STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PLAN LEGEND

	Existing	Proposed
Vehicular Head		
Video Detection Camera		
Emergency Vehicle Preemption Reciever		
Emergency Preemption Confirmation Strobe		
Mast Arm with Steel Pole		
Mast Arm or Post Mounted Sign		
Pedestrian Push Button and Information Sign		
Detectable Warning Field		
Travelway		
Controller with Cabinet		
Pedestal Post and Foundation		
Junction Box		
360 Degree Video Detection Camera		
Advanced Vehicle Detector		
Overhead Illumination		

WINDHAM

CUMBERLAND COUNTY

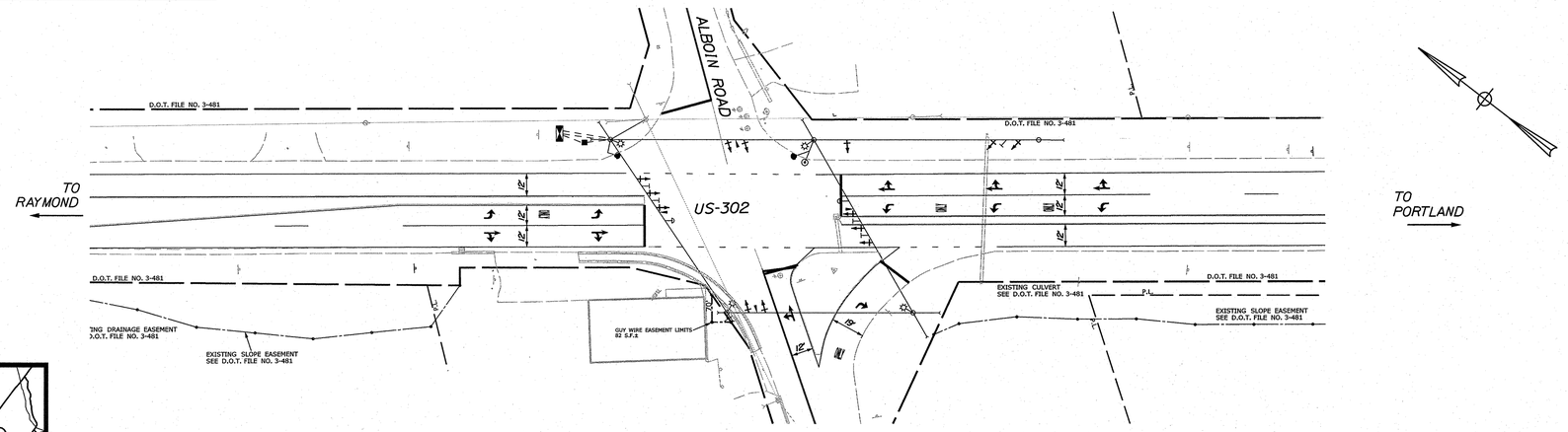
ROUTE 302 (ROOSEVELT TRAIL) & ALBION ROAD

FEDERAL PROJECT NO. 2526500

STATE PROJECT NO. 25265.00

PROJECT LENGTH: INTERSECTION

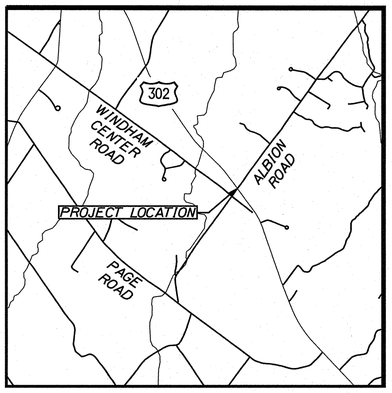
INDEX OF SHEETS



LAYOUT SCALE

50 0 50 100

Scale in Feet



0 1/2 1

Scale in Miles

LOCATION MAP

TRAFFIC DATA — US-302

Current (2019) AADT	14624
Future (2039) AADT	17844
DHV - % of AADT	9.4%
Design Hour Volume	1677
% Heavy Trucks (AADT)	N/A
% Heavy Trucks (DHV)	N/A
Directional Distribution (DHV)	N/A
18 kip Equivalent P 2.0	N/A
18 kip Equivalent P 2.5	N/A
Design Speed (mph)	45 MPH
Functional Class:	Arterial Road
Highway Corridor Priority:	1

PLANS PREPARED BY:

WSP

PROJECT LOCATION:	Intersection of Route 302 (Roosevelt Trail) & Albion Road in the Town of Windham.
PROGRAM AREA:	Multimodal
SCOPE OF WORK:	Traffic signal installation

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED

COMMISSIONER: [signature] DATE 12-13-24

CHIEF ENGINEER: [signature] DATE 12-11-2024

STATE OF MAINE · WILLIAM J. MELENDEZ · No. 15401 · REGISTERED PROFESSIONAL ENGINEER

PROJECT INFORMATION

PROGRAM	MULTIMODAL
PROJECT MANAGER	G. DOSTIE
DESIGNER	K. ADOO
CONSULTANT	WSP USA, Inc.
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

William Melendez Perdomo
SIGNATURE
15401
P.E. NUMBER
12/06/2024
DATE

WINDHAM
ROUTE 302

TITLE SHEET

WIN 25265.00

SHEET NUMBER 1 OF 7

Filename: WINDHAM Division: Multimodal Username: WSP USA, Inc. Date: 08/25/2023

GENERAL NOTES:

1. THE UTILITIES INVOLVED IN THIS CONTRACT ARE AS FOLLOWS:
   - CENTRAL MAINE POWER
   - FAIRPORT
   - SPECTRUM
2. ALL UTILITY FACILITIES SHALL BE ADJUSTED BY THE RESPECTIVE UTILITIES UNLESS OTHERWISE NOTED.
3. "UNDETERMINED LOCATIONS" SHALL BE DETERMINED BY THE RESIDENT.
4. NO EXISTING DRAINAGE SHALL BE ABANDONED, REMOVED, OR PLUGGED WITHOUT PRIOR APPROVAL OF THE RESIDENT.
5. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING MAILBOXES TO ENSURE THAT THE MAIL WILL BE DELIVERABLE.
6. THE CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED OR DAMAGED BY CONSTRUCTION ACTIVITIES TO ORIGINAL FINISH SURFACE (ROADWAY, SIDEWALK, ETC.) UNLESS NOTED OTHERWISE ON PLANS. RESTORATION OF PAVED SURFACES, SIDEWALKS, AND OTHER AREAS SHALL BE INCIDENTAL TO THE PROJECT. ALL CURB DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED IN KIND AND SHALL CONFORM TO MAINEDOT STANDARDS. COST SHALL BE INCIDENTAL TO THE PROJECT.
7. 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.
8. FINAL STRIPING FOR THE PROJECT SHALL BE DONE BY THE CONTRACTOR PER THE STRIPING LAYOUT IN THE CONTRACT DOCUMENTS. PAYMENT SHALL BE MADE UNDER APPROPRIATE CONTRACT ITEMS.
9. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE MAINE DEPARTMENT OF TRANSPORTATION'S BEST MANAGEMENT PRACTICES FOR EROSION CONTROL & SEDIMENT CONTROL, FEBRUARY, 2008.
10. THE CONTRACTOR SHALL MAINTAIN ACCESS AT ALL DRIVEWAYS DURING CONSTRUCTION.
11. ALL SIGNING, SIGNAL, AND STRIPING MATERIALS AND PLACEMENT SHALL CONFORM TO THE MAINEDOT STANDARD SPECIFICATIONS AND STANDARD DETAILS AND WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES DATED 2009, AS AMENDED.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY NECESSARY OPENING PERMITS.
13. THE CONTRACTOR SHALL PROVIDE THE RESIDENT, MAINEDOT, AND THE TOWN OF WINDHAM WITH A SCHEDULE OF WORK FOR CONSTRUCTING THE TRAFFIC IMPROVEMENTS AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF WORK.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING RED-LINE AS-BUILT DRAWINGS OF THE FINAL WORK TO THE RESIDENT. THOSE DRAWINGS SHALL BE ON A CLEAN SET OF PLANS SHOWING ALL CHANGES OR MODIFICATIONS TO THE BID PLANS.
15. ANY POLICE DETAIL REQUIRED (AS DEEMED NECESSARY BY THE RESIDENT) SHALL BE PAID UNDER ITEM 652.381-TRAFFIC OFFICER.
16. ALL CONFLICTING SIGNS AND PAVEMENT MARKINGS SHALL BE PERMANENTLY REMOVED.

SIGNAL NOTES:

1. ALL MATERIALS AND WORK SHALL CONFORM TO THE TOWN OF WINDHAM AND MAINEDOT STANDARD SPECIFICATIONS AND BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", U.S.D.O.T., F.H.W.A., LATEST EDITION.
2. ALL SIGNAL AND SIGNAL RELATED EQUIPMENT SHALL MEET OR EXCEED MAINEDOT AND THE TOWN OF WINDHAM TRAFFIC SIGNAL STANDARDS.
3. IT IS THE INTENT OF THIS WORK TO HAVE A COMPLETE, OPERATIONAL, TESTED AND ACCEPTED TRAFFIC SIGNAL SYSTEM UPON COMPLETION OF THIS CONTRACT.
4. TRAFFIC SIGNAL WORK SHALL BE COMPLETED IN A MANNER AND ORDER THAT WILL CAUSE MINIMUM DISRUPTION TO TRAFFIC.
5. THE RESIDENT, TOWN OF WINDHAM AND MAINEDOT SHALL HAVE THE RIGHT AND AUTHORITY TO DETERMINE THE ACCEPTABILITY OF WORK AND MATERIALS IN PROGRESS OR COMPLETED AND SHALL HAVE THE RIGHT TO REJECT ANY WORK OR MATERIALS WHICH DO NOT CONFORM, IN ITS SOLE OPINION, TO THE PLANS OR SPECIFICATION.
6. THE LOCATIONS OF THE SIGNAL EQUIPMENT AND POLES INCLUDING THE MOUNTED TRAFFIC DEVICES AND SIGNS ARE APPROXIMATE. FINAL LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE RESIDENT, MAINEDOT OR TOWN REPRESENTATIVE.
7. REMOVAL OF THE EXISTING TRAFFIC CONTROL EQUIPMENT, SIGNAGE AND POLE(S) SHALL BE INCIDENTAL TO THE INSTALLATION OF THE NEW SIGNAL SYSTEM. SEE SALVAGE RIGHTS FOR ADDITIONAL INFORMATION.
8. THE COST OF POLE RISERS AND ALL PROJECT SIGNS EITHER OVERHEAD OR INSTALLED ON POSTS, WHICH INCLUDES PROVISION OF THE POSTS SHALL BE INCIDENTAL TO ITEM 643.80.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY TRAFFIC SIGNALS AND ASSOCIATED WORK IF REQUIRED. CONTRACTOR SHALL REMOVE THE TEMPORARY TRAFFIC SIGNAL ONCE NEW SIGNAL IS OPERATIONAL. ALL COSTS ASSOCIATED WITH TEMPORARY SIGNALS SHALL BE INCIDENTAL TO THE 643 ITEMS.
10. THE PROPOSED TRAFFIC SIGNAL TIMING AND PHASING PLAN SHALL BE INPUT BY THE CONTRACTOR UNDER OBSERVATIONS BY THE RESIDENT OR MAINEDOT REPRESENTATIVE. THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE TO THE RESIDENT.
11. CONTRACTOR IS RESPONSIBLE FOR FIELD ADJUSTING TIMING UNDER THE DIRECTION OF THE RESIDENT AND MAINEDOT REPRESENTATIVE. TIMING SHALL BE ADJUSTED WITHIN TWO WEEKS OF INITIAL START UP.
12. TWO COPIES OF THE AS-BUILT PLANS, SIGNAL TIMING, AND CONTROLLER MANUALS SHALL BE LEFT IN THE CONTROLLER CABINET. ONE ELECTRONIC COPY OF EACH SHALL BE PROVIDED TO THE TOWN ENGINEER/PUBLIC WORKS DIRECTOR.
13. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL PULL BOXES PER MAINEDOT STANDARDS AT A MINIMUM.
14. THE CONTRACTOR SHALL PREPARE A MATERIAL SCHEDULE BASED UPON THEIR PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.
15. UTILITIES THAT HAVE FACILITIES IN THE GENERAL PROJECT ARE LISTED IN SPECIAL PROVISION 104.
16. ANY UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY AND THE CONTRACTOR IS RESPONSIBLE FOR FINDING EXACT LOCATIONS OF UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONTACT DIG SAFE AT 1-888-DIG-SAFE AND APPROPRIATE AUTHORITIES PRIOR TO ANY SUBSURFACE ACTIVITIES.
17. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF THE UTILITY COMPANIES WHEN MODIFYING THE EXISTING SERVICE CONNECTIONS AND WHEN INSTALLING EQUIPMENT ON THEIR POLES OR NEAR THEIR WIRES.
18. THE CONTRACTOR IS RESPONSIBLE FOR THE RELOCATION AND/OR INSTALLATION OF POWER METERS IF REQUIRED AND ASSURING THE POWER METER LOCATION AND INSTALLATION CONFORMS TO THE LOCAL UTILITY REQUIREMENTS. THIS WORK WILL BE INCIDENTAL TO 643 ITEMS.
19. ALL CONDUIT CROSSING AREAS OF EXISTING PAVEMENT SHALL BE INSTALLED USING TRENCHLESS TECHNOLOGIES OR OTHERWISE APPROVED.
20. ALL NEW SIGNAL SECTIONS SHALL HAVE LED LENSES 12 INCHES IN DIAMETER, AND SHALL HAVE 5 INCH LOUVERED BACK PLATES WITH 3 INCH YELLOW RETROREFLECTIVE STRIP AROUND BORDER OF BACK PLATES.
21. ALL SPLICES WILL BE MADE IN THE CABINETS OR POLES MEETING MAINEDOT SPECIFICATIONS.
22. ANY DAMAGE TO SLOPES OR PAVEMENT RESULTING FROM INSTALLATION OF WOOD STRAIN POLES OR PEDESTAL POLE FOUNDATIONS SHALL BE REPAIRED BY THE CONTRACTOR AS DIRECTED BY THE RESIDENT. COSTS OF REPAIRS SHALL BE INCIDENTAL TO PAYMENT UNDER SECTION 643.
23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY NECESSARY STREET OCCUPANCY OR OPENING PERMITS.
24. ALL CONFLICTING SIGNS AND PAVEMENT MARKERS SHALL BE PERMANENTLY REMOVED.
25. ALL SIGNAL HEADS AND SIGNS ON SPAN WIRES SHALL BE TETHERED.
26. THE BOTTOM OF THE HOUSING OF NEW SIGNAL FACES SHALL BE AT LEAST 17 FEET BUT NOT MORE THAN 19 FEET ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY, UNLESS OTHERWISE SPECIFIED.
27. ALL PRE-EMPTION EQUIPMENT SHALL BE THE SAME AS IS CURRENTLY USED BY THE TOWN UNLESS OTHERWISE APPROVED.
28. ALL NEW CONTROLLERS AND CABINETS SHALL BE TRANSIT SIGNAL PRIORITY (TSP) CAPABLE/READY AND AUTOMATIC VEHICLE LOCATION (AVL) CAPABLE.
29. ALL SIGNAL HEADS SHALL BE HEAVY DUTY POLYCARBONATE AND REINFORCED WITH METAL STIFFENERS AND REINFORCING PLATES.
30. SEE STANDARD SPECIFICATIONS AND STANDARD DETAILS, CURRENT EDITION FOR CONTROLLER EQUIPMENT REQUIREMENTS.
31. THE CONTROLLER CABINET SHALL BE A 4 DOOR ATC RACK MOUNTED CABINET.
32. PULL BOXES WILL BE TIER 22, RATED 22,000 LBS.
33. THE TRAFFIC SIGNAL SYSTEM WILL BE EQUIPPED WITH AN APPLIED INFORMATION FMU.
34. ALL SIGNAL CABLE SHALL BE IMSA RATED.
35. ALL VEHICLE DETECTION (ADVANCED AND STOP BAR) SHALL BE LOCATED SUCH THATEXISTING UTILITY LINES OR POLES WILL NOT OBSTRUCT PROPOSED EQUIPMENT. COORDINATE WORK WITH THE RESIDENT.
36. THE CONTRACTOR IS DIRECTED TO STANDARD SPECIFICATION 718 FOR ADDITIONAL INFORMATION RELATED TO THE CONTROLLER AND CONTROLLER CABINET. STANDARD SPECIFICATION 718 EXPANDS UPON THE INFORMATION FOUND IN THESE NOTES. AS SUCH, THE MORE RESTRICTIVE LANGUAGE BETWEEN THESE NOTES AND STANDARD SPECIFICATION 718 SHALL GOVERN THE WORK TO BE PERFORMED UNDER THIS PROJECT.
37. THE CONTRACTOR SHALL WARRANTY ALL WORK AND EQUIPMENT FOR A MINIMUM PERIOD OF ONE YEAR AFTER INSTALLATION AND ACCEPTANCE.
38. THE POWER SERVICE METER AND SEPARATE DISCONNECT ENCLOSURE SHALL BE MOUNTED ON THE SIDE OF THE NEW ATC CABINET.
39. THE SEPARATE DISCONNECT ENCLOSURE SHALL HAVE TWO BREAKERS, ONE FOR THE SIGNALS AND ONE FOR LIGHTING.
40. LIGHTING CONTROLS CAN BE INSTALLED IN THE ATC CABINET AND WILL NOT REQUIRE A SEPARATE ENCLOSURE.
41. SEE SPECIAL PROVISION 626 FOR GROUND MOUNTED CABINET FOUNDATION SIZE AND REINFORCING REQUIREMENTS.
42. CONTRACTOR SHALL CONDUCT TEST PITS AS NOTED ON THE PLANS TO DETERMINE EXACT LOCATION OF EXISTING UNDERGROUND DRAINAGE.
43. PROPOSED SPAN WIRE WOOD POLES SHALL BE CLASS 4.
44. PROPOSED OVERHEAD LIGHTING SHALL HAVE TYPE 3 DISTRIBUTION.
45. STARTUP TESTING SHALL BE AS FOLLOWS: THE SIGNAL SYSTEM MUST BE FULLYFUNCTIONAL AND FREE OF COMMUNICATIONS OR EQUIPMENT FAILURES FOR A PERIOD OF SEVEN (7) DAYS. IF PROBLEMS OCCUR, THEY SHALL BE RECTIFIED BY THE CONTRACTOR AND THE STARTUP PERIOD RESTARTED FOR ANOTHER SEVEN (7) DAYS.
46. ACCEPTANCE TESTING SHALL BE AS FOLLOWS: UPON DEMONSTRATING A SUCCESSFUL 7 DAY STARTUP TEST. THE TOWN AND MAINEDOT SHALL EVALUATE THE OPERATION OF THE SYSTEM FOR A PERIOD OF 30 DAYS. SHOULD THE SYSTEM MALFUNCTION DURING THIS PERIOD THE CONTRACTOR SHALL MAKE ANY REPAIRS OR CORRECTIONS AND THE ACCEPTANCE TEST PERIOD WILL START OVER AGAIN. ACCEPTANCE TESTING MUST DEMONSTRATE TO THE TOWN AND MAINEDOT THAT ALL HARDWARE AND EQUIPMENT FUNCTION IN ACCORDANCE WITH THESE SPECIFICATIONS, REQUIREMENTS, THROUGH-PUTS AND FUNCTIONALITY.
47. SALVAGE RIGHTS

    MAINEDOT SHALL HAVE FIRST RIGHTS TO ALL EQUIPMENT REMOVED OR REPLACED BY THE PROJECT. MAINEDOT WILL SUBMIT A LIST OF SALVAGED MATERIAL TO BE DELIVERED TO THE ELECTRICAL SHOP. THE LOCAL MUNICIPALITIES SHALL HAVE SECOND SALVAGE RIGHTS TO ALL EQUIPMENT NOT CLAIMED BY MAINEDOT. THE CONTRACTOR SHALL CAREFULLY REMOVE AND STORE ALL EQUIPMENT CLAIMED BY EITHER MAINEDOT OR THE MUNICIPALITY FOR RETRIEVAL BY MAINEDOT OR THE MUNICIPALITY. THE STORAGE AREA SHALL BE SECURE AND ALL CONTROL EQUIPMENT REMOVED THAT HAS COMPUTER CHIP TECHNOLOGY SHALL BE STORED IN AN INTERIOR CLIMATE CONTROLLED ENVIRONMENT.

    ANY EQUIPMENT NOT CLAIMED BY EITHER MAINEDOT OR THE MUNICIPALITY FOR SALVAGE SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AND DISPOSED OF IN A MANNER ACCEPTABLE BY THE RESIDENT.
48. STOP BAR VIDEO DETECTION (SBVD) SHALL BE SUPPLIED BY ONE OF THE FOLLOWING MANUFACTURERS:

    A. GRIDSMART/CUBIC
    B. MIO VISION
    C. CURRUX
49. ADVANCED VEHICLE DETECTION SHALL BE THE WAVETRONIX SMART SENSOR ADVANCE.
50. THE SIGNAL SHALL BE PLACED INTO FLASH FOR 14 DAYS PRIOR TO FULL ACTIVATION.
51. THE SIGNAL SHALL BE PLACED INTO FULL ACTIVATION ON A TUESDAY.
52. MESSAGE BOARDS SHALL BE USED ON THE ROUTE 302 APPROACHES WITH THE FOLLOWING MESSAGES:

    - WHEN THE SIGNAL IS IN FLASH
      - NEW TRAFFIC PATTERN STARTS XX/XX/XX
    - WHEN THE SIGNAL IS FULLY ACTIVATED
      - NEW TRAFFIC PATTERN AHEAD

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

25265.00

WIN 25265.00

HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER	G. Dostie	
DESIGN-DETAILED	K.Aldoo	06/03/22
CHECKED-REVIEWED	V. Karmi	06/03/22
DESIGN2-DETAILED2	K.Aldoo	08/25/23
DESIGN3-DETAILED3	K.Aldoo	10/16/24
REVISIONS 1	--	--
REVISIONS 2	--	--
REVISIONS 3	--	--
REVISIONS 4	--	--
FIELD CHANGES	--	--

SIGNATURE

P.E. NUMBER

DATE

WINDHAM
ROUTE 302

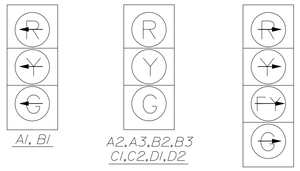
GENERAL NOTES

SHEET NUMBER

2

OF 7

SIGNAL HEAD DATA



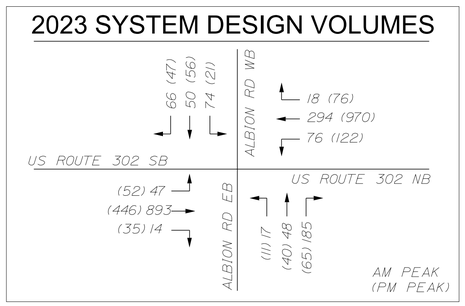
ALL SIGNALS SHALL HAVE 12" LED LENSES WITH 5" RETRO-REFLECTIVE BACKPLATES

SIGNAL NOTES

1. LOCATION OF VIDEO DETECTION AND ADVANCED VEHICLE DETECTOR SHALL BE ADJUSTED AS NEEDED TO MEET MANUFACTURER SPECIFICATIONS FOR INSTALLATION AND OPERATION.

2. INSTALL SIDEWALK GUY WIRE FOR WOOD POLE "A" ON THE SW CORNER OF THE INTERSECTION AS SHOWN ON THE PLAN.

2023 SYSTEM DESIGN VOLUMES



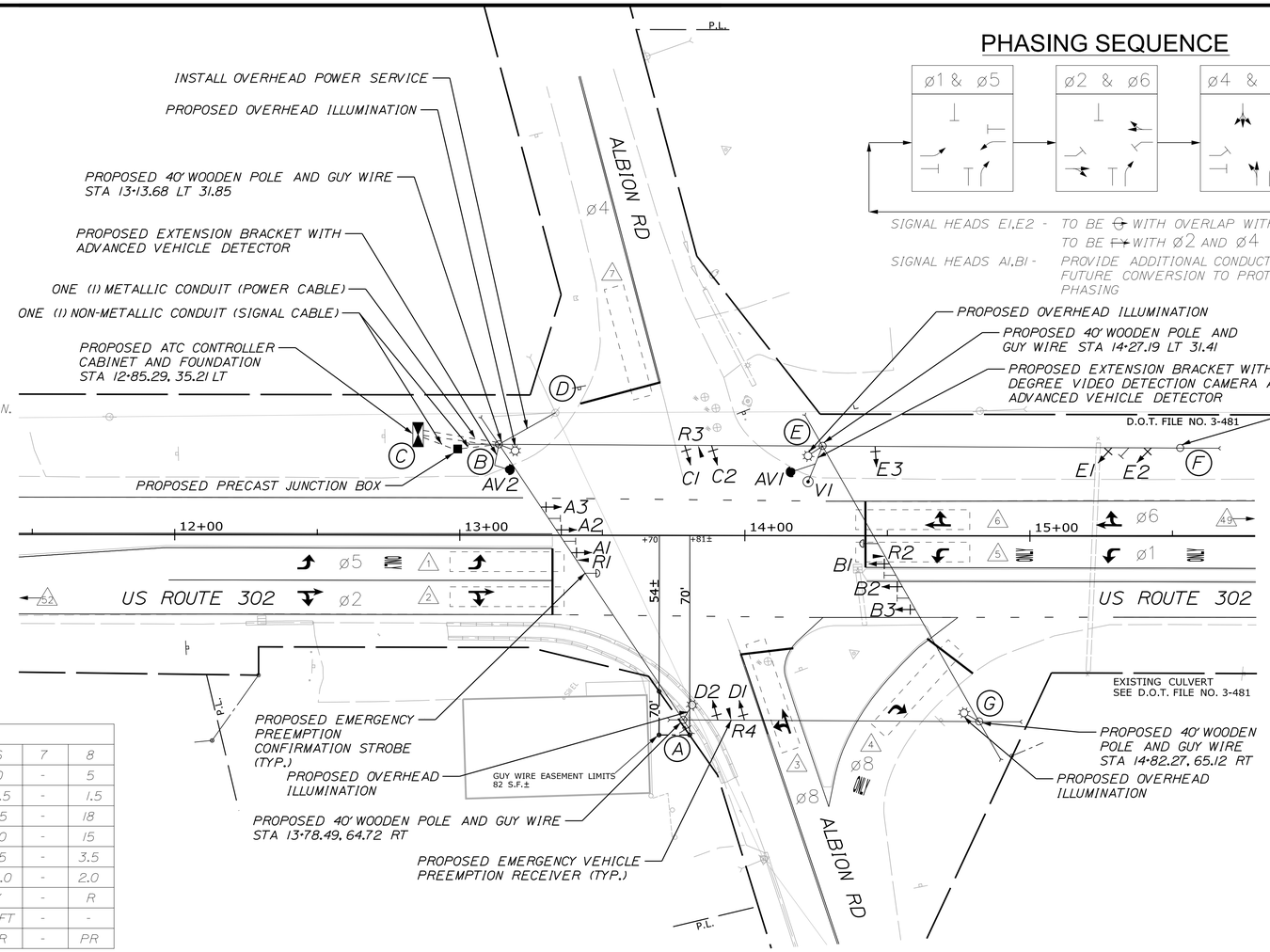
SIGNAL TIMING SCHEDULE								
	1	2	3	4	5	6	7	8
MINIMUM INITIAL	5	10	-	5	5	10	-	5
VEHICLE EXTENSION	1.5	1.5	-	1.5	1.5	1.5	-	1.5
MAX I	15	65	-	18	15	65	-	18
MAX II	20	65	-	15	15	70	-	15
YELLOW	3.5	4.5	-	3.5	3.5	4.5	-	3.5
ALL RED	1.0	2.0	-	2.0	1.0	2.0	-	2.0
FLASH	R	Y	-	R	R	Y	-	R
PHASE RECALL	-	SOFT	-	-	-	SOFT	-	-
DETECTOR	PR	PR	-	PR	PR	PR	-	PR

Y = YELLOW
R = RED
PR = PRESENCE

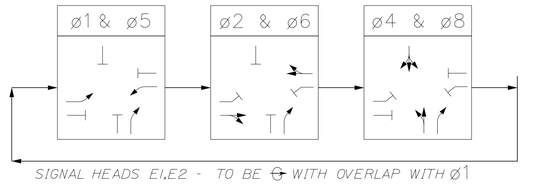
MAX I = ALL OTHER TIMES
MAX II = WEEKDAY PM PEAK HOUR (3 - 6 PM)

NOTES:
- THIS TIMING PLAN IS FOR INITIAL START UP ONLY AND SHALL BE FIELD ADJUSTED UNDER TOWN OR MAINEDOT DIRECTION.
- VEHICLE EXTENSION SHALL BE CALIBRATED FOR A 3 SECOND MAXIMUM ALLOWABLE HEADWAY CONSIDERING ZONE LENGTH, VEHICLE APPROACH SPEED, AND FIELD CONDITIONS.

EQUIPMENT SCHEDULE			
DESIGNATION	ITEM	DESCRIPTION	LOCATION
A	PROPOSED SPAN WIRE WOOD POLE	OVERHEAD ILLUMINATION, SPAN WIRE WITH TETHER, OVERHEAD LANE USE SIGNS, EMERGENCY PREEMPTION, SIGNAL HEADS, SIDEWALK GUY AS REQUIRED.	STA. 13+78.49, 64.72 RT
B	PROPOSED SPAN WIRE WOOD POLE	OVERHEAD ILLUMINATION, SPAN WIRE WITH TETHER, OVERHEAD LANE USE SIGNS, EMERGENCY PREEMPTION, ADVANCED VEHICLE DETECTION, SIGNAL HEADS, GUY AS REQUIRED.	STA. 13+13.68, 31.85 LT
C	CONTROLLER CABINET	INSTALL NEW ATC TYPE - 4 DOOR RACK MOUNT CONTROLLER CABINET ON NEW FOUNDATION	STA. 12+85.29, 35.21 LT
D	EXISTING UTILITY POLE	PROPOSED POWER SOURCE	STA. 13+33.48, 33.00 LT
E	PROPOSED SPAN WIRE WOOD POLE	OVERHEAD ILLUMINATION, SPAN WIRE WITH TETHER, OVERHEAD LANE USE SIGNS, EMERGENCY PREEMPTION, VEHICLE DETECTION, ADVANCE VEHICLE DETECTION, SIGNAL HEADS, GUY AS REQUIRED.	STA. 14+27.19, 31.41 LT
F	PROPOSED SPAN WIRE WOOD POLE	OVERHEAD ILLUMINATION, SPAN WIRE WITH TETHER, SIGNAL HEADS, OVERHEAD LANE USE SIGN, GUY AS REQUIRED.	STA. 15+31.54, 31.00 LT
G	PROPOSED SPAN WIRE WOOD POLE	SPAN WIRE WITH TETHER, OVERHEAD LANE USE SIGNS, EMERGENCY PREEMPTION, SIGNAL HEADS, GUY AS REQUIRED.	STA. 14+82.27, 65.12 RT



PHASING SEQUENCE



SIGNAL HEADS E1,E2 - TO BE ⊖ WITH OVERLAP WITH ø1
TO BE ⊢ WITH ø2 AND ø4

SIGNAL HEADS A1,B1 - PROVIDE ADDITIONAL CONDUCTORS TO ALLOW FOR A FUTURE CONVERSION TO PROTECTED/PERMISSIVE PHASING

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	1	ø1 & ø6
R2	2	2	ø2 & ø5
R3	3	3	ø8
R4	4	4	ø4

EMERGENCY VEHICLE PREEMPTION NOTES:

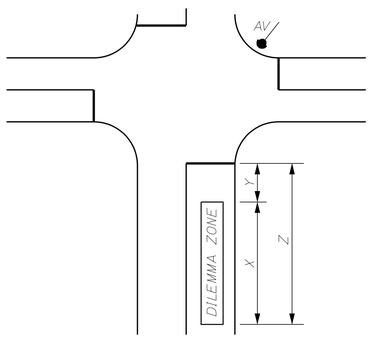
PREEMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1-HIGHEST, 3-LOWEST)

2. IN RESPONSE TO A PREEMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION PHASE CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE PER THE CALLED PHASE AS INSTRUCTED IN THE SIGNAL TIMING SCHEDULE AND SERVICE SUBSEQUENT EMERGENCY PHASES AS NECESSARY. AT THE COMPLETION OF THE PREEMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.

3. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PREEMPTION DEMAND.

4. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY EMERGENCY VEHICLE PREEMPTION GREEN IS ON.

5. ALL PREEMPTION EQUIPMENT SHALL BE COMPATIBLE WITH THE TOWN'S EXISTING EQUIPMENT. COORDINATE WITH RESIDENT ENGINEER AND TOWN OFFICIALS.



ADVANCE DILEMMA ZONE SETUP

SOURCE: TRAFFIC DETECTOR HANDBOOK: THIRD EDITION - VOLUME I

SPEED MILES PER HOUR	X (DISTANCE)	Y (DISTANCE)	Z (DISTANCE)
35	152'	102'	254'
40	162'	122'	284'
45	175'	152'	327'
50	181'	172'	353'
55	152'	234'	386'

DETECTOR SCHEDULE

DETECTOR ZONE NO.	DETECTOR	LOCATION	ø CALLED	ø EXT.	MODE A-ADVANCE B-STOPLINE	DELAY TIME	EXT. TIME
1	VI	US ROUTE 302: SB L	ø5	ø5	B	-	-
2	VI	US ROUTE 302: SB TR	ø2	ø2	B	-	-
3	VI	ALBION RD: EB LT	ø8	ø8	B	-	-
4	VI	ALBION RD: EB R	ø8	ø8	B	-	-
5	VI	US ROUTE 302: NB L	ø1	ø1	B	-	-
6	VI	US ROUTE 302: NB TR	ø6	ø6	B	-	-
7	VI	ALBION RD: WB LTR	ø4	ø4	B	-	-
49	AV2	US ROUTE 302: NB ADVANCE	ø6	ø6	A	-	-
52	AV1	US ROUTE 302: SB ADVANCE	ø2	ø2	A	-	-

PLAN

25 0 25 50
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

25265.00

WIN 25265.00

HIGHWAY PLANS

		BY	DATE
PROJ. MANAGER	C. Dostie		
DESIGN-DETAILED	K. Addo	E. Tammelleo	06/03/22
CHECKED-REVIEWED	K. Addo	V. Karimi	06/03/22
DESIGN2-DETAILED2	K. Addo	E. Tammelleo	08/25/23
DESIGN3-DETAILED3	K. Addo	W. Melendez	10/16/24
REVISIONS 1	--	--	--
REVISIONS 2	--	--	--
REVISIONS 3	--	--	--
REVISIONS 4	--	--	--
FIELD CHANGES	--	--	--

SIGNATURE

P.E. NUMBER

DATE

WINDHAM
ROUTE 302

SIGNAL PLAN

SHEET NUMBER
3
OF 7

Username: WSP USA, Inc. Date:8/25/23

Division: Multimodal

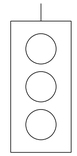
Filename: WINDHAM

SIGN DATA
PROPOSED

R3-5L
30"X36"

R3-6R
30"X36"

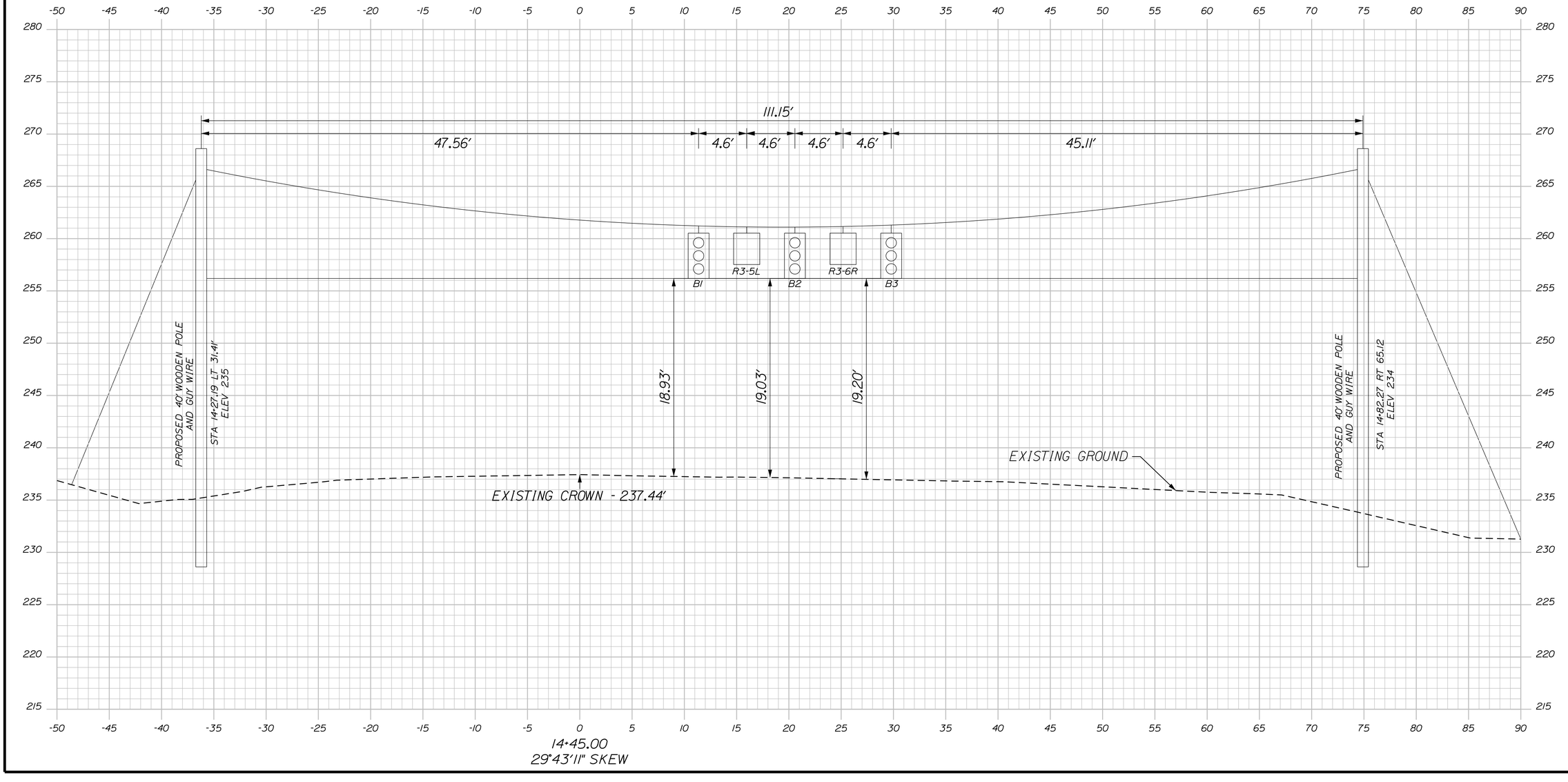
SIGNAL HEAD DATA
PROPOSED



B1, B2, B3

12" LED LENSES

5" BACKPLATES WITH
3" RETROREFLECTIVE STRIP



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

25265.00

WIN
25265.00

HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER	G. Dostie	
DESIGN-DETAILED	K. Addo	E. Tammelleo 06/03/22
CHECKED-REVIEWED	V. Karimi	V. Karimi 06/03/22
DESIGN2-DETAILED2	K. Addo	E. Tammelleo 08/25/23
DESIGN3-DETAILED3	K. Addo	W. Melendez 10/16/24
REVISIONS 1	--	--
REVISIONS 2	--	--
REVISIONS 3	--	--
REVISIONS 4	--	--
FIELD CHANGES	--	--

SIGNATURE

P.E. NUMBER

DATE

WINDHAM
ROUTE 302

CROSS SECTIONS

SHEET NUMBER

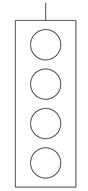
4

OF 7

SIGN DATA
PROPOSED

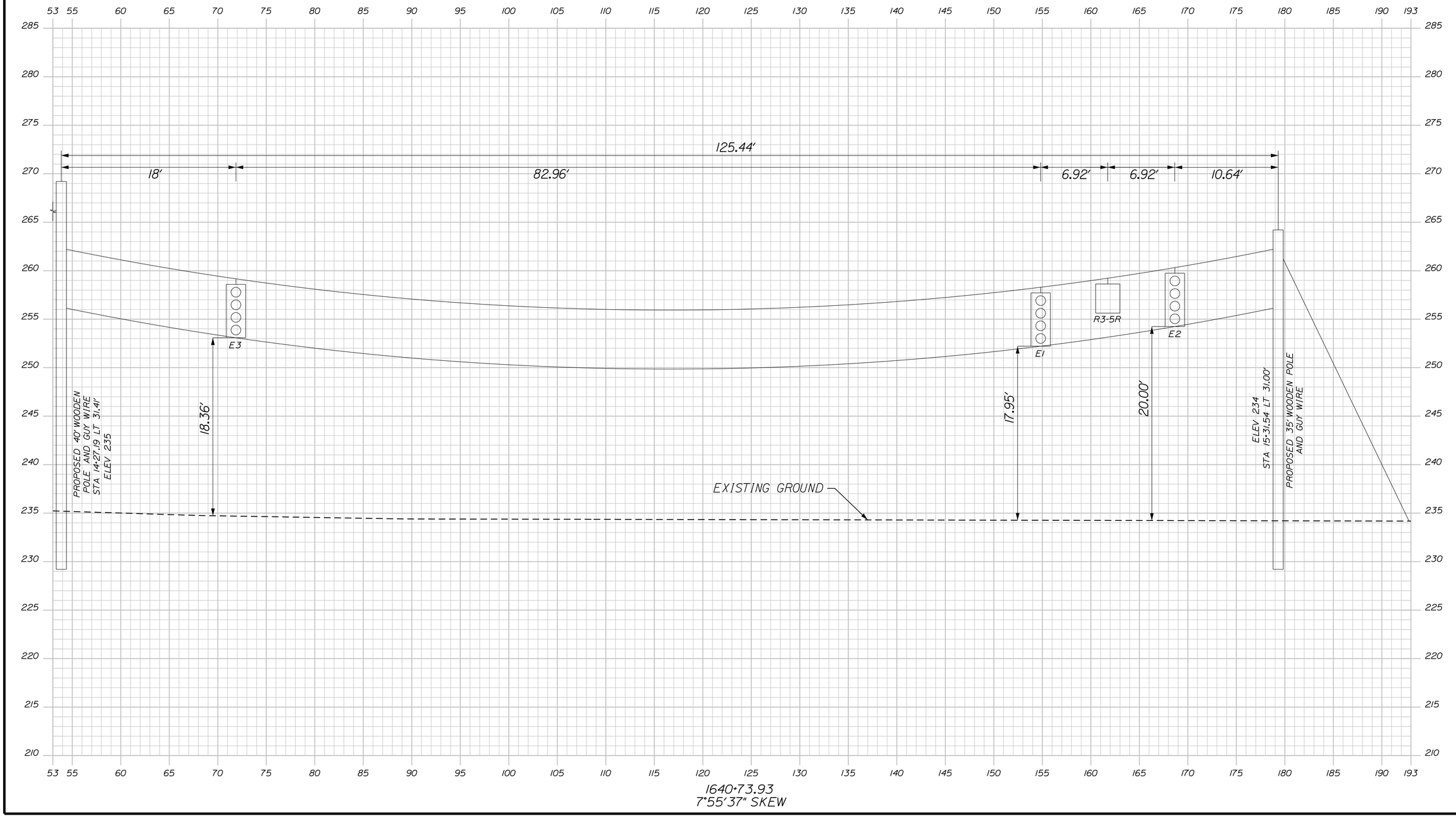
R3-5R
30"X36"

SIGNAL HEAD DATA
PROPOSED



E1, E2, E3

12" LED LENSES
5" BACKPLATES WITH
3" RETROREFLECTIVE STRIP



1640+73.93
7°55'37" SKEW

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

25265.00

WIN
25265.00

HIGHWAY PLANS

PROJ. MANAGER	G. Dostie			
DESIGN-DETAILED	K. Addo	E. Tammelleo	06/03/22	
CHECKED-REVIEWED	V. Karimi	V. Karimi	06/03/22	SIGNATURE
DESIGN2-DETAILED2	K. Addo	E. Tammelleo	08/25/23	
DESIGN3-DETAILED3	K. Addo	W. Melendez	10/16/24	P.E. NUMBER
REVISIONS 1	--	--	--	
REVISIONS 2	--	--	--	
REVISIONS 3	--	--	--	DATE
REVISIONS 4	--	--	--	
FIELD CHANGES	--	--	--	

WINDHAM
ROUTE 302

CROSS SECTIONS

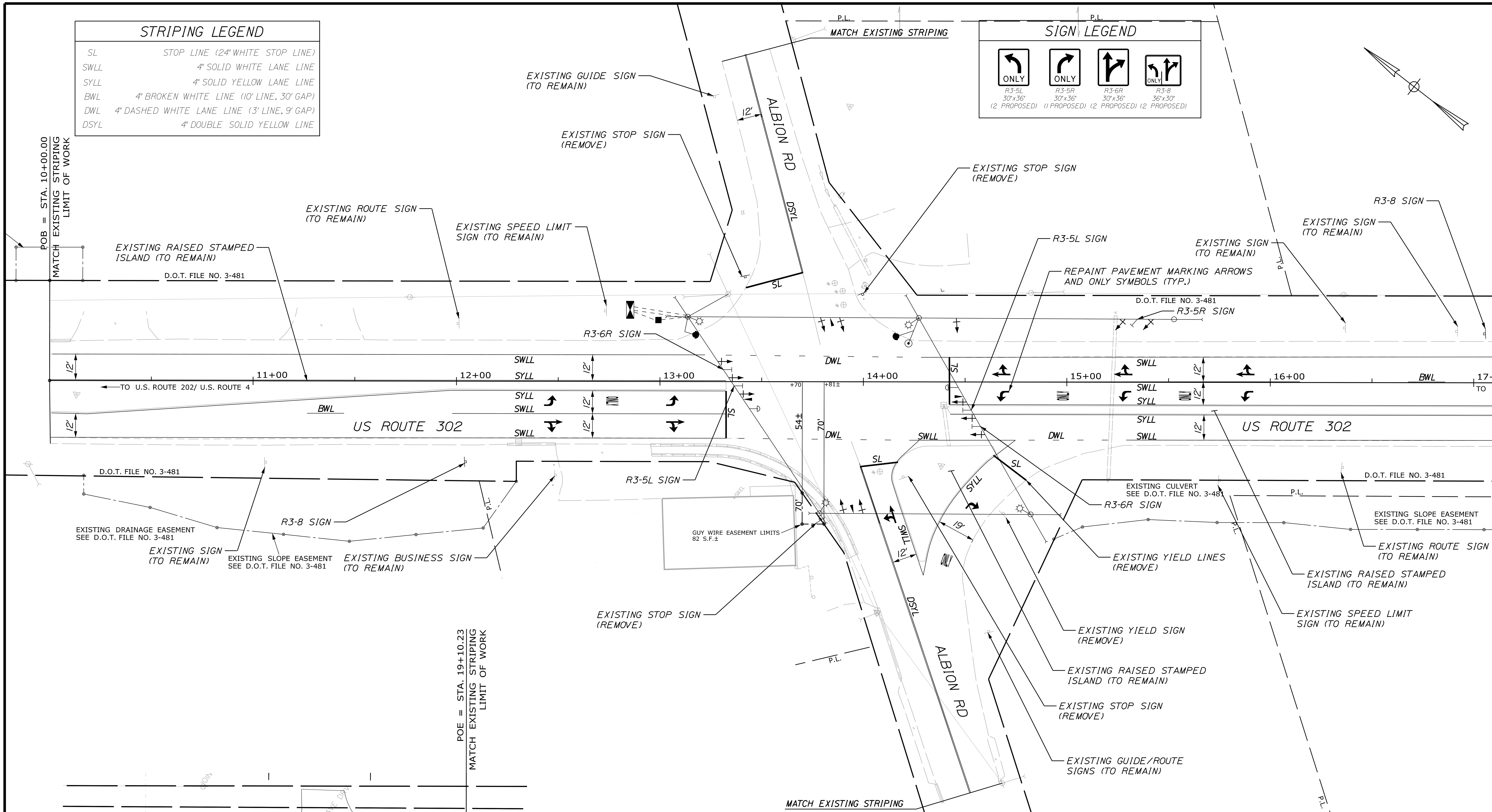
SHEET NUMBER

5

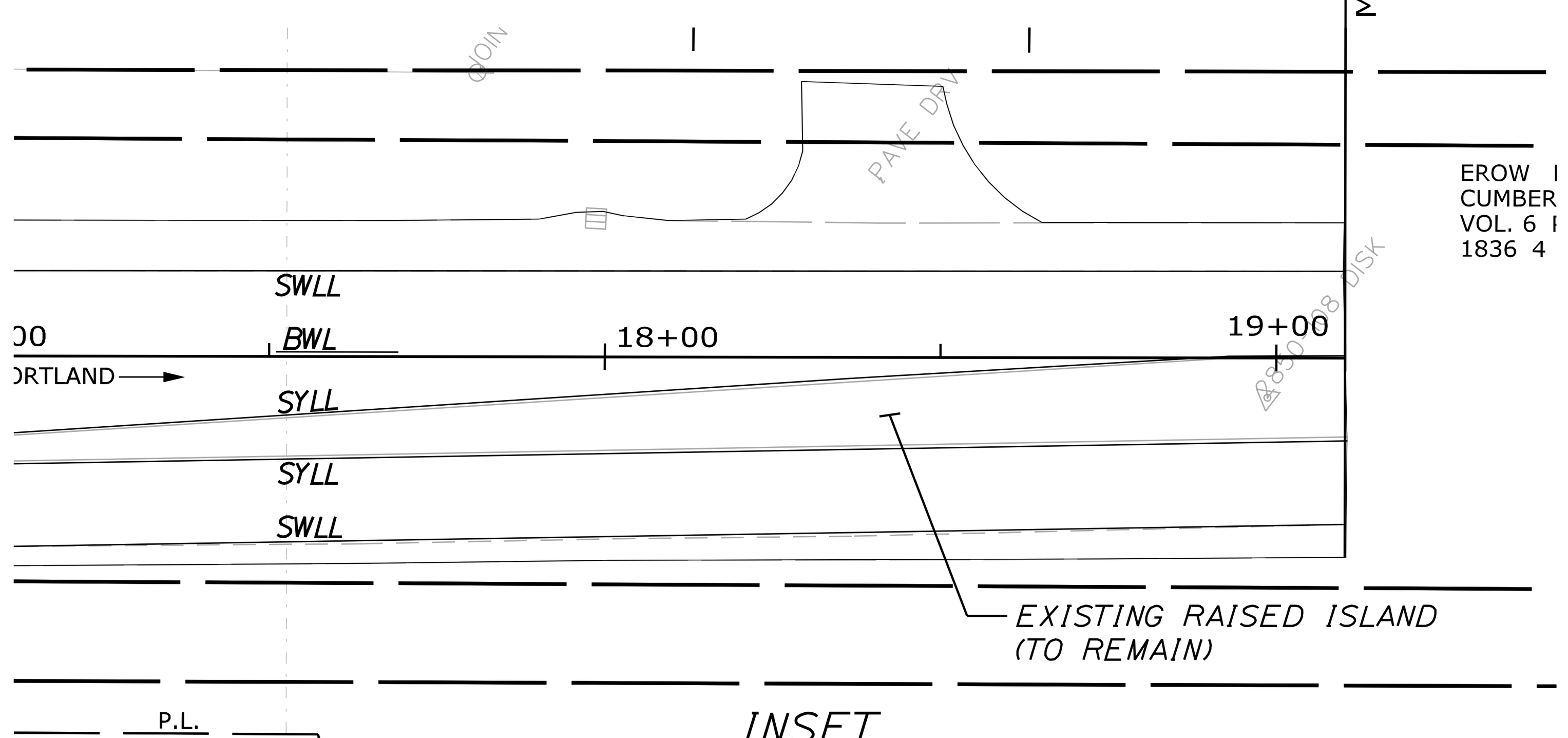
OF 7

STRIPING LEGEND

SL	STOP LINE (24" WHITE STOP LINE)
SWLL	4" SOLID WHITE LANE LINE
SYLL	4" SOLID YELLOW LANE LINE
BWL	4" BROKEN WHITE LINE (10' LINE, 30' GAP)
DWL	4" DASHED WHITE LANE LINE (3' LINE, 9' GAP)
DSYL	4" DOUBLE SOLID YELLOW LINE



SIGN LEGEND
ONLY
R3-5L 30"x36" (2 PROPOSED)
ONLY
R3-5R 30"x36" (1 PROPOSED)
R3-6R 30"x36" (2 PROPOSED)
ONLY
R3-8 36"x30" (2 PROPOSED)
P.L.
MATCH EXISTING STRIPING
EXISTING GUIDE SIGN (TO REMAIN)
EXISTING STOP SIGN (REMOVE)
ALBION RD
12'
DSYL
POB = STA. 10+00.00
MATCH EXISTING STRIPING LIMIT OF WORK
EXISTING ROUTE SIGN (TO REMAIN)
EXISTING SPEED LIMIT SIGN (TO REMAIN)
EXISTING RAISED STAMPED ISLAND (TO REMAIN)
D.O.T. FILE NO. 3-481
SL
EXISTING STOP SIGN (REMOVE)
R3-8 SIGN
EXISTING SIGN (TO REMAIN)
R3-5L SIGN
REPAINT PAVEMENT MARKING ARROWS AND ONLY SYMBOLS (TYP.)
R3-5R SIGN
R3-6R SIGN
SWLL
DWL
11+00
12+00
13+00
14+00
15+00
16+00
17+00
BWL
TO U.S. ROUTE 202/ U.S. ROUTE 4
TO PORTLAND
SEE INSET BELOW
SYLL
US ROUTE 302
+70
+81±
54±
70'
R3-5L SIGN
EXISTING CULVERT SEE D.O.T. FILE NO. 3-481
EXISTING SLOPE EASEMENT SEE D.O.T. FILE NO. 3-481
EXISTING DRAINAGE EASEMENT SEE D.O.T. FILE NO. 3-481
R3-8 SIGN
EXISTING SIGN (TO REMAIN)
EXISTING SLOPE EASEMENT SEE D.O.T. FILE NO. 3-481
EXISTING BUSINESS SIGN (TO REMAIN)
GUY WIRE EASEMENT LIMITS 82 S.F.±
EXISTING ROUTE SIGN (TO REMAIN)
EXISTING YIELD LINES (REMOVE)
EXISTING RAISED STAMPED ISLAND (TO REMAIN)
EXISTING SPEED LIMIT SIGN (TO REMAIN)
15'
EXISTING STOP SIGN (REMOVE)
EXISTING YIELD SIGN (REMOVE)
EXISTING RAISED STAMPED ISLAND (TO REMAIN)
EXISTING STOP SIGN (REMOVE)
EXISTING GUIDE/ROUTE SIGNS (TO REMAIN)
MATCH EXISTING STRIPING



NOTES

1. ALL PAVEMENT MARKINGS THAT CONFLICT WITH THE PROPOSED SHALL BE REMOVED IN ACCORDANCE WITH MAINEDOT SPECIFICATIONS.
2. ALL PROPOSED WORK SHALL BE IN CONFORMANCE WITH THE "MANUAL ON STANDARD HIGHWAY SIGNS", U.S.D.O.T., F.H.W.A. LATEST EDITION.
3. REMOVAL OF EXISTING ROADSIDE SIGNS AND RELOCATION OF ROADSIDE SIGNS/POSTS SHALL BE CONSIDERED INCIDENTAL TO THE 645 PAY ITEM.
4. PROPOSED STRIPING AND SIGN LOCATIONS, OFFSETS, AND HEIGHTS SHALL BE IN ACCORDANCE WITH THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (M.U.T.C.D.), LATEST EDITION, AS APPROVED BY THE RESIDENT.
5. ALL SIGNS MARKED "TEMPORARY" ON THE SIGNING PLANS SHALL BE REMOVED BY THE MAINEDOT ONE YEAR AFTER THEY ARE INSTALLED.

PLAN

25 0 25 50

Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

25265.00

HIGHWAY PLANS

WIN 25265.00

	BY	DATE
PROJ. MANAGER	G. Dostie	
DESIGN-DETAILED	K. Adjoo	06/03/22
CHECKED-REVIEWED	V. Karimi	06/03/22
DESIGN2-DETAILED2	E. Tammelleo	08/25/23
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REVISIONS 1	W. Melendez	
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

WINDHAM
ROUTE 302

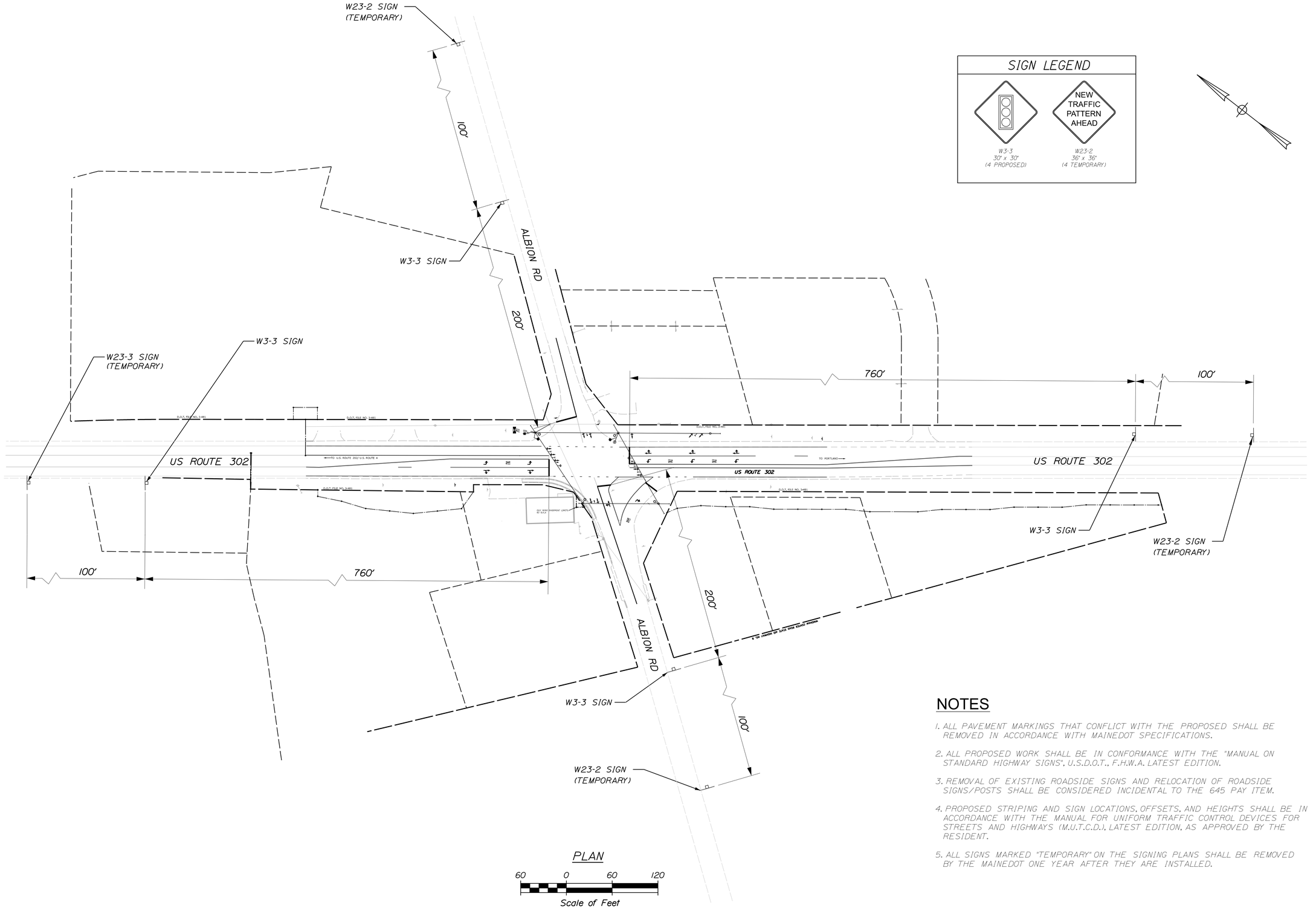
SIGNING & STRIPING PLAN

SHEET NUMBER

6

OF 7

Filename: WINDHAM   Division: Multimodal   Username: WSP USA, Inc.   Date: 8/25/23



SIGN LEGEND

W3-3 30" x 30" (4 PROPOSED)	W23-2 36" x 36" (4 TEMPORARY)

NEW TRAFFIC PATTERN AHEAD

NOTES

1. ALL PAVEMENT MARKINGS THAT CONFLICT WITH THE PROPOSED SHALL BE REMOVED IN ACCORDANCE WITH MAINEDOT SPECIFICATIONS.
2. ALL PROPOSED WORK SHALL BE IN CONFORMANCE WITH THE "MANUAL ON STANDARD HIGHWAY SIGNS", U.S.D.O.T., F.H.W.A. LATEST EDITION.
3. REMOVAL OF EXISTING ROADSIDE SIGNS AND RELOCATION OF ROADSIDE SIGNS/POSTS SHALL BE CONSIDERED INCIDENTAL TO THE 645 PAY ITEM.
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5. ALL SIGNS MARKED "TEMPORARY" ON THE SIGNING PLANS SHALL BE REMOVED BY THE MAINEDOT ONE YEAR AFTER THEY ARE INSTALLED.

PLAN

60 0 60 120

Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

25265.00

WIN 25265.00

HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER	G. Dostie	
DESIGN-DETAILED	K. Aldoo	E. Tammelleo 06/03/22
CHECKED-REVIEWED	V. Karimi	V. Karimi 06/03/22
DESIGN2-DETAILED2	K. Aldoo	E. Tammelleo 08/25/23
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REVISIONS 1	..	..
REVISIONS 2	..	..
REVISIONS 3	..	..
REVISIONS 4	..	..
FIELD CHANGES	..	..

SIGNATURE

P.E. NUMBER

DATE

WINDHAM
ROUTE 302

SIGNING & STRIPING PLAN

SHEET NUMBER

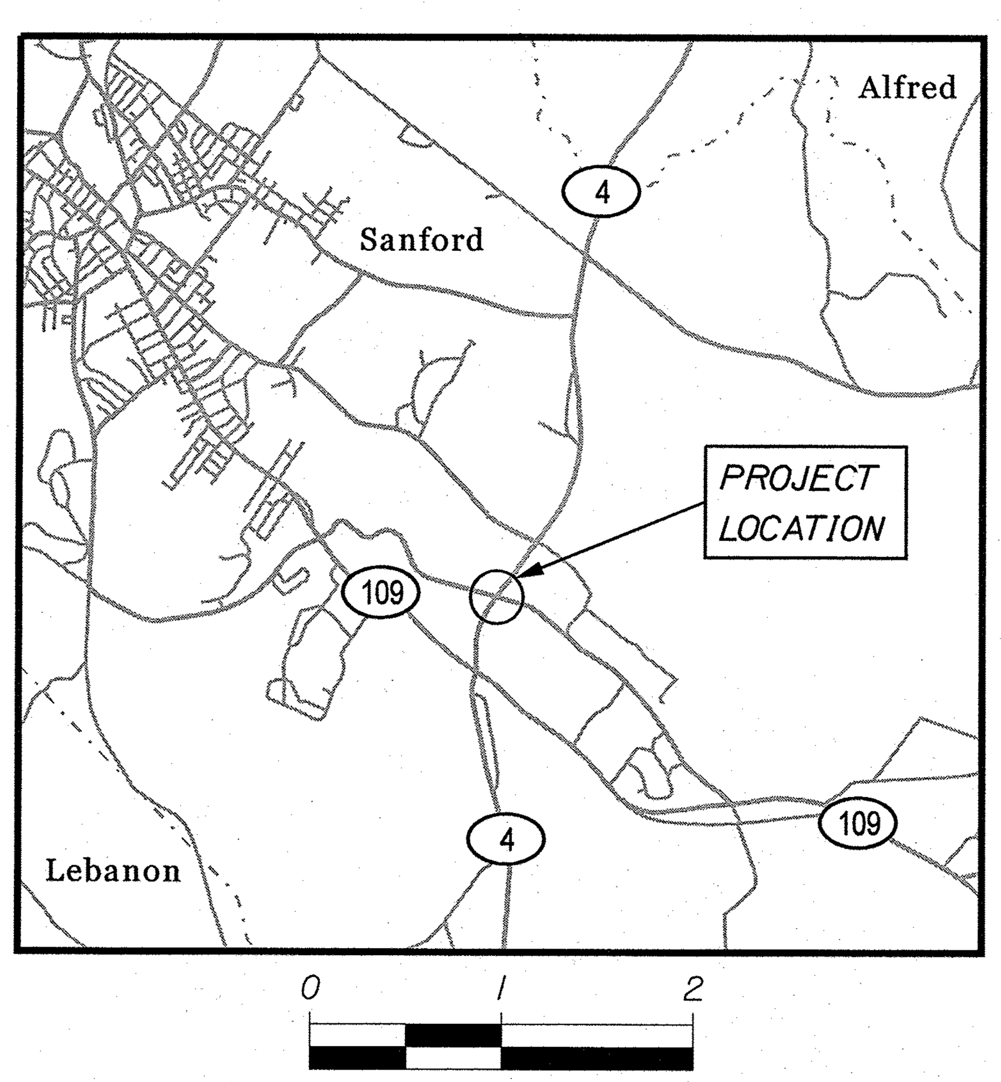
7

OF 7

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

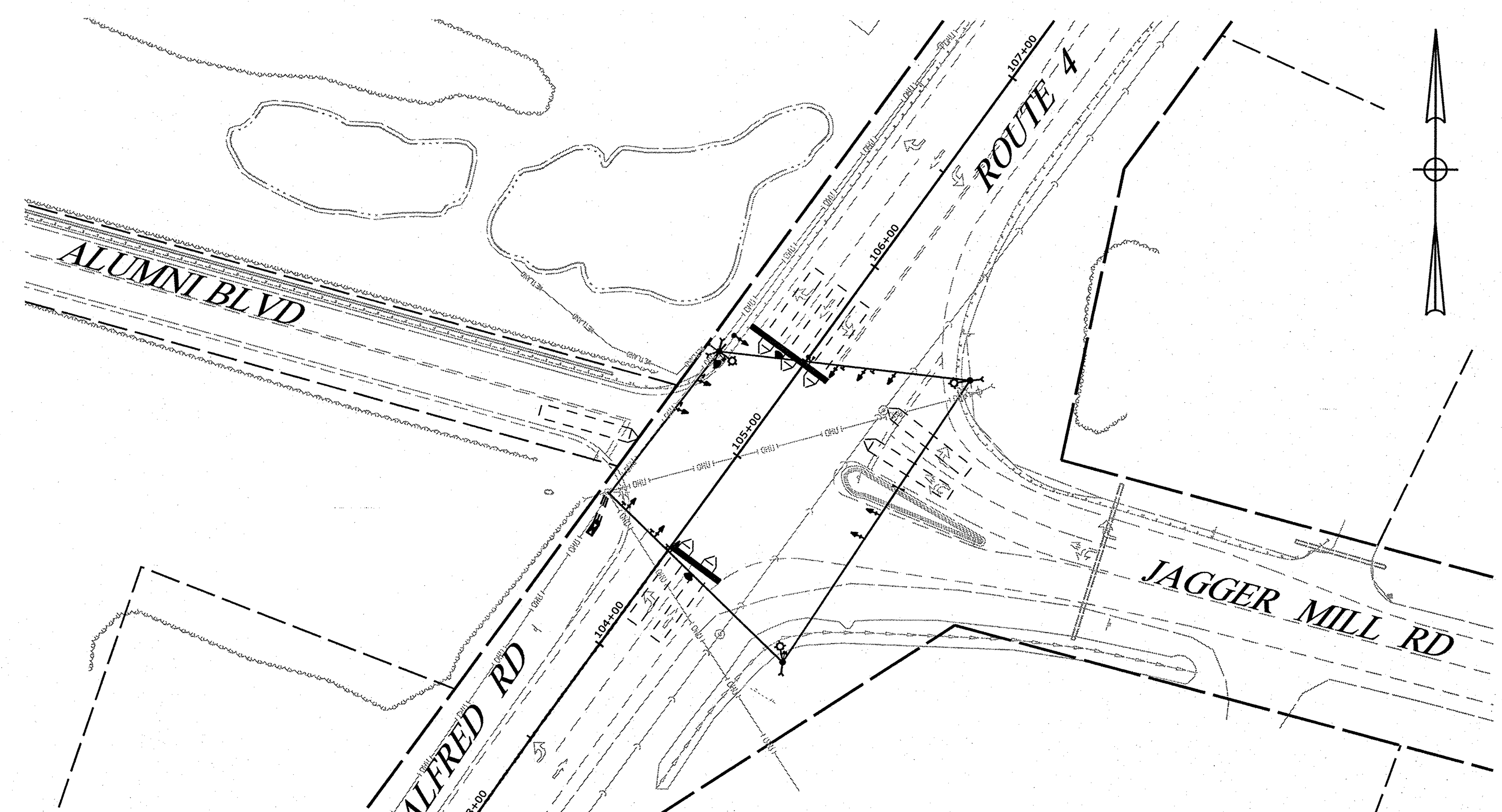
PLAN LEGEND

	Existing	Proposed
Town, County, State		
Property Lines		
R/W Lines-Existing		
R/W Lines-Proposed		
Culvert-Existing		
Culvert Proposed		
Curbing	Existing	Proposed
Type 1		
Type 3		
Type 5		
Outline of Bodies of Water		
Exposed Bedrock		
Buildings		
Trees	Conifer	Deciduous
Tree Line		
Clearing Limit Line	CLL	CLL
Boring	HB-XXX-###	
Centerline-Existing		
Centerline-Proposed		
Travelway-Existing		
Travelway-Proposed		
Railroad		
Catch Basins	Existing	Proposed
Manholes	Existing	Proposed
Proposed Underdrain		
Proposed Ditch		
Existing Ditch		
Utility Poles	Existing	Proposed
Fire Hydrants	Existing	Proposed
Existing Water Line		
Existing San. Sewer		
Existing San. Sewer Manhole		
Guardrail-Existing		
Guardrail-Proposed		
Guardrail-Cable, Other		
Signal Conduit		
Strain Pole w/ Guy		
Pedestal Post and Foundation		
Emergency Vehicle Preemption Reciever		
Signal Head (w/ Backplate)		
Emergency Preemption Confirmation Strobe		
Controller with Cabinet		
Video Detection Camera		
Advance Detection		
Dual Mode DSRC/C-V2X (Dedicated Short Range Communications)		
Detection Zone (& ID)		
Mast Arm,Post, or Span Wire Mounted Sign		



LOCATION MAP

SANFORD
YORK COUNTY
TRAFFIC SIGNALIZATION
FEDERAL PROJECT NO. 2703000
STATE WIN 027030.00



INDEX OF SHEETS

TRAFFIC DATA

	SR 4 (ALFRED RD) NE/O JAGGER MILL RD	JAGGER MILL RD SE/O SR 4 (ALFRED RD)	ALUMNI BLVD. NW/O SR 4 (ALFRED RD)
Current (2023) AADT	15,410	3,880	500
Future (2043) AADT	16,950	4,270	550
DHV - % of AADT	11%	15%	36%
Design Hour Volume	1864	650	180
% Heavy Trucks (AADT)	7%	5%	0%
Directional Distribution (DHV)	64%	61%	65%
Design Speed (mph)	45	45	Unposted
Corridor Priority	2	4	5
Functional Class:	Minor Arterial	Major Collector	Local

LAYOUT SCALE

50 0 50 100

Scale In Feet

PROJECT LOCATION:	In the City of Sanford at Route 4 at Jagger Mill Road and Alumni Boulevard
PROGRAM AREA:	Multimodal
OUTLINE OF WORK:	Traffic Signal Design and Other Incidental Work

WIN025321.00

STATE OF MAINE DEPARTMENT OF TRANSPORTATION

APPROVED — DATE

COMMISSIONER: 12-13-24

CHIEF ENGINEER: 12-11-2024

SIGNATURE

P.E. NUMBER 9374

DATE 11/14/2024

PROJECT INFORMATION	
PROGRAM	MULTIMODAL
PROJECT MANAGER	J. DOSTIE
DESIGNER	M. GRAHAM
CONSULTANT	VHB
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

SANFORD
ROUTE 4 (ALFRED RD) AND
ALUMNI BLVD / JAGGER MILL RD

TITLE SHEET

SHEET NUMBER
1
OF 6

Filename: 001_Title.dgn
Division: HIGHWAY
Username: jarobert
Date:11/13/2024

GENERAL NOTES:

1. WORK FOR THIS PROJECT WILL RESULT IN THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF ROUTE 4 (ALFRED ROAD) AT JAGGER MILL ROAD AND ALUMNI BOULEVARD IN SANFORD, MAINE. EQUIPMENT INCLUDES BUT IS NOT LIMITED TO, FURNISHING AND INSTALLING COMPLETE NEW ADVANCED TRANSPORTATION CONTROL CABINET (ATCC) ON A NEW GROUND MOUNT FOUNDATION WITH RACK MOUNTED ADVANCED TRANSPORTATION CONTROLLER (ATC), WOOD POLES WITH GUY WIRES AND EXTENSION OVERHEAD MAST FOR LIGHTING WHERE APPLICABLE, PEDESTAL POLE AND FOUNDATION, VEHICULAR SIGNAL HEADS WITH LIGHT-EMITTING DIODE INDICATIONS AND RETROREFLECTIVE BACKPLATES, WIRING, SIGNAL CABLE, OVERHEAD SPAN WIRE MOUNTED SIGNS, NON-INVASIVE STOP BAR AND ADVANCE VEHICLE DETECTION, EMERGENCY VEHICLE PREEMPTION, AND ALL APPURTENANCES AND INCIDENTALS REQUIRED FOR COMPLETE FUNCTIONING INSTALLATIONS. IN ADDITION, THE PROJECT WILL PROVIDE THE MEANS FOR REMOTE COMMUNICATIONS TO THE ATCC EQUIPMENT BY FIELD MONITORING UNIT (FMU) WITHIN THE MAINEDOT/CITY CLOUD HOSTED CENTRAL MANAGEMENT SYSTEM (CMS) VIA A SECURE VIRTUAL PRIVATE NETWORK (VPN) TUNNEL AND A MUNICIPAL FIBER INTRANET CONNECTION. THE PROJECT ADDITIONALLY PROVIDES FOR DUAL MODE DEDICATED SHORT RANGE COMMUNICATIONS / 4GLTE 5G ROAD SIDE UNIT (RSU) PROVIDING SELECT CONNECTED VEHICLE (CV) APPLICATIONS INTEGRATED INTO THE ATCC.
2. EXCEPT AS OTHERWISE NOTED IN THESE PLANS, ALL WORK SHALL BE COMPLETED IN CONFORMANCE WITH THE LATEST REVISIONS OF THE STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGES, MAINEDOT STANDARD DETAILS, 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 IS RESPONSIBLE FOR FINDING EXACT LOCATIONS OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. IN ACCORDANCE WITH MRSA TITLE 23 SECTION 3360-A, THE CONTRACTOR SHALL CONTACT DIG-SAFE AND APPROPRIATE AUTHORITIES PRIOR TO ANY SUBSURFACE ACTIVITIES.
4. THE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES AT LEAST 48 HOURS BEFORE ANY OPERATIONS ARE CONDUCTED THAT COULD POTENTIALLY CONFLICT WITH AERIAL UTILITIES.
5. ANY RELOCATIONS OR ADJUSTMENTS OF EXISTING UTILITY FACILITIES WILL BE MADE BY THE RESPECTIVE UTILITIES IN COORDINATION WITH THE WORK OF THE CONTRACTOR.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY NECESSARY OPENING PERMITS.
7. WHERE NOTED ON THE PLANS, ALL NEW VEHICULAR SIGNAL HEADS SHALL BE EQUIPPED WITH NEW LED LENSES 12 INCHES IN DIAMETER AND EQUIPPED WITH NEW 5-INCH LOUVERED BACK PLATES, INCLUDING 3-INCH RETROREFLECTIVITY.
8. ALL NEW SIGNAL HEADS SHALL BE TETHERED TO SPAN WIRE, AS INDICATED ON PLANS. ANY POLYCARBONATE HEADS SHALL BE STIFFENED WITH A REINFORCING KIT.
9. THE BOTTOM OF THE HOUSING OF NEW SIGNAL FACES SHALL BE AT LEAST 17 FEET BUT NOT MORE THAN 19 FEET ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY. FOR POLE MOUNTED SIGNAL HEADS, THE BOTTOM OF THE HOUSING SHALL BE MOUNTED AT LEAST 8 FEET BUT NOT MORE THAN 19 FEET ABOVE THE PAVEMENT GRADE AT THE HIGH POINT OF THE ROAD. MINIMUM CLEARANCE OF ALL ITEMS INCLUDING TETHER WIRE SHALL BE 17 FEET.
10. TRAFFIC SIGNAL WORK SHALL BE COMPLETED IN A MANNER AND ORDER THAT WILL CAUSE THE MINIMUM DISRUPTION TO TRAFFIC.
11. ALL EXISTING DRIVEWAY ACCESSES SHALL BE MAINTAINED AT ALL TIMES.
12. THE CONTRACTOR SHALL PROVIDE THE RESIDENT AND MAINEDOT WITH A SCHEDULE OF WORK FOR CONSTRUCTING THE TRAFFIC IMPROVEMENTS AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF WORK.
13. ALL NON-PAVED AREAS DISTURBED DURING CONSTRUCTION SHALL BE LOAMED AND SEEDED, UNLESS OTHERWISE DIRECTED BY THE OWNER. ALL PAVED AREAS DISTURBED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR. COSTS FOR REPAIR OF DISTURBED AREAS SHALL BE INCIDENTAL TO OTHER CONTRACT ITEMS.
14. TWO COPIES OF AS-BUILT PLANS, WIRING DIAGRAMS, BOX PRINTS, AND EQUIPMENT MANUALS SHALL BE LEFT IN THE ATCC.
15. ALL MATERIAL SCHEDULES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL PREPARE THEIR OWN MATERIAL SCHEDULES BASED UPON THEIR PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.
16. REMOVAL OF THE EXISTING TRAFFIC CONTROL EQUIPMENT, SIGNAGE AND POLE(S) SHALL BE INCIDENTAL TO THE INSTALLATION OF THE NEW SIGNAL SYSTEM. SEE SALVAGE RIGHTS FOR ADDITIONAL INFORMATION.
17. THE COST OF POLE RISERS AND ALL PROJECT SIGNS EITHER OVERHEAD OR INSTALLED ON POSTS, WHICH INCLUDES PROVISION OF THE POSTS SHALL BE INCIDENTAL TO ITEM 643.80.
18. LED OVERHEAD LIGHTING LUMINAIRE WITH ARM IS TO BE INSTALLED ON THE TOP OF WOOD POLES AS SHOWN ON THE PLANS WITH DISTRIBUTION TYPE 3 AND CONTROLLED FROM PHOTOCELL AT ATCC ON SEPARATE BREAKER.
19. TRAFFIC SIGNAL EQUIPMENT

    CONTRACTOR FURNISHED EQUIPMENT: THE ATCC, ATC, AND VARIOUS OTHER EQUIPMENT ITEMS SHOWN ON THE PLANS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. THE TRAFFIC SIGNAL CONTROLLER SUPPLIED UNDER THIS CONTRACT SHALL BE AN ETHERNET EQUIPPED ECONOLITE EOS ADVANCED TRANSPORTATION CONTROLLER.

    THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING THE PROJECT WITH WORKING AND FULLY CONFIGURED ATC, COMPLETE SET-UP OF THE EXISTING CLOUD-BASED CENTRAL MANAGEMENT SYSTEM, SIGNAL PERFORMANCE MEASURE (SPM) APPLICATIONS, CV SYSTEM, INSTALLATION OF THE CENTRAL AND LOCAL INTERSECTION COMMUNICATIONS INTERFACE, AND COORDINATION WITH MAINEDOT OFFICE OF INFORMATION TECHNOLOGY. THE CONTRACTOR IS FURTHER RESPONSIBLE FOR SYSTEM START-UP AND SYSTEM LOADING, ACCEPTANCE TESTING, AND TRAINING. IN ADDITION, THE CONTRACTOR SHALL FURNISH AND INSTALL AND/OR EXPAND THE EXISTING LIGHT-BASED EMERGENCY VEHICLE PREEMPTION SYSTEM COMPATIBLE WITH THE PREEMPTION EMITTERS OWNED BY THE MUNICIPAL FIRE DEPARTMENT, NOTING THAT SYSTEM SHALL BE CONFIGURED SUCH THAT PREEMPTION OR PRIORITY CONTROL CAN ALSO BE INITIATED THROUGH DEDICATED SHORT-RANGE COMMUNICATIONS (DSRC)/4GLTE 5G THROUGH A ROADSIDE UNIT BY WAY OF AN APPROACHING AUTHORIZED VEHICLE WITH AN ON-BOARD UNIT.

    THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR FURNISHING AND INSTALLING ALL OTHER EQUIPMENT DETAILED IN GENERAL NOTE 1 AND SHALL BE AWARE OF AND CONFORM TO ALL DETAILS FOR THE MATERIAL SPECIFICATIONS IN SPECIAL PROVISION 718.
20. PAINTING

    UNLESS OTHERWISE DIRECTED BY MAINEDOT OR THROUGH THE RESIDENT, ALL EXTERIOR PARTS OF THE LISTED EQUIPMENT SHALL BE DELIVERED TO THE PROJECT FINISHED AS FOLLOWS:

    - CONTROL CABINET BLACK
    - PEDESTAL POSTS AND BASES BLACK
    - VEHICULAR SIGNAL HEADS ALL PARTS BLACK
    - SIGNAL BACKPLATES BLACK AND LOUVERED W/ 3" FLUORESCENT YELLOW RETROREFLECTIVE STRIP
21. COMMUNICATIONS

    THE CONTRACTOR SHALL SEE SPECIAL PROVISION 626 FOR DETAILS OF FIBER OPTIC CABLE TO BE INSTALLED BY GWI AND MADE FOR USE IN THE EXISTING CMS PROCURED UNDER THE 024301.00 STATEWIDE BUILD PROJECT.

    THE CMS SHALL SUPPORT COMMUNICATIONS TO ATC, ASSOCIATED EQUIPMENT, AND VEHICLE DETECTION AS SHOWN IN THE PLANS. ALL CONNECTIONS TO THE CLOUD-BASED CMS SHALL BE VIA A SECURE VPN NETWORK. COMMUNICATIONS FROM THE CMS TO THE ON-STREET ATCC SHALL BE MADE PRIMARILY THROUGH THE FIBER INTRANET AND SECONDARILY THROUGH THE FMU.

    CONTRACTOR SHALL ADDITIONALLY PROCURE A HIGH GAIN ANTENNA IN LIEU OF THE STANDARD FMU PUCK TYPE ANTENNA.
22. VEHICLE DETECTION

    THE CONTRACTOR SHALL FURNISH AND INSTALL NON-INVASIVE STOP LINE AND ADVANCE VEHICLE DETECTION AS SHOWN IN THE PLANS. AS PAYMENT FOR THIS WORK, THE CONTRACTOR SHALL SUBMIT A LUMP SUM BID FOR NON-INVASIVE STOP LINE AND A LUMP SUM BID FOR NON-INVASIVE ADVANCE (WHERE APPLICABLE) DETECTION. THE VEHICLE DETECTORS ARE TO BE CONNECTED TO THE ATC FOR LOCAL VEHICLE DETECTION AND REMOTELY CONNECTED TO THE CLOUD-BASED CENTRAL MANAGEMENT SYSTEM TO ALLOW VISUAL CONFIRMATION (STOP LINE) AND ADJUSTMENT OF THE DETECTION ZONES AS SHOWN IN THE PLANS. WORK SHALL BE CONSTRUCTED AND PAID FOR AS OUTLINED IN SPECIAL PROVISION 643.

    THE NON-INVASIVE VEHICLE DETECTION ZONES SHOWN IN THE PLANS ARE FOR ILLUSTRATIVE PURPOSES ONLY. FINAL DETECTION ZONES SHALL BE LOCATED IN THE FIELD AND APPROVED BY MAINEDOT AND THE RESIDENT.

    THE LOCATION OF THE DETECTION DEVICES SHOWN IN THE PLANS ARE CONCEPTUAL FOR OPTIMAL APPROACH COVERAGE ASSUMING ONE TYPE (ADVANCE, IF APPLICABLE, AND/OR STOP LINE) DEVICE PER APPROACH. THE ACTUAL NUMBER OF DETECTION DEVICES AND MOUNTING LOCATIONS SHALL BE PER MANUFACTURES RECOMMENDATION.

    THE RESIDENT RESERVES THE RIGHT TO DIRECT THE CONTRACTOR TO ADJUST THE VIDEO DETECTOR MOUNTING HEIGHT FOR LOCAL CONDITIONS IDENTIFIED DURING OR AFTER INSTALLATION. NO ADDITIONAL COST WILL BE ALLOWED FOR FIELD ADJUSTING THE PIPE EXTENSIONS OR REWIRING AS NECESSARY. THIS WORK WILL BE INCIDENTAL TO THE 643.21 AND/OR 643.22 ITEM.
23. ROAD SIDE UNIT (RSU)

    THE CONTRACTOR MAY MOUNT RSU IN AN ALTERNATE LOCATION THAN SHOWN ON THE PLANS PROVIDED THE ANTENNAE HAVE A CLEAR LINE OF SIGHT FOR ALL APPROACHES. THIS PROVISION IS TO BETTER ASSIST THE CONTRACTOR TO STAY WITHIN THE 100 METER LIMITATION OF THE CAT5 CABLE RUN WITHOUT HAVING TO PURCHASE REPEATERS TO MATCH THE PROPOSED PLAN LOCATION.
24. FOUNDATIONS

    NEW ATCC AND PEDESTAL POLE FOUNDATIONS SHALL BE CONSTRUCTED IN LOCATIONS SHOWN ON THE PLANS. THE PROPOSED FOUNDATIONS AS SHOWN ARE TO BE WITHIN EXISTING RIGHT-OF-WAY OR PROPOSED EASEMENTS TO AVOID UNDERGROUND CONFLICTS BASED ON AVAILABLE INFORMATION PROVIDED DURING DESIGN; HOWEVER, THE CONTRACTOR MAY UPON CONSULTATION AND APPROVAL FROM THE RESIDENT, RELOCATE ATCC AND TRAFFIC SIGNAL PEDESTAL POLE FOUNDATIONS AS NEEDED TO AVOID UNANTICIPATED CONFLICTS AS LONG AS THE FINAL LOCATION MEETS THE GUIDELINES IN SECTION 4E.08 OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), DOES NOT VIOLATE ADA, AND THE STRUCTURE IS INSTALLED COMPLETELY WITHIN THE EXISTING ROW OR AVAILABLE EASEMENTS.

    THE ATCC FOUNDATION SHALL PROVIDE SUFFICIENT CONDUIT SWEEPS TO SERVICE THE SIGNALIZED INTERSECTION WHILE MEETING THE NATIONAL ELECTRICAL CODE CHAPTER 9, TABLE 1 REQUIREMENTS FOR CONDUIT FILL.
25. START-UP AND SYSTEM LOADING

    THE SYSTEM SUPPLIER SHALL INITIATE COMPLETE SYSTEM OPERATION INCLUDING ATC, ATCC, CMS, SPM, STOP LINE VEHICLE DETECTION SYSTEM, ADVANCED VEHICLE DETECTION SYSTEM, CV SYSTEM, HOSTED CLOUD-BASED SYSTEMS, FMU, THE COMMUNICATIONS SYSTEM, AND REMOTE MONITORING AND CONTROL OF CMS OPERATIONS AS SHOWN ON THE PLANS AND/OR DIRECTED BY MAINEDOT AND THE RESIDENT. AFTER THE SUPPLIER HAS INITIATED SYSTEM OPERATION, THE SYSTEM SHALL BE RUN FOR A CONTINUOUS 7-DAY INITIAL OPERATIONAL TESTING PERIOD. IF ANY MAJOR FUNCTIONS OF THE SYSTEM FAIL TO OPERATE DURING THIS TESTING PERIOD, AS DETERMINED BY MAINEDOT AND/OR THE RESIDENT, THE SUPPLIER SHALL CORRECT OR REPAIR THE SYSTEM AND THE CONTINUOUS 7-DAY TESTING PERIOD SHALL BE RESTARTED. AT THE COMPLETION OF A SUCCESSFUL 7-DAY TESTING PERIOD, THE SUPPLIER SHALL ADVISE MAINEDOT AND/OR THE RESIDENT THAT THE SYSTEM IS READY FOR THE START-UP PHASE. ANY MAJOR SYSTEM MALFUNCTIONS ENCOUNTERED DURING THE START-UP PHASE SHALL BE CORRECTED BY THE SUPPLIER, AND THE TEST RESTARTED. DURING THIS PERIOD, MAINEDOT AND/OR THE RESIDENT MAY MAKE MODIFICATIONS TO THE SYSTEM TIMING PARAMETERS, BUT THIS WILL NOT CAUSE RESTARTING OF THE TESTING PERIOD. AT THE COMPLETION OF THE TESTING PERIOD, THE SYSTEM WILL BE DEEMED READY FOR FINAL ACCEPTANCE TESTING AS DESCRIBED IN ACCEPTANCE TESTING.
26. ACCEPTANCE TESTING

    UPON COMPLETION OF THE 7-DAY TESTING PERIOD, MAINEDOT AND/OR THE RESIDENT SHALL EVALUATE SYSTEM OPERATIONS. IT IS EXPECTED THAT THE COMPLETE SYSTEM SHALL OPERATE FULLY FUNCTIONAL FOR A PERIOD OF 30 CONSECUTIVE DAYS WITHOUT MALFUNCTION. MINOR MALFUNCTIONS OF INOPERABILITY NOT THE FAULT OF THE CONTRACTOR, AS JUDGED BY MAINEDOT AND/OR THE RESIDENT, ARE NOT INCLUDED IN THE 30-DAY PERIOD. IF THE SYSTEM FAILS TO OPERATE AS INTENDED BY THIS SPECIFICATION THE MALFUNCTION SHALL BE CORRECTED BY THE CONTRACTOR AT ITS COST AND A NEW 30-DAY TESTING PERIOD SHALL BEGIN. THIS PROCESS SHALL CONTINUE UNTIL A COMPLETELY OPERABLE SYSTEM IS DEMONSTRATED FOR A CONSECUTIVE 30-DAY PERIOD.

    ACCEPTANCE TESTING MUST DEMONSTRATE TO MAINEDOT AND/OR THE RESIDENT A REASONABLE SATISFACTION THAT THE HARDWARE AND LICENSED SOFTWARE FUNCTION IN ACCORDANCE WITH THE SPECIFICATIONS, REQUIREMENTS, FUNCTIONALITIES, PERFORMANCE CRITERIA OR OTHER BENEFITS STATED IN DOCUMENTATION, PROPOSALS, AND/OR DEMONSTRATIONS GIVEN TO MAINEDOT.
27. SALVAGE RIGHTS

    MAINEDOT SHALL HAVE FIRST RIGHTS TO ALL EQUIPMENT (SIGNAL FLASHERS AND CONTROL UNIT) REMOVED BY THE PROJECT (CONTACT BROOKE GLIDDEN AT BROOKE.GLIDDEN@MAINE.GOV). THE CITY OF SANFORD SHALL HAVE SECOND SALVAGE RIGHTS TO ALL EQUIPMENT NOT CLAIMED BY MAINEDOT. THE CONTRACTOR SHALL CAREFULLY REMOVE AND STORE ALL EQUIPMENT CLAIMED BY EITHER MAINEDOT OR THE MUNICIPALITY FOR RETRIEVAL BY MAINEDOT OR THE MUNICIPALITY. THE STORAGE AREA SHALL BE SECURE AND ALL CONTROL EQUIPMENT REMOVED THAT HAS COMPUTER CHIP TECHNOLOGY SHALL BE STORED IN AN INTERIOR CLIMATE CONTROLLED ENVIRONMENT.

    ANY EQUIPMENT NOT CLAIMED BY EITHER MAINEDOT OR THE MUNICIPALITY FOR SALVAGE SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AND DISPOSED OF IN A MANNER ACCEPTABLE TO THE RESIDENT.
28. THE RESIDENT AND MAINEDOT SHALL HAVE THE RIGHT AND AUTHORITY TO DETERMINE THE ACCEPTABILITY OF WORK AND MATERIALS IN PROGRESS OR COMPLETED AND SHALL HAVE THE RIGHT TO REJECT ANY WORK OR MATERIALS WHICH DO NOT CONFORM, IN ITS SOLE OPINION, TO THE PLANS OR SPECIFICATIONS.
29. THE MAINTENANCE OF TRAFFIC SIGNALS SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR UNTIL FINAL ACCEPTANCE BY MAINEDOT.
30. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING RED-LINE AS-BUILT DRAWINGS OF THE FINAL WORK TO THE RESIDENT. THOSE DRAWINGS SHALL BE ON A CLEAN SET OF PLANS SHOWING ALL CHANGES OR MODIFICATIONS TO THE BID PLANS.
31. THE CONTRACTOR SHALL REMAIN ALERT FOR ANY EVIDENCE OF CONTAMINATED SOILS. THE CONTRACTOR SHALL EMPLOY APPROPRIATE HEALTH AND SAFETY MEASURES TO PROTECT ITS WORKERS AGAINST HAZARDS ASSOCIATED WITH EXCAVATING AND WORKING NEAR CONTAMINATED SOILS. IF THE CONTRACTOR ENCOUNTERS EVIDENCE OF SOIL OR GROUNDWATER CONTAMINATION, THE CONTRACTOR SHALL SECURE THE EXCAVATION, STOP WORK IN THE CONTAMINATED AREA, AND IMMEDIATELY NOTIFY THE RESIDENT. THE RESIDENT SHALL CONTACT THE HYDROGEOLOGIST IN MAINEDOT S ENVIRONMENTAL OFFICE AT 207-624-3100 AND THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION AT 800-482-0777. WORK MAY ONLY CONTINUE WITH AUTHORIZATION FROM THE RESIDENT.
32. THE CONTRACTOR IS DIRECTED TO PROJECT SPECIAL PROVISION 718 FOR ADDITIONAL INFORMATION RELATED TO THE FOLLOWING:

    - 718.13 TRAFFIC SIGNAL CONTROL SYSTEM
    - 718.14 FIELD MONITORING UNIT (NOTE: DIFFERS FROM MAINEDOT REPAIR SPEC)
    - 718.15 MESSENGER WIRE
    - 718.16 EMERGENCY VEHICLE PREEMPTION SYSTEM
    - 718.17 SINGLE MODE FIBER OPTIC CABLE
    - 718.18 TWELVE (12) POSITION FIBER OPTIC PATCH PANEL
    - 718.19 ETHERNET SWITCH WITH FIBER OPTIC INTERFACES

    SPECIAL PROVISION 718 EXPANDS UPON THE INFORMATION FOUND IN THESE GENERAL NOTES. MAINEDOT STANDARD SPECIFICATIONS DATED MARCH 2020, AND MAINEDOT STANDARD DETAILS DATED MARCH 2020. AS SUCH, THE MORE RESTRICTIVE LANGUAGE BETWEEN THESE GENERAL NOTES, MAINEDOT STANDARD SPECIFICATIONS, MAINEDOT STANDARD DETAILS, AND SPECIAL PROVISION 718 SHALL GOVERN THE WORK TO BE PERFORMED UNDER THIS PROJECT.
33. RIGHT-OF-WAY

    RIGHT-OF-WAY AND EASEMENTS WHERE NOTED IN THE PLANS APPROXIMATE.
34. OVERLAPPING PROJECTS (BY OTHERS) TO BE COORDINATED

    THE CONTRACTOR AND RESIDENT ARE TO BE AWARE OF, AND COORDINATE WITH, THE BULLETED PROJECTS THAT OVERLAP WITH THE FOLLOWING PROJECT:

    - SANFORD (POWERS BRIDGE #3827 REPLACEMENT) WIN 025317.00
    - SANFORD (ROUTE 4/SCHOOL STREET/GAVEL ROAD) WIN 019001.00
    - STATEWIDE (BUILD) WIN 024301.00

    SEE SPECIAL PROVISION 105 (COOPERATION BETWEEN CONTRACTORS) FOR ADDITIONAL INFORMATION.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2703000

WIN 027030.00

TRAFFIC PLANS

vhb

	PROJ. MANAGER	J. DOSTIE	
	DESIGN-DETAILED	M. GRAHAM	J. ROBERT 12/23
	CHECKED-REVIEWED	C. BOBAY	C. BOBAY 04/24
	DESIGN2-DETAILED2	C. BOBAY	J. READY 10/24
	DESIGN3-DETAILED3	J. ROBERT	C. BOBAY 11/24
	REVISIONS 1		
	REVISIONS 2		
	REVISIONS 3		
	REVISIONS 4		
	FIELD CHANGES		

SANFORD
ROUTE 4 (ALFRED RD) AND
ALUMNI BLVD / JAGGER MILL RD

GENERAL NOTES

SHEET NUMBER

2

OF 6

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS 643.80	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO EXISTING MAINEDOT CENTRACS MOBILITY MANAGEMENT SYSTEM	1
FURNISH AND INSTALL NEW ONE-WAY, 3-SECTION, 12-INCH TRAFFIC SIGNAL HEAD, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACKPLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN AND TETHER WIRE	5
FURNISH AND INSTALL NEW ONE-WAY, 4-SECTION, 12-INCH TRAFFIC SIGNAL HEAD, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACKPLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN AND TETHER WIRE	5
FURNISH AND INSTALL NEW ONE-WAY, 4-SECTION, 12-INCH TRAFFIC SIGNAL HEAD, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACKPLATE WITH 3-INCH RETROREFLECTIVITY TOP MOUNTED ON TRAFFIC SIGNAL POST	1
FURNISH AND INSTALL 19-INCH / RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL ENVIRONMENTALLY HARDENED FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	1
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL SPAN WIRE MOUNTED SIGNS	7
FURNISH AND INSTALL POST AND W3-3 POST MOUNTED SIGNS	3
FURNISH AND INSTALL POLE RISERS	4
FURNISH AND INSTALL WOOD POLE MOUNTED OVERHEAD LIGHT ARM, WIRING AND LUMINAIRE, COMPLETE	3
FURISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING FLASHER SYSTEM	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

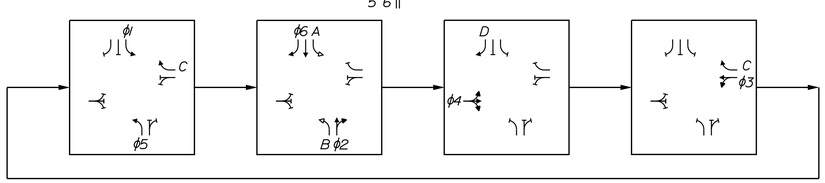
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
B-PI	15' PEDESTAL POLE	24" DIAMETER
A-WPI	EXISTING CMP9 WOOD POLE	N/A
B-WPI	WOOD POLE	N/A
C-WPI	WOOD POLE	N/A
D-WPI	WOOD POLE	N/A

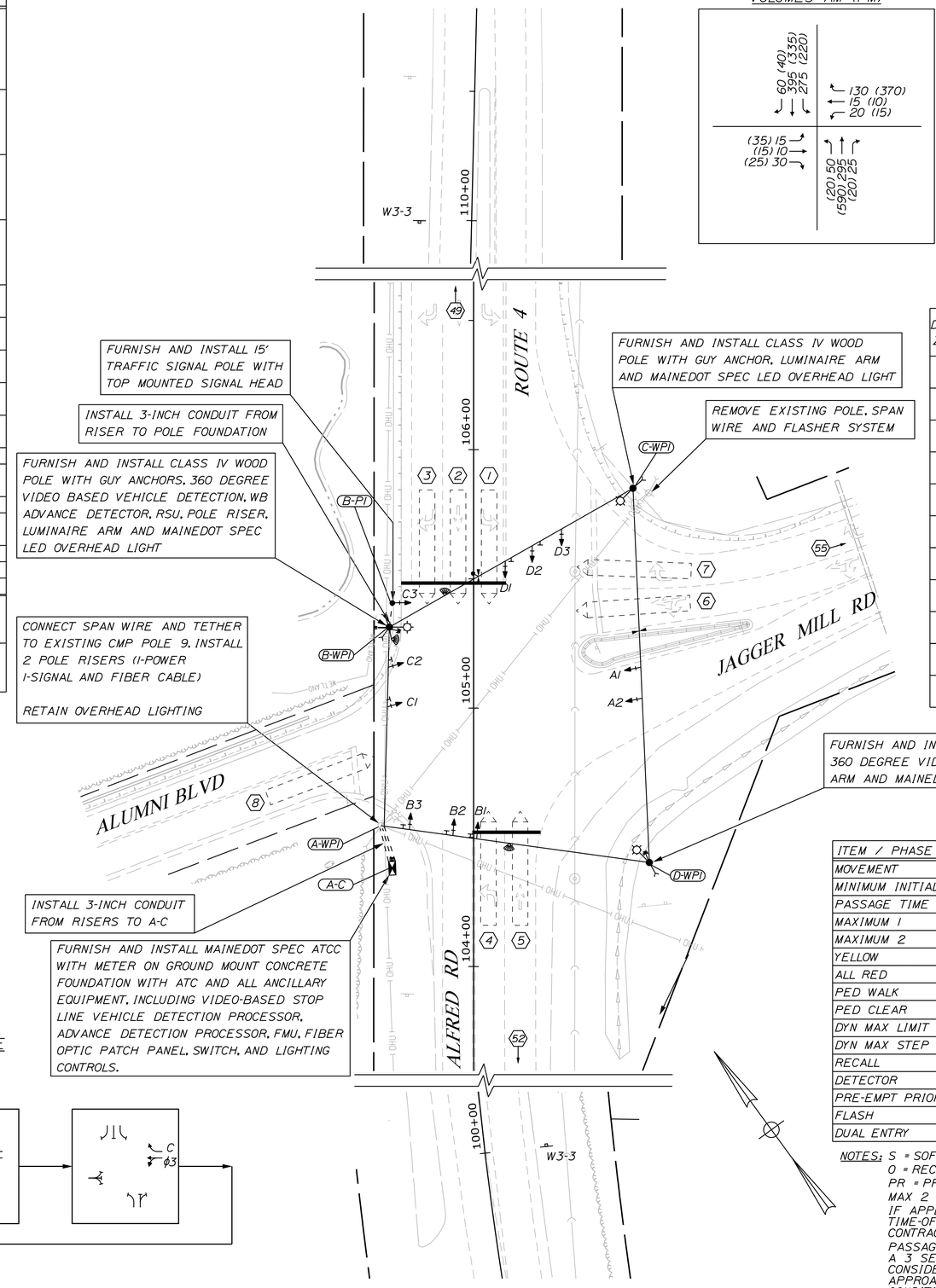
PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

1 2 | 4 3
5 6 | |

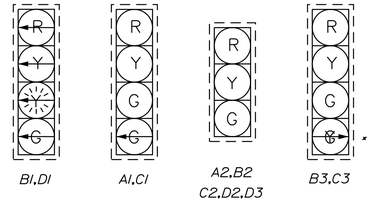


OVERLAP PHASING:
OVL A = 1 (PROT) + 2 (PERM) OVL C = 1+3
OVL B = 5 (PROT) + 6 (PERM) OVL D = 4



SYSTEM DESIGN VOLUMES AM (PM)

PROPOSED INDICATIONS



NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES
* - BI-MODAL 4TH SECTION LED

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	ϕ CALLED	ϕ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	ALFRED RD SB LEFT	1	1	B	-	-
2	ALFRED RD SB THRU	6	6	B	-	-
3	ALFRED RD SB RIGHT	6	6	B	5	-
4	ALFRED RD NB LEFT	5	5	B	-	-
5	ALFRED RD NB THRU-RIGHT	2	2	B	-	-
6	JAGGER MILL RD WB LEFT-THRU	3	3	B	-	-
7	JAGGER MILL RD WB RIGHT	1	1	B	5	-
8	ALUMNI BLVD EB MOVEMENTS	4	4	B	-	-
49	ALFRED RD SB ADVANCE	6	6	A	-	-
52	ALFRED RD NB ADVANCE	2	2	A	-	-
55	JAGGER MILL RD WB ADVANCE	3	3	A	-	-

SIGNAL TIMING SCHEDULE

ITEM / PHASE	ϕ 1	ϕ 2	ϕ 3	ϕ 4	ϕ 5	ϕ 6	ϕ 7	ϕ 8
MOVEMENT	B (LT)	D	C	A	D (LT)	B	-	-
MINIMUM INITIAL	7	10	5	5	5	10	-	-
PASSAGE TIME	1.5	1.5	1.5	1.5	1.5	1.5	-	-
MAXIMUM 1	30	40	25	25	20	40	-	-
MAXIMUM 2	35	45	30	30	25	45	-	-
YELLOW	4.5	4.5	3.5	3.5	4.5	4.5	-	-
ALL RED	2.5	2.5	3.5	2.5	2.5	2.5	-	-
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
DYN MAX LIMIT	50	60	-	-	-	60	-	-
DYN MAX STEP	15	15	-	-	-	15	-	-
RECALL	OFF	SOFT	OFF	OFF	OFF	SOFT	-	-
DETECTOR	PR	PR	PR	PR	PR	PR	-	-
PRE-EMPT PRIORITY	3	4	5	6	4	3	-	-
FLASH	R	Y	R	R	R	Y	-	-
DUAL ENTRY	OFF	ON	OFF	OFF	OFF	ON	-	-

NOTES: S = SOFT RECALLY = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK
MAX 2 UNDER COORDINATION
IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.
PASSAGE TIMES SHALL BE CALIBRATED FOR A 3 SECOND MAXIMUM ALLOWABLE HEADWAY CONSIDERING DETECTOR ZONE LENGTH, APPROACHING VEHICLE SPEEDS, AND FIELD CONDITIONS

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY PROVIDED BY MAINEDOT, AUGUST 2023

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2703000

WIN 027030.00

TRAFFIC PLANS

vhb

	J. DOSTIE	DATE
PROJ. MANAGER	J. ROBERT	12/23
DESIGN-DETAILED	M. GRAHAM	04/24
CHECKED-REVIEWED	C. BOBAY	10/24
DESIGN2-DETAILED2	C. BOBAY	11/24
DESIGN3-DETAILED3	J. ROBERT	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTE 4 (ALFRED RD) AND
ALUMNI BLVD / JAGGER MILL RD

TRAFFIC SIGNAL PLAN

SHEET NUMBER
3
OF 6

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS (ITEM XXX.YYZ)	QUANTITY
FURNISH AND INSTALL 14-INCH PRECAST CONCRETE JUNCTION BOX (ITEM 626.11)	1 EA
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	50 LF
FURNISH AND INSTAL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	25 LF
FURNISH AND INSTALL GROUND MOUNTED CABINET FOUNDATION (ITEM 626.38)	1 EA
FURNISH AND INSTALL 24-IN DIAMETER FOUNDATION (ITEM 626.421)	7 LF
FURNISH AND INSTALL 12-INCH SOLID WHITE PAVEMENT MARKING (ITEM 627.18)	60 LF
ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR) (ITEM 631.12)	24 HR
FURNISH AND INSTALL 15-FOOT PEDESTAL POLE (ITEM 643.92)	1 EA
FURNISH AND INSTALL WOOD POLE WITH GUYS (ITEM 643.97)	3 EA
FURNISH AND INSTALL DUAL MODE DSCR/V2X ROADSIDE UNIT (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PROPOSED SIGNS

R3-5L
30"x36"
2-PROPOSED

R3-6L
30"x36"
1-PROPOSED

R3-5A
30"x36"
1-PROPOSED

R3-6R
30"x36"
1-PROPOSED

R3-5R
30"x36"
2-PROPOSED

W3-3
30"x30"
3-PROPOSED

EXISTING SIGNS

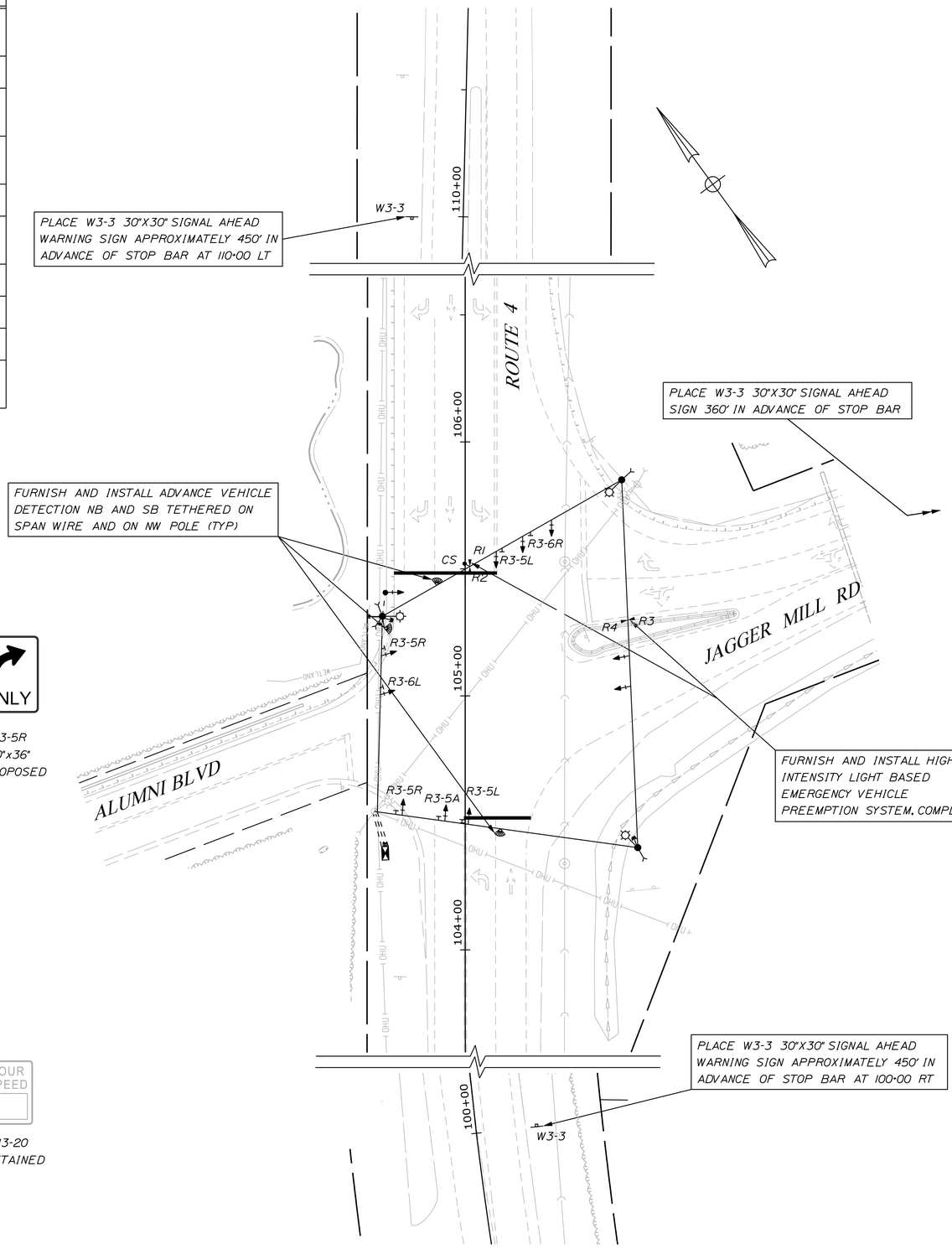
S4-3P
2-RETAINED

R2-1
2-RETAINED

S4-1P
2-RETAINED

S4-6P
2-RETAINED

W13-20
2-RETAINED

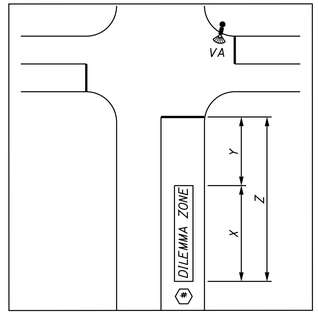


EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	TSP ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1		NOT USED/RESERVED	
	2		NOT USED/RESERVED	
R1	3	7	1	ϕ1&6 (SB)
R2	4	8	2	ϕ2&5 (NB)
R3	5	9	3	ϕ3 (WB)
R4	6	10	4	ϕ4 (EB)

EMERGENCY VEHICLE PRE-EMPTION NOTES:

1. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 10 = LOWEST)
2. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (4.5 SECONDS YELLOW AND 3.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
3. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
4. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY EMERGENCY VEHICLE PREEMPTION GREEN IS ON.
5. THE EXISTING ATMS SYSTEM IS TO BE CONFIGURED TO EMAIL PREEMPTION ALERTS TO TOWN STAFF (TO BE DESIGNATED DURING TRAINING) WHEN TRAFFIC SIGNAL PREEMPTION EXCEEDS A DURATION GREATER THAN ONE MINUTE.



SPEED MILES PER HOUR	X (DISTANCE)	Y (DISTANCE)	Z (DISTANCE)
35	152'	102'	254'
40	162'	122'	284'
45	175'	152'	327'
50	181'	172'	353'
55	152'	234'	386'

ADVANCE DILEMMA ZONE SETUP

SOURCE: TRAFFIC DETECTOR HANDBOOK: THIRD EDITION - VOLUME 1

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY PROVIDED BY MAINEDOT, AUGUST 2023

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2703000

WIN 027030.00

TRAFFIC PLANS

vhb

	J. DOSTIE	DATE
PROJ. MANAGER		
DESIGN-DETAILED	M. GRAHAM	12/23
CHECKED-REVIEWED	C. BOBAY	04/24
DESIGN2-DETAILED2	C. BOBAY	10/24
DESIGN3-DETAILED3	J. ROBERT	11/24
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

	BY
	J. ROBERT
	C. BOBAY
	J. READY
	C. BOBAY

SANFORD
ROUTE 4 (ALFRED RD) AND
ALUMNI BLVD / JAGGER MILL RD

TRAFFIC SIGNAL PLAN

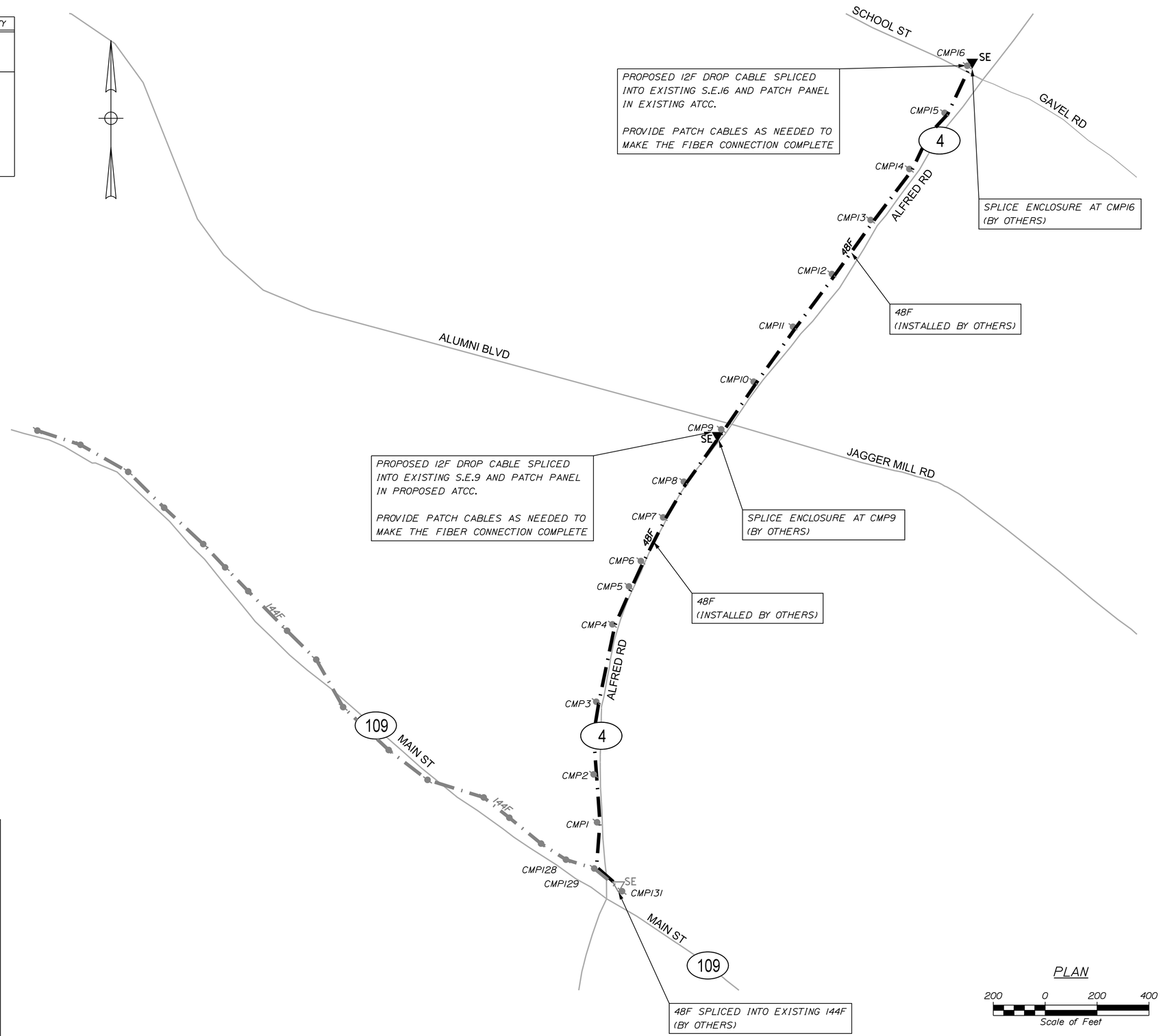
SHEET NUMBER
4
OF 6

Filename: 004_Signal_2.dgn Username: jorobert Division: HIGHWAY Date:11/13/2024

LIST OF MAJOR ITEMS

EQUIPMENT AND WORK ITEMS (ITEM XXX.YYZ)	QUANTITY
FIBER OPTIC CABLE AND SPLICE ENCLOSURES (INSTALLATION BY OTHERS) (ITEM 626.744)	1 LS
FURNISH AND INSTALL 12-STRAND FIBER OPTIC DROP CABLE WITH AERIAL SPLICES INTO EXISTING SPLICE ENCLOSURES 9 AND 16 WITH PATCH PANEL SPLICES INTO CONTROL CABINETS THAT INCLUDES PROVIDING SUFFICIENT PATCH CABLES TO MAKE THE FIBER CONNECTION INTO THE EXISTING ADVANCED TRANSPORATION MANAGEMENT SYSTEM COMPLETE (ITEM 643.90)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



MAP LEGEND

- PROPOSED FIBER OPTIC CABLE
- EXISTING FIBER OPTIC CABLE
- EXISTING COPPER INTERCONNECT
- PROPOSED CONTROLLER CABINET
- EXISTING CONTROLLER CABINET
- SE PROPOSED AERIAL SPLICE ENCLOSURE
- SE EXISTING AERIAL SPLICE ENCLOSURE

PLAN

200 0 200 400

Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2703000

WIN 027030.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	J. DOSTIE	
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REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

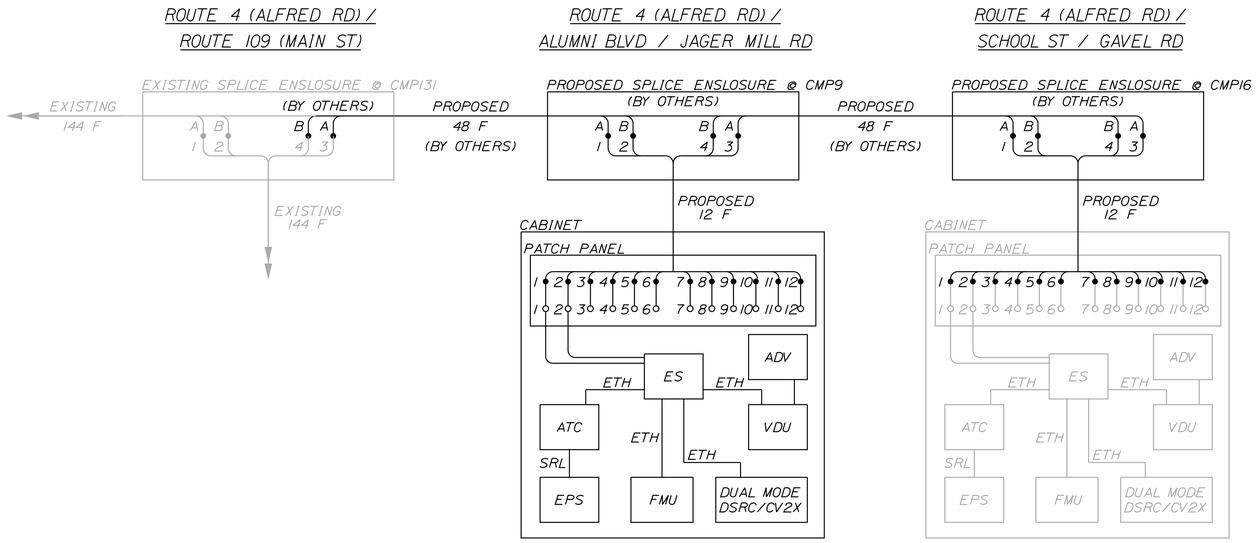
SANFORD
ROUTE 4 (ALFRED RD) AND
ALUMNI BLVD / JAGGER MILL RD

INTERCONNECT PLAN

SHEET NUMBER

5

OF 6



ROUTE 4 (ALFRED RD) / JAGGER MILL RD & ALUMNI BLVD

	CABLE	STRAND	CONNECTION TYPE	CABLE	STRAND	DESCRIPTION
SPLICE ENCLOSURE CMP9	48F TO CMP131	1-A	UNTERMINATED	CONTINUOUS		
	48F TO CMP131	A	SPLICE	48F TO CONTROLLER CABINET	1	SPLICE TO 12F DROP CABLE
	48F TO CMP131	B	SPLICE	48F TO CONTROLLER CABINET	2	SPLICE TO 12F DROP CABLE
PATCH PANEL AT CONTROLLER CABINET ROUTE 4 (ALFRED RD) / JAGGER MILL RD & ALUMNI BLVD	12F TO SE CMP9	1	SPLICE	PIGTAIL	-	ES, PP POSITION 1
	12F TO SE CMP9	2	SPLICE	PIGTAIL	-	ES, PP POSITION 2
	12F TO SE CMP9	3	SPLICE	PIGTAIL	-	SPARE, PP POSITION 3
	12F TO SE CMP9	4	SPLICE	PIGTAIL	-	SPARE, PP POSITION 4
	12F TO SE CMP9	5	SPLICE	PIGTAIL	-	SPARE, PP POSITION 5
	12F TO SE CMP9	6	SPLICE	PIGTAIL	-	SPARE, PP POSITION 6
	12F TO SE CMP9	7	SPLICE	PIGTAIL	-	SPARE, PP POSITION 7
	12F TO SE CMP9	8	SPLICE	PIGTAIL	-	SPARE, PP POSITION 8
	12F TO SE CMP9	9	SPLICE	PIGTAIL	-	SPARE, PP POSITION 9
	12F TO SE CMP9	10	SPLICE	PIGTAIL	-	SPARE, PP POSITION 10
	12F TO SE CMP9	11	SPLICE	PIGTAIL	-	SPARE, PP POSITION 11
	12F TO SE CMP9	12	SPLICE	PIGTAIL	-	SPARE, PP POSITION 12

ROUTE 4 (ALFRED RD) / SCHOOL ST & GAVEL RD

	CABLE	STRAND	CONNECTION TYPE	CABLE	STRAND	DESCRIPTION
SPLICE ENCLOSURE CMP16	48F TO CMP131	1-A	UNTERMINATED	CONTINUOUS		
	48F TO CMP131	A	SPLICE	48F TO CONTROLLER CABINET	1	SPLICE TO 12F DROP CABLE
	48F TO CMP131	B	SPLICE	48F TO CONTROLLER CABINET	2	SPLICE TO 12F DROP CABLE
PATCH PANEL AT CONTROLLER CABINET ROUTE 4 (ALFRED RD) / SCHOOL ST & GAVEL RD	12F TO SE CMP16	1	SPLICE	PIGTAIL	-	ES, PP POSITION 1
	12F TO SE CMP16	2	SPLICE	PIGTAIL	-	ES, PP POSITION 2
	12F TO SE CMP16	3	SPLICE	PIGTAIL	-	SPARE, PP POSITION 3
	12F TO SE CMP16	4	SPLICE	PIGTAIL	-	SPARE, PP POSITION 4
	12F TO SE CMP16	5	SPLICE	PIGTAIL	-	SPARE, PP POSITION 5
	12F TO SE CMP16	6	SPLICE	PIGTAIL	-	SPARE, PP POSITION 6
	12F TO SE CMP16	7	SPLICE	PIGTAIL	-	SPARE, PP POSITION 7
	12F TO SE CMP16	8	SPLICE	PIGTAIL	-	SPARE, PP POSITION 8
	12F TO SE CMP16	9	SPLICE	PIGTAIL	-	SPARE, PP POSITION 9
	12F TO SE CMP16	10	SPLICE	PIGTAIL	-	SPARE, PP POSITION 10
	12F TO SE CMP16	11	SPLICE	PIGTAIL	-	SPARE, PP POSITION 11
	12F TO SE CMP16	12	SPLICE	PIGTAIL	-	SPARE, PP POSITION 12

LEGEND

- FIBER OPTIC PIGTAIL
- FIBER OPTIC SPLICE
- ATC - ADVANCED TRANSPORTATION CONTROLLER
- ES - FIBER ETHERNET SWITCH
- ETH - ETHERNET CABLE
- SRL - SERIAL CONNECTION
- EPS - EMERGENCY PREEMPTION SYSTEM
- VID - VIDEO DETECTION CONTROL UNIT
- EXISTING EQUIPMENT

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2703000

WIN 027030.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	J. DOSTE	
DESIGN-DETAILED	M. GRAHAM	J. ROBERT 12/23
CHECKED-REVIEWED	C. BOBAY	C. BOBAY 04/24
DESIGN2-DETAILED2	C. BOBAY	J. READY 10/24
DESIGN3-DETAILED3	J. ROBERT	C. BOBAY 11/24
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTE 4 (ALFRED RD) AND ALUMNI BLVD / JAGGER MILL RD
SYSTEM NETWORK AND ARCHITECTURE

SHEET NUMBER

6

OF 6

Username: jorobert Date:11/13/2024
Division: HIGHWAY
Filename: 006_SystemArch.dgn