

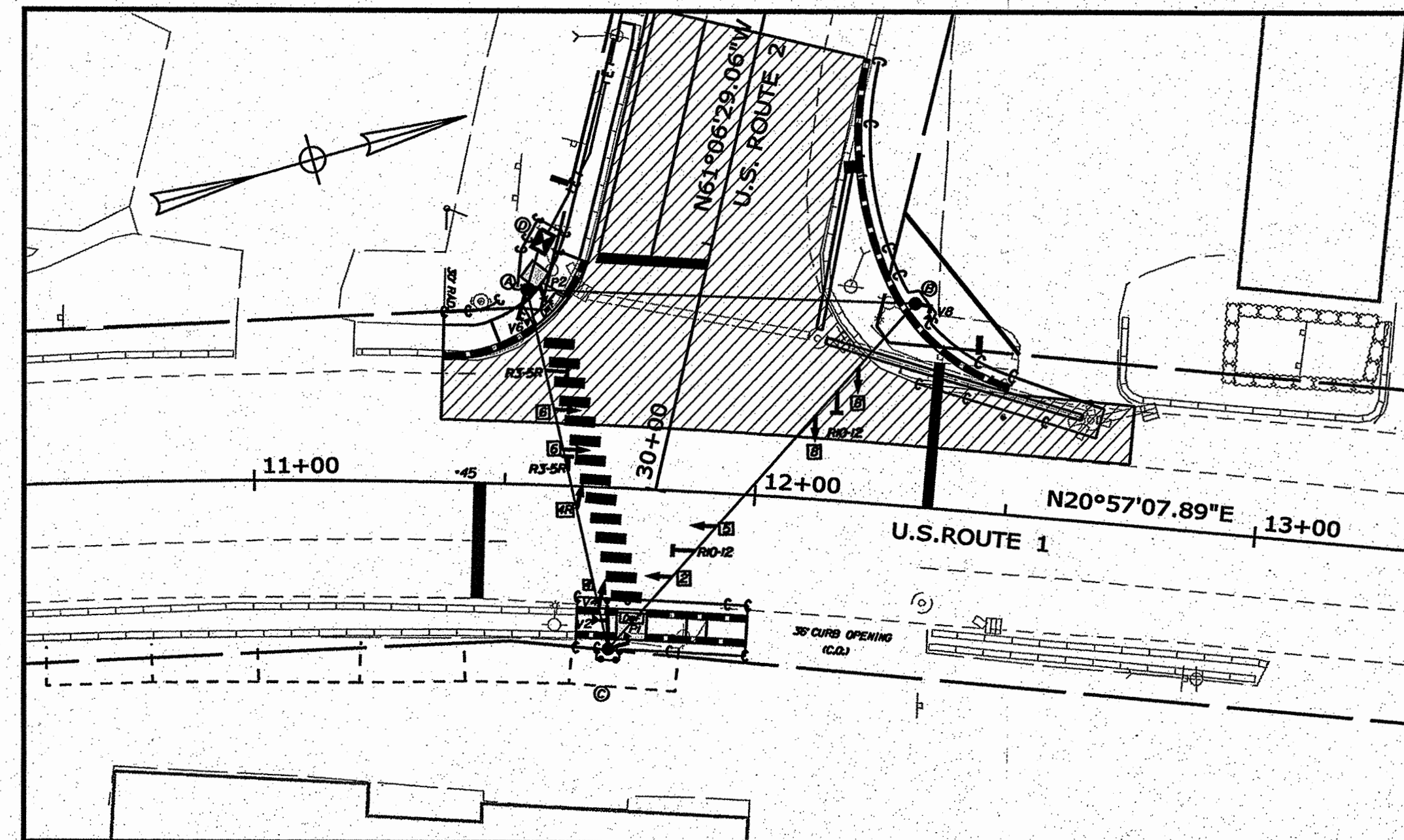
# STATE OF MAINE DEPARTMENT OF TRANSPORTATION



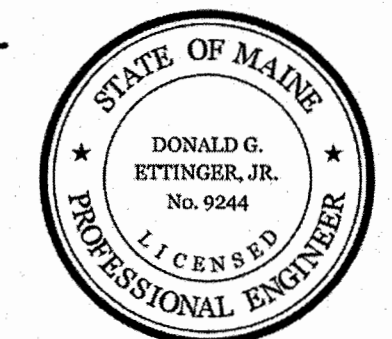
## HOULTON AROOSTOOK COUNTY U.S. ROUTE 1 & U.S. ROUTE 2 INTERSECTION 2288500 PROJECT LENGTH : 0.00 MILES

Description	Sheet No.
Title Sheet	1
Typical Sections	2
Estimated Quantities and General Notes	3
Foundation Plan	4
Geotechnical Boring Logs	5
Signal Plan	6
Signal Plan Details	7
ATCC Detail	8
Geometric Plan	9
Right of Way Plan	10

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

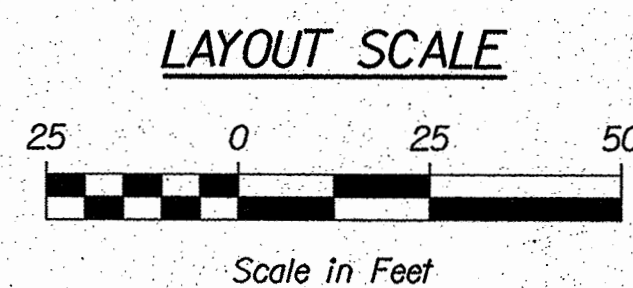


9244  
 01-04-2024



PROJECT DESIGN WAS COMPLETED BY TMSI. UPDATES COMPLETED BY GORRILL PALMER ARE LIMITED TO PROJECT PAY ITEMS, QUANTITIES, AND DRAFTING ITEMS..

TRAFFIC DATA	US 1/2	US 1	US 2
	S/O	N/O	W/O
	US 2	US 2	US 1
Current (2019) AADT	12830	12260	3150
Future (2031) AADT	13600	13000	3340
DHV - % of AADT	10%	10%	10%
Design Hour Volume	1411	1349	347
% Heavy Trucks (AADT)	6%	6%	5%
% Heavy Trucks (DHV)	5%	5%	5%
Directional Distribution (DHV)	54%	54%	66%
18 kip Equivalent P 2.0	690	664	184
18 kip Equivalent P 2.5	657	633	175
Design Speed (mph)	25	25	25
Functional Class:	MAJOR URBAN COLLECTOR		
Corridor Priority	3	3	3



<b>PROJECT LOCATION:</b>	INTERSECTION OF U.S. RTE. 1 AND U.S. RTE. 2 IN THE TOWN OF HOULTON
<b>PROGRAM AREA:</b>	MULTIMODAL
<b>SCOPE OF WORK:</b>	INTERSECTION AND TRAFFIC SIGNAL IMPROVEMENTS

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	DATE
COMMISSIONER:	1-22-24	1-19-2024
CHIEF ENGINEER:		
SIGNATURE	P.E. NUMBER	DATE
4226	3/24/21	
PROGRAM	PROJECT RESIDENT	PROJECT COMPLETION DATE
MULTIMODAL	TERRA MAGNA SERVICES, INC.	
PROJECT MANAGER	CONTRACTOR	
D.M. LORING		
DESIGNER		
A.L. GODFREY		
CONSULTANT		

WIN 22885.00

HOULTON  
U.S. RTE. 1 & U.S. RTE. 2  
TITLE SHEET  
SHEET NUMBER  
**1**  
OF 10

Date: 3/12/2021

Username: morin

Division: HIGHWAY

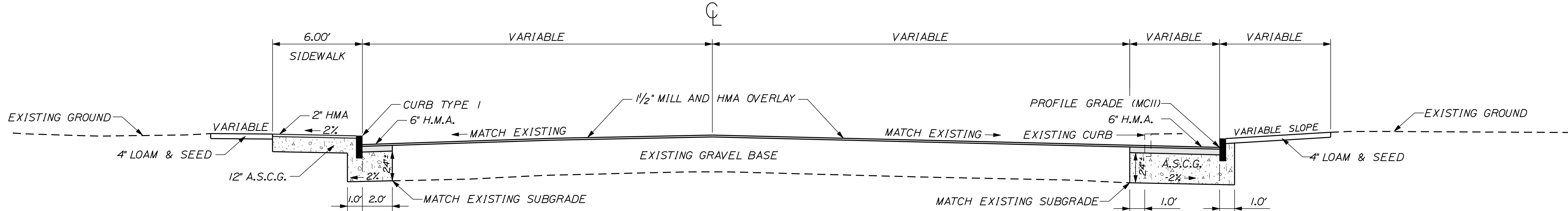
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Date: 3/12/2021

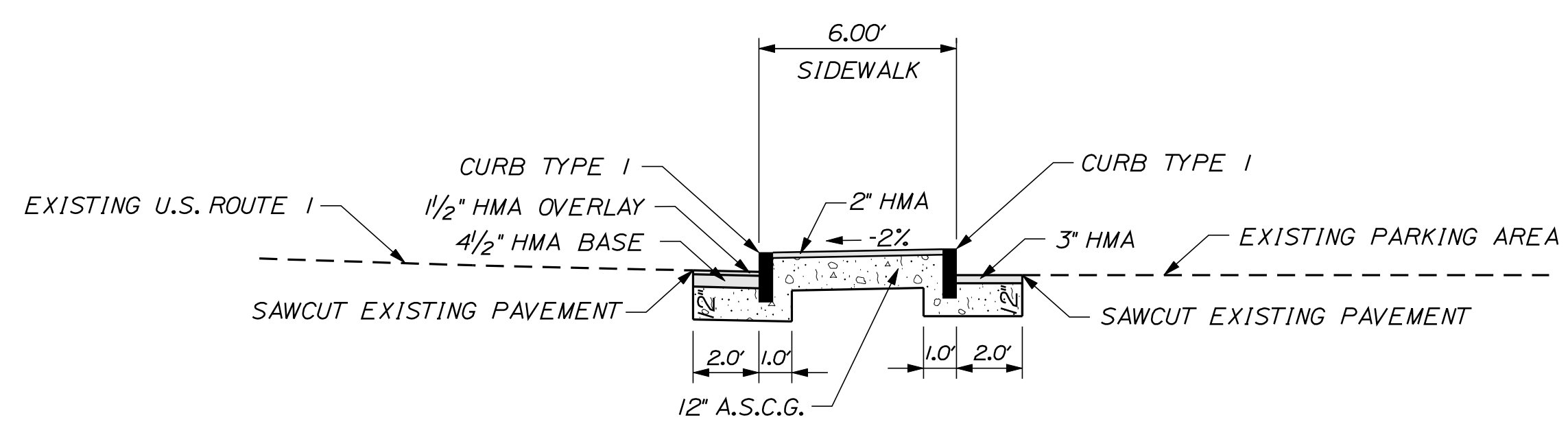
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Division: HIGHWAY

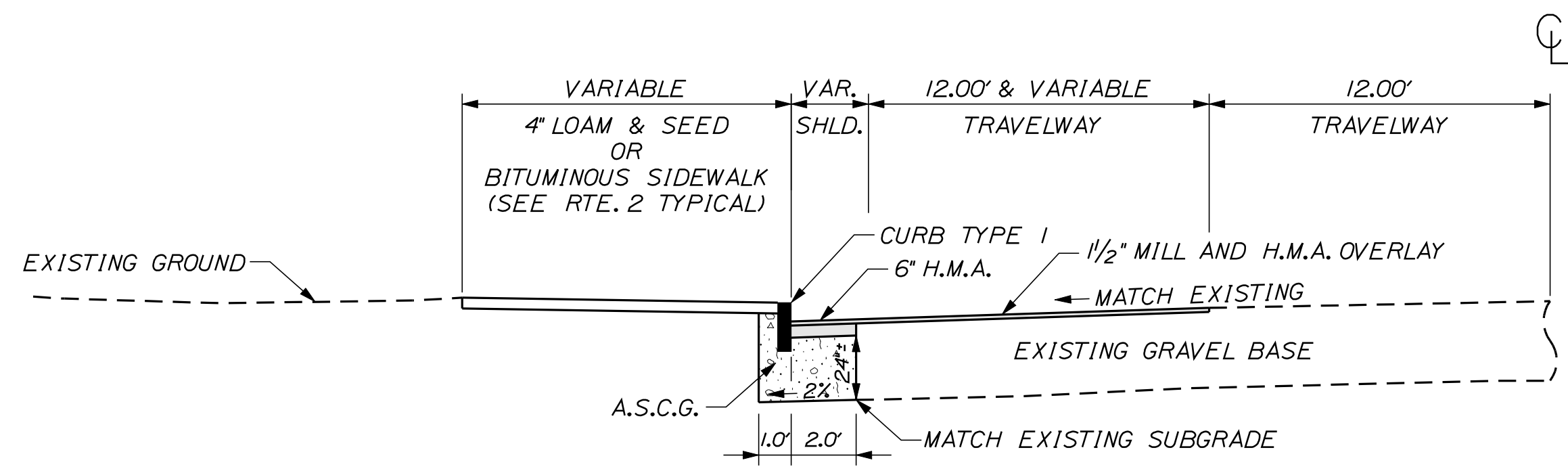
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U.S. ROUTE 2  
 STA. 30+24 TO STA. 30+71



U.S. ROUTE 1  
 STA. 11+65 TO STA. 12+00 RT



U.S. ROUTE 1  
 STA. 11+37 TO STA. 12+48 LT

- NOTES:
1. THE PAVEMENT, BASE, AND SUBBASE DEPTHS AS SHOWN ON THE PLANS ARE INTENDED TO BE NOMINAL.
  2. CROWNS FOR ALL COURSES OF SUBBASE AND PAVEMENT SHALL BE STRAIGHT.
  3. HMA = HOT MIX ASPHALT  
 A.S.C.G. = AGGREGATE SUBBASE COURSE - GRAVEL

NOT TO SCALE

STATE OF MAINE DEPARTMENT OF TRANSPORTATION 2288500		STATE OF MAINE ALBERT L. GOFFREY No. 4226 LICENSED PROFESSIONAL ENGINEER	
PROJ. MANAGER	D.M. LORING	BY	MSM
CHECKED-REVIEWED	AL. GODFREY	DATE	1-2020
DESIGN-REVIEWED		SIGNATURE	<i>[Signature]</i>
DESIGN-DETAILED		P.E. NUMBER	4226
REVISIONS 1		DATE	3/24/21
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			
HOULTON U.S. RTE. 1 & U.S. RTE. 2		HIGHWAY PLANS WIN 22885.00	
TYPICAL SECTIONS		SHEET NUMBER	
2		OF 10	

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.15	REMOVING EXISTING MANHOLE OR CATCH BASIN	1	EACH
202.202	REMOVING PAVEMENT SURFACE	560	SY
203.20	COMMON EXCAVATION	100	CY
203.25	GRANULAR BORROW	15	CY
206.061	STRUCT EARTH EXC BELOW GRADE	10	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	85	CY
403.2081	HOT MIX ASPHALT, 12.5mm (POLYMER MODIFIED)	60	TON
403.209	HOT MIX ASPHALT, 9.5mm (SW, DRIVES, INCIDENTALS)	20	TON
403.211	HOT MIX ASPHALT 9.5 mm (SHIM)	15	TON
403.213	HOT MIX ASPHALT, 12.5mm (BASE)	30	TON
409.15	BITUMINOUS TACK COAT, APPLIED	50	GAL
603.159	12 INCH CULVERT PIPE OPTION III	32	LF
603.179	18 INCH CULVERT PIPE OPTION III	54	LF
604.18	ADJUSTING MH OR CB TO GRADE	3	EACH
604.245	CATCH BASIN TYPE F4-C	1	EACH
608.26	CURB RAMP DETECTABLE WARNING FIELD	26	SF
609.11	VERTICAL CURB TYPE I	54	LF
609.12	VERTICAL CURB TYPE I - CIRCULAR	42	LF
609.221	TERMINAL CURB TYPE I	48	LF
609.222	TERMINAL CURB TYPE I - CIRCULAR	20	LF
615.07	LOAM	10	CY
618.13	SEEDING METHOD NUMBER 1	1	UNIT
619.12	MULCH	1	UNIT
626.11	PRECAST JUNCTION BOX	1	EACH
626.21	METALLIC CONDUIT	60	LF
626.22	NON-METALLIC CONDUIT	10	LF
626.36	REMOVE OR MODIFY CONCRETE FOUNDATION	1	EACH
626.38	GROUND MOUNTED CABINET FOUNDATION	1	EACH
626.44	36-INCH DIAMETER FOUNDATION	31	LF
627.733	4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	360	LF
627.75	WHITE OR YELLOW PVMT AND CURB MARKING	410	SF
627.77	REMOVING EXISTING PAVEMENT MARKINGS	140	SF
627.78	TEMP. 4" PAINTED PVMT. MARK LINE, WHITE OR YELLOW	140	LF
629.05	HAND LABOR, STRAIGHT TIME	10	HR
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	5	HR
631.172	TRUCK - LARGE (INCLUDING OPERATOR)	5	HR
631.32	CULVERT CLEANER (INCLUDING OPERATOR)	5	HR
639.19	FIELD OFFICE, TYPE B	1	EACH
643.21	NON-INVASIVE DETECTION - STOP LINE, ROUTE 1 AND ROUTE 2	1	LS
643.80	TRAFFIC SIGNALS AT: ROUTE 1 AND ROUTE 2	1	LS
643.93	STRAIN POLE	3	EACH
645.106	DEMOUNT REG., WARN., CONF., & RTE. MARK. ASSEMBLY SIGN	11	EACH
645.116	REINSTALL REG., WARN., CONF., & RTE. MARK ASSEMBLY SIGN	11	EACH
652.33	DRUM	20	EACH
652.34	CONE	20	EACH
652.35	CONSTRUCTION SIGNS	350	SF
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES	1	LS
652.38	FLAGGERS	400	HR
652.381	TRAFFIC OFFICERS	20	HR
656.75	TEMP. SOIL EROSION AND WATER POLLUTION CONTROL PLAN	1	LS
659.10	MOBILIZATION	1	LS


GENERAL NOTES

- ALL JOINTS BETWEEN EXISTING AND PROPOSED HOT BITUMINOUS PAVEMENT SHALL BE BUTTED. PAYMENT SHALL BE MADE UNDER ITEM 202.202 REMOVING PAVEMENT SURFACE.
- ALL WASTE MATERIAL NOT USED ON THE PROJECT SHALL BE DISPOSED OF OFF THE PROJECT IN ACCEPTABLE WASTE AREAS REVIEWED BY THE RESIDENT. GRADING, SEEDING AND MULCHING OF WASTE AREAS SHALL BE CONSIDERED INCIDENTAL.
- ANY NECESSARY CLEANING OF EXISTING PAVEMENT PRIOR TO PAVING OR MILLING SHALL BE INCIDENTAL TO THE RELATED PAVING OR MILLING ITEMS.
- IF FOUNDATION MATERIAL IS REQUIRED UNDER CULVERTS, IT SHALL MEET THE REQUIREMENTS FOR GRANULAR BORROW-UNDERWATER BACKFILL AND WILL BE PAID FOR AS GRANULAR BORROW.
- EXISTING CULVERTS AND CATCH BASINS WILL BE CLEANED AS DIRECTED BY THE RESIDENT UNDER THE APPROPRIATE PAY ITEMS.
- NO EXISTING DRAINAGE SHALL BE ABANDONED, REMOVED OR PLUGGED WITHOUT PRIOR APPROVAL OF THE RESIDENT.
- ANY NECESSARY CUTTING OF EXISTING CATCH BASINS OR MANHOLES TO ALLOW FOR PROPOSED PIPE CONNECTIONS WILL NOT BE PAID FOR SEPARATELY AND WILL BE CONSIDERED INCIDENTAL TO ITEM 603 OR 604.
- EXISTING ABANDONED WATER MAINS BROKEN BY THE CONTRACTOR DURING CONSTRUCTION SHALL HAVE THE ENDS PLUGGED WITH BRICK AND MORTAR. COST FOR ALL LABOR AND MATERIAL WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO DIRECT PAYMENT WILL BE MADE.
- LOAM HAS BEEN ESTIMATED FOR DISTURBED LAWN AREAS. ACTUAL PLACEMENT OF THE LOAM SHALL BE AS NOTED ON THE PLANS OR DESIGNATED BY THE RESIDENT.
- SEEDING METHOD NO. 1 SHALL BE UTILIZED ON ALL LAWNS AND DEVELOPED AREAS.
- LOAM SHALL BE PLACED TO A NOMINAL DEPTH OF 4 INCHES IN LAWN AREAS UNLESS OTHERWISE NOTED OR DIRECTED.
- ANY 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 REPAIRS SHALL BE AT THE CONTRACTOR'S EXPENSE.
- GEOTECHNICAL INFORMATION FURNISHED OR REFERRED TO IN THE BID DOCUMENTS IS FOR THE USE OF THE BIDDERS. NO ASSURANCE IS GIVEN THAT THE INFORMATION OR INTERPRETATIONS WILL BE REPRESENTATIVE OF THE ACTUAL SUBSURFACE CONDITIONS THROUGHOUT THE CONSTRUCTION SITE. MAINE DOT WILL NOT BE RESPONSIBLE FOR ANY INTERPRETATIONS OR CONCLUSIONS DRAWN FROM THE GEOTECHNICAL INFORMATION. THE BORING LOGS PROVIDED IN THE BID DOCUMENTS (IF ANY) PRESENT FACTUAL AND INTERPRETIVE SUBSURFACE INFORMATION COLLECTED AT DISCRETE LOCATIONS. DATA PROVIDED MAY NOT BE REPRESENTATIVE OF THE SUBSURFACE CONDITIONS BETWEEN BORING LOCATIONS.
- AREAS REQUIRING FILL ON THE PROJECT WILL COME FROM SUITABLE EXCAVATION FROM EXCAVATION, DITCH AND INSLOPE OR EQUIPMENT RENTAL AREAS.
- ESTIMATED QUANTITIES FOR REQUIRED STRUCTURAL EARTH EXCAVATION, DRAINAGE AND MINOR STRUCTURES ARE INFORMATIONAL ONLY AND REPRESENT THE APPROXIMATE MINIMUM QUANTITY REQUIRED TO INSTALL DRAINAGE STRUCTURES. ADDITIONAL EXCAVATION FOR THE CONTRACTOR'S CONVENIENCE OR TO COMPLY WITH BACKSLOPING REQUIREMENTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED INCIDENTAL TO THE RELATED DRAINAGE ITEMS.
- 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.
- FINAL STRIPING FOR THE PROJECT SHALL BE DONE BY THE CONTRACTOR PER THE STRIPING LAYOUT IN THE CONTRACT DOCUMENTS OR AS PROVIDED BY THE DEPARTMENT. PAYMENT SHALL BE MADE UNDER APPROPRIATE CONTRACT ITEMS.
- EXCLUDING WATER AND GAS GATE VALVES, ALL HMA FOR PATCHING AROUND ADJUSTED, ALTERED, OR REBUILT UTILITY STRUCTURES SHALL MEET THE GRADATION REQUIREMENTS OF A 9.5 MM OR 12.5 MM MIXTURE. THE CONTRACTOR SHALL SAW CUT THE EXISTING PAVEMENT FOR THE PATCH AT LEAST TWO FEET AWAY FROM THE NEAREST EDGE OF THE STRUCTURE. THE CONTRACTOR SHALL PLACE HMA IN LIFTS OF 3 INCHES OR LESS, AS DIRECTED BY THE RESIDENT, AND COMPACT THE HMA USING A MINIMUM OF A 150 POUND PLATE COMPACTOR. HMA FOR PATCHING AROUND ADJUSTED, ALTERED, OR REBUILT UTILITY STRUCTURES IS CONSIDERED INCIDENTAL TO THE RESPECTIVE PAY ITEM FOR ADJUST, ALTER, OR REBUILD UTILITY STRUCTURE.
- DEMOUNTING AND REINSTALLING WOOD AND U-CHANNEL POSTS FOR RELOCATION OF REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGNAGE WILL BE CONSIDERED INCIDENTAL TO PAYMENT UNDER ITEM 645.116. POSTS THAT ARE DAMAGED BY THE CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR WITH NEW POSTS CONFORMING TO THE APPLICABLE SPECIFICATIONS AT NO ADDITIONAL COST TO THE CONTRACT.
- ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED FOR REMOVAL AND SALVAGE OF THE YARD LIGHT LOCATED AT STA. 30+50 RT. SHALL BE CONSIDERED INCIDENTAL TO ITEM 626.36.

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

**2288500**

WIN 22885.00 HIGHWAY PLANS



PROFESSIONAL ENGINEER  
DONALD G. FITZNER, JR.  
No. 9244  
STATE OF MAINE

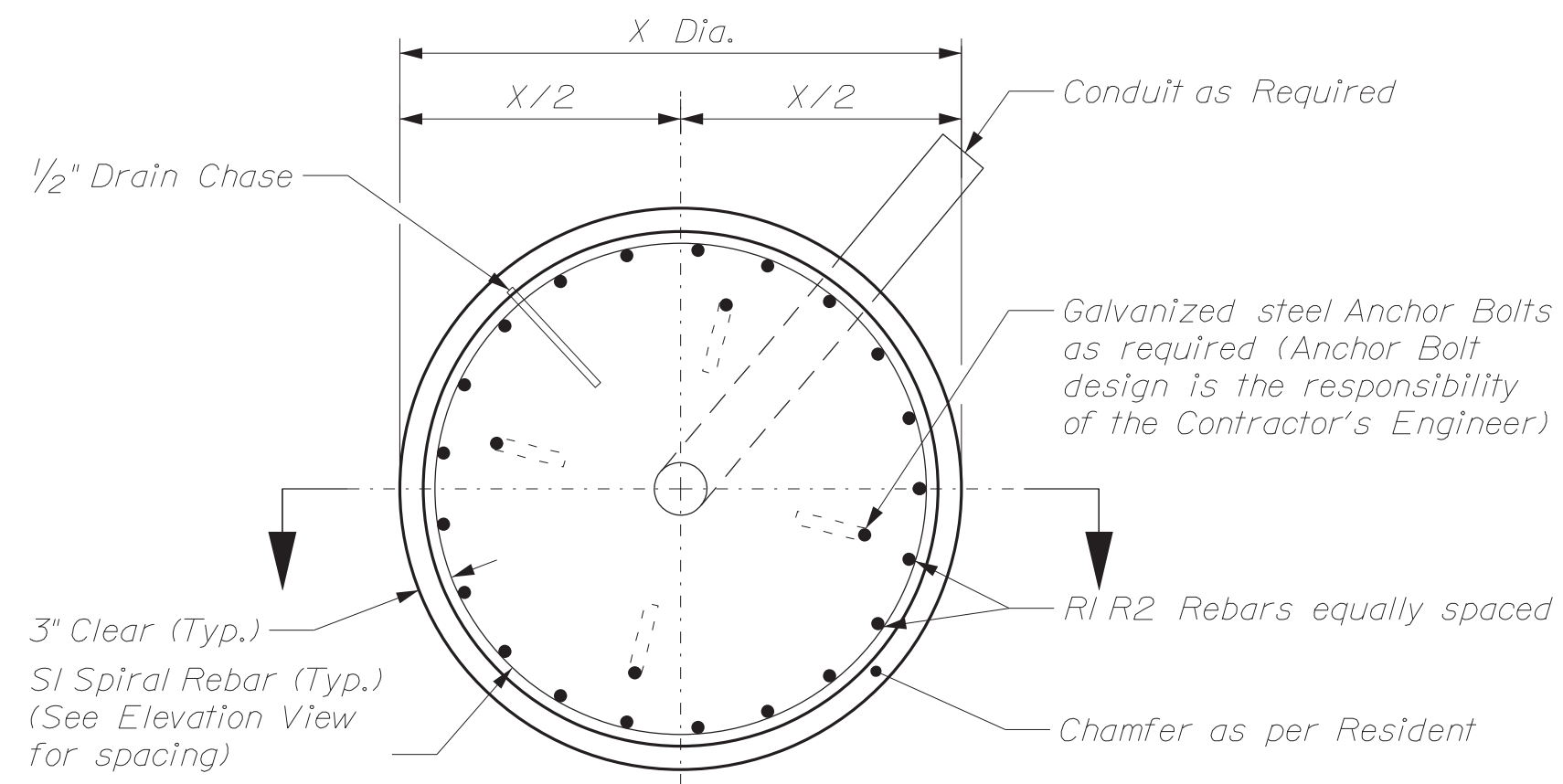
SIGNATURE: *[Signature]* 9244 P.E. NUMBER  
DATE: 01-04-2024

PROJ. MANAGER	D.M. LORING	BY	DATE
DESIGN-DETAILED	AL. GODFREY	MSM	1-2020
CHECKED-REVIEWED	AL. GODFREY	GP	1-2024
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

**HOULTON**  
**U.S. RTE. 1 & U.S. RTE. 2**  
**ESTIMATED QUANTITIES**  
**AND GENERAL NOTES**

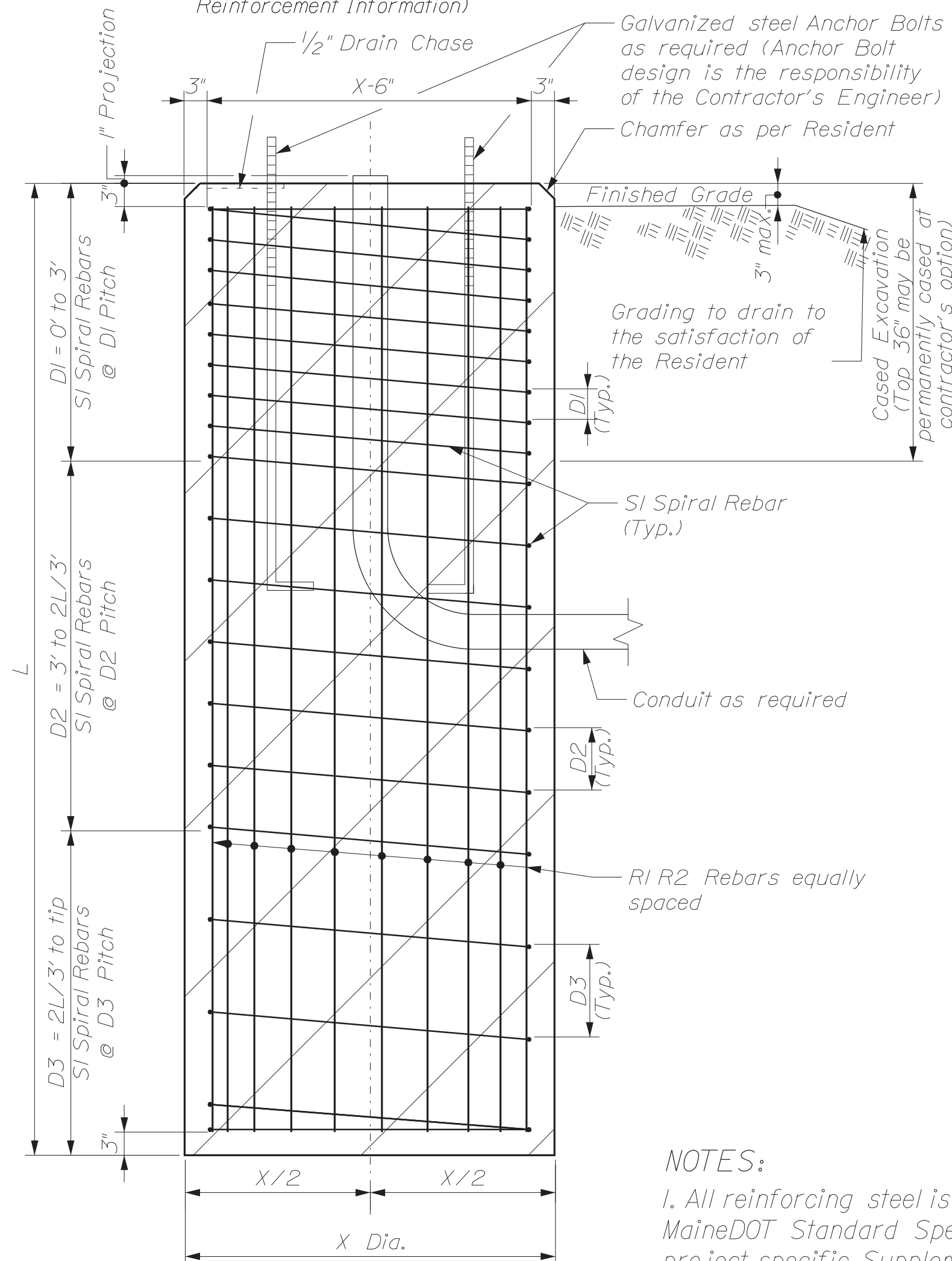
SHEET NUMBER  
**3**

OF 10



**Drilled Shaft Plan View**

Not to Scale (See Table for Drilled Shaft & Reinforcement Information)



**Drilled Shaft Elevation View**

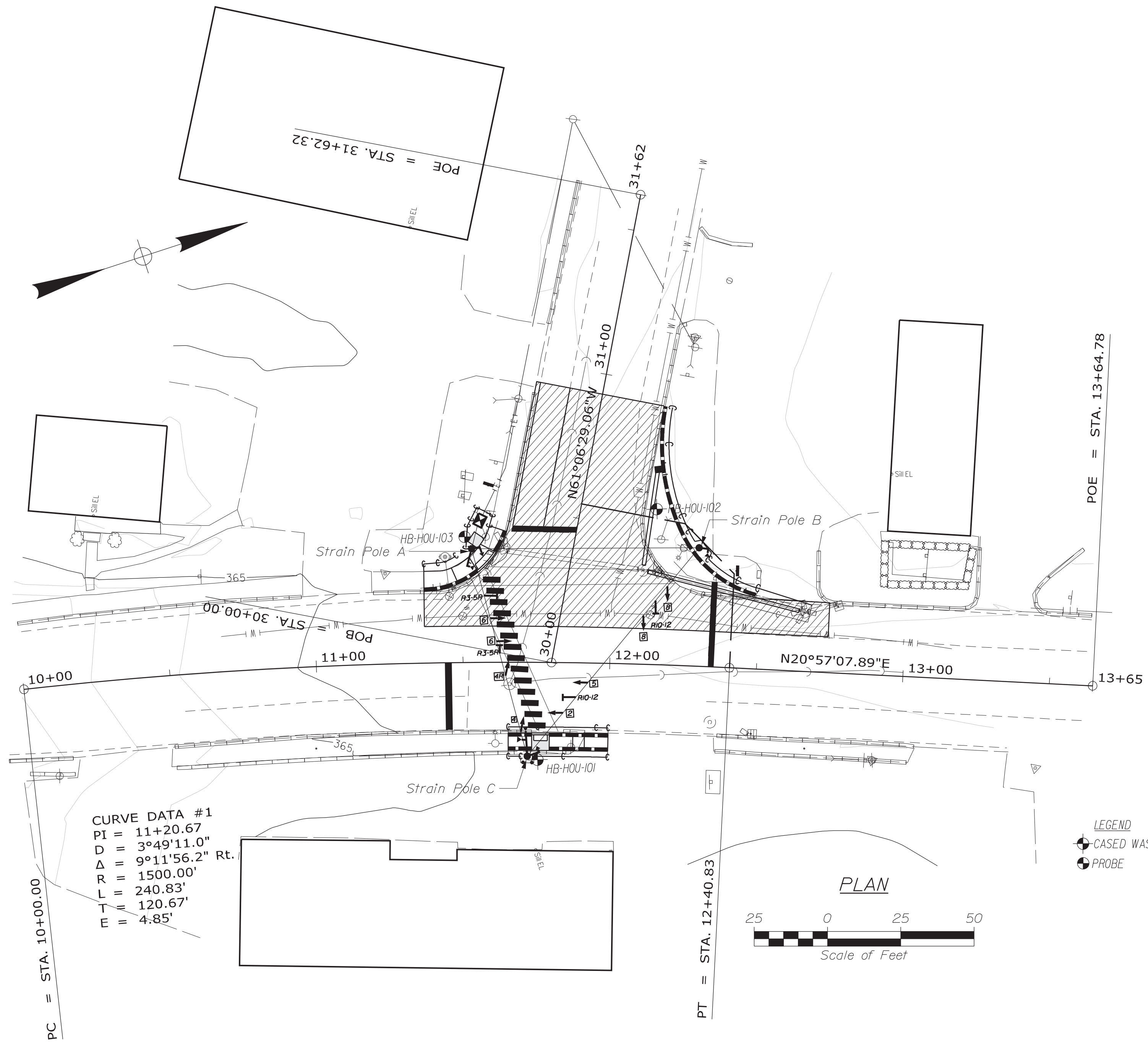
Not to Scale (See Table for Drilled Shaft & Reinforcement Information)

**STRAIN POLES A, B, & C**

- (A) Sta. 30+33, 34.0' Lt.
- (B) Sta. 12+28.81, 40.37' Lt.
- (C) Sta. 11+72, 32.0' Rt.

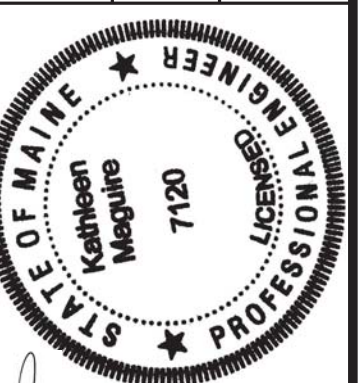
**NOTES:**

1. All reinforcing steel is to be grade 60 and conform to MaineDOT Standard Specification requirements along with any project specific Supplementals or Special Provisions.
2. All rebar shall have 3" cover unless otherwise noted.
3. Should there be a discrepancy between these Details and actual observed field conditions report it to the Resident immediately.
4. Do not proceed with dependent work until any such discrepancy is resolved to the satisfaction of the Resident.
5. Concrete to be Class LP with  $f'c = 5,000$  PSI.



**CURVE DATA #1**  
 PI = 11+20.67  
 D = 3°49'11.0"  
 Δ = 9°11'56.2" Rt.  
 R = 1500.00'  
 L = 240.83'  
 T = 120.67'  
 E = 4.85'

Strain Pole	Approximate Station & Offset	Drilled Shaft Dimentions		Reinforcing Steel			Spiral Bar Spacing		
		X Diameter (feet)	L Length (feet)	R1 Longitudinal Rebars Quantity	R2 Longitudinal Rebars Size	S1 Spiral Rebars Size	D1 (in) 0 to 3 ft	D2 (in) 3 ft to 2L/3 ft	D3 (in) 2L/3 ft to tip
A	30+33, 34.0' L	3.0	10.0	15	#8	#5	4	8	12
B	12+28.81, 40.37 L	3.0	10.5	15	#8	#5	4	8	12
C	11+72, 32.0' R	3.0	10.5	15	#8	#5	4	8	12



PROJ. MANAGER: Kate Maguire  
 BY: T. WHITE  
 DATE: FEB 2020  
 SIGNATURE: [Signature]  
 P.E. NUMBER: 7120  
 DATE: 4/22/2020

REVISIONS	DATE	DESCRIPTION
1		
2		
3		
4		

**HOULTON  
 U.S. ROUTE 1  
 STRAIN POLE FOUNDATIONS &  
 BORING LOCATION PLAN**

SHEET NUMBER

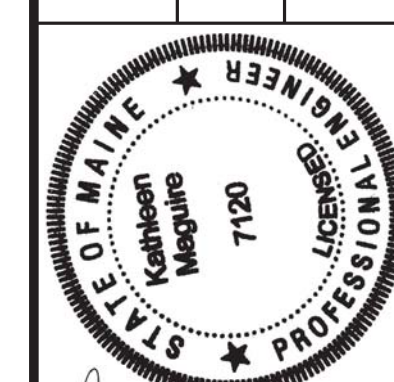
Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS		Project: Intersection North St., (U.S. Route 1) and Smyrna St., (U.S. Location: Houlton, Maine		Boring No.: HB-HOU-101						
Driller: MaIneDOT		Elevation (ft.): 365.2		Auger ID/OD: 5" Dia.						
Operator: Doggett/Niles		Datum: NAVD88		Sampler: Standard Split Spoon						
Logged By: B. Wilder		Rig Type: CME 45C		Hammer Wt./Fall: 140#/30"						
Date Start/Finish: 10/10/2018: 07:30-09:00		Drilling Method: Solid Stem Auger		Core Barrel: N/A						
Boring Location: 20°35.6' 33.3' FT RT, 150°10' St.,)		Casing ID/OD: N/A		Water Level*: None Observed						
Hammer Efficiency Factor: 0.928		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<small>                     Definitions: R = Rock Core Sample S<sub>u</sub> = Peak/Retained Field Vane Undrained Shear Strength (psf) P = Pocket Torvane Shear Strength (psf)                      D = Split Spoon Sample SSA = Solid Stem Auger S<sub>u</sub>(lab) = Lab Vane Undrained Shear Strength (psf) MC = Water Content, percent                      MB = Unsuccessful Split Spoon Sample Attempt HSA = Hollow Stem Auger S<sub>u</sub> = Unconfined Compressive Strength (ksf) LL = Liquid Limit                      U = Thin Wall Tube Sample RC = Roller Cone Nuncorrected = Raw Field SPT N-value PL = Plastic Limit                      MU = Unsuccessful Thin Wall Tube Sample Attempt MH = Weight of 140lb. Hammer N = Water Content, percent                      V = Field Vane Shear Test PP = Pocket Penetrometer WDC = Weight of Rod or Casing N<sub>60</sub> = SPT Nuncorrected Corrected for Hammer Efficiency G = Grain Size Analysis                      W = Unsuccessful Field Vane Shear Test Attempt WDC = Weight of Rod or Casing N<sub>60</sub> = SPT Nuncorrected Corrected for Hammer Efficiency G = Grain Size Analysis                 </small>										
Sample Information										
Depth (ft.)	Sample No.	Pen./Rec. (In.)	Sample Depth (ft.)	Blows 1/6 In. Shear Strength (psf) or RDD (%)	Non-corrected N <sub>60</sub>	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0							364.8		5" HMA.	0.4
10	24/13	1.50 - 3.50	9/9/7/6	16	25				Brown, damp, medium dense, fine to coarse SAND, some gravel, some silt.	
5	20	24/17	5.00 - 7.00	3/3/4/5	7	11			Light brown, moist, medium dense, Silty fine to medium SAND, trace gravel.	
10	30	24/20	10.00 - 12.00	5/14/23/21	31	57			Similar to above, except very dense.	
15							353.2		Bottom of Exploration at 12.0 feet below ground surface. NO REFUSAL	
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS		Project: Intersection North St., (U.S. Route 1) and Smyrna St., (U.S. Location: Houlton, Maine		Boring No.: HB-HOU-102						
Driller: MaIneDOT		Elevation (ft.): 365.7		Auger ID/OD: 5" Solid Stem						
Operator: Doggett/Niles		Datum: NAVD88		Sampler: Standard Split Spoon						
Logged By: B. Wilder		Rig Type: CME 45C		Hammer Wt./Fall: 140#/30"						
Date Start/Finish: 10/10/2018: 09:30-11:00		Drilling Method: Cased Wash Boring		Core Barrel: N/A						
Boring Location: 20°35.4' 25.3' FT RT, 150°10' St.,)		Casing ID/OD: NH-3"		Water Level*: None Observed						
Hammer Efficiency Factor: 0.928		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<small>                     Definitions: R = Rock Core Sample S<sub>u</sub> = Peak/Retained Field Vane Undrained Shear Strength (psf) P = Pocket Torvane Shear Strength (psf)                      D = Split Spoon Sample SSA = Solid Stem Auger S<sub>u</sub>(lab) = Lab Vane Undrained Shear Strength (psf) MC = Water Content, percent                      MB = Unsuccessful Split Spoon Sample Attempt HSA = Hollow Stem Auger S<sub>u</sub> = Unconfined Compressive Strength (ksf) LL = Liquid Limit                      U = Thin Wall Tube Sample RC = Roller Cone Nuncorrected = Raw Field SPT N-value PL = Plastic Limit                      MU = Unsuccessful Thin Wall Tube Sample Attempt MH = Weight of 140lb. Hammer N = Water Content, percent                      V = Field Vane Shear Test PP = Pocket Penetrometer WDC = Weight of Rod or Casing N<sub>60</sub> = SPT Nuncorrected Corrected for Hammer Efficiency G = Grain Size Analysis                      W = Unsuccessful Field Vane Shear Test Attempt WDC = Weight of Rod or Casing N<sub>60</sub> = SPT Nuncorrected Corrected for Hammer Efficiency G = Grain Size Analysis                 </small>										
Sample Information										
Depth (ft.)	Sample No.	Pen./Rec. (In.)	Sample Depth (ft.)	Blows 1/6 In. Shear Strength (psf) or RDD (%)	Non-corrected N <sub>60</sub>	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0	1D	24/10	0.00 - 2.00	2/6/10/10	16	25			3" Grass and Sod. Brown, damp, medium dense, fine to coarse SAND, some silt, little gravel.	0.3
5	2D	24/15	5.00 - 7.00	2/6/10/30	16	25			Light brown, moist, medium dense, Silty fine to medium SAND, trace gravel.	5.5
10	R1	60/60	10.00 - 15.00	RDD = 57%					Top of Bedrock at Elev. 355.7 ft. R1: Bedrock: Interbedded pelite and limestone and/or dolostone. [Core Mills Formation]. Rock Quality = Fair. R1: Core Times (min:sec) 10.0-11.0 ft (3:08) 11.0-12.0 ft (3:16) 12.0-13.0 ft (2:56) 13.0-14.0 ft (3:15) 14.0-15.0 ft (3:30) 100% Recovery	10.0
15							350.7		Bottom of Exploration at 15.0 feet below ground surface.	15.0
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS		Project: Intersection North St., (U.S. Route 1) and Smyrna St., (U.S. Location: Houlton, Maine		Boring No.: HB-HOU-103						
Drilling Contractor: MaIneDOT		Elevation (ft.): 365.8		Auger ID/OD: 5" Dia.						
Operator: Doggett/Niles		Datum: NAVD88		Sampler: N/A						
Logged By: B. Wilder		Rig Type: CME 45C		Hammer Wt./Fall: N/A						
Date Start/Finish: 10/10/2018-10/10/2018		Drilling Method: Solid Stem Auger		Core Barrel: N/A						
Boring Location: 20°35.5' 37.2' FT LT, 150°10' St.,)		Casing ID/OD: N/A		Water Level*: None Observed						
Hammer Efficiency Factor: 0.928		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>								
<small>                     Definitions: R = Rock Core Sample S<sub>u</sub> = Peak/Retained Field Vane Undrained Shear Strength (psf) P = Pocket Torvane Shear Strength (psf)                      D = Split Spoon Sample SSA = Solid Stem Auger S<sub>u</sub>(lab) = Lab Vane Undrained Shear Strength (psf) MC = Water Content, percent                      MB = Unsuccessful Split Spoon Sample Attempt HSA = Hollow Stem Auger S<sub>u</sub> = Unconfined Compressive Strength (ksf) LL = Liquid Limit                      U = Thin Wall Tube Sample RC = Roller Cone Nuncorrected = Raw Field SPT N-value PL = Plastic Limit                      MU = Unsuccessful Thin Wall Tube Sample Attempt MH = Weight of 140lb. Hammer N = Water Content, percent                      V = Field Vane Shear Test PP = Pocket Penetrometer WDC = Weight of Rod or Casing N<sub>60</sub> = SPT Nuncorrected Corrected for Hammer Efficiency G = Grain Size Analysis                      W = Unsuccessful Field Vane Shear Test Attempt WDC = Weight of Rod or Casing N<sub>60</sub> = SPT Nuncorrected Corrected for Hammer Efficiency G = Grain Size Analysis                 </small>										
Sample Information										
Depth (ft.)	Sample No.	Pen./Rec. (In.)	Sample Depth (ft.)	Blows 1/6 In. Shear Strength (psf) or RDD (%)	Non-corrected N <sub>60</sub>	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0									Auger probe, very similar soils as HB-HOU-101.	
5										
10							353.70			
15										
20										
25										
Remarks: Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
CAPITAL PROJECTS

WIN  
22885.00  
HIGHWAY PLANS



PROJECT MANAGER: *Kate Maguire*  
 CHECKED/REVIEWED: T. WHITE  
 DESIGNED/DESIGNED: K. MAGUIRE  
 REVISIONS: 1  
 REVISIONS: 2  
 REVISIONS: 3  
 REVISIONS: 4  
 FIELD CHANGES:

SIGNATURE: *Kate Maguire*  
 P.E. NUMBER: 7120  
 DATE: 4/22/2020

HOULTON  
U.S. ROUTE 1  
BORING LOGS

SHEET NUMBER  
**5**  
OF 10

Boring No.: HB-HOU-101  
Boring No.: HB-HOU-102  
Boring No.: HB-HOU-103

Filename: ... \006\_SignalPlan\_10\_scale.dgn  
Division: HIGHWAY  
Username: Matt.Richard  
Date: 1/4/2024

TRAFFIC SIGNAL NOTES

- Ⓐ STA. 30+33, 34.0' LT.  
INSTALL 30' STRAIN POLE ON CONCRETE FOUNDATION. ATTACH SPANWIRE AT 26.00' ABOVE ROAD ELEVATION. REMOVE EXISTING WOOD POLE AND GUY. INSTALL COUNTDOWN PEDESTRIAN SIGNAL P2. INSTALL VIDEO DETECTOR V6 ON BRACKET ARM FOR SOUTHBOUND ROUTE 1. INSTALL 1 APS PUSHBUTTON AND 1 R10-31 SIGN. SIGN SHALL STATE "ROUTE 1".
- Ⓑ STA. 12+28.81, 40.37' LT.  
INSTALL 30' STRAIN POLE ON CONCRETE FOUNDATION. ATTACH SPANWIRE AT 26.00' ABOVE ROAD ELEVATION. REMOVE EXISTING WOOD POLE AND GUY. INSTALL VIDEO DETECTOR V8 ON BRACKET ARM FOR COMMERCIAL ENTRANCE.
- Ⓒ STA. 11+72, 32.0' RT.  
INSTALL 30' STRAIN POLE ON CONCRETE FOUNDATION. ATTACH SPANWIRE AT 26.00' ABOVE ROAD ELEVATION. REMOVE EXISTING STRAIN POLE AND FOUNDATION. INSTALL COUNTDOWN PEDESTRIAN SIGNAL P1. INSTALL VIDEO DETECTORS V2 AND V4 ON BRACKET ARMS FOR ROUTE 1 NORTHBOUND AND ROUTE 2. INSTALL 1 APS PUSHBUTTON AND 1 R10-3e SIGN.
- Ⓓ STA. 30+43, 33.0' LT.  
INSTALL GROUND MOUNTED ATCC CONTROLLER CABINET ON CONCRETE FOUNDATION.

SHORTSLEEVE, LLC

P.L.

U.S. ROUTE 2  
31+00

LEGEND

- ⊙ EXISTING POWER POLE
- STEEL STRAIN POLE WITH SPANWIRE
- ⊠ CONTROLLER CABINET - GROUND MOUNTED
- ⊡ ⊢ ⊣ ⊤ NEW SIGNAL HEADS
- ⤴ VIDEO DETECTOR ON BRACKET ARM
- ⤵ PEDESTRIAN SIGNAL
- ⊥ OVERHEAD SIGN ON SPANWIRE
- OE — AERIAL POWER
- ▬ 24" STOP BAR - PAINTED
- ▬ EXISTING RIGHT OF WAY
- ▨ 1/2" MILL AND OVERLAY
- C.O. CURB OPENING

CURB RAMP DETECTABLE WARNING FIELD  
STA. 11+58.2 LT. 16 SF  
STA. 11+76.6 RT. 10 SF

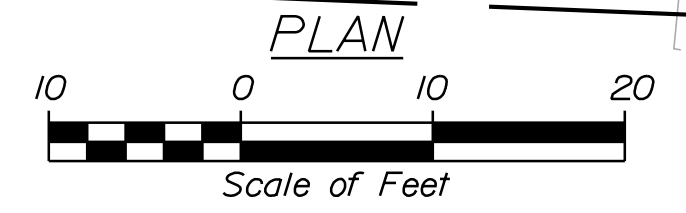
INSTALL CATCH BASIN TYPE F4-C  
STA. 30+71.43, 23.41' RT.  
RIM ELEV. 365.16'  
12" INV. OUT 362.16'

INSTALL CULVERT PIPE OPT. III  
STA. 30+38.49, 24.69' RT. TO STA. 30+70.40, 23.45' RT. 12" X 32"  
STA. 12+12.13, 31.57' LT. TO STA. 12+63.60, 20.50' LT. 18" X 54"

DISCONNECT YARD LIGHT POWER CONDUCTORS AT SOURCE AT INSURANCE AGENCY. ABANDON BURIED CONDUCTORS. REMOVE YARD LIGHT, POLE AND FOUNDATION. POLE SHALL BE SALVAGED AND RETURNED BY CONTRACTOR TO THE PROPERTY OWNER.

ADJUST MANHOLE OR CATCH BASIN TO GRADE  
STA. 30+36.7, 24.8' RT.  
STA. 12+65.4, 20.1' LT.  
STA. 30+35.0, 23.8' LT.  
(NOTE: RIM ELEVATIONS TO BE DETERMINED IN THE FIELD AFTER MILLING AND PRIOR TO OVERLAY)

INSTALL 2 STEEL PIPE BOLLARDS FOR PROTECTION OF SIGNAL POLE. FILL PIPE WITH CONCRETE. BOLLARDS SHALL BE A MINIMUM OF 3' ABOVE AND BELOW GRADE. MINIMUM PIPE DIAMETER SHALL BE 4 INCHES. PAYMENT WILL BE INCIDENTAL TO ITEM 643.93



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
2288500  
WIN 22885.00  
HIGHWAY PLANS

STATE OF MAINE  
PROFESSIONAL ENGINEER  
DONALD G. FITZGERALD JR.  
No. 9244

PROJ. MANAGER: D.M. LORING  
BY: A.L. GODFREY  
DATE: 1-2020  
CHECKED: A.L. GODFREY  
DESIGN: A.L. GODFREY  
DATE: 1-2024  
REVISIONS: 1, 2, 3, 4

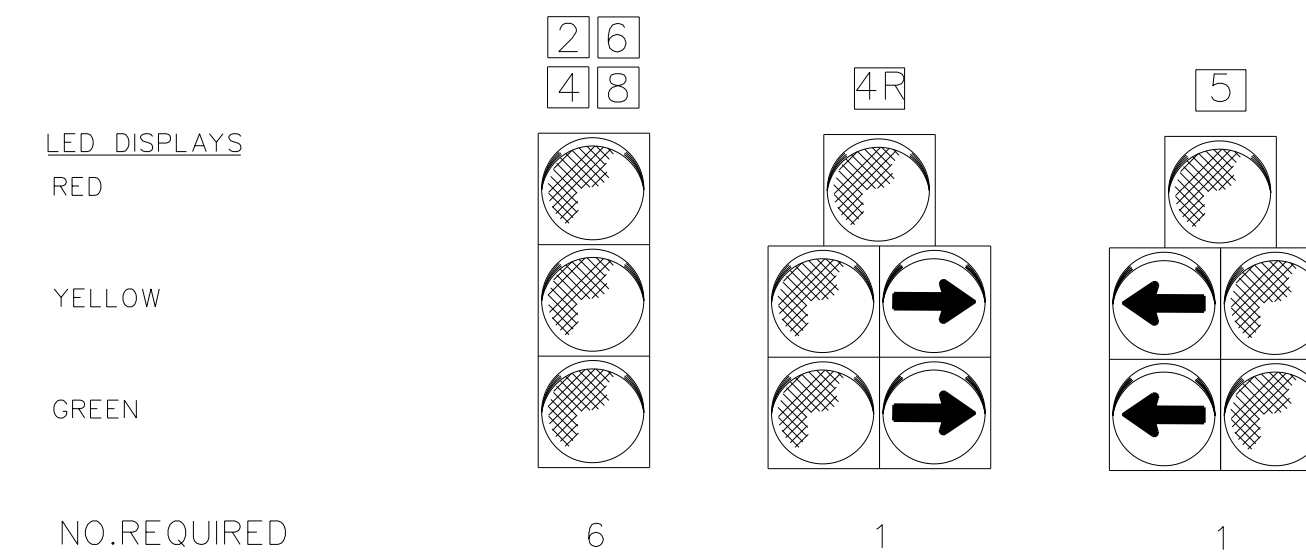
HOULTON  
U.S. RTE. 1 & U.S. RTE. 2  
SIGNAL PLAN

SHEET NUMBER  
6  
OF 10

TRAFFIC SIGNAL NOTES

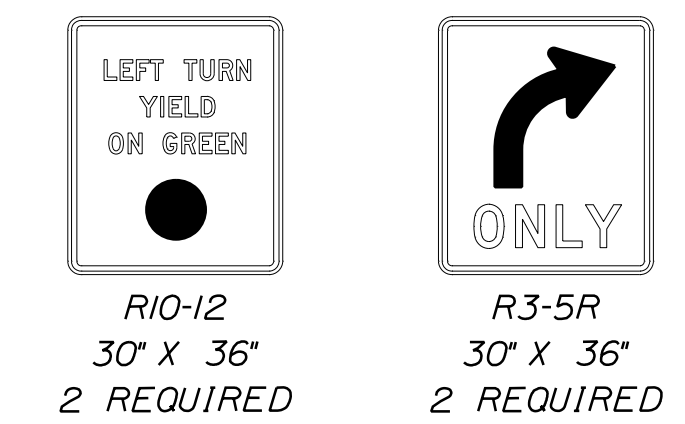
- TRAFFIC SIGNAL WORK FOR THIS PROJECT WILL INCLUDE, BUT NOT BE LIMITED TO, FURNISHING AND INSTALLING A COMPLETE NEW GROUND-MOUNTED ATCC TRAFFIC SIGNAL CABINET AND FOUNDATION, ATC CONTROLLER, FIELD MONITORING UNIT WITH CELLULAR MODEM, AND ANCILLARY EQUIPMENT; VEHICULAR TRAFFIC SIGNAL ASSEMBLIES; VIDEO DETECTION; COUNTDOWN PEDESTRIAN SIGNALS WITH APS PUSHBUTTONS; AND RELATED INCIDENTAL WORK AND MATERIALS.
- 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, MAINE DOT 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.
- 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.
- THE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES AT LEAST 48 HOURS BEFORE ANY OPERATIONS ARE CONDUCTED THAT POTENTIALLY COULD CONFLICT WITH AERIAL UTILITIES.
- INSTALL NEW 120V/240V POWER SERVICE FOR TRAFFIC SIGNALS.
- 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.
- 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.
- ALL EXISTING TRAFFIC AND PEDESTRIAN SIGNAL EQUIPMENT, POLES AND GUY ANCHORS SHALL BE CAREFULLY REMOVED AND PROTECTED. THE EXISTING STRAIN POLE FOUNDATION SHALL ALSO BE REMOVED. THE TOWN OF HOULTON SHALL HAVE FIRST RIGHT OF REFUSAL OF EXISTING EQUIPMENT AFTER REMOVAL. IF REQUESTED BY THE TOWN, CONTRACTOR SHALL DELIVER AND UNLOAD THE SALVAGED EQUIPMENT TO THE TOWN OF HOULTON PUBLIC WORKS GARAGE AT A LOCATION TO BE DESIGNATED BY THE TOWN. IF THE TOWN IS NOT INTERESTED IN THE SALVAGED EQUIPMENT, THE CONTRACTOR WILL BE RESPONSIBLE FOR DISPOSAL. ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 643.80.
- SIGNAL ASSEMBLIES SHALL BE POLYCARBONATE WITH 5-INCH LOUVERED BACKPLATES AND YELLOW RETROREFLECTIVE TAPE AROUND THE DISPLAY FACE PERIMETER OF THE BACKPLATES. ASSEMBLIES SHALL HAVE DOUBLE SPANWIRE SUPPORT. ALL SIGNAL ASSEMBLIES AND SIGNAGE ATTACHED TO SPANWIRES SHALL BE STABILIZED WITH A BOTTOM TETHER. THE CONTRACTOR SHALL REVIEW SIGNAL HEAD LOCATIONS AND COMPLETE ANY ADJUSTMENTS NECESSARY (OR AS DIRECTED BY THE RESIDENT) TO MAINTAIN CLEAR SIGHT LINES TO SIGNAL HEADS ON ALL APPROACHES.
- THE BOTTOM OF SIGNAL ASSEMBLIES AND BACKPLATES SHALL HAVE AT LEAST 17 FEET OF VERTICAL CLEARANCE ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY. THE BOTTOM OF THE GREEN LED SIGNAL DISPLAY OF EACH ASSEMBLY SHALL BE NO MORE THAN 19 FEET ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.
- CONDUIT FROM THE POWER SOURCE TO THE METER SHALL BE RIGID METAL CONDUIT. OTHER CONDUIT NOT UNDER PAVEMENT SHALL BE 3 INCH MINIMUM. PVC SCHEDULE 40. CONDUIT UNDER PAVEMENT SHALL BE 3 INCH MINIMUM SCHEDULE 80 PVC AND SHALL BE INSTALLED BY DIRECTIONAL BORING. MINIMUM BURIAL DEPTH FOR CONDUIT SHALL BE 36". TOP 3 INCHES OF CONDUIT SHALL BE SEALED TO PREVENT ENTRY BY RODENTS.
- 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.
- JUNCTION BOX COVERS SHALL BE LABELED "TRAFFIC" AND SHALL BE GROUNDED.
- THE TRAFFIC SIGNAL CONTROLLER SHALL BE AN ADVANCED TRANSPORTATION CONTROLLER (ATC) CAPABLE OF SUPPORTING NTCIP PROTOCOLS.
- DETECTION EQUIPMENT SHALL BE CONNECTED TO THE FIELD MONITORING UNIT AND CELL MODEM WITH REMOTE MONITORING AND ADJUSTMENT CAPABILITY.
- THE CELL MODEM IN THE ATC CABINET SHALL BE INTEGRATED INTO A CLOUD BASED MONITORING SYSTEM, SIERRA WIRELESS GX450 OR APPROVED EQUAL.
- SPECIFIED NEW TRAFFIC SIGNAL POLE LOCATIONS ARE MEASURED TO THE CENTER OF THE FOUNDATIONS. SPECIFIED LOCATION FOR THE CONTROLLER IS MEASURED TO THE CENTER OF THE CONTROLLER FOUNDATION.
- OVERHEAD LANE USE SIGNING INSTALLED ON SPAN WIRES SHALL BE CONSIDERED INCIDENTAL TO ITEM 643.80.
- BUSHINGS SHALL BE INSTALLED ON ALL CONDUIT TERMINATIONS.
- PULL WIRE SHALL BE INSTALLED IN ALL CONDUIT.
- ALL CONDUIT THREADS ARE TO BE REDHEADED.
- 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.
- SECONDARY CIRCUIT WIRING FOR TRAFFIC SIGNALS SHALL BE STRANDED COPPER XHHW-2, NO. 8 AWG OR LARGER.
- ALL TRAFFIC SIGNAL EQUIPMENT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.
- STRAIN POLE FOUNDATIONS AND CONTROL CABINET FOUNDATIONS EACH SHALL HAVE ONE OR MORE GROUND RODS LOCATED IN OR ADJACENT TO THE FOUNDATION THAT ARE BONDED TO THE GROUNDING CONDUCTOR.
- ALL FIELD WIRING SHALL BE NEATLY BUNDLED AND CLEARLY IDENTIFIED WITH PERMANENT, LEGIBLE, WEATHERPROOF TAGS SECURELY ATTACHED TO EACH CABLE.
- 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.
- THE MAINTENANCE OF TRAFFIC SIGNALS SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR UNTIL FINAL ACCEPTANCE BY MAINE DOT.
- PAYMENT UNDER ITEM 643.80 SHALL INCLUDE, BUT NOT BE LIMITED TO, POWER SERVICE AND METER, METER DISCONNECT AND ENCLOSURE, BRACKET ARMS, SPANWIRES, TETHER WIRES, VEHICULAR AND PEDESTRIAN SIGNAL ASSEMBLIES AND LED LAMPS, BACKPLATES, VISORS, 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.
- ACCESSIBLE PEDESTRIAN PUSHBUTTONS SHALL BE PROVIDED WITH A PERCUSSIVE TONE.
- PEDESTRIAN PUSHBUTTONS SHALL BE INSTALLED AT 3.5' ABOVE ADJACENT ACCESSIBLE SURFACE GRADE.
- MAXIMUM ALLOWABLE REACH DISTANCE FOR PEDESTRIAN PUSHBUTTONS IS 10 INCHES. INSTALL EXTENSION BRACKETS IF REQUIRED.
- FURNISHING AND INSTALLATION OF STEEL PIPE BOLLARDS WITH CONCRETE FILL FOR PROTECTION OF THE STRAIN POLE WILL BE INCIDENTAL TO PAYMENT UNDER ITEM 643.93.
- DETECTION OF TRAFFIC IN THE ROUTE 2 RIGHT TURN LANE SHALL BE SET FOR 15 SECONDS DELAY.
- SNUG-TIGHT CONDITION OF ANCHOR BOLT NUTS ON STRAIN POLE FOUNDATIONS SHALL BE DEFINED AS BETWEEN 20 AND 30 PERCENT OF THE VERIFICATION TORQUE VALUE DETERMINED BY THE FORMULA IN FHWA PUBLICATION NHI 05-036. ADDITIONAL TIGHTENING BEYOND SNUG-TIGHT CONDITION SHALL BE DONE IN ACCORDANCE WITH SECTION 643.04 OF THE MAINE DOT STANDARD SPECIFICATIONS.

SIGNAL HEAD DETAIL



- ALL NEW SIGNAL FACE DISPLAYS SHALL BE 12" LED.
- ALL NEW SIGNAL FACE DISPLAYS SHALL HAVE TUNNEL VISORS TO PROPERLY BLOCK THE VIEW OF THE SIGNAL DISPLAYS FROM OTHER INTERSECTION APPROACHES.
- ALL NEW SIGNAL DISPLAYS SHALL HAVE BACKPLATES WITH 3" MINIMUM WIDTH YELLOW RETROREFLECTIVE TAPE AROUND DISPLAY FACE.
- ALL NEW SIGNAL DISPLAYS SHALL BE INSTALLED IN A MANNER THAT DO NOT BLOCK LINE OF SIGHT OF OTHER SIGNAL DISPLAYS OR OVERHEAD SIGNING.

OVERHEAD SIGNING

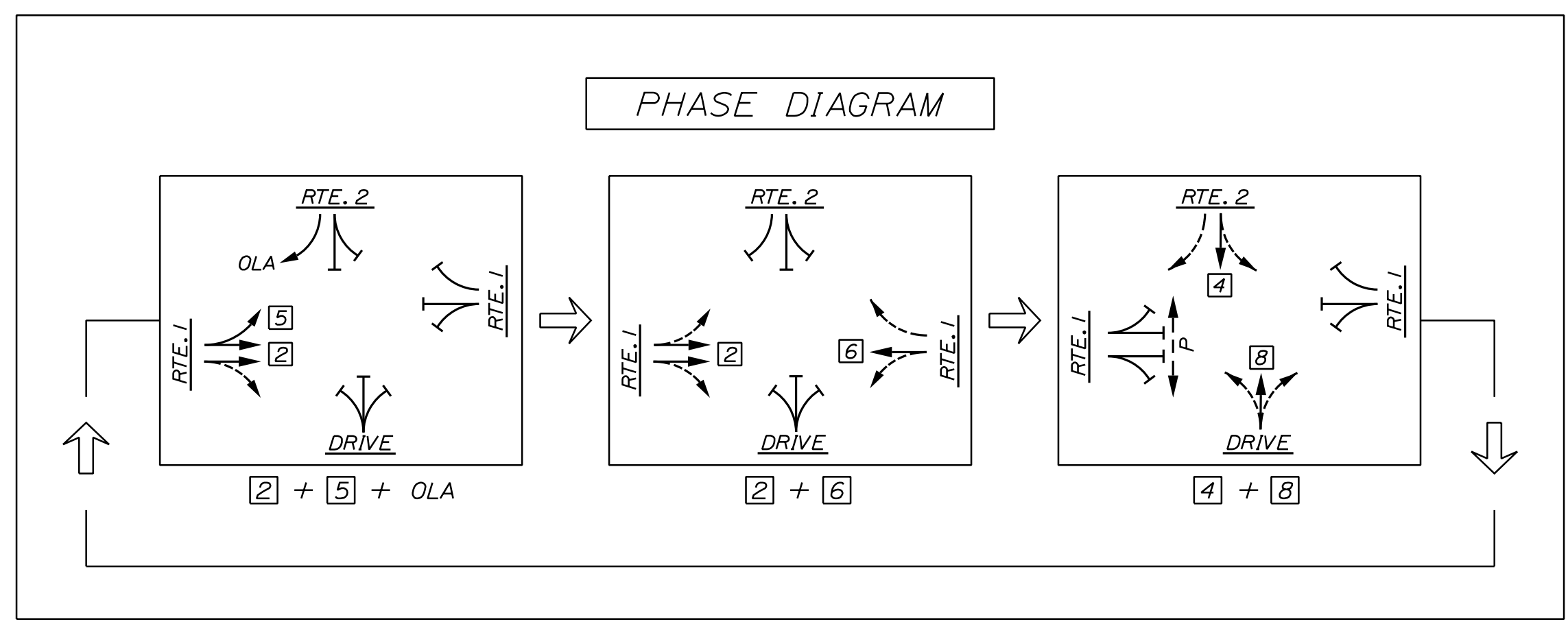


- ALL OVERHEAD SIGNING SHALL BE INSTALLED IN A MANNER THAT DOES NOT BLOCK LINE OF SIGHT OF OTHER OVERHEAD SIGNING OR SIGNAL DISPLAYS.

INITIAL SIGNAL TIMING

PHASE	1	2	3	4	5	6	7	8
MIN. INITIAL	-	5.0	-	5.0	5.0	5.0	-	5.0
VEH. EXT.	-	3.0	-	3.0	3.0	3.0	-	3.0
MAX. GREEN	-	45	-	20	15	30	-	20
YELLOW	-	3.0	-	3.0	3.0	3.0	-	3.0
ALL RED	-	3.0	-	2.5	2.0	3.0	-	2.5
WALK	-	-	-	4.0	-	-	-	-
PED CLEAR	-	-	-	17.0	-	-	-	-
FLASH	-	Y	-	R	R	Y	-	R
RECALL	-	SOFT	-	-	-	SOFT	-	-

PHASE DIAGRAM



Date: 1/5/2024  
Username: Matt.Richard  
Division: HIGHWAY  
Filename: ... \007\_Signal Plan Details.dgn

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
02288500  
WIN 22885.00  
HIGHWAY PLANS

STATE OF MAINE PROFESSIONAL ENGINEER  
DONALD G. FITZGERALD, JR.  
No. 9244

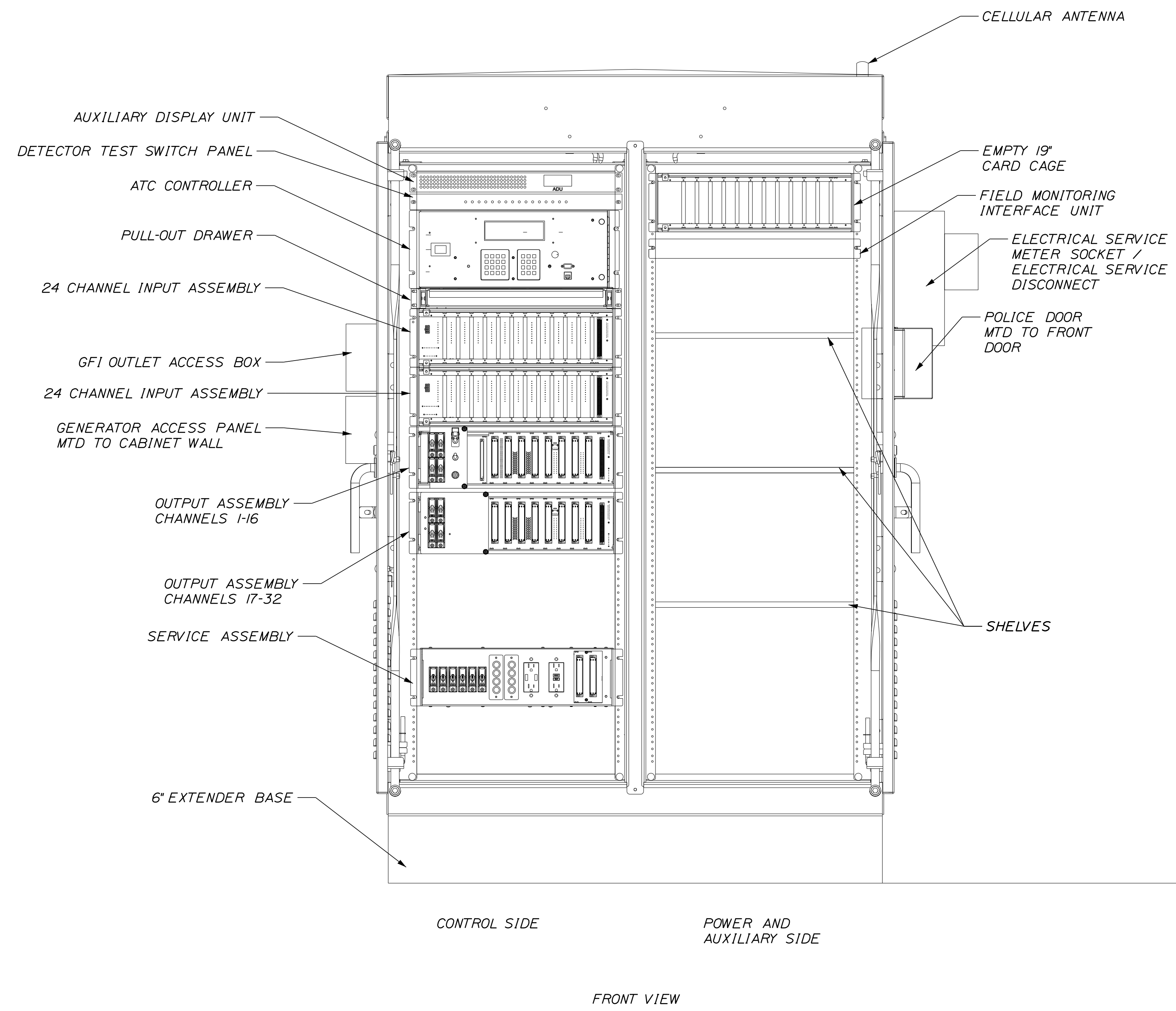
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P.E. NUMBER: 9244

PROJ. MANAGER	D.M. LORING	BY	DATE
CHECKED-REVIEWED	ALL GODFREY	MSM	1-2020
DESIGN DETAIL		GP	1-2024
DESIGN DETAIL			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

HOULTON  
U.S. RTE. 1 & U.S. RTE. 2  
SIGNAL PLAN DETAILS

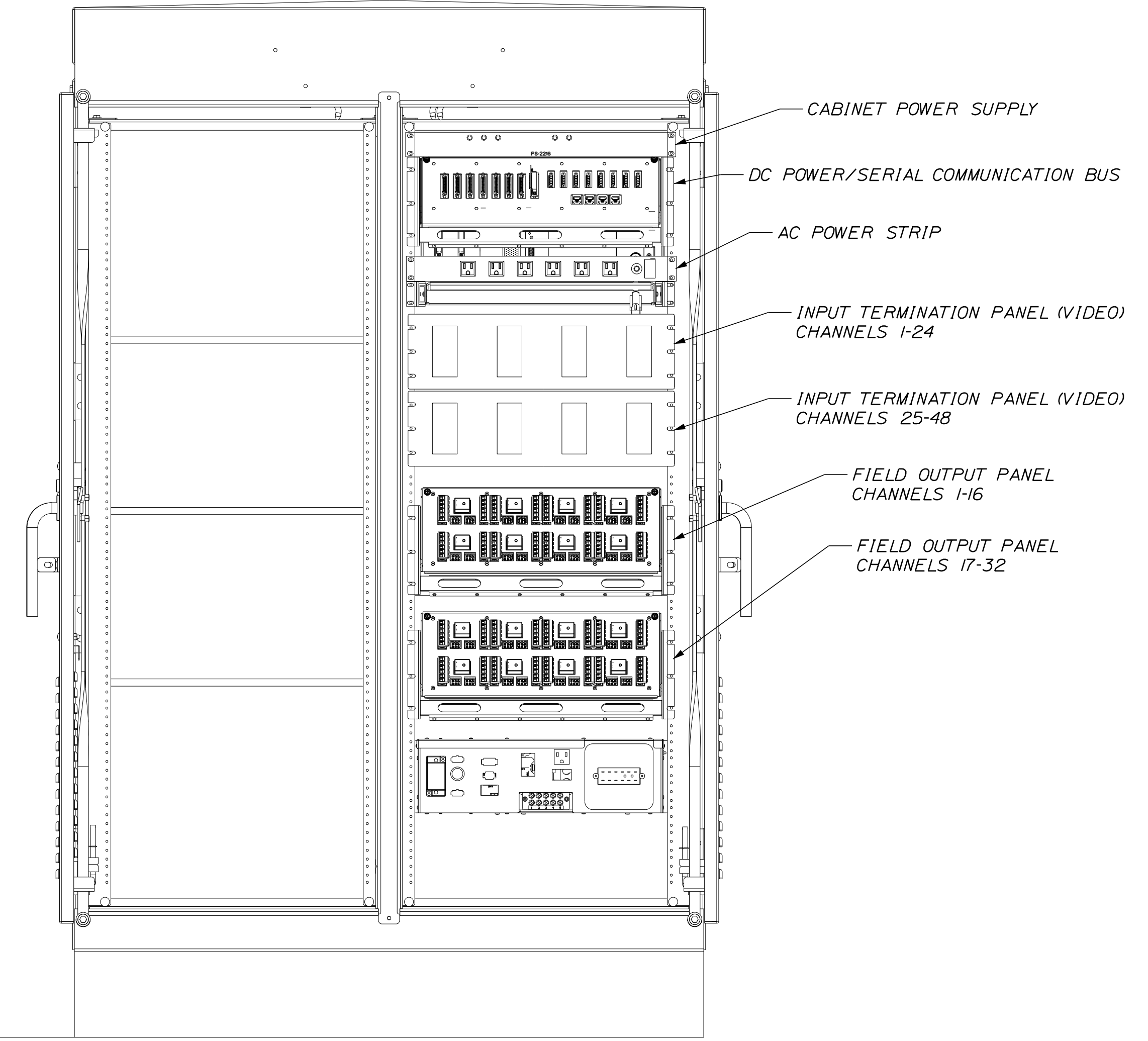
SHEET NUMBER  
2  
OF 10

Filename: ... \Highway\008\_ATCC\_DETAILS.dgn Division: HIGHWAY Username: Matt.Richard Date: 1/4/2024



CONTROL SIDE POWER AND AUXILIARY SIDE

FRONT VIEW



POWER AND AUXILIARY SIDE CONTROL SIDE

BACK VIEW

MaineDOT 32 / 48 ATCC CABINET  
NOT TO SCALE

- NOTES:
- DRAWING SHOWN IS A SCHEMATIC REPRESENTATION OF THE ATCC CABINET DEPICTING THE RELATIVE LOCATION OF VARIOUS IN-CABINET DEVICES AND SUBASSEMBLIES. THE EXACT SIZE OF VARIOUS ELEMENTS MAY VARY PER MANUFACTURER.
  - INPUT TERMINATION PANEL SHOWN IS FOR VIDEO BASED INPUTS.
  - 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.
  - FAN AND THERMOSTAT SHALL BE INSTALLED ON CABINET FRAME ABOVE THE DOOR.
  - LED LIGHT STRIPS SHALL BE INSTALLED ON CABINET FRAME ABOVE THE DOOR AND ON THE UNDERSIDE OF THE LOWER SHELF.
  - THE SIZE OF THE METER SOCKET WILL VARY BASED ON THE LOCAL ELECTRIC UTILITY COMPANY REQUIREMENT.
  - THE METER SHALL BE INSTALLED SUCH THAT THE BOTTOM OF THE METER IS AT LEAST 48 INCHES ABOVE FINAL GRADE.
  - THE LOAD SIDE CABLE SHALL BE ROUTED THROUGH THE INTERIOR OF THE CABINET SUCH THAT IT DOES NOT BLOCK OR ENTER INTO AVAILABLE RACK SPACE. (REMOVED; THUS PREVENTING THAT SPACE FROM BEING USED EITHER BY EQUIPMENT SUPPLIED AS PART OF THE PROJECT, OR FUTURE EQUIPMENT THAT WOULD BE INSTALLED IN THE RACK SYSTEM.) THE CABLE SHALL BE ROUTED BETWEEN THE EDGE OF THE RACK SYSTEM AND THE CABINET SIDE WALL, ALONG THE BOTTOM OF THE CABINET AND BELOW THE BOTTOM OPENING OF THE DOORS.

NOT TO SCALE

STATE OF MAINE DEPARTMENT OF TRANSPORTATION		02288500		WIN 22885.00		HIGHWAY PLANS	
		SIGNATURE		P.E. NUMBER		DATE	
		9244		01-04-2024			
PROJ. MANAGER	D.M. LORING	BY	JLE	DATE	1-2020		
DESIGN-DETAILED	ALG	CHECKED-REVIEWED	ALG	DATE	1-2024		
DESIGN-DETAILED		DESIGN-DETAILED		DATE			
REVISIONS 1		REVISIONS 1		DATE			
REVISIONS 2		REVISIONS 2		DATE			
REVISIONS 3		REVISIONS 3		DATE			
REVISIONS 4		REVISIONS 4		DATE			
HOULTON		U.S. RTE. 1 & U.S. RTE. 2		ATCC DETAIL		SHEET NUMBER	
						8	
						OF 10	

Date: 1/4/2024

Username: Matt.Richard

Division: HIGHWAY

Filename: ... \009\_Geometric Plan\_10 scale.dgn

CURVE DATA MC10				
(POINT NO.)		NORTHING	EASTING	
PC	(30)	0+00.00	836574.7073	2304864.2802
PI		0+21.32	836595.0408	2304870.6788
CC	(31)		836583.7124	2304835.6636
PT	(32)	0+37.07	836607.7731	2304853.5824
Radius		30		
Delta		70° 47' 30" LT		
Degree of Curve		190° 59' 09"		
Length		37.07		
Tangent		21.32		
Chord		34.75		
Middle Ordinate		5.54		
External		6.8		

CURVE DATA MC11				
(POINT NO.)		NORTHING	EASTING	
POB	(70)	0+00.00	836685.0542	2304806.1614
PC	(36)	0+26.78	836672.0785	2304829.5926
PI		0+50.25	836660.7125	2304850.1169
CC	(39)		836733.3155	2304863.5045
PCC	(38)	0+72.06	836664.0107	2304873.3451
Radius		70		
Delta		37° 03' 30" LT		
Degree of Curve		81° 51' 04"		
Length		45.28		
Tangent		23.46		
Chord		44.49		
Middle Ordinate		3.63		
External		3.83		
PI		0+95.75	836667.3406	2304896.7971
CC	(37)		836703.6135	2304867.7219
PT	(40)	1+14.83	836689.5057	2304905.1515
Radius		40		
Delta		61° 15' 59" LT		
Degree of Curve		143° 14' 22"		
Length		42.77		
Tangent		23.69		
Chord		40.76		
Middle Ordinate		5.58		
External		6.49		
POE	(71)	1+83.51	836753.7712	2304929.3741

TERMINAL CURB TYPE 1			
ALIGNMENT	POINT TO POINT	LENGTH	
MC12	33 TO 18	8'	
	19 TO 20	8'	
	21 TO 35	8'	
	50 TO 51	8'	
	52 TO 53	8'	
	54 TO 55	8'	

TERMINAL CURB TYPE 1-CIRCULAR			
ALIGNMENT	POINT TO POINT	RADIUS	LENGTH
MC10	10 TO 11	30'	8'
	12 TO 32	30'	8'
MC11	82 TO 83	40'	4'

CONTROL POINTS FOR MC10				
POINT	STATION	OFFSET	NORTHING	EASTING
10	11+48.71	26.78 LT	836586.6280	2304865.5216
11	11+55.44	30.87 LT	836594.3930	2304863.6980
12	11+61.39	37.45 LT	836602.2007	2304859.2895
30	11+37.16	24.44 LT	836574.7073	2304864.2802
CC31	11+37.40	54.44 LT	836583.7124	2304835.6636
32	11+64.83	44.60 LT	836607.7731	2304853.5824
10	30+20.33	36.18 LT	836586.6280	2304865.5216
11	30+25.68	30.26 LT	836594.3930	2304863.6980
12	30+33.31	25.56 LT	836602.2007	2304859.2895
30	30+15.66	47.22 LT	836574.7073	2304864.2802
CC31	30+45.06	53.16 LT	836583.7124	2304835.6636
32	30+41.00	23.44 LT	836607.7731	2304853.5824

CONTROL POINTS FOR MC11				
POINT	STATION	OFFSET	NORTHING	EASTING
38	12+22.73	44.38 LT	836664.0107	2304873.3451
CC37	12+57.17	63.68 LT	836703.6135	2304867.7219
40	12+57.37	23.68 LT	836689.5057	2304905.1515
71	13+26.05	24.04 LT	836753.7712	2304929.3741
82	12+44.63	25.70 LT	836678.3206	2304898.7102
83	12+48.48	24.64 LT	836681.5407	2304901.0805
70	31+19.86	21.31 RT	836685.0542	2304806.1614
36	30+93.07	21.27 RT	836672.0785	2304829.5926
CC39	30+92.97	91.27 RT	836733.3155	2304863.5045
CC37	30+74.93	67.31 RT	836703.6135	2304867.7219
38	30+50.87	35.35 RT	836664.0107	2304873.3451
80	30+73.71	23.98 RT	836665.0880	2304847.8519
81	30+69.90	25.19 RT	836664.3054	2304851.7740

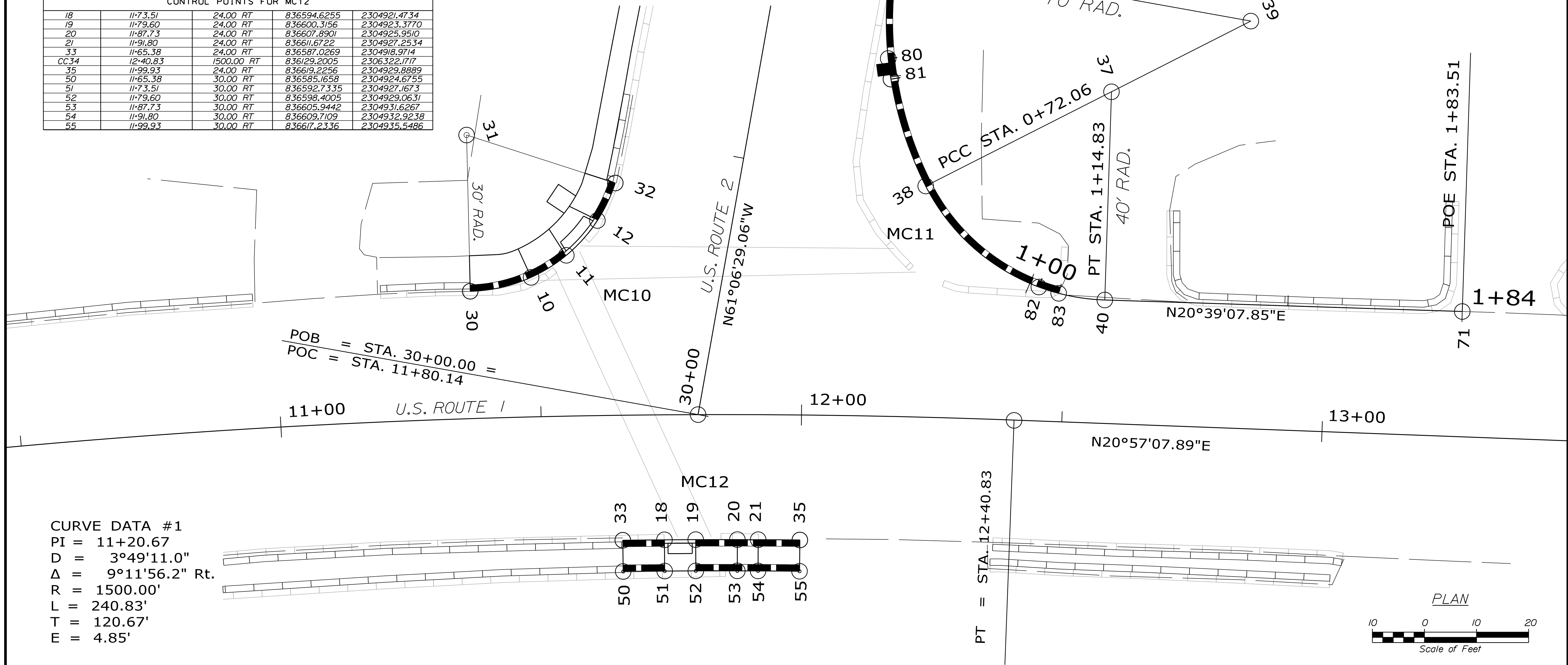
CURVE DATA MC12				
(POINT NO.)		NORTHING	EASTING	
PC	(33)	0+00.00	836587.0269	2304918.9714
PI		0+17.00	836603.1891	2304924.2447
CC	(34)		836129.2005	2306322.1717
PT	(35)	0+34.00	836619.2256	2304929.8889
Radius		1476		
Delta		1° 19' 11" RT		
Degree of Curve		3° 52' 55"		
Length		34		
Tangent		17		
Chord		34		
Middle Ordinate		0.1		
External		0.1		

CURB TYPE 1			
ALIGNMENT	POINT TO POINT	LENGTH	
MC12	20 TO 21	4'	
	53 TO 54	4'	
MC11	36 TO 38	45.28'	

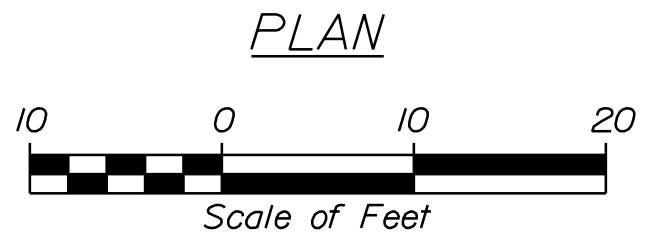
VERTICAL CONTROL POINTS - MC11		
POINT	STATION	ELEVATION
70	0+00.00	365.83
36	0+26.78	365.48
80	0+46.40	365.34
81	0+50.40	365.34
38	0+72.06	365.43
82	1+01.87	365.58
83	1+05.87	365.60
40	1+14.83	365.65
71	1+83.51	365.94

CURB TYPE 1 - CIRCULAR			
ALIGNMENT	POINT TO POINT	RADIUS	LENGTH
MC10	30 TO 10	30'	12.07'
MC11	38 TO 82	40'	29.81'

CONTROL POINTS FOR MC12				
POINT	STATION	OFFSET	NORTHING	EASTING
18	11+73.51	24.00 RT	836594.6255	2304921.4734
19	11+79.60	24.00 RT	836600.3156	2304923.3770
20	11+87.73	24.00 RT	836607.8901	2304925.9510
21	11+91.80	24.00 RT	836611.6722	2304927.2534
33	11+65.38	24.00 RT	836587.0269	2304918.9714
CC34	12+40.83	1500.00 RT	836129.2005	2306322.1717
35	11+99.93	24.00 RT	836619.2256	2304929.8889
50	11+65.38	30.00 RT	836585.1658	2304924.6755
51	11+73.51	30.00 RT	836592.7335	2304927.1673
52	11+79.60	30.00 RT	836598.4005	2304929.0631
53	11+87.73	30.00 RT	836605.9442	2304931.6267
54	11+91.80	30.00 RT	836609.7109	2304932.9238
55	11+99.93	30.00 RT	836617.2336	2304935.5486



CURVE DATA #1	
PI	= 11+20.67
D	= 3°49'11.0"
Δ	= 9°11'56.2" Rt.
R	= 1500.00'
L	= 240.83'
T	= 120.67'
E	= 4.85'



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
02288500  
WIN 22885.00  
HIGHWAY PLANS

STATE OF MAINE  
PROFESSIONAL ENGINEER  
DONALD G. FITZGERALD, JR.  
No. 9244  
L.C.E.S. 17

DATE: 1-2020  
BY: MSM  
D.M. LORING  
AL. COFFEY

DATE: 1-2024  
BY: GP  
AL. COFFEY

DESIGN-DETAILED  
CHECKED-REVIEWED  
DESIGN-DETAILED  
DESIGN-DETAILED

REVISIONS 1  
REVISIONS 2  
REVISIONS 3  
REVISIONS 4  
FIELD CHANGES

HOULTON  
U.S. RTE. 1 & U.S. RTE. 2  
GEOMETRIC PLAN

SHEET NUMBER  
9  
OF 10

Town, County, State \_\_\_\_\_  
 Approx. Property Lines \_\_\_\_\_  
 Existing Right of Way \_\_\_\_\_  
 Limits of Wrought Portion \_\_\_\_\_  
 Control Of Access \_\_\_\_\_  
 New Right of Way \_\_\_\_\_  
 New Easement \_\_\_\_\_  
 New Temporary Rights \_\_\_\_\_  
 New R/W Within Existing R/W \_\_\_\_\_

New R/W Along Existing R/W \_\_\_\_\_  
 Building \_\_\_\_\_  
 Trees Conifer \_\_\_\_\_  
 Tree Line \_\_\_\_\_  
 Water Edge \_\_\_\_\_  
 Ledge \_\_\_\_\_  
 Fence \_\_\_\_\_  
 Sign \_\_\_\_\_

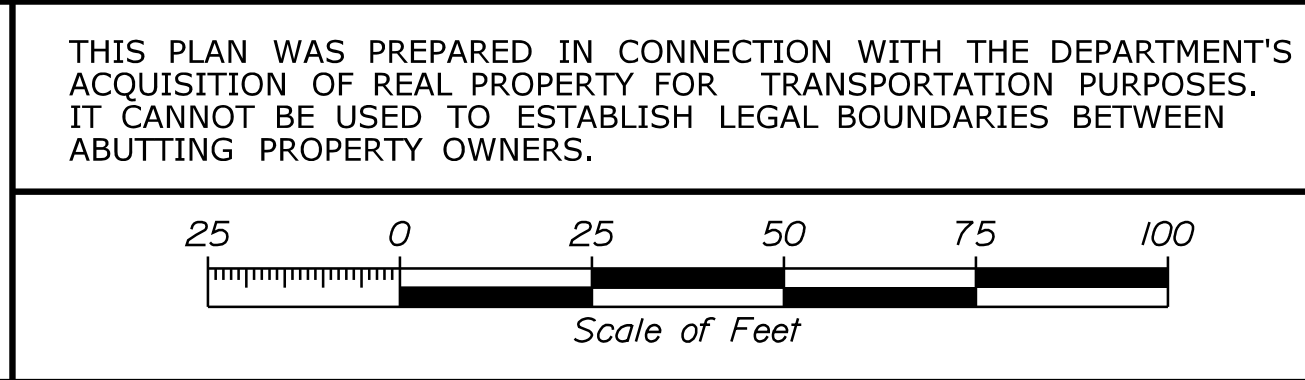
Clearing Limit Line \_\_\_\_\_  
 Deciduous \_\_\_\_\_  
 Bush Line \_\_\_\_\_  
 Rock/Boulder \_\_\_\_\_  
 Barb Wire \_\_\_\_\_  
 Stockade \_\_\_\_\_  
 Well \_\_\_\_\_  
 Mailbox \_\_\_\_\_

Sanitary Sewer \_\_\_\_\_  
 Telephone Line \_\_\_\_\_  
 Electric Line \_\_\_\_\_  
 Water Line \_\_\_\_\_  
 Underdrain Line \_\_\_\_\_  
 Gas Line \_\_\_\_\_  
 Guardrail \_\_\_\_\_  
 Culvert \_\_\_\_\_

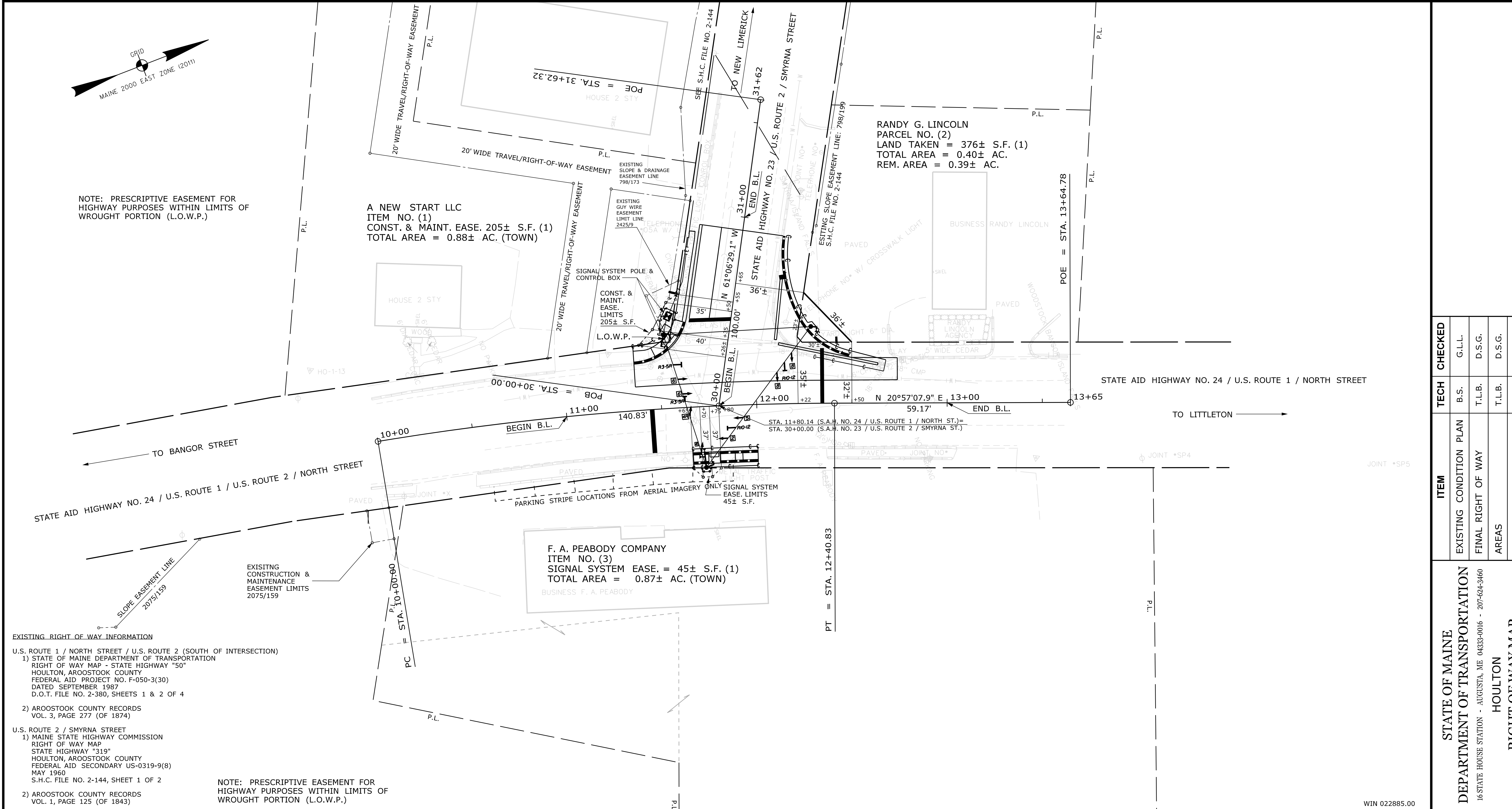
Proposed \_\_\_\_\_  
 Existing \_\_\_\_\_  
 Traveled Way \_\_\_\_\_  
 Ditch \_\_\_\_\_  
 Catch Basin \_\_\_\_\_  
 Manhole \_\_\_\_\_  
 Sewer Manhole \_\_\_\_\_  
 Utility Pole \_\_\_\_\_  
 Fire Hydrant \_\_\_\_\_  
 Curbing \_\_\_\_\_

Cut Line \_\_\_\_\_  
 Stonewall \_\_\_\_\_  
 Baseline \_\_\_\_\_  
 Monument \_\_\_\_\_  
 Iron Rod Found \_\_\_\_\_  
 Replacement Pin Set \_\_\_\_\_

STATE OF MAINE  
 REGISTRY OF DEEDS  
 COUNTY \_\_\_\_\_  
 RECEIVED \_\_\_\_\_  
 at \_\_\_\_\_ h \_\_\_\_\_ m \_\_\_\_\_ M and recorded in  
 Plan Book \_\_\_\_\_, Page \_\_\_\_\_  
 Attest: \_\_\_\_\_ REGISTER



THIS PLAN WAS PREPARED IN CONNECTION WITH THE DEPARTMENT'S ACQUISITION OF REAL PROPERTY FOR TRANSPORTATION PURPOSES. IT CANNOT BE USED TO ESTABLISH LEGAL BOUNDARIES BETWEEN ADJACENT PROPERTY OWNERS.



NOTE: PRESCRIPTIVE EASEMENT FOR HIGHWAY PURPOSES WITHIN LIMITS OF WROUGHT PORTION (L.O.W.P.)

EXISTING RIGHT OF WAY INFORMATION

U.S. ROUTE 1 / NORTH STREET / U.S. ROUTE 2 (SOUTH OF INTERSECTION)  
 1) STATE OF MAINE DEPARTMENT OF TRANSPORTATION  
 RIGHT OF WAY MAP - STATE HIGHWAY "50"  
 HOULTON, AROOSTOOK COUNTY  
 FEDERAL AID PROJECT NO. F-050-3(30)  
 DATED SEPTEMBER 1987  
 D.O.T. FILE NO. 2-380, SHEETS 1 & 2 OF 4

2) AROOSTOOK COUNTY RECORDS  
 VOL. 3, PAGE 277 (OF 1874)

U.S. ROUTE 2 / SMYRNA STREET  
 1) MAINE STATE HIGHWAY COMMISSION  
 RIGHT OF WAY MAP  
 STATE HIGHWAY "319"  
 HOULTON, AROOSTOOK COUNTY  
 FEDERAL AID SECONDARY US-0319-9(8)  
 MAY 1960  
 S.H.C. FILE NO. 2-144, SHEET 1 OF 2

2) AROOSTOOK COUNTY RECORDS  
 VOL. 1, PAGE 125 (OF 1843)

REVISIONS			PLAN FILED IN PLAN BOOK				PAGE COUNTY RECORD (SOUTH)				
NO.	DATE	DESCRIPTION	BY	NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE		
						COND.	3/23/2020	5997	113		

BRUCE A. VAN NOTE  
 COMMISSIONER  
 JOYCE NOEL TAYLOR  
 CHIEF ENGINEER

DATE \_\_\_\_\_

STATE AID HIGHWAY NOS. 23 & 24  
 U.S. ROUTES 1 & 2 / NORTH ST. / SMYRNA ST.  
 HOULTON AROOSTOOK COUNTY  
 STATE PROJECT NO. 22885.00

JANUARY 2020  
 SCALE 1" = 25'

RIGHT-OF-WAY MAP  
 SHEET 1 OF 1

D.O.T. FILE NO. 2-615

SHEET NUMBER  
**10**  
 OF 10

ITEM	TECH	CHECKED
EXISTING CONDITION PLAN	B.S.	G.L.L.
FINAL RIGHT OF WAY AREAS	T.L.B.	D.S.G. T.L.B.

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016 - 207-624-3460  
 HOULTON  
 RIGHT OF WAY MAP

Filename: ... \00\ROW\MSTA001\_RWP\PLAN1.dgn  
 Division: ROW  
 Username: Terri.L.Blair  
 Date: 5/18/2020