

OWNER:
MAINE MEDICAL CENTER

22 Bramhall St, Portland, ME, 04102

ARCHITECT:
Lavallee Brensinger Architects
305 Commercial Street
Portland, ME 04101
207.558.7200
www.LBPA.com

CONSTRUCTION MANAGER:
Hebert Construction
9 Gould Road
Lewiston, ME 04240
www.herbertconstruction.com

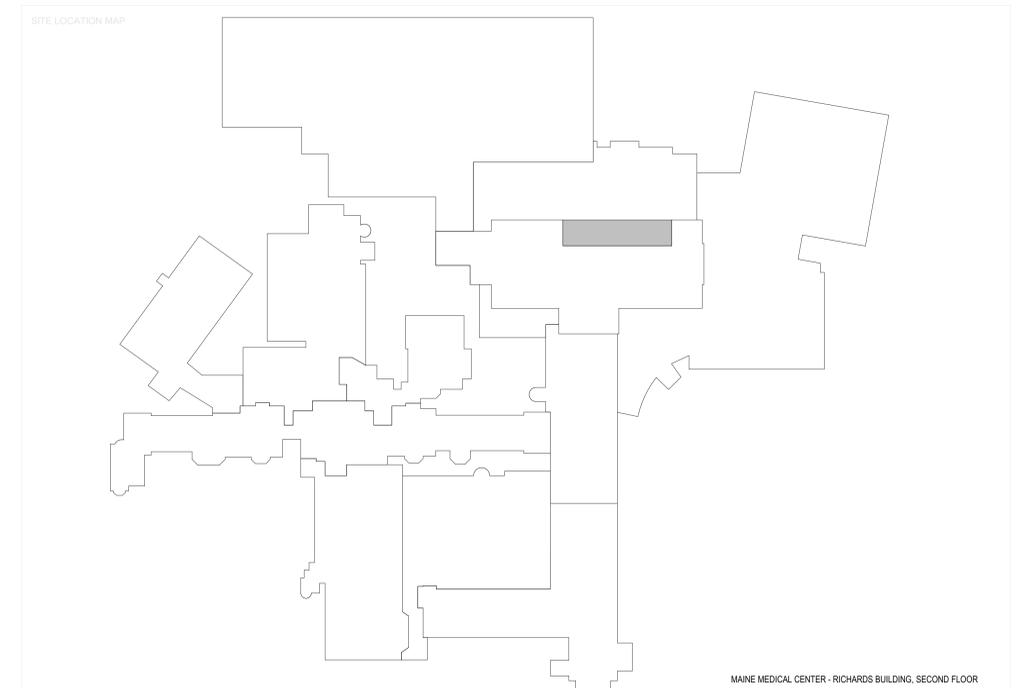
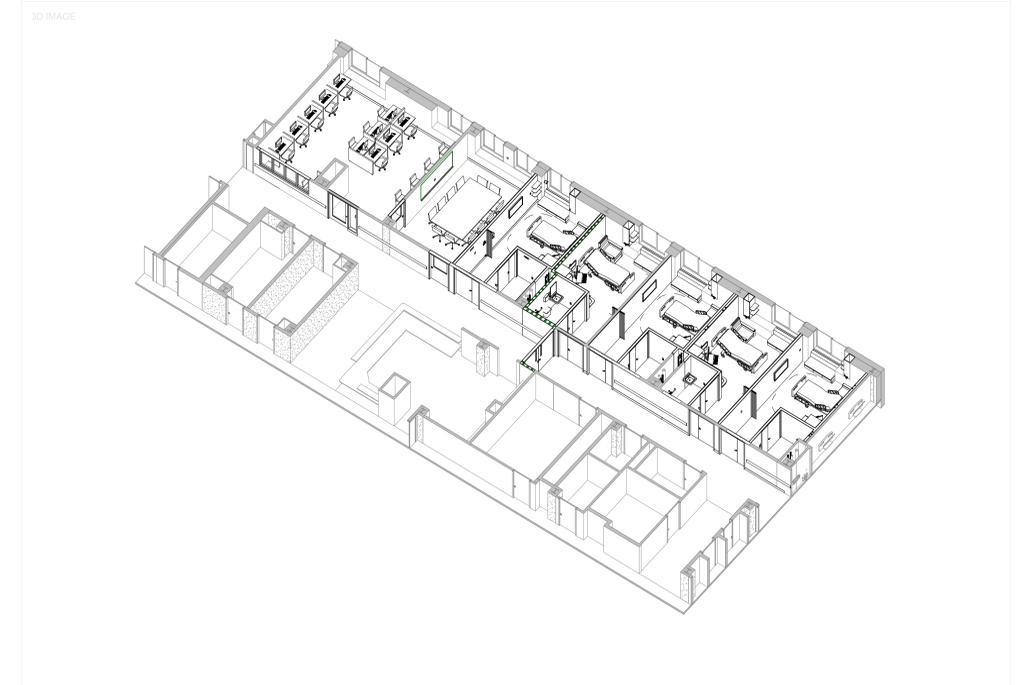
**MECHANICAL / ELECTRICAL / PLUMBING & FIRE
PROTECTION ENGINEER:**
Allied Engineering
160 Veranda Street
Portland, ME 04103
www.allied-eng.com

FOR ADDITIONAL INFORMATION, REFER TO PROJECT MANUAL.

ARCHITECTURAL	
Sheet #	Sheet Name
AD.1	FIRST DEMO PLAN
AD.2	SECOND FLOOR DEMOLITION PLAN
A0.1	LEGENDS, SYMBOLS, NOTES, PARTITION TYPES
A0.2	CODE ANALYSIS TEXT, SYMBOLS AND RATINGS
A0.3	DOOR SCHEDULE, DOOR & FRAME TYPES
A1.2	SECOND FLOOR PLAN & INTERIOR ELEVATIONS
A1.5	SECOND FLOOR REFLECTED CEILING PLAN
A1.6	PATIENT ROOM, TOILET PLANS, AND ELEVATIONS
A7.1	MILLWORK DETAILS
A11.0	GENERAL NOTES, LEGENDS, ROOM FINISH SCHEDULES, FLOOR PATTERN PLAN
EQ1.2	SECOND FLOOR EQUIPMENT PLAN
PLUMBING	
PD1.1	PLUMBING DEMOLITION FLOOR PLAN
P1.1	PLUMBING FLOOR PLAN
MECHANICAL	
MP0.0	NOTES, LEGEND AND ABBREVIATIONS
MD1.1	MECHANICAL DEMOLITION FLOOR PLAN
M1.1	MECHANICAL FLOOR PLAN
M5.0	MECHANICAL DRAWINGS
M6.0	MECHANICAL SCHEDULES
ELECTRICAL	
E0.0	ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL NOTES
E0.1	GENERAL & REMOVALS NOTES AND SCHEDULES
E1.0	ELECTRICAL REMOVALS & SYSTEMS PLANS AND NOTES
E1.1	LIGHTING PLAN AND NOTES
E1.2	POWER PLAN, SCHEDULE, AND NOTES
E6.0	SCHEDULES

MAINE MEDICAL CENTER

22 Bramhall St, Portland, ME, 04102



SYMBOLS LEGEND

DETAIL / SECTION NUMBER DRAWING	1 A1.3	DETAIL TITLE	
ELEVATION NUMBER DRAWING WHERE SHOWN	1 A1.1	ELEVATION	
DETAIL NUMBER DRAWING WHERE SHOWN	1 A1.01	SECTION DETAIL	
SECTION NUMBER DRAWING WHERE SHOWN	1 A1.01	BUILDING SECTION	
SECTION NUMBER DRAWING WHERE SHOWN	1 A1.01	WALL SECTION	
DETAIL NUMBER DRAWING WHERE SHOWN	1 A1.01	PLAN DETAIL	
1 CURTAIN WALL / STOREFRONT TYPE	Room name 101	ROOM NAME AND NUMBER	
1 WINDOW / LOUVER TYPE / FRAME TYPE	101	DOOR NUMBER	
1A ACCESSORY TYPE	11	PARTITION TYPE	
S1 DEMOLITION NOTE		INDICATES ALIGNMENT BETWEEN ADJACENT PARTITION FINISHES	
REVISION		WORK POINT, CONTROL POINT, OR DATUM POINT.	
REVISION		INDICATES BARRIER FREE ACCESS. ITEM DESIGNED TO THIS MUST COMPLY WITH LATEST EDITION STATE BARRIER FREE CODE AND FEDERAL ADA LEGISLATION.	
REVISION		NOT IN SCOPE OF WORK	
MATERIAL DESIGNATION: XX XXXX - XXXXXX (X) XXXX		ADDITIONAL MATERIAL TEXT REFER TO STRUCTURAL(S), MECHANICAL(M), ELECTRICAL(E) MATERIAL NAME REFERENCE SPECIFICATIONS NUMBER	

GRAPHICS LEGEND

	THERMAL OR ACOUSTIC FIBERGLASS INSULATION, UNO.		NEW CONSTRUCTION
	CMU PARTITION		EXISTING CONSTRUCTION TO REMAIN
	CONCRETE		EXISTING CONSTRUCTION TO BE REMOVED
	STEEL		EXISTING DOOR TO REMAIN
	RIGID INSULATION		NEW DOOR AND FRAME
	LOAM / EARTH		NEW COLUMN GRID INDICATORS
	GRAVEL		EXISTING COLUMN GRID INDICATORS
	SPRAYED-ON FIREPROOFING		
	WOOD BLOCKING		
	GWB + SHEATHING		

CEILING LEGEND

	2 x 4 ACT	TYPE 01	CEILING TYPE
	2 x 2 ACT	(X-XX AFF)	CEILING HEIGHT

NOTE: SEE MECHANICAL, ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
NOTE: SEE RATING PLANS FOR LOCATIONS OF RATED CEILING.

DOOR CLEARANCES

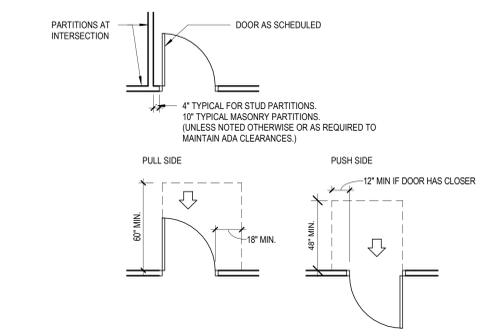
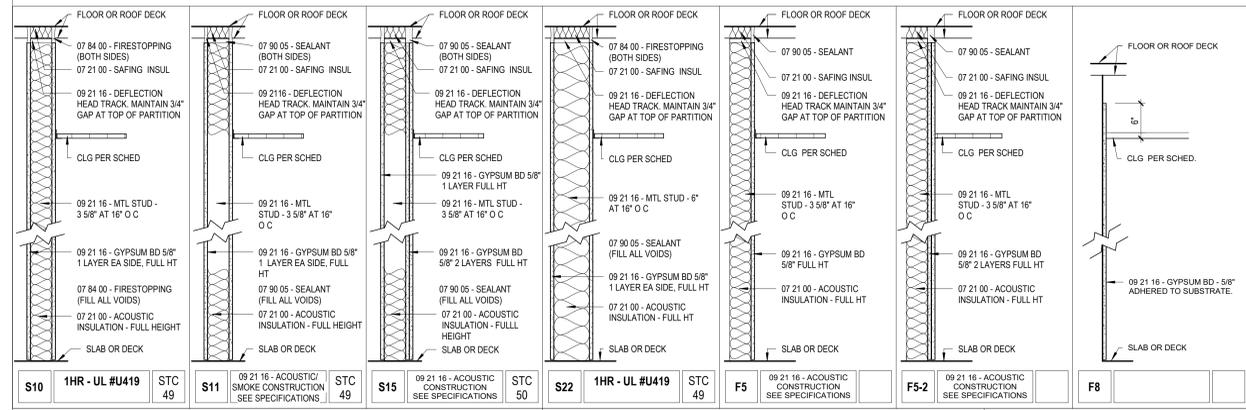


TABLE OF ABBREVIATIONS

THE FOLLOWING TABLE OF ABBREVIATIONS IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. IT IS NOT INTENDED TO SERVE AS A COMPLETE LIST OF ALL ABBREVIATIONS TO BE FOUND IN THE CONTRACT DOCUMENTS. SHOULD THE CONTRACTOR REQUIRE ANY CLARIFICATION OR INTERPRETATION HEREOF, HE SHALL PROMPTLY SO NOTIFY THE ARCHITECT.

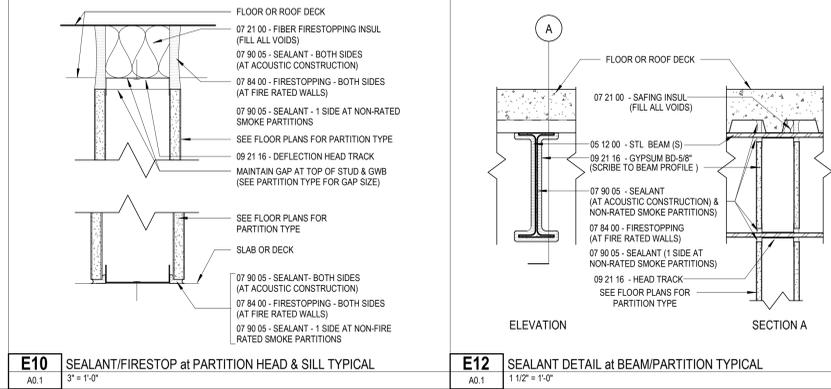
ARCHITECT	ARCHT	ANGLE	ANG	INTEGRAL COVE BASE	ICB
AREA	AREA	ARCHITECT	ARCHT	INCLUDE (ING)	INCL
ASSEMBLY	ASSEMBLY	INSIDE DIAMETER	ID	INSIDE DIAMETER	ID
ASSEMBLY	ASSEMBLY	INSULATION	INSUL	INSULATION	INSUL
ASSEMBLY	ASSEMBLY	INTERIOR	INT	INTERIOR	INT
ASSEMBLY	ASSEMBLY	INVERT	INVT	INVERT	INVT
ASSEMBLY	ASSEMBLY	INTERACTIVE WHITE BOARD	IWB	INTERACTIVE WHITE BOARD	IWB
ASSEMBLY	ASSEMBLY	JANITOR	JAN	JANITOR	JAN
ASSEMBLY	ASSEMBLY	JOINT	JOINT	JOINT	JOINT
ASSEMBLY	ASSEMBLY	KILN DRIED / KNOCK DOWN	KD	KILN DRIED / KNOCK DOWN	KD
ASSEMBLY	ASSEMBLY	KITCHEN	KITCHEN	KITCHEN	KITCHEN
ASSEMBLY	ASSEMBLY	KNOCK OUT	KNOCK OUT	KNOCK OUT	KNOCK OUT
ASSEMBLY	ASSEMBLY	LAVATORY	LAV	LAVATORY	LAV
ASSEMBLY	ASSEMBLY	LEFT HAND	LH	LEFT HAND	LH
ASSEMBLY	ASSEMBLY	LENGTH X WIDTH X HEIGHT	LWH	LENGTH X WIDTH X HEIGHT	LWH
ASSEMBLY	ASSEMBLY	LIGHT	LT	LIGHT	LT
ASSEMBLY	ASSEMBLY	LINEAR FEET	LF	LINEAR FEET	LF
ASSEMBLY	ASSEMBLY	MASONRY	MAS	MASONRY	MAS
ASSEMBLY	ASSEMBLY	MANUFACTURER	MFR	MANUFACTURER	MFR
ASSEMBLY	ASSEMBLY	MASONRY OPENING	MO	MASONRY OPENING	MO
ASSEMBLY	ASSEMBLY	MARKER BOARD	MB	MARKER BOARD	MB
ASSEMBLY	ASSEMBLY	MAXIMUM	MAX	MAXIMUM	MAX
ASSEMBLY	ASSEMBLY	MECHANICAL	MECH	MECHANICAL	MECH
ASSEMBLY	ASSEMBLY	MEDIUM CABINET	MC	MEDIUM CABINET	MC
ASSEMBLY	ASSEMBLY	MEDIUM	MED	MEDIUM	MED
ASSEMBLY	ASSEMBLY	METAL	MTL	METAL	MTL
ASSEMBLY	ASSEMBLY	MINIMUM	MIN	MINIMUM	MIN
ASSEMBLY	ASSEMBLY	MISCELLANEOUS	MISC	MISCELLANEOUS	MISC
ASSEMBLY	ASSEMBLY	MOISTURE RESISTANT	MR	MOISTURE RESISTANT	MR
ASSEMBLY	ASSEMBLY	MOLDING	MDG	MOLDING	MDG
ASSEMBLY	ASSEMBLY	WALK OFF MAT	WOM	WALK OFF MAT	WOM
ASSEMBLY	ASSEMBLY	NATURAL	NAT	NATURAL	NAT
ASSEMBLY	ASSEMBLY	NATURAL STONE	NS	NATURAL STONE	NS
ASSEMBLY	ASSEMBLY	NOISE REDUCTION COEFFICIENT	NRC	NOISE REDUCTION COEFFICIENT	NRC
ASSEMBLY	ASSEMBLY	NOT APPLICABLE	NA	NOT APPLICABLE	NA
ASSEMBLY	ASSEMBLY	NOT TO SCALE	NTS	NOT TO SCALE	NTS
ASSEMBLY	ASSEMBLY	NOT IN CONTRACT	NIC	NOT IN CONTRACT	NIC
ASSEMBLY	ASSEMBLY	NUMBER	NO	NUMBER	NO
ASSEMBLY	ASSEMBLY	ON CENTER	OC	ON CENTER	OC
ASSEMBLY	ASSEMBLY	OPENING	OPNG	OPENING	OPNG
ASSEMBLY	ASSEMBLY	OPPOSITE	OPP	OPPOSITE	OPP
ASSEMBLY	ASSEMBLY	OUTSIDE DIAMETER	OD	OUTSIDE DIAMETER	OD
ASSEMBLY	ASSEMBLY	OUTSIDE TO OUTSIDE	O/O	OUTSIDE TO OUTSIDE	O/O
ASSEMBLY	ASSEMBLY	OVERALL	OV	OVERALL	OV
ASSEMBLY	ASSEMBLY	OWNER FURNISHED OWNER INSTALLED	OFO	OWNER FURNISHED OWNER INSTALLED	OFO
ASSEMBLY	ASSEMBLY	OWNER FURNISHED CONTRACTOR INSTALLED	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED	OFCI
ASSEMBLY	ASSEMBLY	PAINT	PTD	PAINT	PTD
ASSEMBLY	ASSEMBLY	PAINTED	PTD	PAINTED	PTD
ASSEMBLY	ASSEMBLY	PAIR	PR	PAIR	PR
ASSEMBLY	ASSEMBLY	PARTITION	PRTN	PARTITION	PRTN
ASSEMBLY	ASSEMBLY	PATCH TO MATCH	PTM	PATCH TO MATCH	PTM
ASSEMBLY	ASSEMBLY	PAVEMENT	PVMT	PAVEMENT	PVMT
ASSEMBLY	ASSEMBLY	PERFORATED	PERF	PERFORATED	PERF
ASSEMBLY	ASSEMBLY	PERIMETER	PRM	PERIMETER	PRM
ASSEMBLY	ASSEMBLY	PLATE	PL	PLATE	PL
ASSEMBLY	ASSEMBLY	PLASTIC	PLAS	PLASTIC	PLAS
ASSEMBLY	ASSEMBLY	PLASTIC LAMINATE	PLM	PLASTIC LAMINATE	PLM
ASSEMBLY	ASSEMBLY	PLUMBING	PLUMB	PLUMBING	PLUMB
ASSEMBLY	ASSEMBLY	PLYWOOD	PLYWD	PLYWOOD	PLYWD
ASSEMBLY	ASSEMBLY	POLY VINYL CHLORIDE	PVC	POLY VINYL CHLORIDE	PVC
ASSEMBLY	ASSEMBLY	PORCELAIN TILE	PTL	PORCELAIN TILE	PTL
ASSEMBLY	ASSEMBLY	PREFINISHED	PRFIN	PREFINISHED	PRFIN
ASSEMBLY	ASSEMBLY	PRESSURE TREATED QUARRY TILE	PTQT	PRESSURE TREATED QUARRY TILE	PTQT
ASSEMBLY	ASSEMBLY	QUARTZ TILE	QTZ	QUARTZ TILE	QTZ
ASSEMBLY	ASSEMBLY	RADIUS	R	RADIUS	R
ASSEMBLY	ASSEMBLY	RADIUS	RD	RADIUS	RD
ASSEMBLY	ASSEMBLY	RESILIENT BASE	RB	RESILIENT BASE	RB
ASSEMBLY	ASSEMBLY	REFERENCED	REF	REFERENCED	REF
ASSEMBLY	ASSEMBLY	REFRIGERATOR	REFRIG	REFRIGERATOR	REFRIG
ASSEMBLY	ASSEMBLY	REQUIRED	REQD	REQUIRED	REQD
ASSEMBLY	ASSEMBLY	REVERSE	REV	REVERSE	REV
ASSEMBLY	ASSEMBLY	RIGHT HAND	RH	RIGHT HAND	RH
ASSEMBLY	ASSEMBLY	ROOF DRAIN	RD	ROOF DRAIN	RD
ASSEMBLY	ASSEMBLY	ROOM	RM	ROOM	RM
ASSEMBLY	ASSEMBLY	ROUGH OPENING	RO	ROUGH OPENING	RO
ASSEMBLY	ASSEMBLY	SEALED CONCRETE	SC	SEALED CONCRETE	SC
ASSEMBLY	ASSEMBLY	SHEET	SHT	SHEET	SHT
ASSEMBLY	ASSEMBLY	SHEET VINYL	SV	SHEET VINYL	SV
ASSEMBLY	ASSEMBLY	SIMILAR	SIM	SIMILAR	SIM
ASSEMBLY	ASSEMBLY	SOLID SURFACE	SS	SOLID SURFACE	SS
ASSEMBLY	ASSEMBLY	SOUND TRANSMISSION COEFFICIENT	STC	SOUND TRANSMISSION COEFFICIENT	STC
ASSEMBLY	ASSEMBLY	SPECIAL PAINT	SP	SPECIAL PAINT	SP
ASSEMBLY	ASSEMBLY	SPECIFICATIONS / SPECIFIED	SPEC	SPECIFICATIONS / SPECIFIED	SPEC
ASSEMBLY	ASSEMBLY	SQUARE	SQ	SQUARE	SQ
ASSEMBLY	ASSEMBLY	SQUARE FEET	SF	SQUARE FEET	SF
ASSEMBLY	ASSEMBLY	STAINLESS STEEL	SS	STAINLESS STEEL	SS
ASSEMBLY	ASSEMBLY	STANDARD	STD	STANDARD	STD
ASSEMBLY	ASSEMBLY	STEEL	STL	STEEL	STL
ASSEMBLY	ASSEMBLY	STONE TILE	STN	STONE TILE	STN
ASSEMBLY	ASSEMBLY	STORAGE	STRG	STORAGE	STRG
ASSEMBLY	ASSEMBLY	STRUCTURAL / STRUCTURE	STRUC	STRUCTURAL / STRUCTURE	STRUC
ASSEMBLY	ASSEMBLY	SUSPENDED	SUSP	SUSPENDED	SUSP
ASSEMBLY	ASSEMBLY	SYMMETRICAL	SYM	SYMMETRICAL	SYM
ASSEMBLY	ASSEMBLY	TACKABLE WALL PANEL	TWP	TACKABLE WALL PANEL	TWP
ASSEMBLY	ASSEMBLY	TACKBOARD	TACK	TACKBOARD	TACK
ASSEMBLY	ASSEMBLY	TELEPHONE	TEL	TELEPHONE	TEL
ASSEMBLY	ASSEMBLY	TELEVISION	TV	TELEVISION	TV
ASSEMBLY	ASSEMBLY	TEMPORARY	TEMP	TEMPORARY	TEMP
ASSEMBLY	ASSEMBLY	THICKNESS	THK	THICKNESS	THK
ASSEMBLY	ASSEMBLY	TO BE DETERMINED	TBD	TO BE DETERMINED	TBD
ASSEMBLY	ASSEMBLY	TONGUE AND GROOVE	T&G	TONGUE AND GROOVE	T&G
ASSEMBLY	ASSEMBLY	TOP AND BOTTOM	T&B	TOP AND BOTTOM	T&B
ASSEMBLY	ASSEMBLY	TO	TO	TO	TO
ASSEMBLY	ASSEMBLY	TOUCH UP	TU	TOUCH UP	TU
ASSEMBLY	ASSEMBLY	TRANSITION STRIP	TS	TRANSITION STRIP	TS
ASSEMBLY	ASSEMBLY	TYPICAL	TYP	TYPICAL	TYP
ASSEMBLY	ASSEMBLY	UNDERCUT	UC	UNDERCUT	UC
ASSEMBLY	ASSEMBLY	UNLESS NOTED OTHERWISE	UNO	UNLESS NOTED OTHERWISE	UNO
ASSEMBLY	ASSEMBLY	VAPOR BARRIER	VB	VAPOR BARRIER	VB
ASSEMBLY	ASSEMBLY	VERIFY	VFY	VERIFY	VFY
ASSEMBLY	ASSEMBLY	VERIFY IN FIELD	VIF	VERIFY IN FIELD	VIF
ASSEMBLY	ASSEMBLY	VERTICAL	VERT	VERTICAL	VERT
ASSEMBLY	ASSEMBLY	VINYL COMPOSITE TILE	VCT	VINYL COMPOSITE TILE	VCT
ASSEMBLY	ASSEMBLY	VINYL WALLCOVERING	VWC	VINYL WALLCOVERING	VWC
ASSEMBLY	ASSEMBLY	WALL PROTECTION PANEL	WPP	WALL PROTECTION PANEL	WPP
ASSEMBLY	ASSEMBLY	WATER CLOSET	WC	WATER CLOSET	WC
ASSEMBLY	ASSEMBLY	WATER PROOF	WP	WATER PROOF	WP
ASSEMBLY	ASSEMBLY	WELDED WIRE FABRIC	WWF	WELDED WIRE FABRIC	WWF
ASSEMBLY	ASSEMBLY	WIRE GLASS	WG	WIRE GLASS	WG
ASSEMBLY	ASSEMBLY	WITH	WTH	WITH	WTH
ASSEMBLY	ASSEMBLY	WITHOUT	WTHOUT	WITHOUT	WTHOUT
ASSEMBLY	ASSEMBLY	WOOD	WD	WOOD	WD
ASSEMBLY	ASSEMBLY	WOOD VENEER PANELING	WVP	WOOD VENEER PANELING	WVP

WALL / PARTITION TYPES



GENERAL PARTITION NOTES

- ALL PARTITIONS ARE TYPE S11 UNLESS OTHERWISE INDICATED.
- AT ALL ROOMS SCHEDULED TO RECEIVE 09 30 00 - CERAMIC WALL TILE, USE TILE BACKER BOARD IN LIEU OF GWB BEHIND TILE.
- ACOUSTICAL CONSTRUCTION: SEAL ALL CRACKS, JOINTS, AND VOIDS IN ACOUSTICAL CONSTRUCTION AIR TIGHT. SEALING SHALL INCLUDE:
 - SEALING BOTTOM EDGES OF GYPSUM BOARD TO FLOOR BEHIND BASE AT BOTH SIDES OF PARTITIONS.
 - SEALING TOP AND SIDE EDGES OF GYPSUM BOARD AT BOTH SIDES OF WALLS ABUTTING OTHER CONSTRUCTION.
 - SEALING TOP OF WALL TO DECK FLUTES.
 - SEALING ALL WALL PENETRATIONS INCLUDING ELECTRICAL BOXES, PIPES, CONDUITS, DUCTS, BEAMS, JOISTS, ETC.
- AT PARTITION INFILL LOCATIONS, INFILL TO MATCH ADJACENT MATERIALS AND FIRE RESISTANCE RATING.
- SEE E10 & E12 FOR TYPICAL SEALANT/FIRESTOP CONDITIONS

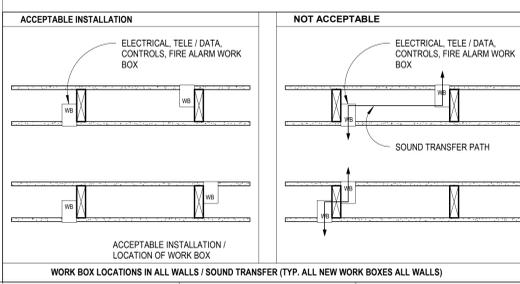


ACCESSORIES

10 28 00	10 28 00	10 28 00	10 28 00	10 28 00	10 28 00	10 28 00	10 28 00	10 28 00	10 28 00	
LARGE ROLL TOILET PAPER DISPENSER	PAPER TOWEL DISPENSER	MIRROR	SOAP DISPENSER	ROBE HOOK	GRAB BAR	MARKERBOARD	SHARPS CONTAINER	GLOVE DISPENSER	VERTICAL RAIL	HAND SANITIZER
FURNISHED BY OWNER, INSTALLED BY CONTRACTOR	FURNISHED BY OWNER, INSTALLED BY CONTRACTOR	FURNISHED BY OWNER, INSTALLED BY CONTRACTOR	FURNISHED BY OWNER, INSTALLED BY CONTRACTOR	FURNISHED BY OWNER, INSTALLED BY CONTRACTOR	FURNISHED BY OWNER, INSTALLED BY CONTRACTOR	FURNISHED BY OWNER, INSTALLED BY CONTRACTOR	FURNISHED BY OWNER, INSTALLED BY CONTRACTOR	FURNISHED BY OWNER, INSTALLED BY CONTRACTOR	FURNISHED BY OWNER, INSTALLED BY CONTRACTOR	FURNISHED BY OWNER, INSTALLED BY CONTRACTOR
PLAN	PLAN	PLAN	PLAN	PLAN	PLAN	PLAN	PLAN	PLAN	PLAN	PLAN
ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION

GENERAL NOTES

- ALL DIMENSIONS ARE TO FACE OF STUD, UNO.
- ALL DIMENSIONS TO EXISTING WALLS ARE TO FACE OF FINISH.
- ALL ARCHITECTURE INTERIOR SHEET DIMENSIONS ARE TO FACE OF FINISH, UNO.
- ALL SPLAYS SHOWN ON PLANS ARE 45°, UNO.
- ALL EXPOSED MECHANICAL AND ELECTRICAL SERVICES IN AREAS WITHOUT CEILINGS SHALL BE CAREFULLY COORDINATED AND ORGANIZED SO AS TO PROVIDE A NEAT AND ORDERLY APPEARANCE. SERVICES SHALL BE RUN IN STRAIGHT LINES PARALLEL OR PERPENDICULAR TO EXPOSED STRUCTURE. ALL SERVICES SHALL BE RUN WITHIN OR BETWEEN EXPOSED STRUCTURE TO THE EXTENT POSSIBLE. LAYOUTS FOR PROPOSED SERVICES SHALL BE REVIEWED WITH THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
- THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR VERIFYING DIMENSIONS. ALL DISCREPANCIES BETWEEN ANTICIPATED AND ACTUAL CONDITIONS SHALL BE PROMPTLY BROUGHT TO THE ARCHITECT'S ATTENTION.
- CONTRACTOR SHALL PROVIDE FULLY ENGINEERED STAMPED DRAWINGS FOR ALL NEW PARTITIONS WITH SPECIAL CONDITIONS AS CALLED FOR IN THE SPECIFICATIONS 09 21-16 SECTION 1.04 SUBMITTALS.



MAINE MEDICAL CENTER

MAINE MEDICAL CENTER - R2 RENOVATION
RICHARDS BUILDING, LEVEL 2

22 Bramhall St, Portland, ME, 04102

NO.	DESCRIPTION	DATE

FOR ADDITIONAL INFORMATION, REFER TO PROJECT MANUAL.

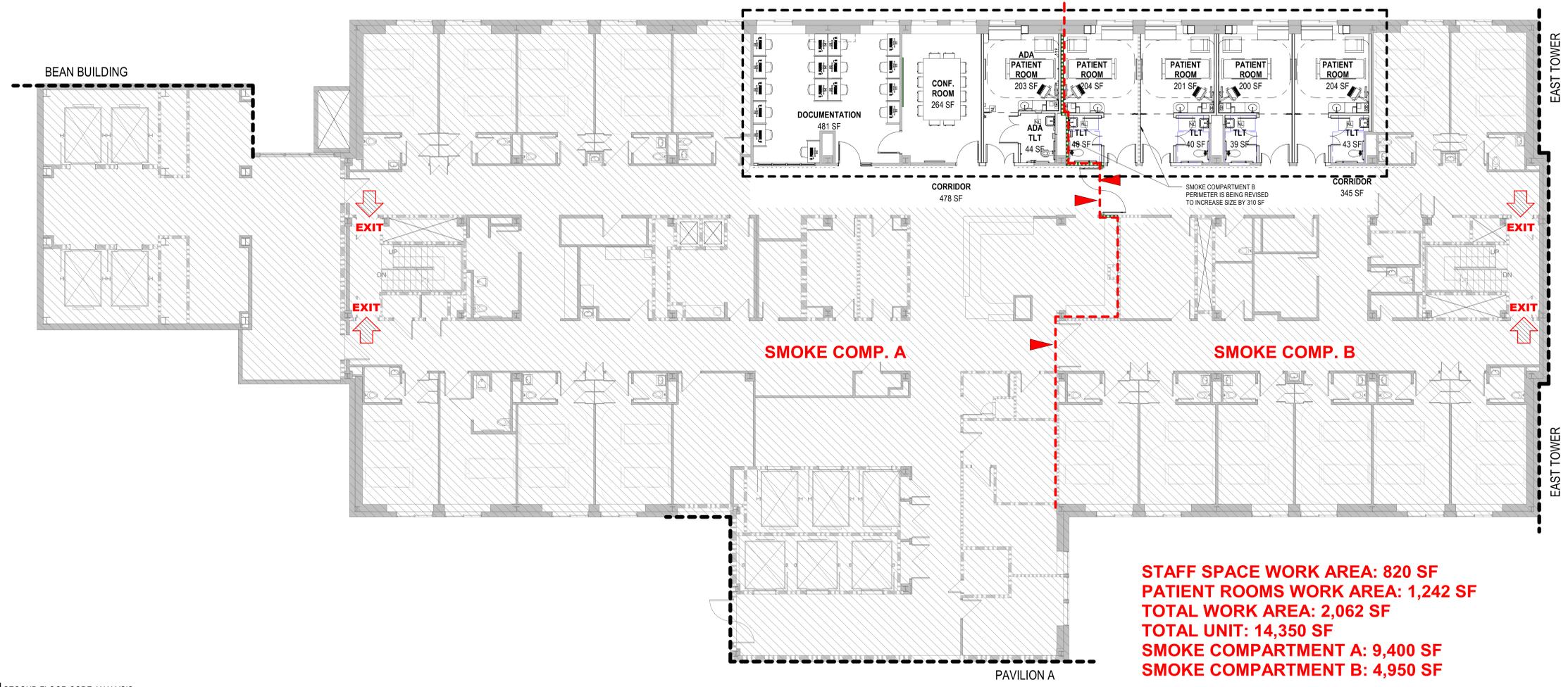
CONTENT:
LEGENDS, SYMBOLS, NOTES, PARTITION TYPES

DRAWN BY: SRF
PROJECT NO.: 17-041-00
DATE: 05/24/18
REVISED:
SCALE: As Indicated

A0.1

Project Phase
CONSTRUCTION DOCUMENTS

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STAFF SPACE WORK AREA: 820 SF
PATIENT ROOMS WORK AREA: 1,242 SF
TOTAL WORK AREA: 2,062 SF
TOTAL UNIT: 14,350 SF
SMOKE COMPARTMENT A: 9,400 SF
SMOKE COMPARTMENT B: 4,950 SF

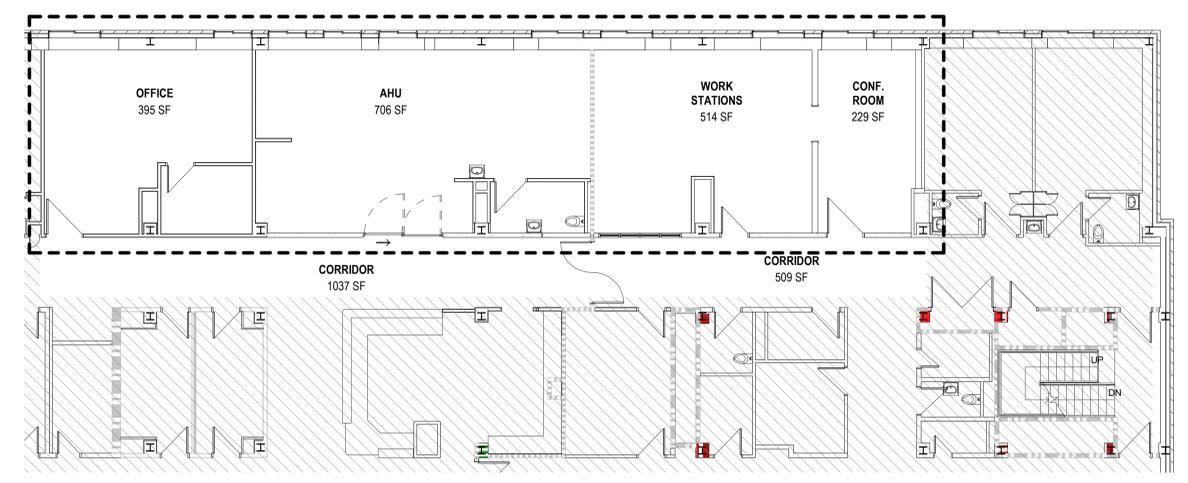
E1 SECOND FLOOR CODE ANALYSIS
A0.2 1/8" = 1'-0"

GRAPHICS LEGEND

HEALTHCARE - OUT OF SCOPE	MEANS OF EGRESS
OCCUPANCY	EXIT
USE GROUP: I-2 HEALTHCARE	EXIT ACCESS
PROPOSED FIRE RATED CONSTRUCTION	OTHER
1 HR SMOKE BARRIER	EXISTING CONSTRUCTION
EXISTING 1 HR SMOKE BARRIER	NEW CONSTRUCTION
EXISTING 1 HR FIRE BARRIER	EXISTING CONSTRUCTION
EXISTING 1 HR FIRE PARTITION	NEW CONSTRUCTION
EXISTING 2 HR FIRE BARRIER	SEE DOOR SCHEDULE FOR DOOR ASSEMBLY FIRE-RATINGS.

MAINE MEDICAL CENTER - R-2 RENOVATION LBA 17-041-00 CD PHASE MAY 2018	
RENOVATION ANALYSIS	
CODES IN EFFECT	MAINE UNIFORM BUILDING AND ENERGY CODE EXISTING BUILDING CODE, IBC 2015, AMENDED COMMERCIAL BUILDING CODE OF MAINE, IBC 2015, AMENDED ENERGY CONSERVATION CODE IECC 2009, AMENDED MAINE STATE PLUMBING CODE, UPC, 2015 MAINE MECHANICAL STANDARDS: ASHRAE 62.1, 2013, NFPA 90A MAINE ELECTRICAL CODE: NFPA 70, 2017 MAINE ACCESSIBILITY CODE: MAINE 5 MRS: 4594-G, ADAAG, 2010 NFPA 101 LIFE SAFETY CODE, 2009 NFPA 1 FIRE CODE, 2006
PROJECT DESCRIPTION	MODIFICATION OF 2,776 SF WORK AREA IN RICHARDS, 3 RD LEVEL IEBC LEVEL 2 ALTERATION NFPA 101 CHAPTER 43 - MODIFICATION NEW WORK COMPLIES W/ REQUIREMENTS OF EXISTING USE CHAPTERS
EXISTING BUILDING DOCUMENTATION	
GROSS BUILDING AREA	NO CHANGE
# OF STORIES	12 STORIES
SPRINKLER SYSTEM	MONITORED SPRINKLER SYSTEM
CONSTRUCTION TYPE	IBC TYPE 1-A NON-COMBUSTIBLE UNPROTECTED NFPA TYPE I (332)
CONSTRUCTION SYSTEM & PROTECTION LEVEL	FOUNDATION: CAST-IN-PLACE CONCRETE PRIMARY STRUCTURE: 3-HR PROTECTED STEEL COLUMNS AND BEAMS FLOOR SYSTEM: 2-HR PROTECTED SECONDARY STL BEAMS, CONC DECK ROOF SYSTEM: 1-1/2 HR PROTECTED SECONDARY STL BEAMS, STEEL DECK
WORK AREA OCCUPANCY GROUPS	
OCCUPANCY	I-2 HEALTHCARE - NO CHANGE
OCCUPANCY CATEGORY	CATEGORY IV
IBC 1604.5	
WORK AREA OCCUPANT LOADS	
NFPA 7.3.1.2	NO CHANGE
FIRE RESISTIVE CONSTRUCTION REQUIREMENTS	
SHAFT ENCLOSURES	STAIRS, ELEVATORS, OTHER SHAFTS: 2-HR FIRE BARRIERS
CORRIDORS	
COMPARTMENTATION	I-2 HEALTHCARE: 1-HR SMOKE BARRIER FOR 2 COMPARTMENTS REQUIRED 310 SF ADDED TO COMPARTMENT B FROM COMPARTMENT A
HAZARD PROTECTION	STORAGE ROOMS 100 SF+: 1-HR FB SOILED ROOMS: 1-HR FB
INTERIOR FINISH	EXITS: A CORRIDORS: 9 ROOMS OF 4 PERSONS: 101 - A10.22 43.4.3 MEET REQUIREMENTS OF NEW OCCUPANCY CHAPTERS
MEANS OF EGRESS	
NFPA TABLE A7.6 NEW HEALTHCARE	COMMON PATH OF TRAVEL: 100 FT DEAD END: 30 FT TRAVEL DISTANCE LIMIT: 20 FT

H7 SECOND FLOOR CODE ANALYSIS - EXISTING CONDITIONS
A0.2 1/8" = 1'-0"



A
B
C
D
E
F
G
H
I
J

MAINE MEDICAL CENTER

**MAINE MEDICAL
CENTER - R2
RENOVATION
RICHARDS BUILDING,
LEVEL 2**

22 Bramhall St, Portland, ME, 04102

NO.	DESCRIPTION	DATE

CONTENT:
CODE ANALYSIS TEXT, SYMBOLS AND RATINGS

DRAWN: SRP
BY: SRP

PROJECT NO: 17-041-00

DATE: 05/24/18

REVISED:

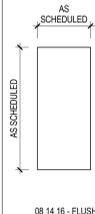
SCALE: As indicated

A0.2

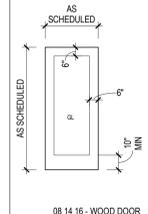
Project Phase
CONSTRUCTION DOCUMENTS

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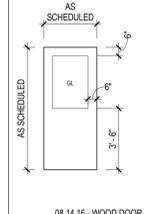
DOOR & FRAME SCHEDULE - MMC R2															
MARK	FROM ROOM		TO ROOM		DOOR					FRAME		HARDWARE SETS	COMMENTS	REVISION	
	No.	NAME	No.	NAME	WD	HT	THK	MATL	TYPE	RATING	MATL				TYPE
203	203	PATIENT ROOM	DC-R202	CORRIDOR	4'-6"	6'-10"	1 3/4"	WD	F		HM	1	9A		
203A	203A	TLT	203	PATIENT ROOM	4'-6"	6'-10"	1 3/4"	WD	F		HM	1	3A		
204	DC-R202	CORRIDOR	204	PATIENT ROOM	4'-6"	6'-10"	1 3/4"	WD	F		HM	1	9A		
204A	204	PATIENT ROOM	204A	TLT	4'-6"	6'-10"	1 3/4"	WD	F		HM	1	3A		
205	DC-R202	CORRIDOR	205	PATIENT ROOM	4'-6"	6'-10"	1 3/4"	WD	F		HM	1	9A		
205A	205A	TLT	205	PATIENT ROOM	4'-6"	6'-10"	1 3/4"	WD	F		HM	1	3A		
206	DC-R202	CORRIDOR	206	PATIENT ROOM	4'-6"	6'-10"	1 3/4"	WD	F		HM	1	9A		
206A	206A	TLT	206	PATIENT ROOM	4'-6"	6'-10"	1 3/4"	WD	F		HM	1	3A		
207	DC-R202	CORRIDOR	207	ADA PATIENT ROOM	4'-6"	6'-10"	1 3/4"	WD	F		HM	1	9A		
207A	207	ADA PATIENT ROOM	207A	ADA TLT	4'-6"	6'-10"	1 3/4"	WD	F		HM	1	3A		
2129A	DC-R202	CORRIDOR	2129	DOCUMENTATION	3'-6"	6'-10"	1 3/4"	WD	FG		HM	1	2		
2129B	2130	CONF. ROOM	2129	DOCUMENTATION	3'-6"	6'-10"	1 3/4"	WD	G		HM	1	2		
2130	DC-R202	CORRIDOR	2130	CONF. ROOM	3'-6"	6'-10"	1 3/4"	WD	G		HM	1	2		
R202	DC-R202	CORRIDOR	DC-R202	CORRIDOR	7'-3"	6'-10"	1 3/4"	WD	N	45 MIN	HM	4	(none)	REUSE SALVAGED DOOR HARDWARE	



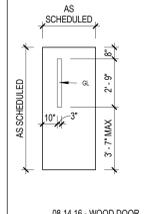
F FLUSH
1/4" = 1'-0"



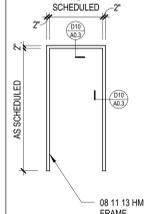
FG FULL GLASS
1/4" = 1'-0"



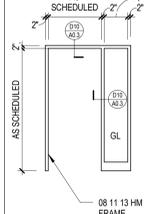
G HALF GLASS
1/4" = 1'-0"



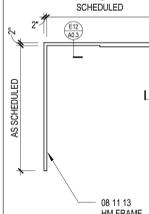
N NARROW LITE
1/4" = 1'-0"



1 FRAME TYPE 1
1/4" = 1'-0"

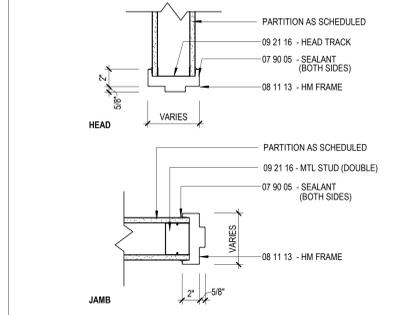


2 FRAME TYPE 2
1/4" = 1'-0"

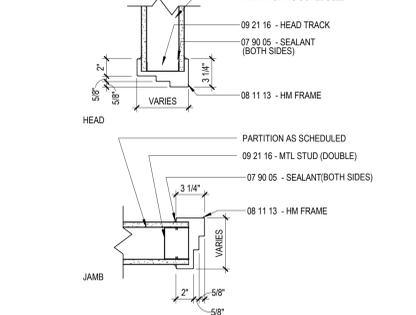


4 FRAME TYPE 4
1/4" = 1'-0"

DOOR HARDWARE SETS										
LOCKSET TYPE & LATCH FUNCTION	CLOSER TYPE & QUANTITY	HINGE TYPE & QUANTITY	STOPS	SEALS	PROTECTION	FLUSH BOLTS	ELECTRICAL	SPECIAL HARDWARE	HARDWARE BY OWNER	HARDWARE NOTES
CLASSROOM	-	BUTT - 3	-	-	-	-	-	-	-	-
OFFICE	-	BUTT - 3	-	-	-	-	-	-	-	-
PRIVACY (pair)	-	BUTT - 6	-	-	-	AFB - HEAD ONLY	-	ROLLER LATCH	-	-
HOSPITAL (pair)	-	BUTT - 6	-	-	ARMOR PANEL - SS	AFB - HEAD ONLY	-	ROLLER LATCH	-	-



D10
A0.3
HM FRAME HEAD and JAMB DETAILS at METAL STUD PARTITION
1 1/2" = 1'-0"



D12
A0.3
HM FRAME (DOUBLE EGRESS) HEAD & JAMB @ MTL STUD PARTITION
1 1/2" = 1'-0"

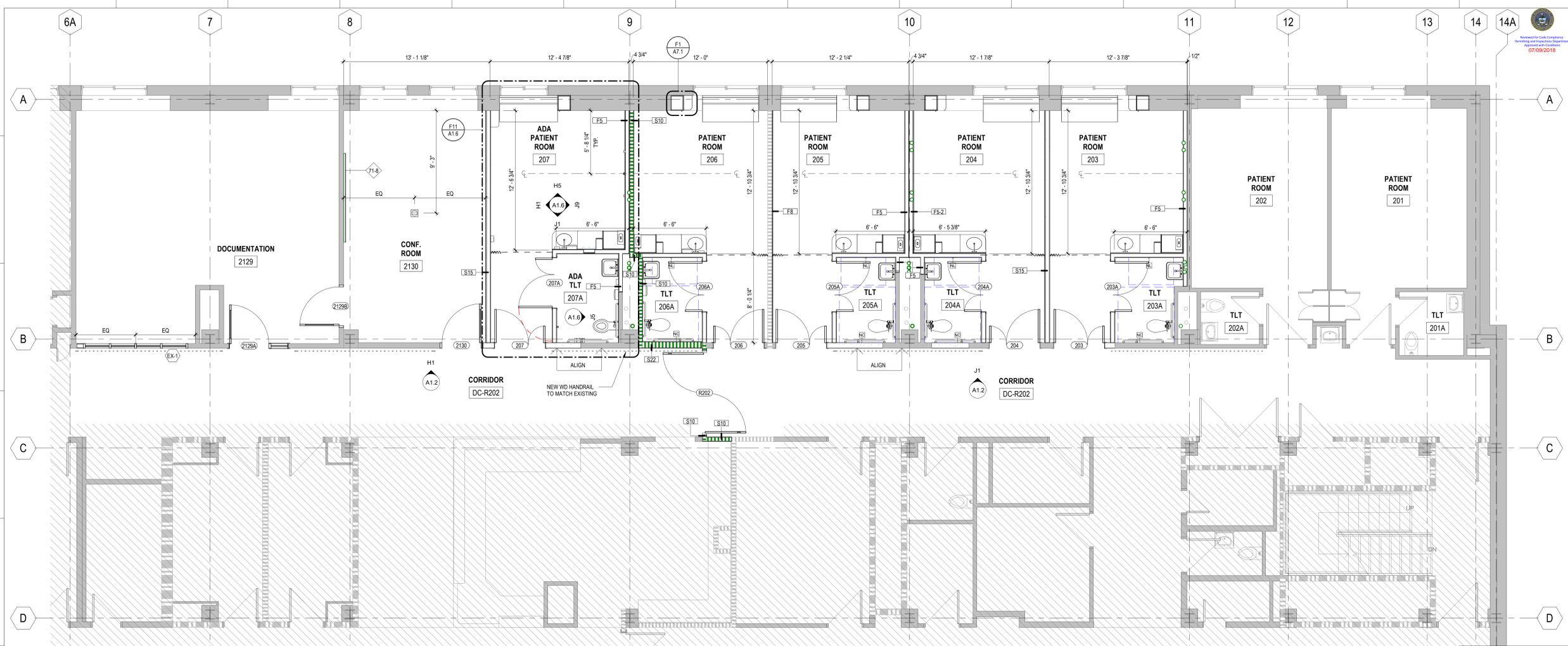
22 Bramhall St, Portland, ME, 04102

NO.	DESCRIPTION	DATE



FOR ADDITIONAL INFORMATION, REFER TO PROJECT MANUAL.

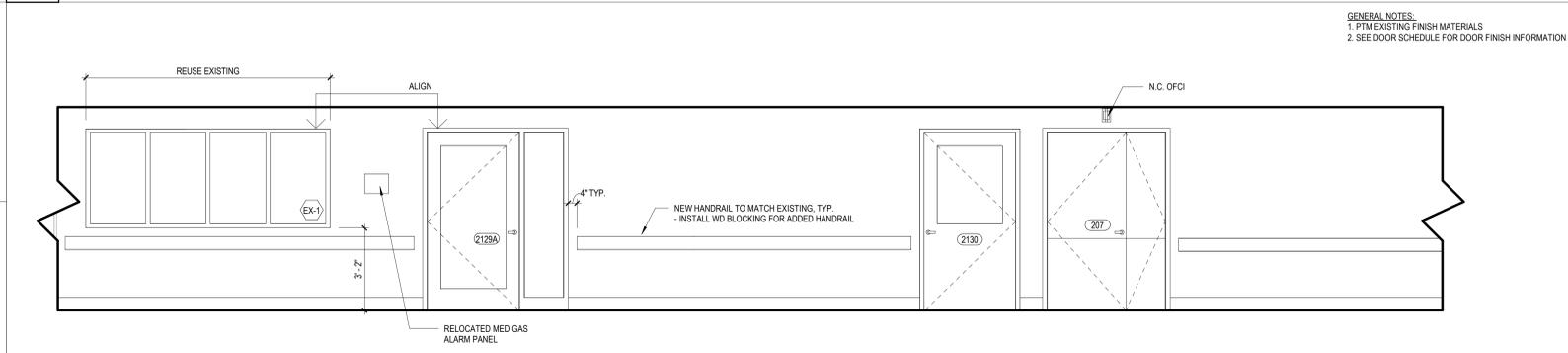
CONTENT:	DOOR SCHEDULE, DOOR & FRAME TYPES
DRAWN BY:	SRF
PROJECT NO.:	17-041-00
DATE:	05/24/18
REVISIONS:	
SCALE:	As Indicated
A0.3	
Project Phase CONSTRUCTION DOCUMENTS	
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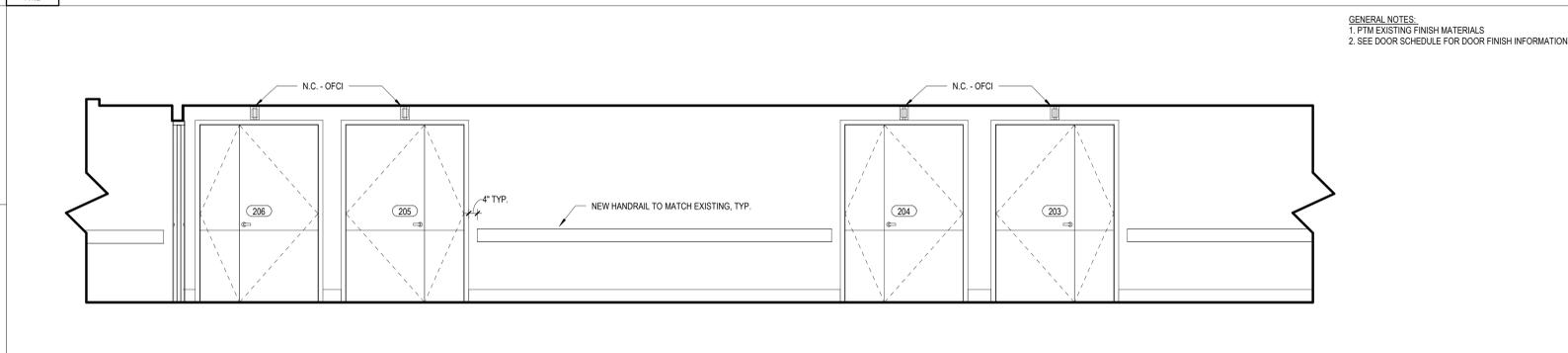
GENERAL NOTES

1. ALL DIMENSIONS ARE TO FACE OF STUD. UNO.
2. ALL DIMENSIONS TO EXISTING WALL ARE TO FACE OF FINISH.
3. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR VERIFYING DIMENSIONS. ALL DISCREPANCIES BETWEEN ANTICIPATED AND ACTUAL CONDITIONS SHALL BE PROMPTLY BROUGHT TO THE ARCHITECT'S ATTENTION.

F1 SECOND FLOOR PLAN
A1.2 1/4" = 1'-0"



H1 CORRIDOR - ELEVATION A
A1.2 3/8" = 1'-0"



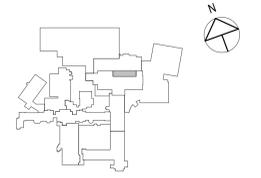
J1 CORRIDOR, ELEVATION B
A1.2 3/8" = 1'-0"

MAINE MEDICAL CENTER

MAINE MEDICAL CENTER - R2 RENOVATION RICHARDS BUILDING, LEVEL 2

22 Bramhall St, Portland, ME, 04102

NO.	DESCRIPTION	DATE



FOR ADDITIONAL INFORMATION, REFER TO PROJECT MANUAL.

CONTENT:
SECOND FLOOR PLAN & INTERIOR ELEVATIONS

DRAWN BY: SRF
PROJECT NO.: 17-041-00
DATE: 05/24/18
REVISED:
SCALE: As Indicated

A1.2

Project Phase
CONSTRUCTION DOCUMENTS

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G1 LEVEL 2
A1.5 1/4" = 1'-0"

MAINE MEDICAL CENTER

**MAINE MEDICAL
CENTER - R2
RENOVATION
RICHARDS BUILDING,
LEVEL 2**

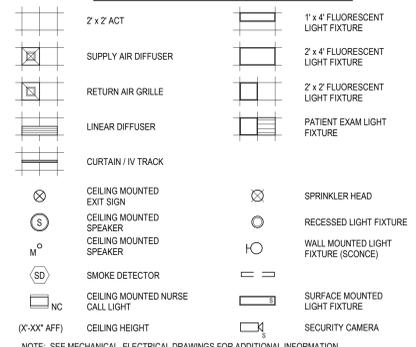
22 Bramhall St, Portland, ME, 04102

NO.	DESCRIPTION	DATE

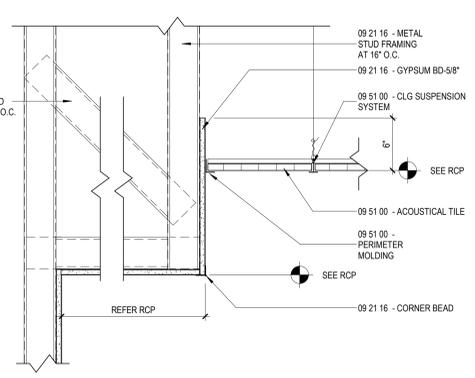
GENERAL NOTES

- CEILING TO BE ACT-1, UNO.
- CEILING HEIGHTS INTENDED TO BE 8'-0". FINAL COORDINATION TO OCCUR AFTER EXISTING CEILING DEMOLITION.
- THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR VERIFYING DIMENSIONS. ALL DISCREPANCIES BETWEEN ANTICIPATED AND ACTUAL CONDITIONS SHALL BE PROMPTLY BROUGHT TO THE ARCHITECT'S ATTENTION.

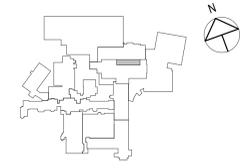
CEILING LEGEND



00 00 00	ACOUSTICAL CEILING TILE
ACT-1	TYPE: ACOUSTIC CEILING TILE
	MANUF: ARMSTRONG
	SERIES: ULTIMA HEALTH ZONE
	WIDTH/SIZE: 2x2
	COLOR: WHITE



J11 RCP ACT/ GWB SOFFIT at WALL with L MOLDING
A1.5 1 1/2" = 1'-0"



FOR ADDITIONAL INFORMATION, REFER TO PROJECT MANUAL.

CONTENT:
SECOND FLOOR REFLECTED CEILING PLAN

DRAWN BY: SRP

PROJECT NO: 17-041-00

DATE: 05/24/18

REVISED:

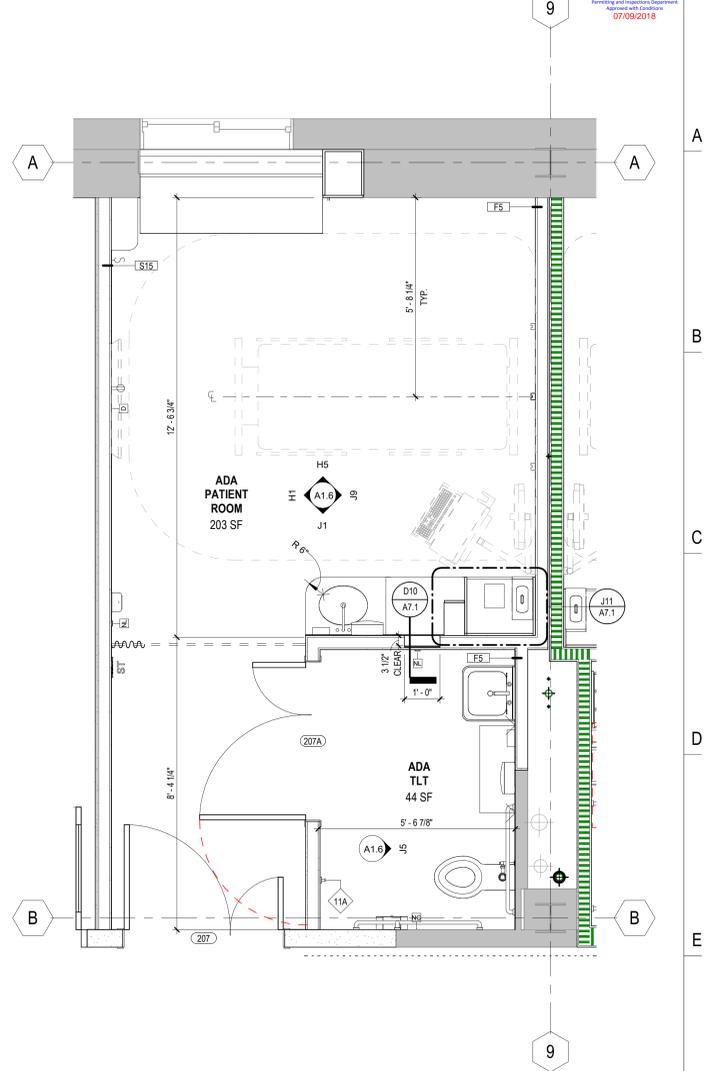
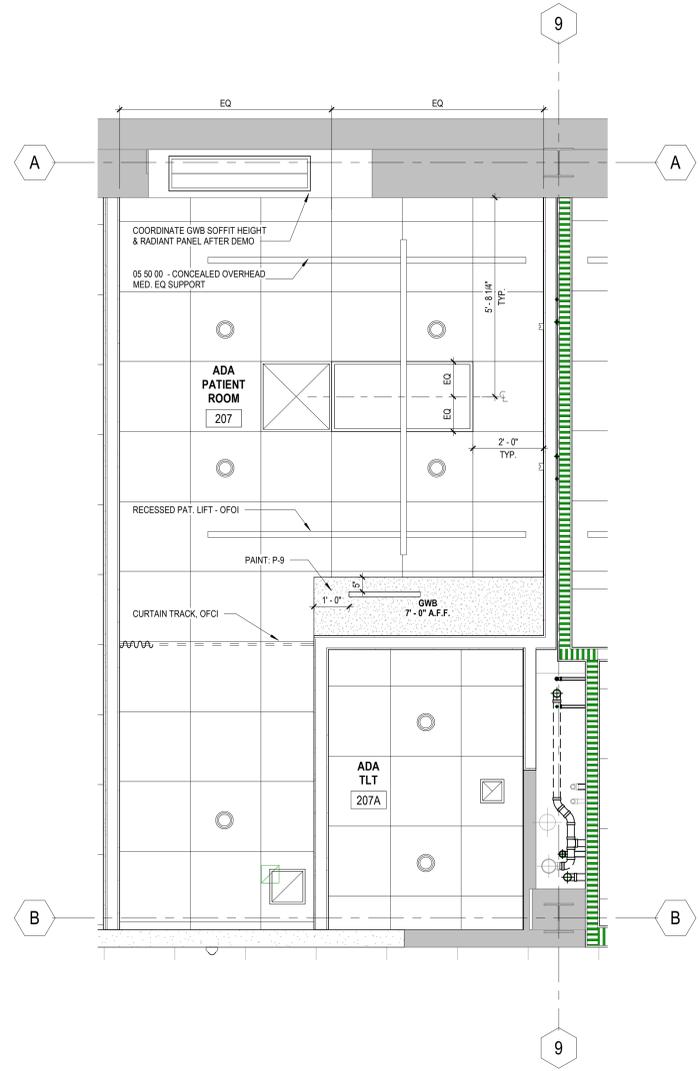
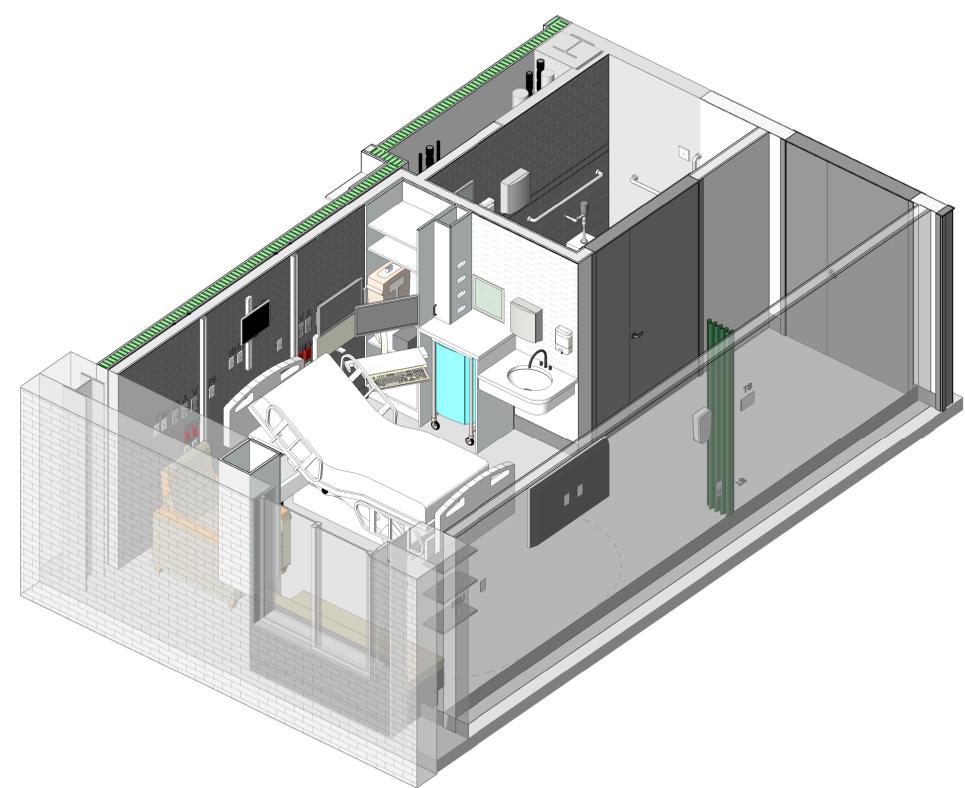
SCALE: As Indicated

A1.5

Project Phase
CONSTRUCTION DOCUMENTS

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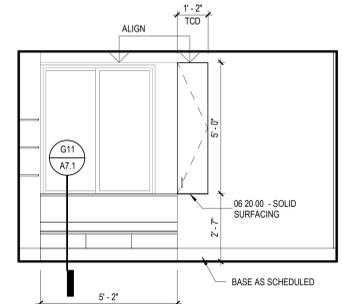
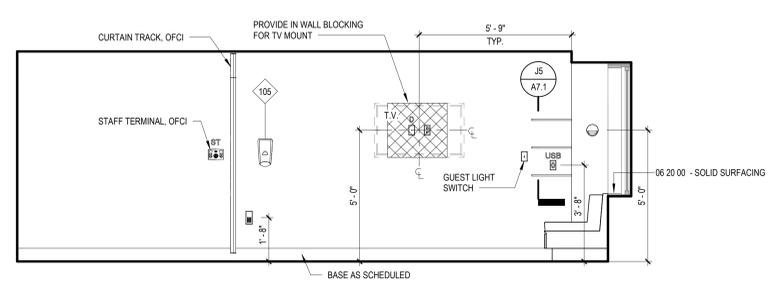
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F1 3D - PATIENT ROOM
A1.6

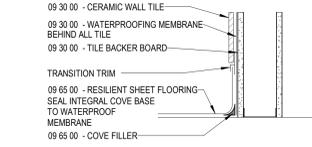
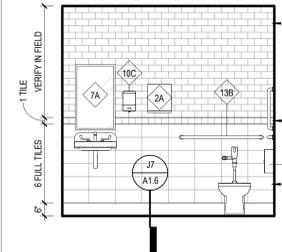
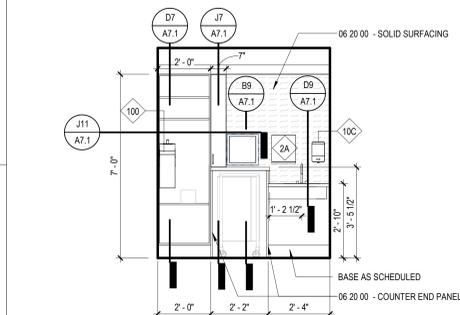
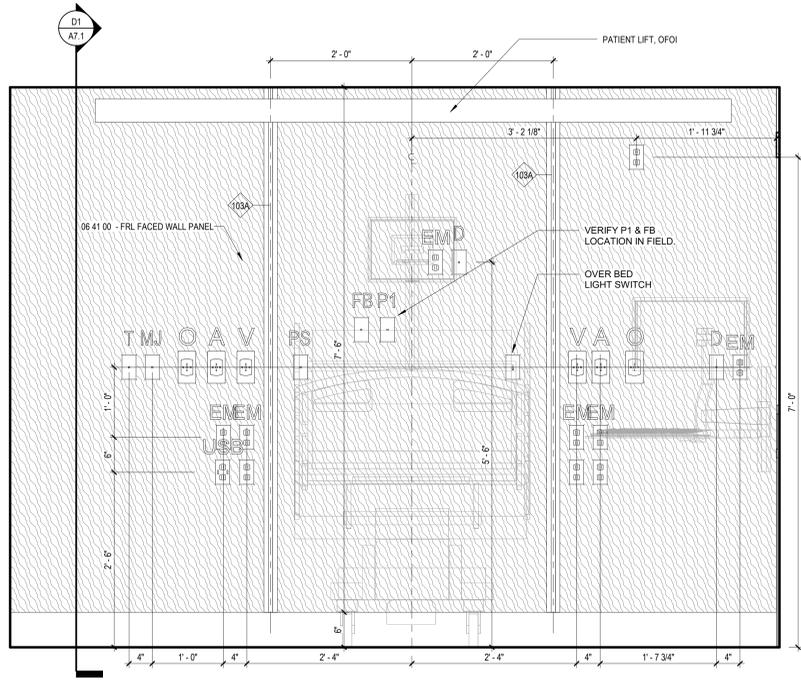
F7 TYPICAL PATIENT ROOM ENLARGED RCP
1/2" = 1'-0"

F11 TYPICAL PATIENT ROOM ENLARGED PLAN
1/2" = 1'-0"



H1 PATIENT ROOM - FOOT WALL ELEVATION
3/8" = 1'-0"

H5 PATIENT ROOM - WINDOW WALL ELEVATION
3/8" = 1'-0"



J1 PATIENT ROOM - STAFF ZONE ELEVATION
3/8" = 1'-0"

J5 PATIENT TOILET
3/8" = 1'-0"

J7 TOILET ROOM FLOOR / WALL DETAIL
1 1/2" = 1'-0"

J9 PATIENT ROOM - HEAD WALL ELEVATION
1" = 1'-0"

MAINE MEDICAL CENTER
**MAINE MEDICAL
CENTER - R2
RENOVATION
RICHARDS BUILDING,
LEVEL 2**

22 Bramhall St, Portland, ME, 04102

NO.	DESCRIPTION	DATE

CONTENT:
PATIENT ROOM, TOILET PLANS, AND ELEVATIONS

DRAWN BY: SRP
PROJECT NO: 17-041-00
DATE: 05/24/18
REVISED:
SCALE: As Indicated

A1.6

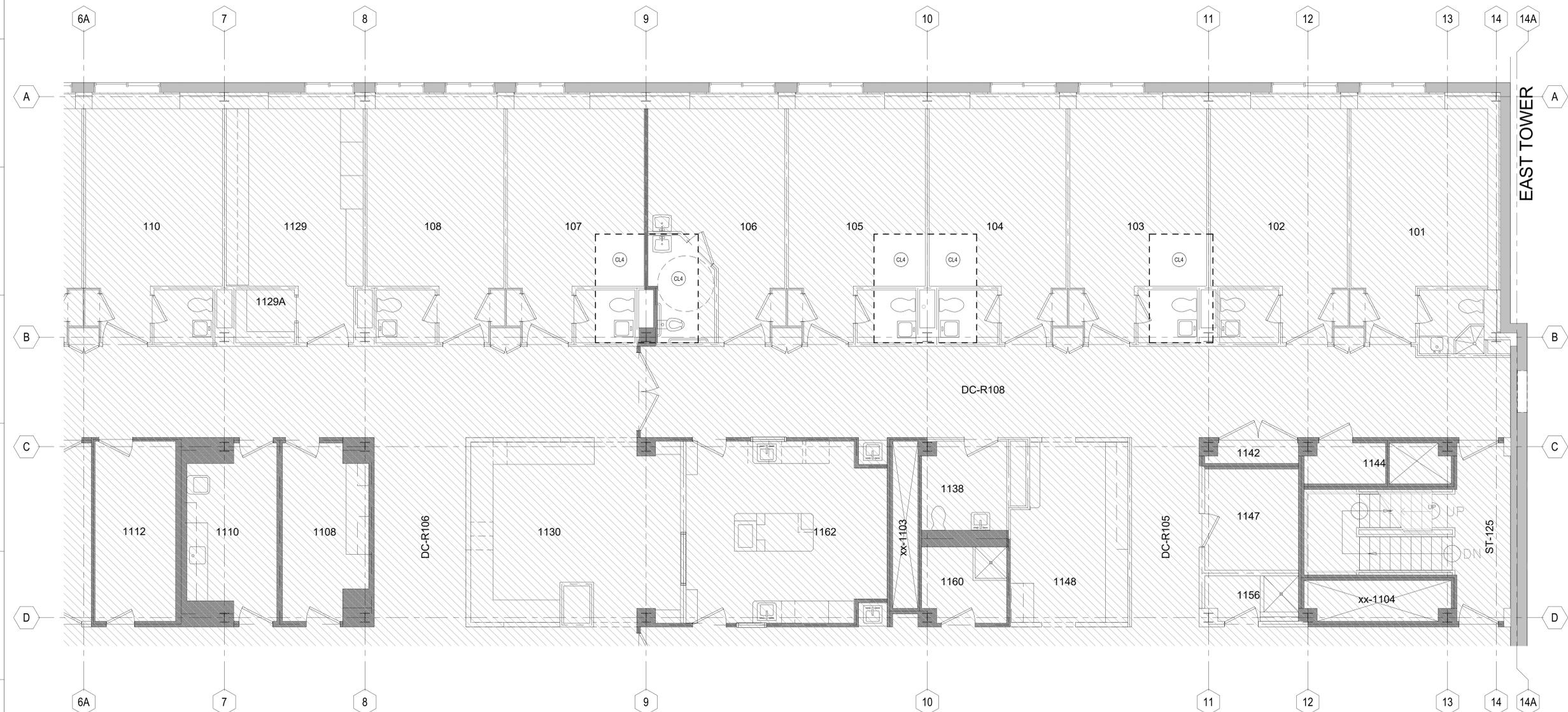
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EAST TOWER



MAINE MEDICAL CENTER

**MAINE MEDICAL
CENTER - R2
RENOVATION
RICHARDS BUILDING,
LEVEL 2**

22 Bramhall St, Portland, ME, 04102

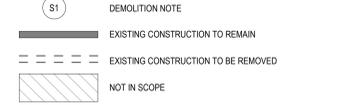
NO.	DESCRIPTION	DATE



H1 LEVEL 1-DEMOLITION
AD.1 1/4" = 1'-0"

DEMO MARK	DESCRIPTION
CL3	REMOVE EXISTING ACOUSTIC CEILING TILE AS REQUIRED TO PERFORM WORK. GRID TO REMAIN. REFER TO MEP DRAWINGS FOR SCOPE.
CL4	REMOVE EXISTING ACOUSTIC CEILING TILE AS REQUIRED TO PERFORM WORK. SALVAGE REMOVED TILE FOR RE-USE. REPLACE ANY DAMAGED TILE. REFER TO MEP DWGS FOR SCOPE.
CL5	REMOVE EXISTING SOFFIT - COORDINATE WITH MECH DWGS
CL6	REMOVE ACOUSTIC CEILING SYSTEM AS REQUIRED FOR NEW CONSTRUCTION - COORDINATE WITH PLAN AND RCP
DW1	REMOVE WINDOW, AND FRAME FOR RELOCATION / RE-USE (EX-1)
DW10	REMOVE DOOR, FRAME AND HARDWARE - SALVAGE HARDWARE FOR RELOCATION / RE-USE
ET	REMOVE/MODIFY EXISTING HANDRAIL AS REQUIRED FOR NEW CONSTRUCTION. SALVAGE FOR RE-USE

DEMOLITION LEGEND:



DEMOLITION NOTES:

GENERAL NOTES:
1. THE DEMOLITION PLANS AND ELEVATIONS ILLUSTRATE THE CONCEPT OF THE ARCHITECTURAL DEMOLITION. THEY ARE NOT INTENDED TO BE A COMPLETE REPRESENTATION OF ALL DEMOLITION WORK REQUIRED. ALL DRAWINGS AND SPECIFICATIONS ARE TO BE CONSIDERED WHEN DETERMINING THE SCOPE OF DEMOLITION FOR THE PROJECT. IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS TO REQUIRE DEMOLITION OF ALL BUILDING ELEMENTS AS NECESSARY FOR THE INSTALLATION OF WORK REQUIRED BY THE SCOPE OF THIS PROJECT.

- DASHED LINES GENERALLY REPRESENT ITEMS TO BE REMOVED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY EXACT LIMITS AND DETAILS OF REQUIRED DEMOLITION AND COORDINATE WITH PLANS AND DETAILS.
- REMOVE PARTITIONS TO STRUCTURE ABOVE, UNLESS OTHERWISE INDICATED BY CONSTRUCTION DETAILS.
- REMOVE DOORS, FRAMES AND HARDWARE INCLUDING SIDELIGHTS, TRANSOMS AND THRESHOLDS WHERE DOORS ARE SHOWN DASHED, UNLESS OTHERWISE INDICATED.
- REMOVE PORTIONS OF ALL SUSPENDED CEILINGS FOR THE INSTALLATION OF NEW WORK TO BE DONE ABOVE CEILINGS, UNLESS OTHERWISE INDICATED. SAVE USABLE COMPONENTS FOR REINSTALLATION WHERE CEILINGS ARE NOT BEING REPLACED.
- REMOVE ALL MARKER AND TACK BOARDS, SHELVING AND OTHER EQUIPMENT ON WALLS TO BE REMOVED OR FURRED.
- REMOVE CONCRETE SLABS AND FILLS AS REQUIRED FOR INSTALLATION OF NEW MECHANICAL, ELECTRICAL AND PLUMBING SERVICES. SEE MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS.

FOR ADDITIONAL INFORMATION, REFER TO PROJECT MANUAL.

CONTENT:
FIRST DEMO PLAN

DRAWN BY: SRF

PROJECT NO: 17-041-00

DATE: 05/24/18

REVISED:

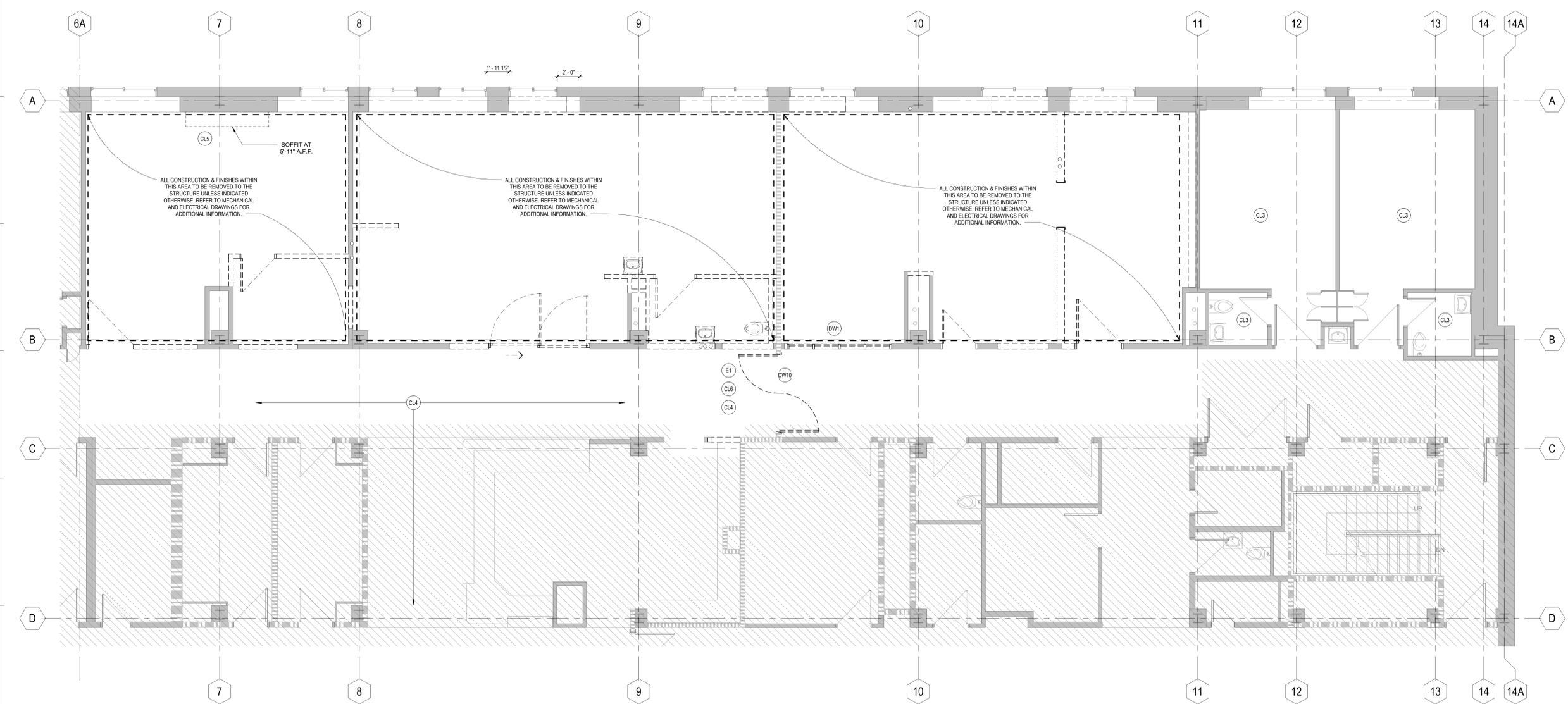
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AD.1

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MAINE MEDICAL CENTER

**MAINE MEDICAL
 CENTER - R2
 RENOVATION
 RICHARDS BUILDING,
 LEVEL 2**

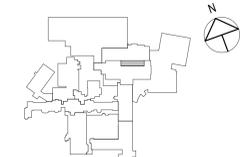
22 Bramhall St, Portland, ME, 04102

NO.	DESCRIPTION	DATE

H1 LEVEL 2 - DEMOLITION
 AD.2
 1/4" = 1'-0"

DEMO MARK	DESCRIPTION
CL3	REMOVE EXISTING ACOUSTIC CEILING TILE AS REQUIRED TO PERFORM WORK. GRID TO REMAIN. REFER TO MEP DRAWINGS FOR SCOPE.
CL4	REMOVE EXISTING ACOUSTIC CEILING TILE AS REQUIRED TO PERFORM WORK. SALVAGE REMOVED TILE FOR RE-USE. REPLACE ANY DAMAGED TILE. REFER TO MEP DWGS FOR SCOPE.
CL5	REMOVE EXISTING SOFFIT - COORDINATE WITH MECH DWGS
CL6	REMOVE ACOUSTIC CEILING SYSTEM AS REQUIRED FOR NEW CONSTRUCTION - COORDINATE WITH PLAN AND RCP
DW1	REMOVE WINDOW, AND FRAME FOR RELOCATION / RE-USE (EX-1)
DW10	REMOVE DOOR, FRAME AND HARDWARE - SALVAGE HARDWARE FOR RELOCATION / RE-USE
E1	REMOVE/MODIFY EXISTING HANDRAIL AS REQUIRED FOR NEW CONSTRUCTION. SALVAGE FOR RE-USE

- DEMOLITION LEGEND:**
- (S1) DEMOLITION NOTE
 - EXISTING CONSTRUCTION TO REMAIN
 - - - - EXISTING CONSTRUCTION TO BE REMOVED
 - ▨ NOT IN SCOPE
- DEMOLITION NOTES:**
- GENERAL NOTES:**
1. THE DEMOLITION PLANS AND ELEVATIONS ILLUSTRATE THE CONCEPT OF THE ARCHITECTURAL DEMOLITION. THEY ARE NOT INTENDED TO BE A COMPLETE REPRESENTATION OF ALL DEMOLITION WORK REQUIRED. ALL DRAWINGS AND SPECIFICATIONS ARE TO BE CONSIDERED WHEN DETERMINING THE SCOPE OF DEMOLITION FOR THE PROJECT. IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS TO REQUIRE DEMOLITION OF ALL BUILDING ELEMENTS AS NECESSARY FOR THE INSTALLATION OF WORK REQUIRED BY THE SCOPE OF THIS PROJECT.
 2. DASHED LINES GENERALLY REPRESENT ITEMS TO BE REMOVED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY EXACT LIMITS AND DETAILS OF REQUIRED DEMOLITION AND COORDINATE WITH PLANS AND DETAILS.
 3. REMOVE PARTITIONS TO STRUCTURE ABOVE, UNLESS OTHERWISE INDICATED BY CONSTRUCTION DETAILS.
 4. REMOVE DOORS, FRAMES AND HARDWARE INCLUDING SIDELIGHTS, TRANSOMS AND THRESHOLDS WHERE DOORS ARE SHOWN DASHED, UNLESS OTHERWISE INDICATED.
 5. REMOVE PORTIONS OF ALL SUSPENDED CEILINGS FOR THE INSTALLATION OF NEW WORK TO BE DONE ABOVE CEILINGS, UNLESS OTHERWISE INDICATED. SAVE USABLE COMPONENTS FOR REINSTALLATION WHERE CEILINGS ARE NOT BEING REPLACED.
 6. REMOVE ALL MARKER AND TACK BOARDS, SHELVING AND OTHER EQUIPMENT ON WALLS TO BE REMOVED OR FURRED.
 7. REMOVE CONCRETE SLABS AND FILLS AS REQUIRED FOR INSTALLATION OF NEW MECHANICAL, ELECTRICAL AND PLUMBING SERVICES. SEE MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS.



FOR ADDITIONAL INFORMATION, REFER TO PROJECT MANUAL.

CONTENT:
 SECOND FLOOR DEMOLITION PLAN

DRAWN BY: SRF
 PROJECT NO: 17-041-00
 DATE: 05/24/18
 REVISED:
 SCALE: As Indicated

AD.2

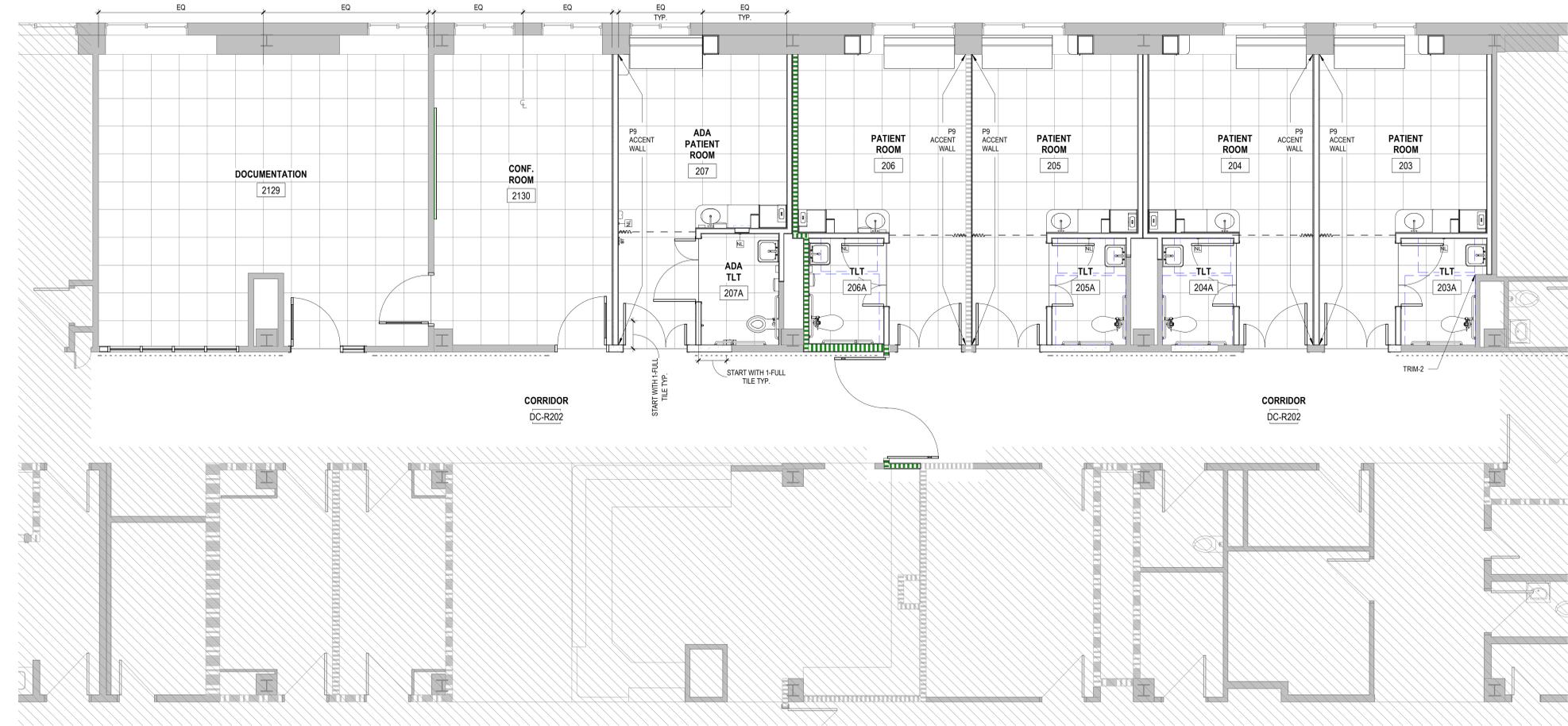
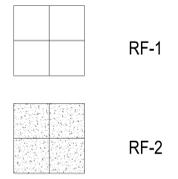
Project Phase
CONSTRUCTION DOCUMENTS

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FINISH LEGEND	
09 65 00 RESILIENT FLOORING RF-1 TYPE: RUBBER TILE / SHEET RUBBER MANUF: NORA SERIES: NORAPLAN SENTICA WIDTH/SIZE: 24" x 24" TILE COLOR: 6525 - OCEAN MIST THICKNESS: 3.0 mm RF-2 TYPE: RUBBER TILE / SHEET RUBBER MANUF: NORA SERIES: NORAPLAN SENTICA WIDTH/SIZE: 24" x 24" TILE COLOR: 6529 - MOUNTAIN AIR THICKNESS: 3.0 mm	09 90 00 PAINT and COATING P-1 TYPE: PAINT MANUF: SHERWIN WILLIAMS COLOR: TO MATCH BENJAMIN MOORE COLOR FINISH: SUPER WHITE REFER TO SPEC FOR DETAILS P-2 TYPE: PAINT MANUF: SHERWIN WILLIAMS COLOR: TO MATCH BENJAMIN MOORE COLOR FINISH: WHITE DIAMOND 2121-60 REFER TO SPEC FOR DETAILS P-3 THROUGH P-8 NOT USED P-9 TYPE: PAINT MANUF: SHERWIN WILLIAMS COLOR: TO MATCH BENJAMIN MOORE COLOR FINISH: BASHFUL BLUE 2065-70 REFER TO SPEC FOR DETAILS
09 65 00 RESILIENT BASE RB-1 TYPE: RUBBER BASE / VINYL BASE MANUF: JOHNSONITE SERIES: TRADITIONAL WALL BASE HEIGHT: 6" COLOR: 28 MEDIUM GREY CG	12 36 00 SOLID SURFACE SS-1 TYPE: SOLID SURFACE MANUF: DUPONT SERIES: CORIAN COLOR: GLACIER WHITE THICKNESS: SEE SPEC FOR DETAILS
09 30 00 PORCELAIN / CERAMIC TILE PT-1 TYPE: PORCELAIN TILE MANUF: DAL TILE SERIES: NATURAL HUES ON ECO BODY SIZE: 3"x3" COLOR: QH15 - MIST GROUT: LATICRETE - COLOR TBD PT-2 TYPE: PORCELAIN TILE MANUF: DAL TILE SERIES: NATURAL HUES ON ECO BODY SIZE: 3"x6" COLOR: QH15 - MIST GROUT: LATICRETE - COLOR TBD PT-3 TYPE: PORCELAIN TILE MANUF: DAL TILE SERIES: NATURAL HUES ON ECO BODY SIZE: 6"x12" COLOR: QH15 - MIST GROUT: LATICRETE - COLOR TBD	GENERAL NOTES: 1. REFER TO FINISH SCHEDULE FOR MORE INFORMATION. REFER TO J1 PLAN BELOW FOR FLOOR PATTERNS AND ACCENT WALL LOCATIONS. 2. HM DOOR FRAME ARE TO BE PAINTED AS FOLLOWS: INSIDE PATIENT ROOMS: P-2 CORRIDOR: PTM EXISTING / HM FRAME COLOR *** TRANSITIONS SHALL OCCUR ON THE INSIDES OF THE DOOR STOP. *** 3. ALL GWB CEILINGS SHALL BE PAINTED P-1 UNLESS NOTED OTHERWISE ON THE REFLECTED CEILING PLAN. AND SOFFITS REFER TO RCP FOR ALL NOTATIONS REGARDING ACCENT SOFFITS AND GWB CEILING PAINTS. 4. ALL FINISHED FLOORING SHALL EXTEND BENEATH AND BEHIND CASEWORK, MILLWORK, AND PLUMBING FIXTURES U.N.O. 5. ALL SHEET FLOORING SEAMS SHALL BE WELDED WITH MATCHING WELD COLORS. 6. WINDOW SILLS TO BE SS-1. 7. CORNER GUARDS ADJACENT TO WALL PROTECTION SHALL TERMINATE AT WALL PROTECTION TERMINATION HEIGHT. 8. ALLOW ADDITIONAL LEAD TIME FOR ORDERING, SHIPPING, AND FABRICATION OF SPECIFIED INTERIOR FINISH MATERIALS IN MANUFACTURER AVAILABLE SHEET SIZES. SUBSTITUTIONS WILL NOT BE ACCEPTED. 9. ALL ARCHITECTURE INTERIOR SHEET DIMENSIONS ARE TO FACE OF FINISH. UNO. 10. SEE INTERIOR ELEVATIONS FOR PT-PATTERN INSTALLATION
09 30 00 TILE ACCESSORIES TRIM-1 TYPE: TILE TRIM PIECE MANUF: SCHLUTER PROFILE: SCHIENE FINISH: STAINLESS STEEL 304 NOTES: FOR USE AT WET WALL OF PATIENT TOILETS (SEE DETAIL J7 ON PAGE A1.0) TRIM-2 TYPE: TILE TRIM PIECE MANUF: SCHLUTER PROFILE: RONDEC FINISH: STAINLESS STEEL 304 NOTES: FOR USE AT ALL OUTSIDE CORNERS (ROOM 203A)	
06 20 00 / 06 41 00 / 12 36 00 PLASTIC LAMINATE/FRL PLAM-1 TYPE: PLASTIC LAMINATE MANUF: PANOLAM - PIONITE COLOR: ANGEL WHITE FINISH: SUEDE EDGE BANDING: TBD PLAM-3 TYPE: FIBERGLASS REINFORCED LAMINATE MANUF: PANOLAM - NEVAMAR COLOR: WOOD040 - T STRAIGHTAWAY FINISH: OAK TBD	06 20 00 / 06 41 00 / 12 36 00 TEXTILE FB-1 TYPE: CRYPTON MANUF: TBD COLOR: TBD
MISCELLANEOUS TBD TO BE DETERMINED PTM PATCH TO MATCH ETR EXISTING TO REMAIN	

ID FINISH SCHEDULE							
ROOM #	ROOM NAME	FIN FLOORING	FIN WALL BASE	FIN WALL FINISH	FIN MILLWORK/CASEWORK	FIN COUNTERTOP MATERIAL	FIN COMMENTS
201	PATIENT ROOM						
201A	TLT						
202	PATIENT ROOM						
202A	TLT						
203	PATIENT ROOM	RF-1	RB-1	PLAM-3, P-2, P-9	PLAM-1	SS-1	
203A	TLT	RF-2	RB-1	PT-PATTERN			
204	PATIENT ROOM	RF-1	RB-1	PLAM-3, P-2, P-9	PLAM-1	SS-1	
204A	TLT	RF-2	RB-1	PT-PATTERN			
205	PATIENT ROOM	RF-1	RB-1	PLAM-3, P-2, P-9	PLAM-1	SS-1	
205A	TLT	RF-2	RB-1	PT-PATTERN			
206	PATIENT ROOM	RF-1	RB-1	PLAM-3, P-2, P-9	PLAM-1	SS-1	
206A	TLT	RF-2	RB-1	PT-PATTERN			
207	ADA PATIENT ROOM	RF-1	RB-1	PLAM-3, P-2, P-9	PLAM-1	SS-1	
207A	ADA TLT	RF-2	RB-1	PT-PATTERN			
2129	DOCUMENTATION	RF-1	RB-1	P-2			
2130	CONF. ROOM	RF-1	RB-1	P-2			
DC-R202	CORRIDOR	ETR	ETR/PTM	ETR/PTM			
DC-R202	CORRIDOR	ETR	ETR/PTM	ETR/PTM			

FLOORING HATCH LEGEND



J1 SECOND FLOOR PATTERN PLAN
 A11.0 1/4" = 1'-0"

A

B

C

D

E

F

G

H

I

J

MAINE MEDICAL CENTER

MAINE MEDICAL CENTER - R2 RENOVATION RICHARDS BUILDING, LEVEL 2

22 Bramhall St, Portland, ME, 04102

NO.	DESCRIPTION	DATE

CONTENT:
 GENERAL NOTES, LEGENDS, ROOM FINISH SCHEDULES, FLOOR PATTERN PLAN

DRAWN BY: EC

PROJECT NO: 17-041-00

DATE: 05/24/18

REVISED:

SCALE: As Indicated

A11.0

Project Phase
CONSTRUCTION DOCUMENTS

FOR ADDITIONAL INFORMATION, REFER TO PROJECT MANUAL.

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SPECIAL RECEPTACLE SCHEDULE				
TAG	NEMA	DESCRIPTION	OCPD	BRANCH CIRCUIT
A	5-15R	15A-125V, 2P, 3W, SIMPLEX	15A-1P	2#12 & 1#12GND - 3/4" C
B	5-20R	20A-125V, 2P, 3W, SIMPLEX	20A-1P	2#12 & 1#12GND - 3/4" C
C	5-30R	30A-125V, 2P, 3W	30A-1P	2#10 & 1#10GND - 3/4" C
D	5-50R	50A-125V, 2P, 3W	50A-1P	2#6 & 1#10GND - 3/4" C
E	6-15R	15A-250V, 2P, 3W, SIMPLEX	15A-2P	2#12 & 1#12GND - 3/4" C
F	6-20R	20A-250V, 2P, 3W, SIMPLEX	20A-2P	2#12 & 1#12GND - 3/4" C
G	6-30R	30A-250V, 2P, 3W	30A-2P	2#10 & 1#10GND - 3/4" C
H	6-50R	50A-250V, 2P, 3W	50A-2P	2#6 & 1#10GND - 3/4" C
I	14-20R	20A-125/250V, 3P, 4W	20A-2P	3#12 & 1#12GND - 3/4" C
J	14-30R	30A-125/250V, 3P, 4W	30A-2P	2#10 & 1#10GND - 3/4" C
K	14-50R	50A-125/250V, 3P, 4W	50A-2P	3#6 & 1#10GND - 1" C
L	14-60R	60A-125/250V, 3P, 4W	60A-2P	3#6 & 1#10GND - 1" C
M	15-20R	20A-250V, 3PH, 3P, 4W	20A-3P	3#12 & 1#12GND - 3/4" C
N	15-30R	30A-250V, 3PH, 3P, 4W	30A-3P	3#10 & 1#10GND - 3/4" C
P	15-50R	50A-250V, 3PH, 3P, 4W	50A-3P	3#6 & 1#10GND - 1" C
Q	15-60R	60A-250V, 3PH, 3P, 4W	60A-3P	3#6 & 1#10GND - 1" C
R	L5-20R	20A-125V, 2P, 3W, TWIST LOCK	20A-1P	2#12 & 1#12GND - 3/4" C
S	L5-30R	30A-125V, 2P, 3W, TWIST LOCK	30A-1P	2#10 & 1#10GND - 3/4" C
T	L6-15R	15A-250V, 2P, 3W, TWIST LOCK	15A-2P	2#12 & 1#12GND - 3/4" C
U	L6-20R	20A-250V, 2P, 3W, TWIST LOCK	20A-2P	2#12 & 1#12GND - 3/4" C
V	L6-30R	30A-250V, 2P, 3W, TWIST LOCK	30A-2P	2#10 & 1#10GND - 3/4" C
W	L14-20R	20A-125/250V, 3P, 4W, TWIST LOCK	20A-2P	3#12 & 1#12GND - 3/4" C
X	L14-30R	30A-125/250V, 3P, 4W, TWIST LOCK	30A-2P	3#10 & 1#10GND - 3/4" C

BRANCH CIRCUITS SCHEDULE	
CIRCUIT BREAKER	CONDUCTOR
120 OR 277 VOLT, 1 PH., 2W CIRCUITS	
30A-1P	2#10 & 1#10 GND - 3/4" C.
40A-1P	2#8 & 1#10 GND - 3/4" C.
50A-1P	2#6 & 1#10 GND - 3/4" C.
60A-1P	2#6 & 1#10 GND - 3/4" C.
208 OR 480 VOLT, 1PH., 2W CIRCUITS	
20A-2P	2#12 & 1#12 GND - 3/4" C.
30A-2P	2#10 & 1#10 GND - 3/4" C.
40A-2P	2#8 & 1#10 GND - 3/4" C.
50A-2P	2#6 & 1#10 GND - 3/4" C.
60A-2P	2#6 & 1#10 GND - 3/4" C.
208 OR 480 VOLT, 3PH., 3W CIRCUITS	
15A-3P, 20A-3P	3#12 & 1#12 GND - 3/4" C.
30A-3P	3#10 & 1#10 GND - 3/4" C.
40A-3P	3#8 & 1#10 GND - 3/4" C.
50A-3P	3#6 & 1#10 GND - 3/4" C.
60A-3P	3#6 & 1#10 GND - 3/4" C.

BRANCH CIRCUIT SCHEDULE NOTES:

1. TYPE MC CABLE SHALL INCLUDE FULL SIZE INSULATED GROUND CONDUCTOR, SIZES AS INDICATED IN SCHEDULE

2. WIRING BASED ON MAXIMUM FEEDER LENGTH OF 150 FEET FOR 120 VOLT CIRCUITS AND 300 FEET FOR 277 VOLT CIRCUITS

3. UPGRADE WIRE AND CONDUIT SIZE AS REQUIRED TO ADDRESS VOLTAGE DROP

THREE PHASE AND SINGLE PHASE CIRCUIT SCHEDULE NOTES

- UNLESS OTHERWISE INDICATED, CONDUCTOR SIZING SHALL MATCH THE SIZE INDICATED FOR THE APPLICABLE OVERCURRENT DEVICE. PROVIDE LARGER CONDUCTORS AND RACEWAY WHERE INDICATED.
- PROVIDE TYPE AND MINIMUM SIZE OF RACEWAY OR CABLE AS INDICATED IN SPECIFICATION OR ON THE DRAWINGS.
- PROVIDE NEUTRAL IN CIRCUIT UNLESS DEVICE SERVED DOES NOT HAVE PROVISIONS FOR A NEUTRAL CONNECTION.
- MINIMUM SIZE CONDUIT FOR SCHEDULE 80 OR ENT IS ONE STANDARD ELECTRICAL SIZE LARGER THAN INDICATED IN THE SCHEDULE. PROVIDE LARGER CONDUIT WHERE SPECIFICALLY INDICATED OTHERWISE. DO NOT INSTALL PVC INDOORS.
- PROVIDE SEPARATE, INSULATED EQUIPMENT GROUNDING CONDUCTOR WITH EACH FEEDER AND BRANCH CIRCUIT.
- PROVIDE ADDITIONAL ISOLATED GROUNDING CONDUCTOR SAME SIZE AS THE EQUIPMENT GROUND. IN CIRCUITS TO ISOLATED GROUND PANELS OR DEVICES, GREEN WITH YELLOW STRIPE.
- FOR PANELS WITH 200% NEUTRAL, PROVIDE 200% NEUTRAL USING TWO PHASE SIZED CONDUCTORS IF SIZE 1/0 OR LARGER, OTHERWISE PROVIDE (1) 3/0 NEUTRAL.
- PROVIDE SEPARATE INDIVIDUAL NEUTRAL FOR ALL CIRCUITS EXCEPT LIGHTING CIRCUITS. PROVIDE A DEDICATED NEUTRAL FOR GFCI AND AFCI CIRCUITS.
- CIRCUIT SIZING BASED ON 600 VOLT 90 DEGREE (C) RATED INSULATION. INTERIOR TYPE THHN/THWN OR XHHW-2 (LARGER THAN SIZE #6). FOR EXTERIOR OR BELOW GRADE UTILIZE RHW-2/USE-2 IN CONDUIT ONE SIZE LARGER. SIZING BASED ON 60 DEGREE (C) FOR AMPACITIES 100A OR LESS AND 75 DEGREE (C) AMPACITIES OVER 100A.
- FOR SERVICE ENTRANCE CONDUCTORS IT IS NOT REQUIRED TO INSTALL THE GROUNDING CONDUCTOR. THE NEUTRAL CONDUCTOR IS FULL SIZED AND IS BONDED TO THE GROUNDING ELECTRODE CONDUCTOR AT THE TRANSFORMER AND THE SERVICE DISCONNECT.
- FOR BATTERY CABLES, INSTALL AND GROUP IN PAIRS (ONE POSITIVE AND ONE NEGATIVE CONDUCTOR). MARK POSITIVE CONDUCTOR WITH (5) OVERLAPPING WRAPS OF RED ELECTRICAL TAPE ON EACH END.

VOLTAGE DROP CHART			
MAXIMUM LOAD (VA)	MAXIMUM LENGTH PER CONDUCTOR SIZE		
	#12	#10	#8
120 VOLT CIRCUITS			
800	155	245	390
1000	125	195	310
1200	105	165	260
1400	90	140	220
1600	80	125	195
1800	70	110	175
277 VOLT CIRCUITS			
2000	330	525	830
2500	265	420	665
3000	220	350	555
3500	190	300	475
4000	165	260	415

LUMINAIRE SCHEDULE										
LEGEND	TYPE	DESCRIPTION	MFR	CATALOG SERIES NUMBER SEE NOTE 1	MOUNTING	VOLTS	WATTS			NOTES
							LUMENS	TYPE		
	R1	2x2 RECESSED DIRECT/INDIRECT	COLUMBIA	LTR22-35ML-G-RFA-EDU	RECESSED	120	30	2975	LED ARRAY - 3500K	
	R2	2x4 RECESSED DIRECT/INDIRECT	COLUMBIA	LTR24-35ML-G-RFA-EDU	RECESSED	120	41	4650	LED ARRAY - 3500K	
	R3	4" APERTURE DOWNLIGHT WITH LUTRON 1% DIMMING	PRESCOLITE	D4LED3-HDM-4D9LED4-8-FL35-MFC	RECESSED	120	14	700	LED ARRAY - 3500K	
	R4	2" LINEAR FLUSHLESS FLUSH MOUNTED DRYWALL SOFFIT LED FIXTURE	AXIS	SCR-500-90-35-FL-2-W-UNV-D-1-D	RECESSED	120	11.1	999	LED ARRAY - 3500K	
	W1	NIGHT LIGHT	KENALL	MSL-S-0-MW-2-ALL-120-1	RECESSED WALL 20" AFF	120	0.49	N/A	AMBER LED ARRAY	
	W2	READING LIGHT WALL SCONCE- WHITE FINISH	LIGHTOLOGY	MAR245123	SURFACE WALL 60" AFF	120	3	95	LED ARRAY - 3000K	
GENERAL NOTES										
1. NOTE THAT THESE NUMBERS ARE NOT COMPLETE CATALOG NUMBERS. PROVIDE ALL REQUIREMENTS ON SCHEDULE, NOTES, SPECS, AND DRAWINGS COMBINED.										
2. CATALOG SERIES NUMBERS ARE USED TO ESTABLISH A LEVEL OF QUALITY AND NOT INTENDED TO LIMIT COMPETITION. SERIES NUMBERS ARE NOT COMPLETE CATALOG NUMBERS. COMPLY WITH ADDITIONAL REQUIREMENTS IN SPECIFICATIONS AND DRAWINGS.										
3. PROVIDE WALL, CEILING, OR PENDANT MOUNTING AS INDICATED ON PLANS. PROVIDE NUMBER OF FACES AND ARROWS AS INDICATED.										
4. PROVIDE PROGRAMMED START BALLAST WITH ROOMS THAT HAVE OCCUPANCY SENSORS.										
5. VERIFY CEILING STRUCTURE AND MOUNTING HEIGHT PRIOR TO ORDERING ANY LIGHT FIXTURES.										

PROJECT NOTES

- THE SCOPE OF WORK SHALL INCLUDE PROVIDING ALL WORK INDICATED UNLESS OTHERWISE SPECIFICALLY INDICATED AS EXISTING OR WORK BY OTHERS AND COORDINATION WITH ALL TRADES SCOPE OF WORK AS INDICATED ON THE CONTRACT DOCUMENTS INCLUDING BOTH THE DRAWINGS AND THE SPECIFICATIONS, WHICH ARE COMPLEMENTARY. WORK REQUIREMENTS INDICATED IN ANY CONTRACT DOCUMENT SHALL BE CONSIDERED PART OF THE SCOPE OF WORK, UNLESS SPECIFICALLY INDICATED AS EXISTING OR WORK BY OTHERS.
- IN GENERAL, WORK REQUIREMENTS ARE NOT INDICATED IN BOTH DOCUMENTS. WHERE DOCUMENTS CONFLICT WITHIN THEMSELVES OR WITH CODES AND REGULATIONS, PROVIDE THE HIGHER QUANTITY AND QUALITY AND FOLLOW THE STRICTER REQUIREMENTS.
- WORK AT A MINIMUM SHALL BE IN ACCORDANCE WITH OSHA, NFPA STANDARDS, THE ELECTRICAL CODE AND THE LOCAL GOVERNING AUTHORITIES. THE DRAWINGS AND SPECIFICATIONS DO NOT ATTEMPT TO INDICATE ALL WORK REQUIRED BY CODE AND AUTHORITIES. DO NOT INSTALL WORK THAT DOES NOT MEET THE MINIMUM REQUIREMENTS. IF NECESSARY, REQUEST CLARIFICATION FROM ARCHITECT AND ENGINEER BEFORE PROCEEDING.
- ALL EQUIPMENT SHALL BE INSTALLED IN A NEAT AND PROFESSIONAL MANNER, RECTILINEAR TO BUILDING STRUCTURE.
- ALL COMPONENTS SHOWN ON THE RISER DIAGRAMS OR DETAILS, BUT NOT ON THE PLAN OR VICE VERSA SHALL BE INCLUDED AS IF SHOWN ON BOTH.
- IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS TO PROVIDE A WORKING INSTALLATION IN EVERY DETAIL AND ALL ITEMS REQUIRED FOR SUCH AN INSTALLATION SHALL BE PROVIDED WHETHER OR NOT SPECIFICALLY INDICATED OR MENTIONED.
- VISIT THE SITE TO DETERMINE PRE-EXISTING CONDITIONS AND WORK NECESSARY PRIOR TO SUBMISSION OF BID PRICE. SUBMIT ANY QUESTIONS REQUIRED TO CLARIFY SCOPE PRIOR TO BID. INCLUDE ALL REQUIRED WORK IN BID PRICE.
- INCLUDE IN BID WHATEVER IS REQUIRED TO MEET SCHEDULE INCLUDING OVERTIME, EXPRESS SHIPPING, EXPEDITING EQUIPMENT, ETC. PLAN FOR PROJECT AND SUBMIT SHOP DRAWING AND ORDER EQUIPMENT IN A TIMELY MANNER. EQUIPMENT SHALL BE BASED ON THE SPECIFIED EQUIPMENT.
- ANY EQUIPMENT TO BE SUBSTITUTED SHALL BE IDENTIFIED AT THE TIME OF BID. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR SUBSTITUTIONS.
- ALL ELECTRICAL DEVICES, WHEN INSTALLED, SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION. COVER PLATES SHALL BE INSTALLED AFTER FINISH MATERIALS HAVE BEEN APPLIED.
- TEST ALL EQUIPMENT AND SYSTEMS INSTALLED TO CERTIFY COMPLIANCE WITH DRAWINGS, SPECIFICATIONS, CODES, LOCAL AUTHORITIES AND REGULATIONS. INCLUDE LABOR AND COSTS FOR TESTING, REVIEWS, COMMISSIONING, APPROVALS AND CERTIFICATIONS.
- PROVIDE TRAINING TO OWNER ON ALL EQUIPMENT AND SYSTEMS INSTALLED.
- TEMPORARY LIGHTING AND POWER SHALL BE PROVIDED AS REQUIRED BY OSHA, CODES AND LOCAL AUTHORITIES. REMOVE ALL TEMPORARY FACILITIES PROVIDED AT PROJECT COMPLETION.
- WHERE REMOVALS IMPACT WIRING TO EXISTING ITEMS TO REMAIN, PROVIDE WIRING AND CONNECTIONS AS REQUIRED TO RE-FEED ITEMS TO REMAIN.

INSTALLATION COORDINATION NOTES

- PRIOR TO ROUGH-IN OF ELECTRICAL PROVISIONS FOR OWNER FURNISHED EQUIPMENT AND EQUIPMENT PROVIDED BY OTHER TRADES, COORDINATE WITH THE GENERAL CONTRACTOR, EQUIPMENT SHOP DRAWINGS AND APPLICABLE EQUIPMENT INSTALLER FOR EXACT LOCATION AND WIRING REQUIREMENTS. PROVIDE ALL NECESSARY EQUIPMENT, WIRING AND ACCESSORIES FOR A COMPLETE INSTALLATION. MAKE ALL FINAL CONNECTIONS AS REQUIRED, I.E. POWER, CONTROL, INTERLOCK, ETC.
- DISCONNECT, REMOVE, RELOCATE, AND RECONNECT ELECTRICAL CONDUIT, WIRING, DEVICES, BOXES, FIXTURES, EQUIPMENT, ETC. AS INDICATED AND AS REQUIRED TO FACILITATE THE WORK OF DIVISION 26 AND OTHER DIVISIONS. THESE REMOVALS ARE NOT INTENDED TO INDICATE ALL ITEMS TO BE REMOVED.
- ELECTRICAL EQUIPMENT, RACEWAYS AND OUTLETS MOUNTED TO AND/OR INSTALLED IN OWNER FURNISHED FURNITURE SHALL BE COORDINATED WITH THE EQUIPMENT AND FURNITURE INSTALLERS AND THE GENERAL CONTRACTOR PRIOR TO ROUGH-IN, EXCEPT WHERE INDICATED OR REQUIRED OTHERWISE.
- THE LOCATION OF EQUIPMENT, OUTLETS, ETC. AS GIVEN ON THE DRAWINGS IS APPROXIMATE. IT SHALL BE UNDERSTOOD THAT THESE LOCATIONS ARE SUBJECT TO MODIFICATION AS MAY BE FOUND NECESSARY OR DESIRABLE AT THE TIME OF INSTALLATION IN ORDER TO MEET PROJECT REQUIREMENTS. SUCH CHANGES SHALL BE MADE WITHOUT EXTRA CHARGE.
- IF EXACT LOCATION, MOUNTING OR RACEWAY ROUTING ARE NOT INDICATED OR ARE NOT CLEAR OR CONFLICT (LOCATION OR HEIGHT) COORDINATE WITH OTHER TRADES AND REQUEST CLARIFICATION PRIOR TO ROUGH-IN OR INSTALLATION. DRAWINGS ARE DIAGRAMMATIC ONLY. EXACT LOCATION, MOUNTING HEIGHTS OR EQUIPMENT AND ROUTING OF RACEWAYS SHALL BE COORDINATED WITH THE EQUIPMENT REQUIREMENTS AND FIELD CONDITIONS.
- WHERE LOADS ARE ADDED TO EXISTING BRANCH CIRCUITS, VERIFY THAT THE EXISTING CIRCUITS HAVE ADEQUATE CAPACITY TO SUPPORT THE ADDITIONAL LOAD WITHOUT EXCEEDING SPECIFIED MAXIMUM LOAD.
- UNLESS OTHERWISE DIRECTED, PROVIDE ALL NEW POWER DISTRIBUTION EQUIPMENT WITH AIC RATINGS THAT MATCH OR EXCEED THE AIC RATING OF THE NEXT ACTIVE EXISTING UPSTREAM OVER-CURRENT PROTECTIVE DEVICE SERVING THE PANEL WHEN SERVED DIRECTLY BY ITS SOURCE (E.G. NO TRANSFORMER) OR PROVIDE AIC RATING THAT EXCEEDS BY 10% THE MAXIMUM LET THROUGH FAULT CURRENT (UNDER INFINITE PRIMARY BUSS) OF THE NEXT ACTIVE UPSTREAM TRANSFORMER (EXISTING OR NEW) SERVING THE RESPECTIVE PANEL.
- ALL NEW PANELS SHALL BE FULLY RATED FOR THE DESIGNATED AIC VALUE. PANELS UTILIZING SERIES RATINGS WILL NOT BE ACCEPTABLE. NEW CIRCUIT BREAKERS PROVIDED IN EXISTING PANELS SHALL BE PROVIDED WITH AIC RATINGS THAT MATCH OR EXCEED THE HIGHEST RATED OVER-CURRENT PROTECTIVE DEVICE WITHIN THE RESPECTIVE EXISTING PANEL.
- SUBMIT SHORT CIRCUIT STUDY WITH POWER DISTRIBUTION EQUIPMENT SUBMITTALS FOR REVIEW AND APPROVAL. IN THE STUDY DEMONSTRATE THAT THE AIC RATING SELECTIONS ARE PROPERLY INTEGRATED AND COORDINATED WITH THE EXISTING AND NEW POWER DISTRIBUTION EQUIPMENT. CONFIRM THAT THE AIC RATING SELECTIONS HAVE INCORPORATED THE AVAILABLE FAULT DUTY VALUES OBTAINED FROM THE UTILITY COMPANY FOR THE PROJECT'S ELECTRICAL SERVICE POINT OF COMMON COUPLING.
- SUBMIT OVER-CURRENT PROTECTIVE DEVICE COORDINATION STUDY, FOR ALL NEW POWER DISTRIBUTION EQUIPMENT, WITH THE POWER DISTRIBUTION EQUIPMENT SUBMITTALS FOR REVIEW AND APPROVAL. INCLUDE THE NEXT ACTIVE EXISTING UPSTREAM OVER-CURRENT PROTECTIVE DEVICES, IN THE STUDY ANALYSIS, WHEN PROJECT IS WITHIN AN EXISTING FACILITY.
- SUBMIT ARC FLASH REPORT, FOR ALL NEW POWER DISTRIBUTION EQUIPMENT, WITH POWER DISTRIBUTION EQUIPMENT SUBMITTALS FOR REVIEW AND APPROVAL.

WIRING NOTES

- UNLESS OTHERWISE INDICATED ON PLANS OR IN SPECIFICATIONS; ALL CONDUCTORS, POWER DISTRIBUTION EQUIPMENT BUSSING AND TRANSFORMER WINDINGS SHALL BE FABRICATED OF 98% CONDUCTIVE COPPER MATERIAL.
- WIRING IS INDICATED ON DRAWINGS ONLY FOR SPECIFIC ROUTES OR SPECIAL CONDITIONS.
- BRANCH CIRCUIT WIRING NOT SHOWN. CIRCUITING SHALL IN ACCORDANCE WITH APPLICABLE CODES AND STANDARD PRACTICE. PROVIDE A 20A, 1P CIRCUIT BREAKER FOR EACH LIGHTING AND RECEPTACLE CIRCUIT UNLESS OTHERWISE INDICATED OR NOTED. CONNECT NO MORE THAN SIX DUPLEX CONVENIENCE RECEPTACLES PER BRANCH CIRCUIT. CONNECTED LOAD ON LIGHTING CIRCUITS SHALL NOT EXCEED 12 AMPS.
- ALL WIRING SHALL BE RUN CONCEALED UNLESS SPECIFIED OTHERWISE. ALL EXPOSED WIRING INCLUDING THAT WHICH IS INSTALLED ABOVE BUT IS VISIBLE FROM BELOW, PARTIALLY OR FULLY OPEN CEILING, SHALL BE INSTALLED IN CONDUIT OR RACEWAYS. REFER TO SPECIFICATIONS FOR ACCEPTABLE WIRING METHODS.
- WIRING AND CONDUIT SHALL BE REQUIRED FOR ALL SWITCHES, AND OUTLETS INDICATED WITH CIRCUIT NUMBERS. PROVIDE 3/2" CONDUIT, 3#12 UNLESS OTHERWISE INDICATED (1 PHASE, 1 NEUTRAL AND 1 GROUND). WIRE AND CONDUIT SIZES ON HOME RUNS SHALL BE CONTINUOUS THROUGHOUT CIRCUIT. REFER TO VOLTAGE DROP CHART ON SCHEDULE SHEET. ALTHOUGH ALL BRANCH CIRCUIT WIRE AND CONDUIT IS NOT SHOWN, IT IS THE INTENT OF THESE DOCUMENTS THAT A COMPLETE BRANCH CIRCUIT WIRING SYSTEM BE INSTALLED.
- RACEWAYS SHALL BE LIMITED TO SIX CURRENT CARRYING CONDUCTORS (PHASE AND NEUTRALS) AND GROUNDING CONDUCTOR. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH SINGLE-PHASE RECEPTACLE OR LIGHTING CIRCUIT. UNLESS OTHERWISE INDICATED OR IF AN OVERSIZED NEUTRAL IS SPECIFIED, CIRCUITS WITH SHARED NEUTRALS SHALL BE PROVIDED WITH CIRCUIT BREAKERS THAT HAVE A COMMON TRIP (E.G. FURNITURE WHIPS).
- MARK ALL CONDUITS AND JUNCTION BOXES WITH PERMANENT MARKER INDICATING PANEL AND CIRCUIT NUMBER OF CONDUCTORS CONTAINED WITHIN. LABEL WHERE CONDUITS ENTER PANELS, WIRE WAYS, PULL BOXES, ETC. LABEL EMPTY CONDUITS WITH SYSTEM (VOICE, DATA, SECURITY, ETC.) AND SOURCE OF CONDUIT.
- COORDINATE WITH OWNER TO DETERMINE WHICH RECEPTACLES AND ITEMS OF EQUIPMENT REQUIRE STANDBY GENERATOR POWER.
- ELECTRICAL WORK NOT SERVING STAIRWELLS SHALL NOT PASS THROUGH A STAIR ENCLOSURE UNLESS AN APPROVED RATED SOFFIT IS PROVIDED TO MAINTAIN FIRE AND SMOKE RATING.
- ALL RACEWAYS CROSSING EXPANSION JOINTS SHALL BE EQUIPPED WITH EXPANSION FITTINGS.
- PROVIDE WATERTIGHT AND GAS TIGHT SEALS INSIDE AND OUTSIDE OF CONDUITS THAT PENETRATE THE BUILDING BELOW GRADE, O.Z. GEDNEY OR APPROVED EQUAL. PROVIDE WEATHER TIGHT SEAL AT PENETRATIONS ABOVE GRADE.
- PROVIDE NRTL LISTED SMOKE AND FIRE SEALS AT ALL PENETRATIONS THROUGH FLOORS OR FULL HEIGHT (FLOOR TO FLOOR) WALLS.
- A SEPARATE GROUNDING CONDUCTOR SHALL BE RUN IN EVERY FEEDER AND BRANCH CIRCUIT CONDUIT.
- ALL WIRE SHALL BE COPPER. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG FOR BRANCH CIRCUITS AND #14 AWG FOR CONTROL WIRING.

SYSTEM POWER WIRING NOTES

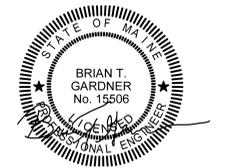
- ALL VIDEO PROJECTOR, CAMERA AND MONITOR POWER OUTLETS AND THEIR ASSOCIATED COMPUTER POWER OUTLETS FEEDING THE VIDEO SOURCE ARE TO BE CONNECTED TO THE SAME PHASE TO ELIMINATE THE POTENTIAL FOR VIDEO INTERFERENCE BETWEEN VIDEO SOURCE AND EQUIPMENT. COORDINATE ALL POWER WIRING FOR SYSTEM EQUIPMENT WITH THE SYSTEM INSTALLER PRIOR TO INSTALLATION.

RECEPTACLE COLOR CODE NOTES

- UNLESS OTHERWISE INDICATED PROVIDE 20A HEAVY DUTY GRADE RECEPTACLES WITH COLOR CODE AS FOLLOWS:
- ON GENERATOR POWER - RED
 - ON UPS POWER - BLUE
 - ISOLATED GROUND - ORANGE
 - ON NORMAL POWER - WHITE

MOUNTING NOTES

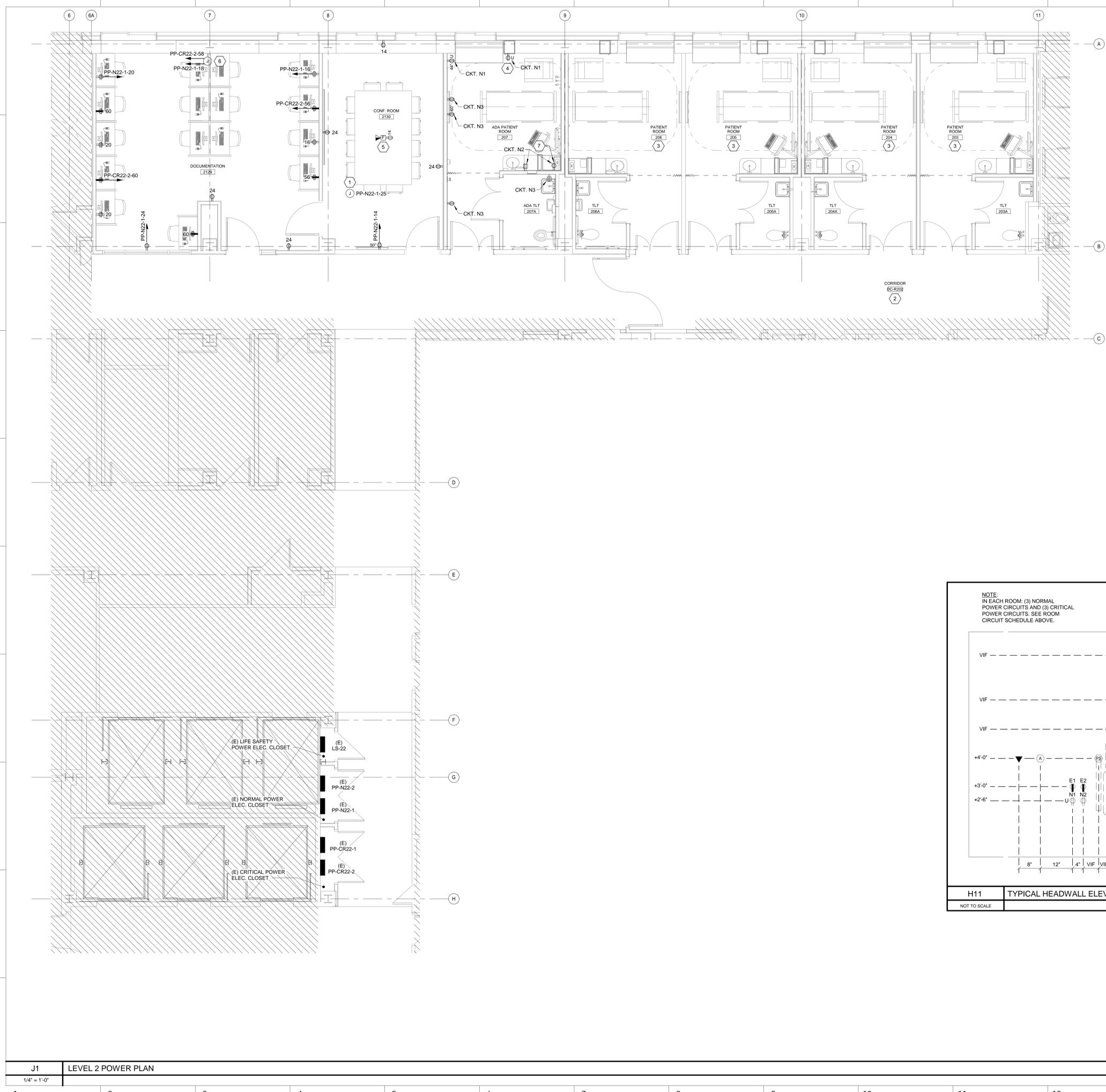
- DO NOT SCALE THE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS AND EXISTING CONDITIONS FOR EXACT DIMENSIONS.
- INSTALL ALL ELECTRICAL DEVICES (FIRE ALARM, SWITCHES, RECEPTACLES, WORK BOXES, JUNCTION BOXES, EXIT SIGNS, LUMINAIRES, ETC.) IN THE LOCATIONS IDENTIFIED OR DIMENSIONS ON THE ARCHITECTURAL PLANS, DETAILS, OR ELEVATIONS.
- IF THE DEVICE LOCATION IS NOT SPECIFICALLY SHOWN ON ARCHITECTURAL DRAWINGS, FOLLOW THE GUIDELINES LISTED BELOW:
- INSTALL NEARBY DEVICES ON ONE COMMON VERTICAL CENTERLINE
 - INSTALL ADJACENT TO DEVICES LINED UP WITH A COMMON BOTTOM LINE.
 - INSTALL DEVICES AT INDICATED HEIGHT AS APPLICABLE UNLESS OTHERWISE NOTED. ALL MOUNTING HEIGHTS SHALL BE MEASURED FROM FINISHED FLOOR TO CENTERLINE OF DEVICE EXCEPT AS INDICATED BY NOTE 7.
 - ON MASONRY WALLS LINE UP THE BOTTOM OF THE DEVICE WITH A MASONRY JOINT AS CLOSE TO THE INDICATED HEIGHT AS PRACTICAL.
 - INSTALL DEVICES IN SAME AREA AT THE SAME HEIGHT.
 - MOUNT PANELS SIX FEET TO THE TOP OF THE PANEL OR ANNUNCIATOR/ FA GRAPHIC.
 - MOUNT AT 8 FOOT TO BOTTOM FOR SIGNAGE, EMERGENCY LIGHTING, CLOCKS, SECURITY SENSORS. WALL MOUNTED OCCUPANCY SENSORS MODIFIED AS FOLLOWS: 4" FROM TOP OF DEVICE TO CEILING AND 4" ABOVE DOOR FRAMES.
 - LOCATE CONTROL DEVICE AT LEAST 18" FROM AN INSIDE CORNER.
 - SUPPORT WORK FROM THE BUILDING STRUCTURE.
 - IN FINISHED AREAS ELECTRICAL WORK SHALL BE INSTALLED CONCEALED; RECESSED INTO WALLS OR INSTALLED ABOVE HUNG CEILINGS UNLESS OTHERWISE INDICATED.
 - DO NOT INSTALL OUTLETS BACK TO BACK. PROVIDE 24" SPACING IN FIRE RATED WALLS.
 - PROVIDE ELECTRICAL OUTLET PLATE GASKETS SEALS AT RECEPTACLES, SWITCHES AND OTHER ELECTRICAL BOXES ON EXTERIOR WALLS AND INTERIOR WALLS BETWEEN CONDITIONED AND NON-CONDITIONED SPACES.



22 Bramhall St, Portland, ME, 04102

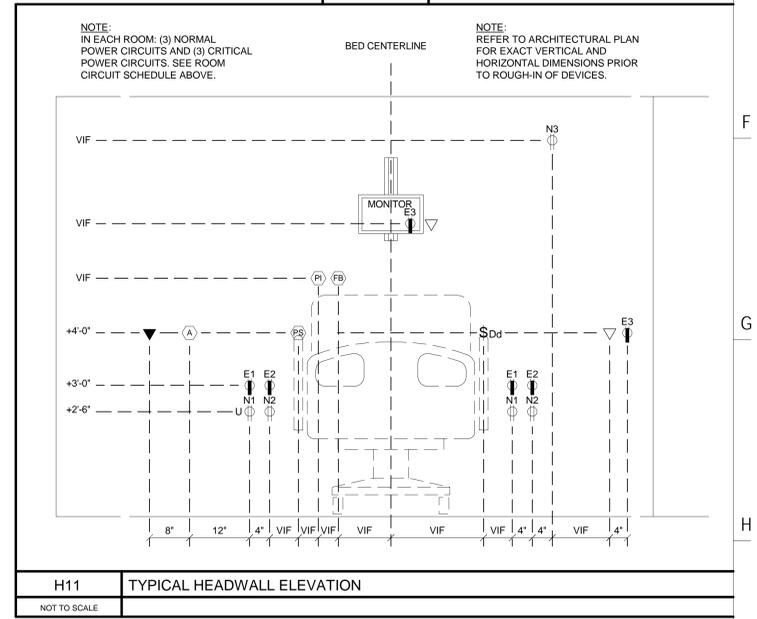
NO.	DESCRIPTION	DATE

FOR ADDITIONAL INFORMATION, REFER TO PROJECT MANUAL	
CONTENT:	GENERAL & REMOVALS NOTES AND SCHEDULES
DRAWN BY:	GMC
PROJECT NO.:	17-041-00
DATE:	05/24/18
REVISED:	
SCALE:	NOT TO SCALE
E0.1	
Project Phase:	CONSTRUCTION DOCUMENTS
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ROOM CIRCUIT SCHEDULE		
ROOM NUMBER	NORMAL CIRCUITS	CRITICAL CIRCUITS
PATIENT ROOM 203	PP-N22-1-5 'N1'	PP-CR22-2-43 'E1'
	PP-N22-1-7 'N2'	PP-CR22-2-46 'E2'
	PP-N22-1-9 'N3'	PP-CR22-2-47 'E3'
PATIENT ROOM 204	PP-N22-1-11 'N1'	PP-CR22-2-49 'E1'
	PP-N22-1-13 'N2'	PP-CR22-2-51 'E2'
	PP-N22-1-15 'N3'	PP-CR22-2-53 'E3'
PATIENT ROOM 205	PP-N22-1-17 'N1'	PP-CR22-2-55 'E1'
	PP-N22-1-19 'N2'	PP-CR22-2-57 'E2'
	PP-N22-1-21 'N3'	PP-CR22-2-59 'E3'
PATIENT ROOM 206	PP-N22-1-2 'N1'	PP-CR22-2-44 'E1'
	PP-N22-1-4 'N2'	PP-CR22-2-46 'E2'
	PP-N22-1-6 'N3'	PP-CR22-2-48 'E3'
PATIENT ROOM 207	PP-N22-1-8 'N1'	PP-CR22-2-50 'E1'
	PP-N22-1-10 'N2'	PP-CR22-2-52 'E2'
	PP-N22-1-12 'N3'	PP-CR22-2-54 'E3'

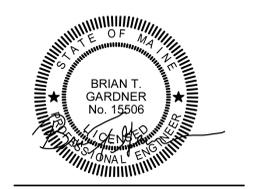
C13	PATIENT ROOM RECEPTACLE CIRCUITS
1	PROVIDE JUNCTION BOX AND CIRCUIT FOR MECHANICAL CONTROLS. WIRING FROM JUNCTION BOX TO MECHANICAL CONTROL DEVICES SHALL BE BY DIV 23. INSTALL BOXES ABOVE CEILING, EXCEPT IN AREAS WITHOUT CEILINGS- INSTALL AT UNDERSIDE OF DECK INSTEAD.
2	REFER TO MECHANICAL EQUIPMENT SCHEDULE ON SHEET E6.0 FOR SCOPE AND ADDITIONAL INFORMATION FOR POWER TO NEW PENTHOUSE EXHAUST FAN.
3	REFER TO DEVICE LAYOUT FOR PATIENT ROOM NO. 207 (INCLUDING RESPECTIVE TOILET) AND PROVIDE SIMILAR DEVICE QUANTITY AND LAYOUT.
4	LOCATED AT BASE OF CABINET. REFER TO ARCHITECTURAL PLAN FOR EXACT LOCATION.
5	EXACT LOCATION OF COMBINATION POWER/TEL FLOOR BOX SHALL BE AS DIMENSIONED ON ARCHITECTURAL PLANS AND COORDINATED WITH TABLE FOOTPRINT AND TABLE SUPPORT SYSTEM IN FIELD.
6	WALL MOUNTED JUNCTION BOX FOR FURNITURE POWER FEED WHIP SERVING (6) WORK STATIONS. TERMINATE THE TWO INDICATED CIRCUITS (ONE NORMAL, ONE CRITICAL) TO THE WHIP PROVIDED BY THE FURNITURE VENDOR. PROVIDE DEDICATED NEUTRAL AND GROUND FOR EACH CIRCUIT. VERIFY WIRING CONFIGURATION OF WHIP IN FIELD. A (6) WIRE WHIP IS EXPECTED (2H, 2N, 2G).
7	VERIFY EXACT HEIGHT OF THE DATA AND POWER RECEPTACLE IN THIS LOCATION IN FIELD, COORDINATE WITH MILLWORK AND SHELIVING.
KEY AREA NOT IN PROJECT SCOPE	
F13	POWER KEYNOTES



H11 TYPICAL HEADWALL ELEVATION
NOT TO SCALE

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 F: 207.231.2346
 Web: www.allied-eng.com



MAINE MEDICAL CENTER
 MAINE MEDICAL CENTER - R2 RENOVATION

22 Bramhall St, Portland, ME, 04102

NO.	DESCRIPTION	DATE

FOR ADDITIONAL INFORMATION REFER TO PROJECT MANUAL

CONTENT:
POWER PLAN, SCHEDULE, AND NOTES

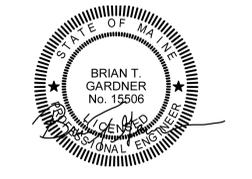
DRAWN BY: GMC
 PROJECT NO: 17-041-00
 DATE: 05/24/18
 REVISIONS:
 SCALE: As indicated

E1.2

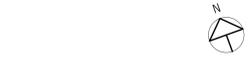
Project Phase:
CONSTRUCTION DOCUMENTS

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NO.	DESCRIPTION	DATE



FOR ADDITIONAL INFORMATION, REFER TO PROJECT MANUAL.	
CONTENT:	SCHEDULES
DRAWN BY:	GMC
PROJECT NO:	17-041-00
DATE:	05/24/18
REVISED:	
SCALE:	NOT TO SCALE
E6.0	
Project Phase:	CONSTRUCTION DOCUMENTS
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PANEL SCHEDULE ~ (E) PP-N22-1									
VOLTAGE: 208/120V				MCO: 225A			AIC: (EXISTING)		
3-PHASE, 4-WIRE									
CIRCUIT BREAKER		CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION				
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C			
1	(E) 20	2	A	0.00			(E) AC UNIT DATA RM		
3	(E) 20	1	B		0.00				
5	(E) 20	1	C			0.54	REC. PATIENT ROOM 203		
7	(E) 20	1	A	0.54			REC. PATIENT ROOM 203		
9	(E) 20	1	B		0.54		REC. PATIENT ROOM 203		
11	(E) 20	1	C			0.54	REC. PATIENT ROOM 204		
13	(E) 20	1	A	0.54			REC. PATIENT ROOM 204		
15	(E) 20	1	B		0.54		REC. PATIENT ROOM 204		
17	(E) 20	1	C			0.54	REC. PATIENT ROOM 205		
19	(E) 20	1	A	0.54			REC. PATIENT ROOM 205		
21	(E) 20	1	B		0.54		REC. PATIENT ROOM 205		
23	(E) 20	1	C			0.56	LIGHTS: PATIENT ROOMS 203-207		
25	(E) 20	1	A	0.00			MECHANICAL CONTROLS		
27	(E) 20	1	B		0.00		(E) SPARE		
29	(E) 20	1	C			0.00	(E) SPARE		
31	(E) 20	1	A	0.00			(E) SPARE		
33	(E) 20	1	B		0.00		(E) SPARE		
35	(E) 20	1	C			0.00	(E) SPARE		
37	(E) 20	1	A	0.00			(E) SPARE		
39	(E) 20	1	B		0.00		(E) SPARE		
41	(E) 20	1	C			0.00	(E) SPARE		
SUBTOTAL				1.62	1.62	2.18			
2	(E) 20	1	A	0.54			REC. PATIENT ROOM 206		
4	(E) 20	1	B		0.54		REC. PATIENT ROOM 206		
6	(E) 20	1	C			0.54	REC. PATIENT ROOM 206		
8	(E) 20	1	A	0.54			REC. PATIENT ROOM 207		
10	(E) 20	1	B		0.54		REC. PATIENT ROOM 207		
12	(E) 20	1	C			0.54	REC. PATIENT ROOM 207		
14	(E) 20	1	A	0.72			REC. CONF. ROOM 2130		
16	(E) 20	1	B		0.72		REC. DOCUMENTATION 2129		
18	(E) 20	1	C			1.08	REC. DOCUMENTATION 2129		
20	(E) 20	1	A	1.08			REC. DOCUMENTATION 2129		
22	(E) 20	1	B		0.60		LIGHTS: CONF. ROOM 2130, DOCUMENTATION 2129		
24	(E) 20	1	C			0.72	REC. DOCUMENTATION 2129, CONF. ROOM 2130		
26	(E) 20	1	A	0.00			(E) SPARE		
28	(E) 20	1	B		0.00		(E) SPARE		
30	(E) 20	1	C			0.00	(E) SPARE		
32	(E) 20	1	A	0.00			(E) SPARE		
34	(E) 20	1	B		0.00		(E) SPARE		
36	(E) 20	1	C			0.00	(E) SPARE		
38	(E) 20	1	A	0.00			(E) SPARE		
40	(E) 20	1	B		0.00		(E) SPARE		
42	(E) 20	1	C			0.00	(E) SPARE		
SUBTOTAL				2.88	2.40	2.88			

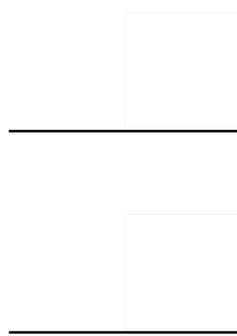
PANEL SCHEDULE ~ (E) PP-N22-2									
VOLTAGE: 208/120V				MCO: 225A			AIC: (EXISTING)		
3-PHASE, 4-WIRE									
CIRCUIT BREAKER		CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION				
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C			
43	(E) 20	1	A	0.00			(E) SPARE		
45	(E) 20	1	B		0.00		(E) SPARE		
47	(E) 20	1	C			0.00	(E) SPARE		
49	(E) 20	1	A	0.00			(E) SPARE		
51	(E) 20	1	B		0.00		(E) SPARE		
53	(E) 20	1	C			0.00	(E) SPARE		
55	(E) 20	1	A	0.00			(E) SPARE		
57	(E) 20	1	B		0.00		(E) SPARE		
59	(E) 20	1	C			0.00	(E) SPARE		
61	(E) 20	1	A	0.00			(E) SPARE		
63	(E) 20	1	B		0.00		(E) SPARE		
65	(E) 20	1	C			0.00	(E) SPARE		
67	(E) 20	1	A	0.00			(E) SPARE		
69	(E) 20	1	B		0.00		(E) SPARE		
71	(E) 20	1	C			0.00	(E) SPARE		
73	(E) 20	1	A	0.00			(E) SPARE		
75	(E) 20	1	B		0.00		(E) SPARE		
77	(E) 20	1	C			0.00	(E) SPARE		
79	(E) 20	1	A	0.00			(E) SPARE		
81	(E) 20	1	B		0.00		(E) SPARE		
83	(E) 20	1	C			0.00	(E) SPARE		
SUBTOTAL				0.00	0.00	0.00			
44	(E) 20	1	A	0.00			(E) SPARE		
46	(E) 20	1	B		0.00		(E) SPARE		
48	(E) 20	1	C			0.00	(E) SPARE		
50	(E) 20	1	A	0.00			(E) SPARE		
52	(E) 20	1	B		0.00		(E) SPARE		
54	(E) 20	1	C			0.00	(E) SPARE		
56	(E) 20	1	A	0.00			(E) SPARE		
58	(E) 20	1	B		0.00		(E) SPARE		
60	(E) 20	1	C			0.00	(E) SPARE		
62	(E) 20	1	A	0.00			(E) SPARE		
64	(E) 20	1	B		0.00		(E) SPARE		
66	(E) 20	1	C			0.00	(E) SPARE		
68	(E) 20	1	A	0.00			(E) SPARE		
70	(E) 20	1	B		0.00		(E) SPARE		
72	(E) 20	1	C			0.00	(E) SPARE		
74	(E) 20	1	A	0.00			(E) SPARE		
76	(E) 20	1	B		0.00		(E) SPARE		
78	(E) 20	1	C			0.00	(E) SPARE		
80	(E) 20	1	A	0.00			(E) SPARE		
82	(E) 20	1	B		0.00		(E) SPARE		
84	(E) 20	1	C			0.00	(E) SPARE		
SUBTOTAL				0.00	0.00	0.00			

PANEL SCHEDULE ~ (E) PP-CR22-1									
VOLTAGE: 208/120V				MCO: 250A			AIC: (EXISTING)		
3-PHASE, 4-WIRE									
CIRCUIT BREAKER		CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION				
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C			
1	(E) 20	1	A	0.00			(E) RECPT. RM. 216		
3	(E) 20	1	B		0.00		(E) RECPT. RM. 215		
5	(E) 20	1	C			0.00	(E) RECPT. RM. 214		
7	(E) 20	1	A	0.00			(E) RECPT. RM. 212		
9	(E) 20	1	B		0.00		(E) RECPT. RM. 211		
11	(E) 20	1	C			0.00	(E) RECPT. RM. 202		
13	(E) 20	1	A	0.00			(E) RECPT. RM. 201		
15	(E) 20	1	B		0.00		(E) RECPT. RM. CHARGING STATION		
17	(E) 20	1	C			0.00	(E) RECPT. RM. CHARGING STATION		
19	(E) 20	1	A	0.00			(E) RECPT. RM. CHARGING STATION		
21	(E) 20	1	B		0.00		(E) RECPT. RM. DATA RM.		
23	(E) 20	1	C			0.00	(E) RECPT. RM. DATA RM.		
25	(E) 20	1	A	0.00			(E) RECPT. RM. CRITICAL CLOSET		
27	(E) 20	1	B		0.00		(E) LIGHTS RM. 201, 202		
29	(E) 20	1	C			0.00	(E) LIGHTS RM. 222, 223, 2161, 2106		
31	(E) 20	1	A	0.00			(E) LIGHTS RM. 224, 225, 226, 227		
33	(E) 20	1	B		0.33		EM. LIGHTS: RM. DOCUMENTATION 2129, CONF. ROOM 2130, PATIENT ROOMS 203-207		
35	(E) 20	1	C			0.00	(E) SPARE		
37	(E) 20	1	A	0.00			(E) SPARE		
39	(E) 20	1	B		0.00		(E) SPARE		
41	(E) 20	1	C			0.00	(E) SPARE		
SUBTOTAL				0.00	0.33	0.00			
2	(E) 20	1	A	0.36			(E) RECPT. RM. 227		
4	(E) 20	1	B		0.36		(E) RECPT. RM. 226		
6	(E) 20	1	C			0.36	(E) RECPT. RM. 225		
8	(E) 20	1	A	0.00			(E) RECPT. RM. 224		
10	(E) 20	1	B		0.00		(E) RECPT. RM. 223		
12	(E) 20	1	C			0.00	(E) RECPT. RM. 222		
14	(E) 20	1	A	0.00			(E) RECPT. RM. 220		
16	(E) 20	1	B		0.00		(E) RECPT. RM. 219		
18	(E) 20	1	C			0.00	(E) RECPT. RM. 218		
20	(E) 20	1	A	0.00			(E) RECPT. RM. 217		
22	(E) 20	1	B		0.00		(E) DOOR CONTROLS DATA RMS		
24	(E) 20	1	C			0.00	(E) RECPT. RM. 2132		
26	(E) 20	1	A	0.00			(E) LIGHTS RM. ELECTRIC/DATA RM.		
28	(E) 20	1	B		0.00		(E) LIGHTS RM. 211, 212		
30	(E) 20	1	C			0.00	(E) LIGHTS RM. 214, 215, 216		
32	(E) 20	1	A	0.00			(E) LIGHTS RM. 220		
34	(E) 20	1	B		0.00		(E) LIGHTS RM. 217, 218, 219		
36	(E) 20	1	C			0.00	(E) SPARE		
38	(E) 20	1	A	0.00			(E) SPARE		
40	(E) 20	1	B		0.00		(E) SPARE		
42	(E) 20	1	C			0.00	(E) SPARE		
SUBTOTAL				0.36	0.36	0.36			

PANEL SCHEDULE ~ (E) PP-CR22-2									
VOLTAGE: 208/120V				MCO: 225A			AIC: (EXISTING)		
3-PHASE, 4-WIRE									
CIRCUIT BREAKER		CIRCUIT LOAD (KVA) CONNECTED			BRANCH CIRCUIT DESCRIPTION				
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C			
43	(E) 20	1	A	0.36			REC. PATIENT ROOM 203		
45	(E) 20	1	B		0.36		REC. PATIENT ROOM 203		
47	(E) 20	1	C			0.36	REC. PATIENT ROOM 203		
49	(E) 20	1	A	0.36			REC. PATIENT ROOM 204		
51	(E) 20	1	B		0.36		REC. PATIENT ROOM 204		
53	(E) 20	1	C			0.36	REC. PATIENT ROOM 204		
55	(E) 20	1	A	0.36			REC. PATIENT ROOM 205		
57	(E) 20	1	B		0.36		REC. PATIENT ROOM 205		
59	(E) 20	1	C			0.36	REC. PATIENT ROOM 205		
61	(E) 20	1	A	0.00			(E) SPACE		
63	(E) 20	1	B		0.00		(E) SPACE		
65	(E) 20	1	C			0.00	(E) SPACE		
67	(E) 20	1	A	0.00			(E) SPACE		
69	(E) 20	1	B		0.00		(E) SPACE		
71	(E) 20	1	C			0.00	(E) SPACE		
73	(E) 20	1	A	0.00			(E) SPACE		
75	(E) 20	1	B		0.00		(E) SPACE		
77	(E) 20	1	C			0.00	(E) SPACE		
79	(E) 20	1	A	0.00			(E) SPACE		
81	(E) 20	1	B		0.00		(E) SPACE		
83	(E) 20	1	C			0.00	(E) SPACE		
SUBTOTAL				1.08	1.08	1.08			
44	(E) 20	1	A	0.36			REC. PATIENT ROOM 206		
46	(E) 20								



A
B
C
D
E
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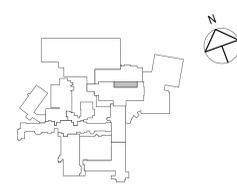
MAINE MEDICAL CENTER

**MAINE MEDICAL
CENTER - R2
RENOVATION
RICHARDS BUILDING,
LEVEL 2**

22 Bramhall St, Portland, ME, 04102

NO.	DESCRIPTION	DATE

G1 SECOND FLOOR EQUIPMENT PLAN
EQ1.2 1/4" = 1'-0"



CONTENT: SECOND FLOOR EQUIPMENT PLAN	
DRAWN BY:	SRF & EJC
PROJECT NO.:	17-041-00
DATE:	05/24/18
REVISED:	
SCALE:	As Indicated
EQ1.2	
Project Phase CONSTRUCTION DOCUMENTS	
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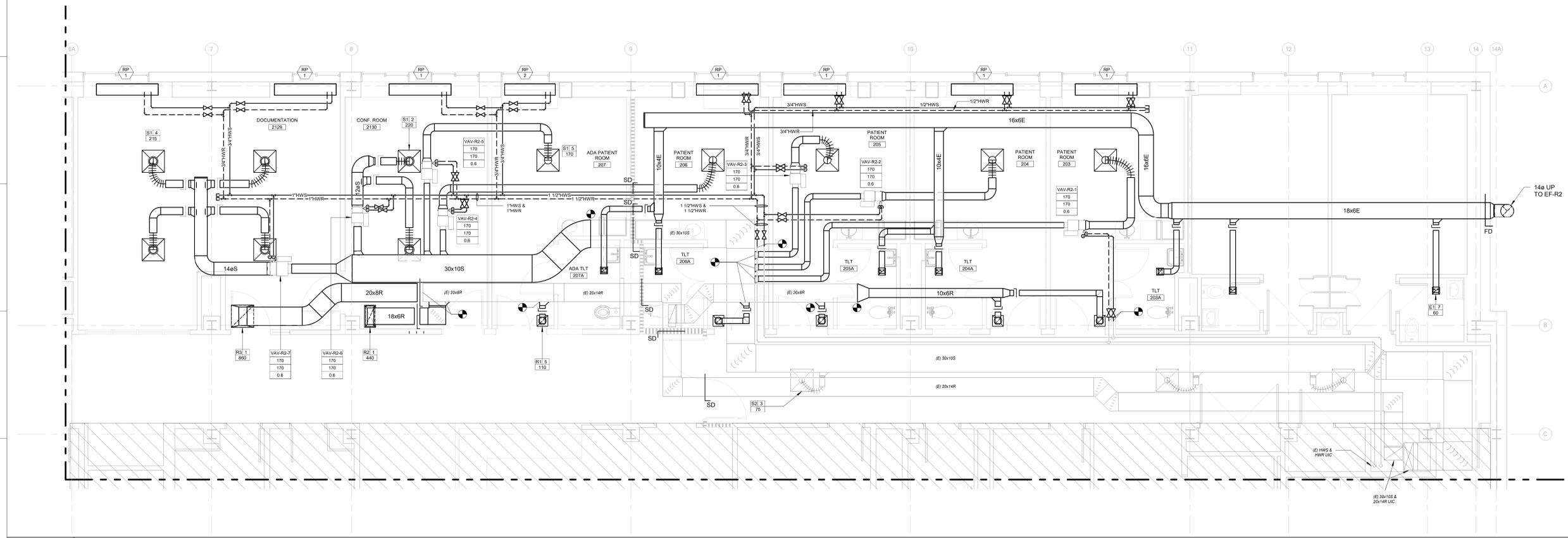
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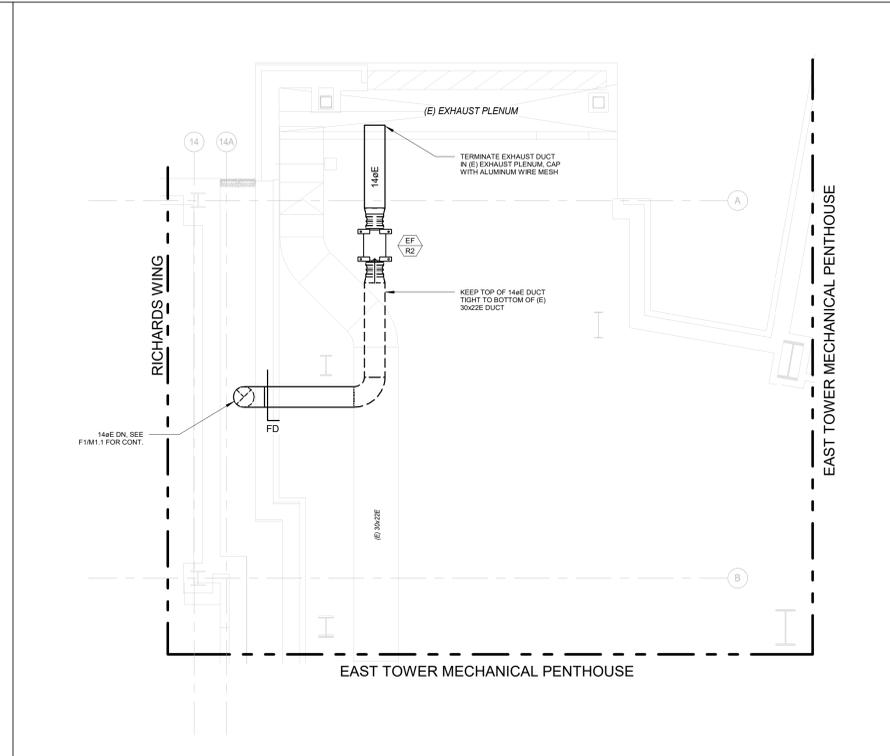
HYDRONIC PIPE SIZE RUNOUT SCHEDULE	
PIPE SIZE	MAX GPM
1/2"	1.0
3/4"	2.8
1"	6.0
1-1/4"	10.5
1-1/2"	17

- GENERAL NOTES:**
- SEE EQUIPMENT SCHEDULES AND HYDRONIC PIPE SIZE RUNOUT SCHEDULE FOR PIPE RUNOUT SIZES TO EQUIPMENT.
 - SEE RGD SCHEDULE FOR DUCT BRANCH RUNOUT SIZES.

HATCH LEGEND:
- AREA IS NOT IN PROJECT SCOPE

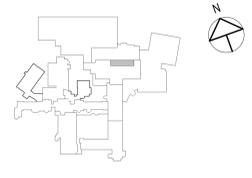


F1 MECHANICAL FLOOR PLAN
1/4" = 1'-0"



J10 EAST TOWER MECHANICAL PENTHOUSE PART PLAN
1/4" = 1'-0"

NO.	DESCRIPTION	DATE



FOR ADDITIONAL INFORMATION, REFER TO PROJECT MANUAL.

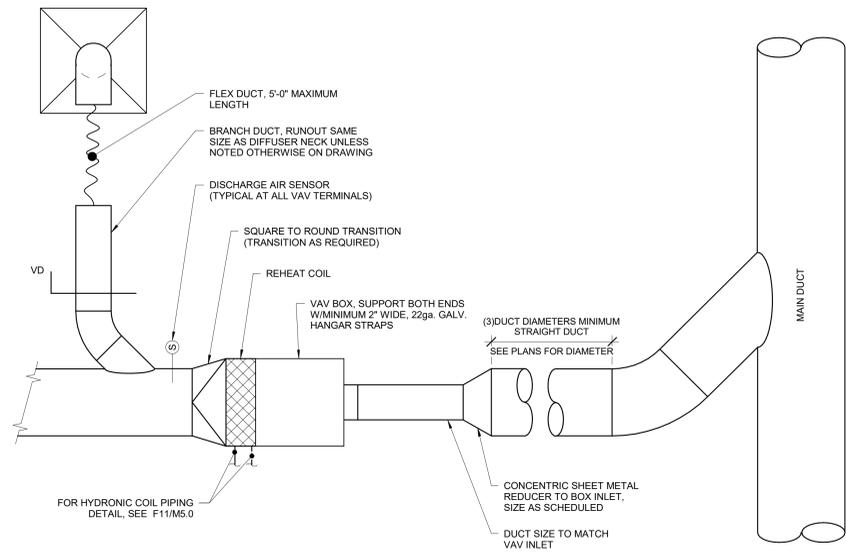
CONTENT:	MECHANICAL FLOOR PLAN
DRAWN BY:	KEC
PROJECT NO.:	17-041-00
DATE:	05/24/18
REVISED:	
SCALE:	As indicated

M1.1

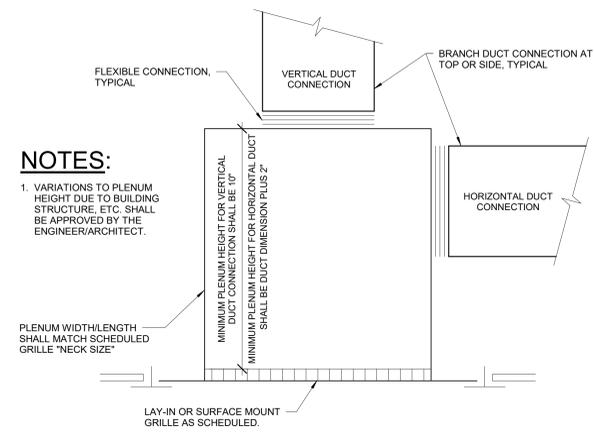
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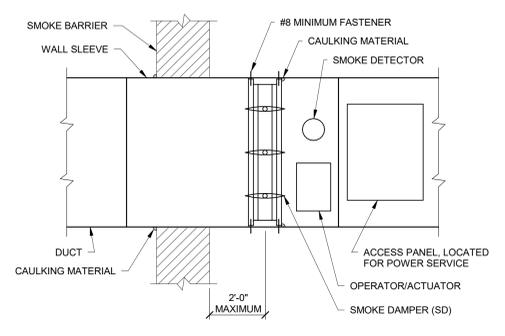


D5 VAV BOX SCHEMATIC

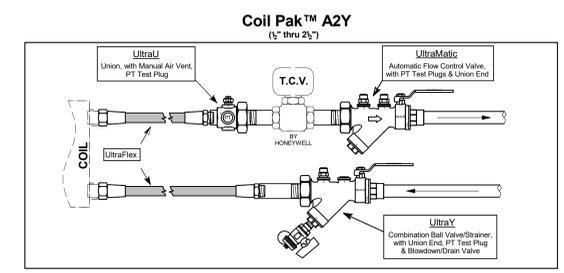


NOTES:
 1. VARIATIONS TO PLENUM HEIGHT DUE TO BUILDING STRUCTURE, ETC. SHALL BE APPROVED BY THE ENGINEER/ARCHITECT.

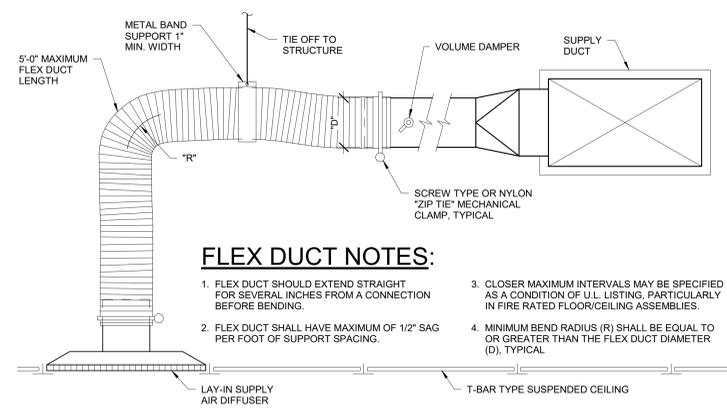
D11 RETURN AIR REGISTER BOOT



F5 SECTION THRU FIRE/SMOKE DAMPER DIAGRAM



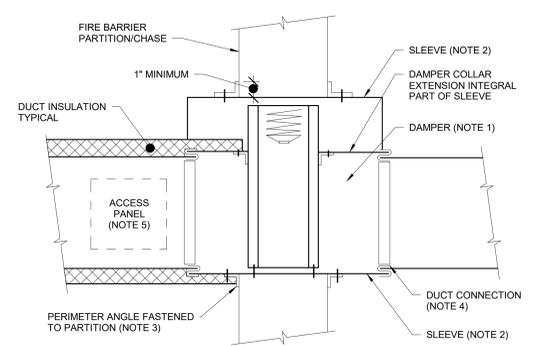
F11 HYDRONIC COIL PIPING SCHEMATIC - 2-WAY VALVE
 TYP. FOR REHEAT COILS & RADIANT PANELS



FLEX DUCT NOTES:

1. FLEX DUCT SHOULD EXTEND STRAIGHT FOR SEVERAL INCHES FROM A CONNECTION BEFORE BENDING.
2. FLEX DUCT SHALL HAVE MAXIMUM OF 1/2" SAG PER FOOT OF SUPPORT SPACING.
3. CLOSER MAXIMUM INTERVALS MAY BE SPECIFIED AS A CONDITION OF U.L. LISTING, PARTICULARLY IN FIRE RATED FLOOR/CEILING ASSEMBLIES.
4. MINIMUM BEND RADIUS (R) SHALL BE EQUAL TO OR GREATER THAN THE FLEX DUCT DIAMETER (D), TYPICAL.

J5 SUPPLY AIR BRANCH CONNECTION



NOTES:

1. A VERTICAL DAMPER IS SHOWN. HORIZONTAL DAMPER INSTALLATION IS SIMILAR. FOLLOW MANUFACTURER'S INSTRUCTIONS INCLUDING FASTENER OPTIONS AND GAUGES FOR SLEEVE AND PERIMETER ANGLES. FIRE DAMPERS MUST BE INSTALLED IN THE PARTITION OR FLOOR AND NOT OUTSIDE THE PENETRATION.
2. GALVANIZED SLEEVE: GAUGE NOT LESS THAN CONNECTING DUCT. FASTEN SLEEVE TO DAMPER FRAME AND TO PERIMETER ANGLES.
3. PERIMETER ANGLES: GALVANIZED STEEL, NOT LESS THAN 1-1/2"x 1-1/2", 14 GAUGE, TO PROVIDE 1" MINIMUM OVERLAP OF OPENING ON ALL 4 SIDES.
4. BREAK-AWAY DUCT CONNECTION: CONTRACTOR'S OPTION OF TYPES SHOWN IN SMACNA LPDS, FIGURE 2-13, SEAL JOINTS.
5. ACCESS PANELS: SIZE AND LOCATION TO PERMIT SERVICING THE FUSIBLE LINK OR LINKS.

J11 TYPICAL FIRE DAMPER

MAINE MEDICAL CENTER

**MAINE MEDICAL
CENTER - R2
RENOVATION**

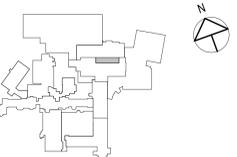
22 Bramhall St, Portland, ME, 04102

NO.	DESCRIPTION	DATE

CONTENT: MECHANICAL DIAGRAMS	
DRAWN BY:	KEC
PROJECT NO.:	17-041-00
DATE:	05/24/18
REVISED:	
SCALE:	As indicated
M5.0	
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NO.	DESCRIPTION	DATE



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CONTENT:	MECHANICAL SCHEDULES
DRAWN BY:	KEC
PROJECT NO.:	17-041-00
DATE:	05/24/18
REVISED:	
SCALE:	As indicated
M6.0	
Project Phase	CONSTRUCTION DOCUMENTS
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TAG	MFR.	MODEL	TUBING SIZE	No. OF PASSES	BTU / FT	BTU	FLUID	GPM	MAX W.P.D.	INSULATION
RP-1	STERLING	LINEAR RADIANT - 66" X 12" (NOTE 2)	5/8"	2	246	1,353	WATER	0.5	1 FT.	1"
RP-2	STERLING	LINEAR RADIANT - 48" X 12" (NOTE 2)	5/8"	2	246	984	WATER	0.5	1 FT.	1"

NOTES:
 1. BASED ON: AWT=180, 70F ROOM TEMP
 2. CONFIRM SIZE AND INSTALLATION CONDITIONS IN FIELD.

ITEM	ORIG AHU-09	AHU-9 >>> 9/16/03 TAB REPORT	ORIG AHU-10	ORIG AHU-10 IS NOW CONNECTED TO THE AHU-09 DUCTWORK (AHU-9 IS MOTHBALLED)
TAG	S-2	AHU-9	S-6	AHU-9 (OLD AHU-10)
CFM	2,700 SCHEDULED RDG SUM = 2,945	3,059	6,500	2,750
FAN RPM	?	2,381	?	
S.P.	4.00	3.06	3.00	1.45" (NOTE 1.)
BHP	3.6	7.2	4.5	
MOTOR HP	?	7.5	?	

NOTES:
 1. ESTIMATED PRESSURE CAPABILITY DOWNSTREAM OF THE NEW FINAL FILTERS - DIRTY, LOADED TO 1.5" OF FRICTION

INSTALL A NEW FINAL FILTER BANK DOWNSTREAM OF AHU-9.
 CAMFIL "DURAFIL ES2", OR EQUAL.
 MERV-14 - REQUIRED BY ASHRAE 170
 INITIAL RESISTANCE @ 500 FPM = 0.29" WC. - NOTE: THIS IS A LOW RESISTANCE MERV 14 FILTER, SUBSTITUTE FILTERS SHALL MEET THIS.
 FINAL RESISTANCE @ 500 FPM = 1.5" WC
 FILTER BANK WITH SIDE ACCESS HOUSING, TWO 24"X24" FILTERS = 8.0 SF
 CFM: 2,700
 AREA, SF: 8
 FPM: 337.5

TAG	SERVES	MFR	MODEL	INLET SIZE	NOMINAL OUTLET SIZE	SUPPLY CFM	MAX RAD. NC	MAX DISCH. NC	MAX APD AT MAX COOLING	BTUH	GPM	FLUID	MAX WPD	EWT	HW TEMP DROP	EAT (°F)	LAT (°F)
VAV-R2-1	PATIENT	TRANE	VCWF	6"	10" X 8"	170	28	28	0.10"	8,262	0.6	WATER	1.5	180	30	55	100
VAV-R2-2	PATIENT	TRANE	VCWF	6"	10" X 8"	170	28	28	0.10"	8,262	0.6	WATER	0.9	180	30	55	100
VAV-R2-3	PATIENT	TRANE	VCWF	6"	10" X 8"	170	28	28	0.10"	8,262	0.6	WATER	0.9	180	30	55	100
VAV-R2-4	PATIENT	TRANE	VCWF	6"	10" X 8"	170	28	28	0.10"	8,262	0.6	WATER	0.7	180	30	55	100
VAV-R2-5	PATIENT	TRANE	VCWF	6"	10" X 8"	170	28	28	0.10"	8,262	0.6	WATER	0.9	180	30	55	100
VAV-R2-6	CONFERENCE	TRANE	VCWF	8"	11" X 10"	420	28	28	0.10"	18,144	1.2	WATER	6.1	180	30	55	95
VAV-R2-7	DOCUMENTATION	TRANE	VCWF	10"	14" X 12"	860	28	28	0.10"	37,152	2.5	WATER	0.3	180	30	55	95
Sum of rooms + 225 cfm for corridor safety, leakage						2,355											
Total AHU						2,708											

TAG	MFR.	MODEL	TYPE	DRIVE	CFM	SP (IN. WC.)	ELECTRICAL					MAX INLET SONES	NOTES	
							BHP	MOTOR HP	MOTOR TYPE	SPEED CONTROL	DISC. SWITCH FURN BY			VOLTS/PH
EF-R2	GREENHECK	SQ-99-VG	INLINE	DIRECT	600	1.25"	0.37	3/4	EC	YES - DIAL ON FAN	FAN MFR	208/1/60	16.7	

PROVIDE:
 UL LISTED
 DISCONNECT SWITCH, NEMA-1 HEAVY DUTY
 HANGING NEOPRENE VIBRATION ISOLATORS, FLEX DUCT CONNECTORS
 BACKDRAFT DAMPER NOT REQUIRED (FAN RUNS 24/7)

TAG	PRICE MODEL	TYPE	NECK SIZE	FACE SIZE	MAX CFM	MAX TOTAL P.D. (IN. W.C.)	MAX NC LEVEL	BRANCH RUNOUT	BLOW	NOTES
S-1	SMX	SQ. CEILING SUPPLY DIFFUSER	8" DIA	24" X 24"	220	0.07"	19	8e	4-WAY	LAY-IN
S-2	---	EXISTING CORRIDOR	6" DIA	24" X 24"	75	---	---	6e	---	1, LAY-IN
E-1	630	ALUM. RETURN GRILLE, 3/4" SPACING, 45 DEG VANES	6" X 6"	7.75" X 7.75"	170	0.07"	19	6x4	---	---
R-1	630	ALUM. RETURN GRILLE, 3/4" SPACING, 45 DEG VANES	10" X 10"	11.75" X 11.75"	240	0.05"	16	6x6	---	---
R-2	630	ALUM. RETURN GRILLE, 3/4" SPACING, 45 DEG VANES	24" X 12"	24" X 12"	720	0.05"	20	SEE PLANS	---	LAY-IN
R-3	630	ALUM. RETURN GRILLE, 3/4" SPACING, 45 DEG VANES	24" X 24"	24" X 24"	1,200	0.05"	15	SEE PLANS	---	LAY-IN

NOTES:
 1. PROVIDE A CONSTANT AIR VOLUME REGULATOR AT EACH EXISTING DIFFUSER: AMERICAN ALDES CAR-II-HP, 6" DIA, SET FOR 75 CFM.



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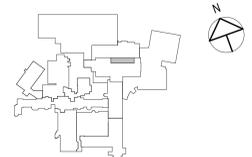


MAINE MEDICAL CENTER

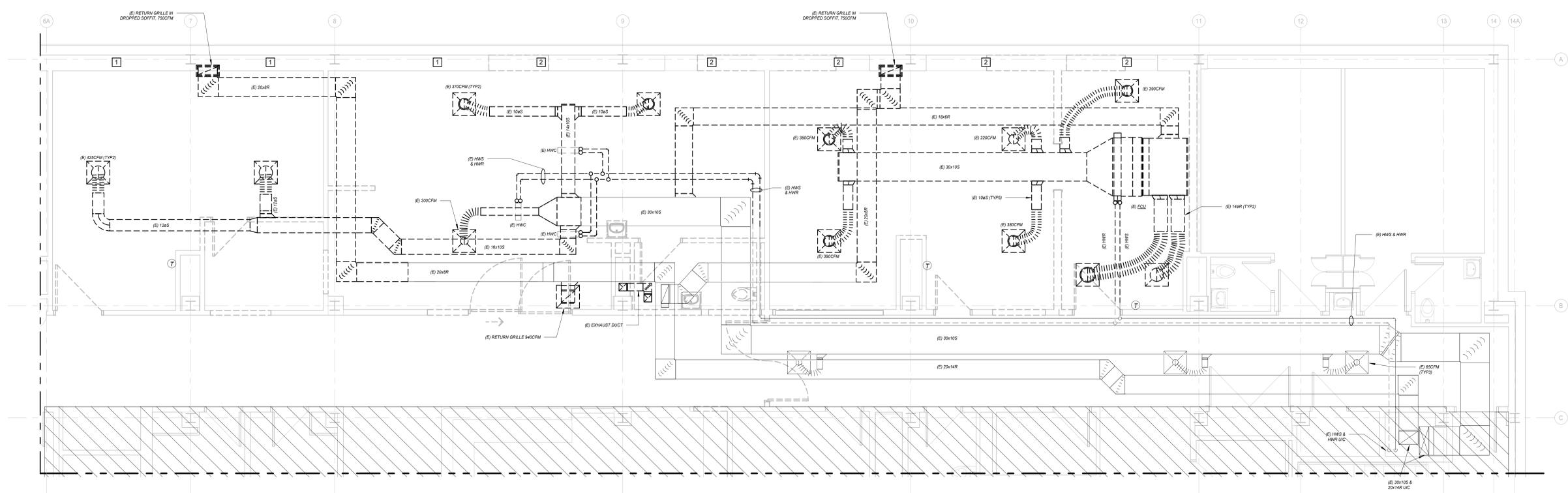
MAINE MEDICAL CENTER - R2 RENOVATION

22 Bramhall St, Portland, ME, 04102

NO.	DESCRIPTION	DATE



CONTENT: MECHANICAL DEMOLITION FLOOR PLAN	
DRAWN BY:	KEC
PROJECT NO:	17-041-00
DATE:	05/24/18
REVISED:	
SCALE:	As indicated
MD1.1	
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MECHANICAL DEMOLITION NOTES:
1 (E) INDUCTION UNIT TO REMAIN.
2 REMOVE (E) INDUCTION UNIT, CAP PIPES & DUCTS AT MAIN.

HATCH LEGEND:
 - AREA IS NOT IN PROJECT SCOPE

J1 MECHANICAL DEMOLITION PLAN

1/4" = 1'-0"

1 2 3 4 5 6 7 8 9 10 11 12 13 14

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CONTENTS:	
NOTES, LEGEND AND ABBREVIATIONS	
DRAWN BY:	KEC
PROJECT NO.:	17-041-00
DATE:	05/24/18
REVISED:	
SCALE:	12" = 1'-0"
MP0.0	
Project Phase	
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	PIPE ELBOW TURNED DN		GLOBE VALVE		STEAM TRAP (FLOAT & THERMOSTATIC INDICATED T.T. = THERMOSTATIC TRAP, B.T. = BUCKET TRAP)		EXPANSION LOOP		CHANGE IN ELEVATION (UP, DOWN, RISE OR DROP)		MOTORIZED DAMPER		REGISTER, GRILLE & DIFFUSER TAG DIFFUSER, REGISTER OR GRILLE No. QUANTITY CFM AIR FLOW
	PIPING TEE DOWN		LOCKABLE BALL VALVE		PUMP - POINT OF TRIANGLE INDICATES DIRECTION OF FLOW		FLOOR DRAIN		SUPPLY DUCT TURNED UP/DN		FLEXIBLE CONNECTION		FINTUBE TAG FINTUBE No. LENGTH GPM
	PIPING TEE UP		PLUG VALVE		GAS SHUT-OFF VALVE		SHOCK ABSORBER (WATER HAMMER ARRESTER)		RETURN DUCT TURNED UP/DN		HUMIDISTAT OR HUMIDITY SENSOR (AS SPECIFIED)		VAV TAG VAV No. MINIMUM CFM MAXIMUM CFM GPM
	PIPE RISER		2-WAY CONTROL VALVE		HOSE END DRAIN VALVE W/ICAP		FIRE DEPARTMENT CONNECTION		EXHAUST DUCT TURNED UP/DN		CARBON DIOXIDE SENSOR		EQUIPMENT TAG TYPE DESIGNATOR NUMBER
	45° ELBOW DOWN		LOCK & SHIELD VALVE		TEMPERATURE/PRESSURE TAP (PETE'S PLUG)		FREE STANDING FIRE DEPARTMENT CONNECTION		ROUND DUCT TURNED UP/DN		CARBON MONOXIDE SENSOR		EQUIPMENT TAG (ON FLOOR/ROOF ABOVE) TYPE DESIGNATOR NUMBER
	PIPING TO BE REMOVED		CHECK VALVE		THERMOMETER WITH COCK		WATER GONG		MITERED DUCT ELBOW WITH TURNING VANES		ACCESS PANEL		DETAIL REFERENCE SYMBOL DETAIL No. SHEET DETAIL LOCATED ON
	CAPPED PIPING		AIR VENT - REFER TO SPECIFICATIONS		SOLENOID VALVE		DUCTWORK TO BE REMOVED		RADIUS DUCT ELBOW		ROOFTOP EXHAUST FAN		SECTION REFERENCE SYMBOL SECTION No. SHEET SECTION LOCATED ON
	CAPPED BELOW FINISHED FLOOR		STRAINER WITH BLOWDOWN VALVE AND CAP		ORIFICE FLOWMETER		ACCOUSTICAL LINING (DUCT DIMENSION FOR NET FREE AREA)		DUCT/PIPE CAP (SINGLE/DOUBLE LINE)		ROOFTOP SUPPLY FAN		
	CONCENTRIC REDUCER		EXPANSION VALVE (AUTOMATIC)		DIFFERENTIAL PRESSURE TRANSMITTER		HUMIDIFIER (DUCT/AHU MOUNTED)		VOLUME DAMPER		CEILING DIFFUSER - 4-WAY BLOW		
	ECCENTRIC REDUCER		RELIEF/SAFETY VALVE		FINNED TUBE BASEBOARD		HOSE BIB/WALL HYDRANT		FIRE DAMPER		CEILING DIFFUSER - 3-WAY BLOW		
	DIRECTION OF FLOW		PRESSURE GAUGE WITH COCK		FLOOR CLEANOUT		SINGLE LINE DUCTWORK TO BE REMOVED		SMOKE DAMPER		CEILING DIFFUSER - 2-WAY BLOW		
	PIPE PITCHES DOWN		SIGHT GLASS		DUCT TRANSITION		SQUARE TO ROUND DUCT TRANSITION		FIRE AND SMOKE DAMPER		CEILING DIFFUSER - CORNER BLOW		
	PIPE GUIDE		PRESSURE REDUCING VALVE		FLEX DUCT - DOUBLE LINE		FLEX DUCT - SINGLE LINE		POINT OF CONNECTION - EXISTING TO NEW		CEILING RETURN GRILLE		
	EXPANSION JOINT		FLOW SWITCH		AQUASTAT				CEILING EXHAUST GRILLE		DIRECTION OF AIR FLOW		
	PIPE ANCHOR		SELF-CONTAINED TEMP. CONTROL VALVE WITH REMOTE SENSOR										
	UNION												
	FLANGED CONNECTION												
	BACKFLOW PREVENTER												
	FLEXIBLE CONNECTION												
	SHUT-OFF/ISOLATION VALVE REFER TO SPECIFICATIONS												
	GATE VALVE - OUTSIDE SCREW & YOKE (OS&Y)												

E1 SYMBOLS LEGEND

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<table border="1"> <tr> <td></td> <td>ACID WASTE</td> <td></td> <td>LIQUID OXYGEN</td> </tr> <tr> <td></td> <td>AIR RELIEF</td> <td></td> <td>LIQUID PETROLEUM GAS</td> </tr> <tr> <td></td> <td>BOILER BLOWDOWN</td> <td></td> <td>LOW PRESSURE CONDENSATE</td> </tr> <tr> <td></td> <td>CONDENSATE (HVAC DRAIN PAN)</td> <td></td> <td>LOW PRESSURE STEAM</td> </tr> <tr> <td></td> <td>COMPRESSED AIR</td> <td></td> <td>MEDICAL AIR</td> </tr> <tr> <td></td> <td>CHILLED WATER RETURN</td> <td></td> <td>MEDIUM PRESSURE CONDENSATE</td> </tr> <tr> <td></td> <td>CHILLED WATER SUPPLY</td> <td></td> <td>MEDIUM PRESSURE STEAM</td> </tr> <tr> <td></td> <td>COOLING TOWER RETURN</td> <td></td> <td>MAKE-UP WATER</td> </tr> <tr> <td></td> <td>COOLING TOWER SUPPLY</td> <td></td> <td>NITROGEN</td> </tr> <tr> <td></td> <td>CONDENSER WATER RETURN</td> <td></td> <td>NATURAL GAS</td> </tr> <tr> <td></td> <td>CONDENSER WATER SUPPLY</td> <td></td> <td>NITROUS OXIDE</td> </tr> <tr> <td></td> <td>DOMESTIC COLD WATER</td> <td></td> <td>NON-POTABLE WATER</td> </tr> <tr> <td></td> <td>DOMESTIC HOT WATER</td> <td></td> <td>OXYGEN</td> </tr> <tr> <td></td> <td>DOMESTIC HOT WATER RECIRC.</td> <td></td> <td>PUMPED CONDENSATE</td> </tr> <tr> <td></td> <td>DRAIN</td> <td></td> <td>PROCESS COLD WATER RETURN</td> </tr> <tr> <td></td> <td>PUMP FORCE MAIN</td> <td></td> <td>PROCESS COLD WATER SUPPLY</td> </tr> <tr> <td></td> <td>FUEL OIL FILL</td> <td></td> <td>REFRIGERANT DISCHARGE</td> </tr> <tr> <td></td> <td>FUEL OIL RETURN</td> <td></td> <td>REFRIGERANT LIQUID</td> </tr> <tr> <td></td> <td>FUEL OIL SUPPLY</td> <td></td> <td>REFRIGERANT SUCTION</td> </tr> <tr> <td></td> <td>FUEL OIL TANK VENT</td> <td></td> <td>REVERSE OSMOSIS WATER</td> </tr> <tr> <td></td> <td>FEEDWATER</td> <td></td> <td>RAIN WATER - ABOVE FLOOR</td> </tr> <tr> <td></td> <td>GLYCOL RETURN</td> <td></td> <td>RAIN WATER - BELOW GRADE</td> </tr> <tr> <td></td> <td>GLYCOL SUPPLY</td> <td></td> <td>SPRINKLER MAIN PIPING</td> </tr> <tr> <td></td> <td>GREASE WASTE</td> <td></td> <td>SOLAR WATER RETURN</td> </tr> <tr> <td></td> <td>HUMIDIFICATION LINE</td> <td></td> <td>SOLAR WATER SUPPLY</td> </tr> <tr> <td></td> <td>HYDROGEN GAS</td> <td></td> <td>TRAP PRIMER - ABOVE FLOOR</td> </tr> <tr> <td></td> <td>HEAT PUMP WATER RETURN</td> <td></td> <td>TRAP PRIMER - BELOW GRADE</td> </tr> <tr> <td></td> <td>HEAT PUMP WATER SUPPLY</td> <td></td> <td>TEMPERED WATER RETURN</td> </tr> <tr> <td></td> <td>HIGH PRESSURE CONDENSATE</td> <td></td> <td>TEMPERED WATER SUPPLY</td> </tr> <tr> <td></td> <td>HIGH PRESSURE STEAM</td> <td></td> <td>SANITARY SOIL VENT - ABOVE FLOOR</td> </tr> <tr> <td></td> <td>HIGH-TEMP HOT WATER RETURN</td> <td></td> <td>SANITARY SOIL VENT - BELOW GRADE</td> </tr> <tr> <td></td> <td>HOT WATER RETURN</td> <td></td> <td>VACUUM (AIR)</td> </tr> <tr> <td></td> <td>HOT WATER SUPPLY</td> <td></td> <td>VACUUM CLEANING (HOUSE)</td> </tr> <tr> <td></td> <td>INDUSTRIAL WASTE</td> <td></td> <td>VACUUM PUMP DISCHARGE</td> </tr> <tr> <td></td> <td>INDIRECT WASTE</td> <td></td> <td>SANITARY SOIL WASTE - ABOVE FLOOR</td> </tr> <tr> <td></td> <td>LIQUID NITROGEN</td> <td></td> <td>SANITARY SOIL WASTE - BELOW GRADE</td> </tr> <tr> <td></td> <td>SANITARY WET VENT - ABOVE FLOOR</td> <td></td> <td>SANITARY WET VENT - BELOW GRADE</td> </tr> </table>			ACID WASTE		LIQUID OXYGEN		AIR RELIEF		LIQUID PETROLEUM GAS		BOILER BLOWDOWN		LOW PRESSURE CONDENSATE		CONDENSATE (HVAC DRAIN PAN)		LOW PRESSURE STEAM		COMPRESSED AIR		MEDICAL AIR		CHILLED WATER RETURN		MEDIUM PRESSURE CONDENSATE		CHILLED WATER SUPPLY		MEDIUM PRESSURE STEAM		COOLING TOWER RETURN		MAKE-UP WATER		COOLING TOWER SUPPLY		NITROGEN		CONDENSER WATER RETURN		NATURAL GAS		CONDENSER WATER SUPPLY		NITROUS OXIDE		DOMESTIC COLD WATER		NON-POTABLE WATER		DOMESTIC HOT WATER		OXYGEN		DOMESTIC HOT WATER RECIRC.		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CONNECTION</td> </tr> <tr> <td>FIN</td> <td>FINISH</td> </tr> <tr> <td>FL; FLR</td> <td>FLOOR</td> </tr> <tr> <td>FP</td> <td>FROST/FREEZE PROOF</td> </tr> <tr> <td>FTG</td> <td>FOOTING</td> </tr> <tr> <td>FTR</td> <td>FINNED TUBE RADIATION</td> </tr> <tr> <td>FS</td> <td>FLOW SWITCH</td> </tr> <tr> <td>FM</td> <td>FORCE MAIN</td> </tr> <tr> <td>GC</td> <td>GENERAL CONTRACTOR</td> </tr> <tr> <td>GPM</td> <td>GALLONS PER MINUTE</td> </tr> <tr> <td>GRV</td> <td>GRAVITY ROOF VENTILATOR</td> </tr> <tr> <td>H</td> <td>HUMIDIFIER</td> </tr> <tr> <td>HB</td> <td>HOSE BIBB</td> </tr> <tr> <td>HDC</td> <td>HANDICAP ACCESS</td> </tr> <tr> <td>HGT; HT</td> <td>HEIGHT</td> </tr> <tr> <td>HP</td> <td>HEAT PUMP</td> </tr> <tr> <td>HRU</td> <td>HEAT RECOVERY UNIT</td> </tr> <tr> <td>HTR</td> <td>HEATER</td> </tr> <tr> <td>H&V</td> <td>HEATING AND VENTILATION</td> </tr> <tr> <td>HVAC</td> <td>HEATING, VENTILATING AND AIR COND.</td> </tr> <tr> <td>HW</td> <td>HOT WATER</td> </tr> <tr> <td>HWR</td> <td>HOT WATER RETURN</td> </tr> <tr> <td>HWS</td> <td>HOT WATER SUPPLY</td> </tr> <tr> <td>HX</td> <td>HEAT EXCHANGER</td> </tr> <tr> <td>ID</td> <td>INSIDE DIAMETER</td> </tr> <tr> <td>IN WG</td> <td>INCHES WATER GAUGE</td> </tr> <tr> <td>INCL.</td> <td>INCLUDING</td> </tr> <tr> <td>INV. EL.</td> <td>INVERT ELEVATION</td> </tr> <tr> <td>IPS</td> <td>IRON PIPE SIZE</td> </tr> <tr> <td>KE#</td> <td>KITCHEN EQUIPMENT NUMBER</td> </tr> <tr> <td>LD</td> <td>LINEAR DIFFUSER</td> </tr> <tr> <td>LE#</td> <td>SCIENCE LAB EQUIPMENT NUMBER</td> </tr> <tr> <td>LP</td> <td>LIQUID PETROLEUM GAS</td> </tr> <tr> <td>LPR</td> <td>LOW PRESSURE STEAM RETURN</td> </tr> <tr> <td>LPS</td> <td>LOW PRESSURE STEAM SUPPLY</td> </tr> <tr> <td>MAX</td> <td>MAXIMUM</td> </tr> <tr> <td>MBH</td> <td>1000 BTU/hr.</td> </tr> <tr> <td>MFR</td> <td>MANUFACTURER</td> </tr> <tr> <td>MIN</td> <td>MINIMUM</td> </tr> <tr> <td>MOD</td> <td>MOTOR OPERATED DAMPER</td> </tr> <tr> <td>MPG</td> <td>MEDIUM PRESSURE GAS</td> </tr> <tr> <td>MPV</td> <td>MULTI-PURPOSE VALVE</td> </tr> <tr> <td>MTD</td> <td>MOUNTED</td> </tr> <tr> <td>MTG</td> <td>MOUNTING</td> </tr> <tr> <td>MUA</td> <td>MAKE UP AIR</td> </tr> <tr> <td>N.C.</td> <td>NORMALLY CLOSED</td> </tr> <tr> <td>N.O.</td> <td>NORMALLY OPEN</td> </tr> <tr> <td>NG</td> <td>NATURAL GAS</td> </tr> <tr> <td>NIC</td> <td>NOT IN CONTRACT</td> </tr> <tr> <td>GC</td> <td>NATIONAL PIPE THREAD</td> </tr> <tr> <td>NTS</td> <td>NOT TO SCALE</td> </tr> <tr> <td>ODD</td> <td>OPPOSED BLADE DAMPER</td> </tr> <tr> <td>OD</td> <td>OUTSIDE AIR</td> </tr> <tr> <td>OD</td> <td>OUTSIDE DIAMETER</td> </tr> <tr> <td>OED</td> <td>OPEN ENDED DUCT</td> </tr> <tr> <td>P#</td> <td>PLUMBING FIXTURE TAG</td> </tr> <tr> <td>PD</td> <td>PUMPED DISCHARGE</td> </tr> <tr> <td>PP</td> <td>PROCESS PIPING</td> </tr> <tr> <td>PRS</td> <td>PRESSURE REDUCING STATION</td> </tr> <tr> <td>PRV</td> <td>PRESSURE REDUCING VALVE</td> </tr> <tr> <td>R</td> <td>RETURN AIR</td> </tr> <tr> <td>RD</td> <td>ROOF DRAIN</td> </tr> <tr> <td>REC</td> <td>RECOMMENDATION</td> </tr> <tr> <td>REG</td> <td>REGULAR</td> </tr> <tr> <td>RF</td> <td>RETURN FAN</td> </tr> <tr> <td>RG</td> <td>RETURN GRILLE</td> </tr> <tr> <td>RHC</td> <td>REHEAT COIL</td> </tr> <tr> <td>RM</td> <td>ROOM</td> </tr> <tr> <td>RPZ</td> <td>REDUCED PRESSURE BFP</td> </tr> <tr> <td>RR</td> <td>RETURN REGISTER</td> </tr> <tr> <td>RV</td> <td>RELIEF VALVE</td> </tr> <tr> <td>RW</td> <td>RAIN WATER</td> </tr> <tr> <td>S</td> <td>SUPPLY AIR</td> </tr> <tr> <td>SA-*</td> <td>SHOCK ABSORBER OF PDI SIZE (*) AS INDICATED</td> </tr> <tr> <td>SCV</td> <td>SELF-CONTAINED VALVE</td> </tr> <tr> <td>SD</td> <td>SMOKE DAMPER</td> </tr> <tr> <td>SF</td> <td>SUPPLY FAN</td> </tr> <tr> <td>SG</td> <td>SUPPLY GRILLE</td> </tr> <tr> <td>SGL</td> <td>SINGLE</td> </tr> <tr> <td>SHT</td> <td>SHEET</td> </tr> <tr> <td>SPLR</td> <td>SPRINKLER</td> </tr> <tr> <td>SQ. FT; SF</td> <td>SQUARE FEET</td> </tr> <tr> <td>SR</td> <td>SUPPLY REGISTER</td> </tr> <tr> <td>S/O</td> <td>SHUT-OFF</td> </tr> <tr> <td>S.S.</td> <td>STAINLESS STEEL</td> </tr> <tr> <td>TD</td> <td>TRENCH DRAIN</td> </tr> <tr> <td>TG</td> <td>TRANSFER GRILLE</td> </tr> <tr> <td>TOD</td> <td>TOP OF DUCT</td> </tr> <tr> <td>TP</td> <td>TRAP PRIMER</td> </tr> <tr> <td>TSP</td> <td>TOTAL STATIC PRESSURE</td> </tr> <tr> <td>TTS</td> <td>TIGHT TO STEEL</td> </tr> <tr> <td>TV</td> <td>TURNING VANE</td> </tr> <tr> <td>TW</td> <td>TEMPERED WATER</td> </tr> <tr> <td>TYP</td> <td>TYPICAL</td> </tr> <tr> <td>UH</td> <td>UNIT HEATER</td> </tr> <tr> <td>UIC</td> <td>UP IN CHASE</td> </tr> <tr> <td>UIW</td> <td>UP IN WALL</td> </tr> <tr> <td>UNO</td> <td>UNLESS NOTED OTHERWISE</td> </tr> <tr> <td>UV</td> <td>UNIT VENTILATOR</td> </tr> <tr> <td>V</td> <td>VENT</td> </tr> <tr> <td>VAC</td> <td>VACUUM</td> </tr> <tr> <td>VB</td> <td>VACUUM BREAKER</td> </tr> <tr> <td>VCFF</td> <td>VALVE & CAP FOR FUTURE</td> </tr> <tr> <td>VD</td> <td>VOLUME DAMPER - MANUAL</td> </tr> <tr> <td>VLV</td> <td>VALVE</td> </tr> <tr> <td>VS</td> <td>VENT STACK</td> </tr> <tr> <td>VTR</td> <td>VENT TO ROOF</td> </tr> <tr> <td>W</td> <td>WASTE</td> </tr> <tr> <td>W</td> <td>WITH</td> </tr> <tr> <td>WB</td> <td>WET BULB TEMPERATURE, "F"</td> </tr> <tr> <td>WCO</td> <td>WALL CLEANOUT</td> </tr> <tr> <td>WH</td> <td>WATER HEATER</td> </tr> <tr> <td>WHDY</td> <td>WALL HYDRANT</td> </tr> <tr> <td>Ø</td> <td>DIAMETER</td> </tr> <tr> <td>@</td> <td>AT</td> </tr> <tr> <td>&</td> <td>AND</td> </tr> <tr> <td>%</td> <td>PERCENT</td> </tr> </table>		J7 ABBREVIATIONS	J7 NONE	AAV	AUTOMATIC AIR VENT	AC	ABOVE CEILING	ACC	AIR COOLED CONDENSER	ACU	AIR CONDITIONING UNIT	ADA	AMERICANS WITH DISABILITIES ACT	AD	ACCESS DOOR	AE	ACID EXHAUST	AW	ACID WASTE	AF, A.F.F.	ABOVE FINISHED FLOOR	AHU	AIR HANDLING UNIT	AP	ACCESS PANEL	APPROX.	APPROXIMATE; APPROXIMATELY	APMR	AS PER MFR'S RECOMMENDATIONS	ATC	AUTOMATIC TEMPERATURE CONTROL	AV	AIR VENT	BC	BALANCING COCK	BDD	BACKDRAFT DAMPER	BG	BLAST GATE	BF	BARRIER FREE	BFP	BACKFLOW PREVENTER	BHP	BRAKE HORSEPOWER	BLDG	BUILDING	BOD	BOTTOM OF DUCT	B.T.U.; BTU	BRITISH THERMAL UNIT	CONV.	CONVECTOR	CCW	COUNTER CLOCKWISE	CF	CAPPED FOR FUTURE	CFM	CUBIC FEET PER MINUTE	CG	CLEANING	CLQ	CLEANOUT	CM	CONSTRUCTION MANAGER	CNTR	COUNTER; COUNTER TOP	CONN	CONNECT; CONNECTION	CONT.	CONTINUE; CONTINUATION	COORD.	COORDINATE	CORR	CORRIDOR	CR	CHEMICAL RESISTING	CT	COOLING TOWER	CTE	CONNECT TO EXISTING	CTR	CENTER	CTRLN	CENTERLINE	CU	COPPER; CONDENSING UNIT	CUH	CABINET UNIT HEATER	C.V.	CONTROL VALVE	CW	COLD WATER; CLOCKWISE	DB	DRY BULB TEMPERATURE	DC	DOUBLE CONTAINED	DDC	DIRECT DIGITAL CONTROL	DET	DETAIL	DIA	DIAMETER	DIC	DOWN IN CHASE	DIW	DOWN IN WALL	DN	DOWN	DS	DOWNSPOUT	DT	DROP AND TRANSITION	DV	DRAIN VALVE	DWG	DRAWING	E	EXHAUST AIR	EF	EXHAUST FAN	EG	EXHAUST GRILLE	ELEV	ELEVATION	ELONG	ELONGATE	ENC	ENCLOSURE	ER	EXHAUST REGISTER	ERU	ENERGY RECOVERY UNIT	ESP	EXTERNAL STATIC PRESSURE	ET	EXPANSION TANK	(E)	EXISTING	F&T	FLOAT AND THERMOSTATIC	FBO	FURNISHED BY OTHERS	FBP	FACE AND BYPASS	FC	FLEXIBLE CONNECTION	FCD	FLOOR CLEANOUT	FD#	FLOOR DRAIN TAG	FD	FIRE DAMPER	FDC	FIRE DEPT. CONNECTION	FIN	FINISH	FL; FLR	FLOOR	FP	FROST/FREEZE PROOF	FTG	FOOTING	FTR	FINNED TUBE RADIATION	FS	FLOW SWITCH	FM	FORCE MAIN	GC	GENERAL CONTRACTOR	GPM	GALLONS PER MINUTE	GRV	GRAVITY ROOF VENTILATOR	H	HUMIDIFIER	HB	HOSE BIBB	HDC	HANDICAP ACCESS	HGT; HT	HEIGHT	HP	HEAT PUMP	HRU	HEAT RECOVERY UNIT	HTR	HEATER	H&V	HEATING AND VENTILATION	HVAC	HEATING, VENTILATING AND AIR COND.	HW	HOT WATER	HWR	HOT WATER RETURN	HWS	HOT WATER SUPPLY	HX	HEAT EXCHANGER	ID	INSIDE DIAMETER	IN WG	INCHES WATER GAUGE	INCL.	INCLUDING	INV. EL.	INVERT ELEVATION	IPS	IRON PIPE SIZE	KE#	KITCHEN EQUIPMENT NUMBER	LD	LINEAR DIFFUSER	LE#	SCIENCE LAB EQUIPMENT NUMBER	LP	LIQUID PETROLEUM GAS	LPR	LOW PRESSURE STEAM RETURN	LPS	LOW PRESSURE STEAM SUPPLY	MAX	MAXIMUM	MBH	1000 BTU/hr.	MFR	MANUFACTURER	MIN	MINIMUM	MOD	MOTOR OPERATED DAMPER	MPG	MEDIUM PRESSURE GAS	MPV	MULTI-PURPOSE VALVE	MTD	MOUNTED	MTG	MOUNTING	MUA	MAKE UP AIR	N.C.	NORMALLY CLOSED	N.O.	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J1 PIPING LINETYPE LEGEND

J1 NONE	J1 2	J1 3	J1 4	J1 5	J1 6	J1 7	J1 8	J1 9	J1 10	J1 11	J1 12	J1 13	J1 14
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NO.	DESCRIPTION	DATE

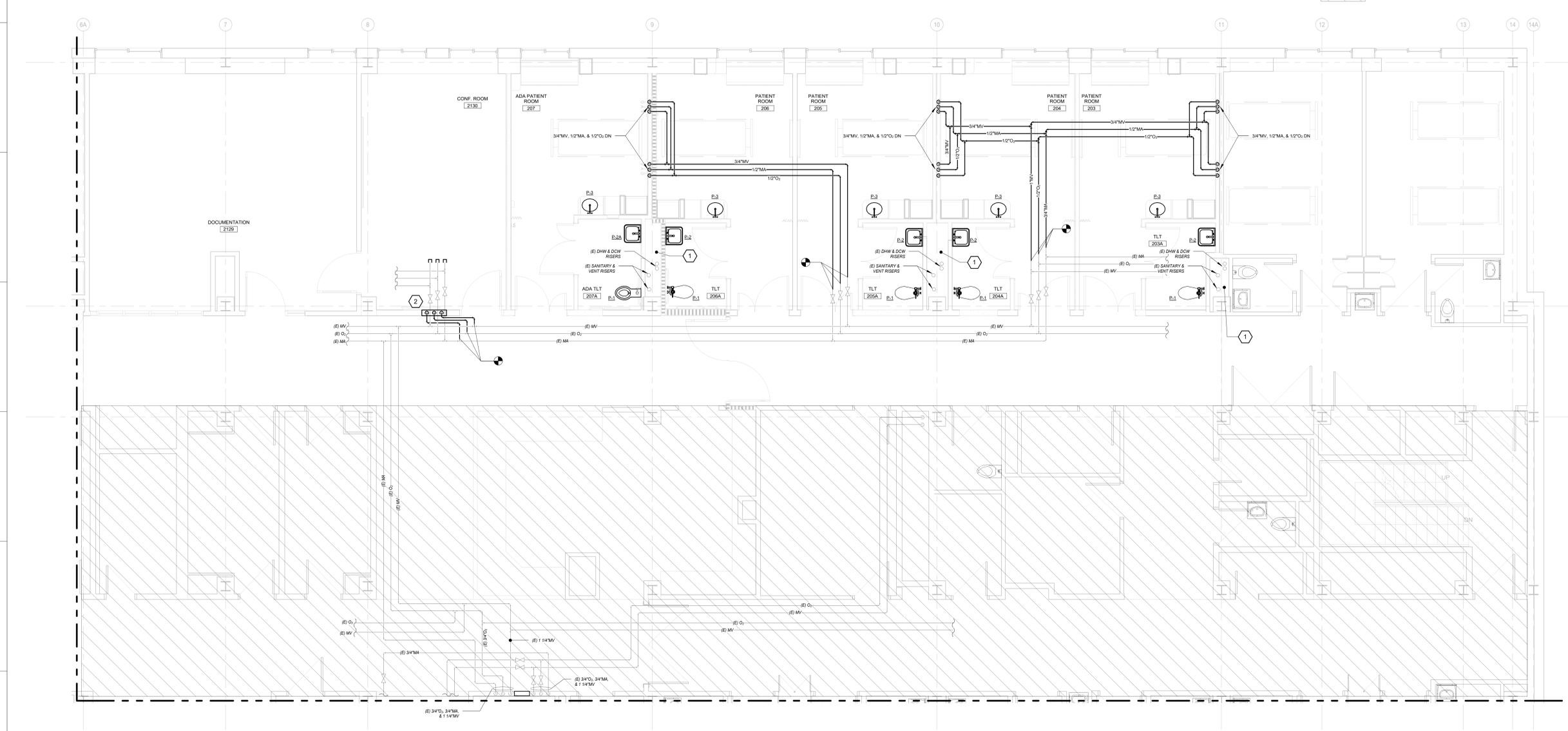


CONTENT: PLUMBING FLOOR PLAN	
DRAWN BY:	KEC
PROJECT NO.:	17-041-00
DATE:	05/24/18
REVISED:	
SCALE:	As indicated

- GENERAL NOTES:**
- EXACT PIPING CONNECTIONS SHALL BE FIELD CONFIRMED.
 - ALL PLUMBING FIXTURE AND PIPING INSTALLATIONS SHALL MEET ALL APPLICABLE CODES.
 - CONNECT TO EXISTING RISERS AND PIPING.
 - PROVIDE ACCESSIBLE DHW & DCW SHUTOFF VALVES FOR RUN OUTS FROM RISERS AND WHERE REQUIRED.
 - EXISTING PIPING IS DIAGRAMMATICAL AND DRAWN WITH LIMITED FIELD SURVEYING.

- PLUMBING KEYED NOTES:**
- (E) 5"W, 4"V, 1 1/2"DCW, & 1"DHW RISERS IN (E) CHASE. CONTRACTOR TO CONFIRM SIZES AND LOCATION OF RISERS.
 - RELOCATED ZONE ALARM SHALL BE INSTALLED TO MEET ALL NFPA 99 AND MANUFACTURER'S PUBLISHED GUIDELINES.

HATCH LEGEND:
- AREA IS NOT IN PROJECT SCOPE



TAG	ITEM	MFR. & MODEL	FLUSH VALVE OR FAUCET	ACCESSORIES	BRANCH SIZES				NOTES
					CW W/STOP	HW W/STOP	WASTE	VENT	
P-1	ADA FLOOR-MOUNT/BOTTOM-OUTLET WATER CLOSET	SLOAN S1-2029-STG	SLOAN BPW-1100-1.28-DFB	BEMIS 2155CT SEAT	1"	—	3"	1 1/2"	
P-2	BATHROOM LAVATORY	AMERICAN STANDARD LUCERNE 0355.912	CHICAGO 895-317GN2AE65VPABC	MCGUIRE OFFSET LAVATORY GRID STRAINER & P-TRAP ZURN Z1231 CONCEALED ARM SUPPORT	3/8"	3/8"	1 1/2"	1 1/2"	
P-2A	SAME AS P-2 EXCEPT ADA	SAME AS P-2	SAME AS P-2	SAME AS P-2 EXCEPT ADD TRUEBRO LAVGUARD2 ADA TRIM KIT	3/8"	3/8"	1 1/2"	1 1/2"	
P-3	STAFF HAND WASH STATION	CORIAN BOWL	SLOAN OPTIMA I.Q. EAF-700-B	MCGUIRE LAVATORY GRID STRAINER & P-TRAP ZURN Z1231 CONCEALED ARM SUPPORT	3/8"	3/8"	1 1/2"	1 1/2"	

NOTES:
1. P-1: LAY OUT AND CONFIRM BOTTOM WASTE ROUGH IN LOCATION - CHECK FOR CONFLICTS WITH STRUCTURE BELOW. PROVIDE WALL OUTLET IF NEEDED.

J1 PLUMBING FLOOR PLAN
1/4" = 1'-0"

5/24/2018 11:25:10 AM N:\Projects\2017\17042 - MMCC R2 Renovations\Design\Phase2 Drawings - REVIT\1817042_MP.rvt



LAVALLEE BRENSINGER ARCHITECTS

Boston | Manchester | Portland

155 Dow Street, Suite 400, Manchester, NH 03101
v603.622.5450n

Allied Engineering
Structural Mechanical Electrical Commissioning

160 Veranda Street
Portland, Maine 04103
T: 207.221.2260
F: 207.221.2266
Web: www.allied-eng.com

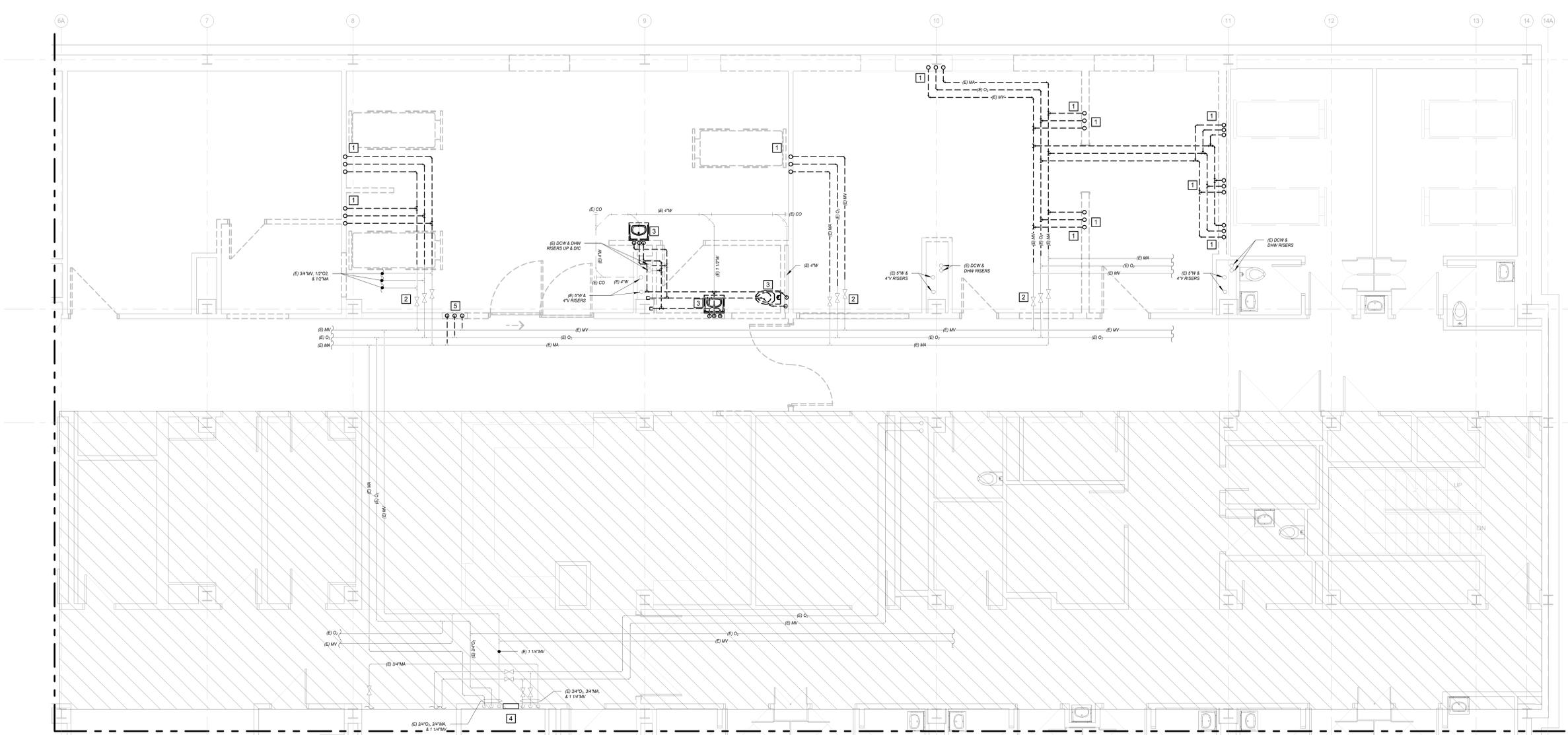
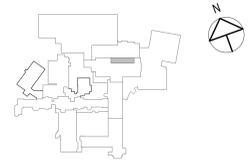


MAINE MEDICAL CENTER

MAINE MEDICAL CENTER - R2 RENOVATION

22 Bramhall St, Portland, ME, 04102

NO.	DESCRIPTION	DATE



- PLUMBING DEMOLITION NOTES:**
- REMOVE (E) AIR, O₂, & VACUUM (VAC) OUTLETS
 - (E) SERVICE VALVES TO REMAIN. CONFIRM EXACT LOCATION AND PIPING ARRANGEMENT.
 - REMOVE (E) PLUMBING FIXTURE. CAP DOMESTIC WATER & VENT PIPING AT MAINS, AND CAP SANITARY AT FLOOR.
 - (E) ZONE VALVE BOX TO REMAIN. AIR, O₂, & VAC
 - RELOCATE (E) AREA ALARM, & ASSOCIATED PIPING AND WIRING. THE MA LABELING CURRENTLY INDICATES 'ROOMS 208, 2141, & 2143.' ADD LABELING FOR THE FIVE NEW ROOMS. THE O₂ & MV LABELS INDICATE 'R-2'. NO LABEL CHANGE NEEDED.

HATCH LEGEND:
 - AREA IS NOT IN PROJECT SCOPE

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FOR ADDITIONAL INFORMATION, REFER TO PROJECT MANUAL.

CONTENT:
 PLUMBING DEMOLITION FLOOR PLAN

DRAWN BY: KEC
 PROJECT NO: 17-041-00
 DATE: 05/24/18
 REVISED:
 SCALE: As indicated

PD1.1

Project Phase
CONSTRUCTION DOCUMENTS

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Reviewed for Code Compliance
Permitting and Inspections Department
Approved with Conditions

07/09/2018

Outline Specification Manual For:

MAINE MEDICAL CENTER
22 Bramhall Street Portland, Maine

2018 RENOVATION PROJECTS
LBA 17-041 R2 Renovation – Richards Building Level 2

CD PACKAGE

24 MAY 2018

LAVALLEE | BRENSINGER ARCHITECTS

Boston | Manchester | Portland

www.LBPA.com

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PROJECT DIRECTORY

OWNER

Maine Medical Center

Facilities Development, 22 Bramhall Street, Portland, Maine 04102
Contact: Dennis Morelli, AIA, LEEP AP, Facilities Project Manager
Telephone: 207-662-6149 E-mail: moreld@mmc.org

ARCHITECT

Lavallee Brensinger Architects (LBA)

Commercial Street, Portland, Maine
Contact: Jeff Galvin, Senior Associate, AIA, Maine Licensed Architect
Telephone: 207-558-7200 x 301 E-mail: jeff.galvin@lbpa.com

Basis of Design for HVAC, Electrical, Plumbing & Fire Protection

Allied Engineering, Inc.

160 Veranda Street, Portland, Maine 04103
Contact: Ian MacDonald, Principal
Telephone: 207-221-2260 E-mail: imacdonald@allied-eng.com

CONSTRUCTION MANAGER

Hebert Construction

9 Gould Road, Lewiston, Maine 04240
Contact: Stephen Janosco
Telephone: 207-783-2177 E-mail: sjanosco@hebertconstruction.com



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OUTLINE SPECIFICATIONS

DIVISION 1 – GENERAL REQUIREMENTS

01 00 00 - General Requirements

1. Definitions: The word “Contractor” where used throughout this specification to describe the General Contractor, shall also mean the “Construction Manager”, both Contractor and Construction Manager describing the entity holding the prime Contract for Construction.
The term “provide” shall include the furnishing and installing of products, materials, systems and/or equipment, complete in-place, fully tested and approved.
2. Regulations: All Work shall comply with applicable building codes, ordinances, rules, and regulations. Comply with applicable environmental laws and regulations.
3. Permits: The Contractor shall obtain and pay for all permits and arrange for all inspections and approval from governing authorities.
4. Coordination: The Contractor shall be fully responsible for coordinating all construction activities, verifying dimensions and field conditions, establishing on-site lines of authority and communication, monitoring progress and quality, and in general, assuring the proper administration of the Work. All discrepancies between anticipated and actual conditions shall be promptly brought to the Architect’s attention.
5. Schedule: The scheduling of construction activities shall be coordinated with the Owner in order to accommodate his needs to the greatest extent possible. The Contractor shall prepare a comprehensive “Critical Path” Work schedule of all trades for his own use and the Owner’s information.
6. Safety: The Contractor shall be fully and solely responsible for all construction means, methods, techniques, sequences, procedures, and for all safety precautions and programs.
7. Temporary Facilities & Protection: The contractor shall provide the following temporary facilities and shall pay all installation, use, and removal costs related thereto:
 - Fire and other safety provisions.
 - Enclosures, coverings, bracing, shoring, and barricades.
 - Protection of existing buildings, equipment, site improvements, utilities.
 - Hoisting equipment, ladders.
 - Weather protection, roof surface protection.
 - Noise, dust, fume, and vapor control. Temporary lighting.
 - Contractor may access Owner’s power and water for construction use. Construction personnel use of hospital toilet room facilities shall be as designated by the Owner.
8. Worker Conduct Requirements and Responsibilities:
 - Courteous and professional manner; no profane language.
 - Minimum contact with building occupants to the extent necessary for safe and proper execution of work.
 - Smoking and alcoholic beverage consumption is strictly prohibited.
 - Park only in areas designated by the Owner.
 - Work in accordance with the comprehensive safety plan.



- No interruption of existing utility services without Owner's prior 7 day notice and approval. Scheduled interruptions shall be shortest duration possible.
- Maintain a clean, dust-free work area; do not create noxious fumes/ odors.
- Maintain clear means of egress and integrity of fire and smoke barriers.
- Control construction noise, dust, vapors, odors and spread of fire.
- Use of radio frequency emitting devices that may interfere with medical equipment is prohibited.
- Maintain on-site MDS sheets for all hazardous or poisonous materials and provide copy to the Owner.
- Contractor shall inform all workers of their responsibilities prior to start of the Work and enforce compliance.

9. Verification, Layout and Coordination:

Field Conditions Notification: The Architect's Scope of Services shall be limited to the preparation of the information provided on these Architectural Drawings. In consideration of this limited Scope of Services and Responsibilities, it shall be the responsibility of the Contactor to be alert to unforeseen conditions and deviations for the information contained herein, and notify the Architect of all such findings or changes. Notification shall be provided in writing, prior to proceeding with the Work, to the greatest extent possible.

- All dimensions indicated on these Drawings shall be considered approximate. Priority shall be given to alignment with existing partitions, as indicated on the Drawings. Dimensions shall be field verified by the Contractor. Verify alignment of both surfaces when existing partitions are to be extended.
- Contractor shall notify the Owner/Architect of any related discrepancies or conflicts.
- Contractor shall notify the Owner/Architect when stud tracks are laid out, prior to erection of partitions for opportunity to adjust layout.
- Contractor shall coordinate the locations of all light fixtures, switches, receptacles, AV jacks, Tel/Data jacks, diffusers, grilles, ductwork, sprinkler piping and heads, etc. The Contractor shall coordinate the Work of this Contract with security, data and telephone systems provided by others under separate contract with the Owner.
- Design-Build: The information provided on these Drawings is of architectural nature only. All fire protection, plumbing, mechanical, and electrical design, engineering, code compliance, documentation, coordination, and administration shall be provided by and shall be the responsibility of the Contractor. To the extent that civil, structural, mechanical, and electrical information may be shown on the architectural drawings, its singular purpose is to generally represent aesthetic intent only and shall not in any way diminish the Contractor's sole responsibility for fully and properly engineering such work.
- Contractor shall be responsible for notifying the Architect of any structural loads imposed upon the Work by systems not designed by the Architect (mechanical, electrical, etc.). Such notice shall be provided prior to proceeding with the Work.

10. Warranty: Contractor shall promptly correct or replace all defective Work and pay all costs related thereto, regardless of when such deficiencies are first detected, for a period of one year following the date of Substantial Completion as defined by the American Institute of Architects. In general the commencement date for warranties and guarantees shall be the date of Substantial Completion.

11. Substitutions: Contractor shall provide all materials, products, and systems as indicated on the Drawings. Substitutions shall not be made without the Architect's prior written authorization.



12. Submittals: Submit for review electronic PDF version for product data and shop drawings for all materials and products indicated on these Drawings. In addition, submit hard copies where indicated.
 - Submittal Review: The Architect's review shall be only for general conformance with the design concept and information provided in the Contract Documents. The Contractor shall be solely responsible for the determination of all quantities and dimensions, for coordination of the work of all trades, for all information pertaining to fabrication processes, techniques of assembly and construction, and for performing all work in a safe and workman-like manner. Review and markings shall not be construed as relieving the Contractor from his responsibilities for comprehensive review or from compliance with the Contract Documents.
13. Electronic Media: Following the receipt of a written request by the Contractor, signed Electronic Data Transfer and Non-Disclosure Agreement, and if applicable, payment in full from the Contractor, the Architect will make available an electronic data version of the Project, for the limited purposes described in the above Agreement. It shall be the Contractor's responsibility to make electronic files available to subcontractors in accordance with the Electronic Data Transfer and Non-Disclosure Agreement.
14. Quality Control: The Owner shall employ an independent testing agency for the purpose of testing and inspecting portions of the Work in progress as required by code and/or as indicated herein. These services shall be paid for by the Owner. The Contractor shall provide schedule, coordinate, facilitate and provide access to the Work. The Employment of a testing agency shall in no way limit the Contractor's Quality Control procedures, nor shall it in any way relieve the Contractor of his obligation to perform all Work in accordance with Contract requirements.
15. Site Supervision: Contractor shall maintain a competent, experienced superintendent / foreman in charge of the Work on the job site at all times Work is in progress.
16. Security: Contractor shall be responsible for securing the building/ Work area, as applicable, against unauthorized entry.
17. Job Meetings: Contractor shall hold regularly scheduled meetings with the Owner and Architect to discuss job progress and any construction issues that should arise. Sub-contractors shall attend as required. The Contractor shall promptly issue a written summary of each job meeting to all attendees.
18. Clean-Up: Contractor shall at all times, keep the site and building free from accumulation of demolition debris, construction waste materials and rubbish. All such materials shall be lawfully disposed of. Upon completion of Work, the Contractor shall remove all tools, debris, scaffolding and surplus materials, and shall engage the services of a professional cleaning company for cleaning scope as agreed to by the Owner.
19. Project Closeout: Contractor shall schedule and complete the following at job completion: Punch lists, inspections by AHJ, final cleaning, keying change-overs, warranty binder, O&M manuals for all equipment and finishes, and the following as applicable: HVAC commissioning, systems testing, equipment instruction for the Owner.
Contractor shall submit to the Owner Record Drawings of architecture, fire protection, plumbing, mechanical and electrical systems in electronic format as acceptable to the Owner and hard copy sets as required by the Owner. Electronic backgrounds provided by



the Architect shall be clearly identified as Record Drawings with the contractor's name and address.

Contractor shall submit to the Owner a Certificate of Occupancy. Contractor shall submit to the Owner through the Architect two copies of sub-contractors list, and Contractor's certificate stating that no hazardous materials have been built-in the Project.

20. Insurance: Prior to proceeding with the Work, the Contractor shall contact the Owner and with the assistance of their respective insurance advisors, as they deem necessary, shall review all of the insurance requirements related to this Project in order to determine the types and limits of coverage required. The Architect claims no expertise related to insurance and will offer no advice or assistance related thereto.
21. Hazardous Materials: The Architect's Scope of Services and Responsibilities shall exclude the investigation, discovery, detection, identification, presence, leakage, discharge, release, use, handling, disposal, encapsulation, abatement, treatment, or removal of, or exposure of a person to hazardous materials, pollutants, contaminants, or disease transmitting organisms, pre-existing or otherwise deposited in any form at the Project, indoors or outdoors, at any time before, during or after construction, including but not limited to volatile organic compounds, petroleum products, molds, fungus, asbestos or asbestos products, radon, electro-magnetic frequency radiation, or other radiation. Should any such substances be encountered, the Contractor shall promptly notify the Owner.
22. All manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned, adjusted, and conditioned in accordance with the manufacturers' written or printed directions and instructions, unless specifically otherwise indicated in the Contract Documents.
23. Cutting and Patching: The Contractor shall provide all necessary cutting and patching to make the parts fit properly, to uncover ill-timed work for inspection or installations and for removal and replacement of defective or non-conforming work.
24. Healthcare Facilities General Responsibilities: Contractor and every subcontractor shall strictly conform to the Owner's Infection Control Risk Assessment for this Project and shall implement these requirements. Infection control precautions shall include, but not be limited to the following:
 - Sealed temporary barriers to underside of decking to separate the construction zone from other areas of the building, including a sealed anteroom to access the construction zone when access can only be through occupied areas of the building.
 - Negative pressure environment for construction zone and anteroom.
 - Use of designated construction zone access paths and staging areas only.
 - Procedures to maximize containment of dirt / dust in construction zone & anteroom.
 - Bag all materials entering and exiting the construction zone.
 - Isolate existing ductwork serving construction zone.
 - HEPA filtered vacuum cleaning of the construction zone.
 - Air quality testing as directed by the Owner.
25. Time is of the essence of the Contract, and the Work to be performed under the Contract shall be commenced on or before date set by Owner and Construction Manager and shall be Substantially Complete and in receipt of an Occupancy Permit on or before date set by Owner and Construction Manager.



DIVISION 2 – EXISTING CONDITIONS

02 41 00 - Demolition

1. Scope: Contractor shall provide all selective demolition of building elements for alterations purposes and as required for the complete and proper execution of the Work. Demolition scope may not be fully represented on the Construction Documents, therefore, either the Contractor or through his various subcontractors, shall thoroughly review all available documents and shall visit the site and existing building prior to bidding, as required to fully satisfy himself as to the types, locations and quantities of demolition work required. No pleas of misunderstanding resulting from the failure to adequately inspect existing conditions will be entertained and no additional expenses related thereto will be granted.
2. All methods, techniques and procedures of safety, shoring, barricading, fencing, protection, demolition, removal and disposal are left solely to the discretion of, and shall be the responsibility of the Contractor. Provide, erect, and maintain temporary barriers and security devices.
The Contractor shall field verify existing load bearing partitions, beams, columns, etc., prior to demolition and shall provide all necessary shoring and bracing. He shall immediately notify the Architect of any unanticipated or questionable conditions.
3. Contractor shall be responsible for compliance with all applicable Local, State and Federal regulations, including but not limited to, NFPA 241, OSHA standards, and EPA National Emission Standard for Hazardous Air Pollutants. It shall be the Contractor's responsibility to obtain all permits and provide all inspections and notifications related thereto.
4. If uncovered conditions are not as anticipated, immediately notify the Architect and secure needed directions. Do not proceed in areas of discrepancy until all such discrepancies have been fully resolved.
5. Perform demolition in a manner that maximizes salvage and recycling of materials. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse. Coordinate selected salvaged items to be turned over to the Owner.
6. Separate demolition work areas from occupied areas. Provide, erect, and maintain temporary dustproof partitions.
7. Maintain existing active plumbing, mechanical and electrical systems that are to remain in operation; maintain access to equipment and operational components. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service. Verify abandoned services serve only abandoned facilities before removal. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings, back to source of supply where possible, otherwise cap stub and tag with identification.
8. Protect existing work to remain Perform cutting to accomplish removals neatly and as specified for cutting new work. Repair adjacent construction and finishes damaged during removal work. Patch as specified for patching new work. Remove demolition debris to off-site recycling facility.



DIVISION 3 – CONCRETE (Not Used)

DIVISION 4 – UNIT MASONRY (Not Used)

DIVISION 5 – METALS

05 50 00 – Metal Fabricated

1. Engineered shop fabricated supports for overhead medical equipment support. Submit drawings stamped and sealed by a structural engineer licensed in the state of Maine. Medical equipment manufacturer shall provide loading criteria.
2. Products:
 - Steel Sections and Tubing: ASTM A36 and A501.
 - Slotted Channel Framing: ASTM A653 Grade 33, electro-galvanized steel metal channel framing and ASTM A1011 channel fittings system. Engineered, fabricated and installed by the manufacturer's authorized installer with a minimum of five (5) years of experience. Manufacturer: Unistrut Corp
 - Medical Equipment and Fixture Supports: Support frame assemblies shall be completely concealed above the ceiling system. Framing shall support all equipment and fixture loads as recommended by each equipment manufacturer. Slotted Channel Framing System: Shall be engineered, fabricated and installed by the channel framing system manufacturer's authorized installer. Field inspection shall be conducted to verify job conditions, dimensions, and suitability of primary structure to receive channel framing. Coordinate attachments and configurations with building structure, building features, utilities, piping and ductwork with the medical equipment manufacturer's support requirements

DIVISION 6 – WOOD AND PLASTICS

06 10 54 - Wood Blocking and Curbing

1. Scope: Concealed fire retardant treated wood blocking as required for wall mounted equipment, cabinets and counters.
2. Products:
 - Dimension Lumber: SPF, S4S, No 2, kiln dried, fire-treated, Interior Type A, AWPA Use Category UCFA, C20 / C27.
 - Miscellaneous Plywood Panels: PS1, APA rated, fire-treated.

06 20 00 - Finish Carpentry and 06 41 00 - Architectural Wood Casework

1. Scope: All millwork and custom casework shall be constructed in accordance with AWI standards, Premium Grade. Electronic and hard copy shop drawings required.
 - Finishes shall be Class A fire-rated, except: Finishes in the following rooms shall be Class A or B in patient rooms, bathrooms, toilet rooms, offices, meds room, soiled and clean rooms.
 - Daybed Design Requirements: Uniform live load of 100 PSF and concentrated load of 600 lb on a 24" x 24" area. Top surface of the daybed shall be designed for maximum deflection of L/360.
2. Products:
 - Panel Core for Wall Panels: Fire-treated 1/2" thickness Medium density fiberboard (MDF) A208.2 Class MD or MD-EXT, no urea formaldehyde-added, 47 pcf density; moisture resistant type.



- Panel Cores for cabinets and panels below sinks: Medium density fiberboard (MDF) 3/4" thickness, 1" thickness at tall doors and shelves over 30" long; ANSI A208.2 Class MD or MD-EXT, no urea formaldehyde-added, 47 pcf density; moisture resistant type.
 - Fiberglass Reinforced Laminate: Panolam Pionite or similar to match MMC Standards.
 - Plastic Laminate: VGS, 0.028" for exposed and semi-exposed faces; Manufacturers and colors to be selected by Architect, refer to Finish Legend. Laminate backer 0.020" for concealed faces. Edge banding ABS or PVC 3 mm, except 0.5 mm at cabinet body semi-concealed edges.
 - Thermo-fused Melamine: NEMA LD3, particle board core, surfaced both sides for drawer bodies, semi-concealed cabinet sides, backs and shelves.
 - Solid Surfacing: Homogenous, ANSI Z124.3/Z124.6; 1/2" thickness for sills; 1/4" thickness for wall panels. Bevel exposed corners. Corian and colors as selected by Architect, refer to Finish Legend. Applications: Window sills, wall panel at sink.
 - Adhesives: Suitable for purpose, no urea formaldehyde or VOC compounds.
 - Fasteners: Suitable for purpose, concealed where possible; stainless steel or hot dip galvanized. Threaded steel concealed joint fasteners.
 - Counter Support Brackets: Size as required; 36" max spacing; color to be selected; EH-1800 Series by Rakks.
 - Grommets: Color to be selected; 2" diameter, Series TG by Doug Mockett.
 - Cabinet Hardware: KV 345 shelf pins; Mortised pulls 151.35.262 by Hafele; 0730 Corbin cab door locks; silencers; Hafele drawer and shelf slides with 100 pound capacity, Tiomos concealed hinges by Grass America.Cabinet.
 - Custom Cushions: Cushions, Velcro, slides, bed bug resistant vents, Crypton Fabric by allowance at \$60/yds material only.
 - Wall Panel Metal Trims: Types as indicated, including L types with eased edges; stainless steel; as manufactured by Eagle.
3. Fabricator and installer shall specialize in the products specified in this Section with minimum of five years of documented experience.
- Millwork Fabrication: Contractor shall be responsible to properly detail work for lasting strength and stability, and to accurately represent it on shop drawings. Assemble and install with concealed fasteners. Joints shall be tight and formed to conceal shrinkage. Edges shall be eased. All dimensions shall be confirmed in the field prior to fabrication. Provide cut-outs and openings as required.
 - There shall be no unfinished wood products. If not covered with laminate products, paint wood surfaces in concealed or semi-concealed areas.
 - Cabinet Fabrication: All panels shall be 3/4" thickness except 1" for shelves over 36" long and tall cabinet doors; 1/2" for drawer backs; 3/8" for drawer bottoms. Flush overlay cabinet style; dovetail drawer joints. There shall be no unfinished wood products, all wood shall be plastic surfaced or sealed with a clear sealer.
 - Daybed Cushions: Custom fabrication; fabrics as indicated on the Finish Legend; high density foam in accordance with flammability requirements for upholstered furnishings. Double stitched seams, concealed heavy duty zipper on long end of each cushion for covering removal. Fabric pattern shall be centered and aligned with adjacent cushions. Cushion securement to millwork daybeds by velcro attachments and as indicated on the Drawings. Note back cushions shall be 'hinged' by fabric attachment to lay flat on seat cushion for bed use.



4. Installation: Verify adequacy of backing and support framing; verify in-place utilities. Install per AWI Standards, securely, rigid, plumb and level. Installation tolerances: 1/16" max variation from true and 1/32" max offset from true and abutting materials.

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

07 21 00 - Insulation

1. Products: Acoustic Batts for Partitions: Unfaced, formaldehyde-free glass fiber, 3" thickness. Sound Shield Free by Johns Manville or EcoBatt by Knauf.

07 81 00 – Applied Fireproofing

1. Scope: Repair of any existing spray-applied fireproofing disturbed during the Work. Match existing product, thicknesses and fire protection levels for IBC Type I-A construction.

07 84 00 – Firestopping

1. Scope: Firestop all penetrations and interruptions in fire-rated assemblies and non-fire-rated floor assemblies, per UL tested assemblies, including identification signage at all installation locations. UL assembly installation shop drawings required.
2. Product: 3M Fire Protection Products. No substitutions allowed.
3. Installation: In accordance with manufacturer's recommendations. Installer shall specialize in this work with a min of 5 years of experience.

07 90 05 – Joint Sealing

1. Scope: Sealants and joint backing.
2. Products:
 - Interior sealant for sound and smoke sealing, at minimal movement joints: Acrylic Latex 834 by Tremco.
 - Interior sealant for sound and smoke sealing at high movement joints: Dymeric 240 by Tremco.
 - Interior sanitary sealant for counters and plumbing fixtures: Tremsil 200 by Tremco.
 - Back-up & Primers: As recommended by sealant manufacturer.
3. Installation: In accordance with manufacturer's recommendations. Installer shall specialize in this work with a min of 5 years of experience. Provide installer's two year warranty covering all types of sealant failures in addition to manufacturer's warranties.

DIVISION 8 – DOORS AND WINDOWS

08 11 13 – Hollow Metal Doors and Frames

1. Scope: Metal doorframes and glazed metal frames.



2. Products: Metal doorframes: Knocked-down, 16-gauge for interior frames 42" wide and less; 14-gauge for frames wider than 42", shop primed, UL listed for fire-rated openings as indicated. Glazed borrowed lite frame construction shall match doorframe construction. Manufacturers: Republic, Curries, Ceco, Steelcraft.

08 14 16 – Flush Wood Doors

1. Scope: Flush Wood Doors as indicated on the Drawings.
2. Product: AWI Premium Grade, White Oak veneer, plain sliced, 5-ply, solid core, 1-3/4" thickness, factory finished transparent catalyzed polyurethane, match existing door finish and color, match wood glazing stops, field glazed, fire-rated as indicated on the Drawings. Life-time warranty. Manufacturers: Algoma, Graham, Eggers, Marshfield, VT Industries.

08 71 00 - Door Hardware

1. Scope: Finish Hardware for wood doors. Contractor shall provide appropriate hardware for all Project doors subject to Owner and Architect review and shall be responsible to determine quantities required. Submit finish hardware schedule shop drawings. Satin chrome finish.
2. Products: Match Owner's standards.
 - Butt Hinges: Five knuckle, heavy-duty ball bearing.
 - Mortised Lever Locksets and Passagesets.
 - Kickplates: Stainless steel.
 - Automatic and manual bolts
 - Closers.

08 80 00 - Glazing

1. Scope: Glass, Type S-1: 1/4" clear tempered glass, ASTM C1036, ANSI Z97.1, 16 CFR1201 compliant. S-Type S-2: Clear fire-glazing; Pystop by Plinkington.

DIVISION 9 – FINISHES

09 21 16 - Gypsum Board Assemblies

1. Scope: Interior metal stud wall framing, gypsum wallboard, joint treatment, accessories. Existing metal stud walls shall be confirmed adequate to support new wall cabinet loading and reinforced as required.
2. Products:
 - ASTM C1396, Type X, 5/8" thickness, by US Gypsum Co., Domtar, Gold Bond, G-P.
 - Finishing and Fasteners: Finishing accessories ASTM C1047, galv steel or rolled zinc including casing beads, corner beads, edge beads, reveal trim, control joints. Finish all gypsum board per GA-214 Level 4. Self-tapping type gypsum fasteners black oxide and zinc plated chromate for wet areas.
 - Interior Metal Studs & Misc Framing: Marino/Ware or Dietrich. ASTM C645 steel, channel type, ASTM A653, G-60 galv coated, widths as indicated, mil thickness per engineering to meet the following criteria:
 - Typical lateral deflection: L/240 max.
 - Typical lateral load: 5 psf



Special Load, wall cabinets: 60 PLF applied vertically 6" from wall face.

- Deflection Head Tracks: Single long-leg runners with continuous stud bridging, or double-runner system.
3. Installation - General: Gypsum Association GA-216 "Application and Finishing of Gypsum Board" and "Installation of Screw-Type Steel Framing Members to Receive Gypsum Board". All fire-resistant partitions and floor assemblies shall be constructed in compliance with U.L. "Fire Resistance Directory" referenced assemblies as indicated on the Drawings.
- Partitions: Provide deflection head track with 3/4" min clear space where framing attaches to structure & deck. Do not fasten studs and GWB to deflection head. Double studs at all door & window openings. Reinforce openings for extra heavy doors. Max stud spacing 16" o.c. Construct fire-rated partitions & ceilings per UL tested assemblies.
 - Installation Tolerances: 1/8" in 10 feet variation of finished gyp board surface from true flat in any direction.

09 31 00 – Tiling

1. Scope: Wall tile, grout, accessories and backer board for patient toilet room wet walls.
2. Products:
 - Tile PT-1, PT-2, PT-3: Natural Hues by Daltile. See Finish Legend for colors and sizes.
 - **Grout:** Latex-Portland Cement Mortar Bond Coat: 254 Platinum by Laticrete.
 - Tile Backer Board: Cementitious - Durock by USG.
 - Accessories: Tile base: Schiene by Schluter. Corner: Rondec by Schluter.
 - Sealant: Fungicidal one part silicone.
3. Installation: Install wall tile per TCA W244, thin set over cementitious backer boards.

09 51 00 - Acoustic Ceilings

1. Scope: Suspended metal grid systems, trims and acoustical ceiling tiles.
2. Products:
 - ACT-1: 2'x2', white, Ultima Health Zone by Armstrong World Industries.
 - Suspension System: White 15/16" intermediate duty grid, Prelude XL by Armstrong, with perimeter molding.
3. Installation: Per ASTM C635, C636, E580, Cisca recommendations and manufacturer's instructions. Support fixtures with supplemental hangers.
Installation Tolerance: 1/8" per 10 feet max variation from flat and level. Two degree max variation from plumb for grid members.

09 65 00 - Resilient Flooring

1. Scope: Existing flooring removal, substrate preparation and new resilient sheet flooring. Shop drawings are required for seaming sheet flooring goods.
2. Substrate Preparation Testing: Owner may test concrete slabs prior to flooring installations. Contractor shall use test results to determine slab acceptability for flooring and adhesives manufacturers. Contractor shall obtain instructions from flooring manufacturers if test results are not within their recommendation limits. Testing shall include: 1) Internal relative



- humidity rates per ASTM F2170. 2) Alkalinity, pH rates per ASTM 710. 3) Adhesive bond tests. 4) Water absorption tests.
3. Self-leveling Underlayment: For all floor surfaces in the work area, capable to feather-edge. Liquid-applied self-leveling cementitious type. K-15 by Ardex.
 4. Substrate Preparation: Prepare subfloor surfaces as recommended by flooring and adhesive manufacturers. Remove defects and incompatible substances. Slab surfaces shall receive cementitious self-leveling underlayment.
 5. Subfloor Surface Tolerances: 1/16" per foot and 1/8" variation per 10 feet in any direction. Floors intended to slope to drains shall be laser verified for proper pitch. Areas of transition for flooring of different thicknesses shall be filled and feathered at max slope of 1/16" per foot.
 6. Flooring Products: Multiple colors for each type of flooring and base shall be selected by the Architect.
 - Rubber Sheet Flooring RF-1: Sentica 3mm by Noraplan with welded seams.
 - Sheet Vinyl Flooring RF-2: To be determined by Owner.
 - Base RB-1: Traditional Wall Base, 6" high by Johnsonite.
 - Adhesives: Low VOC and as recommended for slab moisture conditions by flooring manufacturer.
 7. Flooring Installation: Install per manufacturer's instructions. Fit joints tightly. Install terminations where flooring type changes.

09 90 00 – Painting

1. Scope: All necessary surface preparation and painting in the Work area and existing painted disturbed surfaces. Paint products by Sherwin Williams. Colors as selected by the Architect, refer to Finish Legend.
2. Interior Paint Systems:
 - HM Doors & Frames: Primer and 2-coats SW ProClassic Waterborne Acrylic B31 Series, semi-gloss.
 - Gypsum Board Walls: Primer and 2-coats SW ProMar 200 Zero VOC Interior Latex - eggshell.
 - Gypsum Board Ceilings: Primer and 2-coats SW ProMar 200 Zero VOC Interior Latex - flat.
3. Installation: Painter shall have a minimum of five years of successful commercial painting experience. Finish a sample room for review and approval prior to proceeding with the Work.

DIVISION 10 – SPECIALTIES

10 21 23 – Cubicle Track and Medical Rails

1. Scope:
 - Cubicle Tracks: Extruded aluminum straight and curve sections, complete with accessories, hangers, mounting plates, end caps, curtain loading tool; white powder coat finish. Product: CS Group – On The Right Track. Curtains shall be provided by Owner.



- Medical Rails: Furnished by Owner and installed by Contractor.

10 26 01 - Wall Protection

1. Scope: Wall protection panels, 0.060" thickness, beveled top edge, 3" surface mounted high impact corner guards, 6" high impact bumper rails; non-PVC with aluminum retainers.
2. Products:
Item 50B, 50D - Wall Protection Panels: Traffic Patterns by Koroseal.
Item 40 - Corner Guards: Surface mounted 2" high impact type by Inpro.

10 28 00 – Toilet and Healthcare Accessories

1. Scope: Drawings identify accessories to be furnished by Owner and installed by Contractor and those to be provided by the Contractor.
2. Product:
11A – Robe Hook: B-76717 by Bobrick
7A - Mirror: B-290 by Bobrick.
13B: Grab Bars: B5806 Series by Bobrick.

10 44 00 - Fire Extinguishers Cabinets

1. Semi-recessed, white painted fire extinguisher cabinet with plastic glazing. Coordinate tub size with Owner provided fire extinguisher.
2. Product: Ambassador Series by J.L. Industries.

DIVISION 12 – SPECIALTIES

12 36 00 – Countertops

1. Scope: Solid surface countertops for casework, AWI custom grade, loose back and side splashes. Colors selected by Architect, see Finish Legend.
2. Products:
 - Solid Surface: NEMA LD 3, 1/2" thickness; Corian; color as indicated on Finish Legend.
 - Solid Surface Sink Bowls: Corian 810, color as indicated.
 - Countertop Substrate Panel: (with sinks) ANSI A208.2 MDF, NAUF, water-resistant; 3/4" thick with built up edges; Medex by Sierra Pine.

END OF ARCHITECTURAL OUTLINE SPECIFICATIONS



SPRINKLER, MECHANICAL, & PLUMBING

PART 1 - COMMON WORK RESULTS

1.1 GENERAL

- A. Contractor shall visit the site to determine pre-existing conditions and all work necessary, prior to bidding. Verify all measurements and existing conditions in the field. General schematic layout is indicated; all offsets, obstructions, and existing configurations and constraints must be field verified. Prior arrangements shall be made for site visits.
- B. Perform work in accordance with M.M.C. requirements, Maine uniform building code and all applicable amendments, all local codes, regulations, and ordinances.
- C. Install, test, and adjust components in accordance with manufacturer recommendations, all local codes and standards, and owner requirements.
- D. The contractor shall hold a license to perform the work as issued by the local jurisdiction. Apply for and obtain all required permits and inspections, pay all fees and charges including all service charges.
- E. Coordinate work with other trades.
- F. Install work so that all items (both existing and new) are operable and serviceable.
- G. It is the contractor's responsibility to keep clean all equipment and existing conditions affected by the work for the duration of the project. Each trade shall keep the premises free from an accumulation of waste material or rubbish caused by his operations. All removed items shall be removed from the site and disposed of in a legal manner.
- H. The intention of these contract documents is to call for finished work, fully tested and ready for operation. Any components or labor not mentioned in the contract documents but required for functioning systems shall be provided. Should there appear to be any discrepancies or questions of intent, the contractor shall refer the matter to the engineer for decision before start of any related work.
- I. Provide required supports, angles, hangers, rods, bases, braces, and other items to properly support contract work. Supports shall meet the approval of the owner's representative.
- J. Submit submittals/shop drawings on all items of equipment and materials to be furnished and installed.
- K. Before final acceptance of the work, furnish necessary skilled labor to operate all systems by seasons. Instruct designated personnel on proper operation, and care of systems/equipment.



- L. Prepare three (3) operation and maintenance manuals. Include in each o & m manual, a copy of each approved shop drawing, wiring diagrams, spare parts lists, as-built drawings and manufacturer's instructions. Provide "as built" record drawing set (red line).
- M. Contractor shall warrantee workmanship and materials for a period of not less than one-year from the date of final-completion.
- N. Definitions: "furnish": supply and deliver to project site, ready for unloading, unpacking, assembly, installation, and similar operations. "Install": operations at project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations. "Provide": furnish and install, complete and ready for the intended use.
- O. Working conditions
 - 1. The building will be in use during construction operations. Maintain existing systems in operation within all rooms of building at all times. Work shall be coordinated with all other trades and with owner's representative. Provide, as part of contract, temporary mechanical and electrical connections and relocations as required to accomplish the above.
 - 2. Obtain approval in writing as to date, time, and location for shutdown of existing utilities or services. Work shall be performed during off-hours.
 - 3. Follow the recommended procedures of the SMACNA IAQ guidelines for occupied buildings under construction. Follow the MMC infection control requirements.

PART 2 - SPRINKLER SCOPE OF WORK

2.1 SCOPE

- A. Revise the wet sprinkler system in the work area to suit the new layout. Design sprinklers and obtain approval from authorities having jurisdiction. The design of the automatic sprinkler system shall be complete with all necessary accessories for proper operation.
- B. All work shall be in accordance with NFPA 13.
- C. Provide Schedule 40 steel piping per MMC standards. Do not use ductile fittings, provide cast fittings. Remove existing Blazemaster plastic piping and replace with steel.
- D. Remove exposed sprinkler piping, re-pipe concealed.
- E. Provide Reliable F1FR series, quick-response sprinkler heads, recessed.
- F. System impairments: Follow NFPA 13 and owner requirements. Before shutting down the sprinkler system to perform the Work, notify the Owner's Representative in writing.



PART 3 - PLUMBING SCOPE OF WORK

3.1 PLUMBING

- A. Systems to be furnished and installed in accordance with the Maine Plumbing Code.
- B. Provide plumbing fixtures per MMC standards and as scheduled.
- C. Sanitary waste & vent: Cast iron or PVC.
- D. CW, DHW, and recirculation temperature maintenance: Type L copper; soldered or Viega ProPress copper. Do not use dielectric unions, use brass unions instead.
- E. Insulate HW and CW piping per IECC 2015 requirements. Provide full vapor barrier for cold water, to prevent sweating.
 - 1. Patch existing damaged piping insulation.
- F. Provide stop valves for each fixture.
- G. Remove any dead-end piping.
- H. Provide labeling of valves/pipes (service and system) shall be labeled every 6FT or compartment.

3.2 MEDICAL GAS

- A. Provide, inspect, and test in accordance with NFPA 99. Provide all elements and accessories required for complete systems per NFPA 99. The patients in this area will not be on life support.
- B. Copper Medical Gas Tube: ASTM B 819, Type L, seamless, drawn temper that has been manufacturer cleaned, purged, and sealed for medical gas service or according to CGA G-4.1 for oxygen service. Join copper tube and fittings according to CDA's "Copper Tube Handbook," "Brazed Joints" Chapter. Continuously purge joint with oil-free, dry nitrogen during brazing
- C. Label piping per NFPA 99 requirements. Piping shall be labeled every 6-FT or compartment.
- D. Valves: Manufacturer cleaned, purged, and bagged according to NFPA 99 and CGA G-4.1 for oxygen service.
- E. Provide new service connections, exact locations as shown on the architectural plans. Provide Beacon Medaes connections and cover plates per MMC standards. Coordinate with MMC to assure proper connection types. Remove old piping and outlets.
- F. Relocate the existing Beacon Medaes area alarm panel as indicated. This alarm panel serves OXY and VAC for R-2, as well as medical air for Rooms 208, 2141, and 2143. All work per NFPA 99.



- G. Provide shutdowns and certifications as required. Connect downstream of the inline service valves that were installed in 2016.
- H. Engage a qualified testing agency to perform tests, inspections, and certifications of medical gas piping systems in healthcare facilities and prepare test reports. Comply with requirements in NFPA 99.

PART 4 - HVAC SCOPE OF WORK

4.1 GENERAL

- A. Remove unused piping, reheat coils, fancoil unit, and ductwork, cap at mains.
- B. Provide G60 galvanized steel ductwork per SMACNA duct construction standards. Ductwork shall be sealed to SMACNA Class A; 2" pressure class.
 - 1. Provide balancing dampers for branch connections. Dampers shall be visible outside the insulation and marked with 12" orange ribbon.
 - 2. Insulation supply ductwork with 1-1/2" fiberglass insulation.
 - 3. Provide volume dampers at each branch duct.
 - 4. Flexible ducts: Atco #86 or equal. Rated Positive Pressure: 10" w.g. per UL-181. Maximum negative pressure: 3/4".
- C. Life Safety Dampers:
 - 1. Fire dampers: Provide UL555S static fire dampers with access panels at duct penetrations of shafts, including the seismic joint between buildings. Rating: 1.5 hours, 165°F rated.
 - 2. Smoke dampers: UL 555S with smoke detector, factory wired for single-point connection. Leakage: Class I; mounting sleeve, 2-position damper motor. Accessories:
 - a. Auxiliary switches for signaling or position indication.
 - b. Test and reset switches, remote mounted.
 - 3. Provide duct access doors for service.

- D. Non-Fire-Rated Concealed Penetrations: Provide insulation infill and acoustical sealant around gaps. Tightly seal to prevent sound transmission. Neatly finish.
- E. Final Filter Bank – install in interstitial space:
1. Provide a side-access filter housing in the ductwork downstream of AHU-09. Housing shall be 16-gauge galvanized steel with pre-drilled standing flanges, dual access doors, UV-resistant door knobs, door and filter sealing gasketing, and a pneumatic tap for installation of static pressure gauge. The side access housing shall have a pre-filter track and a final filter track.
 2. The existing system has limited static pressure capability, therefore low-resistance final filters are required.
 - a. Pre filters: leave filter track empty, the existing AHU-9 filters will be the pre-filters.
 - b. Final filters: Initial resistance to airflow shall not exceed 0.29 inches w.g. at an airflow of 500 fpm for 24 x 24 size. Filters shall be Camfil “Durafil ES2”, MERV 14, UL 900 listed. Air filters shall be V-Bank mini-pleat fiberglass disposable type with pleat separators, polyurethane pack-to frame sealant, polystyrene enclosing frame, and have an ECI value of five stars.



- F. Register, grilles, and diffusers – provide as scheduled.
- G. Terminal Units
1. VAV boxes shall be double wall, Trane or Titus.
 2. Radiant Ceiling Heating Panels: Sterling, or equal. The aluminum planks incorporate a tube saddle channel as an integral part of the profile. The tubing is clipped into this channel and held in direct thermal contact with the extrusion. A non-hardening heat paste between the tubing and the aluminum face plate ensures even heat distribution to the active face, providing overall thermal efficiency. Provide 1” thick foil-backed batt insulation on the back of the panels.
 3. Typical for each VAV reheat coil and radiant ceiling panel: Provide Nexus or similar terminal kits, complete with flex connectors, ball valve shutoffs, Honeywell 2-way control valve, unions, strainer, pressure/test fittings, and manual balancing valve.
 4. Model CAR-II Constant Airflow Regulators by American ALDES Ventilation Corporation, or equal, shall solely operate on duct pressure and require no external power supply. Each regulator shall be pre-set and factory calibrated, requiring no field adjustment



to the airflows as indicated on the schedule, and shall be rated for use in air temperatures ranging from -25° to 140°F. Constant Airflow Regulators shall be capable of maintaining constant airflow within +/- 10% of scheduled flow rates, within the operating range of 0.2 to 0.8 in. w.g. differential pressure, or 0.6 to 2.4 in. w.g. on high-pressure models (CAR-II-HP). Measure/confirm duct pressure prior to ordering. Regulators shall be provided as an assembly consisting of a 94V-0 UL ABS plastic body housed within a round sleeve for mounting in round duct. Each round sleeve must be fitted with a lip gasket to ensure perimeter air tightness with the interior surface of the duct. All regulators must be classified per UL 2043 and carry the UL mark indicating compliance. All Constant Airflow Regulators will require no maintenance and must be warranted for a period of no less than five years.

- H. Exhaust Fan: Provide a new direct drive inline exhaust fan in the East Tower, ducted to the existing exhaust/relief plenum. Greenheck Model SQ-98-VG inline centrifugal. Fan shall have an ECM motor.
- I. Hot Water Piping
 - 1. Schedule 40 steel with threaded fittings or Type L soldered or Viega ProPress copper.
 - 2. Insulate piping with 1-1/2" thick fiberglass insulation.
 - 3. Terminal units: Provide ball valves, unions, 2-way modulating control valve, strainer, and balancing valve.
 - 4. Do not use dielectric unions, use brass unions instead.
 - 5. Use only solid brass boiler drain caps, do not use ones with small chains attached.
- J. Provide labeling of valves/pipes (service and system) shall be labeled every 6FT or compartment.

4.2 TEST ADJUST AND BALANCE

- A. Perform testing and balancing procedures on each system according to the procedures contained in AABC's "National Standards for Total System Balance".
- B. Adjust water flows and airflows. Calibrate and balance each terminal unit for indicated airflows. Provide test data for specific systems and equipment as required by the most recent edition of the "AABC National Standards".
- C. Set HVAC system's air flow rates and water flow rates within a +/- 10% tolerance. Maintaining pressure relationships as designed shall have priority over tolerances.
- D. Provide a final test & balance report.

4.3 CONTROLS

- A. Furnish all labor, materials, equipment, and service necessary for an extension of the existing/addition to the existing hospital building automation system.
- B. Use XL-800 or HC-900 or XL-50 Honeywell controllers.

- C. Provide a new wall temperature sensors for each zone.
- D. Remove all unused old controls, devices, wiring and Honeywell EBI points.
- E. Use Honeywell's BACNet device numbering for new equipment HVAC controllers.
- F. The Controls Contractor's work shall consist of the provision of all labor, materials, special tools, equipment, enclosures, power supplies, software, software licenses, project-specific software configurations and database entries, interfaces, wiring, tubing, installation, labeling, engineering, calibration, documentation, submittals, testing, verification, training services, permits and licenses, transportation, shipping, handling, administration, supervision, management, insurance, warranty, specified services and items required by the Contract that are required for the functional turn-key operation of the complete and fully functional Controls Systems.
- G. Test and commission all points for proper operation.
- H. Remove all unused old controls, devices, wiring and EBI points.
- I. Use Honeywell's BACNet device numbering for new equipment HVAC controllers.
- J. The MMC HVAC lead man shall sign off on all Honeywell EBI graphic changes before final billing.
- K. New Exhaust Fan: Fan shall run 24/7. Monitor fan status with a current sensor.
- L. New HVAC Zones: Provide per MMC standards, **see diagrams below**. Integrate the VAV zones with radiant panels and induction units.



VAV DAT RESET

- I. TWO SEPARATE PID CONTROL LOOPS SHALL OPERATE TO MAINTAIN SPACE TEMPERATURE AT SETPOINT, THE COOLING LOOP AND THE HEATING LOOP
 - A) THE HEATING LOOP SHALL BE ENABLED WHENEVER THE SPACE TEMPERATURE IS BELOW THE CURRENT ZONE HEATING SETPOINT TEMPERATURE, AND DISABLED WHEN SPACE TEMPERATURE IS ABOVE THE CURRENT ZONE HEATING SETPOINT TEMPERATURE AND THE LOOP OUTPUT IS ZERO FOR 30 SECONDS.
 - B) THE COOLING LOOP SHALL BE ENABLED WHENEVER THE SPACE TEMPERATURE IS ABOVE THE CURRENT ZONE COOLING SETPOINT TEMPERATURE, AND DISABLED WHEN SPACE TEMPERATURE IS BELOW THE CURRENT ZONE COOLING SETPOINT TEMPERATURE AND THE LOOP OUTPUT IS ZERO FOR 30 SECONDS.
- II. THE COOLING LOOP SHALL MAINTAIN THE SPACE TEMPERATURE AT THE ACTIVE COOLING SETPOINT. THE OUTPUT OF THE LOOP SHALL BE A SOFTWARE POINT RANGING FROM 0% (NO COOLING) TO 100% (FULL COOLING).
- III. THE HEATING LOOP SHALL MAINTAIN THE SPACE TEMPERATURE AT THE ACTIVE HEATING SETPOINT. THE OUTPUT OF THE LOOP SHALL BE A SOFTWARE POINT RANGING FROM 0% (NO HEATING) TO 100% (FULL HEATING).

- IV. WHEN THE ZONE STATE IS COOLING, THE COOLING LOOP OUTPUT SHALL BE MAPPED TO THE AIRFLOW SETPOINT FROM THE COOLING MINIMUM(VMIN) TO THE COOLING MAXIMUM AIRFLOW SETPOINTS (VCOOL-MAX). HOT WATER VALVE IS CLOSED UNLESS THE DISCHARGE AIR TEMPERATURE IS BELOW THE MINIMUM SETPOINT.
 - A) IF SUPPLY AIR TEMPERATURE FROM THE AIR HANDLER IS GREATER THAN ROOM TEMPERATURE, COOLING SUPPLY AIRFLOW SETPOINT SHALL BE NO HIGHER THAN THE MINIMUM AIRFLOW SETPOINT (VMIN).
- V. WHEN THE ZONE STATE IS DEADBAND, THE ACTIVE AIRFLOW SETPOINT SHALL BE THE MINIMUM AIRFLOW SETPOINT (VMIN). HOT WATER VALVE IS CLOSED UNLESS THE DISCHARGE AIR TEMPERATURE IS BELOW THE MINIMUM SETPOINT.
- VI. WHEN THE ZONE STATE IS HEATING, THE HEATING LOOP SHALL MAINTAIN SPACE TEMPERATURE AT THE HEATING SETPOINT AS FOLLOWS:
 - A) FROM 0-50%, THE HEATING LOOP OUTPUT SHALL RESET THE DISCHARGE TEMPERATURE SETPOINT FROM THE CURRENT AHU SAT SETPOINT TO A MAXIMUM OF MAX ΔT ABOVE SPACE TEMPERATURE SETPOINT. THE AIRFLOW SETPOINT SHALL BE THE HEATING MINIMUM.
 - I. MAX ΔT = THE LESSER OF 90°F OR (SPACE TEMP + 15°F)
 - B) FROM 51%-100%, IF THE DISCHARGE AIR TEMPERATURE IS GREATER THAN ROOM TEMPERATURE PLUS (5°F), THE HEATING LOOP OUTPUT SHALL RESET THE AIRFLOW SETPOINT FROM THE MINIMUM AIRFLOW SETPOINT TO THE HEATING MAXIMUM AIRFLOW(VHEAT-MAX) SETPOINT.
- VII. THE HOT WATER VALVE SHALL BE MODULATED TO MAINTAIN THE DISCHARGE TEMPERATURE AT SETPOINT. (DIRECTLY CONTROLLING HEATING OFF THE ZONE TEMPERATURE CONTROL LOOP IS NOT ACCEPTABLE)
- VIII. IN OCCUPIED MODE, THE HOT WATER VALVE SHALL BE MODULATED TO MAINTAIN A DISCHARGE AIR TEMPERATURE NO LOWER THAN 50°F.



SECTION 261000 - BASIC ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Alternates: Refer to Division 01 to determine extent of, if any, work of this section that will be affected by any alternates if accepted.
- B. Furnish all materials, equipment, labor, and supplies and perform all operations necessary to complete the electrical work in accordance with the intent of the drawings and these specifications.
- C. All work shall be per currently adopted edition of the NEC and NFPA 99 including any local or state amendments.
- D. Temporary Power and Lighting:
 - 1. Power Distribution: Provide weatherproof, grounded circuits with ground-fault interruption features, with proper power characteristics and either permanently wired or plug-in connections as appropriate for intended use. Provide overload-protected disconnect switch for each circuit at distribution panel. Space 4-gang convenience outlets (20 amp circuit) so that every portion of work can be reached with 100' extension cord.
 - 2. Temporary Lighting: Provide lighting of intensity and quality sufficient for proper and safe performance of the work and for access thereto and security thereof. (Consult OSHA requirements.)
- E. Selective Demolition
 - 1. The work of Division 26 shall include removal and disposal of existing wiring, conduit, boxes, devices, etc., within existing walls and ceilings to be removed. Refer to Architectural drawings for locations of walls to be removed. Existing branch circuit wiring shall be permitted to be re-used where it complies with current code and this specification.
 - 2. Where electrical items to be removed feed through to other items intended to remain, provide wiring, connections, junction boxes, etc. as required to re-feed the existing items to remain.
 - 3. No unused wiring shall be abandoned in place. Where electrical items are removed, remove wiring back to source connection at wiring or equipment intended to remain.



4. Where existing ceilings to be removed, all existing fire alarm smoke detectors, speakers, and other devices shall be removed.

1.3 QUALITY ASSURANCE

- A. All wiring shall be in accordance with the currently adopted edition of the National Electrical Code.
- B. The Contractor shall show evidence, upon request, of having successfully completed at least five similar projects. Installation of each system shall be under the supervision of a factory-authorized organization.
- C. The Contractor shall show evidence, upon request, that he maintains a fully equipped service organization capable of furnishing adequate inspection and service to the system. The Contractor must have a service contract program for the maintenance of the system after the guarantee period.
- D. All electrical equipment shall be listed by Underwriters Laboratories, Inc. Each system shall be products of a single manufacturer of established reputation and experience. The Contractor shall have supplied similar apparatus to comparable installations rendering satisfactory service for at least three years.
- E. For each system, the manufacturer shall furnish "gratis" to the Owner a one-year contract effective from the date of installation for maintenance and inspection services of the manufacturer's equipment with a minimum of two inspections during the contract year.
- F. Telecommunications System Performance: The cabling system shall comply with transmission standards in TIA/EIA-568-B.1, when tested according to the test procedures of this standard.
- G. Telecommunications Installation shall be under the direct supervision of a BICSI Registered Technician or Level 2 Installer, who shall present at all times when work of this section is performed at project site.

1.4 EFFICIENCY MAINE

- A. This project intends to pursue Efficient Maine prescriptive and/or custom incentives. The contractor shall be an Efficiency Maine Qualified Partner and shall participate in the activities associated with Efficiency Maine incentive pre-approval and approval process including but not limited to; preparation and submission of required incentive application(s) and the tracking and submission of measure specific invoices to Efficiency Maine within 60 days of the completion of the work.
- B. The contractor shall also:
 1. Become familiar with the Efficiency Maine Business Program including available incentives and the application and review process.
 2. Review plans and specifications for compliance with Efficiency Maine standards for applicable systems and technologies.



3. Review plans and specifications for any and all incentive opportunities, prescriptive and custom.

C. The project schedule shall reflect and accommodate the time required to achieve application preapproval from EM. No equipment shall be purchased until preapproval is received from EM.

D. All invoices shall be forwarded to EM within 60 days of the completion of work. This deliverable shall be shown on the project schedule as a milestone date and coordinated with all contractors to assure compliance with this requirement.

E. Efficiency Maine is available to assist in the application process and can be reached at 866-376-2463.

1.5 FIRE ALARM SYSTEM

A. Modify and add to the existing fire alarm system to provide a complete and code compliant system including but not limited to: new smoke detectors, heat detectors and notification appliances in all areas required. Fire alarm systems shall generally comply with requirements of NFPA 72 for local building systems except as modified and supplemented by this specification. All units of equipment shall be listed by Underwriters Laboratories and shall consist of a battery-backed fire alarm control station, with audio/visual and visual alarm indicating devices, heat detectors, smoke detectors, and pull stations. All equipment shall be located as shown on the plans and wired in accordance with the manufacturer's instructions to form a complete and workable emergency evacuation life safety system as hereinafter described.

1.6 TELECOMMUNICATIONS

A. Telecommunications work shall be in accordance with Building Industry Consulting Service International (BICSI) standards. Installation shall be under the direct supervision of a BICSI Registered Technician, who shall be present at all times when Work of this Section is performed at Project site. Testing Supervisor shall be currently certified by BICSI as a Registered Communications Distribution Designer (RCDD).

1.7 NURSE CALL SYSTEM

A. Provide nurse call system components as indicated on the drawings and as required for a complete and operable system. All components shall be as recommended by the existing system manufacturer for use with the existing Rauland Responder 5 Series System.

1.8 Speaker Systems

A. Speaker systems, wiring, amplifiers and volume controls shall be provided for the paging system. Speakers shall be connected to existing systems. Amplifiers shall be provided as required to support the additional speakers. Speakers shall generally be located in corridors, common areas and administrative spaces, with volume controls located as determined by program needs.



1.9 SUBMITTALS

A. In accordance with Division 01, furnish the following:

1. Manufacturer's descriptive literature: For each type of product indicated.
2. Submit shop drawings which include engineering drawings of the system with specification sheets covering all component parts of the system and interconnection diagrams.
3. Submit fire alarm battery calculations.
4. Certification:
 - a. Prior to final inspection, deliver to the Owner's Representative certification that the material is in accordance with the drawings and specifications and has been properly installed.
 - b. Submit certification of system operating test.
5. Manuals: Submit copies of complete set of operating instructions including circuit diagrams and other information of system components.

1.10 PROJECT CONDITIONS

A. Regulatory Requirements:

1. Conform to the requirements of all laws and regulations applicable to the work.
2. Cooperate with all authorities having jurisdiction.
3. Compliance with laws and regulations governing the work on this project does not relieve the Contractor from compliance with more restrictive requirements contained in these specifications.
4. If the Contract Documents are found to be at variance with any law or regulation, the Contractor shall notify the Architect/Engineer promptly in writing. The Contractor shall assume full responsibility for any work contrary to law or regulation, and shall bear all costs for the corrections thereof.
5. Minimum Requirements: The National Electrical Code (NEC), Underwriters Laboratories, Inc. (UL), the National Fire Codes, and National Fire Protection Association (NFPA) are a minimum requirement for work under this section. Design drawings and other specification sections shall govern in those instances where requirements are greater than those required by code.

B. Permits, Fees, and Inspections:

1. Secure and pay for all permits, fees, licenses, inspections, etc., required for the work under Division 26.
2. Schedule and pay for all legally required inspections and cooperate with inspecting officers.
3. Provide Certificates of Inspection and Approval from all regulatory authorities having jurisdiction over the work in Division 26.

C. Drawings:



1. Do not scale the drawings. The general location of the apparatus and the details of the work are shown on the drawings, which form a part of this specification. Exact locations are to be determined at the building as the work progresses and shall be subject to the Architect/Engineer's approval. Actual field conditions shall govern all dimensions.
2. Anything shown on the drawings and not mentioned in the specifications or vice versa shall be provided as if it were both shown and specified.
3. It is not intended that the drawings shall show every wire, device, fitting, conduit or appliance, but it shall be a requirement to furnish without additional expense, all material and labor necessary to complete the systems in accordance with applicable codes and the best practice of the trade.

D. Infection Control: Follow the MMC Infection Control requirements.

1.11 WARRANTY

- A. The Contractor shall guarantee all equipment and wiring free from inherent mechanical or electrical defects for one year from date of acceptance.

1.12 RELATED WORK

- A. Division 23 - Mechanical

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Switches
 1. Toggle Switches: 20A, 277V, 1-pole, white specification grade, mount 4'-0" above finished floor at door entrance. MMC's preferred manufactures are Pass & Seymour and Hubbell.
- B. Switchbox type occupancy sensors: Adaptive-technology type, 120/277 V, adjustable time delay up to 20 minutes, 180-degree field of view, with a minimum coverage area of 900 sq. ft. Configure for manual-on/automatic-off operation.
- C. Indoor Occupancy Sensors
 1. General Description: Wall- or ceiling-mounting, solid-state units with a separate relay unit.
 - a. Operation: Unless otherwise indicated, turn lights on when covered area is occupied and off when unoccupied; with a time delay for turning lights off, adjustable over a minimum range of 1 to 15 minutes.
 - b. Sensor Output: Contacts rated to operate the connected relay, complying with UL 773A. Sensor shall be powered from the relay unit.

- c. Relay Unit: Dry contacts rated for 20-A ballast load at 120- and 277-V ac, for 13-A tungsten at 120-V ac, and for 1 HP at 120-V ac. Power supply to sensor shall be 24-V dc, 150-mA, Class 2 power source as defined by NFPA 70.
 - d. Mounting:
 - 1) Sensor: Suitable for mounting in any position on a standard outlet box.
 - 2) Relay: Externally mounted through a 1/2-inch knockout in a standard electrical enclosure.
 - 3) Time-Delay and Sensitivity Adjustments: Recessed and concealed behind hinged door.
 - e. Indicator: LED, to show when motion is being detected during testing and normal operation of the sensor.
 - f. Bypass Switch: Override the on function in case of sensor failure.
 - g. Automatic Light-Level Sensor: Adjustable from 2 to 200 fc; keep lighting off when selected lighting level is present.
2. Dual-Technology Type: Ceiling mounting; detect occupancy by using a combination of PIR and ultrasonic detection methods in area of coverage. Particular technology or combination of technologies that controls on-off functions shall be selectable in the field by operating controls on unit.
- a. Sensitivity Adjustment: Separate for each sensing technology.
 - b. Detector Sensitivity: Detect occurrences of 6-inch-minimum movement of any portion of a human body that presents a target of not less than 36 sq. in., and detect a person of average size and weight moving not less than 12 inches in either a horizontal or a vertical manner at an approximate speed of 12 inches/s.
 - c. Detection Coverage (Standard Room): Detect occupancy anywhere within a circular area of 1000 sq. ft. when mounted on a 96-inch-high ceiling.
- D. Receptacles shall be 20-amp Hospital grade, tamper-proof, mounted 18" above finished floor unless otherwise noted. Red color for emergency power and white color for normal power.
- E. Duplex Receptacles with Ground-Fault Interrupter shall be an integral unit suitable for mounting in a standard outlet box.
- 1. Ground-Fault Interrupter shall consist of a differential current transformer, solid state sensing circuitry and a circuit interrupter switch. It shall be rated for operation on a 60 Hz, 120-volt, 20-ampere branch circuit. Device shall have nominal sensitivity to ground leakage current of five milliamperes and shall function to interrupt the current supply for any value of ground leakage current above five milliamperes on the load side of the device. Device shall have a minimum nominal tripping time of 1/30th of a second.
 - 2. Receptacle shall be rated 20 amperes, 125 volts for indoor use and shall be the standard duplex, three-wire, grounding type.
- F. Plates shall be 302 stainless steel with tamper-proof screws.
- G. Boxes shall be steel minimum 2-1/2" deep.
- H. Light Fixtures: The light fixtures shall be as described on the drawings or approved equal.



- I. Disconnect Switches shall be heavy-duty type, horsepower rated.
- J. Motor Starters:
 - 1. Manual motor starters shall be toggle-switch type with melting alloy thermal overload relay. Thermal units shall be one-piece construction and interchangeable. Starter shall be inoperative with thermal unit removed. Contacts shall be double break, silver alloy. Starters in finished areas shall be flush mounted over the light switch at 60" above finished floor. Starters shall be mounted behind stainless steel device plate and shall have adjacent pilot lights. Square D Class 2510 Type FS-1P-FL1 or approved equal. Starters in unfinished areas shall be surface mounted 60" above finished floor. Square D Class 2510 Type FG-5P or approved equal.
 - 2. Magnetic motor starters shall be combination circuit breaker or fused disconnect switch type, mounted in a common enclosure. Starters shall be three-pole with three melting alloy overload relays. Overload heaters shall be coordinated with Division 23. Thermal units shall be of one-piece construction and interchangeable. Starter shall be inoperative with any thermal unit removed. The disconnect operating handle shall be position indicating.
 - a. Provide a control device and pilot light on the cover of each combination starter. Control devices for motors with remote manual or automatic control shall be "hand-off-auto" switches. Control devices for locally controlled motors shall be "start-stop" pushbuttons.
 - b. 120-volt magnetic motor starters may consist of a circuit breaker or fused disconnect switch and a magnetic starter in separate enclosures mounted next to each other.
 - c. Control circuits shall operate at a maximum of 120 volts. Provide control transformers as required.
 - 3. Starters shall be mounted within NEMA-1 enclosures unless specified otherwise.
 - 4. All starters shall be lockable in the "off" position.
 - 5. Overload heaters shall be sized for the motor nameplate full-load amperes per the manufacturer's recommendations.
- K. Wiring Materials:
 - 1. Wiring shall be enclosed in electrical rigid galvanized steel, intermediate metal conduit, or electrical metallic tubing sized in accordance with code requirements for the conductors. Metal non-flexible conduit shall be used for feeders and emergency system circuits. Hospital grade Types MC or AC cable shall be permitted for normal power circuits where concealed in walls or ceilings and allowed by code.
 - a. Conduit fittings shall be steel compression type.
 - b. Terminations for all conduit shall have insulated bushings or insulated throat connectors in accordance with code requirements.
 - c. All conduits shall be substantially supported with approved clips or hangers spaced not to exceed ten feet on center. Minimum conduit size shall be 3/4".
 - d. Follow MMC standard for color coding conduit
 - 2. Surface Metal Raceway: UL 5 listed.



- a. Boxes and fittings for surface metal raceways shall be as recommended by the manufacturer.
 - b. Support clips for surface metal raceways shall be the concealed type, with attachment screws concealed behind the raceway.
3. Flexible Metal Conduit shall be used for all connections to motors and vibrating equipment and shall comply with Fed. Spec. WW-C-566.
 4. Liquid-Tight Flexible Metal Conduit shall consist of flexible steel conduit with a liquid-tight PVC jacket over the conduit.
 - a. Fittings shall incorporate a threaded grounding cone, a steel or plastic compression ring, and a gland for tightening.
 - b. Liquid-tight flexible metal conduit shall be used in damp or wet locations when flexible metal conduit would otherwise be used.
 - c. Liquid-tight flexible metal conduit shall not penetrate the roof or exterior walls, and shall not be installed in lengths exceeding 72" except where necessary for flexibility.
 5. All Wiring shall be type THW, XHHW, or THWN, UL labeled, copper conductors with 600-volt insulation, except as otherwise noted. Minimum size wire shall be No. 12 AWG.
 6. Types MC and AC Cable shall have minimum No. 12 AWG type THWN or XHHW insulated copper conductors with an internal bare or insulated copper ground wire. Comply with NEMA WC 70 for armored cable, Hospital-Grade Type AC.
 7. Fire Alarm Wiring: Wiring shall be in accordance with NEC Article 760, as shown on the drawings, and as recommended by the manufacturer of the fire alarm system. All wires shall be color-coded and installed in metal conduit. Conduit fill shall not exceed 40 percent of interior cross-sectional area. Number and size of conductors shall be as recommended by the fire alarm system manufacturer. Conduit shall be 1/2" minimum.
- L. Fire-Stop Material:
1. Fire-stopping material shall maintain its dimension and integrity while preventing the passage of flame, smoke, and gases under conditions of installation and use when exposed to the ASTM E 119 time-temperature curve for a time period equivalent to the rating of the assembly penetrated. Cotton waste shall not ignite when placed in contact with the non-fire side during the test. Fire-stopping material shall be noncombustible as defined by ASTM E 136; and in addition for insulation materials, melt point shall be a minimum of 1700°F for one-hour protection and 1850°F for two-hour protection.
 2. Seals for floor, exterior wall, and roof shall also be watertight.
- M. Circuit Breakers: Circuit breakers to be added to existing panelboards shall match existing circuit breakers.
- N. Grounding Conductors:
1. Grounding conductors shall be soft-drawn bare copper.
 2. Insulated grounding wires shall be UL and NEC approved types, copper, with THWN or XHHW insulation color identified green, except where otherwise shown on the drawings or specified.
 3. Wire shall not be less than shown on the drawings and not less than required by the NEC.



- O. Ground Clamps:
 - 1. Ground clamps shall be cast bronze or cast copper and shall be UL listed for grounding connections.
 - 2. Ground clamps shall be sized for the specific conductor and electrode to be clamped.
- P. Equipment Grounding Connections: Connections shall be of the compression type solderless connectors.
- Q. Fire Alarm System Components:
 - 1. The existing fire alarm system serving the building shall remain. Provide power supply, batteries, programming, common components, amplifiers, etc.as required for a fully functioning, code-compliant system expanded to serve the project area.
 - 2. Additional Fire alarm devices shall match with the existing system and generally comply with requirements of NFPA 72 except as modified and supplemented by this specification. All equipment shall be wired in accordance with the manufacturer's instructions.
 - 3. Voice/Tone Speakers:
 - a. UL 1480 listed.
 - b. High-Range Units: Rated 2 to 15 W.
 - c. Low-Range Units: Rated 1 to 2 W.
 - d. Mounting: Flush, semi-recessed, or surface mounted; bidirectional as indicated.
 - e. Matching Transformers: Tap range matched to the acoustical environment of the speaker location.
 - 4. Strobe lights shall meet the requirements of the ADA, UL Standard 1971 and shall meet the following criteria:
 - a. Strobes shall be multi-candela rated and intensity shall be field selectable.
 - b. The maximum pulse duration shall be 2/10 of one second. Clear Lexan lens in housing.
 - c. Strobe intensity shall meet the requirements of UL 1971.
 - d. The flash rate shall meet the requirements of UL 1971.
 - e. Strobes in the same area shall be synchronized.
 - 5. Audible/Visual Combination Devices:
 - a. Shall meet the audibility requirements specified herein for horns.
 - b. Shall meet the visibility requirements specified for strobes.
 - 6. Addressable Devices - General:
 - a. Addressable devices shall provide an address-setting means using rotary decimal switches.
 - b. Addressable devices shall use simple to install and maintain decade (numbered 0 to 9) type address switches. Devices which use a binary address or special tools for setting the device address, such as a dip switch are not an allowable substitute.



- c. Detectors shall be analog and addressable, and shall be capable of sensitivity adjustment through field programming of the system and automatically adjusted by the panel on a time-of-day basis.
 - d. Addressable smoke and thermal detectors shall provide dual (2) status LEDs. Both LEDs shall flash under normal conditions, indicating that the detector is operational and in regular communication with the control panel, and both LEDs shall be placed into steady illumination by the control panel, indicating that an alarm condition has been detected.
 - e. Using software in the FACP, detectors shall automatically compensate for dust accumulation and other slow environmental changes that may affect their performance. The detectors shall be listed by UL as meeting the calibrated sensitivity test requirements of NFPA Standard 72, Chapter 7.
 - f. The detectors shall be ceiling-mount and shall include a separate twist-lock base which includes a tamper proof feature.
 - g. The following auxiliary functions shall be provided where indicated on the drawings, and where required by code:
 - 1) Form-C Relay base rated 30VDC, 2.0A
 - 2) Auxiliary relay for HVAC shutdown.
 - h. The detectors shall provide a test means whereby they will simulate an alarm condition and report that condition to the control panel. Such a test may be initiated at the detector itself (by activating a magnetic switch) or initiated remotely on command from the control panel.
 - i. Detectors shall also store an internal identifying type code that the control panel shall use to identify the type of device (ION, PHOTO, THERMAL).
7. Addressable Pull Box (manual station):
- a. Addressable pull boxes shall, on command from the control panel, send data to the panel representing the state of the manual switch and the addressable communication module status. They shall use a key operated test-reset lock, and shall be designed so that after actual emergency operation, they cannot be restored to normal use except by the use of a key. Units shall be supplied with plastic tamper covers that produce an audible alarm when lifted.
 - b. All operated stations shall have a positive, visual indication of operation.
 - c. Manual stations shall be constructed of metal with clearly visible operating instructions provided on the cover. The word FIRE shall appear on the front of the stations in raised letters.
8. Intelligent Photoelectric Smoke Detector:
- a. The detectors shall use the photoelectric (light-scattering) principal to measure smoke density and shall, on command from the control panel, send data to the panel representing the analog level of smoke density.
9. Intelligent Thermal Detectors:
- a. Thermal detectors shall be intelligent addressable devices rated at 190 degrees Fahrenheit (except as otherwise indicated) and have a rate-of-rise element rated at



15 degrees F (9.4 degrees C) per minute. It shall connect via two wires to the fire alarm control panel signaling line circuit.

10. Intelligent Duct Smoke Detector:

- a. The duct smoke detector housing shall accommodate an intelligent ionization detector that provides continuous analog monitoring and alarm verification from the panel.
- b. When sufficient smoke is sensed, an alarm signal is initiated at the FACP, and appropriate action taken to change over air handling systems to help prevent the rapid distribution of toxic smoke and fire gases throughout the areas served by the duct system.
- c. Provide sampling tubes as required by the ductwork.
- d. Provide remote test/indicator stations where indicated. Provide engraved nameplate with HVAC unit designation for each station.
- e. The detector shall use the photoelectric principal to sense products-of-combustion and report the measured level of such products to the control panel.

11. Provide addressable modules as required to monitor and control non-addressable devices such as solenoid valves, water flow switches, etc. indicated on the drawings and where required to provide a complete and operational system in accordance with the intent of the drawings and specifications. All shall be monitored separately.

12. Sprinkler and Standpipe Valve Supervisory Switches:

- a. Valve supervisory switches shall be furnished and installed under Div. 21 and wired and connected under this section.

13. Conduit and Wire:

- a. Wiring shall be in accordance with NEC Article 760, as shown on the drawings, and as recommended by the manufacturer of the fire alarm system. All wires shall be color-coded. Exposed wiring in unfinished areas shall be installed in metal conduit. Conduit fill shall not exceed 40 percent of interior cross-sectional area. Number and size of conductors shall be as recommended by the fire alarm system manufacturer. Conduit shall be 1/2" minimum.
- b. Wires in junction boxes and cabinets shall be permanently tagged and identified with tags.

14. Terminal Boxes, Junction Boxes and Cabinets:

- a. Shall be galvanized steel in accordance with UL.
- b. Paint red and identify with white markings as "Fire".

15. Junction boxes shall have a volume 40 percent greater than required by the NEC. Minimum sized wire shall be considered as 14 AWG for calculation purposes.

R. Telecommunications

1. Performance Requirements



- a. General Performance: Horizontal cabling system shall comply with transmission standards in TIA/EIA-568-B.1 when tested according to test procedures of this standard.
 - b. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1) Flame-Spread Index: 25 or less.
 - 2) Smoke-Developed Index: 50 or less.
 - c. Grounding: Comply with J-STD-607-A.
2. UTP Cable: 100-ohm, four-pair UTP, formed into 25-pair, binder groups covered with a blue thermoplastic jacket.
- a. Comply with ICEA S-90-661 for mechanical properties.
 - b. Comply with TIA/EIA-568-B.1 for performance specifications.
 - c. Comply with TIA/EIA-568-B.2, Category 6.
 - d. Listed and labeled by an NRTL acceptable to authorities having jurisdiction as complying with UL 444 and NFPA 70 for the following types:
 - 1) Communications, Plenum Rated: Type CMP, complying with NFPA 262.
3. UTP Cable Hardware:
- a. General Requirements for Cable Connecting Hardware: Comply with TIA/EIA-568-B.2, IDC type, with modules designed for punch-down caps or tools. Cables shall be terminated with connecting hardware of same category or higher.
 - b. Patch Panel: Modular panels housing multiple-numbered jack units with IDC-type connectors at each jack for permanent termination of pair groups of installed cables.
 - 1) Number of Jacks per Field: One for each four-pair UTP cable indicated, plus spares and blank positions adequate to suit specified expansion criteria.
 - c. Jacks and Jack Assemblies: Modular, color-coded, eight-position modular receptacle units with integral IDC-type terminals.

2.2 NURSE CALL SYSTEM COMPONENTS

- A. Bed Stations (bed jack) shall be single-bed stations with call button, compatible with existing Rauland Series 5 system (model No. NCBED5)
- B. Patient Stations (enhanced single bed) shall be compatible with existing Rauland Series 5 system (model No. 353001)
- C. Medical Alert Station (med jack) shall be compatible with existing Rauland Responder Series 5 system (model No. 354018)



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- D. Bath Stations (pull cord with audio) shall be compatible with existing Rauland Responder Series 5 system (model No. 354000) with a replaceable PVC pull-cord, and an easily cleaned surface. The pull-cord shall have a large, easy to pull plastic “bell” attached. This station may be configured to be only cancelable within the room and not cancelable from the nurse console.
- E. Staff Terminal shall be compatible with Rauland Responder Series 5 system (model No. 351310).
- F. Corridor ceiling lights shall match existing and be compatible with existing Rauland Responder Series 5 system. (model No. 352010)



PART 3 - EXECUTION

3.1 INSTALLATION

A. General:

1. All work shall be in accordance with the National Electrical Code's requirements as amended to date, with the local electric utility company's rules, the Fire Underwriter's requirements, and all local, state and federal laws and regulations.
2. In general, all wiring in finished areas shall be concealed in walls or above ceilings. Where wiring cannot be concealed due to existing construction, exposed wiring shall be installed in conduit or surface metal raceway as indicated on the drawings. Exposed wiring shall not be installed in finished areas without prior written authorization from the Engineer.
3. Conduits shall be of sizes required by the National Electrical Code. Exposed conduits shall be installed with runs parallel or perpendicular to walls and ceiling, with right-angle turns consisting of bends, fittings, or outlet boxes. No wire shall be installed until work that might cause damage to wires or conduits has been completed. Conduits shall be thoroughly cleaned of water or other foreign matter before wire is installed.
4. Where conduits, wireways and other electrical raceways pass through fire partitions, fire walls, or floor, install a fire-stop that provides an effective barrier against the spread of fire, smoke and gases. Fire-stop material shall be packed tight and completely fill clearances between raceways and openings. Floor, exterior wall, and roof seals shall also be made watertight.
5. Where raceways puncture roof, coordinate with Division 07.
6. Surface metal raceways shall be sized as required by the National Electrical code and as recommended by the manufacturer. Surface metal raceways shall be installed with runs parallel or perpendicular to walls and ceiling. Changes in direction shall only be made at device box locations or with fittings designed for the particular application. Installation shall be as visually unobtrusive as possible:
 - a. Surface metal raceways shall be painted to match wall finishes.
7. All splices shall be mechanically and electrically perfect, using crimp type wire connectors.
8. Provide all disconnect switches required by the N.E.C.
9. Locate motor starters as shown on drawings.
10. Mount disconnect switches and starters at a height of 60" above finished floor unless otherwise noted.
11. Provide all necessary hardware for mounting motor starters.
12. Revise existing panelboard directories. Furnish new cards as needed. Directories shall be typewritten or printed using a computer.
13. Circuit numbers indicated on the drawings are the actual numbers assigned to the circuit in the panelboard and shall not be varied without the consent of the Architect/Engineer.
14. Feeder circuit wiring shall be in conduit or EMT.
15. All wiring in outside walls shall be in conduit or EMT.
16. All wiring in masonry walls shall be in conduit or EMT.
17. In general, conductors shall be the same size from the last protective device to the load and shall have an ampacity the same as or greater than the ampacity of the protective device where the wire size is not shown on the drawings. Use the 60°C ampacity rating for wire

sizes No. 12 through No. 1. For 120V circuits, home runs longer than 100 feet shall be minimum No. 10 AWG, longer than 200 feet shall be minimum No. 8 AWG.

B. Grounding:

1. The entire electrical system shall be permanently and effectively grounded in accordance with Code requirements.
2. Connections to junction boxes, equipment frames, etc., shall be bolted.
3. Conduit Systems:
 - a. Ground all metallic conduit systems.
 - b. Conduit systems shall contain a grounding conductor sized per NEC Table 250-122 or as shown on the drawings. Increase conduit size where necessary to accommodate the grounding conductor.
4. Feeders and Branch Circuits: Install green grounding conductors with all feeders and branch circuits.
5. Lighting Fixtures: Conduits shall not be used for grounding fixtures. Green equipment grounding conductor must be bonded to all fixtures.

C. Alterations:

1. The Contractor shall study all drawings and specifications, visit the site, and acquaint himself with the existing conditions and the requirements of the plans and specifications. No claim will be recognized for extra compensation due to the failure of the Contractor to familiarize himself with the conditions and extent of the proposed work.
2. The Contractor shall execute all alterations, additions, removals, relocations or new work, etc., as indicated or required to provide a complete installation in accordance with the intent of the drawing and specifications.
3. Reconnect existing circuits to remain. Remove existing equipment to be discontinued.
4. Any existing work disturbed or damaged by the alterations or new work shall be repaired or replaced to the Engineer's satisfaction.
5. Equipment relocated or removed and reinstalled shall be cleaned and repaired to a first-class condition before reinstallation.

D. Fire Alarm System Installation:

1. Installation shall be in accordance with the NEC Article 760, and the Americans with Disabilities Act and as shown on the drawings.
2. Installation shall be as shown on the drawings and on the manufacturer's wiring diagrams and shall be performed under the supervision of a factory-trained representative.
3. All wiring shall be one wire per terminal to insure supervision. Crimp-on connectors shall not be used.
4. All wiring shall be color-coded and tagged and shall be checked for continuity, short circuiting, and resistance to ground.
5. All fire alarm wiring shall be installed in raceways.
6. A factory-trained technician shall be present during testing and final inspection and shall instruct the Owner in system operation.
7. Splices and taps: Use numbered terminal strips in junction, pull, and outlet boxes; cabinets; or equipment enclosures where circuit connections are made.



8. Mounting Heights:
 - a. Manual Stations: 48" AFF
 - b. Visual Units: 80" above the highest floor level within the space or 6 in (152 mm) below the ceiling, whichever is lower.
9. Tests:
 - a. Provide the service of a competent, factory-trained engineer or technician authorized by the manufacturer of the fire alarm equipment to technically supervise and participate during all of the adjustments and tests for the system. Make all adjustments and tests in the presence of the Owner's Representative.
 - b. When the systems have been completed and prior to the final inspection, furnish testing equipment and perform the following tests in the presence of the Owner's Representative.
 - 1) Before energizing the cables and wires, check for correct connections and test for short circuits, ground faults, continuity, and insulation.
 - 2) Test the insulation on all installed cable and wiring by standard methods as recommended by the equipment manufacturer.
 - 3) Open fire alarm detector circuits to see if trouble signal actuates.
 - 4) Check installation, supervision, operation and sensitivity of smoke detectors as recommended by the manufacturer to ascertain that they will avoid false alarm signals and will function as specified.
 - 5) Perform any other tests recommended by the equipment manufacturer.
10. Final Inspection: At the final inspection a factory-trained representative of the manufacturer of the existing equipment shall demonstrate that the systems function properly in every respect. The demonstration shall be made in the presence of the Architect/Engineer.
- E. Continuity of Services: Arrange to execute work at such times and in such locations to provide uninterrupted service to the building or any of its sections. If necessary, temporary power shall be installed to provide for this condition. Authorization for interrupting service shall be obtained in writing from the Owner. Any interruption of normal supply shall be performed during an overtime period to be scheduled with the Owner. Cost for overtime work shall be included in the bid.
- F. Identification: Provide a machine-printed label on the faceplate of each receptacle indicated source panel and branch circuit. Provide tags on each end of all pulled wires giving location of other end. Provide phenolic nameplates for all panelboards, motor starters, disconnect switches (except switches located at motors), and duct smoke detector remote test/alarm-indicating stations.
- G. Record Drawings: The Contractor shall keep on the job a set of prints showing any changes to the installation. These shall be given to the Engineer at the completion of the work.
- H. Testing and Adjusting:



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1. The entire installation shall be free from short-circuits and improper grounds. Tests shall be made in the presence of the Engineer or his representatives.
 2. Each individual lighting circuit shall be tested at the panel; and in testing for insulation resistance to ground, the lighting equipment shall be connected for proper operation. In no case shall the insulation resistance be less than that required by the National Electrical Code. Failures shall be corrected in a manner satisfactory to the Architect/Engineer.
 3. Each system shall be completely tested and shall be adjusted for proper operation as required by the Engineer.
- I. Instruction: Furnish the services of a competent instructor for not less than four hours on site for instructing personnel in the operation and maintenance of the fire alarm system.

END OF SECTION 261000