

FROM: Allied Engineering, Inc.  
160 Veranda Street  
Portland, Maine 04103  
Telephone: (207) 221-2260

TO: Prospective Bidders, Suppliers, and Other Parties

RE: Addendum No. **Two (2)** to the Bidding Documents for:  
**NEW Crosby Vehicle Storage Garage, South Portland, ME**

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated November 22, 2021. Acknowledge receipt of this Addendum in the space provided on the Proposal Form. Failure to do so may subject Bidder to disqualification.

**CONTRACTOR QUESTIONS/RESPONSES - Attached**

**SPECIFICATIONS**

1. **DELETE** Section 011000 Summary issued with Addendum #1 in its entirety. **ADD** in its place Section 011000 – Summary\_Addendum 2\_12-27-21, attached.
2. **DELETE** Section 230900 – Instrumentation and Control for HVAC in its entirety.
3. **DELETE** Section 230901 – Variable Frequency Drives in its entirety. Refer to Drawing MH-100 Changes herein for simplified motor speed control requirements.
4. **DELETE** Section 230993 – Sequence of Operations for HVAC Controls. **ADD** in its place Section 230993 – Sequence of Operations for HVAC Controls, Revised December 27, 2021- Addendum 2 (attached) in its entirety.

**PLANS SHEETS & SKETCHES**

1. **DELETE** Drawing C-401 (Sheet 5 of 32) in its entirety. **ADD** in its place Sheet C-401, Revision 1 dated 12/21, Attached.
2. **DELETE** Drawing MH-100 (Sheet 26 of 32) in its entirety. **ADD** in its place Sheet MH-100, Revision 1 dated 12/16/21, Attached.
3. **DELETE** Drawing EP-100 (Sheet 31 of 32) in its entirety. **ADD** in its place Sheet EP-100, Revision 1 dated 12/16/21, Attached.
4. **DELETE** Drawing EP-500 (Sheet 32 of 32) in its entirety. **ADD** in its place Sheet EP-500, Revision 1 dated 12/16/21, Attached.

**ATTACHMENTS**

A. Addendum Summary Document	( 1 Page)
B. Contractor Questions/Response Table	( 1 Page)
C. Specifications	( 5 Pages)
D. Plan Sheets and Sketches	( 4 Pages)
<b>Total Page Count</b>	<b><u>11 Page</u></b>

## MTA Crosby\_Addenda Questions - Contract 2021.06 ADDENDUM 2

17-Dec-21					
Crosby Vehicle Storage Building					
Contractor/Vendor	Sheet	Plan/Spec	Question	AEI Team Response/Resolution	
1		ES100, EP500, & C401	C401 identifies the primary conduit to be (2) 5", the feeder schedule on E500 identifies the conduit to be a single 4", Please clarify.	<b>G.P:</b> C-401 revised to reflect and match ES100 and ES500. <b>AEI:</b> These 2 schedules are not referring to the same thing. The feeder schedule on the electrical drawings is referring to the feeder from the transformer to the building. The service is overhead so there are no 5" utility conduits for power company wiring. These shall be removed from the civil drawing by addenda	
2	Mancini Electric		C401 identifies two 4" conduits for phone and data, They are not identified within the electrical plans, will the conduits be required?	<b>G.P:</b> C-401 revised to reflect and match ES100 and ES500. <b>AEI:</b> The owner has decided to delete tel com service to the building. The conduits have been deleted by on C-401 this addenda as well as interior tel/data outlets and backboard on .	
3			C401 identifies a spare 1 1/2" conduit, where should this conduit be terminated at the building? This is not identified within the electrical drawings.	<b>G.P:</b> C-401 revised to reflect and match ES100 and ES500. Conduit was deleted.	
4			Specification section 260923 Lighting Control Devices, this section refers to lighting controls not identified within the electrical plans provided. Lighting within the space is shown to be operated with standard switching devices. We just want to receive verification automated lighting controls are not required for the interior lighting.	The photoelectric switches referred to in the lighting control devices spec are indicated in the luminaire schedule for the exterior lighting. Interior controls are as shown on the lighting plan.	
5	Blane Casey Building Contractor	Section 011000 - Summary	In Addendum No 1, Summary 011000- page 1 it notes the ceilings are exposed structure – not liner panel as called out on the plans.	<b>AEI:</b> See attached specification section revision 12/17/21_Addendum 2	
6			Addendum No 4, Summary 011000- page 1 calls out FRP paneling on the 4' perimeter walls – not 5/8" plywood as called out on the plans.	<b>AEI:</b> See attached specification section revision 12/17/21_Addendum 2	
7	Sheridan Construction	Addendum 1 -Revised spec Section 133419	Page 4 – Part 2.2.1.B states, "Source Limitations: Obtain metal building system components, including primary and secondary framing and metal panel assemblies, from single source from single manufacturer. " The metal panels specified in the revised specifications cannot come from our building manufacturer, Butler Manufacturing. Are we to source panels from an alternative source as listed?	<b>AEI:</b> Yes, provide through sources noted. Specification section 133419, <b>Part 2 – 2.1.B. Revised as follows: "Source Limitations: Obtain metal building system components, including primary and secondary framing <del>and metal panel assemblies</del>–from single source from single manufacturer."</b>	
8	Basix Automation Integrators		We are an HVAC DDC controls contractor and we're looking into bidding on this project. We use Schneider controls, and attached with the Substitution Request is an RFQ detailing our work. If you have any questions or clarifications, please let us know.	<b>AEI:</b> A DDC Building Automation System will not be required for this facility. Section 230900 is deleted under Addendum #2.	

## SECTION 011000 - SUMMARY

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes:
1. Project information.
  2. Work covered by Contract Documents.
  3. Work by Owner.
  4. Specification and drawing conventions.

#### 1.2 PROJECT INFORMATION

- A. Project Identification: **CROSBY VEHICLE STORAGE GARAGE, SOUTH PORTLAND, ME**
1. Project Location: South Portland, ME
- B. Owner: Maine Turnpike Authority

#### 1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of the Project is defined by the Contract Documents and consists of the following:
1. The project consists of:

NEW VEHICLE STORAGE BUILDING:

- a. The building is anticipated to be a high-bay vehicle storage building. The main floor being a concrete slab-on-grade, and generally constructed of durable and appropriate materials.
- b. The documents indicate a pre-engineered metal building for the primary structure. Insulated metal overhead doors and personnel doors will provide access. Windows are shown as double-hung aluminum units.
- c. Finishes are shown to include:
  - 1) Ceilings: ~~Painted exposed structure—no ceilings in garage.~~ **Liner panels.**
  - 2) Perimeter Knee Walls: Cold-form framed, insulated and covered with **FRP 5/8" plywood** panels over the exposed 4' perimeter concrete walls.
  - 3) Floors: Sealed concrete throughout the main floor level, ~~except ceramic tile~~

~~at the toilet and shower rooms.~~

- d. 8,800 SF building footprint. The programmed spaces include the following:
  - 1) 8 vehicle storage garage bays, with adequate space for all.
- e. Site/Civil Scope includes all site work as shown on the plans including:
  - 1) Approximately 41,000 sf paved parking and facility operation areas at the Crosby Maintenance Yard.
  - 2) Domestic service to new building connecting to existing 2" water main.
  - 3) Exterior H-20 oil/water separator.
  - 4) Exterior generator pad with connection to new building.
  - 5) Exterior propane tank with connection to proposed generator and new building.
  - 6) Stone berm level lip spreader at the southeast corner of the proposed building to address channelized drainage concerns.
- f. The pre-engineered metal building structure is clad with draped insulation for walls and roof, with standard metal wall and roof panel assemblies. The exterior overhead and pass doors will be R-15 minimum. The exterior windows will be R-2.2 minimum.

#### 1.4 PROJECT SCHEDULE

- A. The Contractor shall complete the work for each phase on or before dates scheduled below:
  - 1. Coordinate all water and power conversions with the owner to maintain service to all occupied buildings for the duration of the project.
  - 2. Building shall be substantially completed by: December 23, 2022
  - 3. Building shall achieve Final completion by: January 13, 2023

#### 1.5 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
  - 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
  - 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

- C. Drawing Coordination: Requirements for materials and products identified on the Drawings are described in detail in the Specifications. One or more of the following are used on the Drawings to identify materials and products:
1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
  2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.
  3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

## SECTION 230993 - SEQUENCE OF OPERATIONS FOR HVAC CONTROLS

## PART 1 - GENERAL

## 1.1 RELATED SECTIONS

- A. Related Sections include the following:
1. Division 23 Section “Common Work Results for Mechanical”
  2. Division 23 Controls Section for control equipment and devices and submittal requirements.
  3. Division 23 Section “Testing, Adjusting, and Balancing”
  4. Division 26

## 1.2 SUMMARY

- A. This Section includes control sequences for HVAC systems, subsystems, and equipment. Provide control devices, control software and control wiring as required for automatic operation of each sequence specified.
1. Provide control for system operation as described herein.
  2. The intent is that systems be manually operated for stand-alone operation as outlined herein.
- B. Functions called for in sequence of operations are minimum requirements and not to limit additional system capabilities.
- C. For each item of equipment, provide following functions which are not specifically mentioned in each Sequence of Operation:
1. Start-Stop, manual, and scheduled
- D. Variable Frequency Drives:
1. Damper control typically consists of a requirement to open a damper (such as an outdoor air damper, smoke damper, isolation damper, etc.) before the motor is to operate in any mode (drive or bypass). This means that an operator at the VFD provides a local "start" command at the VFD keypad.
  2. After a run command is received, but before the VFD actually runs the motor, the VFD shall close a relay contact to actuate the damper. When the damper is fully open, an end switch from the damper will close and then the VFD will be allowed to operate the motor. The damper end-switches shall be mounted such that they can be adjusted during start-up so the open indication is only provided when the damper is in the fully open position.
  3. Ensure that the VFD has an input that when activated, will stop the motor in any VFD operating mode as well as bypass.

- E. Where dampers operate in conjunction with fan operation, the damper open signal shall precede the fan start signal by 10-23 seconds. The damper close signal shall be delayed 10-23 seconds after the fan stop signal.
- F. Normal positions for controlled devices:
  - 1. Unless noted, the following valves and dampers shall fail closed:
    - a. Outside air dampers

### 1.3 HEATING UNITS

- A. Gas Fired Unit Heater (GUH)
  - 1. On call for heat, programmable space thermostat space thermostat enables the blower unit heater to operate via unit mounted gas heating controls. When space reaches setpoint the reverse happens.
    - a. Normal Operating Mode: The unit shall maintain a heating setpoint of 55°F (adj.).

### 1.4 VENTILATION SEQUENCES

- A. Exhaust Fan (EF-1): Manually operated adjustable speed controller shall enable EF-1 which is interlocked with louver (L-1) motor operated damper and EF-1 motor operated damper. Fan shall run continuously after MOD end switches prove opened 100%.
  - 1. Manual wall switch shall incorporate a 0-2 hour timed operation ability.
  - 2. Coordinate with TAB contractor to limit speed for the fan to prevent overramping the fan.
- B. Destratification Fans (DF-1 thru 4): Manually operated adjustable speed wall switch shall enable the fans to operate at user adjustable speed. DF-1 thru 4 shall operate DF-1 thru 4 by one speed controller.

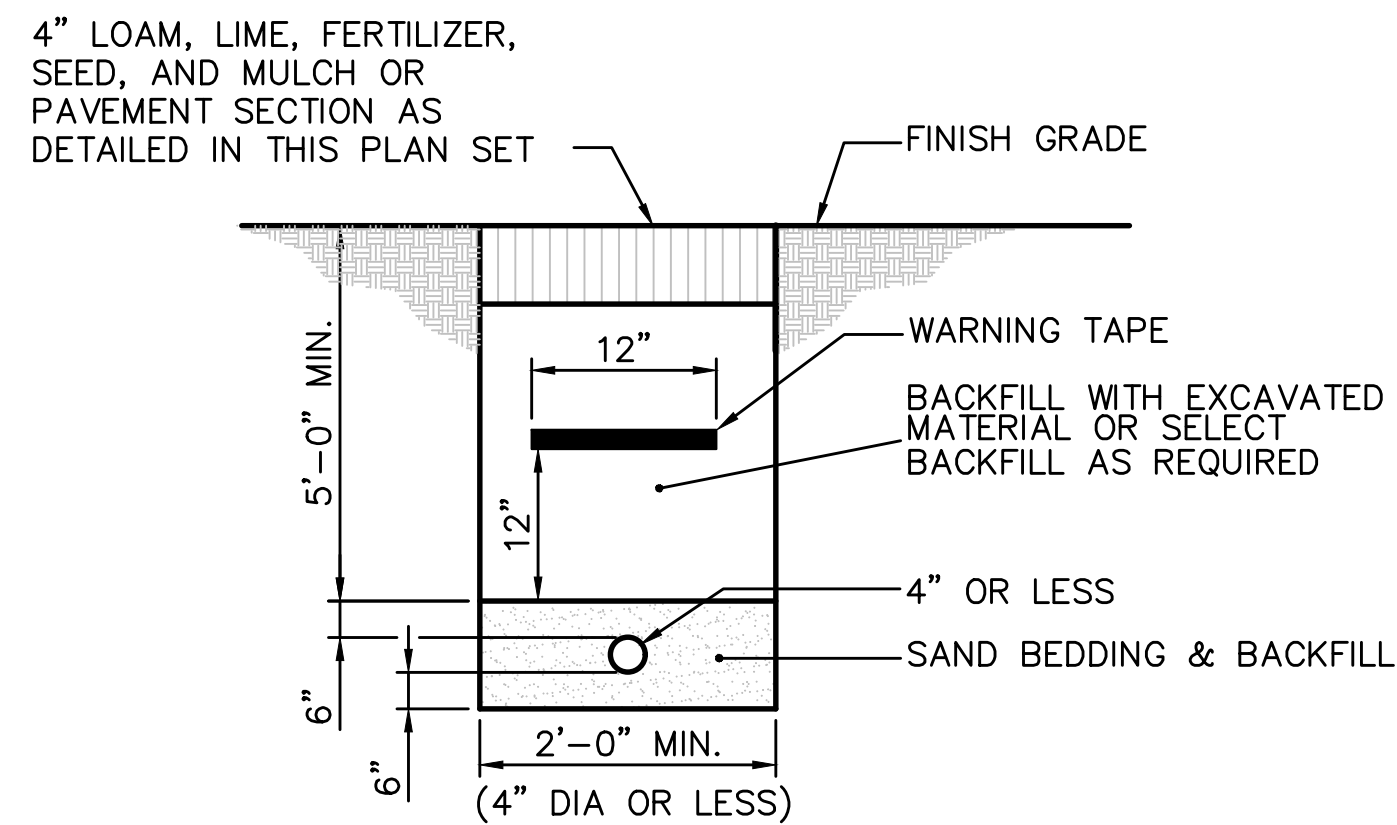
### 1.5 MISCELLANEOUS SEQUENCES

- A. Air Compressor (AC-1): Manually wall mounted switch (adjacent to compressor) shall energize and de-energize AC-1 to operate via factory provided pressure controller.

PART 2 - PRODUCTS (Not Applicable)

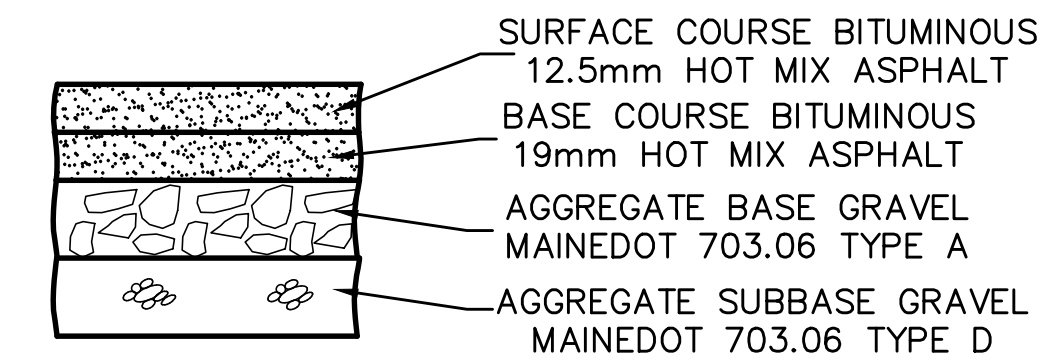
PART 3 - EXECUTION (Not Applicable)

END OF SECTION 230993



NOTES:  
 1. CONTRACTOR TO INSTALL TRACER WIRE OVER PIPE.  
 2. WATER LINE INSTALLATION TO BE COORDINATED WITH THE LOCAL WATER UTILITY COMPANY, AND SHALL COMPLY WITH ITS STANDARDS. SITE CONTRACTOR IS RESPONSIBLE FOR EXCAVATION AND BACKFILL OF THE WATER LINE AND PLACEMENT OF THE WARNING TAPES AND TRACER.

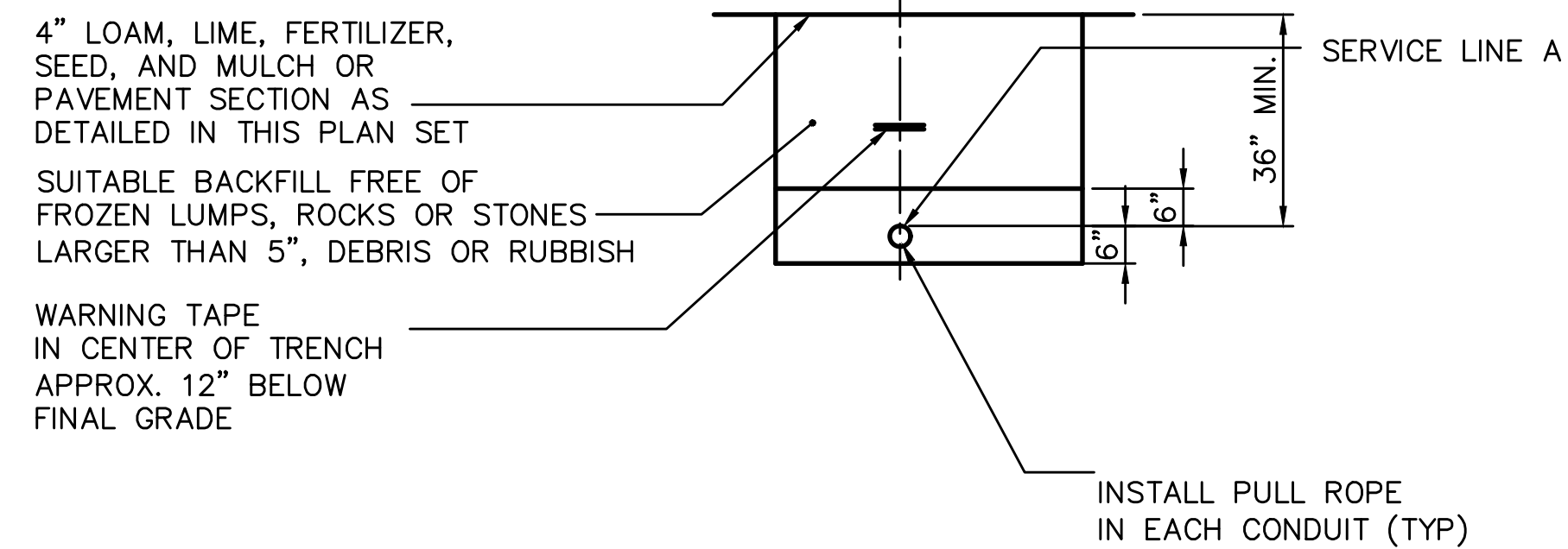
**WATER SERVICE TRENCH SECTION**  
 NOT TO SCALE



NOTES:  
 1. COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557.  
 2. IN AREAS OF NEW PAVEMENT THE CONTRACTOR SHALL PROVIDE FULL DEPTH GRAVEL CONSTRUCTION.

THICKNESS OF LAYERS	
LAYERS	
1.5"	SURFACE COURSE BITUMINOUS 12.5mm HOT MIX ASPHALT
2.5"	BASE COURSE BITUMINOUS 19mm HOT MIX ASPHALT
6"	AGGREGATE BASE GRAVEL MAINEDOT 703.06 TYPE A
15"	AGGREGATE SUBBASE GRAVEL MAINEDOT 703.06 TYPE D

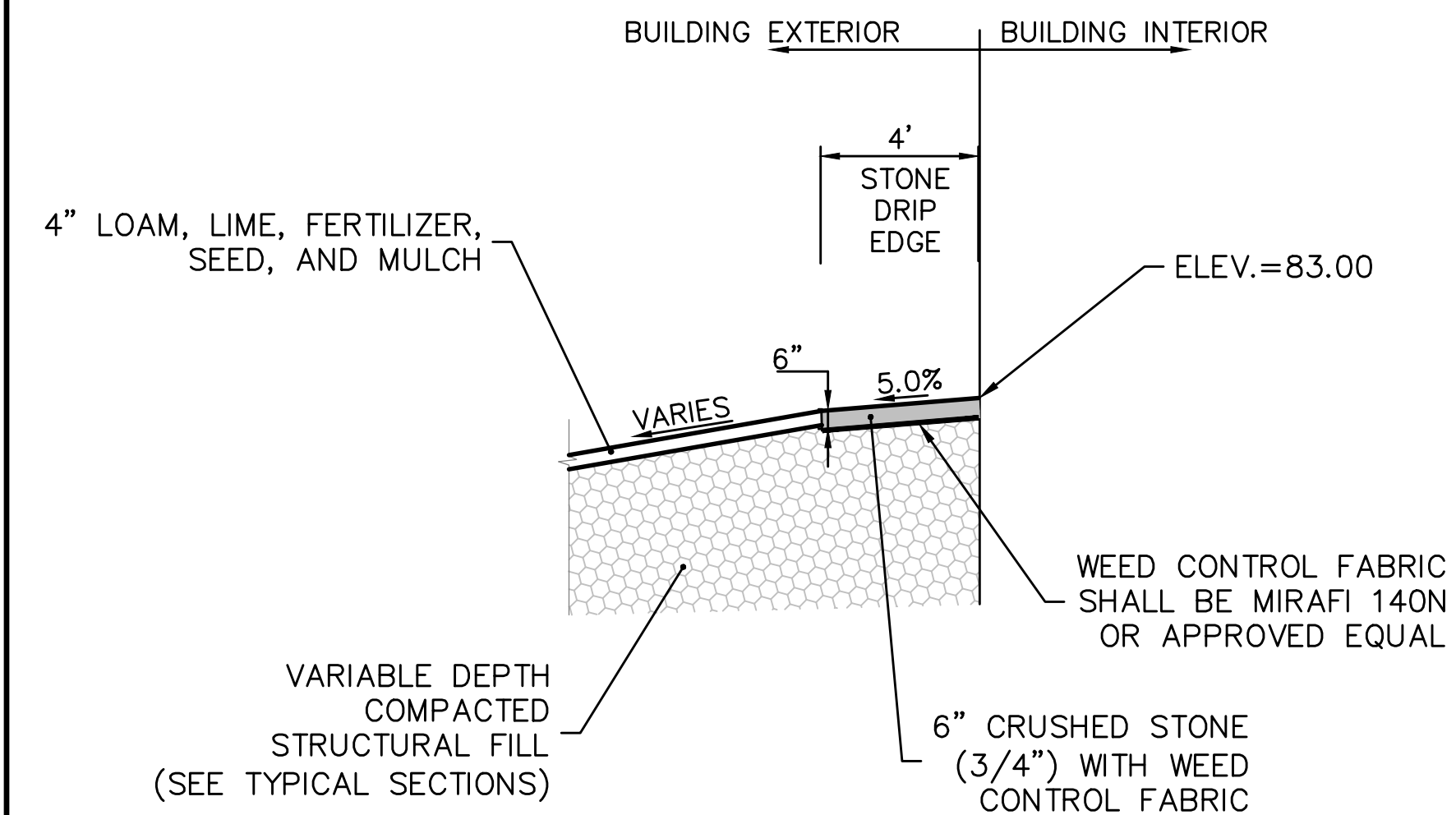
**HEAVY DUTY BITUMINOUS PAVEMENT SECTION**  
 NOT TO SCALE



CONDUIT TYPE SCHEDULE				
SERVICE	CONDUIT SIZE	GRASS & PAVED AREAS	UTILITY	REMARKS
A	2-5"	SCHEDULE 80 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE

NOTE:  
 PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10" ABOVE GRADE AT POLE WITH STAND-OFF BRACKETS.

**UTILITY TRENCH - PRIMARY POWER**  
 NOT TO SCALE

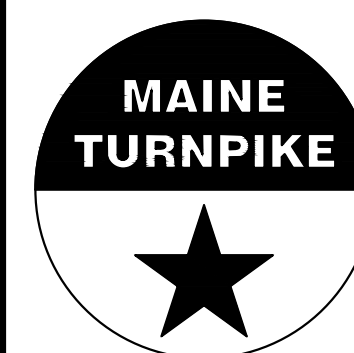
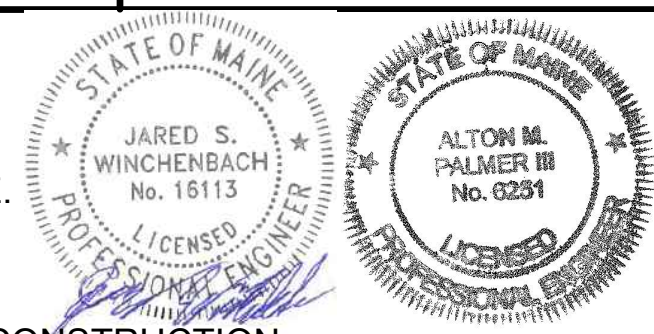


**STONE DRIP EDGE DETAIL**  
 NOT TO SCALE

Scale: N/A

No.	Revision	By	Date
1	ADDENDUM #2	JSW	12/21

Designed by:  
 ALTON M. PALMER, P.E.  
 JARED S. WINCHENBACH, P.E.



THE GOLD STAR  
 MEMORIAL HIGHWAY

CONTRACT 2021.06  
 CROSBY VEHICLE STORAGE GARAGE  
 DETAILS - 1

ISSUED FOR BID - NOT FOR CONSTRUCTION

By	Date	By	Date
Designed: JSW	11/22/2021	Checked: AMP	11/22/2021
Drawn: GEH	11/22/2021		

PROJ. NO.: 3661 CAD FILE: 3661-DETAILS.dwg

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT: 2021.06

SHEET NUMBER: C-401

5 OF 32



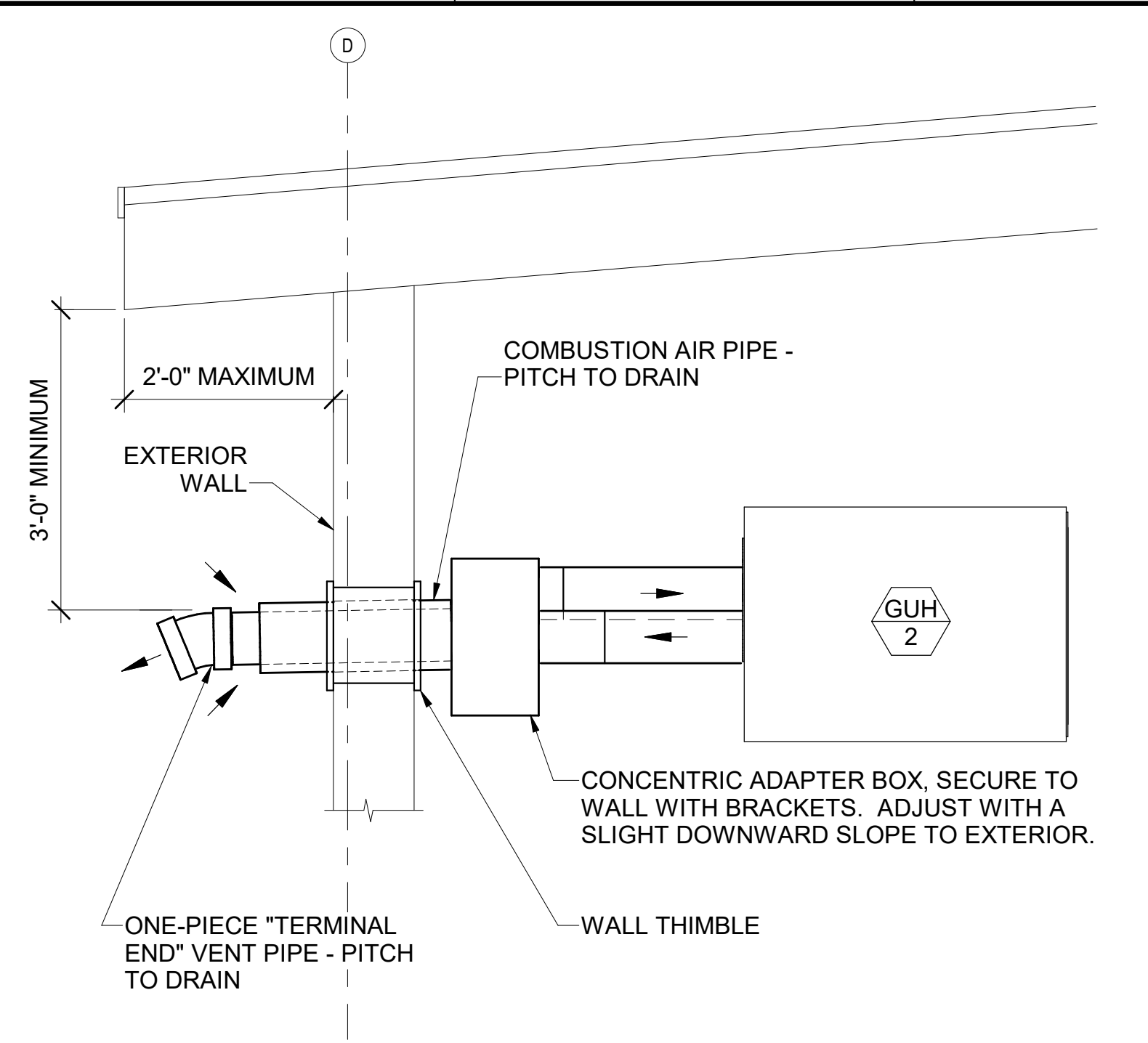
LOUVER SCHEDULE													
TAG	MAKE - MODEL	AIR SYSTEM	DUTY	CFM	DIMENSIONS					BEGINNING POINT OF WATER PENETRATIO...	MAX P.D. MAX W.C.	SCREEN	NOTES
					HEIGHT (IN.)	WIDTH (IN.)	MIN. FREE AREA (SF)	NET VELOCITY (FT/MIN)	% FREE AREA				
L-1	RUSKIN ELF445DX	EF-1	INTAKE	13,500	72	96	26	519.2	54.2%	4"	873 FPM	0.06	SEE SPEC

FAN SCHEDULE														
TAG	SERVES	MANUFACTURER-MODEL	TYPE	DRIVE	CFM		ESP	MOTOR HP	VOLTS/PH	VFD	MAX SONES	DAMPER	WEIGHT (LBS.)	NOTES
					HI	LO								
EF-1	GARAGE EXHAUST	LOREN COOK - 36XMWH	WALL MOUNT w/HOOD	DIRECT	13,500	6,000	0.6	3	208/3	YES	30.0	MOD	500	1, 3, 4, 5
DF-1 thru 4	DESTRATIFICATION	ZOO FANS H60 PREMIUM	DESTRAT. FAN	DIRECT	1,500	1,500	--	106w	115/1	NO	--	N/A	23	2

NOTES:  
 1. PROVIDE UNIT MOUNTED FACTORY DISCONNECT SWITCH.  
 2. PROVIDE WALL MOUNTED VARIABLE SPEED CONTROLLER.  
 3. INTERLOCK WITH LOUVER AND EF MODS.  
 4. PROVIDE WALL MOUNTED TIMER SWITCH AS MANUFACTURED BY INTERMATIC, MODEL FF2H OR EQUAL. COORDINATE WITH DIVISION 26 FOR OPERATION AS SPECIFIED.  
 5. PROVIDE WALL MOUNTED VARIABLE SPEED CONTROLLER AS MANUFACTURED BY DAYTON, MODEL 13E638.

LP GAS FIRED SEALED COMBUSTION UNIT HEATER SCHEDULE																			
TAG	SERVES	MFR.-MODEL	SIZE	TYPE	EXPOSED FACE DIM.	DEPTH DIM.	WEIGHT LBS	INPUT MBH	OUTPUT MBH	DISCHARGE TEMP RISE	GAS PRESSURE RANGE (MIN-MAX)	GAS CONN. SIZE	CFM	VENT CONN.	COMB. AIR	MOTOR HP	MOP (AMPS)	ELECT	NOTES
GUH-1	GARAGE	REZNR - UDZ	300	LP GAS FIRED SEPARATED COMBUSTION	41" x 34"	48"	331	300	249	50-60F	7" - 14"	3/4"	3840	6"	6"	1/2	20	115/160	1, 2
GUH-2	GARAGE	REZNR - UDZ	300	LP GAS FIRED SEPARATED COMBUSTION	41" x 34"	48"	331	300	249	50-60F	7" - 14"	3/4"	3840	6"	6"	1/2	20	115/160	1, 2
GUH-3	GARAGE	REZNR - UDZ	300	LP GAS FIRED SEPARATED COMBUSTION	41" x 34"	48"	331	300	249	50-60F	7" - 14"	3/4"	3840	6"	6"	1/2	20	115/160	1, 2

NOTES: 1. Standard Built-in (20A) Disconnect Switch  
 2. Concentric Venting

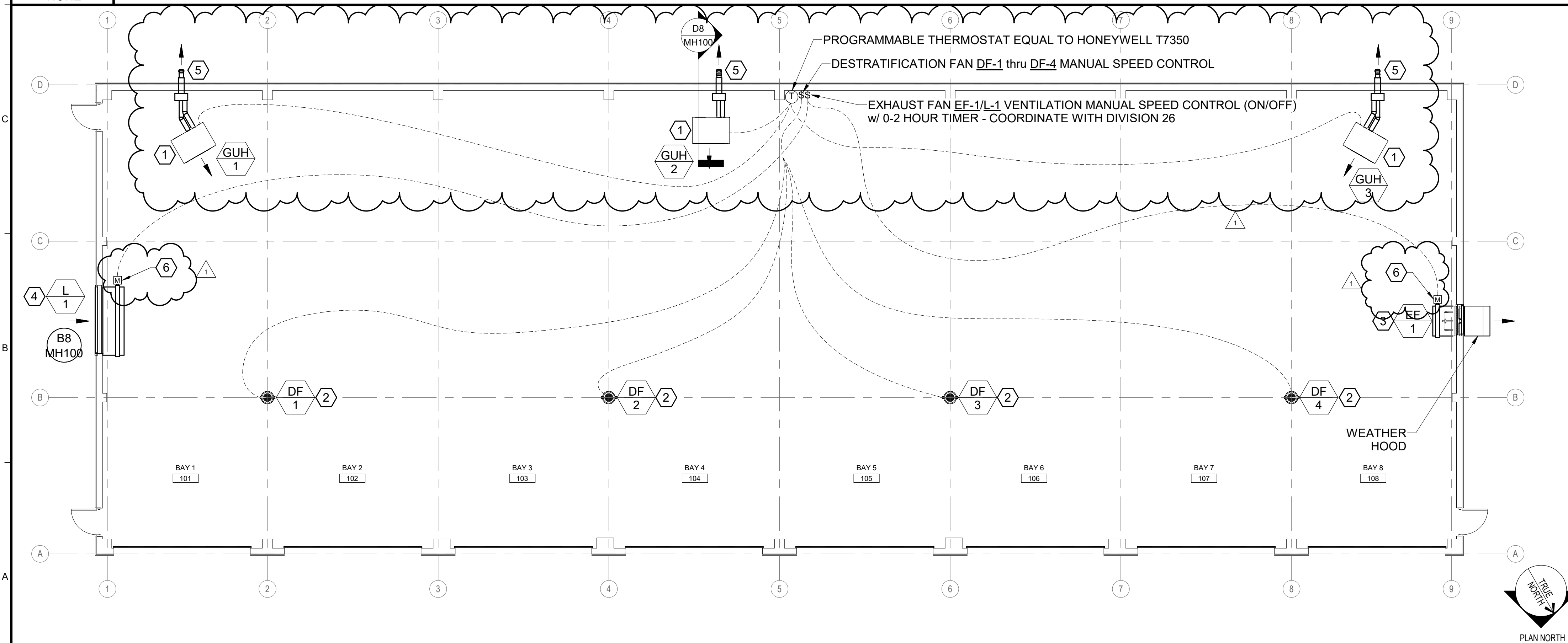


D1 MECHANICAL SCHEDULES

NONE

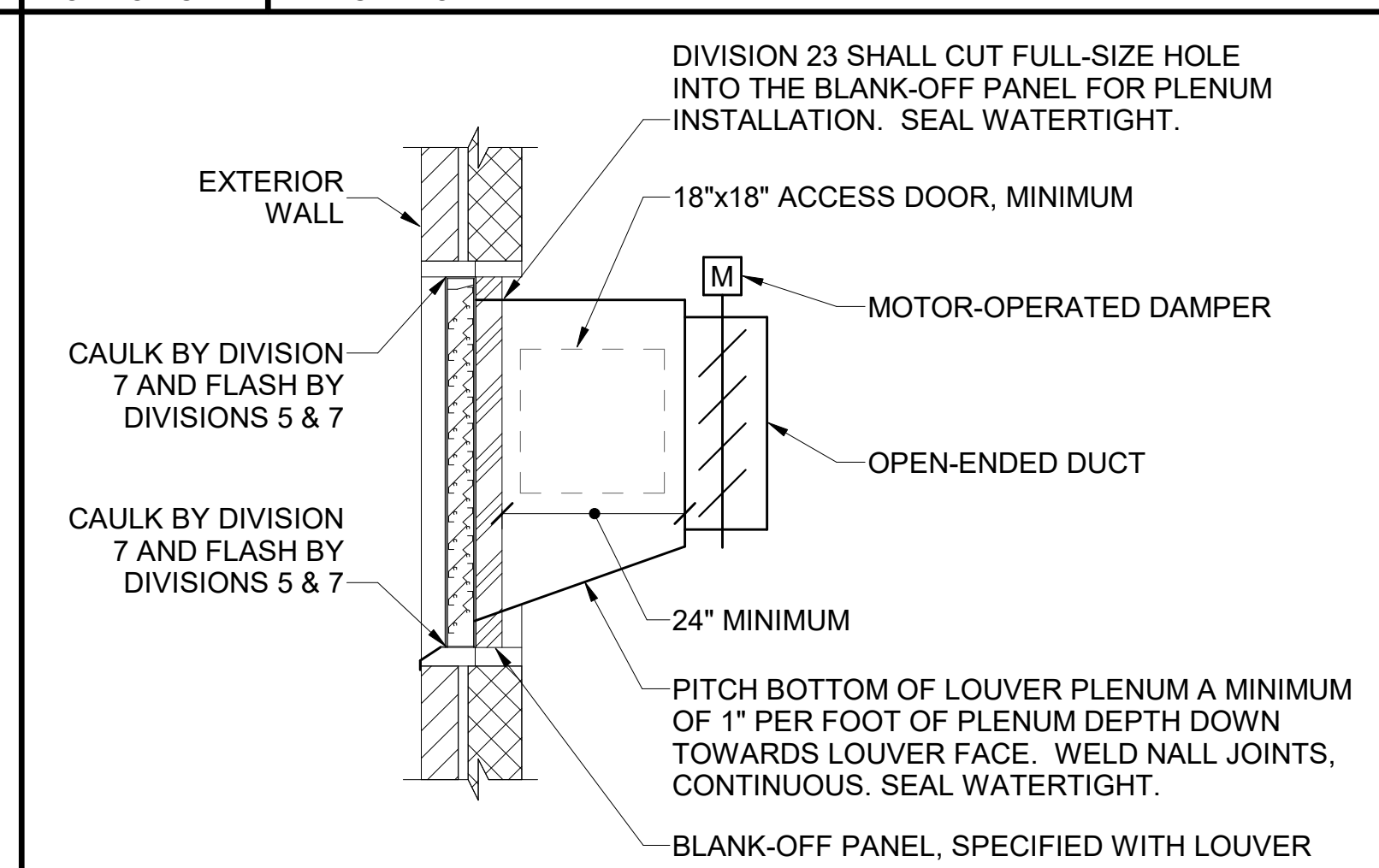
D8 DETAIL - GAS FIRED UNIT HEATER CONCENTRIC VENTING

NOT TO SCALE TYPICAL FOR ALL



A1 MECHANICAL PLAN

1/8" = 1'-0"



B8 DETAIL - EXTERIOR LOUVER

NOT TO SCALE

- ① MOUNT UNIT HIGH AS POSSIBLE, TIGHT TO ROOF STRUCTURE, MAINTAINING MANUFACTURER'S MINIMUM RECOMMENDED CLEARANCES - APPROXIMATELY 13'-0" ABOVE FINISHED FLOOR.
- ② BOTTOM OF FAN = 14'-0" ABOVE FINISHED FLOOR.
- ③ BOTTOM OF FAN = 8'-0" ABOVE FINISHED FLOOR.
- ④ BOTTOM OF LOUVER = 6'-0" ABOVE FINISHED FLOOR.
- ⑤ CONCENTRIC 6" EXHAUST VENT / 8" OUTSIDE AIR VENT THRU EXTERIOR WALL.
- ⑥ LINE VOLTAGE MOD (110V) - COORDINATE WITH DIVISION 26.

A8 KEYED NOTES

NONE

Scale: As indicated			
No.	Revision	By	Date
①	ADDENDUM No. 2	AEI	12-16-21

Designed by:

ISSUED FOR BID - NOT FOR CONSTRUCTION

Designed:	HAG	11/22/2021	Checked:	ASD	11/22/2021
Drawn:	REW	11/22/2021			

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THE GOLD STAR  
 MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2021.06  
 CROSBY VEHICLE STORAGE GARAGE  
 MECHANICAL PLAN

SHEET NUMBER: MH100

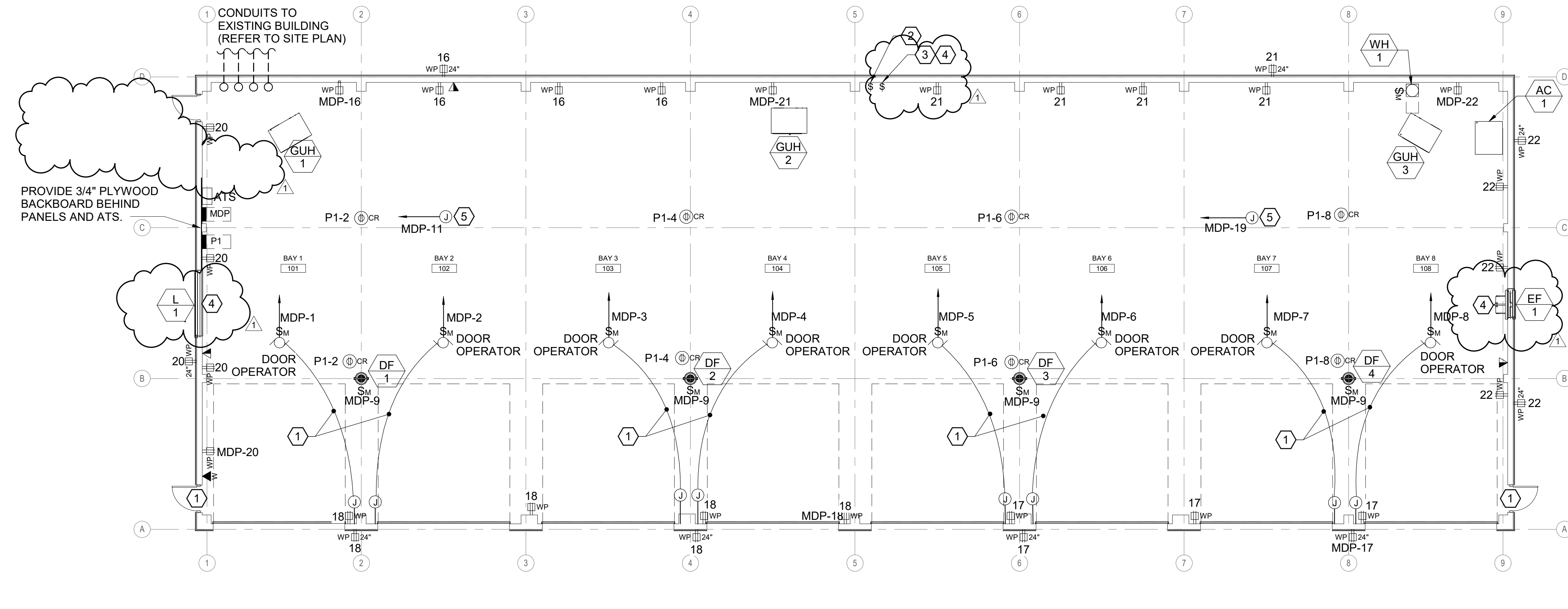
CONTRACT: 2021.06 26 OF 32

ELECTRICAL SCHEDULE OF MECHANICAL EQUIPMENT- REFER TO PANEL SCHEDULES FOR CIRCUITING

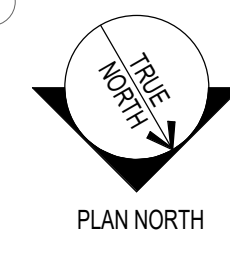
TAG	DESCRIPTION/ AREA SERVED	VOLTS	PH	LOAD	FLA	MCA	MOP D	DISCONNECT SWITCH				STARTER...			WIRING IN CONDUIT (2...	NOTES
								FR...	PO...	FUSE	NE...	FBD	SIZ...	FBD		
AC-1	AIR COMPRESSOR	208	3	7.5 HP	40	46	50	60	3	50	1	22	22	22	4 #6, 1 #8G	
GUH-1	BLOWER HEATER	120	1	.5 hp	9.8		20	-	-	-	-	23	23	23	3 #12, 1 #12G	
GUH-2	BLOWER HEATER	120	1		9.8		20	-	-	-	-	23	23	23	3 #12, 1 #12G	
GUH-3	BLOWER HEATER	120	1		9.8		20	-	-	-	-	23	23	23	3 #12, 1 #12G	
DF-1,2,3,4	DESTRATIFICATION FANS	120	1	106W	1.0		15	-	-	MRT	-	26	23	23	3 #12, 1 #12G	
EF-1	EXHAUST FAN	208	3	3 HP	10.6		20	-	-	-	-	23	23	26	4#12, 1 #12G	1
WH-1	ELECTRIC WATER HEATER	120	1	1650W	14.0		20	-	-	MRT	-	23	23	23	3 #12, 1 #12G	
L-1	INTAKE LOUVER	120	1		2.0		20	-	-	-	-	23	23	26	3#12, 1 #12G	1

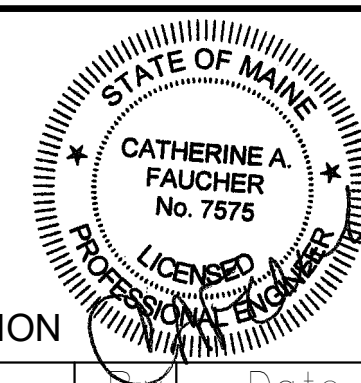
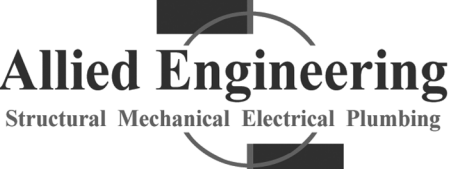

NOTES:  
1. CONTROLS WIRED BY DIVISION 26, CONTROL DEVICES SUPPLIED BY DIVISION 23. L-1/EF-1 SHALL BE INTERLOCKED. ALL WIRING AND CONDUIT FROM CONTROLS BY DIVISION 26.

ABBREVIATIONS:  
FWE FURNISHED WITH EQUIPMENT  
NE NOT FUSED  
SW... SWITCHBOARD  
FBD FURNISHED BY DIVISION  
CBD CONTROL WIRING BY DIVISION  
MRT MOTOR RATED TOGGLE SWITCH (VOLTAGE, CURRENT RATING AND POLE...



- KEYED NOTES:**
- 1 PROVIDE EMPTY J-BOX 44" ABOVE FINISHED FLOOR AND 1-1/2" EMPTY CONDUIT FOR DOOR CONTROL WIRING AND CONTROLS BY OTHERS.
  - 2 DESTRATIFICATION FAN DF-1 thru DF-4 MANUAL SPEED CONTROL CONTROLS BY OTHERS.
  - 3 EXHAUST FAN EF-1/L-1 VENTILATION TIMER AND VARIABLE SPEED CONTROL LOCATIONS - CONTROL DEVICES SUPPLIED BY DIVISION 23, WIRED BY DIVISION 26.
  - 4 WIRE AND CONNECT L-1/EF-1 THROUGH TIMER SWITCH AND VARIABLE SPEED CONTROLLER SUPPLIED BY DIVISION 23. COORDINATE WITH DIVISION 23.
  - 5 PROVIDE 120-VOLT POWER FOR HVAC CONTROLS AT UNDERSIDE OF DECK. CONTROLS BY OTHERS.



<b>A1 POWER AND SYSTEMS PLAN</b>																					
1/8" = 1'-0"																					
Scale: 1/8" = 1'-0"	Designed by: 																				
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 160 Veranda Street Portland, Maine 04103 P: 207.221.2260 F: 207.221.2266 Web: www.allied-eng.com	 <b>THE GOLD STAR MEMORIAL HIGHWAY</b>																				
CONTRACT 2021.06 CROSBY VEHICLE STORAGE GARAGE POWER AND SYSTEMS PLAN																					
MTA PROJECT MANAGER: Brian A. Taddeo, P.E.																					
SHEET NUMBER: EP100 CONTRACT: 2021.06 31 OF 32																					

**Lighting and Appliance Panelboard:**

Location: BAY 1 101  
Supply From: MDP  
Mounting: Surface

**P1**

Volts: 120/208 Wye  
Phases: 3  
Wires: 4

A.I.C. Rating: 42kA  
Mains Type: MLO  
Bus Rating: 100 A  
MCB Rating:

CKT	Circuit Description	Trip Amps	Poles	A (kVA)	B (kVA)	C (kVA)	Poles	Trip Amps	Circuit Description	CKT	
1	Lighting, Switch a	20	1	0.72	0.72			1	20	CORD REELS BAYS 1-2	2
3	Lighting, Switch b	20	1		0.78	0.72		1	20	CORD REELS BAYS 3-4	4
5	Lighting, Switch c	20	1			0.72	0.72	1	20	CORD REELS BAYS 5-6	6
7	EXTERIOR BUILDING LIGHTING	20	1	0.4	0.72			1	20	CORD REELS BAYS 7-8	8
9	EXTERIOR BUILDING LIGHTING	20	1		0.47	0.5		1	20	GENERATOR BATTERY CHARGER	10
11	GENERATOR START	20	1			0.5	1.4	1	20	GEN JACKET WH AND STRIP HEATER	12
13	SPARE	20	1	0	0			1	20	SPARE	14
15	SPARE	20	1		0	0		1	20	SPARE	16
17	SPARE	20	1			0	0	1	20	SPARE	18
19	SPARE	20	1	0	0			1	20	SPARE	20
21	SPARE	20	1		0	0		1	20	SPARE	22
23	SPARE	20	1			0	0	1	20	SPARE	24
25	SPARE	20	1	0	0			1	20	SPARE	26
27	SPARE	20	1		0	0		1	20	SPARE	28
29	SPARE	20	1			0	0	1	20	SPARE	30
31	SPARE	20	1	0	0			1	20	SPARE	32
33	SPARE	20	1		0	0		1	20	SPARE	34
35	SPARE	20	1			0	0	1	20	SPARE	36
37	SPARE	20	1	0	0			1	20	SPARE	38
39	SPARE	20	1		0	0		1	20	SPARE	40
41	SPARE	20	1			0	0	1	20	SPARE	42
<b>Total Load:</b>				2.1 kVA	1.9 kVA	2.8 kVA					
<b>Total Amp:</b>				17 A	16 A	23 A					

**Notes:**

NEMA 3R ENCLOSURE

**Lighting and Appliance Panelboard:**

Location: BAY 1 101  
Supply From: Surface  
Mounting: Surface

**MDP**

Volts: 120/208 Wye  
Phases: 3  
Wires: 4

A.I.C. Rating: 42kA  
Mains Type: MCB  
Bus Rating: 400 A  
MCB Rating: 400 A

CKT	Circuit Description	Trip Amps	Poles	A (kVA)	B (kVA)	C (kVA)	Poles	Trip Amps	Circuit Description	CKT		
1	DOOR OPERATOR BAY 1	20	1	1.44	1.44			1	20	DOOR OPERATOR BAY 2	2	
3	DOOR OPERATOR BAY 3	20	1		1.44	1.44		1	20	DOOR OPERATOR BAY 4	4	
5	DOOR OPERATOR BAY 5	20	1			1.44	1.44	1	20	DOOR OPERATOR BAY 6	6	
7	DOOR OPERATOR BAY 7	20	1	1.44	1.44			1	20	DOOR OPERATOR BAY 8	8	
9	DESTRAT FANS	15	1		0.48	1.18		1	20	GAS UNIT HEATER 1	10	
11	HVAC CONTROL POWER	20	1			0.5	1.18	1	20	GAS UNIT HEATER 2	12	
13	HVAC - L-1 LOUVER	20	1	0.3	1.18			1	20	GAS UNIT HEATER 3	14	
15	WATER HEATER	20	1		1.68	0.9		1	20	Receptacles	16	
17	Receptacles	20	1			0.9	1.08	1	20	Receptacles	18	
19	HVAC CONTROL POWER	20	1	0.5	0.9			1	20	Receptacles	20	
21	Receptacles	20	1		1.08	1.08		1	20	Receptacles	22	
23	SPARE	20	1			0	0	1	20	SPARE	24	
25	SPARE	20	1	0	0			1	20	SPARE	26	
27	SPARE	20	1		0	0		1	20	SPARE	28	
29	SPARE	20	1			0	0	1	20	SPARE	30	
31				1.44	0						32	
33	EF-1	20	3		1.44	0		3	200	SPARE	34	
35						1.44	0				36	
37				2.07	4.14						38	
39	P1	100	3			1.92	4.14		3	50	AIR COMPRESSOR - AC-1	40
41							2.78	4.14				42
<b>Total Load:</b>				16.1 kVA	16.5 kVA	14.8 kVA						
<b>Total Amp:</b>				136 A	139 A	123 A						

**Notes:**

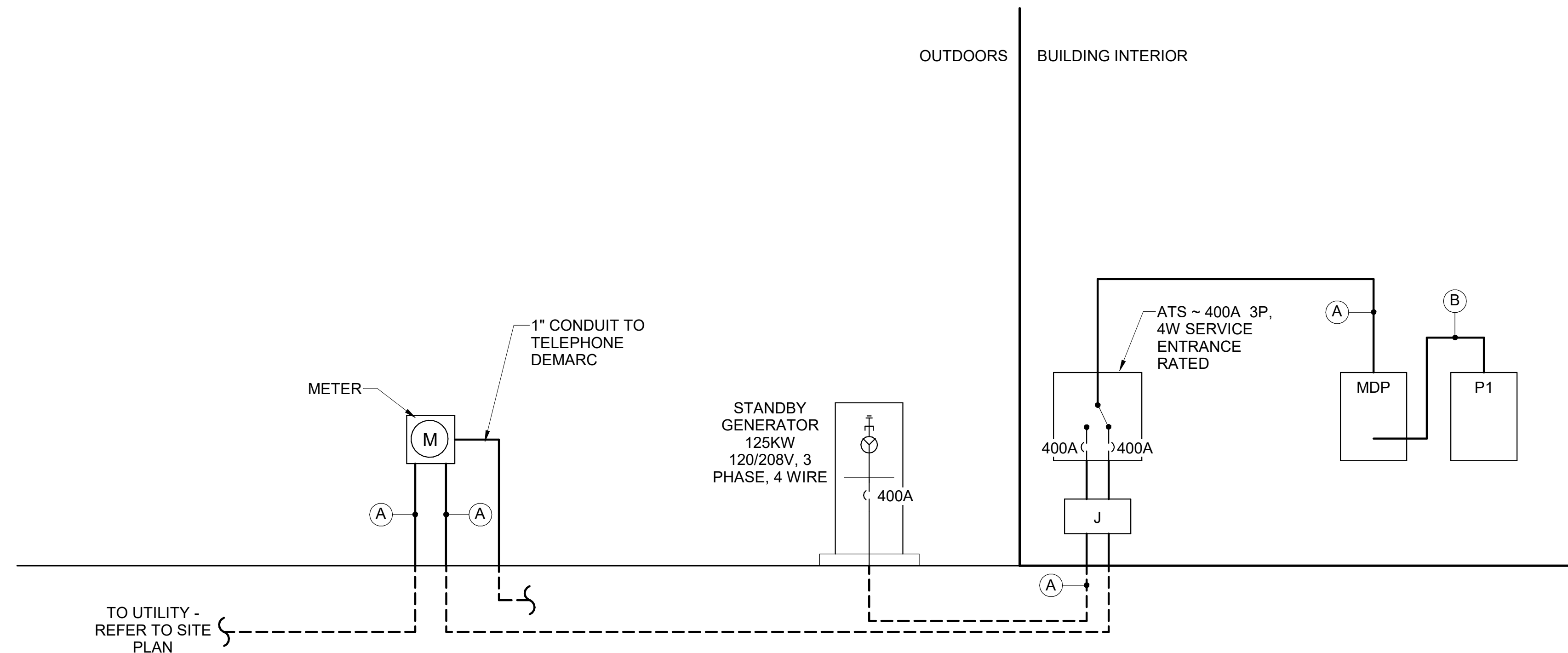
NEMA 3R ENCLOSURE

**FEEDER SCHEDULE**

TAG	DESCRIPTION	CONDUCTORS (NOTE 1)	CONDUIT (NOTE 2)
(A)	400 AMP PRIMARY/FEEDER	(4) 500KCMIL	4"
(B)	100 AMP SECONDARY/FEEDER	(4) #2, (1) #8 G	1 1/2"

**FEEDER SCHEDULE NOTES:**

1. WIRING BASED ON COPPER THWN/THHN
2. CONDUIT SIZE BASED ON EMT



A1 POWER RISER DIAGRAM

Scale: 12" = 1'-0"

No.	Revision	By	Date
1	ADDENDUM No. 2	AEI	12-16-21

Designed by:

ISSUED FOR BID - NOT FOR CONSTRUCTION

By	Date	By	Date
CAF	11/22/2021	CAF	11/22/2021
REW	11/22/2021		

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**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2021.06  
CROSBY VEHICLE STORAGE GARAGE  
POWER RISER DIAGRAM

SHEET NUMBER: EP500

CONTRACT: 2021.06

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