FINAL DEVELOPMENT PLAN

STETSON WIND PROJECT

T8R3 AND T8R4, NBPP
PREPARED FOR EVERGREEN WIND POWER V, LLC

60390E

DECEMBER 13, 2007

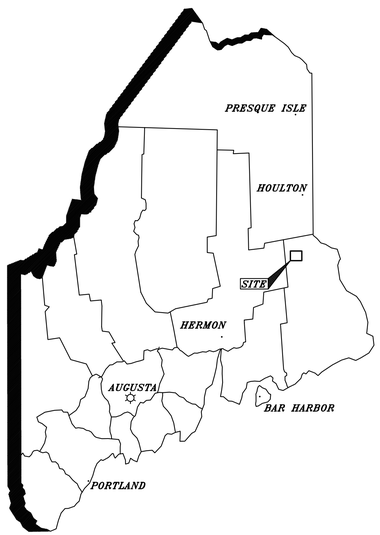
INDEX

DESIGN TEAM:

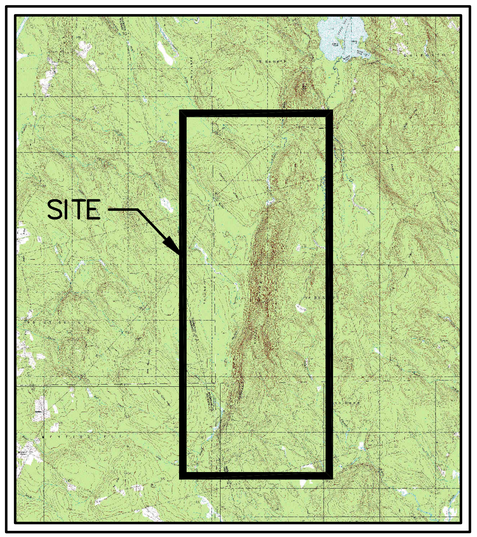
JAMES W. SEWALL COMPANY

ENGINEERS, SURVEYORS
RESOURCE CONSULTANTS

136 CENTER STREET
OLD TOWN, MAINE 04468
(207) 827 4456 fax: (207) 827 2186
info@jws.com www.jws.com

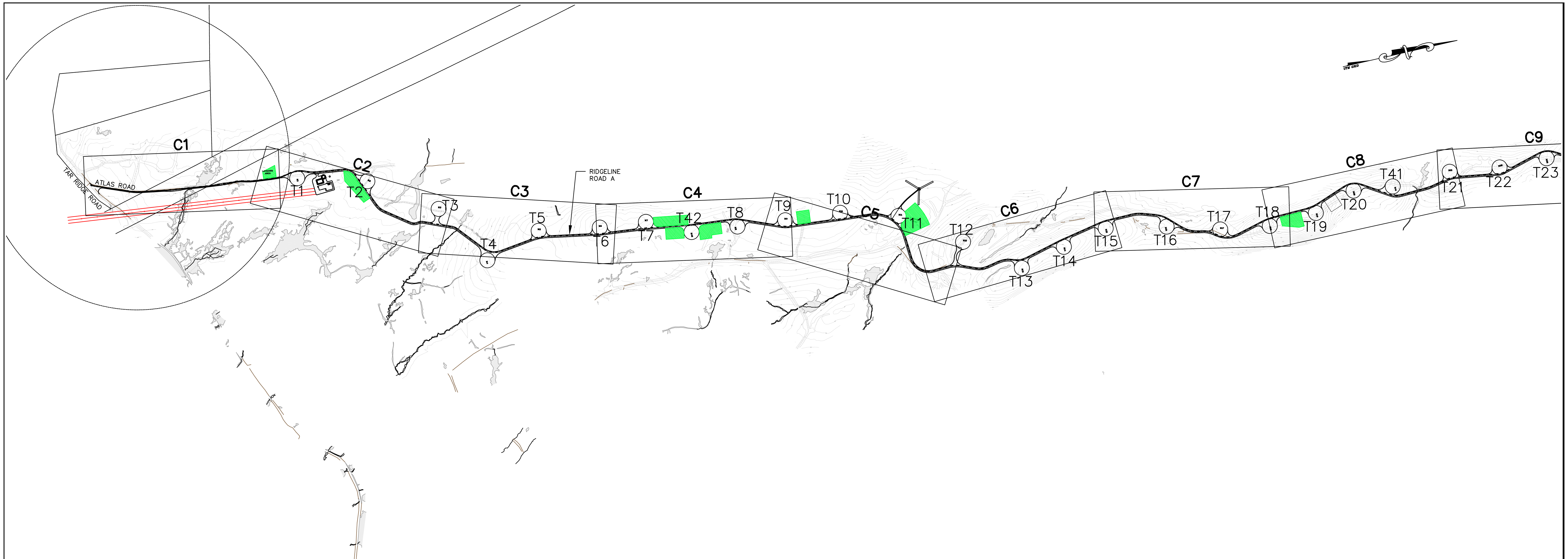


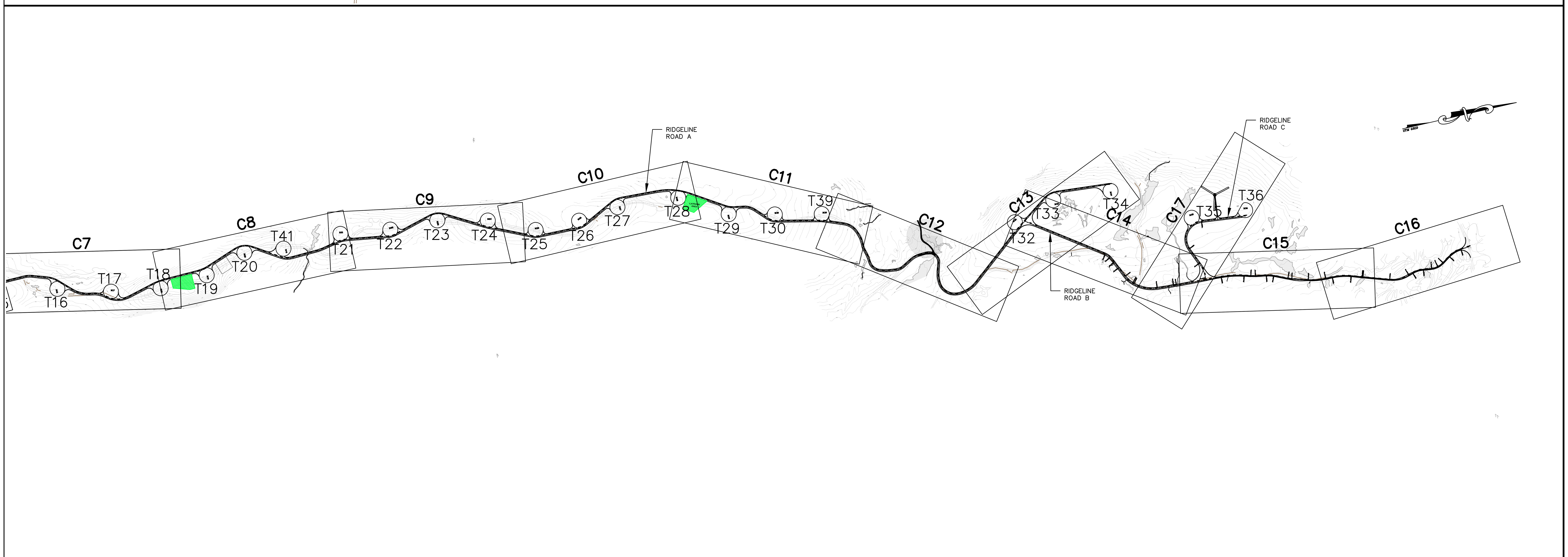
LOCUS MAP



VICINITY MAP

SEAL





Rev. #	Dwg. By	Description	Date

STETSON WIND PROJECT

EVERGREEN WIND POWER V, LLC

Project Location
STETSON MOUNTAIN

Drawing Description
INDEX SHEET
GRADING PLAN AND PROFILE SHEETS

Designed By	Drawn By	Date	Scale	Approved	Checked
PG	RCJH	09/25/07	1"=100'	-	-

Seal

Project No.
60390E

Engineer
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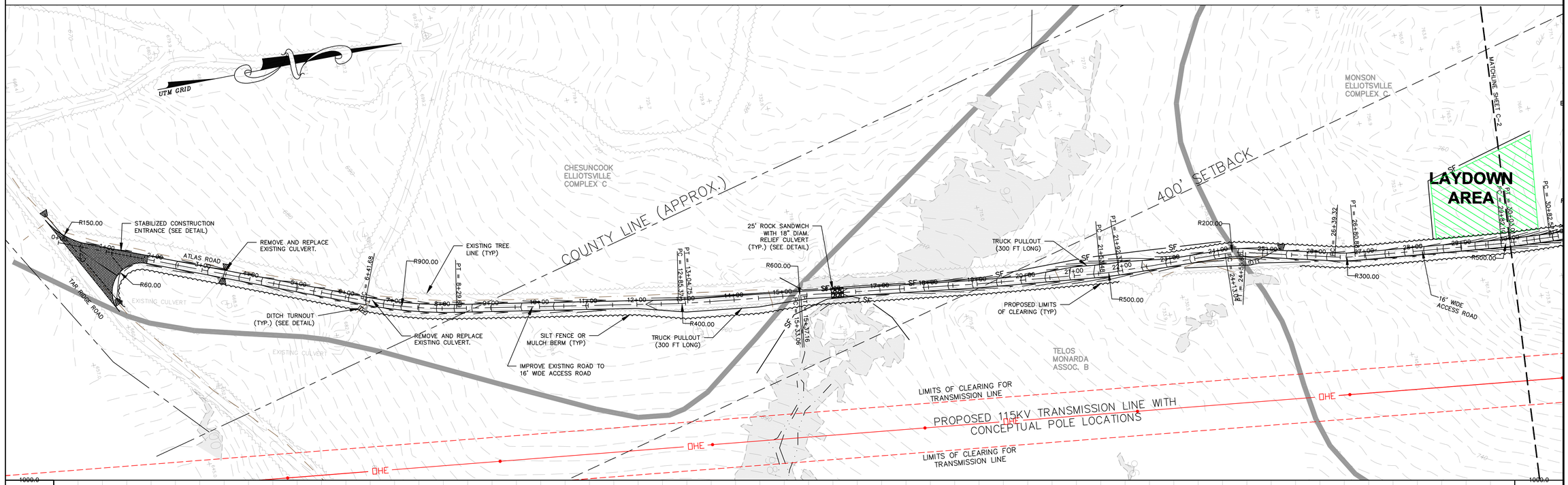
Phase
FINAL

Sheet No.
C0



Rev. #	Dwg. By	Description	Date
A	JEC	REV. PER MAINE STATE SOIL SCIENTIST	12/12/07

STETSON WIND PROJECT

EVERGREEN WIND POWER V, LLC

Project Location
STETSON MOUNTAIN

Drawing Description
ROAD A PLAN AND PROFILE STATION 0+00 THRU 30+00

Designed By: PG
Drawn By: RCJH
Date: 09/25/2007
Scale: H: 1"=100' V: 1"=50'
Checked: -
Approved: -

Project No.
60390E

Engineer
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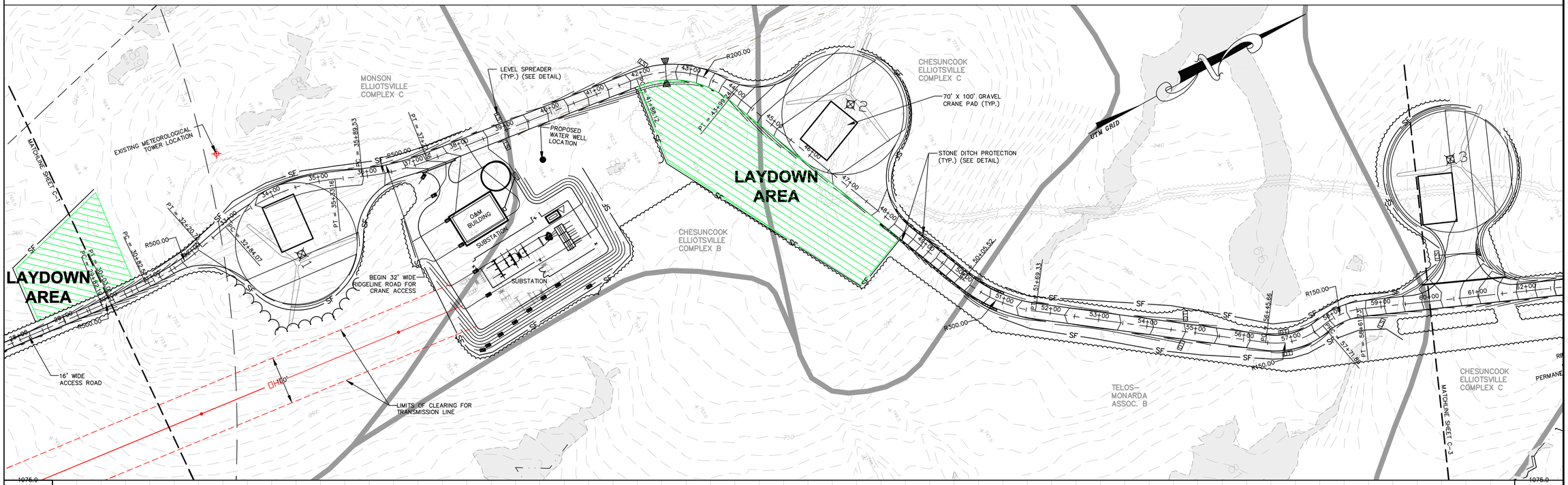
Seal

Phase
FINAL

Sheet No.
C1



Rev. #	Dwg. By	Description	Date
A	JEC	REV. PER MAINE STATE SOIL SCIENTIST	12/12/07

STETSON WIND PROJECT

EVERGREEN WIND AND POWER V, LLC

Project Location
STETSON MOUNTAIN

Designed By: PG
Drawn By: RC/JH
Date: 09/25/2007
Scale: H: 1"=100' V: 1"=50'

Drawing Description
ROAD A PLAN AND PROFILE
STATION 30+00 THRU 60+00

Approved: -
Checked: -

2007-08-21 road a plan and profile (100).dwg

Seal

Project No.
60390E

Engineer
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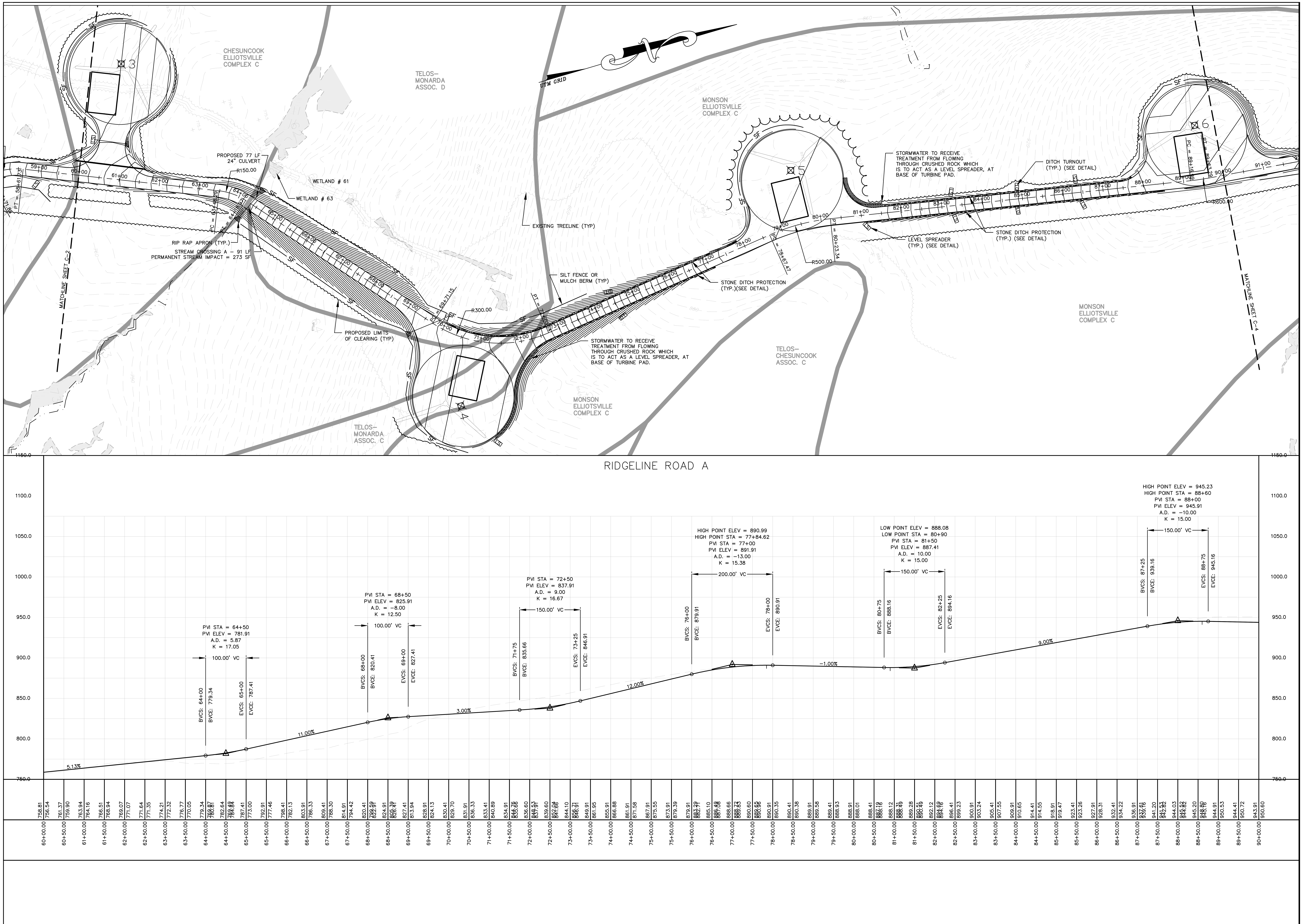
Phase
FINAL

Sheet No.
C2



STETSON WIND PROJECT

EVERGREEN WIND POWER V, INC

Project Location: STETSON MOUNTAIN

Drawing Description: **ROAD A PLAN AND PROFILE STATION 60+00 THRU 90+00**

Rev. #	Dwg. By	Description	Date
A	JEC	REV. PER MAINE STATE SOIL SCIENTIST	12/12/07

Designed By: PG
Drawn By: RCJH
Date: 09/25/2007
Scale: H: 1"=100' V: 1"=50'
Approved: -
Checked: -

Seal

Project No.: **60390E**

Engineer: **JAMES W. SEWALL COMPANY**
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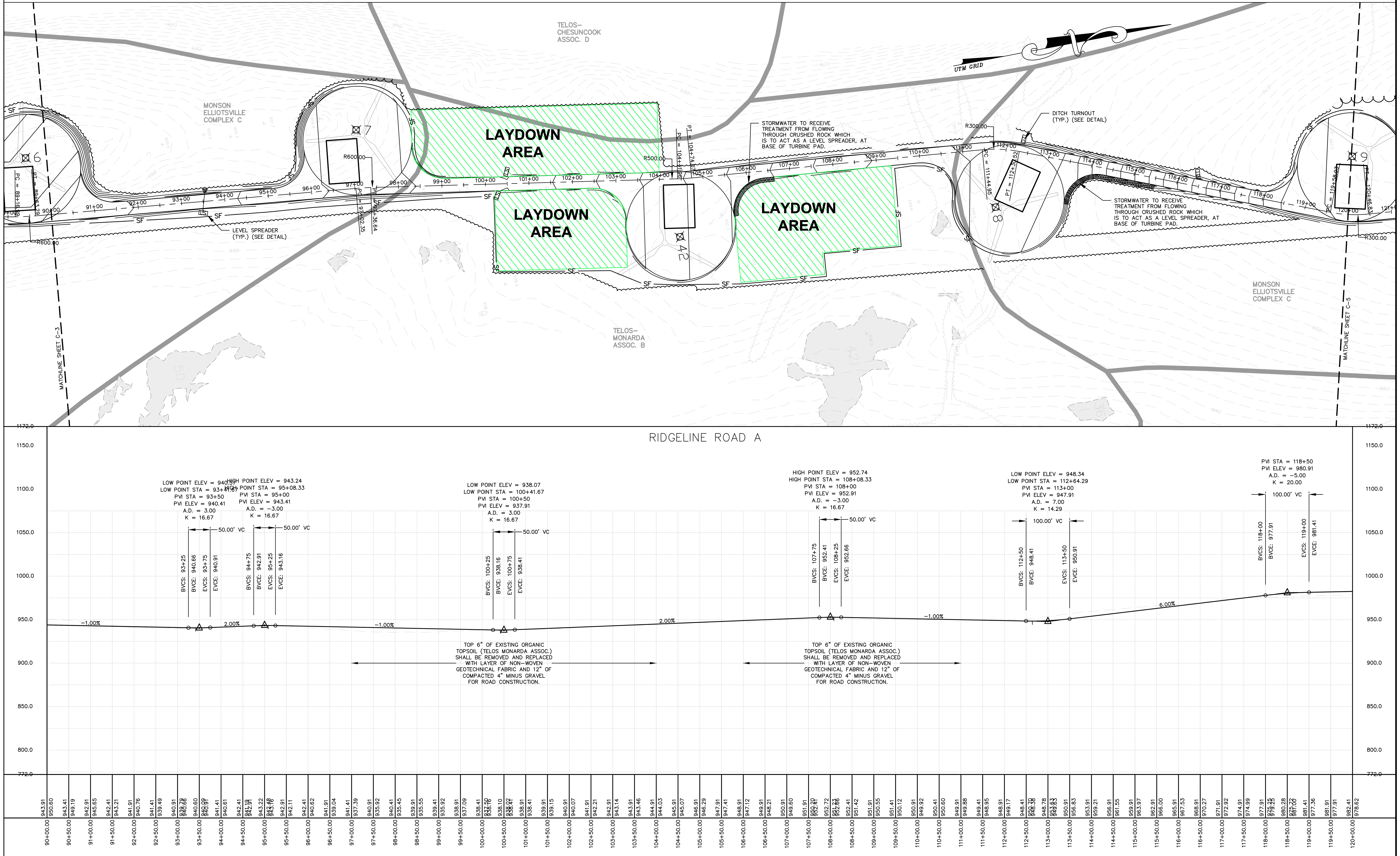
Phase: FINAL

Sheet No.: **C3**



Rev. #	Dwg. By	Description	Date
A	JEC	REV. PER MAINE STATE SOIL SCIENTIST	12/12/07

STETSON WIND PROJECT

EVERGREEN WIND POWER V, LLC

Project Location: STETSON MOUNTAIN

Drawing Description: **ROAD A PLAN AND PROFILE STATION 90+00 THRU 120+00**

Designed By	Drawn By	Date	Scale	Approved	Checked
PG	RCJH	09/25/2007	H: 1"=100' V: 1"=50'	-	-

Project No. **60390E**

Engineer: **JAMES W. SEWALL COMPANY**
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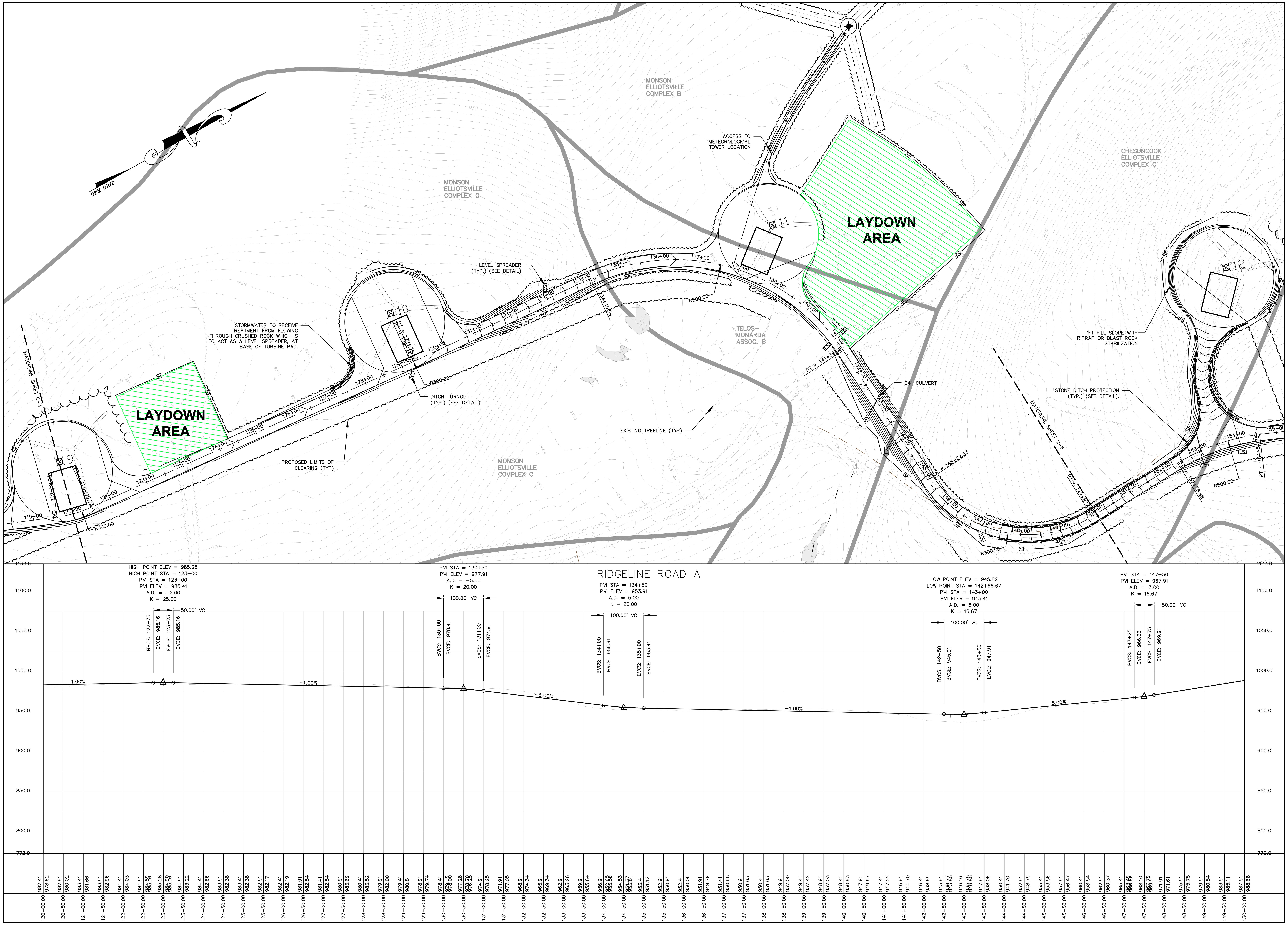
Phase: FINAL

Sheet No. **C4**



60390E

STETSON WIND PROJECT

EVERGREEN WIND POWER V, LLC

Project Location: STETSON MOUNTAIN

Drawing Description: **ROAD A PLAN AND PROFILE STATION 120+00 THRU 150+00**

Designed By	Drawn By	Date	Scale	Approved	Checked
PG	RCJH	09/25/2007	H: 1"=100' V: 1"=50'	-	-

Rev. #	Dwg. By	Description	Date
A	JEC	REV. PER MAINE STATE SOIL SCIENTIST	12/12/07

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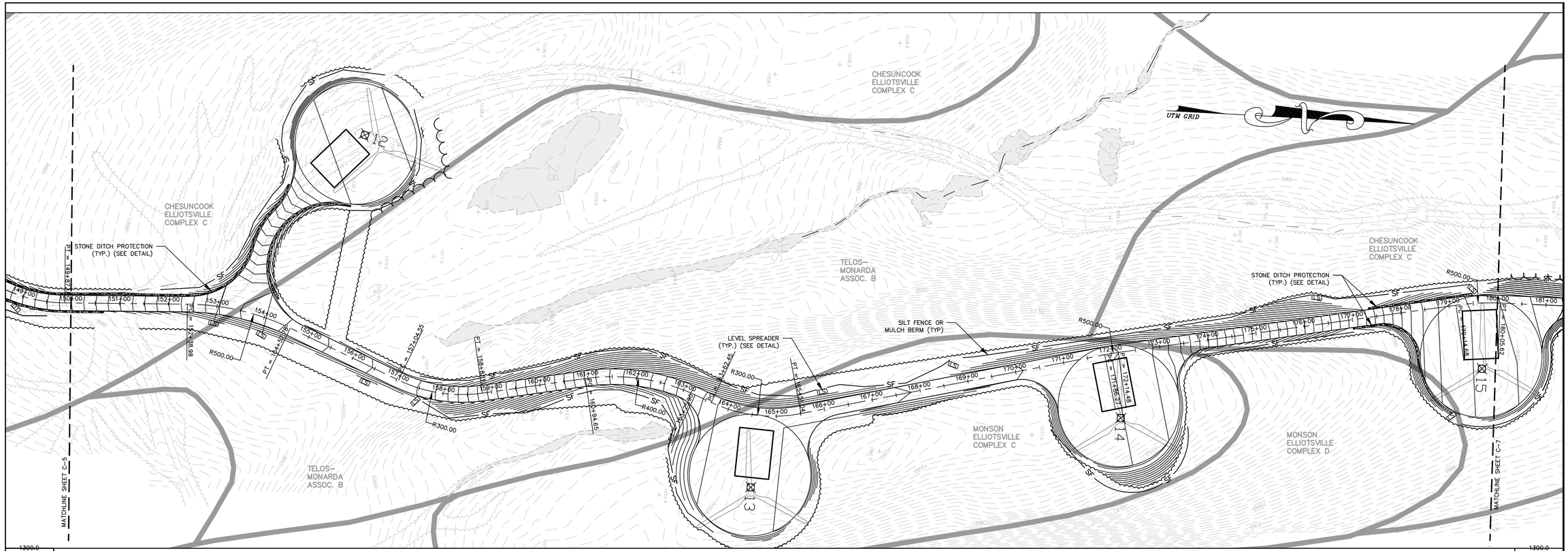
Phase: FINAL

Sheet No. C5



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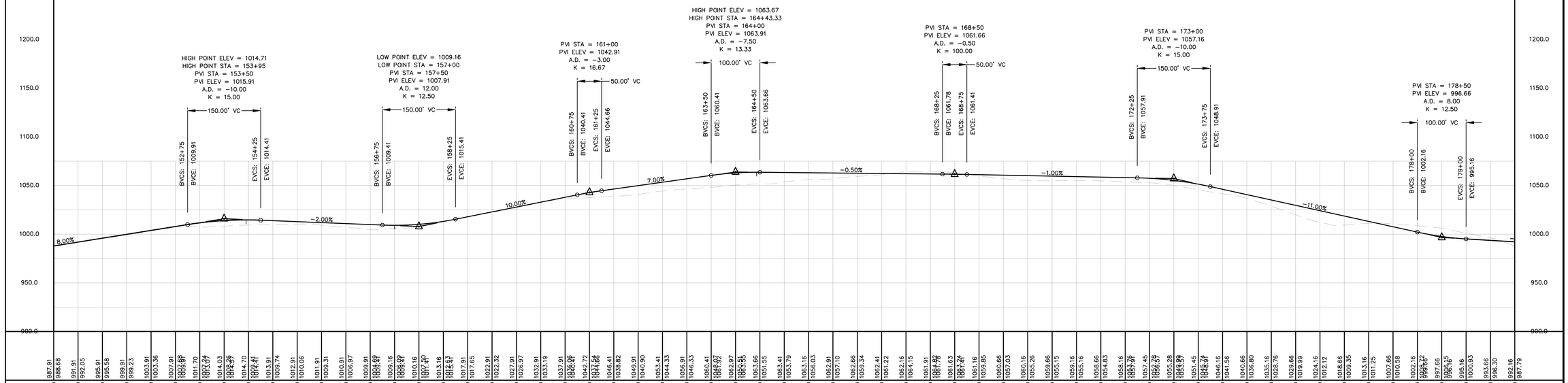

Rev. #	Dwg. By	Description	Date
A	JEC	REV. PER MAINE STATE SOIL SCIENTIST	12/12/07

STETSON WIND PROJECT

EVERGREEN WIND POWER V, LLC

Project Location
STETSON MOUNTAIN

Drawing Description
ROAD A PLAN AND PROFILE STATION 150+00 THRU 180+00

Designed By: PG
Drawn By: RCJH
Date: 09/25/2007
Scale: H: 1"=100' V: 1"=50'
Approved: -
Checked: -

Seal

60390E

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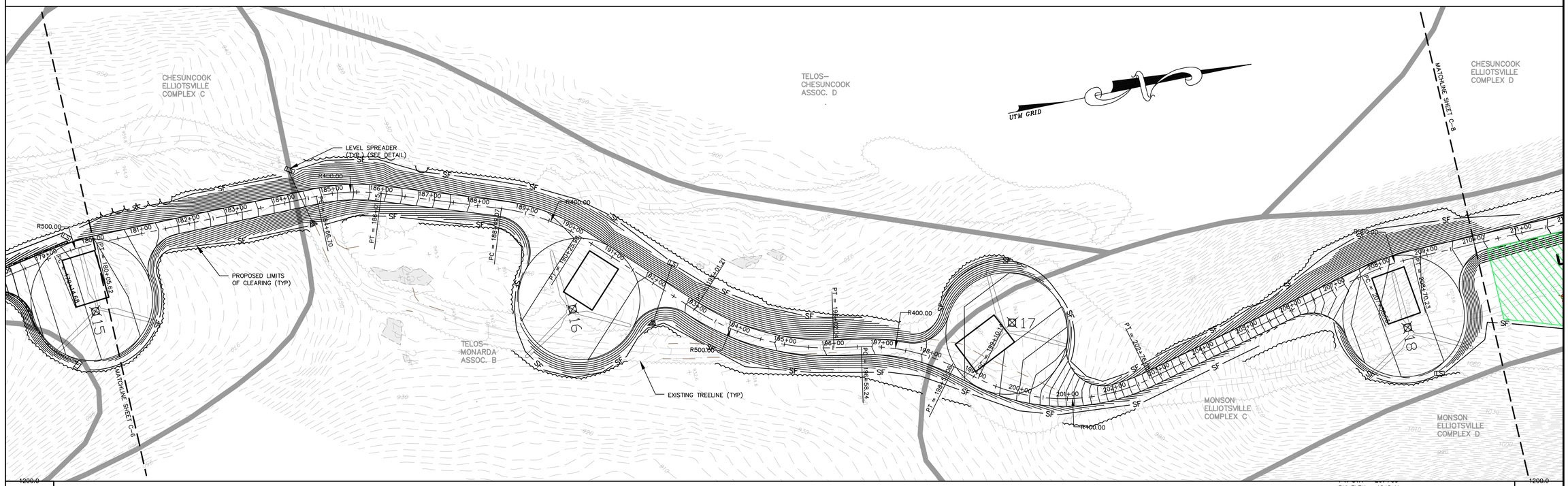
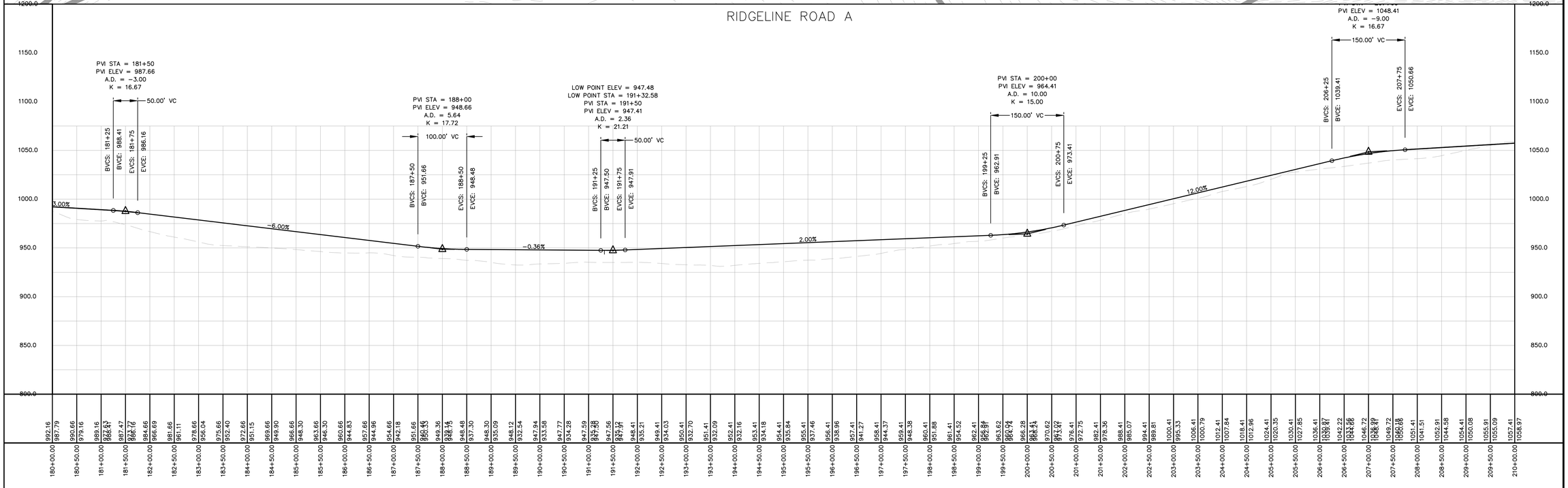
Project No.
Engineer

Phase
FINAL

Sheet No.
C6





Rev. #	Dwg. By	Description	Date
A.	JEC	REV. PER MAINE STATE SOIL SCIENTIST	12/12/07

STETSON WIND PROJECT

EVERGREEN WIND POWER V, LLC

Project Location: STETSON MOUNTAIN

Drawing Description: **ROAD A PLAN AND PROFILE STATION 180+00 THRU 210+00**

Designed By: PG | Drawn By: RCJH | Checked: -

Date: 09/25/2007 | Scale: H: 1"=100' V: 1"=50' | Approved: -

Project No.: **60390E**

Engineer:

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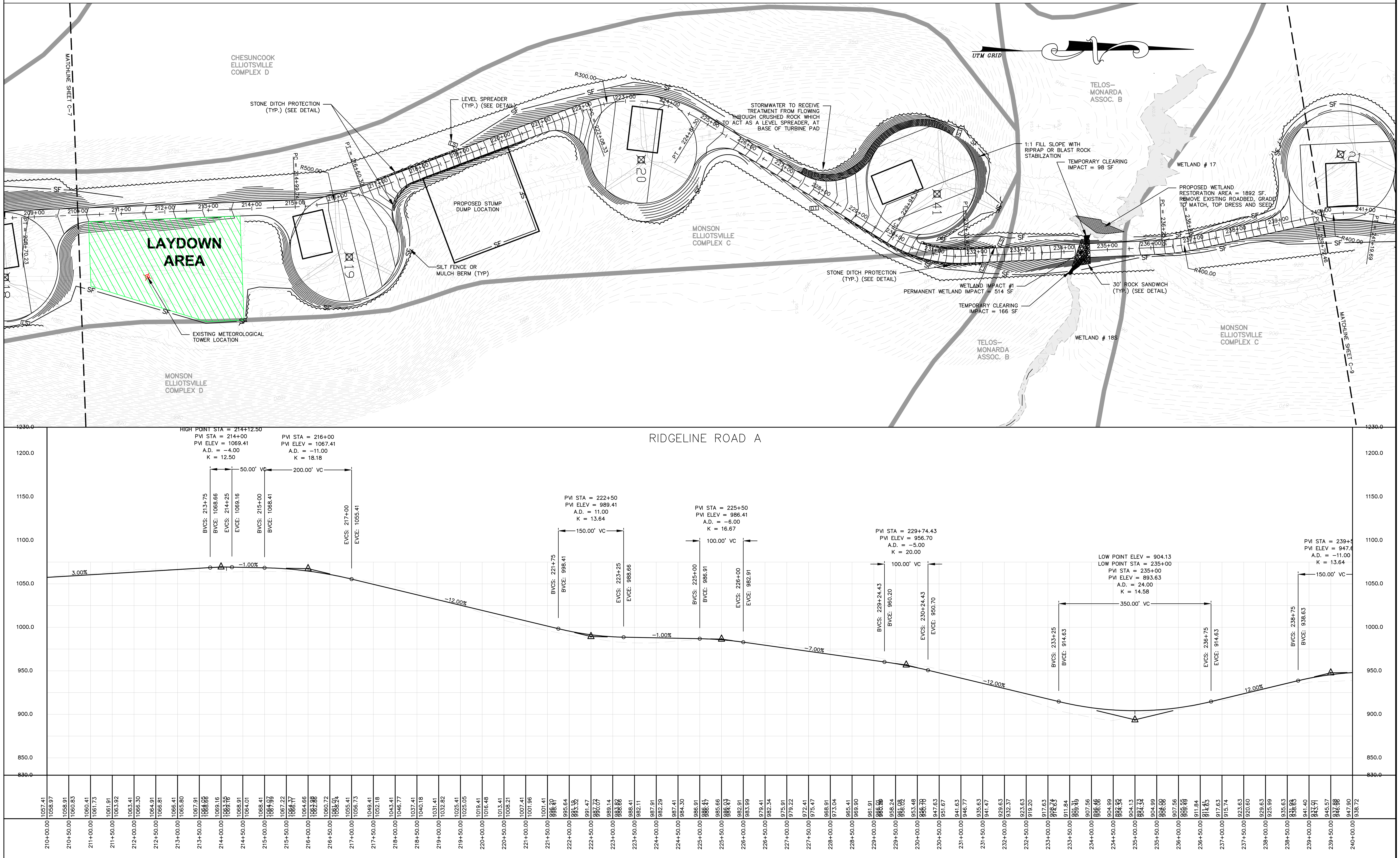
Seal

Phase: FINAL

Sheet No.: **C7**



STETSON WIND PROJECT

EVERGREEN WIND POWER V, LLC

Project Location: STETSON MOUNTAIN

Drawing Description: **ROAD A PLAN AND PROFILE STATION 210+00 THRU 240+00**

Rev.	Dwg. By	Description	Date
A	JEC	REV. PER MAINE STATE SOIL SCIENTIST	12/12/07

Designed By	Drawn By	Date	Scale	Approved	Checked
PG	RCJH	09/25/2007	H: 1"=100' V: 1"=50'	-	-

Seal

Project No. **60390E**

Engineer: **JAMES W. SEWALL COMPANY**
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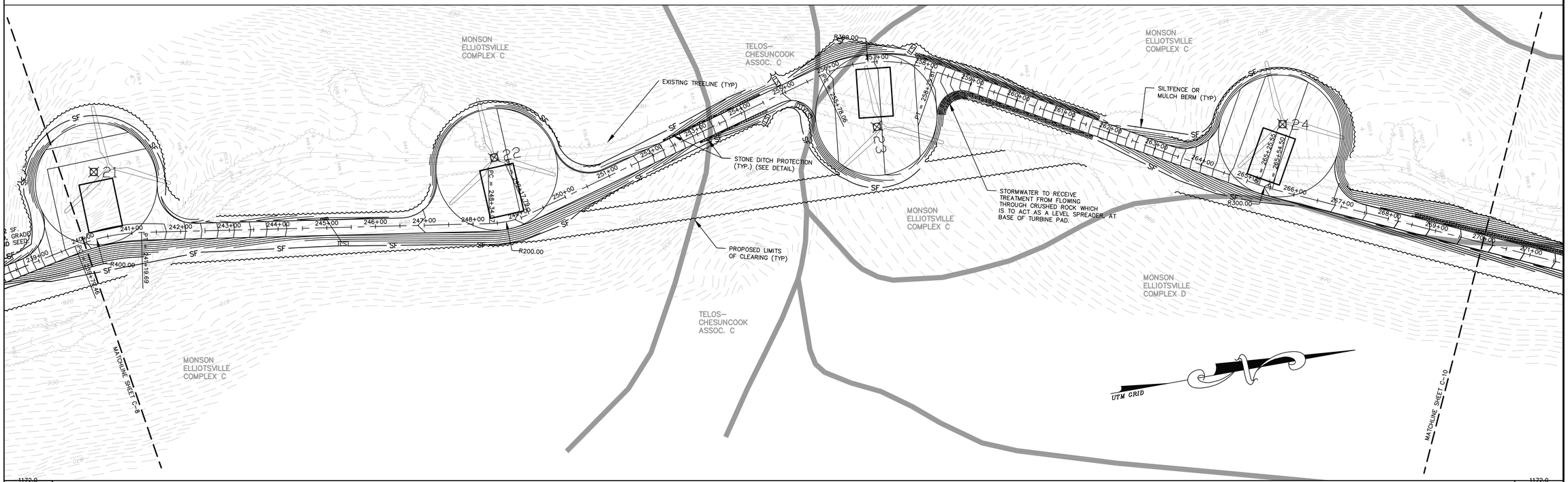
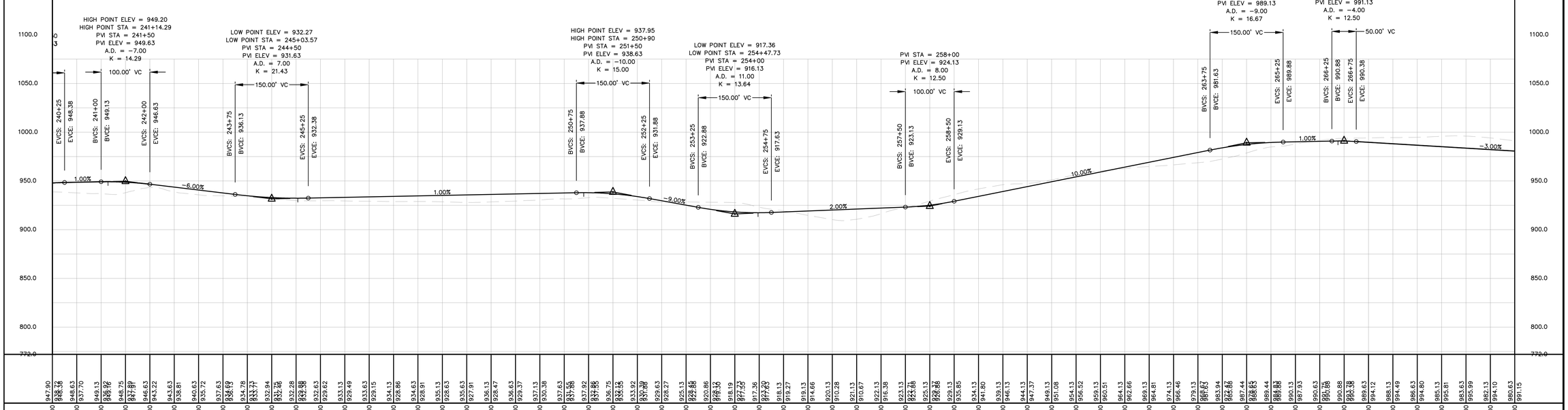
Phase: FINAL

Sheet No. **C8**





Rev. #	Dwg. By	Description	Date
A	JEC	REV. PER MAINE STATE SOIL SCIENTIST	12/12/07

STETSON WIND PROJECT

EVERGREEN WIND POWER V, LLC

Project Location
STETSON MOUNTAIN

Drawing Description
ROAD A PLAN AND PROFILE
STATION 240+00 THRU 270+00

2007-08-21 road a plan and profile (100).dwg

Designed By: PG
Drawn By: RC/JH
Date: 09/25/2007
Scale: H: 1"=100' V: 1"=50'
Approved: -
Checked: -

Seal

Project No.
60390E

Engineer
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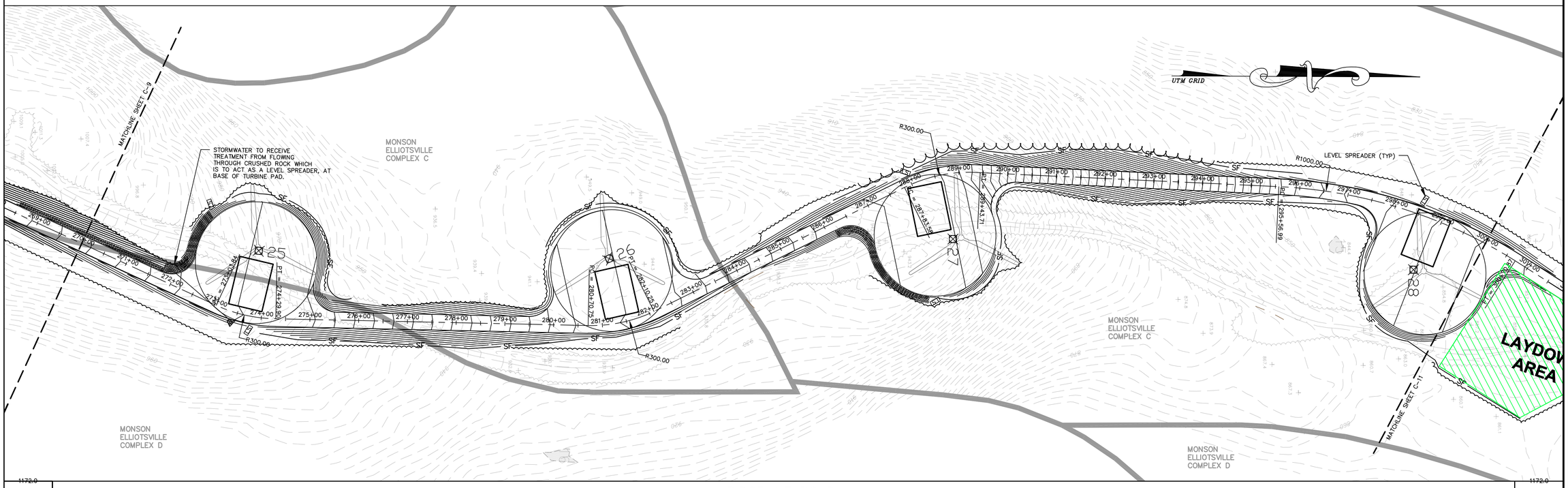
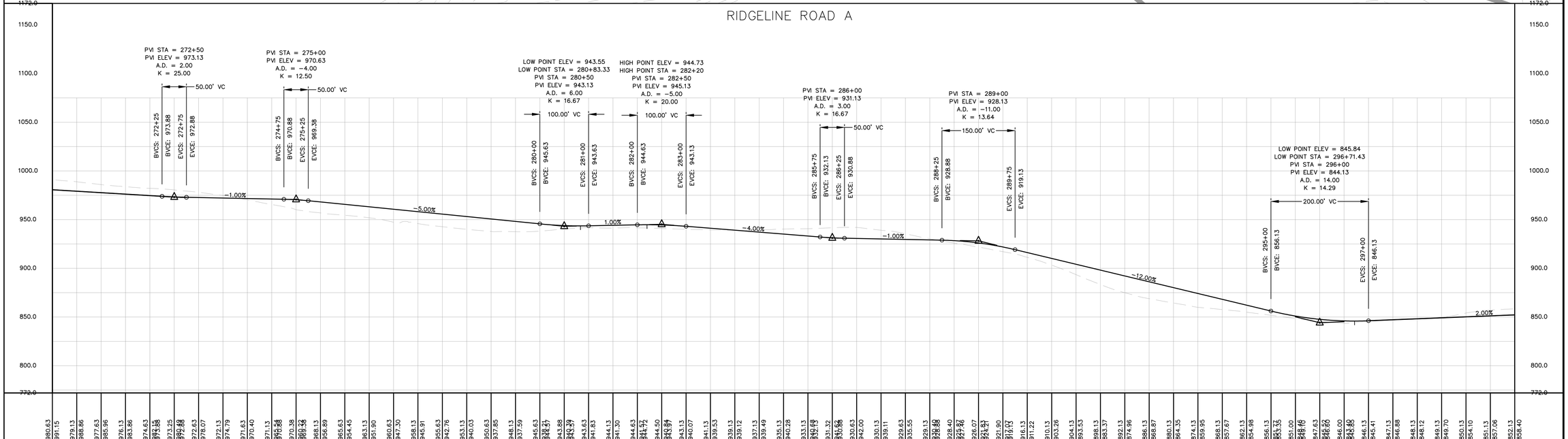
FINAL

Sheet No.
C9





Rev. #	Dwg. By	Description	Date
A	JEC	REV. PER MAINE STATE SOIL SCIENTIST	12/12/07

STETSON WIND PROJECT

EVERGREEN WIND POWER V, LLC

Project Location
STETSON MOUNTAIN

Drawing Description
ROAD A PLAN AND PROFILE STATION 270+00 THRU 300+00

Designed By: PG
Drawn By: RDJH
Date: 09.25.2007
Scale: H: 1"=100' V: 1"=50'
Approved: -
Checked: -

Seal

60390E

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136 CENTER STREET
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Project No.
Engineer

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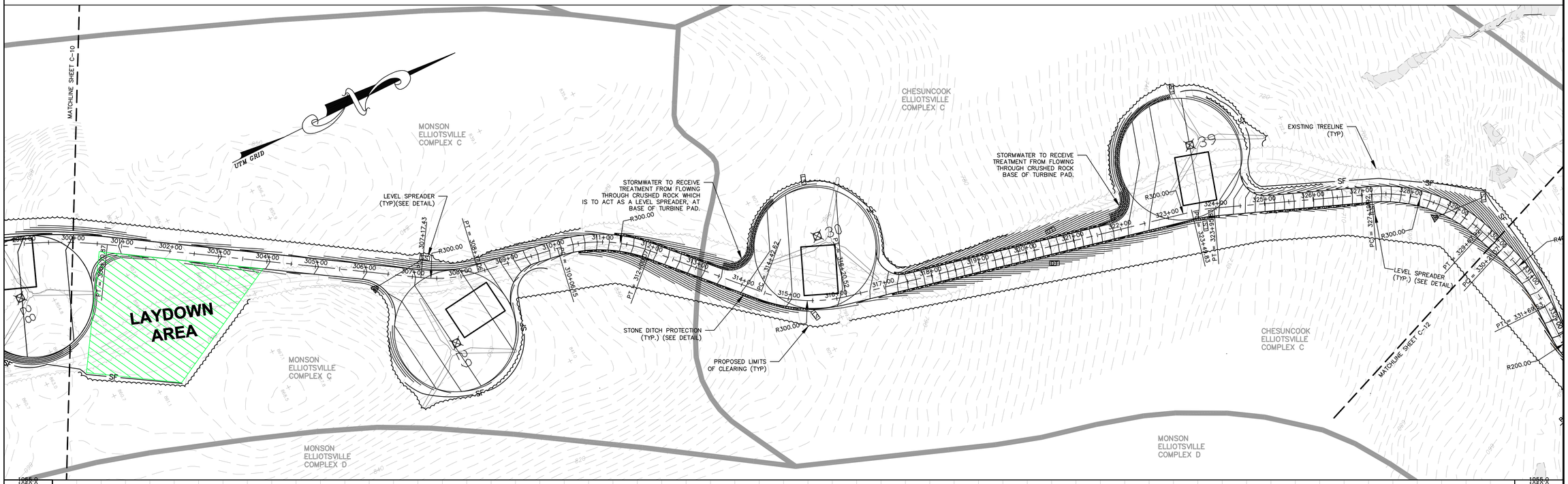
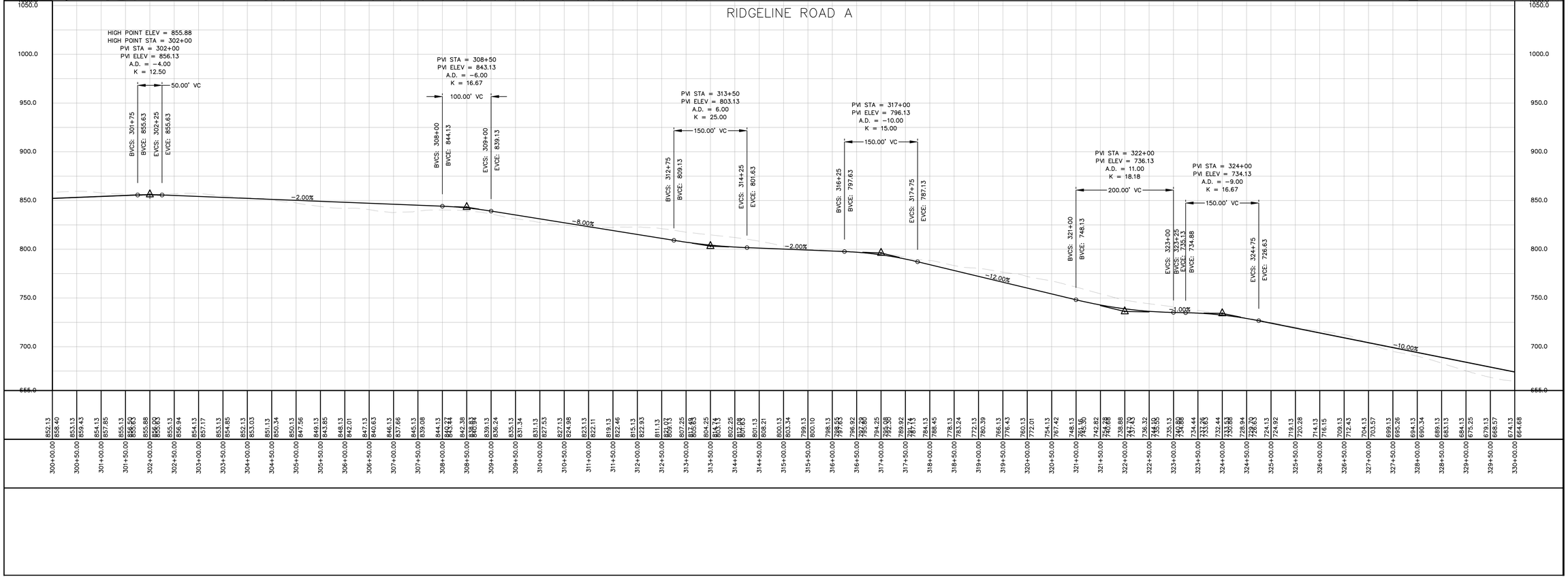
Sheet No.
C10





Rev. #	Dwg. By	Description	Date
A	JEC	REV. PER MAINE STATE SOIL SCIENTIST	12/12/07

STETSON WIND PROJECT

EVERGREEN WIND POWER V, LLC

Project Location
STETSON MOUNTAIN

Drawing Description
ROAD A PLAN AND PROFILE
STATION 300+00 THRU 330+00

Designed By: PG
Drawn By: RCJH
Date: 09.05.2007
Scale: H: 1"=100' V: 1"=50'
Checked: -
Approved: -

Project No.
60390E

Engineer
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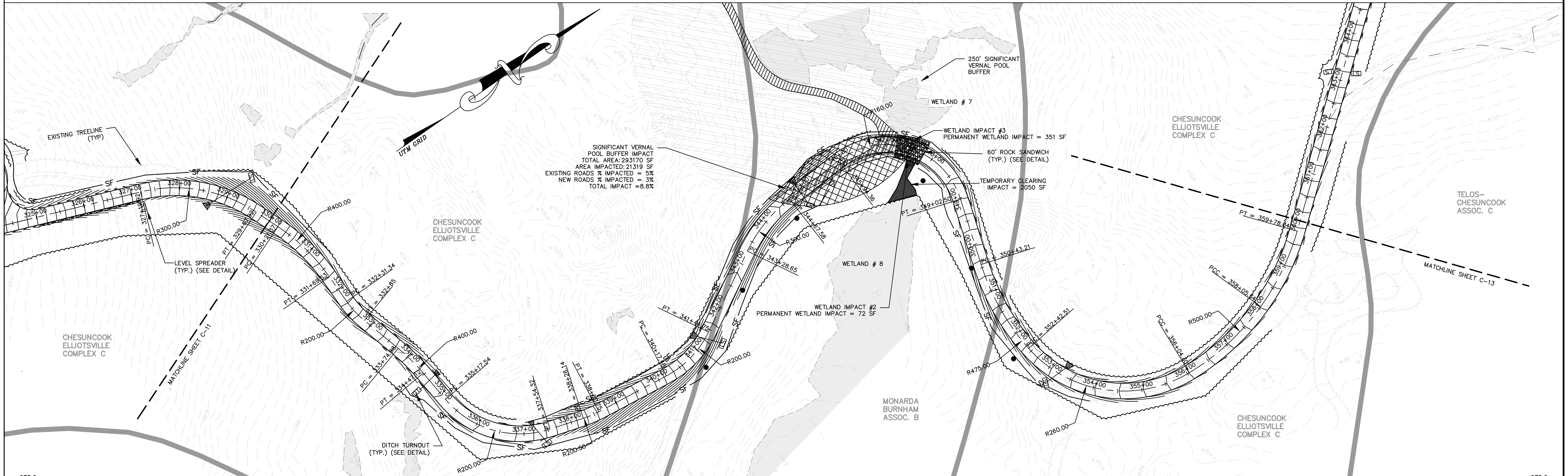
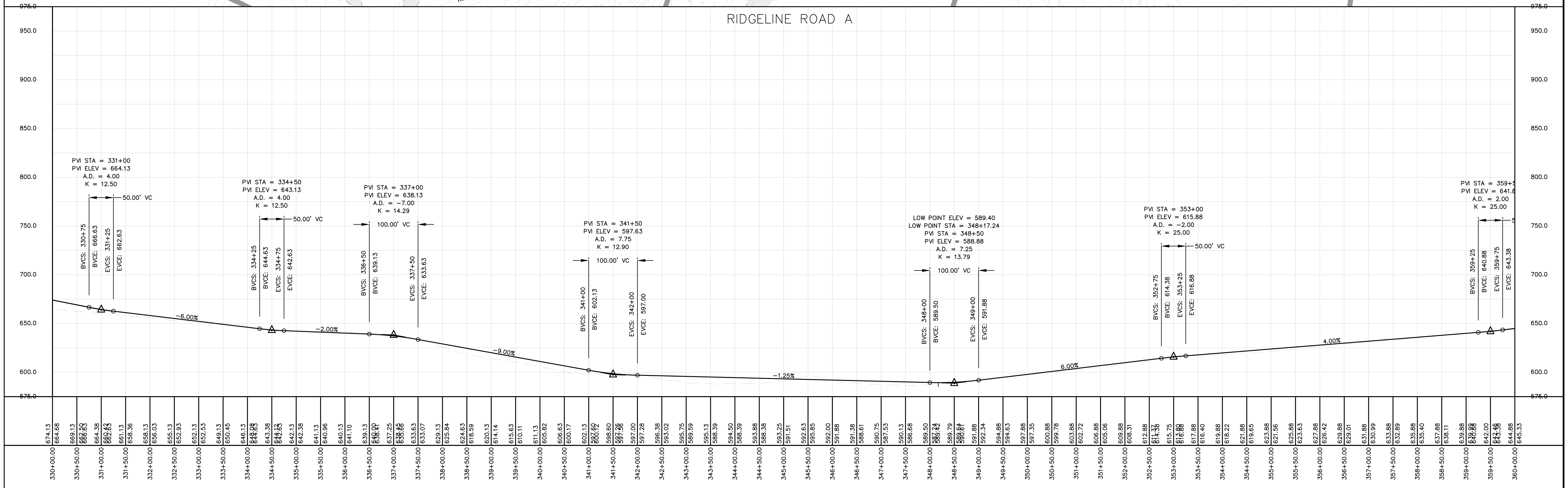
Phase
FINAL

Sheet No.
C11





STETSON WIND PROJECT

EVERGREEN WIND POWER V, LLC

Project Location: STETSON MOUNTAIN

Drawing Description: **ROAD A PLAN AND PROFILE STATION 330+00 THRU 360+00**

Designed By	Drawn By
PG	RC/JH
Date: 09/25/2007	
Scale: H: 1"=100' V: 1"=50'	
Approved: -	Checked: -

Rev. #	Dwg. By	Description	Date
A	JEC	REV. PER MAINE STATE SOIL SCIENTIST	12/12/07

Project No.: 60390E

Engineer: JAMES W. SEWALL COMPANY
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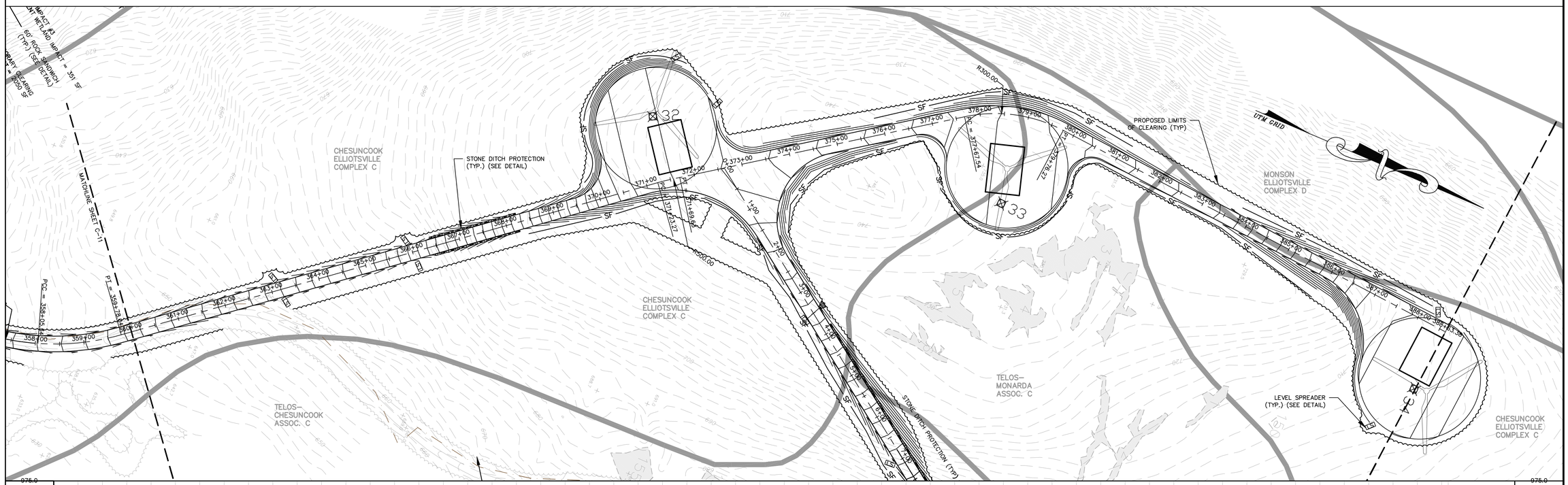
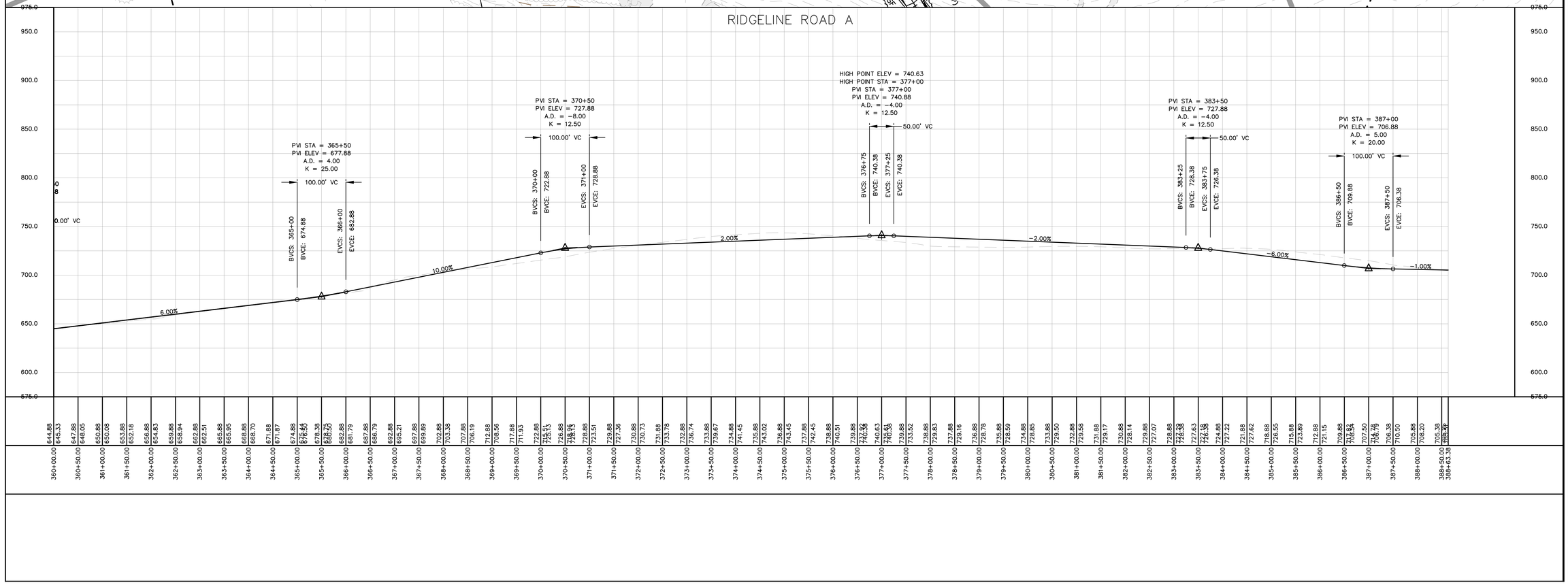
Phase: FINAL

Sheet No.: C12





Rev. #	Dwng. By	Description	Date
A	AEC	REV. PER MAINE STATE SOIL SCIENTIST	12/12/07

STETSON WIND PROJECT

EVERGREEN WIND POWER V, LLC

Project Location
STETSON MOUNTAIN

Drawing Description
ROAD A PLAN AND PROFILE STATION 360+00 THRU 388+63.38

Designed By: PG
Drawn By: RCJH
Date: 09/25/2007
Scale: H: 1"=100' V: 1"=50'
Approved: -
Checked: -

Seal

60390E

Project No.

Engineer

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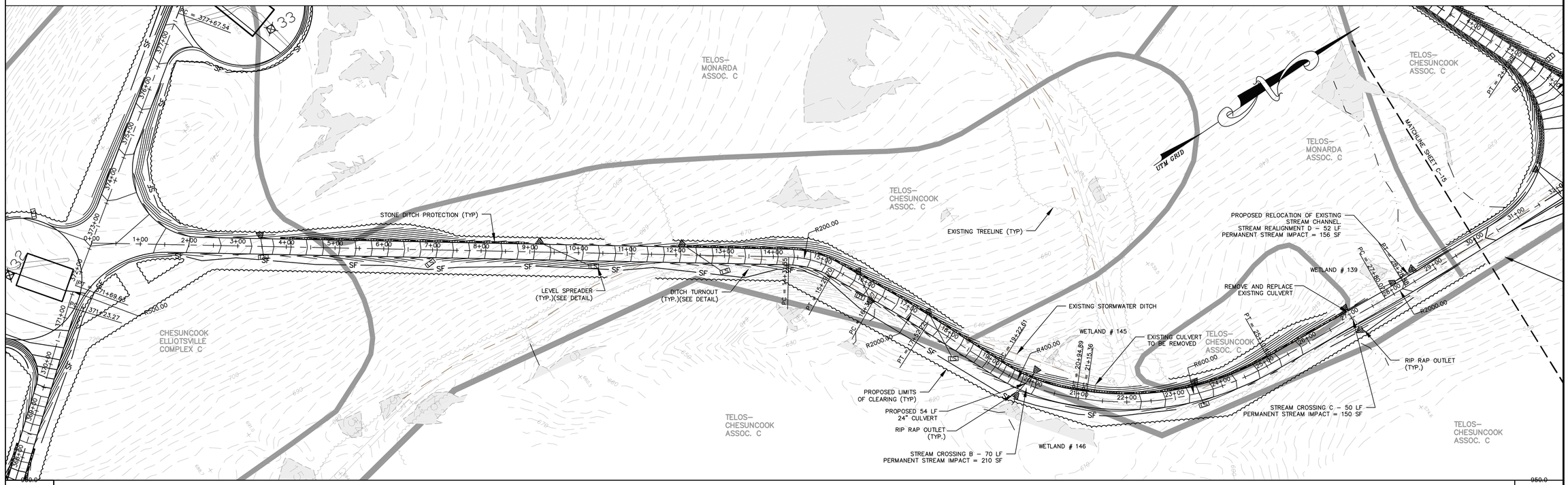
Phase
FINAL

Sheet No.
C13



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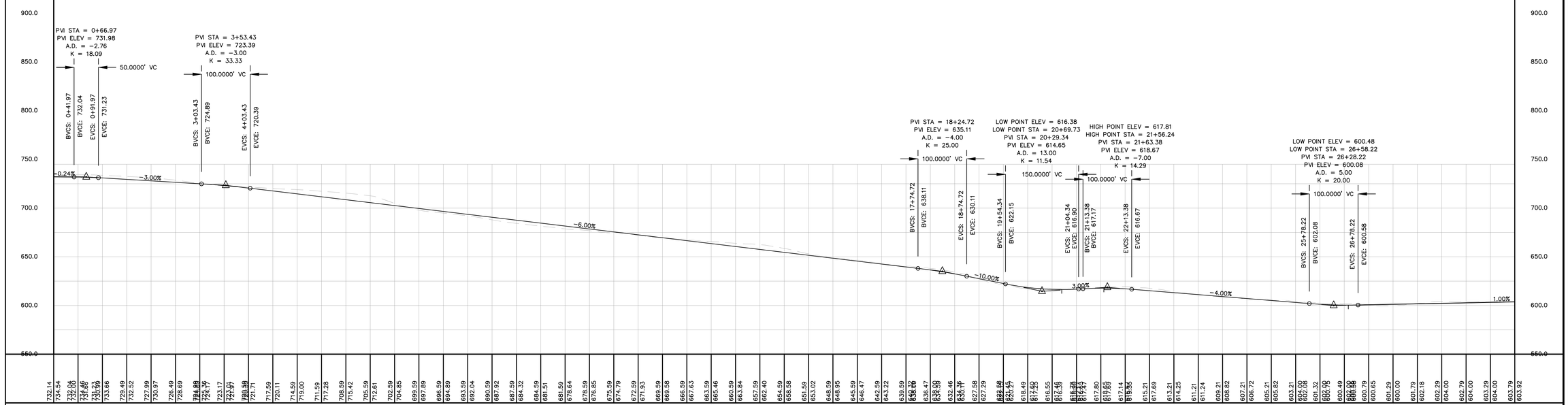

Rev. #	Dwg. By	Description	Date
A	JEC	REV. PER MAINE STATE SOIL SCIENTIST	12/12/07

STETSON WIND PROJECT

EVERGREEN WIND POWER V, LLC

Project Location
STETSON MOUNTAIN

Drawing Description
ROAD B PLAN AND PROFILE STATION 0+00 THRU 30+00

Designed By: PG
Drawn By: RCJH
Date: 09/25/2007
Scale: H: 1"=100' V: 1"=50'
Checked: -
Approved: -

Seal

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Project No.

Engineer

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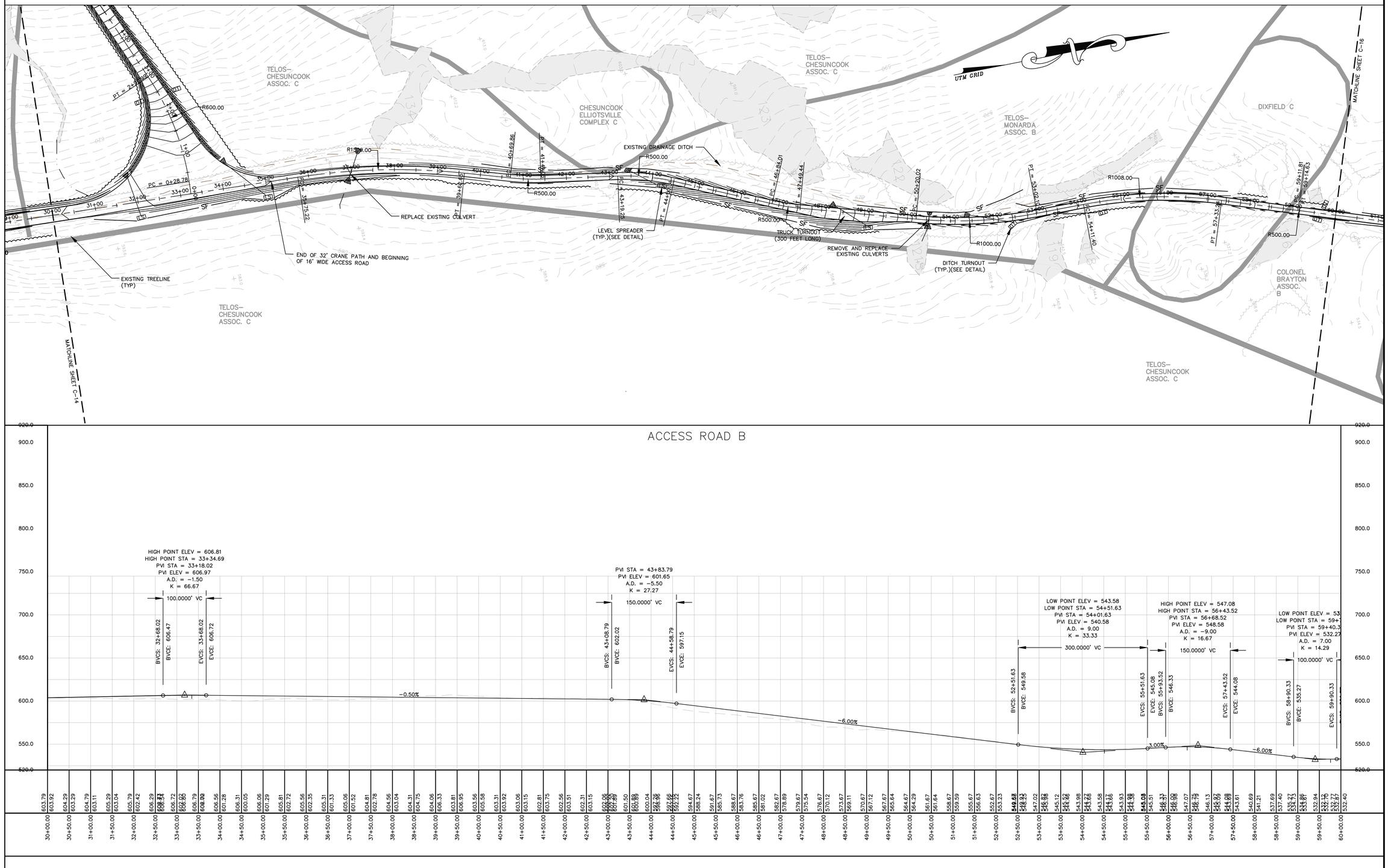
Phase
FINAL

Sheet No.
C14



Rev. #	Dwg. By	Description	Date
A	JEC	REV. PER MAINE STATE SOIL SCIENTIST	12/12/07

STETSON WIND PROJECT

EVERGREEN WIND POWER V, LLC

Project Location
STETSON MOUNTAIN

Drawing Description
ROAD B PLAN AND PROFILE
STATION 30+00THRU 60+00

Designed By
PG

Drawn By
RCJH

Date
09/25/2007

Scale
H: 1"=100' V: 1"=50'

Checked
-

Approved
-

Seal

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Project No.

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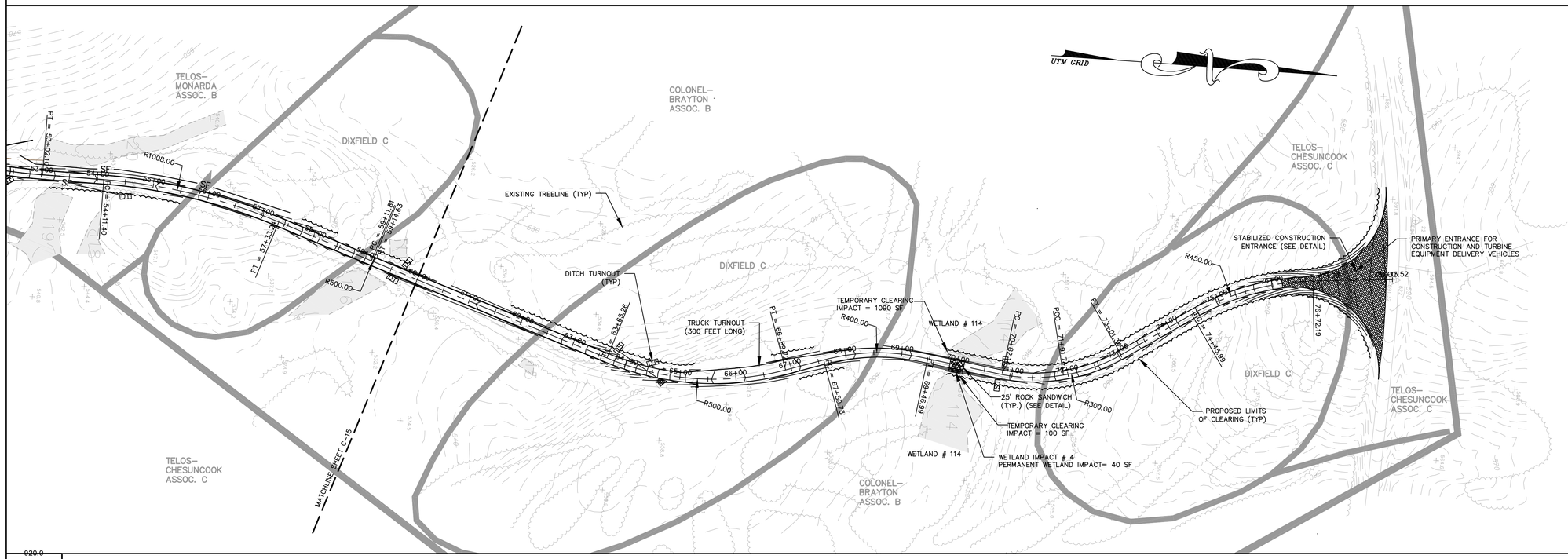
C15



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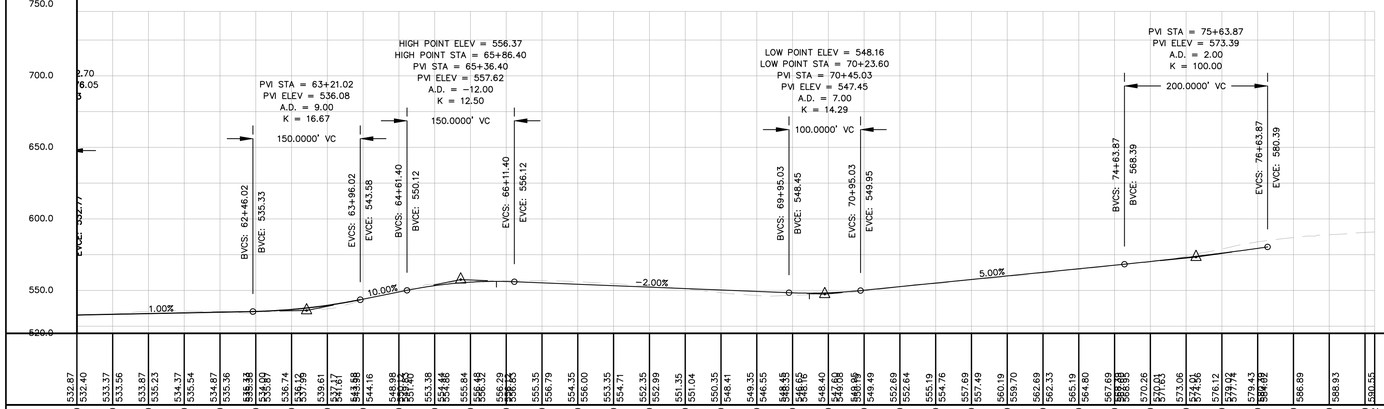

Rev. #	Dwg. By	Description	Date
A	JEC	REV. PER MAINE STATE SOIL SCIENTIST	12/12/07

STETSON WIND PROJECT

EVERGREEN WIND POWER V, LLC

Project Location
STETSON MOUNTAIN

Drawing Description
ROAD B PLAN AND PROFILE
STATION 60+00 THRU 78+13.52

Designed By: PG
Drawn By: RCJH
Date: 09/25/2007
Scale: H: 1"=100' V: 1"=50'
Approved: -
Checked: -

Seal

60390E

Project No.

Engineer

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OLD TOWN, MAINE 04468
(207) 827-4456

Phase
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Sheet No.
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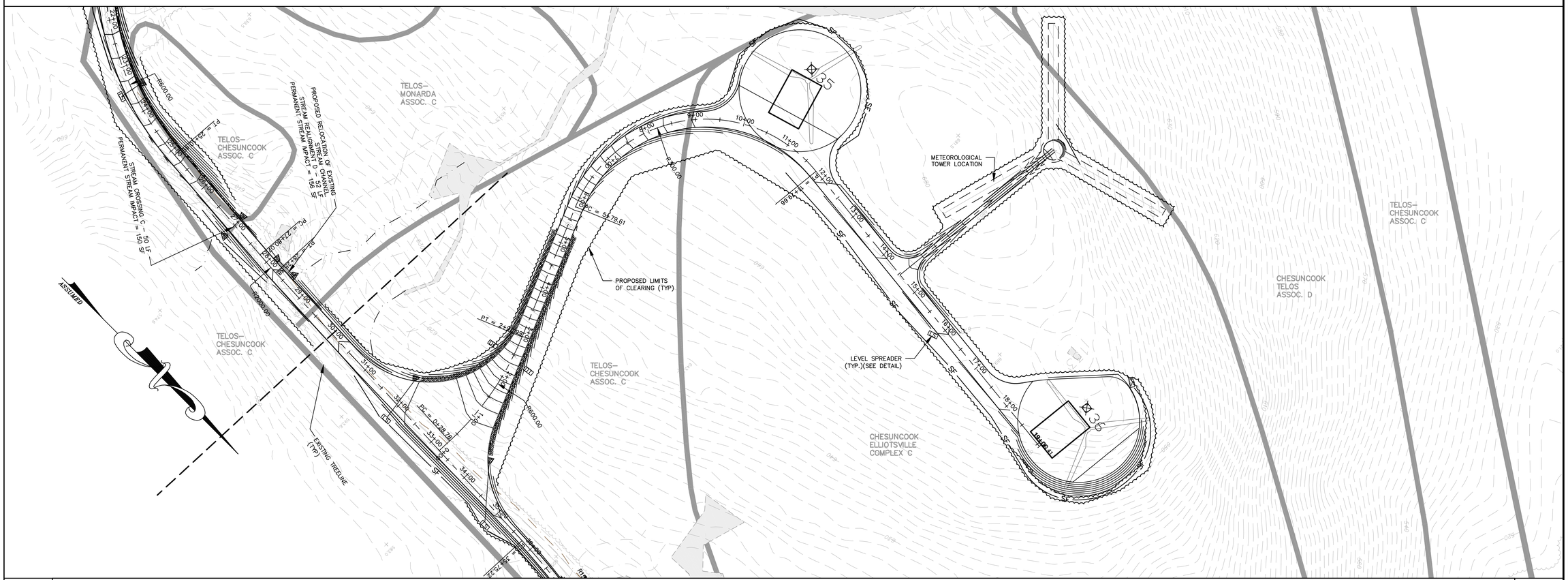
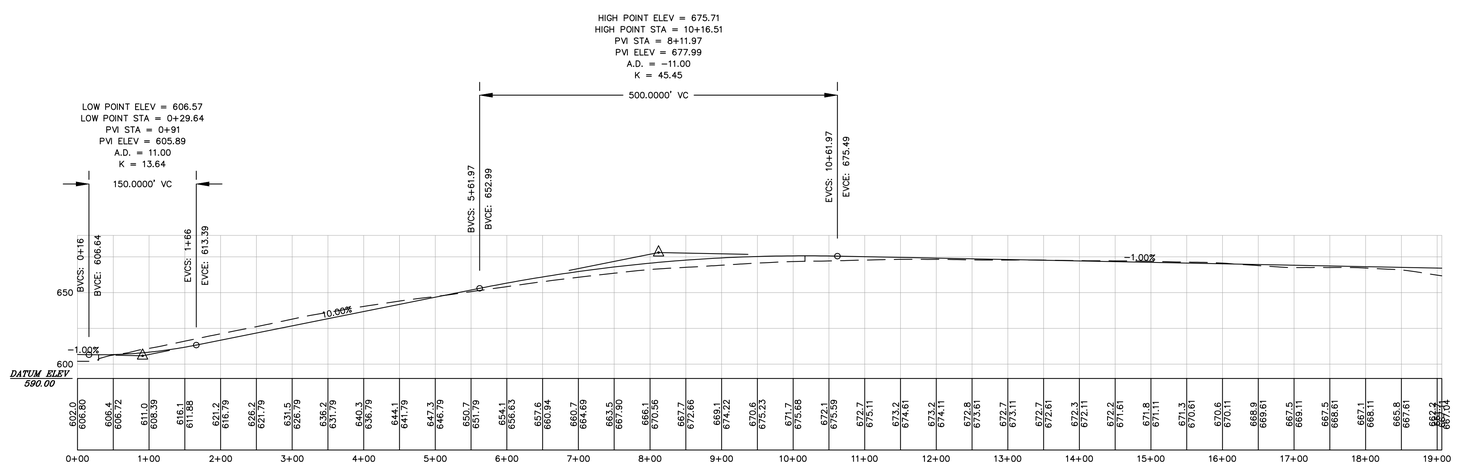


RIDGELINE ROAD C



Rev. #	Dwng. By	Description	Date
A	JEC	REV. PER MAINE STATE SOIL SCIENTIST	12/12/07

STETSON WIND PROJECT

EVERGREEN WIND POWER V, LLC

Project Location
STETSON MOUNTAIN

Drawing Description
ROAD C PLAN AND PROFILE
STATION 0+00 THRU 19+06.41

Designed By: PG
Drawn By: RCJH
Date: 09/25/2007
Scale: H: 1"=100' V: 1"=50'
Approved: -
Checked: -

Seal

60390E

Project No.

Engineer

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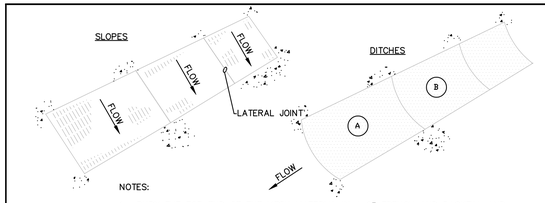
Phase
FINAL

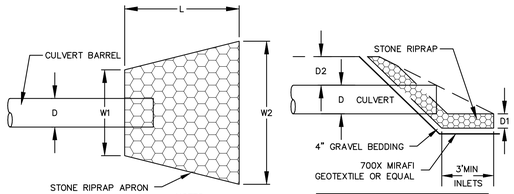
Sheet No.
C17



NOTES:

1. BURY THE TOP END OF THE MESH MATERIAL IN A 6" TRENCH AND BACKFILL AND TAMP TRENCHING. 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" O.C.
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 MESH
NOT TO SCALE



D	W1	W2	L	d50
15"	4'	14'	10'	4"
18"	5'	15'	10'	6"
24"	6'	16'	12'	6"

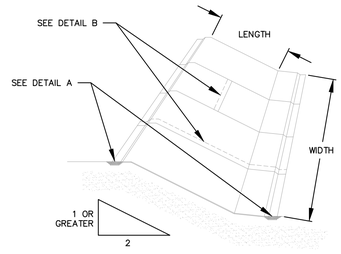
NOTES

1. THE RIPRAP APRON SHALL BE CONSTRUCTED WITH NO SLOPE ALONG ITS LENGTH.

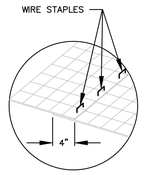
CULVERT OUTLET DETAIL PLAN VIEW
NOT TO SCALE

D	D1	D2 INLET	D2 OUTLET
15"	9"	24"	12"
18"	13.5"	24"	12"
24"	13.5"	36"	12"

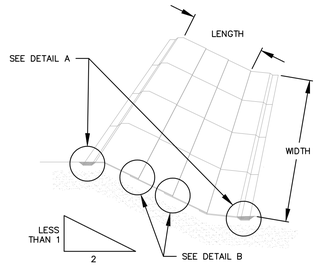
CULVERT INLET/OUTLET DETAIL PLAN VIEW
NOT TO SCALE



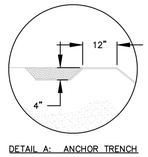
STEEP SLOPES



DETAIL B: LAP JOINT



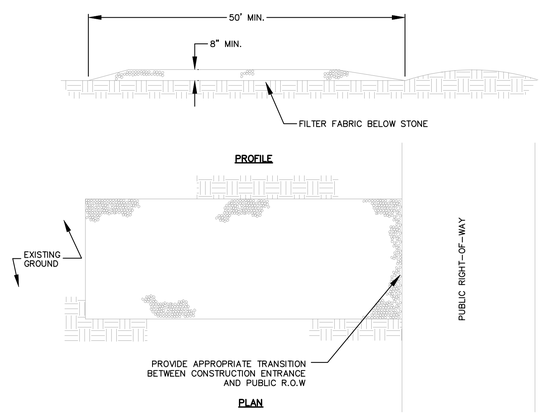
FLATTER SLOPES



DETAIL A: ANCHOR TRENCH

REF: BEST MANAGEMENT PRACTICE FOR EROSION AND SEDIMENT CONTROL – EROSION CONTROL BLANKET

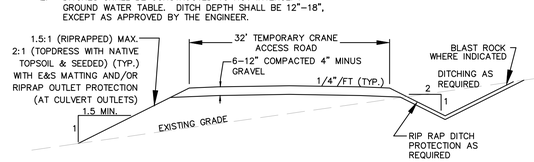
SLOPE APPLICATION–FOR EROSION CONTROL MESH
NOT TO SCALE



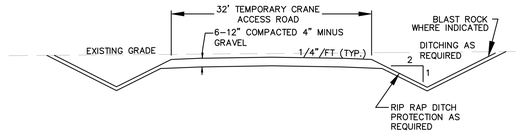
NOTES:
1. STONE SIZE – AASHTO DESIGNATION M43, SIZE NO. 2 (2 1/2" TO 1 1/2"). USE CRUSHED STONE.
2. LENGTH – AS SHOWN ON GRADING PLAN, MIN. 50 FEET.
3. THICKNESS – NOT LESS THAN EIGHT (8) INCHES.
4. WIDTH – NOT LESS THAN FULL WIDTH OF ALL POINT OF INGRESS OR EGRESS.
5. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT–OF–WAY MUST BE REMOVED IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

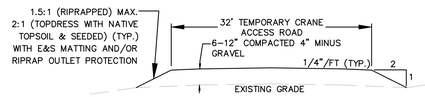
NOTE:
1. DEPTH OF GRAVEL TO BE DETERMINED BASED ON SUBGRADE CONDITIONS AND AS APPROVED BY ENGINEER.
2. DITCHES SHALL BE CONSTRUCTED TO NOT INTERCEPT GROUND WATER TABLE. DITCH DEPTH SHALL BE 12"–18", EXCEPT AS APPROVED BY THE ENGINEER.



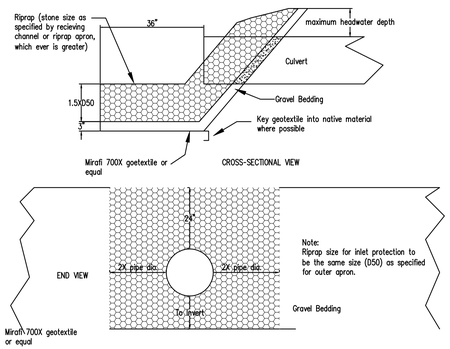
TYPICAL UPHILL CUT ROAD
NOT TO SCALE



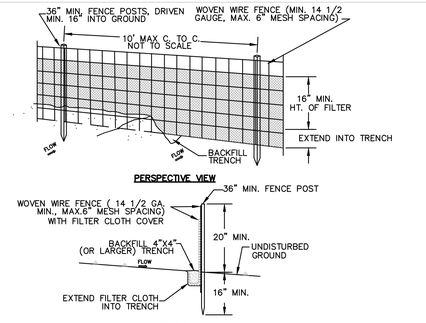
TYPICAL CROSS SECTION WITH DITCHES ON BOTH SIDES
NOT TO SCALE



TYPICAL FILL ROAD
NOT TO SCALE



TYPICAL INLET PROTECTION DETAIL
NOT TO SCALE



CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

NOTE: THE CONTRACTOR HAS THE OPTION TO NOT USE WOVEN WIRE MESH IF STAKE SPACERS ARE REDUCED TO 6' O.C.

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP OF MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER–LAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

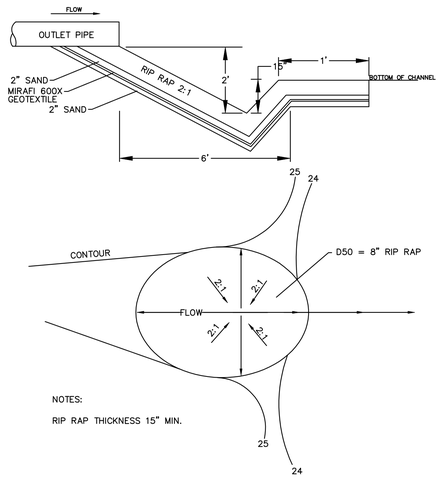
POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD

FENCE: WOVEN WIRE, 14 GA. 6" MAX. MESH OPENING

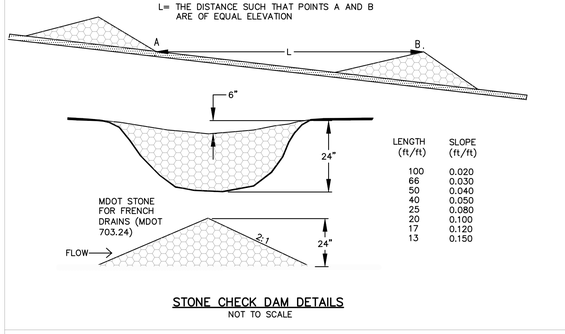
FILTER CLOTH: FILTER X, MARAFI 100X, STABI–LINKA T140N OR APPROVED EQUAL

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

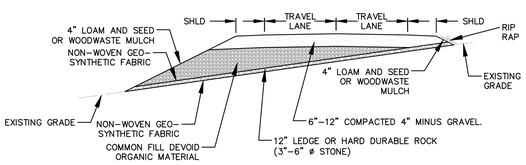
SILT FENCE DETAIL
NOT TO SCALE



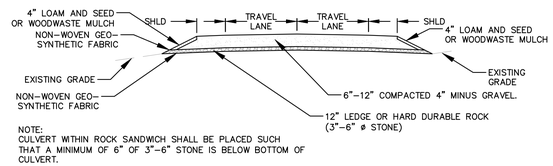
TYPICAL STONE LINED PLUNGE POOL
NOT TO SCALE



STONE CHECK DAM DETAILS
NOT TO SCALE

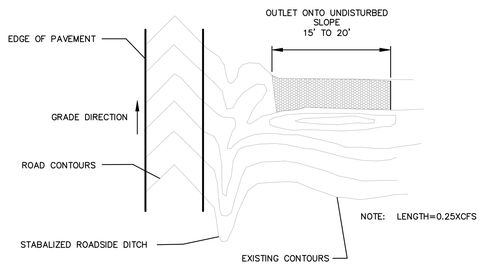


TYPICAL ROAD CROSS–SECTION W/SANDWICH MATERIAL AND DITCH
NOT TO SCALE

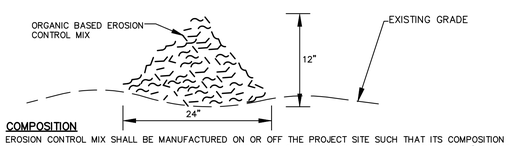


NOTE:
CULVERT WITHIN ROCK SANDWICH SHALL BE PLACED SUCH THAT A MINIMUM OF 6" OF 3"–6" STONE IS BELOW BOTTOM OF CULVERT.

TYPICAL ROAD CROSS–SECTION W/SANDWICH MATERIAL
NOT TO SCALE



TYPICAL DITCH TURNOUT
NOT TO SCALE



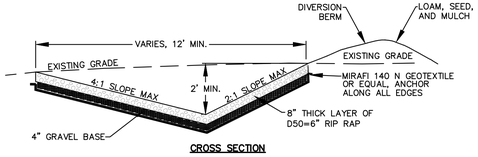
COMPOSITION

EROSION CONTROL MIX SHALL BE MANUFACTURED ON OR OFF THE PROJECT SITE SUCH THAT ITS COMPOSITION IS IN ACCORDANCE WITH THE MDEP MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL, LAST REVISED 3/2003 OR LATER. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR ACCEPTABLE MANUFACTURED PRODUCTS. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.

INSTALLATION:

1. THE BARRIER MUST BE PLACED ACROSS THE SLOPE, ALONG THE CONTOUR.
2. EXISTING GROUND SHALL BE PREPARED SUCH THAT THE BARRIER MAY LIE NEARLY FLAT ALONG THE GROUND TO AVOID THE CREATION OF VOIDS AND BRIDGES IN ORDER TO MINIMIZE THE POTENTIAL OF WASH OUTS UNDER THE BARRIER.
3. THE BARRIER SHALL BE A MINIMUM OF 1 FOOT HIGH (AS MEASURED ON THE UPHILL SIDE) AND 2 FEET WIDE FOR SLOPES LESS THAN 5% IN GRADE AND SHALL BE WIDER TO ACCOMMODATE THE ADDITIONAL RUNOFF.
4. EROSION CONTROL MIX MAY BE INSTALLED WHERE SILT FENCE IS ILLUSTRATED ON THE DESIGN PLANS IN AREAS EXCEPT IN, BUT NOT LIMITED TO, THE FOLLOWING AREAS: WETLAND AREAS, AT POINTS OF CONCENTRATED FLOW, BELOW CULVERT OUTLET APRONS, AROUND CATCH BASINS AND CLOSED STORM SYSTEMS AND AT THE BOTTOM OF STEEP SLOPES THAT ARE MORE THAN 50 FEET FROM TOP TO BOTTOM.

EROSION CONTROL MIX BERM
NOT TO SCALE



CROSS SECTION

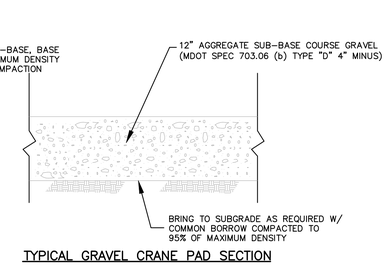
NOTE: SEE GRADING PLAN FOR LENGTH

LEVEL SPREADER NOTES

1) ALL LEVEL SPREADERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR CONSTRUCTION.
2) ALL LEVEL SPREADERS SHALL BE CONSTRUCTED IN A CUT SECTION, I.E. THERE SHALL BE NO EARTH FILL ALONG DOWNSTREAM EDGE.
3) ALL LEVEL SPREADERS SHALL BE ALIGNED PARALLEL TO THE EXISTING CONTOURS.
4) THE ENTRANCE DITCH TO THE LEVEL SPREADER SHALL HAVE A MAXIMUM GRADE OF 1.0% FOR AT LEAST 50 FEET IMMEDIATELY PRIOR TO ENTERING THE SPREADER.
5) THE LEVEL SPREADER SHALL HAVE A LONGITUDINAL GRADE OF 0.0%

TYPICAL LEVEL SPREADER
NOT TO SCALE

NOTE:
1. COMPACT GRAVEL SUB–BASE, BASE COURSE TO 95% OF MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION



TYPICAL GRAVEL CRANE PAD SECTION
NOT TO SCALE

Rev. #	Dwng. By	Description	Date
1			

STETSON WIND PROJECT
EVERGREEN WIND POWER V, LLC
Project Location
STETSON, MAINE
Drawing Description
DETAILS

Designed By: PG
Drawn By: JH/RC
Date: 09/25/07
Scale: NTS
Checked
Approved

Seal

60390E
Project No.
Engineer:

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GENERAL NOTES & CONSTRUCTION SPECIFICATIONS

1. FINAL STABILIZATION WILL BE DONE WITHIN 7 DAYS OF FINAL GRADING OR WITHIN 30 DAYS OF INITIAL SOIL DISTURBANCE.
2. EVERY WEEK AND AFTER PRECIPITATION PRODUCING THE EQUIVALENT OF ONE-HALF INCH OF RAINFALL, THE CONTRACTOR SHALL INSPECT AND MAINTAIN ALL EROSION CONTROL MEASURES. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO, REMOVAL OF SEDIMENT FROM SILT FENCES IF SOIL ACCUMULATES TO A DEPTH OF ONE-HALF THE FABRIC HEIGHT AND REMOVAL OF EXCESS ACCUMULATED SEDIMENT FROM DETENTION PONDS.
3. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH "MAINE EROSION & SEDIMENT CONTROL: BEST MANAGEMENT PRACTICES," BY MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, MARCH 2003.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL MEASURES, INCLUDING MATERIALS, CONSTRUCTION, MAINTENANCE AND REMOVAL.
5. MECHANICAL STABILIZATION SHALL BE INSTALLED ON ALL LOAM AND SEEDED AREAS WHICH HAVE A SLOPE GREATER THAN 3:1.
6. EROSION CONTROL MEASURES SHALL BE INSPECTED ON A MONTHLY BASIS ONCE FINAL STABILIZATION IS COMPLETE, BY THE INSPECTING ENGINEER. THIS INSPECTION IN NO WAY REDUCES OR ELIMINATES THE CONTRACTOR'S RESPONSIBILITY TO ADHERE WITH VERBAL OR WRITTEN REQUIREMENTS OF DEP, ARMY CORPS, EPA, OR OTHER JURISDICTIONAL AGENCIES.
7. AFTER EACH INSPECTION OF EROSION CONTROL MEASURES, AN INSPECTION REPORT DETAILING THE SCOPE OF THE INSPECTION, NAME(S) OF PERSONNEL CONDUCTING THE INSPECTION, DATE, MAJOR OBSERVATIONS, AND ACTIONS TAKEN, SHALL BE MADE AND KEPT ON FILE FOR THREE YEARS AFTER THE INSPECTION.

CONSTRUCTION SEQUENCE & PHASING NOTES

PHASE 1: CLEARING OF VEGETATION AND STOCKPILING OF TOPSOIL

1. INSTALL ERSOIN CONTROL MEASURES PRIOR TO SOIL DISTURBANCE.
2. FLAG & MARK R.O.W. OF ACCESS ROADS, CRANE PATHS, & COLLECTION LINES, WITH THE OTHER CONSTRUCTION AREAS TO FOLLOW.
3. METHODS FOR CLEARING WILL INCLUDE SELECTIVE HAND-CLEARING TO CLEARING WITH TRACK MOUNTED OR LOW-GROUND PRESSURE TIRE EQUIPMENT, DEPENDING ON THE SPECIFIC CONDITIONS OF THE AREA TO BE CLEARED.
4. USE SPECIFIC FORESTRY EQUIPMENT & ALL-TERRAIN LIFTS TO COLLECT & TRANSPORT TIMBERS OFF-SITE OR TO DESIGNATED TEMPORARY STAGING AREAS VIA EXISTING LOGGING ROADS, ACCESS ROADS, & CRANE PATHS.
5. PILE REMAINING SMALL BRUSH IN SPECIFIC LOCATIONS & AT DESIGNATED DISTANCES (40 TO 100 FT, DEPENDING ON FOREST & FOLIAGE DENSITY) FROM ONE ANOTHER WITHIN THE R.O.W.
6. EACH BRUSH PILE TO BE CHIPPED.
7. CHIPPED MATERIAL TO BE BROADCAST AS AN EPSC MEASURE.
8. STUMPS TO BE REMOVED FROM LOCATIONS WHERE STRUCTURES (i.e., TURBINES, SUBSTATION, O&M BUILDING, STORMWATER MANAGEMENT SYSTEMS) ARE TO BE INSTALLED/CONSTRUCTED. STUMPS TO BE CHIPPED ON-SITE BY THE ROAD CONTRACTOR & USED AS AN EPSC MEASURE.
9. LOW GROWING VEGETATION TO REMAIN, WHERE FEASIBLE (e.g., WITHIN THE OVERHEAD COLLECTION LINE R.O.W.) TO PROVIDE SOIL STABILITY.
10. EXISTING TOPSOIL IN AREAS OF DEVELOPMENT TO BE STOCKPILED ON-SITE FOR USE IN FINAL STABILIZATION OF ROAD SHOULDERS, TURBINE CLEARINGS AND LAY DOWN AREAS.

PHASE 2A: CONSTRUCTION OF ACCESS ROADS, CRANE PATHS, & LAY DOWN/STAGING AREAS

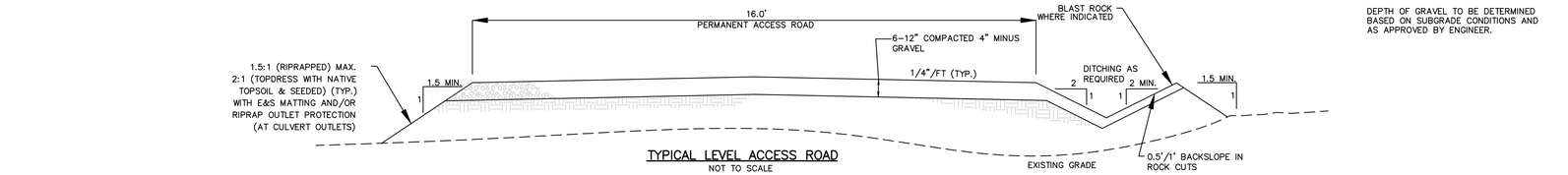
1. 16-FT WIDE ACCESS ROADS & 32-FT WIDE CRANE PATHS TO BE CONSTRUCTED. USE OF EXISTING/UPGRADED LOGGING ROADS WHERE APPLICABLE.
2. SURVEY CREWS TO STAKE THE ROADWAY R.O.W. BOUNDARIES & CENTERLINE TO GUIDE OPERATORS. ADDITIONAL STAKING & MARKING AT LOCATIONS WHERE STORMWATER CONTROL MEASURES WILL BE INSTALLED.
3. STAKE PERIMETER OF LAY DOWN/STAGING AREAS.
4. ROUGH GRADE ACCESS ROADS, CRANE PATHS, & LAY DOWN/STAGING AREAS USING BULLDOZERS, GRADERS, BACKHOE EXCAVATORS, DUMP TRUCKS, AND/OR SKID STEERS TO PREPARE SUBGRADES.
5. SPREAD & COMPACT CRUSHED STONE TO CONSTRUCT ACCESS ROADS, CRANE PATHS, & LAY DOWN/STAGING AREAS; MINOR GRADE ADJUSTMENTS MAY BE NECESSARY, WITH ADDITIONAL LIFTS & FINAL GRADING UNTIL THE ROADS & PATHS TO MEET SPECIFICATIONS.
6. CONSTRUCTION OF ACCESS ROADS, CRANE PATHS, & LAY DOWN/STAGING AREAS WILL OCCUR IN PHASES, MINIMIZING AREAS OF EXPOSED SOIL AT ANY ONE TIME (INCLUSIVE OF ANY OTHER EXPOSED SOIL AREAS WITHIN THE DESIGNATED LIMITS OF DISTURBANCE).

PHASE 2B: CONSTRUCTION OF PERMANENT STORMWATER MANAGEMENT SYSTEMS

1. GRADING TO BE CONDUCTED WITH THE USE OF BULLDOZERS, GRADERS, BACKHOE EXCAVATORS, DUMP TRUCKS, AND/OR SKID STEERS.
2. GRADING TO BE CONDUCTED IN ACCORDANCE WITH PERMITTED PERMANENT STORMWATER MANAGEMENT DESIGN.
3. ONCE FINAL GRADES ARE ACHIEVED, EXPOSED SOIL SURROUNDING THE STORMWATER MANAGEMENT STRUCTURES TO BE PERMANENTLY STABILIZED WITH SEED & MULCH PER SPECIFICATIONS.

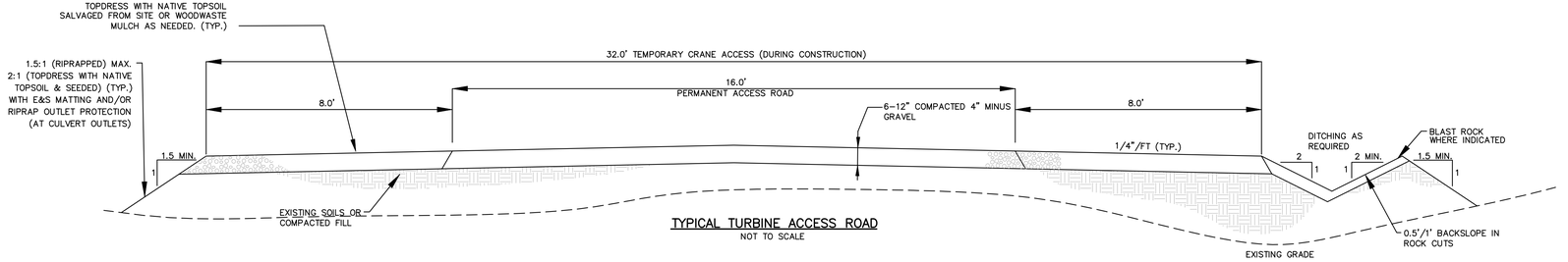
PHASE 2C: CONSTRUCTION OF TURBINE FOUNDATIONS & CRANE PADS; INSTALLATION OF TURBINES

1. TURBINE FOUNDATION CENTER POINTS TO BE STAKED, FOLLOWED BY STAKING OF THE OUTLINE OF EACH FOUNDATION BASED ON THE CENTER STAKE.
2. EACH FOUNDATION TO COVER AN APPROXIMATELY 24-FT DIAMETER AREA.
3. CRANE PADS TO BE CONSTRUCTED ONCE FOUNDATIONS HAVE BEEN ESTABLISHED.
4. ROUGH GRADING OF CRANE PADS TO BE CONDUCTED USING BULLDOZERS, GRADERS, BACKHOE EXCAVATORS, DUMP TRUCKS, AND/OR SKID STEERS.
5. AFTER THE SUBGRADE IS ESTABLISHED, CRANE PAD TO BE CONSTRUCTED WITH CRUSHED AGGREGATE SPREAD & COMPACTED OVER A GEOTEXTILE LINER; MINOR GRADE ADJUSTMENTS MAY NEED TO OCCUR, WITH COMPLETION ONCE CRANE PADS MEET DESIGN SPECIFICATIONS.
6. TURBINE INSTALLATION TO BE CONDUCTED AFTER TURBINE FOUNDATION & CRANE PAD ARE CONSTRUCTED.
7. CRANE PADS TO REMAIN IN PLACE FOR FUTURE MAINTENANCE & OPERATION.
8. ALL EXPOSED SOIL SURROUNDING CRANE PADS & TURBINE FOUNDATIONS TO BE STABILIZED WITH SEED & MULCH PER GUIDELINES & SPECFICATIONS.



TYPICAL LEVEL ACCESS ROAD
NOT TO SCALE

NOTE:
DEPTH OF GRAVEL TO BE DETERMINED BASED ON SUBGRADE CONDITIONS AND AS APPROVED BY ENGINEER.



TYPICAL TURBINE ACCESS ROAD
NOT TO SCALE

PHASE 2D: CONSTRUCTION OF SUBSTATION & O&M BUILDING

1. SURVEY CREWS TO STAKE CORNER LOCATIONS OF THE APPROX.. 300-FT X 150-FT SUBSTATION.
2. TOPSOIL TO BE CLEARED & STOCKPILED IN AN EXISTING CLEARED (UPLAND) AREA ADJACENT TO SUBSTATION LOCATION.
3. SILT FENCE TO BE PLACED AROUND PERIMETER OF TOPSOIL STOCKPILE IN ACCORDANCE SPECIFICATIONS.
4. SUBSTATION TO BE BROUGHT TO GRADE WITH A SERIES OF SOIL THEN CRUSHED STONE LIFTS TO BE SPREAD & COMPACTED THROUGHOUT THE DESIGNATED FOOT PAD AREA.
5. INSTALL PERIMETER FENCE TO PROVIDE EQUIPMENT SECURITY.
6. ONCE THE AREA HAS REACHED FINAL GRADE WITH A PERMANENTLY STABILIZED SURFACE OF CRUSHED STONE, AREAS OF EXPOSED SOIL ALONG THE PERIMETER OF THE SUBSTATION TO BE STABILIZED WITH SEED & MULCH.
7. CONSTRUCTION OF STRUCTURES WITHIN THE FENCE-LINE TO BEGIN, INCLUDING INSTALLATION OF SUPPORT STRUCTURES & FOUNDATIONS, & CONSTRUCTION OF A SMALL CONTROL BUILDING (IF NECESSARY).
8. SURVEY CREWS TO STAKE CORNER LOCATION OF THE 5,000 SF O&M BUILDING & PARKING AREA.
9. EXCAVATION FOR FOUNDATION TO OCCUR; ONCE COMPLETE, BACK FILLING AROUND THE CURED FOUNDATION WALLS TO BE CONDUCTED.
10. ALL UNDERGROUND INTERIOR WORK TO BE INSTALLED PRIOR TO POURING THE FOUNDATION SLAB.
11. ONCE THE FOUNDATION IS IN PLACE, THE STEEL BUILDING STRUCTURE TO BE ERECTED.
12. ALL AREAS OF EXPOSED SOIL TO BE PERMANENTLY STABILIZED WITH SEED & MULCH PER GUIDELINES & SPECIFICATIONS.

PHASE 2E: INSTALLATION OF OVERHEAD & UNDERGROUND ELECTRICAL COLLECTION LINES

1. SURVEY CREWS TO STAKE LOCATIONS OF EACH OVERHEAD SINGLE POLE WOODEN STRUCTURE, AS WELL AS THEIR ASSOCIATED WORK AREA.
2. CONSTRUCTION OF THE OVERHEAD 34.5KV COLLECTOR LINE TO INVOLVE ESTABLISHING A TYPICAL 50-FT X 50-FT TEMPORARY WORK AREA TO ACCOMMODATE LAY DOWN OF STRUCTURE MATERIALS & THE OPERATION OF CONSTRUCTION EQUIPMENT, WITH A 20-FT X 20-FT AREA OF TEMPORARY EARTH DISTURBANCE WITHIN THE LARGER WORK AREA.
3. WITH THE EXCEPTION OF SMALL BRUSH, GRASSES, & SHRUBS, VEGETATION WITHIN THE WORK AREAS MAY BE SUBJECT TO REMOVAL TO ALLOW FOR SAFE OPERATION OF EQUIPMENT.
4. EPSC MEASURES TO BE INSTALLED PER SPECIFICATIONS ON THE DOWN-GRADIENT SIDE OF PROPOSED AREAS OF TEMPORARY DISTURBANCE THAT HAVE MODERATE TO HIGH POTENTIAL FOR SOIL EROSION & STEEP SLOPES.
5. MATERIALS TO BE DELIVERED TO EACH STRUCTURE WORK PAD VIA FLATBED TRAILERS, TRACKED VEHICLES, SMALL CRANES, TRUCKS, AND/OR 4-WHEEL DRIVE VEHICLES.
6. INSTALLATION OF THE STRUCTURES TO INVOLVE DRILLING 2-FT DIA. HOLES.
7. BLASTING OF SHALLOW BEDROCK TO BE CONDUCTED WHERE NECESSARY.
8. ONCE HOLES ARE DRILLED OR DUG, STRUCTURE TO BE ERECTED BY SETTING POLES IN THE HOLES.
9. AFTER PLUMBING STRUCTURE, THE SPACE AROUND POLES TO BE BACK FILLED WITH GRANULAR MATERIAL.
10. GUY ANCHORS TO BE CONNECTED TO BURIED LOGS, ROCK ANCHORS, OR HELICAL ANCHORS INSTALLED AT A DEPTH OF APPROXIMATELY 5 TO 7 FT.
11. EXCESS SOIL MATERIAL TO BE USED FOR FINISH GRADING AROUND THE STRUCTURES & GUY ANCHORS, FOLLOWED BY SEEDING & MULCHING PER GUIDELINES.
12. INSTALLATION OF UNDERGROUND COLLECTION LINES TO OCCUR WITHIN 25-FOOT ROW ADJACENT TO RIDGELINE ROAD.
13. INSTALLATION TO INVOLVE EXCAVATING OPEN TRENCH IN APPROXIMATELY 1,000-FOOT INCREMENTS.
14. TRENCH TO BE EXCAVATED WITH DEPTH OF 4 FEET AND WIDTH OF 12 TO 14 INCHES.
15. CABLE BUNDLES TO BE PLACED IN BEDDING MATERIAL (TYP SAND).
16. CRUSHED ROCK AGGREGATE MATERIAL TO BE BACKFILLED AND COMPACTED TO BRING TRENCH TO EXISTING GRADE.
17. LIMIT EXTENT OF OPEN TRENCH TO UNDER 40 FEET IN LENGTH AT END OF EACH WORK DAY.
18. AREAS OF EXPOSED SOIL NEED TO BE SEEDED AND MULCHED ONCE AT FINAL GRADE.

PHASE 3: CLEAN-UP & FINAL STABILIZATION

1. UPON COMPLETION OF CONSTRUCTION ACTIVITIES, ALL WORK AREAS TO BE CLEARED OF CONSTRUCTION DEBRIS & OTHER MATERIALS.
2. SPECIFIC CLEAN-UP REQUIREMENTS TO INVOLVE: REMOVAL OF ALL TEMPORARY WORK TRAILERS; REMOVAL OF MATERIAL & EQUIPMENT; DISPOSAL OF ALL RUBBISH RESULTING FROM CLEARING, CONSTRUCTION, & INSTALLATION; ROUGH GRADING & STABILIZATION OF EMBANKMENTS MADE FOR CONSTRUCTION PURPOSES; FILLING OF ANY EXCAVATIONS; & REPAIRING RUTS IN ACCESS ROADS.
3. FINAL STABILIZATION TO INVOLVE RESPREADING OF STOCKPILED TOPSOIL MATERAL & SEEDING OR MULCHING WITH WOODWASTE MULCH ALL AREAS OF DISTURBED SOIL, WHERE FINAL GRADE HAS BEEN ACHIEVED. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH THE PROJECTS PERMITS & COMPANY ENVIRONMENTAL POLICIES & PROCEDURES.

WINTER CONSTRUCTION NOTES

1. THE WINTER CONSTRUCTION PERIOD SHALL BE FROM NOVEMBER 1 THROUGH APRIL 15.
2. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME. EXPOSED AREA SHALL BE LIMITED TO THOSE AREAS IN WHICH WORK IS TO OCCUR DURING THE FOLLOWING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT.
3. WHERE FEASIBLE, A MINIMUM 25-FT BUFFER SHALL BE MAINTAINED BETWEEN SILT FENCE OR OTHER PERIMETER CONTROLS TO ALLOW FOR SNOW CLEARING AND MAINTENANCE.
4. WIRE REINFORCED SILT FENCE SHALL BE UTILIZED IN ALL AREAS.
5. DRAINAGE STRUCTURES SHALL BE KEPT OPEN AND FREE OF SNOW AND ICE DAMS.
6. ACCEPTABLE OVER-WINTER STABILIZATION SHALL CONSIST OF VEGETATION (MIN. 75% MATURE), MULCHING, EROSION CONTROL MIX, EROSION CONTROL MATS, RIPRAP OR GRAVEL ROAD BASE.
7. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES THAT REQUIRE EARTH DISTURBANCE (e.g., CONSTRUCTION FENCE AND SILT FENCE) SHALL BE INSTALLED PRIOR TO THE GROUND FREEZING. DURING FROZEN CONDITIONS, SEDIMENT BARRIERS MAY CONSIST OF EROSION CONTROL MIX BERMS.
8. FROM NOVEMBER 1 TO APRIL 15, MULCH SHALL BE INSTALLED AT DOUBLE THE NORMAL RATE. NETTING OR OTHER MEANS APPROVED BY THE ENGINEER SHALL BE USED TO MINIMIZE WIND EROSION OF MULCHING.
9. PRIOR TO STABILIZATION, ICE AND SNOW SHALL BE REMOVED TO LESS THAN 1-IN.
10. IF VEHICLE TRAFFIC IS ANTICIPATED AROUND STRUCTURES UNDER CONSTRUCTION, THE AREA SHALL BE STABILIZED WITH STONE.
11. EXCAVATED FROZEN SOILS SHALL BE STOCKPILED IN LEVEL AREAS AND SHALL NOT BE USED UNTIL THAWED. STOCKPILES SHALL BE ENGIRCLED WITH EROSION CONTROL MIX BERMS.
12. EXCAVATION OF SOILS IN SHALLOW GROUNDWATER AREAS SHALL BE MINIMIZED IF AT ALL POSSIBLE DURING WINTER, AND LIMITED TO ONLY THOSE AREAS THAT CAN BE STABILIZED DURING THE SAME DAY.
13. TO ENSURE COVER OF DISTURBED SOILS IN ADVANCE OF A MELT EVENT, AREAS OF DISTURBED SOIL MUST BE STABILIZED AT THE END OF EACH WORK DAY, WITH THE FOLLOWING EXCEPTIONS:
   A. IF NO PRECIPITATION IS FORECAST WITHIN 24 HOURS AND WORK WILL RESUME IN THE SAME DISTURBED AREA WITHIN 24 HOURS, DAILY STABILIZATION IS NOT NECESSARY.
   B. DISTURBED AREAS THAT COLLECT AND RETAIN RUNOFF, SUCH AS BUILDING FOUNDATIONS AND OPEN UTILITY TRENCHES.
14. THE ENGINEER SHALL MAKE NECESSARY ADJUSTMENTS TO THE EROSION PREVENTION AND SEDIMENT CONTROL PLAN AND ASSOCIATED EROSION PREVENTION AND SEDIMENT CONTROL MEASURES (e.g., CONSTRUCTION FENCE AND SILT FENCE) TO ACCOMMODATE ANTICIPATED SNOW STORAGE AREAS.
15. AREAS WITHIN 100 FEET FROM ANY NATURAL RESOURCE, IF NOT STABILIZED WITH A MINIMUM OF 75% MATURE VEGETATION, SHALL BE MULCHED BY DECEMBER 1 AND ANCHORED WITH PLASTIC NETTING OR PROTECTED WITH EROSION CONTROL COVER. DURING WINTER CONSTRUCTION A DOUBLE ROW OF SEDIMENT BARRIERS SHALL BE PLACED BETWEEN ANY NATURAL RESOURCE AND THE DISTURBED AREA. NATURAL RESOURCE CROSSINGS SHALL BE PROTECTED A MINIMUM DISTANCE OF 100 FEET ON EITHER SIDE FROM THE RESOURCE.
16. STOCKPILES OF SOIL WILL BE SHALL BE MULCHED FOR OVER-WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A 4-INCH LAYER OF EROSION CONTROL MIX.
17. ALL STONE-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15. ALL STONE-COVERED SLOPES MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15.
18. MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION SEASON. AFTER EACH RAINFALL, SNOW STORM OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES AND PERFORM REPAIRS AS NEEDED. FOLLOWING THE TEMPORARY AND/OR FINAL SEEDING AND MULCHING, THE CONTRACTOR SHALL, IN THE SPRING, INSPECT AND REPAIR ANY DAMAGES OR BARE SPOTS.

NOTES:

TEMPORARY SEEDING NOTES

1. ANY DISTURBED AREAS TO BE LEFT IN ROUGH GRADED FORM FOR MORE THAN 30 DAYS BUT LESS THAN ONE GROWING SEASON SHALL BE LIMED, FERTILIZED, TEMPORARILY SEEDED AND MULCHED.
2. APPLICATION RATES AND MATERIALS USED SHALL BE THE SAME AS FOR PERMANENT SEEDING EXCEPT SEED MIXTURE SHALL BE ANNUAL RYEGRASS.

PERMANENT SEEDING NOTES

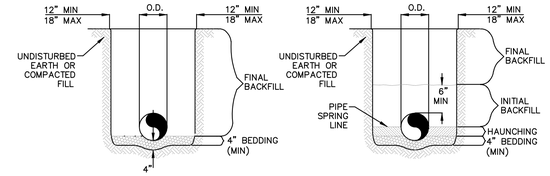
1. DURING PERIODS FROM APRIL 15 TO OCTOBER 1, AREAS DISTURBED SHALL BE PERMANENTLY SEEDED WITH CONSERVATION SEED MIX (A MIXUTRE OF CREEPING RED FESCURE, REDTOP, TALL FESCURE, CLOVER AND ANNUAL RYE), AT A RATE OF 1.0 LB/1,000 SF.

DORMANT SEEDING NOTES

1. DURING PERIODS FROM OCTOBER 1 TO NOVEMBER 15, AREAS DISTURBED SHALL BE DORMANT SEEDED WITH WINTER RYE, 1.5 LB/1,000 SF. DURING PERIODS BETWEEN NOVEMBER 15 AND APRIL 15, DISTURBED AREAS SHALL BE MULCHED AND IF NECESSARY, STABILIZED WITH EROSION CONTROL MESH.

SPECIFIC MAINTENANCE INSTRUCTION:

1. STRAW/HAY BALE BARRIERS, SILT FENCE, FILTER BARRIERS- MAKE ANY REQUIRED REPAIRS IMMEDIATELY. REPLACE W/ TEMPORARY CHECK DAM IF THERE IS UNDERCUTTING AT CENTER OR EDGES, OR IF LARGE VOLUMES OF WATER ARE IMPOUNDED. REPLACE DECOMPOSED OR INEFFECTIVE FABRIC IMMEDIATELY. REMOVE SEDIMENT DEPOSITS AFTER EACH STORM. DEPOSITS REMAINING IN PLACE AFTER SILT FENCE OR FILTER FABRIC IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM W/ EXISTING GRADE, PREPARED AND SEEDED.
2. CULVERTS - CULVERTS SHOULD BE CHECKED MONTHLY FOR ACCUMULATION OF DEBRIS. IF NEEDED THEY SHOULD BE DREDGED.
* A STORMWATER MAINTENANCE LOG SHOULD BE MAINTAINED TO DOCUMENT COMPLIANCE WITH THE SUGGESTED SCHEDULE.



RIGID PIPE

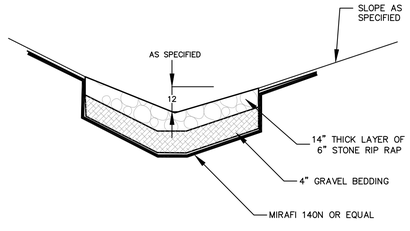
FLEXIBLE PIPE

GENERAL NOTES

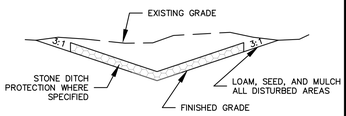
*AASHTO SOIL CLASSIFICATIONS USED

1. BEDDING SHALL BE CLASS I-A WORKED BY HAND. IF GROUNDWATER IS ANTICIPATED, THEN BEDDING SHALL BE CLASS I-B COMPACTED TO 85% STANDARD PROCTOR. (SEE SPECIFICATIONS FOR GRADATION)
2. HAUNCHING SHALL BE WORKED AROUND THE PIPE BY HAND TO ELIMINATE VOIDS AND SHALL BE CLASS I-A OR CLASS I-B OR CLASS II COMPACTED TO 85% PROCTOR.
3. INITIAL BACKFILL SHALL BE CLASS I-A WORKED BY HAND, OR CLASS I-B OR CLASS II COMPACTED TO 85% STANDARD PROCTOR.
4. FINAL BACKFILL SHALL BE CLASS I, II, OR III COMPACTED AS NOTED IN NOTES 3. FINAL COVER OVER PIPE SHALL BE MIN. 24".
5. ALL MATERIALS ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2321-LATEST EDITION.
6. ALL MATERIALS SHALL BE INSTALLED IN MAXIMUM 8" LOOSE LIFTS IN ACCORDANCE WITH ASTM D 698, CLASS III AND IV-A MATERIALS SHALL BE COMPACTED NEAR OPTIMUM MOISTURE CONTENT.
7. FILL SALVAGED FROM EXCAVATION SHALL BE FREE OF DEBRIS, ORGANICS AND ROCKS LARGER THAN 3".
8. ALL TRENCH EXCAVATIONS SHALL BE SLOPED, SHORED, SHEETED, BRACED, OR OTHERWISE SUPPORTED IN COMPLIANCE WITH OSHA REGULATIONS AND LOCAL ORDINANCES. (SEE SPECIFICATIONS)

STORM DRAIN TRENCH AND BEDDING
NOT TO SCALE



TYPICAL STONE DITCH PROTECTION DETAIL
NOT TO SCALE



TYPICAL DITCH CROSS SECTION
NOT TO SCALE

Rev. #	Dwng. By	Description	Date
1			

Designed By: PG
Drawn By: JH/RC
Date: 09/25/07
Scale: NTS
Checked
Approved

STETSON WIND PROJECT
EVERGREEN WIND POWER V, LLC
Project Location: STETSON, MAINE
Drawing Description: **DETAILS**

Seal

60390E
Project No.
Engineer

JAMES W. SEWALL COMPANY
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Phase: FINAL

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