Exhibit 2
Construction Access Plan

SHEET INDEX

	DWG Number	Title	Overall Sheet #
General Index Plans			
		Sheet Index/Legend/General Notes	1
Access Road Plan & Profile			
	AR-01	Access Road AR-33-34	2
		Access Road AR-49-50	
	AR-02	Access Road AR-58-59	3
		Access Road AR-64-65	
	AR-03	Access Road AR-120-121	4
	AR-04	Access Road AR-144-145	5
		Access Road AR-152-153	
	AR-05	Access Road AR-162-163	6
		Access Road AR-178-179	
	AR-06	Access Road AR-196-197	7
		Access Road AR-224-225	
		Access Road AR-233-234	
	AR-07	Access Road AR-240-241	8
	AR-08	Access Road AR-240-241 (continued)	9
	AR-09	Access Road AR-246-247	10
	AR-10	Access Road AR-260-261	11
		Access Road AR-291-292	
	AR-11	Access Road AR-301-302	12
		Access Road AR-318-319	
	AR-12	Access Road AR-324-325	13
	AR-13	Access Road AR-350-351	14
		Access Road AR-353-354	
	AR-14	Access Road AR-388-389	15
	AR-15	Access Road AR-386-387	16
	AR-16	Access Road AR-386-387 (continued)	17
	AR-17	Access Road AR-399-400	18
		Access Road AR-421-422	
	AR-18	Access Road AR-425-426	19
		Access Road AR-517-518	
		Access Road AR-521-522	
	AR-19	Access Road AR-529-530	20
		Access Road AR-550-551	
	AR-20	Access Road AR-597-598	21
		Access Road AR-620-621	
	AR-21	Access Road AR-648-649	22
	AR-22	Access Road AR-656-657	23
Details and Notes			
	DET-01	Erosion and Sedimentation Control Details	24
	DET-02	Stormwater Details	25
	DET-03	Roadway Details	26
Stormwater Calculation Sheets			
	SW-01	Stormwater Calculation Tables	27

EXISTING LEGEND:

- GRADE CONTOUR
- GRAVEL ROAD
- PAVED ROAD
- TREELINE
- RAILROAD
- PROPERTY LINE
- TRANSMISSION LINE ROW
- UTILITY POLE
- BUILDING/STRUCTURE
- WETLAND
- SIGNIFICANT VERNAL POOL
- SIGNIFICANT VERNAL POOL 250' BUFFER
- VERNAL POOL
- STREAM
- BoA — USDA NRCS SOILS BOUNDARY AND ID

PROPOSED LEGEND:

- GRADE CONTOUR
- ROAD CENTERLINE
- GRAVEL ROAD
- CONSTRUCTION ACCESS ROUTE (NO PERMANENT IMPROVEMENTS)
- CLEARING LIMITS
- XX' BUFFER — DITCH TURNOUT LEVEL SPREADER AND BUFFER
- DEDICATED ROADSIDE FORESTED/MEADOW BUFFER
- CULVERT WITH STONE INLET/OUTLET PROTECTION
- STONE CHECK DAM
- STONE LINED DITCH
- EC — BARRIER EROSION CONTROLS
- UTILITY POLE

GENERAL NOTES:

1. NORTH AS SHOWN HEREON IS REFERENCED TO GRID NORTH, UTM 83, ZONE 19, U.S. SURVEY FEET.
2. ELEVATIONS AS SHOWN HEREON ARE REFERENCED TO NAD 83.
3. EXISTING TOPOGRAPHIC AND PLANNIMETRIC SURVEY INFORMATION AS SHOWN HEREON IS THE RESULT OF AERIAL TOPOGRAPHIC MAPPING COMPLETED BY AERIAL SURVEY AND PHOTO, INC. DATE OF PHOTOGRAPH 11-7-2010. GROUND CONTROL BY PLISGA & DAY LAND SURVEYORS, BANGOR, MAINE.
4. SOILS MAPPING IS COURTESY OF THE USDA ONLINE DATA CENTER.
5. ENVIRONMENTAL RESOURCE MAPPING (WETLANDS, STREAMS, VERNAL POOLS, ETC.) AS SHOWN HEREON BY STANTEC.
6. PROPERTY LINES AS SHOWN HEREON ARE A COMPILATION OF TAX MAPS. PROPERTY LINES AS SHOWN ARE APPROXIMATE.

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE — NICHOLAS R. PORELL — No. 11829 — LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering

SERVING OUR CLIENTS IN THE U.S.A. & CANADA

Corporate Headquarters
Bellingham, Washington 98226
Tel: 360-676-0460
Fax: 360-676-0183

Boston Regional Office
21 Griffin Parkway, Suite 200
Quincy, Massachusetts 02171
Tel: 617-405-0211
Fax: 617-405-0201

Bucksport Regional Office
Bucksport, Maine 04416
Tel: 207-469-6511
Fax: 207-469-6511

Drawn: NRP | Design: NRP | Appd: JMR

SGC Project: 657003 | Date: 05-25-2011

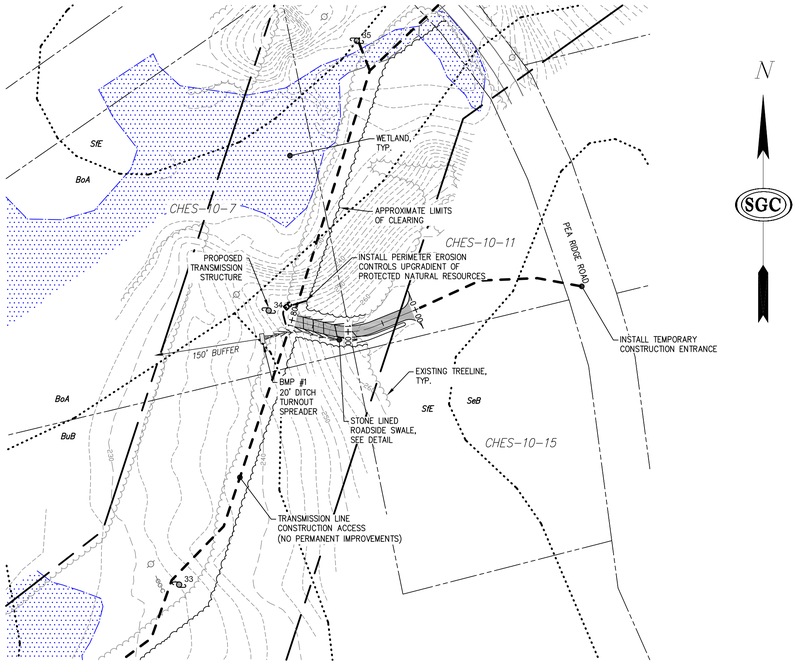
Title: SHEET INDEX, GENERAL NOTES, LEGEND

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

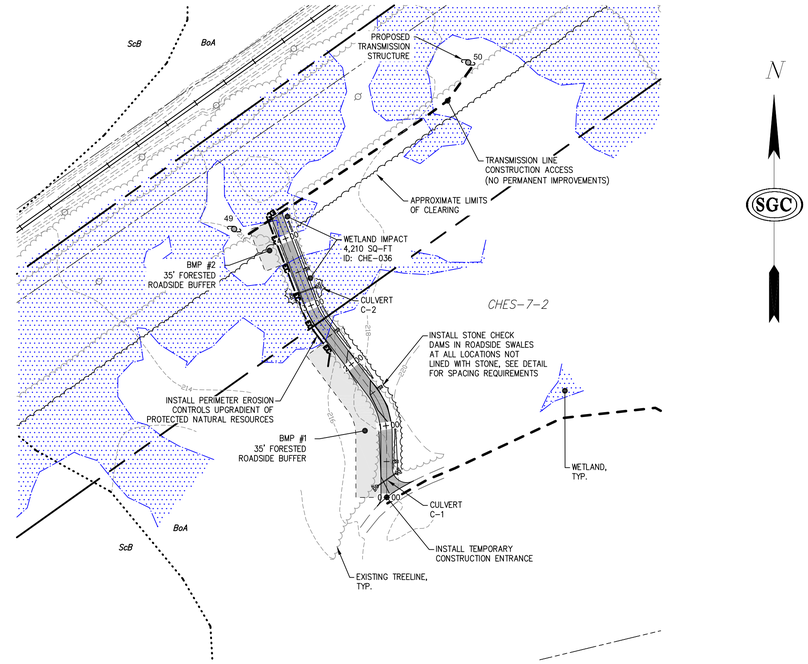
firstwind — CLEAN ENERGY MADE HERE.

The information contained herein is strictly confidential and is the sole property of the project owner.



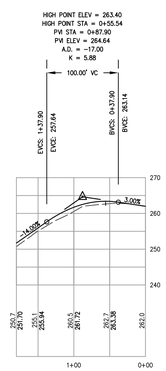
ROAD AR-33-34 STA. 0+00 TO END

PLAN SCALE: 1"=100'



ROAD AR-49-50 STA. 0+00 TO END

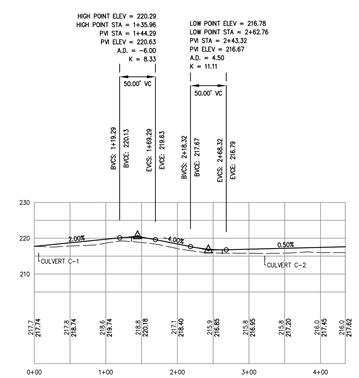
PLAN SCALE: 1"=100'



ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	LEFT

ROAD AR-33-34 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'



ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	LEFT

ROAD AR-49-50 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

MAINE DEP PERMIT SUBMISSION

VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.

100 50 0 100

GRAPHIC SCALE: FEET

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. PORELL No. 11829 LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering

SERVING OUR CLIENTS IN THE U.S.A. & CANADA

Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROADS AR-33-34, AR-49-50

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

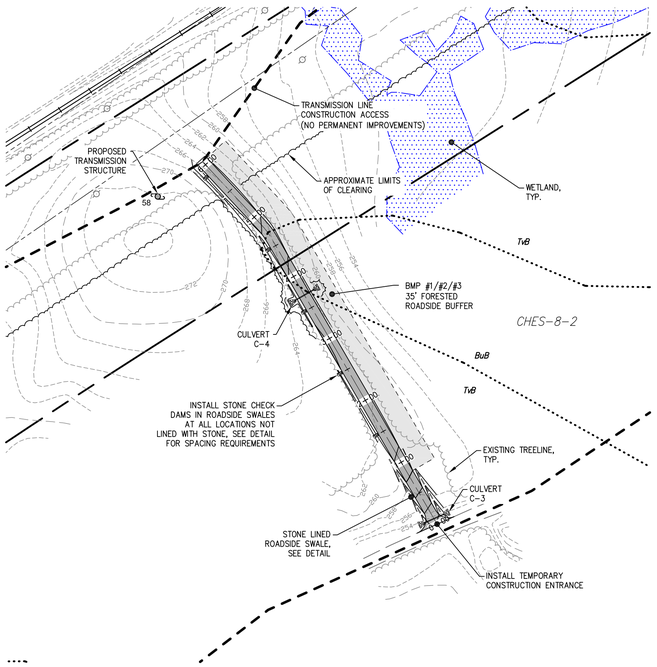
SGC Project: 6570003 | Date: 05-25-2011 | Scale: 1"=100' | Drawn: NRP | Design: NRP | Appr: JMR

firstwind CLEAN ENERGY. MADE HERE.

The information contained herein is strictly confidential and is the property of the project owner.

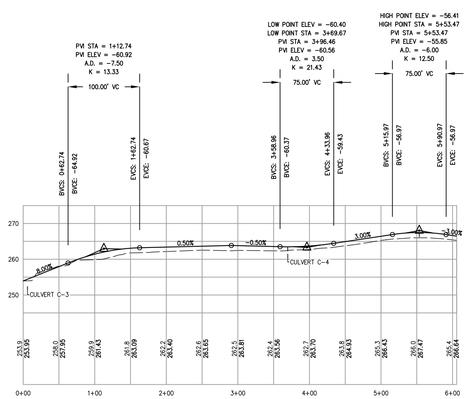
DWG. AR-01

SHEET 02 of 27



ROAD AR-58-59 STA. 0+00 TO END

PLAN SCALE: 1"=100'

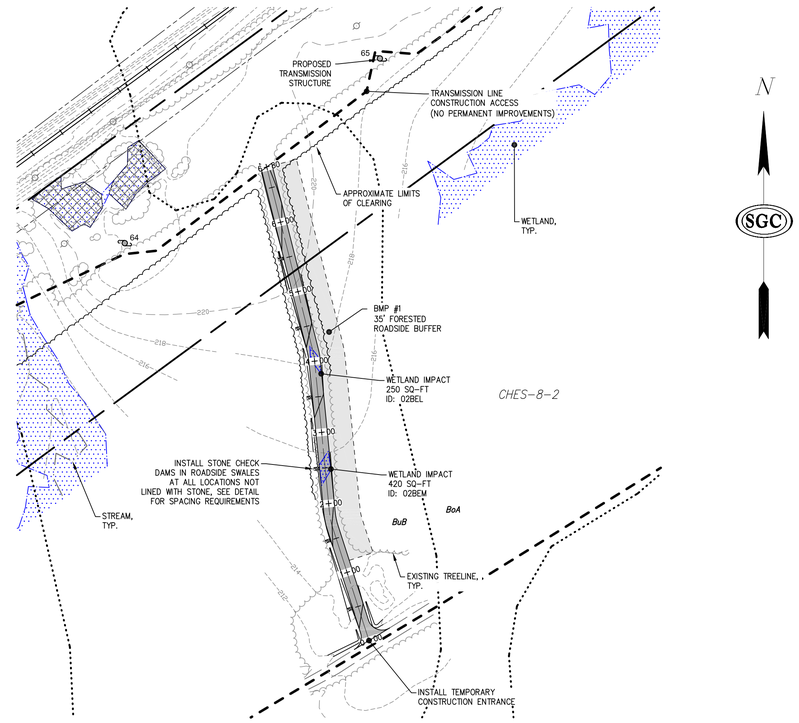


ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	RIGHT

ROAD AR-58-59 STA. 0+00 TO END

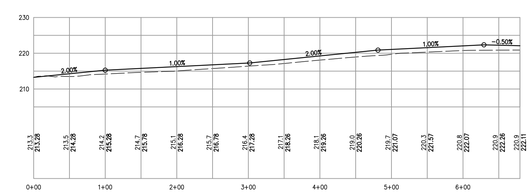
PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

MAINE DEP PERMIT SUBMISSION
VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.



ROAD AR-64-65 STA. 0+00 TO END

PLAN SCALE: 1"=100'



ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	RIGHT

ROAD AR-64-65 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

100 50 0 100
GRAPHIC SCALE: FEET

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. PORELL No. 11829 LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
Wilkes-Barre 800 Kidde Road Wilkes-Barre, PA 18706 Tel: 570-822-9100 Fax: 570-822-9101
Boston 25 Forest Ridge Drive, Suite 200 Boston, Massachusetts 02053 Tel: 617-466-0211 Fax: 800-960-1715
Calgary 900 Kidde Road Calgary, Alberta T2J 5E7 Tel: 403-640-6000 Fax: 403-640-6101

SGC Project:	Date:	Scale:	Drawn:	Design:	Appr:
6570003	05-25-2011	1"=100'	NRP	NRP	JMR

Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROADS AR-58-59, AR-64-65

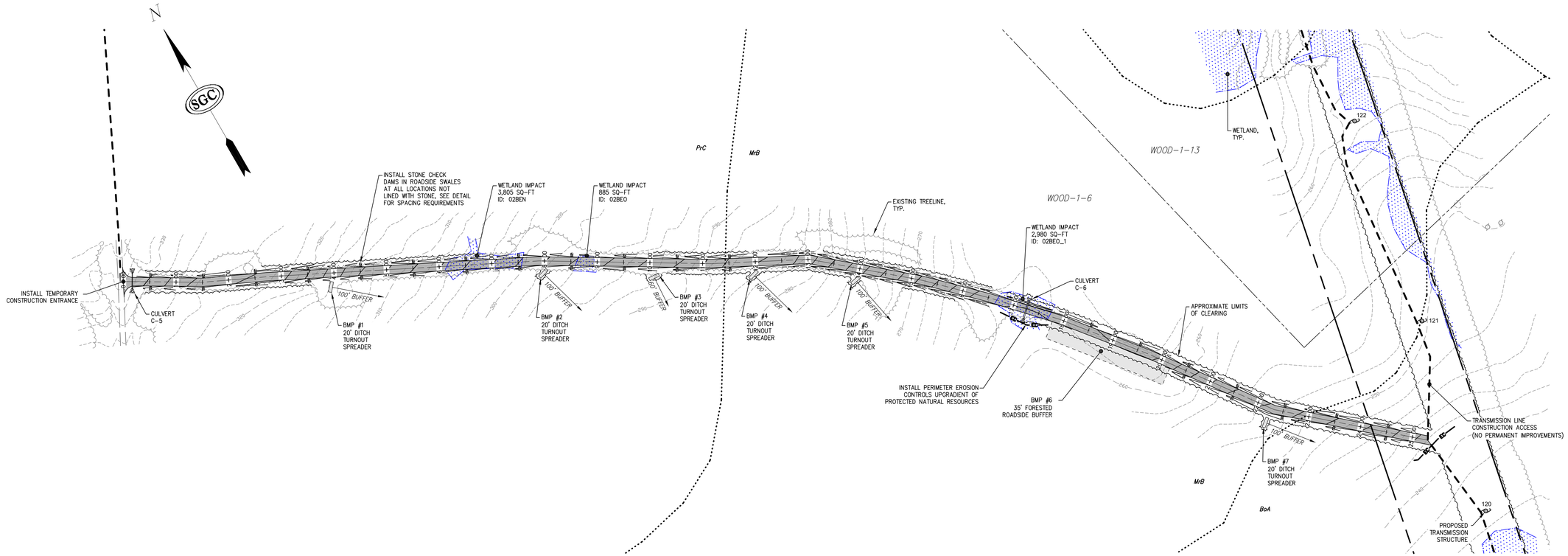
Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind CLEAN ENERGY. MADE HERE.

The information contained herein is strictly confidential and is the property of the project owner.

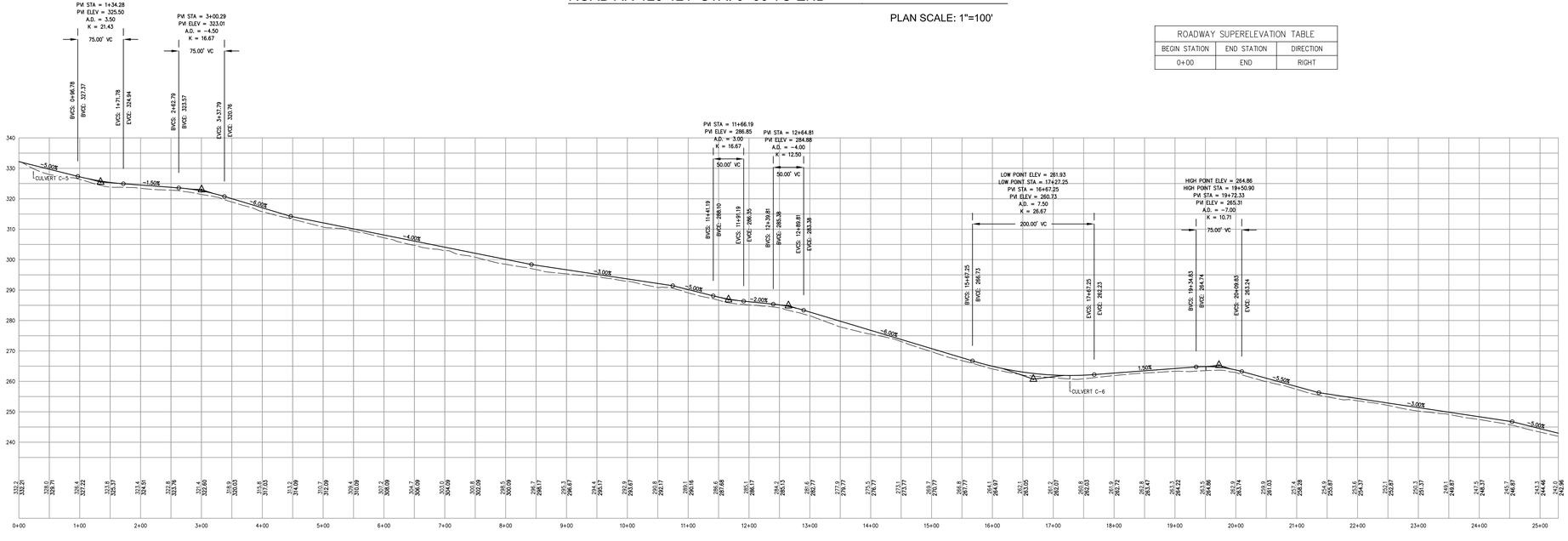
DWG.	SHEET
AR-02	03 of 27



ROAD AR-120-121 STA. 0+00 TO END

PLAN SCALE: 1"=100'

ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	RIGHT



ROAD AR-120-121 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

100 50 0 100
GRAPHIC SCALE: FEET

MAINE DEP PERMIT SUBMISSION

VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. PORELL No. 11829 LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
Boise, Idaho 83702 Tel: 208-345-1217
Washington, DC 20036 Fax: 202-466-0211
Fax: 207-242-0031
Fort Collins, Colorado 80524 Tel: 970-482-2033
Boston, Massachusetts 02210 Tel: 617-350-0450
Fax: 800-860-1715

SGC Project:	Date:	Scale:	Drawn:	Design:	Appd:
657003	05-25-2011	1"=100'	NRP	NRP	JMR

Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROAD AR-120-121

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

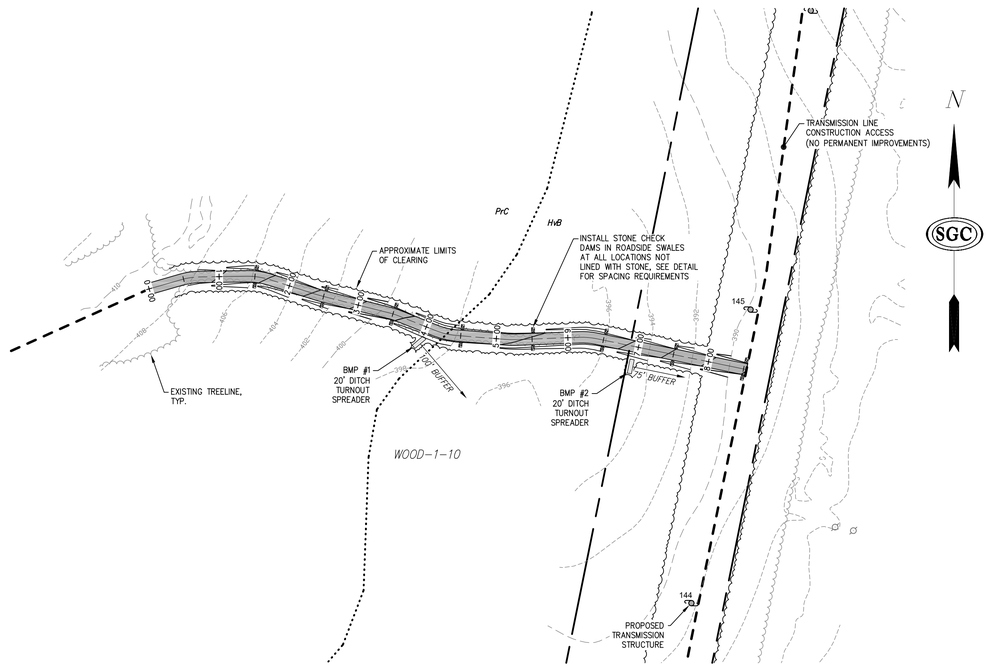
Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind CLEAN ENERGY MADE HERE.

The information contained herein is strictly confidential and is the property of the project owner.

DWG. AR-03

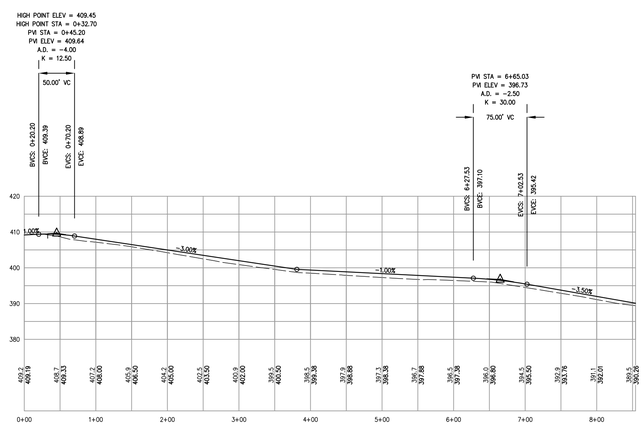
SHEET 04 of 27



ROAD AR-144-145 STA. 0+00 TO END

PLAN SCALE: 1"=100'

ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	RIGHT

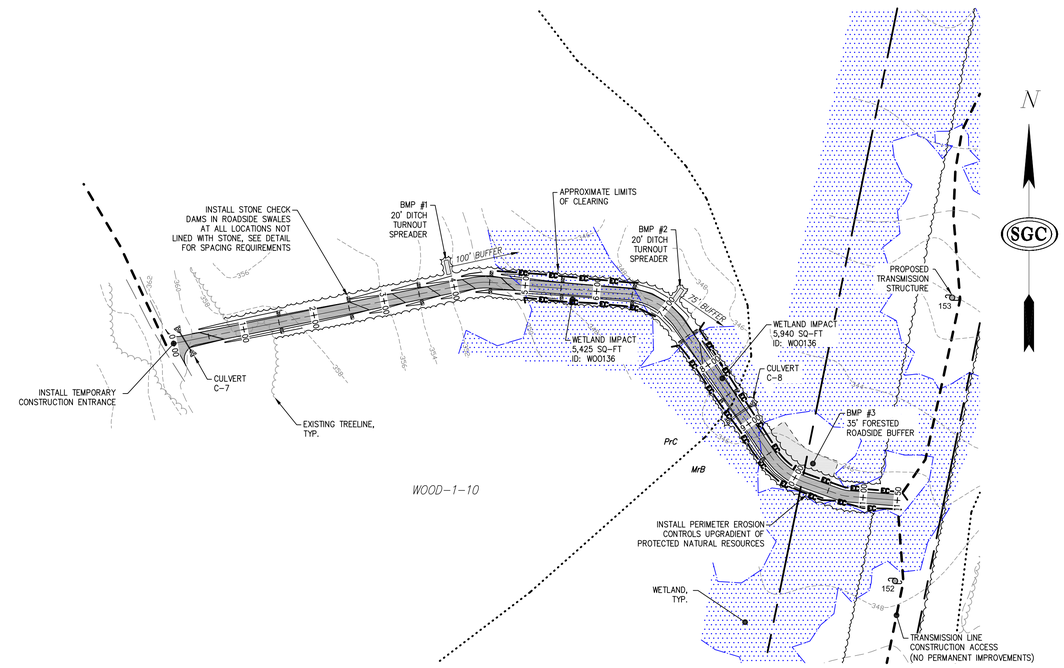


ROAD AR-144-145 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

MAINE DEP PERMIT SUBMISSION

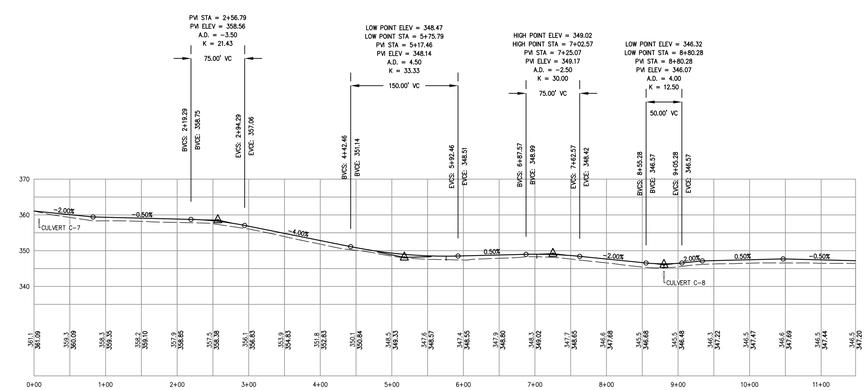
VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.



ROAD AR-152-153 STA. 0+00 TO END

PLAN SCALE: 1"=100'

ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	LEFT



ROAD AR-152-153 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

100 50 0 100
GRAPHIC SCALE: FEET

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. PORELL No. 11829 PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
Boston Headquarters
Wellington Office Park, Suite 200
20 Corporate Place South
Piscataway, New Jersey 08854
Tel: 732-968-0211
Fax: 732-562-0311
Bucks County Office
Buck Creek Corporate Center
2 Terry Drive, Suite 205
Newtown, Pennsylvania 18940
Tel: 267-498-5001
Fax: 267-498-5003

SGC Project:	Date:	Scale:	Drawn:	Design:	Appr:
6570003	05-25-2011	1"=100'	NRP	NRP	JMR

Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROADS AR-144-145, AR-152-153

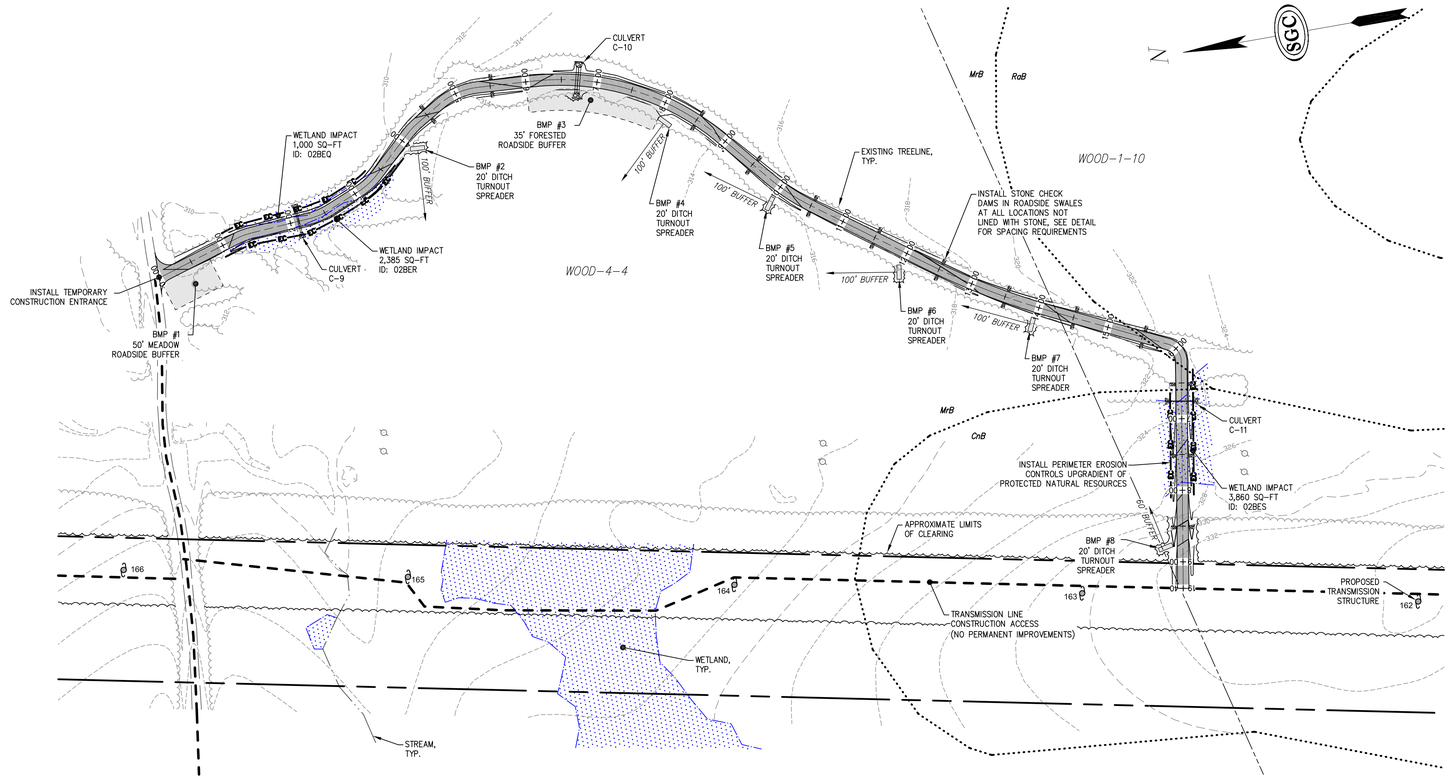
Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind™ CLEAN ENERGY. MADE HERE.

The information contained herein is strictly confidential and is the property of the project owner.

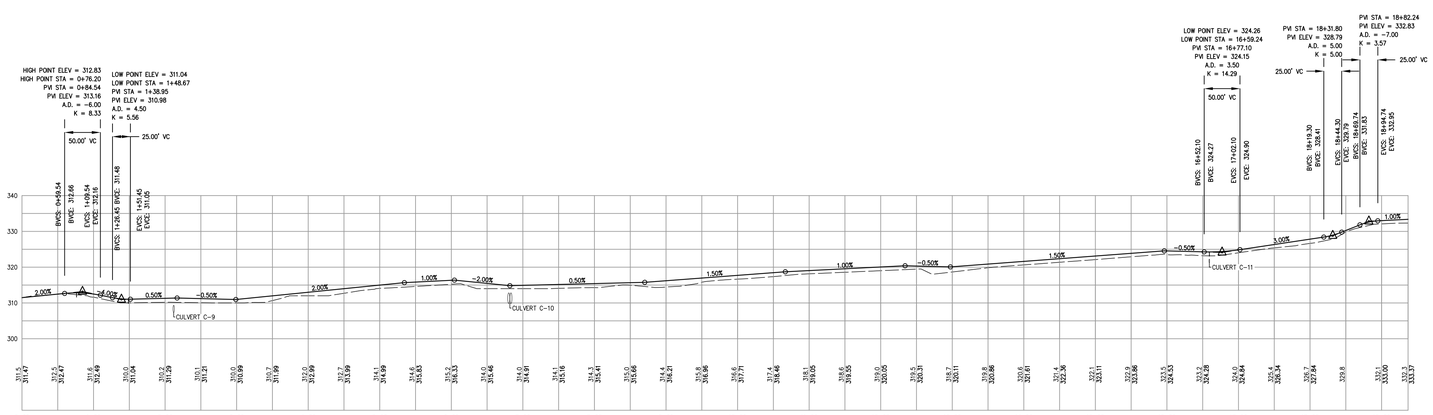
DWG.	SHEET
AR-04	05 of 27



ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	RIGHT

ROAD AR-162-163 STA. 0+00 TO END

PLAN SCALE: 1"=100'

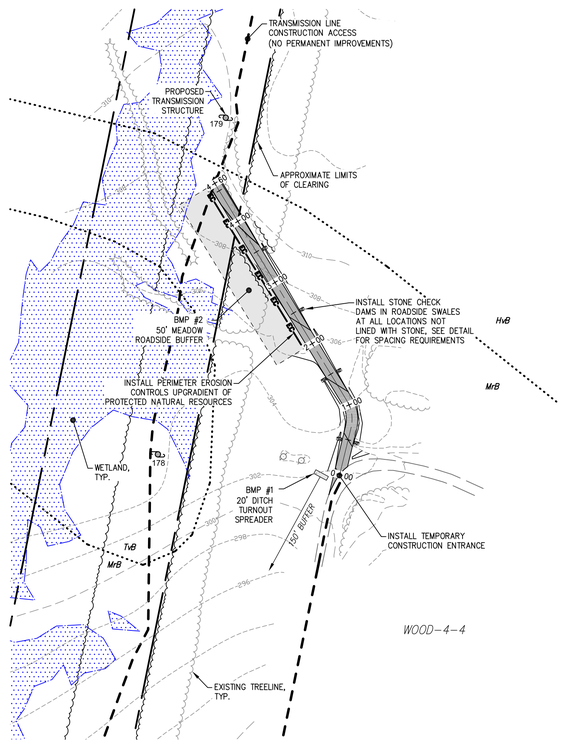


ROAD AR-162-163 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

MAINE DEP PERMIT SUBMISSION

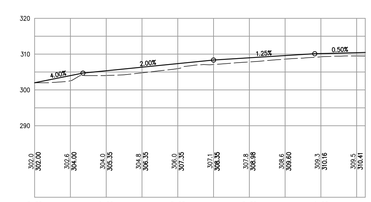
VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.



ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	LEFT

ROAD AR-178-179 STA. 0+00 TO END

PLAN SCALE: 1"=100'



ROAD AR-178-179 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

100 50 0 100
GRAPHIC SCALE: FEET

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. PORELL No. 11829 LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
8010-E Maple Street
Westminster, Colorado 80030
Tel: 303-466-0211
Fax: 303-466-0215
Bucksport Business Center
25 Main Street, Suite 201
Bucksport, Maine 04416
Tel: 207-469-6201
Fax: 800-860-1716

SGC Project: 657003
Date: 05-25-2011
Scale: 1"=100'
Drawn: NRP
Design: NRP
Appr: JMR

Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROADS AR-162-163, AR-178-179

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

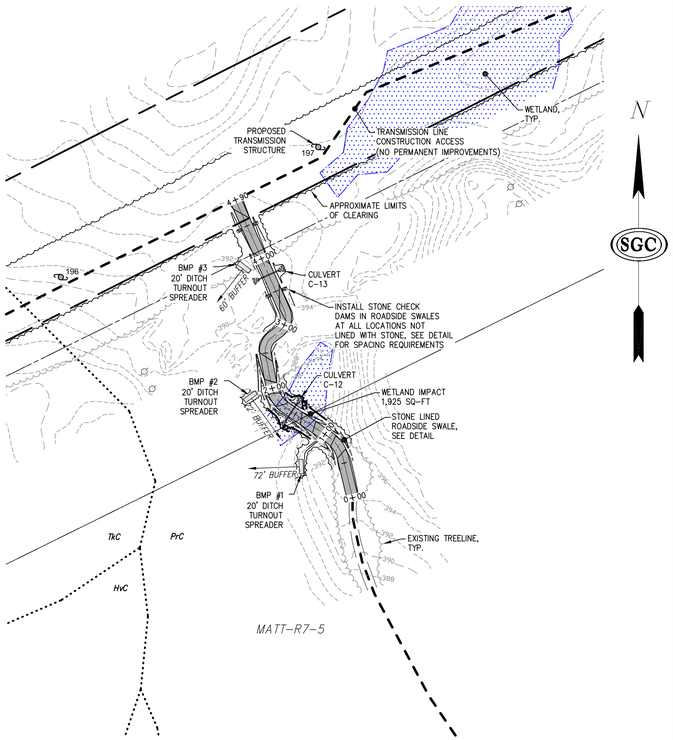
Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind. CLEAN ENERGY. MADE HERE.

The information contained herein is strictly confidential and is the sole property of the project owner.

DWG. AR-05

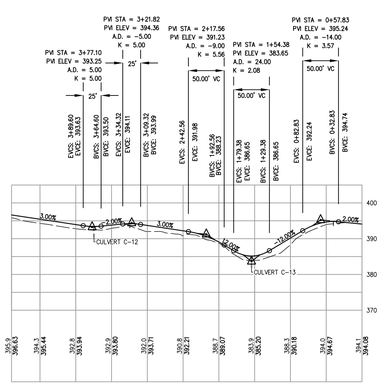
SHEET 06 of 27



ROAD AR-196-197 STA. 0+00 TO END

PLAN SCALE: 1"=100'

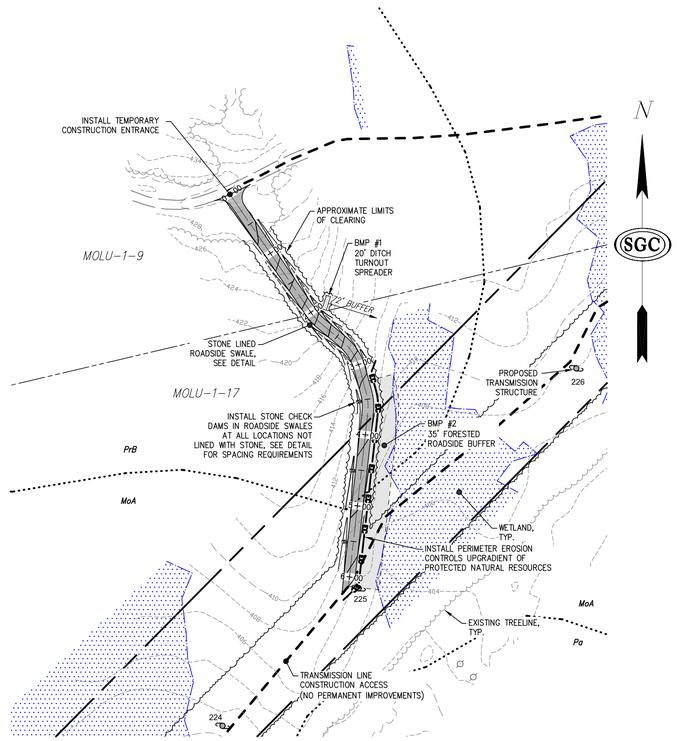
ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	LEFT



ROAD AR-196-197 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

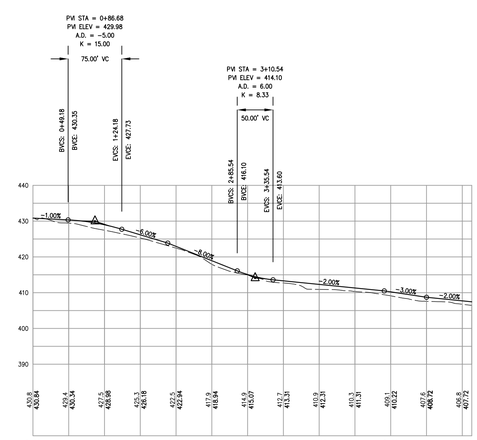
MAINE DEP PERMIT SUBMISSION
VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.



ROAD AR-224-225 STA. 0+00 TO END

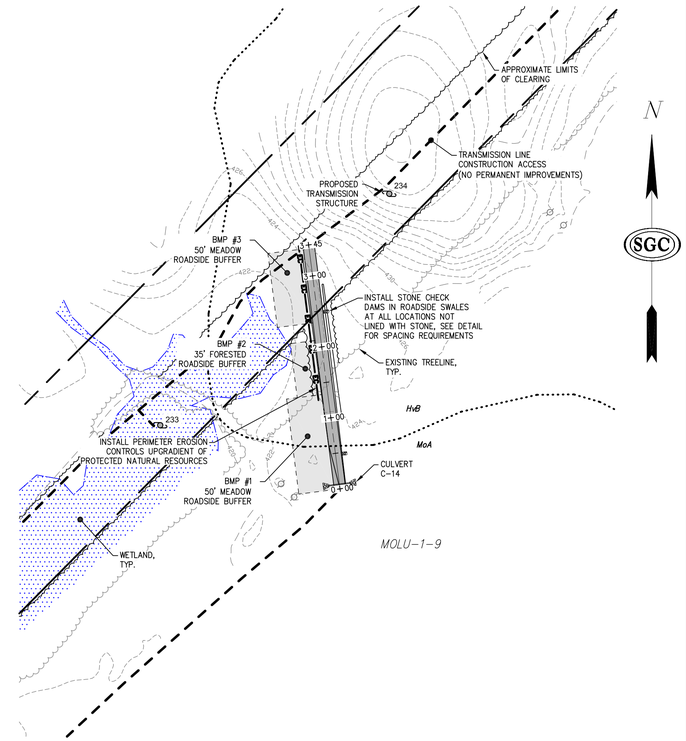
PLAN SCALE: 1"=100'

ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	RIGHT



ROAD AR-224-225 STA. 0+00 TO END

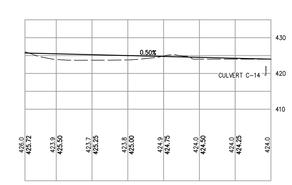
PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'



ROAD AR-233-234 STA. 0+00 TO END

PLAN SCALE: 1"=100'

ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	LEFT



ROAD AR-233-234 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

100 50 0 100
GRAPHIC SCALE: FEET

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. PORELL No. 11829 LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
Corporate Headquarters: 30 Penn Plaza, Suite 300, Boston, Massachusetts 02123 Tel: 617-426-0151 Fax: 800-660-7176
Washington Office: 2000 L Street, NW, Suite 550, Washington, DC 20036 Tel: 202-466-2011 Fax: 202-466-2021

SGC Project:	Date:	Scale:	Drawn:	Design:	Appd:
657003	05-25-2011	1"=100'	NRP	NRP	JMR

Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROADS AR-196-197, AR-224-225, AR-233-234

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

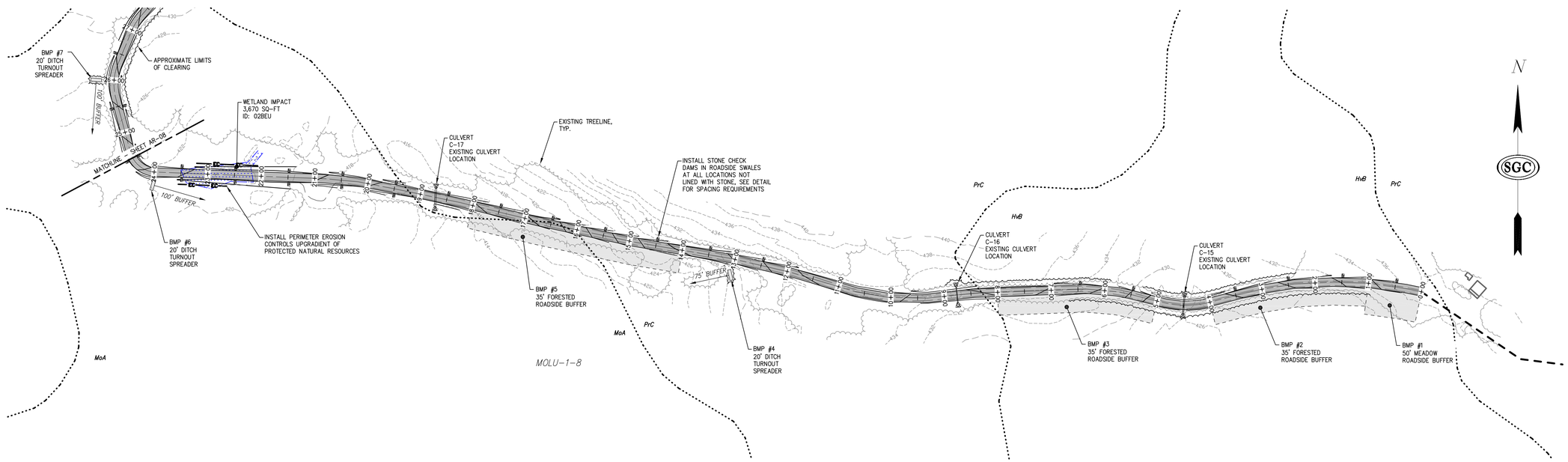
Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind. CLEAN ENERGY. MADE HERE.

The information contained herein is strictly confidential and is the property of the project owner.

DWG. AR-06

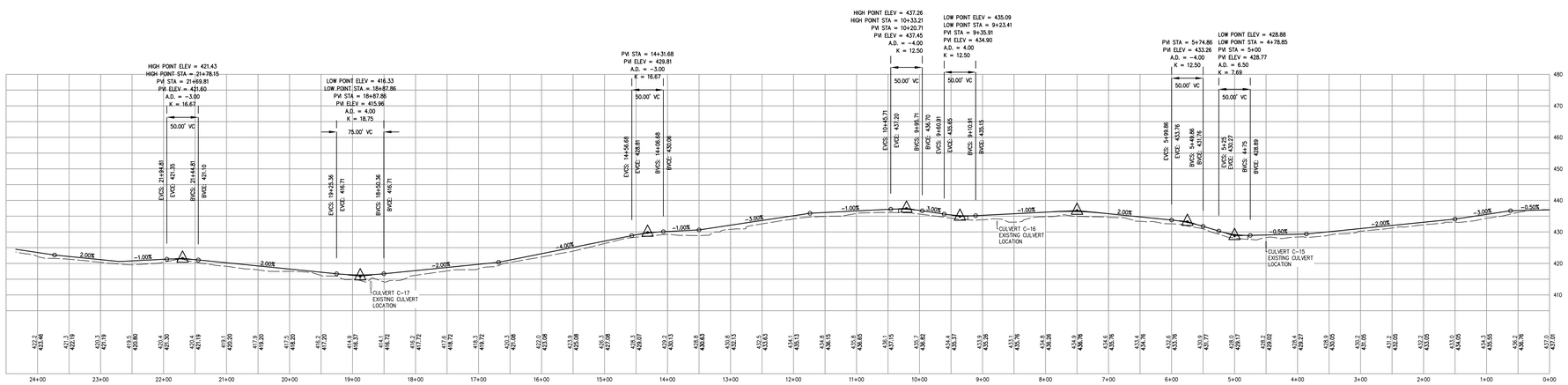
SHEET 07 of 27



ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	28+00	LEFT
28+00	34+50	RIGHT
34+50	END	LEFT

ROAD AR-240-241 STA. 0+00 TO 24+00

PLAN SCALE: 1"=100'



ROAD AR-240-241 STA. 0+00 TO 24+00

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

100 50 0 100
GRAPHIC SCALE: FEET

MAINE DEP PERMIT SUBMISSION
VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE
NICHOLAS R. PORELL
No. 11829
LICENSED
PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
Wilkes-Barre
801 W. Mallory Ave.
Wilkes-Barre, PA 18705
Tel: 570-408-8800
Fax: 570-408-8801
Boston
20 Guest St., Suite 200
Boston, MA 02135
Tel: 617-746-0077
Fax: 617-746-0033
Bucharest
Str. Grigore Ionescu 1-3
Sector 1, Bucharest, Romania 013653
Tel: 0040-(0)21-232 6127
Fax: 0040-(0)21-232 6128
Toronto
Suite 1400, 1000 de la Gauchetière Ouest
Montreal, Quebec H3B 4W5
Tel: 514-393-1336
Fax: 514-393-1338

SGC Project: 6570003
Date: 05-25-2011
Scale: 1"=100'
Drawn: NRP
Design: NRP
Appr: JMR

Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROAD AR-240-241

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

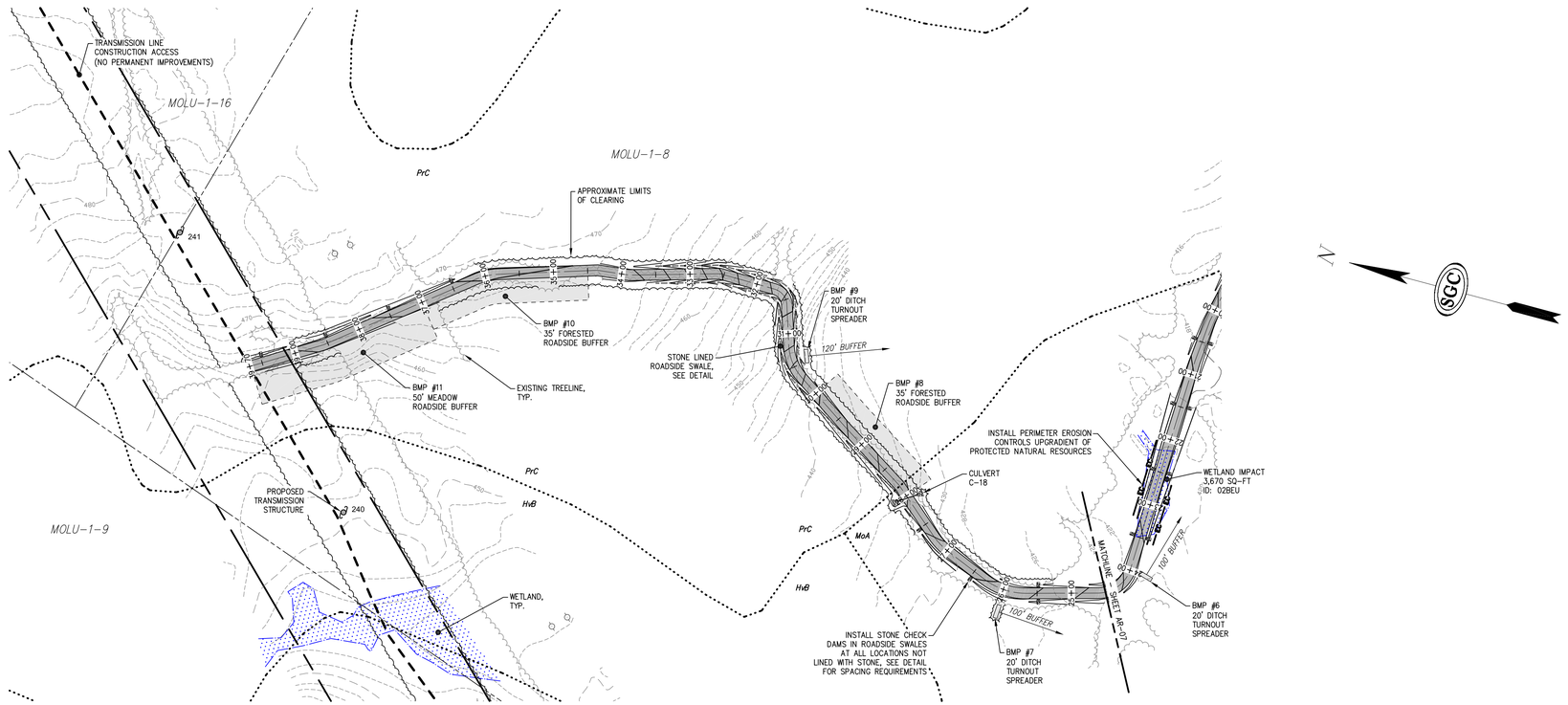
Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind
CLEAN ENERGY. MADE HERE.

The information contained herein is strictly confidential and is the property of the project owner.

DWG. AR-07

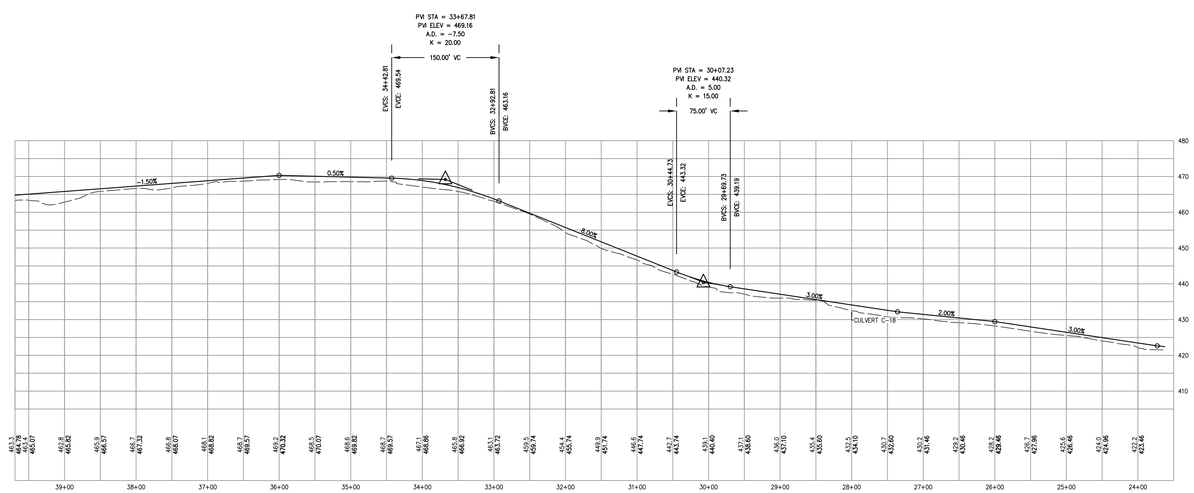
SHEET 08 of 27



ROAD AR-240-241 STA. 24+00 TO END

PLAN SCALE: 1"=100'

ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	28+00	LEFT
28+00	34+50	RIGHT
34+50	END	LEFT



ROAD AR-240-241 STA. 24+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

100 50 0 100
GRAPHIC SCALE: FEET

MAINE DEP PERMIT SUBMISSION
VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. PORELL No. 11829 LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
Wilkes-Barre 801 Sr. Main Street Wilkes-Barre, PA 18702 Tel: 570-408-4000 Fax: 570-408-4011
Boston 20 Guest Street, Suite 200 Boston, Massachusetts 02135 Tel: 617-746-0200 Fax: 800-960-1715
Calgary 801-6th Ave. SW Calgary, Alberta T2P 3W2 Tel: 403-543-6500 Fax: 403-543-6501

Drawn: NRP | Design: NRP | Appd: JMR
Scale: 1"=100'
Date: 05-25-2011
SGC Project: 6570003

Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROAD AR-240-241

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

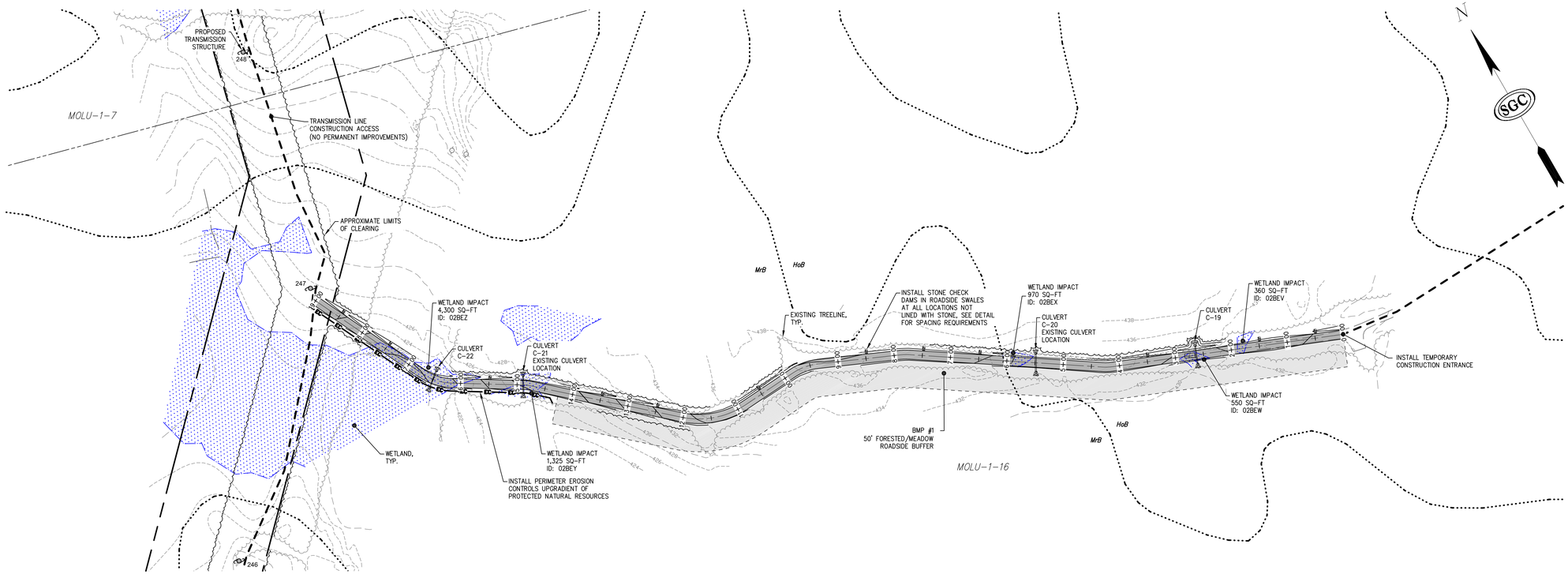
Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind CLEAN ENERGY. MADE HERE.

The information contained herein is strictly confidential and is the property of the project owner.

DWG. AR-08

SHEET 09 of 27

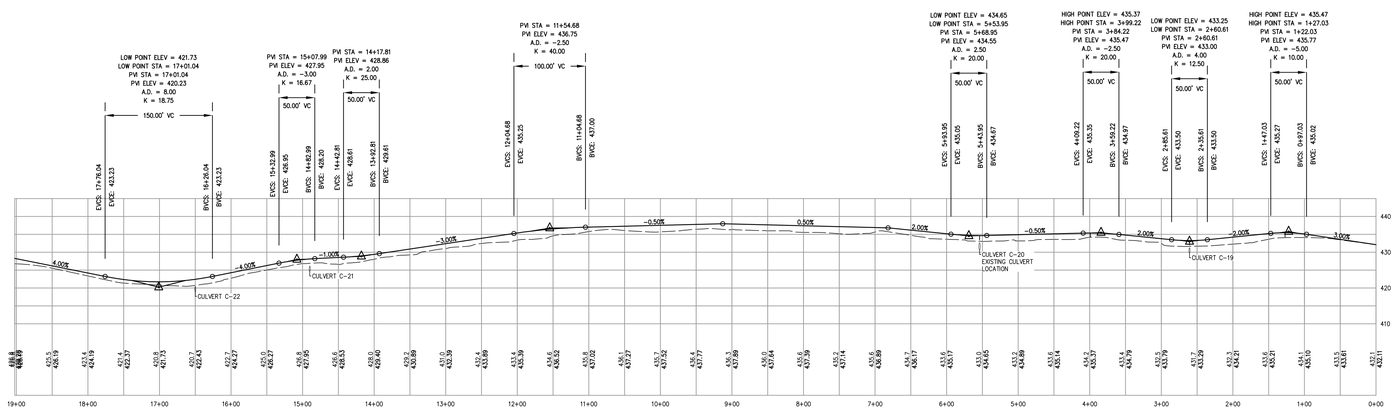


ROADWAY SUPERELEVATION TABLE

BEGIN STATION	END STATION	DIRECTION
0+00	END	LEFT

ROAD AR-246-247 STA. 0+00 TO END

PLAN SCALE: 1"=100'



ROAD AR-246-247 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

MAINE DEP PERMIT SUBMISSION
VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.

100 50 0 100
GRAPHIC SCALE: FEET

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. PORELL No. 11829 LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
30 Cross Mall Drive, Suite 200 Bedford, Nova Scotia Canada B4A 2C9 Tel: 902-835-8300 Fax: 902-835-8311
20 Corte Del Nogal, Suite 100 Santa Barbara, California USA 93108 Tel: 207-846-0211 Fax: 207-846-0201
Winnipeg, Manitoba Canada R3C 1V7 Tel: 204-243-4101

SGC Project: 657003
Date: 05-25-2011
Scale: 1"=100'
Drawn: NRP
Design: NRP
Appd: JMR

Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROAD AR-246-247

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

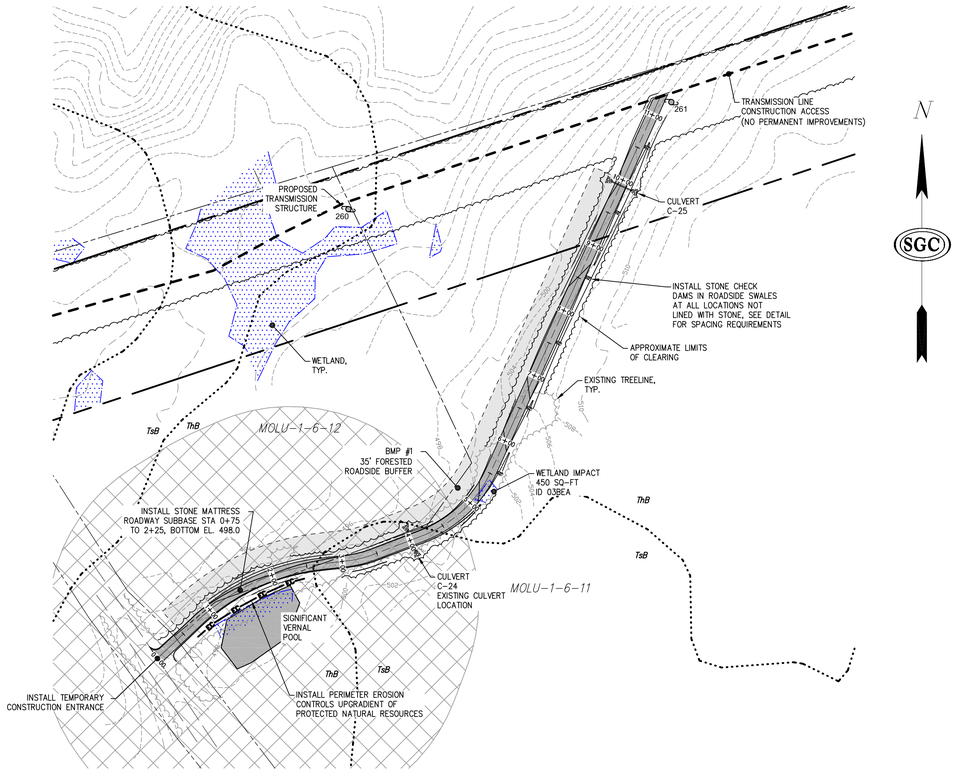
Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind CLEAN ENERGY MADE HERE.

The information contained herein is strictly confidential and is the property of the project owner.

DWG. AR-09

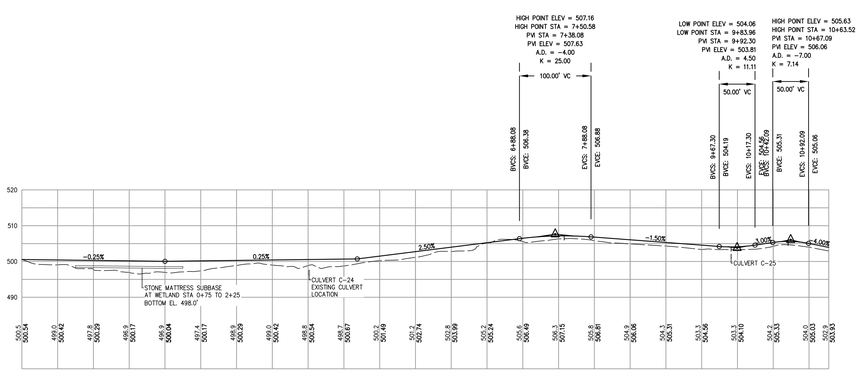
SHEET 10 of 27



ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	LEFT

ROAD AR-260-261 STA. 0+00 TO END

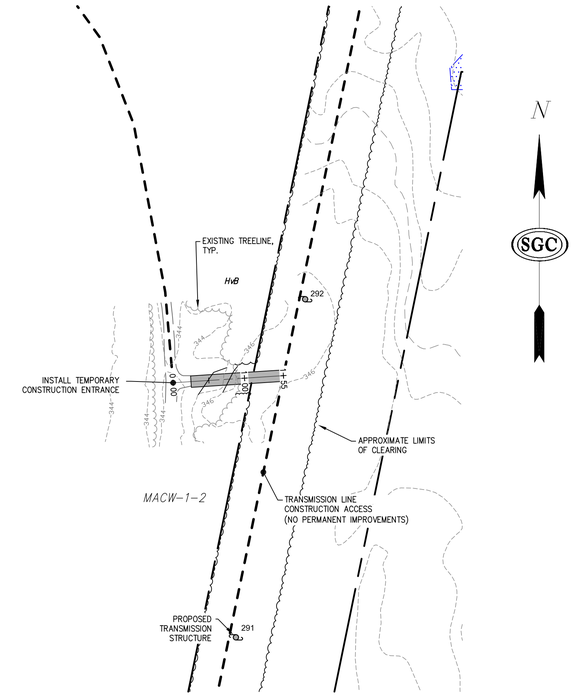
PLAN SCALE: 1"=100'



ROAD AR-260-261 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

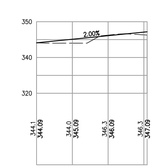
MAINE DEP PERMIT SUBMISSION
VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.



ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	RIGHT

ROAD AR-291-292 STA. 0+00 TO END

PLAN SCALE: 1"=100'



ROAD AR-291-292 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

100 50 0 100
GRAPHIC SCALE: FEET

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. PORELL No. 11829 LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
Corporate Headquarters: 30 Corporate Drive, Suite 300, Burlington, Massachusetts 01803 Tel: 781-270-0400 Fax: 800-660-0115
Washington Office: 2000 L Street, NW, Suite 550, Washington, DC 20036 Tel: 202-466-2011 Fax: 202-466-2021

SGC Project: 657003
Date: 05-25-2011
Scale: 1"=100'
Drawn: NRP
Design: NRP
Appr: JMR

Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROADS AR-260-261, AR-291-292

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

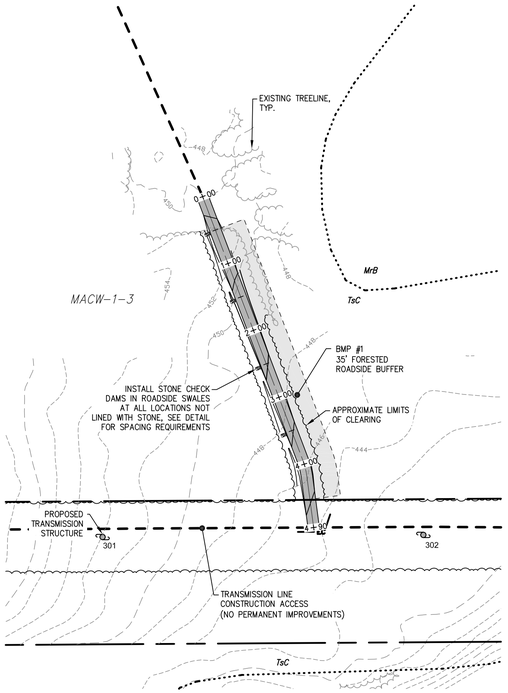
Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind. CLEAN ENERGY. MADE HERE.

The information contained herein is strictly confidential and is the property of the project owner.

DWG. AR-10

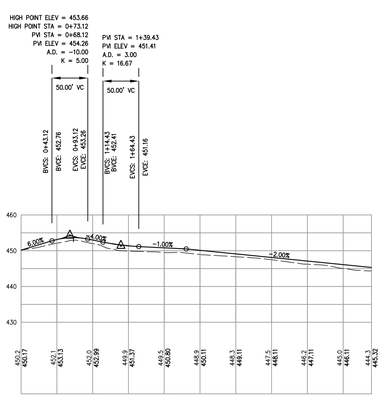
SHEET 11 of 27



ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	LEFT

ROAD AR-301-302 STA. 0+00 TO END

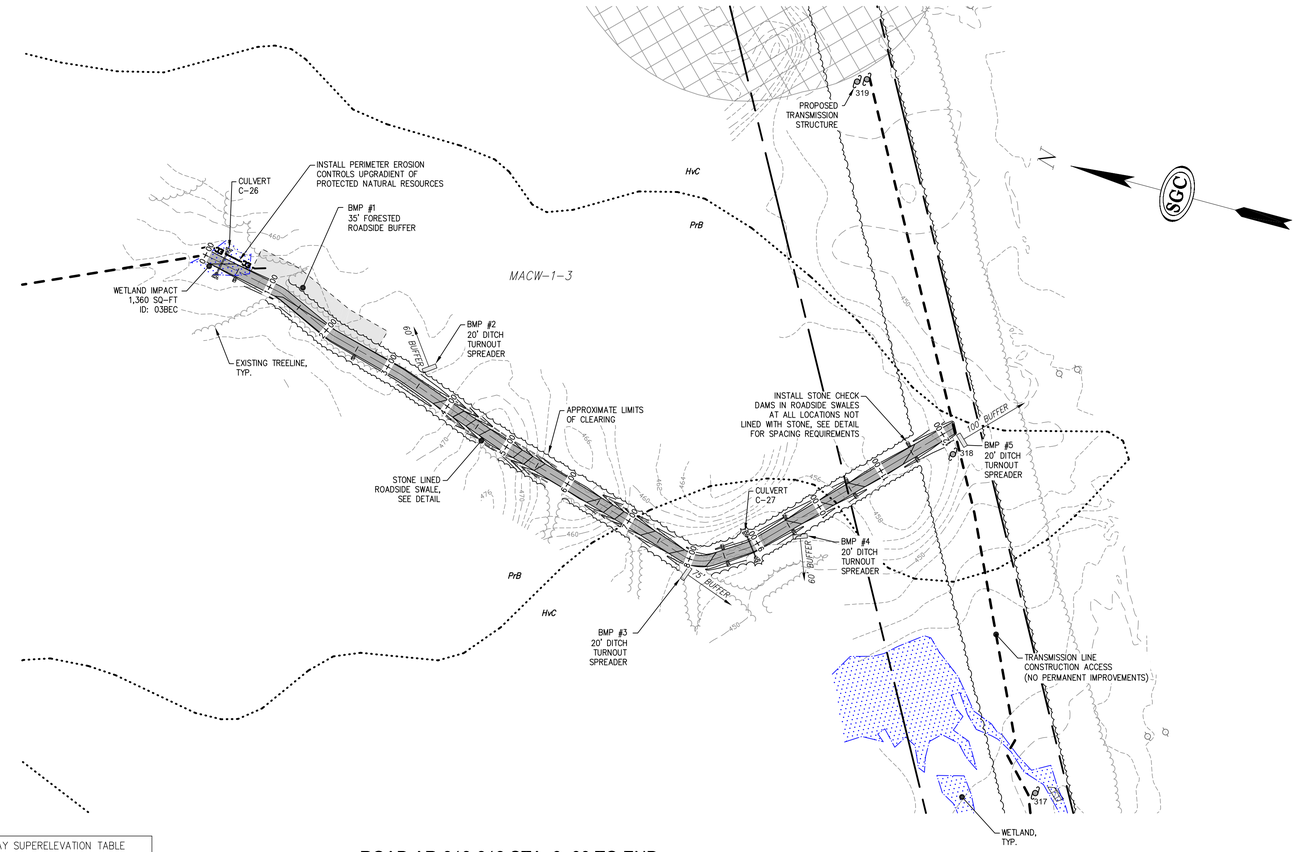
PLAN SCALE: 1"=100'



ROAD AR-301-302 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

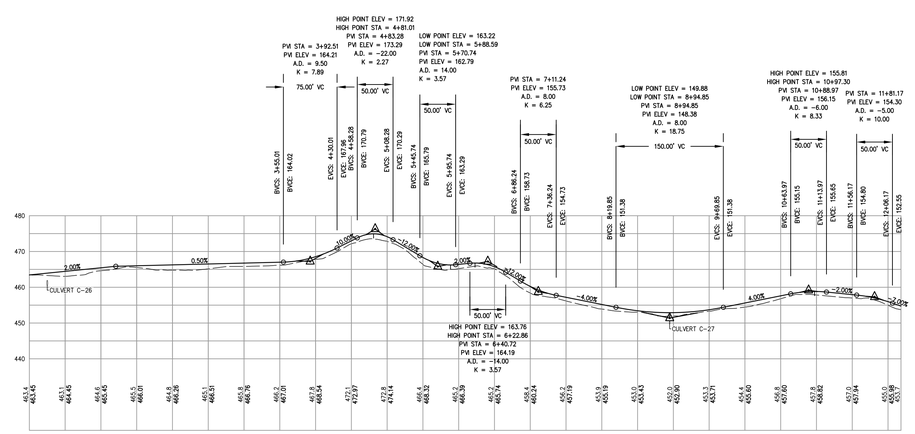
MAINE DEP PERMIT SUBMISSION
VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.



ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	4+81	LEFT
4+81	END	RIGHT

ROAD AR-318-319 STA. 0+00 TO END

PLAN SCALE: 1"=100'



ROAD AR-318-319 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

100 50 0 100
GRAPHIC SCALE: FEET

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. PORELL No. 11829 LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
Corporate Headquarters
20 Corporate Circle, Suite 200
Westborough, MA 01581-1921
Tel: 508-366-0400
Fax: 508-366-0401
Boston Branch Office
20 Guest Street, Suite 200
Boston, MA 02135-2040
Tel: 617-562-0000
Fax: 800-660-1715

SGC Project: 657003
Date: 05-25-2011
Scale: 1"=100'
Drawn: NRP
Design: NRP
Appd: JMR

Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROADS AR-301-302, AR-318-319

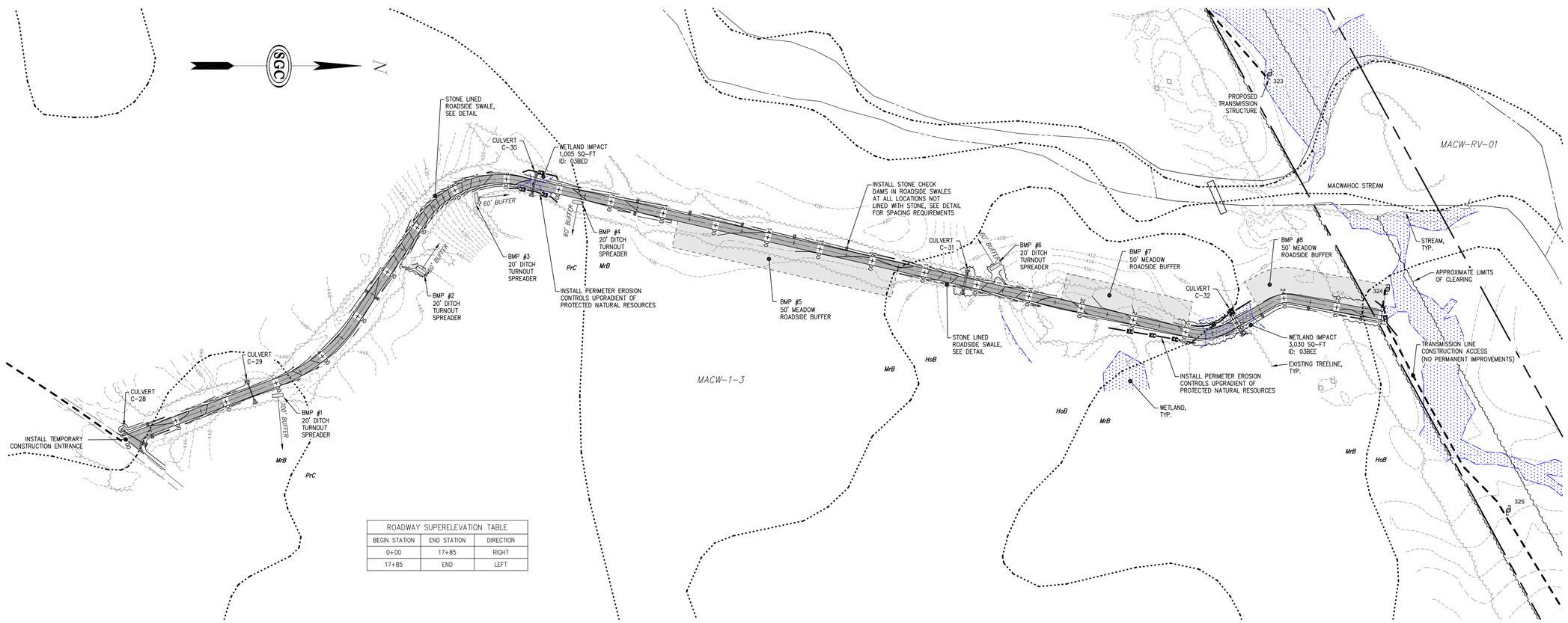
Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind. CLEAN ENERGY. MADE HERE.

The information contained herein is strictly confidential and is the property of the project owner.

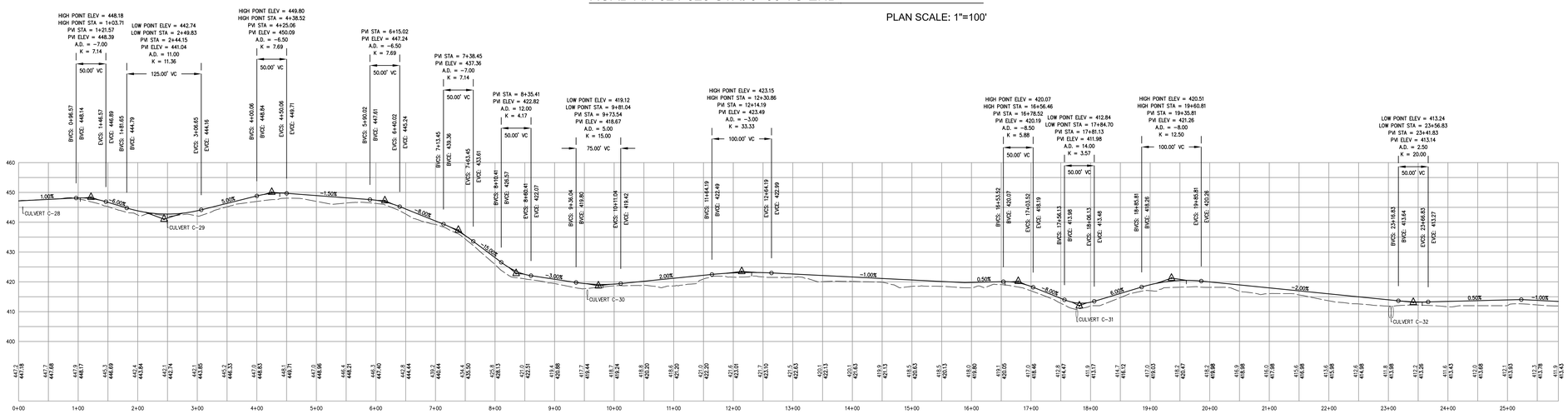
DWG. AR-11
SHEET 12 of 27



ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	17+85	RIGHT
17+85	END	LEFT

ROAD AR-324-325 STA. 0+00 TO END

PLAN SCALE: 1"=100'



ROAD AR-324-325 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

100 50 0 100
GRAPHIC SCALE: FEET

MAINE DEP PERMIT SUBMISSION
VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. PORELL No. 11829 LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
801-B Gleneagles Court
Williamsburg, Virginia 23188
Tel: 757-565-1677
Fax: 800-860-1715
20 Carter Drive, Suite 200
Guilford, Connecticut 06437
Tel: 203-458-5211
Fax: 203-453-4315

Date: 05-25-2011
Scale: 1"=100'
Drawn: NRP
Design: NRP
Appd: JMR
SGC Project: 657003

Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROAD AR-324-325

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

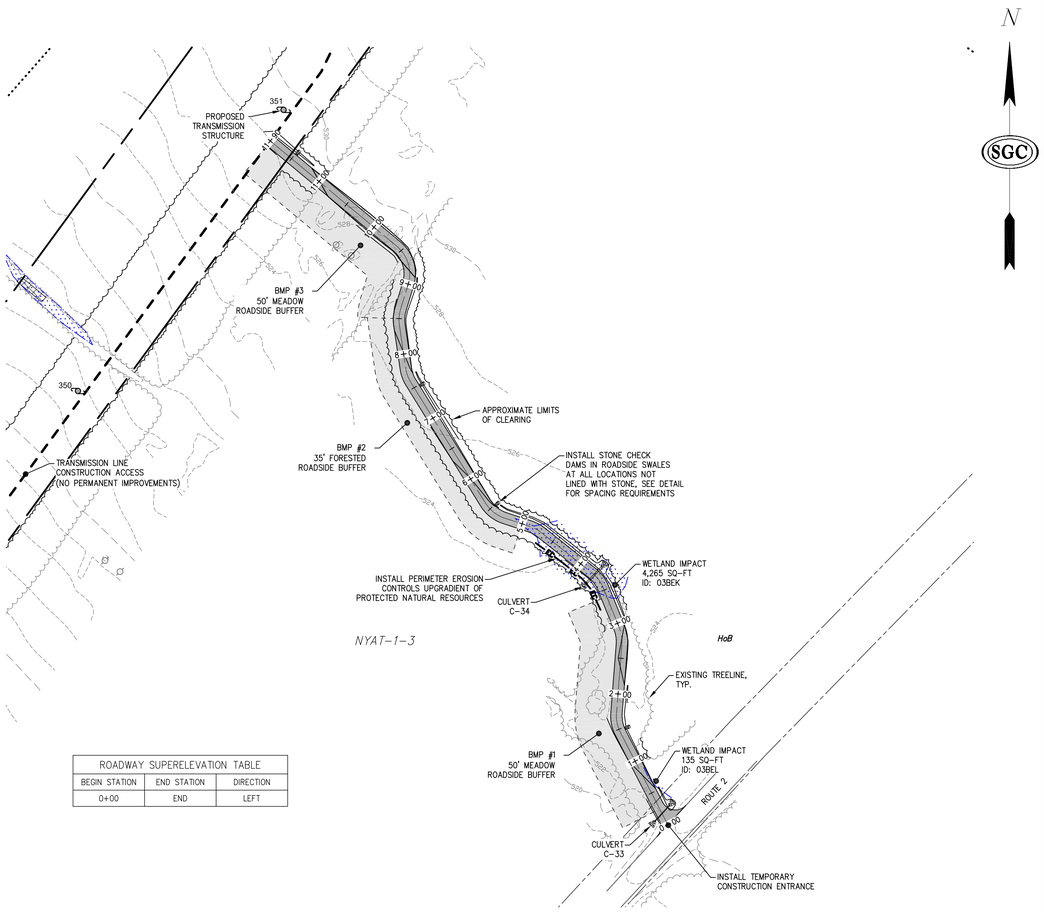
Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind. CLEAN ENERGY. MADE HERE.

The information contained herein is strictly confidential and is the sole property of the project owner.

DWG. AR-12

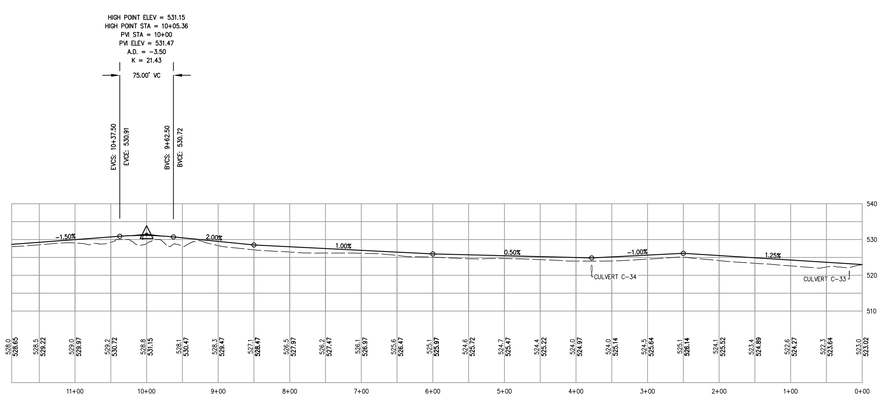
SHEET 13 of 27



ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	LEFT

ROAD AR-350-351 STA. 0+00 TO END

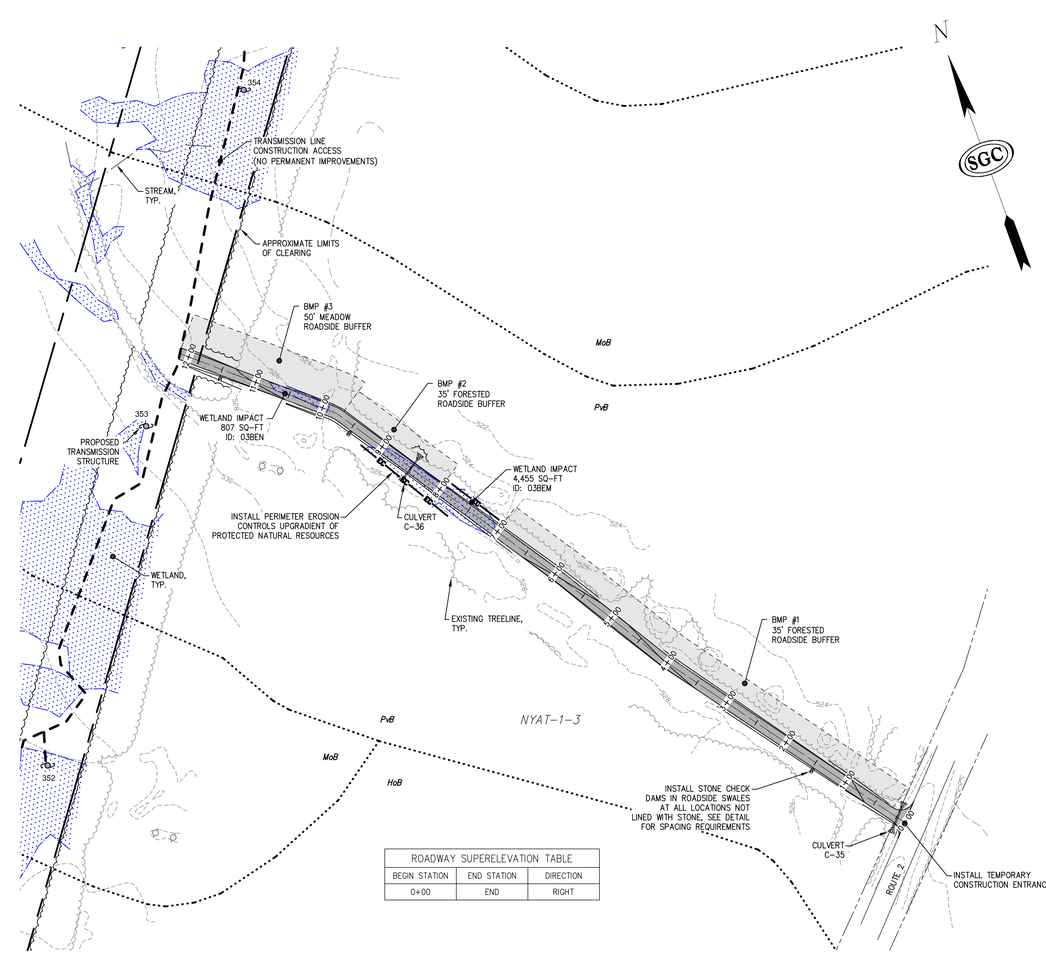
PLAN SCALE: 1"=100'



ROAD AR-350-351 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

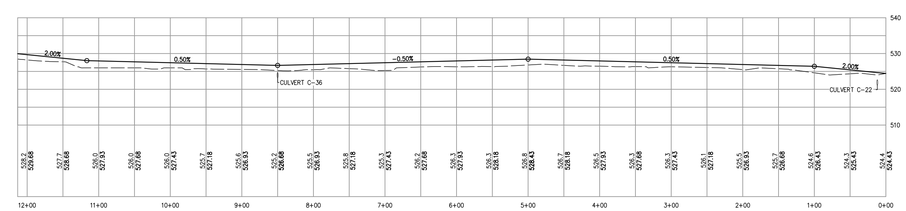
MAINE DEP PERMIT SUBMISSION
VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.



ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	RIGHT

ROAD AR-353-354 STA. 0+00 TO END

PLAN SCALE: 1"=100'



ROAD AR-353-354 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

100 50 0 100
GRAPHIC SCALE: FEET

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. PORELL No. 11829 PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
801 W. Main Road
Middletown, RI 02842
Tel: 401-846-6011
Fax: 401-846-6101
20 Carter Drive, Suite 200
Guilford, CT 06437
Tel: 203-458-5211
Fax: 203-453-4101
South Burlington, Vermont 05403
Tel: 802-863-1500
Fax: 802-863-1776

SGC Project:	Date:	Scale:	Drawn:	Design:	Appd:
657003	05-25-2011	1"=100'	NRP	NRP	JMR

Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROADS AR-350-351, AR-353-354

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind. CLEAN ENERGY MADE HERE.

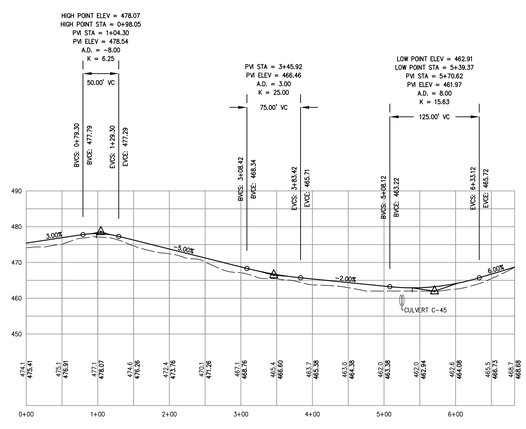
The information contained herein is strictly confidential and is the sole property of the project owner.

DWG.	SHEET
AR-13	14 of 27

ROAD AR-388-389 STA. 0+00 TO END

PLAN SCALE: 1"=100'

ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	RIGHT



ROAD AR-388-389 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

100 50 0 100
GRAPHIC SCALE: FEET

MAINE DEP PERMIT SUBMISSION
VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. POREL No. 11829 LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
Boston Headquarters
Wellington Office Park
20 Corporate Drive, Suite 200
Burlington, MA 01803
Tel: 781-270-9650
Fax: 781-270-9651
Bangor Office
Suite B-2
Bangor, Maine 04401
Tel: 207-990-0011
Fax: 207-990-0012
Portland Office
Suite 2B
Portland, Maine 04103
Tel: 207-347-4101
Fax: 207-347-4102
www.sgcengineering.com

SGC Project:	Date:	Scale:	Drawn:	Design:	Appr:
657003	05-25-2011	1"=100'	NRP	NRP	JMR

Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROAD AR-388-389

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

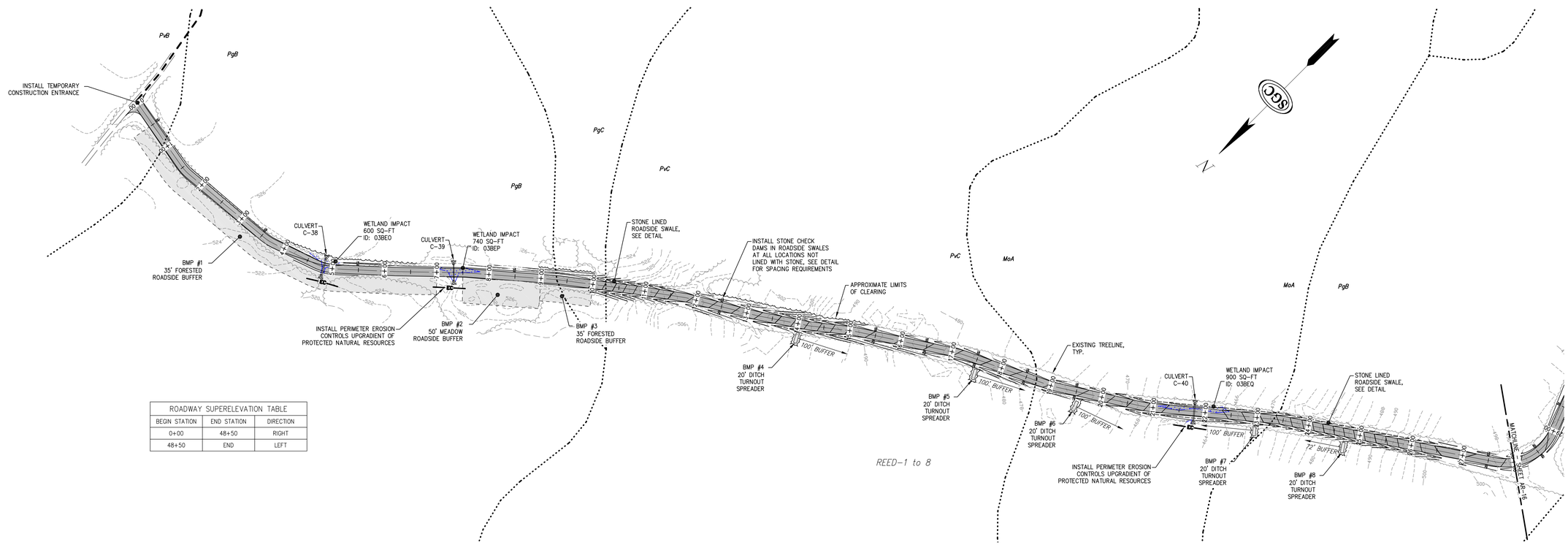
Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind. CLEAN ENERGY. MADE HERE.

The information contained herein is strictly confidential and is the sole property of the project owner.

DWG. AR-14

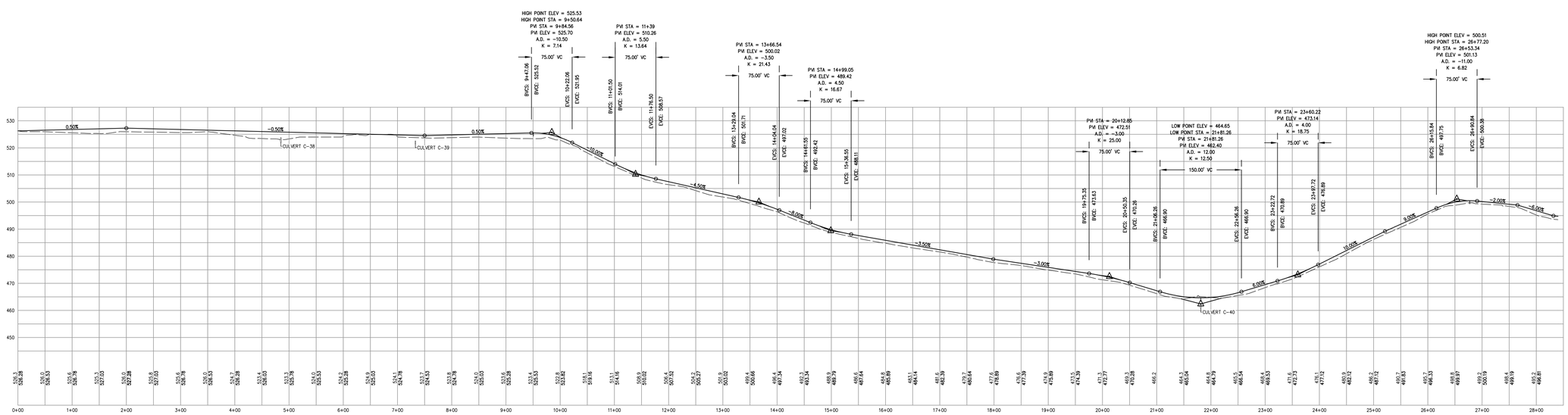
SHEET 15 of 27



ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	48+50	RIGHT
48+50	END	LEFT

ROAD AR-386-387 STA. 0+00 TO 28+00

PLAN SCALE: 1"=100'



ROAD AR-386-387 STA. 0+00 TO 28+00

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

MAINE DEP PERMIT SUBMISSION
VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.

100 50 0 100
GRAPHIC SCALE: FEET

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. PORELL No. 11829 LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
801-C Walker Road
Windsor, Nova Scotia B6L 2X1
Tel: 902-798-9500
Fax: 902-798-9501
20 Carter Drive, Suite 200
Guelph, Ontario N1G 0W7
Tel: 519-836-6311
Fax: 519-836-5285
8000 Jane Street
Suite 300
Vaughan, Ontario L4K 2S3
Tel: 905-660-0808
Fax: 905-660-0778

SGC Project: 6570003
Date: 05-25-2011
Scale: 1"=100'
Drawn: NRP
Design: NRP
Appd: JMR

Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROAD AR-386-387

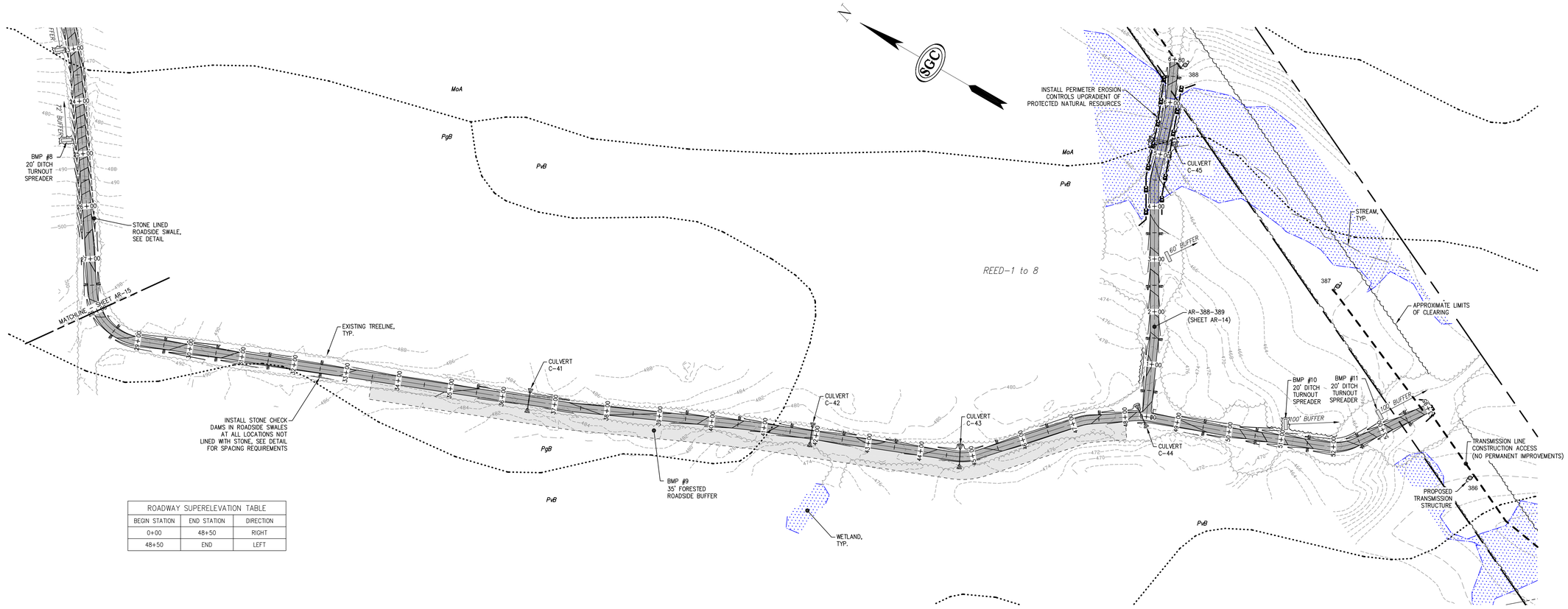
Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind CLEAN ENERGY. MADE HERE.

The information contained herein is strictly confidential and is the property of the project owner.

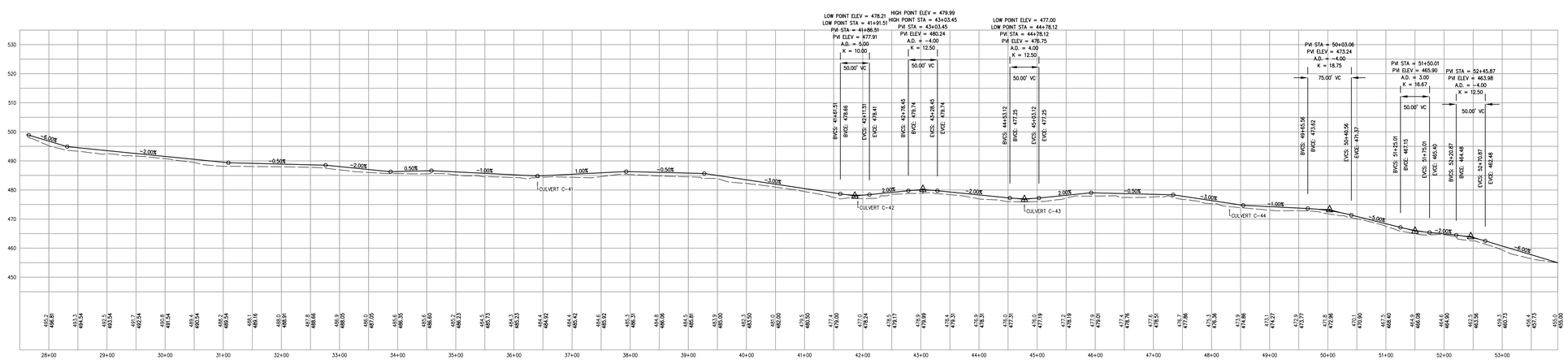
DWG. AR-15
SHEET 16 of 27



ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	48+50	RIGHT
48+50	END	LEFT

ROAD AR-386-387 STA. 28+00 TO END

PLAN SCALE: 1"=100'



ROAD AR-386-387 STA. 28+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

GRAPHIC SCALE: FEET

MAINE DEP PERMIT SUBMISSION

VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. PORELL No. 11829 LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
Maine Office: 80 Exchange Street, Suite 2 Waterville, Maine 04901 Tel: 207-859-1600 Fax: 207-859-1601
Massachusetts Office: 25 Green Pond Road, Suite 2-3 Rockaway, New Jersey 07866 Tel: 201-586-0211 Fax: 201-586-0213
South Carolina Office: 2 Wando Park Blvd. Mount Pleasant, South Carolina 29464 Tel: 843-849-0011 Fax: 843-849-0019

SGC Project: 6570003
Date: 05-25-2011
Scale: 1"=100'
Drawn: NRP
Design: NRP
Appd: JMR

Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROAD AR-386-387

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

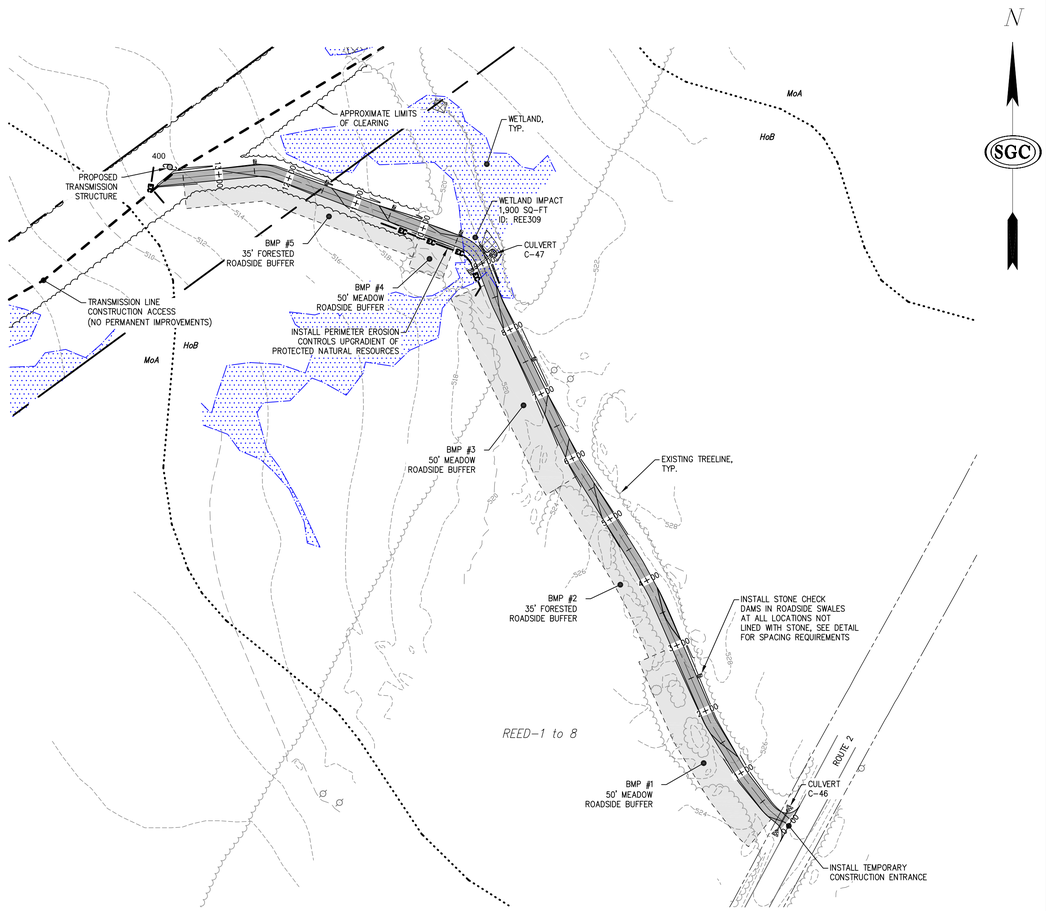
Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind CLEAN ENERGY. MADE HERE.

The information contained herein is strictly confidential and is the property of the project owner.

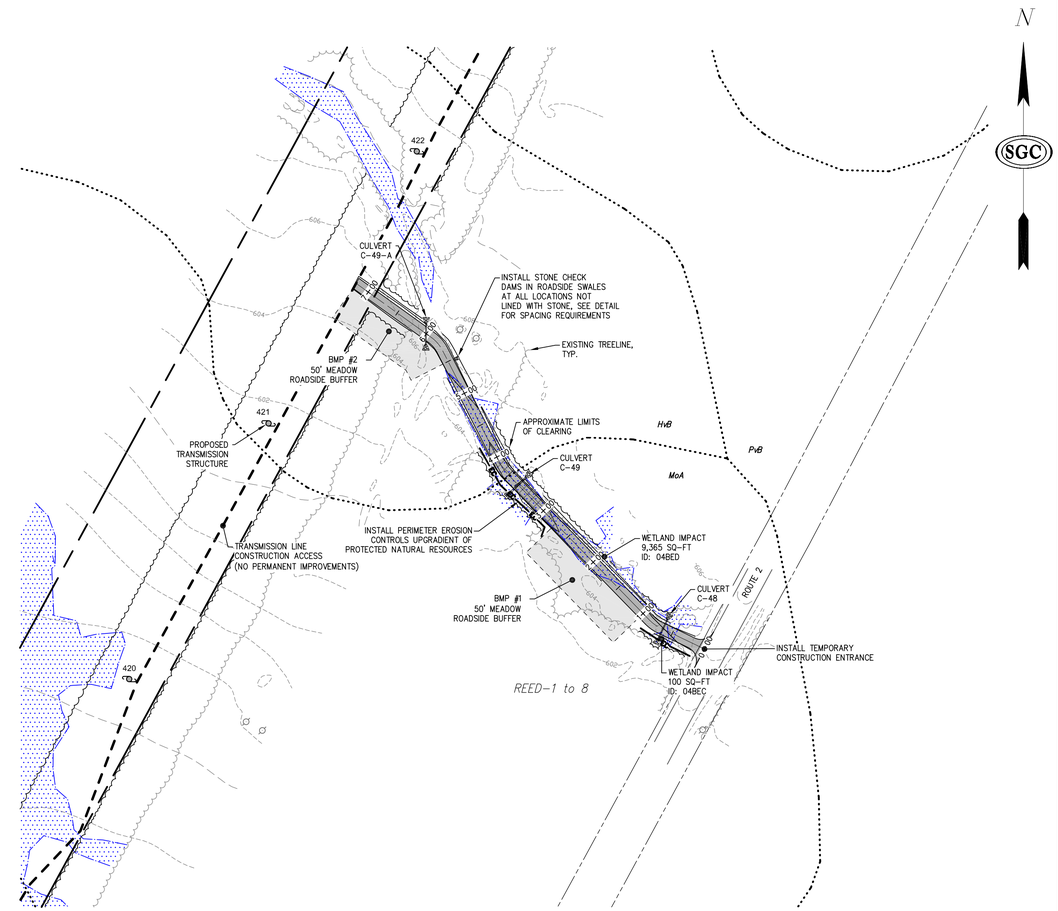
DWG. AR-16

SHEET 17 of 27



ROAD AR-399-400 STA. 0+00 TO END

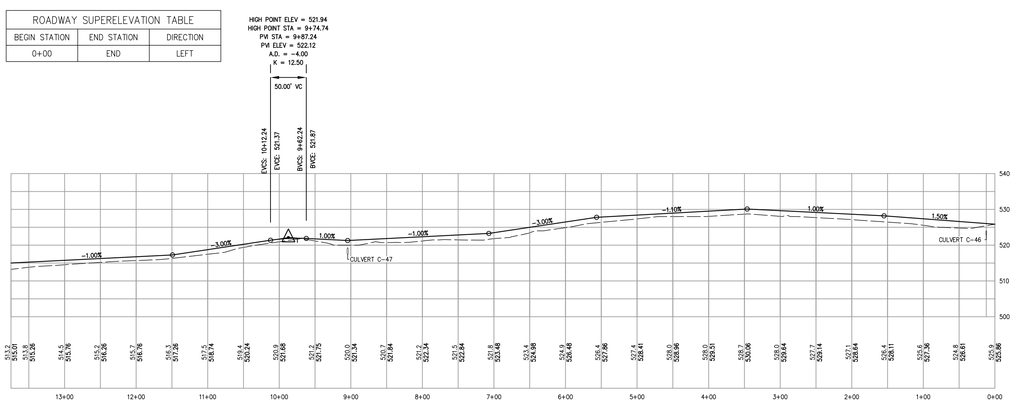
PLAN SCALE: 1"=100'



ROAD AR-421-422 STA. 0+00 TO END

PLAN SCALE: 1"=100'

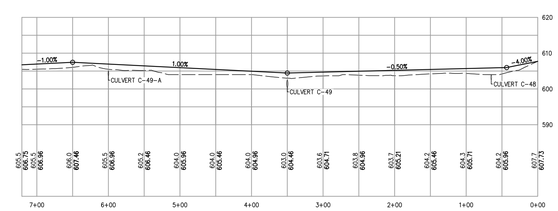
ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	LEFT



ROAD AR-399-400 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	LEFT



ROAD AR-421-422 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

100 50 0 100
GRAPHIC SCALE: FEET

MAINE DEP PERMIT SUBMISSION

VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. PORELL No. 11829 LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
801 Cross Keys Road
Berlin, New Jersey 08009
Tel: 856-768-9002
Fax: 856-768-9003
20 Corporate Circle, Suite 300
South Burlington, Vermont 05403
Tel: 207-846-0211
Fax: 207-846-0231
2 Bridgewater Lane
Lancaster, Pennsylvania 17601
Tel: 717-435-8371
Fax: 717-435-8372

SGC Project: 6570003
Date: 05-25-2011
Scale: 1"=100'
Drawn: NRP
Design: NRP
Appr: JMR

Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROADS AR-399-400, AR-421-422

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

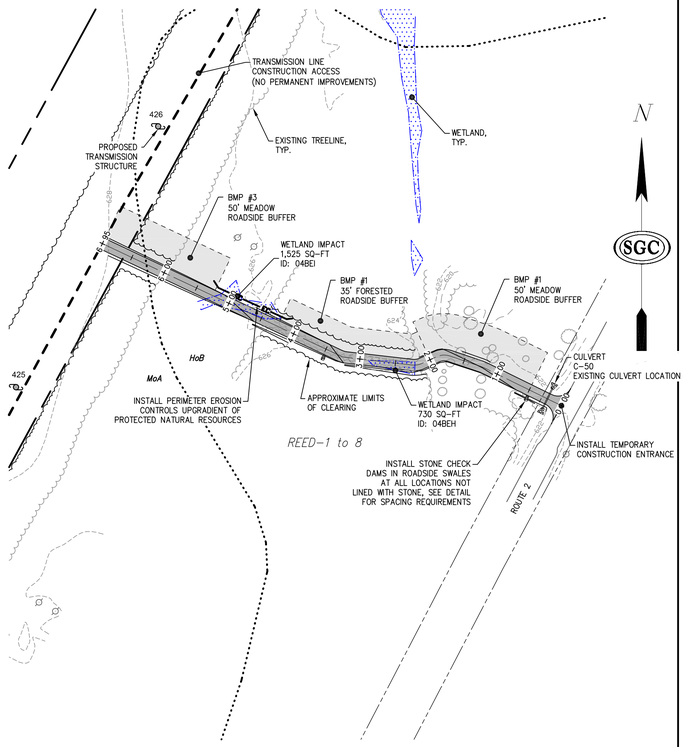
Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind
CLEAN ENERGY. MADE HERE.

The information contained herein is strictly confidential and is the property of the project owner.

DWG. AR-17

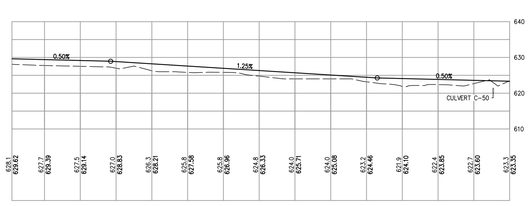
SHEET 18 of 27



ROAD AR-425-426 STA. 0+00 TO END

PLAN SCALE: 1"=100'

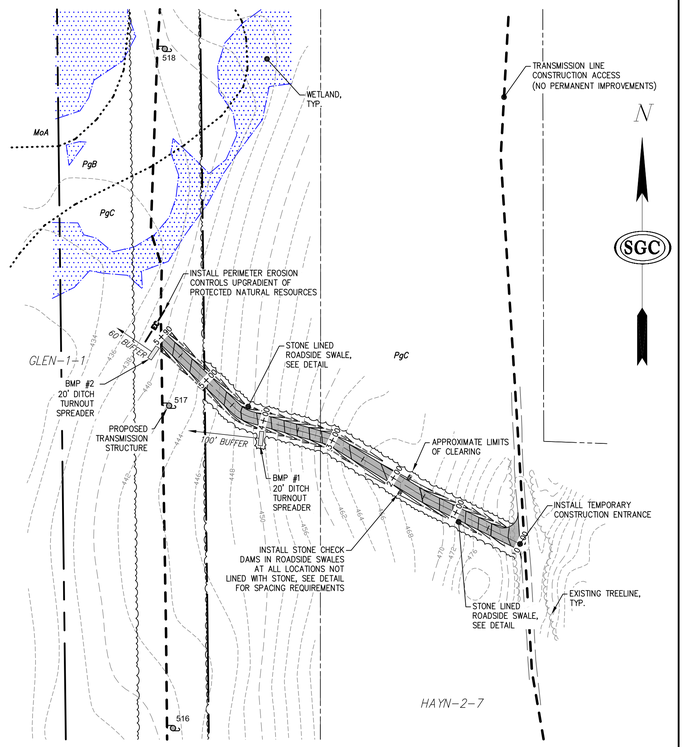
ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	RIGHT



ROAD AR-425-426 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

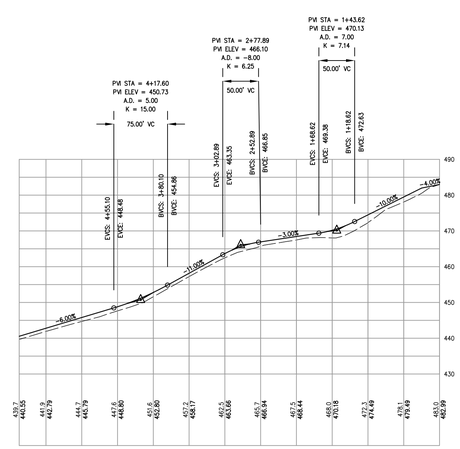
MAINE DEP PERMIT SUBMISSION
VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.



ROAD AR-517-518 STA. 0+00 TO END

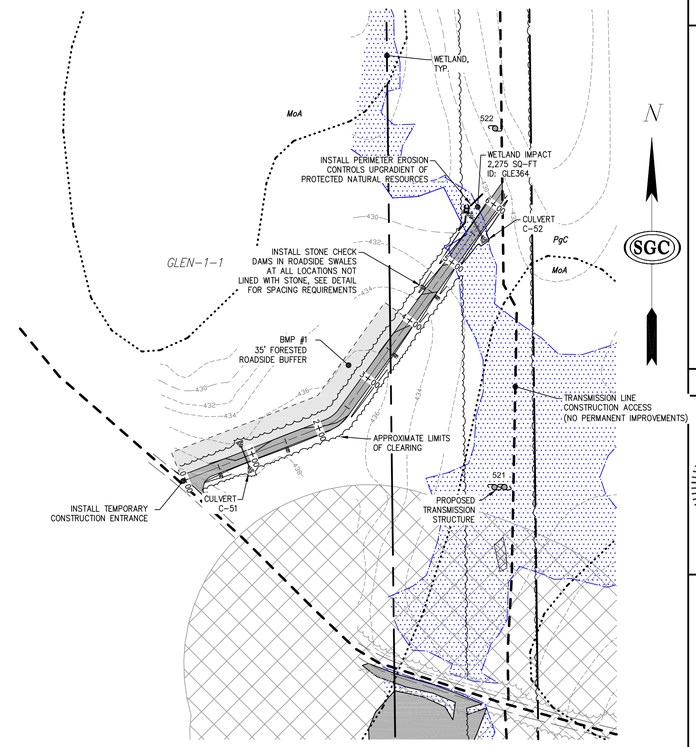
PLAN SCALE: 1"=100'

ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	LEFT



ROAD AR-517-518 STA. 0+00 TO END

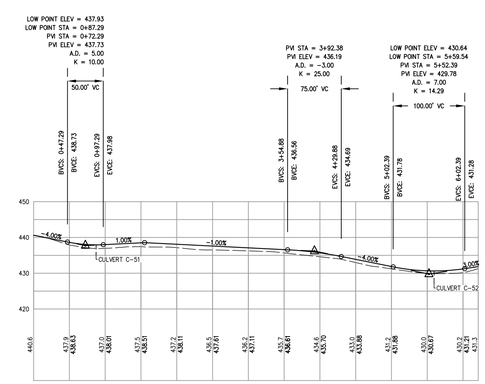
PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'



ROAD AR-521-522 STA. 0+00 TO END

PLAN SCALE: 1"=100'

ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	LEFT



ROAD AR-521-522 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

100 50 0 100
GRAPHIC SCALE: FEET

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. PORELL No. 11829 LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
Corporate Headquarters
20 Carter Drive, Suite 201
Guilford, CT 06437
Tel: 203-458-5211
Fax: 203-453-6101
Boston Metro Area
Woburn, MA 01801
Tel: 781-933-7960
Fax: 781-933-7961
South Eastern New England Office
Bristol, RI 02809
Tel: 401-253-0101
Fax: 800-690-1719

Date: 05-25-2011
Scale: 1"=100'
Drawn: NRP
Design: NRP
Appr: JMR
SGC Project: 657003

Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROADS AR-425-426 AR-517-518, AR-521-522

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

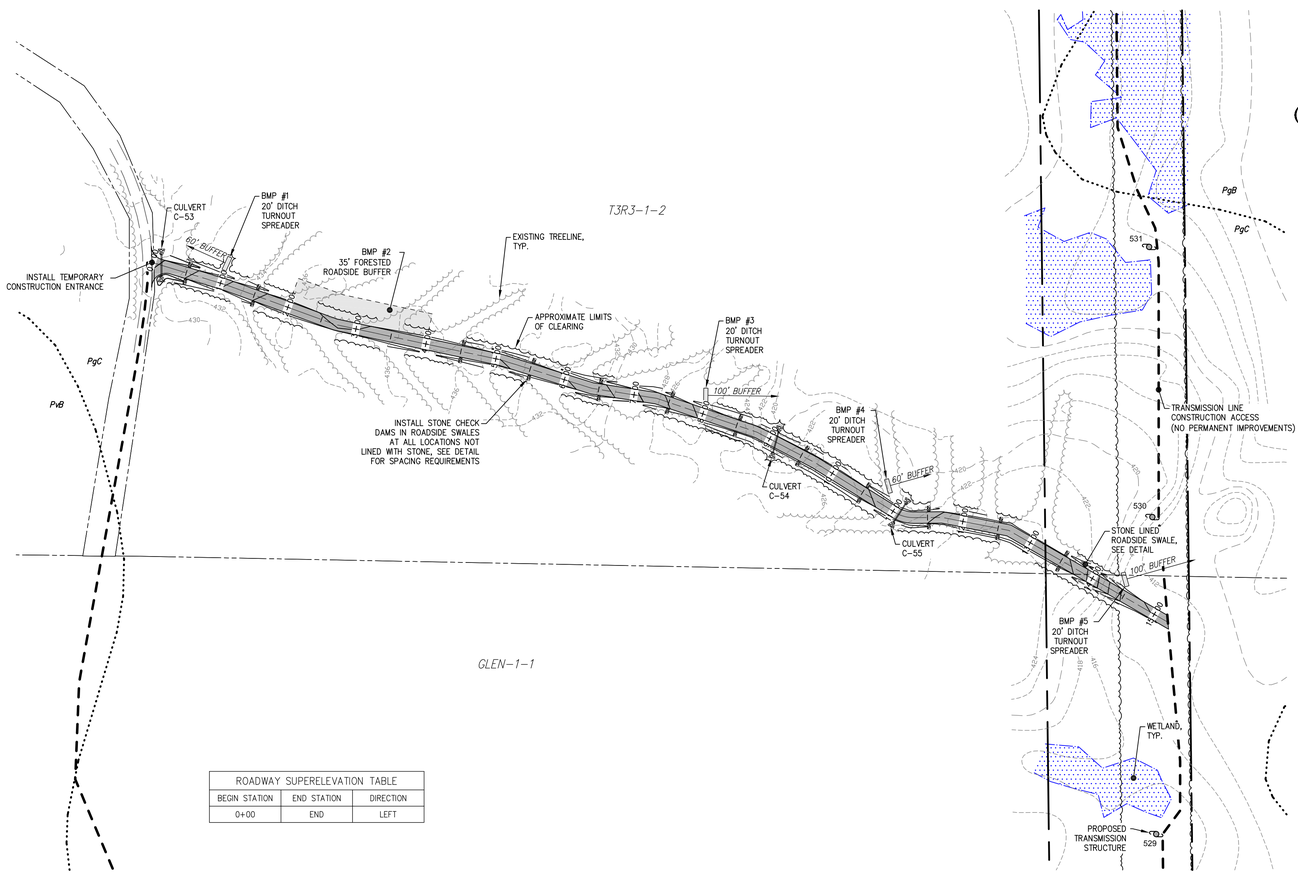
Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind. CLEAN ENERGY MADE HERE.

The information contained herein is strictly confidential and is solely the property of the project owner.

DWG. AR-18

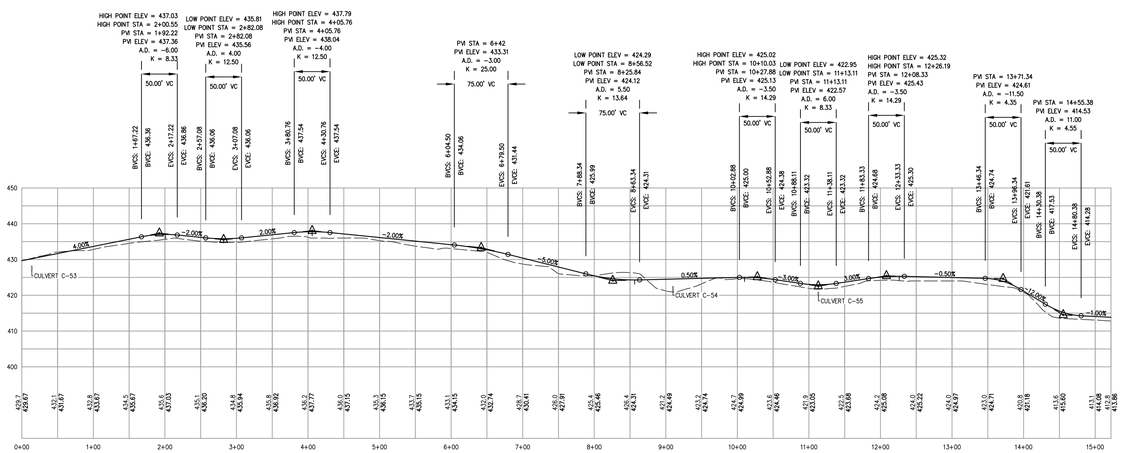
SHEET 19 of 27



ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	LEFT

ROAD AR-529-530 STA. 0+00 TO END

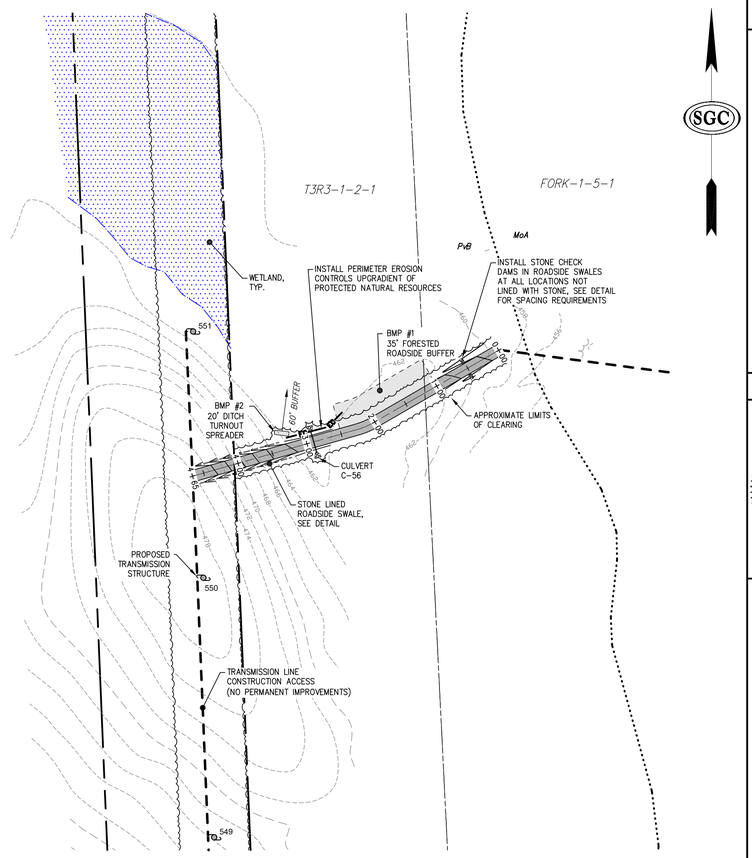
PLAN SCALE: 1"=100'



ROAD AR-529-530 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

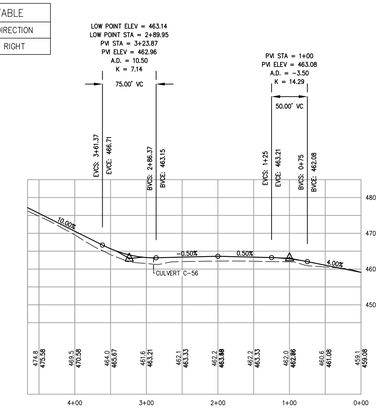
MAINE DEP PERMIT SUBMISSION
VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.



ROAD AR-550-551 STA. 0+00 TO END

PLAN SCALE: 1"=100'

ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	RIGHT



ROAD AR-550-551 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

100 50 0 100
GRAPHIC SCALE: FEET

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. PORELL No. 11829 LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
Portland, Maine 04101 207-828-1272 Fax: 207-828-0011
Bangor, Maine 04401 207-990-3000 Fax: 207-945-0351
Boston, Massachusetts 02210 617-345-0010 Fax: 617-345-0020
Burlington, Vermont 05403 802-735-1860 Fax: 802-862-1776

SGC Project: 6570003 | Date: 05-25-2011 | Scale: 1"=100'

Drawn: NRP | Design: NRP | Appr: JMR

Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROADS AR-529-530, AR-550-551

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

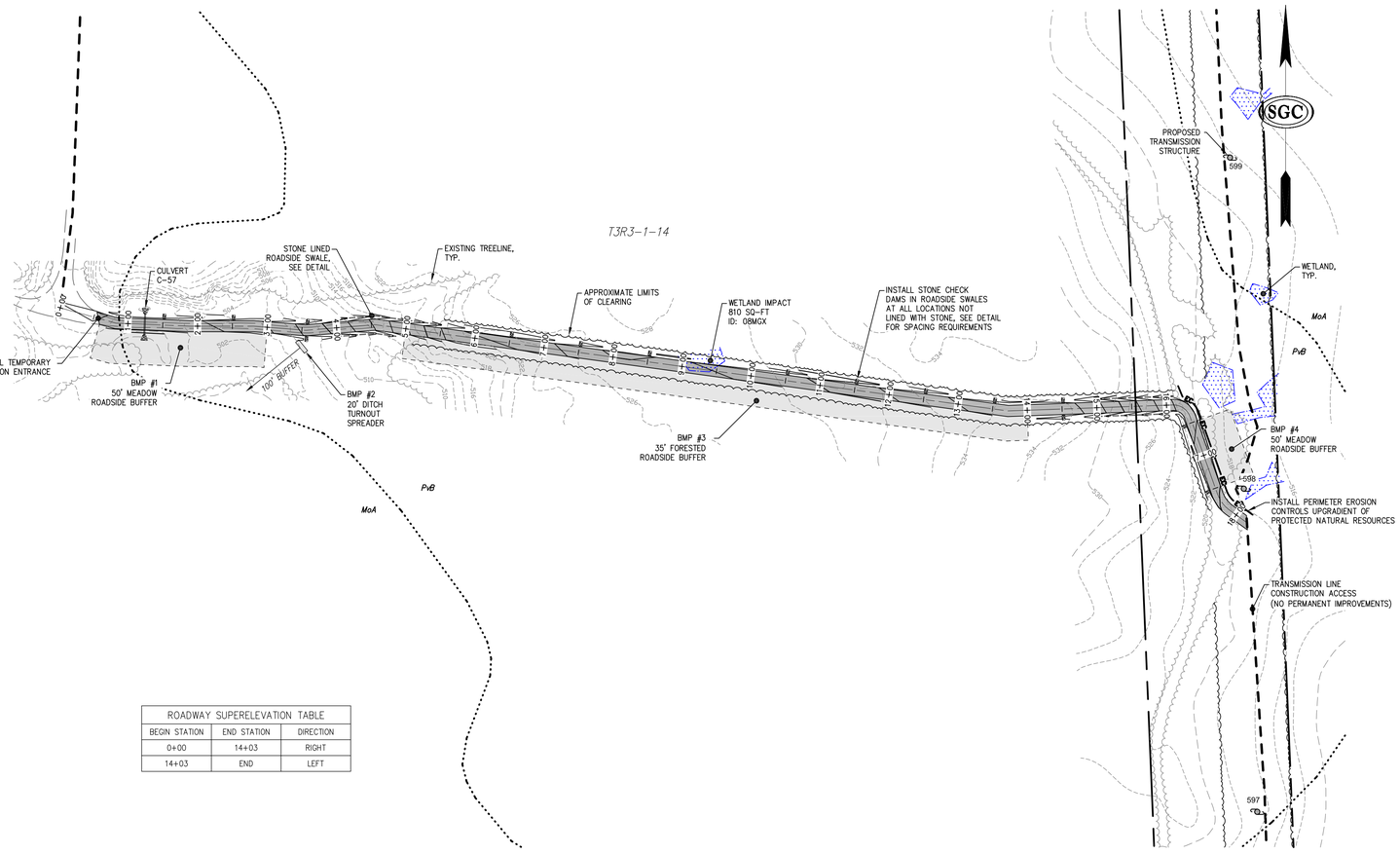
Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind™ CLEAN ENERGY. MADE HERE.

The information contained herein is strictly confidential and is the property of the project owner.

DWG. AR-19

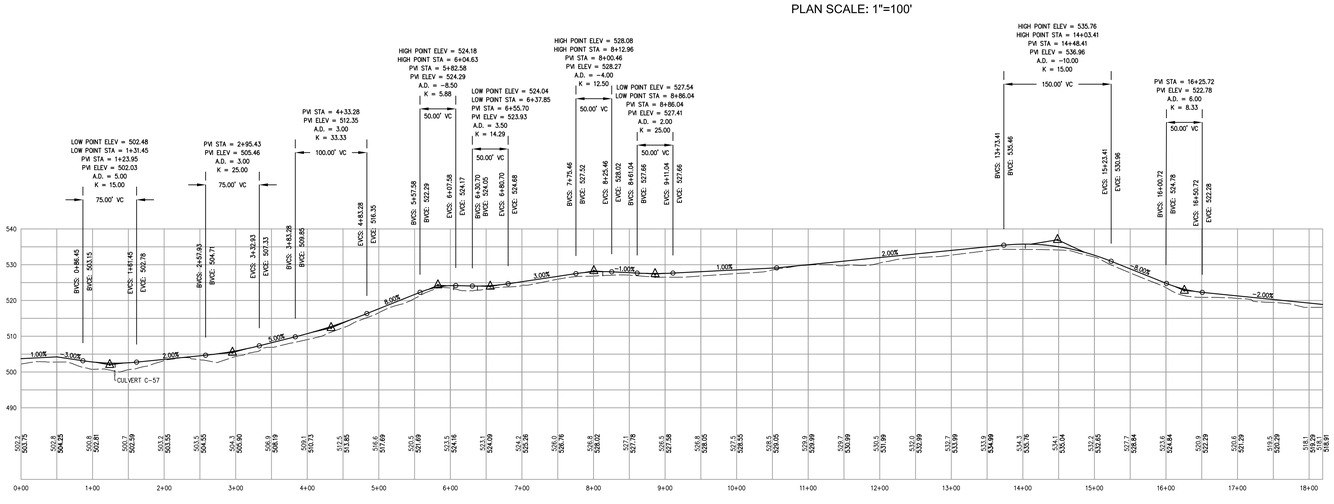
SHEET 20 of 27



ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	14+03	RIGHT
14+03	END	LEFT

ROAD AR-597-598 STA. 0+00 TO END

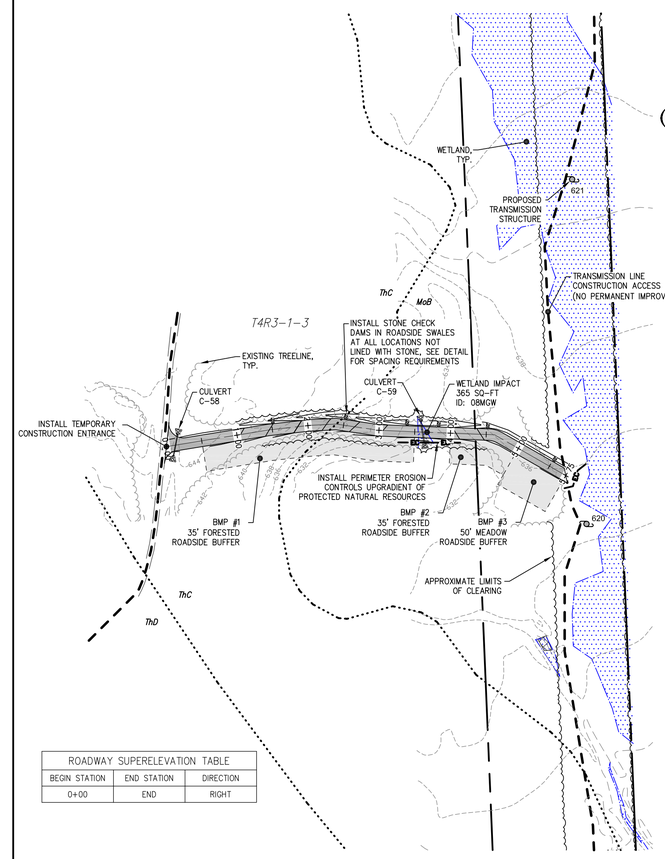
PLAN SCALE: 1"=100'



ROAD AR-597-598 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

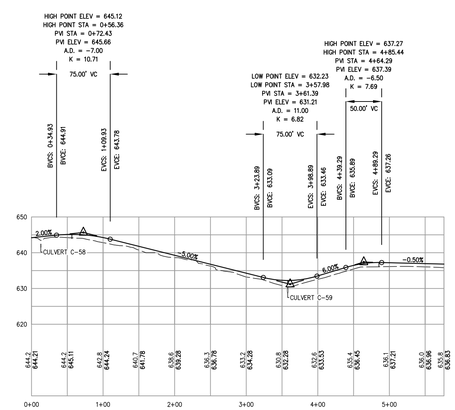
MAINE DEP PERMIT SUBMISSION
VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.



ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	RIGHT

ROAD AR-620-621 STA. 0+00 TO END

PLAN SCALE: 1"=100'



ROAD AR-620-621 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

100 50 0 100
GRAPHIC SCALE: FEET

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. PORELL No. 11829 PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
Portland Office: 80 Hanover Street Suite 8 Portland, Maine 04101 Tel: 207-772-3627 Fax: 207-772-3627
Boston Office: 30 Speen Street, Suite 402 Framingham, MA 01701 Tel: 508-620-1715 Fax: 508-620-1715

SGC Project: 657003 | Date: 05-25-2011 | Scale: 1"=100' | Drawn: NRP | Design: NRP | Appr: JMR

firstwind. CLEAN ENERGY MADE HERE.

The information contained herein is strictly confidential and is the sole property of the project owner.

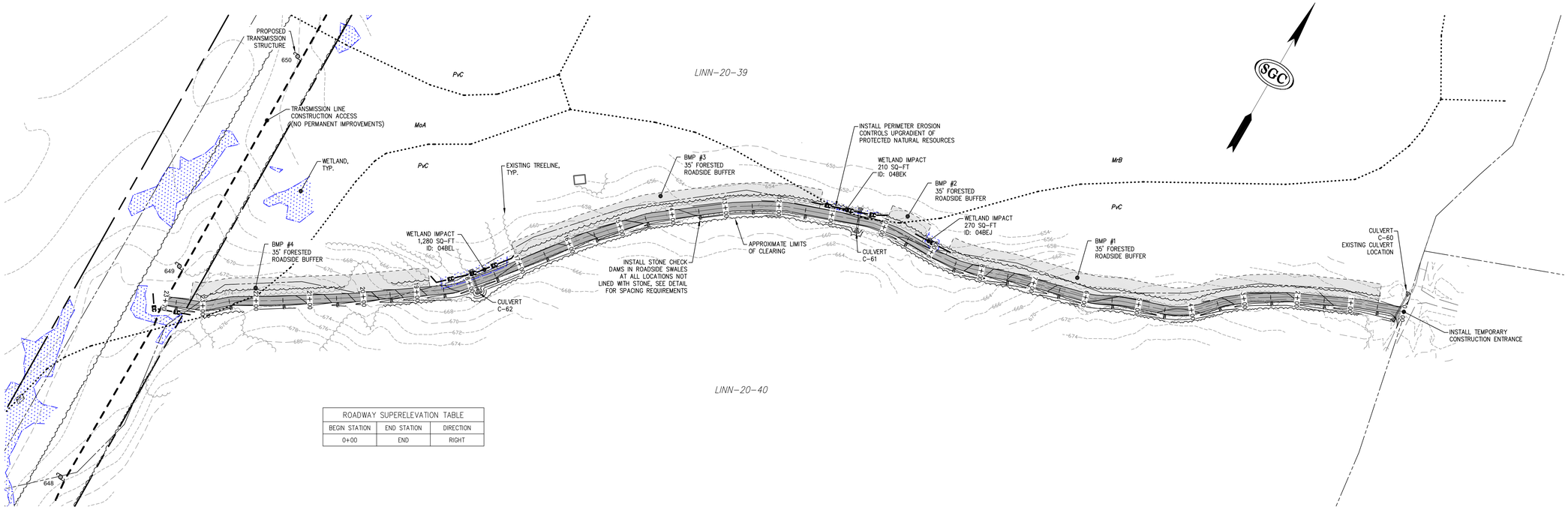
Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROADS AR-597-598, AR-620-621

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

DWG. AR-20

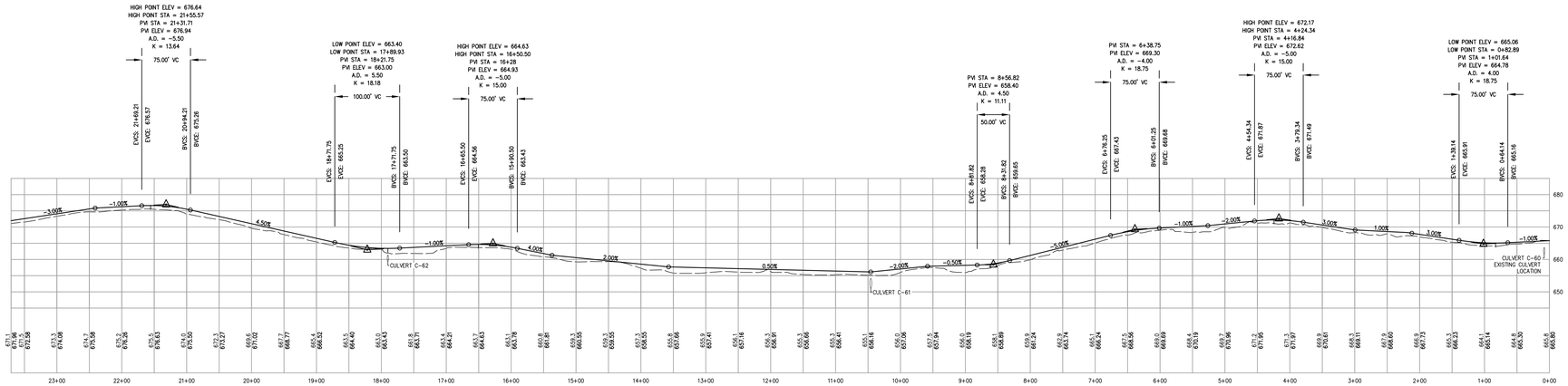
SHEET 21 of 27



ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	RIGHT

ROAD AR-648-649 STA. 0+00 TO END

PLAN SCALE: 1"=100'



ROAD AR-648-649 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

MAINE DEP PERMIT SUBMISSION

VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.

100 50 0 100
GRAPHIC SCALE: FEET

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. PORELL No. 11829 LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
Maine Office: 80 Hartwell Road Waltham, MA 02451-1127 Tel: 207-846-0201 Fax: 207-846-0201
Boston Office: 20 Guest Street, Suite 210 Boston, Massachusetts 02135 Tel: 617-746-0000 Fax: 617-746-0101

Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROAD AR-648-649

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

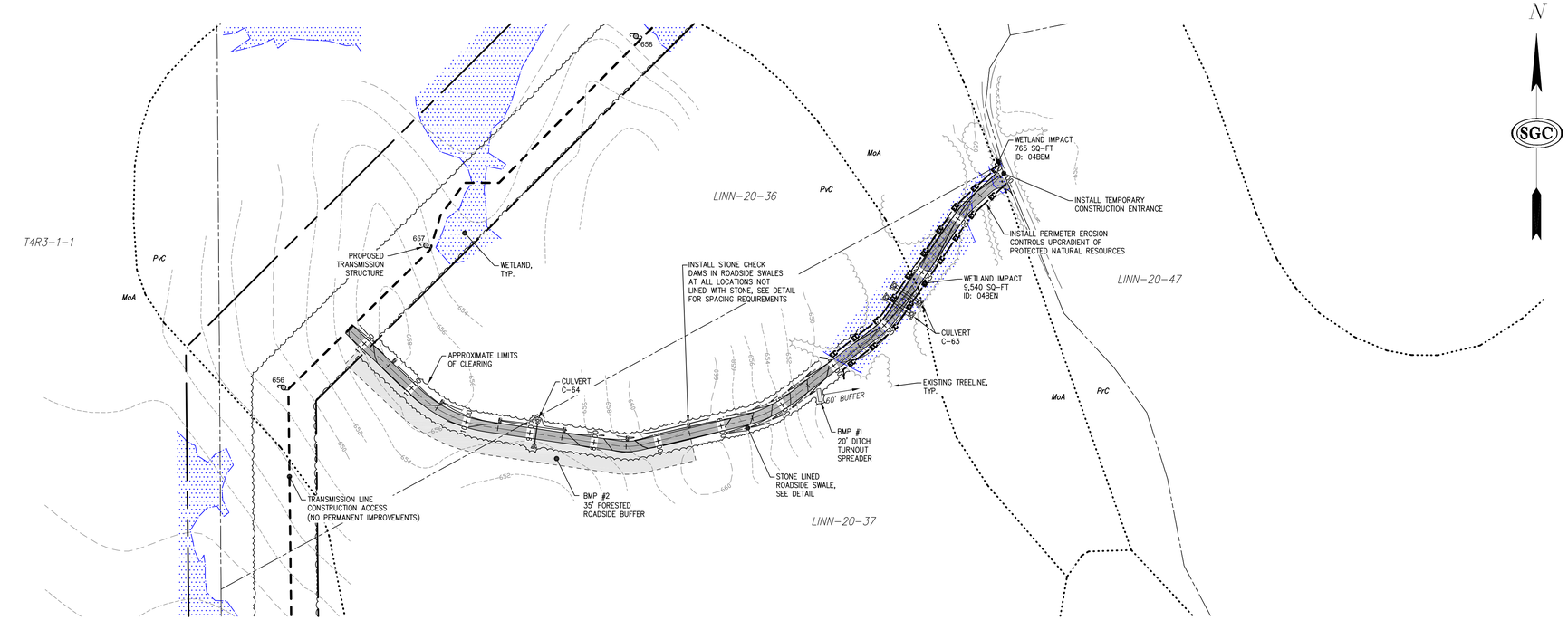
SGC Project: 6570003 | Date: 05-25-2011 | Scale: 1"=100' | Drawn: NRP | Design: NRP | Appr: JMR

firstwind CLEAN ENERGY. MADE HERE.

The information contained herein is strictly confidential and is the property of the project owner.

DWG. AR-21

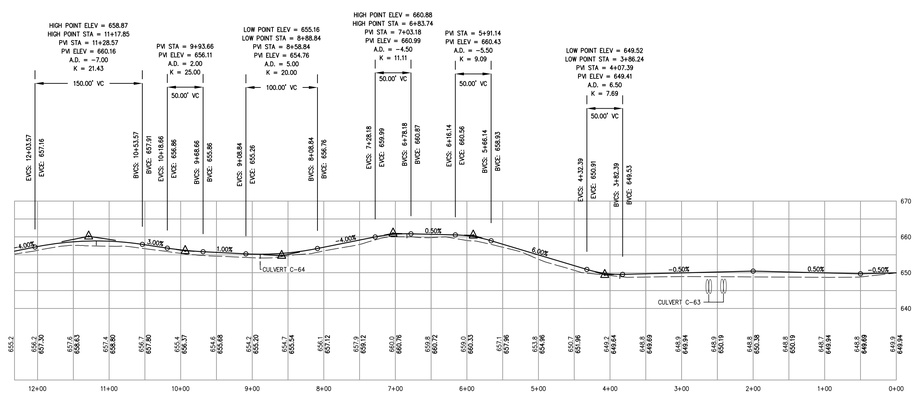
SHEET 22 of 27



ROAD AR-656-657 STA. 0+00 TO END

PLAN SCALE: 1"=100'

ROADWAY SUPERELEVATION TABLE		
BEGIN STATION	END STATION	DIRECTION
0+00	END	LEFT



ROAD AR-656-657 STA. 0+00 TO END

PROFILE SCALE: HOR. 1"=100'
VERT. 1"=20'

MAINE DEP PERMIT SUBMISSION

VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE. ADJUST FINISHED GRADE ELEVATION AS NECESSARY TO PROVIDE 2' MIN COVER ON ALL CULVERTS.

100 50 0 100
GRAPHIC SCALE: FEET

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. POREL No. 11829 LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
Maine Office:
80 Hartwell Road
Westbrook, Maine 04092
Tel: 207-828-1011
Fax: 828-1083
Massachusetts Office:
20 Cabot Road, Suite 200
Medford, Massachusetts 02155
Tel: 781-395-5777
Fax: 395-5779
South Portland Office:
Suite 8-B Maine Mall
2364 Congress Street
South Portland, Maine 04106
Tel: 207-828-1011
Fax: 828-1083

SGC Project: 657003 | Date: 05-25-2011 | Scale: 1"=100' | Drawn: NRP | Design: NRP | Appd: JMR

Title: ACCESS ROAD PLAN AND PROFILE
ACCESS ROAD AR-656-657

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind. CLEAN ENERGY. MADE HERE.

The information contained herein is strictly confidential and is the sole property of the project owner.

DWG. AR-22

SHEET 23 of 27

GENERAL EROSION CONTROL NOTES:

1. ALL EROSION AND SEDIMENT CONTROL (ESC) MEASURES SHALL BE INSTALLED & MAINTAINED IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES BY THE CUMBERLAND COUNTY SOIL AND WATER CONSERVATION DISTRICT AND THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION DATED MARCH, 2003 (AS REVISED).
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING STORM WATER MANAGEMENT PRACTICES IN ACCORDANCE WITH LOCAL REGULATIONS AND GOVERNING AUTHORITIES AND SHALL BE RESPONSIBLE FOR ANY FINES RESULTING FROM EROSION CONTROL VIOLATIONS.
3. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND SHALL BE MAINTAINED UNTIL FINAL STABILIZATION IS ACHIEVED.
4. THE CONTRACTOR SHALL PROVIDE PROPER EROSION AND SEDIMENT CONTROL MEASURES IN ALL AREAS OF WORK. PRIOR TO BEGINNING EXCAVATION WORK, SILT FENCE SHALL BE INSTALLED. EROSION CONTROL MEASURES SHOWN ON THE DRAWINGS ARE A MINIMUM, CONTRACTOR SHALL TAKE ALL OTHER NECESSARY MEASURES TO CONTROL EROSION. EROSION CONTROL MEASURES SHALL ALSO BE INSTALLED AT THE DOWNGRADIENT PERIMETER OF THE TOPSOIL STOCKPILES. ALL DISTURBED EARTH SURFACES SHALL BE STABILIZED IN THE SHORTEST PRACTICAL TIME AND TEMPORARY EROSION CONTROL DEVICES SHALL BE EMPLOYED UNTIL SUCH TIME AS ADEQUATE SOIL STABILIZATION HAS BEEN ACHIEVED. TEMPORARY STORAGE OF EXCAVATED MATERIAL SHALL BE STABILIZED IN A MANNER THAT WILL MINIMIZE EROSION.
5. THE CONTRATOR SHALL INSPECT ESC MEASURES ONCE EVERY SEVEN DAYS AND WITHIN 24 HOURS OF SIGNIFICANT RUNOFF EVENTS, INCLUDING THOSE THAT RESULT IN DISCHARGE OF STORMWATER FROM THE SITE. DAILY INSPECTIONS OF ESC MEASURES SHALL BE CONDUCTED DURING THE WINTER CONSTRUCTION PERIOD (NOVEMBER 1 –APRIL 15). REPAIRS SHALL BE MADE AS DIRECTED BY THE ENGINEER OR MAINE DEP AS NECESSARY. ACCUMULATED SEDIMENT TRAPPED BY ESC DEVICES SHALL BE REMOVED AS NECESSARY.
6. TEMPORARY CONSTRUCTION ENTRANCES ARE TO BE PROVIDED AT ALL CONNECTIONS WITH PUBLIC/PRIVATE ROADWAYS.
7. TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES SHALL BE REMOVED AND THOSE ADJACENT AREAS RESTORED UPON COMPLETION OF THE WORK OR WHEN SO ORDERED BY THE ENGINEER OR MAINE DEP. EXPOSED SOIL RESULTING FROM REMOVAL OF TEMPORARY ESC MEASURES SHALL BE RAKED, SEEDED, AND MULCHED OR MATTED AS NEEDED.
8. PERMANENT SEED MIX SHALL BE USED AS EARLY AS PRACTICABLE BETWEEN MAY 15TH AND SEPTEMBER 1ST.
9. TEMPORARY SEED MIX SHALL BE USED BETWEEN SEPTEMBER 1ST AND MAY 15TH AND SHALL MEET THE FOLLOWING CRITERIA:

SEED	% WEIGHT	% GERMINATION
WINTER RYE	80 MINIMUM	85 MIN
RED FESCUE (CREEPING)	4 MIN	80 MIN
PERENNIAL RYE GRASS	3 MIN	90 MIN
RED CLOVER	3 MIN	90 MIN
OTHER CROP GRASS	0.5 MAX	
NOXIOUS WEED SEED	0.5 MAX	
INERT MATTER	1.0 MAX	

10. TEMPORARY MULCHING IS TO BE APPLIED TO ALL DISTURBED AREAS WITHIN 21 DAYS OF INITIAL DISTURBANCE AND TO AREAS LEFT INACTIVE AND UNSTABILIZED FOR A PERIOD GREATER THAN 7 DAYS AT A RATE OF 2 TONS/ACRE UNLESS:

    i) STABILIZATION IS NOT REQUIRED IF WORK IS TO CONTINUE IN THE AREA WITHIN THE NEXT 24 HOURS AND THERE IS NO PRECIPITATION FORECAST FOR THE NEXT 24 HOURS,

    ii) STABILIZATION IS NOT REQUIRED IF THE WORK IS OCCURRING IN A SELF-CONTAINED EXCAVATION (i.e. NO OUTLET) WITH A DEPTH OF 2 FEET OR GREATER (e.g. UTILITY TRENCHES)

11. PERMANENT SEED MIX SHALL BE USED AS EARLY AS PRACTICABLE BETWEEN MAY 15TH AND SEPTEMBER 1ST AND MEET THE FOLLOWING CRITERIA:

RED FESCUE	50%
SHEEP FESCUE	25%
RED TOP	5%
WHITE CLOVER	10%
ANNUAL RYE	10%

12. WETLAND SEED MIX SHALL MEET THE FOLLOWING CRITERIA:

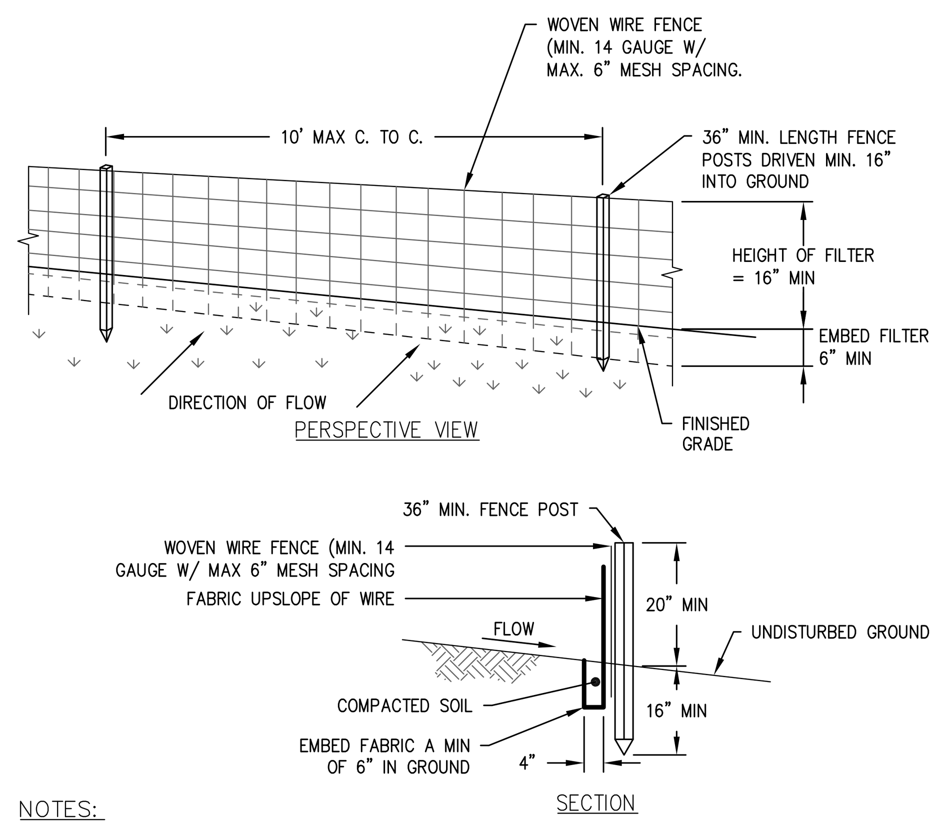
NODDING BUR MARIGOLD	3%
FOX SEDGE	13%
CREEPING BENTGRASS	14%
RIVERBANK WILD RYE	8%
VIRGINIA WILD RYE	14%
SOFT RUSH	2%
SENSITIVE FEM	1.5%
BLUE VERVAIN	1%
BLACKWELL SWITCH GRASS	25%
GREY DOGWOOD	0.5%
CREEPING RED FESCUE	18%

13. THE METHOD OF STRIPPING VEGETATION SHALL BE SUCH AS TO MINIMIZE EROSION. FILLS SHALL BE PLACED AND COMPACTED IN SUCH A MANNER THAT SOIL SLIDING AND EROSION IS MINIMIZED. GRADING SHALL BE DONE IN SUCH A MANNER AS NOT TO DIVERT WATER ON TO ADJOINING PROPERTY.
14. EROSION CONTROL BLANKET OR EQUIVALENT SHALL BE USED TO STABILIZE ALL DITCHES AND SIDESLOPES STEEPER THAN 3H:1V.
15. SEDIMENT LOGS AND OR EROSION CONTROL MIX BERMS MAY BE SUBSTITUTED FOR SILT FENCE BY THE CONTRACTOR AS CONDITIONS DICTATE.
16. PLACE EXCAVATED MATERIAL ON THE UP GRADIENT SIDE OF THE EXCAVATION TO THE EXTENT POSSIBLE, EXCESS SOILS ARE TO BE TRANSPORTED TO AN OFF-SITE UPLAND LOCATION FOR STOCKPILING. WETLAND SOILS SHALL BE STOCKPILED SEPARATELY FROM UPLAND SOILS.

WINTER CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING ALL WINTER EROSION AND SEDIMENT CONTROL IN ACCORDANCE WITH SECTION A-3 OF "MAINE EROSION AND SEDIMENTATION CONTROL BMP'S".
2. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT FOR ANY GIVEN SEGMENT OF THE PROJECT AREA, NO MORE AREA THAN CAN BE STABILIZED IN A ONE-WEEK PERIOD IS TO BE EXPOSED AT ANY GIVEN TIME. MULTIPLE SEGMENTS AT DIFFERENT LOCATIONS WITHIN THE PROJECT AREA CAN BE EXPOSED CONCURRENTLY.
3. DISTURBED AREAS ARE TO BE LIMITED TO AREAS WHERE WORK IS TO BE COMPLETED WITHIN 15 DAYS AND CAN BE MULCHED IN ONE DAY PRIOR TO A SNOW EVENT.
4. AREAS OF DISTURBED SOIL SHALL BE STABILIZED AT THE END OF EACH WORK DAY, WITH THE FOLLOWING EXCEPTIONS: (1) IF NO RUNOFF EVENT IS FORECAST FOR WITHIN 24 HOURS AND WORK WILL RESUME IN THE SAME DISTURBED AREA WITHIN 24 HOURS AND/OR (2) DISTURBED AREAS THAT COLLECT AND RETAIN RUNOFF, SUCH AS OPEN UTILITY TRENCHES OR FOUNDATIONS, WHICH REQUIRE STABILIZATION AT THE END OF EACH WORK WEEK.
5. SNOW PILING SHALL OCCUR WITHIN THE DESIGNATED LIMITS OF DISTURBANCE.
6. DRAINAGE STRUCTURES SHALL BE KEPT OPEN AND FREE OF SNOW AND ICE DAMS.
7. SILT FENCE AND OTHER PRACTICES REQUIRING EARTH DISTURBANCE SHALL BE INSTALLED PRIOR TO FROZEN GROUND CONDITIONS. SILT FENCE MAY BE INSTALLED WITH STONE BACKING DURING FROZEN GROUND CONDITIONS.
8. MULCH USED FOR TEMPORARY STABILIZATION SHALL BE APPLIED AT 4 TONS/ACRE WITH AN 80 TO 90 PERCENT UNIFORM COVER AND TRACKED IN TO PREVENT REMOVAL BY WIND.
9. PRIOR TO STABILIZATION, SNOW AND/OR ICE SHALL BE REMOVED TO LESS THAN 1 INCH THICKNESS.
10. TEMPORARY CONSTRUCTION ENTRANCES SHALL BE INSTALLED AND MAINTAINED AT LOCATIONS WHERE CONSTRUCTION VEHICLE TRAFFIC WILL BE ENTERING AND LEAVING THE CONSTRUCTION SITE.. ENTRANCES SHALL BE AT LEAST 14 FEET WIDE TO ACCOMMODATE VEHICULAR TRAFFIC.
11. ALL SLOPES LESS THAN 3H:1V SHALL BE MULCHED AT 4 TONS/ACRE AND TRACKED IN.
12. THE SITE STABILIZATION SCHEDULE BEFORE WINTER SHALL BE AS FOLLOWS:

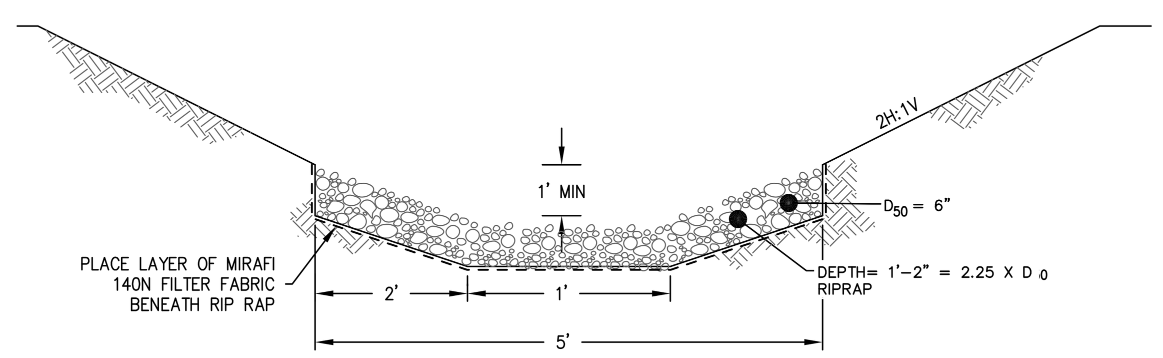
SEPTEMBER 15	ALL DISTURBED AREAS MUST BE SEEDED AND MULCHED. ALL SLOPES MUST BE STABILIZED, SEEDED AND MULCHED. ALL GRASS LINED DITCHES AND CHANNELS MUST BE STABILIZED WITH MULCH OR AN EROSION CONTROL BLANKET.
OCTOBER 1	ALL DISTURBED AREAS TO BE PROTECTED WITH AN ANNUAL GRASS MUST BE SEEDED AT A SEEDING RATE OF 3 POUNDS PER 1000 SQ-FT AND MULCHED.
NOVEMBER 15	ALL STONE-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED. SLOPES THAT ARE COVERED WITH RIPRAP MUST BE CONSTRUCTED BY THAT DATE.
DECEMBER 1	ALL DISTURBED AREAS WHERE THE GROWTH OF VEGETATION FAILS TO BE AT LEAST THREE INCHES TALL OR AT LEAST 75% OF THE DISTURBED SOIL IS COVERED BY VEGETATION, MUST BE PROTECTED FOR OVER-WINTER.



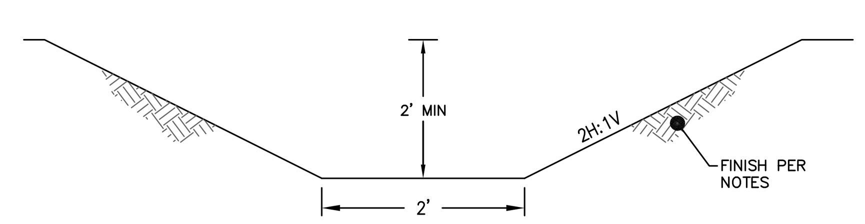
NOTES:

1. REINFORCED FENCE CAN BE USED IN PLACE OF TWO LAYERS OF CONVENTIONAL SILT FENCE WHEN WORKING IN ENVIRONMENTALLY SENSITIVE AREAS SUCH AS WITHIN 250' OF A LAKE, POND, RIVER, STREAM, OR BROOK, WITHIN 100 FEET A WETLAND OR STREAM CROSSING OR OTHER SENSITIVE AREAS.
2. WIRE REINFORCING NOT NECESSARY FOR NON-SENSITIVE INSTALLATIONS. FOR CONVENTIONAL SILT FENCE, INSTALL PER DETAIL MINUS WOVEN WIRE FENCE.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
4. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
5. DO NOT PLACE SILT FENCE IN STREAMS OR CONCENTRATED FLOW CONDITIONS.
6. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES.
7. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAXIMUM MESH OPENING.
8. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
9. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
10. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.
11. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN UPLAND AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.

SILT FENCE DETAIL
NOT TO SCALE



STONE LINED SWALE DETAIL
NOT TO SCALE

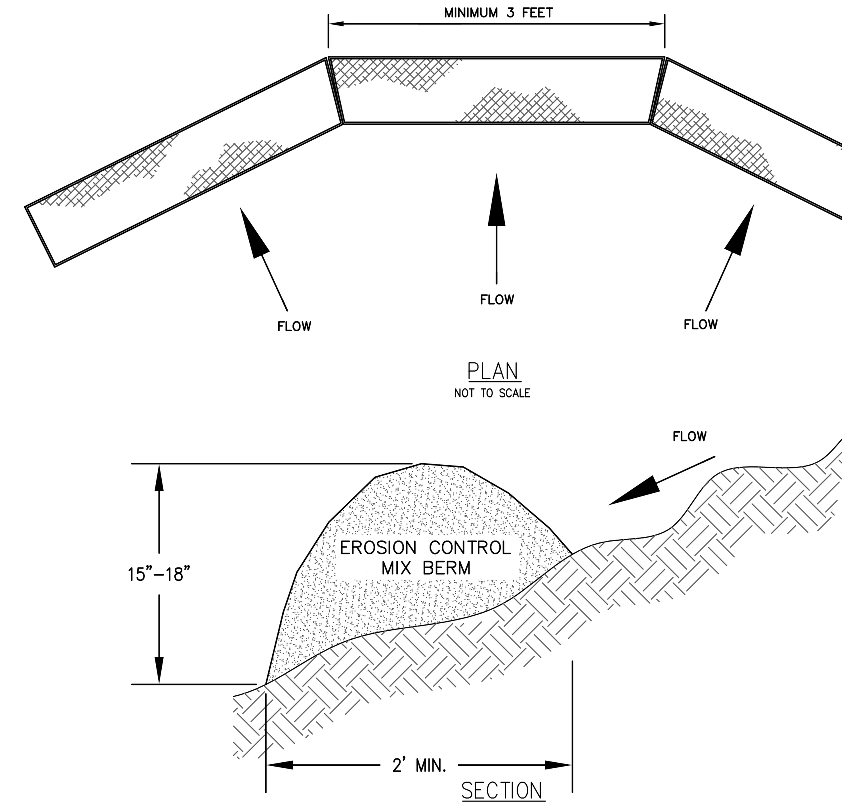


NOTES:

1. GRASSED WATERWAYS/SWALES ARE TO BE USED ONLY FOR SLOPES 6% OR LESS. FOR SLOPES GREATER THAN 6%, STONE LINED SWALES ARE TO BE UTILIZED. SEE DETAIL, THIS SHEET.
2. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE WATERWAY.
3. THE WATERWAY SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN, AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
4. FILLS SHALL BE COMPACTED AS NEEDED TO PREVENT UNEQUAL SETTLEMENT THAT WOULD CAUSE DAMAGE IN THE COMPLETE WATERWAY.
5. ALL EARTH REMOVED AND NOT NEEDED IN CONSTRUCTION SHALL BE SPREAD OR DISPOSED OF IN UPLAND AREAS SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE WATERWAY.
6. GRASSED WATERWAY SHALL BE FINISHED AND STABILIZED AS FOLLOWS:
   A. A MINIMUM OF 4" SCREENED LOAM SHALL BE PROVIDED AS TOPSOIL.
   B. DURING THE WINTER MONTHS, THE PERIMETER SWALE IS TO BE LINED WITH EITHER MULCH OR EROSION CONTROL BLANKET AS GROUND CONDITIONS DICTATE.
   C. THE GRASSED WATERWAY IS TO BE MULCHED AND SEEDED TO ENCOURAGE A GOOD CATCH OF GRASS AT THE COMPLETION OF CONSTRUCTION WHEN WINTER CONDITIONS HAVE SUBSIDED. SEED MIX SHALL MATCH ONE OF THE FOLLOWING:

BIRDSFOOT TREFOIL OR LADINO CLOVER	27%
TALL FESCUE OR SMOOTH BROMEGRASS	67%
REDTOP	6%
OR	
KENTUCKY BLUEGRASS	45%
CREEPING RED FESCUE	36%
PERENNIAL RYEGRASS	19%

ROADSIDE SWALE DETAIL
NOT TO SCALE



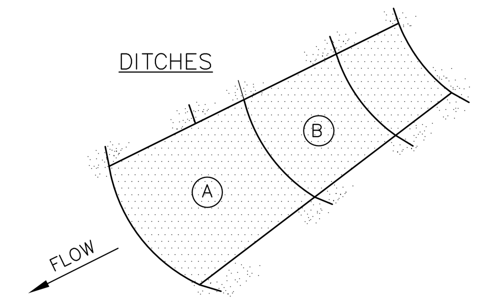
SECTION
NOT TO SCALE

NOTES:

1. EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF STUMP GRINDINGS OR SIMILAR COARSE, FIBROUS ORGANIC MATERIAL WITH A RANGE OF SIZES AND MAY CONTAIN ROCKS LESS THAN 4-INCHES IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH. THE MIX COMPOSITION SHALL MEET THE FOLLOWING STANDARDS.
   1.1. THE ORGANIC MATTER CONTENT SHALL BE BETWEEN 80 AND 100 PERCENT, DRY WEIGHT BASIS.
   1.2. PARTICLE SIZE BY WEIGHT SHALL BE 100 PERCENT PASSING A 6-INCH SCREEN AND 70 PERCENT TO 85 PERCENT, PASSING A 3/4-INCH SCREEN.
   1.3. THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
   1.4. LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX.
2. THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL CONTOUR. TALL GRASSES MAY NEED TO BE CUT TO AVOID VOID SPACES THAT WOULD ALLOW FINES TO WASH UNDER THE BARRIER
3. FROZEN GROUND, OUTCROPS OF BEDROCK AND VERY ROOTED FORESTED AREAS ARE LOCATIONS WHERE BERMS OF EROSION CONTROL MIX ARE MOST PRACTICAL AND EFFECTIVE.
4. THE EROSION CONTROL MIX CAN BE CONTAINED WITHIN A SYNTHETIC TUBULAR NETTING OR 'SOCK'.

EROSION CONTROL MIX BERM DETAIL
NOT TO SCALE

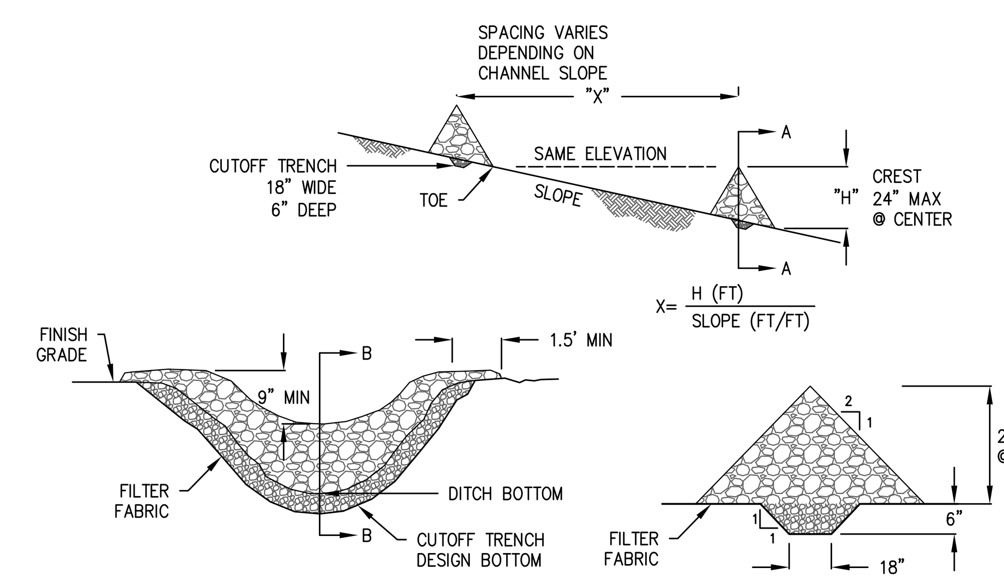
DITCHES



NOTES:

1. BURY THE TOP END OF THE MESH MATERIAL IN A 12" TRENCH. BACKFILL AND TAMP TRENCH, SECURE END WITH STAPLES AT 6" SPACING, 4" DOWN FROM EXPOSED END.
2. FLOW DIRECTION JOINTS TO HAVE UPPER END OF LOWER STRIP BURIED WITH UPPER LAYERS OVERLAPPED 4" AND STAPLED. OVERLAP B OVER A.
3. LATERAL JOINTS TO HAVE 4" OVERLAP OF STRIPS. STAPLE 18" ON CENTER.
4. STAPLE OUTSIDE LATERAL EDGE 2' ON CENTER.
5. WIRE STAPLES TO BE MIN. OF # 11 WIRE 6" LONG AND 1-1/2" WIDE.
6. USE NORTH AMERICAN GREEN DS 150 OR APPROVED EQUAL.

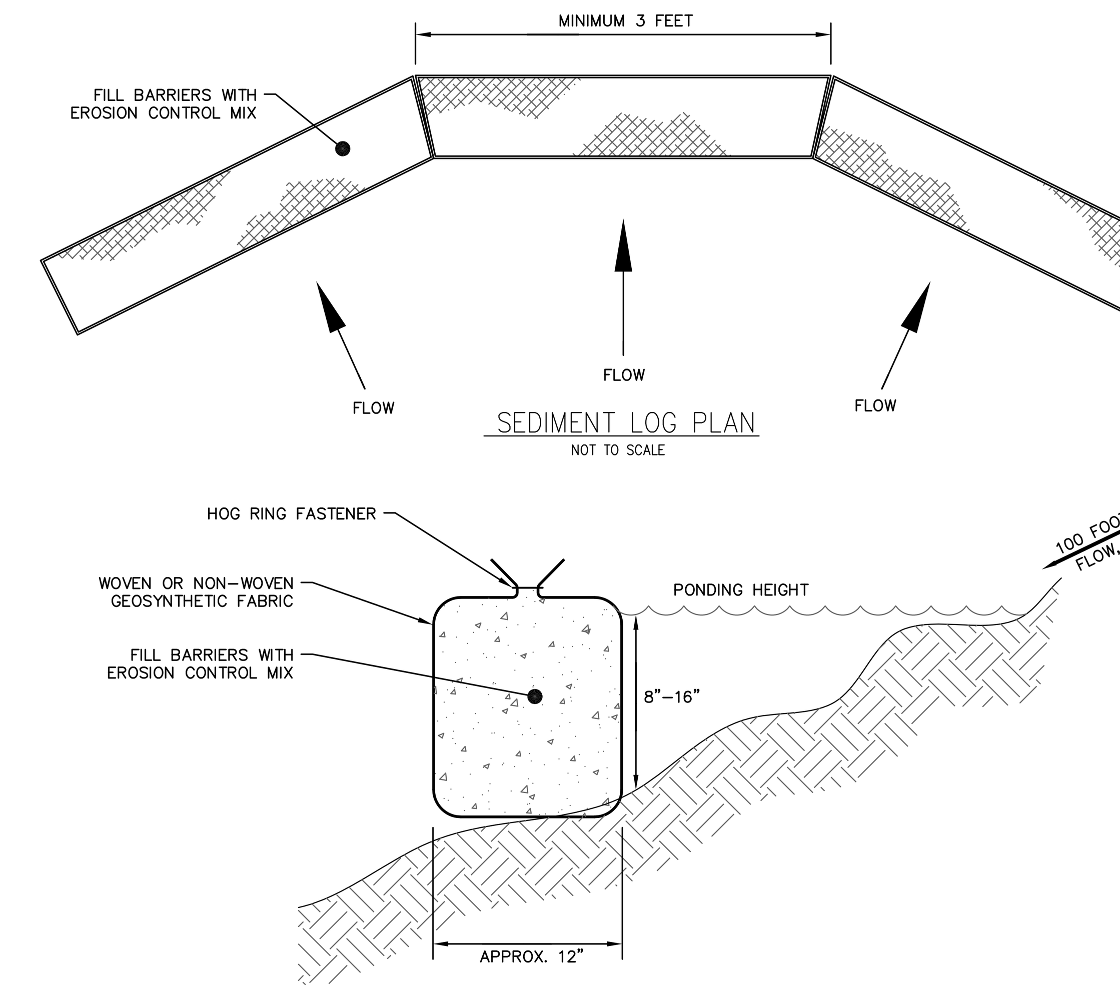
EROSION CONTROL BLANKET DETAIL (DITCH)
NOT TO SCALE



NOTES:

1. STONE SHALL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES, GRADES AND LOCATIONS SHOWN IN THE PLAN.
2. STONE CHECK DAMS SHALL BE CONSTRUCTED OF 2 TO 3 INCH STONE.
3. SET SPACING OF CHECK DAMS SO THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE DOWNSTREAM DAM.
4. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
5. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
6. MONITOR INSTALLATION TO ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.

STONE CHECK DAM DETAIL
NOT TO SCALE



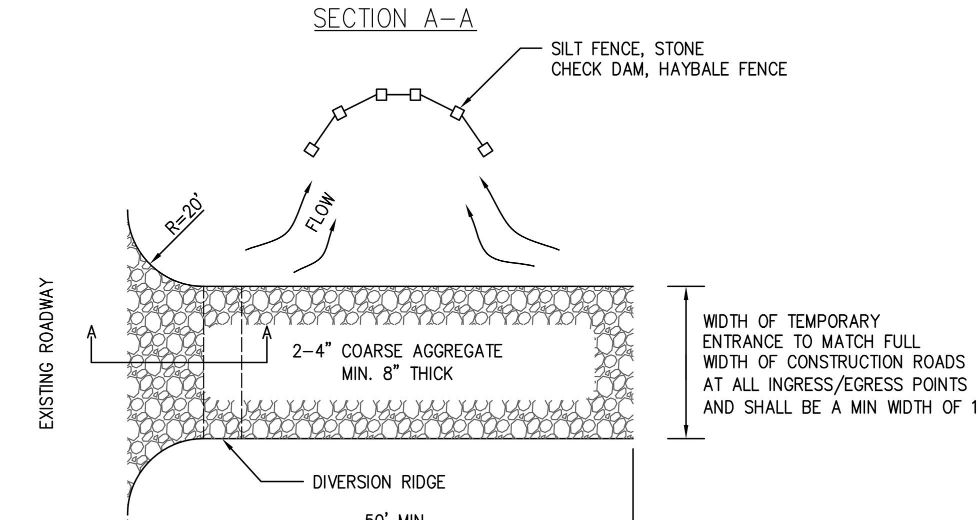
SECTION
NOT TO SCALE

NOTES:

1. EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZE AND MAY CONTAIN ROCKS LESS THAN 4-INCHES IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH. THE MIX COMPOSITION SHALL MEET THE FOLLOWING STANDARDS.
   1.1. THE ORGANIC MATTER CONTENT SHALL BE BETWEEN 80 AND 100 PERCENT, DRY WEIGHT BASIS.
   1.2. PARTICLE SIZE BY WEIGHT SHALL BE 100 PERCENT PASSING A 6-INCH SCREEN AND A MINIMUM OF 70 PERCENT, MAXIMUM OF 85 PERCENT, PASSING A 3/4-INCH SCREEN.
   1.3. THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
   1.4. LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX.
   1.5. SUITABLE SALTS CONTENT SHALL BE LESS THAN 4.0 MINIMUM.
2. THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL CONTOUR. TALL GRASSES MAY NEED TO BE CUT TO AVOID SPACES THAT WOULD ALLOW FINES TO WASH UNDER THE BARRIER
3. FROZEN GROUND, OUTCROPS OF BEDROCK AND VERY ROOTED FORESTED AREAS ARE LOCATIONS WHERE BERMS OF EROSION CONTROL MIX ARE MOST PRACTICAL AND EFFECTIVE.

SEDIMENT LOG DETAIL
NOT TO SCALE

SECTION A-A



PLAN

NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING. REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. ALL SEDIMENT SPILLED, DROPPED, OR WASHED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.
5. PLACE STONE ON GEOTEXTILE FABRIC EQUAL TO MIRAFI 600X.

TEMPORARY CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE — NICHOLAS R. PORELL — No. 11829 — LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA

501 County Road, Westbrook, Maine 04092, Tel: 207-347-8100, Fax: 207-347-8101
Target Technology Center, 20 Godfrey Drive, Suite 200, Orono, Maine 04473, Tel: 207-866-6571, Fax: 207-866-6501
69 Swift Street, Suite 305, South Burlington, Vermont 05403, Tel: 802-862-1300, Fax: 802-862-1718

SGC Project:	Date:	Scale:	Drawn:	Design:	Appd:
657003	05-25-2011		NRP	NRP	JMR

Title: T-LINE ACCESS ROAD DETAILS
EROSION AND SEDIMENTATION CONTROL DETAILS

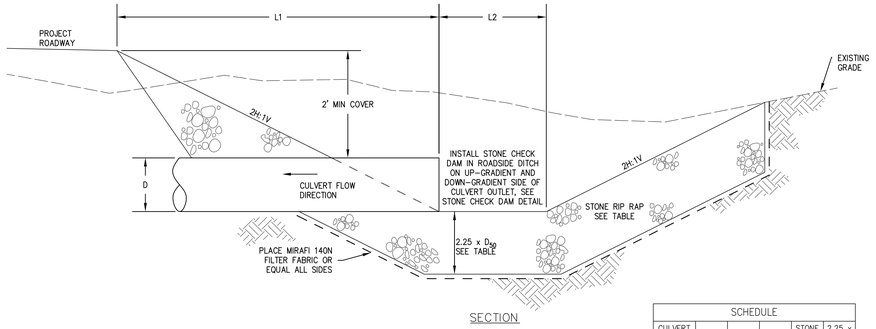
Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind — CLEAN ENERGY. MADE HERE.

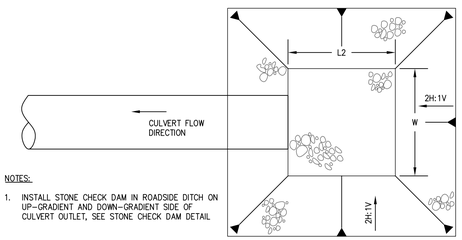
The information contained herein is strictly confidential and is the sole property of the project owner.

DWG. DET-01



SECTION

SCHEDULE					
CULVERT DIA.	L1	L2	W	STONE D50	2.25 x D50
12"	6'	2'	2'	6"	14"
15"	6.5'	4'	4'	6"	14"
18"	7'	4'	4'	6"	14"
24"	8'	8'	8'	6"	14"
36"	10'	8'	8'	12"	27"



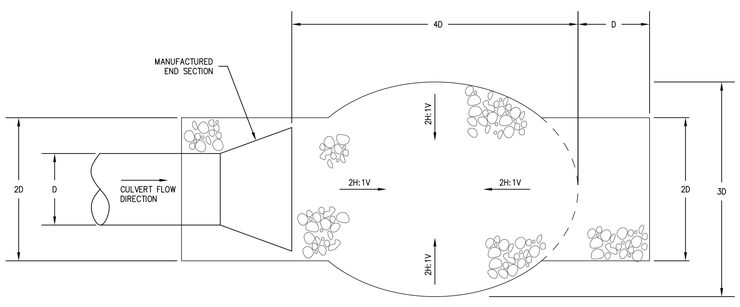
NOTES:

1. INSTALL STONE CHECK DAM IN ROADSIDE DITCH ON UP-GRADIENT AND DOWN-GRADIENT SIDE OF CULVERT OUTLET, SEE STONE CHECK DAM DETAIL

PLAN

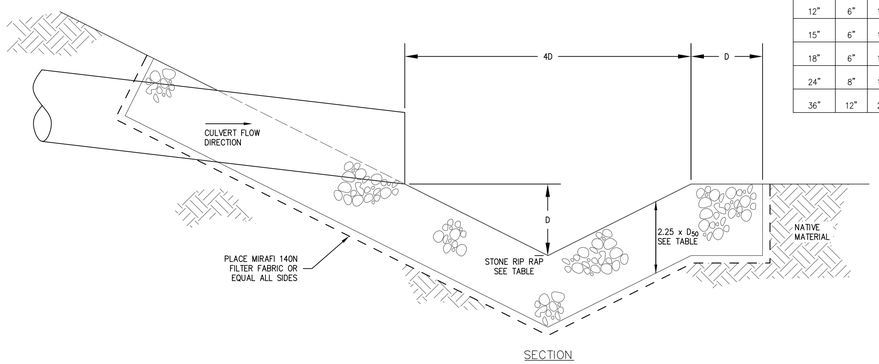
CULVERT INLET DETAIL

NOT TO SCALE



PLAN

SCHEDULE		
CULVERT DIA.	STONE D50	2.25 x D50
12"	6"	14"
15"	6"	14"
18"	6"	14"
24"	8"	18"
36"	12"	27"

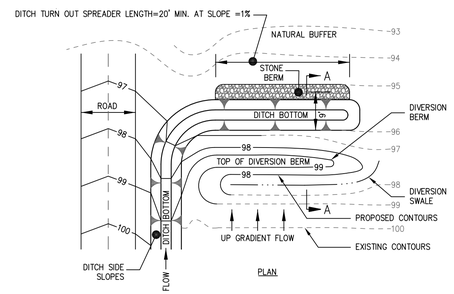


SECTION

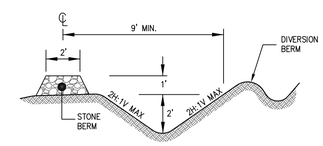
CULVERT OUTLET/PLUNGE POOL DETAIL

NOT TO SCALE

LEVEL LIP BERM STONE SIZE GRADATION SPECIFICATION	
SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
12 IN.	100
6 IN.	84–100
3 IN.	68–83
1 IN.	42–55
NO. 4	8–12



PLAN



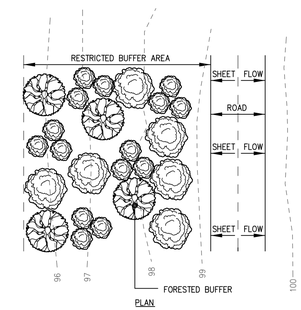
SECTION A–A

NOTES:

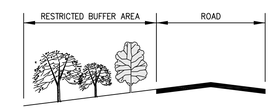
1. ONLY RUNOFF FROM ADJACENT ROAD SURFACE AND SHOULDERS WILL BE DIRECTED TO BUFFER.
2. BUFFER SLOPES RESTRICTED TO MAXIMUM OF 15%.
3. THE TURNOUT SHOULD EXTEND INTO THE SIDE DITCH OF CUT SLOPE TO INTERCEPT THE DITCH RUNOFF AND CARRY IT INTO THE BUFFER AREA.
4. THE STONE BERM MUST BE AT LEAST 20 FEET IN LENGTH AND CONSTRUCTED ALONG THE CONTOUR. IT MUST BE AT LEAST ONE FOOT HIGH AND TWO FEET ACROSS THE TOP WITH 2:1 SIDE SLOPES.
5. THE STONE BERM MUST CONSIST OF SOUND DURABLE ROCK THAT WILL NOT DISINTEGRATE BY EXPOSURE TO WATER OR WEATHER. FIELDSTONE, ROUGH QUARRIED STONE, BLASTED LEDGE OR TAILINGS MAY BE USED. THE ROCK MUST BE WELL GRADED WITH A MEDIAN SIZE OF APPROXIMATELY 3 INCHES AND A MAXIMUM SIZE OF 6 INCHES. (SEE TABLE ABOVE FOR GRADATION SPECIFICATION.)
6. CONSTRUCT LEVEL LIP AND SPREADER ON ZERO PERCENT GRADE.
7. LEVEL SPREADER SHALL NOT BE CONSTRUCTED ON FILL.
8. STORM RUNOFF CONVERTED TO SHEET FLOW SHALL OUTLET ONTO STABILIZED AREA. AREA A DISTANCE 25' BELOW SPREADER TO BE VEGEGATED WITH DENSE GROWTH OF GRASS IF UN-VEGETATED PRIOR TO OR FOLLOWING CONSTRUCTION.
9. WATER SHALL NOT BE CHANNELIZED IMMEDIATELY BELOW POINT OF DISCHARGE. AREA BELOW SPREADER TO BE GRADED SMOOTH TO AVOID DEVELOPMENT OF CHANNELS IF NECESSARY.
10. APPROACH CHANNEL SHALL BE LESS THAN 1% FOR AT LEAST 20 FT BEFORE ENTERING THE LEVEL SPREADER.

DITCH TURNOUT AND LEVEL LIP SPREADER DETAIL

NOT TO SCALE



PLAN



SECTION

NOTES:

1. ROAD MUST BE GENERALLY PARALLEL TO THE CONTOURS OF THE SLOPE.
2. ONLY RUNOFF FROM ADJACENT ROAD SURFACE AND SHOULDERS WILL BE DIRECTED TO BUFFER.
3. BUFFER SLOPES RESTRICTED TO MAXIMUM OF 20%.
4. RUNOFF MUST ENTER BUFFER AS SHEET FLOW.
5. IF BUFFER IS USED TO TRAP SEDIMENT DURING CONSTRUCTION, SEDIMENT MUST BE REMOVED AND ORIGINAL TOPOGRAPHY, GROUND COVER AND VEGETATION IS TO BE REESTABLISHED. PROTECT BUFFER STRIP WITH WOOD WASTE BERM SEDIMENTATION BARRIERS OR SILT FENCE DURING THE CONSTRUCTION PROCESS.

REQUIRED BUFFER FLOW PATH DOWNHILL SIDE OF ROAD		
	LENGTH OF FLOW PATH FOR A FORESTED BUFFER	LENGTH OF FLOW PATH FOR A MEADOW BUFFER
1 TRAVEL LANE DRAINING TO BUFFER	35 FEET	50 FEET
2 TRAVEL LANES DRAINING TO BUFFER	55 FEET	80 FEET

BUFFER ADJACENT TO THE DOWNHILL SIDE OF A ROAD DETAIL

NOT TO SCALE

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. PORELL No. 11829 LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
Boston Office:
Wellington Office:
Portland Office:
Bucksport Office:
Tel: (207)846-0201
Fax: (207)404-0201

SGC Project: 657003
Date: 05-25-2011
Scale:
Drawn: NRP
Design: NRP
Appd: JMR

Title: T-LINE ACCESS ROAD DETAILS
STORMWATER DETAILS

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

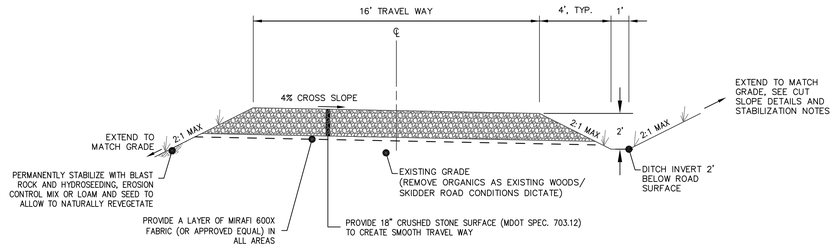
Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind™ CLEAN ENERGY. MADE HERE.

The information contained herein is strictly confidential and is the property of the project owner.

DWG. DET-02

SHEET 25 of 27



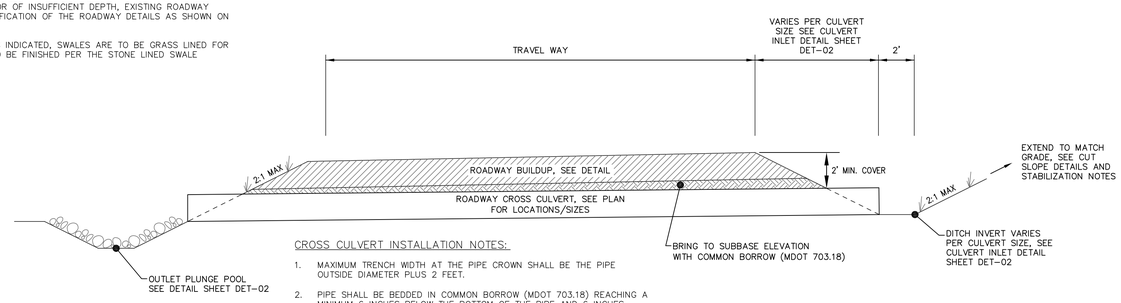
NOTE 16' TRANSMISSION LINE ACCESS ROAD IS SUPERELEVATED AT ALL LOCATIONS. SEE ACCESS ROAD PLANS FOR SUPERELEVATION DIRECTION TABLES.

16' TRANSMISSION LINE ACCESS ROAD CROSS-SECTION DETAIL

NOT TO SCALE

ROADWAY CROSS SECTION NOTES:

1. VERTICAL ROADWAY GEOMETRY FOR REFERENCE PURPOSES ONLY AND TO CONFIRM DRAINAGE PATTERNS. FINAL FINISHED GRADE ELEVATION AND VERTICAL CURVE GEOMETRY TO BE DETERMINED AS FIELD CONDITIONS DICTATE.
2. ROADWAY GRAVEL TO EXTEND TO EDGE OF THE DITCH/FILL SLOPE.
3. ALL ROADWAY MATERIALS TO BE PLACED IN 2 FOOT MAXIMUM LIFTS COMPACTED TO 95%
4. IN AREAS OF EXISTING VEGETATION/ORGAINIC MATERIAL, ROAD AREA SHALL BE GRUBBED TO A DEPTH SUFFICIENT TO REMOVE ALL ORGANICS (2 FEET MAXIMUM). BRING TO SUBGRADE WITH COMMON BORROW OR SUITABLE BLAST ROCK FILL.
5. GEOTEXTILE FABRIC TO BE PLACED BENEATH ROAD SUBBASE IN ALL AREAS.
6. LIMIT ROADWAY CLEARING TO THE EXTENT PRACTICABLE. TYPICALLY, CLEARING SHOULD BE LIMITED TO 10' FROM THE BOTTOM OF FILL SLOPES AND 5' FROM THE TOP OF CUT SLOPES.
7. IN AREAS WHERE EXISTING ROADS ARE BEING IMPROVED, RE-CONSTRUCTED, OR WIDENED, THE ADEQUACY OF EXISTING ROADWAY BASE AND SURFACE MATERIALS TO BE REUSED SHALL BE AS DETERMINED OR AGREED TO BY ENGINEER OR OTHER AUTHORIZED OWNER'S REPRESENTATIVE. IF EXISTING MATERIAL IS FOUND TO BE INADEQUATE OR OF INSUFFICIENT DEPTH, EXISTING ROADWAY MATERIALS ARE TO BE REMOVED, REPLACED, AND IMPROVED TO MEET THE SPECIFICATION OF THE ROADWAY DETAILS AS SHOWN ON THIS SHEET.
8. ROADSIDE SWALES ARE TO BE FINISHED PER THE DETAILS ON SHEET DET-01. AS INDICATED, SWALES ARE TO BE GRASS LINED FOR ROAD SLOPES OF 6% OR LESS. SWALES WITH SLOPES GREATER THAN 6% ARE TO BE FINISHED PER THE STONE LINED SWALE DETAIL.

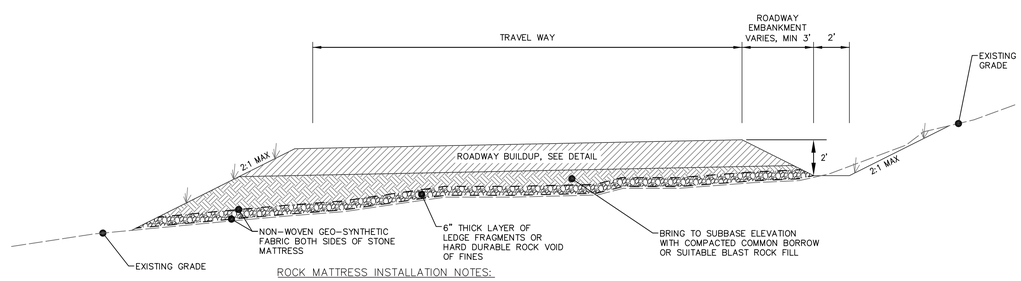


CROSS CULVERT INSTALLATION NOTES:

1. MAXIMUM TRENCH WIDTH AT THE PIPE CROWN SHALL BE THE PIPE OUTSIDE DIAMETER PLUS 2 FEET.
2. PIPE SHALL BE BEDDED IN COMMON BORROW (MDOT 703.18) REACHING A MINIMUM 6 INCHES BELOW THE BOTTOM OF THE PIPE AND 6 INCHES ABOVE THE TOP OF THE PIPE.
3. ALL ROAD CULVERTS TO BE HDPE, DOUBLE WALL, SMOOTH INTERIOR BORE, OUTSIDE CORRUGATED, ADS N-12 ST IB OR EQUAL, SIZE VARIES PER PLAN.

TYPICAL ROADWAY CROSS CULVERT DETAIL

NOT TO SCALE



ROCK MATTRESS INSTALLATION NOTES:

1. ROCK MATTRESS TO BE USED AS APPROPRIATE IN AREAS WHERE SIGNIFICANT UNANTICIPATED GROUNDWATER SEEPS ARE ENCOUNTERED DURING CONSTRUCTION.

TYPICAL ROCK MATTRESS DRAINAGE DETAIL

NOT TO SCALE

NO.	REVISIONS:	APPD:	DATE:
0	MAINE DEP SUBMITTAL	JMR	05/25/11

STATE OF MAINE NICHOLAS R. PORELL No. 11829 LICENSED PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA
Portland, Maine Office: 30 Cascade Plaza, Suite 200, Portland, Maine 04101, Tel: 207-846-0211, Fax: 207-846-0201
Waterville, Maine Office: 20 Gilman Plaza, Suite 3, Waterville, Maine 04901, Tel: 207-873-4193, Fax: 207-873-4193
South Portland, Maine Office: 2 Gorham Road, Suite 2, South Portland, Maine 04106, Tel: 207-799-8450, Fax: 800-660-1778

SGC Project: 657003 | Date: 05-25-2011 | Scale: | Drawn: NRP | Design: NRP | Appr: JMR

Title: T-LINE ACCESS ROAD DETAILS
ROADWAY DETAILS

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind™ CLEAN ENERGY. MADE HERE.

The information contained herein is strictly confidential and is the property of the project owner.

DWG. DET-03

Stormwater Treatment Calculations
River Watersheds
Ch. 500 4.B Stormwater Management General Standards - (Linear Project)
Stormwater treatment of new impervious area required = 75.00%

BMP ID Descriptions
BM = Meadow buffer adjacent to road
BF = Forested buffer adjacent to road
DM = Meadow ditch turnout buffer
DF = Forested ditch turnout buffer

Road ID	Roadway Segment Treated (Stations)	Buffer Location (Looking Upstation) R=right side road L=left side road	Road Length (ft) Total/Treated	Road Width (ft)	BMP TYPE	BMP ID	Level Spreader Length (ft)	USDA Soil	Soil HSG	Buffer Slope (%)	Buffer Length (ft)	Impervious Area (sq-ft)	Impervious Area Treated (sq-ft)	Treatment Percentage
Penobscot River Watersheds														
Sargent Brook to Medunkeunk Stream														
AR-33-34			**180**	**16**								**2,880**		
	0+00 TO 1+80	L	180		DM	1	20	BuB	D	2-8	150		2,880	100.00%
											Sub-Watershed Total	**2,880**	**2,880**	**100.00%**
Ebhorse Stream														
AR-49-50			**435**	**16**								**6,960**		
	0+00 TO 2+47	L	247		BF	1	-	BoA	D	0-3	35		3,952	56.78%
	3+67 TO 4+35	L	68		BF	2	-	BoA	D	0-3	35		1,088	15.63%
AR-58-59			**605**	**16**								**9,680**		
	0+82 TO 3+20	R	238		BF	1	-	TvB	C	8-15	35		3,808	39.34%
	3+20 TO 4+70	R	150		BF	2	-	BuB	D	2-8	35		2,400	24.79%
	4+70 TO 6+05	R	135		BF	3	-	TvB	C	8-15	35		2,160	22.31%
AR-64-65			**680**	**16**								**10,880**		
	1+15 TO 6+80	R	565		BF	1	-	BuB	D	2-8	35		9,040	83.09%
											Sub-Watershed Total	**27,520**	**22,448**	**81.57%**
Meadow Brook														
AR-120-121			**2,530**	**16**								**40,480**		
	0+00 TO 4+00	R	400		DF	1	20	PrC	C	5	100		6,400	15.81%
	4+00 TO 8+00	R	400		DF	2	20	PrC	C	4	100		6,400	15.81%
	8+00 TO 10+00	R	200		DF	3	20	PrC	C	4	60		3,200	7.91%
	10+00 TO 12+00	R	200		DF	4	20	MrB	D	6	100		3,200	7.91%
	12+00 TO 14+00	R	200		DF	5	20	MrB	D	5	100		3,200	7.91%
	17+80 TO 20+20	R	240		BF	6	-	MrB	D	6	35		3,840	9.49%
	20+20 TO 22+20	R	200		DF	7	20	MrB/BoA	D	5	100		3,200	7.91%
AR-144-145			**855**	**16**								**13,680**		
	0+00 TO 4+00	R	400		DF	1	20	HvB	C	2.5	100		6,400	46.78%
	4+00 TO 7+00	R	300		DF	2	20	HvB	C	3.5	75		4,800	35.09%
											Sub-Watershed Total	**54,160**	**40,640**	**75.04%**
Eagle Stream														
AR-152-153			**1,150**	**16**								**18,400**		
	0+00 TO 4+00	L	400		DF	1	20	PrC	C	7	100		6,400	34.78%
	4+00 TO 7+00	L	300		DF	2	20	PrC	C	7	75		4,800	26.09%
	9+25 TO 10+50	L	125		BF	3	-	MrB	D	7	35		2,000	10.87%
AR-162-163			**1,940**	**16**								**31,040**		
	0+00 TO 75+00	R	75		BM	1	-	MrB	D	1	50		1,200	3.87%
	4+00 TO 6+00	R	200		DF	2	20	MrB	D	1	100		3,200	10.31%
	6+00 TO 8+00	R	200		BF	3	-	MrB	D	1	35		3,200	10.31%
	8+00 TO 10+00	R	200		DF	4	20	MrB	D	1.5	100		3,200	10.31%
	10+00 TO 12+00	R	200		DF	5	20	MrB	D	1.5	100		3,200	10.31%
	12+00 TO 14+00	R	200		DF	6	20	MrB	D	1.5	100		3,200	10.31%
	14+00 TO 16+00	R	200		DF	7	20	MrB	D	1.5	100		3,200	10.31%
	18+70 TO 19+40	R	70		DF	8	20	CnB	B	8	60		1,120	3.61%
AR-178-179			**460**	**16**								**7,360**		
	0+00 TO 2+00	L	200		DM	1	20	MrB	D	5	150		3,200	43.48%
	2+00 TO 4+60	L	260		BM	2	-	MrB	D	3	50		4,160	56.52%
											Sub-Watershed Total	**56,800**	**42,080**	**74.08%**
Penobscot River (Direct)														
AR-196-197			**490**	**16**								**7,840**		
	0+00 TO 1+00	L	100		DF	1	20	PrC	C	13	72		1,600	20.41%
	2+00 TO 3+20	L	120		DF	2	20	PrC	C	14	72		1,920	24.49%
	4+00 TO 4-90	L	90		DF	3	20	PrC	C	4	60		1,440	18.37%
											Sub-Watershed Total	**7,840**	**4,960**	**63.27%**
Bog Brook to Mattaseunk Stream														
AR-224-225			**615**	**16**								**9,840**		
	0+00 TO 2+00	L	200		DF	1	20	PrB	C	10	72		3,200	32.52%
	3+25 TO 6+15	L	290		BM	2	-	PrB/MoA	C/D	10	35		4,640	47.15%
											Sub-Watershed Total	**9,840**	**7,840**	**79.67%**
											Penobscot River Watershed Total	***159,040***	***120,848***	***75.99%***
Molunkus Lake Watershed														
AR-260-261			**1,120**	**16**								**17,920**		
	0+50 TO 10+00	L	950		BF	1	-	ThB	C/D	5-10	35		15,200	84.82%
											Molunkus Lake Watershed Total	***17,920***	***15,200***	***84.82%***
Mattawamkeag River Watersheds														
Molunkus Stream														
AR-233-234			**345**	**16**								**5,520**		
	0+00 TO 1+35	L	135		BM	1	-	MoA/HvB	C/D	1	50		2,160	39.13%
	1+35 TO 2+10	L	75		BF	2	-	HvB	C	5	35		1,200	21.74%
	2+35 TO 3+45	L	110		BM	3		HvB	C	5	50		1,760	31.88%
AR-240-241			**3,970**	**16**								**63,520**		
	0+00 TO 1+00	L	100		BM	1	-	HvB	C	7	50		1,600	2.52%
	1+00 TO 4+00	L	400		BF	2	-	HvB	C	7	35		6,400	10.08%
	5+00 TO 8+00	L	300		BF	3	-	HvB	C	4	35		4,800	7.56%
	10+30 TO 13+00	L	270		DF	4	20	PrC	C	6	75		4,320	6.80%
	14+00 TO 18+00	L	400		BF	5	-	PrC/MoA	C/D	10	35		6,400	10.08%
	24+00 TO 26+00	L	200		DF	6	20	MoA	D	3	100		3,200	5.04%
	26+00 TO 28+00	L	200		DF	7	20	MoA	D	3	100		3,200	5.04%
	28+00 TO 30+00	R	200		BF	8	-	PrC	C	6	35		3,200	5.04%
	30+50 TO 34+50	R	400		DF	9	20	PrC	C	11	120		6,400	10.08%
	34+50 TO 37+00	L	250		BF	10	-	PrC	C	5	35		4,000	6.30%
	37+00 TO 39+70	L	270		BM	11	-	PrC	C	11-18	50		4,320	6.80%
AR-246-247			**1,900**	**16**								**30,400**		
	0+00 TO 14+25	L	1,425		BF/BM	1	-	HoB/MrB	C/D	5-10	50		22,800	75.00%
AR-291-292			**130**	**16**								**2,080**		
	-	-	-		-		-	-	-	-	-		0	0.00%
											Sub-Watershed Total	**101,520**	**75,760**	**74.63%**

Road ID	Roadway Segment Treated (Stations)	Buffer Location (Looking Upstation) R=right side road L=left side road	Road Length (ft) Total/Treated	Road Width (ft)	BMP TYPE	BMP ID	Level Spreader Length (ft)	USDA Soil	Soil HSG	Buffer Slope (%)	Buffer Length (ft)	Impervious Area (sq-ft)	Impervious Area Treated (sq-ft)	Treatment Percentage
Mattawamkeag River Watersheds (continued)														
Macwahoc Stream to Molunkus Stream														
AR-301-302			**490**	**16**								**7,840**		
	0+50 TO 4+50	L	400		BF	1	-	TsC	C/D	4	35		6,400	81.63%
AR-318-319			**1,220**	**16**								**19,520**		
	0+65 TO 2+75	L	210		BF	1	-	PrB	C	6	35		3,360	17.21%
	3+50 TO 4+80	L	130		DF	2	20	PrB	C	6	60		2,080	10.66%
	4+80 TO 8+00	R	320		DF	3	20	HvC	C	4	75		5,120	26.23%
	9+50 TO 11+00	R	150		DF	4	20	HvC	C	4	60		2,400	12.30%
	11+00 TO 12+20	R	120		DM	5	20	HvC/PrB	C	5	100		1,920	9.84%
AR-324-325			**2,585**	**16**								**41,360**		
	3+00 TO 4+25	R	125		DF	1	20	MrB	D	2	100		2,000	4.84%
	4+25 TO 6+25	R	200		DF	2	20	PrC	C	5	60		3,200	7.74%
	6+25 TO 8+25	R	200		DF	3	20	PrC	C	5	60		3,200	7.74%
	10+50 TO 12+30	R	180		DF	4	20	PrC	C	5	60		2,880	6.96%
	12+30 TO 16+50	R	420		BF/BM	5	-	MrB	D	5	50		6,720	16.25%
	18+50 TO 19+60	L	110		DF	6	20	HoB	C	8	60		1,760	4.26%
	19+60 TO 22+00	L	240		BM	7	-	HoB	C	6	50		3,840	9.28%
	23+50 TO 25+85	L	235		BM	8	-	MrB	D	4	50		3,760	9.09%
AR-350-351			**1,190**	**16**								**19,040**		
	0+25 TO 3+40	L	315		BM	1	-	HoB	C	5	50		5,040	26.47%
	5+00 TO 8+50	L	350		BF	2	-	HoB	C	5	35		5,600	29.41%
	8+50 TO 11+90	L	340		BM	3	-	HoB	C	5	50		5,440	28.57%
											Sub-Watershed Total	**87,760**	**64,720**	**73.75%**
Wytopitlock Stream														
AR-353-354			**1,215**	**16**								**19,440**		
	0+25 TO 7+00	R	675		BF	1	-	PvB	C	5	35		10,800	55.56%
	8+00 TO 9+75	R	175		BF	2	-	PvB	C	5	35		2,800	14.40%
	9+75 TO 12+15	R	240		BM	3	-	PvB	C	5	50		3,840	19.75%
AR-386-387			**5,395**	**16**								**86,320**		
	0+50 TO 7+00	R	650		BF	1	-	PgB	C	14	35		10,400	12.05%
	7+50 TO 9+00	R	150		BM	2	-	PgB	C	14	50		2,400	2.78%
	9+00 TO 10+00	R	100		BF	3	-	PgB	C	8	35		1,600	1.85%
	10+00 TO 14+00	R	400		DF	4	20	PvC	C	6	100		6,400	7.41%
	14+00 TO 17+50	R	350		DF	5	20	PvC	C	8	100		5,600	6.49%
	17+50 TO 19+50	R	200		DF	6	20	MoA	D	6	100		3,200	3.71%
	23+00 TO 24+75	R	175		DF	7	20	MoA	D	6	100		2,800	3.24%
	24+75 TO 26+75	R	200		DF	8	20	PgB	C	10	72		3,200	3.71%
	33+50 TO 48+00	R	1,450		BF	9	-	PgB/PvB	C	15	35		23,200	26.88%
	48+50 TO 51+00 0+00 TO 1+00 (AR-388-389)	L	350		DF	10	20	PvB	C	6	100		5,600	6.49%
	51+00 TO 53+00	L	200		DM	11	20	PvB	C	6	100		3,200	3.71%
AR-388-389			**680**	**16**								**10,880**		
	1+00 TO 3+00	R	200		DF	1	20	PvB	C	5	60		3,200	29.41%
											Sub-Watershed Total	**116,640**	**88,240**	**75.65%**
Finn Brook														
AR-399-400			**1,375**	**16**								**22,000**		
	0+00 TO 3+00	L	300		BM	1	-	HoB	C	4	50		4,800	21.82%
	3+00 TO 5+75	L	275		BF	2	-	HoB	C	4	35		4,400	20.00%
	5+75 TO 8+70	L	295		BM	3	-	HoB	C	4	50		4,720	21.45%
	9+50 TO 10+00	L	50		BM	4	-	HoB	C	4	50		800	3.64%
	10+00 TO 13+50	L	350		BF	5	-	HoB	C	4	35		5,600	25.45%
AR-421-422			**720**	**16**								**11,520**		
	1+00 TO 2+75	L	175		BM	1	-	MoA	D	4	50		2,800	24.31%
	5+50 TO 7+20	L	170		BM	2	-	HvB	C	3	50		2,720	23.61%
											Sub-Watershed Total	**33,520**	**25,840**	**77.09%**
Smith Brook														
AR-425-426			**695**	**16**								**11,120**		
	0+50 TO 2+00	R	150		BM	1	-	HoB	C	5	50		2,400	21.58%
	2+00 TO 4+25	R	225		BF	2	-	HoB	C	1	35		3,600	32.37%
	5+25 TO 6+95	R	170		BM	3	-	HoB/MoA	C/D	2`	50		2,720	24.46%
											Sub-Watershed Total	**11,120**	**8,720**	**78.42%**
											Mattawamkeag River Watershed Total	***350,560***	***263,280***	***75.10%***
West Branch Mattawamkeag River Watersheds														
Alder Brook														
AR-517-518			**590**	**16**								**9,440**		
	0+00 TO 4+00	L	400		DF	1	20	PgC	C	7	100		6,400	67.80%
	4+00 TO 5+90	L	190		DF	2	20	PgC	C	7	60		3,040	32.20%
											Sub-Watershed Total	**9,440**	**9,440**	**100.00%**
West Branch Mattawamkeag (direct)														
AR-521-522			**620**	**16**								**9,920**		
	0+00 TO 4+00	L	400		BF	1	-	PgC	C	5	35		6,400	64.52%
AR-529-530			**1,525**	**16**								**24,400**		
	1+00 TO 2+00	L	100		DF	1	20	PgC	C	4	60		1,600	6.56%
	2+00 TO 4+00	L	200		BF	2	-	PgC	C	4	35		3,200	13.11%
	4+00 TO 8+00	L	400		DF	3	20	PgC	C	5	100		6,400	26.23%
	9+00 TO 10+75	L	175		DF	4	20	PgC	C	5	60		2,800	11.48%
	12+25 TO 14+50	L	225		DM	5	20	PgC	C	7	100		3,600	14.75%
											Sub-Watershed Total	**34,320**	**24,000**	**69.93%**
											West Branch Mattawamkeag River Watershed Total	***43,760***	***33,440***	***76.42%***
East Branch Mattawamkeag River Watersheds														
East Branch Mattawamkeag (direct)														
AR-550-551			**465**	**16**								**7,440**		
	1+00 TO 2+50	R	150		BF	1	-	PvB	C	3	35		2,400	32.26%
	3+25 TO 4+65	R	140		DF	2	20	PvB	C	3	60		2,240	30.11%
AR-597-598			**1,820**	**16**								**29,120**		
	0+00 TO 3+00	R	300		BM	1	-	PvB/MoA	C/D	5	50		4,800	16.48%
	3+50 TO 5+00	R	150		DM	2	20	PvB	C	8	100		2,400	8.24%
	5+00 TO 14+00	R	900		BF	3	-	PvB	C	4-10	35		14,400	49.45%
	16+50 TO 17+50	L	100		BM	4	-	PvB	C	4	50		1,600	5.49%
											Sub-Watershed Total	**36,560**	**27,840**	**76.15%**
Skitacook Stream														
AR-620-621			**575**	**16**								**9,200**		
	0+50 TO 3+50	R	300		BF	1	-	ThC/MoA	C/D	4-15	35		4,800	52.17%
	4+00 TO 5+00	R	100		BF	2	-	MoA	D	10	35		1,600	17.39%
	5+00 TO 5+75	R	75		BM	3	-	MoA	D	5	50		1,200	13.04%
AR-648-649			**2,370**	**16**								**37,920**		
	0+50 TO 8+75	R	825		BF	1	-	PvC	C	10	35		13,200	34.81%
	9+25 TO 10+00	R	75		BF	2	-	PvC/MoA	C/D	10	35		1,200	3.16%
	11+25 TO 17+00	R	575		BF	3	-	PvC	C	10	35		9,200	24.26%
	18+75 TO 23.25	R	450		BF	4	-	PvC/MoA	C/D	10	35		7,200	18.99%
											Sub-Watershed Total	**47,120**	**38,400**	**81.49%**
Little Beaver Brook														
AR-656-657			**1,230**	**16**								**19,680**		
	4+50 TO 6+50	L	200		DF	1	20	PvC	C	2	60		3,200	**16.26%**
	6+50 TO 12+00	L	550		BF	2	-	PvC	C	6	35		8,800	**44.72%**
											Sub-Watershed Total	**19,680**	**12,000**	**60.98%**
											East Branch Mattawamkeag River Watershed Total	***83,680***	***66,240***	***79.16%***

CULVERT SIZING TABLE

Mannings Equation	Q (cfs)=	$\frac{kAR^{2/3}S^{1/2}}{n}$	k=	1.486	(US Units)	R=	A/P	
			n=	0.013	HDPE Pipe	S=	slope (ft/ft)	
			A=	Pipe Area (full), ft^2				
			P=	Wetted Perimeter (full), ft				
Rational Method	Q (cfs)=	C*I*A	C=	0.3	(Moderately Sloped Timberland, C/D Soils)			
			I=	5.8	(Rainfall Intensity, Inches/hr, Millonockett, ME)			
			A=	Area, acres				

Road ID	Culvert ID	Tributary Area sq-ft	Tributary Area acres	Calculated Runoff, Rational Method (cfs)	Length (ft)	Diameter (in) (15" Min)	# of Culverts **	Min Slope (ft/ft)	Mannings Culvert Capacity (cfs)
AR-49-50									
	C-1	41,153	0.945	1.64	30	15	1	0.01	6.46
	C-2	102,840	2.361	4.11	30	15	1	0.01	6.46
AR-58-59									
	C-3	44,740	1.027	1.79	30	15	1	0.01	6.46
	C-4	24,130	0.554	0.96	30	15	1	0.01	6.46
AR-120-121									
	C-5	15,300	0.351	0.61	30	15	1	0.01	6.46
	C-6	738,600	16.956	29.50	32	24	1	0.02	31.99
AR-152-153									
	C-7	133,026	3.054	5.31	30	15	1	0.01	6.46
	C-8	1,098,250	25.212	43.87	32	24	1	0.04	45.24
AR-162-163									
	C-9	1,025,400	23.540	40.96	32	24	1	0.03	39.18
	C-10	6,257,000	143.641	249.94	36	36 **	2	0.04	266.79
	C-11	26,100	0.599	1.04	30	15	1	0.01	6.46
AR-196-197									
	C-12	57,275	1.315	2.29	30	15	1	0.01	6.46
	C-13	98,480	2.261	3.93	30	15	1	0.01	6.46
AR-233-234									
	C-14	164,120	3.768	6.56	30	15	1	0.01	6.46
AR-240-241									
	C-15	956,700	21.963	38.22	32	24	1	0.03	39.18
	C-16	84,400	1.938	3.37	30	15	1	0.01	6.46
	C-17	1,277,600	29.330	51.03	34	30	1	0.02	58.01
	C-18	68,925	1.582	2.75	30	15	1	0.01	6.46
AR-246-247									
	C-19	237,300	5.448	9.48	30	18	1	0.01	10.50
	C-20	634,700	14.571	25.35	32	24	1	0.02	31.99
	C-21	339,400	7.792	13.56	30	18	1	0.02	14.86
	C-22	383,100	8.795	15.30	30	18	1	0.03	18.19
AR-260-261									
	C-24	302,000	6.933	12.06	30	18	1	0.02	14.86
	C-25	116,200	2.668	4.64	30	15	1	0.01	6.46
AR-318-319									
	C-26	421,900	9.685	16.85	30	18	1	0.03	18.19
	C-27	53,750	1.234	2.15	30	15	1	0.01	6.46
AR-324-325									
	C-28	61,700	1.416	2.46	30	15	1	0.01	6.46
	C-29	208,180	4.779	8.32	30	15	1	0.02	9.14
	C-30	593,600	13.627	23.71	32	24	1	0.02	31.99
	C-31	3,471,400	79.692	138.66	36	36	1	0.04	133.40
	C-32	9,412,900	216.090	376.00	40	48 **	2	0.02	406.28
AR-350-351									
	C-33	48,000	1.102	1.92	30	15	1	0.01	6.46
	C-34	550,000	12.626	21.97	32	24	1	0.01	22.62
AR-353-354									
	C-35	277,600	6.373	11.09	30	18	1	0.02	14.86
	C-36	391,900	8.997	15.65	30	18	1	0.02	14.86
AR-386-387									
	C-38	640,200	14.697	25.57	32	24	1	0.02	31.99
	C-39	234,300	5.379	9.36	30	15	1	0.03	11.19
	C-40	850,700	19.529	33.98	32	24	1	0.02	31.99
	C-41	123,250	2.829	4.92	30	15	1	0.01	6.46
	C-42	55,900	1.283	2.23	30	15	1	0.01	6.46
	C-43	38,000	0.872	1.52	30	15	1	0.01	6.46
	C-44	24,300	0.558	0.97	30	15	1	0.01	6.46
AR-388-389									
	C-45	4,629,000	106.267	184.90	36	36 **	2	0.02	188.65
AR-399-400									
	C-46	188,400	4.325	7.53	30	15	1	0.02	9.14
	C-47	853,300	19.589	34.08	32	24	1	0.03	39.18
AR-421-422									
	C-48	170,300	3.910	6.80	30	15	1	0.01	6.46
	C-49	857,400	19.683	34.25	32	24	1	0.03	39.18
	C-49-A	161,700	3.712	6.46	30	15	1	0.01	6.46
AR-425-426									
	C-50	220,000	5.051	8.79	30	18	1	0.01	10.50
AR-521-522									
	C-51	10,300	0.236	0.41	30	15	1	0.01	6.46
	C-52	209,000	4.798	8.35	30	18	1	0.01	10.50
AR-529-530									
	C-53	320,000	7.346	12.78	30	18	1	0.02	14.86
	C-54	129,300	2.968	5.16	30	15	1	0.01	6.46
	C-55	128,000	2.938	5.11	30	15	1	0.01	6.46
AR-550-551									
	C-56	35,800	0.822	1.43	30	15	1	0.01	6.46
AR-597-598									
	C-57	263,500	6.049	10.53	30	18	1	0.01	10.50
AR-620-621									
	C-58	6,000	0.138	0.24	30	15	1	0.01	6.46
	C-59	268,500	6.164	10.73	30	18	1	0.01	10.50
AR-648-649									
	C-60	568,000	13.039	22.69	45	24	1	0.01	22.62
	C-61	2,261,800	51.924	90.35	36	36	1	0.02	94.33
	C-62	605,500	13.900	24.19	32	24	1	0.02	31.99
AR-656-657									
	C-63	13,855,400	318.076	553.45	40	48 **	4	0.01	574.57
	C-64	28,200	0.647	1.13	30	15	1	0.01	6.46

** USE MANUFACTURED HEADWALL AND ENDWALL FOR MULTIPLE CULVERT INSTALLATIONS

APPD:	DATE:
JMR	05/25/11

REVISIONS:

NO.	REVISIONS
0	MAINE DEP SUBMITTAL

STATE OF MAINE
NICHOLAS R. PORELL
No. 11829
LICENSED
PROFESSIONAL ENGINEER

SGC ENGINEERING, LLC
• Civil Design & Survey Engineering
• Environmental & Regulatory Permitting
• Electrical Power Systems Engineering
SERVING OUR CLIENTS IN THE U.S.A. & CANADA

SGC Project: 657003 | Date: 05-25-2011 | Scale: | Drawn: NRP | Design: NRP | Appd: JMR

Title: STORMWATER CALCULATIONS

Project: 115kV TRANSMISSION LINE
OAKFIELD, MAINE TO CHESTER, MAINE

Applicant: Maine GenLead, LLC
c/o First Wind Energy, LLC
79 Lincoln Street, Suite 500, Boston, MA 02111

firstwind
CLEAN ENERGY. MADE HERE.

The information contained herein is strictly confidential and is the sole property of the project owner.

DWG. SW-01
SHEET 27 of 27