

Date: 11/14/2019

Filename: ...:\001\HIGHWAY\MSTA - Title.dgn



THE GOLD STAR  
MEMORIAL HIGHWAY

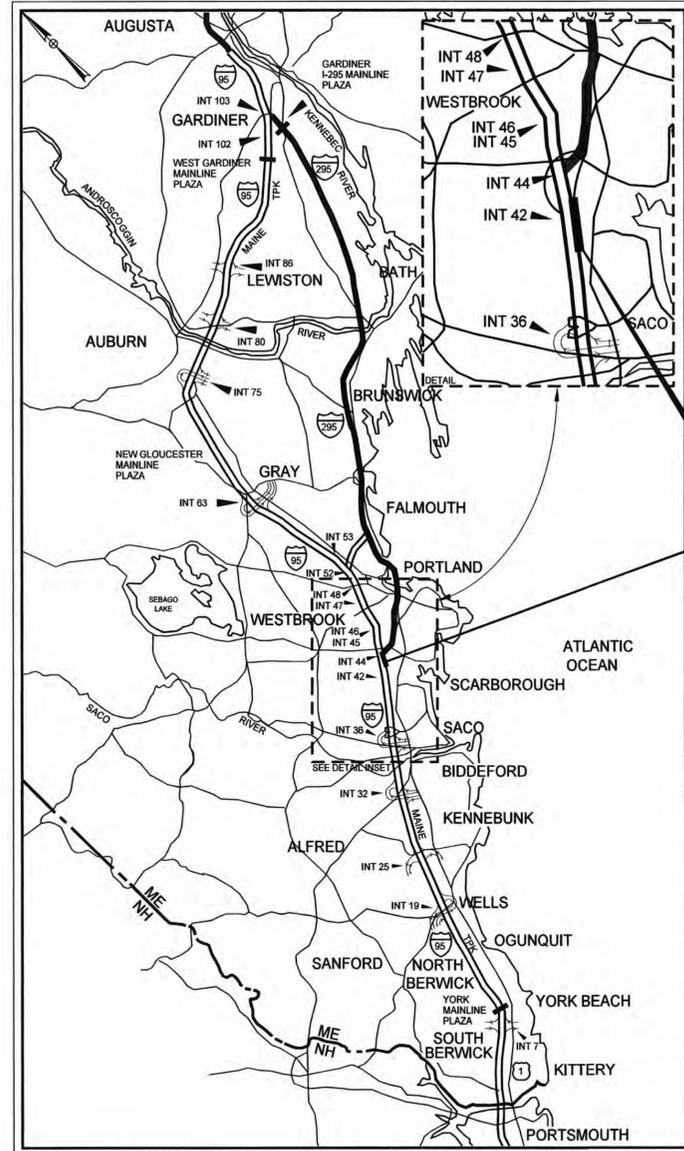
# MAINE TURNPIKE AUTHORITY

DANIEL E. WATHEN, CHAIR  
ROBERT D. STONE, VICE CHAIR  
MICHAEL J. CIANCHETTE, MEMBER  
ANN R. ROBINSON, MEMBER  
THOMAS J. ZUKE, MEMBER  
BRUCE A. VAN NOTE, MEMBER EX-OFFICIO

S. PETER MILLS, EXECUTIVE DIRECTOR

## CONTRACT 2019.16

### EXIT 44 BUILDING RENOVATION MM 44.3



EXIT 44  
BUILDING RENOVATION  
(MM 44.3)

LOCATION MAP

INDEX OF SHEETS	
HIGHWAY	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	SITE PLAN
3-5	ARCHITECTURAL PLANS
6-8	MECHANICAL PLANS
9-11	ELECTRICAL PLANS

CONTRACT 2019.16



SHEETS 6-8

CHRIS PIIK, P.E.  
STANTEC

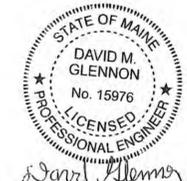


11/14/19

DATE

SHEET 2  
SHEETS 9-11

DAVID GLENNON, P.E.  
STANTEC



11/14/19

DATE

SHEETS 3-5

MICHAEL F. HAYS, R.A. - PRINCIPAL  
GRANT HAYS



11/14/19

DATE

APPROVED:

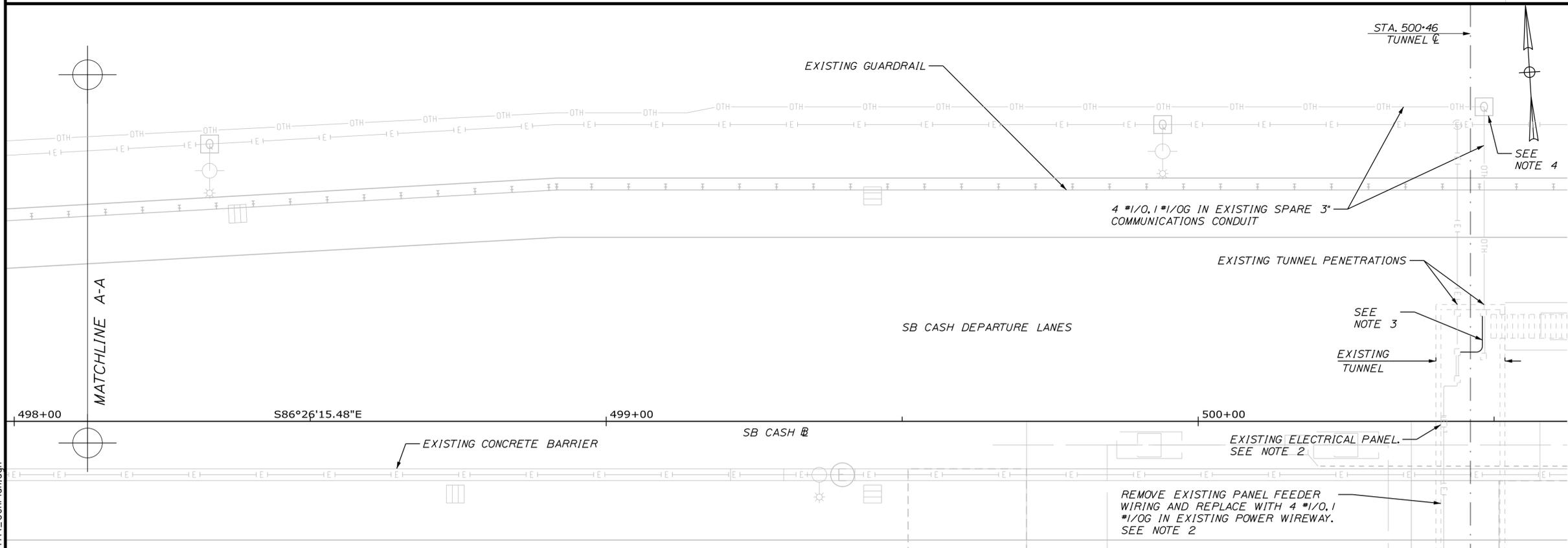
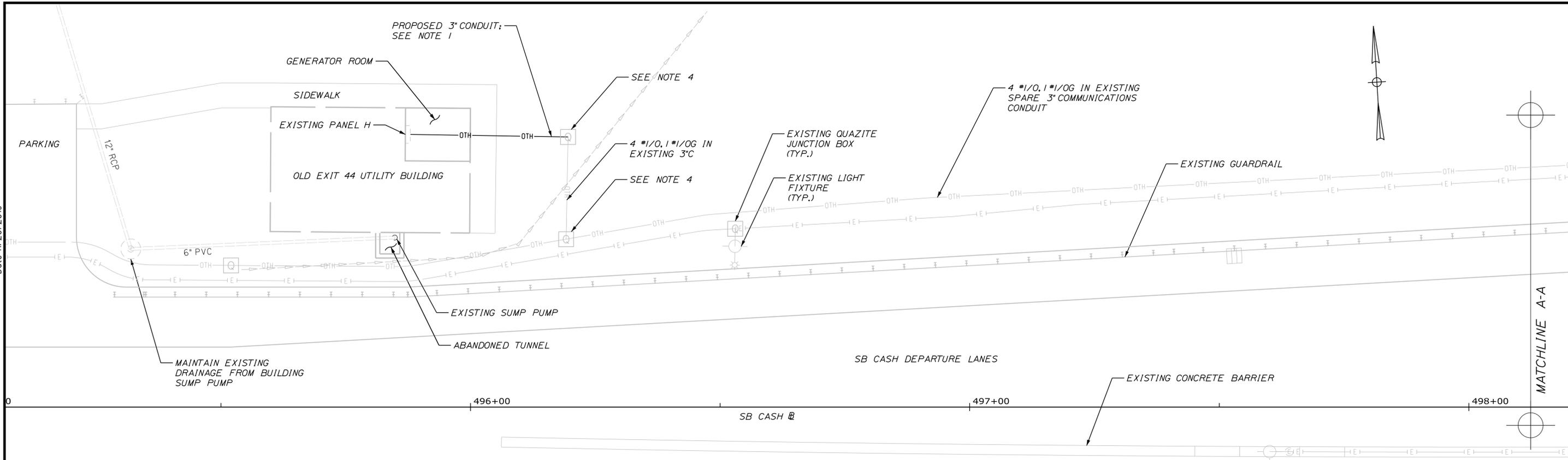
MAINE TURNPIKE AUTHORITY

*Peter S. Merfeld*  
PETER S. MERFELD, P.E. - CHIEF OPERATIONS OFFICER  
19 Nov 19  
DATE

*William Yates III*  
WILLIAM YATES III - DIRECTOR OF INFORMATION  
SERVICES AND COMMUNICATIONS  
19NOV19  
DATE



Date: 11/20/2019



- NOTES:**
- CONTRACTOR SHALL ROUTE NEW 3", 4 \*1/0, 1 \*1/0 G, UNDER CONCRETE SIDEWALK TO EXISTING PANEL H IN GENERATOR ROOM. BUILDING PENETRATION SHALL BE ABOVE GRADE. CONTRACTOR SHALL REPLACE SIDEWALK IN-KIND OR TEMPORARILY REMOVE CONCRETE SLAB. WORK SHALL BE INCIDENTAL TO ITEM 800.02 BUILDING RENOVATION.
  - EXISTING PANEL DPI. REMOVE EXISTING MAIN BREAKER AND REPLACE WITH 100A, 3 POLE MAIN BREAKER. REMOVE 3 SPARE SINGLE POLE BRANCH CIRCUIT BREAKERS AND INSERT A NEW 60A, 3 POLE BRANCH CIRCUIT BREAKER. LABEL AS "STORAGE BUILDING PANEL H". REMOVE DPI PANEL FEEDER WIRING BACK TO PANEL DP IN THE ADMINISTRATION BUILDING AND REPLACE WITH 4\*1/0, 1\*1/0G. COORDINATE WITH MTA TOLL SYSTEMS/ITS MANAGER. REPLACE THE BRANCH CIRCUIT BREAKER IN PANEL DP FEEDING PANEL DPI WITH A NEW 100A, 3 POLE BREAKER AND CONNECT THE NEW FEEDER TO THIS CIRCUIT. COORDINATE WITH MTA BEFORE SHUTTING OFF POWER TO EXISTING PANEL IN TUNNEL. THE DISTANCE OF THIS FEEDER RUN FROM PANEL DP TO PANEL DPI IS APPROXIMATELY 200'. REPLACEMENT CIRCUIT BREAKERS SHALL MATCH EXISTING IN ALL RESPECTS, INCLUDING SHORT CIRCUIT RATING.
  - CUT EXISTING SPARE 3" COMMUNICATIONS CONDUIT SHORT OF THE EXISTING COMMUNICATIONS WIREWAY AND EXTEND TO THE EXISTING POWER WIREWAY CONNECTED TO PANEL DPI. PLUG EXISTING PENETRATION TO THE COMMUNICATIONS WIREWAY. EXTEND 4\*1/0, 1\*1/0G TO EXISTING PANEL DPI THROUGH THE EXISTING POWER WIREWAY AND CONNECT TO THE NEW 60A 3 POLE CIRCUIT.
  - PROVIDE REPLACEMENT HANDHOLE COVER WITH LABEL "ELECTRICAL/COMMUNICATIONS". MATCH EXISTING COVER IN ALL RESPECTS.

Filename: ...00.HIGHWAY\MSTA\GenPlan.dgn

Scale: 10 0 10 20  
Scale of Feet

No.	Revision	By	Date

Designed by:

**Stantec**

CONSULTANT PROJECT MANAGER:

	By	Date		By	Date
Designed	TJM	11/19	Checked	DMG	11/19
Drawn	EJB	11/19	In Charge of	GAE	11/19

STANTEC CONSULTING SERVICES INC.  
482 PAYNE ROAD  
SCARBOROUGH, ME 04074  
TEL (207) 887-3448  
FAX (207) 883-3376

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER:

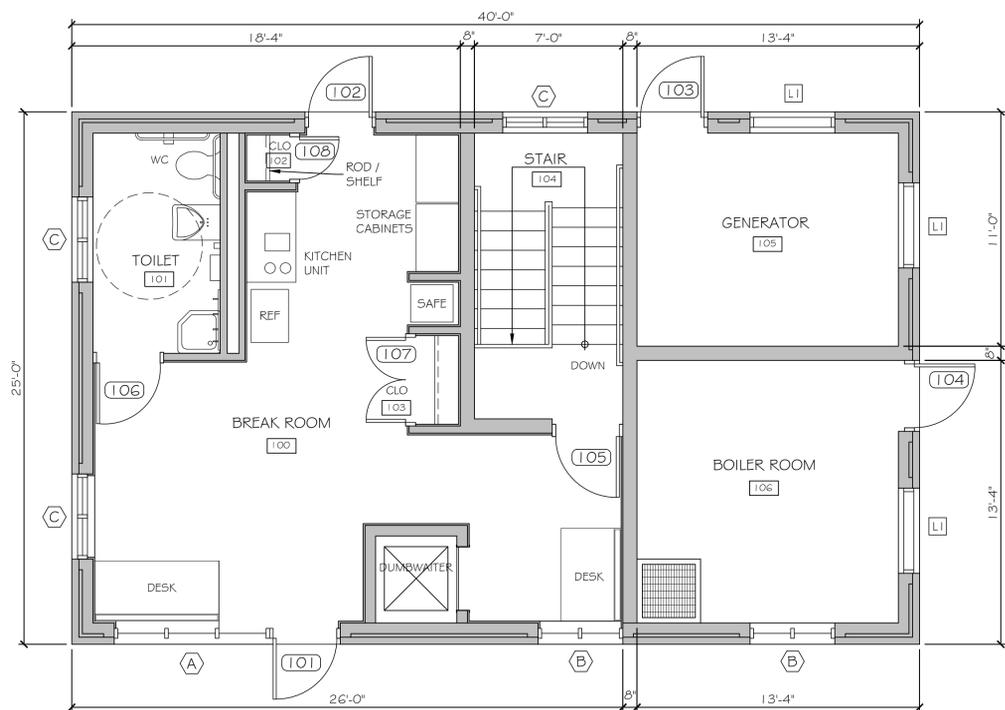
**EXIT 44 BUILDING RENOVATION**

**SITE PLAN**

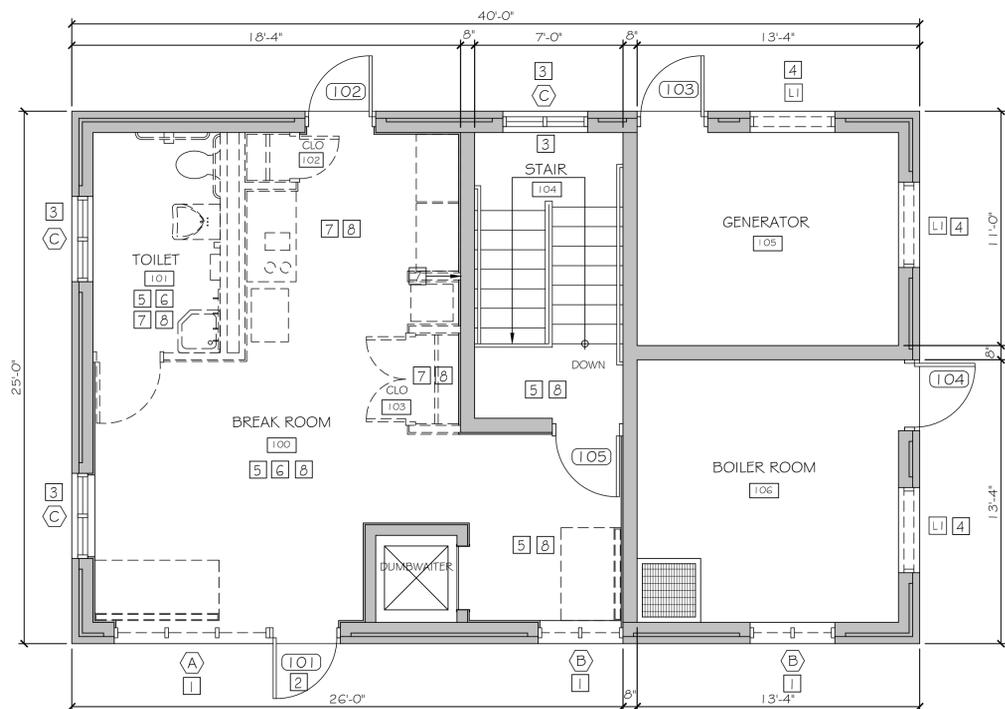
SHEET NUMBER: GP-1

CONTRACT: 2019.16

2 OF 11

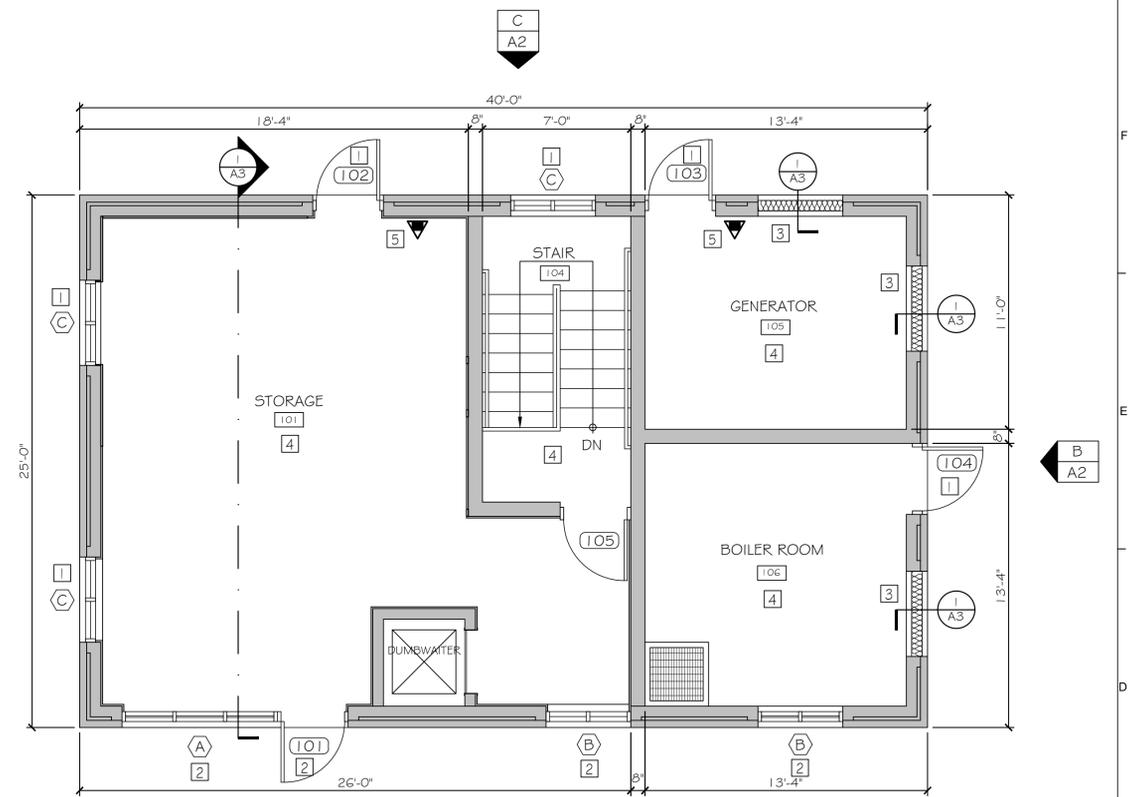


**EXISTING FLOOR PLAN**  
SCALE: 1/4" = 1'-0"



**DEMOLITION FLOOR PLAN**  
SCALE: 1/4" = 1'-0"

- NEW WORK NOTES LEGEND**
- 1 INSTALL PRIVACY FILM AT INSIDE FACE OF EXISTING GLASS (WINDOWS / DOORS).
  - 2 INSTALL INSULATED METAL PANEL AT EXISTING WINDOWS AND DOORS.
  - 3 INSTALL INFILL WALLS AT ALL REMOVED LOUVER MASONRY OPENINGS.
  - 4 PATCH ALL VOIDS AT ENTIRE FIRE RATED SHEETROCK CEILING WITH UL FIRE RATED PENETRATION ASSEMBLIES AT EXISTING 1 HOUR RATED SHEETROCK / ROOF TRUSS ASSEMBLY.
  - 5 INSTALL NEW FIRE EXTINGUISHER w/ BRACKET.



**NEW WORK FLOOR PLAN**  
SCALE: 1/4" = 1'-0"

- DEMOLITION NOTES LEGEND**
- 1 REMOVE EXISTING INSULATED GLASS & WINDOW TREATMENT. INSTALL NEW INSULATED PANELS.
  - 2 REMOVE EXISTING INSULATED GLASS AND EXTERIOR HARDWARE. INSTALL NEW INSULATED PANELS. INSTALL BLANK PLATES AT REMOVED HARDWARE.
  - 3 REMOVE EXISTING WINDOW TREATMENT. INSTALL WINDOW FILM AT EXISTING GLASS.
  - 4 REMOVE EXISTING LOUVER. PREPARE OPENING FOR NEW INFILL PANEL; SEE PLAN.
  - 5 REMOVE EXISTING SUSPENDED CEILING IN ITS ENTIRETY. PATCH 1 HR FIRE RATED GWB CEILING AT UNDERSIDE OF ROOF TRUSSES AS REQUIRED FOR NEW 1 HR FIRE RATING CONTINUITY.
  - 6 REMOVE ALL FIXTURES, ACCESSORIES, SHELVING, RODS AND RELATED APPURTENANCES. PATCH REMAINING FINISHES TO MATCH ADJACENT PARTITION MATERIAL.
  - 7 REMOVE PARTITIONS, DOORS, FRAMES AND RELATED BRACING. PATCH REMAINING SURFACES TO MATCH EXISTING ADJACENT MATERIAL.
  - 8 REMOVE OFFICE FURNITURE, APPLIANCES, EQUIPMENT, SAFE, CABINETS, COUNTERS, AND ALL PRE-DEMOLITION DEBRIS AT ENTIRE FIRST FLOOR OF BUILDING.

**CODE ANALYSIS**

NFPA 101 LIFE SAFETY CODE - 2015 Edition		2015 INTERNATIONAL BUILDING CODE	
Building Classification:	Storage (1,000 sf)	Use Group Classification:	Storage (5-1) 1,000 sf
Construction Type:	V000	Occupant Loads:	300 sf/occupant @ Storage = 4 occupants
Hazard Classification:	Ordinary Hazard	Building Limitations:	5B
Occupant Loads:	Storage - Not applicable	Construction Type:	407 / 1 Story above grade plane
Minimum Headroom:	7'-6" at occupied areas	Maximum Height:	9,000 sf
Building Uses:	Business	Maximum Area / Floor:	
Max. Allowable Travel Distance:	20'	Fire Resistance Ratings:	
Max. Allowable Common Path:	50'	Structural Frame:	None
Max. Dead End Corridor Length:	50'	Load Bearing Exterior Walls:	None
Minimum Egress Corridor Width:	36"	Load Bearing Interior Walls:	None
Minimum Number of Required Exits:	1	Mechanical Rooms:	1 hour
Minimum Egress Door Width:	36"	Exit Corridors:	None
Exit Lighting:	Required	Roof/Floor Structure:	None
Emergency Lighting:	Not Required	Minimum Number of Exits:	1 - less than 30 occupants
Fire Alarm/Detection System:	Not Required	Maximum Exit Travel Distance:	200'
Fire Sprinkler System:	Not Required	Maximum Dead End Corridor Length:	20'
Portable Fire Extinguishers:	Required	Maximum Common Travel Path:	100' - under 30 occupants
		Minimum Corridor Width:	36"
		Fire Alarm/Detection System:	Not Required
		Fire Sprinkler System:	Not Required
		Portable Fire Extinguishers:	Required
		Exit Lights:	Required
		Emergency Lighting:	Required
		Building Live Loads:	
		Storage:	125 psf
		Corridors:	80 psf

End of Analysis

Scale:

No.	Revision	By	Date

Designed by:

Michael F. Hays, RA

By	Date	By	Date
Designed: MFH	11/14/19	Checked: MFH	11/14/19
Drawn: MGK	11/14/19		

ARCHITECTURE & INTERIOR DESIGN  
P.O. BOX 6179 FALMOUTH MAINE 04105  
207.871.5900 www.granthays.com

MTA PROJECT MANAGER: RALPH NORWOOD, IV, PE, PTOE

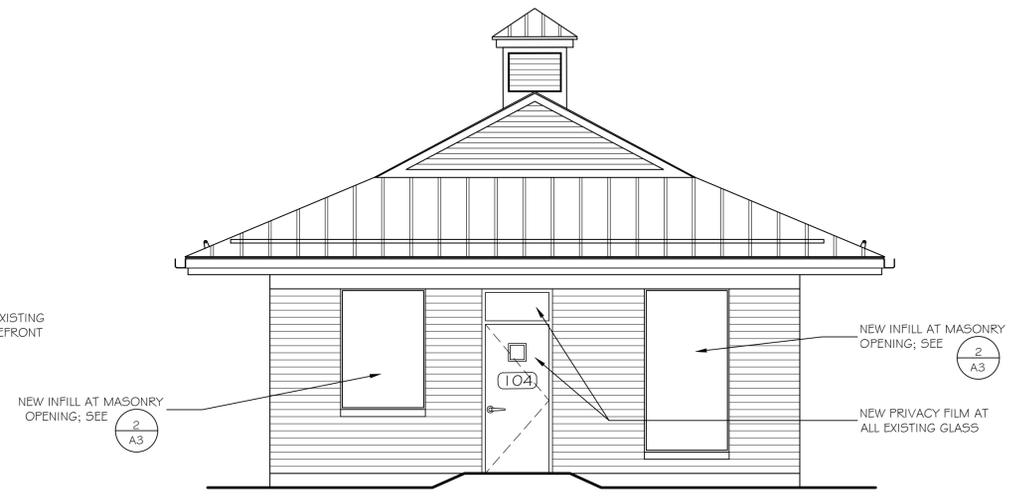
**EXIT 44**  
**BUILDING RENOVATION**  
**EXISTING CONDITIONS/DEMOLITION PLANS**

SHEET NUMBER: A-1  
3 OF 11

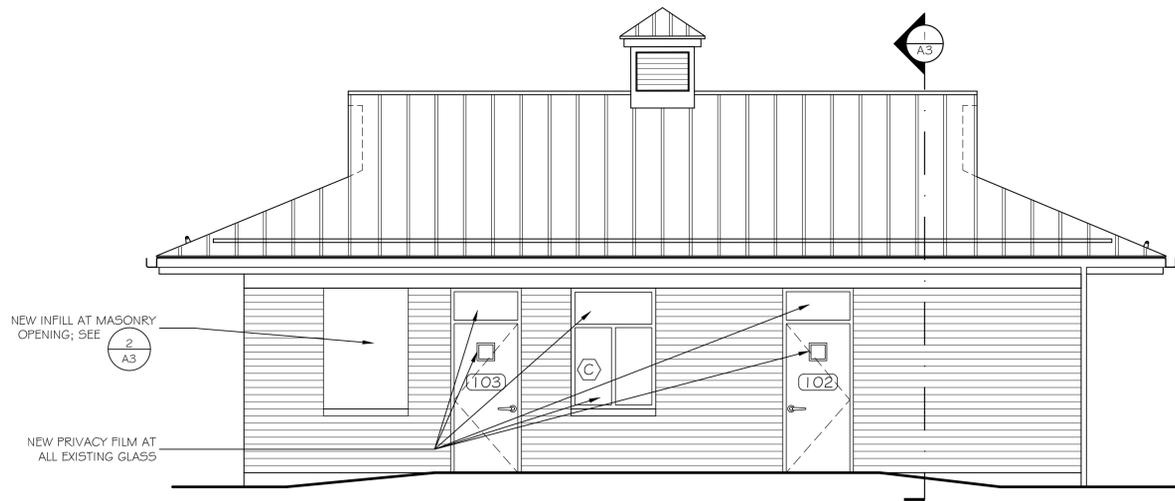
CONTRACT: 2019.16



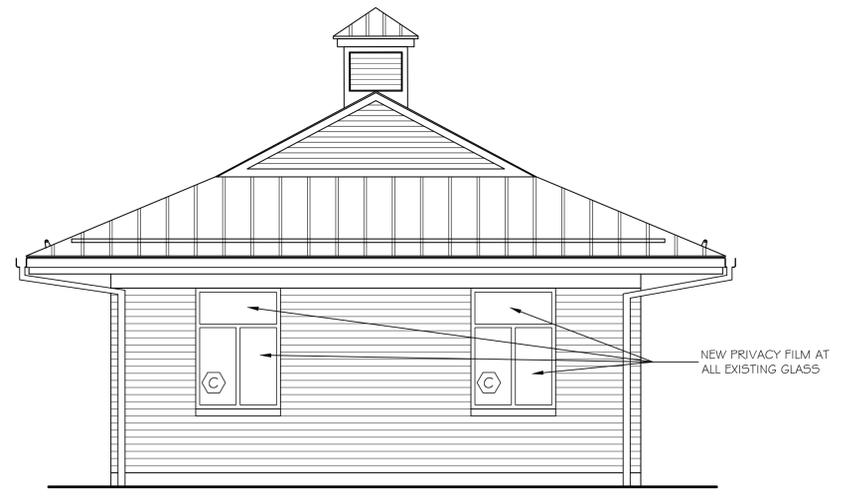
**A** FRONT ELEVATION  
SCALE: 1/4" = 1'-0"



**B** RIGHT ELEVATION  
SCALE: 1/4" = 1'-0"



**C** REAR ELEVATION  
SCALE: 1/4" = 1'-0"



**D** LEFT ELEVATION  
SCALE: 1/4" = 1'-0"

Scale:

Designed by:

Michael F. Hays, RA



GRANT HAYS  
ASSOCIATES

ARCHITECTURE & INTERIOR DESIGN  
P.O. BOX 6179 FALMOUTH MAINE 04105  
207.871.5900 www.granthays.com



THE GOLD STAR  
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: RALPH NORWOOD, IV, PE, PTOE

EXIT 44  
BUILDING RENOVATION  
BUILDING ELEVATIONS

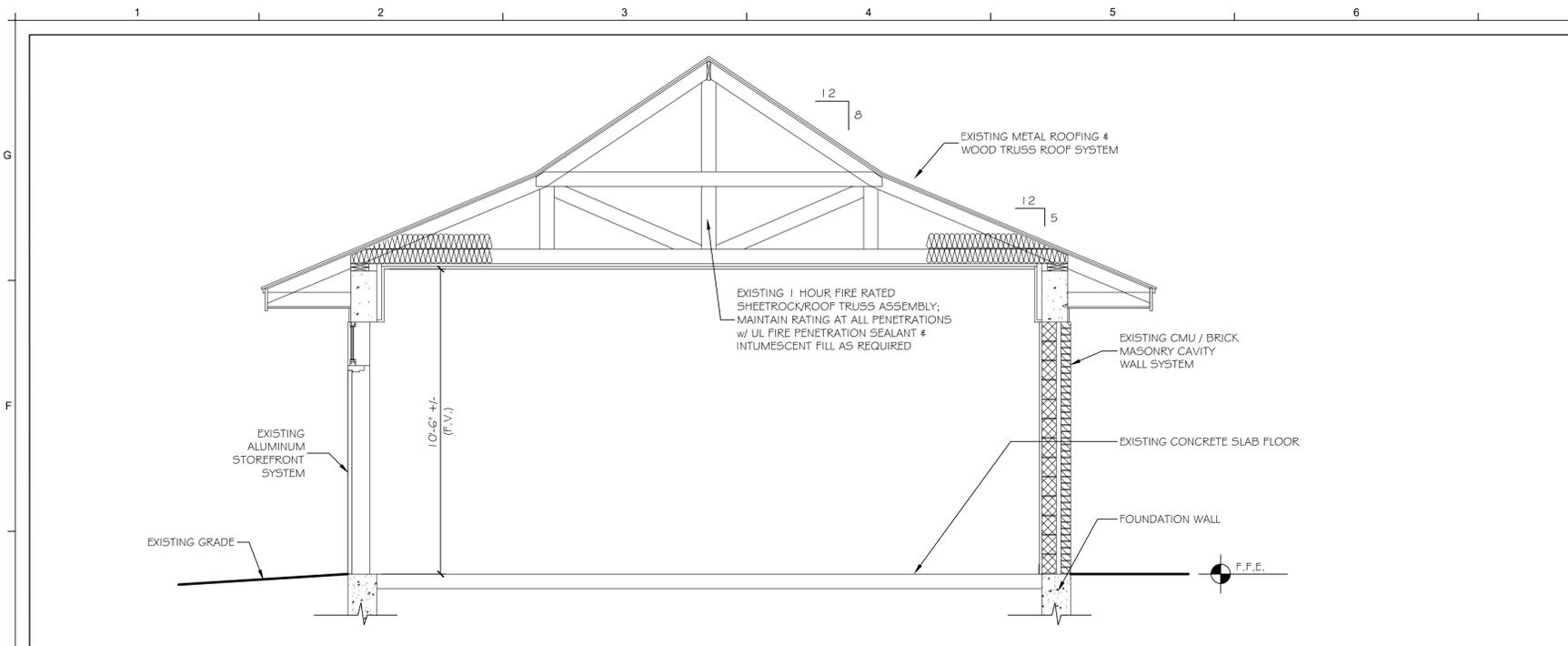
CONTRACT: 2019.16

SHEET NUMBER: A-2

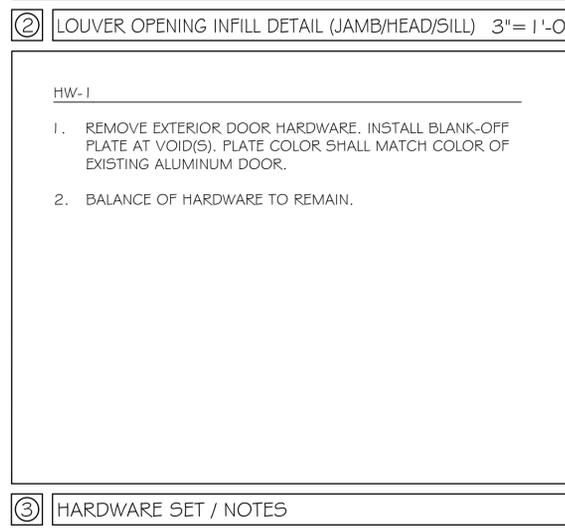
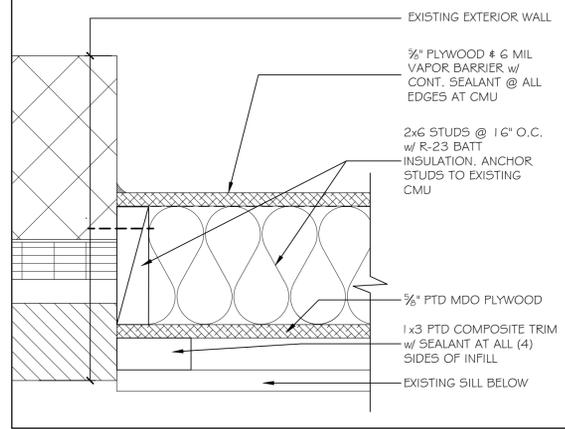
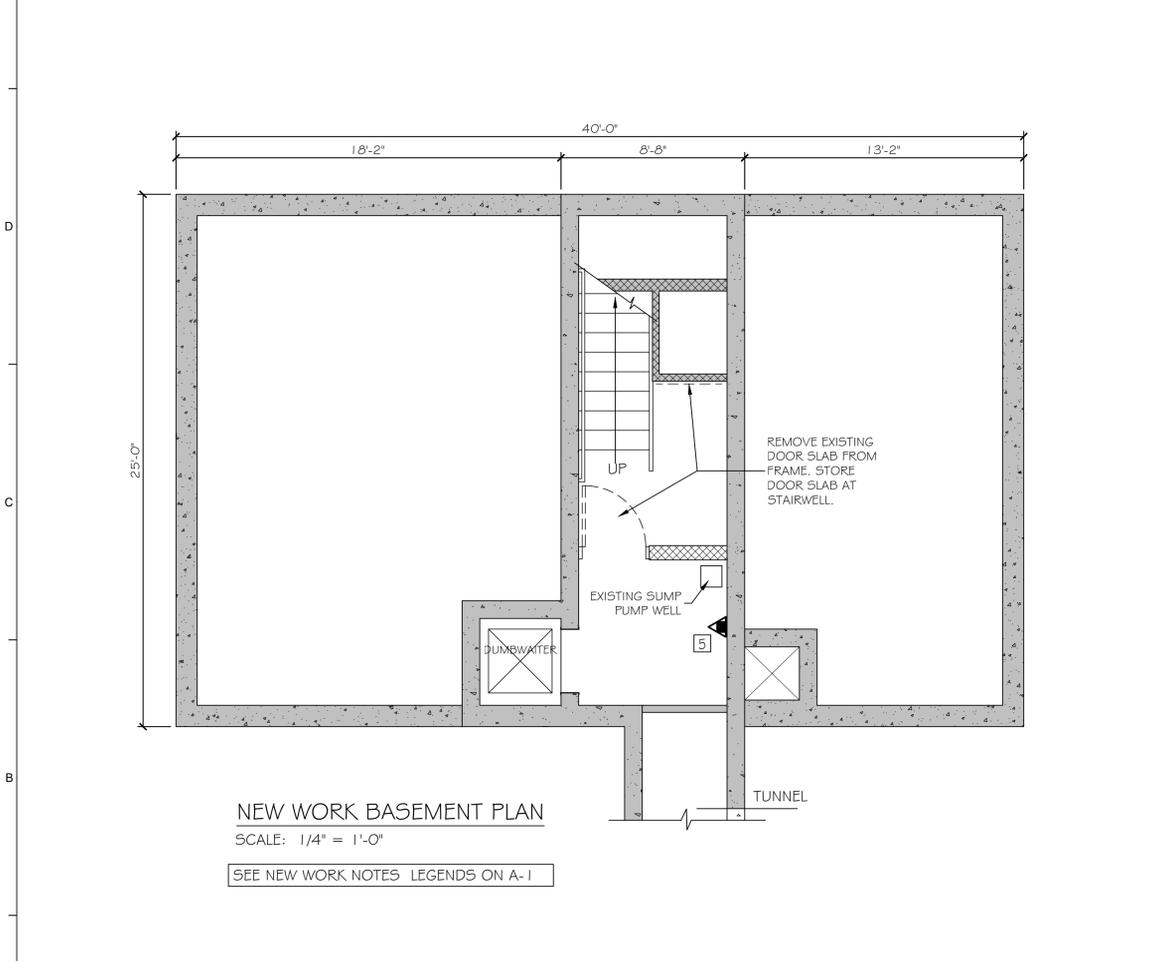
4 OF 11

No.	Revision	By	Date

By	Date	By	Date
Designed: MFH	11/14/19	Checked: MFH	11/14/19
Drawn: MGK	11/14/19		



① INTERIOR PARTITION 3/8" = 1'-0"



### DOOR SCHEDULE

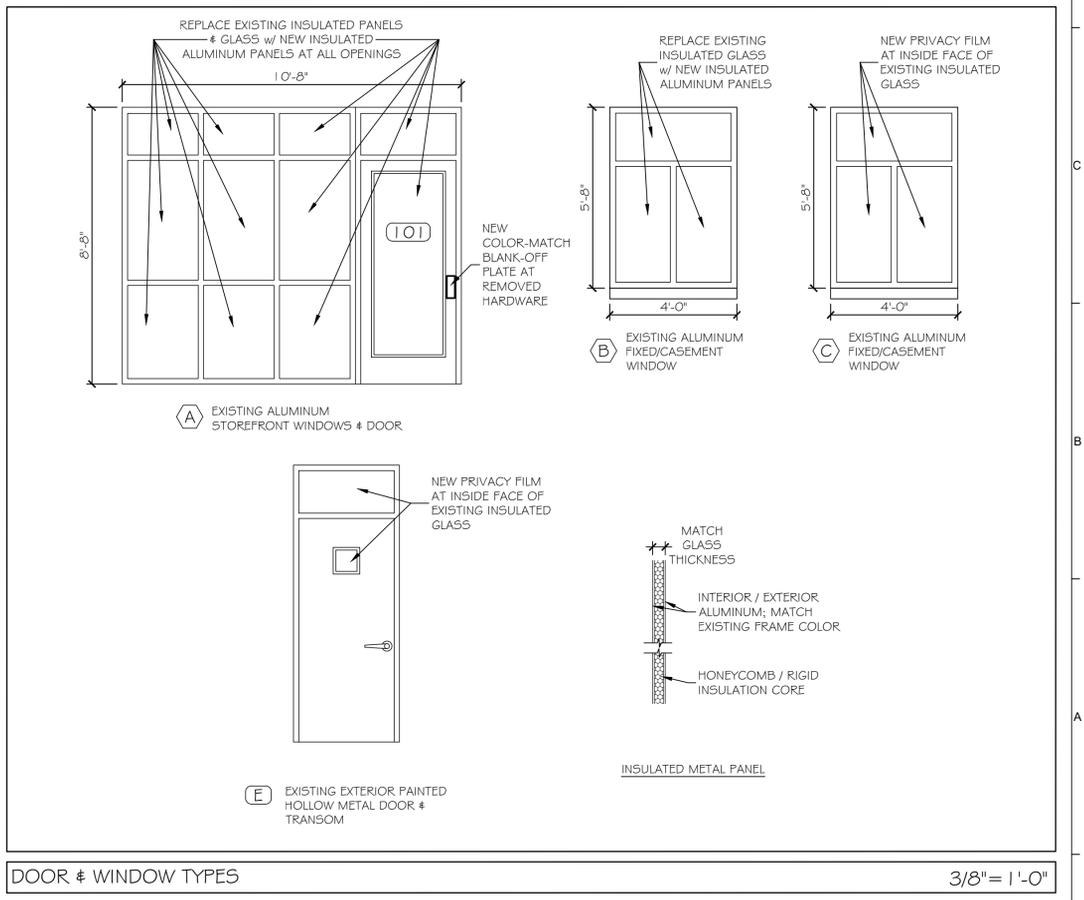
ABBREVIATIONS																	
DOORS						GLASS			FRAMES			THRESHOLDS					
NO.	TYPE	SIZE (w x h)	THK	INSUL	HDWE	FR	TYPE	SIZE	REMARKS	TYPE	FR	PROFILE	DETAILS HEAD	JAMB	MATERIAL	DETAILS SILL	FIN
101	A / E	3070 / E	1 3/4"	---	HW-1	---	PANEL	E	*REPLACE GLASS	ALUM	---	MFR	---	---	ALUM / E	E	---
102	(E)	(E)	(E)	(E)	(E)	(E)	T / TH	10x10(E)	*PRIVACY FILM	(E)	---	(E)	(E)	(E)	(E)	(E)	(E)
103	(E)	(E)	(E)	(E)	(E)	(E)	T / TH	10x10(E)	NEW PRIVACY FILM	(E)	---	(E)	(E)	(E)	(E)	(E)	(E)
104	(E)	(E)	(E)	(E)	(E)	(E)	T / TH	10x10(E)	NEW PRIVACY FILM	(E)	---	(E)	(E)	(E)	(E)	(E)	(E)
105	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	NO WORK	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)

### WINDOW SCHEDULE

ABBREVIATIONS											
NO.	TYPE	MANUFACTURER	NOMINAL SIZE	DETAILS					REMARKS		
		MFR	MODEL	WIDTH	HEIGHT	HEAD	JAMB	SILL	MUNT	MULL	
A	ALUM STOREFRONT	(E)	(E)	10'-8"	8'-8"	---	---	---	---	---	REPLACE GLASS w/ INSULATED PANEL
B	ALUM	(E)	(E)	4'-0"	5'-8"	---	---	---	---	---	REPLACE GLASS w/ INSULATED PANEL
C	ALUM	(E)	(E)	4'-0"	5'-8"	---	---	---	---	---	NEW INTERIOR PRIVACY FILM

### FINISH SCHEDULE

ABBREVIATIONS														
RM NO.	NAME	WALLS				FLOORS				CEILING A		CEILING B		REMARKS
		N	E	S	W	MAT'L	BASE	MAT'L	BASE	TYPE	HT.	TYPE	HT.	
101	STORAGE	(E)	(E)	(E)	(E)	(E)	(E)	---	---	(E)	(E)	---	---	PATCH @ REMOVALS
102	NOT USED	---	---	---	---	---	---	---	---	---	---	---	---	---
103	NOT USED	---	---	---	---	---	---	---	---	---	---	---	---	---
104	STAIR	(E)	(E)	(E)	(E)	(E)	(E)	---	---	(E)	(E)	---	---	PATCH @ REMOVALS
105	GENERATOR	(E)	(E)	(E)	(E)	(E)	(E)	---	---	(E)	(E)	---	---	PATCH @ REMOVALS
106	BOILER ROOM	---	---	---	---	---	---	---	---	---	---	---	---	---

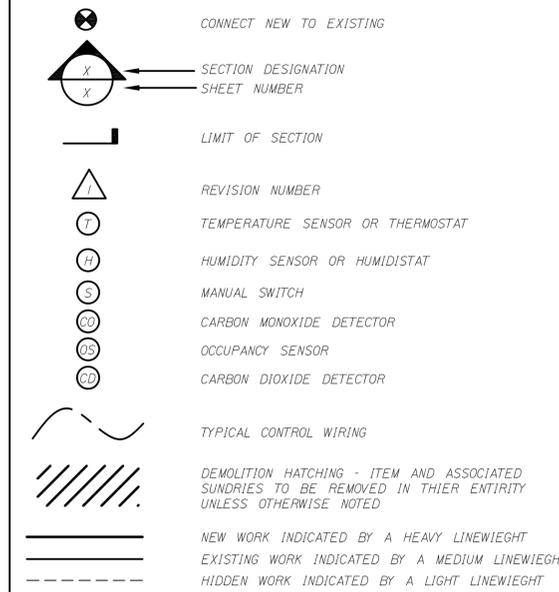


Scale:	Designed by: Michael F. Hays, RA				EXIT 44 BUILDING RENOVATION BUILDING SECTION, SCHEDULES & DETAILS																												
<table border="1" style="width: 100%;"> <thead> <tr> <th>No.</th> <th>Revision</th> <th>By</th> <th>Date</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	No.	Revision	By	Date													<table border="1" style="width: 100%;"> <thead> <tr> <th>By</th> <th>Date</th> <th>By</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>Designed: MFH</td> <td>11/14/19</td> <td>Checked: MFH</td> <td>11/14/19</td> </tr> <tr> <td>Drawn: MGK</td> <td>11/14/19</td> <td> </td> <td> </td> </tr> </tbody> </table>	By	Date	By	Date	Designed: MFH	11/14/19	Checked: MFH	11/14/19	Drawn: MGK	11/14/19			ARCHITECTURE & INTERIOR DESIGN P.O. BOX 6179 FALMOUTH MAINE 04105 207.871.5900 www.granthays.com	MTA PROJECT MANAGER: RALPH NORWOOD, IV, PE, PTOE	CONTRACT: 2019.16	SHEET NUMBER: A-3 5 OF 11
No.	Revision	By	Date																														
By	Date	By	Date																														
Designed: MFH	11/14/19	Checked: MFH	11/14/19																														
Drawn: MGK	11/14/19																																

ABBREVIATIONS

GENERAL					
AD	ACCESS DOOR	MAX	MAXIMUM	CVE	CONSTANT VOLUME (EXHAUST)
ADDL	ADDITIONAL	MBH	THOUSAND BTU/H	DIFF	DIFFUSER
AFF	ABOVE FINISHED FLOOR	MCA	MINIMUM CIRCUIT AMPS	EA	EXHAUST AIR
ALT	ALTITUDE OR ALTERNATE	MECH	MECHANICAL	EG	EXHAUST GRILLE
AMP	AMPERE	MFR	MANUFACTURE	ER	EXHAUST REGISTER
AP	ACCESS PANEL	MFR'D	MANUFACTURED	FD	FIRE DAMPER (W/ ACCESS DOOR)
APD	AIR PRESSURE DROP	MFR'R	MANUFACTURER	LD	LINEAR DIFFUSER
ARCH	ARCHITECT	MIN	MINIMUM	MD	MOTOR OPERATED DAMPER
ATC	AUTOMATIC TEMPERATURE CONTROL	MU	MAKE-UP WATER	MUA	MAKE-UP AIR
ATM	ATMOSPHERE	N/A	NOT APPLICABLE	OA	OUTSIDE AIR
AVE	AVERAGE	NC	NORMALLY CLOSED OR NOISE CRITERIA	OAI	OUTSIDE AIR INTAKE
		NIC	NORMALLY IN CONTRACT	OBD	OPPOSED BLADE DAMPER
		NO	NORMALLY OPEN	OED	OPEN END DUCT
BHP	BRAKE HORSEPOWER	No.	NUMBER	RA	RETURN AIR
BI	BACKWARDS INCLINED	NOM	NOMINAL	RG	RETURN GRILLE
BLDG	BUILDING	NTS	NOT TO SCALE	RR	RETURN REGISTER
BOD	BOTTOM OF DUCT	OA	OUTSIDE AIR	SA	SUPPLY AIR
BSTMT	BASEMENT	OAI	OUTSIDE AIR INTAKE	SD	SMOKE DAMPER
BTU	BRITISH THERMAL UNIT	OC	ON CENTER	SFD	COMBINATION AUTOMATIC SMOKE/FIRE DAMPER WITH ACCESS DOOR
BTUH	BTU PER HOUR	OD	OUTSIDE DIAMETER	SG	SUPPLY GRILLE
		ODP	OPEN DRIP PROOF	SGD	SLIDE GATE DAMPER
C TO C	CENTER TO CENTER	OV	OUTLET VELOCITY	SR	SUPPLY REGISTER
CENT	CENTRIFUGAL	PCF	POUNDS PER CUBIC FOOT	TA	THROW AWAY OR TRANSFER AIR
CF	CUBIC FEET	PD	PRESSURE DROP	TOD	TOP OF DUCT
CFM	CUBIC FEET PER MINUTE	PH	PHASE	TR	TRANSFER
CL	CENTERLINE	PBG	PLUMBING	TSP	TOTAL STATIC PRESSURE (IN. WG)
CLG	CEILING OR COOLING	POS	PROVIDED BY OTHER SECTION	TV	TURNING VANES
CO	CARBON MONOXIDE	PS	POUNDS PER SQUARE INCH	VD	VOLUME DAMPER
COL	COLUMN	PSIA	POUNDS PER SQUARE INCH ABSOLUTE	VAV	VARIABLE AIR VOLUME (SUPPLY)
CONC	CONCRETE	PSIG	POUNDS PER SQUARE INCH DIFFERENTIAL	VVE	VARIABLE AIR VOLUME (EXHAUST)
CONN	CONNECTION	PVC	POLYVINYL CHLORIDE	WMS	WIRE MESH SCREEN
CONTR	CONTRACTOR				
D	DRAIN OR DEPTH	QTY	QUANTITY		
DB	DRY BULB TEMPERATURE	R	RADIUS		
DEG	DEGREE	RA	RETURN AIR		
DDC	DIRECT DIGITAL CONTROL	RET	RETURN		
DIA	DIAMETER	REQ'D	REQUIRED		
DIM	DIMENSION	RH	RELATIVE HUMIDITY		
DN	DOWN	RLA	RUNNING LOAD AMPS		
DP	DIFFERENTIAL PRESSURE	RLF	RELIEF		
		RM	ROOM		
EA	EACH OR EXHAUST AIR	RPM	REVOLUTIONS PER MINUTE		
EAT	ENTERING AIR TEMPERATURE	SCH	SCHEDULE		
ECM	ELECTRONIC COMMUTATED MOTOR	SCR	SCREEN		
EFF	EFFICIENCY	SD	SMOKE DETECTOR		
ELEC	ELECTRICAL	SEN	SENSIBLE		
ELEV	ELEVATION	SHC	SENSIBLE HEAT CAPACITY		
EMER	EMERGENCY	SP	STATIC PRESSURE		
ENT	ENTER	SPECS	SPECIFICATIONS		
ESP	EXTERNAL STATIC PRESSURE	SQ	SQUARE		
EWT	ENTERING WATER TEMPERATURE	SF	SQUARE FEET		
EXH	EXHAUST	SS	STAINLESS STEEL		
EXIST.	EXISTING	STL	STEEL		
EXT	EXTERNAL	SUP	SUPPLY		
EXP	EXPANSION				
		T	TEMPERATURE		
F	FAHRENHEIT	TEL	TELEPHONE		
FA	FREE AREA	TEFC	TOTALLY ENCLOSED FAN COOLED		
FC	FLEXIBLE CONNECTION	TEMP	TEMPERATURE		
FLA	FULL LOAD AMPS	TSTAT	THERMOSTAT		
FLEX	FLEXIBLE	TON	12,000 BTU/H COOLING CAPACITY		
FM	FEET PER MINUTE	TOT	TOTAL		
FPS	FEET PER SECOND	TYP	TYPICAL		
FRP	FIBERGLASS REINFORCED PLASTIC	UC	UNDERCUT DOOR		
FS	FLOW SWITCH	V	VOLTS (ELECTRICAL)		
FT	FEET	VEL	VELOCITY		
FT-HD	FEET HEAD	VIF	VERIFY IN FIELD		
		W	WIDTH OR WATT		
G	GAS	W/	WITH		
GA	GAUGE	WB	WET BULB TEMPERATURE		
GAL	GALLONS	WC	WATER COLUMN		
GALV	GALVANIZED	WG	WATER GAUGE		
GC	GENERAL CONTRACTOR	W/O	WITHOUT		
GPD	GALLONS PER DAY	WPD	WATER PRESSURE DROP		
GPH	GALLONS PER HOUR	X	EXISTING EQUIPMENT TO BE REMOVED		
GPM	GALLONS PER MINUTE	XM	EXISTING EQUIPMENT TO REMAIN		
GRD	GRADE	XN	NEW LOCALE OF RELOCATED EQUIPMENT		
		XR	EXISTING EQUIPMENT TO BE RELOCATED		
HB	HOSE BIBB CONN.				
HD	HEAD				
HGT	HEIGHT				
HP	HORSEPOWER OR HIGH POINT				
HR	HOUR				
HTG	HEATING				
HZ	HERTZ (FREQUENCY)				
ID	INSIDE DIAMETER				
IN	INCHES				
KW	KILOWATT				
L	LENGTH				
LAT	LEAVING AIR TEMPERATURE				
LB	POUND				
LF	LINEAR FEET				
LP	LOW POINT				
LRA	LOCKED ROTOR AMPS				
LUVR	LOUVER				
LVG	LEAVING				
LWT	LEAVING WATER TEMPERATURE				

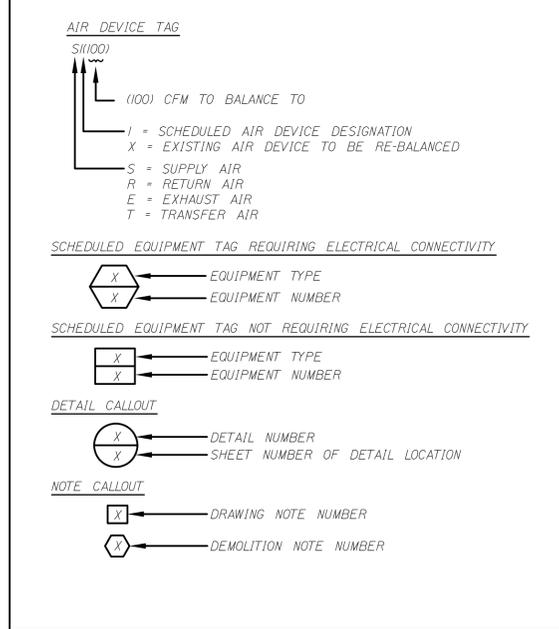
GENERAL SYMBOLOGY



GENERAL NOTES

- PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, SPECIFIED AND AS REQUIRED BY CODE.
- CONTRACT DOCUMENT DRAWINGS FOR MECHANICAL WORK ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY.
- INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.
- PURCHASE AND INSTALL VIBRATION ISOLATION FOR ALL MECHANICAL EQUIPMENT TO PREVENT TRANSMISSION OF VIBRATION TO BUILDING STRUCTURE.
- PURCHASE AND INSTALL VIBRATION ISOLATORS FOR ALL PIPING SUPPORTS CONNECTED TO, AND WITHIN 50 FT. OF, ISOLATED EQUIPMENT (EXCEPT AT BASE ELBOW SUPPORTS AND ANCHOR POINTS) THROUGHOUT MECHANICAL EQUIPMENT ROOMS.
- COORDINATE CONSTRUCTION OF ALL MECHANICAL WORK WITH ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL WORK, ETC., SHOWN ON OTHER CONTRACT DOCUMENT DRAWINGS.
- MAINTAIN A MINIMUM 6'-8" CLEARANCE TO THE UNDERSIDE OF PIPES, DUCTS, CONDUITS, SUSPENDED EQUIPMENT, ETC., THROUGHOUT ACCESS ROUTES IN MECHANICAL ROOMS.
- ALL TESTS SHALL BE COMPLETED BEFORE INSULATING ANY MECHANICAL EQUIPMENT OR PIPING.
- LOCATE ALL TEMPERATURE, PRESSURE, AND FLOW MEASURING DEVICES IN ACCESSIBLE LOCATIONS WITH THE STRAIGHT SECTION OF PIPE OR DUCT UP/DOWNSTREAM AS RECOMMENDED BY THE MFR.
- TESTING, ADJUSTING, AND BALANCING AGENCY SHALL BE A MEMBER OF THE ASSOCIATED AIR BALANCE COUNCIL (AABC) OR THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB). TESTING, ADJUSTING, AND BALANCING SHALL BE PERFORMED IN ACCORDANCE WITH THE AABC STANDARDS.
- WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, THE PRODUCT OF ONE MANUFACTURER SHALL BE USED.
- COORDINATE ALL EQUIPMENT CONNECTIONS WITH MFRS' CERTIFIED DRAWINGS. COORDINATE AND INSTALL ALL DUCT AND PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DUCT AND PIPING DIMENSIONS BEFORE FABRICATION.
- ALL CONTROL WIRE AND CONDUIT SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE AND DIVISION 16 OF THE SPECIFICATION.
- CONCRETE HOUSEKEEPING PADS TO SUIT MECHANICAL EQUIPMENT SHALL BE SIZED AND LOCATED BY THE CONTRACTOR. PAD SHALL EXTEND BEYOND EQUIPMENT A MINIMUM OF 6" ON EACH SIDE.
- THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE PROJECT SITE CONDITIONS AND SHALL HAVE THE APPROVAL OF THE ENGINEER PRIOR TO INSTALLATION. DO NOT SCALE DRAWINGS.
- ALL MISCELLANEOUS STEEL REQUIRED TO ENSURE PROPER INSTALLATION AND AS SHOWN IN DETAILS FOR PIPING, DUCTWORK, AND EQUIPMENT (UNLESS OTHERWISE NOTED) SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
- PURCHASE AND INSTALL ACCESS PANELS FOR INSTALLATION IN WALLS AND CEILINGS WHERE REQUIRED, TO SERVICE DAMPERS, VALVES, SMOKE DETECTORS, AND OTHER CONCEALED MECHANICAL EQUIPMENT.
- ALL EQUIPMENT, PIPING, DUCTWORK, ETC., SHALL BE SUPPORTED AS DETAILED, SPECIFIED, AND REQUIRED TO PROVIDE A VIBRATION-FREE INSTALLATION.
- MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING SHALL NOT BE SUPPORTED FROM A METAL DECK.
- LOCATIONS AND SIZES OF ALL FLOOR, WALL, AND ROOF OPENINGS SHALL BE COORDINATED WITH ALL OTHER TRADES INVOLVED.
- ALL OPENINGS IN FIRE WALLS DUE TO DUCTWORK, PIPING, CONDUIT, ETC., SHALL BE FIRE STOPPED.
- ALL AIR CONDITIONING CONDENSATE DRAIN LINES FOR EACH AIR HANDLING UNIT AND IDU UNIT SHALL BE PIPED FULL SIZE OF THE UNIT DRAIN OUTLET, WITH 1/2" TRAP, AND PIPE TO THE NEAREST DRAIN. SEE THE DETAILS SHOWN IN THE DRAWINGS OR CONTRACT SPECIFICATIONS FOR THE DEPTH OF THE AIR CONDITIONING CONDENSATE TRAP.
- REFER TO TYPICAL DETAILS FOR DUCTWORK, PIPING, AND EQUIPMENT INSTALLATION.
- CONTRACTOR SHALL FIELD VERIFY SIZE OF EQUIPMENT PRIOR TO PURCHASE AND INSTALLATION.

GENERAL SYMBOLOGY



Designed by:



STANTEC CONSULTING SERVICES INC.  
482 PAYNE ROAD  
SCARBOROUGH, ME 04074  
TEL (207) 887-3448  
FAX (207) 883-3376



THE GOLD STAR  
MEMORIAL HIGHWAY

EXIT 44  
BUILDING RENOVATION  
MECHANICAL GENERAL NOTES,  
ABBREVIATIONS AND LEGEND

No.	Revision	By	Date

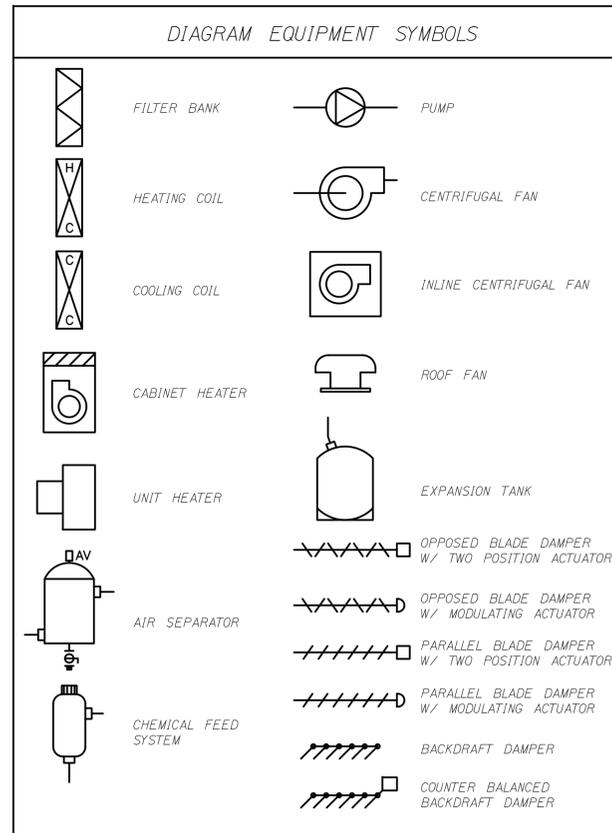
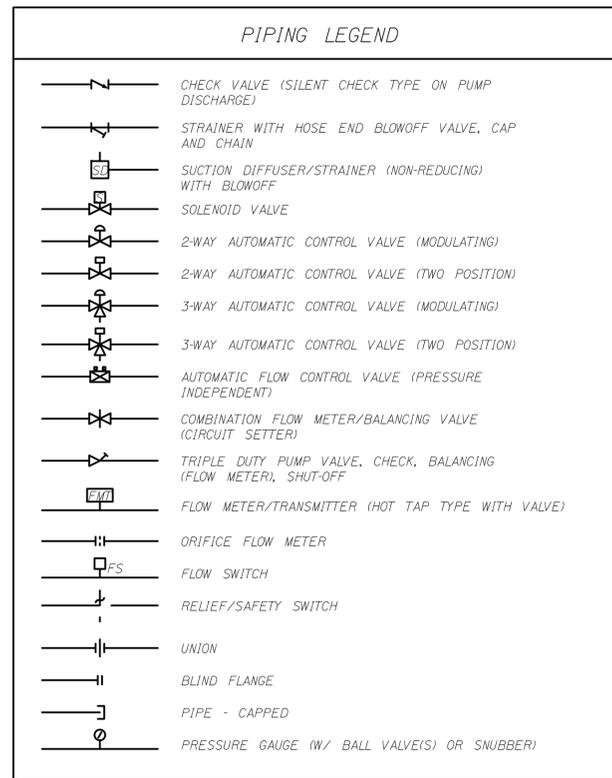
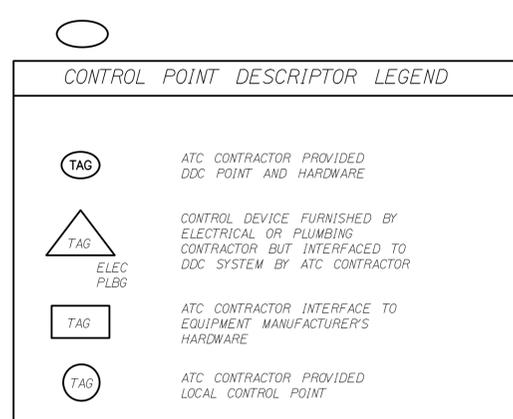
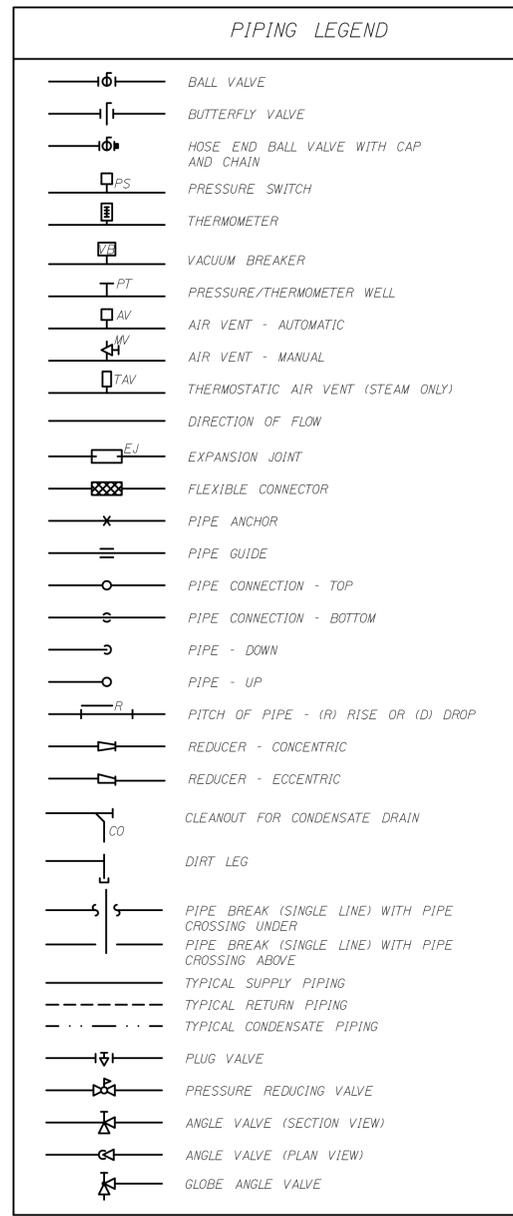
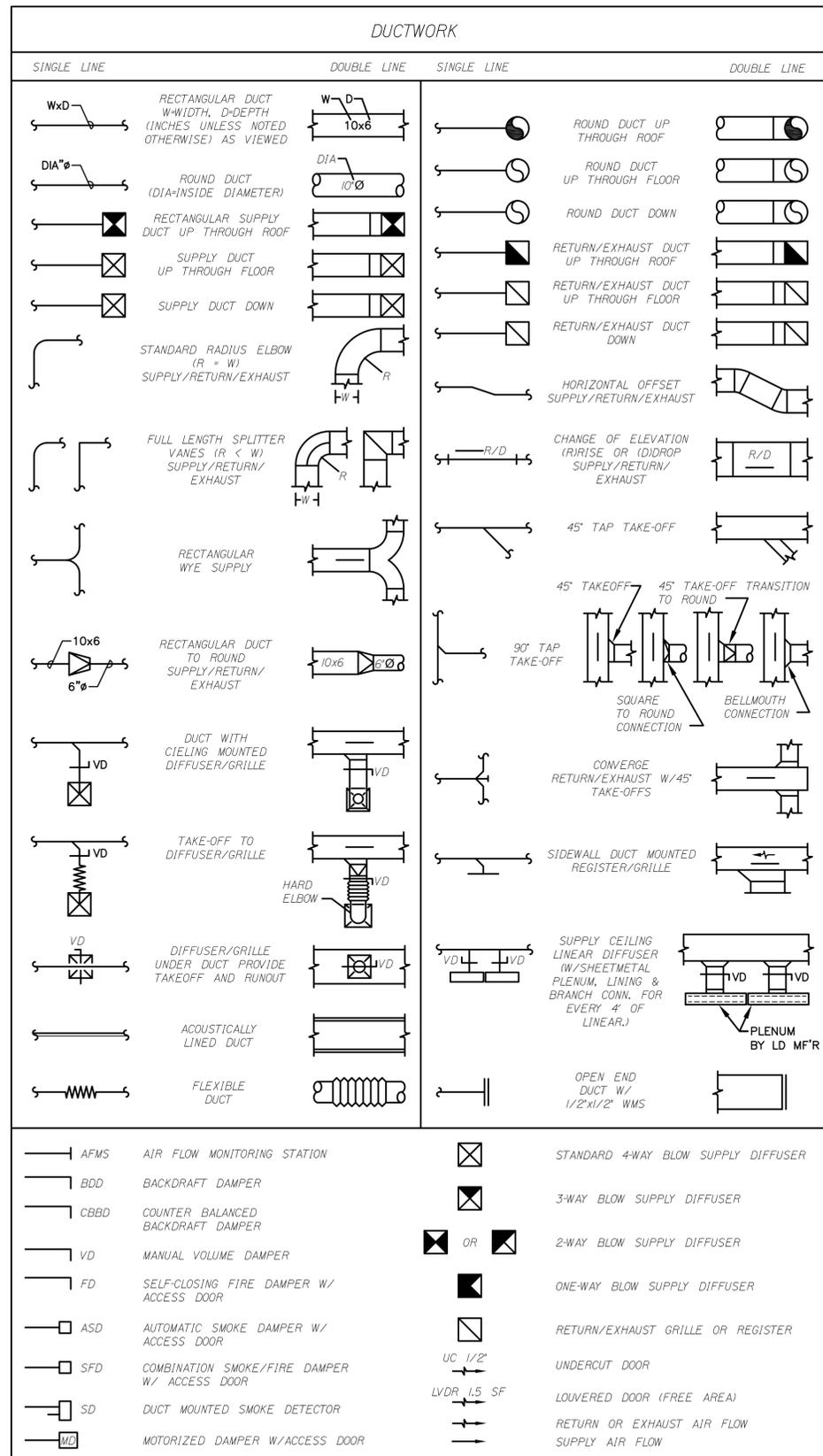
CONSULTANT PROJECT MANAGER: LAUREN MEEK, P.E.			
	By	Date	
Designed	CMP		Checked
Drawn	MCR		In Charge of

MTA PROJECT MANAGER: RALPH C. NORWOOD, IV, PE, PTOE

CONTRACT: 2019.16

SHEET NUMBER: M-001

6 OF 11



### CONTROL ABBREVIATIONS

ACD	AUTOMATIC CONTROL DAMPER
ACV	AUTOMATIC CONTROL VALVE
ADJ	ADJUSTABLE
AFMS AIR	FLOW MEASURING STATION
ALM	ALARM
ASD	AUTOMATIC SMOKE DAMPER
ATC	AUTOMATIC TEMPERATURE CONTROL
BAS	BUILDING AUTOMATION SYSTEM
BDD	BACKDRAFT DAMPER (ADJUSTABLE COUNTERWEIGHT)
BIBO	BAG-IN BAG-OUT
BMS	BUILDING MANAGEMENT SYSTEM
BV	BYPASS VALVE
CD	CARBON DIOXIDE SENSOR
CO	CARBON MONOXIDE SENSOR
CT	CURRENT TRANSFORMER (STATUS FEEDBACK)
CV	COOLING COIL CONTROL VALVE
DAT	DISCHARGE AIR TEMPERATURE SENSOR
DDC	DIRECT DIGITAL CONTROL
DDCFP	DIRECT DIGITAL CONTROL FIELD PANEL
DPS	DIFFERENTIAL PRESSURE SWITCH
DPT	DIFFERENTIAL PRESSURE SENSOR/TRANSMITTER
DPV	DIFFERENTIAL PRESSURE BYPASS VALVE
DSP	DISCHARGE STATIC PRESSURE SENSOR
EAD	EXHAUST AIR DAMPER
ES	END SWITCH
H	HUMIDITY SENSOR
HALM HOOD	ALARM
HCLT	HEATING COIL LEAVING AIR TEMPERATURE SENSOR
HEGA	HIGH EFFICIENCY GAS ABSORBER FILTER
HEPA	HIGH EFFICIENCY PARTICULATE AIR FILTER
HGB	HOT GAS BYPASS
HHL	HIGH HUMIDITY LIMIT SENSOR
HIV	HUMIDIFIER ISOLATION VALVE
HLH	HIGH/LOW HUMIDITY LIMIT SENSOR
HOA	HAND-OFF AUTOMATIC SWITCH
HR	HUMIDITY SENSOR (ROOM)
HSPS	HIGH STATIC PRESSURE SWITCH
HUV	HUMIDIFIER CONTROL VALVE
HV	HEATING COIL CONTROL VALVE
HWRT	HOT WATER RETURN TEMPERATURE SENSOR
HWST	HOT WATER SUPPLY TEMPERATURE SENSOR
IFBD	INTEGRAL FACE & BYPASS DAMPER
IGV	INLET GUIDE VANES
LAT	LEAVING AIR TEMPERATURE SENSOR
LSPS	LOW STATIC PRESSURE SWITCH
LS	LEVEL SENSOR OR LIGHT SWITCH INTERFACE
LSHA	LEVEL SENSOR HIGH ALARM
LSHS	LEVEL SENSOR HIGH SWITCH
LSLA	LEVEL SENSOR LOW ALARM
LSSL	LEVEL SENSOR LOW SWITCH
NC	NORMALLY CLOSED (ON LOSS OF POWER)
NO	NORMALLY OPEN (ON LOSS OF POWER)
MUWV	MAKE-UP WATER VALVE
MD	MOTION DETECTOR
OAD	OUTSIDE AIR DAMPER
OAT	OUTSIDE AIR TEMPERATURE SENSOR (DRY BULB)
RAD	RETURN AIR DAMPER
RAT	RETURN AIR TEMPERATURE SENSOR
RV	REHEAT CONTROL VALVE
RH	RELATIVE HUMIDITY
RI	RUN INDICATOR
RSID	RETURN SMOKE ISOLATION DAMPER
S	SWITCH
SAD	SUPPLY AIR DAMPER
SD	SMOKE DETECTOR
SFD	SMOKE/FIRE DETECTOR
SP	STATIC PRESSURE SENSOR
S/S	START/STOP
S/SH	START/STOP HIGH SPEED
S/SL	START/STOP LOW SPEED
SSID	SUPPLY SMOKE ISOLATION DAMPER
SSP	SUCTION STATIC PRESSURE SENSOR
T	TEMPERATURE SENSOR/THERMOSTAT
TR	TEMPERATURE SENSOR/THERMOSTAT (ROOM)
VS	VIBRATION SWITCH
WC	WATER COLUMN

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

No.	Revision	By	Date

Designed by:

By	Date	By	Date

CONSULTANT PROJECT MANAGER: LAUREN MEEK, P.E.

By	Date	By	Date

Designed: CMP  
Checked: CMP  
Drawn: MCR  
In Charge of: GAE

STANTEC CONSULTING SERVICES INC.  
482 PAYNE ROAD  
SCARBOROUGH, ME 04074  
TEL (207) 887-3448  
FAX (207) 883-3376

## THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: RALPH C. NORWOOD, IV, PE, PTOE

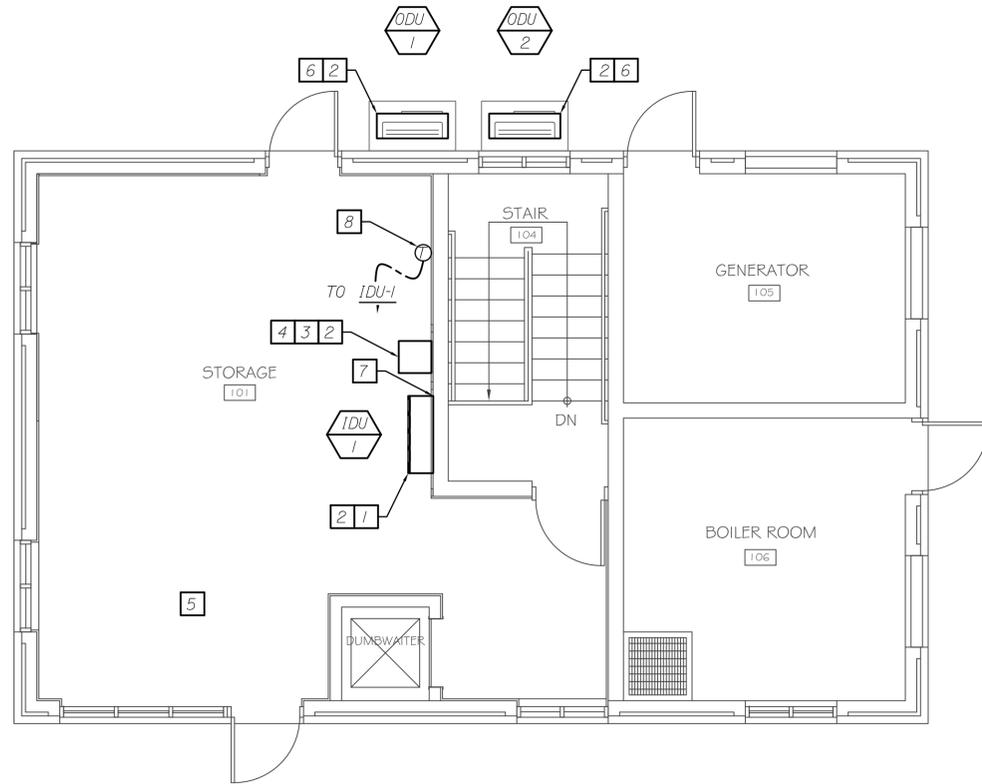
## EXIT 44 BUILDING RENOVATION

### MECHANICAL GENERAL NOTES, ABBREVIATIONS AND LEGEND

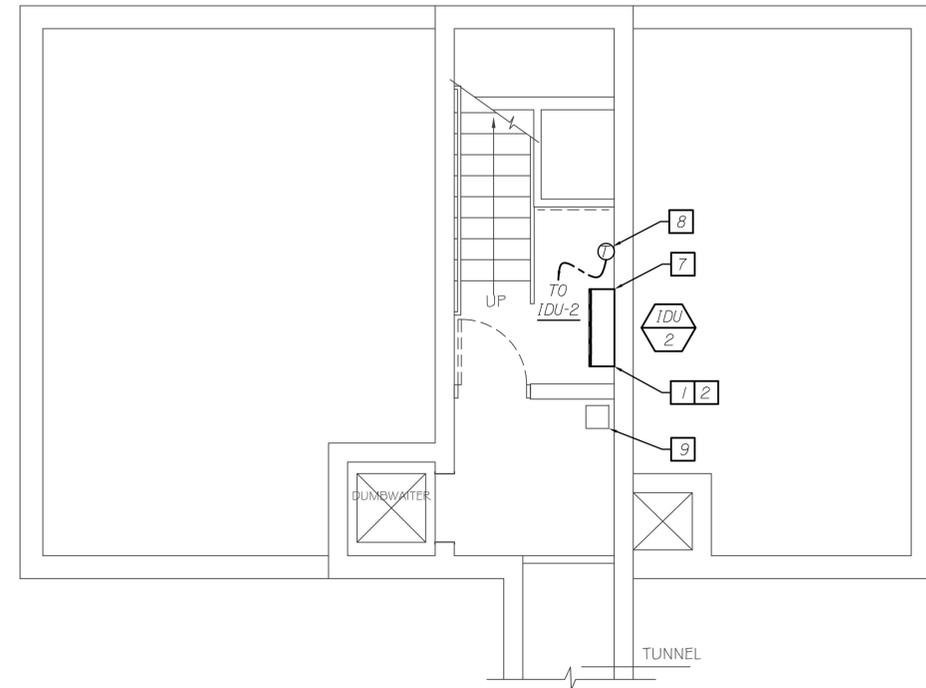
SHEET NUMBER: M-002  
7 OF 11

CONTRACT: 2019.16

Date: Friday, November 15, 2019



FIRST FLOOR PLAN  
1/4"=1'-0"



BASEMENT FLOOR PLAN  
1/4"=1'-0"

TAG	MATCHING OUTDOOR UNIT	LOCATION	TYPE	COOL DATA	FAN	HEATING DATA @ -13°F	ELECTRICAL DATA						NOTES	BASED ON MFR/MODEL	
				TOTAL BTU/H	CFM	TOTAL BTU/H	V	PH	HZ	FLA	MCA	MOCP			
IDU-1	ODU-1	FIRST FLOOR STORAGE	WALL	15,000	400	14,580	208	1	60	0.67	1	20	1,2,3	1	MITSUBISHI/MSZFH15NAH
IDU-2	ODU-2	BASEMENT	WALL	15,000	400	14,580	208	1	60	0.67	1	20	1,2,3	1	MITSUBISHI/MSZFH15NAH

- NOTES:**
1. PROVIDE UNITS WITH UNIT MOUNTED CONDENSATE PUMP IF IT IS NOT POSSIBLE TO GRAVITY DRAIN. COORDINATE WITH ELECTRICAL CONTRACTOR FOR DISCONNECT.
  2. PROVIDE WITH WIRED/WIRELESS THERMOSTATIC CONTROLS.
  3. PROVIDE REFRIGERANT LINE CONNECTIONS FROM OUTDOOR UNIT TO INDOOR UNIT PER MANUFACTURER'S RECOMMENDATION.

**DUCTLESS SPLIT SYSTEM OUTDOOR UNIT SCHEDULE**

TAG	LOCATION		PERFORMANCE		ELECTRICAL DATA						MIN OPER. AMB.	NOTES	BASED ON MFR/MODEL
			EER/SEER	COP	V	PH	HZ	MCA	MOCP				
ODU-1	OUTSIDE NORTH	MINISPLIT OUTDOOR UNIT	12.5/22	NA	208	1	60	16	20	-13	1,2,3,4	MITSUBISHI/MUZ-FH15NAH	
ODU-2	OUTSIDE NORTH	MINISPLIT OUTDOOR UNIT	12.5/22	NA	208	1	60	16	20	-13	1,2,3,4	MITSUBISHI/MUZ-FH15NAH	

- NOTES:**
1. QUANTITY & SIZE OF REFRIGERANT LINES SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
  2. PROVIDE REFRIGERANT LINE CONNECTIONS FROM OUTDOOR UNIT TO INDOOR UNIT PER MANUFACTURER'S RECOMMENDATION.
  3. PROVIDE REFRIGERANT CHARGE PER MANUFACTURER'S RECOMMENDATION, UTILIZING ACTUAL INSTALLED LINE LENGTHS FOR CALCULATIONS
  4. PROVIDE UNITS WITH BASE PAN HEATER.

**DEMO NOTES:**

1. ALL EXISTING PLUMBING FIXTURES AND PIPING TO BE REMOVED UNLESS OTHERWISE NOTED.
2. ALL EXISTING HVAC EQUIPMENT, PIPING, CONTROLS, AND ACCESSORIES TO BE REMOVED UNLESS OTHERWISE NOTED. EXISTING SUMP PUMP TO BE MADE OPERATIONAL AND REMAIN IN SERVICE.

**KEYNOTES:**

1. ROUTE CONDENSATE DRAIN WITH AIR GAP TO SUMP PUMP IN BASEMENT.
2. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
3. PROVIDE SHELF 24" AFF SUITABLE TO SUPPORT DEHUMIDIFIER. PROVIDE 3/4" RIGID PIPE WITH FUNNEL FITTING ON TOP FOR DRAIN TO SUMP PUMP. INSTALL DEHUMIDIFIER DRAIN WITH HOSE TO FUNNEL WITH AIR GAP. COORDINATE ELECTRICAL REQUIREMENTS AND RECEPTACLE LOCATION WITH ELECTRICAL CONTRACTOR.
4. PROVIDE DEHUMIDIFIER SUITABLE FOR 70 PINTS PER 24 HOURS WITH HOSE CONNECTION FOR GRAVITY DRAINING WITHOUT THE NEED FOR A PUMP.
5. PROVIDE CLEANOUTS FOR ALL SEWER DRAINS PIPING TO REMAIN IN SLAB.
6. PROVIDE STANDS MOUNTED TO EXISTING SIDEWALK FOR ODU. PROVIDE RAIN COVERS.
7. FIELD ROUTE LINESET EXPOSED PIPING ON INTERIOR OF BUILDING SHALL BE SECURELY MOUNTED TO WALL SURFACE. INSULATE ENTIRETY OF LINESET SEPARATELY TO AHJ RECOMMENDATIONS AND MANUFACTURER'S REQUIREMENTS.
8. PROVIDE THERMOSTATS CAPABLE OF PROVIDING 45 DEG F HEATING AND 80 DEG F COOLING.
9. EXISTING SUMP PUMP TO REMAIN AND BE OPERATIONAL.



Designed by:



STANTEC CONSULTING SERVICES INC.  
482 PAYNE ROAD  
SCARBOROUGH, ME 04074  
TEL (207) 887-3448  
FAX (207) 883-3376



**THE GOLD STAR  
MEMORIAL HIGHWAY**

EXIT 44  
BUILDING RENOVATION  
MECHANICAL BASEMENT AND FIRST  
FLOOR HVAC PLANS

SHEET NUMBER: M-101

Filename: M-101.dwg

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: LAUREN MEEK, P.E.			
	By	Date	
Designed	CMP		Checked
Drawn	MCR		In Charge of
			CMP
			GAE

MTA PROJECT MANAGER: RALPH C. NORWOOD, IV, PE, PTOE

CONTRACT: 2019.16

8 OF 11

**LEGEND:**

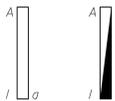
- 

NEW DUPLEX RECEPTACLE NEMA 5-20R  
IN EXISTING DEVICE BOX  
GF= GROUND FAULT CIRCUIT PROTECTION
- 

NON-FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE  
AMPERE RATING SHALL BE 30A MINIMUM AND SIZED PER EQUIPMENT NAMEPLATE  
(DIAGRAMMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)
- 

NEW DIMMING LIGHT SWITCH IN EXISTING DEVICE BOX  
a = CONTROL DESIGNATION
- 

NEW MOTION SENSOR LIGHT SWITCH IN EXISTING DEVICE BOX  
a = CONTROL DESIGNATION
- A = FIXTURE TYPE PER LUMINAIRE SCHEDULE



I = BRANCH CIRCUIT DESIGNATION  
a = CONTROL DESIGNATION

HALF SHADING DENOTES EMERGENCY POWERED
- 

HARD WIRED OCCUPANCY SENSOR CEILING MOUNTED  
a = CONTROL DESIGNATION
- 

SELF-CONTAINED EXIT LIGHT, SHADED AREA INDICATES SIGN FACE  
I = BRANCH CIRCUIT DESIGNATION  
I = WALL MOUNTED
- 

REMOTE EMERGENCY BATTERY UNIT  
I = BRANCH CIRCUIT DESIGNATION  
A = FIXTURE TYPE PER LUMINAIRE SCHEDULE
- 

NEW LIGHT SWITCH IN EXISTING DEVICE BOX  
a = CONTROL DESIGNATION

**ABBREVIATIONS:**

- AFF ABOVE FINISHED FLOOR
- AM AMMETER
- AS AMMETER SWITCH
- AUX AUXILIARY
- BKR BREAKER
- CO CUT OFF SWITCH
- CP CONTROL PANEL
- CPT CONTROL POWER TRANSFORMER
- CS CONTROL SWITCH
- CT CURRENT TRANSFORMER
- DAS DATA ACQUISITION SYSTEM
- ENC IP TO VIDEO ENCODER
- ER ELECTRIC RESET
- ETSW ETHERNET SWITCH
- FACP FIRE ALARM CONTROL PANEL
- FVNR FULL VOLTAGE NON-REVERSING
- FPP FIBER PATCH PANEL
- GALV GALVANIZED
- GEC GROUNDING ELECTRODE CONDUCTOR
- G GROUND
- HV HIGH VOLTAGE
- IA INTRUSION ALARM
- I INTERCOM
- IT INFORMATION TECHNOLOGY
- K KIRK INTERLOCK
- KW KILOWATT
- ISW ISOLATING SWITCH
- LBS LOAD BREAK SWITCH
- LF LINEAR FOOT
- LP LIGHTING PANEL
- LV LOW VOLTAGE
- MAX MAXIMUM
- MIN MINIMUM
- MV MEDIUM VOLTAGE
- MMU MICRO-PROCESSOR METERING UNIT
- OHT OVERHEAD TELEPHONE/COMMUNICATIONS
- OTH OTHER
- PAA PERSONNEL ACKNOWLEDGMENT ALARM
- PP POWER PANEL
- PRI FIBER OPTIC CABLE PAIR 1
- PT OR VT POTENTIAL OR VOLTAGE TRANSFORMER
- PC PROGRAMMABLE CONTROLLER
- PV PHOTOVOLTAIC
- PVC POLYVINYLCHLORIDE
- PQM POWER QUALITY METER
- RECEP RECEPTACLE
- RGS RIGID GALVANIZED STEEL
- RVNR REDUCED VOLTAGE NON-REVERSING
- T TIME METER
- TP TRAP PRIMER
- TYP TYPICAL
- VAR VARMETER (ON LINE)
- VM VOLTMETER
- VS VOLTMETER SWITCH
- WHM WATTHOUR METER
- WHDM WATTHOUR DEMAND METER
- WM WATTMETER
- WP WEATHER PROOF

**PROJECT NOTES:**

1. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS AND ALL OTHER EQUIPMENT REQUIRED TO INSTALL THE WORK SHOWN AND SPECIFIED. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS NECESSARY FOR A COMPLETE ELECTRICAL SYSTEM AND PLACE ALL EQUIPMENT IN PROPER WORKING ORDER. ALL MATERIALS SHALL BE NEW AND SHALL BEAR THE REGISTERED UL MARK. ALL WORK SHALL CONFORM WITH THE THE NATIONAL ELECTRICAL CODE (NEC, NFPA 70), AND ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES. CONTRACTOR SHALL SECURE ALL PERMITS AND PAY THE FEES REQUIRED TO CARRY OUT HIS WORK. THE CONTRACTOR SHALL FURNISH COPIES OF ALL CERTIFICATES AND PERMITS TO THE ENGINEER.
2. THE DRAWINGS AND SPECIFICATIONS INDICATE THE INTENT OF THE DESIGN AND SHALL BE CONSIDERED AS DIAGRAMMATIC ONLY. EXACT LOCATIONS FOR ALL OUTLETS AND EQUIPMENT SHALL BE DETERMINED AT THE SITE AS WORK PROGRESSES. ALL DIMENSIONS AND CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE. ALL FINAL WORK SHALL BE DOCUMENTED ON AS BUILT RECORD DRAWINGS.
3. ALL EXISTING WIRING AND WIRING DEVICES SHALL BE REMOVED. ALL EXISTING DEVICE BOXES WITH REMOVED DEVICES SHALL HAVE COVERS PROVIDED.
4. THE CONTRACTOR SHALL UTILIZE ANY EXISTING CONDUITS TO THE EXTENT POSSIBLE TO REACH ANY EQUIPMENT OR DEVICES TO BE INSTALLED.
5. THE CONTRACTOR SHALL PROVIDE NEW CIRCUIT BREAKERS IN EXISTING PANEL H PER THE PANEL SCHEDULE ON THE PLANS.
6. ALL PIPING, CONDUITS AND EQUIPMENT OF ALL TRADES SHALL BE PROPERLY COORDINATED AND SET TO MAINTAIN THE CLEARANCES REQUIRED BY ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES.
7. ALL CONDUITS SHALL BE TERMINATED SO AS TO PERMIT NEAT CONNECTIONS TO MOTORS AND OTHER EQUIPMENT.
8. NO CONDUIT SMALLER THAN 3/4" PIPE SIZE NOR WIRE SMALLER THAN #12 AWG SHALL BE USED UNLESS OTHERWISE NOTED.
9. CONDUIT AND/OR WIRE (NOT SHOWN) INTERCONNECTING THE LIGHTING FIXTURES AND/OR RECEPTACLES SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR AND SHALL BE:
  - a. 3/4" (MIN.) CONDUIT RUN
    1. EXPOSED IN UNFINISHED AREAS.
    2. CONCEALED ABOVE HUNG CEILINGS AND IN WALLS IN FINISHED AREAS.
  - b. No. 12 CU. WIRE (MIN.) TYPE THWN, NUMBER OF WIRES AS REQUIRED.
  - c. SEE SPECIFICATION FOR USE OF TYPE MC CABLE.
7. ALL CONDUIT RUNS CROSSING EXPANSION JOINTS SHALL HAVE EXPANSION OR EXPANSION AND DEFLECTION TYPE FITTINGS AS REQUIRED. VERIFY EXISTING JOINTS BY FIELD MEASUREMENTS.
8. ALL CONDUITS SHALL HAVE PROPERLY SIZED EQUIPMENT GROUNDING CONDUCTORS.
9. ALL CONDUIT AND EQUIPMENT SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE NATIONAL ELECTRICAL CODE.
10. THE WIRING DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUIT REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. MODIFICATIONS ACCEPTABLE TO THE ENGINEER MAY BE MADE BY THE CONTRACTOR TO ACCOMMODATE EQUIPMENT ACTUALLY PURCHASED. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND/OR SPECIFICATIONS.
11. EXIT SIGNS AND EMERGENCY LIGHTING UNITS SHALL BE UNSWITCHED.
12. ALL CIRCUITS SHALL HAVE THEIR OWN NEUTRAL CONDUCTOR. COMMON NEUTRALS WILL NOT BE ALLOWED.
13. RECEPTACLES, SWITCHES, LIGHTING FIXTURES, SMOKE DETECTORS, ETC. INDICATE QUANTITY, EXACT LOCATIONS OF ALL DEVICES SHALL BE DETERMINED IN THE FIELD.
14. CONTRACTOR SHALL FURNISH AND INSTALL ARC-FLASH HAZARD WARNING LABELS AND AVAILABLE FAULT CURRENT VALUES. REFER TO SPECIFICATIONS FOR REQUIREMENTS.

Scale:			
No.	Revision	By	Date

Designed by:



CONSULTANT PROJECT MANAGER: LAUREN MEEK, P.E.			
By	Date	By	Date
Designed	TJM	Checked	DMG
Drawn	TJM	In Charge of	DMG

STANTEC CONSULTING SERVICES INC.  
482 PAYNE ROAD  
SCARBOROUGH, ME 04074  
TEL (207) 887-3448  
FAX (207) 883-3376



**THE GOLD STAR MEMORIAL HIGHWAY**

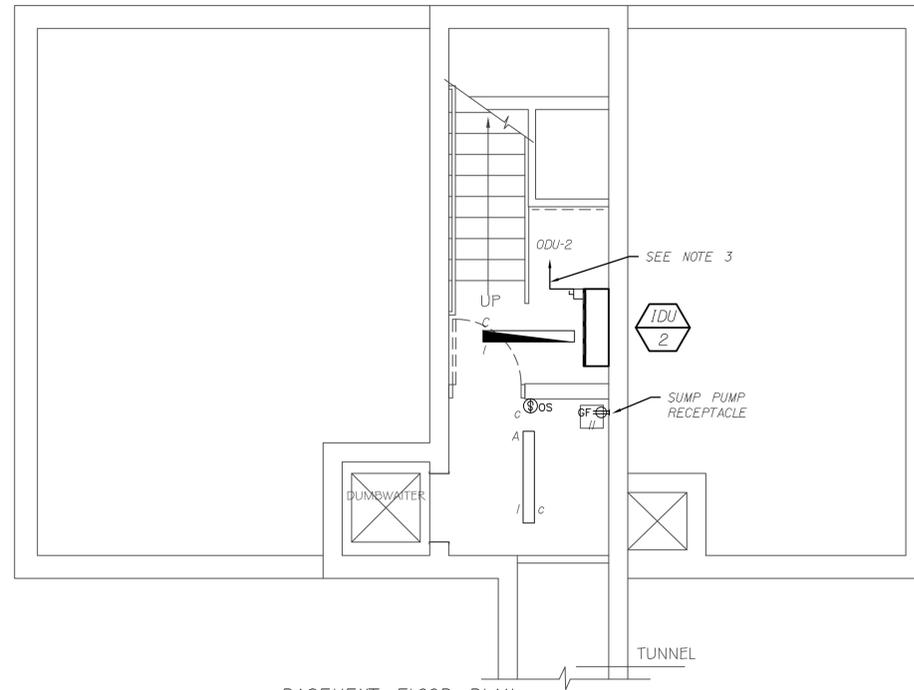
MTA PROJECT MANAGER: RALPH C. NORWOOD, IV, PE, PTOE

EXIT 44  
BUILDING RENOVATION

**ELECTRICAL GENERAL NOTES,  
ABBREVIATIONS AND LEGEND**

SHEET NUMBER: E-001  
CONTRACT: 2019.16  
9 OF 11

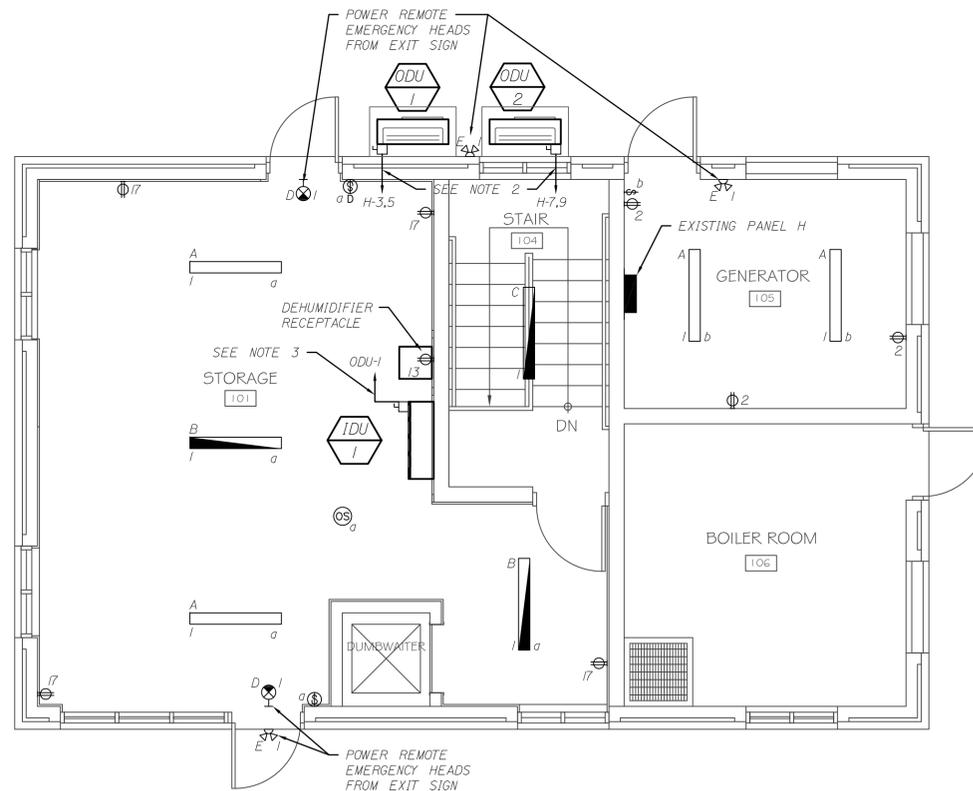
Date: Friday, November 15, 2019



**BASEMENT FLOOR PLAN**  
1/4" = 1'-0"

**NOTES:**

1. CONNECT ALL CIRCUITS TO PANEL H UNLESS OTHERWISE NOTED. PROVIDE DEDICATED CIRCUITS WITH NO SHARED NEUTRALS. 120V, 20A CIRCUITS TO BE 2#12, 1#12 GND, 3/4"C.
2. PROVIDE 208V, 20A/2P CIRCUIT (3#10, 1#10G, 3/4"C) FROM EXISTING PANEL H.
3. PROVIDE 3/4"C, 3#12, 1#12G BETWEEN INTERIOR AND EXTERIOR UNITS UNLESS REQUIRED OTHERWISE BY ACTUAL ITEM FURNISHED. COORDINATE WITH THE HVAC CONTRACTOR.



**FIRST FLOOR PLAN**  
1/4" = 1'-0"



Designed by:



STANTEC CONSULTING SERVICES INC.  
482 PAYNE ROAD  
SCARBOROUGH, ME 04074  
TEL (207) 887-3448  
FAX (207) 883-3376



**THE GOLD STAR  
MEMORIAL HIGHWAY**

EXIT 44  
BUILDING RENOVATION  
ELECTRICAL BASEMENT AND FIRST  
FLOOR POWER PLANS

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: LAUREN MEEK, P.E.			
	By	Date	
Designed	TJM		Checked DMG
Drawn	TJM		In Charge of DMG

MTA PROJECT MANAGER: RALPH C. NORWOOD, IV, PE, PTOE

CONTRACT: 2019.16

SHEET NUMBER: E-101

10 OF 11

Filename: E-101.dwg

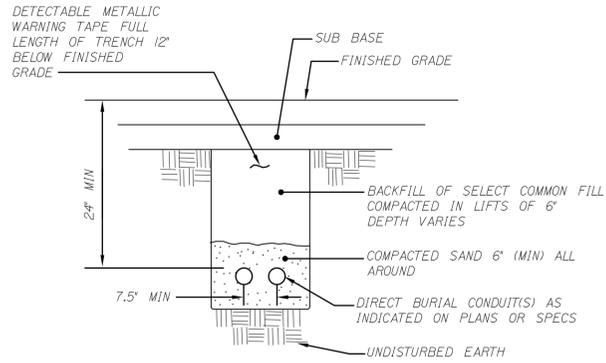
Date: Friday, November 15, 2019

PANEL: H													
LOCATION: COMPUTER/UPS ELECTRICAL ROOM				FEEDER BRANCH: NORMAL				DESCRIPTION: MAIN DISTRIBUTION PANEL					
SERVICE - 120V/208V, 3PH, 4W + G				BUS CAPACITY: 225A				ENCLOSURE: NEMA-1					
AIC RATING: 22000 A				MAIN O.C. RATING: 100A MCB				MOUNTING: SURFACE					
CKT	LOAD DESCRIPTION	VA - A	VA-B	VA - C	CB	PH	CB	VA - A	VA-B	VA - C	LOAD DESCRIPTION	CKT	
1	LIGHTING	270			20/1	A	20/1	540			ELEC ROOM RECEPTACLE	2	
3	ODU-1		1600		20/2	B	20/1				SPARE	4	
5				1600		C	20/1				SPARE	6	
7	ODU-2	1600			20/2	A	20/1				SPARE	8	
9			1600			B	20/1				SPARE	10	
11	SUMP PUMP RECEPTACLE			828	20/1	C	20/1				SPARE	12	
13	DEHUMIDIFER RECEPTACLE	565			20/1	A	20/1				SPARE	14	
15	SPARE				20/1	B	20/1				SPARE	16	
17	RECEPTACLES			720	20/1	C	20/1				SPARE	18	
19					20/1	A	20/1					20	
21					20/1	B	20/1					22	
23					20/1	C	20/1					24	
25					20/1	A	20/1					26	
27					20/1	B	20/1					28	
29					20/1	C	20/1					30	
31					20/1	A	20/1					32	
33					20/1	B	20/1					34	
35					20/1	C	20/1					36	
37					20/1	A	20/1					38	
39					20/1	B	20/1					40	
41					20/1	C	20/1					42	
SUBTOTALS (VA)		2435	3200	3148				540	0	0			
CONNECTED TOTALS		KVA	AMPS	TOTAL CONNECTED:		9.32-KVA	25.9-A	DEMAND TYPE HVAC RECEPTACLE LIGHTING		CONNECTED LOAD (VA)			
PHASE-A		3.0	24.8	TOTAL DEMAND:		9.39-KVA	26.1-A			7793			
PHASE-B		3.2	26.7							1260			
PHASE-C		3.1	26.2							270			

NOTES:  
 1. PROVIDE "HACR" RATED TYPE BREAKERS FOR MECHANICAL MOTOR LOADS SUCH AS EXHAUST FANS  
 2. PROVIDE GFCI BREAKERS FOR THE FOLLOWING CIRCUITS:

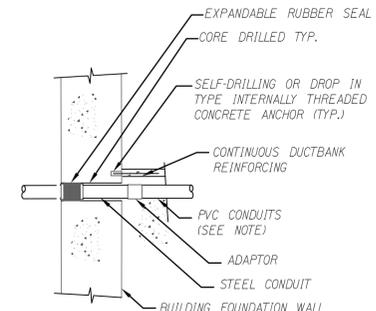
NOTES:

1. FOR SELECTION OF CIRCUIT BREAKER TYPES, REFER TO SPECIFICATION SECTION 262416.



DIRECT BURIED CONDUIT

SCALE: NOT TO SCALE

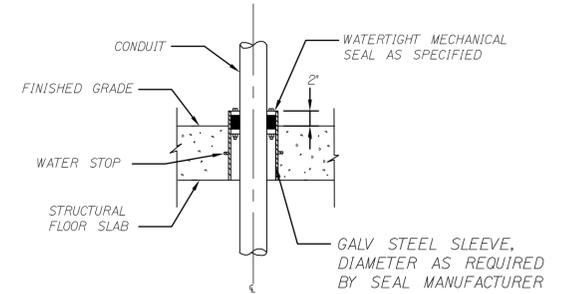


NOTE:

1. WHERE PVC CONDUIT IS USED IN DUCTLINE, CONVERT TO STEEL CONDUIT USING AN APPROPRIATE ADAPTER FITTING WITHIN 3'-0\"/>

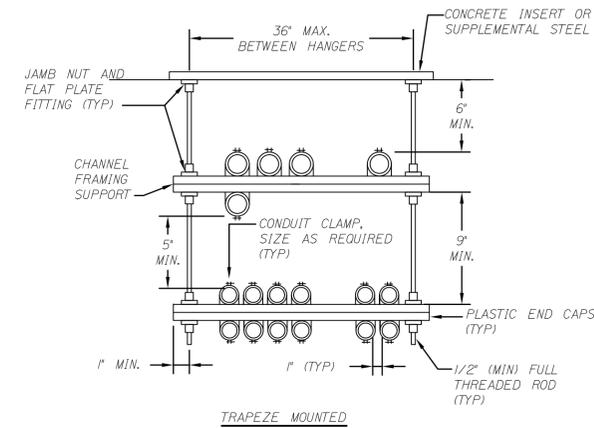
CONDUIT WALL ENTRANCE SEAL

SCALE: NOT TO SCALE



CONDUIT PENETRATION BETWEEN FLOORS

SCALE: NOT TO SCALE



CONDUIT MOUNTING

SCALE: NOT TO SCALE

LUMINAIRE SCHEDULE								
TYPE	DESCRIPTION	CONTROLS	LAMP	MINIMUM RATED LIFE (L70)	MOUNTING	LUMENS/WATT	MINIMUM LUMENS	MANUFACTURER - CATALOG NUMBER
A	4' CHAIN HUNG AMBIENT LUMINAIRE - 4000K CCT, MIN 80 CRI, DAMP LOCATION RATED, DLC QUALIFIED, 5 YEAR WARRANTY, HANG AT 9'AFF	HARDWIRED SWITCH, OCCUPANCY SENSING	LED	50,000 HRS	CHAIN HUNG	130	4000	BASIS OF DESIGN - LITHONIA ZLD L48 3000LM FST MVOLT 40K BOCR1
B	4' CHAIN HUNG AMBIENT LUMINAIRE - 4000K CCT, MIN 80 CRI, DAMP LOCATION RATED, DLC QUALIFIED, 1400 LUMEN OUTPUT EMERGENCY BATTERY PACK, 5 YEAR WARRANTY, HANG AT 9'AFF	HARDWIRED SWITCH, OCCUPANCY SENSING	LED	50,000 HRS	CHAIN HUNG	130	4000	BASIS OF DESIGN - LITHONIA ZLD L48 3000LM FST MVOLT 40K BOCR1 E15WLCP
C	4' CHAIN HUNG AMBIENT LUMINAIRE - 4000K CCT, MIN 80 CRI, DAMP LOCATION RATED, DLC QUALIFIED, 1400 LUMEN OUTPUT EMERGENCY BATTERY PACK, 5 YEAR WARRANTY, INTEGRAL OCCUPANCY SENSOR HANG AT 9'AFF	INTEGRAL OCCUPANCY SENSING	LED	50,000 HRS	CHAIN HUNG	130	4000	BASIS OF DESIGN - LITHONIA ZLD L48 3000LM FST MVOLT 40K BOCR1 E15WLCP LBOZU
D	BATTERY BACK-UP REMOTE CAPABLE EXIT SIGN, SW, INJECTION MOLDED ENGINEERING-GRADE UV-STABLE THERMOPLASTIC, UL94-V0 FLAME RATING, 90 MINUTE WATT OUTPUT RATED FOR CONNECTED REMOTE EMERGENCY LIGHTING AS SHOWN ON PLAN, 5 YEAR WARRANTY	ALWAYS ON	LED	NA	UNIVERSAL	NA	NA	BASIS OF DESIGN - LITHONIA LHOM LED R HORO SD
E	REMOTE DUAL HEAD EMERGENCY LIGHT, POWERED BY LUMINAIRE TYPE D, SEALED AND GASKETED CAST ALUMINUM, SEALED AND GASKETED JUNCTION BOX COVER, WET LOCATION RATED, 5 YEAR WARRANTY	EMERGENCY	LED	NA	WALL	NA	NA	BASIS OF DESIGN - LITHONIA ELA T ONP L0309 SD



Designed by:

CONSULTANT PROJECT MANAGER: LAUREN MEEK, P.E.			
By	Date	By	Date
Designed	TJM	Checked	DMG
Drawn	TJM	In Charge of	DMG

STANTEC CONSULTING SERVICES INC.  
 482 PAYNE ROAD  
 SCARBOROUGH, ME 04074  
 TEL (207) 887-3448  
 FAX (207) 883-3376



THE GOLD STAR  
 MEMORIAL HIGHWAY

EXIT 44  
 BUILDING RENOVATION  
 ELECTRICAL DETAILS

Filename: E-501.dwg

CONTRACT: 2019.16

SHEET NUMBER: E-501

11 OF 11