

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



BREWER
PENOBSCOT COUNTY
US ROUTE 1A / DIRIGO DRIVE
02357500
PROJECT LENGTH : 0.00 MILES

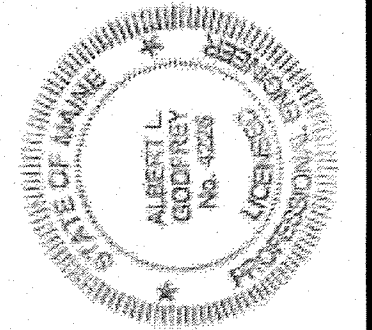
PLAN LEGEND

Town, County, State	_____	Catch Basins	Existing	Proposed
Property Lines	-----	Manholes	Existing	Proposed
R/W Lines-Existing	-----	Proposed Underdrain	-----	
R/W Lines-Proposed	-----	Proposed Ditch	-----	
Culvert-Existing	-----	Existing Ditch	-----	
Culvert Proposed	-----	Utility Poles	Existing	Proposed
Curbing	Existing Proposed	Fire Hydrants	Existing	Proposed
Type 1	-----	Existing Water Line	-----	
Type 3	-----	Existing San. Sewer	-----	
Type 5	-----	Existing San. Sewer Manhole	-----	
Outline of Bodies of Water	-----	Guardrail-Existing	-----	
Exposed Bedrock	-----	Guardrail-Proposed	-----	
Buildings	-----	Guardrail-Cable, Other	-----	
Trees	Conifer Deciduous	Centerline-Existing	-----	
Tree Line	-----	Centerline-Proposed	-----	
Clearing Limit Line	-----	Travelway-Existing	-----	
Railroad	-----	Travelway-Proposed	-----	
Boring	HB-XXX-###	Probe	P-#. #X	
Pavement Core	PC-#	#. # = Depth		
Test Pit	TP-XXX-###	X = W (Weathered Rock)		
		R (Refusal)		
		NR (No Refusal)		

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STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	DATE
	COMMISSIONER	4-17-2020
	CHIEF ENGINEER	4-16-2020

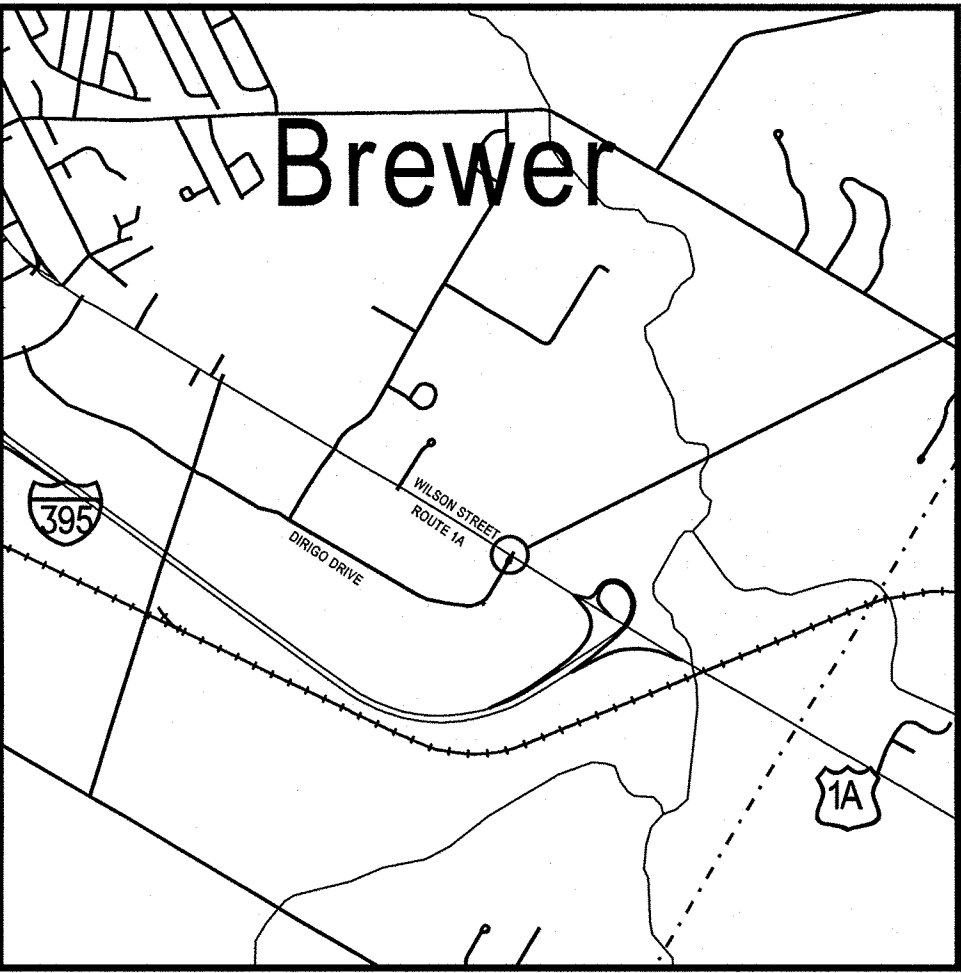


SIGNATURE	P.E. NUMBER	DATE
A. Godfrey	4226	3/12/20

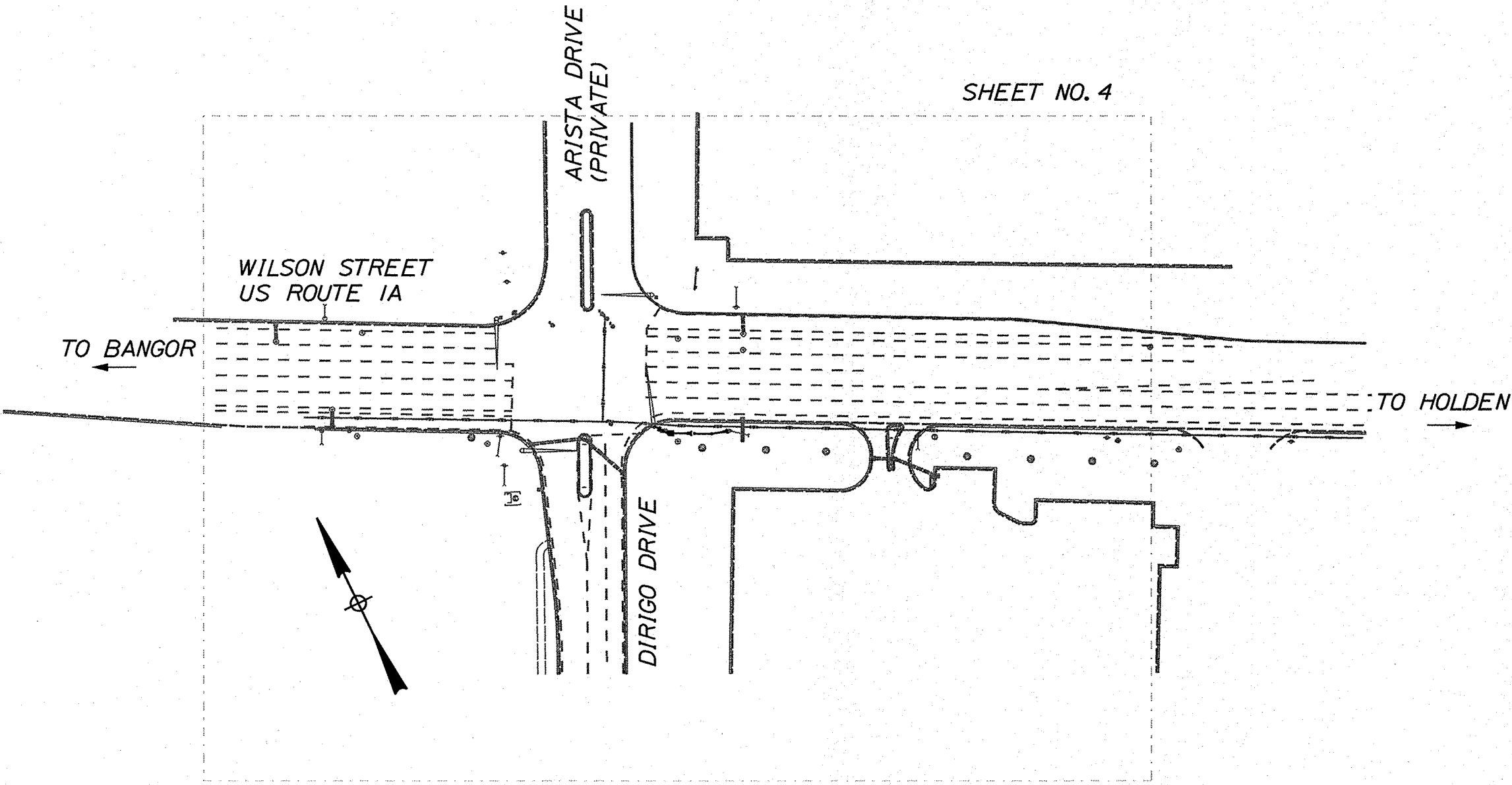
PROJECT INFORMATION	PROGRAM	MULTIMODAL
	PROJECT MANAGER	D. LORING
	DESIGNER	A. GODFREY
	CONSULTANT	TMSI ENGINEERS
	PROJECT RESIDENT	
	CONTRACTOR	
	PROJECT COMPLETION DATE	

BREWER U.S. RTE. 1A/DIRIGO DR.	TITLE SHEET
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SHEET NUMBER	1
OF 4	



Scale in Miles
0 1/2 1
LOCATION MAP



LAYOUT SCALE
100 0 100 200
Scale in Feet

<u>PROJECT LOCATION:</u>	INTERSECTION OF US ROUTE 1A AND DIRIGO DRIVE IN BREWER.
<u>PROGRAM AREA:</u>	MULTIMODAL
<u>SCOPE OF WORK:</u>	INTERSECTION AND TRAFFIC SAFETY IMPROVEMENTS.

WIN 23575.00 02357500

Date:4/6/2020

Username: common



Division: HIGHWAY

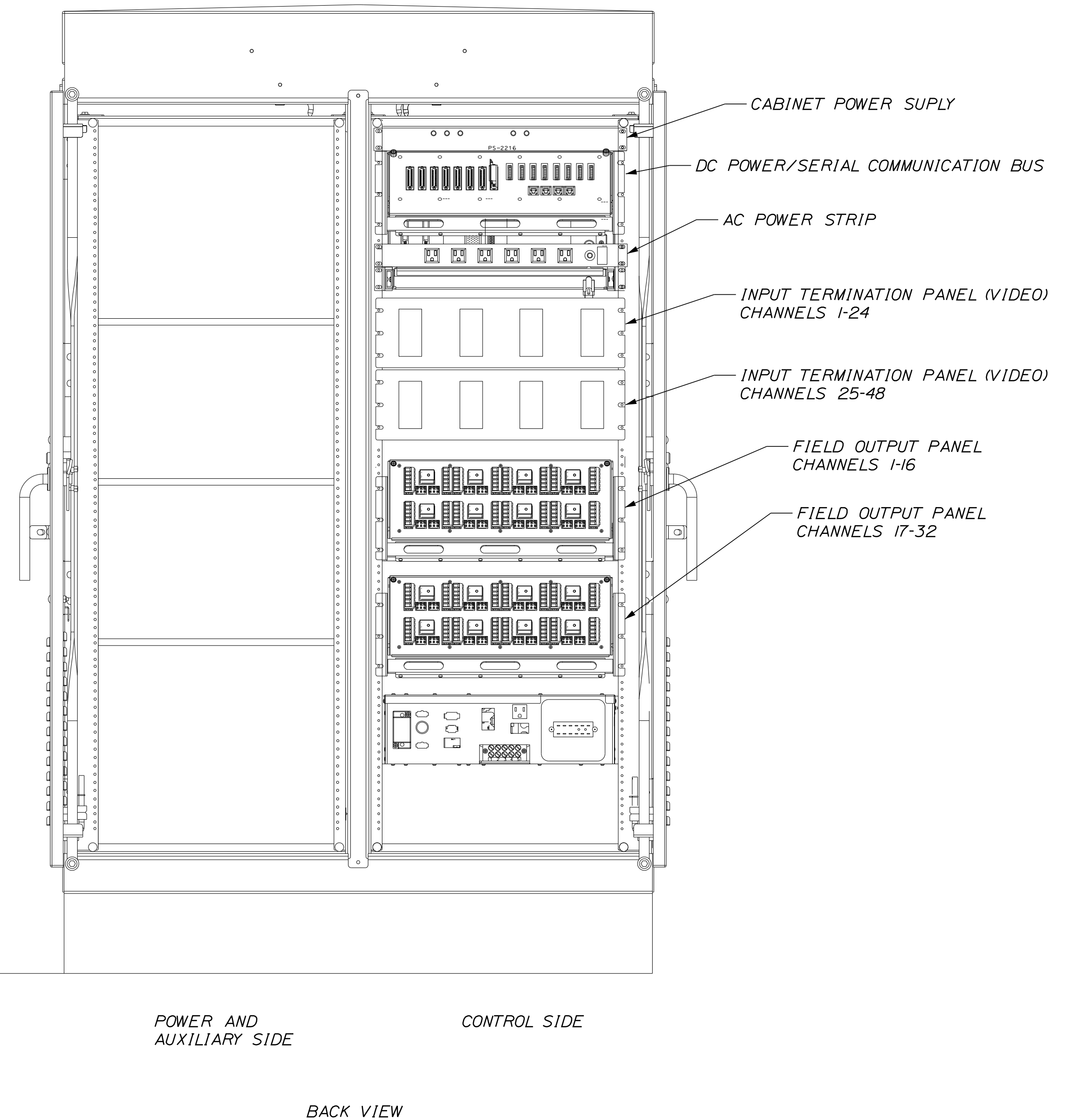
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CONSTRUCTION NOTES

1. TRAFFIC SIGNAL WORK FOR THIS PROJECT WILL INCLUDE, BUT NOT BE LIMITED TO, FURNISHING AND INSTALLING A COMPLETE NEW GROUND-MOUNTED ATCC TRAFFIC SIGNAL CABINET AND FOUNDATION, ATC CONTROLLER, FIELD MONITORING UNIT WITH CELLULAR MODEM, AND ANCILLARY EQUIPMENT; VIDEO DETECTION; REMOVAL OF THE EXISTING TRAFFIC SIGNAL CONTROL CABINET AND FOUNDATION; AND RELATED INCIDENTAL WORK AND MATERIALS.
2. ALL WORK SHALL BE COMPLETED IN CONFORMANCE WITH THE LATEST REVISIONS OF THE STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, MAINEDOT SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS FOR THIS CONTRACT, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE NATIONAL ELECTRICAL CODE, AND ANY REQUIREMENTS OF THE POWER COMPANY.
3. LOCATIONS OF ANY EXISTING UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE PRESENCE OF UNDERGROUND UTILITY FACILITIES PRIOR TO COMMENCING ANY EXCAVATION WORK OR INSTALLATION OF POLES, FOUNDATIONS, CONDUIT, JUNCTION BOXES OR OTHER WORK INVOLVING SUBSURFACE DISTURBANCE AND SHALL NOTIFY UTILITIES OF PROPOSED WORK IN ACCORDANCE WITH MRSA TITLE 23 SECTION 3360-A, MAINE "DIG SAFE" SYSTEM. CONTRACTOR SHALL CONTACT DIG SAFE AT LEAST THREE WORKING DAYS PRIOR TO THE BEGINNING OF EXCAVATION. ALL UTILITIES SHALL BE LOCATED BEFORE BEGINNING EXCAVATION.
4. THE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES AT LEAST 48 HOURS BEFORE ANY OPERATIONS ARE CONDUCTED THAT POTENTIALLY COULD CONFLICT WITH AERIAL UTILITIES.
5. INSTALL NEW 120V/240V POWER SERVICE FOR TRAFFIC SIGNALS.
6. AN EXTERNAL, STANDALONE BREAKER TO DISCONNECT POWER TO THE NEW CONTROL CABINET SHALL BE INSTALLED IN A LOCKABLE NEMA 3R ENCLOSURE BETWEEN THE METER AND THE CABINET.
7. THE CONTROL CABINET AND THE POWER DISCONNECT ENCLOSURE EACH SHALL BE MARKED WITH ARC HAZARD TYPE 2, 3 OR 4 AND THE APPROPRIATE PPE REQUIRED. SEE SECTION 643.09 FOR OTHER REQUIREMENTS.
8. ALL TRAFFIC SIGNAL SYSTEM COMPONENTS REMOVED BY THE CONTRACTOR SHALL REMAIN THE PROPERTY OF THE CITY OF BREWER, UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER. HARDWARE SHALL BE CAREFULLY REMOVED, PROTECTED FROM DAMAGE, TRANSPORTED AND UNLOADED BY THE CONTRACTOR TO A DESIGNATED LOCATION AT THE BREWER PUBLIC WORKS FACILITY AT 221 GREEN POINT ROAD IN BREWER. PAYMENT WILL BE INCIDENTAL TO PAYMENT UNDER ITEM 643.71.
9. FURNISH AND INSTALL A NEW "SAFETRAN", OR APPROVED EQUAL, ADVANCED TRANSPORTATION (ATC) CABINET. FURNISH, INSTALL AND PROGRAM A NEW ECONOLITE "COBALT" SHELF-MOUNT ATC CONTROLLER, INCLUDING ALL NECESSARY INTERFACE CONNECTORS AND CONTROLLER FIRMWARE CAPABILITY TO OPERATE IN THE ATCC 5301V02 AND NEMA TS2 TYPE 1 CABINET ARCHITECTURE PLATFORMS, WITH A COMPATIBLE CABINET MONITOR UNIT (CMU). FURNISH AND INSTALL BATTERY BACK-UP SYSTEM, ECONOLITE "RUGGEDIZED" MODEL ERRN-I500-HI OR APPROVED EQUAL COMPATIBLE WITH OTHER EQUIPMENT IN THE CABINET AND PROVIDING EQUAL OR BETTER RATED CAPACITY. REPLACE PREEMPTION CONFIRMATION LIGHT DRIVER, OPTICAL SIGNAL PROCESSOR, IF REQUIRED, AND ALL OTHER HARDWARE NECESSARY FOR FULL OPERATION OF TRAFFIC SIGNALS IN THE ATC CABINET ENVIRONMENT.
10. CONTRACTOR SHALL CONFIRM PHASING, TIMING AND PREEMPTION SETTINGS IN THE EXISTING CONTROLLER BEFORE REMOVAL. PHASING, TIMING AND PREEMPTION SETTINGS IN THE NEW CONTROLLER ARE INTENDED TO BE THE SAME AS EXISTING SETTINGS.
11. THE TRAFFIC SIGNAL CONTROLLER SHALL BE AN ADVANCED TRANSPORTATION CONTROLLER (ATC) CAPABLE OF SUPPORTING NTCIP PROTOCOLS.
12. DETECTION EQUIPMENT SHALL BE CONNECTED TO THE FIELD MONITORING UNIT AND CELL MODEM WITH REMOTE MONITORING AND ADJUSTMENT CAPABILITY.
13. THE CELL MODEM IN THE ATC CABINET SHALL BE INTEGRATED INTO A CLOUD BASED MONITORING SYSTEM, SIERRA WIRELESS GX450 OR APPROVED EQUAL.
14. THE NEW CONTROLLER CABINET SHALL BE FURNISHED WITH AN APPROVED 50A PRE-WIRED 120/240V POWER TRANSFER SWITCH SYSTEM FOR EXTERNAL PORTABLE GENERATOR CONNECTION. PAYMENT WILL BE INCIDENTAL TO PAYMENT UNDER ITEM 643.71.
15. WIRELESS RADIO INTERCONNECT SYSTEM COMPONENTS IN THE EXISTING CONTROLLER CABINET SHALL BE CAREFULLY REMOVED, PROTECTED FROM DAMAGE, REINSTALLED IN THE NEW TRAFFIC SIGNAL CONTROLLER CABINET, AND RECONFIGURED BY THE CONTRACTOR AS NECESSARY FOR COMPATIBILITY WITH THE ATC CABINET AND TO PROVIDE FULLY OPERATIONAL WIRELESS RADIO INTERCONNECTION WITH OTHER TRAFFIC SIGNALS ON THE WILSON STREET CORRIDOR.
16. EXISTING DETECTION CAMERAS AND RELATED EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR. FURNISH AND INSTALL NEW VIDEO DETECTION CONSISTING OF AUTOSCOPE "VISION" VIDEO DETECTION HARDWARE AND RELATED EQUIPMENT MANUFACTURED BY ECONOLITE.
17. THERE SHALL BE NO SPLICES OR JUNCTION BOXES EXCEPT AS NOTED ON THE PROJECT PLANS OR APPROVED BY THE RESIDENT. JUNCTION BOXES ARE INTENDED FOR WIRE PULLING ACCESS ONLY.
18. JUNCTION BOX COVERS SHALL BE LABELED "TRAFFIC" AND SHALL BE GROUNDED.
19. BUSHINGS SHALL BE INSTALLED ON ALL CONDUIT TERMINATIONS.
20. PULL WIRE SHALL BE INSTALLED IN ALL CONDUIT.
21. ALL CONDUIT THREADS ARE TO BE RED HEADED.

22. ALL EXPOSED STEEL FITTINGS AND HARDWARE SHALL BE GALVANIZED, EXCEPT NON-CONDUCTIVE BUSHINGS SHALL BE USED FOR CONNECTION OF RIGID METAL CONDUIT TO ALUMINUM CABINETS.
23. SECONDARY CIRCUIT WIRING FOR TRAFFIC SIGNALS SHALL BE STRANDED COPPER XHHW-2, NO. 8 AWG OR LARGER.
24. ALL TRAFFIC SIGNAL EQUIPMENT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.
25. THE CONTROL CABINET FOUNDATION SHALL HAVE ONE OR MORE GROUND RODS LOCATED IN OR ADJACENT TO THE FOUNDATION THAT ARE BONDED TO THE GROUNDING CONDUCTOR.
26. ALL FIELD WIRING SHALL BE NEATLY BUNDLED AND CLEARLY IDENTIFIED WITH PERMANENT, LEGIBLE, WEATHERPROOF TAGS SECURELY ATTACHED TO EACH CABLE.
27. AT THE TIME OF FINAL PROJECT INSPECTION, THE CONTRACTOR SHALL FURNISH TO THE RESIDENT THREE COMPLETE SETS OF AS-BUILT TRAFFIC SIGNAL PLANS, WIRING DIAGRAMS, BOX PRINTS AND EQUIPMENT MANUALS. ONE ADDITIONAL SET SHALL REMAIN IN THE CABINET.
28. THE MAINTENANCE OF TRAFFIC SIGNALS SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR UNTIL FINAL ACCEPTANCE BY MAINEDOT.
29. PAYMENT UNDER ITEM 643.71 SHALL INCLUDE, BUT NOT BE LIMITED TO, POWER SERVICE AND METER, METER DISCONNECT AND ENCLOSURE, CONTROLLER AND CABINET, WIRING, CABLE, POLE RISERS, AND ALL APPURTENANCES AND INCIDENTALS NECESSARY FOR A COMPLETELY FUNCTIONING TRAFFIC SIGNAL INSTALLATION, OTHER THAN RELATED LABOR, MATERIALS AND EQUIPMENT INCLUDED IN OTHER PAY ITEMS OF THE CONTRACT.
30. ALL WASTE MATERIAL NOT USED ON THE PROJECT SHALL BE DISPOSED OFF THE PROJECT IN ACCEPTABLE WASTE AREAS REVIEWED BY THE RESIDENT. GRADING, SEEDING AND MULCHING OF WASTE AREAS SHALL BE CONSIDERED INCIDENTAL.
31. LOAM HAS BEEN ESTIMATED FOR DISTURBED LAWN AREAS. LOAM SHALL BE PLACED TO A NOMINAL DEPTH OF 4 INCHES. ACTUAL PLACEMENT OF THE LOAM SHALL BE AS DESIGNATED BY THE RESIDENT.
32. UNLESS OTHERWISE NOTED SEEDING METHOD NO. 1 SHALL BE UTILIZED ON ALL LAWNS AND DEVELOPED AREAS.
33. PAYMENT FOR LOAM, SEEDING AND MULCH IN THIS CONTRACT WILL BE LIMITED TO A MAXIMUM OF 500 SQUARE FEET OF DISTURBED SURFACE AREA. ANY ADDITIONAL DAMAGE TO THE SLOPES CAUSED BY THE CONTRACTOR'S EQUIPMENT, PERSONNEL, OR OPERATION SHALL BE REPAIRED TO THE SATISFACTION OF THE RESIDENT. ALL WORK, EQUIPMENT, AND MATERIALS REQUIRED TO MAKE SUCH ADDITIONAL REPAIRS SHALL BE AT THE CONTRACTOR'S EXPENSE.
34. NO SEPARATE PAYMENT FOR SUPERINTENDENT OR FOREMAN WILL BE MADE FOR THE SUPERVISION OF EQUIPMENT AND LAYOUT OF WORK BEING PAID FOR UNDER THE EQUIPMENT RENTAL ITEMS.

STATE OF MAINE DEPARTMENT OF TRANSPORTATION		02357500		WIN 23575.00		HIGHWAY PLANS	
				SIGNATURE 4226		P.E. NUMBER 3/12/20	
DATE 3-20		BY JLE		D. LORING ALG		FIELD CHANGES	
CHECKED-REVIEWED DESIGN-DETAILED		DESIGN-DETAILED		REVISIONS 1		REVISIONS 2	
REVISIONS 3		REVISIONS 4		REVISIONS 5		REVISIONS 6	
BREWSTER U.S. RTE. 1A / DIRIGO DRIVE		CONSTRUCTION NOTES		SHEET NUMBER 2		OF 4	



NOTES:

- 1. DRAWING SHOWN IS A SCHEMATIC REPRESENTATION OF THE ATC CABINET DEPICTING THE RELATIVE LOCATION OF VARIOUS IN-CABINET DEVICES AND SUBASSEMBLIES. THE EXACT SIZE OF VARIOUS ELEMENTS MAY VARY PER MANUFACTURER.*
- 2. INPUT TERMINATION PANEL SHOWN IS FOR VIDEO BASED UNITS.*
- 3. DRAWING DEPICTS TWO INPUT PANELS AND TWO OUTPUT PANELS. THIS QUANTITY MAY BE REDUCED DEPENDING ON APPLICATION; SEE SPECIAL PROVISIONS FOR NUMBER OF PANELS TO BE SUPPLIED.*
- 4. FAN AND THERMOSTAT SHALL BE INSTALLED ON THE CABINET FRAME ABOVE THE DOOR.*
- 5. LED LIGHT STRIPS SHALL BE INSTALLED ON CABINET FRAME ABOVE THE DOOR AND ON THE UNDERSIDE OF THE LOWER SHELF.*

NOMINAL TERMINAL PANEL SIZE
PER 24 INPUT RACK:

LOOP = 6U HIGH (10.5")
VIDEO - 3U HIGH (5.25")

