000, 000
RENOVATION COST = $990,000

GREEN CONSTRUCTION CODE NOT REQUIRED
SCOPE OF WORK IS LEVEL 2 ALTERATION , LESS THAN 10,000 SF

IECC REQUIRED

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REVISIONS

DISTRICT OF COLUMBIA
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No. 5343
REGISTERED
ARCHITECT

22 JUNE 2015
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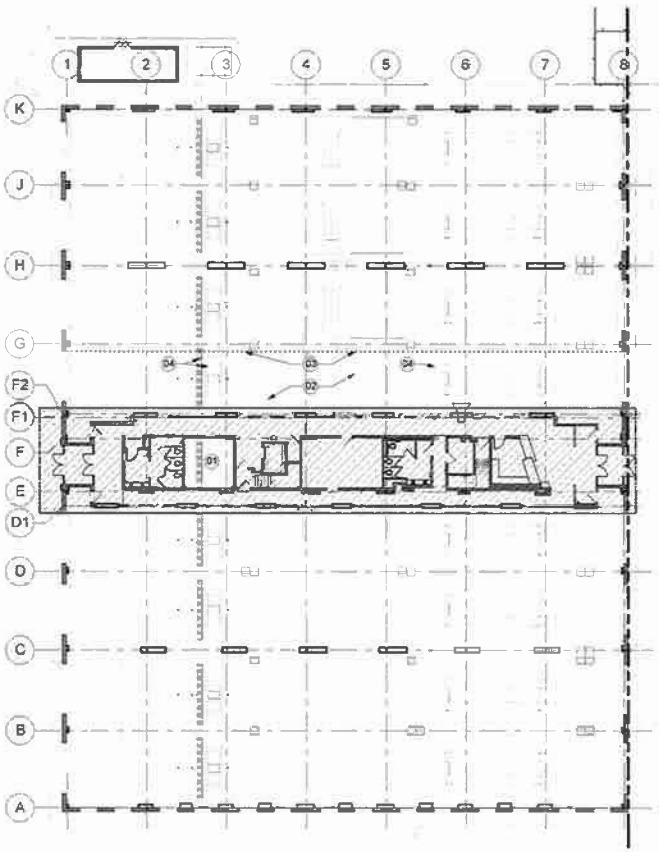
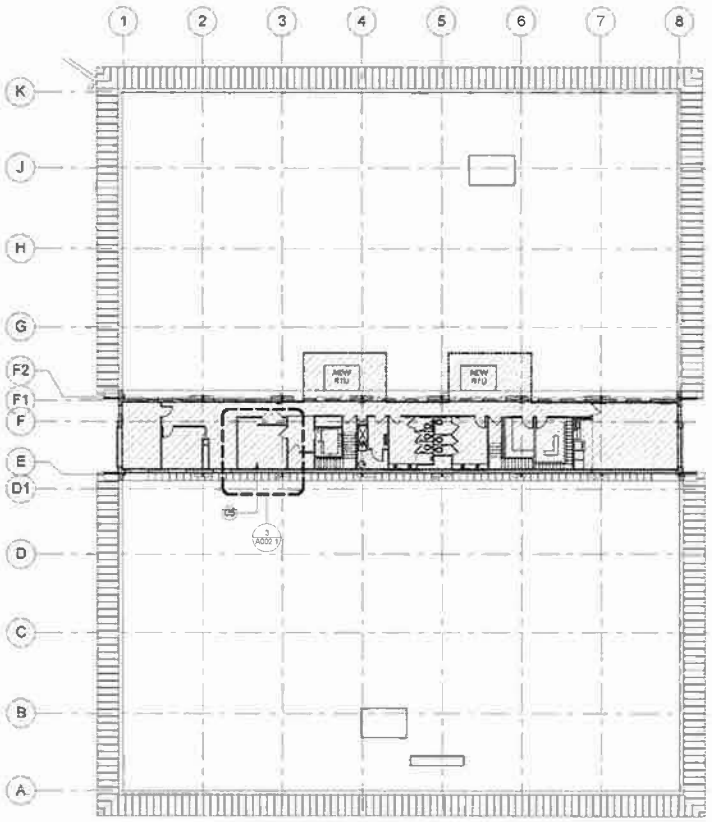
PROJECT INFO
A001.1



HALF STREET S.W.



1 SCOPE OF WORK - FIRST FLOOR

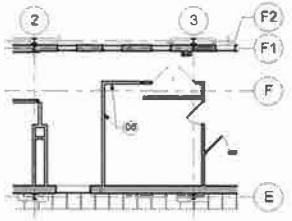
1/16" = 1'-0"

SCOPE OF WORK LEGEND

- LIMIT OF PHASE 1 WORK. CONTRACTOR WILL HAVE A MAXIMUM OF 5 WEEKS TO COMPLETE THE INTERIOR RENOVATION
- (01) EMMISSIONS ANALYZER STORAGE ROOM TO BE COMPLETED IN SEPERATE PHASE
- (02) INSPECTION LANE WILL BE DEACTIVATED AND LANE WILL BE USED FOR CUSTOMER CIRCULATION DURING RENOVATION
- (03) GC TO PROVIDE TEMPORARY BARRIER TO PREVENT CUSTOMERS FROM CIRCULATING INTO ACTIVE INSPECTION LANES
- (04) GC WILL COVER EQUIPMENT TO PROTECT FROM DAMAGE AND PROVIDE A SAFE AND ACCESSIBLE PATH FOR CUSTOMERS
- (05) CURRENT TELEPHONE AND TECHNOLOGY WILL NEED TO REMAIN OPERATIONAL, REFER TO ENLARGED PLANS OF AREA FOR PROPOSED PHASING TO MAINTAIN OPERATIONS
- (06) INSTALL TEMPORARY PARTITIONS TO ENCLOSE EXISTING EQUIPMENT AND MAINTAIN OPERATIONS
- (07) FINAL ROOM LAYOUT PER PLANS ON A102.1 TO BE COMPLETED FOLLOWING EQUIPMENT SWITCHOVER

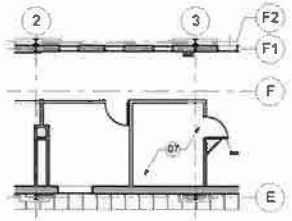
2 SCOPE OF WORK - SECOND FLOOR + ROOF

1/16" = 1'-0"



3 TEMPORARY ROOM PLAN

1/8" = 1'-0"



4 COMPLETED TECHNOLOGY ROOM

1/8" = 1'-0"

GENERAL NOTE
ONCE THE CONTRACTOR IS PREPARED FOR THE EQUIPMENT SWITCH-OVER IT WILL HAVE TO OCCUR ON SATURDAY STARTING AT 2P AND COMPLETED BY TUESDAY AT 8A TO MAINTAIN CONTINUOUS OPERATIONS

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DISTRICT OF COLUMBIA REGISTERED No. 15663 ARCHITECT

22 JUNE 2015
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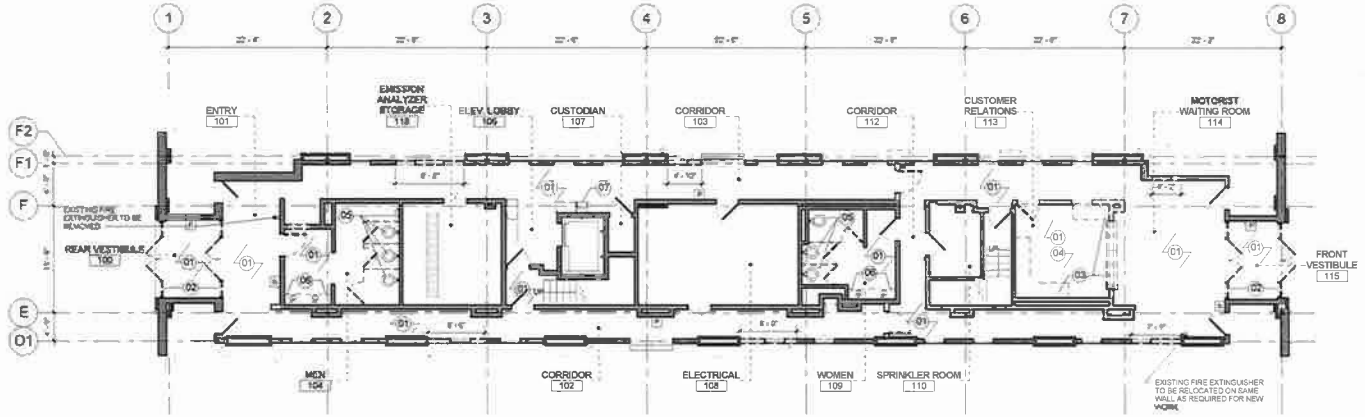
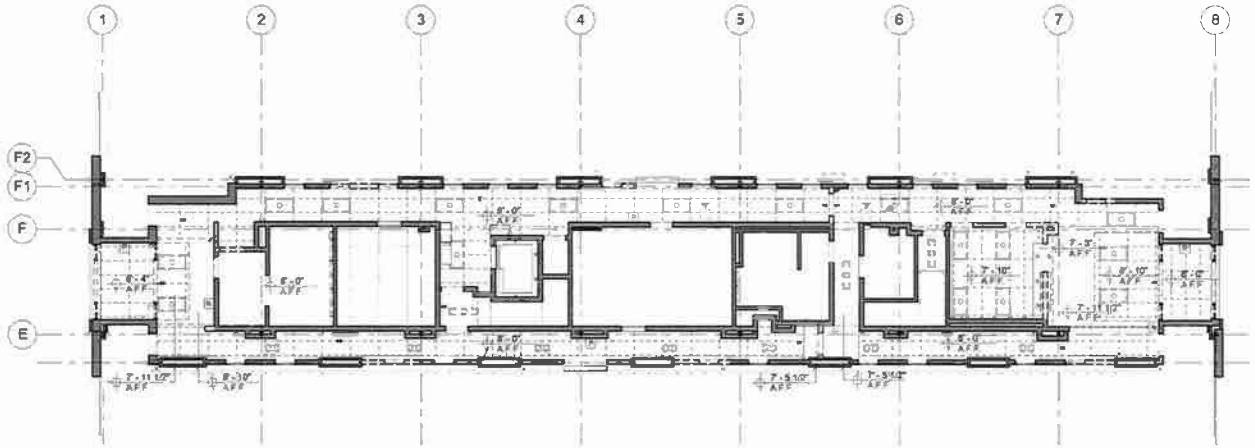
SCOPE OF WORK

A002.1



1 DEMOLITION PLAN - LEVEL 1 CUSTOMER SERVICE CENTER

1/8" = 1'-0"



2 DEMOLITION REFLECTED CEILING PLAN - LEVEL 1 CUSTOMER SERVICE CENTER

1/8" = 1'-0"

DEMOLITION GENERAL NOTES

COORDINATE ALL DEMOLITION WITH NEW CONSTRUCTION

CONTRACTOR IS RESPONSIBLE FOR ALL SHORING OF TEMPORARY WALL, FLOOR AND ROOF SUPPORTS THROUGHTOUT PROJECT

COMPLY WITH APPLICABLE LOCAL AND FEDERAL REGULATIONS PERTAINING TO SAFETY OF PERSONS, PROPERTY AND ENVIRONMENTAL PROTECTION

ERECT AND MAINTAIN DUSTPROOF PARTITIONS TO PREVENT THE SPREAD OF DUST, FUMES ETC.

PROTECT ALL EXISTING INTERIOR SURFACES TO REMAIN. IF DEMOLITION IS PERFORMED IN EXCESS OF THAT REQUIRED. RESTORE AFFECTED AREAS AT NO COST TO OWNER

COORDINATE ALL DEMOLITION WITH ALL DISCIPLINES AND SUB-CONTRACTORS

G.C. TO PROTECT ANY DEVICES IF REQUIRED TO STAY IN PLACE DURING CONSTRUCTION

G.C. TO PREP ALL EXISTING WALLS TO RECIEVE NEW WALL FINISHES. ANY DAMAGED SECTIONS EXISTING WALLS TO BE SPACKLED, SANDED SMOOTH AND PRIMED PRIOR TO FINAL FINISH APPLICATION

G.C. TO REMOVE ALL EXISTING DOORS AND FRAMES NOTED FOR DEMOLITION AND PLACE INTO STORAGE FOR PROTECTION DURING CONSTRUCTION. ALL DOORS AND FRAMES TO BE REPAIRED AND REFINISHED AS REQUIRED, FOR REUSE IN NEW LAYOUT (IF APPLICABLE)

G.C. TO REPLACE ALL EXISTING OUTLETS, SWITCHES, TELECOM PORTS, COVERPLATES AND ETC. TO REMAIN WITH NEW TO MATCH NEW DEVICE SPECIFICATIONS, AS REQ'D

G.C. TO REMOVE ALL NOTED POWER/COMMUNICATION, THERMOSTATS AND OTHER WALL MOUNTED DEVICES AND PULL ALL WIRES BACK TO SOURCE, U/O

ALL OTHER MATERIALS IN GOOD WORKING ORDER ARE TO BE REMOVED, SHALL BE SALVAGED OR REUSE BY CLIENT. CARE SHALL BE TAKEN IN REMOVING ITEMS. ITEMS TO BE REUSED BY OWNER SHALL BE STORED IN A LOCATION APPROVED BY OWNER

DEMOLITION KEYNOTES

(01) DEMOLISH FLOORING DOWN TO STRUCTURE AND ANY WALL BASE

(02) DEMOLISH STONE/MORTAR SYSTEM AND ALL RELATED HARDWARE

(03) DEMOLISH CASEWORK AND ALL MOUNTING HARDWARE

(04) REMOVE ALL ABANDONED AND DISUSED EQUIPMENT, AND ALL WIRING ASSOCIATED WITH THAT EQUIPMENT

(05) DEMOLISH WATER CLOSET, URINAL AND TOILET PARTITIONS

(06) DEMOLISH LAVATORIES AND COUNTER

(07) DEMOLISH EXISTING WATER FOUNTAIN - SEE PLUMBING DRAWINGS FOR MORE DETAILS

DEMOLITION LEGEND

PARTITION / WALL TO BE REMOVED

DOOR, FRAME AND ALL HARDWARE TO BE REMOVED

PARTITION / WALL TO REMAIN

DOOR, FRAME AND ALL HARDWARE TO BE REMOVED

DEMOLITION RCP LEGEND

PTD GWB TO BE REMOVED

EXIST. PTD GWB TO REMAIN

ACOUSTIC CEILING TILE TO BE REMOVED

EXIST. ACOUSTIC CEILING TILE TO REMAIN

LIGHT FIXTURE TO BE REMOVED

LIGHT FIXTURE TO BE REMOVED

LIGHT FIXTURE TO BE REMOVED

LIGHT FIXTURE TO BE REMOVED

EXIT SIGN WALL-MOUNTED TO BE REMOVED

EXIT SIGN CEILING-MOUNTED TO BE REMOVED

EXISTING EXIT SIGN WALL-MOUNTED TO REMAIN

EXISTING EXIT SIGN CEILING-MOUNTED TO REMAIN

FIRE ALARM TO BE REMOVED

KEY PLAN

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Washington, DC 20024

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REVISIONS

22 JUNE 2015
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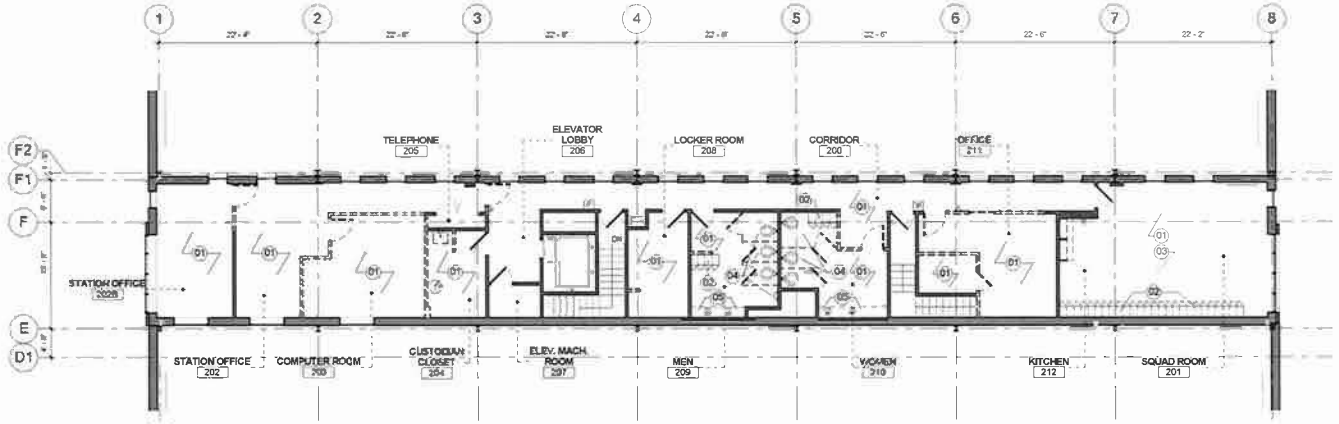
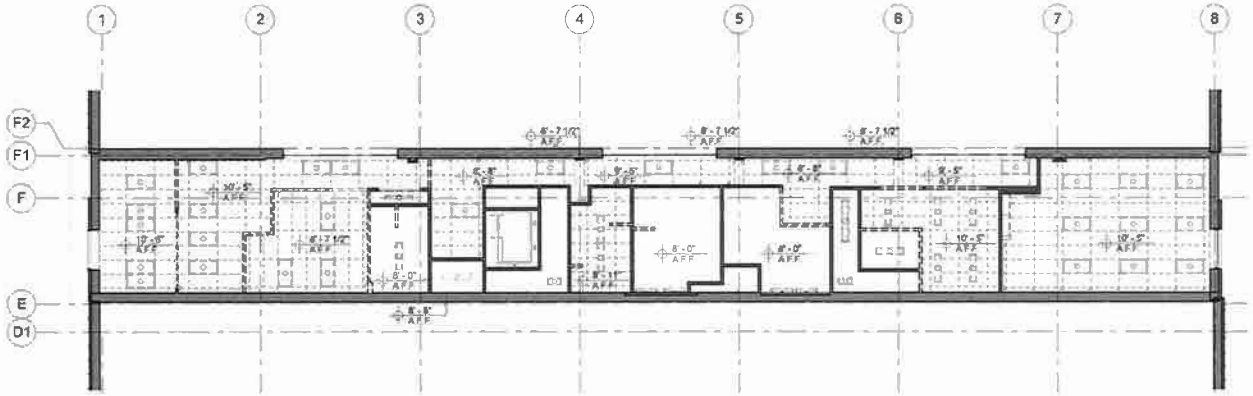
DEMOLITION CUSTOMER SERVICE CTR LEVEL 1

D101.1



1 DEMOLITION PLAN - LEVEL 2 CUST SERV CTR
1/8" = 1'-0"



2 DEMOLITION REFLECTED CEILING PLAN - LEVEL 2 CUSTOMER SERVICE CENTER
1/8" = 1'-0"

DEMOLITION NOTES

COORDINATE ALL DEMOLITION WITH NEW CONSTRUCTION

CONTRACTOR IS RESPONSIBLE FOR ALL SHORING OF TEMPORARY WALL, FLOOR AND ROOF SUPPORTS THROUGHTOUT PROJECT

REMOVE ABANDONED ELECTRICAL, TELEPHONE, DATA, AND A/V CABLING AND DEVICES UNO

COMPLY WITH APPLICABLE LOCAL AND FEDERAL REGULATIONS PERTAINING TO SAFETY OF PERSONS, PROPERTY AND ENVIRONMENTAL PROTECTION

ERECT AND MAINTAIN DUSTPROOF PARTITIONS TO PREVENT THE SPREAD OF DUST, FUMES, ETC

PROTECT ALL EXISTING INTERIOR SURFACES TO REMAIN. IF DEMOLITION IS PERFORMED IN EXCESS OF THAT REQUIRED, RESTORE AFFECTED AREAS AT NO COST TO OWNER

COORDINATE ALL DEMOLITION WITH ALL DISCIPLINES AND SUB CONTRACTORS

G.C. TO PROTECT ANY DEVICES IF REQUIRED TO STAY IN PLACE DURING CONSTRUCTION

G.C. TO PREP ALL EXISTING WALLS TO RECIEVE NEW WALL FINISHES. ANY DAMAGED SECTIONS EXISTING WALLS TO BE SPACKLED, SANDED SMOOTH AND PRIMED PRIOR TO FINAL FINISH APPLICATION

G.C. TO REMOVE ALL EXISTING DOORS AND FRAMES NOTED FOR DEMOLITION AND PLACE INTO STORAGE FOR PROTECTION DURING CONSTRUCTION. ALL DOORS AND FRAMES TO BE REPAIRED AND REFINISHED, AS REQUIRED, FOR REUSE IN NEW LAYOUT (IF APPLICABLE)

G.C. TO REPLACE ALL EXISTING OUTLETS, SWITCHES, TELECOM PORTS, COVERPLATES AND ETC TO REMAIN WITH NEW TO MATCH NEW DEVICE SPECIFICATIONS, AS REQ'D

G.C. TO REMOVE ALL NOTED POWER/COMMUNICATION, THERMOSTATS AND OTHER WALL MOUNTED DEVICES AND PULL ALL WIRES BACK TO SOURCE, UNO

ALL OTHER MATERIALS IN GOOD WORKING ORDER ARE TO BE REMOVED, SHALL BE SALVAGED OR REUSE BY CLIENT. CARE SHALL BE TAKEN IN REMOVING ITEMS. ITEMS TO BE REUSED BY OWNER SHALL BE STORED IN A LOCATION APPROVED BY OWNER

REMOVE EXISTING INSULATION ABOVE CEILING TO BE DEMOLISHED

DEMOLITION KEYNOTES

(01) DEMOLISH FLOORING DOWN TO STRUCTURE AND ANY WALL BASE

(02) DEMOLISH EXISTING LOCKERS

(03) REMOVE ALL TABLES, ICE STORAGE AND FURNITURE. COORDINATE STORAGE OR DISPOSAL WITH STATION MANAGER

(04) DEMOLISH WATER CLOSETS, URINAL AND TOILET PARTITIONS

(05) DEMOLISH LAVATORIES AND COUNTER

DEMOLITION LEGEND

PARTITION / WALL TO BE REMOVED

DOOR, FRAME AND ALL HARDWARE TO BE REMOVED

PARTITION / WALL TO REMAIN

DOOR, FRAME AND ALL HARDWARE TO BE REMOVED

DEMOLITION RCP LEGEND

PTD GWB TO BE REMOVED

EXIST. PTD GWB TO REMAIN

ACOUSTIC CEILING TILE TO BE REMOVED

EXIST. ACOUSTIC CEILING TILE TO REMAIN

LIGHT FIXTURE TO BE REMOVED

LIGHT FIXTURE TO BE REMOVED

LIGHT FIXTURE TO BE REMOVED

LIGHT FIXTURE TO BE REMOVED

EXIT SIGN, WALL-MOUNTED TO BE REMOVED

EXIT SIGN, CEILING-MOUNTED TO BE REMOVED

EXISTING EXIT SIGN, WALL-MOUNTED TO REMAIN

EXISTING EXIT SIGN, CEILING-MOUNTED TO REMAIN

FIRE ALARM TO BE REMOVED

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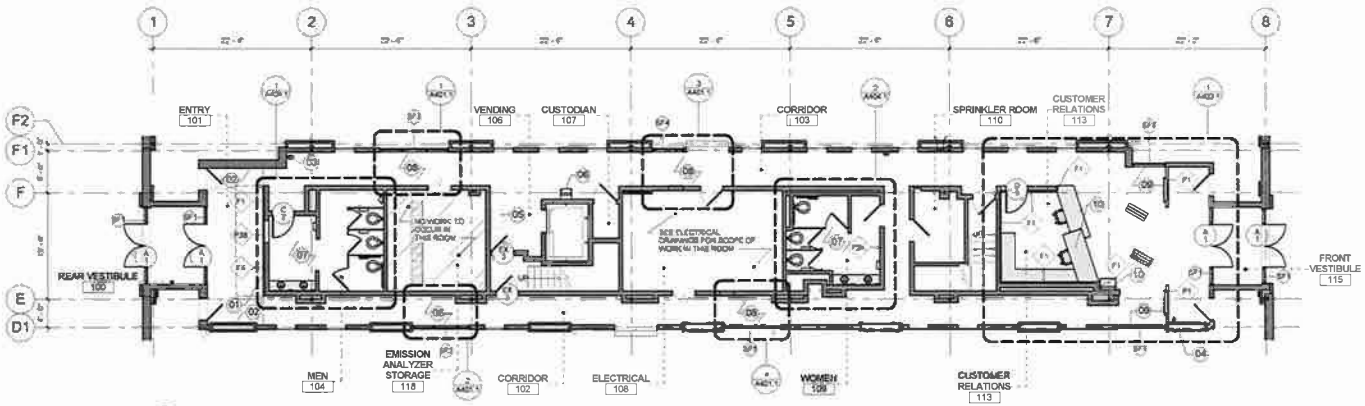
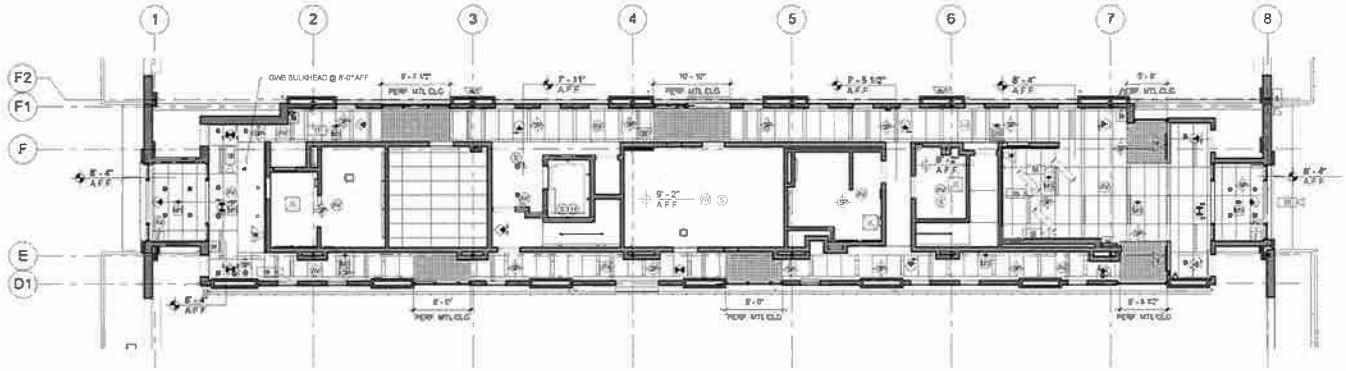
DEMOLITION CUSTOMER SERVICE CTR LEVEL 2

D102.1



1 FLOOR PLAN - LEVEL 1 CUSTOMER SERVICE CENTER

1/8" = 1'-0"



2 REFLECTED CEILING PLAN - LEVEL 1 CUSTOMER SERVICE CENTER

1/8" = 1'-0"

PLAN GENERAL NOTES

G.C. TO FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS

NEW WORK KEYNOTES

01 NEW ACCENT WALL WITH PAINTED GRAPHIC AND BULKHEAD ABOVE
02 NEW PAINTED DIRECTIONAL SIGNAGE
03 NEW FIRE EXTINGUISHER
04 EXISTING FIRE EXTINGUISHER TO BE RELOCATED AS REQUIRED
05 EXISTING VENDING MACHINE TO BE RELOCATED - G.C. TO COORDINATE STORAGE AND REINSTALLATION WITH OWNER
06 NEW ADA COMPLIANT WATER FOUNTAIN - SEE PLUMBING DRAWINGS FOR DETAILS
07 NEW WORK IN BATHROOMS TO INCLUDE NEW FIXTURES, PARTITIONS AND FINISHES
08 POSITIONS TO RECEIVE NEW GLAZING WITH GRAPHICS, INFORMATIONAL SIGNAGE + FINISHES
09 POSITIONS TO RECEIVE NEW GLAZING WITH GRAPHICS, INFORMATIONAL SIGNAGE, FINISHES AND WALL MOUNTED TV MONITORS
10 NEW BUILT-IN CUSTOMER RELATIONS DESK
11 CUSTOMER PRINTER KIOSK STATION

RCP GENERAL NOTES

UNO FIRST FLOOR TYPICAL CEILING HEIGHT IS 8'
UNO SECOND FLOOR TYPICAL CEILING HEIGHT IS 10'-5"
INSTALL NEW INSULATION ABOVE ALL NEW CEILING

RCP LEGEND

SEE A141.1 FOR FINISH INFORMATION

- EXISTING CEILING TO REMAIN
- NEW PAINTED GWB
- 2X2 ACT
- 2X4 ACT
- PERFORATED METAL CEILING WITH LIGHTING ABOVE - SEE ELECTRICAL DRAWINGS
- RECESSED DOWNLIGHT
- WALL WASHER
- RECESSED LINEAR
- RECESSED 2X2
- SURFACE MOUNTED
- WALL MOUNTED LINEAR @ STAIRWELLS
- COVE LIGHTING @ BATHROOMS
- LINEAR PENDANT
- LINEAR PENDANT
- LINEAR SLOT DIFFUSER - SEE MECHANICAL DRAWINGS
- 2X2 DIFFUSER - SEE MECHANICAL DRAWINGS
- SPEAKER
- EXIT SIGN CEILING MOUNTED
- EXIT SIGN WALL MOUNTED
- MOTION SENSOR
- FIRE ALARM CEILING MOUNTED
- FIRE ALARM CEILING MOUNTED
- MOTION DETECTOR
- WIDE ANGLE MOTION DETECTOR
- FIRE ALARM PULL STATION
- SMOKE DETECTOR
- HEAT BEAM DETECTOR
- CAMERA

KEY PLAN

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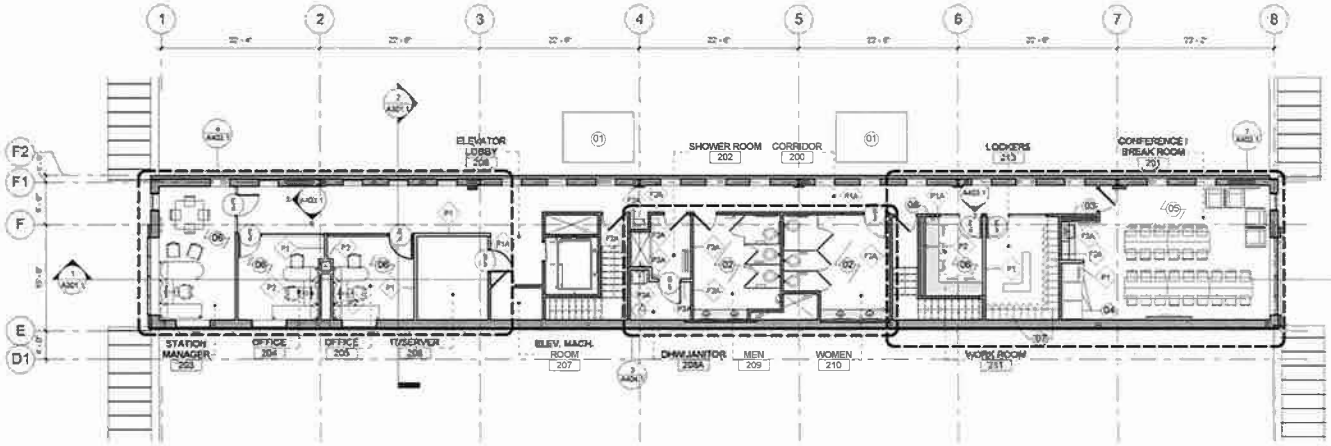
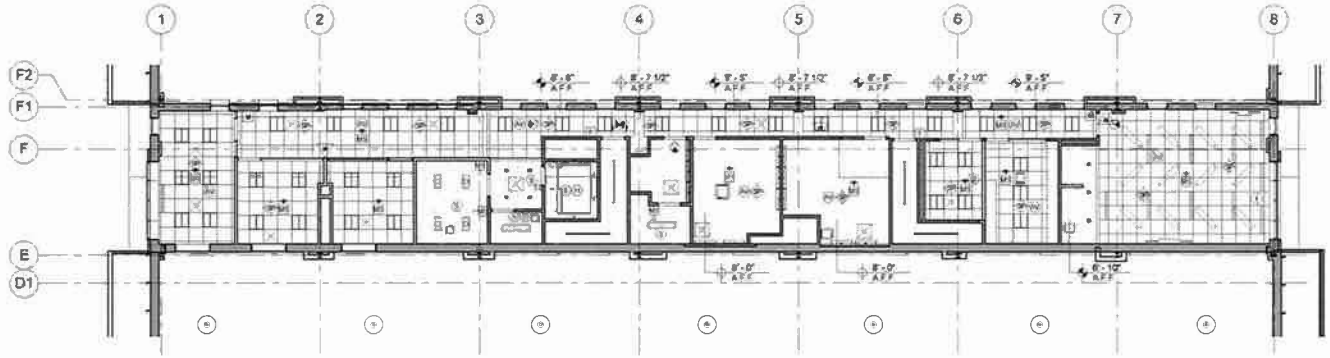
CUSTOMER SERVICE CTR LEVEL 1

A101.1



1 FLOOR PLAN - LEVEL 2 CUSTOMER SERVICE CENTER
1/8" = 1'-0"



2 REFLECTED CEILING PLAN - LEVEL 2 CUSTOMER SERVICE CENTER
1/8" = 1'-0"

RCP GENERAL NOTES

- UNO FIRST FLOOR TYPICAL CEILING HEIGHT IS 9'
- UNO SECOND FLOOR TYPICAL CEILING HEIGHT IS 10'-5"
- INSTALL NEW INSULATION ABOVE ALL NEW CEILING

CUSTOMER SERVICE KEY NOTES

01. PROVIDE NEW SUPPORTS + VERIFY EQUIPMENT CAN BE SUPPORTED BY EXISTING STRUCTURE. PROVIDE STAMPED + SIGNED DRAWINGS + CALCULATIONS FOR L & I APPROVAL. PATCH + REPAIR ROOF AS REQUIRED
02. NEW WORK IN BATHROOMS TO INCLUDE NEW FIXTURES, PARTITIONS AND FINISHES
03. NEW CASEWORK AND SINK
04. NEW REFRIGERATOR AND ICE MACHINE
05. NEW WORK @ CONFERENCE ROOM TO INCLUDE NEW FINISHES INCLUDING WAINSCOT, LIGHT FIXTURES + FURNITURE
06. NEW WORK TO INCLUDE NEW FINISHES, CEILING, LIGHT FIXTURES + FURNITURE
07. NEW DOUBLE STACKED LOCKERS, 40 TOTAL. PAINTED GWB BULKHEAD ABOVE PROVIDE BREAKMETAL INFILL AT CORNERS
08. NEW BUILT IN CASEWORK

RCP LEGEND

SEE A401.1 FOR FINISH INFORMATION

- EXISTING CEILING TO REMAIN
- NEW PAINTED GWB
- 2X2 ACT
- 2X4 ACT
- PERFORATED METAL CEILING WITH LIGHTING ABOVE - SEE ELECTRICAL DRAWINGS
- RECESSED DOWNLIGHT
- WALL WASHER
- RECESSED LINEAR
- RECESSED 2X2
- SURFACE MOUNTED
- WALL MOUNTED LINEAR @ STAIRWELLS
- COVE LIGHTING @ BATHROOMS
- LINEAR PENDANT
- LINEAR PENDANT
- LINEAR SLOT DIFFUSER - SEE MECHANICAL DRAWINGS
- 2X2 DIFFUSER - SEE MECHANICAL DRAWINGS
- SPEAKER
- EXIT SIGN CEILING MOUNTED
- EXIT SIGN WALL MOUNTED
- MOTION SENSOR
- FIRE ALARM CEILING MOUNTED
- FIRE ALARM CEILING MOUNTED
- MOTION DETECTOR
- WIDE ANGLE MOTION DETECTOR
- FIRE ALARM PULL STATION
- SMOKE DETECTOR
- HEAT BEAM DETECTOR
- CAMERA

KEY PLAN

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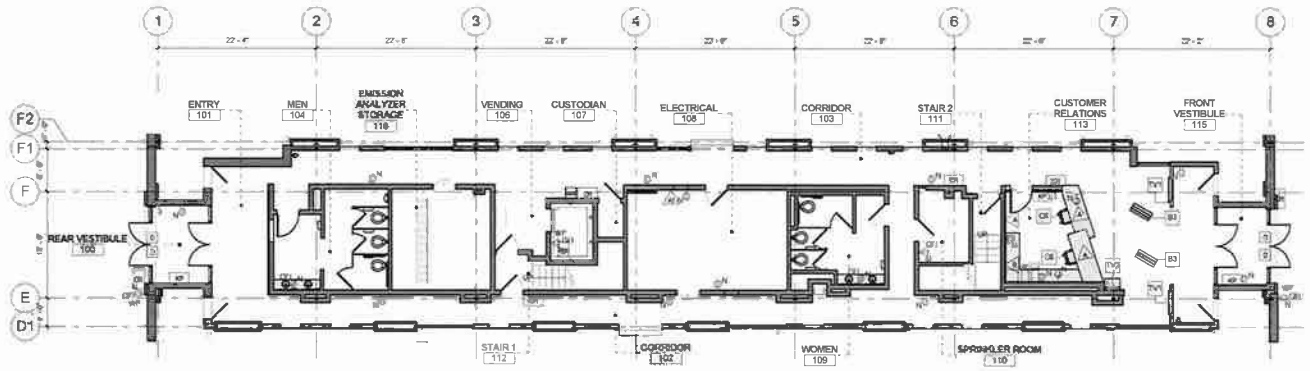
CUSTOMER SERVICE CTR LEVEL 2

A102.1

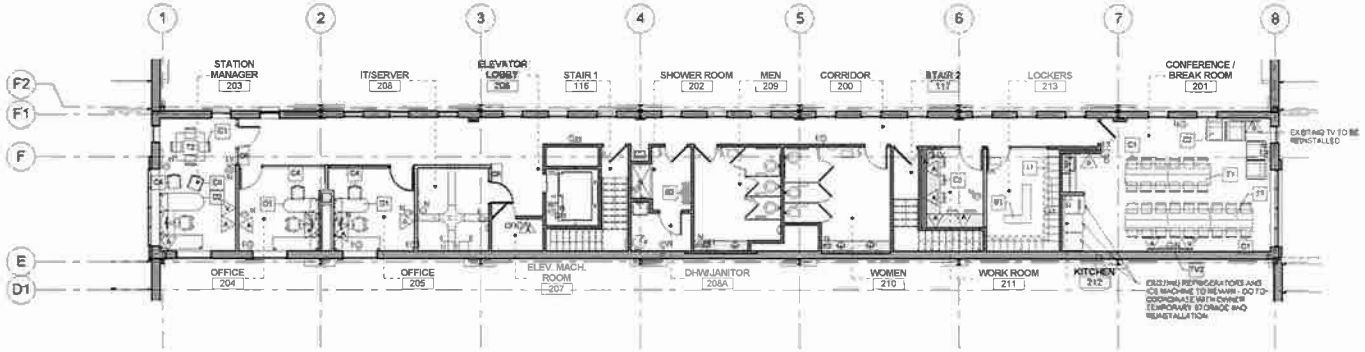


1 FURNITURE PLAN - LEVEL 1 CUSTOMER SERVICE CENTER

1/8" = 1'-0"

FF&E SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	QUANTITY	COMMENTS
B1	BENCH		1	
B2	BENCH		1	
B3	BENCH		2	
C1	STACKABLE CHAIR		38	
C2	LOUNGE CHAIR		4	
C3	CHAIR, TASK		3	
C4	CHAIR, GUEST		4	
C5	CONFERENCE CHAIR		1	
C6	FRONT DESK CHAIR		2	
D1	MODULAR WORX WORKSTATION WITH OVERHEADS, DESK CHAIR + KEYBOARD TRAY		2	
D2	MODULAR WORX WORKSTATION WITH OVERHEADS, DESK CHAIR + KEYBOARD TRAY		1	
T1	TABLE		10	
T2	TABLE		1	
TV1	[42"] W/ W WALL MOUNTED BRACKET		2	PROVIDE BLOCKING @ WALL FOR MOUNTING BRACKET
TV2	[64"] W/ WALL MOUNTED BRACKET		1	PROVIDE BLOCKING @ WALL FOR MOUNTING BRACKET
TV3	[24"] W/WALL MOUNTED BRACKE		1	PROVIDE BLOCKING @ WALL FOR MOUNTING BRACKET
L1	DOUBLE STACKED LOCKERS		20	PROVIDE BREAK METAL ENCLOSURE AT CORNERS



2 FURNITURE PLAN - LEVEL 2 CUSTOMER SERVICE CENTER

1/8" = 1'-0"

POWER AND DATA SYMBOLS

- DUPLEX RECEPTACLE
- QUAD RECEPTACLE
- DATA JACK
- DATA JACK + COAX
- PHONE JACK
- CR CARD READER
- D DOOR CONTACT
- KP KEY PAD
- LV LOW VOLTAGE SWITCH
- L3 3 WAY SWITCH
- D DIMMER
- HEIGHT ABOVE FINISH FLOOR
- SIGNAGE/ID
- MOTION SENSOR
- ISOLATED GROUND
- GFCI GROUND FAULT INTERRUPT
- WP WEATHER PROOF
- N NEW
- E EXISTING TO REMAIN
- R EXISTING RELOCATED

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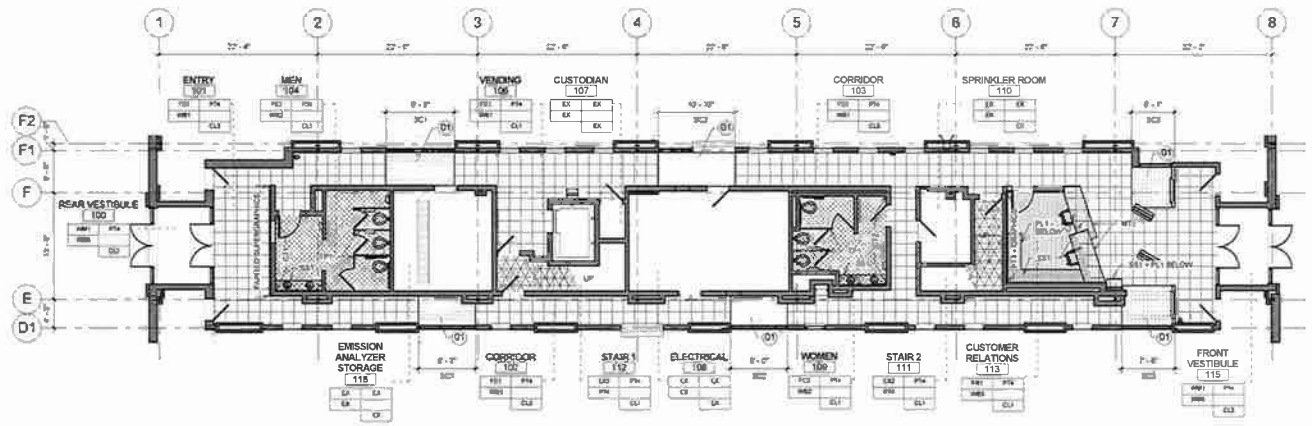
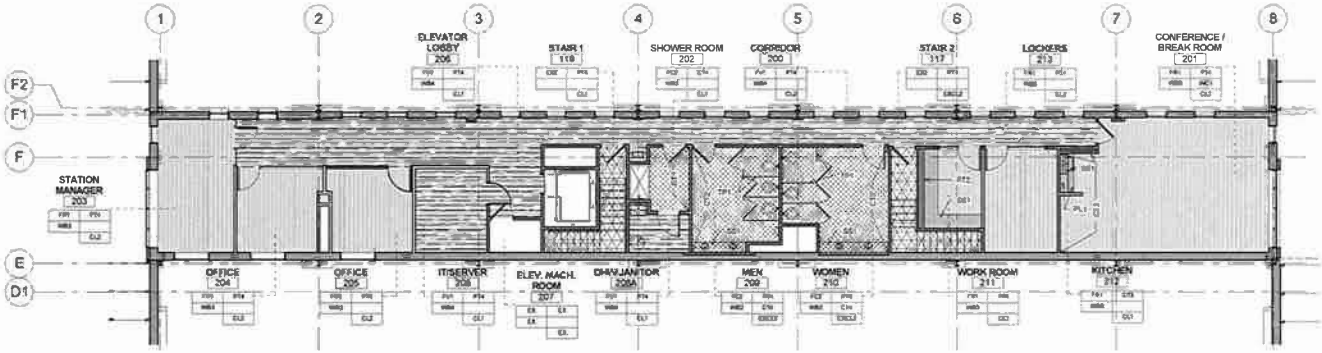
FURNITURE + TELE/DATA/POWER PLANS

A131.1



1 FINISH PLAN - LEVEL 1 CUSTOMER SERVICE CENTER
1/8" = 1'-0"



2 FINISH PLAN - LEVEL 2 CUSTOMER SERVICE CENTER
1/8" = 1'-0"

FINISH PLAN GENERAL NOTES

PAINT BULKHEADS + ACCESS PANELS PT1 UNO

PAINT ALL GWB CEILINGS PT4 UNO

ALL EXISTING DOORS AND FRAMES TO BE PAINTED PT4 UNO

ADA COMPLIANT THRESHOLDS @ RESTROOMS + PRIMARY ENTRANCES

FINISH PLAN KEYNOTES

(01) SUPER-GRAPHICS + COLOR CODED PAINT APPLIED TO WALLS. SEE FINISHES BOOKLET

FINISH SCHEDULE

FLOOR FINISH

FC1	CLAY TILE 24" X 24" TILE	MFR RAKO STYLE CLAY COLOR BLACK, MATT	SC1	STAINED CONCRETE	STYLE EPOXY COATING COLOR COLOR 1 - RED
FC2	CERAMIC TILE 8" X 8" TILE	MFR RAKO STYLE TAURUS COLOR COLOR 195 BLACK	SC2	STAINED CONCRETE	STYLE EPOXY COATING COLOR COLOR 2 - YELLOW
FR1	RUBBER TILE TILE	MFR MONDO STYLE KAYAR COLOR K017 GREY	SC3	STAINED CONCRETE	STYLE EPOXY COATING COLOR COLOR 3 - GREEN
FV1	VINYL TILE TILE	MFR ALTRO STYLE DOLCE ESSENTIALS COLOR ASFADE2E6 GREY	PP1	EXISTING - PAINTED WITH EPOXY PAINT	
WM1	WALK-OFF MAT TILE	MFR MONDO STYLE HARMONI SMOOTH COLOR G3331 SAND	EX	EXISTING TO REMAIN	
	MILLWORK/CASEWORK				

BASE FINISH

WB1	WALL BASE	MFR RAKO STYLE CLAY, SKIRTING PLINTH COLOR BLACK, MATT
WB2	WALL BASE	MFR RAKO STYLE TAURUS COLOR COVE SKIRTING COLOR BLACK MATT
WB3	WALL BASE	MFR MONDO STYLE 4" BASE COLOR CUSTOM TO MATCH FT1
WB4	WALL BASE	MFR MONDO STYLE 4" BASE COLOR CUSTOM TO MATCH FT1
WB5	WALL BASE	MFR MONDO STYLE 4" BASE COLOR CUSTOM TO MATCH WB1

WALL FINISH

PT1	PAINT	MFR BENJAMIN MOORE STYLE SEMI-GLOSS COLOR RED - ARCHITECT TO SELECT FROM STANDARD LIST OF COLORS
PT2	PAINT	MFR BENJAMIN MOORE STYLE SEMI-GLOSS COLOR YELLOW - ARCHITECT TO SELECT FROM STANDARD LIST OF COLORS
PT3	PAINT	MFR BENJAMIN MOORE STYLE SEMI-GLOSS COLOR GREEN - ARCHITECT TO SELECT FROM STANDARD LIST OF COLORS
PT4	PAINT	MFR BENJAMIN MOORE STYLE SEMI-GLOSS COLOR GREY - ARCHITECT TO SELECT FROM STANDARD LIST OF COLORS
CT1	CERAMIC TILE 8" X 16" NOMINAL	MFR RAKO STYLE COLOR ONE COLOR RED, MATT
CT2	CERAMIC TILE 8" X 16" NOMINAL	MFR RAKO STYLE COLOR ONE COLOR DARK YELLOW MATT
CT3	CERAMIC TILE 8" X 16" NOMINAL	MFR RAKO STYLE COLOR ONE COLOR GREEN MATT

TBW FINISH (MAGNETIC WINDOW DOOR + TACK BOARD TBW UNO)

PT4	PAINT	MFR BENJAMIN MOORE STYLE SEMI-GLOSS COLOR GREY - ARCHITECT TO SELECT FROM STANDARD LIST OF COLORS
CT4	CERAMIC TILE	MFR RAKO STYLE COLOR ONE COLOR LIGHT GREY, MATT
WG1	TBD	

P LAM

PL1	LAMINATE	MFR WILSONART COLOR ARCHITECT TO SELECT FROM STANDARD STYLE AND COLORS

METAL

MT1	METAL	MFR CEILINGS PLUS STYLE WALLFORMS COLOR METAL - GRAU WITH PERFORATION

SOLID SURFACE

SS1	SOLID SURFACE	MFR WILSONART STYLE COLOR ARCHITECT TO SELECT FROM STANDARD STYLE AND COLORS

TOILET PARTITIONS

TP1		MFR TBD STYLE TBD COLOR STAINLESS STEEL

CEILING FINISH

CL1	PAINTED PT#	
CL2	ACOUSTIC CLG TILE 24" X 24"	MFR USG STYLE MARS CLIMAPLUS GRID FINELINE 15/16 DXFF
CL3	ACOUSTIC CLG TILE 24" X 48"	MFR USG STYLE MARS CLIMAPLUS GRID FINELINE 15/16 DXFF
CL4	PERFORATED METAL	MFR CEILINGSPLUS STYLE ILLUSIONS - METAL PERFORATED GRID ILLUSIONS SUSPENSION SYSTEM

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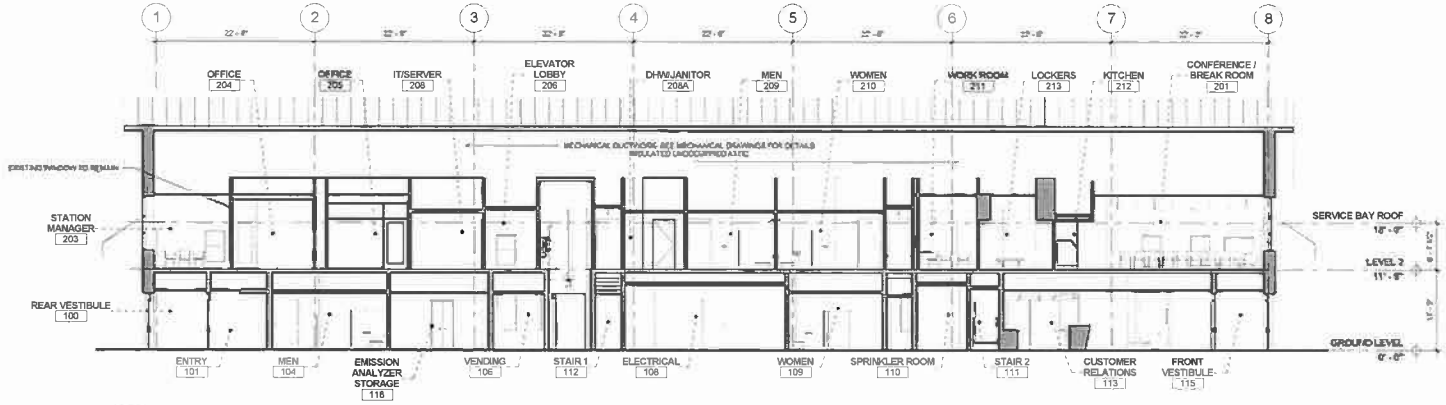
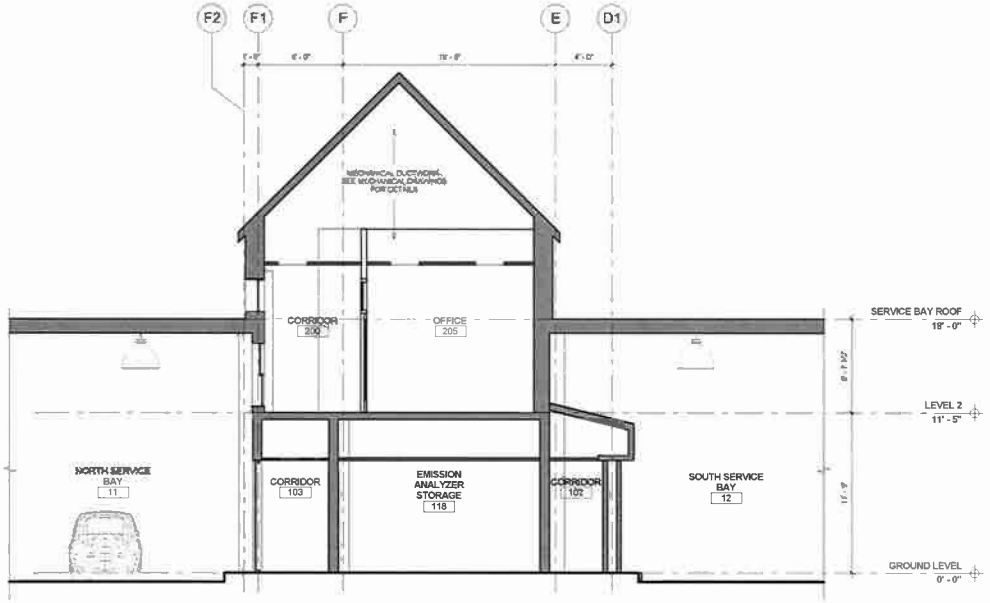
FINISH PLAN
CUSTOMER SERVICE CTR LEVEL 1-LEVEL 2

A141.1



1 EAST-WEST SECTION @ SERVICE CENTER



2 NORTH-SOUTH SECTION

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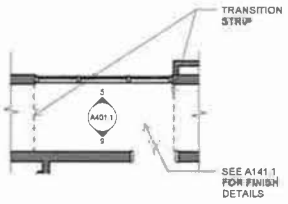
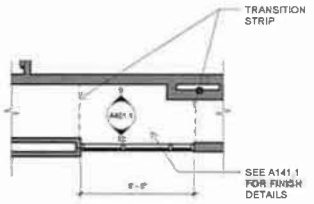
BUILDING SECTIONS

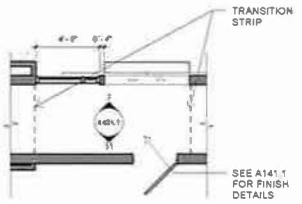
A301.1



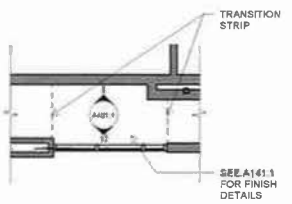
1 CORRIDOR 103 @ POSITION 1
1/4" = 1'-0"



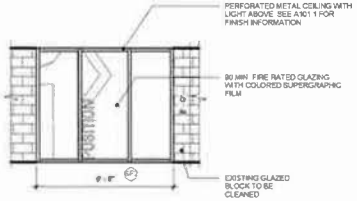
2 CORRIDOR 102 @ POSITION 1
1/4" = 1'-0"



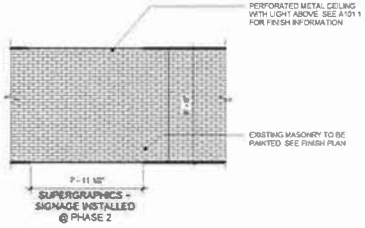
3 CORRIDOR 103 @ POSITION 2
1/4" = 1'-0"



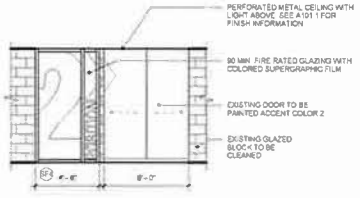
4 CORRIDOR 102 @ POSITION 2
1/4" = 1'-0"



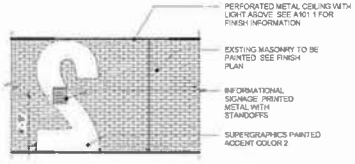
5 CORRIDOR 103 NORTH ELEVATION @ POSITION 1
1/4" = 1'-0"



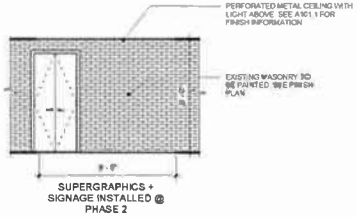
6 CORRIDOR 102 NORTH ELEVATION @ POSITION 1
1/4" = 1'-0"



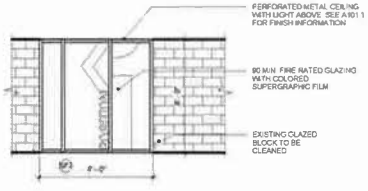
7 CORRIDOR 103 NORTH ELEVATION @ POSITION 2
1/4" = 1'-0"



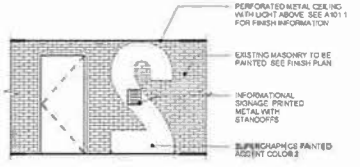
8 CORRIDOR 102 NORTH ELEVATION @ POSITION 2
1/4" = 1'-0"



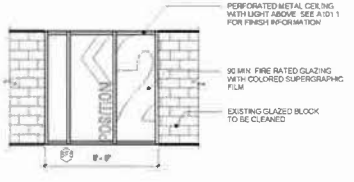
9 CORRIDOR 103 SOUTH ELEVATION @ POSITION 1
1/4" = 1'-0"



10 CORRIDOR 102 SOUTH ELEVATION @ POSITION 1
1/4" = 1'-0"



11 CORRIDOR 103 SOUTH ELEVATION @ POSITION 2
1/4" = 1'-0"



12 CORRIDOR 102 SOUTH ELEVATION @ POSITION 2
1/4" = 1'-0"

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22 JUNE 2015
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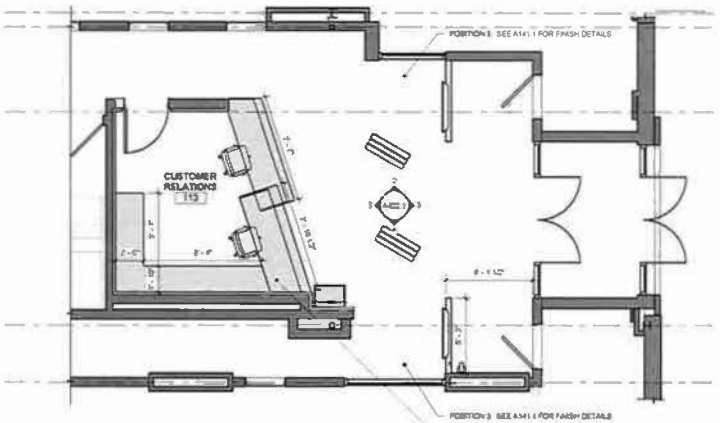
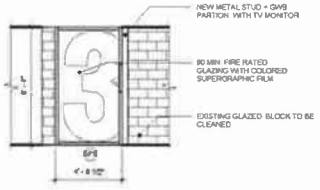
ENLARGED PLANS @ POSITIONS

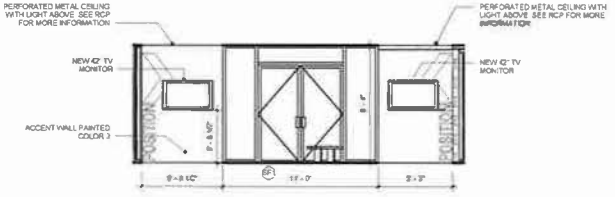
A401.1



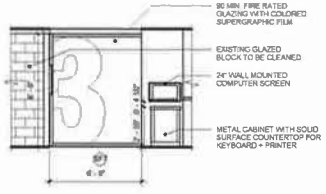
1 ENLARGED PLAN - LOBBY
1/4" = 1'-0"



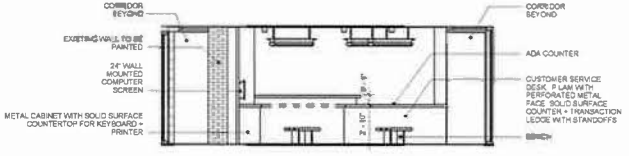
2 POSITION 3 CORRIDOR 103
1/4" = 1'-0"



3 LOBBY- EAST ELEVATION
1/4" = 1'-0"



4 POSITION 3 CORRIDOR 102
1/4" = 1'-0"



5 LOBBY - WEST ELEVATION
1/4" = 1'-0"

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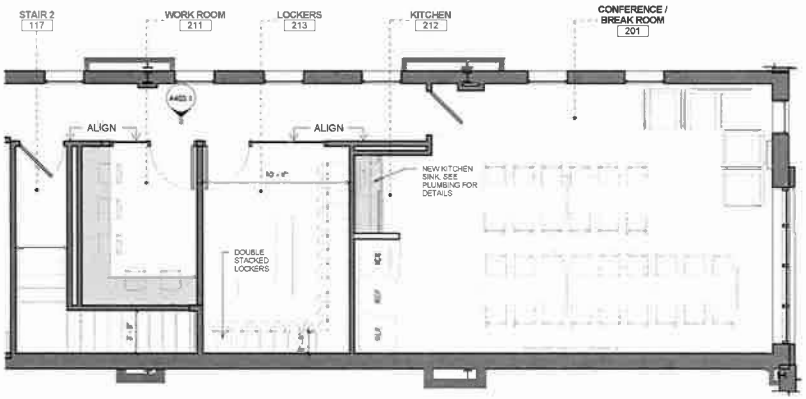
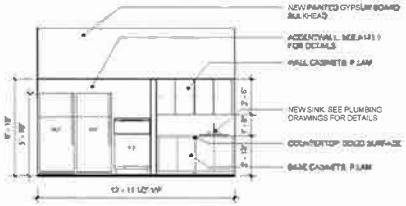
ENLARGED PLANS @ LOBBY

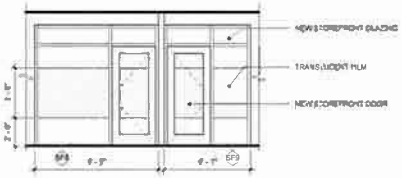
A402.1



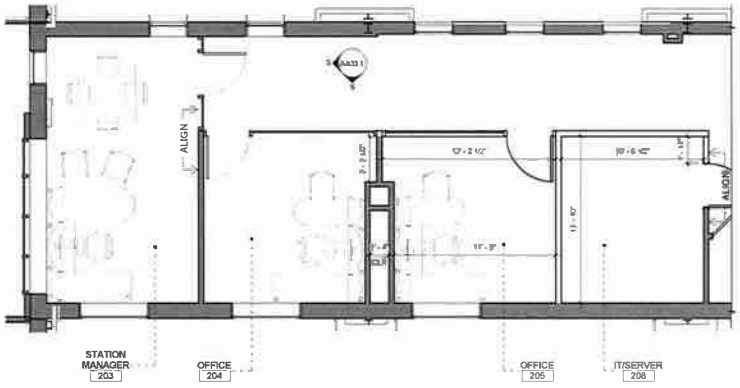
1 CONFERENCE/BREAK ROOM, LOCKER ROOM + WORK ROOM
1/4" = 1'-0"



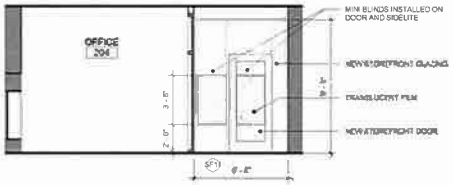
2 INTERIOR ELEVATION KITCHEN
1/4" = 1'-0"



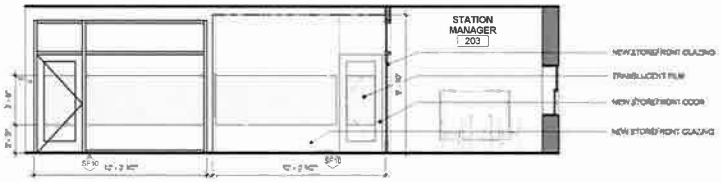
3 INTERIOR ELEVATION WORK ROOM AND LOCKERS
1/4" = 1'-0"



4 CONFERENCE ROOM + OFFICES
1/4" = 1'-0"



5 INTERIOR ELEVATION OFFICES WEST
1/4" = 1'-0"



6 INTERIOR ELEVATION OFFICES SOUTH
1/4" = 1'-0"

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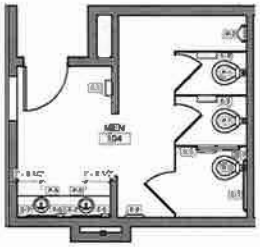
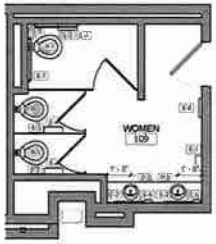
ENLARGED PLANS @ SECOND FLOOR

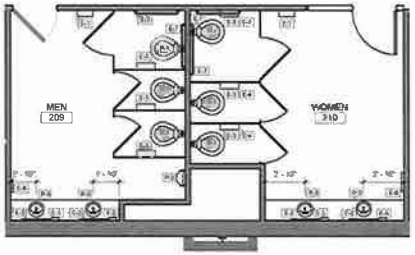
A403.1



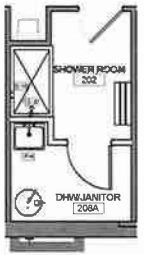
1 TOILET PLAN - LEVEL 1 MEN
1/4" = 1'-0"



2 TOILET PLAN - LEVEL 1 WOMEN
1/4" = 1'-0"

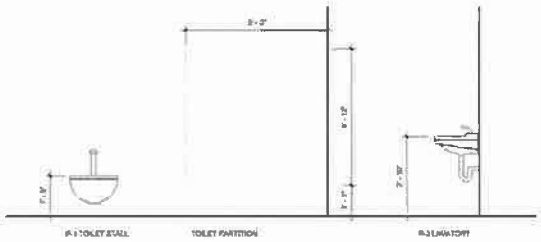


3 TOILET PLANS - LEVEL 2
1/4" = 1'-0"



4 SHOWER ROOM PLAN- LEVEL 2
1/4" = 1'-0"

TYPICAL MOUNTING HEIGHTS

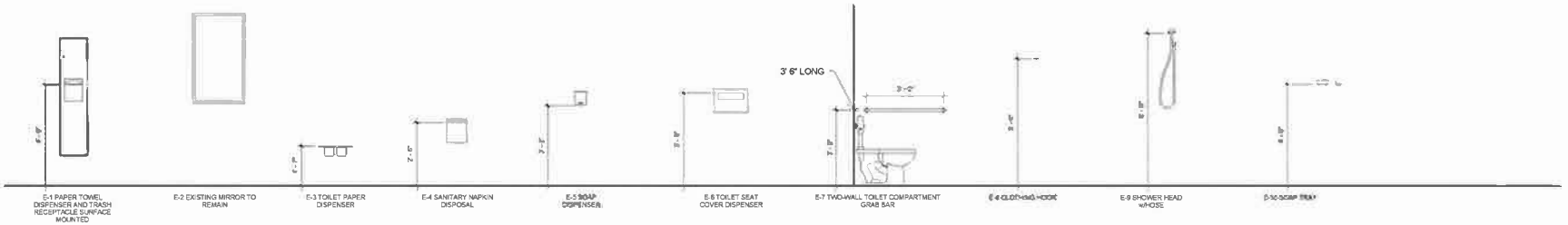


TOILET FIXTURE SCHEDULE

NO	DESCRIPTION	MFR	MODEL
F-1	WATER CLOSET	AMERICAN STANDARD	[illegible]
F-2	URINAL	AMERICAN STANDARD	[illegible]
F-3	LAVATORY	AMERICAN STANDARD	[illegible]
F-4	UTILITY SINK		

ACCESSORIES SCHEDULE

NO	DESCRIPTION	MFR	MODEL
E-1	PAPER TOWEL DISPENSER/WASTE RECEPTACLE	BOBRICK	-
E-2	EXISTING MIRROR TO REMAIN		
E-3	TOILET PAPER DISPENSER W/SHELF	BOBRICK	B-2480
E-4	SANITARY NAPKIN DISPOSAL, SURFACE MOUNTED	BOBRICK	B-270
E-5	SOAP DISPENSER, SURFACE MOUNTED	BOBRICK	818615
E-6	TOILET SEAT COVER DISPENSER	BOBRICK	B-4221
E-7	TWO-WALL TOILET COMPARTMENT GRAB BAR	BOBRICK	B-6897
E-8	CLOTHING HOOKS	BOBRICK	B-2116
E-9	SHOWER HEAD W/HOSE		
E-10	SOAP TRAY	BOBRICK	B-6807
E-11	TOILET PARTITIONS, FLOOR MOUNTED BAKED ENAMEL	BRADLEY	BAKED ENAMEL - [illegible]



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ENLARGED PLANS @ BATHROOM

A404.1

DOOR TYPES

GENERAL NOTES:
1 SILENCERS ON ALL DOORS
2 V.I.F. ALL EXISTING OPENINGS PRIOR TO ORDERING + INSTALLATION

(A) EXTERIOR DOORS (DBL)
ALUMINUM STOREFRONT SYSTEM

(B) INTERIOR DOORS
ALUMINUM STOREFRONT SYSTEM

(C) INTERIOR DOORS
HM DOOR + FRAME

(D) INTERIOR DOORS
HM DOOR + FRAME WITH GLASS LITE

(E) INTERIOR DOORS
ALUM DOOR AND FRAME FULL GLASS LITE

DOOR HARDWARE SCHEDULE

HARDWARE GROUP NO. 1 (STOREFRONT DOUBLE DOORS)

6	EA	HW HINGE	
1	EA	DEADBOLT LOCKSET	
2	EA	FSIC CORE	COORDINATE KEYING WITH DGS
1	EA	CONCEALED CLOSER	
1	SET	SEALS	
2	EA	DOOR PULLS	
1	EA	THRESHOLD	

HARDWARE GROUP NO. 2 (BATHROOM DOORS)

3	EA	HW HINGE	4.5 X 4.5
1	EA	PUSH PLATE	IVES 8200
1	EA	PULL	IVES 8302
1	EA	THRESHOLD	

HARDWARE GROUP NO. 3 (NEW HARDWARE ON [illegible] NEW DOORS)

1	EA	INTEGRATED WIR DOOR ACCESS	SIMILAR TO CORBIN RUSSWIN ACCESS 800 W1
1	EA	DOOR LOCK MAGNET	COMPATABLE WITH INTEGRATED DOOR ACCESS

HARDWARE GROUP NO. 4 (STOREFRONT DOORS)

3	EA	HINGES
1	EA	LATCH + PASSAGE SET
1	EA	LOCK + CORE
1	EA	THRESHOLD
1	EA	ASTRAGAL

HARDWARE GROUP NO. 5 ([illegible] ROOM, [illegible] ROOM DOOR)

3	EA	HINGES
1	EA	LATCH + PASSAGE SET
1	EA	LOCK + CORE
1	EA	THRESHOLD
1	EA	ASTRAGAL

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DISTRICT OF COLUMBIA
RICHARD BOARDMAN
No. 1443
REGISTERED
ARCHITECT

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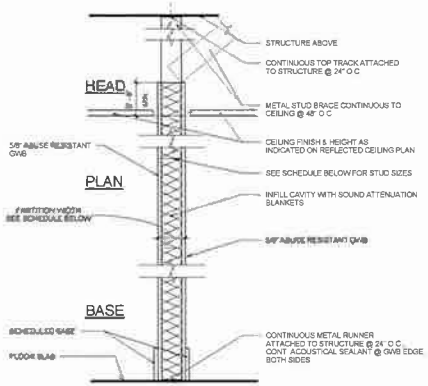
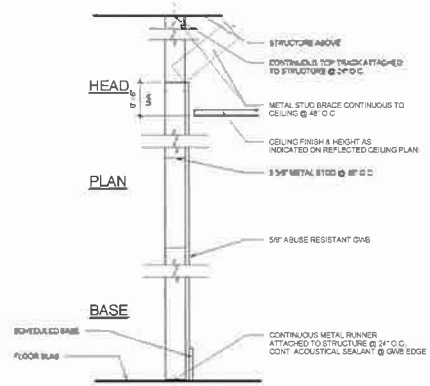
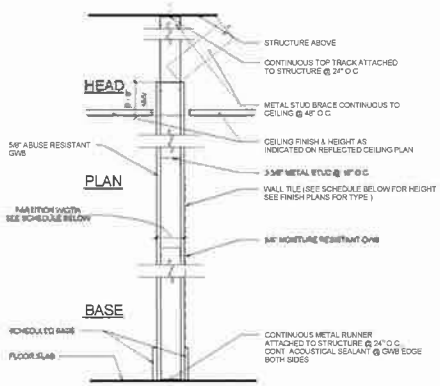
DOOR SCHEDULES

A801.1

PARTITION TYPES







PARTIAL HEIGHT PARTITION

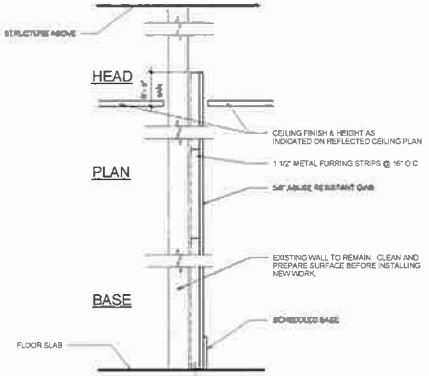
TYPE	PART. WIDTH	MAX. HEIGHT	STUD SIZE	MAX. STUD SPACING O.C.	SOUND BATT. INSUL.	FIRE RATING	UL RATING	REMARKS
P1	4 3/8"	17'-6"	3 5/8"	24"	YES	NONE	NONE	GWB BOTH FACES
P1A	MATCH EXISTING	12'-6"		24"	YES	NONE	NONE	GWB BOTH FACES

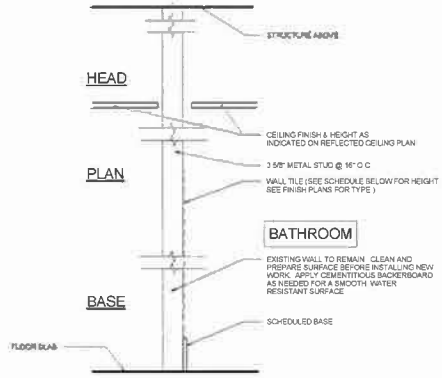
PARTIAL HEIGHT PARTITION

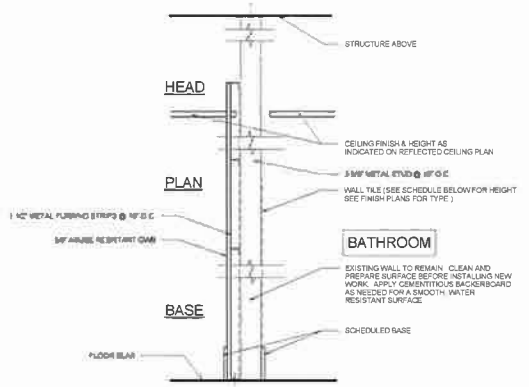
TYPE	PART. WIDTH	MAX. HEIGHT	STUD SIZE	MAX. STUD SPACING O.C.	SOUND BATT. INSUL.	FIRE RATING	UL RATING	REMARKS
P2	4 1/8"	17'-6"	3 5/8"	24"	NONE	NONE	NONE	GWB ON ONE SIDE

PARTIAL HEIGHT PARTITION

TYPE	PART. WIDTH	MAX. HEIGHT	STUD SIZE	MAX. STUD SPACING O.C.	SOUND BATT. INSUL.	FIRE RATING	UL RATING	REMARKS
P3	4 3/4"	17'-6"	3 5/8"	24"	NONE	NONE	NONE	WALL TILE ONE SIDE 48" AFF.
P3A	4 3/4"	17'-6"	3 5/8"	24"	NONE	NONE	NONE	WALL TILE ONE SIDE 5" ABOVE CEILING
P3B	MATCH EXISTING	12'-6"		24"	NONE	NONE	NONE	WALL TILE ONE SIDE 5" ABOVE CEILING







PARTIAL HEIGHT FURRING WIDTH PARTITION

TYPE	PART. WIDTH	MAX. HEIGHT	STUD SIZE	MAX. STUD SPACING O.C.	SOUND BATT. INSUL.	FIRE RATING	UL RATING	REMARKS
F1	2 1/8"	17'-6"	3 5/8"	24"	NONE	NONE	NONE	GWB ON ONE SIDE

PARTIAL HEIGHT FURRING WIDTH PARTITION

TYPE	PART. WIDTH	MAX. HEIGHT	STUD SIZE	MAX. STUD SPACING O.C.	SOUND BATT. INSUL.	FIRE RATING	UL RATING	REMARKS
F2	2 1/8"	17'-6"	3 5/8"	24"	NONE	NONE	NONE	WALL TILE ONE SIDE UP TO 48"
F2A	2 1/8"	17'-6"	3 5/8"	24"	NONE	NONE	NONE	WALL TILE ONE SIDE 5" ABOVE CEILING
F3	2 1/8"	17'-6"	3 5/8"	24"	NONE	NONE	NONE	WALL TILE BOTH SIDES UP TO 48"
F3A	2 1/8"	17'-6"	3 5/8"	24"	NONE	NONE	NONE	WALL TILE BOTH SIDES 5" ABOVE CEILING

PARTIAL HEIGHT FURRING WIDTH PARTITION

TYPE	PART. WIDTH	MAX. HEIGHT	STUD SIZE	MAX. STUD SPACING O.C.	SOUND BATT. INSUL.	FIRE RATING	UL RATING	REMARKS
F4	2 1/8"	17'-6"	3 5/8"	24"	NONE	NONE	NONE	GWB OR ONE SIDE WALL TILE 5" ABOVE CEILING ON OTHER SIDE

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PARTITION TYPES

A802.1

DIVISION 1 - GENERAL REQUIREMENTS

01 11 00 SUMMARY OF WORK

A. The Work shall comply with all applicable laws, regulations, ordinances, town orders, approvals, etc., that are required by public authorities. In the event of conflict, the most stringent requirements shall govern. Requirements include but are not necessarily limited to, the currently applicable edition or publications of the following:
1 ICC International Building Code (IBC) 2006 Edition
2 ICC International Existing Building Code (IEBC) 2006 Edition
3 National Fire Protection Association
4 American National Standards Institute
5 Americans with Disabilities Act Accessibility Guidelines

B Install building standard fire extinguishers and cabinets where required by applicable codes. Coordinate final locations with Architect.

01 25 00 SUBSTITUTION AND OPTION PROCEDURES

A. The Contractor's bid shall be based on providing all specified items. Substitutions shall be considered only under the following circumstances:
1 The specified item is accompanied by the words "equal to". References to makes, brands, models, etc. is to minimum type and quality desired.
2 The item as shown is not available in a commercially long lead time.
3 An item of equal appearance and equal or greater quality to the specified item can be provided at substantial savings to the Owner.

B Substitutions shall be considered by the Architect for acceptance under the following procedure:
1 The Contractor shall make all requests for substitutions within seven (7) calendar days of contract award.
2 The Architect requires seven (7) calendar days for review of the Contractor's request for substitution.
3 The Contractor's request for substitutions shall include product information and samples as deemed necessary by the Architect of both the specified item and proposed substitution. Characteristics of both products shall be clearly identified for the Architect's evaluation.

01 29 00 MEASUREMENT AND PAYMENT

A. Prior to commencing with the Work, the Contractor shall submit to the Architect the following information:
1 A Schedule of Values indicating the components of Work listed in sufficient detail to the satisfaction of the Architect and the Owner to serve as a basis for computing values for Applications for Payments during construction.
2 A construction schedule for the Work in bar chart form. This schedule will be used as the basis for evaluating progress of the Work and Applications for Payments.

B The above schedule will be used as the basis for evaluating progress of the Work and Applications for Payments.

C Applications for Payment shall use AIA Document G702. Applications are to be notarized and bear the signature of an authorized officer.

D Only approved Change Orders are to be included on Applications for Payment.

01 31 00 COORDINATION

A Coordination with Base Building and other Building Occupants:
1 Continue extreme care and protection during construction of the Work. Schedule Work to minimize disturbances to adjacent spaces and/or structures and their occupants, property, public rights-of-way, etc. The Contractor shall take precautions and be responsible for the safety of building occupants from construction procedures. The Contractor shall be responsible for any damage caused thereby.
2 Refer to ADEQ 1 for further explanation of Basis of Work requirements, and operational requirements.
3 The Contractor shall be required to meet all Owner requirements for construction.
4 The Contractor shall coordinate with Owner all Work required by the Owner that occurs during the Owner space and is in, or with the base building. The contractor is responsible for the installation and integrity of all penetrations required by the cabling, duct and for sealing as Owner requirements.
5 The Contractor shall review the base building Contract Documents and shall comply with base building requirements design criteria.
6 Prior to drilling and penetrations, the Contractor shall do the following:
a Clearly identify location of base penetrations for Architect's review.
b Coordinate with existing conditions prepared by others or contractors, architect, architect, engineer, mechanical, etc.
c Any proposed work proximity shall be reviewed to identify structural elements as required by Owner.

B Coordination with Owner - Supplied Items:
1 Make necessary provisions for items to be installed or assisted by owner as indicated on the drawings. Such provisions include but are not limited to: masonry & electrical requirements.
2 Provide protection for Owner supplied items until completion of the project.
3 The Contractor is to include the installation cost of Owner supplied items unless otherwise noted.
4 Any ambiguity or need for clarification regarding scope of Work related to Owner-supplied items is to be reviewed with the Architect prior to commencing with the Work.
5 Telephone and data work shall be coordinated by the Contractor with Owner's representative.
6 Security System work shall be coordinated by the Contractor with Owner's representative.

C. Cut and fit components for alteration of existing work and installation of new work. Patch textured areas to match adjacent materials and finishes.

D Prior to construction, the Contractor shall verify that no conflicts exist in location of any mechanical, telephone, electrical, plumbing and sprinkler equipment (to include piping, duct work, structural members and conduit) and that required clearances for installation and maintenance of above equipment are provided. Elements in conflict shall be determined and reviewed with Architect for resolution prior to construction.

E. Contractor shall order and schedule delivery of materials in ample time to avoid delays in construction. If an item is found to be unavailable or have a long lead time, the Contractor shall notify Architect within seven (7) days of contract award.

01 33 00 SUBMITTALS

A. Within seven (7) calendar days of the contract award, the Contractor shall submit to the Architect a schedule of all submittals identifying estimated date of submission and the last by the construction activities affected, within that time for re-submittal, if necessary. Submittals shall include but are not limited to:
1 Finishes
2 Carpet seaming diagram
3 Doors, frames, and hardware
4 Glass
5 Metals
6 Millwork
7 Equipment
8 Appliances
9 Mechanical equipment, diffusers, grilles, devices, etc
10 Electrical equipment, light fixtures, controls, devices, etc
11 Plumbing equipment, fixtures, devices, etc
12 Sprinkler plan
13 Construction Waste Management Plan
14 Paint, Sealants, and Adhesives list

B Preparation of submittals shall be as follows:
1. All submittals shall be in digital format (PDF) only, U.N.O all files shall be in full color at a resolution adequate for reading.
2. The Contractor shall submit a minimum of three (3) samples of finishes. The Architect shall retain two (2) samples of finishes for record and return a minimum of one sample to Contractor.

C The Contractor shall provide manufacturer's specifications, installation instructions, shop drawings and samples for review and approval prior to ordering or proceeding with the Work. No construction shall proceed until submittals are approved.

D Contractor shall allow five (7) working days for the Architect and Consultants to the Architect to review submittals. All submittals not reviewed directly by the Architect, but rather Consultants of the Architect, shall be submitted simultaneously to both the Architect and the consultant and shall be noted as such. The contractor shall not proceed with work until both Architect and Consultant have approved the sub-metal. No extension of the contract time will be granted because of failure to provide submittals for the Architect's review or coordination in a timely fashion.

E The Architect reserves the right to reject any and all items installed without prior review and approval by the Architect.

F. Refer to transmittal sheet for specific submittal instructions.

G Review submittals by Architect for Contractor shall not relieve the Schedule shall not relieve the Contractor of responsibility for any deviation from the requirements of the Contract Documents unless the Contractor has informed the Architect in writing of such deviation at the time of submission and the Architect has given written approval to the specific deviation. Review submittals by Architect shall not relieve the Contractor from responsibility for errors or omissions in the submittals.

01 40 00 QUALITY CONTROL

A. Dimensions and Tolerances.
1 Do not scale drawings; dimensions govern. Verify dimensions with field conditions. If discrepancies are discovered between drawings, notes and drawings, or between drawings, contact the Architect for resolutions before proceeding.
2 Horizontal dimensions are from the face of stud to face of stud, except where noted.
3 Vertical dimensions are from top of floor slab, except where noted to be from above finished floor (AFF) as measured from the high point of the slab. Contractor to notify the Architect when deviation is greater than allowed in note 4 below.
4 Floor Tolerance: The Contractor is to immediately verify slope and report any deviation over a 1/4 inch slope in 10 feet to the Architect prior to commencing Work. The Contractor shall be responsible for leveling of areas to achieve a slope of deviation of less than 1/4 slope in 10 feet. The Contractor shall ensure an adequate level floor under all swinging and sliding doors prior to ceiling glass panels and operable partitions.
5 Dimensions are not adjustable without approval of the Architect unless noted (±).
6 Dimensions indicated to be "clear" or "CR" shall be maintained. Any discrepancies or variations in these dimensions shall be reviewed with the Architect before beginning construction.
7 Any dimension noted "Verify" or "VIF" shall be reviewed with Architect before beginning construction.
8. The Contractor shall continuously check Architectural and structural clearances for accessibility of equipment and mechanical and electrical and electrical systems. No allowance of any kind will be made for the Contractor's failure to foresee means of installing equipment into position inside structures.

B Existing Conditions:
1 The Contractor shall be responsible for checking Contract Documents, field conditions, and dimensions for accuracy and confirming the Work is buildable as shown before proceeding with construction. Clarification regarding any conflicts shall be resolved prior to related Work being started.
2 The Contractor shall notify the Owner in writing of any deficiencies in base building construction prior to the commencement of this Work. Any unreported deficiencies will become the responsibility of the Contractor to correct.

C In the event of conflict between the Drawings and the Specifications, the more stringent requirement, shall govern. Detail Drawings take precedence over drawings of larger scale. Should the Contractor or any trade discover or come on a drawing or specification, or a discrepancy or variation between dimensions drawings and measurements on site, or lack of dimensions or other information, the Contractor shall not proceed with the Work affected until clarification has been made.

D The Contractor shall coordinate and review the Work and each division of the Work listed below on the field prior to construction in a site walk through with the Architect. Any conflicts that arise shall be brought to the Architects attention in writing for direction prior to proceeding with construction.
1 Partitions
2 Doors
3 Door and Hardware
4 Electrical/Telephone outlets
5 Thermostats
6 VAV boxes, supplemental AC units and other mechanical, electrical, or plumbing items requiring ceiling access or affecting ceiling height

E The Contractor shall follow manufacturer's recommended specification & installation procedures. If these are contrary to the Contract Documents, the Contractor shall notify the Architect in writing, immediately, to resolve discrepancies prior to proceeding.

F. Only new items of recent manufacture of the highest quality, free from defects, will be permitted on the Work. Rejected items shall be removed immediately from the Work and replaced with items of the quality specified. Failure to remove rejected materials and equipment shall not relieve the Contractor from responsibility for quality and character of items used nor from any other obligation imposed by the Contract.

G The finished Work shall be firm, well anchored, in true alignment, plumb, level, with smooth, clean, uniform appearance without waves, projections, holes, marks, cracks, stains, or discoloration. Joinings shall be close fitting, neat and well aligned. The finish work shall have no exposed unsightly anchors or fastenings and shall not present hazardous, unsafe corners. Work shall have the provision for expansion, contraction, and shrinkage as necessary to prevent cracks, buckling and warping due to temperature and humidity conditions.

H Attachments connections or fastenings of any nature are to be properly and permanently secured in conformance with best practice and the Contractor is responsible for improving them accordingly. The drawings show only special conditions to assist the Contractor. They do not illustrate every such detail.

I No Work defective in construction or quality or deficient in any requirements of drawings and specifications will be acceptable, in consequence of the Owner's or Architect's failure to discover or to point out defects or deficiencies during the progress of, nor will payments of inspection or Work relieve the Contractor from responsibility for securing quality and progress of Work as required by the Contract. Defective Work revealed within required time guarantees as specified in the Contract, shall be replaced by Work conforming with the intent of the Contract. No payment whether partial or final, shall be construed as an acceptance of defective Work or improper materials.

01 50 00 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

A. The Contractor is responsible for and shall provide protection for any existing base building finished including elevator lobbies, stairs, and corridors. Contractor shall coordinate with Owner for protection requirements.

B The Contractor shall patch and repair fireproofing damaged or removed during performance of the Work.

C Prior to beginning work, all existing window blinds shall be tested, catalogued, and protected. Provide Architect and Owner with a listing of existing window blind information.

D All perimeter openings and shall be screened and sealed during operations and construction.

E Debris shall be removed from the site on a daily basis. Upon completion of the Work, remove debris from the site created by the Work provided under the Contract and leave areas clean.

01 57 19 INDOOR AIR QUALITY

A. Low-Emitting Materials: all finishes shall comply with applicable regulations regarding toxic and hazardous materials as well as the following regulations:
1. Adhesives and Sealants shall comply with South Coast Air Quality Management District Rule 1168 limits for Volatile Organic Compounds (VOCs)
2 Aerosol Adhesives shall comply with Green Seal Standard for Commercial Adhesives, GS-36
3. Architectural Paints, Coatings, and Primers shall comply with Green Seal Standard GS-11
4 Anti-Corrosive and Anti-Rust Paint is shall comply with Green Seal Standard GS-03
5 Clear Wood Finishes, Floor Coatings, Stains, Sealers and Shellacs South Coast Air Quality Management District Rule 1113 limits for Volatile Organic Compounds (VOCs)

B. Protection of ducts, terminals, absorbers during HVAC&R for storage prior to construction.

01 74 19 CONSTRUCTION WASTE MANAGEMENT

A. SUMMARY
1 Minimize the creation of construction and demolition waste on the job site; minimize waste sent to landfills.
2. Implement a Construction Waste Management Plan including but not limited to the requirements outlined within this Section and in the Sections referenced herein.
B Compost, recycle, salvage, or donate a minimum of 50% by weight or volume of solid non-hazardous project construction and demolition debris, excluding excavated soil and land-clearing debris, and including but not limited to the following:
a Asphalt paving
b Concrete and concrete pavers
c Bricks and brick pavers
d Concrete Masonry Units (CMUs)
e Ferrous and non-ferrous metals
f Gypsum board (unpainted)
g Plywood, OSB, and particleboard
h Plastics
i Roofing materials
j Glass
k Clean, untreated, unpainted dimensional wood (free of nails or other fasteners (wood pallets may be acceptable with paint and/or fasteners)
l Carpet and pad
m Leftover paint (kept in its original container)
n Leftover paint (kept in its original container)
o Light bulbs and tubes
p Beverage containers (plastic, glass and metal)
q Corrugated cardboard
r Mixed paper
s Gypsum board (unpainted)

4. References
a "Maryland Recycles" website: http://www.mdrecycles.org/ for local resources related to construction materials recycling and salvage
b Maryland Commercial Recycling Specialist (410) 333-3056
c Construction Waste Management Checklist available from the architect

B SUBMITTALS
1 Construction Waste Management Plan: Prior to waste removal, submit for approval a Plan as outlined in this Section, including but not limited to the following:
a MATERIALS LIST: Analysis of the estimated job-site waste to be generated, including types and quantities of compostable, recyclable and salvageable materials.
b METHODS: Description of the materials and methods to achieve the 50% diversion requirement for compostable, recyclable, and salvageable materials including those that may be donated to a charitable organization.
c FACILITIES: Identification of the recycling and salvage facilities, including receivers proposed for use in the project, materials accepting, participation waste materials at various building material suppliers by utilizing the Yellowpages or by contacting the Recycling Specialist, as listed in this Section.
2 Waste Management Progress: Address construction waste management during construction administration meetings and submit report on the progress of the MATERIALS LIST, METHODS, and RESOURCES.
3 Final Waste Management Report: At completion of construction submit a report with updated MATERIALS LIST, METHODS, and RESOURCES. Show the total amount (by weight) of recycled and/or salvaged and/or donated construction and demolition waste and the total amount (by weight or volume) of landfilled waste.

C WASTE MANAGEMENT PLAN IMPLEMENTATION, GENERAL
1. Inform all those regarding of specifications and definition waste recycling requirements relevant to their work. Provide on-site instruction of appropriate separation, handling and recycling methods for construction personnel.
2. Designate at least one specific area for separation of materials for salvage and recycling, being reviewing and waste bin areas neat and orderly and properly marked.
3. Maintain on-site log, which includes natural resources information for each load of materials generated that size.
4. Materials: Store and dispose of hazardous wastes appropriately and in accordance with local regulations. Do not handle, especially store, salvage, or recycle hazardous materials with other materials.
5. Coordinate work of recycling and salvaging waste haulers with other Parties.

01 77 00 CONTRACT CLOSEOUT

A. When the Contractor considers that the Work is substantially complete, the Contractor shall prepare and submit to the Architect a list of items to be completed or corrected. The Architect shall visit the site to determine the status of completion and amend the Contractor's list as required. Upon the Contractor's stated completion of the items listed to be completed or corrected, and prior to the final payment, the Architect shall perform a final inspection of all items listed. Failure to complete listed items as determined by the Architect, shall require additional site visits as awarded by the Architect to determine final completion. The cost of any additional site visits shall be billed hourly based on the Architect's published hourly rates and shall be deducted from the Contractor's final payment.

B The following items shall be submitted to the Owner by the Contractor before requesting final payment:
1. Complete release or waiver of liens - documentation shall be notarized and signed.
2 Certificates of Inspection approvals for required occupancy permit and similar approvals or certifications by governing authorities, assuring the Owner's full access and use of completed Work.
3 A notebook containing warranties, bonds, guarantees, affidavits and certificates required by the Contract Documents. Include any operating and cleaning instructions for appliances, materials, finishes, systems, and equipment installed as part of the Work.

C Final Cleaning: Remove protective coverings, coverings, and tags. Labels or other markings from materials, fixtures and equipment. Clean wall, floor and ceiling surfaces including trim, outlet and switch plates, windows, window sills, and window treatments. Clean plumbing fixtures to a sanitary condition.

DIVISION 2 - SITEWORK

02 41 19 SELECTIVE DEMOLITION

A. Extent of demolition are is indicated in the Drawings. Coordinate all demolition with new work. Contractor shall be responsible for demolition of all items in conflict with new work.

B The Contractor shall review and adhere to all local codes and regulations as well as Owner requirements pertaining to demolition.

C. The Contractor shall proceed with caution and investigate existing conditions thoroughly before proceeding with work. Any discrepancies between estimated, actual and/or concealed conditions shall be brought to the attention of the Architect prior to commencement of work.

D The contractor shall not perform any work effecting the structural integrity of the building without the approval of the Owner.

E. Protect existing utility line service areas that are indicated to remain during demolition.

F Prior to demolition, the Contractor shall schedule a meeting with the Owner and the architect to review all items to be salvaged. Salvaged items may not necessarily be indicated for reuse. Notify the Architect in writing of any items scheduled to be salvaged, that are found to be damaged.

G. Extent of items to be reused is indicated in the contract Documents. Recycle or dispose of remaining items determined not to be salvaged in a safe, clean, manner and in accordance with the Waste Management Plan as well as local, state and federal regulations.

H Doors and frames scheduled for salvage and reuse shall be labeled to indicate which doors and frames were previously installed as a set.

I Remove all existing blind, shutters, and rods that are in use. Contractor shall identify all power, telephone, and data lines serving blind building fixtures that may pass through the tenant space. If any such lines are discovered, the Contractor shall immediately notify the Architect in writing.

J Make safe abandoned electrical conduits.

K. Terminate abandoned plumbing or piping to owners space.

L In ceiling areas scheduled to be exposed to existing structure above, Contractor shall remove all existing hangers, attachments, and other items fixed to the structure that are not in use.

M. All existing floor slab openings that are not used shall be patched and repaired to match adjacent slab.

N This Contractor shall removed all adhesives, plaster, and other surface materials from existing ceilings floors walls, and columns where scheduled to be exposed.

DIVISION 3 - CONCRETE

03 35 43 POLISHED CONCRETE FINISHING

03 53 00 CONCRETE TOPPING

DIVISION 4 - MASONRY

04 01 10 MASONRY CLEANING

04 05 23.16 STEEL ANCHORS AND INSERTS

04 22 00 GLASS MASONRY UNIT

DIVISION 5 - METALS (NOT USED)

DIVISION 6 - WOOD AND PLASTIC

06 10 00 ROUGH CARPENTRY

A. MATERIALS
1 Lumber
a Virgin Lumber: Lumber harvested from old growth forest is not permitted. Provide sustainably harvested certified or labeled in accordance with FSC guidelines.
b Salvaged Lumber: Lumber from deconstruction or demolition of existing buildings or structures. Unless otherwise noted, salvaged lumber shall be delivered clean, dressed, and free of painted finish materials, and other contamination.
c Recovered Lumber: Previously harvested lumber pulled from riverbeds or otherwise abandoned. Unless otherwise noted, recovered lumber shall be delivered clean and free of contamination.

2 Engineered Wood Products
a Products shall contain no added urea-formaldehyde.

3 Board Lumber: NLST PS-20 WWPA No 3 Common; SPIB 1003, Grading Rules No 3, S-Dry or MC-15

4 Dimension Lumber: NIST PS-20, 2 inches to 4 inches thick; 2 inches and wider. Any commercial softwood. Construction or No. 2 grade, S-Dry or MC-15

06 16 00 SHEATHING

A. SHEATHING MATERIALS
1 Engineered Wood Products
a Products shall contain no added urea-formaldehyde.

2 Plywood: APA Product veneer grade panels panelboard with phenol resin for interior and exterior applications.

3 Oriented Strand Board: Formaldehyde, free formaldehyde board.

4 Fiberboard:
a Recycled content
i Structural: Minimum 80 percent recycled content
ii Non-Structural: Minimum 100 percent post-consumer recycled content

5 Cellulose Honeycomb Panels: Panels shall be made of Kraft paper
a Recycled content: Minimum 100 percent post-consumer recycled content

6 Particleboard: Compressed wood fibers with phenol formaldehyde resin binder

06 20 00 FINISH CARPENTRY

A Submittals
1 Submit shop drawings and hardware's catalog cuts of all millwork hardware for review by the Architect in accordance with the requirements of the Contract Documents. Shop drawings shall show the design and dimensions, and clearly indicate in large scale the construction of the various components, reinforcements and other pertinent data and information as required for construction. Any variation from the drawings must be clearly noted as a variation from the requirements. Fabrication of millwork shall not proceed until shop drawings have been approved by the Architect.
2 The contractor shall submit a minimum of three (3) 12"x12" samples of all millwork finishes including stains and metals for approval. The Architect shall retain two (2) samples of finishes for record and return a minimum of one sample to Contractor. In circumstances as appropriate, size of samples may be waived if requested in writing by Contractor and approved by Architect prior to submission. Finishing of millwork shall not proceed until samples have been approved.
3 The Contractor shall provide the Architect with prequalified delivery date for all millwork. The Contractor shall continue to update in writing the anticipated delivery date until all finish materials have been received.
4 When Forest Stewardship (FSC) certified wood is required the Contractor shall provide written verification of the use of such wood to the Architect.

B VERIFICATION OF EXISTING CONDITIONS
1 Before proceeding with the millwork, the Contractor is to obtain field measurements, verify dimensions, and provide shop drawings and details to ensure an accurate fit. Any variance found in the field must be brought to the attention of the Architect prior to fabrication. It is the responsibility of the Contractor to coordinate with the millwork subcontractor any revisions or clarifications issued by the Architect.
2 The contractor shall provide field layout of all work and report any discrepancies to the Architect.

C EXECUTION OF THE WORK
1 The method of manufacturing, fabricating and installing millwork, and adjustment and all structural components defined in the Contract documents is representative and requires design intent only. If the proposed details or dimensions or properties are at variance with the Contractor's or manufacturer's recommendations, attempts should not be progressed to review when Shop Drawings are submitted in accordance with the Contract Documents. It shall be the responsibility of the contractor to guarantee that the millwork and equipment will have proper support, stability, and built-in performance. All work shall conform to Architectural Woodwork Institute (AWI) standards for Premium construction.
2 It is the intent of the Architect that the hardware requirements for highest quality and lasting durability for all cabinet furniture. If, in the opinion of the contractor, the hardware indicated on the Drawings does not represent the above-stated intent, the Contractor shall notify the Architect in writing with their reasons and proposed substitutions.
3 Millwork installed to have inset panel finishes and shall be constructed according to AWI standards for premium grade construction.
4 Millwork items in solid surface or plastic laminate shall be fabricated and assembled by factory adherent to the complete satisfaction of the Architect. Reinforcing as required to ensure a rigid and square assembly shall be provided where necessary. Joints shall occur as on the drawings. Exposed surfaces shall be free from dents, tool marks, warpage, buckle, glue and sand marks. All joint corners and miter joints/corners shall be made tightly so that threads are entirely concealed. All exposed finished parts shall be shown on shop drawings and approved by the Architect.
5 For millwork indicating plastic laminate, exterior finished surfaces provide black melamine as the interior cabinet and drawer surface finish (unless otherwise noted in the Drawings and details).
6 Install millwork to be plumb, level, true and straight with no distortions. Shim as required using concealed shims.
7 Scribe and cut Work to fit adjoining Work and refinish cut surfaces or repair damaged finish at cuts. Provide clear sealant at all joints.
8 Anchor millwork to built-in blocking or directly attached to substrate. Secure to grounds, blocking and blocking with counter-sunk, concealed fasteners and blind nailing, as required for a complete installation.
9 The Contractor shall be responsible for insuring certain that millwork items are not delivered until areas are sufficiently dry so that the millwork will not be damaged by excessive changes in the moisture content. All delivered units shall in such the final approved shop drawings and samples. Units which are marred, chipped or otherwise damaged shall be repaired or replaced as determined by the Architect. Units shall be protected during the shipment and installation. After installation of units in their proper location, all protection shall be removed and all surfaces thoroughly cleaned to the complete satisfaction of the Architect. Surfaces shall then be recovered and protected.
10 Repair or replace damaged or defective millwork whenever directed reasonably if millwork cannot be adequately repaired, it shall be replaced to the satisfaction of the Architect.
11 All standing and running trim (trim shall be solid, and machined (Clear) lumber to meet AWI requirements of Premium Grade.

26 41 19 PHOTOVOLTAIC RACKING ATTACHMENT (Colorado)

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

07 21 00 THERMAL INSULATION

07 84 13 PENETRATION FIRESTOPPING

DIVISION 8 - DOORS AND WINDOWS

08 11 13 HOLLOW METAL DOORS AND FRAMES

A. SUBMITTALS
1 Shop Drawings
a Submit shop drawings that show dimensions of each door design, door construction details, and materials of assembling leaves, fasteners, openings, and installation methods, dimensions, and shapes of all materials, openings and fastening methods, door frame types and details, wall opening construction details, and finish requirements.
b Indicate location of each unit in Project.
c Shop drawings submittal shall be coordinated with shop drawings submission of related portions of Work, such as:
i Wood Doors
ii Hardware

B QUALITY ASSURANCE
1 Qualifications
a Single Source Responsibility
i To ensure consistent possible finishes, products, etc. shall be products of a single manufacturer for units identified with manufacturer of hollow metal products.
ii Provide necessary accessory items which are products of or successfully recommended by hollow metal products manufacturer to ensure compatibility.

C HOLLOW METAL FRAMES
1 Miscellaneous: fully welded assembly of frames with drilled jambs to receive hardware.
a Gauge: 16 gauge
b Frames over 4'-0" (1200 mm) wide: 14 gauge

D FINISHES
1 Shop Priming
a Doors and frames shall be chemically treated to ensure maximum paint adhesion and coated, on unplated surfaces, with a rust-inhibitive primer suitable as a base for finish paints.
b Apply primer of even consistency to provide a uniform, finished surface. Allow to fully cure before shipment.

E FRAME TOLERANCES
1 Squareness: +/- 1/16" (1.5mm)
a Measured on the 90 degrees face any point, at least corner of frame at the shop point.
2 Alignment: +/- 1/16" (1.5mm)
a Measured on jambs on a horizontal line parallel to plane of wall.
3 Twist: +/- 1/16" (1.5mm)
a Measured at face corners of jambs on parallel lines perpendicular to plane of wall.
4 Plumbness: +/- 1/16" (1.5mm)
a Measured on jambs at floor.

F DOOR CLEARANCES (SUBJECT TO +/- 1/32" (0.8mm) TOLERANCE)
1 Clearances between doors and frames, except at floor: Provide 1/8" (3mm) plus or minus 1/32" (0.8mm).
2 Undercut doors sufficiently to allow clearance under flush doors and where required on doors to clear carpeted surfaces:
a Where scheduled door finish material is more than 1/2" (13mm) thick, allow not more than 3/4" (19mm) above floor finish.
b Where scheduled door finish material is more than 1/2" (13mm) thick, allow not more than 1/4" (6mm) above floor finish.
c Where a threshold is used, allow not more than 1/4" (6mm) above threshold.

G ADJUSTMENTS
1 Prime Coat Touch-up
a Sand smooth all rusted or damaged areas of prime coat and touch up with compatible air drying primer.
b Touch-up areas shall not be obvious.

H FINAL ADJUSTMENTS
a Check and re-adjust operating finish hardware just prior to final inspection and after painting. Repeat if hinges are indicated to be painted.
b Remove and replace defective work.

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PERMIT SET

REVISIONS

DISTRICT OF COLUMBIA REGISTERED ARCHITECT

DATE
22 JUNE 2015
PERMIT SET

SPECIFICATIONS

A901.1

DIVISION 8 - DOORS AND WINDOWS (CONTINUED)

08 41 00 - [illegible] ALUMINUM ENTRANCES AND STOREFRONT ASSEMBLIES

A SUBMITTALS

Product Data
Technical Information: Submit latest edition of manufacturer's product data providing product descriptions, technical data, Underwriters Laboratories, Inc. listings and installation instructions.

Shop Drawings
1 Indicate plans, elevations and details of product showing component dimensions, framing opening requirements, dimensions, tolerances, and attachment to structure.
2 Provide templates for the location of embeds and anchor locations required for any adjoining work (if applicable).

Samples
1 Two 8-inch by 10-inch samples for glass
2 Sample of frame
3 Verification of sample selected finish

Glazing Schedule: Use same designations indicated on drawings for glazed openings in preparing a schedule listing glass types and thicknesses for each size opening and location.

Warranties:
1 Submit manufacturer's warranty.
2 Certificates of compliance from glass and glazing materials manufacturers attesting that glass and Glazing materials furnished for project comply with requirements.
3 Separate certification will not be required for glazing materials bearing manufacturer's permanent label designating type and thickness of glass, provided labels represent a quality control program involving a recognized certification agency or independent testing laboratory acceptable to authority having jurisdiction.

B QUALITY ASSURANCE

Testing Agency Qualifications: Qualifications according to
1 International Accreditation Service for a Type A Third-Party inspection Body (Field Services ICC-ES Third-Party Inspections Standard Operating Procedures 00-01-S0400 and S0401)
2 International Accreditation Service for Testing Body-Building Materials and Systems

Fire Testing:
1) ASTM Standards E 119
2) CPSC Standards 16 CFR 1201
3) NFPA Standards 251, 252, 257
4) UL Standards 9, 10B, 10C, 1784, UL Subject 63
5) BS 476, Part 22, 1987
6) EN 1634-1
7) CAN Standards S 101, S 104, S 106

Installer Qualifications: An experienced installer who has completed glazing similar in material, design, and extent to that indicated for this Project, whose work has resulted in glass installations with a record of successful in-service performance, and who employs glass installers for this Project who are certified under the National Glass Association Glazier Certification Program as Level 2 (Senior Glaziers) or Level 3 (Master Glaziers).

Source Limitations for Glazing Accessories: Obtain glazing accessories from one source for each product and installation method indicated.

Listings and Labels - Fire Rated Assemblies: Under current follow up service by Underwriters Laboratories maintaining a current listing of certification. Label assemblies accordance with limits of manufacturer's listing.

C PROJECT CONDITIONS

Obtain field measurements prior to fabrication of frame units. If field measurements will not be available in a timely manner coordinate planned measurements with the work of other sections. Note whether field or planned dimensions were used in the creation of the shop drawings.

Coordinate the work of this section with others effected including but not limited to other interior components and door hardware beyond that provided by this section.

D WARRANTY

When warranties are required, verify with Owner's counsel that special warranties stated in this Article are not less than remedies available to Owner under prevailing local laws. Coordinate with Division 1 Section "Product Requirements."

Provide the Pilkington Pyrostop® and Performa® glazing for your manufacturer warranty.

E ACCEPTABLE MANUFACTURERS/PRODUCTS

Manufacturer Glazing Material: Pilkington Pyrostop® fire-rated glazing as manufactured by the Pilkington Group and distributed by Technical Glass Products 8107 Bracken Place SE, Snoqualmie, WA 98065 (800-426-0279) fax (800-451-9857) e-mail sales@firestop.com; web site http://www.firestop.com

Frame System: "Fireframe® Aluminum Series" fire-rated frame system as manufactured and supplied by Technical Glass Products 8107 Bracken Place SE, Snoqualmie, WA 98065 (800-426-0279) fax (800-451-9857) e-mail sales@firestop.com web site http://www.firestop.com

F PERFORMANCE REQUIREMENTS

System Description
Steel fire-rated glazed wall and/or window system, [all systems shall be UL listed.
Face widths available:
1) 2"
2) Custom extruded aluminum cover caps
3) Custom stainless steel cover caps

Outside / Weather Glazing: If building is fire rated, UV Resist.

Delegated design: For the performance requirements listed below requiring structural design provide data, calculations and drawings signed and sealed by an engineer licensed in the state [province] where the project is located.

Design Requirements
Design and size the system to withstand structural forces placed upon it without damage or permanent set when tested in accordance with ASTM E330 using load 1.5 times the design wind loads and of 10 seconds in duration at +/- 10 PSF.

G MATERIALS - GLASS

Fire Rated Glazing: Composed of multiple sheets of Pilkington Optiwhite™ high visible light transmission glass laminated with an intumescent interlayer

Impact Safety Assurance: ANSI Z97.1 and CPSC 16CFR1201Cat. I and II).

Properties Interior Glazing
Property
Fire Rating: 120 minute
Manufacturer's designation: 120-106
Glazing type IGU
Nominal Thickness: 2-1/4" (57mm)
Weight in lbs/sf: 22.9
Daylight Transmission: 75%
Sound Transmission Coefficient: 46dB

Logo: Each piece of fire-rated glazing shall be labeled with a permanent logo including name of product, manufacturer, testing laboratory (UL), fire rating period, safety glazing standards, and date of manufacture.

Glazing Accessories: Manufacturer's standard compression gaskets, standoff, spacers, setting blocks and other accessories necessary for a complete installation.

H MATERIALS - ALUMINUM FRAMES

Aluminum Framing System [120 min.]

Steel Frame — The steel framing members are made of two halves, nom. 1.9 in. wide (48.3 mm) with a nom. minimum depth of 1.38 in. (35 mm) with lengths cut according to glazing size.

Aluminum Trim — Supplied with the steel framing members. Nom. 2 in. (50.8 mm) wide with a nom depth of 1.54 in. (39 mm) with lengths cut according to glazing size.

Stainless Steel Standoffs — Supplied with the steel framing members. Nom. 5/16 in. (8 mm) diameter with a nom. minimum depth of 1 1/8 in. (28 mm) with depth adjusted to match Pilkington Pyrostop® Panel thickness.

Stainless Steel Mullion and Connecting Braces — Supplied with the steel framing members. Nom. 3/8 in. (10 mm) thick with a nom. minimum depth of 1 1/8 in. (28 mm) with depth adjusted to match Pilkington Pyrostop® Panel thickness.

Framing Member Fasteners — Supplied with the steel framing members. Screws are M6 x16mm Button Head Socket Cap Screws for frame assembly and #6 x 1" Pan Head Sheet Metal Screws for door installation.

Glazing Gasket — Supplied with the steel framing members. Nom. 3/4 in. (19 mm) by 3/16 in. (4.5 mm) black applied to the steel framing members to cushion and seal the glazing material when installed.

I INSTALLATION

General: Install frame system plumb, level, and true to its line, without warp or rack of frames with manufacturer's prescribed tolerances and installation instructions. Provide support and anchor in place.

Install fire window by a specialty contractor with appropriate experience qualifications, and in strict accordance with the approved shop drawings. Employ experienced mechanics familiar with this type of specialized work. Firmly pack perimeter of framing system to rough opening with mineral wool fire stop installation or appropriately rated intumescent sealant.

Install glazing in strict accordance with fire resistant glazing material manufacturer's specifications. Field cutting or tampering is not permissible.

Do not install damaged items or damaged glazing units.

Install plumb and true. Limit out of plumb or true to 1/8 inch in 10 -0" in any dimension.

REPAIR AND TOUCH UP

1. Powder Coated Finishes
2. Limited to minor repair of small scratches. Use only manufacturer's recommended products.
3. Such repairs shall match original finish for quality of material and view.
4. Repairs and touch-up not visible from a distance of 5 feet Owner and Architect to approve.
5. Remove and replace glass that is broken, chipped, cracked, abraded, or damaged.

PROTECTION AND CLEANING
Protect glass from damage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove nonpermanent labels, and clean surfaces.
Do not clean with astringent cleaners. Use a clean "grit free" cloth and a small amount of mild soap and water or mild detergent.
Do not use any of the following:
a Steam jets
b Abrasives
c Strong acidic or alkaline detergents, or surface-reactive agents
d Detergents not recommended in writing by the manufacturer
e Do not use any detergent above 77 degrees F
f Organic solvents including but not limited to those containing esters, ketones, alcohols, aromatic compounds, glycol ether, or halogenated hydrocarbons
g Metal or hard parts of cleaning equipment must not touch the glass surface

Protect glass from contact with contaminating substances resulting from construction operations, including weld spatter. If, despite such protection, contaminating substances do come into contact with glass, remove them immediately as recommended by glass manufacturer.
Wash glass on both exposed surfaces in each area of Project not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended by glass manufacturer.

08 63 23 - FIRE-RATED ALUMINUM-FRAMED SKYLIGHTS AND VERTICAL GLAZING UNITS

08 71 00 DOOR HARDWARE

REFER TO DRAWINGS FOR LIST OF DOOR HARDWARE APPLICABLE TO THIS PROJECT

09 00 00 - FINISHES

09 22 16 - NON-STRUCTURAL METAL FRAMING

A SUBMITTALS
1 The Contractor shall submit a minimum of three (3) 12"x12" square samples of each schedule finish for review by the Architect. The Architect shall retain two (2) samples of finishes for record and return a minimum of one sample to the Contractor.
2 The Contractor shall advise the Architect of locations of changes in dye lots, batches or similar color shifts.

B QUALITY ASSURANCE
1 Before proceeding with procurement of finishes, the Contractor shall field verify dimensions to ensure that sufficient quantities of materials are ordered to complete the work.
2 The Contractor shall refer to the Drawings for specific locations of finishes. Should the Contractor find any discrepancies, omissions, ambiguities or conflicts on the plans, the Contractor shall bring the item (s) to the attention of the Architect for direction, before ordering materials or proceeding with any work in question.
3 Finishes to be installed in strict accordance with the manufacturer's specifications and instructions and in a manner consistent with the highest quality standards of workmanship.
4 Where there is a question as to the acceptable level of quality for the installation of any materials, the Architect shall act as mediator.
5 Upon receipt from the manufacturer, inspect materials for defects. Keep shipping damage, correct color and pattern. Prior to beginning work, damaged or wrong materials shall be returned to the manufacturer for immediate replacement to prevent delays in the completion of the work.
6 Compliance with the manufacturer's requirements for handling, storage, installation, and protection is the exclusive responsibility of the Contractor.
7 Finishes shall extend over, under and/or behind any item of built-in millwork, equipment, mirrors, etc., as indicated on the drawings.

09 29 00 GYPSUM BOARD

A GENERAL
1 The Contractor shall notify Architect of date for partition layout. Layout shall be approved by Architect prior to construction.
2 All gypsum board installation shall be done by a qualified installer with experience in commercial applications similar in scope to this project.
3 Gypsum board installation shall conform to ASTM C840, the recommendations of the Gypsum Association, the specific recommendations of the manufacturer, and the requirements of the UL Fire Resistance Directory (at fire rated partitions).
4 At areas where existing partitions are indicated to remain: repair and prepare existing gypsum board surface to accept new finish. Quality of repaired and prepared surface of existing partition shall be equal to that of newly constructed partitions.
5 In damp areas, provide water resistant gypsum board.
6 At partitions in shower areas: schedule to receive ceramic tile.
a. Provide 1/2" thick glass mat water resistant gypsum board and apply to metal studs with galvanized screws @ 600mm o/c.
b. Provide a 1/8" sheet laminate glass mat water proof and fit joint with dry-set mortar and fiberglass mesh mortar.
c. Provide 2" glass fiber batt insulation in a wall type of metal stud at joints and openings.

7 All butt joints to be taped and filled.

B METAL FRAMING
1 Installation of metal framing for interior gypsum board shall conform to ASTM C754.
2 Metal stud gauge for partitions shall be 20 gauge minimum unless noted otherwise. Metal studs are fire rated partitions shall be 20 gauge minimum.
3 All partitions scheduled to receive ceramic tile: metal studs shall be 3 5/8, 20 gauge minimum spaced at 16" on center maximum.
4 Metal stud framing shall conform to ASTM C754 as follows:

Stud Depth	GWB layers each side	Max height* LOAD @ Stiffness	Stud spacing on center
2.5"	one	11'5"	16"
2.5"	one	10'5"	24"
2.5"	two	12'7"	24"
3 5/8"	one	15'5"	16"
3 5/8"	one	13'5"	24"
3 5/8"	two	15'5"	24"

* The use of these tables shall be limited to applications involving simply supported conditions. Where studs are braced at or below maximum stud height (by suspended ceiling or separate bracing), the overall height may be increased by 50%.

5 Metal runners shall correspond in size and gauge to metal studs. Metal runners shall be continuous and attachment shall be at 24" on center unless noted otherwise.
6 Metal framing shall be spaced at 24" on center unless noted otherwise.

C Fire Rated Gypsum Board Partitions
1 Fire rated partitions shall conform to UL Design number(s) indicated. Refer to UL Fire Resistance Directory - Volume 1 (latest edition) for additional information.
2 All Mechanical, Electrical and Plumbing penetrations in sound rated partitions shall be sealed at their perimeter with approved acoustical sealer.

D Sound Rated Partitions
1 Sound rated partitions shall conform to ASTM E497, Standard Practice for Installing Sound-Isolating Lightweight Partitions.
2 All Mechanical, Electrical and Plumbing penetrations in sound rated partitions shall be sealed at their perimeter with approved acoustical sealer.

E Gypsum Board Finish Notes:
1 Gypsum board that are installing and finished to either "A" or base use.
2 All Gypsum board panel joints and ends to receive reinforcement, they are tapered, treated or pre-embossed, are sanded smooth with no visible joints. Edge trim, corner beads, and pre-formed recessed V-bit bevel at panel perimeter, and recessed beneath wall to visible joints. Provide proper backing for all fixtures as recommended by manufacturer.
3 Outside diameters of gypsum board trim have metal corner beads (screwed type), unless noted otherwise.
4 Metal edge trim shall have USG #200B bases, and be of size or open corresponding to gypsum board thickness.
5 Provide "bell mask" type metal edge trim at all conditions where gypsum board meets dissimilar materials, unless noted otherwise.
6 Alignment of door heads and other critical horizontal elements shall be maintained at a constant level relative to the ceiling plane, and shall not follow variation on the floor plane.
7 Partition types above door are to be same as the adjacent partitions unless noted otherwise.
8 Align face of partitions with face of adjacent column unless noted otherwise.
9 Locate edge of trim adjacent perpendicular partition, unless noted otherwise.
10 Provide bracing to structure above at doors located in ceiling high partitions.
11 Provide additional studs as required to achieve outlet groupings.
12 Coordinate return air openings above partitions in slab to stand partitions with Mechanical Drawings. Identify proposed return air opening locations in field for Architects approval prior to installation.
13 Contractor shall locate items requiring access so as to avoid the requirement of access panels in gypsum board walls and ceilings. Where access panels must be installed in gypsum board walls and ceilings due to existing base building services, Contractor shall provide and install flush gypsum board frame type access panels. Identify proposed access panel location in field for Architects approval prior to installation.
14 In areas scheduled to have ceiling open to structure and where existing gypsum board or plaster bulkheads and column enclosures are scheduled to remain: extend and finish gypsum board or plaster to underside of structure.

F Blocking
1 Wood blocking shall be fire retardant treated (FRT). Install wood blocking as required in partitions as wall hung shelving, cabinets, artwork, toilet partitions and accessories, etc. Verify blocking requirements with millwork subcontractor and review with the Architect.

09 30 00 TILE

A ACCESSORIES
1 Adhesives: Water-resistant organic. ANSI A136.1
a TaraflyREQ: Comply with applicable regulations regarding toxic and hazardous materials, GS-36 for Commercial Adhesive, South Coast Air Quality Management District Rule 1168
2 Sealants:
a TaraflyREQ: Comply with applicable regulations regarding toxic and hazardous materials, Bay Area Air Quality Management District Reg. 8 Rule 51, and as specified.
3 Prepared Grouts
a TaraflyREQ: Cement based, petroleum-free and plastic-free grout. ANSI A118.4

09 51 23 ACOUSTICAL CEILINGS

A Submittals
1 Submit a minimum of three samples of the following:
a Acoustical ceiling panels: 6"x6" minimum
b Suspension system components: 12" in length

B Quality Assurance
1 To the greatest extent possible, materials including exposed wall moldings, suspension systems, and accessories, shall be products of a single manufacturer or items standard with manufacturer of acoustical ceiling panel units.

C Materials
1 Lay-in ceiling
a Grid CompoCentra - ASTM C635 Suspension System
i Tee: USG FineLine 1/8" DXFF, White
ii Wall Molding: USG Shadow Molding, ½", White
b Acoustical Ceiling Panels
i Size: 24" x 24"
ii Thickness: 3/4"
iii Edge: Style FLB
iv Color: White
v Product: USG Mars Clima Plus
2 High-performance lay-in ceiling
a Grid CompoCentra - ASTM C635 Suspension System
i Tee: USG FineLine 1/8" DXFF, White
ii Fascia: USG Drywall Grade, 2"X2", White
b Acoustical Ceiling Panels
i Size: 48" x 48"
ii Thickness: 1"
iii Edge: Style FLB
iv Color: White
v Product: USG Halcyon Clima Plus

D Installation
1 Grid System:
a Install grid system in compliance with ASTM C636.
b Install grid system in a true, even plane and in straight courses as indicated on Drawings and accepted shop drawings.
c Coordinate and locate ceiling components to grilles, lighting fixtures, and other related items. In determining location and spacing of hangar and primary runners, take into consideration weight of grilles, light fixtures, etc. that are to be installed in conjunction with acoustical ceilings.
d Provide stabilizer bars, clips, splices, and edge moldings needed for a complete installation.
e Hang grid system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
f Where ducts or other equipment prevent regular spacing of hanger, reinforce nearest effected hangers and related carrying channels to span extra distance.
g Do not support component on main runner or cross runners if weight causes total dead load to exceed maximum deflection limitations. Support fixture loads by supplementary hangers located within 6" (150 mm) of each corner, or support components independently.
h Do not eccentrically load system, or produce rotation of runners.
2 Moldings and Trim
a Install wall moldings at intersection of suspended ceiling and vertical surfaces using longest practical lengths. Provide moldings at junction with other interruptions and as needed to cover edges of acoustical ceiling panels.
b Attach moldings and trim with screws spaced not more than 16" (400 mm) on center and within 3" (075 mm) of ends of each piece being installed.
c Moldings and trim shall be level with suspension system an within tolerance specified for suspension system.
d Miter corners as align, butt joints where wall moldings intersect to form light, hairline joints.
e Face meeting of moldings and trim shall not be acceptable.
3 Tolerances
a Deflection of grid components shall not exceed 1/360 of span.
b Maximum Non-Flatness Over Surface: 1/8" (3mm) in 10 feet (3000 mm) maximum.
c Variation from Plane of Grid Members: 3 degrees measured, caused by eccentric loads.

E Adjusting and Cleaning
1 Follow grid system manufacturer's recommendations for methods and materials to clean and touch up exposed components.
2 Replace components which are discolored or damaged in any way, in a manner which results in grid system showing no evidence of replacement work.

09 65 00 RESILIENT FLOORING

A RUBBER TRANSITIONAL MOLDINGS AND TRIM
1 Color: TBD
2 Tile Reducer Strip
a Johnsonite - Tile Reducer Strip
b Flexco - Reducer Strip
c Mercer - Tile Reducer
d Roppe - Reducer Strip
3 Joiner Strip
a Johnsonite - Tile & Carpet Joiner
b Flexco - Carpet-to-Tile Adapter
c Mercer - Tile-Carpet Joiner
d Roppe - Tile/Carpet Joiner

B ACCESSORIES
1 Primers
a TaraflyREQ: Water-based clear, of types as approved by resilient flooring manufacturer for specific material and substrates encountered.
2 Adhesives
a TaraflyREQ: Comply with applicable regulations regarding toxic and hazardous materials, GS-36 for Commercial Adhesive, South Coast Air Quality Management District Rule 1168 and as specified.
3 Substrates: Acceptable substrates include the following:
a Particleboard: As specified in Section 06 16 00 - Sheathing.
b Fiberboard: As specified in Section 06 16 00 - Sheathing.
c Cork: Product:
i Biobased Content: Minimum 26 percent.
d Cement fiber board: Portland cement sand, recycled cellulose.
i Recycled Content: Minimum 10 percent post-consumer recycled content; or minimum 40 percent pre-consumer recycled content at contractor's option.

09 72 00 WALL COVERING

A SUBMITTALS
1 Product data: Unless otherwise indicated, submit as one copy for each type of product covered under work of this Section.
a Recycled Content
i Indicate recycled content; indicate percentage of pre-consumer and post-consumer recycled content per unit of product.
ii Indicate relative dollar value of recycled content product to total dollar value of product included in project.
iii If recycled content product is part of an assembly, indicate the percentage of recycled content product in the assembly by weight.
iv If recycled content product is part of an assembly, indicate relative dollar value of recycled content product to total dollar value of assembly.
b Local/Regional Materials
i Sourcing location(s): indicate location of extraction, harvesting, and recovery; indicate distance between extraction, harvesting, and recovery and the project site.
ii Manufacturing location(s): indicate location of manufacturing facility; indicate distance between manufacturing facility and the project site.
iii Product Value: indicate dollar value of product containing local/regional materials include materials cost only.
iv Product Component(s) Value: Where product components are sourced or manufactured in separate locations, provide location information for each component. Indicate the percentage by weight of each component per unit of product.
c VOC data
i Adhesives
2 Submit manufacturer's product data for adhesives. Indicate VOC limits of the product. Submit MSDS highlighting VOC limits.
3 Submit Green Seal Certification to GS-36 and application of the seam or enhancer.
4 Submit manufacturer's certification that products comply with SCAQMD Rule 1168 in areas where exposure to freeze/thaw conditions and cured exposure to moisture will not occur. In areas where freeze/thaw conditions do exist or direct exposure to moisture can occur, submit manufacturer's certification that products comply with Bay Area AQMD Reg. 8, Rule 51 for continents larger than 16 oz. and with California Air Resources Board (CARB) for containers 16 oz. or less.
a Biobased materials
i Indicate type of biobased material in product.
ii Indicate the percentage of biobased content per unit of product.
iii Indicate relative dollar value of biobased content product to total dollar value of product included in project.
5 Submit environmental data in accordance with Table 1 of ASTM E2129 for products provided under work of this Section.

B MATERIALS
1 Polyethylene
a TaraflyREQ: Free of vinyl, free chemical free wallcovering.
2 Fabric
a Recycled Content: Minimum 10 percent post-consumer recycled content, or minimum 40 percent pre-consumer recycled content at contractor's option.
b Biobased content: Minimum 75 percent biobased wallcovering.
i Sisal
ii Cork
iii Flax
3 Cellulose
a Recycled Content: Minimum [10] percent post-consumer recycled content, or minimum [40] percent, pre-consumer recycled content at contractor's option.

C ACCESSORIES
1 Adhesive
a TaraflyREQ: Comply with applicable regulations regarding toxic and hazardous materials, GS-36 for Commercial Adhesive, South Coast Air Quality Management District Rule 1168 and as specified.

D SITE ENVIRONMENTAL PROCEDURES
1 Indoor Air Quality: Provide temporary ventilation as specified in Section 01 57 19 - Indoor Air Quality (IAQ) Management.
2 Waste Management: As specified in Section 01 74 19 - Construction Waste Management and as follows:
a Billboard Carpet tile material may be returned and reprocessed in kind.

09 91 00 PAINTING

A SUBMITTALS
a Provide a minimum of three 12"x12" samples for each color and each finish indicated in the finish schedule.

B PRODUCTS
1. All primers and paints for gypsum wallboard and wood products shall qualify as "zero VOC" having 5 grams/liter or less VOCs.
2 Acceptable Products:
a Benjamin Moore & Co. Pristine Eco-Spec (www.benjaminmoore.com)
b Durlon Paints & Wall-coverings Ceramic Clad-Free (www.durlon.com)
c ICI Dulux Paints, Glidden, Devoe Lifemaster 2000 (www.icidecostore.com)
d The Sherwin Williams Company HeathSpec Low Odor Coating System (www.sherwinwilliams.com)
3 See finish schedule for paint colors and finishes.

C EXECUTION
1 General
a Prior to paint application, the Contractor shall schedule a review of finish paint color locations with the Architect in the field.
b See finish plan and interior elevations for specific locations of paint colors and finishes.
c Where paints of two different types or colors abut, the seam shall be on the inside corner only.
d Final coat of paint shall be roll applied at all GWB surfaces.
2 Preparation
a Remove blistered, peeling and scaling paint, or chalk deposits to sound substrates.
b Completely remove sealants or caulking.
c Dull glossy surfaces.
d At metal surfaces remove rust, oil, grease and other contaminants harmful to painting. Sand, clean and spot prime.
e At GWB surface, repair surface defects with joint compound, fill flush and sand smooth. Clean surfaces of dust, grease and dirt.
f At wood surfaces, sand smooth and remove dust. Countersink nails and fill nail holes, cracks and open joints with putty or wood filler.
3 Application (unless noted otherwise)
a At GWB surfaces
i One (1) primer coat. Primer sealer.
ii Two (2) finish coats*. Eggshell enamel finish @ walls, flat @ ceilings.
b At interior wood product surfaces to be painted
i One (1) primer coat. Primer sealer.
ii Two (2) finish coats*. Semi-gloss enamel.
c At interior metal door frame surfaces to be painted
i Two (2) finish coats*. Semi-gloss enamel.
ii *Or as many coats as necessary to completely cover surface.
4 Clean-up
a The Contractor shall provide and final clean up of paint surfaces, after the Owner has moved into the space.

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REVISIONS

DISTRICT OF COLUMBIA REGISTERED ARCHITECT

22 JUNE 2015
PERMIT SET

SPECIFICATIONS
A902.1

GENERAL PLUMBING NOTES

1. SYSTEM TYPES
2. REFERENCE STANDARDS
3. PERMITS AND INSPECTIONS
4. WARRANTY
5. SUBMITTALS
6. RECORD AS BUILT DRAWINGS

GENERAL PLUMBING DEMOLITION NOTES

1. WHERE EXISTING PLUMBING FIXTURES ARE INDICATED TO BE REMOVED, REMOVE EXISTING FIXTURE, TRAP AND ALL ASSOCIATED PIPING AND HARDWARE. REMOVE SERVICE BRANCHES BACK TO NEAREST MAIN AND CAP. DEAD LEGS SHALL NOT EXCEED 2X PIPE DIAMETER.
2. DEMOLITION SHALL BE PERFORMED IN SUCH A MANNER THAT WILL NOT DAMAGE ADJOINING SURFACES OR EQUIPMENT INDICATED TO REMAIN. WHERE SURFACES MUST BE REMOVED TO COMPLETE DEMOLITION, THE CONTRACTOR SHALL REPLACE AND REPAIR THE SURFACES BACK TO THE ORIGINAL CONDITION.
3. WHERE DEMOLITION WORK AFFECTS THE STRUCTURAL INTEGRITY OF THE BUILDING, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH DEMOLITION.
4. ALL REMOVED FIXTURES AND TRIM SHALL BE MARKED THE PROPERTY OF THE OWNER AND THE CONTRACTOR SHALL STORE ON SITE OR REMOVE FROM SITE SAID FIXTURES AS DIRECTED BY THE OWNER.
5. THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION WITH [illegible] SYSTEMS THAT MUST REMAIN IN SERVICE DURING CONSTRUCTION. WHERE SYSTEMS MUST REMAIN IN SERVICE DURING CONSTRUCTION, THE CONTRACTOR SHALL INCLUDE TEMPORARY CAPS AND ISOLATION VALVES.

ABBREVIATIONS

SYMBOLS

ANNOTATIONS

DETAIL ANNOTATIONS

DRAINS

MISCELLANEOUS

PLUMBING SYMBOLS

PIPE REPRESENTATION

PIPE VALVES AND ACCESSORIES

PIPE FITTINGS

SHEET LIST TABLE

DESIGN CRITERIA

ABBR	INTERNATIONAL BUILDING CODE
ABBR	INTERNATIONAL PLUMBING CODE
ABBR	INTERNATIONAL MECHANICAL CODE
ABBR	INTERNATIONAL FUEL GAS CODE
ABBR	DISTRICT OF COLUMBIA AMENDMENTS
ABBR	ECC
ABBR	DCMA

PLUMBING SHEET LIST

SHEET	DRAWING	TITLE
1	P0.01	GENERAL NOTES, SCHEDULES, ABBREVIATIONS, ABBREVIATIONS
2	P0.02	GENERAL NOTES, SCHEDULES, ABBREVIATIONS, ABBREVIATIONS
3	P0.03	GENERAL NOTES, SCHEDULES, ABBREVIATIONS, ABBREVIATIONS
4	P0.04	GENERAL NOTES, SCHEDULES, ABBREVIATIONS, ABBREVIATIONS
5	P1.01	GENERAL NOTES, SCHEDULES, ABBREVIATIONS, ABBREVIATIONS
6	P1.02	GENERAL NOTES, SCHEDULES, ABBREVIATIONS, ABBREVIATIONS
7	P1.03	GENERAL NOTES, SCHEDULES, ABBREVIATIONS, ABBREVIATIONS
8	P2.01	GENERAL NOTES, SCHEDULES, ABBREVIATIONS, ABBREVIATIONS
9	P2.02	GENERAL NOTES, SCHEDULES, ABBREVIATIONS, ABBREVIATIONS
10	P2.03	GENERAL NOTES, SCHEDULES, ABBREVIATIONS, ABBREVIATIONS
11	P3.01	GENERAL NOTES, SCHEDULES, ABBREVIATIONS, ABBREVIATIONS

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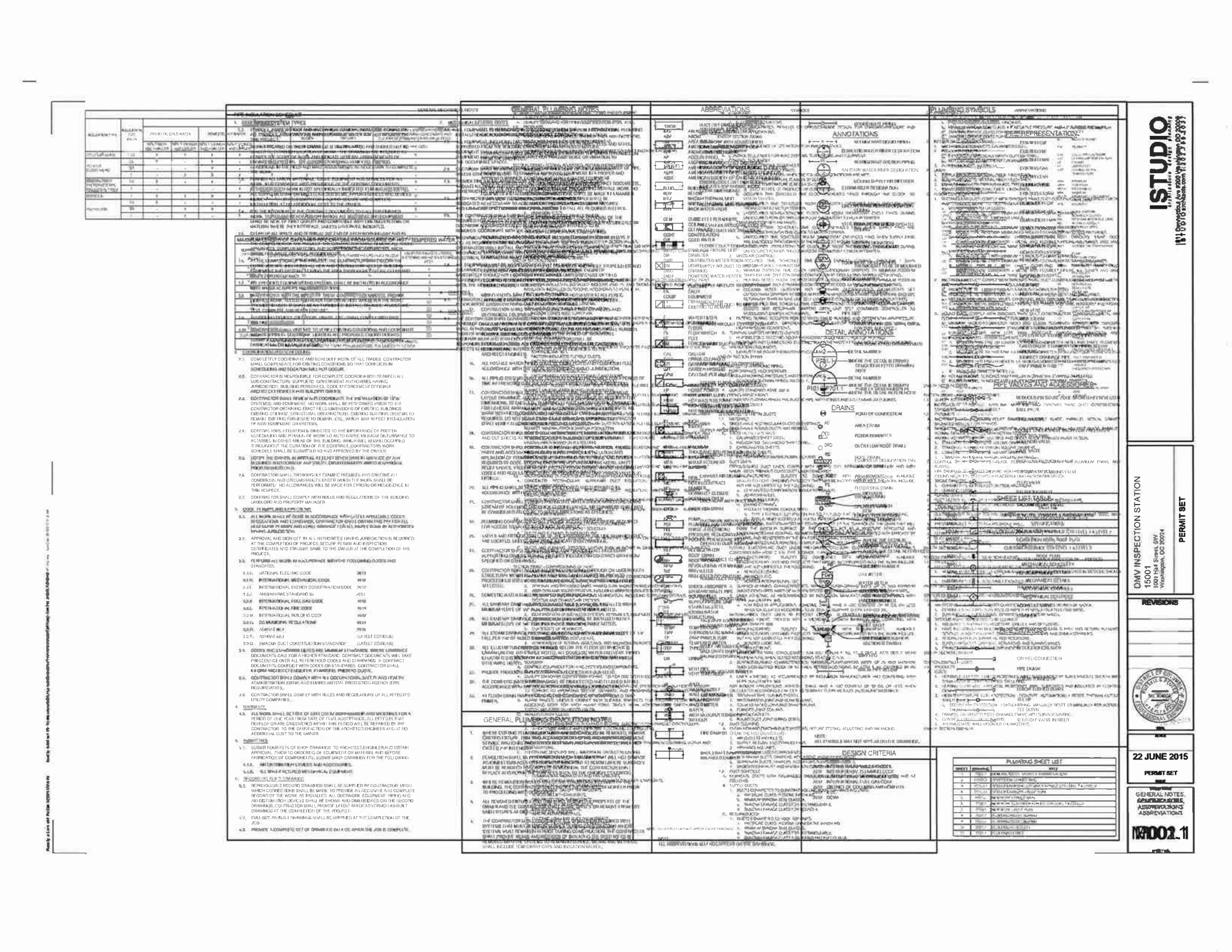
GENERAL NOTES, SCHEDULES, ABBREVIATIONS ABBREVIATIONS

P001.1


GENERAL PLUMBING NOTES
ABBREVIATIONS
SYMBOLS
PLUMBING SYMBOLS
ANNOTATIONS
DETAIL ANNOTATIONS
DRAINS
PIPE VALVES AND ACCESSORIES
GENERAL PLUMBING DEMOLITION NOTES
DESIGN CRITERIA
PLUMBING SHEET LIST
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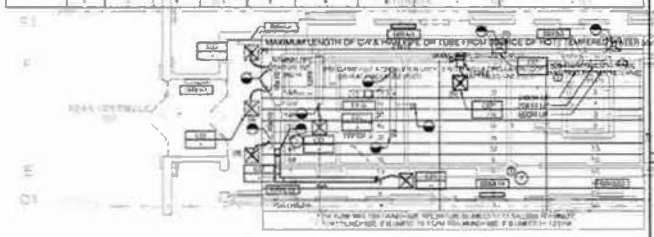
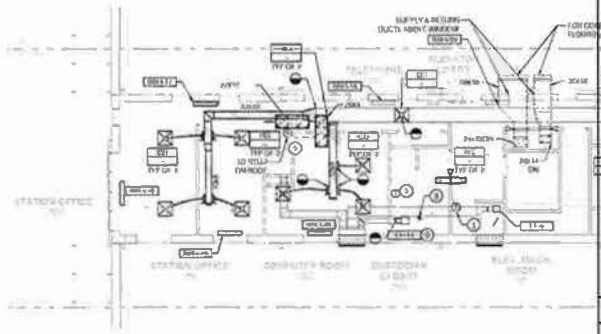
P0002.11

PIPE INSULATION SCHEDULE

PIPE SYSTEM TYPES									
		DOMESTIC COLD WATER		DOMESTIC HOT WATER					
		ALL PIPE SIZES		ALL PIPE SIZES					



1 DEMOLITION WORK CUSTOMER SERVICE CENTER - LEVEL 1
SCALE: 1/8" = 1'-0"



2 DEMOLITION WORK CUSTOMER SERVICE CENTER - LEVEL 2
SCALE: 1/8" = 1'-0"

GENERAL PLUMBING NOTES

1. ALL PLUMBING WORK SHALL COMPLY WITH THE 2012 INTERNATIONAL PLUMBING CODE AND THE AUTHORITY HAVING JURISDICTION.
2. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES AND TAXES.
3. CONTRACTOR SHALL NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL FLOOR PLANS.
4. CONTRACTOR ASSUMES RESPONSIBILITY FOR PROPER AND COMPLETE INSTALLATION OF ALL FIXTURES, ETC. TO CONNECT APPROVED EQUIPMENT IN A PROPER AND APPROVED MANNER. CONTRACTOR SHALL FOLLOW EQUIPMENT MANUFACTURERS' DETAILED INSTRUCTIONS AND THE CONTRACT DOCUMENTS. NOTIFY THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH ALL WORK IF DISCREPANCIES EXIST. ALL CONNECTIONS SHALL BE MADE IN A MANNER THAT DOES NOT VOID THE MANUFACTURER'S WARRANTY.
5. BEFORE POURING CONCRETE FLOORS, INSTALL ALL REQUIRED SLEEVES.
6. DO NOT CUT STRUCTURAL MEMBERS WITHOUT APPROVAL OF THE ARCHITECT/ENGINEER. ALL PENETRATIONS IN RATED CONSTRUCTION SHALL BE SEALED WITH A UL LISTED SYSTEM.
7. PROVIDE SUPPORTS FOR ALL ITEMS OF PLUMBING EQUIPMENT AS REQUIRED.
8. ALL PLUMBING FIXTURES SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. COORDINATE ALL PLUMBING FIXTURES WITH ARCHITECTURAL DRAWINGS.
9. PROVIDE SHUT-OFF VALVE FOR EACH PLUMBING FIXTURE, EQUIPMENT OR APPLIANCE. VALVES SHALL BE ACCESSIBLE. VALVES SHALL BE SAME SIZE AS SUPPLY PIPE. VALVES SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION. VALVES SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION. VALVES SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION.
10. FLOOR TO BE SLOPED UP TO FLOOR DRAIN. TOP OF DRAIN FLUSH WITH FINISHED FLOOR.
11. PIPING SHALL BE LAID TO PROVIDE FULL DRAINAGE. PIPING SHALL BE INSTALLED AS HIGH AS POSSIBLE TO ALLOW MAXIMUM HEADROOM.
12. CONTRACTOR SHALL COORDINATE ALL PLUMBING WORK WITH ALL OTHER TRADES. PROVIDE ACCESS PANELS WHERE REQUIRED FOR ACCESS TO VALVES AND EQUIPMENT.
13. CONTRACTOR SHALL PROVIDE ACCESS PANELS WHERE REQUIRED FOR ACCESS TO VALVES IN CEILINGS AND WALLS.
14. VALVES AND FITTINGS SHALL BE OF THE SAME SIZE AS THE LINE ON WHICH THEY ARE LOCATED UNLESS OTHERWISE NOTED OR DIMENSIONED.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING ALL EXCAVATIONS AND TRENCHES FOR PIPING AND EQUIPMENT. ALL EXCAVATIONS AND TRENCHES SHALL BE PROTECTED AS REQUIRED BY OSHA REGULATIONS.
16. CONTRACTOR SHALL COORDINATE ALL PLUMBING WORK WITH ALL OTHER TRADES. PROVIDE ACCESS PANELS WHERE REQUIRED FOR ACCESS TO VALVES IN CEILINGS AND WALLS.
17. CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS, EQUIPMENT LAYOUT DRAWINGS AND ALL OTHER RELATED DRAWINGS AS REQUIRED FOR DIMENSIONS, DETAILS, ETC. PLUMBING LAYOUT SHOWN ON THESE DRAWINGS IS FOR GENERAL ARRANGEMENT ONLY. CONTRACTOR SHALL COORDINATE ALL WORK WITH FIELD CONDITIONS AND ALL OTHER TRADES AS NECESSARY AS REQUIRED. DO NOT SCALE DRAWINGS FOR SIZES. DRAWINGS, CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD AS REQUIRED.
18. [illegible] AS REQUIRED.
19. CONTRACTOR SHALL FURNISH AND INSTALL ALL PIPING, FITTINGS, VALVES, PANELS AND ACCESSORIES REQUIRED FOR PROPER INSTALLATION AND OPERATION OF PLUMBING SYSTEM, INCLUDING ALL FITTINGS AND DEVICES REQUIRED BY CODE, SUCH AS CHECK VALVES, VACUUM BREAKERS, SAFETY RELIEF VALVES, VACUUM RELIEF, ETC. ALL FLOOR DRAINS, WHERE REQUIRED BY CODES AND REGULATIONS, SHALL BE PROVIDED WITH TRAP PRIMER VALVE AND FITTINGS.
20. ALL PIPING SHALL BE HUNG, FIRMLY ANCHORED AND SUPPORTED IN ACCORDANCE WITH MSS SP-58 MSS SP-69.
21. CONTRACTOR SHALL FURNISH AND INSTALL WATER SHOCK ARRESTORS DOWN STREAM OF SOLENOID AND QUICK CLOSING VALVES. AIR CHAMBERS SHALL NOT BE CONSIDERED AS EQUAL TO WATER ARRESTORS AS SPECIFIED.
22. PLUMBING CONTRACTOR SHALL PROVIDE ACCESS PANELS WHERE REQUIRED FOR ACCESS TO VALVES IN CEILINGS AND WALLS.
23. VALVES AND FITTINGS SHALL BE OF THE SAME SIZE AS THE LINE ON WHICH THEY ARE LOCATED UNLESS OTHERWISE NOTED OR DIMENSIONED.
24. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING ALL EXCAVATIONS AND TRENCHES FOR PIPING AND EQUIPMENT. ALL EXCAVATIONS AND TRENCHES SHALL BE PROTECTED AS REQUIRED BY OSHA REGULATIONS.
25. CONTRACTOR SHALL COORDINATE ALL PLUMBING WORK WITH ALL OTHER TRADES. PROVIDE ACCESS PANELS WHERE REQUIRED FOR ACCESS TO VALVES IN CEILINGS AND WALLS.
26. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING ALL EXCAVATIONS AND TRENCHES FOR PIPING AND EQUIPMENT. ALL EXCAVATIONS AND TRENCHES SHALL BE PROTECTED AS REQUIRED BY OSHA REGULATIONS.
27. CONTRACTOR SHALL COORDINATE ALL PLUMBING WORK WITH ALL OTHER TRADES. PROVIDE ACCESS PANELS WHERE REQUIRED FOR ACCESS TO VALVES IN CEILINGS AND WALLS.
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30. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING ALL EXCAVATIONS AND TRENCHES FOR PIPING AND EQUIPMENT. ALL EXCAVATIONS AND TRENCHES SHALL BE PROTECTED AS REQUIRED BY OSHA REGULATIONS.
31. CONTRACTOR SHALL COORDINATE ALL PLUMBING WORK WITH ALL OTHER TRADES. PROVIDE ACCESS PANELS WHERE REQUIRED FOR ACCESS TO VALVES IN CEILINGS AND WALLS.
32. ALL FLOOR DRAIN TRAP SEALS SHALL BE MAINTAINED BY AN APPROVED TRAP PRIMER.

GENERAL PLUMBING DEMOLITION NOTES

1. WHERE EXISTING PLUMBING FIXTURES ARE INDICATED TO BE REMOVED, REMOVE EXISTING PIPING, TRAP AND ALL ASSOCIATED PIPING AND HARDWARE. REMOVE SERVICE BRANCHES BACK TO NEAREST MAIN AND CAP. DEAD LEGS SHALL NOT EXCEED SIX DIAMETERS.
2. DEMOLITION SHALL BE PERFORMED IN SUCH A MANNER THAT WILL NOT DAMAGE ADJOINING SURFACES OR EQUIPMENT INDICATED TO REMAIN. IN SUCH CASES MUST BE REMOVED TO COMPLETE DEMOLITION. THE CONTRACTOR SHALL REPLACE AND REPAIR THESE SURFACES BACK TO THE ORIGINAL CONDITION.
3. WHERE DEMOLITION OCCURS IN PUBLIC SPACES OR THROUGHOUT THE BUILDING, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH DEMOLITION.
4. ALL REMOVED FIXTURES AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE OWNER AND THE CONTRACTOR SHALL STORE ON SITE OR REMOVE FROM SITE AND FIXTURES AS DIRECTED BY THE OWNER.
5. THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION REQUIRED WITH SYSTEMS THAT MUST REMAIN IN SERVICE DURING CONSTRUCTION. WHERE SYSTEMS MUST REMAIN IN SERVICE DURING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE MEANS AND METHODS OF ISOLATING THE SYSTEMS TO BE REMOVED WITH THE SYSTEMS TO REMAIN IN SERVICE. MEANS AND METHODS SHALL INCLUDE TEMPORARY CAPS AND ISOLATION VALVES.

ABBREVIATIONS

AAV	AIR ADMITTANCE VALVE
ABV	ABOVE
AD	AREA DRAIN
ADA	AMERICAN DISABILITY ACT
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
ARCH	ARCHITECTURAL
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASPE	AMERICAN SOCIETY OF PLUMBING ENGINEERS
ASSE	AMERICAN SOCIETY OF SAFETY ENGINEERS
BLDG	BUILDING
BLW	BELOW
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
BWV	BACK WATER VALVE
CW	DOMESTIC COLD WATER
CWC	CURTAIN WALL
DN	DOWN
DWG	DRAWING
EA	EACH
EF	EXHAUST FAN
FD	FLOOR DRAIN
FT	FEET
FW	FORCED MAIN
GAL	GALLON
GCO	GRADE CLEANOUT
GD	GARBAGE DISPOSAL
GH	GARDEN HYDRANT
GPM	GALLONS PER MINUTE
HDPE	HIGH DENSITY POLYETHYLENE
HP	HORSE POWER
HW	HOT WATER SUPPLY
HWR	HOT WATER RETURN
HPCW	HIGH PRESSURE COLD WATER
HWSH	HOT WATER SURFACE HEATER
IN	INCH
INV	INVERT
KW	KILOWATT
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
N	NEW
NIC	NOT IN CONTRACT
NO.	NUMBER
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OSD	OPEN SITE DRAIN
P	PUMP
PDI	PLUMBING AND DRAINAGE INSTITUTE
PH	PHASE (ELECTRICAL)
PPM	PRESSURE IN GAUGE VALVE
PSI	POUNDS PER SQUARE INCH
REF	REFRIGERATOR
RD	ROOF DRAIN
RH	ROOF HYDRANT
RPM	REVOLUTIONS PER MINUTE
RW	RAIN WATER
RWC	RAIN WATER CONDUCTOR
SA	SANITARY
SAN	SANITARY SEWER
SD	STORM DRAIN
SHT	SHEET
SPEC	SPECIFICATION
VIF	VERIFY IN FIELD
W	WATT
WCO	WALL CLEANOUT
WH	WALL HYDRANT
WW	WASTE WATER
WSFU	WASTE FIXTURE UNIT
WT	WEIGHT
WV	WASTE VENT

NOTE:
ALL ABBREVIATIONS MAY NOT APPEAR ON THE DRAWINGS.

PLUMBING SYMBOLS

ANNOTATIONS

- DOMESTIC WATER RISER DESIGNATION
- SANITARY WASTE RISER DESIGNATION
- STORM RISER DESIGNATION
- QUEEN STORM RISER DESIGNATION
- VENT RISER DESIGNATION
- GAS RISER DESIGNATION
- EQUIPMENT DESIGNATION
- REVISED ITEM
- POINT OF DEMOLITION
- POINT OF CONNECTION
- PIPE UP
- PIPE UNDER

DETAIL ANNOTATIONS

- DETAIL NUMBER
- WHERE THE DETAIL IS DRAWN
- SHEET NUMBER
- WHERE THE DETAIL IS DRAWN
- WHERE THE DETAIL IS REFERENCED

DRAINS

- AD — AREA DRAIN
- FD — FLOOR DRAIN
- OFD — OVERFLOW ROOF DRAIN
- RD — ROOF DRAIN
- CD — GARAGE DRAIN
- FCO — FLOOR CLEAN OUT
- FS — FLOOR SINK DRAIN
- TD — TRENCH DRAIN
- OSD — OPEN SITE DRAIN
- FLOOR DRAIN

MISCELLANEOUS

- HOSE BIBB
- WALL HYDRANT
- GAS METER
- WATER METER
- VACUUM BREAKER
- TEMPERATURE AND PRESSURE RELIEF VALVE
- TRAP PRIMER
- UNION
- WATER HAMMER ARRESTOR

NOTE:
ALL SYMBOLS MAY NOT APPEAR ON THE DRAWINGS.

DESIGN CRITERIA

- 2012 INTERNATIONAL BUILDING CODE
- 2012 INTERNATIONAL PLUMBING CODE
- 2012 INTERNATIONAL MECHANICAL CODE
- 2012 INTERNATIONAL FUEL GAS CODE
- INSTALL IN ACCORDANCE WITH THE NFPA
- IBC
- IPC
- IMC

GENERAL NOTES

PIPE REPRESENTATION

1. ALL PIPE SHALL BE [illegible] AS INDICATED ON THE DRAWINGS AND PROVIDED WITH ACCESSORIES REQUIRED TO MEET WORK DRAWINGS.
2. EXISTING PIPE TO BE REMOVED SHALL BE REMOVED AND REMOVED AND CAPPED AS CLOSE TO THE POINT OF DEMOLITION AS POSSIBLE WITHOUT DAMAGING BEYOND THE PIPE AND SHALL BE REMOVED. REMOVE EXISTING PIPE WITH DIFFERENT DIAMETER OR CONNECTION TO MATCH NEW REQUIREMENTS.
3. EXISTING PIPING TO REMAIN SHALL BE PROTECTED AND MODIFIED AS REQUIRED TO CONNECT TO NEW PIPING. CONTRACTOR SHALL NOTIFY OWNER IN ADVANCE OF ANY SHUTDOWNS.
4. PIPE, CONDUIT AND ALL OTHER ITEMS ARE TO BE INSPECTED BY THE CONTRACTOR AND OWNER PRIOR TO DEMOLITION.

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DEMOLITION KEY NOTES

1. [illegible]
2. EXISTING PIPING SHALL BE DEMOLISHED AND REMOVED BACK TO POINT OF DISCONNECTION AS SHOWN ON DRAWINGS. ALL EXISTING PIPING SHALL BE REMOVED BACK TO POINT OF DISCONNECTION AS SHOWN ON DRAWINGS. ALL EXISTING PIPING SHALL BE REMOVED BACK TO POINT OF DISCONNECTION AS SHOWN ON DRAWINGS.
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PLUMBING SHEET LIST

SHEET	DRAWING
[illegible]	[illegible]

KEY PLAN

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PERM

PIPE INSULATION SCHEDULE

INSULATION TYPE	PIPING SYSTEM TYPES							
	DOMESTIC COLD WATER		DOMESTIC HOT WATER					
	ABOVE FINISHED FLOOR	BELOW FINISHED FLOOR	SUPPLY PIPING AND RUNOUTS	RETURN PIPING AND RUNOUTS				

MAXIMUM LENGTH OF CW & HWR PIPE OR TUBE FROM SOURCE OF HOT / TEMPERED WATER

NOMINAL PIPE OR TUBE SIZE (INCH)	DISTANCE WITHOUT A CIRCULATION LOOP OR HEAT TRACED LINE (FEET)	DISTANCE WITH A RECIRCULATION LOOP OR HEAT TRACED LINE (FEET)	LENGTH OF BRANCH PIPE OR TUBE (FEET)

GENERAL PLUMBING NOTES

1. ALL PLUMBING WORK SHALL COMPLY WITH THE 2015 INTERNATIONAL PLUMBING CODE AND THE AUTHORITY HAVING JURISDICTION.
2. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES AND TAXES.
3. CONTRACTOR SHALL NOT MAKE ANY CHANGES WITHOUT THE WRITTEN PERMISSION FROM THE ARCHITECT.
4. CONTRACTOR SHALL BE KNOWLEDGEABLE OF AND COMPLY WITH ALL OF THE REQUIREMENTS OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME) STANDARD A112.19.2/CSA B45.1 FOR VITREOUS CHINA PLUMBING FIXTURES AND ASME A112.19.3/CSA B45.4 FOR STAINLESS STEEL PLUMBING FIXTURES. ALL PLUMBING FIXTURES SHALL BE LISTED AND LABELED BY A NATIONALLY RECOGNIZED TESTING LABORATORY ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION.
5. CONTRACTOR SHALL COORDINATE ALL PLUMBING WORK WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND STRUCTURAL DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE ARCHITECT.
6. ALL PIPING SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER AND SHALL BE RUN PARALLEL OR PERPENDICULAR TO BUILDING LINES. PIPING SHALL BE INSTALLED SO AS TO PRESERVE THE MINIMUM HEADROOM SPECIFIED OR REQUIRED BY CODE.
7. PROVIDE ALL VALVES, CLEANOUTS AND ACCESS PANELS AS REQUIRED BY CODE AND AS INDICATED ON THE DRAWINGS. ALL VALVES SHALL BE ACCESSIBLE. ALL CLEANOUTS SHALL BE ACCESSIBLE AND LOCATED WITHIN 2 FEET OF THE END OF THE RUN.
8. ALL PIPING SHALL BE INSTALLED WITH SUFFICIENT SLOPE TO DRAIN COMPLETELY. PROVIDE DRAIN VALVES AT ALL LOW POINTS IN THE SYSTEM.
9. PROVIDE SHUT-OFF VALVES ON ALL EQUIPMENT AND FIXTURE TRAPS SO THAT NO EQUIPMENT OR FIXTURE IS REQUIRED TO BE SHUT DOWN TO SERVICE ANOTHER.
10. FLOOR DRAINS SHALL BE INSTALLED AT THE LOWEST POINT IN EACH ROOM OR AREA WHERE THE FLOOR IS SLOPED TO DRAIN. REFER TO ARCHITECTURAL DRAWINGS FOR FLOOR SLOPE DIRECTIONS.
11. MIXING VALVES SHALL BE USED TO TEMPER HOT WATER AT ALL PUBLIC LAVATORIES AND HAND WASHING FACILITIES, SET AT 105 DEGREES F.
12. CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR ALL VALVES AND MECHANICAL EQUIPMENT AS REQUIRED.
13. CONTRACTOR SHALL PATCH AND REPAIR ALL PENETRATIONS MADE FOR PLUMBING INSTALLATION TO MATCH EXISTING FINISHES AND CONSTRUCTION.
14. PROVIDE SHOCK ABSORBERS ON ALL QUICK-CLOSING VALVES.
15. TEST ALL SYSTEMS AS REQUIRED BY CODE AND AS DIRECTED BY THE ARCHITECT OR ENGINEER. SUBMIT A WRITTEN REPORT OF ALL TESTS TO THE ARCHITECT.
16. ALL PIPING SHALL BE INSTALLED CONCEALED IN FINISHED AREAS UNLESS OTHERWISE NOTED.
17. ALL PIPING SHALL BE SUPPORTED AND BRACED IN ACCORDANCE WITH THE CODE AND AS REQUIRED FOR SEISMIC RESTRAINT.
18. CONTRACTOR SHALL COORDINATE ALL PLUMBING EQUIPMENT, FIXTURES AND PIPING WITH ALL OTHER TRADES. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF FIXTURES AND EQUIPMENT.
19. CONTRACTOR SHALL PROVIDE AND INSTALL ALL TRAPS, VENTS, CLEANOUTS AND ACCESSORIES REQUIRED FOR PROPER OPERATION OF PLUMBING SYSTEMS, WHETHER SHOWN ON THE DRAWINGS OR NOT.
20. ALL PIPING SHALL BE HUNG, FIRMLY ANCHORED AND SUPPORTED IN ACCORDANCE WITH MSS SP-58 AND MSS SP-69.
21. CONTRACTOR SHALL FURNISH AND INSTALL WATER HAMMER ARRESTORS DOWNSTREAM OF SOLENOID AND QUICK CLOSING VALVES. AIR CHAMBERS SHALL NOT BE CONSIDERED AN EQUAL TO WATER ARRESTORS AS SPECIFIED.
22. PLUMBING EQUIPMENT AND PIPING SHALL BE ARRANGED SO AS TO ALLOW REMOVAL OF EQUIPMENT TO AN ADJACENT SPACE OR THROUGH A DOOR OR WINDOW.
23. EXPANSION JOINTS SHALL BE PROVIDED IN THE LINE IN WHICH THEY ARE SHOWN ON THE DRAWINGS OR WHERE REQUIRED BY CODE.
24. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY SUPPORTING STEEL FOR ALL PIPING INSTALLED IN CONJUNCTION WITH OR IN SPACES CONTAINING STEEL.
25. EXPANSION SHALL NOT BE CONSIDERED AS CUTTING OR BURNING HOLES IN STRUCTURAL MEMBERS. NOTIFY ARCHITECT AND ENGINEER PRIOR TO PROCEEDING WITH WORK TO ASSESS IF STRUCTURAL SUPPORT WILL NOT BE AFFECTED.
26. COMPLETE ALL PIPING BEFORE INSULATING JOINTS.
27. ALL SANITARY DRAINAGE PIPING 3" AND LARGER SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 1/4" PER FOOT (2%) UNLESS NOTED OTHERWISE.
28. ALL SANITARY DRAINAGE PIPING 2" AND SMALLER SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 1/4" PER FOOT (2%) UNLESS NOTED OTHERWISE.
29. ALL STORM DRAINAGE PIPING SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 1/8" PER FOOT (1%) UNLESS NOTED OTHERWISE.
30. ALL UNDERGROUND DRAINAGE PIPING IN BUILDING SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 1/4" PER FOOT (2%) UNLESS NOTED OTHERWISE.
31. PROVIDE PRODUCTS AND FIXTURES AS SPECIFIED OR EQUIVALENT.
32. ALL SITE WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE LOCAL AUTHORITIES HAVING JURISDICTION.
33. ALL FIXTURE TRAPS SHALL BE PROVIDED WITH A TRAP PRIMER.

GENERAL PLUMBING DEMOLITION NOTES

1. WHERE EXISTING PLUMBING FIXTURES, PIPING, ETC. ARE TO BE REMOVED, BE AWARE THAT FUTURE WORK MAY NOT IMMEDIATELY EXPAND INTO THESE AREAS. REMOVE PIPING, BRANCHES BACK TO NEAREST MAIN OR CAP, OR AS NOTED. SPARE PIPING NOT INDICATED FOR REMOVAL.
2. DEMOLITION SHALL BE PERFORMED IN SUCH A MANNER THAT WILL NOT DAMAGE PLUMBING SYSTEMS NOT SCHEDULED OR INDICATED TO BE REMOVED. SUCH DAMAGE SHALL BE REPAIRED TO COMPLETE DEMOLITION. THE CONTRACTOR SHALL REPLACE AND RESTORE THE SURFACES BACK TO THEIR ORIGINAL CONDITION.
3. WHERE DEMOLITION WOULD AFFECT THE STRUCTURAL INTEGRITY OF THE BUILDING, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH DEMOLITION.
4. ALL REMOVED FIXTURES AND TRIM SHALL REMAIN THE PROPERTY OF THE OWNER AND THE CONTRACTOR SHALL STORE ONSITE OR REMOVE FROM SITE SAID FIXTURES AS DIRECTED BY THE OWNER.
5. THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION REQUIRED WITH SYSTEMS THAT MUST REMAIN IN SERVICE DURING CONSTRUCTION. WHERE [illegible] STAGE, PROVIDE A WRITTEN DETAILED SEQUENCE THAT SYSTEMS TO BE REMOVED WITH THE SYSTEMS TO REMAIN IN SERVICE. MEANS AND METHODS SHALL INCLUDE TEMPORARY CAPS AND ISOLATION VALVES.

ABBREVIATIONS

AAV	AIR ADMITTANCE VALVE
ABV	ABOVE
AD	AREA DRAIN
ADA	AMERICANS WITH DISABILITY ACT
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
ARCH	ARCHITECTURAL
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASPE	AMERICAN SOCIETY OF PLUMBING ENGINEERS
ASSE	AMERICAN SOCIETY OF SANITARY ENGINEER
BLDG	BUILDING
BLW	BELOW
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
BWV	BACKFLOW VALVE
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CO	CLEANOUT
CONT	CONTINUATION
CW	COLD WATER
DFU	DRAINAGE FIXTURE UNIT
DIA	DIAMETER
DWR	DISHWASHER IN KITCHEN
DW	DRAIN
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
E	CEILING
EA	EACH
EQUIP	EQUIPMENT
ET	EXPANSION TANK
EXTG	EXISTING TO REMAIN
F	WATER
FD	FLOOR DRAIN
FL	FLOOR
FS	FIRE SPRINKLER
FT	FEET
FM	FLOW METER
GAL	GALLON
GCO	GRADE CLEANOUT
CD	GARAGE DRAIN
GH	GARAGE HYDRANT
GPM	GALLONS PER MINUTE
HOPE	HIGH DENSITY POLYETHYLENE
HP	HEAT PUMP
HW	HOT WATER SUPPLY
HWR	HOT WATER RETURN
HPCW	HIGH PRESSURE COLD WATER
HWSH	HOT WATER STORAGE HEATER
IN	INCH
INV	INVERT
KW	KILOWATT
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
N	NEW
NIC	NOT IN CONTRACT
NO.	NUMBER
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OSD	OPEN SITE DRAIN
P	PUMP
PDI	PLUMBING AND DRAINAGE INSTITUTE
PH	PHASE (ELECTRICAL)
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
REF	REFRIGERATOR
RD	ROOF DRAIN
RH	ROOF HYDRANT
RPM	REVOLUTIONS PER MINUTE
RW	RAIN WATER
RWC	RAIN WATER CONDUCTOR
SA	SHOCK ABSORBER
SAN	SANITARY WASTE PIPE
SF	SQUARE FEET
SFU	SUPPLY FIXTURE UNIT
SS	STAINLESS STEEL
ST	STORM WATER
STRUC	STRUCTURAL
TEMP	TEMPERATURE
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER TUBE
TW	TEMPERED WATER
TYP	TYPICAL
UH	URINAL
V	VENT PIPE
VTR	VENT THRU ROOF
W	WATER
WC	WATER CLOSET
WCO	WALL CLEANOUTS
WH	WALL HYDRANT
WM	WATER METER
WTR	WATER
W/	WITH
W/O	WITHOUT

NOTE:
ALL ABBREVIATIONS MAY NOT APPEAR ON THE DRAWINGS.

PLUMBING SYMBOLS

ANNOTATIONS

- DOMESTIC WATER RISER DESIGNATION
- [illegible] RISER DESIGNATION
- STORM RISER DESIGNATION
- GREEN STORM RISER DESIGNATION
- VENT RISER DESIGNATION
- GAS RISER DESIGNATION
- EQUIPMENT DESIGNATION
- REVISION NUMBER
- POINT OF DEMOLITION
- POINT OF CONNECTION
- PIPE SIZE
- PIPE SLOPE/NOTE

DETAIL ANNOTATIONS

- DETAIL NUMBER / WHERE THE DETAIL IS DRAWN
- SHEET NUMBER WHERE THE DETAIL IS DRAWN / THE DETAIL REFERENCED TO

DRAINS

- AD — AREA DRAIN
- FD — FLOOR DRAIN
- OFD — OVER FLOW ROOF DRAIN
- RD — ROOF DRAIN
- GD — GARAGE DRAIN
- FCO — FLOOR CLEAN OUT
- FS — FLOOR SINK DRAIN
- TRENCH DRAIN
- OSD — OPEN SITE DRAIN
- FD — FUNNEL FLOOR DRAIN

MISCELLANEOUS

- HORIZONTAL CLEANOUT
- WH — WALL HYDRANT
- HB — HOSE BIB
- GM — GAS METER
- WATER METER
- [illegible]
- VACUUM BREAKER
- TEMPERATURE AND PRESSURE RELIEF VALVE
- TP — TRAP PRIMER
- [illegible]
- DRILL
- WELD A PIPE BELOW

NOTE:
ALL SYMBOLS MAY NOT APPEAR ON THE DRAWINGS.

GENERAL NOTES

1. ROOF TOP EQUIPMENT [illegible] SHALL BE MOUNTED ON ROOF CURB AND SECURED TO STRUCTURE.
2. CONTRACTOR TO REFER TO ARCHITECTURAL SITE PLAN FOR ALL EXACT LOCATIONS OF UTILITIES AND SERVICES. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS AND ELEVATIONS PRIOR TO CONSTRUCTION.
3. ROOF TOP UNITS SHALL BE PROTECTED AGAINST DAMAGE DURING CONSTRUCTION.
4. CONTRACTOR TO COORDINATE ALL ROOF PENETRATIONS WITH ROOFING CONTRACTOR. ALL ROOF PENETRATIONS SHALL BE FLASHED AND SEALED WATERTIGHT.
5. CONTRACTOR SHALL COORDINATE ALL EQUIPMENT WITH ELECTRICAL CONTRACTOR. ALL EQUIPMENT SHALL BE PROVIDED WITH ALL REQUIRED ELECTRICAL CONNECTIONS.
6. ALL EQUIPMENT SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
7. ALL EQUIPMENT SHALL BE INSTALLED WITH ADEQUATE CLEARANCE FOR SERVICE AND MAINTENANCE.
8. ALL EQUIPMENT SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
9. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS.
10. ALL EQUIPMENT SHALL BE INSTALLED WITH ADEQUATE CLEARANCE FOR SERVICE AND MAINTENANCE.
11. ALL EQUIPMENT SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
12. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS.

DEMOLITION KEY NOTES

1. REMOVE EXISTING [illegible] AND PLUMBING AS INDICATED ON DRAWINGS. [illegible] MAY BE REUSED.
2. CONTRACTOR TO REMOVE EXISTING [illegible] FROM ROOF TOP AS INDICATED ON DRAWINGS.
3. CONTRACTOR TO REMOVE ROOF TOP UNITS AS SHOWN ON DRAWINGS. [illegible] TO BE CAPPED AND SEALED.
4. [illegible]

PIPE VALVES AND ACCESSORIES

- REDUCED PRESSURE ZONE BACKFLOW PREVENTER ASSEMBLY
- BALL VALVE
- CHECK VALVE
- DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY (DCVA)
- GATE VALVE
- PRESSURE REDUCING VALVE
- THERMOSTATIC MIXING VALVE
- PLUG VALVE
- BALANCING VALVE
- [illegible]
- BACKFLOW PREVENTER WITH AIR GAP
- BACK WATER VALVE
- PUMP
- WATER HAMMER ARRESTOR (A – PDI SIZE)
- PRESSURE GAUGE
- THERMOMETER GAUGE
- [illegible]
- VACUUM BREAKER
- STRAINER

PIPE FITTINGS

- REDUCER/INCREASER
- CAPPED CONNECTION
- PIPE UNION
- ELBOW TURNED UP
- ELBOW TURNED DOWN
- TEE UP
- TEE DOWN
- [illegible]

DESIGN CRITERIA

2015 INTERNATIONAL BUILDING CODE
2015 INTERNATIONAL PLUMBING CODE
2015 INTERNATIONAL MECHANICAL CODE
2015 INTERNATIONAL FUEL GAS CODE
2015 DISTRICT OF COLUMBIA AMENDMENTS
2015 IFGC
2015 DCMA

PLUMBING SHEET LIST

P0.00	PLUMBING SHEET LIST	
P0.01	GENERAL NOTES, DEMOLITION ABBREVIATIONS PLAN	
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P2.01	[illegible]	
P3.01	[illegible]	
P4.01	[illegible]	
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P6.01	[illegible]	
P7.01	[illegible]	
P8.01	[illegible]	
P9.01	[illegible]	
P10.01	[illegible]	

KEY PLAN

1 DEMOLITION WORK ROOF PLAN
P0.01 SCALE: 1/8" = 1'-0"

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PERMIT SET

REVISIONS

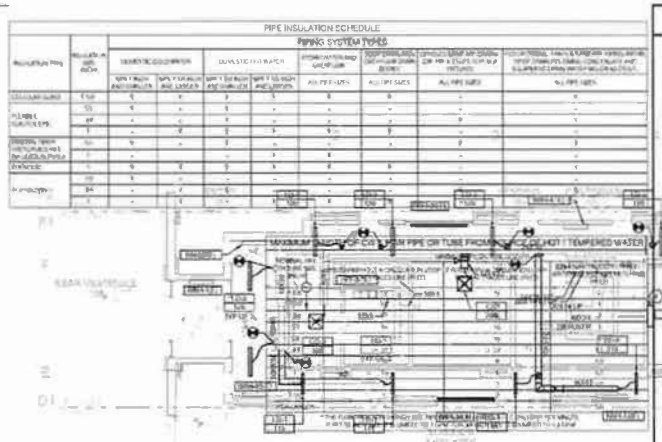
DISTRICT OF COLUMBIA REGISTERED PROFESSIONAL ENGINEER

SEAL

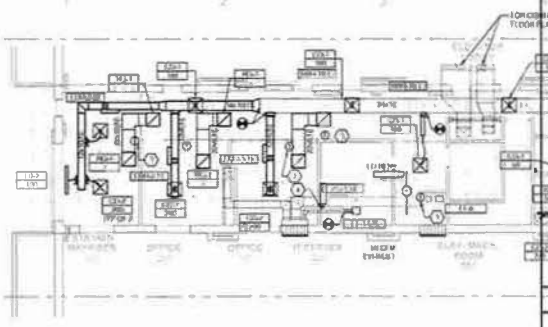
22 JUNE 2015
PERMIT SET

GENERAL NOTES, DEMOLITION ABBREVIATIONS PLAN

NRD00311



1 M102.1 NEW WORK CUSTOMER SERVICE CENTER - LEVEL 1



2 M102.1 NEW WORK CUSTOMER SERVICE CENTER - LEVEL 2

GENERAL PLUMBING NOTES

1. ALL PLUMBING WORK SHALL COMPLY WITH THE 2012 INTERNATIONAL PLUMBING CODE AND THE AUTHORITY HAVING JURISDICTION.
2. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES AND TAXES.
3. CONTRACTOR SHALL NOT MAKE NO CHANGES WITHOUT THE WRITTEN PERMISSION FROM THE ARCHITECT.
4. CONTRACTOR ASSUMES RESPONSIBILITY FOR PROPER ARRANGEMENT OF PIPE FIXTURES, ETC. TO CONNECT APPROVED EQUIPMENT IN A PROPER AND APPROVED MANNER. CONTRACTOR SHALL FOLLOW EQUIPMENT MANUFACTURER'S INSTRUCTIONS AND THE CONTRACT DOCUMENTS. REVIEW BY THE ARCHITECT/ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF PROPER EQUIPMENT INSTALLATION OR CONFORMANCE TO THE MANUFACTURER'S INSTRUCTIONS. THE MANUFACTURER'S WARRANTY.
5. BEFORE PROCEEDING WITH ANY WORK, CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND CONDITIONS AT THE JOB SITE.
6. DO NOT SCALE DRAWINGS. WORK IS TO BE INSTALLED AS CLOSE TO THE ARCHITECTURAL DRAWINGS AS POSSIBLE. COORDINATE LOCATION OF THE MECHANICAL AND PLUMBING EQUIPMENT WITH OTHER TRADES. REVIEW ALL DRAWINGS FOR WORK OF OTHER TRADES THAT AFFECTS WORK UNDER THIS CONTRACT.
7. PROVIDE SLEEVES FOR ALL FLOOR PENETRATIONS AND FOR ON BELOW GRADE WALL PENETRATIONS.
8. PLUMBING CONTRACTOR SHALL PROVIDE ALL PLUMBING FIXTURES AND TRIM COMPLETE AS SPECIFIED OR SHOWN.
9. PROPER CLEARANCE SHALL BE GIVEN ALL EQUIPMENT AND PIPING AS REQUIRED BY CODE OR AS PERMITTED BY ALL PLUMBING CODES.
10. ALL PIPING TO BE SUPPLIED BY 3/4 FLOOR CLEARANCE. TOP OF EQUIPMENT SHALL BE 6'-0" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED.
11. ALL EXPOSED PIPING SHALL BE CHROME PLATED WHERE PASSING THROUGH FINISHED AREAS.
12. CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR ACCESS TO VALVES AND MECHANICAL EQUIPMENT.
13. WHERE PIPING IS INSTALLED IN EXPOSED LOCATIONS, IT SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO WALLS AND CEILINGS.
14. CONTRACTOR SHALL COORDINATE WORK WITH ALL OTHER TRADES AND SHALL EXPERT SOME ACTION TAKEN BY ANY TRADE THAT AFFECTS THE WORK OF THIS SECTION AND ALL OTHER TRADES INVOLVED IN THE WORK. NOTIFY THE CONSTRUCTION MANAGER IN WRITING OF ANY DEFICIENCIES TO THE WORK OF THIS SECTION BEFORE PROCEEDING WITH THE WORK.
15. ALL POTABLE WATER PIPING SHALL BE DISINFECTED AND FLUSHED IN STRICT ACCORDANCE WITH THE LOCAL AUTHORITIES HAVING JURISDICTION.
16. ALL PIPING SYSTEMS SHALL BE TESTED AT 1½ TIMES THE WORKING PRESSURE FOR A PERIOD OF TIME AS REQUIRED BY THE LOCAL AUTHORITIES HAVING JURISDICTION.
17. CONTRACTOR SHALL REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS AND CUT SHEETS AS REQUIRED FOR INSTALLATION OF EQUIPMENT.
18. CONTRACTOR SHALL FURNISH AND INSTALL ALL PIPING, FITTINGS, VALVES, PARTS AND ACCESSORIES REQUIRED FOR PROPER INSTALLATION AND OPERATION OF PLUMBING SYSTEMS, INCLUDING ALL HANGERS AND DEVICES REQUIRED BY CODE, SUCH AS CHECK VALVES, VACUUM BREAKERS, SAFETY RELIEF VALVES, VACUUM RELIEF, ETC. ALL FLOOR DRAINS, WHERE REQUIRED BY CODES AND REGULATIONS, SHALL BE PROVIDED WITH TRAP PRIMER VALVE AND FITTINGS.
19. ALL PIPING SHALL BE RUN IN THE ARCHITECTURAL CHASES AND SUPPORTED IN ACCORDANCE WITH THE CODE.
20. CONTRACTOR SHALL FURNISH AND INSTALL WATER SHOCK ARRESTORS DOWN STREAM OF SOLENOID AND QUICK CLOSING VALVES. ARRESTORS SHALL NOT BE CONSIDERED AN EQUAL TO WATER ARRESTORS AS SPECIFIED.
21. PLUMBING CONTRACTOR SHALL PROVIDE ACCESS PANELS WHERE REQUIRED FOR ACCESS TO VALVES IN CEILINGS AND WALLS.
22. VALVES AND FITTINGS SHALL BE OF THE SAME SIZE AS THE PIPE IN WHICH THEY ARE LOCATED, UNLESS OTHERWISE INDICATED ON THE PLANS.
23. CONTRACTOR SHALL COORDINATE ALL PENETRATIONS THROUGH FIRE RATED CONSTRUCTION WITH THE GENERAL CONTRACTOR AND THE ARCHITECT AND ENSURE THAT ALL PENETRATIONS ARE PROPERLY SEALED WITH FIRE STOPPING MATERIAL AS REQUIRED BY CODE.
24. CONTRACTOR SHALL REVIEW ALL PENETRATIONS THROUGH FIRE RATED WALLS, FLOORS, CEILINGS AND ROOF WITH THE ARCHITECT AND ENSURE THAT ALL PENETRATIONS ARE PROPERLY SEALED WITH FIRE STOPPING MATERIAL AS REQUIRED BY CODE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FIRE STOPPING MATERIAL THAT IS NOT INSTALLED PROPERLY.
25. ALL FLOOR DRAIN TRAP SEALS SHALL BE MAINTAINED BY ADDITION OF WATER AS REQUIRED.

GENERAL PLUMBING DEMOLITION NOTES

1. WHERE EXISTING PLUMBING FIXTURES ARE INDICATED TO BE REMOVED, REMOVE PIPING BACK TO THE MAIN, AND ALL ASSOCIATED PIPING AND HARDWARE. REMOVE WITHOUT DAMAGING, BACK TO NEAREST MAIN AND CAP. DEAD LOGS SHALL NOT EXCEED 2'-0" IN LENGTH.
2. DEMOLITION SHALL BE PERFORMED IN SUCH A MANNER THAT WILL NOT DAMAGE ADJOINING SURFACES OR EQUIPMENT INDICATED TO REMAIN. WHERE SURFACES ARE NOT TO BE REMOVED TO COMPLETE DEMOLITION, THE CONTRACTOR SHALL REPLACE AND REPAIR THE SURFACES BACK TO THE ORIGINAL CONDITION.
3. WHERE DEMOLITION WOULD AFFECT THE STRUCTURAL INTEGRITY OF THE BUILDING, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH DEMOLITION.
4. ALL REMOVED FIXTURES AND TRIM SHALL REMAIN THE PROPERTY OF THE OWNER AND THE CONTRACTOR SHALL STORE ON SITE OR REMOVE FROM SITE AS DIRECTED BY THE OWNER.
5. THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION REQUIRED WITH SYSTEMS THAT MUST REMAIN IN SERVICE DURING CONSTRUCTION. WHERE SYSTEMS MUST REMAIN IN SERVICE DURING DEMOLITION, THE CONTRACTOR SHALL PROVIDE MEANS AND METHODS OF ISOLATING THE SYSTEMS TO BE REMOVED WITH THE SYSTEMS TO REMAIN IN SERVICE. MEANS AND METHODS SHALL INCLUDE TEMPORARY CAPS AND ISOLATION VALVES.

ABBREVIATIONS

AAV	AIR ADMITTANCE VALVE
ARV	ABOVE
AD	AREA DRAIN
ADA	AMERICAN DISABILITY ACT
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
ARCH	ARCHITECTURAL
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASPE	AMERICAN SOCIETY OF PLUMBING ENGINEERS
ASSE	AMERICAN SOCIETY OF SAFETY ENGINEERS
BLDG	BUILDING
BW	BELOW
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
CAST	CAST IRON
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CO	CLEANOUT
COMB	COMBINATION
CW	COLD WATER
DEG	DEGREE
DIA	DIAMETER
DN	DOWN
DWG	DRAWING
E	EAST
EA	EACH
EQUIP	EQUIPMENT
EXIST	EXISTING
FIN	FINISH
FLR	FLOOR
FU	FIXTURE UNIT
GAL	GALLON
GCO	GRADE CLEANOUT
GD	GARBAGE DISPOSAL
GDH	GARDEN HYDRANT
GPM	GALLONS PER MINUTE
HDPE	HIGH DENSITY POLYETHYLENE
HP	HORSE POWER
HW	HOT WATER SUPPLY
HWR	HOT WATER RETURN
HPCW	HIGH PRESSURE COLD WATER
HWHP	HOT WATER HEATER APPLIANCE
INV	INVERT
IW	INSIDE
KW	KILOWATT
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
N	NORTH
NIC	NOT IN CONTRACT
NO	NUMBER
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OSD	OPEN SITE DRAIN
P	PUMP
PPR	PLUMBING AND DRAINAGE INSTITUTE
PVI	PVI INSTITUTE
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
RLD	ROOF LEADER
RD	ROOF DRAIN
RLD	ROOF LEADER
RPM	REVOLUTIONS PER MINUTE
SHR	SHOWER
SP	SANITARY PIPE
SPEC	SPECIFICATION
SQ	SQUARE
SQFT	SQUARE FEET
SQIN	SQUARE INCH
SS	STAINLESS STEEL
STD	STANDARD
SW	SOIL WASTE
TEMP	TEMPERATURE
TP	TRAP PRIMER
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VTR	VENT THRU ROOF
W	WEST
WC	WATER CLOSET
WCE	WALL CLEANOUTS
WH	WALL HYDRANT
WW	WASTE WATER
WSFU	WATER SUPPLY FIXTURE UNIT
WT	WASTE
WTR	WATER

PLUMBING SYMBOLS

ANNOTATIONS

- DOMESTIC WATER RISER DESIGNATION
- SANITARY WATER RISER DESIGNATION
- STORM RISER DESIGNATION
- GAS RISER DESIGNATION
- REVISION MARK
- POINT OF CONNECTION
- PIPE UP
- PIPE AND ANGLE

DETAIL ANNOTATIONS

- DETAIL NUMBER
- SHEET NUMBER WHERE DETAIL IS DRAWN

DRAINS

- AREA DRAIN
- FLOOR DRAIN
- OVERFLOW ROOF DRAIN
- ROOF DRAIN
- GARAGE DRAIN
- FCO FLOOR CLEAN OUT
- FS FLOOR SINK DRAIN
- TRENCH DRAIN
- OSD OPEN SITE DRAIN
- FLANGE FLOOR DRAIN

MISCELLANEOUS

- HCO HORIZONTAL CLEANOUT
- WH WALL HYDRANT
- PG GAS METER
- GM GAS METER
- WATER METER
- WATER METER
- VACUUM BREAKER
- PRESSURE GAUGE
- THERMOMETER
- ANGLE VALVE
- STRAINER

NOTE: ALL SYMBOLS MAY NOT APPEAR ON THE DRAWINGS.

DESIGN CRITERIA

2012	INTERNATIONAL BUILDING CODE
2012	INTERNATIONAL PLUMBING CODE
2012	INTERNATIONAL MECHANICAL CODE
2012	INTERNATIONAL FUEL GAS CODE
2012	DISTRICT OF COLUMBIA AMENDMENTS
2012	ICCC
2012	DCMA

GENERAL NOTES

PIPE REPRESENTATION

1. [illegible]
2. [illegible]
3. [illegible]
4. [illegible]
5. [illegible]
6. [illegible]
7. [illegible]
8. [illegible]

KEY NOTES

1. CONTRACTOR TO REUSE EXISTING THERMOSTATS AND SHALL FIELD COORDINATE RELOCATION AS REQUIRED DUE TO NEW WALL LOCATIONS.
2. CONTRACTOR TO CHECK AND RE-BALANCE ALL VOLUME DAMPER TO THEIR LOCATION SHOWN ON THE DRAWING (TYPICAL).
3. [illegible]
4. [illegible]

PIPE VALVES AND ACCESSORIES

- REDUCED PRESSURE ZONE BACKFLOW PREVENTER ASSEMBLY
- BALL VALVE
- [illegible]
- DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY
- GATE VALVE
- PRESSURE REDUCING VALVE
- THERMOSTATIC MIXING VALVE
- PLUG VALVE
- BALANCING VALVE
- VACUUM BREAKER
- BACKFLOW PREVENTER ASSEMBLY
- BACK WATER VALVE
- PUMP
- WATER HAMMER ARRESTOR (P = POINT)
- PRESSURE GAUGE
- THERMOMETER
- ANGLE VALVE
- STRAINER

PIPE FITTINGS

- REDUCER/INCREASER
- CAPPED CONNECTION
- PIPE UNION
- ELBOW TURNED UP
- ELBOW TURNED DOWN
- TEE UP
- TEE DOWN
- SHUT-OFF VALVE IN RISER

PLUMBING SHEET LIST

SHEET	DESCRIPTION	ISSUE
[illegible]		

KEY PLAN

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PERMIT SET

REVISIONS

22 JUNE 2015
PERMIT SET

GENERAL NOTES, SCHEDULES, ABBREVIATIONS
SERVICE CTR

M102.1

PIPE INSULATION CONDUIT

PIPING SYSTEM TYPES

PIPE SIZE (INCH)	DOMESTIC COLD WATER	DOMESTIC HOT WATER				
1/2	0	1	0	0	0	0
3/4	0	1	0	0	0	0
1	0	1	0	0	0	0
1 1/4	0	1	0	0	0	0
1 1/2	0	1	0	0	0	0
2	0	1	0	0	0	0
2 1/2	0	1	0	0	0	0
3	0	1	0	0	0	0
4	0	1	0	0	0	0

MAXIMUM LENGTH OF SUPPLY PIPE FIXTURE FROM SOURCE OF HOT / TEMPERED WATER

NOMINAL PIPE SIZE (INCH)	MAXIMUM LENGTH (FEET)		
1/2	50	40	5
3/4	90	70	4
1	150	120	3
1 1/4	200	160	2
1 1/2	300	240	1
2	500	400	1
2 1/2	800	640	1
3	1000	800	1
4	1000	800	1

* THE FLOW RATE FOR A FIXTURE MAY BE LESS THAN THE MAXIMUM FLOW RATE SPECIFIED IN TABLE 604.4 IF THE PRESSURE AT THE FIXTURE IS LESS THAN 80 PSI.

GENERAL PLUMBING NOTES

1. ALL PLUMBING WORK SHALL COMPLY WITH THE 2012 INTERNATIONAL PLUMBING CODE AND THE AUTHORITY HAVING JURISDICTION.
2. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES AND TAXES.
3. CONTRACTOR SHALL MAKE NO CHANGES WITHOUT THE WRITTEN PERMISSION FROM THE ARCHITECT.
4. CONTRACTOR ASSUMES RESPONSIBILITY FOR PROPER ARRANGEMENT OF PIPE, FIXTURES, ETC TO CONNECT APPROVED EQUIPMENT IN A PROPER AND APPROVED MANNER. CONTRACTOR SHALL FOLLOW EQUIPMENT MANUFACTURER'S DETAILED INSTRUCTIONS AND THE CONTRACT DOCUMENTS. NOTIFY THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH ALL WORK IF EQUIPMENT INSTALLATION OR CONNECTIONS SHALL BE MADE IN A MANNER THAT VOIDS THE MANUFACTURER'S WARRANTY.
5. IN CORE POURED CONCRETE WORK INSTALL ALL INSERTS AS REQUIRED.
6. DO NOT CUT STRUCTURAL MEMBERS WITHOUT THE APPROVAL OF THE ARCHITECT/ENGINEER. PATCH AND REFINISH ALL CUTTING IN A MANNER AS DIRECTED BY A/E.
7. PROVIDE SLEEVES FOR ALL FLOOR PENETRATIONS WHERE NOT SPECIFICALLY SHOWN ON DRAWINGS. SLEEVES 2" ABOVE FINISHED FLOOR.
8. PLUMBING CONTRACTOR TO COORDINATE AND INSTALL ALL PLUMBING PIPING COMPLETE AS SHOWN ON DRAWINGS.
9. PROVIDE MINIMUM CLEARANCE OF 24" IN FRONT AND UNDER SINKS IN HOT AND COLD WATER PIPING TO ALL PLUMBING FIXTURES.
10. FLOORS TO BE SLOPED TO TRAP FLOOR DRAINS. SLOPE SMOOTH FLOOR WITH FINISHED FLOOR.
11. MIXING VALVES SHALL BE USED TO TEMPER HOT WATER AT ALL PUBLIC LAVATORIES AND HAND WASHING FACILITIES. SET AT 105 DEGREES F.
12. CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR ALL VALVES AND MECHANICAL EQUIPMENT.
13. MAKE ALL PENETRATIONS CLEAN AND NEAT. TAKE EXTRA CONSTRUCTION ACTION TO COMPLETELY SEAL ALL PENETRATIONS FOR ROOF, CEILING, FLOOR AND WALL PENETRATIONS. PROVIDE ESCUTCHEONS AT ALL EXPOSED PIPING.
14. ALL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER AND SHALL CONFORM TO THE HIGHEST STANDARDS OF THE TRADE.
15. ALL POTABLE WATER PIPING SHALL BE DISINFECTED AND FLUSHED IN FULL ACCORDANCE WITH THE LOCAL AUTHORITIES HAVING JURISDICTION.
16. ALL PIPING SHALL BE TESTED TO THE PRESSURE FOR A PERIOD OF TIME AS PER SECTION OF THE LOCAL AUTHORITIES HAVING JURISDICTION.
17. CONTRACTOR SHALL PROVIDE ALL MECHANICAL DRAINAGE EQUIPMENT, WHICH INCLUDES ALL OTHER ITEMS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. THIS INCLUDES, BUT IS NOT LIMITED TO, CONDENSATE DRAIN PIPING FROM ALL MECHANICAL EQUIPMENT, CONDENSATE DRAIN PIPING FROM ALL AIR CONDITIONING UNITS, CONDENSATE DRAIN PIPING FROM ALL REFRIGERATION EQUIPMENT, CONDENSATE DRAIN PIPING FROM ALL HUMIDIFICATION EQUIPMENT, ALL CONDENSATE DRAIN PIPING SHALL BE CONNECTED TO THE NEAREST FLOOR DRAIN. ALL CONDENSATE DRAIN PIPING SHALL BE INSULATED AS PER SECTION 15250. ALL CONDENSATE DRAIN PIPING SHALL BE INSTALLED AS PER THE MANUFACTURER'S INSTRUCTIONS AND ALL APPLICABLE CODES.
18. CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS ITEMS AND ACCESSORIES AS REQUIRED FOR A COMPLETE AND OPERATIONAL PLUMBING SYSTEM. THIS INCLUDES, BUT IS NOT LIMITED TO, ALL FITTINGS AND VALVES AS REQUIRED BY CODE, INCLUDING GATE VALVES, VACUUM BREAKERS, SAFETY RELIEF VALVES, WASH AND RELIEF, ETC. NO FLOOR DRAINS, WHERE REQUIRED BY CODES OR SHOWN ON PLANS, SHALL BE PROVIDED WITH TRAP PRIMER VALVE ASSEMBLIES.
19. ALL PIPING SHALL BE HUNG, STRAPPED AND SUPPORTED IN ACCORDANCE WITH MSS SP-58 MSS SP-69.
20. CONTRACTOR SHALL FURNISH AND INSTALL WATER SHOCK ARRESTORS DOWN STREAM OF SOLENOID AND QUICK CLOSING VALVES. AIR CHAMBERS SHALL NOT BE CONSIDERED AN EQUAL TO WATER ARRESTORS AS SPECIFIED.
21. PLUMBING CONTRACTOR SHALL PROVIDE ACCESS PANELS AS REQUIRED FOR ACCESS TO VALVES AND MECHANICALS.
22. ALL EXPOSED PIPING SHALL BE OF THE SAME TYPE AND LINE AND SHALL BE WITH CHROME PLATED ESCUTCHEONS AT PENETRATIONS.
23. CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY SUPPORTS, ANCHORS OR ADJUSTMENTS TO ALL FIXTURES INCLUDED IN CONTRACT OR HEREIN SPECIFIED OR OTHERWISE.
24. CONTRACTOR SHALL ALLOW FOR CUTTING OPENINGS THROUGH OR UNDER WALLS OR STRUCTURAL MEMBERS. NOTIFY ARCHITECT AND ENGINEER PRIOR TO PROCEEDING WITH WORK TO ASCERTAIN STRUCTURAL SUPPORTS THAT MUST BE AFFECTED.
25. DOMESTIC WATER SHALL BE SLOPED TO DRAIN POINTS.
26. ALL SANITARY DRAINAGE PIPING 3" AND LARGER SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 1/4" PER FOOT OF RUN UNLESS NOTED.
27. ALL SANITARY DRAINAGE PIPING 2" AND SMALLER SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 1/2" PER FOOT OF RUN UNLESS NOTED.
28. ALL STORM DRAINAGE PIPE SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 1/8" FALL PER FOOT RUN UNLESS NOTED.
29. ALL EXPOSED PIPING IN ROOMS WITH FINISHED CEILINGS SHALL BE CONCEALED UNLESS OTHERWISE NOTED. ALL CONCEALED PIPING SHALL BE INSTALLED IN ROOMS WITH FINISHED CEILINGS. ALL EXPOSED PIPING SHALL BE INSTALLED IN ROOMS WITH UNFINISHED CEILINGS UNLESS OTHERWISE NOTED.
30. PROVIDE PRODUCTS AND FIXTURES AS SPECIFIED OR EQUIVALENT.
31. [illegible] SEAL ALL PENETRATIONS IN WALLS OR CEILINGS AND FLOORS IN FIRE RATED CONSTRUCTION WITH FIRE RESISTANT MATERIAL.
32. ALL FLOOR DRAIN TRAPS SHALL BE [illegible]

GENERAL PLUMBING DEMOLITION NOTES

1. WHERE EXISTING PLUMBING FIXTURES ARE INDICATED TO BE REMOVED, OR WHERE EXISTING FIXTURE TRIM AND ALL APPURTENANCES ARE INDICATED TO BE REMOVED, REMOVE ALL PIPING, FITTINGS, VALVES, SUPPORTS, ETC. BACK TO SOURCE AND CAP. DEMOLITION SHALL NOT VIOLATE ANY CODES.
2. WHERE NEW WORK IS CONNECTED TO EXISTING WORK THAT WILL NOT BE DEMOLISHED, TAKE CARE NOT TO DAMAGE EXISTING WORK THAT IS NOT INDICATED TO BE REMOVED. IF ANY DAMAGE DOES OCCUR, IT SHALL BE REPAIRED TO ITS ORIGINAL CONDITION.
3. WHERE DEMOLITION WOULD AFFECT THE STRUCTURAL INTEGRITY OF THE BUILDING, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH DEMOLITION.
4. ALL REMOVED FIXTURES AND TRIM SHALL REMAIN THE PROPERTY OF THE OWNER AND THE CONTRACTOR SHALL STORE ON SITE OR REMOVE FROM SITE SAID FIXTURES AS DIRECTED BY THE OWNER.
5. THE CONTRACTOR SHALL COORDINATE ALL SHUTDOWN REQUIRED WITH EXISTING TENANTS AND OWNER. WHERE CONSTRUCTION PHASING REQUIRES [illegible] SHALL PROVIDE MEANS AND METHODS OF ISOLATING THE SYSTEMS TO BE REMOVED WITH THE SYSTEMS TO REMAIN IN SERVICE. MEANS AND METHODS SHALL INCLUDE TEMPORARY CAPS AND ISOLATION VALVES.

NOTE:
ALL [illegible] MAY NOT APPEAR ON THE DRAWINGS.

ABBREVIATIONS

AAV	AIR ADMITTANCE VALVE
ABV	ABOVE
AD	AREA DRAIN
ADA	AMERICAN DISABILITY ACT
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
ARCH	ARCHITECTURAL
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASPE	AMERICAN SOCIETY OF PLUMBING ENGINEERS
ASSE	AMERICAN SOCIETY OF SANITARY ENGINEERS
BLDG	BUILDING
BLW	BELOW
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
BWV	BACK WATER VALVE
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CO	CLEANOUTS
CONT	CONTINUATION
CW	COLD WATER
DFU	DRAINAGE FIXTURE UNIT
DIA	DIAMETER
DMR	DISTRIBUTED METER ROOM
DN	DOWN
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
E	EXISTING
EA	EACH
EQUIP	EQUIPMENT
ET	EXPANSION TANK
ETR	EXISTING TO REMAIN
F	WATER FILTER
FD	FLOOR DRAIN
FL	FLOOR
FS	FLOW SWITCH
FT	FEET
FM	FORCED MAIN
GAL	GALLON
GCO	GRADE CLEAN OUT
GD	GARBAGE DISPOSAL
GH	GARDEN HYDRANT
GPM	GALLONS PER MINUTE
HP	HIGH DENSITY POLYETHYLENE
HP	HORSE POWER
HW	HOT WATER SUPPLY
HWR	HOT WATER RETURN
HPR	HIGH PRESSURE CONDENSATE
HWH	HOT WATER HEATER
IN	INCH
INV	INVERT
KW	KILOWATT
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
N	NEW
NIC	NOT IN CONTRACT
NO.	NUMBER
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OSD	OPEN SITE DRAIN
P	PUMP
PDI	PLUMBING AND DRAINAGE INSTITUTE
PH	PHASE (ELECTRICAL)
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
RPZ	BEFRICERATOR
RD	ROOF DRAIN
RH	ROOF HYDRANT
RPM	REVOLUTIONS PER MINUTE
RW	RAIN WATER
RWC	RAIN WATER CONDUCTOR
SA	SHOCK ABSORBER
SAN	SANITARY WASTE PIPE
SF	SQUARE FEET
SFU	SUPPLY FIXTURE UNIT
SS	STAINLESS STEEL
ST	STORM WATER
STRUC	STRUCTURAL
T	TEMPERATURE
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER TUBE
TW	TEMPERED WATER
TYP	TYPICAL
UR	URINAL
V	VENT PIPE
VTR	VENT THRU ROOF
W	WATT
WC	WATER CLOSET
WCO	WALL CLEANOUTS
WH	WALL HYDRANT
WM	WATER METER
WTR	WATER
W	WITH
WO	WITHOUT

NOTE:
[illegible] MAY NOT APPEAR ON THE DRAWINGS.

PLUMBING SYMBOLS

ANNOTATIONS

- (*) — TEMPERATURE WATER DESIGNATION
- (*) — SANITARY WASTE PIPE DESIGNATION
- (ST*) — STORM PIPE DESIGNATION
- (CO*) — CLEANOUT DESIGNATION
- (V*) — VENT PIPE DESIGNATION
- (G*) — GAS RISER DESIGNATION
- (DWH*) — EQUIPMENT DESIGNATION
- (*) — REVISION NUMBER
- E — EXISTING
- D — POINT OF DEMOLITION
- C — POINT OF CONNECTION
- X" — PIPE SIZE
- X" — PIPE MATERIAL
- G — NEW GAS

KEY NOTES

- (*) — KEY NOTE NUMBER

DETAIL ANNOTATIONS

- 2 / P2.1 — DETAIL NUMBER / WHERE THE DETAIL IS DRAWN
- 2 / P101.1 / P6.1 — DETAIL NUMBER / WHERE THE DETAIL IS DRAWN / WHERE THE DETAIL REFERENCED

DRAINS

- AD — AREA DRAIN
- FD — FLOOR DRAIN
- ORD — OVER FLOW ROOF DRAIN
- RD — ROOF DRAIN
- GD — GARAGE DRAIN
- FCO — FLOOR CLEAN OUT
- FS — FLOOR SINK DRAIN
- TD — TRENCH DRAIN
- OSD — OPEN SITE DRAIN
- FD — FUNNEL FLOOR DRAIN

MISCELLANEOUS

- CO — HORIZONTAL CLEANOUT
- WH — WALL HYDRANT
- HB — HOSE BIB
- GM — GAS METER
- WM — WATER METER
- VB — VACUUM BREAKER
- [illegible] — EXPANSION TANK
- [illegible] — PRESSURE REGULATING VALVE
- [illegible] — RELIEF VALVE
- FP — TRAP PRIMER
- [illegible] — DRAIN
- [illegible] — GREASE INTERCEPTOR

CHECK VALVE

- [illegible] — GATE VALVE
- [illegible] — PRESSURE REDUCING VALVE
- [illegible] — THERMOSTATIC MIXING VALVE
- [illegible] — BALANCING VALVE
- [illegible] — BACK WATER VALVE
- [illegible] — PUMP
- [illegible] — THERMOMETER/GAUGE
- [illegible] — EXPANSION JOINT

PIPE FITTINGS

- REDUCER/INCREASER
- CAPPED CONNECTION
- PIPE UNION
- ELBOW TURNED UP
- ELBOW TURNED DOWN
- TEE UP
- TEE DOWN
- SHUT-OFF VALVE IN RISER

NOTE:
ALL SYMBOLS MAY NOT APPEAR ON THE DRAWINGS.

GENERAL NOTES

1. [illegible] REPRESENTATION.
2. CONTRACTOR TO [illegible] ALL EQUIPMENT, MOTORS, MANUAL CONTROLS, AND OTHER ACCESSORIES AS MAY BE REQUIRED FOR [illegible] WITH DRAWINGS AND SPECIFICATIONS.
3. [illegible]
4. [illegible]
5. [illegible]
6. [illegible]
7. [illegible]
8. [illegible]

KEY NOTES

1. [illegible]
2. [illegible]
3. [illegible]
4. [illegible]

PIPE FITTINGS

- REDUCER/INCREASER
- CAPPED CONNECTION
- PIPE UNION
- ELBOW TURNED UP
- ELBOW TURNED DOWN
- TEE UP
- TEE DOWN
- SHUT-OFF VALVE IN RISER

DESIGN CRITERIA

2012	INTERNATIONAL BUILDING CODE
2012	INTERNATIONAL PLUMBING CODE
2012	INTERNATIONAL MECHANICAL CODE
2012	INTERNATIONAL FUEL GAS CODE
2012	DISTRICT OF COLUMBIA AMENDMENTS
2012	IBCSS
2012	DCMA

PLUMBING SHEET LIST

SHEET NUMBER	SHEET NAME
[illegible]	[illegible]

KEY PLAN

1 / M103.1 — ROOF PLAN

SCALE: 3/32" = 1'-0"

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REVISIONS

[illegible]
NO. 10903
REGISTERED PROFESSIONAL ENGINEER

22 JUNE 2015
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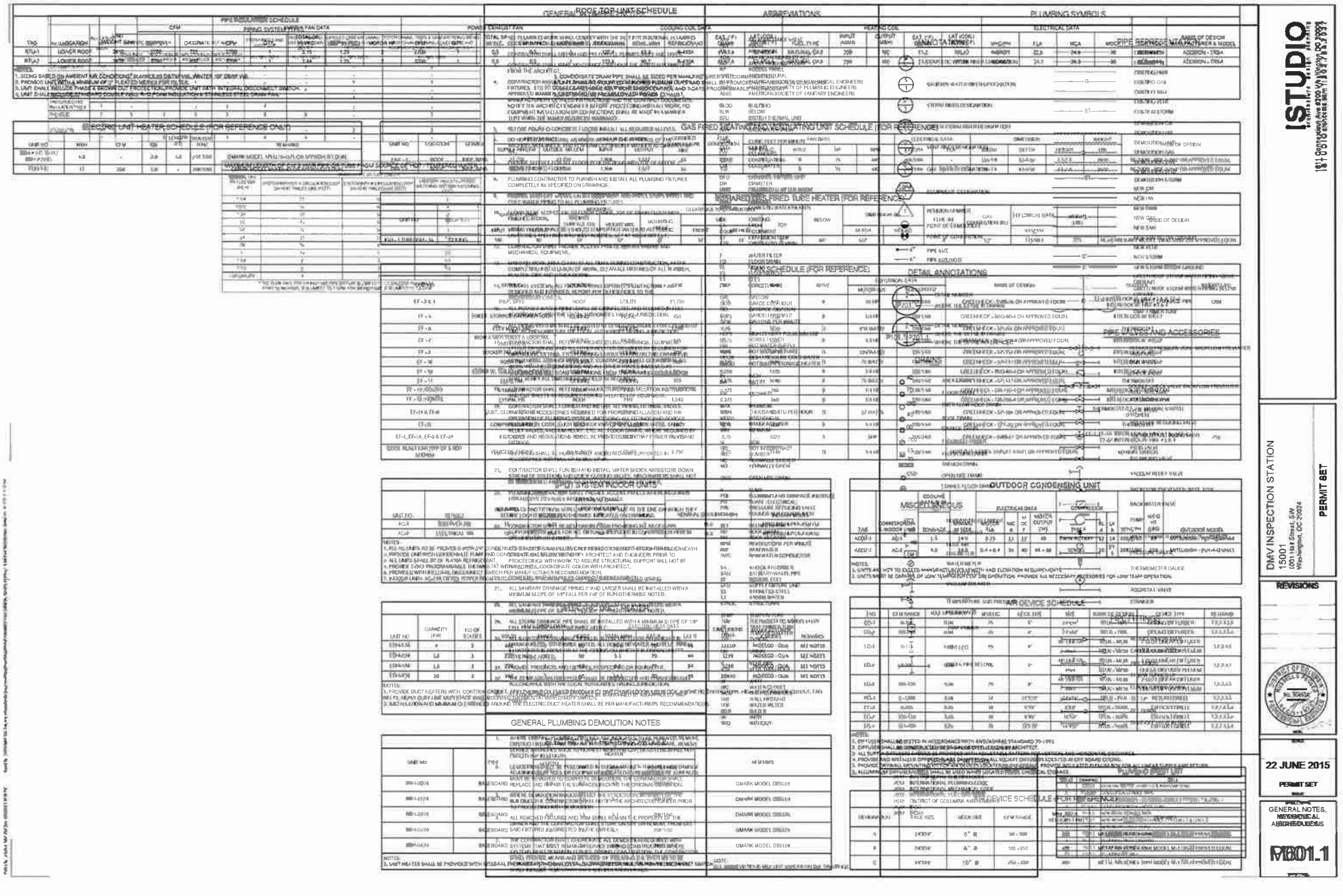
GENERAL NOTES, SCHEDULES, ABBREVIATIONS

M003.1



ABBREVIATIONS

EAT (EF)	ENTERING AIR TEMPERATURE (EXHAUST FAN)
LAT (CUH)	LEAVING AIR TEMPERATURE (UNIT HEATER)
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
BLDG	BUILDING
BLW	BELOW
BTU	BRITISH THERMAL UNIT
CFM	CUBIC FEET PER MINUTE
DIA	DIAMETER
DWG	DRAWING
EF	EXHAUST FAN
EXIST	EXISTING
FD	FLOOR DRAIN
FLR	FLOOR
GPM	GALLONS PER MINUTE
HB	HOSE BIBB
HP	HORSEPOWER
MAU	MAKE-UP AIR UNIT
MBH	THOUSAND BTU PER HOUR
MIN	MINIMUM
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OA	OUTSIDE AIR
RA	RETURN AIR
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
SP	STATIC PRESSURE
TYP	TYPICAL
UH	UNIT HEATER
VAV	VARIABLE AIR VOLUME
VIF	VERIFY IN FIELD
WC	WATER COLUMN
WP	WEATHERPROOF

PLUMBING SYMBOLS

ELECTRICAL DATA

PIPE REPRESENTATION

NAME OF DESIGN

DETAIL ANNOTATIONS

PIPE VALVES AND ACCESSORIES

ROOF TOP UNIT SCHEDULE

GAS FIRED HEATING AND VENTILATING UNIT SCHEDULE (FOR REFERENCE)

INFRARED GAS FIRED TUBE HEATER (FOR REFERENCE)

ELECTRIC UNIT HEATER SCHEDULE (FOR REFERENCE ONLY)

FAN SCHEDULE (FOR REFERENCE)

SPLIT SYSTEM INDOOR UNITS

OUTDOOR CONDENSING UNIT

AIR DEVICE SCHEDULE

AIR DEVICE SCHEDULE (FOR THIS PROJECT)

GENERAL PLUMBING DEMOLITION NOTES

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22 JUNE 2015

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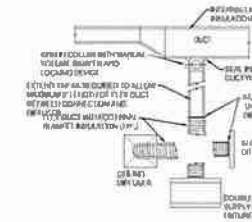
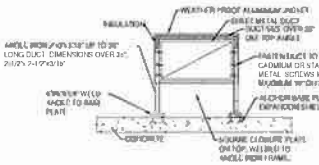
GENERAL NOTES, MECHANICAL ABBREVIATIONS

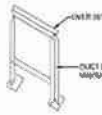
M001.1



NOTES:
1. TYPICAL CONNECTION BETWEEN DUCT AND CEILING OR SLOT DIFFUSERS AND SINGLE OR DOUBLE-SIDED SADDLE BOOT LIGHT FIXTURES AS SHOW ON PLANS OR INDICATED IN SCHEDULE.
2. ONLY ONE 90° TURN ALLOWED IN FLEX DUCT WITH R=0 I.D. DUCT MUST BE PROPERLY SUPPORTED TO PREVENT KINKS.
3. IF ADDITIONAL 90° TURNS ARE REQUIRED TO CONNECT OUTLET TO DIFFUSER, EXTEND TAP AND PROVIDE EXTERNALLY INSULATED STOVE PIPE ELBOWS AS REQUIRED.

10 M701.1 CONNECTIONS BETWEEN MAIN DUCT AND AIR DEVICES
SCALE: NOT TO SCALE





11 M701.1 OUTSIDE DUCT SUPPORT
SCALE: NOT TO SCALE

GENERAL PLUMBING NOTES

1. ALL PLUMBING WORK SHALL COMPLY WITH THE 2012 INTERNATIONAL PLUMBING CODE AND THE ALEXANDRIA WATER & SEWER AUTHORITY.
2. [illegible]
3. [illegible]
4. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL OTHER TRADES TO ENSURE PROPER INSTALLATION OF EQUIPMENT AND MATERIALS. CONTRACTOR SHALL VERIFY ALL EQUIPMENT SIZES, MODELS AND ACCESSORIES REQUIRED PRIOR TO ORDERING. ANY EQUIPMENT OR MATERIALS ORDERED WITHOUT PROPER APPROVAL SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.
5. BEFORE POURING CONCRETE FLOORS INSTALL ALL REQUIRED SLEEVES.
6. DO NOT CUT OR PENETRATE ANY MEMBER WITHOUT THE APPROVAL OF THE ARCHITECT OR ENGINEER. WHERE PENETRATIONS ARE MADE IN ASSEMBLIES, SEAL AS REQUIRED.
7. PROVIDE ACCESS FOR ALL FLOOR CLEANOUTS IN WITH TOP OF SLEEVE 2" ABOVE FINISHED FLOOR.
8. PLUMBING CONTRACTOR TO FURNISH AND INSTALL ALL PLUMBING FIXTURES COMPLETELY AS SPECIFIED ON DRAWINGS.
9. [illegible]
10. FLOOR TO BE SLOPED EVENLY TO FLOOR DRAINS. TOP OF DRAIN FLUSH WITH FINISHED FLOOR.
11. MIXING VALVES SHALL BE USED TO TEMPER HOT WATER AT ALL PUBLIC LAVATORIES AND HAND WASHING FACILITIES. SET AT 105 DEGREES F.
12. CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR ALL VALVES AND MECHANICAL EQUIPMENT.
13. [illegible]
14. [illegible]
15. [illegible]
16. ALL PIPING SHALL BE RIGIDLY ANCHORED AND SUPPORTED IN ACCORDANCE WITH MSS SP-58.
17. [illegible]
18. [illegible]
19. [illegible]
20. ALL PIPING SHALL BE RIGIDLY ANCHORED AND SUPPORTED IN ACCORDANCE WITH MSS SP-58.
21. [illegible]
22. [illegible]
23. [illegible]
24. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MISCELLANEOUS SUPPORTING DEVICES FOR ALL FIXTURES INCLUDED IN CONTRACT OR HEREIN SPECIFIED OR OTHERWISE.
25. CONTRACTOR SHALL SLEEVE ALL PIPING ENTERING THROUGH NON-BEARING PARTITIONS, FLOORS, WALLS, ROOFS, ETC. SLEEVES SHALL BE PROVIDED BY THE CONTRACTOR WHO INSTALLS THE PIPING. SLEEVES SHALL BE OF SUFFICIENT SIZE TO ALLOW FREE MOVEMENT OF PIPE AND INSULATION. SEAL ALL SLEEVES WATERTIGHT WITH CAULKING.
26. DOMESTIC WATER PIPING SHALL BE TYPE L COPPER TUBING.
27. ALL SANITARY DRAINAGE PIPING 2" AND LESS SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 1/4" FALL PER 1'-0" OF RUN OTHERWISE NOTED.
28. ALL SANITARY DRAINAGE PIPING 3" AND LESS SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 1/8" FALL PER 1'-0" OF RUN OTHERWISE NOTED.
29. [illegible]
30. [illegible]
31. [illegible]
32. [illegible]
33. [illegible]
34. [illegible]
35. [illegible]
36. [illegible]
37. [illegible]
38. [illegible]
39. [illegible]
40. [illegible]
41. [illegible]
42. [illegible]
43. [illegible]
44. [illegible]
45. [illegible]
46. [illegible]
47. [illegible]
48. [illegible]

PIPE INSULATION SCHEDULE

INSULATION TYPE	MINIMUM PIPE SIZE INCHES	PIPING SYSTEM TYPES: DOMESTIC HOT WATER SUPPLY AND RETURN	DOMESTIC HOT WATER RECIRCULATING PUMP SUCTION AND DISCHARGE PIPING	DOMESTIC COLD WATER SUPPLY AND RETURN	DOMESTIC COLD WATER RECIRCULATING PUMP SUCTION AND DISCHARGE PIPING	DOMESTIC HOT WATER AND OVERFLOW	DOMESTIC COLD WATER SUPPLY	ROOF DRAIN BODY AND UNDERDECK PIPING	CONDENSATE DRAIN PIPING	REFRIGERANT PIPING
CELLULAR GLASS	1 1/2	1"	1"	1"	1"	1"	1"	1"	1"	1"
	2"	1"	1"	1"	1"	1"	1"	1"	1"	1"
FLEXIBLE CELLULAR	1 1/2	1"	1"	1"	1"	-	-	-	1"	1"
	2"	1"	1"	1"	1"	-	-	-	1"	1"
MINERAL FIBER (PREFORMED PIPE)	1 1/2	1"	1"	1"	1"	1"	1"	1"	1"	1"
	2"	1"	1"	1"	1"	1"	1"	1"	1"	1"
MINERAL FIBER (PREFORMED PIPE)	1 1/2	1"	1"	1"	1"	-	-	-	1"	1"
	2"	1"	1"	1"	1"	-	-	-	1"	1"
FIBERGLASS	1 1/2	1"	1"	1"	1"	1"	1"	1"	1"	1"
	2"	1"	1"	1"	1"	1"	1"	1"	1"	1"

MAXIMUM LENGTH OF CW & HW PIPE OR TUBE FROM SOURCE OF HOT / TEMPERED WATER

NOMINAL PIPE OR TUBE SIZE INCH	MAXIMUM LENGTH (FEET)	
	WITHOUT A CIRCULATING LOOP OR HEAT TRACE LINE (FEET)	WITH A CIRCULATING LOOP OR HEAT TRACE LINE (FEET)
1/2"	10'	5'
3/4"	20'	10'
1"	50'	25'
1 1/4"	100'	50'
1 1/2"	150'	75'
2"	200'	100'
2 1/2"	250'	125'
3"	300'	150'
4"	400'	200'

NOTES:
1. TEMPERATURES MAY VARY WITH CHANGE IN AMBIENT CONDITIONS.
2. MINIMUM LENGTH IS THE APPROXIMATE LENGTH OF PIPE OR TUBE FROM THE DRAW FAUCET TO THE WATER HEATER.

GENERAL PLUMBING NOTES

1. ALL PLUMBING WORK SHALL COMPLY WITH THE 2012 INTERNATIONAL PLUMBING CODE AND THE AUTHORITY HAVING JURISDICTION.
2. CONTRACTOR SHALL OBTAIN ALL PERMITS, FEES, AND INSPECTIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION.
3. CONTRACTOR SHALL MAKE NO CHANGES WITHOUT THE WRITTEN APPROVAL FROM THE ARCHITECT.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SIZING AND INSTALLATION OF PIPE HANGERS. CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ARCHITECT FOR EQUIPMENT MANUFACTURER'S RECOMMENDATIONS FOR EQUIPMENT INSTALLATION AND THE CONTRACT DRAWINGS. CONTRACTOR SHALL ENGAGE A LICENSED PROFESSIONAL WITH ALL WORK TO BE PERFORMED UNDER THE DIRECT SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER.
5. BEFORE POURING CONCRETE FLOORS INSTALL ALL REQUIRED SLEEVES.
6. DO NOT CUT STRUCTURAL MEMBERS WITHOUT THE APPROVAL OF THE ENGINEER/ARCHITECT, AND PROVIDE ADEQUATE SUPPORT AS DIRECTED BY THE ENGINEER/ARCHITECT.
7. PROVIDE SLEEVES FOR ALL FLOOR PENETRATIONS WITH TOP OF SLEEVE 2" ABOVE FINISHED FLOOR.
8. PROVIDE ESCUTCHEON PLATES AT ALL EXPOSED PIPE PENETRATIONS.
9. PROVIDE SHUT-OFF VALVES ON ALL PLUMBING FIXTURE SUPPLIES AND ON ALL MAIN SUPPLY PIPING TO ALL PLUMBING FIXTURES.
10. FLOOR TO BE SLOPED 1/4" TO FLOOR DRAINS. TOP OF DRAIN FLUSH WITH TOP OF FINISHED FLOOR.
11. ALL SYSTEMS, ALL FIXTURES SHALL OPERATE SATISFACTORILY AS DESIGNED AND INTENDED. REPORT ANY DEFICIENCIES TO THE ARCHITECT/ENGINEER.
12. CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR ALL VALVES AND MECHANICAL EQUIPMENT.
13. ALL POTABLE WATER PIPING SHALL BE DISINFECTED AND FLUSHED IN FULL ACCORDANCE WITH THE LOCAL AUTHORITIES HAVING JURISDICTION.
14. ALL PIPING SYSTEMS SHALL BE TESTED AT DESIGN PRESSURES FOR A PERIOD OF TIME AS PRESCRIBED BY THE LOCAL AUTHORITIES HAVING JURISDICTION.
15. CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS, EQUIPMENT LAYOUT DRAWINGS AND ALL OTHER RELATED DRAWINGS AS REQUIRED FOR DIMENSIONS, DETAILS, AND PLUMBING EQUIPMENT LOCATIONS. CONTRACTOR SHALL COORDINATE ALL WORK WITH ALL OTHER TRADES. CONTRACTOR SHALL COORDINATE ALL ACCESS REQUIREMENTS WITH ARCHITECT. CONTRACTOR SHALL COORDINATE ALL EQUIPMENT SIZES AND CLEARANCE REQUIREMENTS WITH ALL OTHER TRADES.
16. CONTRACTOR SHALL REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS AND CUT SHEETS TO REQUIRE COMPLETE INSTALLATION OF EQUIPMENT.
17. CONTRACTOR SHALL FURNISH AND INSTALL ALL PIPING, ETC. VALVES, FITTINGS AND ACCESSORIES AS SHOWN ON PLANS AND DETAILS FOR PROPER OPERATION AND MAINTENANCE OF PLUMBING SYSTEM, INCLUDING BUT NOT LIMITED TO DRAINS, VENTS, VALVES, ETC. AS REQUIRED BY CODE, SUCH AS CLEANOUTS, VACUUM BREAKERS, SAFETY VALVES, ETC. WHETHER SHOWN OR NOT. ALL FLOOR DRAINS, WHERE REQUIRED BY CODE AND REGULATIONS, SHALL BE PROVIDED WITH TRAP PRIMER VALVE AND PIPING.
18. ALL PIPING SHALL BE RUN PARALLEL AND CONCEALED IN PARTITIONS IN ACCORDANCE WITH GOOD BUILDING PRACTICE.
19. CONTRACTOR SHALL PROVIDE ACCESS PANELS WHERE REQUIRED FOR ACCESS TO VALVES AND CONTROLS.
20. PIPING AND FITTINGS SHALL BE OF THE SAME MATERIAL THROUGHOUT EXCEPTIONS ARE ALLOWED ONLY WHERE SPECIFICALLY INDICATED ON THE DRAWINGS.
21. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY SUPPORTING DEVICES FOR ALL FIXTURES INCLUDED IN CONTRACT OR HEREIN SPECIFIED OR OTHERWISE.
22. CONTRACTOR SHALL ALLOW ALL PIPING CROSSING THROUGH CONCRETE AND STRUCTURAL WORK TO NOTIFY ARCHITECT AND ENGINEER PRIOR TO CONSTRUCTION TO ENSURE STRUCTURAL SUPPORT WILL NOT BE AFFECTED.
23. DOMESTIC WATER PIPING SHALL BE SLOPED TO DRAIN POINTS.
24. ALL SANITARY DRAINAGE PIPING 3" AND LARGER SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 1/8" FALL PER 1-0" OF RUN OTHERWISE NOTED.
25. ALL SANITARY DRAINAGE PIPING 2" AND LESS SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 1/4" FALL PER 1-0" OF RUN OTHERWISE NOTED.
26. ALL STORM DRAINAGE PIPE SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 1/8" FALL PER 1-0" OF RUN OTHERWISE NOTED.
27. ALL ILLUSTRATED DRAINAGE PIPING IS BELOW THE FLOOR ON WHICH IT IS DRAWN UNLESS OTHERWISE NOTED. ALL DOMESTIC WATER AND VENT PIPING ILLUSTRATED IS ABOVE OR AT THE CEILING ON WHICH IT IS DRAWN UNLESS OTHERWISE NOTED.
28. PROVIDE PRODUCTS AND FIXTURES AS SPECIFIED OR EQUIVALENT.
29. THE DOMESTIC WATER SYSTEM SHALL BE DISINFECTED AND FLUSHED IN FULL ACCORDANCE WITH THE LOCAL AUTHORITIES HAVING JURISDICTION.
30. AT FLOOR DRAIN TRAP SEALS SHALL BE MAINTAINED BY AN APPROVED TRAP PRIMER.

GENERAL PLUMBING DEMOLITION NOTES

1. WHERE EXISTING PLUMBING FIXTURES ARE INDICATED TO BE REMOVED, REMOVE EXISTING FIXTURE, TRIM, AND ALL ASSOCIATED PIPING AND HARDWARE. REMOVE SERVICE BRANCHES BACK TO NEAREST MAIN AND CAP. DEAD LEGS SHALL NOT EXCEED 2'-0" IN LENGTH.
2. DEMOLITION SHALL BE PERFORMED IN SUCH A MANNER THAT WILL NOT DAMAGE ADJOINING SURFACES OR EQUIPMENT INDICATED TO REMAIN. WHERE SURFACES MUST BE REMOVED TO COMPLETE DEMOLITION, THE CONTRACTOR SHALL REPLACE AND REPAIR THE SURFACES BACK TO THE ORIGINAL CONDITION.
3. WHERE DEMOLITION WOULD AFFECT THE STRUCTURAL INTEGRITY OF THE BUILDING, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH DEMOLITION.
4. ALL REMOVED FIXTURES AND TRIM SHALL REMAIN THE PROPERTY OF THE OWNER AND THE CONTRACTOR SHALL STORE ON SITE OR REMOVE FROM SITE AND FIXTURES AS DIRECTED BY THE OWNER.
5. THE CONTRACTOR SHALL DISPOSE OF ALL DEMOLISHED EQUIPMENT AND SYSTEMS THAT ARE NOT REMAIN IN PLACE DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE DETAILS AND METHODS OF ISOLATING THE SYSTEMS WHICH ARE TO REMAIN IN PLACE. ALL VALVES, CAPS, AND MISCELLANEOUS ITEMS NECESSARY TO REMAIN IN PLACE SHALL INCLUDE TEMPORARY CAPS AND ISOLATION VALVES.

NOTES:
1. UNIT SHALL HAVE FACTORY MOUNTED DISCONNECT SWITCH.
2. UNIT SHALL HAVE FACTORY MOUNTED CONTROLS.

ABBREVIATIONS

LEGEND:
1. THROUGH-WIRE ELECTRICAL CONNECTION.
2. ELECTRICAL PANEL ACCESS DOOR.

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASPE	AMERICAN SOCIETY OF PLUMBING ENGINEERS
AWWA	AMERICAN WATER WORKS ASSOCIATION
BFP	BACKFLOW PREVENTER
BOD	BASIS OF DESIGN
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
CFM	CUBIC FEET PER MINUTE
CIO	CLEANOUT
CO	CLEANOUT
COPPER	COPPER TUBING
CW	COLD WATER
DHW	DOMESTIC HOT WATER
DN	DOWN
DRAIN	DRAIN
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
EA	EACH
EC	EXPANSION CHAMBER
EW	EXISTING TO REMAIN
FD	FLOOR DRAIN
FIN	FINISH
FLR	FLOOR
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FOOT
GAL	GALLON
GCO	GRADE CLEANOUT
GD	GARBAGE DISPOSAL
GH	GARDEN HYDRANT
GPM	GALLONS PER MINUTE
HDPE	HIGH DENSITY POLYETHYLENE
HP	HORSE POWER
HW	HOT WATER SUPPLY
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IW	INDIRECT WASTE
LAV	LAVATORY
MAX	MAXIMUM
MIN	MINIMUM
MOP	MOP SINK
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OS&Y	OUTSIDE STEM AND YOKE
P	PUMP
PDI	PLUMBING AND DRAINAGE INSTITUTE
PIV	POST INDICATOR VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PVC	POLYVINYL CHLORIDE
REF	REFRIGERATOR
RD	ROOF DRAIN
RH	ROOF HYDRANT
RPM	REVOLUTIONS PER MINUTE
RW	RAIN WATER
RWC	RAIN WATER CONDUCTOR
SAN	SANITARY
SCD	SCHEDULE
SD	SOUND DEADENER
SMS	SANITARY WASTE PIPE
SF	SQUARE FEET
SFU	SUPPLY FIXTURE UNIT
SS	STAINLESS STEEL
ST	STORM WATER
STRUC	STRUCTURAL
TEMP	TEMPERATURE
TW	TEMPERED WATER
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
V	VENT
VTR	VENT THROUGH ROOF
W	WASTE
WC	WATER CLOSET
WH	WALL HYDRANT
WM	WATER METER
WSP	WET STANDPIPE

PLUMBING SYMBOLS

ANNOTATIONS

DETAIL ANNOTATION

DRAINS

MISCELLANEOUS

PIPE REPRESENTATION

PIPE VALVES AND ACCESSORIES

PIPE FITTINGS

NOTE: ALL SYMBOLS MAY NOT APPEAR ON THE DRAWINGS.

DESIGN CRITERIA

2012	INTERNATIONAL PLUMBING CODE
2012	INTERNATIONAL MECHANICAL CODE
2012	INTERNATIONAL FUEL GAS CODE
2010	STANDARD OF DISABILITY ACCESSIBILITY
2010	ADAG
2013	CCMA

PLUMBING EQUIPMENT SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	MODEL	REMARKS

ELECTRIC DUCT HEATER SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	MODEL	REMARKS

STRAIGHT SECTION FLEXIBLE CONNECTOR — M702.1 — SCALE: NOT TO SCALE

ROOF TOP UNIT — M702.1 — SCALE: NOT TO SCALE

LAY-IN AND SLOT TYPE CEILING DIFFUSERS DETAIL — M702.1 — SCALE: NOT TO SCALE

VIBRATION ISOLATION WITH NEOPRENE PAD — M702.1 — SCALE: NOT TO SCALE

CONCENTRIC VENT ROOF — M702.1 — SCALE: NOT TO SCALE

CEILING MOUNTED EXHAUST FAN — M702.1 — SCALE: NOT TO SCALE

ELECTRIC DUCT HEATER — M702.1 — SCALE: NOT TO SCALE

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REVISIONS

22 JUNE 2015
PERMIT SET

GENERAL NOTES, SCHEDULES, ABBREVIATIONS

M702.1

PIPE INSULATION SCHEDULE

PIPING SYSTEM TYPES

INSULATION TYPE	INSULATION R-VALUE	DOMESTIC COLD WATER	DOMESTIC HOT AND RECIRCULATING WATER	[illegible]	[illegible]	[illegible]	[illegible]
		ALL PIPE SIZES	ALL PIPE SIZES	ALL PIPE SIZES	ALL PIPE SIZES	ALL PIPE SIZES	ALL PIPE SIZES
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

PIPE INSULATION SCHEDULE

INSULATION TYPE	PLENUM SEC. (INCH)	PIPING SYSTEM TYPES: DOMESTIC COLD WATER		DOMESTIC HOT WATER		RECIRCULATING HOT WATER OVERFLOW	CONDENSATE DRAIN FROM A/C OR HW STOPS FOR A/C RELIEF	ROOF DRAIN, TREES & SIMILAR APPLICATION EXPOSED TO WEATHER (ALL PIPING EXCEPT CONCEALED WITHIN CONSTR.)
		SUPPLY BACK-MAIN CIRCULATOR	RETURN AND CIRCULATOR	SUPPLY BACK-MAIN CIRCULATOR	RETURN AND CIRCULATOR	ALL PIPE SIZES	ALL PIPE SIZES	ALL PIPE SIZES
DOMESTIC COLD WATER	1" OR LESS	Y	Y	Y	Y	Y	-	Y
	1-1/4" OR LARGER	Y	Y	Y	Y	-	-	Y
DOMESTIC HOT WATER (SUPPLY)	1" OR LESS	-	-	Y	Y	Y	Y	Y
	1-1/4" OR LARGER	-	-	Y	Y	-	-	Y
DOMESTIC HOT WATER RECIRCULATING	1" OR LESS	Y	Y	Y	Y	Y	-	Y
	1-1/4" OR LARGER	Y	Y	Y	Y	-	-	Y
CONDENSATE	ALL	-	-	-	-	-	Y	-
ROOF DRAIN	ALL	Y	Y	Y	Y	Y	-	Y
AIR VENT	ALL	-	-	-	-	-	-	Y

MAXIMUM LENGTH OF CW & HW PIPE OR TUBE FROM SOURCE OF HOT / TEMPERED WATER

NOMINAL PIPE OR TUBE SIZE (INCH)	MAXIMUM LENGTH (FEET)		
	PIPE OR TUBE FROM A CIRCULATION LOOP OR HEAT TRACED LINE (FEET)	PIPE OR TUBE FROM A CIRCULATION LOOP OR HEAT TRACED LINE (FEET)	DEAD LEG (FEET) - PUBLIC BATHS AND WATER TIMED (FEET)
1/2	10	10	4
3/4	10	10	4
1	10	10	3
1-1/2	10	10	2
2	10	10	1
2-1/2	10	10	0.8
3	10	8	0.5
4	10	5	0.3
5	10	3	0.2
6 AND UP	4	3	0.2

* FOR PIPE LENGTHS GREATER THAN SHOWN, PROVIDE CIRCULATING PIPING OR HEAT TRACE.

GENERAL PLUMBING NOTES

1. ALL PLUMBING WORK SHALL COMPLY WITH THE 2012 INTERNATIONAL PLUMBING CODE AND THE AUTHORITY HAVING JURISDICTION.
2. [illegible] SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES AND [illegible].
3. CONTRACTOR SHALL MAKE NO CHANGES WITHOUT THE WRITTEN PERMISSION FROM THE ARCHITECT.
4. CONTRACTOR ENSURES A REASONABLY UNIFORM PIPING APPEARANCE IS OF PIPE, FITTINGS, ETC. TO LOWEST APPROVED EQUIPMENT IN A PROPER AND APPROVED MANNER. CONTRACTOR SHALL FOLLOW EQUIPMENT MANUFACTURER'S INSTRUCTIONS AND THE CONTRACT DOCUMENTS. NOTIFY THE ARCHITECT IN CASE OF ERROR, PRIOR TO INSTALLATION. ALL WORK TO BE COMPLETED IN INSTALLATION OR CONSTRUCTION SHALL BE MADE IN A MANNER THAT WILL NOT VOID THE MANUFACTURER'S WARRANTY.
5. [illegible] BEFORE PLUMBING CONCRETE FLOORS AND FILL AS REQUIRED BY LEVELS.
6. DO NOT CUT STRUCTURAL MEMBERS WITHOUT THE APPROVAL OF THE ARCHITECT OR ENGINEER. ANY PROPOSED CUTTING MUST BE IN A MANNER AS DIRECTED BY THE ARCHITECT/ENGINEER.
7. PROVIDE SLEEVES FOR ALL PIPING PENETRATIONS WITH TOP OF SLEEVE 4" ABOVE FINISHED FLOOR.
8. PLUMBING CONTRACTOR TO FURNISH AND INSTALL ALL PLUMBING FIXTURES COMPLETELY AS SPECIFIED ON DRAWINGS.
9. PROVIDE STOP-OFF VALVES ON ALL EQUIPMENT AND [illegible] COLD WATER PIPING TO ALL PLUMBING FIXTURES.
10. PIPING TO BE SLOPED TO TRAP PRIMER. TOP OF [illegible] FINISHED FLOOR.
11. WHERE PIPING SHALL BE USED TO SUPPORT HOT OR COLD ALL PUBLIC [illegible] WITH PADDED SADDLE TO LIMIT MOVEMENT.
12. CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR ALL DEVICES SHOWN MECHANICAL EQUIPMENT.
13. WHERE WORK AREA CLEAN UP IS REQUIRED CONTRACTOR SHALL AFTER COMPLETION OF INSTALLATION OF WORK, CLEAN ALL FIXTURES OF ANY MATERIAL PLACED, AND LEAVE IN CLEAN CONDITION.
14. TEST ALL SYSTEMS. ALL FIXTURES SHALL OPERATE SATISFACTORILY AS DESIGNED AND INTENDED. REPORT ANY DEFICIENCIES TO THE ARCHITECT/ENGINEER.
15. ALL POTABLE WATER PIPING SHALL BE DISINFECTED AND FLUSHED IN FULL ACCORDANCE WITH THE LOCAL AUTHORITIES HAVING JURISDICTION.
16. ALL PIPING SYSTEMS SHALL BE TESTED AT [illegible] PRESSURE FOR A PERIOD OF [illegible] AS PRESCRIBED BY THE LOCAL AUTHORITIES HAVING JURISDICTION.
17. CONTRACTOR SHALL REVIEW ARCHITECTURAL DRAWINGS, EQUIPMENT LAYOUT DRAWINGS, AND SHOP DRAWINGS PRIOR TO COMMENCING WORK. [illegible] DIMENSIONS, DETAILS, ETC. PLUMBING LAYOUT DRAWINGS ARE DIAGRAMMATIC AND [illegible] FOR DETAILED INFORMATION AND DIRECTIONS. CONTRACTOR SHALL COORDINATE WORK WITH FIELD CONDITIONS AND ALL OTHER TRADES. CONTRACTOR SHALL NOT SCALE DRAWINGS. DO NOT DEVIATE FROM WORK AS SHOWN ON DRAWINGS AND SPECIFICATIONS WITHOUT WRITTEN AUTHORIZATION FROM ARCHITECT/ENGINEER. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD BEFORE PLACING ORDERS OR BEGINNING FABRICATION OF ANY WORK. THE DRAWINGS ARE [illegible] THE LOCATIONS, SIZES AND ARRANGEMENTS OF ALL EQUIPMENT AND MATERIALS.
18. CONTRACTOR SHALL REFER TO MANUFACTURER'S INSTRUCTIONS FOR ASSEMBLY AND CLEARANCE REQUIREMENTS OF EQUIPMENT FURNISHED. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
19. CONTRACTOR SHALL FURNISH AND INSTALL ALL [illegible] APPURTENANCES OF PARTS AND ACCESSORIES REQUIRED FOR PROPER OPERATION OF THE SYSTEMS SHOWN ON THE PLUMBING DRAWINGS. [illegible] SPECIFICALLY MENTIONED IN THE PLUMBING SPECIFICATIONS BUT REQUIRED FOR CODE, SUCH AS CHECK VALVES, PRESSURE REGULATORS, PRESSURE RELIEF VALVES, VACUUM RELIEF, ETC. ALL SUCH ITEMS SHALL BE FURNISHED AND INSTALLED AS REQUIRED BY CODES AND REGULATIONS. SHALL BE PROVIDED WITH [illegible] ITEMS.
20. ALL PIPING SHALL BE RUN IN NEAT, ORDERLY ARRANGEMENTS AND INSTALLED IN ACCORDANCE WITH THE BEST TRADE PRACTICE.
21. CONTRACTOR SHALL FURNISH AND INSTALL ALL WATER SHOCK ARRESTERS SHOWN ON DRAWINGS OR REQUIRED BY PLUMBING CODE. ALL SHOCK ARRESTERS SHALL BE OF THE SIZE AND TYPE RECOMMENDED BY THE MANUFACTURER AND SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS.
22. PLUMBING CONTRACTOR SHALL PROVIDE ACCESS PANELS IN [illegible] FOR ACCESS TO VALVES INCLUDING VALVES.
23. VALVES AND ATTACHMENTS SHALL BE OF THE SAME MANUFACTURER, UNLESS OTHERWISE SPECIFICALLY APPROVED BY THE ARCHITECT/ENGINEER.
24. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER [illegible] SUPPORT FOR PIPING AND EQUIPMENT. SUPPORTS SHALL BE AS SPECIFIED ON DRAWINGS AND DETAILS.
25. CONTRACTOR SHALL VERIFY ALL PIPING DRAWINGS WITH STRUCTURAL DRAWINGS, DUCTWORK, AND OTHER TRADES. NOTIFY ARCHITECT AND ENGINEER IMMEDIATELY OF ANY CONFLICTS. DO NOT CUT STRUCTURAL MEMBERS WITHOUT THE APPROVAL OF THE ARCHITECT/ENGINEER.
26. DOMESTIC WATER SHALL BE SLOPED TO DRAIN POINTS. [illegible]
27. ALL SANITARY DRAINAGE PIPING 2" AND LARGER SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 1/8" FALL PER FOOT OF RUN OTHERWISE NOTED.
28. ALL SANITARY DRAINAGE PIPING 2" AND LESS SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 1/4" FALL PER FOOT OF RUN OTHERWISE NOTED.
29. ALL HORIZONTAL DRAINAGE PIPE SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 1/8" FALL PER FOOT OF RUN UNLESS NOTED OTHERWISE.
30. ALL [illegible] DRAINAGE PIPING IS BELOW THE [illegible] ILLUSTRATED IS ABOVE OR AT THE CEILING OR WHICH IT [illegible] OTHERWISE NOTED.
31. PROVIDE PRODUCTS AND SYSTEMS AS LISTED OR EQUAL BY.
32. THE DOMESTIC WATER SYSTEM SHALL BE DISINFECTED AND FLUSHED IN FULL ACCORDANCE WITH THE LOCAL AUTHORITIES HAVING JURISDICTION.
33. ALL FLOOR DRAIN TRAP SEALS SHALL BE MAINTAINED BY ADDING [illegible] TRAP PRIMER.

GENERAL PLUMBING DEMOLITION NOTES

1. WHERE EXISTING PLUMBING FIXTURES ARE INDICATED TO BE REMOVED, REMOVE EXISTING FIXTURE, TRIM, AND ALL ASSOCIATED PIPING AND HARDWARE. REMOVE SERVICE BRANCHES BACK TO NEAREST MAIN AND CAP. DEAD LEGS SHALL NOT EXCEED 24" (61 CM) LENGTH.
2. DEMOLITION SHALL BE PERFORMED IN SUCH A MANNER THAT WILL NOT DAMAGE ADJOINING SURFACES OR EQUIPMENT INDICATED TO REMAIN. WHERE SURFACES MUST BE REMOVED TO COMPLETE DEMOLITION, THE CONTRACTOR SHALL REPLACE AND REPAIR THE SURFACES BACK TO THE ORIGINAL CONDITION.
3. WHERE DEMOLITION WOULD AFFECT THE STRUCTURAL INTEGRITY OF THE BUILDING, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH DEMOLITION.
4. ALL REMOVED ITEMS (EXCEPT THOSE SHALL REMAIN THE PROPERTY OF THE OWNER AND THE CONTRACTOR SHALL STORE ON SITE OR REMOVE FROM SITE AS DIRECTED BY THE OWNER.
5. THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION REQUIRED WITH SYSTEMS THAT MUST REMAIN IN SERVICE DURING CONSTRUCTION. WHERE SYSTEMS MUST REMAIN IN SERVICE DURING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE MEANS AND METHODS OF ISOLATING THE SYSTEMS TO BE REMOVED WITH THE SYSTEMS TO REMAIN IN SERVICE. MEANS AND METHODS SHALL INCLUDE TEMPORARY CAPS AND ISOLATION VALVES.

ABBREVIATIONS

AAV	AIR ADMITTANCE VALVE
ABV	ABOVE
ACR	AIR CONDITIONING
ADA	AMERICANS DISABILITY ACT
AFF	ABOVE FINISHED FLOOR
AGA	AMERICAN GAS ASSOCIATION
ANSI	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASME	AMERICAN SOCIETY OF PLUMBING ENGINEERS
ASPE	AMERICAN SOCIETY OF TESTING MATERIALS
ASTM	
BLDG	BUILDING
BW	BOILER
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
BV	BALANCING VALVE
CFM	CUBIC FEET PER MINUTE
CW	COLD WATER
CD	CONDENSATE
CWP	COMPRESSED AIR
CWP	COLD WATER
DFU	DRAINAGE FIXTURE UNIT
DIA	DIAMETER
DN	DOWN
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
EW	EXISTING TO REMAIN
EACH	
EQUIP	EQUIPMENT
EXISTING TO REMAIN	
EXISTING TO BE REMOVED	
FD	FLOOR DRAIN
FIXT	FIXTURE
FLOW SWITCH	
FCO	FLOOR CLEAN OUT
FCV	FLOW CONTROL VALVE
FPS	FEET PER SECOND
GAL	GALLON
GPM	GALLONS PER MINUTE
GPH	GALLONS PER HOUR
GPD	GALLONS PER DAY
HDPE	HIGH DENSITY POLYETHYLENE
HP	HORSE POWER
HW	HOT WATER SUPPLY
HWR	HOT WATER RETURN
HWH	HOT WATER HEATER
HWC	HOT WATER CIRCULATOR
HZ	HERTZ
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IW	INSIDE WALL
LAV	LAVATORY
LBS	POUNDS
MAX	MAXIMUM
MIN	MINIMUM
MTD	MOUNTED
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OS&Y	OUTSIDE SCREW & YOKE
PD	PUMP DISCHARGE
PE	POLYETHYLENE
PEX	CROSS-LINKED POLYETHYLENE
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PVC	POLYVINYL CHLORIDE
RPM	REVOLUTIONS PER MINUTE
SF	SQUARE FEET
SHWR	SHOWER
SS	STAINLESS STEEL
STM	STEAM
STRUC	STRUCTURAL
TEMP	TEMPERATURE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	VENT PIPE
VTR	VENT THRU ROOF
W	WASTE
WC	WATER CLOSET
WCO	WALL CLEANOUT
WH	WALL HYDRANT
WW	WASTE WATER
WTR	WATER
W/	WITH
W/O	WITHOUT

NOTE:
ALL ABBREVIATIONS MAY NOT APPEAR ON THE DRAWINGS.

ROOF TOP UNITS (RTU-1-5) CONTROL DIAGRAM

[illegible] SHALL MONITOR THE OCCUPIED/STANDBY MODE OF OPERATION AS FOLLOWS:

1. [illegible] OCCUPIED MODE BY POWER FAILURE NUMBER OF FCU FUNCTIONS. CONTRACTOR IS TO [illegible] CONTROL INTERCONNECTION AND SUPPLY ALL PARTS, LABOR, PROGRAMMING AND [illegible] WHICH MAY NOT HAVE BEEN SUPPLIED BY THE MANUFACTURER.

PLUMBING SYMBOLS

ANNOTATIONS

- RETURN
- DOMESTIC WATER RISER DESIGNATION
- SANITARY WATER RISER DESIGNATION
- STORM RISER DESIGNATION
- [illegible] RISER DESIGNATION
- GAS RISER DESIGNATION
- SUPPLY AIR DIFFUSER/GRILLE/REGISTER
- RETURN AIR GRILLE/REGISTER
- EXHAUST AIR GRILLE/REGISTER
- DETAIL NUMBER
- SHEET WHERE THE DETAIL IS DRAWN
- SECTION NUMBER
- SHEET WHERE THE SECTION IS DRAWN
- SHEET WHERE THE DETAIL IS ENLARGED

DEVICE ANNOTATIONS

- P101 / P101 — PLUMBING FIXTURE NUMBER / PLUMBING FIXTURE TYPE

DRAINS

- [illegible] DRAIN
- [illegible] DRAIN
- [illegible] DRAIN

PIPE INSULATION SCHEDULE

INSULATION TYPE	INSULATION R-VALUE	PIPING SYSTEM TYPES							
		DOMESTIC COLD WATER		DOMESTIC HOT WATER		RECIRCULATING HOT WATER OR OVERFLOW		CONDENSATE DRAIN FROM COOLING COIL OR HUMIDIFIER	STORM DRAIN, ROOF DRAIN BODY, OVERFLOW ROOF DRAIN BODY, AND ROOF DRAIN TRAP
		EXPOSED TO CONDITIONED SPACE	CONCEALED IN WALLS OR CEILINGS	EXPOSED TO CONDITIONED SPACE	CONCEALED IN WALLS OR CEILINGS	ALL PIPE SIZES	ALL PIPE SIZES	ALL PIPE SIZES	ALL PIPE SIZES
CELLULAR GLASS	3.33	X	X	X	X	X	X	X	X
FLEXIBLE ELASTOMERIC	3.57	X	X	X	X	–	–	X	X
MINERAL FIBER PREFORMED PIPE INSULATION TYPE I	4.00	X	X	X	X	–	–	X	X
MINERAL FIBER PREFORMED PIPE INSULATION TYPE II	4.17	X	X	X	X	X	X	X	X
PHENOLIC	2.50	X	X	X	X	X	X	X	X
POLYOLEFIN	3.57	X	X	X	–	–	–	X	X
	4.17	–	–	–	X	X	X	–	–

MAXIMUM LENGTH OF CW & HWR PIPE OR TUBE FROM SOURCE OF HOT ITEMS FED WITH WATER

NOMINAL PIPE OR TUBE SIZE (INCH)	MAXIMUM DISTANCE (FEET)		
	SYSTEM WITHOUT A CIRCULATION LOOP OR HEAT TRACE FOR PIPE	SYSTEM WITH CIRCULATION LOOP OR HEAT TRACE FOR PIPE	CROSS-LINKED POLYETHYLENE (PEX) AND POLYBUTYLENE (PB) PIPE
1/2	50	50	3
3/4	40	40	4
1	30	30	5
1 1/4	20	20	6
1 1/2	15	15	7
2	10	10	8
2 1/2	7	7	9
3	5	5	10
4	4	4	11

NOTE: THE LENGTH OF PIPE OR TUBE IS MEASURED FROM THE SOURCE OF HOT WATER TO THE FURTHEST HOT WATER FIXTURE. IF A CIRCULATION LOOP OR HEAT TRACE IS PROVIDED, IT SHALL BE CAPABLE OF MAINTAINING THE HOT WATER TEMPERATURE AT THE FURTHEST HOT WATER FIXTURE WITHIN 10 SECONDS OF THE START OF FLOW.

GENERAL PLUMBING NOTES

1. ALL PLUMBING WORK SHALL COMPLY WITH THE 2012 INTERNATIONAL PLUMBING CODE AND THE AUTHORITY HAVING JURISDICTION.
2. CONTRACTOR WILL OBTAIN ALL PERMITS FOR ALL PLUMBING FEES AND FEES.
3. CONTRACTOR SHALL MAKE NO CHANGES WITHOUT THE WRITTEN PERMISSION FROM THE ARCHITECT.
4. CONTRACTOR ASSUMES RESPONSIBILITY FOR PROPER ARRANGEMENT OF PIPE, FIXTURES, ETC. TO CONNECT APPROVED EQUIPMENT IN A PROPER AND APPROVED MANNER. CONTRACTOR SHALL FOLLOW EQUIPMENT MANUFACTURER'S DETAILED INSTRUCTIONS AND THE CONTRACT DOCUMENTS. NOTIFY THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH ALL WORK IF EQUIPMENT INSTALLATION OR CONNECTIONS SHALL BE MADE IN A MANNER THAT VOIDS THE MANUFACTURER'S WARRANTY.
5. BEFORE POURING CONCRETE FLOOR, INSTALL ALL FLOOR DRAINS.
6. DO NOT CUT STRUCTURAL MEMBERS WITHOUT THE APPROVAL OF THE ARCHITECT/ENGINEER AND PERFORM CUTTING IN A MANNER AS DIRECTED BY A/E.
7. PROVIDE SLEEVES FOR ALL FLOOR PENETRATIONS WITH TOP OF SLEEVE 3" ABOVE FINISHED FLOOR.
8. PLUMBING CONTRACTOR TO FURNISH AND INSTALL ALL PLUMBING ITEMS COMPLETELY AS SPECIFIED ON DRAWINGS.
9. PROVIDE SHUT-OFF VALVES ON ALL EQUIPMENT AND ANGLE STOPS IN HOT AND COLD WATER PIPING TO ALL PLUMBING FIXTURES.
10. FLOOR TO BE SLOPED 1/8" TO FLOOR DRAIN, TOP OF DRAIN FLUSH WITH FINISHED FLOOR.
11. MIXING VALVES SHALL BE USED TO TEMPER HOT WATER AT ALL PUBLIC LAVATORIES AND HAND WASHING FACILITIES, SET AT 105 DEGREES F.
12. CONTRACTOR SHALL COORDINATE ACCESS PANELS FOR ALL VALVES AND MECHANICAL EQUIPMENT.
13. MAINTAIN WORK AREA CLEAN AT ALL TIMES DURING CONSTRUCTION. AFTER COMPLETING INSTALLATION OF WORK, CLEAN ALL FIXTURES OF ALL RUBBISH PLASTER, DEBRIS AND DUST.
14. TEST ALL PIPING, ALL FIXTURES SHALL OPERATE SATISFACTORILY AS DESIGNED AND INTENDED. REPORT ANY DEFICIENCIES TO THE ARCHITECT/ENGINEER.
15. ALL PIPING SHALL BE INSPECTED AND TESTED IN FULL ACCORDANCE WITH THE LOCAL AUTHORITIES HAVING JURISDICTION.
16. ALL PIPING SYSTEMS SHALL BE TESTED AT DESIGN PRESSURES FOR A PERIOD OF TIME AS PRESCRIBED BY THE LOCAL AUTHORITIES HAVING JURISDICTION.
17. CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS EQUIPMENT LAYOUT DRAWINGS, AND ALL OTHER RELATED DRAWINGS AS REQUIRED FOR DIMENSIONS, DETAILS, ETC. PLUMBING LAYOUT SHOWN ON THIS DRAWING IS FOR GENERAL ARRANGEMENT ONLY. CONTRACTOR SHALL COORDINATE ALL WORK WITH FIELD CONDITIONS AND ALL OTHER TRADES INVOLVED AS REQUIRED. DO NOT SCALE DIMENSIONS FROM THE DRAWING. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD AS REQUIRED.
18. CONTRACTOR SHALL REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS AND CUT SHEETS AS REQUIRED FOR INSTALLATION OF EQUIPMENT.
19. CONTRACTOR SHALL FURNISH AND INSTALL ALL PIPING, STRAINERS, PARTS AND ACCESSORIES REQUIRED FOR PROPER INSTALLATION AND OPERATION OF PLUMBING SYSTEM, (INCLUDING ALL FITTINGS AND DEVICES REQUIRED BY CODE, SUCH AS CHECK VALVES, VACUUM BREAKERS, SAFETY RELIEF VALVES, VACUUM RELIEF, ETC.) ALL FLOOR DRAINS, WHERE REQUIRED BY CODES AND REGULATIONS, SHALL BE PROVIDED WITH TRAP PRIMER VALVE AND FITTINGS.
20. ALL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH IPC 2012 SECTION 308.
21. CONTRACTOR SHALL FURNISH AND INSTALL WATER SHOCK ARRESTORS DOWN STREAM OF SOLENOID AND QUICK CLOSING VALVES. AIR CHAMBERS SHALL NOT BE CONSIDERED AN EQUAL TO WATER ARRESTORS AS SPECIFIED.
22. PLUMBING CONTRACTOR SHALL PROVIDE ACCESS PANELS WHERE REQUIRED FOR ACCESS TO VALVES IN CONCEALED WALLS.
23. VALVES AND FITTINGS SHALL BE OF THE SAME SIZE AS THE LINE ON WHICH THEY ARE LOCATED UNLESS OTHERWISE INDICATED ON DRAWINGS.
24. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY SUPPORTING DEVICES FOR ALL FIXTURES AND USED IN CONTRACT OR HEREIN SPECIFIED OR OTHERWISE.
25. CONTRACTOR SHALL SLEEVE ALL PIPING CROSSING THROUGH OR UNDERNEATH STRUCTURAL MEMBERS. NOTIFY ARCHITECT AND ENGINEERS PRIOR TO PROCEEDING WITH WORK TO ASSURE STRUCTURAL SUPPORT WILL NOT BE AFFECTED.
26. DOMESTIC WATER SHALL BE LOOP TO LOOP.
27. ALL SANITARY DRAINAGE PIPING 3" AND LARGER SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 1/8" FALL PER 1'-0" OF RUN OTHERWISE NOTED.
28. ALL SANITARY DRAINAGE PIPING 2" AND LESS SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 1/4" FALL PER 1'-0" OF RUN OTHERWISE NOTED.
29. ALL STORM DRAINAGE PIPE SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 1/8" FALL PER 1'-0" OF RUN OTHERWISE NOTED.
30. ALL ILLUSTRATED DRAINAGE PIPINGS BELOW THE FLOOR ON WHICH IT IS DRAWN UNLESS OTHERWISE NOTED. ALL DOMESTIC WATER AND VENT PIPING ILLUSTRATED IS ABOVE OR AT THE CEILING ON WHICH IT IS DRAWN UNLESS OTHERWISE NOTED.
31. PROVIDE PRODUCTS AND FIXTURES AS SPECIFIED OR EQUIVALENT.
32. THE DOMESTIC WATER SYSTEM SHALL BE DISINFECTED AND FLUSHED IN FULL ACCORDANCE WITH THE LOCAL AUTHORITIES HAVING JURISDICTION.
33. AT FLOOR DRAIN TRAP SEALS SHALL BE MAINTAINED BY AN APPROVED TRAP PRIMER.

GENERAL PLUMBING DEMOLITION NOTES

1. WHERE EXISTING PLUMBING FIXTURES ARE INDICATED TO BE REMOVED, REMOVE EXISTING FIXTURE, TRIM AND ALL ASSOCIATED PIPING AND HARDWARE. REMOVE SERVICE BRANCHES BACK TO NEAREST MAIN AND CAP, DEAD LEGS SHALL NOT EXCEED 2'-0" IN LENGTH.
2. DEMOLITION SHALL BE PERFORMED IN SUCH A MANNER THAT WALL AND FLOOR SURFACE ADJOINING SURFACES OR EQUIPMENT INDICATED TO REMAIN WHERE SURFACES MUST BE REMOVED TO COMPLETE DEMOLITION, THE CONTRACTOR SHALL REPLACE AND REFINISH THE MATERIALS BACK TO THE ORIGINAL CONDITION.
3. WHERE DEMOLITION WOULD AFFECT THE STRUCTURAL INTEGRITY OF THE BUILDING, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH DEMOLITION.
4. ALL REMOVED FIXTURES AND TRIM SHALL REMAIN THE PROPERTY OF THE OWNER AND THE CONTRACTOR SHALL STORE ON-SITE OR REMOVE FROM SITE AS DIRECTED BY THE OWNER.
5. THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION REQUIRED WITH SYSTEMS THAT MUST REMAIN IN SERVICE DURING CONSTRUCTION. WHERE SYSTEMS MUST REMAIN IN SERVICE DURING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE MEANS AND METHODS OF ISOLATING THE SYSTEMS TO BE REMOVED WITH THE SYSTEMS TO REMAIN IN SERVICE. MEANS AND METHODS SHALL INCLUDE TEMPORARY CAPS AND ISOLATION VALVES.

ABBREVIATIONS

AAV	AIR ADMITTANCE VALVE
ABV	ABOVE
AD	AREA DRAIN
ADA	AMERICAN DISABILITY ACT
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
ARCH	ARCHITECTURAL
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASPE	AMERICAN SOCIETY OF PLUMBING ENGINEERS
ASSE	AMERICAN SOCIETY OF SAFETY ENGINEERS
BLDG	BUILDING
BLW	BELOW
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
BWV	BACK WATER VALVE
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CO	CLEANOUTS
CONT	CONTINUATION
CW	COLD WATER
DFU	DRAINAGE FIXTURE UNIT
DIA	DIAMETER
DMH	DISTRIBUTED METER ROOM
DN	DOWN
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
E	EXISTING
EA	EACH
EQUIP	EQUIPMENT
ET	EXPANSION TANK
ETR	EXISTING TO REMAIN
F	WATER FILTER
FD	FLOOR DRAIN
FL	FLOOR
FS	FLOW SWITCH
FT	FEET
FM	FORCED MAIN
GAL	GALLON
GCO	GRADE CLEANOUT
GD	GARBAGE DISPOSAL
GH	GARDEN HYDRANT
GPM	GALLONS PER MINUTE
HDPE	HIGH DENSITY POLYETHYLENE
HP	HORSE POWER
HW	HOT WATER SUPPLY
HWR	HOT WATER RETURN
HPCW	HIGH PRESSURE COLD WATER
HWSH	HOT WATER STORAGE HEATER
IN	INCH
INV	INVERT
KW	KILOWATT
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
N	NEW
NIC	NOT IN CONTRACT
NOL	NUMBER
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OSD	OPEN SITE DRAIN
P	PUMP
PDI	PLUMBING AND DRAINAGE INSTITUTE
PH	PHASE (ELECTRICAL)
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
REF	REFRIGERATOR
RD	ROOF DRAIN
RH	ROOF HYDRANT
RPM	REVOLUTIONS PER MINUTE
RW	RAIN WATER
RWC	RAIN WATER CONDUCTOR
SA	SHOCK ABSORBER
SAN	SANITARY (WASTE PIPE)
SF	SQUARE FEET
SFU	SUPPLY FIXTURE UNIT
SS	STAINLESS STEEL
ST	STORM WATER
STRUC	STRUCTURAL
TEMP	TEMPERATURE
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER TUBE
TW	TEMPERED WATER
TYP	TYPICAL
UR	URINAL
V	VENT PIPE
VTR	VENT THRU ROOF
W	WATT
WC	WATER CLOSET
WCO	WALL CLEANOUTS
WH	WALL HYDRANT
WM	WATER METER
WTR	WATER
W	WITH
W/O	WITHOUT

NOTE:
ALL ABBREVIATIONS MAY NOT APPEAR ON THE DRAWINGS.

PLUMBING SYMBOLS

ANNOTATIONS

- KEYNOTE WITH # REFERENCE
- MATERIAL OR ITEM REFERENCE
- STORM RISER DESIGNATION
- GREEN ROOF HEIGHT INDICATION
- WALL RISER DESIGNATION
- GAS RISER DESIGNATION
- EQUIPMENT DESIGNATION
- REVISION NUMBER
- POINT OF DEMOLITION
- POINT OF CONNECTION
- PIPE SIZE
- PIPE SLOPE/GRADE

DETAIL ANNOTATIONS

- DETAIL NUMBER / WHERE THE DETAIL IS DRAWN
- DETAIL NUMBER / WHERE THE DETAIL IS DRAWN / WHERE THE DETAIL IS REFERENCED

DRAINS

- AD — AREA DRAIN
- FD — FLOOR DRAIN
- ORD — OVERFLOW ROOF DRAIN
- RD — ROOF DRAIN
- GD — GARAGE DRAIN
- FCO — FLOOR CLEAN OUT
- FS — FLOOR SINK DRAIN
- TD — TRENCH DRAIN
- OSD — OPEN SITE DRAIN
- FD — FUNNEL FLOOR DRAIN

MISCELLANEOUS

- HCO — HORIZONTAL CLEANOUT
- WH — WALL HYDRANT
- HB — HOSE BIB
- GW — GAS VALVE
- WM — WATER METER
- VB — VACUUM BREAKER
- TP — TEMPERATURE AND PRESSURE
- TRAP PRIMER
- DRY LEG
- WEATHER PROOF

PIPE REPRESENTATION

- EXISTING CW
- EXISTING HW
- EXISTING HWR
- EXISTING GAS
- EXISTING WW
- EXISTING STORM
- DEMOLITION CW
- DEMOLITION HW
- DEMOLITION HWR
- DEMOLITION GAS
- DEMOLITION WW
- DEMOLITION VENT
- DEMOLITION STORM
- NEW CW
- NEW HW
- NEW HWR
- NEW WW
- NEW GAS
- NEW GAS
- NEW VENT
- NEW STORM
- NEW INSULATED DRAIN
- GREEN ROOF STORM WATER PIPING ABOVE GROUND
- GREEN ROOF STORM WATER PIPING BELOW GROUND
- INSULATED DRAINAGE PIPE
- TRAP PRIMER TUBE

PIPE VALVES AND ACCESSORIES

- REDUCED PRESSURE ZONE BACKFLOW PREVENTER (ASSE 1013)
- BALL VALVE
- CHECK VALVE
- DOUBLE CHECK VALVE BACKFLOW PREVENTER (ASSE 1015-1048)
- GLOBE VALVE
- GATE VALVE
- PRESSURE REDUCING VALVE
- THERMOSTATIC MIXING VALVE
- PLUG VALVE
- BALANCING VALVE
- VACUUM RELIEF VALVE
- BACKFLOW PREVENTER ASSE 1013
- BACK WATER VALVE
- FLOAT
- WATER HAMMER ARRESTOR (P - PSI SIZE)
- PRESSURE GAUGE
- THERMOMETER
- ADJUSTABLE ANGLE
- STRAINER

PIPE FITTINGS

- REDUCER/INCREASER
- CAPPED CONNECTION
- PIPE UNION
- ELBOW TURNED UP
- ELBOW TURNED DOWN
- TEE UP
- TEE DOWN
- CROSS OVER PIPING

NOTE:
ALL SYMBOLS MAY NOT APPEAR ON THE DRAWINGS.

DESIGN CRITERIA

- IBC/r INTERNATIONAL BUILDING CODE
- IPC/r INTERNATIONAL PLUMBING CODE
- IMC/r INTERNATIONAL MECHANICAL CODE
- IFGC/r INTERNATIONAL FUEL GAS CODE
- DCMC/r DISTRICT OF COLUMBIA AMENDMENTS
- ICC/r ICC
- DCMC DCMA

PLUMBING SHEET LIST

SHEET	DRAWING
P001.1	GENERAL NOTES, SYMBOLS & ABBREVIATIONS
P002.1	FIRST FLOOR PLUMBING WASTE & VENT PLAN
P003.1	FIRST FLOOR PLUMBING DOMESTIC WATER PLAN
P004.1	ROOF PLAN
P005.1	PLUMBING RISER DIAGRAM
P006.1	PLUMBING SCHEDULES
P007.1	PLUMBING DETAILS

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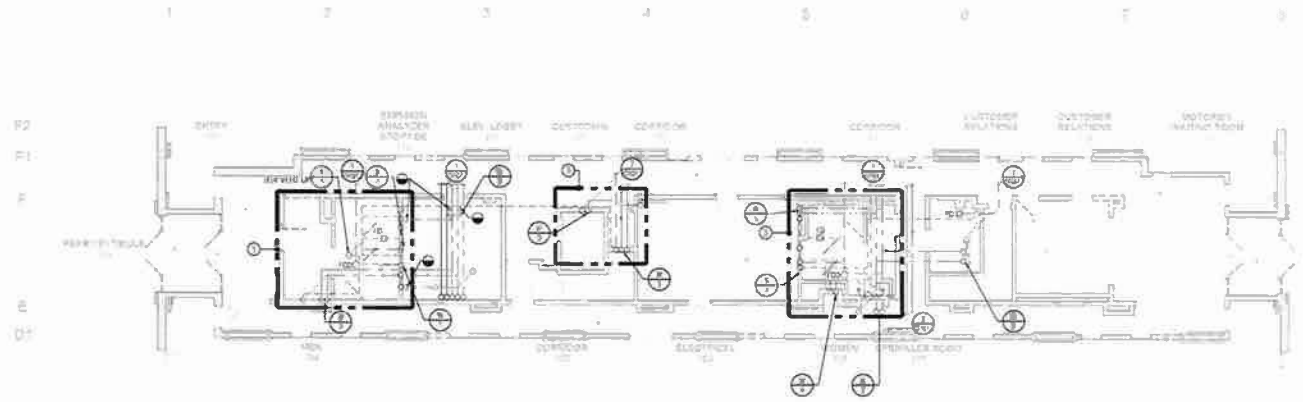
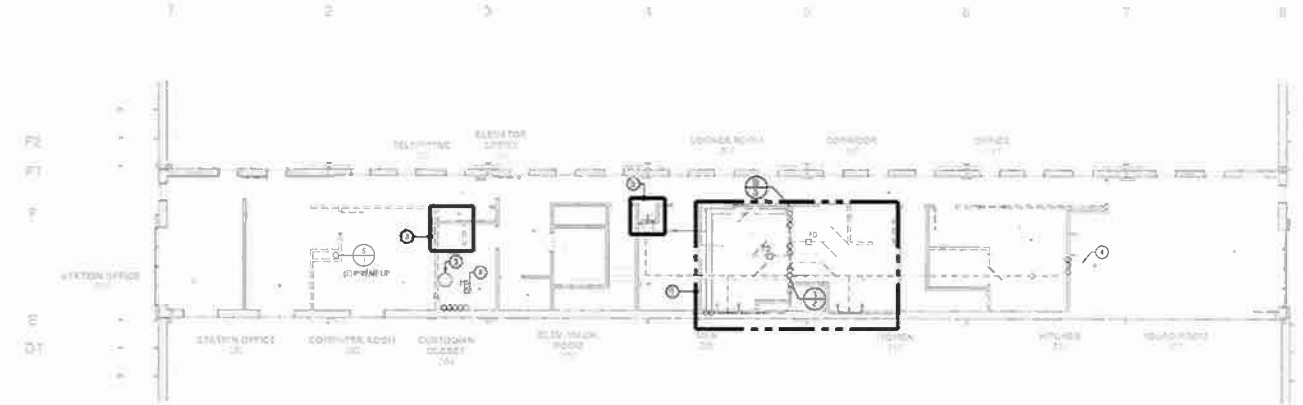
GENERAL NOTES, SYMBOLS & ABBREVIATIONS

P001.1



1 / PD102.1 DEMOLITION WORK CUSTOMER SERVICE CENTER - LEVEL 1

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



2 / PD102.1 DEMOLITION WORK CUSTOMER SERVICE CENTER - LEVEL 2

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

GENERAL NOTES

1. PRIOR TO ANY PLUMBING PIPING OR EQUIPMENT REMOVAL/DEMOLITION CONTRACTOR SHALL ANALYZE AND INSPECT FOR PRESENCE OF HAZARDOUS MATERIALS. ANY HAZARDOUS MATERIALS SHALL BE DOCUMENTED, AND THE OWNER/ARCHITECT NOTIFIED. ALL HAZARDOUS WASTE DISPOSALS SHALL COMPLY WITH STATE AND LOCAL REGULATIONS.
2. THE PLUMBING CONTRACTOR SHALL PROVIDE ALL DEMOLITION INCIDENTAL TO OR REQUIRED FOR NEW AND RENOVATED CONSTRUCTION WHETHER OR NOT SPECIFICALLY NOTED AND INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   a. [illegible]
3. [illegible]
4. WHERE DEMOLITION WOULD AFFECT THE STRUCTURAL INTEGRITY OF THE BUILDING, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO THE PROCEEDING WITH DEMOLITION.
5. [illegible]

DEMOLITION KEY NOTES

1. EXISTING PLUMBING FIXTURE TO BE REPLACED WITH NEW IN THIS AREA. REFER TO NEW WORK PLANS AND PLUMBING FIXTURE SCHEDULE FOR DETAILS.
2. REMOVE EXISTING PLUMBING FIXTURE IN THIS AREA. CUT AND CAP ASSOCIATED PIPING BACK TO WALL, SLAB, CEILING. COORDINATE WITH ARCHITECT/OWNER FOR DISPOSAL OR STORAGE OF FIXTURE.
3. EXISTING DOMESTIC WATER HEATER AND ASSOCIATED PIPING TO BE REMOVED.
4. EXISTING KITCHEN SINK TO RELOCATE AND BE PLACED WITH NEW. REFER TO NEW WORK PLANS AND PLUMBING FIXTURE SCHEDULE FOR DETAILS.
5. [illegible]

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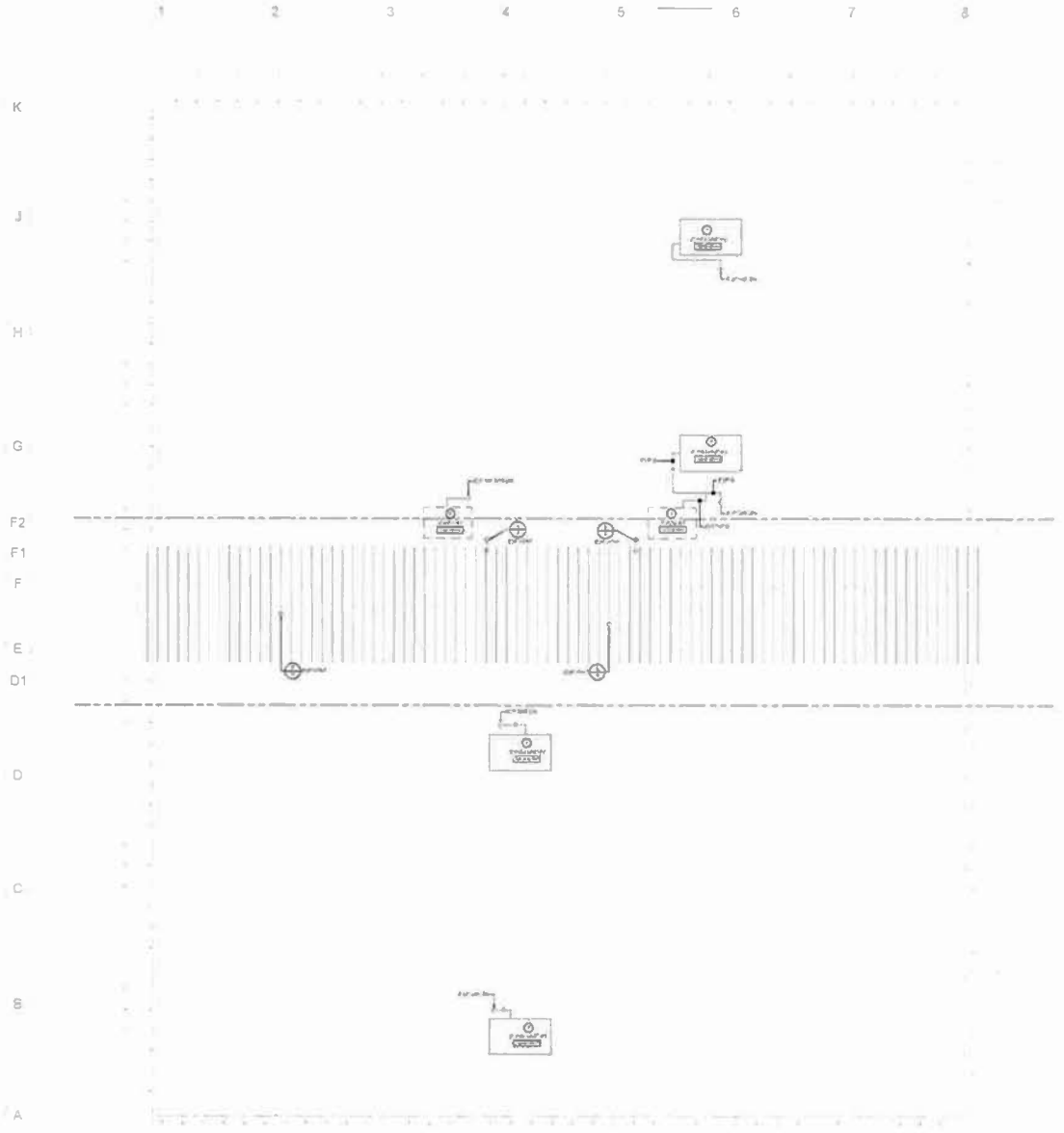
DEMOLITION WORK CUSTOMER SERVICE CTR LEVEL 1 & LEVEL 2

PD102.1

KEY PLAN



1 PD103.1 DEMOLITION WORK - ROOF PLAN

SCALE: 3/32" = 1'-0"

GENERAL PLUMBING DEMOLITION NOTES

1. PRIOR TO ANY PLUMBING PIPING OR EQUIPMENT REMOVAL OR DEMOLITION CONTRACTOR SHALL ANALYZE AND INSPECT FOR PRESENCE OF HAZARDOUS MATERIALS. ANY HAZARDOUS MATERIALS SHALL BE DOCUMENTED AND THE OWNER AND ARCHITECT NOTIFIED. ALL HAZARDOUS WASTE DISPOSALS SHALL COMPLY WITH STATE AND LOCAL REGULATIONS.
2. THE PLUMBING CONTRACTOR SHALL PROVIDE ALL DEMOLITION INCIDENTAL TO OR IN CLUDED FOR NEW AND RENOVATED CONSTRUCTION WHETHER OR NOT SPECIFICALLY NOTED AND INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   - .1 REMOVAL OF PLUMBING FIXTURES (PIPE, SUPPLIES, TRAPS, CLEANOUTS, DRAINS, WATER HEATERS, PUMPS, VALVES, RELATED PIPING, ETC.) THAT MIGHT REASONABLY BE REQUIRED TO BE REMOVED IN PREPARATION FOR INSTALLATION OF NEW CONSTRUCTION, SPECIFIED FIXTURES OR OTHER EQUIPMENT REQUIRING PLUMBING.
3. DEMOLITION SHALL BE PERFORMED IN SUCH A MANNER THAT WILL NOT DAMAGE ADJOINING SURFACES OR EQUIPMENT INDICATED TO REMAIN.
4. WHERE DEMOLITION WOULD AFFECT THE STRUCTURAL INTEGRITY OF THE BUILDING, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY PRIOR TO THE PROCEEDING WITH DEMOLITION.
5. THE PLUMBING CONTRACTOR SHALL REMOVE IF THE EXISTING FIXTURES AS NOTED OF THE FOLLOWING DRAWINGS, NEEDLY ALL PIPING NOT REQUIRED FOR RENOVATION AND CAP AT NEAREST VALVE OR MAIN LINE REMOVED FIXTURES AND TRIM SHALL REMAIN THE PROPERTY OF THE OWNER AND THE CONTRACTOR SHALL STORE ON SITE OR REMOVE OFF SITE SAID FIXTURES AS DIRECTED BY THE OWNER/ARCHITECT.

DEMOLITION PLAN NOTES

1. SEE MECHANICAL PLANS FOR DETAILS ON DEMOLITION OF EXISTING ROOF TOP UNIT. EXISTING GAS PIPING TO REMAIN. SEE MECH. ROOF PLANS FOR DETAILS.
2. EXISTING RTU # 3 REMOVE FROM UNIT (HSK) AND ASSOCIATED GAS PIPING TO REMAIN

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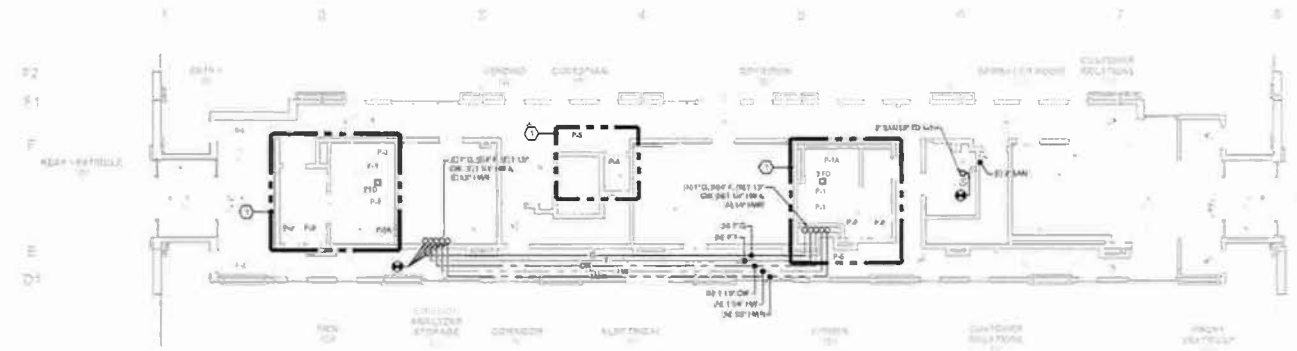
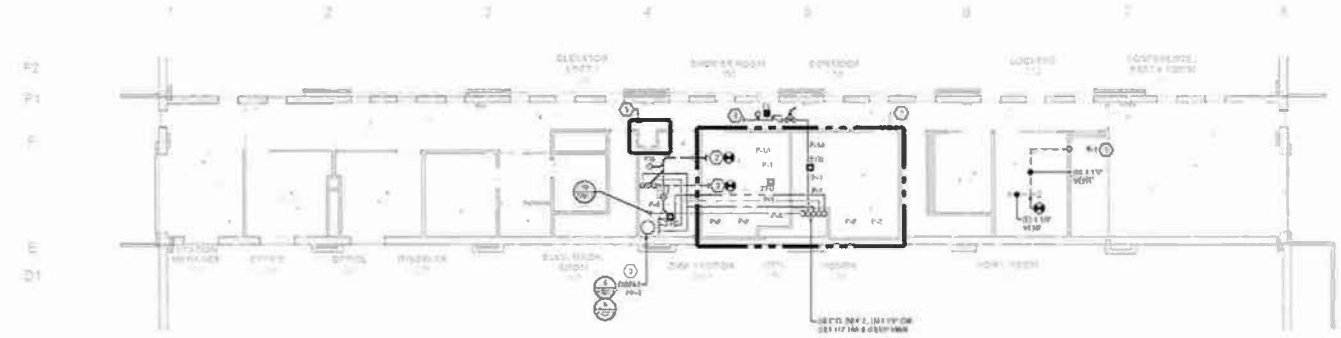
DEMOLITION WORK - ROOF PLAN

PD103.1

KEY PLAN



1 P102.1 NEW WORK CUSTOMER SERVICE CTR - LEVEL 1
SCALE: 1/8" = 1'-0"



2 P102.1 NEW WORK CUSTOMER SERVICE CTR - LEVEL 2
SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. PRIOR TO START OF WORK CONTRACTOR SHALL TRACE AND LOCATE ALL EXISTING SANITARY, STORM, DOMESTIC CW & HW PIPING IN AREA OF WORK, AND AVOID EXTENSIVE DEMOLITION OR DAMAGE TO CEILINGS SLABS AND WALLS.
2. CONTRACTOR IS RESPONSIBLE FOR PATCHING AROUND NEW WORK INSTALLATION, EXCAVATION AND DEMOLITION AREA. ALL PATCHING AND FINISHING WORK SHALL BE COORDINATED WITH ARCHITECT).
3. PRIOR TO START OF PLUMBING WORK, ALL INTENDED STORM AND SANITARY PIPING TO BE REUSED SHALL BE FIELD VERIFIED (LOCATION AND SIZE). ALL BELOW SLAB REUSED PIPING SHALL BE SNAKED AND VIDEO AUGER TO ANALYZE PIPING AND CHECK FOR DAMAGE AND CLOGS. ALL DAMAGED PIPING SHALL BE REPLACED AND CLOGS CLEARED). CONTRACTOR SHALL PROVIDE WRITTEN REPORT TO ENGINEERS ARCHITECT OF PIPING ANALYSIS).
4. COORDINATE WITH CIVIL ENGINEER FOR INSPECTION OF BUILDING STORM AND SANITARY DRAIN FROM BUILDING TO STREET MAIN.
5. CONTRACTOR IS RESPONSIBLE FOR PATCHING AROUND NEW WORK INSTALLATION, EXCAVATION AND DEMOLITION AREA. ALL PATCHING AND FINISHING WORK SHALL BE COORDINATED WITH ARCHITECT).
6. REFER TO ARCHITECTURAL PLANS FOR EXACT PLUMBING FIXTURE LAYOUT.
7. CONTRACTOR SHALL SANITIZE DOMESTIC SYSTEM AFTER PIPING WORK IS COMPLETE AND PRIOR TO OCCUPANCY IN ACCORDANCE TO IPC 2606.
8. ALL SANITARY AND STORM PIPING SHALL BE TESTED WITH PIPE FILL METHOD UPON MAJOR COMPLETION OF PIPING INSTALLATION.
9. CONTRACTOR SHALL REMOVE ALL DEBRIS FROM BUILDING AREA DAILY.
10. CONTRACTOR SHALL INSPECT, TEST AND REPLACE ALL NON-FUNCTIONAL PLUMBING FIXTURE INTENDED TO REMAIN IF APPLICABLE.

SHEET KEY NOTES

1. [illegible] PLUMBING FIXTURE PER PLUMBING FIXTURE SCHEDULE.
2. CONNECT TO (E) SANI & (E) VENT PIPES IN RESTROOM MEP 209. CONTRACTOR TO FIELD VERIFY THE SIZE AND LOCATION OF THE EXISTING PIPES.
3. INSTALL NEW DOMESTIC WATER HEATER WITH THERMOSTATIC MIXING VALVE (TMV - ASSE 1017) AND RECIRCULATION PUMP.
4. CONNECT TO (E) HEATING SYSTEM.
5. (N) [illegible] PLUMBING FIXTURES TO REMAIN.

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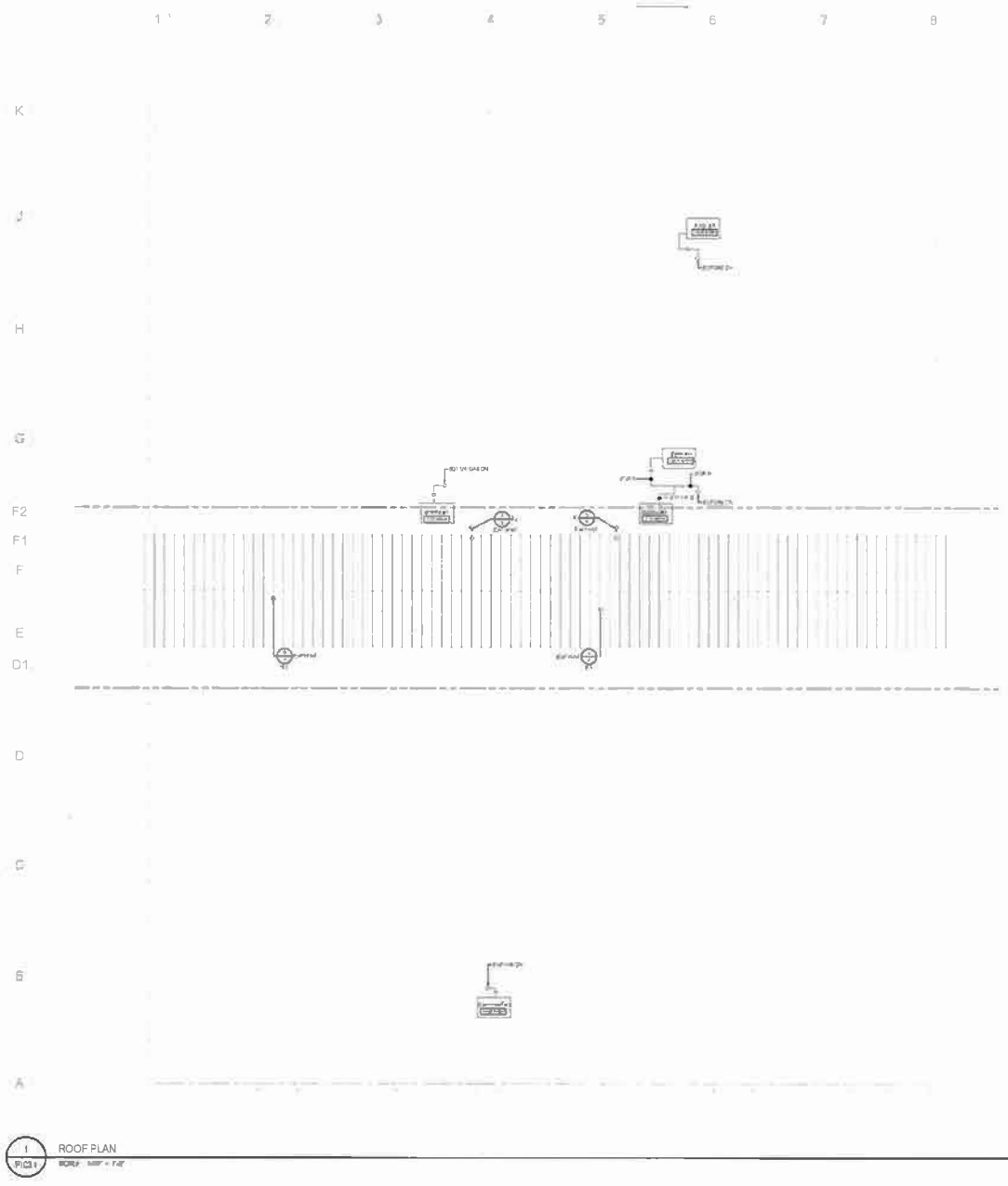
CUSTOMER SERVICE CTR LEVEL 1 & LEVEL 2

P102.1

KEY PLAN



1 ROOF PLAN
P103.1

GENERAL NOTES

1. PRIOR TO START OF WORK CONTRACTOR SHALL TRACE AND LOCATE ALL EXISTING SANITARY, STORM, DOMESTIC CW & HW PIPING IN AREA OF WORK AND AVOID EXTENSIVE DEMOLITION OR DAMAGE TO CEILINGS SLABS AND WALLS.
2. CONTRACTOR IS RESPONSIBLE FOR PATCHING AROUND NEW WORK INSTALLATION, EXCAVATION AND DEMOLITION AREA. ALL PATCHING AND FINISHING WORK SHALL BE COORDINATED WITH ARCHITECT.
3. PRIOR TO START OF PLUMBING WORK ALL INTENDED STORM AND SANITARY PIPING TO BE REUSED SHALL BE FIELD VERIFIED (LOCATION AND SIZE). ALL BELOW SLAB REUSED PIPING SHALL BE SNAKED AND VIDEO AUGER TO ANALYZE PIPING AND CHECK FOR DAMAGE AND CLOGS. ALL DAMAGED PIPING SHALL BE REPLACED AND CLOGS CLEARED. CONTRACTOR SHALL PROVIDE WRITTEN REPORT TO ENGINEER OF RECORD OF PIPING ANALYSIS.
4. COORDINATE WITH CIVIL ENGINEER FOR INSPECTION OF BUILDING STORM AND SANITARY DRAIN FROM BUILDING TO STREET MAIN.
5. CONTRACTOR IS RESPONSIBLE FOR PATCHING AROUND NEW WORK INSTALLATION, EXCAVATION AND DEMOLITION AREA. ALL PATCHING AND FINISHING WORK SHALL BE COORDINATED WITH ARCHITECT.
6. REFER TO ARCHITECTURAL PLANS FOR EXACT PLUMBING FIXTURE LAYOUT.
7. CONTRACTOR SHALL SANITIZE DOMESTIC SYSTEM AFTER PIPING WORK IS COMPLETE AND PRIOR TO OCCUPANCY IN ACCORDANCE TO IPC 2006.
8. ALL SANITARY AND STORM PIPING SHALL BE TESTED WITH PIPE FILL METHOD UPON MAJOR COMPLETION OF PIPING INSTALLATION.
9. CONTRACTOR SHALL REMOVE ALL OF DEBRIS FROM BUILDING AND DUMPED.
10. CONTRACTOR SHALL INSPECT, TEST AND REPLACE ALL NONFUNCTIONAL PLUMBING FIXTURE INTENDED TO REMAIN IF APPLICABLE.

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ROOF PLAN

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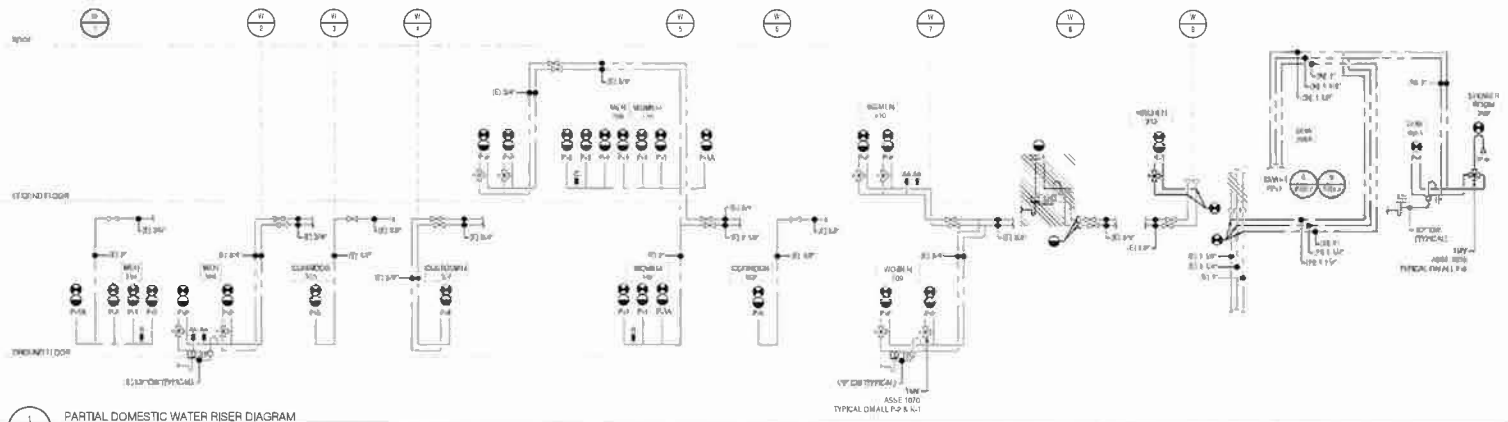
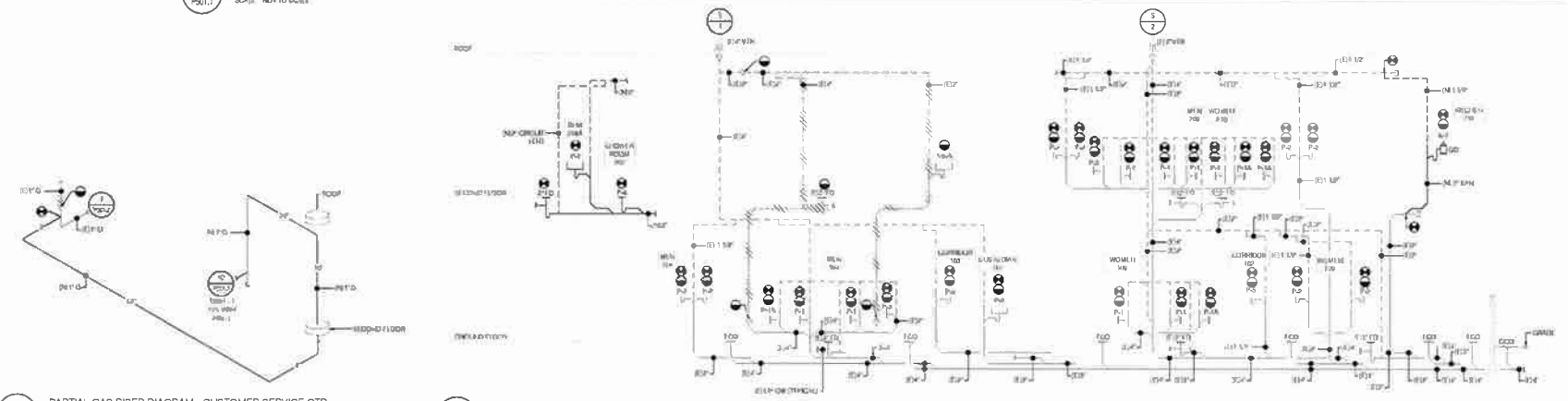
KEY PLAN



1 / P501.1 PARTIAL DOMESTIC WATER RISER DIAGRAM
SCALE: NOT TO SCALE



3 / P501.1 PARTIAL GAS RISER DIAGRAM - CUSTOMER SERVICE CTR
SCALE: NOT TO SCALE

2 / P501.1 PERTIAL SANITARY RISER DIAGRAM
SCALE: NOT TO SCALE

NATURAL GAS EQUIPMENT DEMAND

ID	NATURE	QUANTITY	EXISTING EQUIPMENT MBH/H RATING TO REMAIN	EXISTING EQUIPMENT MBH/H RATING TO REPLACE	EXISTING EQUIPMENT MBH/H RATING TO REMOVE	NEW EQUIPMENT MBH/H RATING	PIPE SIZE CONNECTION	REQUIRED INLET PRESSURE	REMARKS	GAS SERVICE	EQUIPMENT LOCATION
(E) WATER HEATER	DOMESTIC WATER HEATER	1	-	-	199	-	1"	-	EXISTING TO REMAIN	2 PSI	CUSTODIAN CLOSET GROUND FLOOR
(N) **	DOMESTIC WATER HEATER	1	-	-	-	42*	1"	11" W.C.	EXISTING REQUIRED REPLACEMENT WITH VENT, WATER HEATER PRV	2 PSI	DMV SCBA EQUIPMENT ROOM
	TOTAL DEMAND	0	0	199	42						
	TOTAL LOAD				42						

* EXPOSED TO ELEMENT, NO VENTING REQUIRED

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PLUMBING RISER DIAGRAM

P501.1

PLUMBING FIXTURE SCHEDULE

ID	FIXTURE	ADA	MANUFACTURER	MODEL	FAUCET/VALVE	LEED FOR RESIDENTIAL (BASE LINE MAX. FLOW REQUIREMENT GPM / GPF / GPC	DESIGN BASE FIXTURE FLOW GPM / GPF / GPC	DESCRIPTION	MOUNTING	NOTES	PLUMBING FIXTURE ROUGH-IN				
											CW	HW 120 DEG	HW 140 DEG	WASTE	VENT
P-1	WATER CLOSET	NO	AMERICAN STANDARD	AFWALL 4325.128	INCLUDED IN PACKAGE	1.6 GPF	1.28 GPF	WHITE, VITREOUS CHINA, ELONGATED BOWL, TOP SPUD, 1.28 GPF EXPOSED, SENSOR OPERATED, BATTERY POWERED FLUSH VALVE	WALL MOUNTED	WALL MOUNTED 15" FROM FINISHED FLOOR TO TOP OF RIM FOR STANDARD INSTALLATION	1"			4"	2"
P-1A	WATER CLOSET	YES	AMERICAN STANDARD	AFWALL 4325.128	INCLUDED IN PACKAGE	1.6 GPF	1.28 GPF	WHITE, VITREOUS CHINA, ELONGATED BOWL, TOP SPUD, 1.28 GPF EXPOSED, SENSOR OPERATED, BATTERY POWERED FLUSH VALVE	WALL MOUNTED	WALL MOUNTED 16 1/2" FROM FINISHED FLOOR TO TOP OF RIM FOR ADA INSTALLATION	1"			4"	2"
P-2	LAVATORY	YES	AMERICAN STANDARD	OVALYN 0496.221	CHICAGO FAUCETS 802.VEZ805.665CP	0.25 GPC	0.25 GPC	WHITE VITROUS CHINA, OVAL UNDERMOUNT SINK, DECK MOUNTED HOT AND COLD WATER METERING FAUCET WITH MAX FLOW RATE OF 0.25 GPC. COORDINATE LAVATORY HOLES WITH FAUCET SELECTION	WALL MOUNTED	TOP OF FRONT RIM MOUNTED 34" ABOVE FINISHED FLOOR FOR ADA INSTALLATION PROVIDE 4" CENTERS TOP OF FRONT RIM MOUNTED 34" ABOVE FINISHED FLOOR FOR ADA INSTALLATION PROVIDE 4" CENTERS	1/2"	1/2"		2"	1 1/2"
P-3	URINAL	YES	AMERICAN STANDARD	WISHBROOK #6590.525	INCLUDED IN PACKAGE	1.0 GPF	1.0 GPF	WATERCONSERVING URINAL, CONCEALED TYPE, FLUSH VALVE OPERATED BY INFRARED SENSOR (@ 1.0 GPF)	WALL MOUNTED	COORDINATE WITH ARCHITECTURAL PLANS FOR ADA INSTALLATION	3/4"			2"	1 1/2"
P-4	SERVICE SINK	-	AMERICAN STANDARD	AKRON # 7095.004	CHICAGO VALUE# 897-RCT	N/A	2.2 GPM	WALL MOUNTED SERVICE SINK, WALL MOUNTED FAUCET WITH ACCESSORIES	WALL MOUNTED	-	1/2"	1/2"	-	3"	2"
P-5	DRINKING FOUNTAIN	YES	HALSEY TAYLOR	HTV 4Q		N/A		WALL MOUNTED REFRIGERATED BARRIER FREE DUAL NON-OVERFLOW VANDAL RESISTANT BOTTLE FILLER	WALL MOUNTED		1/2"			2"	1 1/2"
P-6	SHOWER	NO	POWERS	P605.BF			2.5 GPM	CHROME PLATED FACEPLATE WITH COLOUR GRAPHIC INSERT FOR TEMPERATURE INDICATION MAX FLOW RATE OF 2.5 GPM	FLOOR	-	3/4"	3/4"	-	3"	2"
P-7	KITCHEN SINK		KOHLER	K-6667	CHICAGO FAUCETS 527-ABCP/ABCP	-		18 GAUGE STAINLESS STEEL UNDER MOUNT KITCHEN SINK, DECK MOUNTED PEX CENTER HOT AND COLD WATER SINK FAUCET WITH MAX FLOW RATE OF 2.2 GPM	UNDER COUNT	-	1/2"	1/2"	-	2"	1 1/2"
FP	TRAP PRIMER		MIFAB	M-500				PRESSURE DROP ACTIVATED TRAP SEAL PRIMER	WALL CAVITY/CHASE						
GD	GARBAGE DISPOSAL	-	IN SINK ERATOR	BADGER 5XP	-	-		3/4 HP GARBAGE DISPOSAL	-	INSTALL DIRECTLY ON DRAIN LINE OF KITCHEN SINK	-	-	-	-	-
HB	HOSE BIBB/WASH	-	WOODFORD	Y10-CC	-	-	-	-	WALL/FLOOR	DIRECT WASTE CONNECTION TO FLOOR DRAIN SIZE IS EQUAL TO PIPE SIZE PROVIDE TRAP SEAL PRIMER TO FLOOR DRAIN	1/2"	-	-	-	-

DOMESTIC WATER HEATER SCHEDULE

ID	DESCRIPTION	LOCATION	QUANTITY	TYPE	TOTAL AVAILABLE CAPACITY	STORAGE CAP	RECOVERY AT 100°F	DOMESTIC DEMAND CAPACITY	MBH	VENT	ELEVATION	GAS CONN	EFFICIENCY	ELECTRICAL MCA	ELECTRICAL V	ELECTRICAL PH	ELECTRICAL HZ	BASIS OF DESIGN	REMARKS	EXPANSION TANK
[illegible]	[illegible]	DHW 208A	1	GAS	[illegible]	[illegible]	[illegible]	40	[illegible]	-	0	1.0"	96%	-	-	-	-	[illegible]	[illegible]	[illegible]

HOT WATER PIPE LENGTH TABLE

SYSTEM	PIPE DIAMETER				
	1/2"	3/4"	1"	1 1/4"	1 1/2"
[illegible]HW	24	125	102	[illegible]	[illegible]
[illegible]HW	225	0	0	0	0
TOTAL [illegible]	249	125	102	113	0
[illegible]	0	0	0	0	0
[illegible]	0	0	0	0	0
TOTAL [illegible]	0	0	0	0	0
Pipe Length used for 3" Hazing	[illegible]	125	[illegible]	[illegible]	0

NOTE: HOT WATER CIRCULATING PUMPS ARE SELECTED (FLOW AND TDH) USING ESTIMATE PIPING LENGTH AS SHOWN IN TABLE. ALL FIELD DISCREPANCY FROM NOTED WILL REQUIRED REVISITING DOMESTIC HOT WATER EXPANSION TANK SIZING SEE SCHEDULE FOR SELECTION

PUMP SCHEDULE

ID	LOCATION	SERVICE	TYPE	PUMP			PUMP SIZE		ELECTRICAL REQUIREMENTS							ELECTRICITY POWERED	REMARKS	BASIS OF DESIGN
				GPM	TOTAL HD (FT)	MIN EFF %	SUCT.	DISCH.	HP	RPM	KW	V	PH	HZ				
[illegible]	DHW 208A	[illegible]DPRE CIRCULATION	INLINE	4.6	[illegible]	-	1/2"	1/2"	-	2500	[illegible]	[illegible]	1	60		NO	PROVIDE AUTOMATIC VALVES AND ACCESSORIES	[illegible]

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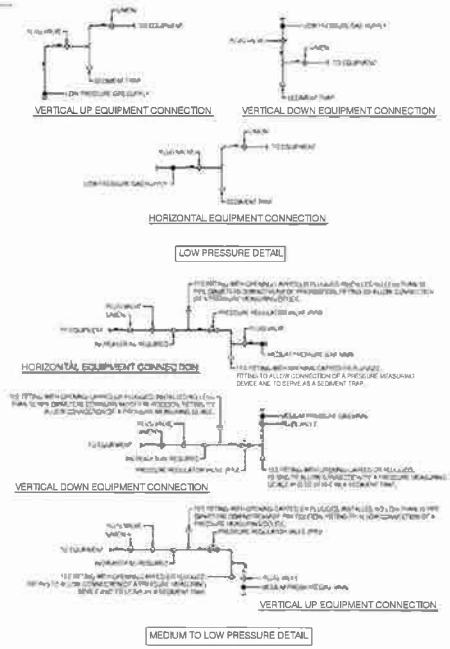
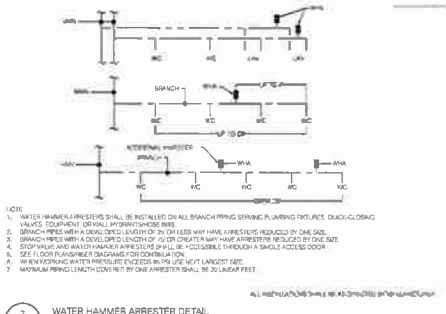
PLUMBING SCHEDULES

P601.1



10 P701.1 GAS EQUIPMENT CONNECTION DETAIL
SCALE: NOT TO SCALE



7 P701.1 WATER HAMMER ARRESTER DETAIL
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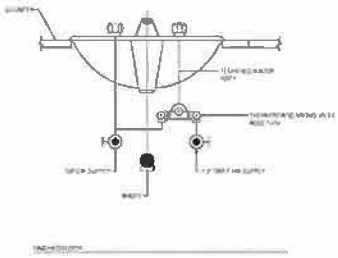
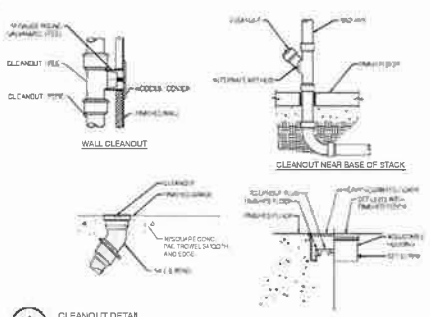
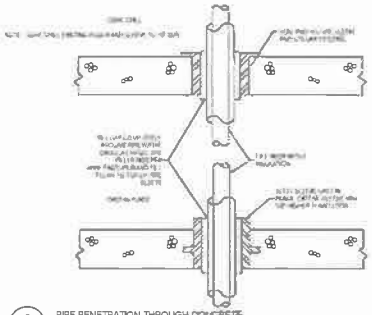


5 P701.1 LOCAL MIXING VALVE DETAIL
SCALE: NOT TO SCALE

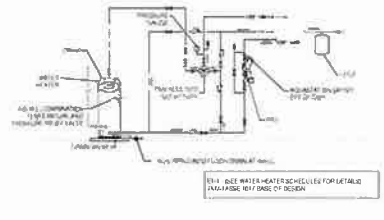
9 P701.1 HEAT TRAP LOOP DETAIL
SCALE: NOT TO SCALE



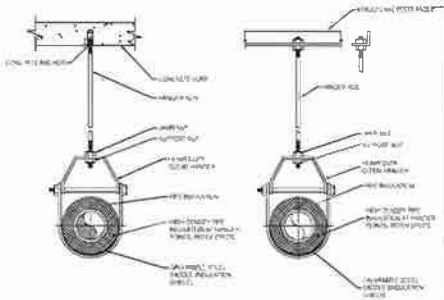
6 P701.1 CLEANOUT DETAIL
SCALE: NOT TO SCALE



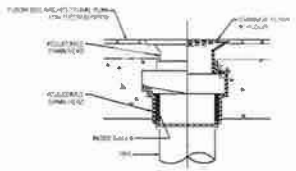
5 P701.1 PIPE PENETRATION THROUGH CONCRETE
SCALE: NOT TO SCALE



8 P701.1 DOMESTIC WATER HEATER DETAIL (DWH-2)
SCALE: NOT TO SCALE



1 P701.1 PIPE SUPPORT DETAIL
SCALE: NOT TO SCALE



2 P701.1 FLOOR DRAIN DETAIL
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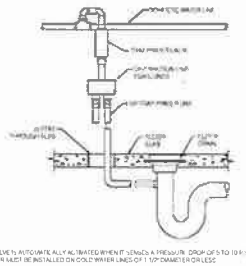

3 P701.1 PRIMER TRAP DETAIL
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DISTRICT OF COLUMBIA REGISTERED ARCHITECT

22 JUNE 2015
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PLUMBING DETAILS

P701.1

ELECTRICAL GENERAL NOTES

1. INSTALLATION OF ALL WORK SHALL BE IN ACCORDANCE WITH THE FOLLOWING REGULATIONS, CODES, ETC.:
   A. LOCAL CODES AND ORDINANCES
   B. THE EDITION OF THE NATIONAL ELECTRICAL CODE NFPA 70 (NEC) IN EFFECT.
2. PRIOR TO BEGINNING ANY WORK, SECURE NECESSARY PERMITS OR CLEARANCES FROM THE AUTHORITIES HAVING JURISDICTION. PROVIDE ALL LABOR AND MATERIALS FOR A COMPLETE INSTALLATION. WORK SHALL BE EXECUTED BY EXPERIENCED ELECTRICIANS WHO ARE LICENSED IN THE JURISDICTION WHERE THE PROJECT IS LOCATED.
3. [illegible] BE MATERIALS.
4. THE ELECTRICAL PLANS ARE DIAGRAMMATIC ONLY. COORDINATE ELECTRICAL EQUIPMENT LOCATION AND INSTALLATION WITH EQUIPMENT BEING SERVED. PROVIDE ALL POWER AND TELECOMMUNICATION FINAL CONNECTIONS TO THE SYSTEM FURNITURE AS REQUIRED.
5. ALL EQUIPMENT SUCH AS RELAYS, SWITCHES, PANELS, AND OTHER APPURTENANCES SHALL HAVE IDENTIFICATION PLATES OF BLACK LAMINATED PLASTIC WITH 1/2" WHITE LETTERS. ALL JUNCTION BOXES IN CEILING CAN BE MARKED WITH BLACK PERMANENT MARKER ON COVER PLATES AS PANEL DESIGNATION AND CIRCUIT NUMBER FROM WHICH THEY ARE FED.
6. ALL CONDUCTORS SHALL BE IDENTIFIED. ALL WIRING DEVICES SHALL BE LISTED WITH TYPED LABEL ON THE COVER PLATE IDENTIFYING THE PANEL DESIGNATION AND CIRCUIT NUMBER FROM WHICH THEY ARE FED.
7. ALL EQUIPMENT SHALL BE "UL" LISTED.
8. ELECTRICAL SYSTEMS SHALL BE GROUNDED PER ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
9. ALL CONNECTIONS TO DEVICES SHALL BE TYPE SPECIFICATION #2 ELECTRICAL CAP.
10. ALL CONDUITS AND JUNCTION BOXES SHALL BE CONCEALED IN FINISHED AREAS. PRIOR TO CONCEALMENT OF NEW CONSTRUCTION, ALL WORK BEHIND FINISHED SURFACES SHALL BE INSPECTED BY THE OWNERS REPRESENTATIVE.
11. CONTRACTOR SHALL INFORM THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING CONSTRUCTION AND PRIOR TO COMPLETION OF CONSTRUCTION TO ALLOW SUFFICIENT TIME FOR COORDINATION OF EXISTING BUILDING ACTIVITIES WITH THE CONSTRUCTION WORK.
12. CONTROL WIRING SHALL BE TAGGED AT BOTH ENDS AND TESTED AFTER THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S SPECIFICATIONS.
13. IF AN ITEM OF EQUIPMENT IS INSTALLED BEFORE IT IS APPROVED, THE CONTRACTOR SHALL BE LIABLE FOR ITS REMOVAL AND REPLACEMENT AT NO ADDITIONAL CHARGE OR IF IN THE OPINION OF THE ARCHITECT OR ENGINEER, THE MATERIAL OR EQUIPMENT DOES NOT MEET THE INTENT OF THE DRAWINGS AND SPECIFICATIONS.
14. THE CONTRACTOR SHALL INCLUDE IN THE WORK, BUT NOT LIMITED TO, CONDUIT, RACEWAY, MATERIALS, SERVICES, APPARATUS, AND DRAWINGS IN ADDITION TO CONTRACT DOCUMENTS, IN ORDER TO COMPLY WITH ALL APPLICABLE LAWS, INDICATED AND/OR SPECIFIED, PROVIDE ALL ELECTRICAL EQUIPMENT NECESSARY FOR ACCESSIBILITY, AS REQUIRED TO COORDINATE INFRASTRUCTURE AS REQUIRED TO ENSURE A COMPLETE AND OPERATIONAL SYSTEM AT NO ADDITIONAL COST TO OWNER.
15. BEFORE SUBMITTING BIDS, THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE ALL ADJOINING EXISTING BUILDINGS, EQUIPMENT, AND SPACE CONDITIONS ON WHICH HIS WORK IS IN ANY WAY DEPENDENT FOR THE BEST WORKMANSHIP AND OPERATION ACCORDING TO THE INTENT OF THE SPECIFICATIONS AND DRAWINGS. HE SHALL REPORT TO THE ARCHITECT/ENGINEER ANY CONDITION WHICH MIGHT PREVENT HIM FROM INSTALLING HIS EQUIPMENT IN THE MANNER SPECIFIED OR AS SHOWN IN CONTRACT DOCUMENTS TEN BUSINESS DAYS PRIOR TO SUBMISSION OF BIDS. NO CONSIDERATION OR ALLOWANCE WILL BE GRANTED FOR FAILURE TO VISIT THE SITE, NOR FOR ANY ALLEGED MISUNDERSTANDING OF MATERIALS TO BE FURNISHED OR WORK TO BE PERFORMED. THE CONTRACTOR SHALL INCLUDE IN HIS BID PRICE ALL LABOR AND MATERIALS THAT MAY EFFECT ON WORK.
16. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCY, CONFLICTS BETWEEN EXISTING INSTALLATIONS WHICH ARE NOT SCHEDULED FOR DEMOLITION AND THE NEW WORK INDICATED WITHIN THE CONTRACT DOCUMENTS. SUCH NOTIFICATION SHALL BE ACCOMPANIED BY A DRAWING DELINEATING THE PROPOSED SOLUTION PRIOR TO STARTING ANY WORK IN THE AFFECTED AREA.
17. ALL NEW EQUIPMENT SHALL BE [illegible] PRIOR TO ANY CORE DRILL. OWNER APPROVAL FROM NEW RE-PURPOSED ITEMS, PRIOR TO ANY CORE DRILL.
18. ALL MATERIALS AND WORK SHALL BE ACCORDING TO BASE BUILDING SPECIFICATIONS UNLESS OTHERWISE NOTED.
19. ALL CONDUCTORS SHALL BE COPPER. MINIMUM SIZE SHALL BE #12 AWG. CONDUCTOR # 10 AWG AND SMALLER SHALL BE SOLID. CONDUCTORS #8 AWG AND LARGER SHALL BE STRANDED. CONDUCTOR SHALL HAVE THWN/THWN 2 INSULATION OR AS NOTED.
20. NUMBER OF WIRES MAY NOT BE INDICATED FOR ALL CIRCUITS. ONLY THOSE WHERE CLARIFICATION IS NECESSARY. PROVIDE ALL WIRING NECESSARY FOR THE PROPER FUNCTION OF THE SYSTEM WHETHER INDICATED ON PLAN OR NOT.
21. REFER TO ARCHITECTURAL DRAWINGS FOR THE EXACT LOCATION, ELEVATION, MOUNTING HEIGHTS AND DETAILS OF ALL LIGHT FIXTURES AND DEVICES. REPORT ANY DISCREPANCIES TO THE ARCHITECT IMMEDIATELY.
22. VERIFY DOOR SWING BEFORE ROUGH-IN OF LIGHT SWITCH.
23. CONTRACTOR SHALL PROVIDE A 4'-0"HIGH HOUSEKEEPING CONCRETE PAD FOR ALL FLOOR MOUNTED TRANSFORMERS. MINIMUM OF PAD SIZE SHALL BE BASED ON EQUIPMENT SIZE PLUS 3" EACH SIDE. PROVIDE ALL NECESSARY STRUCTURAL SUPPORT FOR CEILING MOUNTED TRANSFORMERS.
24. CONNECT NEW DEVICES TO THE BASE BUILDING FIRE ALARM SYSTEM PER LOCAL CODES AND IN ACCORDANCE WITH BASE BUILDING SPECIFICATIONS. COORDINATE INSTALLATION WITH THE BUILDING ENGINEER. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY COMPONENTS, INCLUDING CABLES, CONDUIT, CONTROL MODULES, FIRE ALARM DEVICES, A NEW EXTENDER PANEL AND/OR MAKE ANY MODIFICATIONS NECESSARY TO THE EXISTING FIRE ALARM CONTROL PANEL, PROVIDE POWER SUPPLY TO NEW EXTENDER PANEL AS REQUIRED. CONTRACTOR TO PROVIDE AN AUTHORITY PRINCIPLE DOCUMENT TO EITHER FULLY ADD A NEW EXTENDER PANEL OR TO REPLACE THE EXISTING ONE AS IT FED ALONG WITH ANY OTHER ACCESSORY DEVICES WHICH WOULD BE REQUIRED FOR THE SYSTEM TO BE COMPLETELY OPERATIONAL. ALL WIRING SHALL BE INSTALLED IN CONDUIT UNLESS OTHERWISE NOTED AND APPROVED BY OWNER.
25. CONTRACTOR SHALL PERFORM PROGRAMMING OF THE FIRE ALARM SYSTEM UPON COMPLETION OF MODIFICATIONS TO THE FIRE ALARM SYSTEM.
26. WHERE ALL SWITCH IS SHOWN TO BE INSTALLED AT SAME LOCATION UNDER A SINGLE COVER PLATE, PROVIDE BARRIER SWITCH BOX AS REQUIRED TO SEPARATE 120V CIRCUITS FROM 277V CIRCUITS AND 277V CIRCUITS OF DIFFERENT PHASE.
27. PROVIDE PLASTER RING WITH PULL STRING TO SPACE ABOVE SUSPENDED CEILING FOR ALL TELEPHONE, DATA, TV, MODEM, CATV, CARD READER, ETC. OUTLETS INSTALLED IN HOLLOW PARTITIONS. PROVIDE 3/4" EMPTY CONDUIT AND PULL STRING TO SPACE ABOVE MAIN HOLD CEILING FOR THESE OUTLETS. INSTALLED IN AN INSULATED PARTITION. PROVIDE 1" EMT WITH 2 STRINGS FOR COMBINATION DATA/TEL OUTLETS.
28. MAINTAIN INTEGRITY OF THE FIRE RATED CONSTRUCTION WHERE CONDUITS PASS THROUGH WALLS AND FLOORS.
29. ALL ANCHORS ARE USED IN CONCRETE, USE OF THE SAME MANUFACTURER'S, OR STAGGERED, DO NOT WEAKEN THE BASE SLAB OR BEAM.
30. TYPE MC CABLE MAY BE USED IN LIEU OF EMT FOR BRANCH CIRCUITS, IN DRYWALL PARTITION AND IN CEILING PLENUM WHERE IS ALLOWED BY NEC AND THE BUILDING OWNER. MC CABLE FOR ISOLATED CIRCUIT SHALL HAVE TWO (2) SEPARATE GROUNDING CONDUCTORS.
31. CONTRACTOR'S SCOPE OF WORK INCLUDES DEMOING ALL EXISTING CIRCUITS IN THE CONSTRUCTION AREA BACK TO SOURCE IF REMOVAL OF EXISTING ELECTRICAL EQUIPMENT AFFECTS ANY EXISTING CIRCUITS. CONTRACTOR SHALL PROVIDE CIRCUIT BREAKERS, WIRING CONDUIT, ETC. REQUIRED TO RECONNECT LOSS BACK TO REMAINING ELECTRICAL EQUIPMENT BACK TO ITS ORIGINAL CONDITION.
32. PROVIDE ALL [illegible] AS REQUIRED FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM.
33. CONTRACTOR TO MAKE ALL FINAL CONNECTIONS OF SYSTEMS FURNITURE WHIPS, JUNCTION BOXES SERVING SYSTEM FURNITURE SHALL REMAIN ACCESSIBLE.
34. PROVIDE FIRE ALARM INTERFACE (WIRING AND WIRES) AS REQUIRED TO EFFECTIVELY INTERFACE WITH BUILDING'S EXISTING FIRE ALARM SYSTEM.
35. CONTRACTOR SHALL PROVIDE 50% SYSTEM BALLASTS IN ALL LIGHTING FIXTURES WHERE TWO LEVELS OF SWITCHING ARE INDICATED.
36. ALL EXISTING AND NEW PANELS IMPACTED BY THIS PROJECT SHALL BE PROVIDED WITH NEW UPDATED TYPEWRITTEN PANEL SCHEDULES INDICATING THE FINAL ROOM NUMBERS AND THE EQUIPMENT OR DEVICES SERVED BY THE CIRCUIT. CONTRACTOR TO BE BALANCE THE NEW LOADS ON ALL THREE PHASES FOR EACH PANELBOARD WHERE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S SPECIFICATIONS.
37. INSTALLATION OF EQUIPMENT, COMPONENTS AND WIRING TO ELECTRICAL SYSTEMS SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF EQUIPMENT MANUFACTURER.
38. DELIVER PRODUCTS TO PROJECT SITE, IDENTIFIED WITH NAMES, MODEL NUMBERS, TYPES, GRADES, COMPLIANCE LABELS, AND OTHER INFORMATION NEEDED FOR DISTINCT IDENTIFICATION; ADEQUATELY PACKAGED AND PROTECTED TO PREVENT DAMAGE DURING SHIPMENT, STORAGE, AND HANDLING; PROTECT STORED EQUIPMENT AND MATERIALS FROM DAMAGE, COMPLY WITH MANUFACTURER'S RELATED AND MORE RESTRICTIVE FOR UNLOADING EQUIPMENT AND MOVING INTO FINAL LOCATION.
39. CONTRACTOR TO COORDINATE ELECTRICAL WORK TO AVOID INTERFERENCE BETWEEN ALL OTHER TRADES.
   A. DETAILING OF INTERFACE IN FORCE WORK IS FABRICATED OR INSTALLED, THE CONTRACTOR SHALL BE THOROUGHLY FAMILIAR WITH ALL DETAILS OF WORK AND WORKING CONDITIONS AND COORDINATE WORK DURING PRELIMINARY STAGES TO ENSURE ACTUAL ERECTION WILL PROCEED WITHOUT INTERFERENCE. LOCATION OF PARAMOUNT IMPORTANCE AND NO REQUESTS FOR ADDITIONAL PAYMENT WILL BE CONSIDERED WHERE REQUEST IS BASED ON INTERFERENCE.
   B. WHERE JOB CONDITIONS REQUIRE MINOR FIELD CHANGES FROM CONTRACT DOCUMENTS, MAKE DEVIATIONS WITHOUT ADDITIONAL COST TO OWNER AFTER OBTAINING APPROVAL OF ARCHITECT.
   C. PROVIDE MAXIMUM PRACTICAL SPACE FOR OPERATION, REPAIR, REMOVAL AND TESTING OF ELECTRICAL EQUIPMENT. APPROVED DEVIATIONS MAY BE MADE TO PROVIDE REQUIRED ACCESSIBILITY.
   D. KEEP CONDUITS, WIREWAYS AND SIMILAR ITEMS AS CLOSE AS POSSIBLE TO CEILING WALLS AND COLUMNS IN ORDER TO MAKE UP MAXIMUM AMOUNT OF SPACE.
   E. PROVIDE OFFSETS, FITTINGS AND SIMILAR ITEMS NECESSARY TO ACCOMPLISH REQUIREMENTS OF COORDINATION WITHOUT ADDITIONAL EXPENSE TO OWNER.
   F. PROVIDE ACCESS TO AND CLEARANCES AROUND EQUIPMENT AS REQUIRED BY THE N.E.C.
40. CEILING HEIGHTS SHALL BE ACCURATELY SUPPORTED FROM THE FLOOR SLAB ABOVE OR SUPPORTED BY THE CEILING FRAMING MEMBERS PROVIDED THE SUSPENDED CEILING IS INSTALLED IN ACCORDANCE WITH THE [illegible].
41. CONTRACTOR SHALL PROVIDE GREEN CERTIFICATION FOR ALL PRODUCTS, MATERIALS AND PROCESSES INSTALLED WITHIN SPACE COMPLIANCE AS ABIDES BY POR.
42. TESTING:
   A. ALIGN AND ADJUST EQUIPMENT AND SYSTEMS INSTALLED AND DEMONSTRATE PROPER OPERATION TO OWNER'S REPRESENTATIVE. NO EQUIPMENT SHALL BE TESTED OR OPERATED FOR ANY PURPOSE UNTIL IT HAS BEEN FULLY PREPARED FOR OPERATION IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
   B. SHOW, BY DEMONSTRATION IN SERVICE, THAT ALL CIRCUITS AND DEVICES ARE IN GOOD OPERATING CONDITION. EACH PIECE OF EQUIPMENT AND COMPONENT OF THE ELECTRICAL SYSTEM SHALL FUNCTION NOT LESS THAN FIVE TIMES IN COURSE OF THE ACCEPTANCE TESTS.
43. PROVIDE ALL HOOKUP CONDUITS AND TRANSFORMER PIPS WITH COPPER RUSTPROOF AND WINDINGS UNLESS BASE BUILDING STANDARDS DICTATE.
44. FELL ORIGINAL CONTRACTOR TO COORDINATE WITH MECHANICAL, PLUMBING AND OTHER TRADES TO PROVIDE ALL EQUIPMENT ASSOCIATED WITH THEIR RESPECTIVE TRADES WITH NECESSARY WIRING AND CONDUIT INFRASTRUCTURE FOR ALL SENSORS, AND CONTROL SYSTEMS AS REQUIRED.

120V BRANCH CIRCUIT WIRING CONDUCTOR SIZE

DEPENDING ON BRANCH CIRCUIT RUN LENGTH FROM PANELBOARD TO THE LAST DEVICE ON THE BRANCH CIRCUIT, CONTRACTOR SHALL UPGRADE THE BRANCH CIRCUIT WIRE SIZE AS PER THE TABLE BELOW.
MAXIMUM #10 WIRE SHALL BE USED FOR GENERAL RECEPTACLE CIRCUIT WIRING.

LENGTH (FEET)	VOLTAGE (V)	AMPACITY (A)	WIRE SIZE (AWG, Cu)
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

ELECTRICAL GENERAL DEMOLITION NOTES

I. GENERAL

A. BEFORE SUBMITTING BID, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE TO VERIFY/EXAMINE THE EXACT EXTENT OF DEMOLITION ALONG WITH ANY CONSIDERATION OR ALLOWANCE WILL BE GRANTED FOR FAILURE TO VISIT THE SITE, NOR FOR ANY ALLEGED MISUNDERSTANDING OF WORK TO BE PERFORMED. THE CONTRACTOR SHALL INCLUDE IN HIS PRICE ALL LABOR AND MATERIAL THAT MAY EFFECT HIS WORK.

B. THE GENERAL EXTENT OF EXISTING ELECTRICAL WORK TO BE DISMANTLED AND REMOVED OR RELOCATED IS INDICATED ON THE DRAWINGS.

C. ALL COMPONENTS ASSOCIATED WITH SYSTEMS AND EQUIPMENT TO BE REMOVED OR RELOCATED MAY NOT BE SPECIFICALLY INDICATED. REMOVE ALL ASSOCIATED ELECTRICAL COMPONENTS, HANGERS, WIRING, CARLING, CONDUIT, BOXES, DEVICES AND ALL OTHER ITEMS RELATED TO EQUIPMENT AND MATERIALS WHICH ARE INDICATED TO BE REMOVED OR RELOCATED. REMOVE ALL WIRING/CONDUIT BACK TO THE SOURCE IN EXISTING CIRCUITS WHICH ARE BEING DEMOLISHED, UNLESS SPECIFICALLY INDICATED, NO EQUIPMENT, MATERIALS OR ASSOCIATED COMPONENTS SHALL BE ABANDONED IN PLACE.

D. ABANDONED ALL CONDUITS WHICH ARE CONCEALED IN CONCRETE WALLS OR SLABS AND REMOVE ALL WIRING/CABLES FROM ABANDONED CONDUITS.

II. DISPOSAL OF DEMOLITION

A. CONTRACTOR SHALL CLEAN THE PROJECT SITE AT THE END OF EACH WORKING DAY. CONTRACTOR SHALL NOTIFY BUILDING OWNER PRIOR TO DISPOSAL OF ALL DEMOLISHED MATERIALS TO ALLOW THE OWNER TO SALVAGE ANY USABLE MATERIALS. AFTER INSPECTING FROM THE OWNER'S REPRESENTATIVE ALL UNUSED MATERIALS SHALL BE REMOVED FROM THE JOB SITE WITH DISPOSAL IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS AND REGULATIONS.

III. PROTECTION

A. PROTECT FROM DAMAGE ALL EXISTING WORK TO REMAIN. ANY EXISTING TO REMAIN OR EXISTING TO BE RELOCATED MATERIALS AND EQUIPMENT DAMAGED DURING THE COURSE OF THE WORK SHALL BE REPLACED WITH MATERIALS AND EQUIPMENT CONFORMING TO THESE SPECIFICATIONS. AT NO ADDITIONAL COST TO THE OWNER. CARE MUST TAKEN IN REMOVING ALL EXISTING MATERIALS.

IV. TERMINATION AND PATCHING

A. DISCONNECT EXISTING TO BE REMOVED OR EXISTING TO BE RELOCATED SOURCES, WIRING, CARLING, AND TERMINATE FROM EXISTING TO REMAIN POINT INDICATED. IF NOT INDICATED ON THE PLANS, VERIFY WITH THE DESIGN ENGINEERS OR BUILDING OWNERS REPRESENTATIVE PRIOR TO DISCONNECTION.

B. WHERE EXISTING FLOORS, WALLS AND ROOFS MUST BE CUT OR ARE DAMAGED DURING REMOVAL OR RELOCATION OF ELECTRICAL WORK, PATCH THE CUT OR DAMAGED AREAS TO MATCH ADJACENT CONSTRUCTION.

C. THE CONTINUITY OF ALL EXISTING CONDUITS AND WIRES SERVICING AREAS TO REMAIN SHALL BE MAINTAINED. MODIFY THE EXISTING CIRCUITS AS REQUIRED IN ORDER TO MAINTAIN THE EXISTING CIRCUITRY.

ELECTRICAL SYMBOL LIST

(STANDARD SYMBOLS ONLY. ALL SYMBOLS MAY NOT BE APPLICABLE TO THIS PROJECT)

- EXPLOSION PROOF LIGHTING FIXTURE
- SURFACE MOUNTED LIGHTING FIXTURE
- SURFACE MOUNTED LIGHTING FIXTURE WITH EMERGENCY BATTERY BACKUP
- WALL MOUNTED DUPLEX RECEPTACLE, 20A/125V/3P/5W (GROUNDED)
  NEMA 5-20R, MOUNTED @ 18" A.F.F., UON. OUTLETS MAY HAVE THE FOLLOWING SUBSCRIPTS:
  - DED: DEDICATED RECEPTACLE ON DEDICATED CIRCUIT
  - DW: DISHWASHER
  - EM: RECEPTACLE ON EMERGENCY POWER
  - GFI: GROUND FAULT INTERRUPTER
  - WP: WEATHER PROOF OUTLET WITH PROTECTIVE COVER
- WALL MOUNTED DUPLEX RECEPTACLE ON EMERGENCY POWER OUTLET, 20A/125V/3P/5W, MOUNTED @ 18" A.F.F. UON. COORDINATE EXACT LOCATION WITH EQUIPMENT VENDOR
- NOT USED
- FLOOR MOUNTED DUPLEX RECEPTACLE ON EMERGENCY POWER OUTLET, 20A/125V/3P/5W (GROUNDED) NEMA 5-20R, MOUNTED @ 18" A.F.F., UNLESS OTHERWISE NOTED
  GFI: INDICATES GROUND FAULT INTERRUPTER
- WALL MOUNTED TELEPHONE OUTLET, MOUNTED @ 18" A.F.F. UON
- CEILING MOUNTED DATA OUTLET, MOUNTED @ 18" A.F.F. UON
- WALL MOUNTED DATA OUTLET, MOUNTED @ 18" A.F.F. UON
- SINGLE POLE TOGGLE SWITCH
- THREE WAY SWITCH
- FOUR WAY SWITCH
- DIGITAL SWITCH WITH 3-WIRE, 0-10V DIMMING BALLAST
- 3-WIRE DUAL SWITCH WITH 0-10V DIMMING BALLAST
- KEY OPERATED SWITCH
- LOW VOLTAGE SWITCH
- MOMENTARY SWITCH
- DOOR JAMB SWITCH
- LIMIT SWITCH
- WALL/CEILING MOUNTED OCCUPANCY SENSOR SWITCH (DUAL TECHNOLOGY SENSOR). PROVIDE TIME SETTING FOR 15 MINUTES OR AS DIRECTED BY ARCHITECT AND OWNER. S INDICATES A MULTI-LEVEL SWITCH
- POWER PACK, UNIVERSAL VOLTAGE, UNLESS NOT SHOWN ON DRAWING IS INCLUDED WITH 1 FIXTURE, OCCUPANCY SENSORS
- 120/277V ELECTRICAL PANEL
- MODIFY ELECTRICAL PANEL
  CIRCUIT HOMERUN TO EXISTING PANEL, NUMBER OF WIRES INDICATED BY NUMBER OF CROSSLINES ON THE CIRCUIT (2 IF NOT INDICATED). USE WIRING INDICATED UNLESS OTHERWISE NOTED ON DRAWINGS. WIRES SIZED FOR 20A CIRCUITS, MINIMUM #12 AWG, UNLESS NOTED OTHERWISE. WIRE SIZING IS SUBJECT TO VOLTAGE DROP CALCULATIONS BY ELECTRICAL CONTRACTOR. HOMERUNS TO EXCEED 75' WILL REQUIRE UPSIZING OF CONDUCTORS TO LIMIT VOLTAGE DROP TO 3% MAXIMUM.
  2#12+1#12GND+1#12ISO-GYC, EACH CIRCUIT HOMERUN SHALL BE PROVIDED WITH DEDICATED NEUTRAL
- UNDERGROUND CONDUIT RUN
- HVAC EQUIPMENT (REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL DETAIL)
- HVAC CIRCUIT
- WALL MOUNTED THERMOSTAT, MOUNTED @ 48" A.F.F. UON
- WALL MOUNTED CARD READER, MOUNTED @ 48" A.F.F. UON
- CURRENT SENSOR
- WALL MOUNTED SERVICE POWER POINT SWITCH, MOUNTED @ 48" A.F.F. UON
- POWER WHIP FOR FURNITURE
- COAXIAL UP
- CONDUIT STUB-UP
- FLEXIBLE CONDUIT FOR FINAL CONNECTION
- POWER POLE
- ROOM CONTROLLER X - DENOTE NUMBER OF RELAYS (1 TO 3 MAXIMUM). 0-10V DIMMING WITH DIGITAL LINK. BASIS OF DESIGN: WATTSTOPPER LMRC-10 SERIES, OR EQUAL

ELECTRICAL SYMBOL LIST

FIRE ALARM SYMBOL LIST

- CEILING/WALL MOUNTED FIRE ALARM HEAT DETECTOR
- IR BEAM DETECTION (RECEIVER/TRANSMITTER-RECEIVER)
- FIRE ALARM CEILING/WALL MOUNTED STROBE LIGHT
- WALL MOUNTED FIRE ALARM SYSTEM MANUAL PULL STATION AT 48" A.F.F.
- CEILING/WALL MOUNTED FIRE ALARM SMOKE DETECTOR. DEVICES MAY HAVE THE FOLLOWING SUBSCRIPTS:
  - EL: DEVICE DEDICATED FOR ELEVATOR RECALL FUNCTION
  - IVE: BEAM SMOKE DETECTOR TRANSMITTER/RECEIVER
  - RS: BEAM SMOKE DETECTOR REFLECTOR
- FIRE ALARM DUCT SMOKE DETECTOR
- CEILING/WALL MOUNTED FIRE ALARM COMBINATION AUDIO / VISUAL DEVICE, ADA COMPLIANT. NUMBER DENOTES CANDELA INTENSITY RATING. MINIMUM 15cd MOUNTING HEIGHT 1" FROM BOTTOM OF CEILING OR 80" A.F.F. TO A MAXIMUM OF 96" A.F.F.
- CEILING/WALL MOUNTED FIRE ALARM VISUAL DEVICE (STROBE), ADA COMPLIANT. NUMBER DENOTES CANDELA INTENSITY RATING. MINIMUM 15cd MOUNTING HEIGHT 1" FROM BOTTOM OF CEILING OR 80" A.F.F. TO A MAXIMUM OF 96" A.F.F.
- CEILING/WALL MOUNTED FIRE ALARM AUDIO SPEAKER DEVICE. MOUNTING HEIGHT NOT LESS THAN 80" A.F.F. AND 12" BELOW FINISHED CEILING
- FIRE ALARM GRAPHIC ANNUNCIATOR PANEL
- FIRE ALARM ANNUNCIATOR PANEL
- FIRE ALARM TERMINAL CABINET

ABBREVIATIONS

(NOT ALL ABBREVIATIONS MAY NOT APPEAR ON THE DRAWINGS)

A	AMPERE	MCB	MAIN CIRCUIT BREAKER
AFF	ABOVE FINISHED FLOOR	MD	MOTORIZED DAMPER
AWG	AMERICAN WIRE GAUGE	MLO	MAIN LUGS ONLY
BRK	BREAKER	MCP	MAIN DISTRIBUTION PANEL
C	CONDUIT	N	NEW
CB	CIRCUIT BREAKER	NEC	NATIONAL ELECTRICAL CODE
CP	CONDENSATE PUMP	NF	NON FUSED
		NI	NIGHT LIGHT (ON TIMER)
D	EXISTING TO BE DEMOLISHED	NTS	NOT TO SCALE
DISC/SW	DISCONNECT SWITCH	P	POLE
DP	DISTRIBUTION PANEL	PH (Ø)	PHASE
DWG	DRAWING	PNL	PANEL
E, EX	EXISTING TO REMAIN	PSWH	PROJECT STANDARD RECEPTACLE HEIGHT
EC	CONTRACTOR		
EM	DEDICATED RECEPTACLE	PSSH	PROJECT STANDARD SWITCH HEIGHT
EMT	ELECTRICAL METALLIC TUBING		
EW	EXISTING TO REMAIN, RELOCATE	R	RELOCATED AT NEW LOCATION
EWH	ELECTRIC WATER HEATER	RR	REMOVE AND RELOCATE
FACP	FIRE ALARM CONTROL PANEL	SPD	SURGE PROTECTIVE DEVICE
FACP	FIRE ALARM CONTROL PANEL	SM	MOTOR THERMAL SWITCH
FATC	FIRE ALARM TERMINAL CABINET	STC	CONTROL SWITCHBOARD
F.L.A.	FULL LOAD AMPS	SWBD	
G, GND	GROUND	TEL	TELEPHONE
GFI	GROUND FAULT INTERRUPTER	T, XFMR	TRANSFORMER
GND	GROUND	TYP	TYPICAL
HP	HORSE POWER	U.N.	UNLESS NOTED
		U.O.N.	UNLESS OTHERWISE NOTED
IG	INSTRUMENT GROUND	V	VOLTS
IGH	INSTANT HOT WATER HEATER		
KVA	KILOVOLT AMPS	W	WATTS
KW	KILOWATT	WH	WATER HEATER

SHEET LIST

DRAWING NUMBER	SHEET TITLE
E001.1	GENERAL NOTES, SYMBOLS & ABBREVIATIONS
LP01.1	[illegible] WORK CUSTOMER SERVICE CTR LEVEL 1
LP01.2	[illegible] WORK CUSTOMER SERVICE CTR LEVEL 2
E100.1	DEMOLITION WORK - ROOF PLAN
E101.1	CUSTOMER SERVICE CTR LEVEL 1
E102.1	CUSTOMER SERVICE CTR LEVEL 2
E104.1	ROOF PLAN
E300.1	CUSTOMER SERVICE CENTER LEVEL 1 & LEVEL 2
E301.1	POWER RISER DIAGRAM
E302.1	FIRE ALARM RISER DIAGRAM
E303.1	FIRE ALARM ANNUNCIATOR PANEL DIAGRAM
E501.1	ELECTRICAL SCHEDULES
E502.1	ELECTRICAL - PANEL SCHEDULES
E503.1	ELECTRICAL - PANEL WIRING DIAGRAMS

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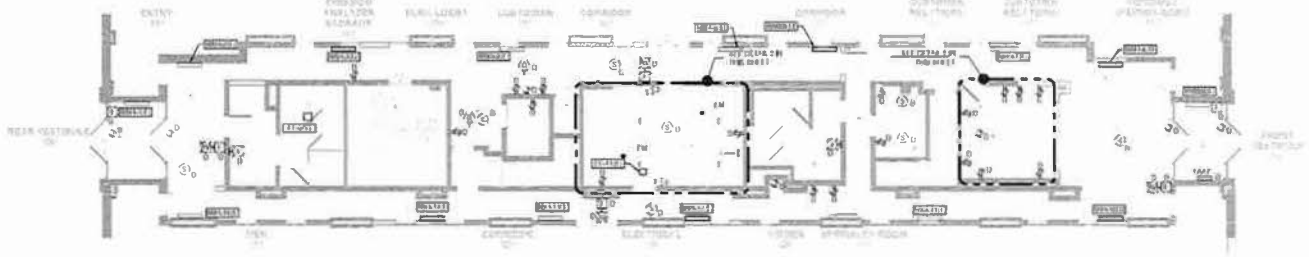
GENERAL NOTES, SYMBOLS & ABBREVIATIONS

E001.1



1 ED102.1 DEMOLITION WORK CUSTOMER SERVICE CTR LEVEL 1 - POWER

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

2 ED102.1 DEMOLITION WORK CUSTOMER SERVICE CTR LEVEL 1 - LIGHTING

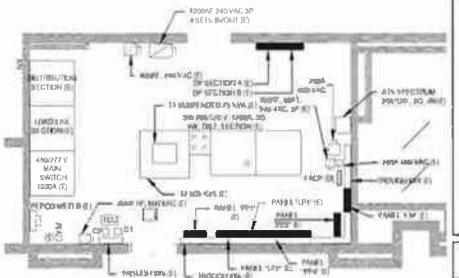
SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. REFER TO DRAWING E001 FOR ELECTRICAL GENERAL NOTES, GENERAL DEMOLITION NOTES, LEGEND AND ABBREVIATIONS AND TO DRAWING E601 FOR THE PARTIAL POWER RISER DIAGRAM.
2. ALL ELECTRICAL DEVICES SHOWN ON THE DEMOLITION PLANS WITH DASHED LINES AND EITHER WITH SUBSCRIPT "D" OR WITHOUT ANY SUBSCRIPT INDICATE AN EXISTING DEVICE TO BE DEMOLISHED.
3. REFER TO MECHANICAL AND PLUMBING DEMOLITION DRAWINGS FOR EQUIPMENT BEING DEMOLISHED. REMOVE ASSOCIATED DEVICES AND FEEDERS BACK TO SOURCE OF SUPPLY.
4. ALL EXISTING DEVICES TO REMAIN SHALL BE PROTECTED FROM DAMAGE THROUGHOUT THE CONSTRUCTION PROCESS.
5. THE CONTINUITY OF ALL EXISTING CIRCUITS TO REMAIN SHALL BE MAINTAINED.
6. COORDINATE WITH ARCHITECT AND BUILDING ENGINEER FOR ALL LIGHT FIXTURES, EXIT SIGNS AND DEVICES BEING DEMOLISHED WHICH ARE TO BE RETURNED TO BUILDING OWNER FOR STORAGE.
7. UNLESS OTHERWISE NOTED: REMOVE ALL EXISTING ELECTRICAL DEVICES, EQUIPMENT, CONDUITS, WIRING/CABLES SHOWN OR NOT SHOWN ON THE DEMOLISHED WALLS THROUGHOUT THE AREA OF WORK INCLUDING ALL FIRE ALARM VISUAL DEVICES (STROBE), SWITCHES, TELEPHONE/DATA, RECEPTACLES (WALL/CEILING/FLOOR). REMOVE ALL WIRING, CONDUIT BACK TO SOURCE OF SUPPLY. CUT BACK CAP, ABANDON ALL CONCEALED EXISTING CONDUITS WHICH ARE LOCATED IN CONCRETE WALL OR CEILING/FLOOR SLAB. REMOVE ALL WIRING FROM ANY ABANDONED CONDUITS BACK TO THE SOURCE OF SUPPLY.
8. DEMOLITION OF ANY FIRE ALARM DEVICE SHALL CLEAR ONLY AFTER THE NEW FIRE ALARM SYSTEM HAS BEEN INSTALLED, TESTED AND APPROVED. UNTIL NEW FIRE ALARM DEVICES ARE INSTALLED, ALL FIRE ALARM DEVICES SHALL REMAIN ACTIVE AND OPERATIONAL.

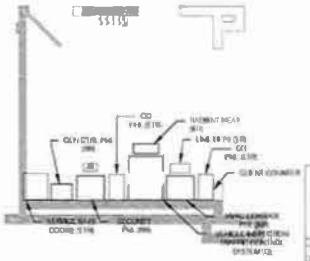
SHEET KEY NOTES

1. —



3 ED102.1 ENLARGED ELECTRICAL ROOM

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



4 ED102.1 ENLARGED CUSTOMERS RELATIONS ROOM

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

KEY PLAN

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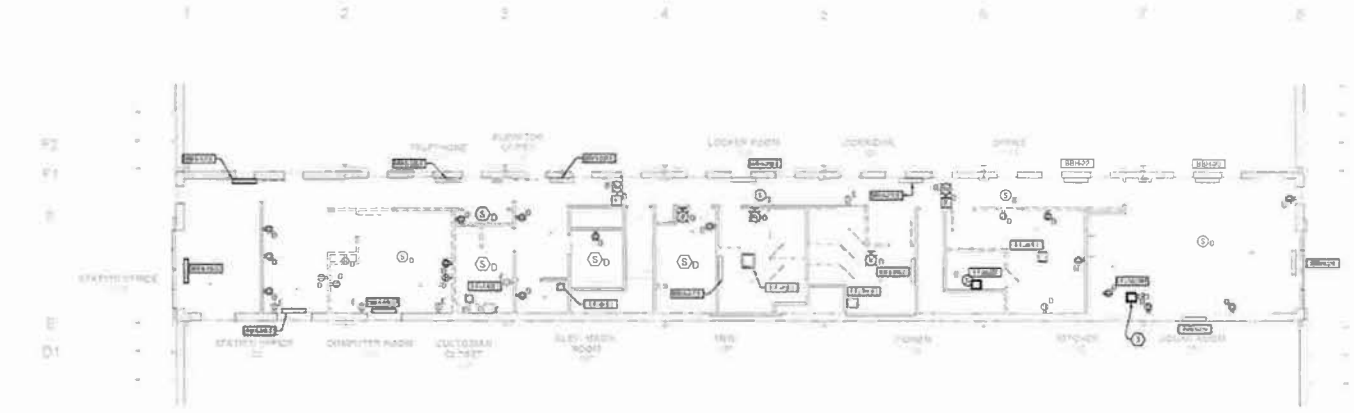
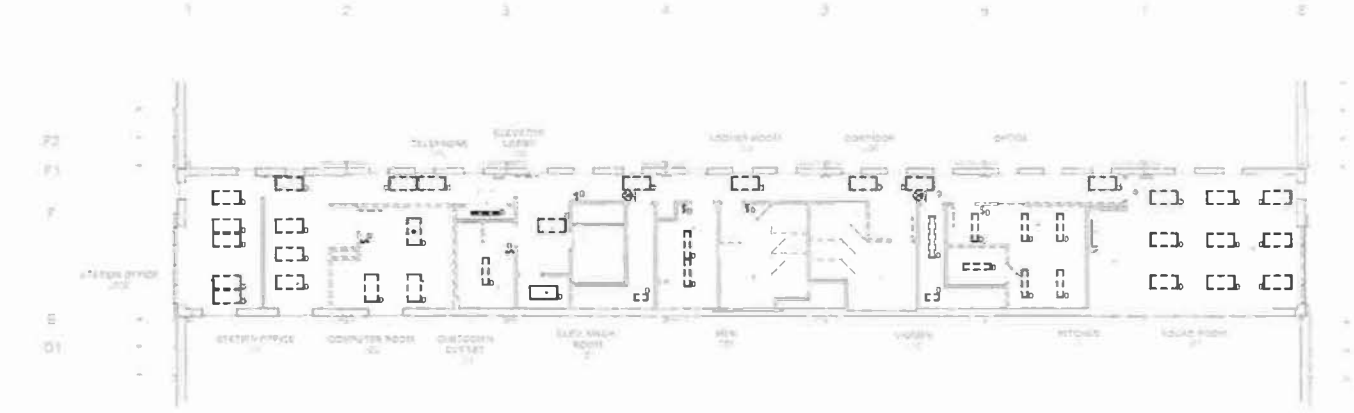
DEMOLITION WORK CUSTOMER SERVICE CTR LEVEL 1

ED102.1



1 ED103.1 DEMOLITION WORK CUSTOMER SERVICE CTR LEVEL 2 - POWER

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



3 ED103.1 DEMOLITION WORK CUSTOMER SERVICE CTR LEVEL 2 - LIGHTING

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

GENERAL NOTES

1. REFER TO DRAWING E001 FOR ELECTRICAL GENERAL NOTES, GENERAL DEMOLITION NOTES, LEGEND AND ABBREVIATIONS AND TO DRAWING E101 FOR THE PARTIAL POWER RISER DIAGRAM.
2. [illegible] DASHED LINES AND EITHER WITH SUBSCRIPT 'D' OR WITHOUT ANY SUBSCRIPT INDICATE AN EXISTING DEVICE TO BE DEMOLISHED.
3. REFER TO MECHANICAL AND PLUMBING DEMOLITION DRAWINGS FOR EQUIPMENT BEING DEMOLISHED. REMOVE ASSOCIATED DEVICES AND FEEDERS BACK TO SOURCE OF SUPPLY.
4. ALL EXISTING DEVICES TO REMAIN SHALL BE PROTECTED FROM DAMAGE THROUGHOUT THE CONSTRUCTION PROCESS.
5. [illegible] MAINTAINED.
6. COORDINATE WITH ARCHITECT AND BUILDING ENGINEER FOR ALL LIGHT FIXTURES, EXIT SIGNS AND DEVICES BEING DEMOLISHED WHICH ARE TO BE RETURNED TO BUILDING OWNER FOR STORAGE.
7. [illegible] EQUIPMENT, CONDUITS, WIRING/WIRES SHOWN OR NOT SHOWN ON THE DEMOLISHED WALLS THROUGHOUT THE AREA OF WORK INCLUDING ALL FIRE ALARM VISUAL DEVICES (STROBE), SWITCHES, TELEPHONE/DATA RECEPTACLES, SMALL (GEN.) BOX, DOOR, REMOVE ALL WIRING, CONDUIT BACK TO SOURCE OF SUPPLY. CUT BACK CAP, ABANDON ALL CONCEALED EXISTING CONDUITS WHICH ARE LOCATED IN CONCRETE WALL OR CEILING/FLOOR SLAB, REMOVE ALL WIRING FROM ANY ABANDONED CONDUITS BACK TO THE SOURCE OF SUPPLY.
8. REMOVE ALL MANUAL TOGGLE SWITCHES THROUGHOUT THE AREA U.O.N.
9. DEMOLITION OF ANY FIRE ALARM DEVICE SHALL START ONLY AFTER THE NEW FIRE ALARM SYSTEM WILL BE INSTALLED, TESTED AND APPROVED UNITS, NEW FIRE ALARM BECOMES OPERATIONAL. ALL FIRE ALARM DEVICES SHALL BE MAINTAINED ACTIVE IN THE BUILDING.

KEY NOTES

1. REMOVE & RELOCATE EXISTING MECHANICAL EQUIPMENT. CONTRACTOR TO FIELD TRACE, INTERCEPT AND SPLICE THE EXIST. WIRING IN A NEW JUNCTION BOX OR PULL BOX. EXTEND EXISTING BRANCH CIRCUIT WIRING SERVING MECHANICAL EQUIPMENT. UTILIZED NEW SAME SIZE CONDUCTORS AND CONDUIT AS EXISTING AND RECONNECT BACK TO THE ORIGINAL CIRCUIT BREAKER. REFER TO DRAWING E102.1 FOR THE NEW LOCATION OF THE RELOCATED EQUIPMENT.

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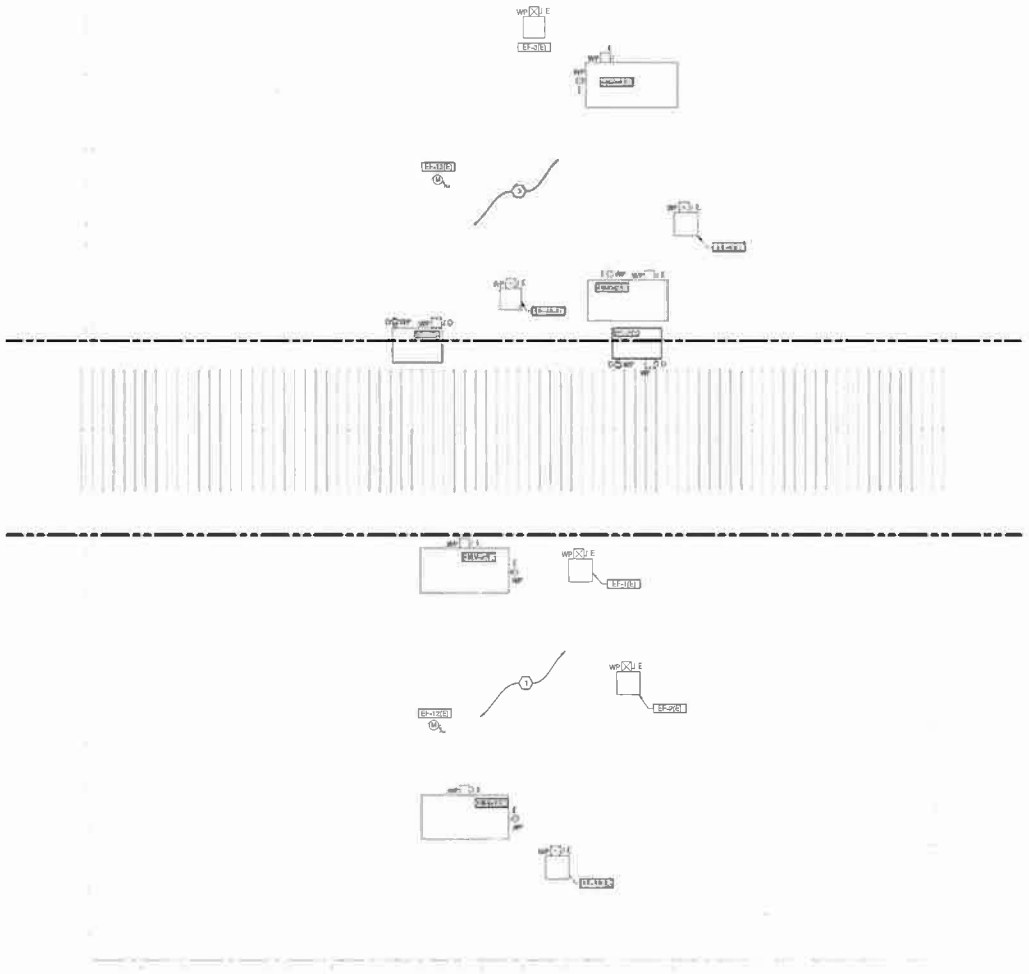
DEMOLITION WORK CUSTOMER SERVICE CTR LEVEL 2

ED103.1

CUSTOMER SERVICE CENTER

KEY PLAN



1 ED104.1 DEMOLITION WORK - ROOF PLAN
SCALE: 3/32" = 1'-0"

GENERAL NOTES

1. REFER TO DRAWING E001 FOR ELECTRICAL GENERAL NOTES, GENERAL DEMOLITION NOTES, LEGEND AND ABBREVIATIONS AND TO DRAWINGS E601 FOR THE PARTIAL POWER RISER DIAGRAM.
2. ALL ELECTRICAL DEVICES SHOWN ON THE DEMOLITION PLANS WITH DASHED LINES AND EITHER WITH SUBSCRIPT "D" OR WITHOUT ANY SUBSCRIPT INDICATE AN EXISTING DEVICE TO BE DEMOLISHED.
3. REFER TO MECHANICAL AND PLUMBING DEMOLITION DRAWINGS FOR EQUIPMENT BEING DEMOLISHED. REMOVE ASSOCIATED DEVICES AND FEEDERS BACK TO SOURCE OF SUPPLY.
4. ALL EXISTING DEVICES TO REMAIN SHALL BE PROTECTED FROM DAMAGE THROUGHOUT THE CONSTRUCTION PROCESS.
5. COORDINATE WITH ARCHITECT AND BUILDING ENGINEER FOR ALL LIGHT FIXTURES, EXIT SIGNS AND DEVICES BEING DEMOLISHED WHICH ARE TO BE RETURNED TO BUILDING OWNER FOR STORAGE.

DEMOLITION KEY NOTES

1. ELECTRICAL WORK ON ROOF EQUIPMENT TO BE COORDINATED WITH MECHANICAL. DE-ENERGIZE MECHANICAL EQUIPMENT FROM POWER SOURCE. REMOVE CONDUITS, WIRING AND ASSOCIATED DISCONNECTED SWITCHES AND CONTROLS BACK TO SOURCE.

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SCALE

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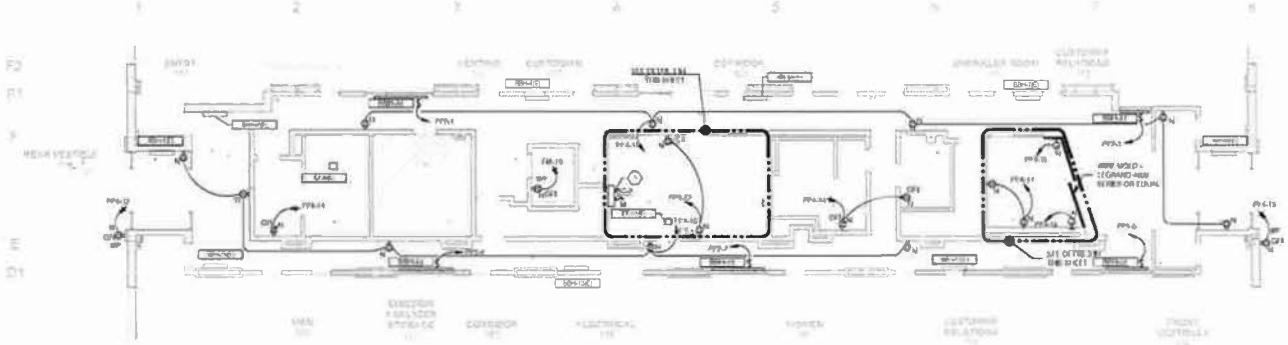
DRAWING
DEMOLITION WORK - ROOF PLAN

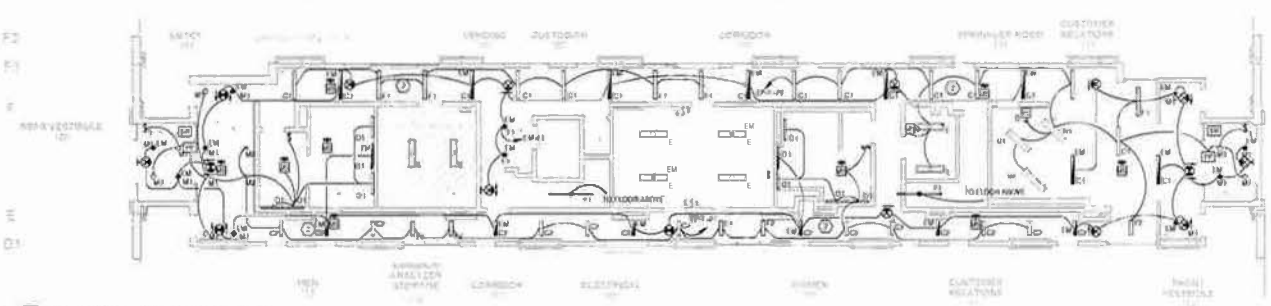
ED104.1

KEY PLAN



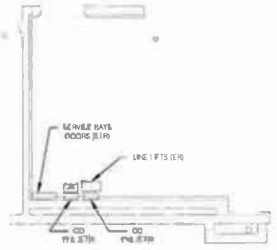
1 E102.1 NEW WORK PLAN - LEVEL 1 POWER

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



2 E102.1 NEW WORK PLAN - LEVEL 1 LIGHTING

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



4 E102.1 ENLARGED CUSTOMERS RELATIONS ROOM

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

LIGHTING GENERAL NOTES

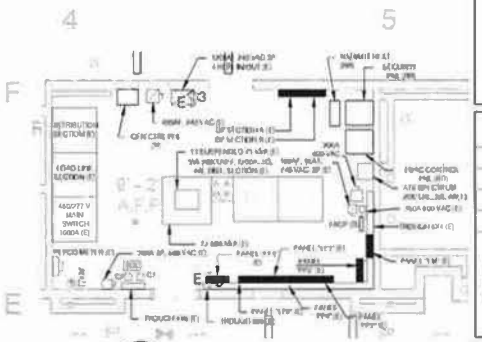
1. REFER TO DRAWING E001 FOR ELECTRICAL GENERAL NOTES, LEGENDS AND ABBREVIATIONS.
2. REFER TO ARCHITECTURAL DRAWINGS, ELEVATIONS, & DETAILS FOR EXACT LOCATION OF ELECTRICAL FIXTURE AND DEVICES.
3. AT THE COMPLETION OF CONSTRUCTION, CLEAN LENSES AND REFLECTORS OF ALL LIGHTING FIXTURE SO AS TO RENDER THEM FREE OF ANY MATERIAL, SUBSTANCE OR FILM FOREIGN TO THE FIXTURE. REMBHED, DAMAGED OR UNSATISFACTORY FIXTURE SHALL BE REPLACED IN A SATISFACTORY MANNER.
4. THE CONTINUITY OF ALL EXISTING CIRCUITS TO REMAIN SHALL BE MAINTAINED. PROVIDE NEW BRANCH CIRCUIT WIRING AS SHOWN TO ACCOMMODATE FOR NEW CONSTRUCTION.
5. ALL REUSED CIRCUIT NUMBERS SHOWN ON PLAN ARE BASED ON EXISTING DOCUMENTS AND MAY NOT MATCH WITH THE ACTUAL CIRCUIT FOR THAT LOCATION. EXACT CIRCUIT NUMBERS SHOULD BE VERIFIED BY CONTRACTOR DURING CONSTRUCTION.
6. UNLESS OTHERWISE NOTED, IN THE SCOPE OF WORK AREA, ALL ELECTRICAL DEVICES EITHER SHOWN WITH A SUBSCRIPT LETTER IN OR WITHOUT ANY SUBSCRIPT ARE NEW TO BE PROVIDED.
7. CLEAN/RELAMP/REBALLAST, IF REQUIRED, ALL EXISTING TO REMAIN AND RELOCATED LIGHTING FIXTURES TO REMAIN IN THE CONTRACT AREA. CONTRACTOR SHALL ENSURE THAT ALL REUSED FIXTURES SHALL BE IN GOOD WORKING CONDITION.

POWER GENERAL NOTES

1. REFER TO DRAWING E001 FOR ELECTRICAL GENERAL NOTES, LEGEND AND ABBREVIATIONS. REFER TO DRAWING E601 FOR PARTIAL POWER RISER DIAGRAM.
2. REFER TO ARCHITECTURAL DRAWINGS, ELEVATIONS & DETAILS FOR EXACT LOCATION OF ELECTRICAL DEVICES.
3. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EXACT MECHANICAL AND PLUMBING EQUIPMENT LOCATIONS.
4. ALL OUTLETS ON THE SAME ROOM CIRCUIT SHALL BE OF THE SAME COLOR.
5. ALL RECEPTACLES, TELECOMMUNICATION OUTLETS WITH ASSOCIATED WIRING, SHALL BE FLUSH MOUNTED. SURFACE MOUNTED OUTLETS, CONDUIT, RACEWAYS, ETC TO BE APPROVED BY ARCHITECT PRIOR TO INSTALLATION.
6. THE CONTINUITY OF ALL EXISTING CIRCUITS TO REMAIN SHALL BE MAINTAINED. PROVIDE NEW BRANCH CIRCUIT WIRING AS SHOWN TO ACCOMMODATE FOR NEW CONSTRUCTION.
7. ALL REUSED CIRCUIT NUMBERS SHOWN ON PLAN ARE BASED ON EXISTING DOCUMENTS AND MAY NOT MATCH WITH THE ACTUAL CIRCUIT FOR THAT LOCATION. EXACT CIRCUIT NUMBERS SHOULD BE VERIFIED BY CONTRACTOR DURING CONSTRUCTION.
8. UNLESS OTHERWISE NOTED, IN THE SCOPE OF WORK AREA, ALL ELECTRICAL DEVICES EITHER SHOWN WITH A SUBSCRIPT LETTER IN OR WITHOUT ANY SUBSCRIPT ARE NEW TO BE PROVIDED.
9. CONTRACTOR TO TRACE ALL CIRCUITS AND IDENTIFY ALL LOADS BEFORE DISCONNECTING THEM FROM PANEL SCHEDULE. LEADS EXISTING TO REMAIN SHALL BE IDENTIFY ON PANEL SCHEDULES

KEY NOTES

1. POWER UP TO TOUCH-FREE OPENING OUTDOOR UNIT.
2. OCCUPANCY SENSORS TO BE CONFIGURED FOR 30 MINUTES OF NORMAL BUSINESS HOURS, DURING THE NORMAL BUSINESS HOURS (7:00AM - 5:00PM) THE TIME CLOCK WILL SEND A SIGNAL TO HOLD ON THE CORRIDOR LIGHTS. EMERGENCY LIGHTS SHALL BE CONTINUOUS ON AS NIGHT LIGHTS.



3 E102.1 ENLARGED ELECTRICAL ROOM

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

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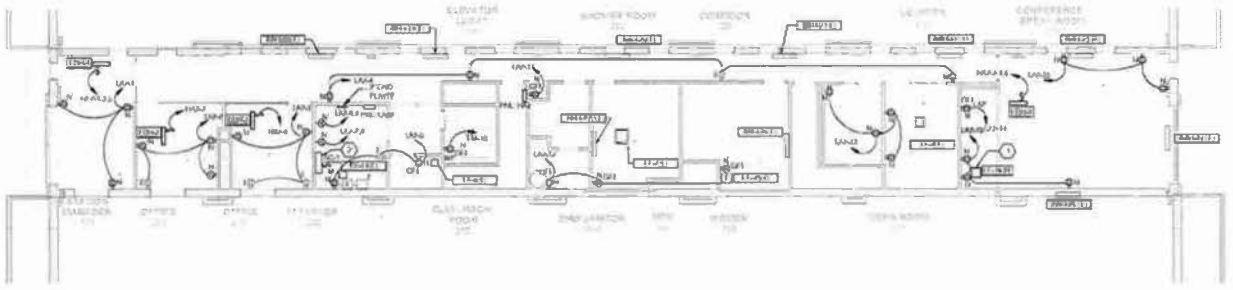
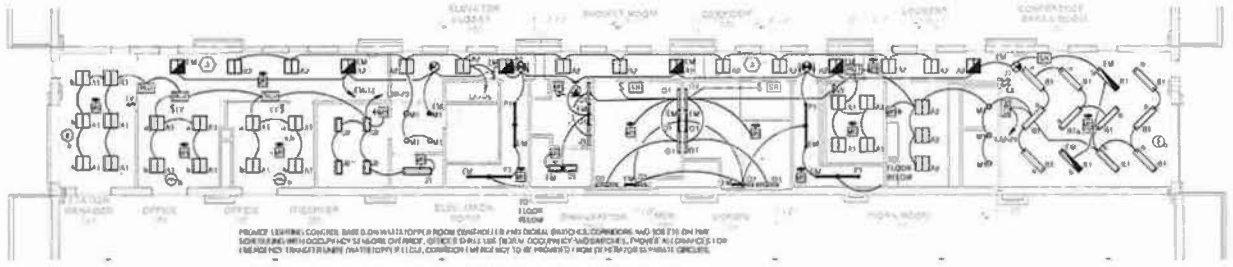
CUSTOMER SERVICE CTR LEVEL 1

E102.1



1 / E103.1 NEW WORK PLAN - LEVEL 2 POWER

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



2 / E103.1 NEW WORK PLAN - LEVEL 2 LIGHTING

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

LIGHTING GENERAL NOTES

1. REFER TO DRAWING E001 FOR ELECTRICAL GENERAL NOTES, LEGENDS AND ABBREVIATIONS.
2. REFER TO ARCHITECTURAL DRAWINGS: ELEVATIONS & DETAILS FOR EXACT LOCATION OF ELECTRICAL FIXTURE AND DEVICES.
3. AT THE COMPLETION OF CONSTRUCTION, CLEAN LENSES AND REFLECTORS OF ALL LIGHTING FIXTURE SO AS TO RENDER THEM FREE OF ANY MATERIAL, SUBSTANCE OR FILM FOREIGN TO THE FIXTURE. BLEMISHED, DAMAGED OR UNSATISFACTORY FIXTURE SHALL BE REPLACED IN A SATISFACTORY MANNER.
4. THE CONTINUITY OF ALL EXISTING CIRCUITS TO REMAIN SHALL BE MAINTAINED. PROVIDE NEW BRANCH CIRCUIT WIRING AS SHOWN TO ACCOMMODATE FOR NEW CONSTRUCTION.
5. ALL [illegible] ARE BASED ON EXISTING DOCUMENTS AND MAY NOT MATCH WITH THE ACTUAL CIRCUIT FOR THAT LOCATION. EXACT CIRCUIT NUMBERS SHOULD BE VERIFIED BY CONTRACTOR DURING CONSTRUCTION.
6. UNLESS OTHERWISE NOTED, IN THE SCOPE OF WORK AREA ALL ELECTRICAL DEVICES EITHER SHOWN WITH A SUBSCRIPT LETTER 'N' OR WITHOUT ANY SUBSCRIPT ARE NEW TO BE PROVIDED.
7. CLEAN/RELAMP (REBALLAST, IF REQUIRED) ALL EXISTING TO REMAIN AND RELOCATED LIGHTING FIXTURES TO REMAIN IN THE CONTRACT AREA. CONTRACTOR SHALL ENSURE THAT ALL REUSED FIXTURES SHALL BE IN GOOD WORKING CONDITION.

POWER GENERAL NOTES

1. REFER TO DRAWING E001 FOR ELECTRICAL GENERAL NOTES, LEGEND AND ABBREVIATIONS. REFER TO DRAWING E501 FOR PARTIAL POWER RISER DIAGRAM.
2. REFER TO ARCHITECTURAL DRAWINGS: ELEVATION & DETAILS FOR EXACT LOCATION OF ELECTRICAL DEVICES.
3. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EXACT MECHANICAL AND PLUMBING EQUIPMENT LOCATIONS.
4. ALL [illegible] SHALL BE FED IN LOOP.
5. ALL RECEPTACLES, TELECOMMUNICATION OUTLETS WITH ASSOCIATED WIRING SHALL BE FLUSH MOUNTED. SURFACE MOUNTED OUTLETS, CONDUIT, RACEWAYS, ETC TO BE APPROVED BY ARCHITECT PRIOR TO INSTALLATION.
6. THE CONTINUITY OF ALL EXISTING CIRCUITS TO REMAIN SHALL BE MAINTAINED. PROVIDE NEW BRANCH CIRCUIT WIRING AS SHOWN TO ACCOMMODATE FOR NEW CONSTRUCTION.
7. ALL REUSED CIRCUIT NUMBERS SHOWN ON PLAN ARE BASED ON EXISTING DOCUMENTS AND MAY NOT MATCH WITH THE ACTUAL CIRCUIT FOR THAT LOCATION. EXACT CIRCUIT NUMBERS SHOULD BE VERIFIED BY CONTRACTOR DURING CONSTRUCTION.
8. UNLESS OTHERWISE NOTED, IN THE SCOPE OF WORK AREA ALL ELECTRICAL DEVICES EITHER SHOWN WITH A SUBSCRIPT LETTER 'N' OR WITHOUT ANY SUBSCRIPT ARE NEW TO BE PROVIDED.
9. [illegible] DISCONNECTING THEM FROM PANEL SCHEDULE. LOADS EXISTING TO REMAIN SHALL BE IDENTIFY ON PANEL SCHEDULES.

KEY NOTES

1. CONTRACTOR TO EXTEND EXISTING BRANCH CIRCUIT WIRING AND ITS ASSOCIATED CONTROL DEVICES WIRING SERVING MECHANICAL EQUIPMENT, UTILIZING NEW SAME SIZE CONDUCTORS AND CONDUIT AS EXISTING AND RECONNECT BACK TO THE ORIGINAL CIRCUIT BREAKER. REFER TO MECHANICAL DRAWINGS FOR THE EXACT LOCATION OF THE RELOCATED EQUIPMENT.
2. [illegible]
3. [illegible] DURING NORMAL BUSINESS HOURS. DURING NORMAL BUSINESS HOURS, THESE POLE MOUNTED LIGHTS SHALL BE ADJUSTABLE TIME CLOCK ONLY SO AS TO DEMAND LIGHTING LEVELS ON THE CORRIDOR. THESE LIGHTS IN THE CORRIDOR SHALL BE CONTINUOUS OR NIGHT LIGHTS.

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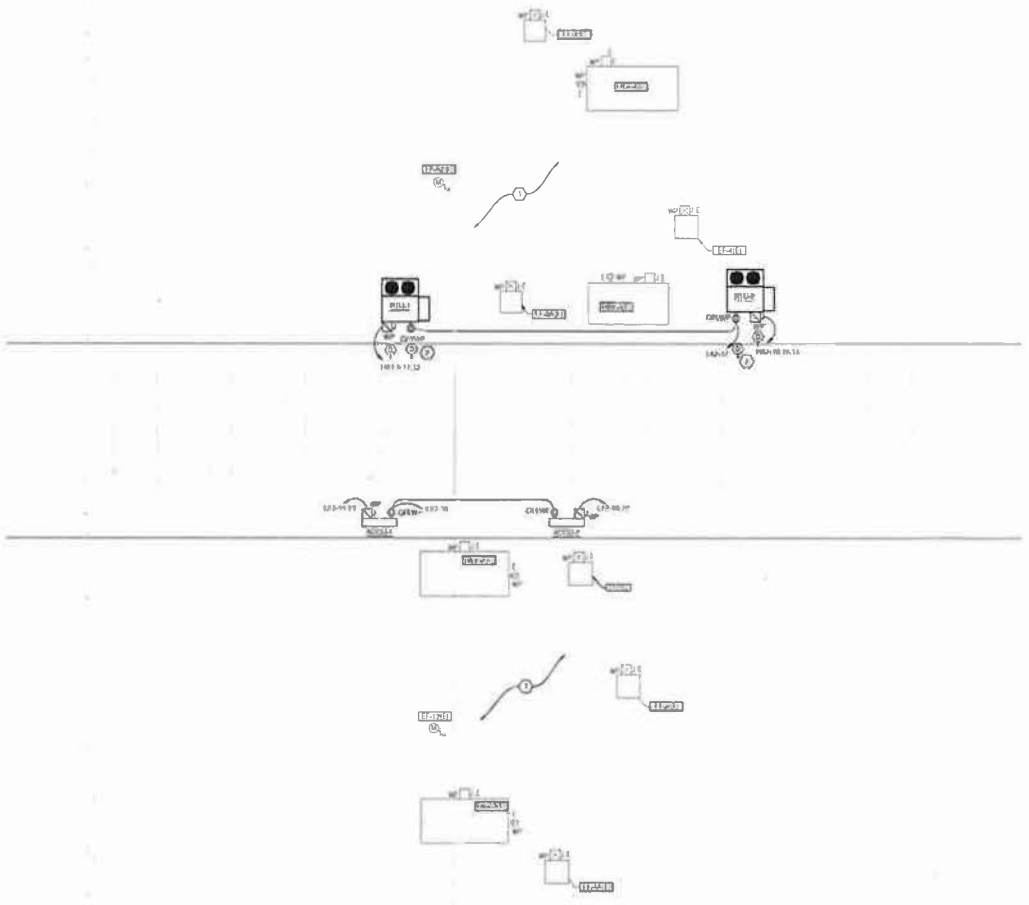
CUSTOMER SERVICE QTR LEVEL 2

E103.1

KEY PLAN



1 E104.1 ROOF PLAN
SCALE: 3/32" = 1'-0"

POWER GENERAL NOTES

1. REFER TO DRAWING E001 FOR ELECTRICAL GENERAL NOTES, LEGEND AND ABBREVIATIONS. REFER TO DRAWING E501 FOR PARTIAL POWER RISER DIAGRAM.
2. REFER TO ARCHITECTURAL DRAWINGS, ELEVATION & DETAILS FOR EXACT LOCATION OF ELECTRICAL DEVICES.
3. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EXACT MECHANICAL AND PLUMBING EQUIPMENT LOCATIONS.
4. [illegible]
5. ALL RECEPTACLES, TELECOMMUNICATION OUTLETS WITH ASSOCIATED WIRING SHALL BE FLUSH MOUNTED. SURFACE MOUNTED OUTLETS CONDUIT, RACEWAYS, ETC TO BE APPROVED BY ARCHITECT PRIOR TO INSTALLATION.
6. THE CONTINUITY OF ALL EXISTING CIRCUITS TO REMAIN SHALL BE MAINTAINED. PROVIDE NEW BRANCH CIRCUIT WIRING AS SHOWN TO ACCOMMODATE FOR NEW CONSTRUCTION.
7. ALL REUSED CIRCUIT NUMBERS SHOWN ON PLAN ARE BASED ON EXISTING DOCUMENTS AND MAY NOT MATCH WITH THE ACTUAL CIRCUIT FOR THAT LOCATION. EXACT CIRCUIT NUMBERS SHOULD BE VERIFIED BY CONTRACTOR DURING CONSTRUCTION.
8. [illegible]
ELECTRICAL DEVICES EITHER SHOWN WITH A SUBSCRIPT LETTER 'N' OR WITHOUT ANY SUBSCRIPT ARE NEW TO BE PROVIDED.

KEY NOTES

1. ELECTRICAL WORK ON ROOF EQUIPMENT TO BE COORDINATED WITH MECHANICAL.
2. COORDINATE DUCT SMOKE DETECTORS WITH MECHANICAL CONTRACTOR. CONNECT DUCT SMOKE DETECTORS TO FIRE ALARM CONTROL PANEL.

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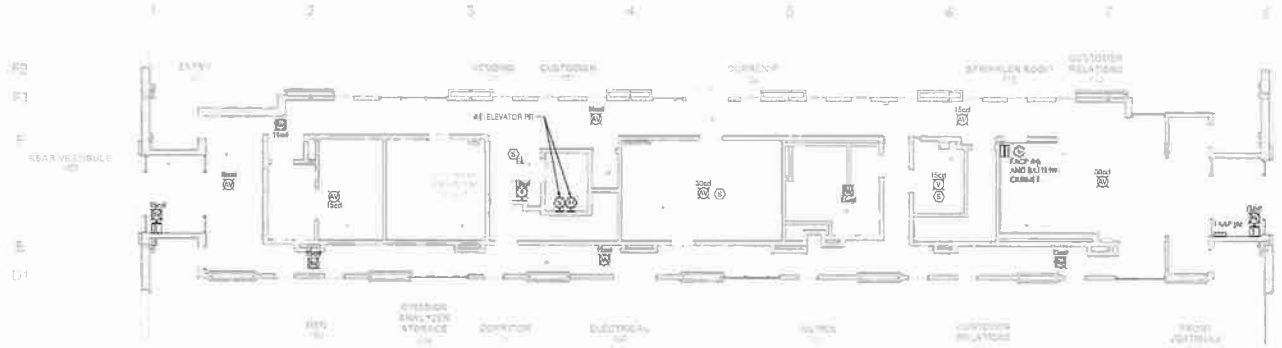
ROOF PLAN

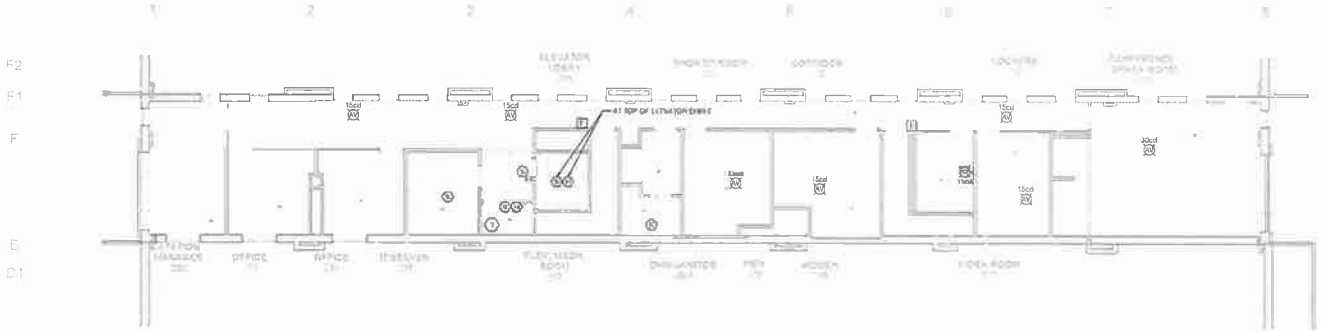
E104.1

KEY PLAN



1 E302.1 NEW WORK CUSTOMER SERVICE CENTER LEVEL 1 - FIRE ALARM

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



2 E302.1 NEW WORK CUSTOMER SERVICE CENTER LEVEL 2 - FIRE ALARM

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

GENERAL NOTES

1. REFER TO DRAWING E001 FOR ELECTRICAL GENERAL NOTES AND ABBREVIATIONS.
2. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF DUCT SMOKE DETECTORS AND FIRE DAMPERS AND FIRE PROTECTION DRAWINGS FOR EXACT LOCATION OF FLOW AND TAMPER SWITCHES.
3. REFER TO ARCHITECTURAL DRAWINGS, ELEVATIONS AND DETAILS PRIOR TO INSTALLATION OF ALL FIRE ALARM DEVICES. COORDINATE WITH THE ARCHITECT IN CASE OF A CONFLICT.
4. CONTRACTOR TO INSTALL ALL REQUIRED ELECTRICALR RELAYS FOR ELEVATOR RECALL SYSTEM TO MAINTAIN COMPATIBILITY WITH NEW FIRE ALARM CONTROL PANEL. WHEN THE NEW FIRE ALARM CONTROL PANEL BECOMES OPERATIONAL (INSTALLED, TESTED AND APPROVED), THE OLD RELAYS SHALL BE REMOVED.
5. CONTRACTOR TO ADD ANY REQUIRED EXTENSION PANEL TO PROVIDE REQUIRED POWER TO FIRE ALARM DEVICES LOCATED IN THIS PHASE, AS WELL AS FOR PHASE II. THE VOLTAGE DROP AND BATTER CALCULATION SHALL BE SUBMITTED AS SHOP DRAWINGS BY CONTRACTOR AS MENTION IN THE SPECIFICATIONS

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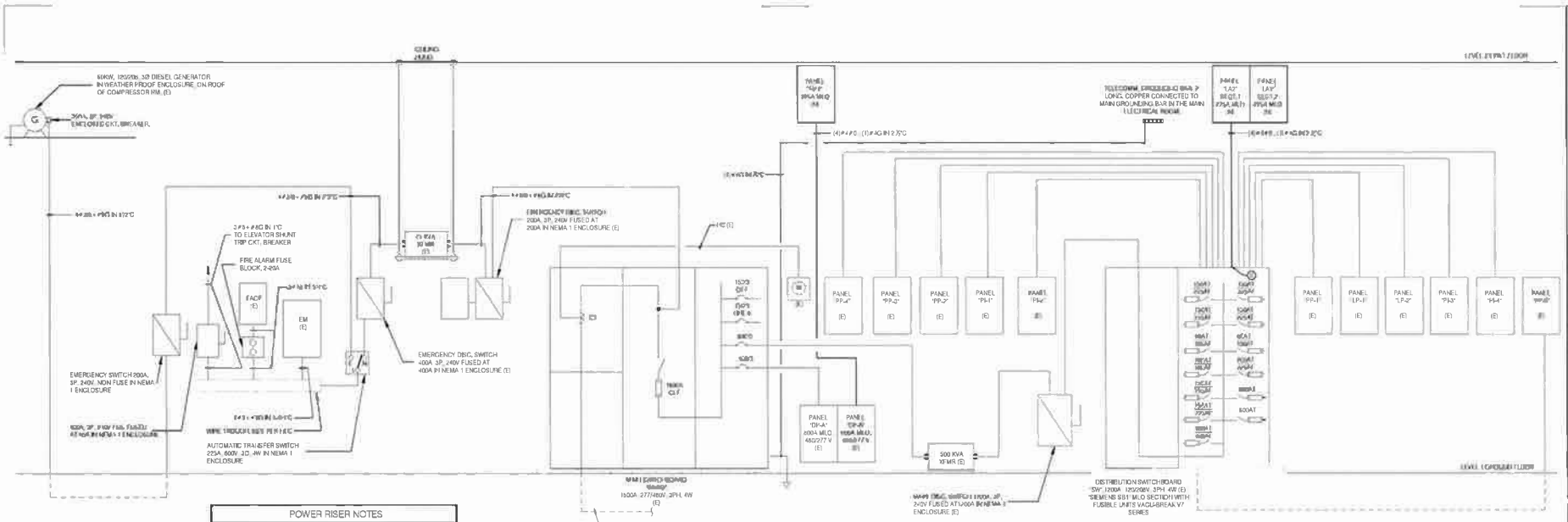
CUSTOMER SERVICE CENTER LEVEL 1 & LEVEL 2

E302.1

CUSTOMER SERVICE CENTER

KEY PLAN



POWER RISER NOTES

1. UNLESS OTHERWISE NOTED, ALL ELECTRICAL EQUIPMENT, PANELS AND FEEDERS SHOWN IN POWER RISER DIAGRAM ARE EXISTING TO REMAIN AND ARE SHOWN FOR REFERENCE ONLY.
2. CONTRACTOR TO TRACE CIRCUITS AND PROVIDE UPDATED PANEL DIRECTORIES AT THE FINAL OF CONSTRUCTION.

KEY NOTES

1. [illegible]

SWITCHBOARD SCHEDULE (E)

[illegible]

CIRCUIT NUMBER	SERVING	CIRCUIT BREAKER FRAME	TRIP	A.I.C.	CONDUIT	CONDUCTORS	REMARKS
1.	PANEL [illegible]	[illegible]					
3.	PANEL [illegible]						
5.	PANEL [illegible]						
7.	RTU - 1 (DEMO)	100	60		1	[illegible]	
9.	RTU - 2 (DEMO)						
11.	PANEL [illegible]		100		1 1/4	[illegible]	
13.	PANEL [illegible]	[illegible]	[illegible]		[illegible]	[illegible]	
15.	PANEL [illegible]		[illegible]				
17.	PANEL LP - 3						
19.	PANEL LP - 2						
21.	PANEL [illegible]						
23.	PANEL [illegible]						
25.	PANEL [illegible]	[illegible]	[illegible]		4	[illegible]	

1 / E501 — ELECTRICAL POWER RISER DIAGRAM

SCALE: NTS

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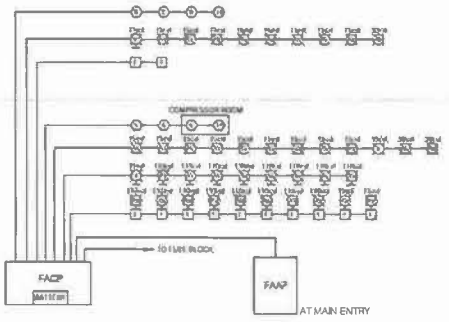
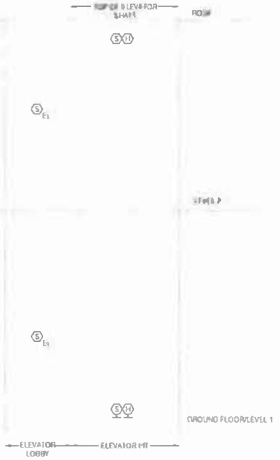
POWER RISER DIAGRAM

E501.1



1 / E502.1 FIRE ALARM RISER DIAGRAM

SCALE: NOT TO SCALE



GENERAL NOTES

1. REFER TO DRAWING E502 FOR FIRE ALARM ANNUNCIATOR PANEL DETAIL AND FIRE ALARM OPERATION MATRIX.
2. REFER TO FLOOR PLANS FOR EXACT FIRE ALARM DEVICE QUANTITY AND LOCATIONS.
3. [illegible] ALARM CIRCUITS SHALL BE CLASS [illegible] CIRCUITS.

FIRE ALARM NOTES

1. [illegible] SHOP DRAWINGS OF THE PROPOSED FIRE ALARM SYSTEM TO THE LOCAL FIRE MARSHAL (A.H.J.) FOR APPROVAL PRIOR TO SUBMITTING TO ENGINEER FOR REVIEW.
   - PRODUCT DATA SHEETS & EQUIPMENT DESCRIPTION.
   - COMPONENTS WIRING DIAGRAMS
   - SYSTEM WIRING & INTERCONNECTION DIAGRAMS.
   - OPERATING INSTRUCTIONS & MAINTENANCE MANUAL DETAILING COMPONENT & GENERAL SYSTEM OPERATING DESCRIPTION.
   - BATTERY CALCULATIONS
   - DETAIL OF ANNUNCIATOR PANEL

   ANY REVISIONS AND/OR ADDITIONS REQUIRED BY LOCAL JURISDICTION PRIOR TO OBTAINING CERTIFICATE OF OCCUPANCY ARE THE RESPONSIBILITY OF THE CONTRACTOR AND WILL NOT BE REASON FOR ADDITIONAL COMPENSATION TO THE CONTRACTOR.
2. THIS RISER DIAGRAM IS OFFERED AS THE CONCEPTUAL SYSTEM ARCHITECTURE AND DOES NOT CONTAIN ALL OF THE INFORMATION NEEDED TO INSTALL THE SYSTEM. IT IS INTENDED TO BE USED AS A GUIDE. THE SYSTEM MUST MEET THE SPECIFICATIONS REQUIREMENTS. THE AUDIO-VISUAL DEVICES MUST BE DESIGNED AND INSTALLED TO MEET NFPA 72 REQUIREMENTS AND ADA REQUIREMENTS.
3. FACP WILL BE HOUSED IN A LOCKED ENCLOSURE WITH A GLASS DOOR DESIGNED FOR EASY VIEWING OF THE ALPHA-NUMERIC DISPLAY, OTHER THAN THE OUTSIDE DOOR KEY, NO ADDITIONAL KEY WILL BE REQUIRED TO UTILIZE SYSTEM ACKNOWLEDGE, SILENT, PROGRAMMING FUNCTIONS SHOULD BE PROTECTED FROM ACCIDENTAL ACTIVATION BY BYPASS AND RESET FUNCTIONS AND THE USE OF A PASSWORD SYSTEM.
4. ALL LOCKED ENCLOSURES MUST BE KEYED ALIKE TO MATCH THE FACP MANUAL EXCEPTION: STATIONS KING-FISHER RADIO TRANSMITTER ENCLOSURES SHOULD UTILIZE THE STANDARD KING-FISHER KEY. REMOTE MICROPHONE ENCLOSURE WILL BE KEYED DIFFERENTLY.
5. THE FIRE ALARM SYSTEM SHALL BE CONNECTED AND IN-SERVICE 14 CALENDAR DAYS PRIOR TO THE FINAL ACCEPTANCE TEST. ALL DEVICES SHALL BE FIELD TESTED PRIOR TO THE FINAL TEST PER NFPA STANDARDS. ONE SET OF AS-BUILTS AND THE R/ TRANSMITTER/ANTENNA INSTALLATION CERTIFICATION SHALL BE PROVIDED ON THE DAY OF THE ACCEPTANCE TEST. AN UPDATED PRINTOUT OF FIRE ALARM DEVICES, DEVICE STATUS AND LOCATION OF DEVICES WILL ALSO BE NEEDED. ALL FIRE ALARM ENCLOSURES MUST BE CLEARED OF EXCESSIVE DEBRIS, DIRT AND DUST, PAINT OVER SPRAY, UNUSED PARTS AND WIRING. ALL DEVICES AND FACILITY MUST BE CLEAN AND DUST FREE AND SHALL BE INSTALLED BEFORE THE ACCEPTANCE TEST IS CONDUCTED.
6. REFER TO FLOOR PLANS FOR EXACT LOCATION AND QUANTITY OF ALL FIRE ALARM DEVICES AND FIRE PROTECTION DRAWINGS FOR SPRINKLER FIRE PROTECTION DEVICES.
7. ALL WIRING SHALL BE IN CONDUIT.
8. REFER TO ARCHITECTURAL DRAWINGS: ELEVATIONS AND DETAILS PRIOR TO INSTALLATION OF ALL ELECTRICAL DEVICES. COORDINATE WITH THE ARCHITECT IF REQUIRED DURING CONSTRUCTION.

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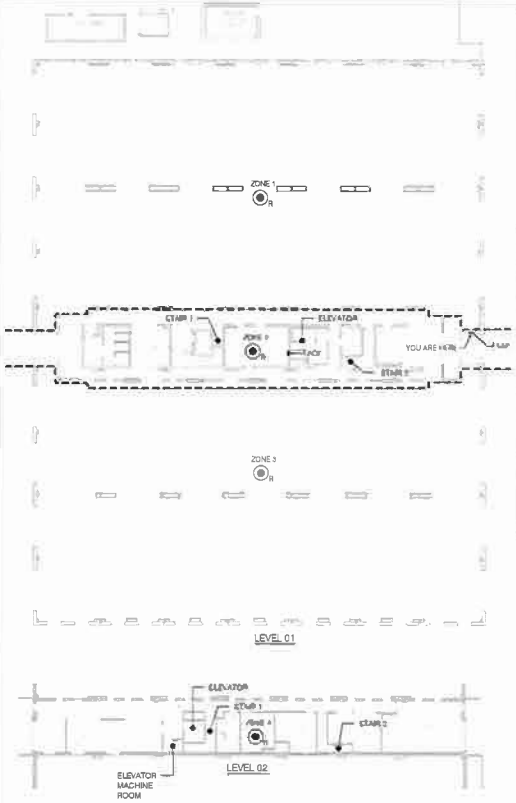
FIRE ALARM RISER DIAGRAM

E502.1



SYSTEMS INPUT	SYSTEMS OUTPUT: GENERAL EVACUATION ALARM	SYSTEM TROUBLE ALARM SIGNAL	ALERT & ALARM SIGNAL AT FACP	ALERT & ALARM SIGNAL AT ANNUNCIATOR PANEL	DISPLAY SIGNAL INDICATING ZONE/MODULE # FOR ELEVATOR RECALL	OUTPUT SIGNAL FOR ELEVATOR POWER SHUTDOWN	
AREA ROOM SMOKE DETECTOR	●	●	●				
DUCT SMOKE DETECTOR				●			
WATER FLOW SWITCH	●	●	●				
MONITOR SWITCH (VALVE TAMPER)				●			
MANUAL PULL STATION	●	●	●				
SMOKE DETECTOR AT ELEVATOR LOBBY	●	●	●		●		
ELEVATOR SHAFT SMOKE DETECTOR	●	●	●		●		
ELEVATOR SHAFT HEAT DETECTOR		●	●			●	

FIRE ALARM OPERATIONAL MATRIX

UNDER FIRE CONDITION - ELEVATOR EMERGENCY OPERATION SHALL BE AS FOLLOWS

A. ELEVATOR SHAFT SMOKE DETECTORS SHALL ACTIVATE RECALL OF ELEVATOR WITHIN SHAFT, SOUND GENERAL ALARM, ANNUNCIATE APPROPRIATE LAMPS AT ANNUNCIATOR PANEL.

B. ELEVATOR MACHINE ROOM SMOKE DETECTOR SHALL ACTIVATE RECALL OF ELEVATOR, SOUND GENERAL ALARM, ANNUNCIATE APPROPRIATE LAMPS AT ANNUNCIATOR PANEL.

C. ELEVATOR SHAFT HEAT DETECTORS SHALL DISCONNECT POWER TO ELEVATOR MOTOR WITHIN THAT SHAFT AND ANNUNCIATE TROUBLE AT ANNUNCIATOR PANEL.

D. ELEVATOR MACHINE ROOM HEAT DETECTOR SHALL DISCONNECT POWER TO ELEVATOR AND ANNUNCIATE TROUBLE AT ANNUNCIATOR PANEL.

E. ELEVATOR MACHINE ROOM SPRINKLER FLOW SWITCH SHALL SOUND GENERAL ALARM, ANNUNCIATE APPROPRIATE LAMPS AT ANNUNCIATOR PANEL AND DISCONNECT ELEVATOR POWER.

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
MM	MOUNTED @ METER

ANNUNCIATOR

- R — RED LAMP
- G — GREEN LAMP
- A — AMBER LAMP
- PUSH BUTTON
- KEY SWITCH

ALARM DEVICES

- R — MANUAL PULL STATION
- R — SMOKE DETECTOR
- R — HEAT DETECTOR
- A — TAMPER SWITCH
- R — SPRINKLER FLOW SWITCH
- A — STANDPIPE FLOW
- R — ELEVATOR LOBBY SMOKE DETECTOR
- R — ELEVATOR CONTROL CLOSET
- R — ELEVATOR CONTROL CLOSET SMOKE DETECTOR
- R — STAIR 1
- R — STAIR 2
- R — SPARE

FLOORS

- R — LEVEL 01
- R — LEVEL 02
- R — SPARE

SYSTEM CONTROL

- G — POWER ON
- A — SYSTEM TROUBLE
- G — GENERATOR RUN
- A — SPARE

SYSTEM CONTROL

EMERGENCY GENERATOR

- ON / AUTO
- G — RUNNING
- R — OFF
- EPO

LAMP TEST

TROUBLE BUZZER

TROUBLE SILENCE

RESET SWITCH

ALARM RECALL DEACTIVATION

SUPERVISORY / SYSTEM SILENCE

N

FIRE ALARM ANNUNCIATOR PANEL

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FIRE ALARM ANNUNCIATOR PANEL DIAGRAM

E503.1

COMcheck Software Version 4.0.0
Interior Lighting Compliance Certificate

Project Information

Energy Code: 2012 IECC
Project Title: DMV INSPECTION STATION
Project Type: Addition

Construction Site:
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WASHINGTON, AL 20024

Owner/Agent:
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202 758 2037

Designer/Contractor:
SETTY & ASSOCIATES
5185 MACARTHUR BLVD
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202 293 1531

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B X C)
1-Common Space Types:Warehouse	33681	1.00	34210
		Total Allowed Watts =	34210

Proposed Interior Lighting Power

A Table 4 - 3 Description / Lamp / Wattage Per Lamp / Ballast	E Lamps / Fixture	C # of Fixtures	D Fixture Watts	E (C X D)
Common Space Types:Warehouse (33681 sq.ft.)				
LED 1 L1: HIGH BAY LIGHT: Other	6	42	238	10962
LED 2 M1/M2: RECESSED DOWNLIGHT: Other	6	27	14	369
LED 3 J1-H: UTILITY SPACES LIGHTING FIXTURE: Other	6	8	11	82
LED 4 C1: RECESSED LED SLOT: Other	6	17	10	168
LED 5 C2: RECESSED LED SLOT: Other	6	19	10	144
LED 6 A1: 2X2 RECESSED LAY IN LED: Other	6	15	28	504
LED 7 A2: 2X2 RECESSED LAY IN LED: Other	6	19	24	456
LED 8 J2: [illegible]: Other	6	4	23	62
LED 9 R1: PENDANT MOUNTED LED: Other	6	12	17	204
LED 10 G1: UTILITY SPACES LIGHTING FIXTURE: Other	6	17	32	544
Linear Fluorescent, 4 Ft: FLUORESCENT 4FT: Other, Electronic	3	6	32	192
LED 11 F1: 4FT LED LINEAR: Other	6	9	28	525
LED 12 F2: 2FT LED LINEAR: Other	3	5	13	65
LED 13 A1: 4FT PENDANT: Other	3	3	47	141
		Total Proposed Watts =		23698

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2012 IECC requirements in COMcheck Version 4.0.0 and to comply with the mandatory requirements listed in the Inspection Checklist.

Project Title: DMV INSPECTION STATION — Report date: 06/22/15
Data Filename: H:\2015\SAM\15461 005\SAM\15461 005\SAM15461 00-Data\COMCHECK\COMCHECK.cck — Page 1 of 7

COMcheck Software Version 4.0.0
Inspection Checklist

Energy Code: 2012 IECC

Requirements: 0.0% were addressed directly in the COMcheck software

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

2012 IECC	Plan Review	Complies?	Comments/Assumptions
C401.2 (2012)	Plans, specifications, and/or supporting data for lighting equipment and controls shall be submitted in sufficient detail to demonstrate compliance with the requirements of this section. Supporting data shall include the following: Manufacturer's cut sheets and/or specifications for all lighting equipment and control devices specifying all relevant performance characteristics, including but not limited to ballast factor, ballast input power, lamp power, and lamp quantity.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	

Additional Comments/Assumptions:

2012 IECC	Plan Inspection	Complies?	Comments/Assumptions
C405.2.1 (2012)	Automatic controls to shut off all building lighting and/or tenant lighting in all buildings	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	
C405.2.2.1 (2012)	Occupant sensing lighting controls provided per applicable building plans and all manual override readily accessible and are set to allowances.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	
C405.2.2.2 (2012)	Lighting system designed to automatically reduce either lighting level by at least 50%	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	
C405.2.2.3 (2012)	Daylight zones provided with individual controls that control the lights independent of general area lighting.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	
C405.2.3 (2012)	Sleeping units have at least one master switch at the main entry door that controls wired luminaires and switched receptacles.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	
C405.2.4 (2012)	Occupancy sensors installed in required spaces.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	
C405.2.5 (2012)	Display lighting provided in accent and highlight areas.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	
C405.2.6.1 (2012)	Stairwell spaces with daylight area under skylights and roof/roof monitors are equipped with recessed lighting controls.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	
C405.2.6.2 (2012)	Shade and lighting control devices for special uses of lighting per approved lighting plans.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	
C405.3 (2012)	Occupancy separation, exit and corridored hotel/motel/dormitory shall be with no less than one lamp of 25 watts maximum or per watt/ft.² total wattage in each of footprint in surface mounted and recessed linear fluorescent lighting fixtures.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	
C405.4 (2012)	Exit signs at exit doors 2 watts per face	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	
C405.5.1 (2012)	Additional areas for lighting power allowed for another function per the approved lighting plans and as permitted by applicable exceptions and tenant/unit lighting specific lighting	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	

Additional Comments/Assumptions:

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

Project Title: DMV INSPECTION STATION — Report date: 06/22/15
Data Filename: H:\2015\SAM\15461 005\SAM\15461 005\SAM15461 00-Data\COMCHECK\COMCHECK.cck — Page 4 of 7

MECHANICAL EQUIPMENT CONNECTION SCHEDULE

UNIT MARK	UNIT DESCRIPTION	VOLTAGE / PHASE	HP	LOAD KW	FLA	MCA	MOCP	UNIT DISC SW	INDIVIDUAL STARTER	FEEDER	REMARKS
AC-1	INDOOR AIR CONDITIONING UNIT	120/1	-	0.03	0.33	1	15	SM	-	2 #12 + 1 #12G - 3/4" C	POWERED THROUGH OUTDOOR UNIT
AC-2	INDOOR AIR CONDITIONING UNIT	120/1	-	0.10	0.87	2	15	SM	-	2 #12 + 1 #12G - 3/4" C	POWERED THROUGH OUTDOOR UNIT
ACCP-1	OUTDOOR CONDENSING UNIT	208/1	-	-	0.35	19	20	30/20	-	2 #12 + 1 #12G - 3/4" C	PROVIDE NEMA 3R DISC. SWITCH
ACCP-2	OUTDOOR CONDENSING UNIT	208/1	-	-	2.8	26	40	60/40	-	2 #6 + 1 #10G - 1" C	PROVIDE NEMA 3R DISC. SWITCH
RTU-1	ROOF TOP UNIT	480/3	-	-	22.6	24.6	35	60/30	-	3 #10 + 1 #10G - 3/4" C	PROVIDE NEMA 3R DISC. SWITCH
RTU-2	ROOF TOP UNIT	480/3	-	-	24.1	28.3	30	60/30	-	3 #10 + 1 #10G - 3/4" C	PROVIDE NEMA 3R DISC. SWITCH
EDH-1	ELECTRIC DUCT HEATER	480/3	-	4	4.8	-	15	SM	-	3 #12 + 1 #12G - 3/4" C	
EDH-2 & 3	ELECTRIC DUCT HEATER	277/1	-	1.5	5.4	-	15	SM	-	2 #12 + 1 #12G - 3/4" C	
EDH-4	ELECTRIC DUCT HEATER	480/3	-	10	12	-	20	SM	-	3 #12 + 1 #12G - 3/4" C	
EBH-[illegible]	ELECTRIC UNIT HEATER	208/1	-	2	9.6	-	25	SM	-	2 #12 + 1 #12G - 3/4" C	
EBH-31	ELECTRIC UNIT HEATER	208/1	-	1	4.8	-	25	SM	-	2 #12 + 1 #12G - 3/4" C	
EBH-32	ELECTRIC UNIT HEATER	208/1	-	1.5	7.2	-	20	SM	-	2 #12 + 1 #12G - 3/4" C	

NOTES:
1. ALL OUTDOOR DISCONNECT SWITCHES SHALL BE NEMA 3R ENCLOSURE TYPE UNLESS OTHERWISE NOTED.
2. ALL FUSE SIZE FOR EQUIPMENT DISCONNECT SWITCH SHALL BE MAX'D ON EQUIPMENT'S NAME PLATE AS PER EQUIPMENT MANUFACTURER RECOMMENDATION

LIGHTING FIXTURE SCHEDULE

TYPE	SYMBOL	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	LAMP	VOLTAGE	REMARKS
A1		2x2 RECESSED LAY IN LED HIGH-EFFICIENCY MODULE. 0-10V, 0% DIMMING DRIVER, GRID MOUNTED	FOCAL POINT	FEOL-22-AL-2500LW-35K-10-UNV-LDI-G-WH, OR EQUAL	LED 28W SYSTEM, 93 LPW	120	
A2		2x2 RECESSED LAY IN LED MODULE, NON-DIMMING, GRID MOUNTED	FOCAL POINT	FEOL-22-AL-2000L-35K-10 UNV SDS-G-WH, OR EQUAL	LED 24W SYSTEM, 83 LPW	120	
B1		[illegible] DOWNLIGHT, 12W, 10% DIMMING DRIVER, 2300 LUMENS UPLIGHT, 1000 LUMENS DOWNLIGHT	LITECONTROL	P-ID-4-12-9-SOF-STD-35K-9A-D10-CWA-D10-CWO-120-UK, OR EQUAL	LED 12W UPLIGHT, 12W DOWNLIGHT	120	
C1		RECESSED LED SLOT, HIGH EFFICIENCY LENS, NON-DIMMING LED DRIVER, 480 LUMENS/FT, 4 BWFT DELIVERED	STARFIRE LIGHTING	VLA-P835-S-48-F-1 OR EQUAL	LED 19.2W	120	COORDINATE CEILING FLANGES AND OTHER ACCESSORIES WITH CEILING PROVIDER AND WITH ARCHITECT
C2		RECESSED LED SLOT, HIGH EFFICIENCY LENS, NON-DIMMING LED DRIVER, 480 LUMENS/FT, 4 BWFT DELIVERED	STARFIRE LIGHTING	VLA-P835-S-24-F-1 OR EQUAL	LED 9.6W	120	
F1		SURFACE LED LENSED STRIP, NON-DIMMING LED [illegible] LUMEN, 28W 4FT LONG	HE WILLIAMS	7SL-4-LED-PH2035-A-2125-ECO-PH-UNV, OR EQUAL	LED 25W	120	
F2		SURFACE LED LENSED STRIP, NON DIMMING LED 1000 LUMEN, 13W 2FT LONG	HE WILLIAMS	7SL-2-LED-PH1035-A-2125-ECO-PH-UNV, OR EQUAL	LED 13W	120	
G1		INDUSTRIAL CANOPY, LED LAMP, 85° CRI, 25000-27500LM, BEAM ANGLE TBD	LEDWATTS	LW-HB250W, OR EQUAL, OR EQUAL	LED LAMP, POWER TBD	120	
H1		[illegible] LIGHT, 85° CRI, HIGH EFFICIENCY, FACTORY SEALED WATERPROOF DRIVER, IP65 UP TO 3000LBS, ETL	LUMERE	MONACO 8000A CF57, OR EQUAL	6FL 57W	120	SHALL FIT WITHIN EXISTING SPACE
J1, J2		RECESSED LED UTILITY SPACES LIGHTING FIXTURE, LED LAMPS, LENGTH TO BE DETERMINED BASED ON SPACES	LITHONIA LIGHTING	LBL4 LP[illegible] OR EQUAL	47W 4' LED, 25W FOR 2'	120	UTILITY SPACE LIGHTING
K1		ARROW BOARD, HIGH FLUORESCENT, CLASS I, DIV 2, EMERGENCY BATTERY BACK-UP, TYLENOL	HALUMN, COOPER LIGHTING	HBSB-D5-T1 EM	1 FLUORESCENT T5 28W	120	
L1		[illegible] LIGHT	LITHONIA LIGHTING	JHBL-12000LW-GL-WD-120-GZ10-40K-70CRI-DI	23W LED	120	PHASE II OF CONSTRUCTION
M1		RECESSED DOWNLIGHT, 4" SQUARE, LED LAMP	PRESCOLITE	LF4SOLED04-4SOLED50-4 35K XX-WT-SK, OR EQUAL	LED 14.4W, 1100 LUMEN OUTPUT	120	COORDINATE FINISHES COLORS WITH ARCHITECT. COORDINATE MOUNTING ACCESSORIES WITH SITE CONDITIONS
M2		RECESSED DOWNLIGHT, 4" SQUARE, WALL WASH, LED LAMP	PRESCOLITE	LF4SOLED04-WW-4SOLED50-4-35K-20W-WT-BK, OR EQUAL	LED 14.4W, 1100 LUMEN OUTPUT	120	COORDINATE FINISHES COLORS WITH ARCHITECT. COORDINATE MOUNTING ACCESSORIES WITH SITE CONDITIONS
R1		PENDANT MOUNTED, 4' LONG, DIRECT/INDIRECT OUTPUT, LED LAMPS, 0-10V, 10% DIMMING DRIVER, 2300 LUMENS, 3000K	TECH LIGHTING	700LSJORN X-LED-350MK, OR EQUAL	LED 47W	120	MOUNTING ACCESSORIES WITH SITE CONDITIONS PREFERRED 350mA LED, OR 3000K AS [illegible]
S1		[illegible] FLUORESCENT WHITE 4FT SECTION, ENHANCED WHITE MODEL WITH MID DIMMING BALLAST	LIGHTOLIER	[illegible] 3000K	32.5W T8 PER 4FT SECTION, 3000K	120	COORDINATE MOUNTING ACCESSORIES WITH SITE CONDITIONS
W1		SURFACE MOUNTED, 8"X8", (1) T8 32W LUMINESCENT LAMPS PER 4FT SECTION, DELIVERED AS 8FT SECTION	LIGHTOLIER	SQ8-1-8-DA-1 OR EQUAL	32.5W T8 PER 4FT SECTION, 3000K	120	COORDINATE MOUNTING ACCESSORIES WITH SITE CONDITIONS
X		EXIT SIGN FIXTURE	SURE LITES	CX-7-X-X-GD-R-X-X	1W LED	120	CONNECT ON SWITCHED. PROVIDE ACCESSORIES FOR INSTALLATION AND PICTOGRAMS AS REQUIRED. SINGLE OR DUAL FACE AS SHOWN ON DRAWINGS

NOTES:
1. PROVIDE FIXTURES WITH ALL NECESSARY ACCESSORIES TO ENSURE A COMPLETE AND OPERATIONAL SYSTEM.
2. CONFIRM WITH ARCHITECT FOR ALL FIXTURE FINISHES, LENS ACCESSORIES, CEILING TYPE AND MOUNTING REQUIREMENTS.
3. ALL EMERGENCY LIGHT FIXTURES SHALL BE FED FROM AND UNLESS OTHERWISE NOTED ON PLAN, ALL EMERGENCY LIGHTING SHALL BE FED via EMERGENCY GENERATOR POWER.
4. ALL DOUBLE SWITCHES MUST BE COMPATIBLE FOR 3-WAY SWITCHING. CONTRACTOR TO ENSURE ALL SWITCHES ARE RATED TO ACCOMMODATE THE LOAD REQUIREMENTS OF ASSOCIATED LIGHTING CIRCUIT.
5. UNLESS OTHERWISE NOTED, ALL FLUORESCENT FIXTURES SHALL BE PROVIDED WITH [illegible] Lamps.
6. UNLESS OTHERWISE NOTED, ALL LIGHT FIXTURES INDICATED ON PLANS ARE TO BE CONTROLLED VIA 0-10V, DIMMING SYSTEM SHALL BE PROVIDED WITH 30% [illegible] AND DIMMER.
7. COORDINATE WITH ARCHITECT, [illegible] AND UNDERCUT FLANGES FOR EXACT LOCATION AND MOUNTING REQUIREMENTS FOR ALL EXTERIOR FIXTURES.
8. ALL APPLICABLE LIGHT FIXTURES, SWITCHES, BALLASTS AND ASSOCIATED ACCESSORIES MUST BE COMPATIBLE WITH THE LIGHTING CONTROL SYSTEM SERVING THE SPACE.

EMERGENCY LIGHTING LEGEND

LIGHTING FIXTURE SCHEDULE NOTES

1. ALL LIGHTING FIXTURES SHALL BE PROVIDED COMPLETELY WITH ALL LAMPS, WIRE, CONTROLLER AND SECURELY ATTACHED TO SUPPORTS.
2. WHERE BOTH WARRANTIES AND/OR PICTORIAL FIXTURE DESCRIPTIONS ARE PROVIDED THE WRITTEN DESCRIPTION SHALL TAKE PRECEDENCE AND PREVAIL.
3. ALL FIXTURES AND WORKMANSHIP SHALL BE GUARANTEED FREE OF DEFECTS AND FULLY OPERATIONAL FOR A MINIMUM OF ONE YEAR AFTER THE ACCEPTANCE OF THE PROJECT BY THE OWNER. FIXTURES OR WORKMANSHIP (EXCLUDING LAMPS) FOUND TO BE DEFECTIVE DURING THE WARRANTY PERIOD WILL BE FURNISHED OR REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER.
4. LOCATION OF THE FIXTURES ARE SHOWN DIAGRAMMATICALLY. VERIFY EXACT LOCATION AND SPACING WITH PLANS AND THE ARCHITECTS AT THE SITE DURING INSTALLATION. IF REQUIRED, NOTIFY THE ARCHITECT ABOUT FIELD CONDITIONS IN VARIANCE WITH CONTRACT DOCUMENTS BEFORE COMMENCING INSTALLATIONS.
5. AT THE COMPLETION OF CONSTRUCTION, CLEAN FINISHES AND REFLECTORS OF ALL LIGHTING FIXTURES IN CONTRACT AREAS SO AS TO RENDER THEM FREE OF ANY MATERIAL, SUBSTANCE OR FILM FORIGN TO THE FIXTURES, BLEMISHED, DAMAGED, OR UNSATISFACTORY FIXTURES SHALL BE REPLACED IN A SATISFACTORY MANNER.
6. REFER TO ARCHITECTURAL PLANS, ELEVATIONS FOR EXACT FIXTURES MOUNTING REQUIREMENTS (WALL OR CEILING) PRIOR TO INSTALLATION.

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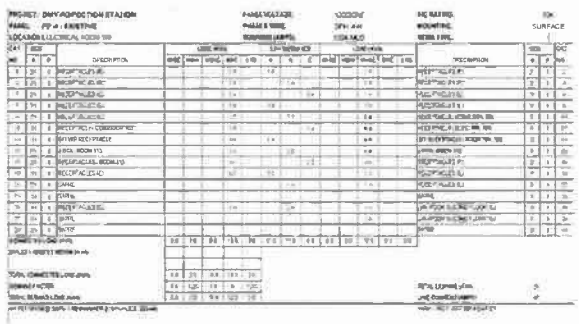
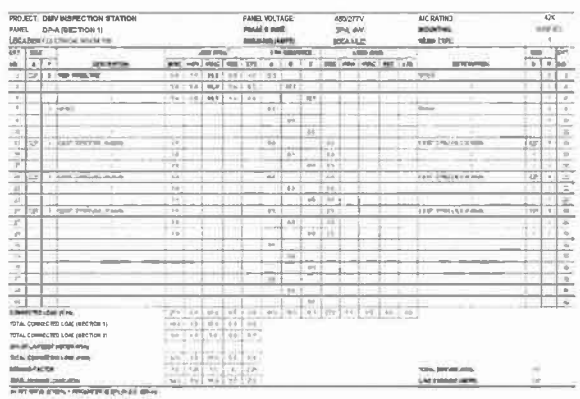
ELECTRICAL SCHEDULES

E601.1





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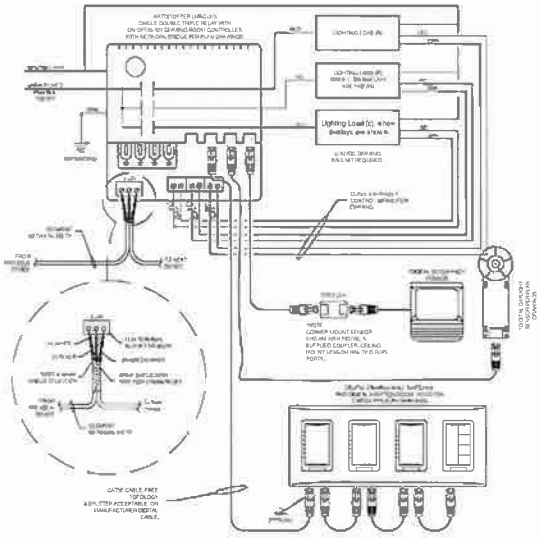
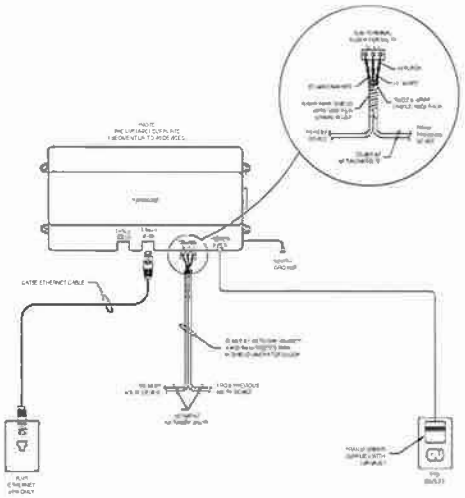
SHEET NAME
ELECTRICAL PANEL SCHEDULES

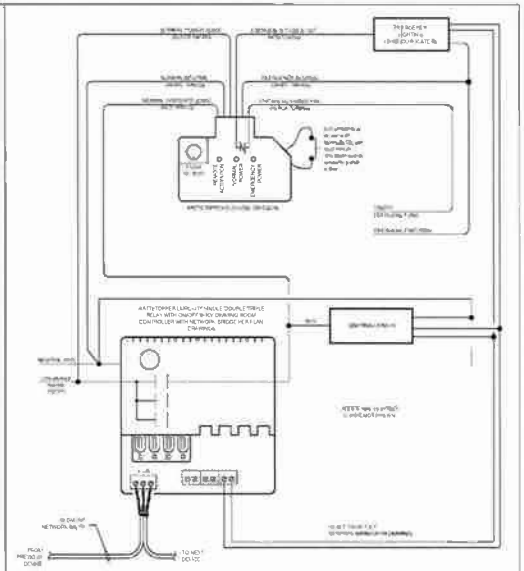
E602.1



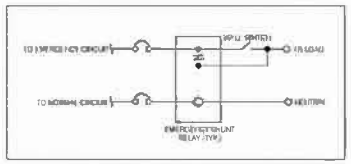
5 / E701 TYPICAL WIRING FOR ROOM CONTROLLER WITH 0-10V DIMMING
SCALE: NTS



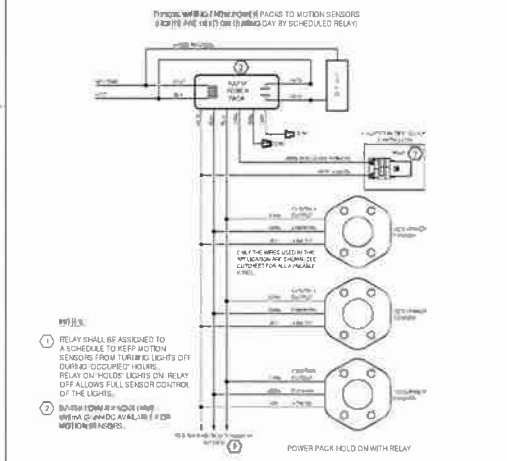
3 / E701 DIGITAL LIGHTING MANAGEMENT - ETHERNET INTERFACE
SCALE: NTS



1 / E701 TYPICAL WIRING FOR EMERGENCY SHUNT RELAY WITH DIMMING
SCALE: NTS



4 / E701 EMERGENCY SHUNT RELAY WIRING DIAGRAM
SCALE: NTS



2 / E701 TYPICAL WIRING FROM POWER PACKS TO MOTION SENSORS
SCALE: NTS

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ELECTRICAL - TYPICAL WIRING DIAGRAMS

E701.1

A	FLOOR MOUNTED TELECOM OUTLET
X	POKE THROUGH MOUNTED TELECOM OUTLET
X	CEILING MOUNTED TELECOM OUTLET
X	WALL MOUNTED TELECOM OUTLET
P	1 CAT 6 VOICE
D	1 CAT 6 DATA SIMPLEX DUPLEX METAL OUTLET
DD	2 CAT 6 DATA FOUR PORT FACEPLATE
Q	4 CAT 6 DATA QUAD ELECTRICAL OUTLET
A1	1 CAT 6 DATA, 2 CAT 6 VOICE FOUR ELECTRICAL OUTLET
A	3 CAT 6 DATA, 1 CAT 6 VOICE FOUR ELECTRICAL OUTLET
AV	2 CAT 6 DATA, 1 CAT 6 VOICE, 1 HDMI FOUR ELECTRICAL OUTLET
W	3 CAT 6A DATA & PANEL/FACELESS HDMI WALL RECESS ENCLOSURE
HVC	HDMI VIDEO CONTROLLER
SP	SOUNDMASKING SPEAKER
HS	INTERCOM HANDSET
D	INTRUSION DETECTION DOOR CONTACT
M	INTRUSION DETECTION MOTION DETECTOR
W	INTRUSION DETECTION GLASSBREAK MOTION DETECTOR
SP	INTRUSION DETECTION SECURITY PANEL
KP	INTRUSION DETECTION KEYPAD
AI	AIPHONE INTERIOR STATION
AE	AIPHONE EXTERIOR STATION
	FIXED CCTV CAMERA
	PTZ CCTV CAMERA

1 TECHNOLOGY SYMBOLS
NO SCALE

1. ALL ELECTRICAL SYSTEMS COMPONENT, RACEWAYS, CABLING, BOXES, FACEPLATE, GROUNDING AND DEVICES SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE NEC GUIDELINES.
2. ALL STANDARDS AND RACEWAYS SHALL BE PAINTED TO MATCH SURROUNDING FINISHED UNLESS OTHERWISE NOTED.
3. ALL EQUIPMENT AND DEVICES MUST BE INSTALLED ACCORDING TO MFR GUIDELINES AND METHODS.
4. ALL EQUIPMENT SHALL BE APPROPRIATELY LABELED. SEE TYPICAL BUSINESS FOR EACH REQUIREMENTS.
5. CONTRACTOR SHALL NOT INSTALL ANY EQUIPMENT PRIOR TO BEING APPROVED BY THE ARCHITECT, ENGINEER AND OWNER. DEMOLITION SHALL BE LIABLE FOR ITS REMOVAL IN ANY SUCH CASE.
6. ANY PENETRATION OF A FIRE RATED BARRIER MUST BE PROPERLY SEALED WITH FIRESTOPPING MATERIAL IN ACCORDANCE WITH LOCAL AND STATE CODES AND THE AUTHORITY HAVING JURISDICTION.
7. PRIOR TO BEGINNING ANY WORK, THE CONTRACTOR SHALL SECURE THE NECESSARY PERMITS AND CLEARANCES FROM THE AUTHORITIES HAVING JURISDICTION.
8. THE CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS FOR COMPLETE INSTALLATION.
9. THE WORK SHALL BE PERFORMED AND COMPLETED BY EXPERIENCED TRADESMEN WHO ARE LICENSED BY THE JURISDICTION WHERE THE PROJECT IS BEING CONSTRUCTED.
10. CONDUITS AND RACEWAYS SHALL BE CLAY BEING FINISHED SUCH AS EXPOSED WHERE POSSIBLE UNLESS OTHERWISE NOTED.
11. ALL TECHNOLOGY PLANS ARE DIAGRAMMATIC. ALL WORK SHALL BE COORDINATED PRIOR TO INSTALLATION.
12. THE CONTRACTOR SHALL INFORM THE ARCHITECT, ENGINEER AND OWNER PRIOR TO BEGINNING CONSTRUCTION AND PRIOR TO COMPLETION TO ALLOW FOR DIFFERENT TIME OF WORK REQUIRED ADDITIONAL COORDINATION.
13. THE CONTRACTOR SHALL INCLUDE IN THE WORK, WITHOUT EXTRA COST, ANY LABOR, MATERIALS, EQUIPMENT, APPARATUS, DRAWINGS OR ADJUSTMENTS CONTAINED IN DRAWINGS AND DOCUMENTS IN ORDER TO COMPLY WITH ALL APPLICABLE LAWS, INDICATED OR REASONABLY INFERRED.
14. BEFORE SUBMITTING BIDS, THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE THE SITE, ASCERTAIN SIZES AND ACCESSIBILITIES, ANY EXISTING STRUCTURES OR BUILDINGS AND SURFACES RELEVANT TO THESE WORKS. THE CONTRACTOR SHALL ENCLOSE WRITTEN REPORT THAT DETAILS ANY CONDITIONS WHICH MIGHT PREVENT EQUIPMENT INSTALLATION IN THE MANNER SHOWN ON THE CONTRACT DOCUMENTS.
15. NO CONSIDERATION ON ACCOUNT SHALL BE GIVEN FOR FAILURE TO VISIT THE SITE, NOR FOR ANY ALLEGED MISUNDERSTANDING OF THE MATERIALS TO BE SUPPLIED AND INSTALLED PRIOR TO.
16. THE CONTRACTOR SHALL NOTIFY THE "ARCHITECT, ENGINEER AND OWNER" WHEN WORK IN ANY AREA OR AREAS COMPLETE BETWEEN ELECTRICAL INSTALLATION TECHNICIANS. WE NOT RESPONSIBLE FOR CONCEALED WORK THE WORK INSPECTION BY THE CONTRACT DOCUMENTS. SUCH NOTIFICATION SHALL BE ACCOMPANIED BY A DRAWING DEMONSTRATING THE PROPOSED DEVIATION PRIOR TO STARTING WORK IN THE AFFECTED AREA.
17. ALL SLAB PENETRATIONS MUST BE ANALYZED AND DOCUMENTED PRIOR TO DRILLING WORK.
18. THE EXACT NUMBER OF WIRES MAY NOT BE INDICATED FOR ALL SYSTEMS. PROVIDE WIRES AND CABLES NECESSARY FOR THE PROPER FUNCTION OF THE SYSTEM AS INTENDED BY THE DESIGN AND PLANS OF REC.
19. REFER TO THE ARCHITECTURAL DRAWINGS FOR THE FINISH, EXACT LOCATION, ELEVATION, MOUNTING HEIGHTS AND DETAILS OF ALL LIGHT FIXTURES AND DEVICE OUTLETS. NOTIFY THE CEILING GRID TEAM COORDINATION WITH TECHNOLOGY EQUIPMENT. REPORT ANY DISCREPANCIES TO THE ARCHITECT IMMEDIATELY.
20. RESERVED CONDUIT PENETRATE IN WALLS ON FLOORS, ANY SPACE REMAINING IN SLEEVE PENETRATIONS SHALL BE FILLED. THE FILLING MATERIAL SHALL BE FIRE RESISTIVE IN NATURE OR EQUIVALENT AGAINST THAT OF THE SURROUNDINGS.
21. PROVIDE AND LIGHT ACCESSIBLE & FULL EXTEND IN ALL CONDUITS AND RACEWAYS FOR LOW VOLTAGE WIRES TO BE INSTALLED.
22. OUTLET BOXES INSTALLED ON OPPOSITE SIDES OF A PARTITION SHALL NOT BE BACK-TO-BACK BUT KEPT FROM ONE ANOTHER.
23. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS, WRITTEN SUBMITTALS, CUT SHEETS, CALCULATIONS AND EQUIPMENT LITERATURE FOR ALL EQUIPMENT BEING PROVIDED AS PART OF THIS SCOPE OF WORK. THE EXACT DEVICE SIZE OF EQUIPMENT MUST BE CLEARLY IDENTIFIED FOR THE DESIGN TEAM TO REVIEW. SUBMITTALS WITHOUT THE PROPER INFORMATION NECESSARY SHALL BE REJECTED FOR RESUBMITTAL.
24. THE CONTRACTOR SHALL PROVIDE COMPLETE AS-BUILT DOCUMENTATION IN HARDCOPY AND ELECTRONIC FORMAT FOR REVIEW AND APPROVAL BY THE DESIGN TEAM PRIOR TO JOB COMPLETION.
25. THE CONTRACTOR SHALL PROVIDE A COMPLETE FUNCTIONING SYSTEM AS INDICATED IN THE CONSTRUCTION DOCUMENTS. THE INSTALLED WORK IS READY TO BE CHANGED BY THE DESIGN TEAM. INCOMPLETE SYSTEMS SHALL NOT BE REVIEWED UNTIL IT IS DETERMINED THAT THE SYSTEMS ARE APPROPRIATELY AND APPROXIMATELY COMPLETE.

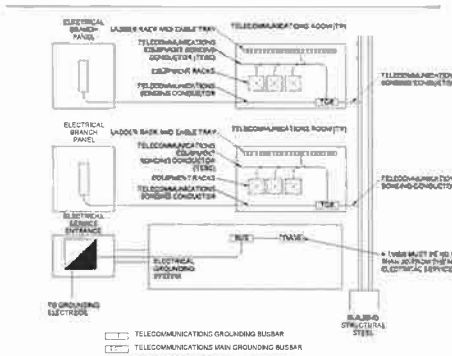
2 TECHNOLOGY GENERAL NOTES
NO SCALE

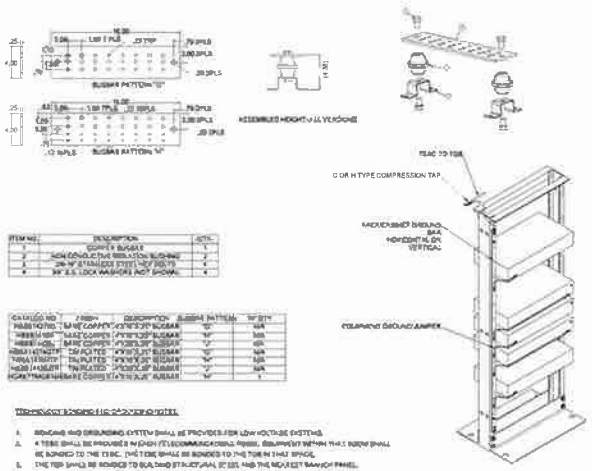
1. ALL IN-SCOPE SPACES SHALL HAVE EXISTING LOW VOLTAGE CABLES REMOVED.
2. CABLES SHALL NOT BE LEFT IN SPACES OR PATHWAYS THAT ARE NOT CONNECTED TO DEVICES.
3. SOME EXISTING DEVICES SHALL REMAIN AND BE REUSED. CONTRACTOR SHALL VERIFY DEVICES TO REMAIN AND PRESERVE DEVICES FOR REINSTALLATION AND REUSE.
4. COORDINATE WITH OWNER FOR DEVICES TO REMAIN.
5. SYSTEMS SHALL NOT BE DEMOLISHED UNTIL THE NEW SYSTEMS IS IN PLACE AND READY FOR ACTIVATION.
6. ANY EQUIPMENT BEING REMOVED MUST BE VERIFIED BY THE OWNER PRIOR TO REMOVAL AND THEN GIVEN TO THE OWNER.

3 TECHNOLOGY DEMO NOTES
NO SCALE

1. ALL EXISTING LOW VOLTAGE CABLES SHALL BE REMOVED WHETHER CONNECTED TO A DEVICE OR NOT. DEVICES SHALL ALL RECEIVE NEW CABLING.
2. ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ALL LOW VOLTAGE PATHWAYS INCLUDING, BUT NOT LIMITED TOO CONDUITS, BOXES, JUNCTION BOXES, SLEEVES, CHASES, RACEWAYS, CABLE TRAYS AND J-HOOKS TO PROPERLY SUPPORT THE LOW VOLTAGE INFRASTRUCTURE.
3. CABLES SHALL BE SUPPORTED BY J-HOOKS NO MORE THAN 5 APART THROUGHOUT THE ENTIRE AREA OF NEW WORK AND RENOVATION. PROVIDE AN INSTALL J-HOOKS IN APPROPRIATE QUANTITY TO SUPPORT THE ANTICIPATED CABLE LOW VOLTAGE CABLE LOAD.
4. PROVIDE AND INSTALL A COMPLETE TELECOM GROUNDING AND BONDING SYSTEM INCLUDING ALL TGBS, TMGBS, BONDING CONDUCTORS, LUGS, NUTS, CABLES AND CONNECTORS. BOND TO THE MAIN GROUNDING SYSTEM IN THE BUILDING.
5. PROVIDE A COMPLETE NEW DATA NETWORK INFRASTRUCTURE INCLUDING ALL CABLING, PATHWAYS, TERMINATION EQUIPMENT, CROSS-CONNECTS, RACKS, CABINETS, CABLE MANAGERS, POWER STRIPS, PATCH PANELS AND ASSOCIATED COMPONENTS. OWNER SHALL PROVIDE ACTIVE DATA AND TELEPHONE ELECTRONICS. EXISTING DATA NETWORK SHALL REMAIN ACTIVE UNTIL THE NEW DATA NETWORK IS COMPLETELY INSTALLED AND READY FOR ACTIVATION.
6. PROVIDE AND INSTALL A COMPLETE TELEPHONE INFRASTRUCTURE SYSTEM INCLUDING ALL CABLING, PATHWAYS, TERMINATIONS, AND ASSOCIATED COMPONENTS. EXISTING TELEPHONE SYSTEM SHALL REMAIN ACTIVE UNTIL THE NEW TELEPHONE SYSTEM IS COMPLETELY INSTALLED AND READY FOR ACTIVATION.
7. PROVIDE AND INSTALL A COMPLETE CATV SYSTEM INCLUDING AMPS, TAPS, SPLITTERS, RG-11 TRUNK CABLE, RG-6 DROP CABLES, F CONNECTORS AND ASSOCIATED COMPONENTS FOR A COMPLETE SYSTEM.
8. PROVIDE AND INSTALL A COMPLETE NEW PUBLIC ADDRESS SYSTEM INCLUDING ALL CABLING, PATHWAYS, TERMINATION DEVICES, END USER DEVICES, HANDSETS, SPEAKERS, ADDITIONAL HEADEND ELECTRONICS AND ASSOCIATED COMPONENTS. THE SYSTEM MUST BE INTERCONNECTED TO THE TELEPHONE SYSTEM AT THE FACILITY.
9. PROVIDE AND INSTALL A COMPLETE NEW INTRUSION DETECTION SYSTEM INCLUDING ALL MOTION DETECTORS, DOOR CONTACTS, KEYPADS, PANELS, BATTERY BACKUP UNITS, CABLES AND ASSOCIATED COMPONENTS FOR A COMPLETE AND ACTIVE SYSTEM.
10. PROVIDE AND INSTALL A NEW IP CCTV INFRASTRUCTURE SYSTEM THAT REUSES THE OWNER'S CAMERAS. PROVIDE AN INSTALL ALL CAMERAS, LENSES, MOUNTS, HOUSINGS, STRUCTURED CABLING AND ASSOCIATED COMPONENTS.
11. PROVIDE A WIRELESS SITE SURVEY DURING CONSTRUCTION TO ACCURATELY LOCATE WAPS. A MINIMUM OF 1 Gbps SHALL BE ACHIEVED THROUGHOUT THE FACILITY. PROVIDE UP TO 4 ADDITIONAL DATA DROPS FROM WHAT IS SHOWN ON THE TECHNOLOGY PLANS IF NECESSARY FOR ADDITIONAL WAPS.
12. TWO CATEGORY 6 CABLE DROPS SHALL BE USED FOR EACH WIRELESS ACCESS POINT.
13. ALL CATEGORY 6 CABLE DROPS FOR WIRELESS SHALL BE ORANGE IN COLOR.
14. ALL CATEGORY 6 CABLES IN THE DESIGNATED LOCATIONS SHALL BE TERMINATED ON CAT 6 KEYSTONE STYLE JACK (RJ45 NOT ACCEPTABLE).
15. IF THE TERMINATION IS IN THE AREA WHERE THERE IS A DROP-DOWN CEILING OF NOT MORE THAN 12 FT HIGH, THE JACK DOES NOT NEED TO BE MOUNTED ON A WALL BUT REQUIRES A SURFACE MOUNT BOX (EXAMPLES-PANDUIT CBXQWHAY, HELLERMANN TYTON SMBQUAD OR SIMILAR PRODUCT LINE.
16. IF THE TERMINATION IS IN THE AREA WHERE THERE IS NO DROP DOWN CEILING OR IF THE HEIGHT OF THE CEILING IS MORE THAN 12 FT, THE WAP TERMINATION POINT SHALL BE MOUNTED ON A WALL (EXACT LOCATION PER DESIGN SPECIFICS).
17. SURFACE MOUNT BOX WITH CAT 6 KEYSTONE STYLE JACKS WITH PRINTED LABEL AND A WRITTEN LABEL.
18. THE SURFACE MOUNT BOX SHALL BE MOUNTED 4FT ABOVE GROUND.
19. THE SURFACE MOUNT BOX SHALL BE AROUND THE FOLLOWING DIMENSIONS (4.8"H X 3.25"W X 1.6"D).
20. FIRE ALARM AND BAS SYSTEMS ARE NOT PART OF THIS SCOPE OF WORK

5 TECHNOLOGY SCOPE NOTES
NO SCALE





ITEM NO.	DESCRIPTION	QTY.
1	COPPER BUSBAR	1
2	NON-CONDUCTIVE ISOLATION BUSHING	2
3	3/8-16" STAINLESS STEEL HEX BOLTS	2
4	3/8" S.S. LOCK WASHERS (NOT SHOWN)	4

CATALOG NO.	FINISH	DESCRIPTION	BUSBAR PATTERN	19" QTY
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TECHNOLOGY GROUNDING SYSTEM NOTES

1. BONDING AND GROUNDING SYSTEM SHALL BE PROVIDED PER LOW VOLTAGE CONTRACTOR.
2. A TEBC SHALL BE PROVIDED IN EACH TELECOMMUNICATIONS ROOM. EQUIPMENT WITHIN THAT ROOM SHALL BE BONDED TO THE TEBC. THE TEBC SHALL BE BONDED TO THE TGB IN THAT SPACE.
3. THE TGB SHALL BE BONDED TO BUILDING STRUCTURAL STEEL AND THE NEAREST BANK OF PANEL.
4. IF A THIRD IS PROVIDED, IT SHALL BE NO FURTHER THAN 20 FEET FROM THE MAIN ELECTRICAL SERVICE ENTRANCE AND PANEL.
5. EXISTING AND GROUNDING SYSTEM SHALL REMAIN TO ACCOMMODATE HOME PATHWAYS AND SPACES.
6. BONDING AND GROUNDING SYSTEM SHALL BE BONDED TO BUILDING ELECTRODE GROUND.
7. BONDING AND GROUNDING SYSTEM WHERE SHALL BE SIZED WITH APPROPRIATE NEC DISTANCE AND LOAD.
8. BONDING AND GROUNDING SYSTEM SHALL COMPLY WITH THE LATEST EDITION OF THE NEC TEMA.
9. BONDING AND GROUNDING SYSTEM SHALL COMPLY WITH THE LATEST EDITION OF THE NEC.

4 TECHNOLOGY GROUNDING SYSTEM
N.T.S.

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SYMBOLS AND NOTES

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SITE PLAN

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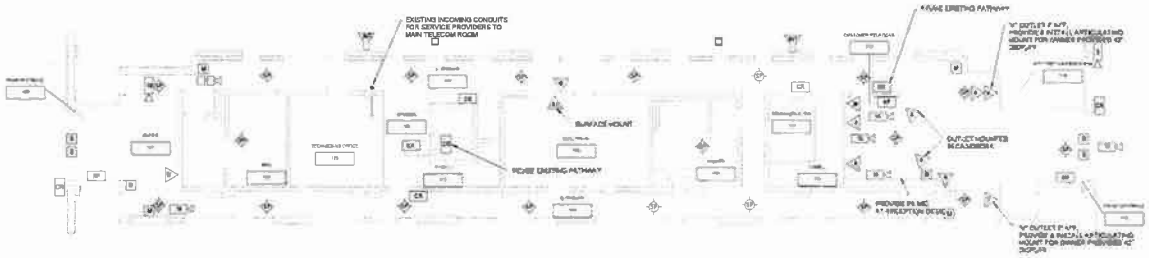
KEY PLAN

NORTH BAY

CUSTOMER SERVICE CENTER

SOUTH BAY

1 SITE PLAN
1/16" = 1'-0"



1 FIRST FLOOR - LEVEL 1 CUSTOMER SERVICE CENTER
1/8" = 1'-0"

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CUSTOMER SERVICE CTR LEVEL 1

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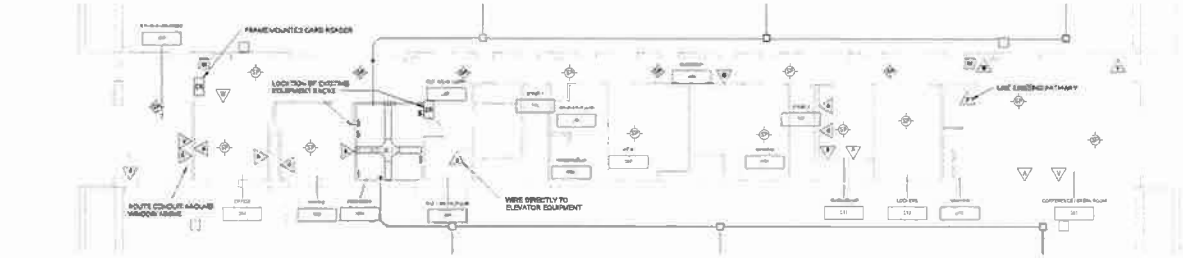
KEY PLAN



SECOND FLOOR - LEVEL 2 CUSTOMER SERVICE CENTER
1/8" = 1'-0"

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CUSTOMER SERVICE CTR LEVEL 2

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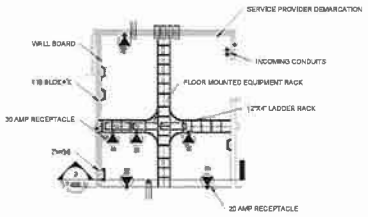
NORTH BAY

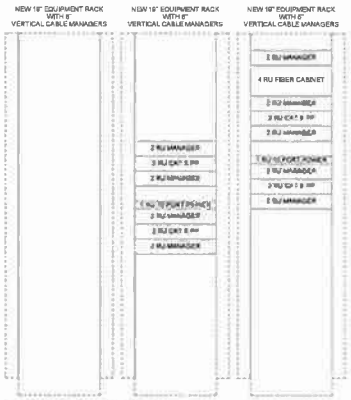
CUSTOMER SERVICE CENTER

SOUTH BAY

KEY PLAN

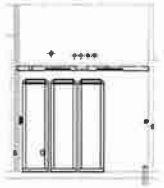


1 MDF

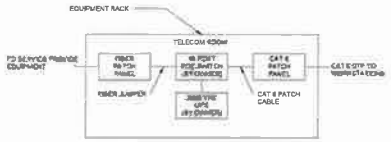


2 TELECOM ROOM RACK ELEVATION

1. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL AN EMPTY 4" CONDUIT FOR LOW VOLTAGE SYSTEMS.
2. ALL EXISTING LOW VOLTAGE CABLING SHALL BE REMOVED DURING DEMOLITION AND SHALL BE CONNECTED TO A DEVICE OR BE REMOVED AND RECYCLED. PASSIVE COMPONENTS INCLUDING, BUT NOT LIMITED TO, EQUIPMENT RACKS, PATCH PANELS, CABLE MANAGERS, TERMINATIONS, CROSS-CONNECTS, 110 BLOCKS, 66 BLOCKS, MOUNTING BRACKETS, BRACKETS TO EXISTING AND SOME EQUIPMENT MAY BE REMOVED, DATA AND VIDEO INFRASTRUCTURE.
3. CABLES SHALL BE PROPERLY SUPPORTED USING CONDUITS, CABLE TRAY AND J-HOOKS SECURED TO BAR JOISTS, LOW VOLTAGE CABLES WHERE REQUIRED, PROVIDE AND INSTALL NEW J-HOOKS TO SUPPORT CABLES ON 5'-0" CENTERS.
4. ACTIVE COMPONENTS SHALL BE PROVIDED BY OWNER. THESE INCLUDE SWITCHES, ROUTERS, UPS EQUIPMENT WITH RACKS AND MOUNTINGS. WORK MUST BE COORDINATED WITH OWNER AT TIME OF CONSTRUCTION.
5. NEW HORIZONTAL CAT 6 DATA CABLE SHALL BE RUN FROM WORKSTATIONS TO NEW CAT 6 PATCH PANELS. PROVIDE 20% SPARE CAPACITY.
6. NEW HORIZONTAL CAT 6 TELEPHONE CABLES SHALL BE RUN FROM WORKSTATIONS TO CAT 6 PATCH PANELS. PROVIDE 20% SPARE CAPACITY.
7. NEW ETHERNET DATA CABLES SHALL BE RUN FROM WORKSTATIONS TO WITH DATA TERMINATIONS AND MDF.
8. ALL 66 TDM CABLES AND FIBER RUNS/PULLS MUST BE INCLUDED WITH THIS SCOPE OF WORK FOR BOTH ENDS OF CABLES.
9. NEW BREAKER CABLING SHALL BE RUN AND TERMINATED IN WALL MOUNTED CROSS-CONNECTS AND PUNCH BLOCKS IN A SIMILAR method TO EXISTING BLOCK AND CABINET EQUIPMENT.
10. 10' OF CABLES SHALL SHALL BE LEFT IN THE TELECOM ROOM AND 2' SHALL BE LEFT AT THE CEILING ABOVE EACH OUTLET.
11. WIRELESS EQUIPMENT AND CONDUIT BOLLARDS SHALL BE PROVIDED BY OWNER. COORDINATE INFRASTRUCTURE WORK WITH OWNER EQUIPMENT AT THE TIME OF CONSTRUCTION.
12. CABLES SHALL BE NEATLY AND LOOSELY BUNDLED USING VELCRO STRAPS. ZIP TIES ARE NOT ACCEPTABLE.
13. WIRES SHALL NOT BE INSTALLED IN WAYS THAT PUT WIRES WITH HIGH VOLTAGE CABLES, AND A MINIMUM OF 6" SEPARATION MUST BE MAINTAINED.

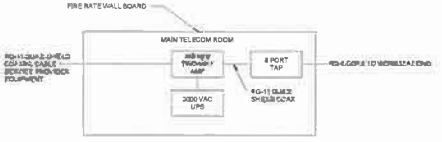


3 TELECOM ROOM SECTION



1. PROVIDE AN INSTALL NEW BACKBONE FIBER FROM THE SERVICE PROVIDE EQUIPMENT TO OWNER'S PREMISE EQUIPMENT.
2. PROVIDE AND INSTALL NEW EQUIPMENT RACKS.
3. PROVIDE AND INSTALL NEW FIBER AND COPPER PATCH PANELS.
4. PROVIDE AND INSTALL NEW CAT 6 PATCH PANELS.
5. PROVIDE AND INSTALL NEW HORIZONTAL CAT 6 UTP CABLE AND PATCH CORDS FOR BOTH ENDS OF THE CABLE.
6. INSTALL WITH 3' OF CABLE SLACK AT THE WORKSTATION END AND 10' OF SLACK AT THE RACK.

4 DATA & VOIP CONNECTION DIAGRAM



1. PROVIDE AND INSTALL NEW BACKBONE RG-11 QUAD SHIELD COAX TO CATV HEADEND.
2. PROVIDE AND INSTALL NEW TAP AND BIDIRECTIONAL AMP.
3. PROVIDE AND INSTALL NEW DROP RG-6 QUAD SHIELD COAXIAL CABLE AND PATCH CORD FOR THE END MOTATION OF THE CABLE.

5 CATV LINE DIAGRAM

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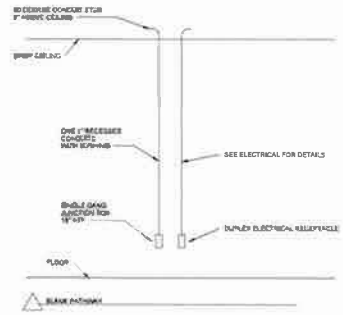
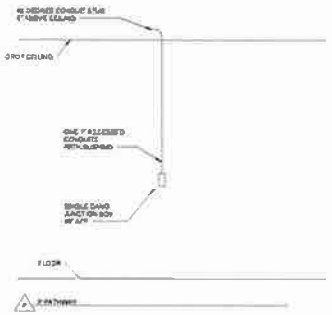
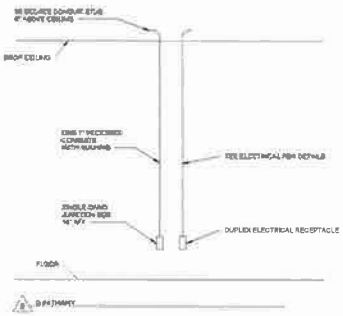
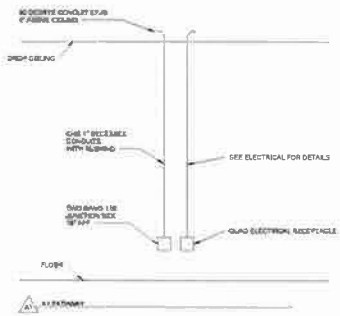
TELECOM ROOM

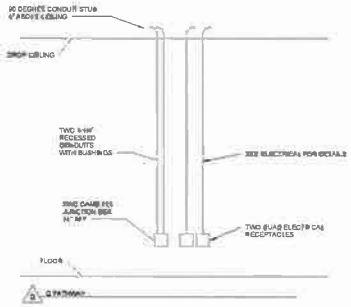
T400.1

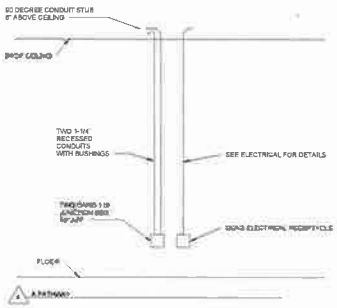


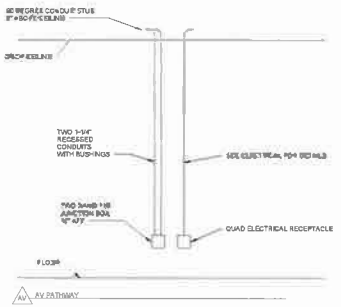


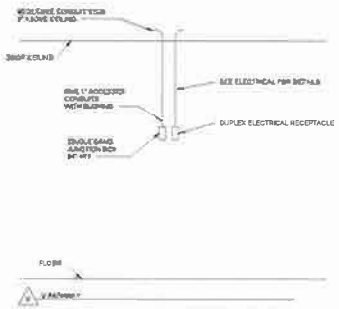


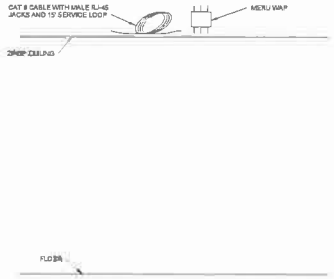


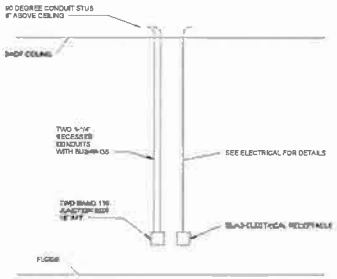


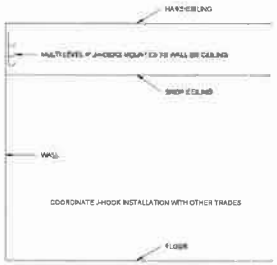












TYPICAL J-HOOK INSTALLATION FOR CABLE DISTRIBUTION

1. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL LOW VOLTAGE PATHWAYS.
2. ELECTRICAL AND LOW VOLTAGE OUTLETS SHALL BE LOCATED APPROXIMATELY 6" APART.
3. SINGLE GANG BOXES SHALL BE A MINIMUM OF 2-1/4" DEEP X 4" TALL.
4. DOUBLE GANG BOXES SHALL BE SIMILAR TO GARVIN INDUSTRIES 2-1/8" DEEP X 4-11/16" SQUARE WITH FOUR 1/2" KNOCKOUTS.

1 TECHNOLOGY PATHWAYS
SCALE: NTS

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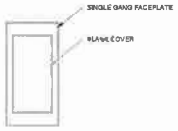
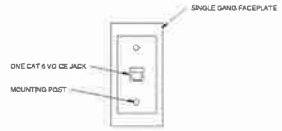
PATHWAY DETAILS

T401.1



B FACEPLATE



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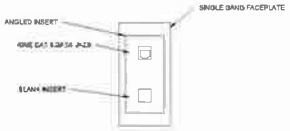

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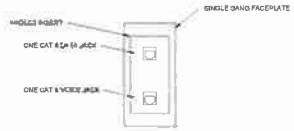

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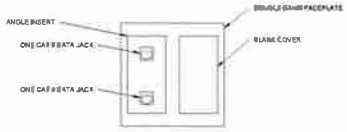

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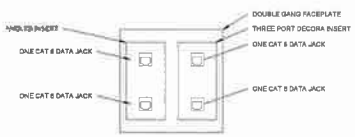

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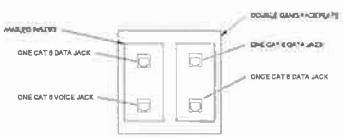

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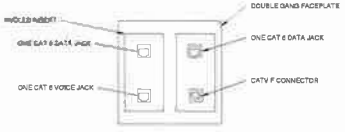

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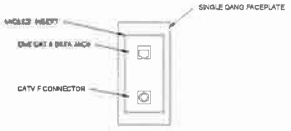

V FACEPLATE

1. SEE DCNET WIRELESS STANDARDS.
2. 15' OF CABLES SLACK SHALL BE PROVIDED AT W LOCATIONS.
3. CABLES SHALL BE TERMINATED AND TESTED.

W FACEPLATE

1. FACEPLATES MUST USE ANGLED CONNECTORS TO MAINTAIN CAT 6 BEND RADIUS REQUIREMENTS WHERE REQUIRED.
2. ALL PORTS IN FACEPLATES MUST BE CLEARLY LABELED.
3. PATCH CABLES ARE REQUIRED FOR BOTH ENDS OF CABLES.
4. PROVIDE PLATES AND BLANKS FOR ANY OPEN JUNCTION BOX.
5. ALL PORTS SHALL BE FILLED.

1 TECHNOLOGY FACEPLATES
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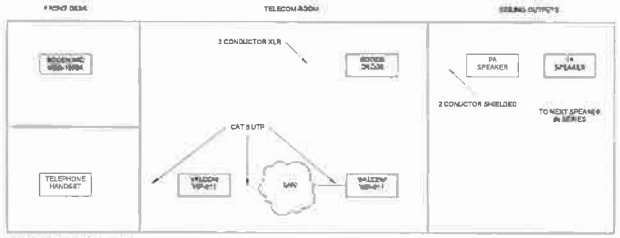
FACEPLATES

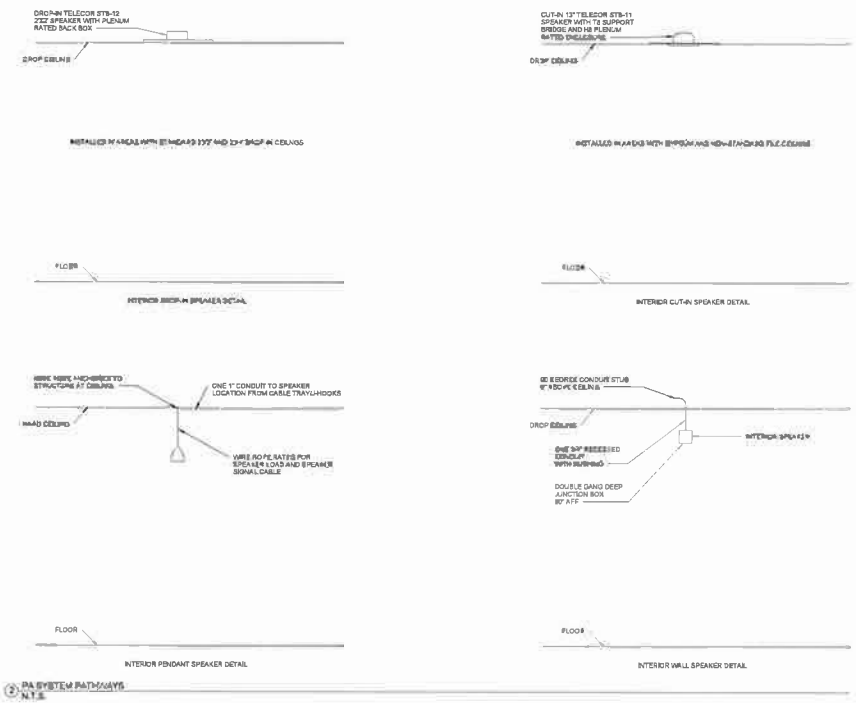
T402.1



① PA SYSTEM LINE DIAGRAM
N.T.S.

NOTES:
1. PROVIDE AND INSTALL ALL REQUIRED PATHWAYS, CABLING, RACK EQUIPMENT, MICS, ELECTRONICS AND SPEAKERS FOR THE PUBLIC ADDRESS SYSTEM AS DESCRIBED IN THE TECHNOLOGY DRAWINGS.
2. ELECTRONICS FOR THE PUBLIC ADDRESS SYSTEM SHALL BE PROVIDED, INSTALLED AND TESTED AND BE SHOWN TO BE FREE FROM DEFECT.
3. HEADEND EQUIPMENT SHALL BE LOCATED IN THE SERVER ROOM.
4. THE PA SYSTEM SHALL OVERRIDE ALL LOCAL SOUND SYSTEMS. PROVIDE AND INSTALL NECESSARY SHUNT DEVICES AND WIRING.
5. THE PA SYSTEM SHALL BE INTERCONNECTED TO THE TELEPHONE SYSTEM AT THE FACILITY. TELEPHONE HANDSETS SHALL HAVE THE ABILITY TO PROVIDE PUBLIC ADDRESS ANNOUNCEMENTS THROUGH THE PUBLIC ADDRESS SYSTEM.
6. ALL CABLES SHALL BE RUN IN RIGID METALLIC CONDUIT RUN BEHIND SURFACES WHERE POSSIBLE.
7. ALL CABLES SHALL BE LABELED AT BOTH ENDS WITH IDENTIFICATION, SIGNAL STRENGTH AND CABLE LENGTH.
8. SOUND SHALL BE ADJUSTED, VERIFIED AND DEMONSTRATED AS PART OF SYSTEM INSTALLATION.
9. SEE RELATED SPECIFICATION SECTION FOR EQUIPMENT AND INSTALLATION DETAILS.

③ PA SYSTEM NOTES
N.T.S.



② PA SYSTEM PATHWAYS
N.T.S.

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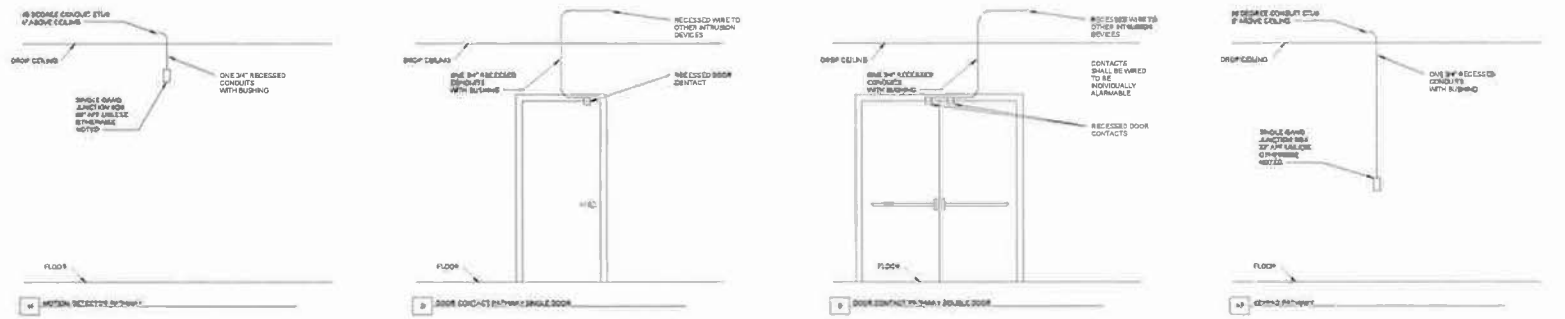
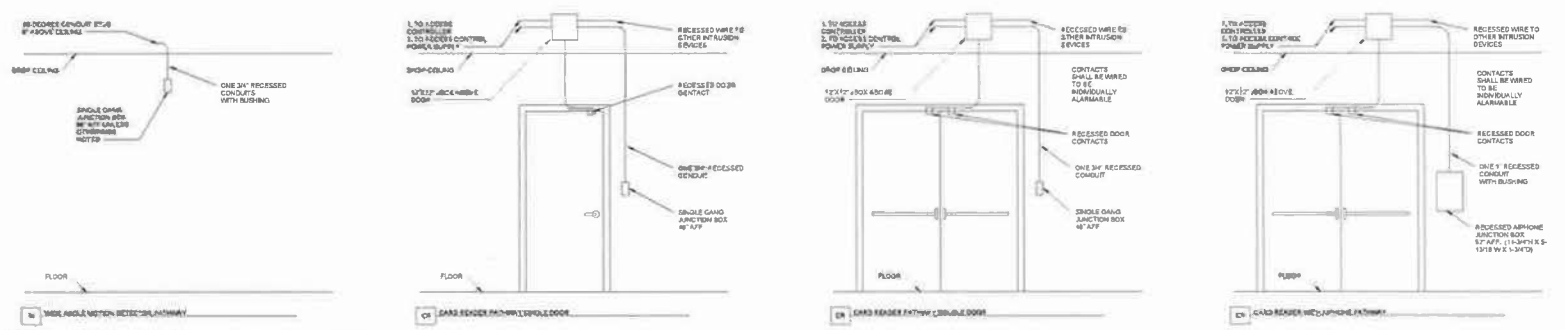
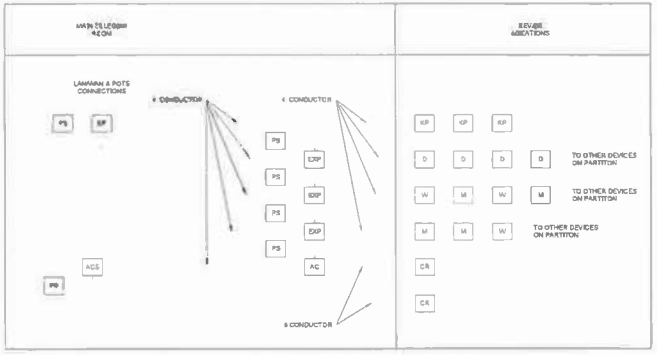
PA SYSTEM DETAILS

T403.1





1 ACCESS AND INTRUSION PATHWAYS
N.T.S.



2 ACCESS AND INTRUSION LINE DIAGRAM
3/4" = 1'-0"

INTRUSION SYSTEM NOTES

1. THE INTRUSION DETECTION SYSTEM MUST FUNCTION WITH THE ACCESS CONTROL SYSTEM.
2. THE INTRUSION DETECTION SYSTEM MUST MEET THE REQUIREMENT OF THE PERSONNEL SECURITY DIVISION OF DC GOVERNMENT. ALL WORK MUST BE COORDINATED WITH PSD.
3. DEVICES SHALL NOT BE IMPEDED BY INTRUSION OR ACCESS EQUIPMENT AND SHALL BE ACCOMPLISHED BY THE DOOR HARDWARE.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE RACEWAYS FOR THE INTRUSION DETECTION SYSTEM.
5. ELECTRICAL CONTRACTOR SHALL PROVIDE POWER CIRCUITS AND RECEPTACLES FOR THE SYSTEM. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER REQUIREMENTS.
6. THE INTRUSION LINE DIAGRAM IS PROVIDED AS A TYPICAL SYSTEM WIRING SCHEME. EXACT WIRING MAY BE DIFFERENT. NOT ALL CONNECTIONS ARE SHOWN BUT MUST BE INCLUDED IN THIS SCOPE OF WORK.
7. THE INTRUSION SYSTEM SHALL INCLUDE DOOR CONTACTS, MOTION DETECTORS, KEYPAD, EXPANSION MODULES, POWER SUPPLIES, BATTERY BACKUP, SECURITY PANELS, CABLES, CONNECTORS, MOUNTS AND ASSOCIATED COMPONENTS FOR A COMPLETE AND OPERATIONAL SYSTEM.
8. THE SYSTEM SHALL BE CAPABLE OF BEING MONITORED LOCALLY AND REMOTELY. THE SYSTEM SHALL BE CONNECTED TO POTS LINES. IP CAMERAS CONNECTIONS AND TO BATTERY BACKUP FOR OPERATION IN THE EVENT OF A POWER FAILURE. PROVIDE A PROPERLY SIZED BATTERY BACKUP FOR THE SYSTEM.
9. ALL CABLING SHALL BE PLENUM RATED.
10. ALL CABLE SHALL BE COLOR CODED AND PROPERLY LABELED ON EACH END OF THE CABLE.
11. ALL CABLE LENGTHS SHALL BE BASED ON DISTANCE AND LOAD CALCULATIONS. PROVIDE DISTANCE AND LOAD CALCULATIONS BASED ON THE EXACT LOCATION AND WIRING PATH OF DEVICES.
12. ALL WIRING SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
13. ALL PANELS, IP, AND EXPANSION MODULES (EXP) SHALL BE INSTALLED WITHIN SECURITY JUNCTION BOXES. JUNCTION BOXES SHALL BE COLOR CODED.
14. NO MORE THAN TEN DEVICES PER POWER SUPPLY.
15. MOTION DETECTORS SHALL BE WIRED, RECEIVING MOUNTED FOR NORMAL MOUNTING ADJUSTMENTS.
16. DOOR CONTACTS SHALL BE RECESSED UNLESS OTHERWISE NOTED.
17. DOUBLE DOORS SHALL BE WIRED AS A SINGLE ZONE.
18. INSTALLATION MUST BE COORDINATED WITH THE OWNER, ARCHITECT, ELECTRICAL CONTRACTOR AND DOOR HARDWARE CONTRACTOR PRIOR TO INSTALLATION.
19. SUBMITTALS AND SHOP DRAWINGS MUST INCLUDE EXACT PRODUCT DATA SUCH AS MODEL NUMBERS, SYSTEM CONNECTIONS, WIRING DIAGRAMS AND DEVICE LOCATIONS.
20. SYSTEM PROGRAMMING AND PARTITIONS MUST BE REVIEWED WITH SHOP DRAWINGS AND SUBMITTAL INFORMATION.
21. AS-BUILT DOCUMENTATION SHALL BE SUBMITTED IN ELECTRONIC AUTOCAD (.DWG) AND PDF FORMAT AND SHALL INCLUDE ALL SYSTEM REVISIONS.

ACCESS CONTROL SYSTEM NOTES

1. THE INTRUSION DETECTION SYSTEM MUST FUNCTION WITH THE ACCESS CONTROL SYSTEM.
2. THE ACCESS CONTROL SYSTEM IS OWNED BY DC DMV AND MUST BE COORDINATED WITH THEIR STANDARDS.
3. DEVICES SHALL NOT BE IMPEDED BY ACCESS EQUIPMENT AND SHALL BE ACCOMPLISHED BY THE DOOR HARDWARE.
4. THE ACCESS CONTROL SYSTEM MUST FUNCTION WITH DOOR DOOR HARDWARE AND DEVICES INCLUDING ADA OPERATORS, CLOSERS, AND DEVICES.
5. ELECTRICAL CONTRACTOR SHALL PROVIDE RACEWAYS FOR THE ACCESS CONTROL SYSTEMS.
6. ELECTRICAL CONTRACTOR SHALL PROVIDE POWER CIRCUITS AND RECEPTACLES FOR SYSTEM. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER REQUIREMENTS.
7. THE ACCESS CONTROL LINE DIAGRAM REPRESENTS A TYPICAL SYSTEM WIRING SCHEME. EXACT WIRING MAY BE DIFFERENT. NOT ALL CONNECTIONS ARE SHOWN BUT MUST BE INCLUDED IN THIS SCOPE OF WORK.
8. THE ACCESS CONTROL SYSTEM SHALL INCLUDE AND BE LENEL OR APPROVED EQUAL ACCESS CONTROL PANELS, ACCESS CONTROL DEVICES, WIRING, EXPANSION MODULES, POWER SUPPLIES, BATTERY BACKUP, CONNECTIONS, MOUNTS AND ASSOCIATED COMPONENTS FOR A COMPLETE AND OPERATIONAL SYSTEM.
9. THE SYSTEM SHALL BE CAPABLE OF BEING MONITORED LOCALLY AND REMOTELY. THE SYSTEM SHALL BE CONNECTED TO POTS LINES, BY LAN/WAN CONNECTIONS AND TO BE STICKY BACKUP FOR OPERATION IN THE EVENT OF A POWER FAILURE. PROVIDE A PROPERLY SIZED BATTERY BACKUP FOR THE SYSTEM.
10. ALL CABLING SHALL BE PLENUM RATED.
11. ALL CABLING SHALL BE COLOR CODED AND PROPERLY LABELED ON EACH END OF THE CABLE.
12. ALL CABLE LENGTHS SHALL BE BASED ON DISTANCE AND LOAD CALCULATIONS. PROVIDE DISTANCE AND LOAD CALCULATIONS BASED ON THE EXACT LOCATION AND WIRING PATH OF DEVICES.
13. ALL WIRING SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
14. INSTALLATION MUST BE COORDINATED WITH THE OWNER, ARCHITECT, ELECTRICAL CONTRACTOR AND DOOR AND FRAME CONTRACTOR PRIOR TO INSTALLATION.
15. SUBMITTALS AND SHOP DRAWINGS MUST INCLUDE EXACT PRODUCT DATA SUCH AS MODEL NUMBERS, SYSTEM CONNECTIONS, WIRING DIAGRAMS AND DEVICE LOCATIONS.
16. AS-BUILT DOCUMENTATION SHALL BE SUBMITTED IN ELECTRONIC AUTOCAD (.DWG) AND PDF FORMAT AND SHALL INCLUDE ALL SYSTEM REVISIONS.

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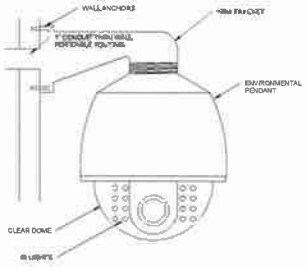
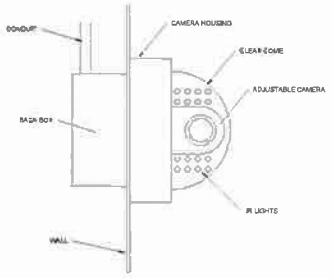
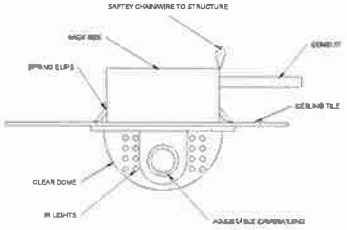
ACCESS CONTROL AND INTRUSION DETECTION SYSTEM
T404.1



IP DOME CAMERA DETAIL



IN-WALL FIXED IR CAMERA DETAIL



IN-CEILING FIXED IR CAMERA DETAIL

CCTV CAMERA SCHEDULE			
Camera Number	Camera Type	Mounting	Mounting Height
1	Fixed		
2	Fixed		
3	Fixed		
4	Fixed		
5	Fixed		
6	Fixed		
7	Fixed		
8	Fixed		
9	Fixed		
10	Fixed		
11	Fixed		
12	Fixed		
13	Fixed		
14	Fixed		
15	Fixed		
16	Fixed		
17	Fixed		
18	Fixed		
19	Fixed		
20	Fixed		
21	Fixed		
22	Fixed		
23	Fixed		
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28	Fixed		
29	Fixed		
30	Fixed		
31	Fixed		
32	Fixed		
33	Fixed		
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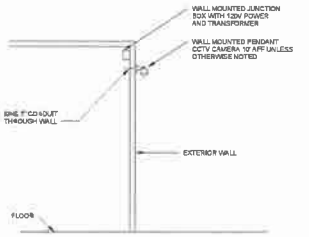
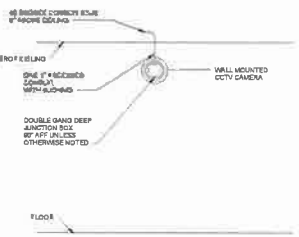
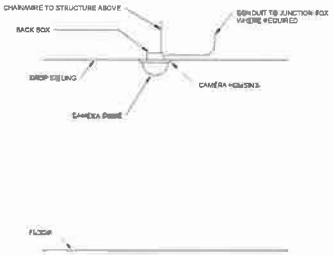
39	Fixed		
40	Fixed		
41	Fixed		
42	Fixed		
43	Fixed		



EXTERIOR PENDANT CCTV CAMERA PATHWAY DETAIL

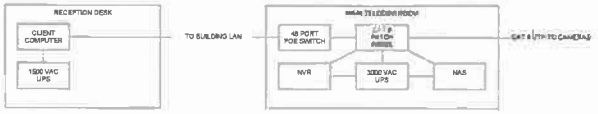


IN-WALL CCTV CAMERA PATHWAY DETAIL



CEILING CCTV CAMERA PATHWAY DETAIL

3 CCTV PATHWAYS
6" = 1'-0"



2 CCTV LINE DIAGRAM
N.T.S.

1. CAMERA SCHEDULE INCLUDES ALL CAMERAS AT THE FACILITY FOR PHASE 1 AND PHASE 2
2. EXISTING CAMERAS SHALL BE REMOVED DURING DEMOLITION AND REINSTALLED DURING CONSTRUCTION
3. ALL NEW CAMERA CABLING SHALL BE CONCEALED IN CONDUIT.
4. NEW CAT 6 UTP STRUCTURED CABLING SHALL MEET THE PERFORMANCE OF OTHER STRUCTURED CABLING AT THE FACILITY.
5. NEW CAT 6 UTP STRUCTURED CABLING SHALL BE INSTALLED FROM THE MAIN TELECOM ROOM TO CAMERA LOCATIONS IN SPACES WITH DAMAGE POTENTIAL
6. NEW CAT 6 UTP STRUCTURED CABLING SHALL BE TERMINATED ON RACK MOUNTED CAT 6 PATCH PANELS RESERVED FOR CCTV EQUIPMENT.
7. NEW CAT 6 UTP STRUCTURED CABLING SHALL BE A DEDICATED COLOR FROM OTHER SYSTEMS.
8. NEW CAT 6 UTP STRUCTURED CABLING SHALL BE CONNECTED TO EXISTING CAMERA CHANNELS.
9. CAMERA FIELD OF VIEW SHALL BE VERIFIED PRIOR TO INSTALLATION AND CLIENT MAY ALTER AND FINE TUNE THE PROPER VIEW.
10. CAMERAS SHALL BE COMPLETELY INSTALLED, ADJUSTED AND ACTIVE.
11. CONNECTION TO OWNER MAINTAINED NON-UPS EQUIPMENT, RECORDS AND OTHER ACTIVE EQUIPMENT WITHIN THE MAIN TELECOM ROOM SHALL BE COORDINATED WITH THE OWNER AT THE TIME OF CONSTRUCTION AND INSTALLATION.
12. OWNER PROVIDED CCTV INVESTIGATIONS SHALL BE INSTALLED AND ACTIVE. COORDINATE WITH OWNER FOR SPECIFIC LOCATIONS AROUND THE FACILITY.
13. ALL CABLES SHALL BE CLEARLY LABELLED EACH END AND SHALL INCLUDE THE CABLE'S ORIGIN AND DESTINATION.
14. ALL CABLES SHALL BE RUN IN CABLE TRAY OR CONCEALED WITHIN WALLS AND CEILING CAVITIES.
15. HORIZONTAL CABLES UNDER 90 METERS SHALL BE CAT 6 UTP WITH RJ-45 PLUGS AT THE CAMERA END AND A TERMINATION WALL PLATE.
16. HORIZONTAL CABLES OVER 90 METERS SHALL BE FIBER WITH RJ-45 PLUGS AND COPPER FOR POWER DISTRIBUTION WITH AN ASSOCIATED MEDIA CONVERTER AT THE CAMERA.
17. EXACT CAMERA MOUNT MUST BE COORDINATED IN THE FIELD PRIOR TO INSTALLATION AND PREVIOUS FIELD OF VIEW HEIGHTS SHOWN ARE FROM THE ASSOCIATED INTERIOR FLOOR LEVEL.
18. THE INSTALLATION SHALL BE COORDINATED WITH THE OWNER, ELECTRICIAN AND LOW VOLTAGE CONTRACTOR PRIOR TO WORK BEGINNING.
19. PROVIDE COMPLETE SHOP DRAWINGS AND EQUIPMENT SUBMITTALS WHICH CLEARLY IDENTIFY EACH SPECIFIC PIECE OF EQUIPMENT, CABLE ROUTE, EQUIPMENT LOCATION AND SYSTEM INTERCONNECTIONS.
20. PROVIDE COMPLETE AS-BUILT DRAWINGS WHEN THE INSTALLATION IS CONSIDERED COMPLETE. THESE MUST BE STAMPED BY A PE WITH COMPLETE TEST RESULTS PROVIDED. AS-BUILTS MUST INCLUDE DEVICE LOCATIONS, EQUIPMENT INTERCONNECTIONS, WIRING DIAGRAMS AND PIECE-WISE SYSTEM TESTS. PROVIDE IN HARDCOPY AND SCANNED .PDF FILE FORMAT.

1 CCTV NOTES
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CCTV SYSTEM

T405.1

SECTION 27 0500 - TELECOM PATHWAYS AND SPACES
PART 1 - GENERAL
1.1 SUMMARY
A. SECTION INCLUDES
1. THIS SECTION INCLUDES THE MINIMUM REQUIREMENTS FOR THE EQUIPMENT AND CABLE INSTALLATIONS IN COMMUNICATION EQUIPMENT ROOMS AND RELATED PATHWAYS.
2. INCLUDED IN THIS SECTION ARE THE MINIMUM COMPOSITION REQUIREMENTS AND INSTALLATION METHODS FOR THE FOLLOWING:
a. DISTRIBUTION RACKS
b. LADDER RACK
c. J-HOOKS
d. CONDUITS AND BACK BOXES
e. GROUNDING DEVICES
B. RELATED SECTIONS
1.2 REFERENCES
A. COMPLY WITH ALL APPLICABLE REQUIREMENTS IN LOCAL, STATE AND FEDERAL CODES. TIA/EIA STANDARDS AND BICSI METHODOLOGY.
1.3 SYSTEM DESCRIPTION
A. DESIGN REQUIREMENTS
1. CONTRACTOR SHALL COMPLY ALL TELECOM ROOMS ACCORDING TO THE T-DRAWINGS. CABINETS, RACKS AND OTHER TERMINATION AND DISTRIBUTION FIELDS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S GUIDELINES AND INDUSTRY STANDARDS.
B. PERFORMANCE REQUIREMENTS
1. TELECOM ROOMS SHALL BE SIZED FOR EQUIPMENT AND MATERIALS AND EQUIPMENT WILL ALLOW FOR 20% SPARE CAPACITY.
2. MATERIALS AND EQUIPMENT WILL BE INSTALLED IN WORKMANLY AND PROPER MANNER, OBSERVANCES BETWEEN DISSIMILAR METALS PREVENT GALVANIC OR UNSAFE CONDITIONS.
1.4 SUBMITTALS
A. PRODUCT DATA
1. PROVIDE PRODUCT DATA FOR ALL EQUIPMENT LISTED IN PART 2.
B. SHOP DRAWINGS
1. PROVIDE RACK ELEVATIONS TO SHOW EQUIPMENT LOCATIONS, CLEARANCES AND ASSIGNMENTS AND THE LABELING OF TELECOM ROOMS, ALL FIELDS, RACKS AND CABINETS SHALL BE METICULOUSLY DOCUMENTED AND PERMANENTLY LABELED AS/AS DIRECTED BY OWNER.
1.5 QUALITY
A. PROVIDE AS-BUILT DRAWINGS INCLUDING ALL EQUIPMENT LOCATIONS, ELEVATIONS AND LABELING.
B. PROVIDE AS-BUILT IN HARD COPY AND ELECTRONIC AUTOCAD 2014 FORMAT.
1.6 WARRANTY
A. SPECIAL WARRANTY
B. INSTALLER SHALL GUARANTEE WORKMANSHIP FOR A PERIOD OF TWO YEARS. DURATION SHALL START FROM THE DATE OF INSTALLATION SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR MUST RESPOND WITHIN 2 BUSINESS DAYS OF WRITTEN NOTIFICATION.
PART 2 - PRODUCTS
2.1 MATERIALS
A. DISTRIBUTION BACKS
1. FREE STANDING RACKS
a. 84" HEIGHT WITH 19" & 23" WIDTH.
B. PROTECTION
1. TELECOM INSTALLATIONS ENSURING POWER, FANS AND FANS:
a. EACH EQUIPMENT SHALL HAVE A GROUND BAR INSTALLED WITHIN THE UNIT.
b. LADDER RACK AND CABLE TRAY SHALL HAVE PERMANENT BONDING CONNECTIONS INSTALLED.
c. EACH TELECOM ENTRANCE ROOM SHALL HAVE A TELECOM EQUIPMENT BONDING CONDUCTOR (TEBC) RUN FROM EQUIPMENT TO THE TGB IN THAT SPACE.
d. EACH TGB SHALL BE BONDED TO BUILDING STEEL AND THE NEAREST ELECTRICAL GROUND PANEL.
e. PROVIDE ONE TGBB IN THE MAIN TELECOMMUNICATIONS ROOM AS SHOWN ON T-DRAWINGS.
C. CABLE MANAGEMENT
1. HORIZONTAL CABLE MANAGEMENT
a. OPTICONEX VERTIFY 4DE OR EQUIVALENT
b. HORIZONTAL WIRE MANAGEMENT PANELS ARE REQUIRED FOR PATCH PANELS IN RACKS/CABINETS. USE DRAWING FOR RACK LAYOUT.
c. HORIZONTAL CABLE MANAGEMENT SHALL OCCUPY 1 RACK UNIT'S. AS SHOWN ON T-DRAWINGS.
D. VERTICAL CABLE MANAGEMENT
1. OPTICONEX VERTIFY 4DE OR EQUIVALENT
2. VERTICAL CABLE MANAGEMENT SHALL BE PROVIDED FOR ALL RACKS. PROVIDE 3 FOR EACH RACK OR CABINET.
E. LADDER-TYPE FLAMEPROOF CABLE TRAY (U-SHAPED BACK)
1. CLASS 1 PER OR EMT BENDITH TYPE CABLE NUMBER "3" AND "4" LADDER RACK FROM RACK/EQUIPMENTS FROM CORRIDOR OR OTHER WIRE WAYS AND SPACE WHERE INDICATED ON DRAWINGS.
2. J-HOOKS RACK SHALL INCLUDE MATERIALS NEEDED TO ROUT CABLES FROM LADDER RACK TO EQUIPMENT.
F. CABINETS
1. REFER TO CONDUIT SIZE SHALL BE OF NEW LOW VOLTAGE EQUIPMENT.
2. SMALL CONDUIT SHALL BE PROVIDED PER AREA SCHEDULES. REFER TO T-DRAWINGS FOR CONDUIT SIZING.
3. EXPOSED BOND WIRE SHALL FOLLOW EXISTING PIPING STANDARDS FOR TELECOMMUNICATIONS.
4. REFER TO T-DRAWINGS FOR LOCATIONS AND SIZES OF ALL OUTLETS FOR TELECOMMUNICATIONS.
G. GANG BOXES
1. SINGLE GANG BOXES FOR LOW VOLTAGE
a. ALL BOXES SHALL BE DEEP TO FIT PRE-EQUIPMENT AND DEVICES SHOWN ON THE DRAWINGS.
b. SINGLE GANG BOX MINIMUM 3.75" WIDE X 3.75" HIGH X 1.2" DEEP WITH ¾" AND 1" KNOCKOUTS.
c. MINIMUM DOUBLE GANG BOX FOR LOW VOLTAGE: 4 INCH BACK BOX MINIMUM, 4 INCH BOX MINIMUM, 4 INCH BOX CHOICE WITH LENGTH 3 INCHES, WIDTH 3 INCH MINIMUM DEPTH 2 ½ INCHES OR COMPARABLE.
H. J-HOOKS
1. SINGLE LAYER CAT
a. PROVIDE J-HOOKS ACE CORROSION DISTRIBUTION AS SHOWN ON T-DRAWINGS.
b. PROVIDE ADDITIONAL J-HOOKS AS NEEDED TO CABLE TRAY RUNS AND WITHIN ALL ROOMS NO MORE THAN 5 FT APART.
c. J-HOOK SYSTEM SHALL HAVE FOR 20% SPARE CAPACITY IN ALL CASES.
d. ALL MANUFACTURER LOAD AND QUANTITY RATINGS SHALL BE ADHERED TO IN ALL CASES.
I. DISTRIBUTION BACKBOARD
1. PLYWOOD
a. NO AS-GRADE PLYWOOD SHALL BE PROVIDED AS SHOWN ON T-DRAWING DETAILS TO LINE THE WALLS WITHIN THE TR. THE PLYWOOD SHOULD BE PROVIDED IN 4 X 8' SHEETS.
b. PLYWOOD SHALL BE VOID FREE AND PAINTED ON ALL SIDES WITH TWO COATS OF FIRE-RESISTANT PAINT.
J. RACK MOUNTED POWER STRIP
1. MIDDLE ATLANTIC POWER STRIP
PART 3 - EXECUTION
3.1 EXAMINATION
A. SITE VERIFICATION OF CONDITIONS
1. EXAMINE CONDITIONS UNDER WHICH TELECOMMUNICATIONS CABLING AND EQUIPMENT AND RELATED COMPONENTS ARE TO BE INSTALLED IN COORDINATION WITH INSTALLER OF MATERIALS AND COMPONENTS SPECIFIED IN THIS SECTION AND NOTIFY ARCHITECT IN WRITING OF ANY CONDITIONS DETRIMENTAL TO PROPER AND TIMELY INSTALLATION. DO NOT PROCEED WITH INSTALLATION UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED TO ENSURE A SAFE AND TIMELY INSTALLATION.
3.2 INSTALLATION
A. DISTRIBUTION RACKS
1. FREE STANDING RELAY RACKS
a. RACKS SHALL BE ASSEMBLED EACH THAT ADJUSTABLE AS EXACTLY PERPENDICULAR TO THE SAME.
b. RACKS SHALL BE SECURED TO THE FLOOR USING APPROPRIATE HARDWARE.
c. RACKS SHALL BE GROUNDED TO THE TGB OR APPROPRIATE BUILDING GROUND USING 6 AWG GROUNDING WIRE.
B. DISTRIBUTION BACKBOARD
1. MOUNT PLYWOOD ON ALL AVAILABLE WALL SPACE TELECOMMUNICATIONS EQUIPMENT MAY BE LOCATED.
2. REFER TO T-DRAWINGS FOR MINIMUM COVERAGE.
END OF SECTION

SECTION 27 1000 - TELECOM CABLING
PART 1 - GENERAL
1.1 SUMMARY
A. SECTION INCLUDES
1. LOCAL AREA NETWORK (LAN) CABLING SYSTEM
2. HORIZONTAL CABLING SYSTEM
1.2 REFERENCES
A. COMPLY WITH APPLICABLE REQUIREMENTS IN LOCAL, STATE AND FEDERAL CODES, TIA/EIA STANDARDS, AND BICSI METHODOLOGY.
1.3 SYSTEM DESCRIPTION
A. DESIGN REQUIREMENTS
1. ALL WIRING SHALL BE PLENUM RATED
2. ALL WIRING INCLUDING COPPER AND FIBER OPTIC EMPLOYS A STAR TOPOLOGY.
3. NETWORK CABLES ROUTED FROM DISTRIBUTION RACKS THROUGHOUT BUILDING IN CORRIDOR CEILING IF AVAILABLE OR OTHER LOCATION AS SHOWN ON T-DRAWINGS. DROP TO OUTLET INSTALLED IN CONDUIT AND WALL BOX, OR SURFACE MOUNTED RACEWAY TO COMMUNICATIONS OUTLET IN OFFICES, OR OTHER LOCATIONS INDICATED ON T-DRAWINGS.
4. PERMANENTLY IDENTIFY AND LABEL ALL CABLES AND TERMINATION DEVICES. AT DISTRIBUTION RACKS/CABINET AND WORKSTATION IN ACCORDANCE WITH ANSI/TIA/EIA-606 STANDARD OR AS AGREED BY ARCHITECT AND OWNER.
5. REMOVE AND REPLACE ANY CABLES FAILING TO MEET SHOP-HAND TESTING REQUIREMENTS. DO NOT ABANDON CABLE IN PLACE. ALL CABLE SHALL BE TERMINATED AT BOTH ENDS, UNLESS NOTED IN T-DRAWINGS.
1.4 SUBMITTALS
A. PRODUCT DATA
1. SPECIFIC PARTS AND EQUIPMENT MODELS MUST BE HIGHLIGHTED OR LISTED. SUBMITTALS NOTE MEETING THESE CRITERIA SHALL BE REJECTED FOR RESUBMITTAL.
2. COMMUNICATIONS OUTLETS, FACEPLATES AND ACCESSORIES.
3. COPPER CABLE, PATCH CABLES AND TERMINATION DEVICES.
4. TEST REPORTS
a. SAMPLE OF EACH NETWORK CABLING TEST REPORT – FIBER OPTIC, COAX AND UTP. SUBMIT COMPLETE SAMPLE TEST DATA AND REPORTS WITH EXACT LABELS USED ON CABLES, PATCH PANELS AND FACEPLATES.
1.5 WARRANTY
A. A FIFTEEN (15) YEAR EXTENDED PRODUCT WARRANTY AND SYSTEMS ASSURANCE WARRANTY FOR THIS WIRING SYSTEM SHALL BE PROVIDED BY THE MANUFACTURER.
B. SYSTEM CERTIFICATION: UPON SUCCESSFUL COMPLETION OF THE INSTALLATION AND SUBSEQUENT INSPECTION, THE OWNER SHALL BE PROVIDED WITH A NUMBERED CERTIFICATE, FROM THE MANUFACTURING COMPANY, REGISTERING THE INSTALLATION.
PART 2 - PRODUCTS
2.1 COMPONENTS
1. COPPER TWISTED PAIR DATA CABLES
a. 100 OHM CATEGORY 6/6A SHIELDED TWISTED PAIR CABLE (STP)
2. ADDITIONAL BALANCED, TWISTED-PAIR CABLING COMPONENTS
a. CAT 6 PATCH CABLES
b. FACTORY TERMINATED AND TESTED UTP PATCH CABLES AT WORKSTATION AND EQUIPMENT CROSS-CONNECT MEETING MODULE BACKS OF ANSI/TIA/EIA-568-B.2 PATCH CABLE TESTING.
c. PROVIDE QUANTITY 2 FOR EACH COMPUTER OUTLET, OF SUFFICIENT LENGTH TO REACH WORKSTATION FROM COMMUNICATION OUTLET, AND FOR MANUFACTURER'S AT THE EQUIPMENT RACK.
4. DATA OUTLETS: MODULAR CONSTRUCTION WITH MULTIPLE INSERTS AVAILABLE TO SUPPORT DIFFERENT MEDIA. CONNECTORS AND BLANK INSERTS AS SHOWN ON T-DRAWINGS FOR EACH OUTLET WITH CONNECTORS MEETING CATEGORY 6A REQUIREMENTS AND WIRING PER TIA/EIA-568. REFER TO DRAWINGS FOR TYPE OF OUTLET REQUIRED AT EACH LOCATION. PROVIDE MATCHING HARDWARE AND CONFIGURATION WITH PROPER BENDING RADIUS FOR ALL INSTALLED CABLING. NOTIFY ARCHITECT WHERE PATHWAYS DO NOT SUPPORT PROPER BENDING RADIUS PRIOR TO INSTALLATION. PROVIDE DELIVERY WITH ARCHITECT PRIOR TO INSTALLATION)
(1) BLUE MODULAR JACKS FOR DATA PORTS
(2) GREEN MODULAR JACKS FOR WIRELESS
(3) WHITE MODULAR JACKS FOR PHONE PORTS
a. EXCEPTIONS: MEDIA CABLE IN DUAL COMPARTMENT SURFACE RACEWAY WHERE SHOWN ON T-DRAWINGS AND IN WORKSPACE AND SURFACE BOXES. ALL ENGELGARD FACEPLATES EQUIPPED FOR MODULAR INSERTS UNLESS SPECIFIED OTHERWISE ON T-DRAWINGS. ALL WIRING RECEPTACLES EQUIPPED FOR 12 MODULAR INSERTS UNLESS SPECIFIED OTHERWISE ON T-DRAWINGS. PROVIDE SUFFICIENT BLANK COVERS FOR ALL UNUSED PORTS. PROVIDE DUST COVERS FOR ALL TERMINATIONS.
5. PROVIDE FACEPLATES WITH ANGLED, RECESSED INSERTS FOR ALL FLUSH-MOUNTED BOXES.
6. WHERE REQUIRED DUE TO BACK BOX CONFIGURATION OR OTHERWISE SPECIFIED, PROVIDE TELECOMMUNICATIONS OUTLETS MOUNTED ON SINGLE MODULE FRAMES WITH COVER PLATE MATCHING EXISTING OR OTHER ELECTRICAL OUTLETS IN COLOR-MATCHING HIGH-IMPACT NYLON OR STAINLESS STEEL.
a. CATEGORY 6/6A UTP CABLE (BLUE, WHITE AND GREEN)
b. JACK MODULES
c. BLANK MODULE
d. MODULAR PATCH PANEL – CATEGORY 6A COMPLIANT
e. FACEPLATES (SINGLE, DOUBLE)
f. PATCH CABLES
B. FIBER COMPONENTS
1. FIBER PATCH PANELS AND WIRE MANAGEMENT COMPONENTS
a. RACK MOUNTED FIBER OPTIC CONNECTOR HOUSINGS AND PATCH PANELS
b. MANUFACTURERS – FOR CONVENIENCE, DETAILS AND SPECIFICATIONS BASED ON
c. CONNECTOR PANELS
d. PROVIDE INDUSTRY STANDARD SINGLE FIBER AND SMALL FORM FACTOR MULTI-FIBER ADAPTERS INCLUDING SC-DUPLEX, ST- FC, AND MT-RJ CONNECTORS.
2. OPTICAL FIBER CABLES: USED AS BACKBONE CABLE CONNECTING ALL TELECOMMUNICATIONS ROOMS. TRUNK CABLE FOR INTERCONNECTING TELECOMMUNICATIONS EQUIPMENT ROOM TO TELECOM UTILITY COMPANY INTERFACE AND TRUNK CABLE CONNECTING BUILDING OR CAMPUS WIDE DATA DISTRIBUTION SYSTEM. PROVIDE CABLES WITH ACTUAL FIBER TYPE AND COUNT AS SPECIFIED IN PLAN AND RISER DIAGRAMS.
a. FIBER OPTIC SINGLE MODE
b. 50 MICRON MULTIMODE FIBER OPTIC STRANDS, ULTRA RATED TO 10 GBPS, PLENUM RATED FIBER OPTIC CABLE WITH MINIMUM OVERCLADDING EFFECTIVE, 62.5M BUFFER, OM4.
C. COAXIAL CABLE
1. 8 LONGER TONQUE 860 8-DIRECTIONAL AMPLIFIER
2. 8 LONGER TONQUE 1000 MHZ TAP
3. 8 LONGER TONQUE 5/870 1000 MHZ SPLITTER
4. RG-11 QUAD SHIELD COAXIAL CABLE
5. RG-6 QUAD SHIELD COAXIAL CABLE
6. WALL OUTLET F CONNECTOR
PART 3 - EXECUTION
3.1 EXAMINATION
A. SITE VERIFICATION OF CONDITIONS
1. EXAMINE CONDITIONS UNDER WHICH TELECOMMUNICATIONS CABLING AND EQUIPMENT AND RELATED COMPONENTS ARE TO BE INSTALLED IN COORDINATION WITH INSTALLER OF MATERIALS AND COMPONENTS SPECIFIED IN THIS SECTION AND NOTIFY ARCHITECT IN WRITING OF ANY CONDITIONS DETRIMENTAL TO PROPER AND TIMELY INSTALLATION. DO NOT PROCEED WITH INSTALLATION UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED TO ENSURE A SAFE AND TIMELY INSTALLATION.
3.2 INSTALLATION
A. PROVIDE AND INSTALL ALL COMPONENTS NECESSARY TO INSTALL COMPLETE TELECOMMUNICATIONS CABLING AND E QUIPMENT SYSTEMS, INCLUDING BUT IS NOT LIMITED TO CONNECTORS, PATCH CABLES, TERMINATORS, ETC.
B. SECURE ALL HORIZONTAL CABLING WITH CEILING CAVITIES TO BUILDING STRUCTURE.
1. LOOSELY BUNDLE CABLES AND SUPPORT FROM STRUCTURE AT UNIFORM INTERVALS FROM 5 TO 5 FEET WITH SPRING STEEL FASTENERS AND CABLE CLIP RATED FOR USE WITH HIGH PERFORMANCE CABLES (SIMILAR TO CADDY SERIES "CABLOFIL" OR IMPROVED ALTERNATE MOUNTING METHOD) INCLUDING PLACEMENT IN CABLE TRAY AS INDICATED ON DRAWINGS.
2. DO NOT VIOLATE MANUFACTURER'S RECOMMENDED LOADINGS. LEAVE 30% CAPACITY FOR FUTURE USE OF PATHWAY.
3. VERIFY ALL HORIZONTAL CABLE RUN LENGTHS PRIOR TO INSTALLATION. ENSURE CABLES DO NOT EXCEED DISTANCES THAT WOULD DEGRADE THE SIGNAL TRANSMISSION REQUIREMENTS.
4. DO NOT SUPPORT CABLES FROM CEILING GRID T-BARS. GRID WIRE SUPPORTS ON BRIDLE RINGS. DO NOT ALLOW CABLES TO TOUCH CEILING GRID.
5. INSTALL CABLES IN EMT IN ALL UNFINISHED OR EXPOSED AREAS.
6. DO NOT SECURE CABLES WITH PERMANENT CABLE TIES. DO NOT TIGHTEN CABLE BUNDLES IN SUCH A WAY AS TO CAUSE J ACKET DEFORMATION OR DAMAGE.
7. PLACE CABLES IN COMPLIANCE WITH TIA/EIA-568-B STANDARDS AND BICSI RECOMMENDED METHODS.
8. TIGHT BEND RADIUS/RADIUS ARE UNACCEPTABLE AND USE OF PLASTIC TIE-WRAP-TYPE TIE-WRAPS ARE NOT PERMITTED. IN ORDER TO PREVENT DAMAGE TO CABLE JACKET AND COMPROMISE THE CABLE'S ELECTRICAL OR OPTICAL CHARACTERISTICS.
9. TELECOMMUNICATIONS OUTLETS SHALL BE LOCATED TO BE NO MORE THAN 5 FEET FROM AN ELECTRICAL OUTLET.
10. INSTALL ALL CABLE IN ACCORDANCE WITH NATIONAL, STATE AND LOCAL CODES AND POWER STANDARDS, AND BICSI METHODS.
11. FOLLOW MANUFACTURER'S GUIDELINES AND REQUIREMENTS FOR ALL CABLE TERMINATIONS.
C. PERMANENTLY IDENTIFY ALL SYSTEM COMPONENTS FOLLOWING TIA/EIA-606-A "ADMINISTRATION STANDARD FOR COMMERCIAL TELECOMMUNICATIONS INFRASTRUCTURE" WITH IDENTIFICATION FORMAT.
1. IDENTIFICATION: PROVIDE PERMANENT IDENTIFICATION LABELS FOR OUTLETS, FACEPLATES AND CABLES.
2. EACH HORIZONTAL CABLE SHALL BE LABELED ON BOTH ENDS OF CABLE TERMINATIONS REGARDLESS OF CABLE INTENDED USE. LABELS MUST BE MACHINE PRINTED WITH PERMANENT BLACK INK ON LAMINATED WHITE LABEL MATERIAL.
3. CONTRACTORS MUST CHECK WITH APPROPRIATE SCHOOL DISTRICT PERSONNEL FOR APPROPRIATE LABELING SCHEME. THE INTENDED FORMAT AND LABELING MATERIAL MUST BE APPROVED BY THE OWNER BEFORE LABELING BEGINS.
D. IDENTIFICATION: PROVIDE PERMANENT IDENTIFICATION LABELS FOR OUTLETS, FACEPLATES, PATCH PANELS, ACCESS PANELS VIDEO DISTRIBUTION EQUIPMENT LOCATIONS (INCLUDING SPLITTERS IN CEILING AND ENTRANCE FACILITIES.
3.3 AS-BUILTS
A. CONTRACTOR SHALL SUPPLY COMPLETE AS-BUILTS IN HARDCOPY AND ELECTRONIC AUTOCAD 2014 FORMAT.
B. AS-BUILTS SHALL INCLUDE ALL DEVICE LOCATIONS, FACEPLATE CONFIGURATIONS, CABLE ROUTING, CABLE LABELING AND OTHER RELEVANT INFORMATION.
3.4 ACCEPTANCE
A. CONTRACTORS' WORK SHALL BE CONSIDERED COMPLETE AFTER THE FOLLOWING CONDITIONS HAVE BEEN MET:
1. EACH INSTALLATION IS COMPLETE AND ALL CABLE RUNS HAVE BEEN TESTED AND DOCUMENTED TO BE INSTALLED ACCORDING TO SPECIFICATIONS AND DRAWINGS.
2. A TECHNOLOGY REPRESENTATIVE HAS SUCCESSFULLY TESTED THE "LIVE" SYSTEM.
3. ALL PUNCH LIST ITEMS HAVE BEEN RECONCILED.
4. ALL DISTURBED CEILING PANELS, FIRE STOPPING MATERIALS, COVERS, ETC. HAVE BEEN PROPERLY REINSTALLED.
5. ALL MATERIALS AND TRASH HAVE BEEN REMOVED FROM THE SITE.
6. A 5-YEAR INSTALLERS WARRANTY HAS BEEN GIVEN TO A TECHNOLOGY REPRESENTATIVE.
7. SUBMIT MANUFACTURER'S EXTENDED WARRANTY APPLICATION.
3.5 SCHEDULES
A. DISTRIBUTION RACK DRAWINGS SHALL BE ATTACHED TO THE SHALL FILL OUT WITH CORRECT CONNECTIONS FOR ALL RACKS AND CABINETS.
END OF SECTION

SECTION 27 5100 PUBLIC ADDRESS SYSTEM
PART 1 - GENERAL
1.1 SUMMARY
A. SECTION INCLUDES
1. PA SYSTEM
1.2 SYSTEM DESCRIPTION
A. DESIGN REQUIREMENTS
1. PUBLIC ADDRESS SYSTEM SHALL INCLUDE CONNECTION TO THE TELEPHONE SYSTEM AND PROVIDE ONE-WAY COMMUNICATION TO LOCATIONS WITH ASSOCIATED SPEAKERS. SYSTEM SHALL OVERRIDE ALL OTHER LOCAL SOUND SYSTEMS. SYSTEM SHALL INCLUDE MICROPHONES, WIRING, GATEWAYS, AMPLIFIERS, MIXERS AND SPEAKERS NECESSARY FOR A COMPLETE SYSTEM.
B. PERFORMANCE REQUIREMENTS
1. COMPLY WITH APPLICABLE REQUIREMENTS IN LOCAL, STATE AND FEDERAL CODES, TIA/EIA STANDARDS AND BICSI METHODOLOGY.
1.3 SUBMITTALS
A. PRODUCT DATA. SUBMIT MANUFACTURER'S PRODUCT LITERATURE, TECHNICAL SPECIFICATIONS AND SHALL INFORM FUNCTION OF THE FOLLOWING ITEMS DEMONSTRATING COMPLIANCE WITH THE SPECIFIED REQUIREMENTS. PRODUCT SUBMITTALS MUST CLEARLY HIGHLIGHT THE EQUIPMENT BEING PROPOSED. FAILURE TO CLEARLY INDICATE THE SELECTED ITEMS SHALL BE REJECTED AT THE CONTRACTOR'S EXPENSE.
B. THE CONTRACTOR SHALL SUBMIT SHOP DRAWING LAY DRAWINGS OF ALL SYSTEM WIRING AND COMPONENTS OF THE SYSTEMS. SUBMIT WIRING DIAGRAMS SHOWING TYPICAL CONNECTIONS FOR ALL SYSTEMS AND EQUIPMENT.
1.4 QUALITY ASSURANCE
A. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND PROFESSIONAL MANNER BY SKILLED TECHNICIANS. THE QUALITY OF THE SHOP WORKMANSHIP SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY AUTHORITY OR PERSONNEL, AND WORK FOUND TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED UNTIL THE APPROVAL OF THE OWNER OBTAINED.
B. INSTALLER SHALL PROVIDE TOOLS REQUIRED TO CABLE, TERMINATE AND TEST CABLING SYSTEM SPECIFIED IN THIS SECTION. CERTIFIED BY MANUFACTURER OF PRODUCTS TO BE INSTALLED AND COMPLETE AT LEAST 5 INSTALLATIONS OF SIMILAR SIZE AND COMPLEXITY AS COMPARED FOR THIS PROJECT.
PART 2 - PRODUCTS
2.1 MATERIALS - ALL MATERIALS SHALL BE NEW AND UNUSED
A. PUBLIC ADDRESS SYSTEMS
1. RACK MID-SIZE TWIN DESKTOP MICROPHONE
2. BOSCH DA-2 SIX ZONE AMPLIFIER
3. HALLOWPAK-11 SATION
4. BOSCH IMAGINE SPEAKERS
5. BOSCH SURFACE-MOUNT SPEAKERS
6. BOSCH RECESS HOUSE
7. 2 CONDUCTOR 24 GAUGE
8. 2 CONDUCTOR ONE-WAY SPEAKER WIRING
9. CAT 6 UTP
PART 3 - EXECUTION
3.1 EXAMINATION
A. VERIFICATION OF CONDITIONS: EXAMINE CONDITIONS UNDER WHICH WIRING AND EQUIPMENT AND RELATED COMPONENTS ARE TO BE INSTALLED IN COORDINATION WITH INSTALLER OF MATERIALS AND COMPONENTS SPECIFIED IN THIS SECTION AND NOTIFY ARCHITECT IN WRITING OF ANY CONDITIONS DETRIMENTAL TO PROPER AND TIMELY INSTALLATION. DO NOT PROCEED WITH INSTALLATION UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED TO ENSURE A SAFE AND TIMELY INSTALLATION.
1. WHEN INSTALLER DETERMINES CONDITIONS AS ACCEPTABLE TO ENSURE PROPER AND TIMELY INSTALLATION AND TO ENSURE ACCEPTANCE OF APPLICABLE WARRANTY BY MANUFACTURER HAS BEEN SATISFIED, SUBMIT TO OWNER CONSULTANT WRITTEN STATEMENT FROM APPLICABLE INSTALLER. FAILURE TO SUBMIT WRITTEN STATEMENT TO OWNER CONSULTANT BEFORE INSTALLATION WILL BE ASSUMED TO INDICATE CONDITIONS ARE ACCEPTABLE TO INSTALLER.
2. VERIFY SITE TO IDENTIFY AND ENSURE TRADE-OFF WITH EXISTING FIELD CONDITIONS AND SPECIFIC REQUIREMENTS BY EACH SPEC.
3. VERIFY ALL MEASUREMENTS IN FIELD AND CONFIRM CONDITION OF EXISTING WORK MUST FIT BE UTILIZED.
4. CONFIRM LIMITS OF CONSTRUCTION AND PHYSICAL CONFINES OF ALL WORK AREAS TO ENSURE THAT ALL MATERIALS CAN BE UTILIZED AS INSTALLED IN SPACES AS SHOWN.
5. CONFIRM ALL OUTLET LOCATIONS AND CABLE PATHWAYS ARE ACHIEVE SECTION CONSULTANT IN WRITING OF ANY DISCREPANCIES OR CONFLICTS IN DESIGN REQUIRED IN CONTRACT DOCUMENTS.
a. IDENTIFY ANY ADDITIONAL OUTLETS, CIRCUITS AND WIRING AT THE SITE NOT SHOWN ON T-DRAWINGS ARE INTERFERING WITH INSTALLATION OF SPECIFIED EQUIPMENT.
b. IF DISCREPANCIES EXIST, NOTIFY OWNER CONSULTANT IN WRITING BEFORE PROCEEDING WITH INSTALLATION.
3.2 INSTALLATION
A. PROVIDE AND INSTALL ALL COMPONENTS NECESSARY TO INSTALL COMPLETE AV CABLING AND SOUND ENHANCEMENT EQUIPMENT SYSTEMS, INCLUDING (BUT IS NOT LIMITED TO) CONNECTORS, ELECTRONICS, TERMINATORS, PASS-THRUS, CABLES ETC.
1. CABLE RUNS SHALL BE FACTORY TERMINATED. SPLICING OF ANY CABLE IS PROHIBITED
2. SECURE ALL CABLES WITHIN CEILING CAVITIES TO BUILDING STRUCTURE.
3. DO NOT VIOLATE MANUFACTURER'S RECOMMENDED LOADINGS. LEAVE 30% CAPACITY FOR FUTURE USE OF PATHWAY.
4. VERIFY ALL HORIZONTAL CABLE RUN LENGTHS PRIOR TO INSTALLATION. ENSURE CABLES DO NOT EXCEED DISTANCES THAT WOULD DEGRADE THE SIGNAL TRANSMISSION REQUIREMENTS.
5. DO NOT SUPPORT CABLES FROM CEILING GRID T-BARS. GRID WIRE SUPPORTS ON BRIDLE RINGS. DO NOT ALLOW CABLES TO TOUCH CEILING GRID.
6. INSTALL CABLES IN EMT IN ALL UNFINISHED OR EXPOSED AREAS.
7. DO NOT SECURE CABLES WITH PERMANENT CABLE TIES. DO NOT TIGHTEN CABLE BUNDLES IN SUCH A WAY AS TO CAUSE J ACKET DEFORMATION OR DAMAGE.
8. PLACE CABLES IN COMPLIANCE WITH TIA/EIA-568-B STANDARDS AND BICSI RECOMMENDED METHODS.
9. TIGHT BEND RADIUS/RADIUS ARE UNACCEPTABLE AND USE OF PLASTIC TIE-WRAP-TYPE TIE-WRAPS ARE NOT PERMITTED. IN ORDER TO PREVENT DAMAGE TO CABLE JACKET AND COMPROMISE THE CABLE'S ELECTRICAL OR OPTICAL CHARACTERISTICS.
10. TELECOMMUNICATIONS OUTLETS SHALL BE LOCATED TO BE NO MORE THAN 5 FEET FROM AN ELECTRICAL OUTLET.
11. INSTALL ALL CABLE IN ACCORDANCE WITH NATIONAL, STATE AND LOCAL CODES AND POWER STANDARDS, AND BICSI METHODS.
12. FOLLOW MANUFACTURER'S GUIDELINES AND REQUIREMENTS FOR ALL CABLE TERMINATIONS.
C. PERMANENTLY IDENTIFY ALL SYSTEM COMPONENTS FOLLOWING TIA/EIA-606-A "ADMINISTRATION STANDARD FOR COMMERCIAL TELECOMMUNICATIONS INFRASTRUCTURE" WITH IDENTIFICATION FORMAT.
1. IDENTIFICATION: PROVIDE PERMANENT IDENTIFICATION LABELS FOR OUTLETS, FACEPLATES AND CABLES.
2. EACH HORIZONTAL CABLE SHALL BE LABELED ON BOTH ENDS OF CABLE TERMINATIONS REGARDLESS OF CABLE INTENDED USE. LABELS MUST BE MACHINE PRINTED WITH PERMANENT BLACK INK ON LAMINATED WHITE LABEL MATERIAL.
3. CONTRACTORS MUST CHECK WITH APPROPRIATE SCHOOL DISTRICT PERSONNEL FOR APPROPRIATE LABELING SCHEME. THE INTENDED FORMAT AND LABELING MATERIAL MUST BE APPROVED BY THE OWNER BEFORE LABELING BEGINS.
3.3 AS-BUILTS
A. AS-BUILTS SHALL BE PROVIDED BY THE CONTRACTOR IN HARDCOPY AND ELECTRONIC CAD FORMAT PRIOR TO PROJECT COMPLETION AND ACCEPTANCE.
B. AS-BUILTS BY CONTRACTOR MUST INCLUDE PART'S LISTS AND WIRING DIAGRAMS THAT CLEARLY INDICATE ALL EQUIPMENT LOCATIONS, WIRING AND CONNECTIONS.
C. OWNER'S MANUALS SHALL BE SUPPLIED AS PART OF THE AS-BUILT DOCUMENTATION.
3.4 DEMONSTRATION AND TRAINING
A. ALL ASPECTS OF THE SYSTEMS MUST BE DEMONSTRATED FOR THE OWNER AT THE TIME OF TRAINING.
B. TRAINING SHALL BE VIDEO AND AUDIO RECORDED FOR THE OWNER AND TURNED OVER TO THE OWNER AT ACCEPTANCE.
3.5 ACCEPTANCE
A. CONTRACTORS' WORK SHALL BE CONSIDERED COMPLETE AFTER THE FOLLOWING CONDITIONS HAVE BEEN MET:
1. AS-BUILT DOCUMENTATION HAS BEEN PROVIDED AND APPROVED
2. CABLE INSTALLATION IS COMPLETE AND ALL CABLE RUNS HAVE BEEN TESTED AND DOCUMENTED TO BE INSTALLED ACCORDING TO SPECIFICATIONS AND DRAWINGS.
3. EQUIPMENT INSTALLATION IS COMPLETE AND ALL FUNCTIONS HAVE BEEN TESTED AND DOCUMENTED TO FUNCTION AS DESIGNED AND PER THE MANUFACTURER'S RECOMMENDATIONS.
4. ALL PUNCH LIST ITEMS HAVE BEEN RECONCILED.
5. ALL DISTURBED CEILING PANELS, FIRE STOPPING MATERIALS, COVERS, ETC. HAVE BEEN PROPERLY REINSTALLED.
6. ALL MATERIALS AND TRASH HAVE BEEN REMOVED FROM THE SITE.
7. A 1-YEAR INSTALLERS WARRANTY HAS BEEN GIVEN TO A TECHNOLOGY REPRESENTATIVE.
8. SUBMIT MANUFACTURER'S EXTENDED WARRANTY APPLICATION.
END OF SECTION

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SPECIFICATIONS
T406.1

SECTION 28 1000 - ACCESS AND INTRUSION SYSTEMS

PART 1 - GENERAL

1.1 REQUIREMENTS

A. THE GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND GENERAL REQUIREMENTS APPLY TO THE WORK SPECIFIED IN THIS SECTION.

B. INFORMATION MUST BE SUBMITTED TO THE PSD PROJECT MANAGER TO COORDINATE SYSTEM DEVICE PROGRAMMING WITH EXISTING INTEGRATION. INFORMATION MUST INCLUDE THE DESCRIPTION OF EACH DEVICE AND ITS ADDRESS ON THE DOOR/ELEVATOR CONTROL BOARD. A FLOOR PLAN SHOWING THE FINAL DEVICE LOCATIONS MUST ALSO BE SUBMITTED AT THIS TIME.

C. VENDORS MUST BE RSI LEVEL 3 PARTNERS.

D. ALL SECURITY EQUIPMENT WILL CONNECT TO THE CITYWIDE ENTERPRISE SECURITY SYSTEM – RSI ACCESS IT.

E. ALL INSTALLATION AND SERVICE TECHNICIANS MUST BE FACTORY TRAINED AND ALL PERSONNEL RESPONSIBLE FOR SYSTEM DEPLOYMENT MUST BE CERTIFIED BY APPLICABLE MANUFACTURER. A CURRENT COPY OF EACH OF THESE CERTIFICATIONS MUST BE PROVIDED WITH THE BID RESPONSE.

F. CONTRACTOR MUST PROVIDE CURRENT CERTIFICATIONS FOR SALES AND ENGINEERING TRAINING FOR RSI ACCESS IT.

G. THE VENDOR WILL FLASH ALL RID MULTICLASS READERS TO "PROX PRIORITY" MODE USING VENDOR-PROVIDED CONFIGURATION CARD 2060-04-0-000001 PRIOR TO ACCEPTANCE TESTING BY PSD.

H. ACCESS CONTROL SYSTEM DEVICE PROGRAMMING WILL BE COORDINATED WITH BY SYSTEM INTEGRATOR. IT WILL PERFORM ACS PROGRAMMING. BIDS SHOULD NOT INCLUDE SYSTEM PROGRAMMING BUT MAY INCLUDE TECHNICIAN TIME TO COORDINATE AND TEST PROGRAMMING PERFORMED BY OTHERS.

1. THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR PROGRAMMING ALL OTHER SYSTEM DEVICES INCLUDING, BUT NOT LIMITED TO INTRUSION DETECTION SYSTEM AND EQUIPMENT.

I. ALL DEVICE LOCATIONS ARE SHOWN ON THE SECURITY LAYOUTS AND SHOULD BE CONFIRMED PRIOR TO INSTALLATION DURING A PRE-INSTALLATION WALKTHROUGH WITH PSD.

J. ANY EQUIPMENT NECESSARY TO THE INSTALLATION OF THE LISTED ITEMS SHOULD BE INCLUDED IN THIS WORK.

1. THE OWNER EXPECTS A "TURNKEY" SYSTEM WITHOUT ADDITIONAL EQUIPMENT NEEDED TO FULFILL THE SCOPE OF WORK.

2. INFRASTRUCTURE ITEMS, SUCH AS POWER AND LAN CONNECTIVITY, THAT MUST BE FURNISHED BY OTHERS PRIOR TO INSTALLATION MUST BE SPECIFIED IN THE BID.

K. SUBSTITUTIONS TO THE PSD STANDARD EQUIPMENT ARE NOT PERMITTED, EXCEPT WHERE AN ITEM IS NO LONGER MANUFACTURED OR WHERE FIELD CONDITIONS PROHIBIT IT'S INSTALLATION. ANY SUBSTITUTION MUST BE APPROVED BY PSD AND INCLUDE A REASON FOR THE SUBSTITUTION AND ASSOCIATED CUT SHEET.

1.2 SUMMARY

A. PROVIDE A COMPLETE AND FULLY OPERATIONAL ACCESS CONTROL AND INTRUSION DETECTION SYSTEM AS DESCRIBED HEREIN AND THE CONTRACT DRAWINGS.

1.3 SYSTEM DESCRIPTION

A. DESIGN REQUIREMENTS

1. THE ACCESS CONTROL AND INTRUSION DETECTION SYSTEMS SHALL CONSIST OF THE FOLLOWING

a. BASE PANEL
b. EXPANSION MODULES
c. KEYPADS
d. ANNUNCIATORS
e. MOTION DETECTORS
f. DOOR CONTACTS
g. COMMUNICATION MODULES
h. PCS
i. SOFTWARE

B. PERFORMANCE REQUIREMENTS

1. THE INTRUSION DETECTION SYSTEM WILL ALERT AND RECORD MOVEMENT THROUGHOUT THE FACILITY THAT IS BOTH AUTHORIZED AND UNAUTHORIZED.
2. THE SYSTEMS WILL BE CAPABLE OF COMMUNICATING ONSITE AS WELL AS TO REMOTE LOCATIONS.
3. THE SYSTEMS SHALL BE CONTROLLABLE IN CASE OF EMERGENCY SITUATION.
4. ALL SYSTEMS SHALL OPERATE ON DEDICATED CIRCUITS WITH ASSOCIATED CABLING IN EMT.

1.4 SUBMITTALS

A. PRODUCT DATA CATALOG SHEETS WITH SPECIFIC DEVICES HIGHLIGHTED.

B. SHOP DRAWINGS WITH A DETAILED RISER DIAGRAM SHALL BE PROVIDED. DEVICE LOCATIONS AS WELL AS CABLE PATHS WILL ALSO BE PROVIDED.

C. QUALITY ASSURANCE/CONTROLS SUBMITTALS

1. DESIGN DATA FOR THE SYSTEM SHALL BE SUBMITTED WITH THE PROPOSED SUBMITTALS.
2. UPON COMPLETION OF THE INSTALLATION, TEST REPORTS SHALL BE SUBMITTED TO VERIFY THAT THE SYSTEM IS FULLY OPERATIONAL AND FUNCTIONING PROPERLY.
3. CERTIFICATES OF DESIGNER AND INSTALLER SHALL BE SUBMITTED WITH JOB SUBMITTALS.
4. MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED AND INCORPORATED IN THE DESIGN OF THE SYSTEM

D. AS BUILT DRAWINGS MUST BE SUPPLIED TO THE OWNER AND INCLUDE FULL SYSTEM LAYOUT FOR EACH SYSTEM.

E. OWNER'S MANUALS AND OPERATION MANUALS COMPLETE WITH ALL CODES AND PASSWORDS NECESSARY TO CONTROL AND MAINTAIN THE SYSTEM MUST BE SUPPLIED PRIOR TO COMPLETION.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. THE ACCESS CONTROL SYSTEM SHALL BE RSI
B. THE INTRUSION DETECTION SYSTEM SHALL BE DMP.
C. THE VIDEO ENTRY PHONE SYSTEM SHALL BE AIPHONE

2.2 EQUIPMENT

A. ACCESS CONTROL EQUIPMENT

1. SECURITY CONTROL PANEL
   a. RSI EP-1502
B. SMART-1 SERIES MULTIPLEXER
   a. RSI MUX
C. SMART-1 SERIAL DEVICE HUB
   a. RSI HUB4
D. SMART-1 SERIAL RELAY OUTPUTS
   a. RSI4RO-SERIAL
E. POWER SUPPLY PANEL
   a. RSI UPS
F. ENCLOSURE WITH HOUSE FOR 8 DOORS
   a. RSI ENCLASPAY
G. DOOR CONTROL/MONITORING INTERFACE UNITS
   a. RSI 8IN/0OUT (W/ FLEX CABLE)
   b. RSI 8IN/8R (W/ FLEX CABLE)
   c. RSI SECURITY WALL EXPANSION OF ME ENTRY PANELS ONLY)
H. SMART-1 KEYPAD/CARD READERS
   a. RSI 4845 MULTICLASS (STANDARD READER)
   b. RSI 8815 MULTICLASS (LIMITED SPACE READER)
   c. RSI SECURITY PROXIMITY KEYPAD/PROX CHILLER TYPE
I. SMART-1 TO DMP ADAPTER
   a. 8CREDX- RSI 1868
   b. 8DKEYX- RSI 8KEYX
J. EMERGENCY EXIT BUTTONS
   a. CED-MUSHROOM 1152
   b. EXCLUSION-ECB2N
K. DOOR POSITION SENSORS
   a. 958TECH, 958EMA-4P (WIDE GAP, 4 REED SWITCH LOCATIONS)
   b. 958TECH, 958N SERIES, ARMORED CABLE (SURFACE LOCATION)
   c. 958TECH, 100N SERIES, ARMORED CABLE (RECESSED DOOR LOCATIONS)

B. INTRUSION DETECTION EQUIPMENT

1. CONTROL PANEL
   a. DMP XR550N
2. ZONE EXPANDER MODULE
3. KEYPAD
   a. DMP 7060
4. SIREN
   a. DMP SI3
5. PIR MOTION DETECTOR
   a. TBD
6. CABLING – PER MANUFACTURER'S SPECIFICATIONS
   + WIRE GAUGE SIZED FOR LENGTH OF CABLE RUN

PART 3 - EXECUTION

3.1 EXAMINATION

A. THIS CONTRACTOR SHALL VISIT THE SITE PRIOR TO INSTALLATION OF THE SYSTEMS TO VERIFY SITE CONDITIONS.

3.2 INSTALLATION

A. THIS CONTRACTOR AS DIRECTED BY THE EQUIPMENT MANUFACTURER SHALL MAKE ALL CONNECTIONS (AND WIRING) AND CONNECTIONS.
B. THIS CONTRACTOR SHALL LABEL ALL ACCESS CONTROL AND INTRUSION DETECTION SYSTEM JUNCTION BOXES CONFORMING WITH THE ZONE NUMBERS CONTAINED THEREIN.
C. THIS CONTRACTOR UNDER THE DIRECT SUPERVISION OF THE OWNER'S TECHNICAL STAFF SHALL PERFORM THE INSTALLATION AND FINAL CONNECTIONS OF ALL COMPONENTS AND WIRING.
D. ALL HORIZONTAL LENGTHS, FOLLOWING POINTS A THRU B ABOVE, WHETHER EXPOSED OR CONCEALED, SHALL BE SUPPORTED MAXIMUM DISTANCE BETWEEN ALL SUPPORTS SHALL NOT EXCEED EIGHT (8) FEET.
E. DEVICES

1. ALL ACCESS CONTROL AND INTRUSION SYSTEM DEVICES SHALL BE INSTALLED AS PER THE MANUFACTURER'S INSTALLATION GUIDES.

F. FIELD WIRING

1. ALL HORIZONTAL LOW VOLTAGE FIELD WIRING TO BE INSTALLED IN AREAS WITH ACCESSIBLE CEILINGS SHALL BE INSTALLED BY THIS CONTRACTOR BUNDLED TOGETHER AND RUN EXPOSED ABOVE THE CEILINGS. BUNDLES SHALL BE SUPPORTED BY "J" HOOKS MOUNTED NOT MORE THAN FOUR (4) FEET ON CENTER. "J" HOOKS TO BE INDICATED TO THE WIRING SPECIFIED IN THIS SPECIFICATION SECTION.
2. ALL WIRING SHALL BE CHECKED AND TESTED BY THIS CONTRACTOR TO INSURE THE SYSTEM IS FREE FROM SHORTS, OPENS AND GROUNDS.

3.3 ADJUSTING

A. DEVICES SHALL BE ADJUSTED/CALIBRATED ONCE SYSTEM IS OPERATIONAL TO ENSURE PROPER AND FULL FUNCTIONALITY OF THE SYSTEM

1.4 AS-BUILTS

A. AS-BUILT DOCUMENTS SHALL BE PROVIDED IN HARDCOPY AND ELECTRONIC CAD FORMAT AND MUST CLEARLY SHOW ALL DEVICES EQUIPMENT AND CABLES.

1.5 DEMONSTRATION

A. FURNISH TO THE OWNER'S DESIGNATED REPRESENTATIVE EIGHT (8) HOURS OF ON-THE-JOB TECHNICAL SERVICE INSTRUCTIONS IN THE OPERATING, MAINTENANCE, AND TROUBLE-SHOOTING OF THE SYSTEM.

END OF SECTION

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SECTION 28 2000 - CCTV EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES
1. LOCAL AREA NETWORK (LAN) CABLING SYSTEM FOR CCTV
2. HORIZONTAL CABLING SYSTEM

1.2 REFERENCES

A. COMPLY WITH APPLICABLE REQUIREMENTS IN LOCAL, STATE AND FEDERAL CODES, TIA/EIA STANDARDS, AND BICSI METHODOLOGY.

1.2 SYSTEM DESCRIPTION

A. DESIGN REQUIREMENTS
1. ALL WIRING SHALL BE PLENUM RATED
2. ALL WIRING INCLUDING COPPER AND FIBER OPTIC EMPLOYS A STAR TOPOLOGY.
3. NETWORK CABLES ROUTED FROM DISTRIBUTION RACKS THROUGHOUT BUILDING IN CORRIDOR CEILING. IF AVAILABLE OR OTHER LOCATIONS AS SHOWN ON TO DRAWINGS. DROP TO CAMERA INSTALLED IN CONDUIT AND WALL BOX, OR SURFACE MOUNTED RACEWAY TO COMMUNICATIONS OUTLET IN OFFICES, OR OTHER LOCATIONS INDICATED ON TO DRAWINGS.
4. PERMANENTLY IDENTIFY AND LABEL ALL CABLES AND TERMINATION DEVICES AT DISTRIBUTION RACK/CABINET AND WORKSTATION IN ACCORDANCE WITH ANSI TIA/EIA-606 STANDARD OR AS AGREED BY ARCHITECT AND OWNER.
5. REMOVE AND REPLACE ANY CABLES FAILING TO MEET END-TO-END TESTING REQUIREMENTS. DO NOT ABANDON CABLE IN PLACE. ALL CABLE SHALL BE TERMINATED AT BOTH ENDS, UNLESS NOTED IN TO DRAWINGS.

1.4 SUBMITTALS

A. PRODUCT DATA
1. SPECIFIC PARTS AND EQUIPMENT MODELS MUST BE HIGHLIGHTED OR LISTED. SUBMITTALS NOTE MEETING THESE CRITERIA SHALL BE REJECTED FOR RESUBMITTAL.
2. ACCESSORIES.
3. COPPER CABLE, PATCH CABLES AND TERMINATION DEVICES
4. TEST REPORTS
   a. SAMPLE OF EACH NETWORK CABLING TEST REPORT – FIBER OPTIC, COAX, AND UTP. SUBMIT COMPLETE SAMPLE TEST DATA AND REPORTS WITH EXACT LABELS USED ON CABLES, PATCH PANELS AND FACEPLATES.

1.5 WARRANTY

A. A FIFTEEN (15) YEAR EXTENDED PRODUCT WARRANTY AND SYSTEMS ASSURANCE WARRANTY FOR THIS WIRING SYSTEM SHALL BE PROVIDED BY THE MANUFACTURER.
B. SYSTEM CERTIFICATION. UPON SUCCESSFUL COMPLETION OF THE INSTALLATION AND SUBSEQUENT INSPECTION, THE OWNER SHALL BE PROVIDED WITH A NUMBERED CERTIFICATE, FROM THE MANUFACTURING COMPANY, REGISTERING THE INSTALLATION.

PART 2 - PRODUCTS

2.1 COMPONENTS

A. COPPER TWISTED PAIR DATA CABLES
1. 100 OHM CATEGORY 6/6A UNSHIELDED TWISTED PAIR CABLE (UTP)
2. ADDITIONAL BALANCED TWISTED-PAIR CABLING COMPONENTS
   a. CAT 6 PATCH CABLES
   b. FACTORY TERMINATED AND TESTED UTP PATCH CABLES AT WORKSTATION AND EQUIPMENT CROSS-CONNECT MEETING REQUIREMENTS OF ANSI/TIA/EIA-568-B FOR PATCH CABLE TESTING.
   c. PROVIDE QUANTITY 3 FOR EACH COMPUTER OUTLET OF SUFFICIENT LENGTH TO REACH WORKSTATION FROM
3. CAT 6 PATCH PANELS

PART 3 - EXECUTION

3.1 EXAMINATION

A. SITE VERIFICATION OF CONDITIONS
1. EXAMINE CONDITIONS UNDER WHICH TELECOMMUNICATIONS CABLING AND EQUIPMENT AND RELATED COMPONENTS ARE TO BE INSTALLED IN COORDINATION WITH INSTALLER OF MATERIALS AND COMPONENTS SPECIFIED IN THIS SECTION AND NOTIFY AFFECTED PRIME CONTRACTORS AND ARCHITECT IN WRITING OF ANY CONDITIONS DETRIMENTAL TO PROPER AND TIMELY INSTALLATION. DO NOT PROCEED WITH INSTALLATION UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED TO ENSURE A SAFE AND TIMELY INSTALLATION.

3.2 INSTALLATION

A. PROVIDE AND INSTALL ALL COMPONENTS NECESSARY TO ENSURE COMPLETE TELECOMMUNICATIONS CABLING AND E EQUIPMENT SYSTEMS, INCLUDING BUT IS NOT LIMITED TO: CONNECTORS, PATCH CABLES, TERMINATORS, ETC.
B. SECURE ALL HORIZONTAL CABLES WITHIN CEILING CAVITIES TO BUILDING STRUCTURE.
1. CAREFULLY BUNDLE ALL CABLES AND SUPPORT FROM STRUCTURE AT UNIFORM INTERVALS FROM 3 TO 5 FEET WITH SPACING OF 5 FEET. FASTENERS AND CABLE CLIP SHALL BE RATED FOR USE WITH HIGH PERFORMANCE CABLES. CABLE TO CAUSE DEFECTS "CABLE TIES" OR APPROVED ALTERNATE MOUNTING METHODS INCLUDING PLACEMENT IN CABLE TRAY AS INDICATED ON DRAWINGS.
2. DO NOT EXCEED MANUFACTURER'S RECOMMENDED LOADING. LEAVE 30% CAPACITY FOR FUTURE USE OF PATHWAY.
3. VERIFY ALL HORIZONTAL CABLE RUN LENGTHS PRIOR TO INSTALLATION. RE-ESTIMATE INDIVIDUAL CABLING TO MEASURED DISTANCE REQUIREMENTS AND MARK IN PATHWAY WITH ACCESSIBILITY.
4. PROVIDE EACH CABLE AS CONTINUOUS SECTION FROM POINT OF ORIGIN TO POINT OF TERMINATION. FIELD SPLICES OR MECHANICAL COUPLING USED FOR INSTALLATION NOT ACCEPTABLE.
5. INSTALL CABLES IN CONDUIT OR ALL UNFINISHED, EXPOSED AREAS AS SHOWN IN ARCHITECTURAL RISER PLANS WHERE CONFLICTING SPACES, REFERENCE ON DRAWINGS ARE NOTED.
6. VELCRO STRAPS SHALL BE USED TO BUNDLE CABLES. DO NOT BUNDLE CABLES WITH PERMANENT CABLE TIES. DO NOT DEFORM CABLE BUNDLES IN SUCH A WAY AS TO CAUSE SIGNAL INFORMATION OR DAMAGE.
7. PROVIDE A MINIMUM OF 3 OF CABLE SLACK AT WORKSTATIONS AND 20 FEET OF SLACK AT TELECOM ROOMS, UNLESS NOTED OTHERWISE.
8. PROVIDE A SLACK LOOP IN ALL FIBER OPTICAL CABLES TO PERMIT FUTURE CABLE SPLICE AND REPAIR AT ALL BUILDING ENTRANCE POINTS AND TERMINATION POINTS.
9. PLACE CABLES IN COMPLIANCE WITH MANUFACTURER'S STANDARDS AND BICSI RECOMMENDED METHODS.
10. RE-TERMINATE AND REPEAT ANY FAILED OR PAIRS OF CABLES FAILING END-TO-END TESTING REQUIREMENTS. REPLACE ANY FAULTY CABLE INSTALLED OR TERMINATION DEVICES. REMOVE ALL DEFECTIVE CABLES COMPLETELY FROM PATHWAYS.
C. PERMANENTLY IDENTIFY ALL SYSTEM COMPONENTS FOLLOWING TIA/EIA-606 IDENTIFICATION STANDARD FOR COMMERCIAL TELECOMMUNICATIONS INFRASTRUCTURE. BOTH SERVICE AND TENANT.
D. IDENTIFICATION: PROVIDE PERMANENT IDENTIFICATION LABELS FOR OUTLETS + CONDUITS, IN FOR ANGLE ACCESS HANDLE

3.3 CLOSEOUT

A. CONTRACTOR SHALL SUPPLY COMPLETE AS-BUILTS IN AUTOCAD AND ELECTRONIC AUTOCAD 20 IN FORMAT.
B. AS-BUILTS SHALL INCLUDE ALL DEVICE LOCATIONS, PASSIVE COMPONENTS, CABLE ROUTING OF BLUE LINE AND OTHER RELEVANT INFORMATION.

3.4 ACCEPTANCE

A. CONSTRUCTION WORK SHALL BE CONSIDERED COMPLETE AFTER THE FOLLOWING CONDITIONS HAVE BEEN MET:
1. CABLE INSTALLATION IS COMPLETE AND ALL CABLE RUNS HAVE BEEN TESTED AND DOCUMENTED TO BE INSTALLED ACCORDING TO SPECIFICATIONS AND DRAWINGS.
2. A TECHNICIAN REPRESENTATIVE HAS SUCCESSFULLY TESTED THE VOICE SYSTEM.
3. ALL "PUNCH LIST ITEMS AS" HAVE BEEN CORRECTED.
4. ALL BUILDING CEILING PANELS, PENETRATIONS, COVERS, ETC. HAVE BEEN REPLACED TO THEIR PROPER LOCATIONS.
5. ALL EQUIPMENT AND TRASH HAVE BEEN REMOVED FROM THE SITE.
6. A 1 YEAR INSTALLER WARRANTY HAS BEEN GIVEN TO A TECHNOLOGY REPRESENTATIVE.
7. SUBMIT MANUFACTURER'S EXTENDED WARRANTY APPLICATION.

END OF SECTION

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