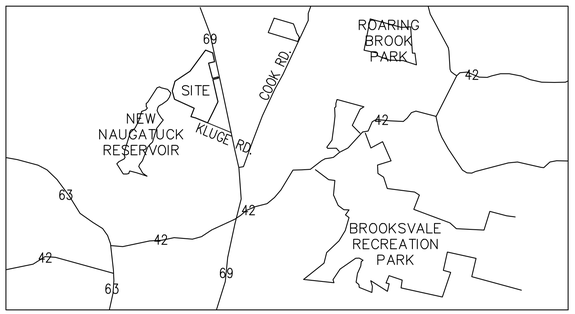
WIND PROSPECT

178 NEW HAVEN ROAD
PROSPECT, CONNECTICUT



VICINITY MAP

CONNECTICUT SITING COUNCIL SUBMISSION

BNE ENERGY
29 SOUTH MAIN STREET
TOWN CENTER SUITE 200
WEST HARTFORD, CT 06107

BNE Energy Inc.
Producer of green clean energy

INDEX OF DRAWINGS

SHEET NUMBER	TITLE
1	C-000 COVER SHEET AND DRAWING INDEX
2	C-001 ABUTTERS MAP
3	C-002 SITE PLAN WITH AERIAL IMAGERY
4	C-003 CLEARING LIMITS PLAN
5	C-100 OVERALL SITE PLAN
6	C-101 TURBINE LOCATION ONE AND CRANE ASSEMBLY AREA SITE PLAN
7	C-102 CRANE ROAD SITE PLAN
8	C-103 TURBINE LOCATION TWO SITE PLAN
9	C-200 EROSION CONTROL PLAN
10	C-201 TURBINE LOCATION ONE AND CRANE ASSEMBLY AREA EROSION CONTROL PLAN
11	C-202 ACCESS ROAD STA: 9+00 TO 15+00 EROSION CONTROL PLAN
12	C-203 TURBINE LOCATION TWO EROSION CONTROL PLAN
13	C-300 GRADING PLAN
14	C-301 TURBINE LOCATION ONE AND CRANE ASSEMBLY AREA CONSTRUCTION PHASE GRADING PLAN
15	C-302 ACCESS ROAD STA: 9+00 TO 15+00 CONSTRUCTION PHASE GRADING PLAN
16	C-303 TURBINE LOCATION TWO CONSTRUCTION PHASE GRADING PLAN
17	C-304 ACCESS ROAD PLAN AND PROFILE STA: 0+00 TO 5+00
18	C-305 ACCESS ROAD PLAN AND PROFILE STA: 5+00 TO 10+00
19	C-306 ACCESS ROAD PLAN AND PROFILE STA: 10+00 TO 14+00
20	C-307 ACCESS ROAD PLAN AND PROFILE STA: 14+00 TO 17+30
21	C-308 POST-CONSTRUCTION GRADING PLAN
22	C-309 TURBINE LOCATION ONE AND CRANE ASSEMBLY AREA POST-CONSTRUCTION GRADING PLAN
23	C-310 ACCESS ROAD STA: 9+00 TO 15+00 POST-CONSTRUCTION GRADING PLAN
24	C-311 TURBINE LOCATION TWO POST-CONSTRUCTION GRADING PLAN
25	C-500 EROSION CONTROL NOTES
26	C-501 EROSION CONTROL DETAILS
27	C-502 EROSION CONTROL DETAILS
28	C-503 EROSION CONTROL DETAILS
29	C-504 EROSION CONTROL DETAILS
30	A-001 FACILITY SUPPORT BUILDING
31	E-101 ELECTRICAL – SITE PLAN
32	E-501 ELECTRICAL – RISER DIAGRAM

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: HSS
DWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
PLOT SCALE: AS SHOWN
PLOT DATE: 03-28-11
SIZE: ANSI D
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 112 BLOCK 94, LOT 178
FILE NUMBER: 1353
FILE NAME: M:\Projects\BNE Energy Inc\Work\CAD\1353-152 Prospect\1353_C000.dwg

ZAPATA ENGINEERING
6420 FARMERS ROAD #200 PHONE: (704) 358-9240
CHARLOTTE, NC 28210 FAX: (704) 358-9242
ZAPATAINC@ZAPATAINC.COM WWW.ZAPATAINC.COM

WIND PROSPECT
CONNECTICUT

COVER SHEET AND DRAWING INDEX

SHEET IDENTIFICATION
G-000

PERIMETER SURVEY

SEPT. 23, 2010

PREPARED FOR

WIND PROSPECT, LLC

BETHANY ROAD & KLUGE ROAD

PROSPECT, CONNECTICUT

AREA = 2,993,666 SQUARE FEET

= 68.725 ACRES

SCALE - 1" = 150'

0 75 150 300 450

TAX MAP 112, BLOCK 96, LOT 178

THIS SURVEY WAS PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTION 20-300b-1 THROUGH 20-300b-20 OF THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996.

TYPE OF SURVEY - "PERIMETER SURVEY"

BOUNDARY DETERMINATION CATEGORY - "DEPENDANT RE SURVEY"

CLASS OF ACCURACY - "A-2"

T.C. MAP # 106

TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP AND SURVEY ARE SUBSTANTIALLY CORRECT AS NOTED HEREON.

MICHAEL J. RIORDAN
LICENSED LAND SURVEYOR, REG. # 14656
RIORDAN LAND SURVEYING
701 MIDDLEROAD TURNPIKE
WOODBURY, CT. 06798
203-263-2727, FAX 263-4139

10-079

NAD 83 DATUM

N

RIGHT OF WAY OVER OLD HIGHWAY AS STATED IN VOL. 15, P. 216

10' WIDE GRAVEL ROAD

WIRE FENCE CORNER IN 14" ASH

WIRE ON FENCE POSTS

WIRE IN 14" OAK

WIRE IN 14" ASH

WIRE ON TAPED POSTS

FENCE POST

WIRE IN 16" MAPLE

WIRE IN 12" MAPLE

WIRE IN 14" HICKORY

WIRE IN STUMP

WIRE IN 24" ASH

N 18°02'20" W 109.260'

N 14°10'12" W 63.830'

N 18°05'47" W 41.990'

N 07°09'59" W 177.470'

N 19°02'55" E 52.015'

N 21°45'23" E 50.990'

N 25°25'09" E 34.990'

N 24°51'25" E 35.130'

N 21°33'20" E 44.200'

N 23°39'46" E 57.940'

N 20°37'26" E 99.620'

N 42°43'51" E 34.111'

N 67°14'54" E 55.638'

S 22°45'06" E 214.000'

N 57°31'43" E 133.924'

N 57°01'37" E 107.000'

N 35°33'34" E 135.033'

N 37°27'47" E 85.260'

N 31°10'29" E 43.630'

N 44°42'26" E 27.430'

N 57°37'46" E 218.700'

N 67°27'57" E 109.122'

N 735,639.8881 E 939,403.0598

FENCE CORNER IN 24" BEECH

S 67°37'09" E 167.194'

S 73°31'21" E 47.061'

S 67°09'53" E 51.604'

S 12°14'07" E 61.496'

N 735,924.3426 E 939,734.9923

DRILL HOLE

N 733,743.67 E 939,743.01

N 71°02'43" W 135.710'

N 65°00'29" W 54.841'

N 67°05'27" W 171.753'

N 69°57'12" W 79.935'

N 70°12'39" W 130.455'

N 71°01'54" W 48.786'

N 63°43'31" W 81.098'

N 27°40'33" E 38.568'

N 67°24'49" W 44.620'

N 70°22'42" W 66.656'

N 72°21'51" W 34.959'

N 17°14'29" W 15.000'

N 62°46'44" W 19.800'

N 67°37'37" W 14.800'

N 27°46'57" E 238.886'

S 27°46'57" W 239.997'

S 12°13'03" E 655.400'

S 77°57'57" W 240.693'

S 12°13'03" E 282.500'

S 12°12'59" E 50.006'

N 12°12'59" W 405.296'

N 09°52'41" W 374.446'

S 07°49'17" E 91.990'

N 72°48'40" W 7.150'

S 12°10'20" E 876.444'

CHAIN LINK FENCE

CELL TOWER

GATE

MONUMENT ON CORNER

KLUGE ROAD

634.37'

S 39°27'11" W 434.371'

S 35°56'05" W 223.330'

OLD ROADWAY (NOT PASSABLE)

ASPHALT DRIVE / PARKING AREA

TEST TOWER

IRON PIPE WITH COPPER PLUG

CHD MONUMENT

IRON PIPE S 15°, 33.5' EAST FROM CORNER

CORNER N 734,507.6068 E 939,873.1154

CHD MONUMENT N 76°, 06' W, 2.24' FROM CORNER

CHD MONUMENT

CHD BENCHMARK

CTGS MONUMENT 5844 N 733,588.539 E 940,104.527

CHD RANDOM MONUMENT N 734,111.48 E 940,005.83

CTGS MONUMENT 5842 N 734,823.927 E 939,885.692

CTGS MONUMENT 5843 N 735,446.809 E 939,746.753

CHD RANDOM MONUMENT N 735,476.43 E 939,699.00

N/F THE NAUGATUCK WATER COMPANY VOL. 28, P. 340

N/F THE NAUGATUCK WATER COMPANY VOL. 28, P. 340

N/F THE CONNECTICUT LIGHT & POWER COMPANY VOL. 28, P. 272 T.C. MAP # 5-17A

N/F U.S. CAP, INC. VOL. 73, P. 435 T.C. MAP # 5-6S & # 8-10

N/F MICHAEL BRUNETTI VOL. 476, P. 143

N/F LUIGI & JOHANNA DEMAGISTRIS VOL. 358, P. 161 T.C. MAP # 8-9B & # 14-4S

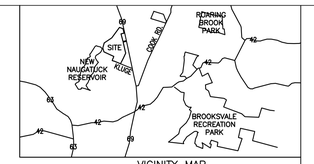
N/F JUDY C. VISOCKIS VOL. 93, P. 20

N/F DEREK D. McCORMACK VOL. 637, P. 325

BETHANY ROAD AKA STATE ROUTE 69

(SEE CHD ROW MAPS 114-01, SHEET 1 & 2 OF 2)

VICINITY MAP



BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK
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3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 112, BLOCK 96, LOT 178
PLOT DATE: 03/28/11
PLOT SCALE: 1=1
PLOT SCHEME: ANSI D
FILE NUMBER: 13053
SITE: CT
FILE NAME: W:\Projects\BE Energy Inc\Wind\GIS\13053-012 Prospect\GIS\01_ZD3.dwg

ZAPATA ENGINEERING

6303 FAIRVIEW ROAD, #600, CHARLOTTE, NC 28210 PHONE: (704) 556-9040 FAX: (704) 556-9342 ZAPATAINC.COM WWW.ZAPATAINC.COM

WIND PROSPECT
CONNECTICUT

ABUTTERS MAP

SHEET IDENTIFICATION
C-001

GENERAL NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS, LOCAL REQUIREMENTS AND GOVERNMENT REQUIREMENTS.

2. AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE SIX INCHES OF TOPSOIL AND SHALL BE SEEDED, UNLESS OTHERWISE NOTED.

3. UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS, IN THE SPECIFICATIONS, AND IN THE CONTRACT DOCUMENTS.

4. TRAFFIC SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, UNLESS OTHERWISE INDICATED.

5. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE AS SOON AS PRACTICABLE.

6. IN THE EVENT THAT SUSPECTED CONTAMINATED SOILS ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE OWNER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.

7. CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS. CONTRACTOR SHALL DISPOSE OF DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES, AND STATUTES.

8. DAMAGE RESULTING FROM CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR.

9. CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE IMPACTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY. ALL PAVEMENT, DITCHES, CURB AND GUTTER, UTILITIES, DRIVEWAYS, SIDEWALKS, SIGNS, FENCES, ETC. DISTURBED DURING CONSTRUCTION SHALL BE REPAIRED AND/OR RESTORED.

10. ALL ON SITE VEHICLE TRANSPORTATION ROUTES SHALL BE TEMPORARILY STABILIZED WITH STONE IMMEDIATELY AFTER GRADING TO PROVIDE READY ACCESS FOR EMERGENCY VEHICLES TO TRAVEL THROUGH AND AROUND THE CONSTRUCTION SITE DURING BOTH DRY AND WET WEATHER.

11. EXCESS EXCAVATION MATERIAL SHALL BE LEGALLY DISPOSED OF OFF SITE BY THE CONTRACTOR OR IN ON SITE AREAS APPROVED BY THE OWNER. NO SPOILS SHALL BE STORED ON SITE BEYOND SUBSTANTIAL COMPLETION.

12. DEWATERING SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

13. CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION AND SEQUENCING OF DEMOLITION AS DESCRIBED BY THESE DOCUMENTS AND SPECIFICATIONS. CONTRACTOR IS TO OBTAIN ALL PERMITS.

14. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF DEMOLITION OR RELOCATION WITH APPLICABLE UTILITY COMPANIES, IE, GAS, CABLE, POWER, TELEPHONE, WATER, SEWER, ETC.

15. EQUIPMENT OPERATION, ACTIVITIES, OR PROCESSES PERFORMED BY THE CONTRACTOR SHALL BE IN ACCORDANCE WITH ALL FEDERAL AND STATE AIR EMISSION AND PERFORMANCE LAWS AND STANDARDS.

16. CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL DURING CONSTRUCTION.

17. BURNING WILL NOT BE ALLOWED ON THE PROJECT SITE UNLESS AUTHORIZED IN WRITING BY THE OWNER. THE SPECIFIC TIME, LOCATION AND MANNER OF BURNING SHALL BE SUBJECT TO APPROVAL.

18. SOLID WASTES (EXCLUDING CLEARING DEBRIS) SHALL BE PLACED IN CONTAINERS WHICH ARE EMPTIED ON A REGULAR SCHEDULE. HANDLING, STORAGE, AND DISPOSAL SHALL BE CONDUCTED TO PREVENT CONTAMINATION. SEGREGATION MEASURES SHALL BE EMPLOYED SO THAT NO HAZARDOUS OR TOXIC WASTE WILL BECOME CO-MINGLED WITH SOLID WASTE. THE CONTRACTOR SHALL TRANSPORT SOLID WASTE OFF SITE AND DISPOSE OF IT IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL REQUIREMENTS FOR SOLID WASTE DISPOSAL. A SUBTITLE D RCRA PERMITTED LANDFILL SHALL BE THE MINIMUM ACCEPTABLE OFFSITE SOLID WASTE DISPOSAL OPTION. THE CONTRACTOR SHALL VERIFY THAT THE SELECTED TRANSPORTERS AND DISPOSAL FACILITIES HAVE THE NECESSARY PERMITS AND LICENSES TO OPERATE. THE CONTRACTOR SHALL COMPLY WITH FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS PERTAINING TO THE USE OF LANDFILL AREAS.

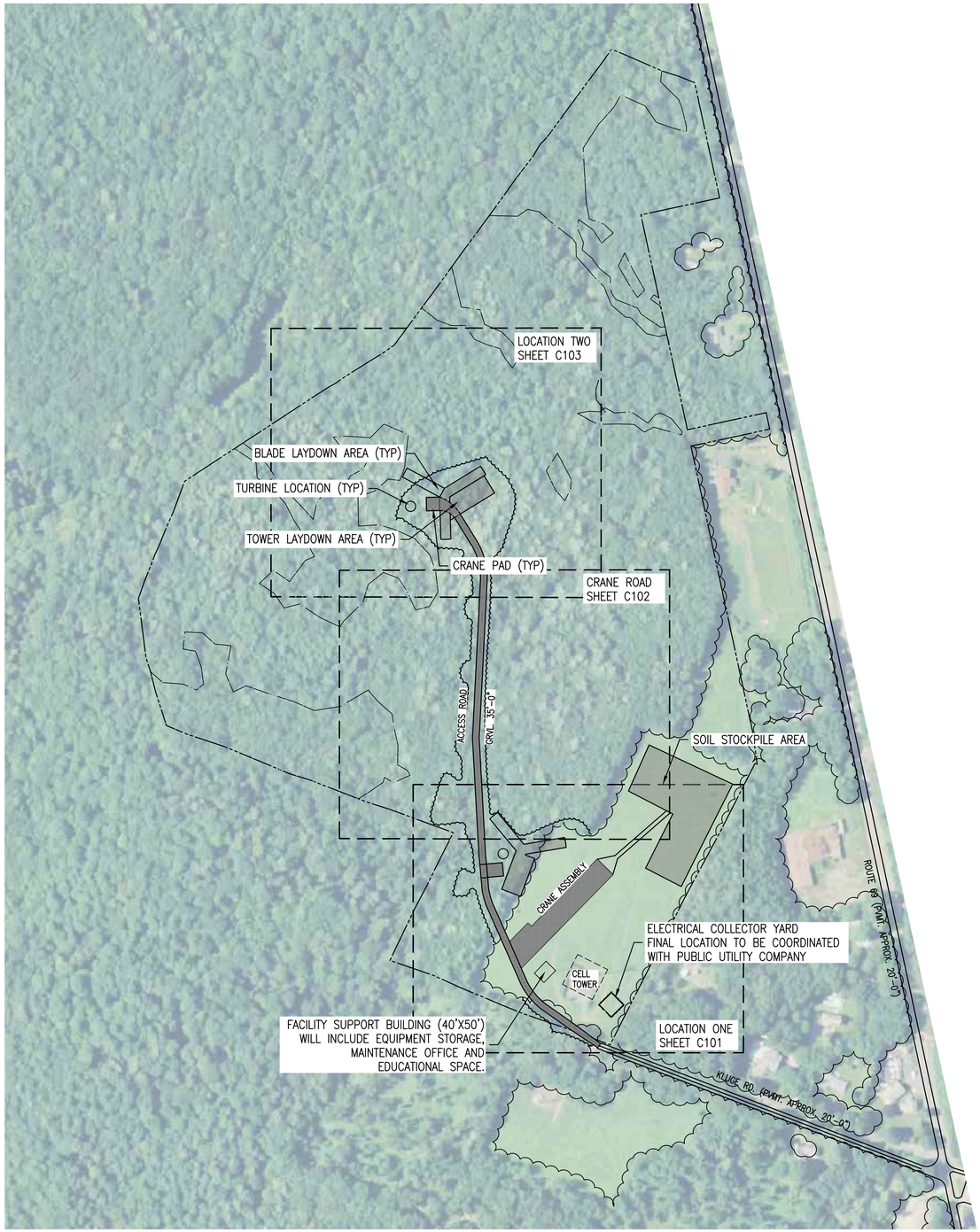
19. PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL MARK THE AREAS THAT NEED NOT BE DISTURBED UNDER THIS CONTRACT. ISOLATED AREAS WITHIN THE GENERAL WORK AREA WHICH ARE NOT TO BE DISTURBED SHALL BE MARKED OR FENCED. MONUMENTS AND MARKERS SHALL BE PROTECTED BEFORE CONSTRUCTION OPERATIONS COMMENCE.

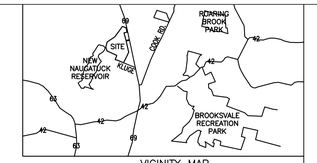
20. THE CONTRACTOR SHALL MONITOR CONSTRUCTION ACTIVITIES TO PREVENT POLLUTION OF SURFACE AND GROUND WATERS AND SHALL COMPLY WITH THE CLEAN WATER ACT SECTION 404 REGULATIONS.

21. CONTRACTOR SHALL ESTABLISH AND VERIFY POINT OF BEGINNING (P.O.B) AND STAKE SITE AS INDICATED ON CONSTRUCTION DOCUMENTS PRIOR TO COMMENCEMENT OF CONSTRUCTION. NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.

22. ALL DIMENSIONS ARE TO BACK OF CURB, FACE OF BUILDING, OR CENTERLINE UNLESS OTHERWISE NOTED.

23. ALL DETAILS SHALL BE CONSTRUCTED IN STRICT COMPLIANCE WITH SPECIFICATIONS AND CONSTRUCTION DOCUMENTS.





VICINITY MAP

LEGEND

- PROJECT BOUNDARY LINE
- EXISTING VEGETATION
- WETLAND LIMITS
- POST CONSTRUCTION VEGETATION LINE
- COMPACTED FILL
- WETLANDS
- GRAVEL

LAYOUT AND MATERIALS NOTES

1. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL VERIFY EXISTING PAVEMENT ELEVATIONS AT INTERFACE WITH PROPOSED PAVEMENTS AND EXISTING GROUND ELEVATIONS TO ASSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES.

2. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS, AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.

3. CONTRACTOR SHALL NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS, AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS, BUT SHALL VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH THE PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.

TREE AREA TO BE CLEARED: 186274 SQ. FT. / 4.28 ACRES
AREA TO BE DISTURBED: 365198 SQ. FT. / 8.38 ACRES
AREA WITHIN 100' WETLAND REVIEW AREA: 18541 SQ. FT. / 0.43 ACRES

THIS PROJECT WILL HAVE NO DIRECT WETLAND IMPACT. APPROPRIATE MITIGATION PROCEDURES AND REQUIRED PERMITS WILL BE OBTAINED PRIOR TO CONSTRUCTION.

0 200' 400'

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
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4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
PLOT SCALE: 1:1
PLOT DATE: 03-28-11
SIZE: ANSI D
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 112, BLOCK 66, LOT 11B
FILE NUMBER: 2305
FILE NAME: W:\Projects\BNE Energy Inc\GIS\MXD\305-012 Prospect\2305_012_SITE PLAN.mxd

ZAPATA ENGINEERING
4300 FAIRVIEW ROAD 28209 PHONE: (704) 525-1620
CHARLOTTE, NC 28211 FAX: (704) 365-8542
ZAPATAENGINEERING.COM WWW.ZAPATAINC.COM

WIND PROSPECT
CONNECTICUT

SITE PLAN WITH AERIAL IMAGREY

SHEET IDENTIFICATION
C-002

VICINITY MAP

LEGEND

- CLEARING/DISTURBED LIMITS
- PROJECT BOUNDARY LINE
- EXISTING VEGETATION
- WETLAND LIMITS
- DEMO EXISTING VEGETATION
- POST CONSTRUCTION VEGETATION LINE
- COMPACTED FILL
- WETLANDS
- GRAVEL
- CLEARING AREA

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SUBMITTED BY: ZAPATA INC.
PLOT SCALE: AS SHOWN
SIZE: ANSI D
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 132, BLOCK 84, LOT 17.8
PLOT DATE: 03-28-11
FILE NUMBER: 1353
FILE NAME: M:\Projects\BNE Energy Inc\Data\CAD\1353-012 Prospect\2011_0328MXD.dwg

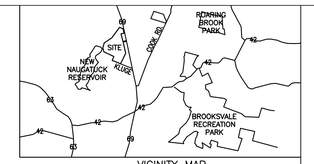
ZAPATA ENGINEERING, P.A.

6301 FAIRVIEW ROAD, #410 CHARLOTTE, NC 28210 ZAPATAINC.COM PHONE: (704) 366-5626 FAX: (704) 366-8742 WWW.ZAPATAINC.COM

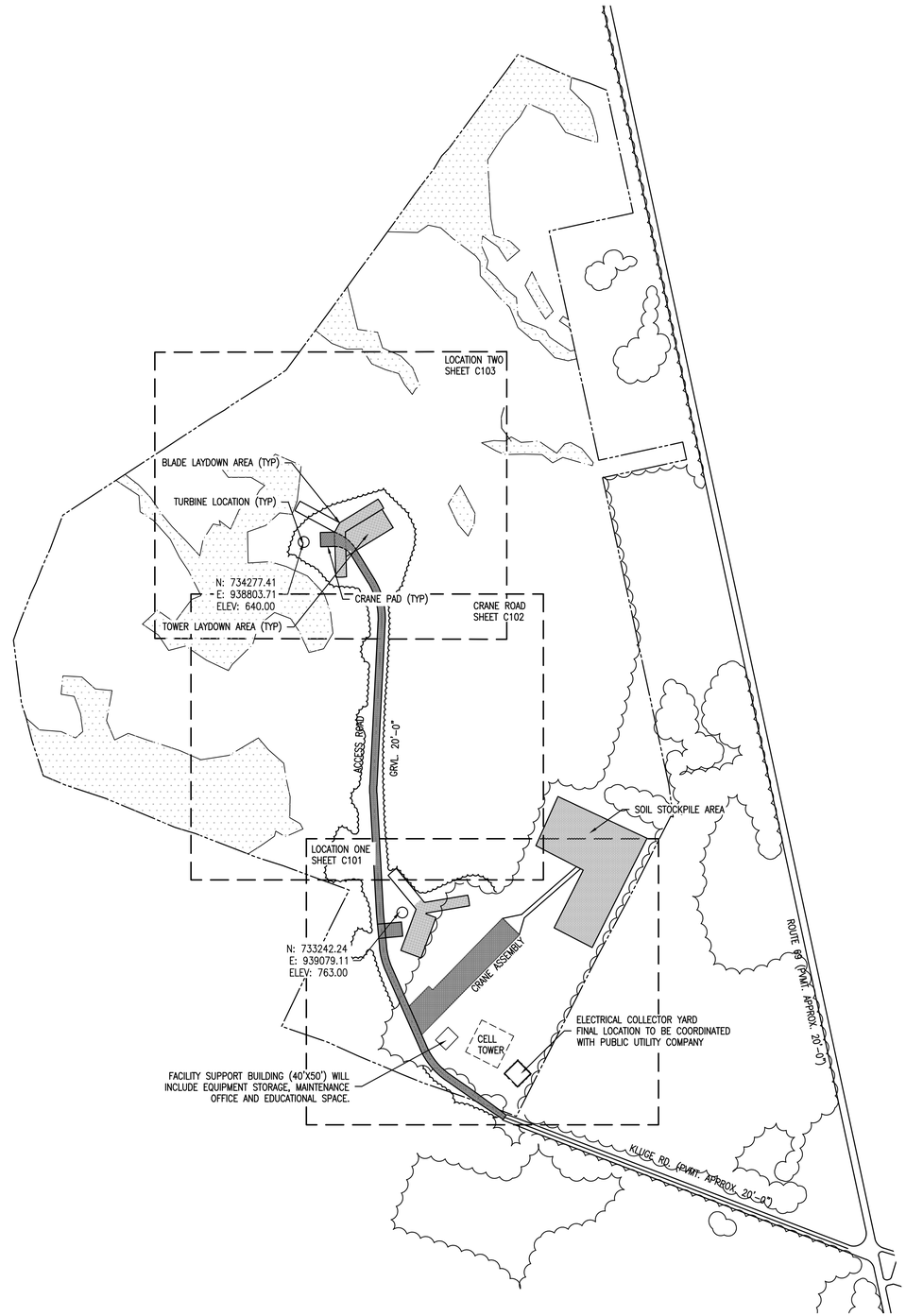
WIND PROSPECT
CONNECTICUT

CLEARING LIMITS PLAN

SHEET IDENTIFICATION
C-003



VICINITY MAP



LEGEND

- PROJECT BOUNDARY LINE
- EXISTING VEGETATION
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7. CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS. CONTRACTOR SHALL DISPOSE OF DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES, AND STATUTES.
8. DAMAGE RESULTING FROM CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR.
9. CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE IMPACTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY. ALL PAVEMENT, DITCHES, CURB AND GUTTER, UTILITIES, DRIVEWAYS, SIDEWALKS, SIGNS, FENCES, ETC. DISTURBED DURING CONSTRUCTION SHALL BE REPAIRED AND/OR RESTORED.
10. ALL ON SITE VEHICLE TRANSPORTATION ROUTES SHALL BE TEMPORARILY STABILIZED WITH STONE IMMEDIATELY AFTER GRADING TO PROVIDE READY ACCESS FOR EMERGENCY VEHICLES TO TRAVEL THROUGH AND AROUND THE CONSTRUCTION SITE DURING BOTH DRY AND WET WEATHER.
11. EXCESS EXCAVATION MATERIAL SHALL BE LEGALLY DISPOSED OF OFF SITE BY THE CONTRACTOR OR IN ON SITE AREAS APPROVED BY THE OWNER. NO SPOILS SHALL BE STORED ON SITE BEYOND SUBSTANTIAL COMPLETION.
12. DEWATERING SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
13. CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION AND SEQUENCING OF DEMOLITION AS DESCRIBED BY THESE DOCUMENTS AND SPECIFICATIONS. CONTRACTOR IS TO OBTAIN ALL PERMITS.
14. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF DEMOLITION OR RELOCATION WITH APPLICABLE UTILITY COMPANIES, IE, GAS, CABLE, POWER, TELEPHONE, WATER, SEWER, ETC.
15. EQUIPMENT OPERATION, ACTIVITIES, OR PROCESSES PERFORMED BY THE CONTRACTOR SHALL BE IN ACCORDANCE WITH ALL FEDERAL AND STATE AIR EMISSION AND PERFORMANCE LAWS AND STANDARDS.
16. CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL DURING CONSTRUCTION.
17. BURNING WILL NOT BE ALLOWED ON THE PROJECT SITE UNLESS AUTHORIZED IN WRITING BY THE OWNER. THE SPECIFIC TIME, LOCATION AND MANNER OF BURNING SHALL BE SUBJECT TO APPROVAL.
18. SOLID WASTES (EXCLUDING CLEARING DEBRIS) SHALL BE PLACED IN CONTAINERS WHICH ARE EMPTIED ON A REGULAR SCHEDULE. HANDLING, STORAGE, AND DISPOSAL SHALL BE CONDUCTED TO PREVENT CONTAMINATION. SEGREGATION MEASURES SHALL BE EMPLOYED SO THAT NO HAZARDOUS OR TOXIC WASTE WILL BECOME CO-MINGLED WITH SOLID WASTE. THE CONTRACTOR SHALL TRANSPORT SOLID WASTE OFF SITE AND DISPOSE OF IT IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL REQUIREMENTS FOR SOLID WASTE DISPOSAL. A SUBTITLE D RCRA PERMITTED LANDFILL SHALL BE THE MINIMUM ACCEPTABLE OFFSITE SOLID WASTE DISPOSAL OPTION. THE CONTRACTOR SHALL VERIFY THAT THE SELECTED TRANSPORTERS AND DISPOSAL FACILITIES HAVE THE NECESSARY PERMITS AND LICENSES TO OPERATE. THE CONTRACTOR SHALL COMPLY WITH FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS PERTAINING TO THE USE OF LANDFILL AREAS.
19. PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL MARK THE AREAS THAT NEED NOT BE DISTURBED UNDER THIS CONTRACT. ISOLATED AREAS WITHIN THE GENERAL WORK AREA WHICH ARE NOT TO BE DISTURBED SHALL BE MARKED OR FENCED. MONUMENTS AND MARKERS SHALL BE PROTECTED BEFORE CONSTRUCTION OPERATIONS COMMENCE.
20. THE CONTRACTOR SHALL MONITOR CONSTRUCTION ACTIVITIES TO PREVENT POLLUTION OF SURFACE AND GROUND WATERS AND SHALL COMPLY WITH THE CLEAN WATER ACT SECTION 404 REGULATIONS.
21. CONTRACTOR SHALL ESTABLISH AND VERIFY POINT OF BEGINNING (P.O.B) AND STAKE SITE AS INDICATED ON CONSTRUCTION DOCUMENTS PRIOR TO COMMENCEMENT OF CONSTRUCTION. NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
22. ALL DIMENSIONS ARE TO BACK OF CURB, FACE OF BUILDING, OR CENTERLINE UNLESS OTHERWISE NOTED.
23. ALL DETAILS SHALL BE CONSTRUCTED IN STRICT COMPLIANCE WITH SPECIFICATIONS AND CONSTRUCTION DOCUMENTS.

LAYOUT AND MATERIALS NOTES

1. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL VERIFY EXISTING PAVEMENT ELEVATIONS AT INTERFACE WITH PROPOSED PAVEMENTS AND EXISTING GROUND ELEVATIONS TO ASSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES.
2. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS, AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.
3. CONTRACTOR SHALL NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS, AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS, BUT SHALL VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH THE PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.

TREE AREA TO BE CLEARED: 186274 SQ. FT. / 4.28 ACRES
AREA TO BE DISTURBED: 365198 SQ. FT. / 8.84 ACRES
AREA WITHIN 100' WETLAND REVIEW AREA: 18541 SQ. FT. / 0.43 ACRES

THIS PROJECT WILL HAVE NO DIRECT WETLAND IMPACT. APPROPRIATE MITIGATION PROCEDURES AND REQUIRED PERMITS WILL BE OBTAINED PRIOR TO CONSTRUCTION.

0 200' 400'

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 112, BLOCK 66, LOT 17.8
FILE NUMBER: 1353
PLOT SCALE: 1:1
PLOT DATE: 03-28-11
SIZE: ANSI D
FILE NAME: w:\Projects\BNE Energy Inc\Submittals\1353-01 Prospect\CT\SSC_GEN.dwg

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6301 FAIRVIEW ROAD, #200 CHARLOTTE, NC 28210
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WIND PROSPECT CONNECTICUT

OVERALL SITE PLAN

SHEET IDENTIFICATION
C-100

ACCESS ROAD

9+00

8+00

7+00

6+00

5+00

4+00

3+00

2+00

1+00

0+00

30.00

228.63

114.32

N: 733242.24
E: 939079.11
ELEV: 763.00

TOWER BASE

BLADE ASSEMBLY AND LAYDOWN AREA

ELEV: 767.00

CRANE PAD

120.00

60.00

TOWER SECTION LAYDOWN AREA

65.00

280.00

CRANE ASSEMBLY AREA

70.00

TEMPORARY SOIL STOCKPILE AREA

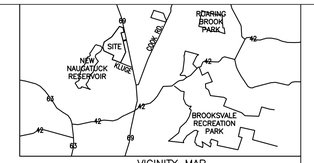
EXISTING CELL TOWER LOCATION

EXISTING TREE LINE

ELECTRICAL COLLECTOR YARD
FINAL LOCATION TO BE COORDINATED
WITH PUBLIC UTILITY COMPANY

FACILITY SUPPORT BUILDING (40'X50') WILL
INCLUDE EQUIPMENT STORAGE, MAINTENANCE
OFFICE AND EDUCATIONAL SPACE.

ACCESS ROAD



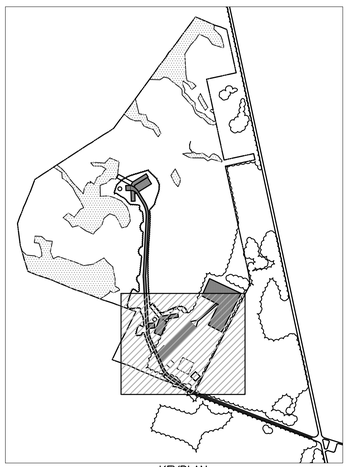
VICINITY MAP

NOTES:

1. CRANE ASSEMBLY AREA FOR 450T CRAWLER WITH 295' MAIN BOOM.
2. AT SITE ENTRANCE ACCESS ROAD SHALL BE MINIMUM OF 15' WIDE.
3. CONTRACTOR TO ENSURE ADEQUATE ACCESS TO SITE DURING CONSTRUCTION

LEGEND

- PROJECT BOUNDARY LINE
- EXISTING VEGETATION
- WETLAND LIMITS
- NEW VEGETATION LINE
- HB — HAYBALE
- S F — SILT FENCE
- COMPACTED FILL
- WETLANDS
- GRAVEL



KEYPLAN

0 40 80

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC
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NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
PLOT SCALE: AS SHOWN
PLOT DATE: 03-28-11
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 112, BLOCK 66, LOT 17.8
FILE NUMBER: 11303
SIZE: ANSI D
FILE NAME: M:\Projects\BNE Energy Inc\Submittals\1303-011 Prospect\CT303_SP2.dwg

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WIND PROSPECT
CONNECTICUT

TURBINE LOCATION ONE AND
CRANE ASSEMBLY AREA SITE PLAN

SHEET IDENTIFICATION
C-101

VICINITY MAP

LEGEND

- PROJECT BOUNDARY LINE
- EXISTING VEGETATION
- WETLAND LIMITS
- NEW VEGETATION LINE
- HAYBALE (HB)
- SILT FENCE (S F)
- COMPACTED FILL
- WETLANDS
- GRAVEL

KEYPLAN

0 40 80

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK
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3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC

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CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
PLOT SCALE: AS SHOWN
PLOT DATE: 03-28-11
SIZE: ANSI D
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 112, BLOCK 9/6, LOT 1/7/8
FILE NUMBER: 1505
FILE NAME: W:\Projects\BNE Energy Inc\Wind\CAD\CSC\1505-102 Present\C102_SRP.dwg

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WIND PROSPECT
CONNECTICUT

CRANE ROAD SITE PLAN

SHEET IDENTIFICATION
C-102

VICINITY MAP

NOTES:

1. CRANE PAD SHALL NOT EXCEED 1% SLOPE.

2. BLADE ASSEMBLY AREA SHALL NOT HAVE FLATNESS DEVIATION OF MORE THAN 6 INCHES OVER THE LENGTH OF BLADES.

3. TOWER SECTION LAYDOWN AREA SHALL NOT EXCEED 5% SLOPE.

LEGEND

- PROJECT BOUNDARY LINE
- EXISTING VEGETATION
- WETLAND LIMITS
- POST CONSTRUCTION VEGETATION LINE
- HAYBALE (HB)
- SILT FENCE (S F)
- COMPACTED FILL
- WETLANDS
- GRAVEL

KEYPLAN

0 40 80

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
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NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

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DWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
PLOT SCALE: AS SHOWN
SIZE: ANSI D
PLOT DATE: 03-28-11
FILE NUMBER: 1305
FILE NAME: W:\Projects\BNE Energy Inc\Naugatuck\1305-003 Prospect\CT\SSC_SITE.dwg
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 112, BLOCK 56, LOT 17.0

ZAPATA ENGINEERING
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WIND PROSPECT
CONNECTICUT

TURBINE LOCATION TWO SITE PLAN

SHEET IDENTIFICATION
C-103

CONSTRUCTION SCHEDULE:

1. INSTALL SILT FENCE, INLET PROTECTION, SEDIMENT TRAPS, DIVERSION DITCHES, TREE PROTECTION, AND OTHER MEASURES AS SHOWN ON PLANS, CLEARING ONLY AS NECESSARY TO INSTALL THESE DEVICES.
2. THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES.
3. APPLY SEEDING, TEMPORARY OR PERMANENT, OR OTHER TYPES OF STABILIZATION AS REQUIRED AS SOON AS GRADED AREAS ARE COMPLETE OR WHERE WORK STOPS.
4. COMPLETE FINE GRADING.
5. PREPARE ALL DISTURBED AREAS FOR SEEDING AND GROUND COVER.
6. APPLY PERMANENT SEEDING AND GROUND COVER.
7. AFTER SITE IS STABILIZED AND APPROVALS RECEIVED, ALL TEMPORARY EROSION CONTROL DEVICES SHALL BE REMOVED AND THOSE DISTURBED AREAS SHALL BE SEEDED.
8. COORDINATE WITH EROSION CONTROL INSPECTOR PRIOR TO REMOVAL OF EROSION CONTROL MEASURE.
9. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 2002 CONNECTICUT GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
10. APPROVAL OF THIS PLAN IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED.

MAINTENANCE PLAN:

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL, BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
2. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.
3. SEDIMENT WILL BE REMOVED FROM BEHIND THE SEDIMENT FENCE WHEN IT BECOMES ABOUT 0.5 FEET DEEP AT THE FENCE. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER.
4. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED, UNLESS ACTIVITY IN THAT PORTION OF THE SITE WILL RESUME WITHIN 21 DAYS.
5. ALL SEEDED AREAS SHALL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATION TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.

TREE PROTECTION NOTES:

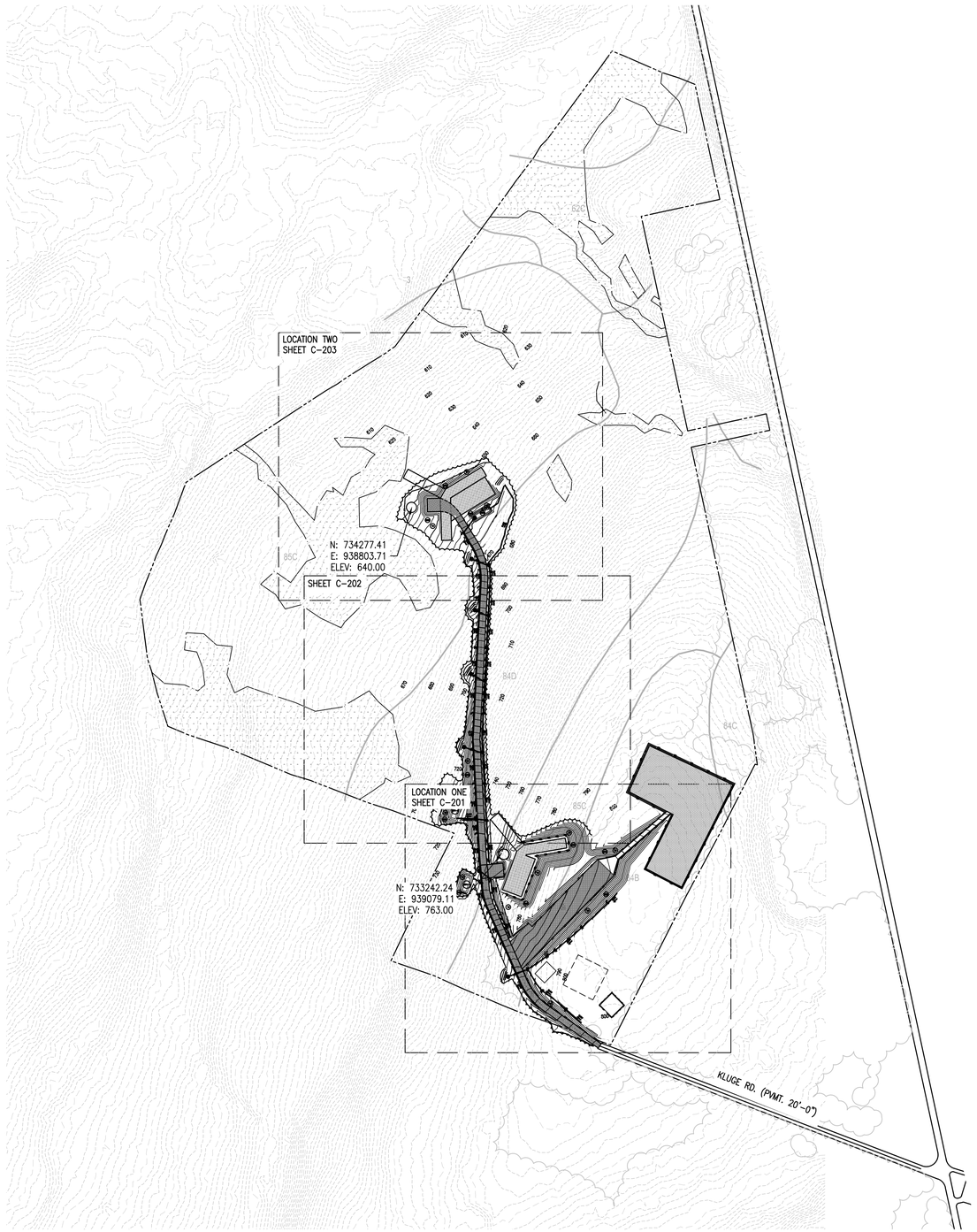
1. TREE BARRICADES MUST BE INSTALLED BEFORE ANY DEMOLITION, CLEARING, GRADING, OR CONSTRUCTION, AND NOT REMOVED UNTIL AFTER FINAL INSPECTION BY URBAN FORESTRY STAFF.
2. NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, BURIAL PITS, TRENCHING OR OTHER LAND DISTURBING ACTIVITY ALLOWED IN TREE PROTECTION AREAS, EXCEPT AS SHOWN ON APPROVED PLANS.
3. VIOLATIONS OF TREE PROTECTION REQUIREMENTS ARE SUBJECT TO FINES, AND/OR IMMEDIATE CORRECTIVE ACTION/MITIGATION.
4. NO GRUBBING WITHIN TREE PROTECTION ZONE. LEAVE SPOIL AND LEAF LITTER UNDISTURBED. SUPPLEMENT WITH 1-2 INCHES OF MULCH. RE-SEED WITH GRASS ONLY IN DISTURBED/GRADED AREAS.
5. BRUSH VINES, AND SMALL TREES (8" DIAMETER, OR AS SMALL AS 2" CALIPER) MAY BE HAND CLEARED ONLY AND CUT FLUSH WITH GROUND SURFACE. EXISTING TREES MAY BE LIMBED UP 6 FEET (LEAVING AT LEAST 2/3 OF THE BRANCHES TO IMPROVE VISIBILITY).
6. EXPOSED TREE ROOTS MUST BE CLEANLY CUT WITH A SHARP PRUNING TOOL; BACKFILL AS SOON AS POSSIBLE TO MINIMIZE EXPOSURE TO THE AIR.
7. TREE PROTECTION FENCE IS TO BE LOCATED 1 FOOT PER TREE DIAMETER INCH AWAY FROM THE TREE IN THE SETBACK.

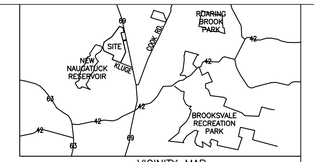
EROSION CONTROL NOTES:

1. STABILIZATION IS THE BEST FORM OF EROSION CONTROL. TEMPORARY SEEDING IS NECESSARY TO ACHIEVE EROSION CONTROL ON LARGE DENUDED AREAS AND ESPECIALLY WHEN SPECIFICALLY REQUIRED AS PART OF THE CONSTRUCTION SEQUENCE.
2. MAXIMUM GRADED SLOPES ARE 2:1. WHEN STEEPER SLOPES MUST BE USED PLANS MUST BE SEALED BY A GEO-TECHNICAL ENGINEER FOR SLOPE STABILITY AND FINAL SURFACE STABILIZATION.
3. DE-WATERING OF SITE DIRECTLY INTO STREAM, WETLAND OR CREEK IS PROHIBITED.

GENERAL CONSTRUCTION NOTES:

1. ALL CONTOURS AND SPOT ELEVATIONS REFLECT FINISH GRADES.
2. CONTRACTOR SHALL BLEND SMOOTHLY NEW GRADING TO EXISTING GRADE.
3. CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER OR ENGINEER ANY DISCREPANCIES FOUND BETWEEN ACTUAL FIELD CONDITIONS AND CONSTRUCTION DOCUMENTS AND SHALL WAIT FOR INSTRUCTIONS BEFORE PROCEEDING.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION.
5. CONTRACTOR SHALL WORK WITH CAUTION DURING EARTHWORK ACTIVITIES NEAR EXISTING UTILITIES. CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE APPROPRIATE AGENCY FOR FIELD LOCATIONS OF ALL UNDERGROUND UTILITIES BEFORE STARTING CONSTRUCTION.





VICINITY MAP

LEGEND

C P	PERMANENT CULVERT PIPE
S F	SILT FENCE
HB	STRAW HAY BALES
	WETLAND LIMITS
84C / 84B	SOIL TYPE BOUNDARY
	PERMANENT ROCK CHECK DAM
	RIP RAP
FLOW	FLOW ARROW
TS	TEMPORARY SEEDING
TST	TEMPORARY SEDIMENT TRAP
GF	GEO-TEXTILE FABRIC
RR	RIPRAP
ECB	EROSION CONTROL BLANKET
PS	PERMANENT SEEDING
	PERMANENT CATCH BASIN
	COMPACTED EARTH
	GRAVEL
	LAYDOWN AREA
	TEMPORARY SPOIL AREA
	PERMANENT RIPRAP LINED SWALE
	PERMANENT LEVEL SPREADER

State of Connecticut (CT600)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, extremely stony	3.5	4.4%
62C	Canton and Charlton soils, 3 to 15 percent slopes, extremely stony	4.9	6.1%
84B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes	8.9	11.1%
84C	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes	1.0	1.3%
84D	Paxton and Montauk fine sandy loams, 15 to 25 percent slopes	19.7	24.6%
85C	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes, very stony	42.0	52.5%
Totals for Area of Interest		80.0	100.0%

TREE AREA TO BE CLEARED: 186274 SQ. FT. / 4.28 ACRES
AREA TO BE DISTURBED: 365198 SQ. FT. / 8.84 ACRES
AREA WITHIN 100' WETLAND REVIEW AREA: 18541 SQ. FT. / 0.43 ACRES

THIS PROJECT WILL HAVE NO DIRECT WETLAND IMPACT. APPROPRIATE MITIGATION PROCEDURES AND REQUIRED PERMITS WILL BE OBTAINED PRIOR TO CONSTRUCTION.

0 200' 400'

BNE Energy Inc.
Producer of green clean energy

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FILE NUMBER: 1253
SIZE: ANSI D
FILE NAME: M:\Projects\BNE Energy Inc\Data\CAD\1253-012 Proposed\1253_EROS.dwg

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6301 FAIRVIEW ROAD #600 CHARLOTTE, NC 28210
PHONE: (704) 366-5626 FAX: (704) 366-8742
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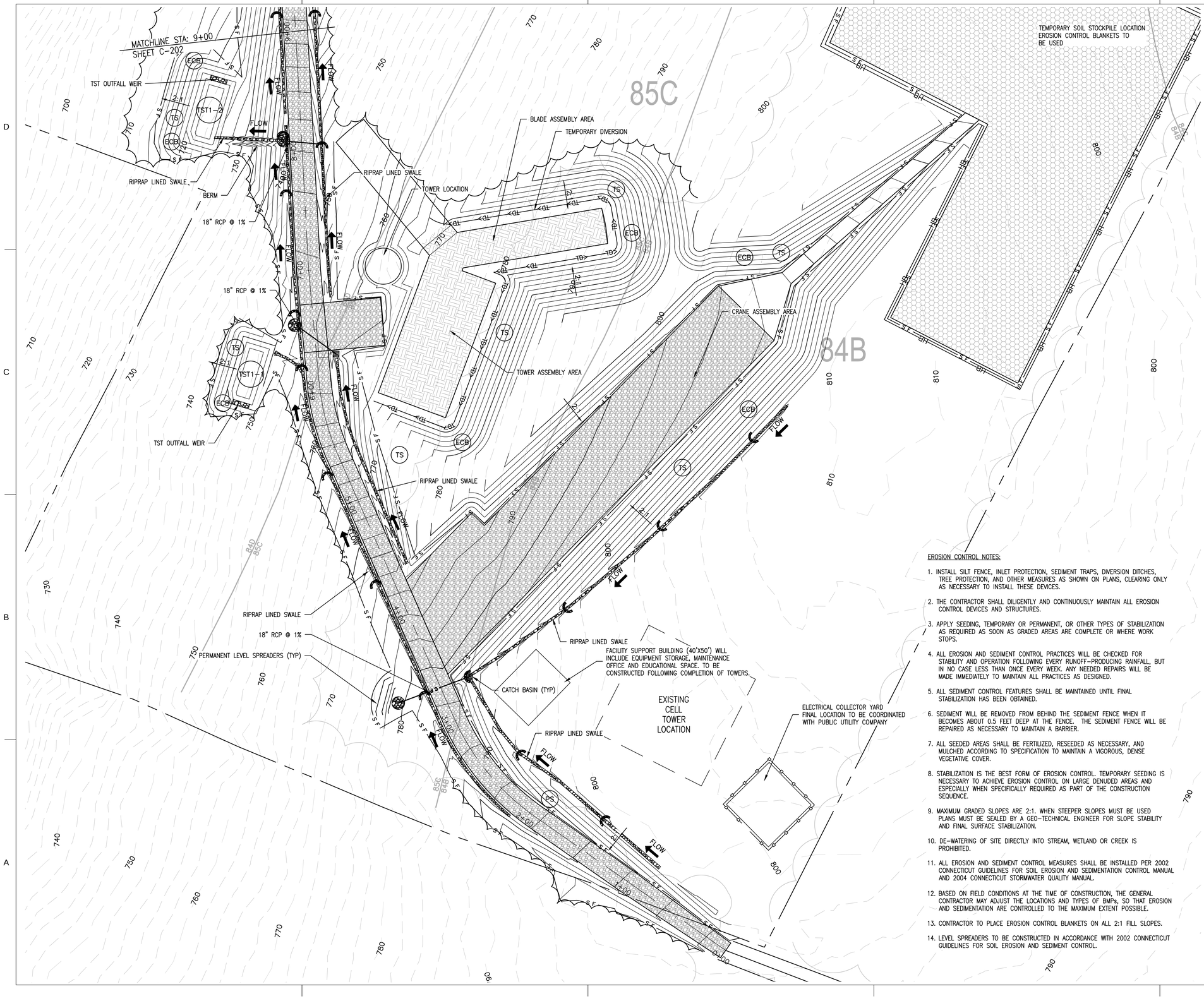
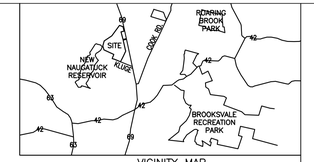
WIND PROSPECT
CONNECTICUT

EROSION CONTROL PLAN

SHEET IDENTIFICATION
C-200





VICINITY MAP

LEGEND

- C P — PERMANENT CULVERT PIPE
- S F — SILT FENCE
- HB — STRAW HAY BALES
- WETLAND LIMITS
- 84C / 84B — SOIL TYPE BOUNDARY
- PERMANENT ROCK CHECK DAM
- RIP RAP
- FLOW — FLOW ARROW
- TS — TEMPORARY SEEDING
- TST — TEMPORARY SEDIMENT TRAP
- GF — GEO-TEXTILE FABRIC
- RR — RIPRAP
- ECB — EROSION CONTROL BLANKET
- PS — PERMANENT SEEDING
- PERMANENT CATCH BASIN
- COMPACTED EARTH
- GRAVEL
- LAYDOWN AREA
- TEMPORARY SPOIL AREA
- PERMANENT RIPRAP LINED SWALE
- PERMANENT LEVEL SPREADER

EROSION CONTROL NOTES:

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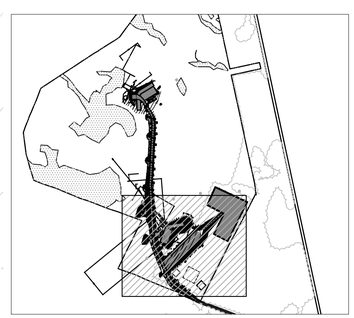
2. THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES.
3. APPLY SEEDING, TEMPORARY OR PERMANENT, OR OTHER TYPES OF STABILIZATION AS REQUIRED AS SOON AS GRADED AREAS ARE COMPLETE OR WHERE WORK STOPS.
4. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL, BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
5. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.
6. SEDIMENT WILL BE REMOVED FROM BEHIND THE SEDIMENT FENCE WHEN IT BECOMES ABOUT 0.5 FEET DEEP AT THE FENCE. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER.
7. ALL SEEDED AREAS SHALL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATION TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
8. STABILIZATION IS THE BEST FORM OF EROSION CONTROL. TEMPORARY SEEDING IS NECESSARY TO ACHIEVE EROSION CONTROL ON LARGE DENUDED AREAS AND ESPECIALLY WHEN SPECIFICALLY REQUIRED AS PART OF THE CONSTRUCTION SEQUENCE.
9. MAXIMUM GRADED SLOPES ARE 2:1. WHEN STEEPER SLOPES MUST BE USED PLANS MUST BE SEALED BY A GEO-TECHNICAL ENGINEER FOR SLOPE STABILITY AND FINAL SURFACE STABILIZATION.
10. DE-WATERING OF SITE DIRECTLY INTO STREAM, WETLAND OR CREEK IS PROHIBITED.
11. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PER 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL MANUAL AND 2004 CONNECTICUT STORMWATER QUALITY MANUAL.
12. BASED ON FIELD CONDITIONS AT THE TIME OF CONSTRUCTION, THE GENERAL CONTRACTOR MAY ADJUST THE LOCATIONS AND TYPES OF BMPs, SO THAT EROSION AND SEDIMENTATION ARE CONTROLLED TO THE MAXIMUM EXTENT POSSIBLE.
13. CONTRACTOR TO PLACE EROSION CONTROL BLANKETS ON ALL 2:1 FILL SLOPES.
14. LEVEL SPREADERS TO BE CONSTRUCTED IN ACCORDANCE WITH 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.



KEYPLAN 0 40 80

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
PLOT SCALE: 1:1
PLOT DATE: 03-28-11
SIZE: ANSI D
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 7-12, BLOCK 84, LOT 17.8
FILE NUMBER: 2305
FILE NAME: W:\Projects\BE Energy inc\Wind\GIS\MXD\C-201_EROS.mxd

ZAPATA ENGINEERING
6320 FAIRVIEW ROAD #200 PHONE: (704) 366-5040
CHARLOTTE, NC 28210 FAX: (704) 366-5342
JZAPATA@ZAPATAINC.COM WWW.ZAPATAINC.COM

WIND PROSPECT
CONNECTICUT

TURBINE LOCATION ONE AND CRANE ASSEMBLY AREA EROSION CONTROL PLAN

SHEET IDENTIFICATION
C-201

MATCHLINE STA: 15+00
SHEET C-203

MATCHLINE STA: 9+00
SHEET C-201

RCP 18" @ 1%

ROCK CHECK DAM (TYP)

RIPRAP LINED SWALE

PERMANENT LEVEL SPREADERS (TYP)

CATCH BASIN (TYP)

TST OUTFALL WEIR

TST1-2

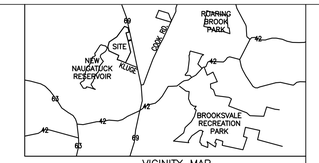
84D

85C

84B

84C

VICINITY MAP



LEGEND

- C P — PERMANENT CULVERT PIPE
- S F — SILT FENCE
- HB — STRAW HAY BALES
- WETLAND LIMITS
- 84C / 84B — SOIL TYPE BOUNDARY
- PERMANENT ROCK CHECK DAM
- RIP RAP
- FLOW — FLOW ARROW
- TS — TEMPORARY SEEDING
- TST — TEMPORARY SEDIMENT TRAP
- GF — GEO-TEXTILE FABRIC
- RR — RIPRAP
- ECB — EROSION CONTROL BLANKET
- PS — PERMANENT SEEDING
- PERMANENT CATCH BASIN
- COMPACTED EARTH
- GRAVEL
- LAYDOWN AREA
- TEMPORARY SPOIL AREA
- PERMANENT RIPRAP LINED SWALE
- PERMANENT LEVEL SPREADER

KEYPLAN

0 40 80

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
PLOT SCALE: AS SHOWN
PLOT DATE: 03-28-11
SCALE: ANSI D
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 1.12, BLOCK 84, LOT 17.8
FILE NUMBER: 12505
FILE NAME: W:\Projects\BE Energy inc\Wind\CAD\LSDD-012 Present\C202_ESC.dwg

ZAPATA ENGINEERING

6301 FAIRVIEW ROAD #600 PHONE: (704) 366-5040
CHARLOTTE, NC 28210 FAX: (704) 366-3542
ZAPATAINC.COM WWW.ZAPATAINC.COM

WIND PROSPECT
CONNECTICUT

ACCESS ROAD STA: 9+00 TO 15+00
EROSION CONTROL PLAN

SHEET IDENTIFICATION
C-202

1 2 3 4 5

D C B A

560 570 580 590 600 610 620 630 640 650 660 670 680 690 700 710 720 730 740

85C 84C 84B

TOWER SECTION LAYDOWN AREA

BLADE ASSEMBLY AREA

PERMANENT LEVEL SPREADERS (TYP.)

*CONTRACTOR TO NOTIFY CONNECTICUT WATER COMPANY 48 HOURS PRIOR TO CONSTRUCTION

TOWER LOCATION

CRANE PAD

RIPRAP LINED SWALE

TST OUTFALL WEIR

TEMPORARY SEDIMENT TRAP SEE DETAIL 3/C503

ACCESS ROAD

RCP 18" @ 1%

CATCH BASIN (TYP)

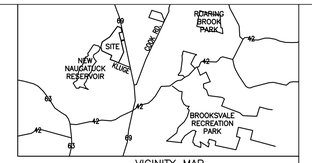
RIPRAP LINED SWALE

24" RCP @ 1%

PERMANENT LEVEL SPREADERS (TYP)

MATCHLINE STA: 15+00
SHEET C-202

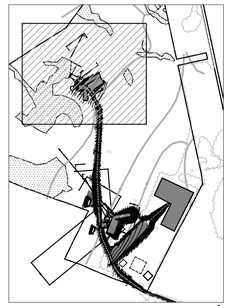
S F
TS
ECB
TST2
FLOW
D1
L1 77+00
L2 15+00
L3 15+00



VICINITY MAP

LEGEND

C P	PERMANENT CULVERT PIPE
S F	SILT FENCE
HB	STRAW HAY BALES
	WETLAND LIMITS
84C / 84B	SOIL TYPE BOUNDARY
	PERMANENT ROCK CHECK DAM
	RIP RAP
FLOW	FLOW ARROW
TS	TEMPORARY SEEDING
TST	TEMPORARY SEDIMENT TRAP
GF	GEO-TEXTILE FABRIC
RR	RIPRAP
ECB	EROSION CONTROL BLANKET
PS	PERMANENT SEEDING
	PERMANENT CATCH BASIN
	COMPACTED EARTH
	GRAVEL
	LAYDOWN AREA
	TEMPORARY SPOIL AREA
	PERMANENT RIPRAP LINED SWALE
	PERMANENT LEVEL SPREADER



KEYPLAN

0 40 80

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
PLOT SCALE: 1" = 100'
PLOT OFFSET: (0.00)
SIZE: ANSI D
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 12, BLOCK 64, LOT 17.8
PLOT DATE: 3/28/2011
FILE NUMBER: 1253
FILE NAME: w:\Projects\BNE Energy Inc\Cad\Civil\08-012 Presents\C203_EROS.dwg

ZAPATA ENGINEERING
4201 FAIRVIEW ROAD #200 PHONE (704) 366-9240
CHARLOTTE, NC 28210 FAX (704) 366-9242
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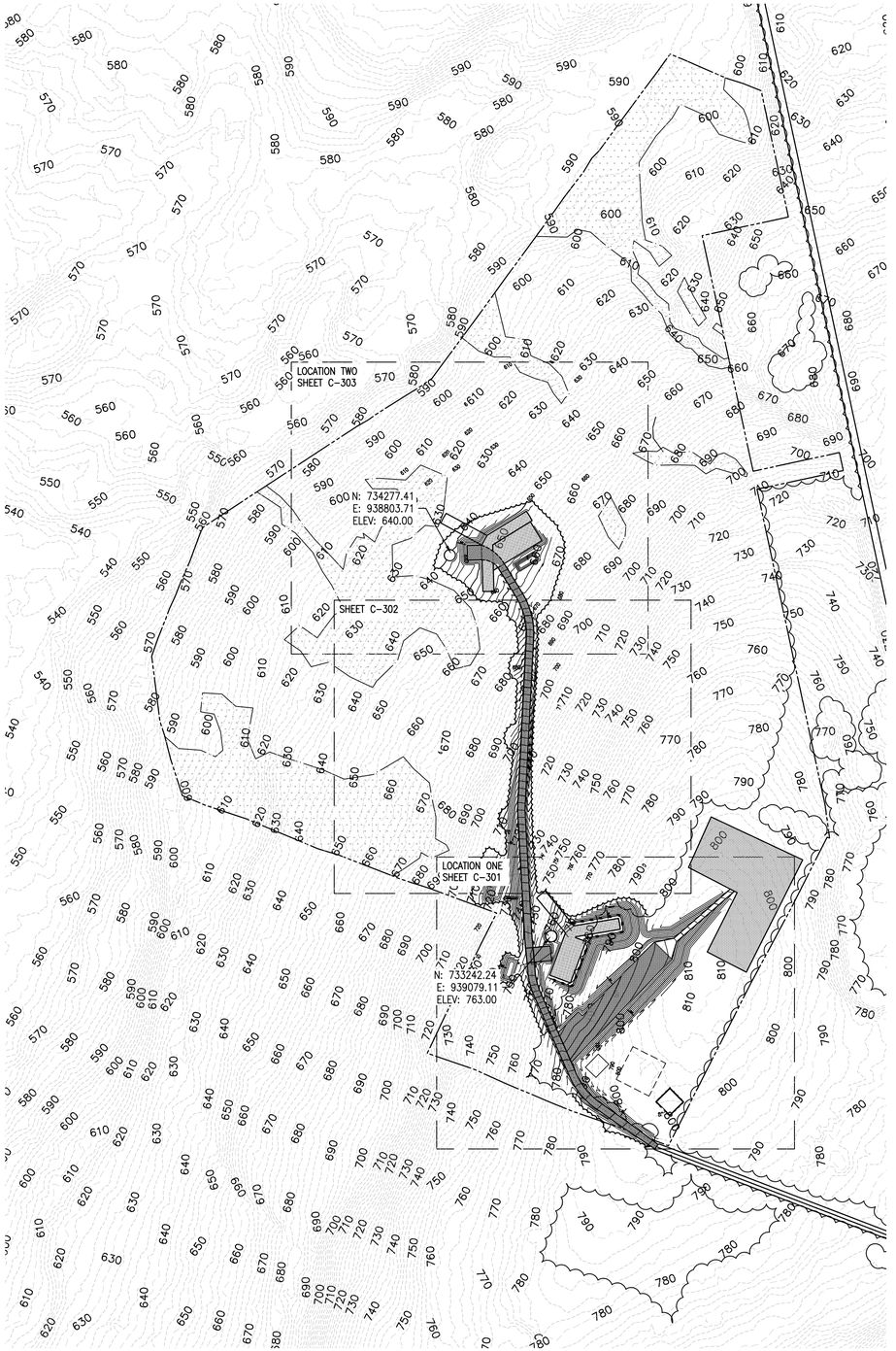
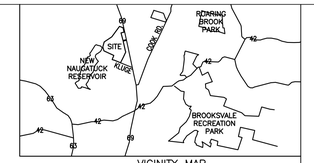
WIND PROSPECT
CONNECTICUT
TURBINE LOCATION TWO
EROSION CONTROL PLAN

SHEET IDENTIFICATION
C-203

GRADING NOTES:

1. DISCREPANCIES SHOULD BE NOTED AND GUIDANCE OBTAINED FROM THE ENGINEER PRIOR TO CONTINUING WORK.
2. GENERAL CONTRACTOR IS RESPONSIBLE FOR LOCATING AND AVOIDING ALL EXISTING UNDERGROUND UTILITIES.
3. GENERAL CONTRACTOR TO MONITOR STORM WATER RUNOFF DURING AND AFTER CONSTRUCTION TO ENSURE PROPER DRAINAGE.
4. ALL GRADES SHOWN ON PLANS TO BE FIELD-VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. SHOULD ANY DISCREPANCIES EXIST, NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION.
5. ALL SURFACES SHALL HAVE A SLOPE AS INDICATED ON DRAWINGS.
6. GENERAL CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM TOWER PADS.
7. MASS GRADING WILL NOT BE CONDUCTED ON THIS SITE.
8. ALL EROSION CONTROL STRUCTURES TO BE INSTALLED PRIOR TO CONSTRUCTION.
9. CONTRACTOR IS RESPONSIBLE FOR PLACING BARRICADES, USING FLAG MEN, ETC. AS NECESSARY TO INSURE SAFETY TO THE PUBLIC.
10. ALL PAVEMENT CUTS, CONCRETE OR ASPHALT, ARE TO BE REPLACED ACCORDING TO STANDARDS OF THE CONNECTICUT DEPARTMENT OF TRANSPORTATION.
11. SHORING WILL BE ACCORDING TO OSHA TRENCHING STANDARDS PART 1926, SUBPART P, OR AS AMENDED.





VICINITY MAP

LEGEND

- CULVERT PIPE
- DITCH LINE
- EXISTING TOPO
- NEW TOPO
- WETLAND LIMITS
- VEGETATION
- POST CONSTRUCTION VEGETATION LINE
- COMPACTED EARTH
- WETLAND
- GRAVEL
- LAYDOWN AREA

THIS PROJECT WILL HAVE NO DIRECT WETLAND IMPACT. APPROPRIATE MITIGATION PROCEDURES AND REQUIRED PERMITS WILL BE OBTAINED PRIOR TO CONSTRUCTION.

0 200' 400'

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
PLOT SCALE: 1=200' (1:2400)
PLOT DATE: 03-28-11
SIZE: ANSI D
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 112, BLOCK 64, LOT 17.8
FILE NUMBER: 1303
FILE NAME: w:\projects\bne energy inc\cad\civil\300-302 layout\C300_GRADing

ZAPATA ENGINEERING
4301 FAIRVIEW ROAD #450 PHONE (704) 366-8670
CHARLOTTE, NC 28210 FAX (704) 366-8342
ZAPATAINC@ZAPATAINC.COM WWW.ZAPATAINC.COM

WIND PROSPECT
CONNECTICUT

GRADING PLAN

SHEET IDENTIFICATION
C-300

MATCHLINE
SHEET C-302

N: 733242.24
E: 939079.11
ELEV: 763.00

BLADE ASSEMBLY AREA
ELEV. 767.00

TOWER LOCATION

TOWER ASSEMBLY AREA
ELEV: 767.00

CRANE ASSEMBLY AREA

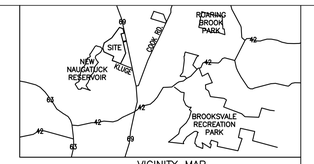
TEMPORARY SOIL STOCKPILE LOCATION

FACILITY SUPPORT BUILDING WITH PARKING. WILL INCLUDE EQUIPMENT STORAGE, MAINTENANCE OFFICE AND EDUCATIONAL SPACE.

EXISTING CELL TOWER LOCATION

ELECTRICAL COLLECTOR YARD
FINAL LOCATION TO BE COORDINATED WITH PUBLIC UTILITY COMPANY

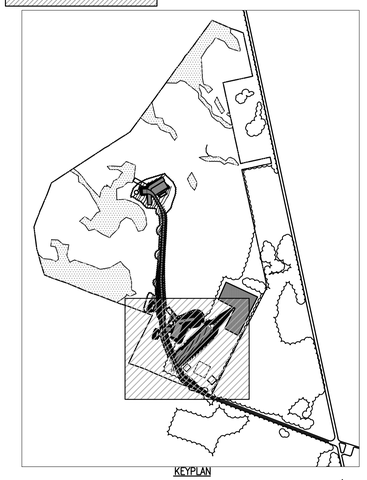
VICINITY MAP



LEGEND

- CULVERT PIPE
- DITCH LINE
- EXISTING TOPO
- NEW TOPO
- WETLAND LIMITS
- VEGETATION
- POST CONSTRUCTION VEGETATION LINE
- COMPACTED EARTH
- WETLAND
- GRAVEL
- LAYDOWN AREA

KEYPLAN



GRADING NOTES:

1. DISCREPANCIES SHOULD BE NOTED AND GUIDANCE OBTAINED FROM THE ENGINEER PRIOR TO CONTINUING WORK.
2. GENERAL CONTRACTOR IS RESPONSIBLE FOR LOCATING AND AVOIDING ALL EXISTING UNDERGROUND UTILITIES.
3. GENERAL CONTRACTOR TO MONITOR STORM WATER RUNOFF DURING AND AFTER CONSTRUCTION TO ENSURE PROPER DRAINAGE.
4. ALL GRADES SHOWN ON PLANS TO BE FIELD-VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. SHOULD ANY DISCREPANCIES EXIST, NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION.
5. ALL SURFACES SHALL HAVE A SLOPE AS INDICATED ON DRAWINGS.
6. GENERAL CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM TOWER PADS.
7. MASS GRADING WILL NOT BE CONDUCTED ON THIS SITE.
8. ALL EROSION CONTROL STRUCTURES TO BE INSTALLED PRIOR TO CONSTRUCTION.
9. CONTRACTOR IS RESPONSIBLE FOR PLACING BARRICADES, USING FLAG MEN, ETC. AS NECESSARY TO INSURE SAFETY TO THE PUBLIC.
10. ALL PAVEMENT CUTS, CONCRETE OR ASPHALT, ARE TO BE REPLACED ACCORDING TO STANDARDS OF THE CONNECTICUT DEPARTMENT OF TRANSPORTATION.
11. SHORING WILL BE ACCORDING TO OSHA TRENCHING STANDARDS PART 1926, SUBPART P, OR AS AMENDED.

0 40 80

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK

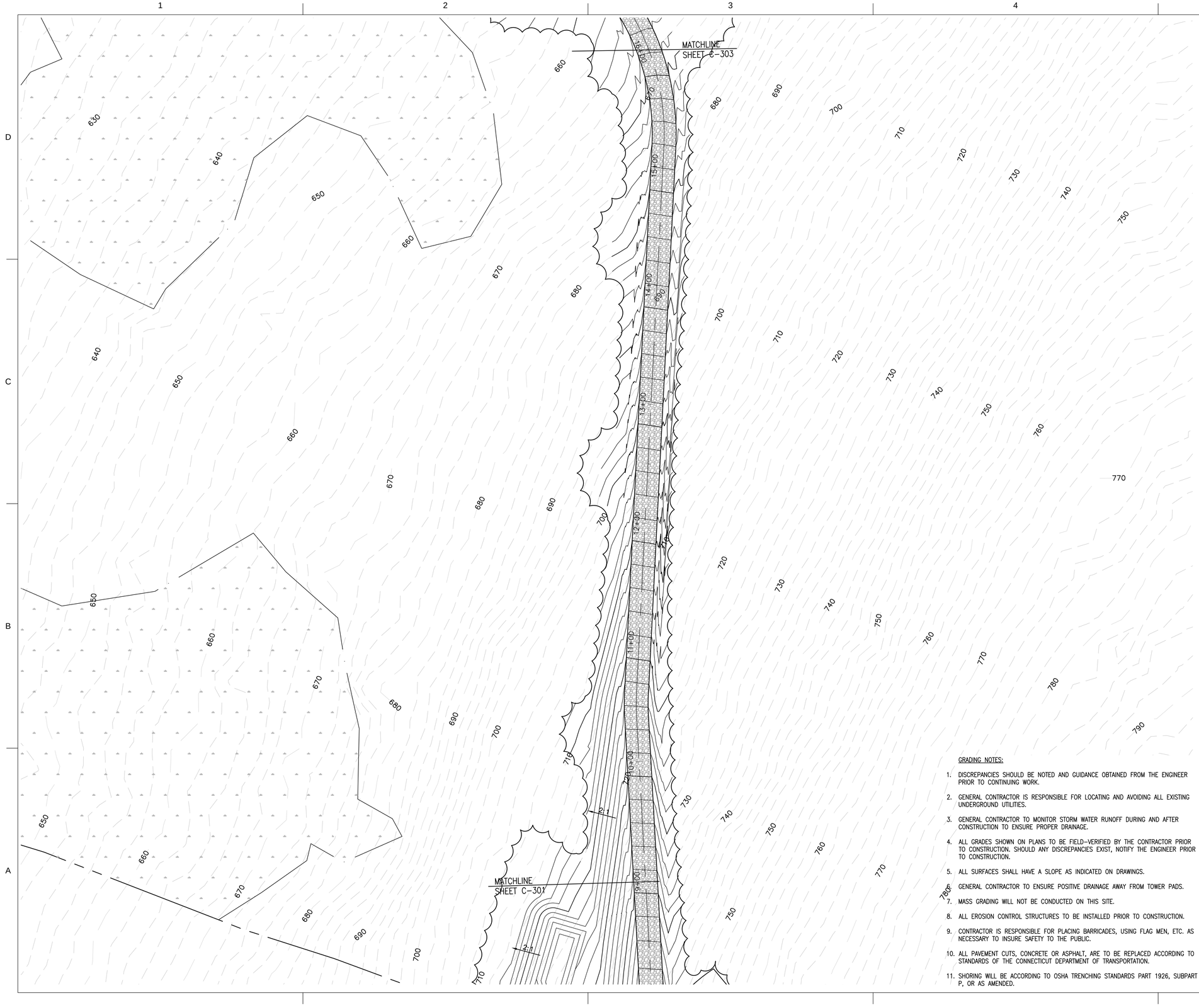
NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

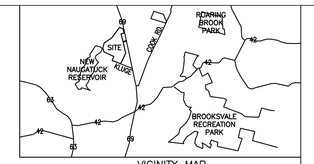
DESIGNED BY: RSS
DWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
PLOT SCALE: 1=1
PLOT DATE: 03-28-11
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 112, BLOCK 86, LOT 17.8
FILE NUMBER: 13253
SHEET SIZE: ANSI D
FILE NAME: M:\Projects\BNE Energy Inc\Submittals\13253-01 Prospect\C300_KEY.dwg

ZAPATA ENGINEERING
630 FAIRVIEW ROAD, #800 PHONE: (704) 556-8540
CHARLOTTE, NC 28210 FAX: (704) 556-8242
ZAPATAINC@ZAPATAINC.COM WWW.ZAPATAINC.COM

WIND PROSPECT
CONNECTICUT
TURBINE LOCATION ONE AND CRANE ASSEMBLY AREA
CONSTRUCTION PHASE GRADING PLAN

SHEET IDENTIFICATION
C-301

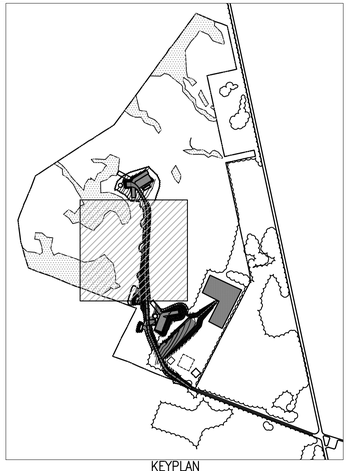




VICINITY MAP

LEGEND

- CULVERT PIPE
- DITCH LINE
- EXISTING TOPO
- NEW TOPO
- WETLAND LIMITS
- VEGETATION
- POST CONSTRUCTION VEGETATION LINE
- COMPACTED EARTH
- WETLAND
- GRAVEL
- LAYDOWN AREA



KEYPLAN

GRADING NOTES:

1. DISCREPANCIES SHOULD BE NOTED AND GUIDANCE OBTAINED FROM THE ENGINEER PRIOR TO CONTINUING WORK.
2. GENERAL CONTRACTOR IS RESPONSIBLE FOR LOCATING AND AVOIDING ALL EXISTING UNDERGROUND UTILITIES.
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11. SHORING WILL BE ACCORDING TO OSHA TRENCHING STANDARDS PART 1926, SUBPART P, OR AS AMENDED.

0 40 80

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK

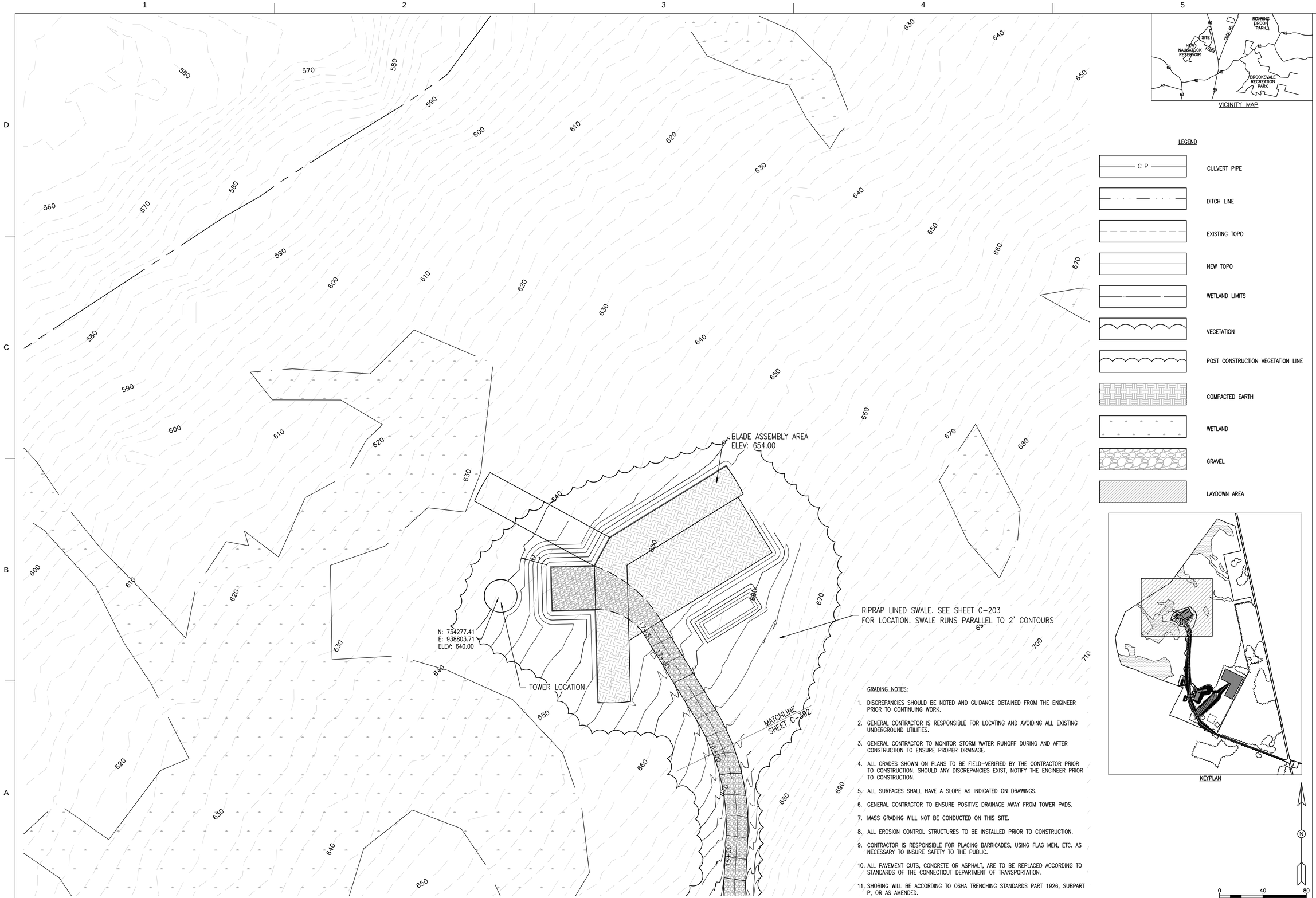
NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DRWN BY: RSW
CKD BY: TLK
DATE: 03-28-11
OWNER: BNE ENERGY
SUBMITTED BY: ZAPATA INC.
PARCEL NO.: TAX MAP 112 BLOCK 9K LOT 178
PLOT SCALE: 1:1
PLOT DATE: 03-28-11
FILE NUMBER: 8353
SIZE: ANSI D
FILE NAME: M:\Projects\BNE Energy Inc\Wind\CAD\C300-310 Prospect\C302_ROAD.dwg

ZAPATA ENGINEERING
6301 FAIRVIEW ROAD #800 PHONE: (704) 364-9040
CHARLOTTE, NC 28210 FAX: (704) 364-9242
ZAPATA@ZAPATAINC.COM WWW.ZAPATAINC.COM

WIND PROSPECT
CONNECTICUT
ACCESS ROAD STA. 9+00 TO 15+00
CONSTRUCTION PHASE GRADING PLAN

SHEET IDENTIFICATION
C-302



GRADING NOTES:

1. DISCREPANCIES SHOULD BE NOTED AND GUIDANCE OBTAINED FROM THE ENGINEER PRIOR TO CONTINUING WORK.
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11. SHORING WILL BE ACCORDING TO OSHA TRENCHING STANDARDS PART 1926, SUBPART P, OR AS AMENDED.

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC

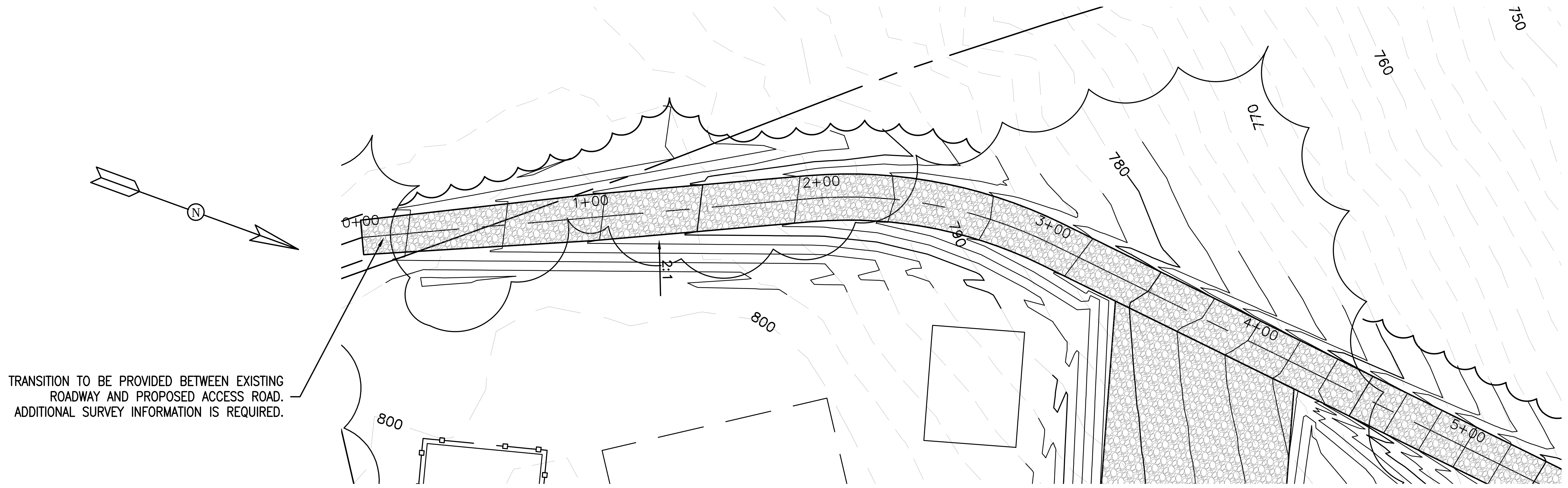
NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
PLOT SCALE: 1=80' (22x34)
PLOT DATE: 03-28-11
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 132, BLOCK 84, LOT 17.8
FILE NUMBER: 1253
SIZE: ANSI D
FILE NAME: M:\Projects\BNE Energy Inc\Data\CAD\1253-012 Proposed\C200_GRADE.dwg

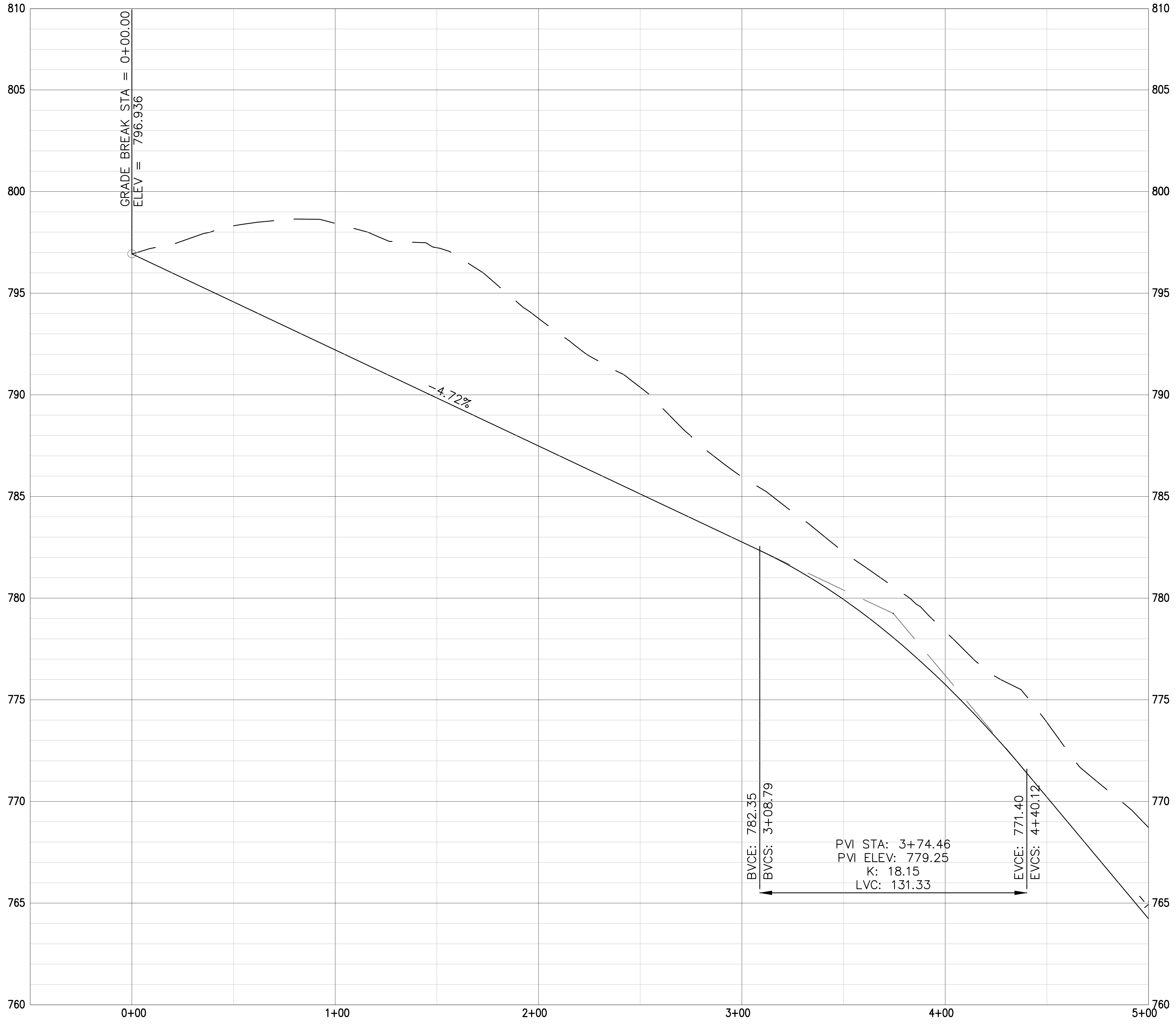
ZAPATA ENGINEERING
6301 FAIRVIEW ROAD #400 PHONE (704) 366-5626
CHARLOTTE, NC 28210 FAX (704) 366-8362
ZAPATAINC@ZAPATAINC.COM WWW.ZAPATAINC.COM

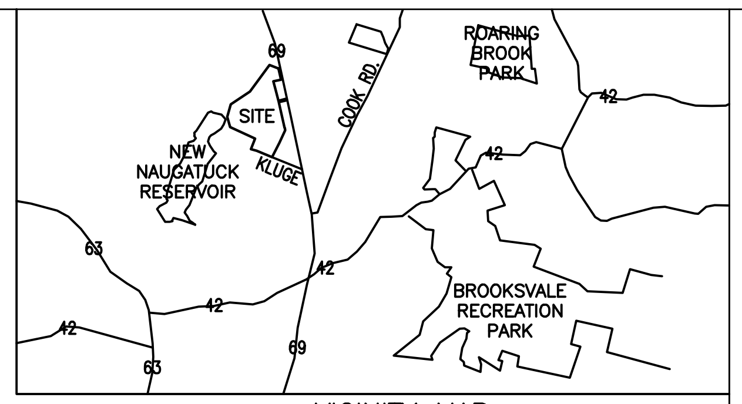
WIND PROSPECT
CONNECTICUT
TURBINE LOCATION TWO
CONSTRUCTION PHASE GRADING PLAN

SHEET IDENTIFICATION
C-303



STATION: 0+00 - 5+00



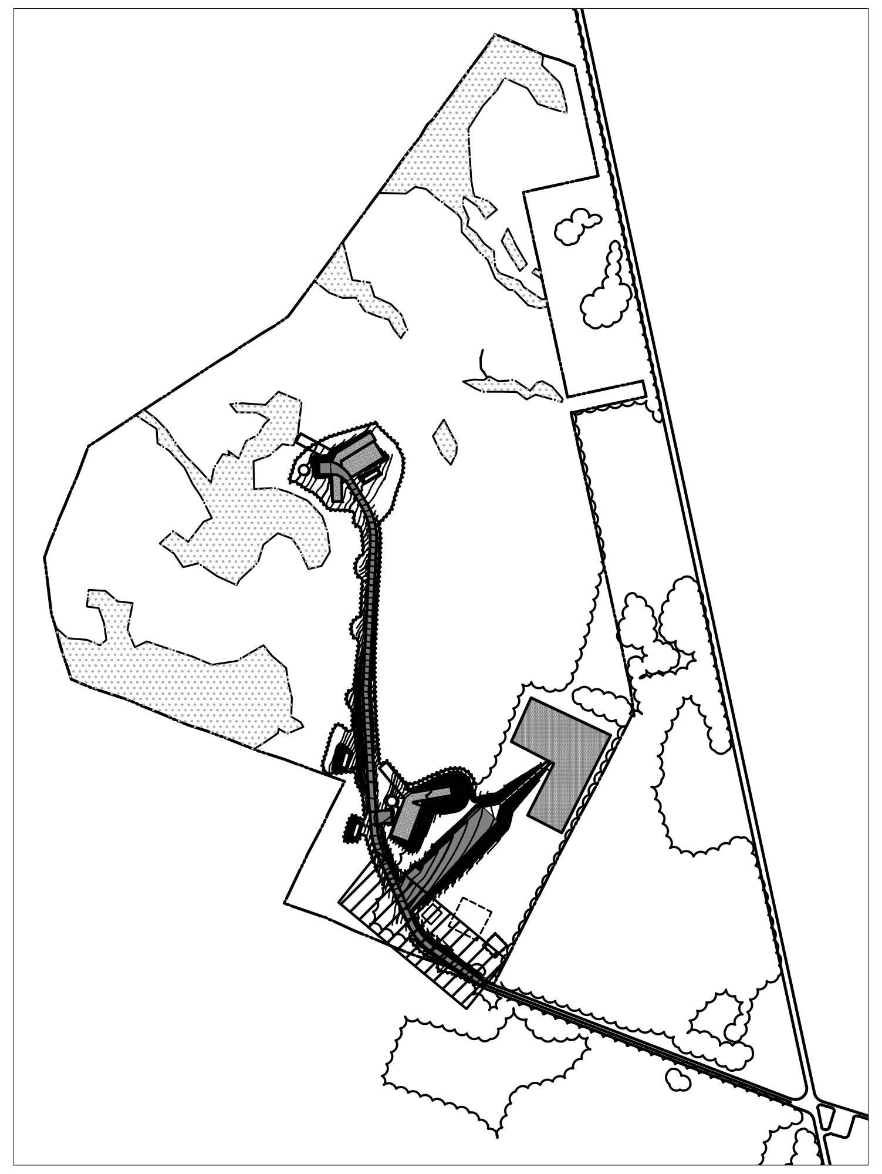


VICINITY MAP

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY



KEYPLAN

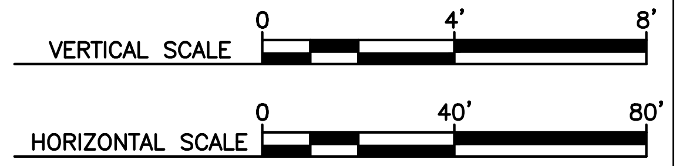
DESIGNED BY: RSS
DWN BY: RSW
CKD BY: TLK
DATE: 03-28-11
OWNER: BNE ENERGY
SUBMITTED BY: ZAPATA INC.
PARCEL NO.: TAX MAP 112, BLOCK 96, LOT 178
PLOT SCALE: AS SHOWN
PLOT DATE: 03-28-11
FILE NUMBER: 1355
SIZE: ANSI D
FILE NAME: W:\Projects\BNE Energy Inc\Data\CAD\1355-012 Prospect\C300_GRAD.dwg

ZAPATA
TRUST · INTEGRITY · QUALITY

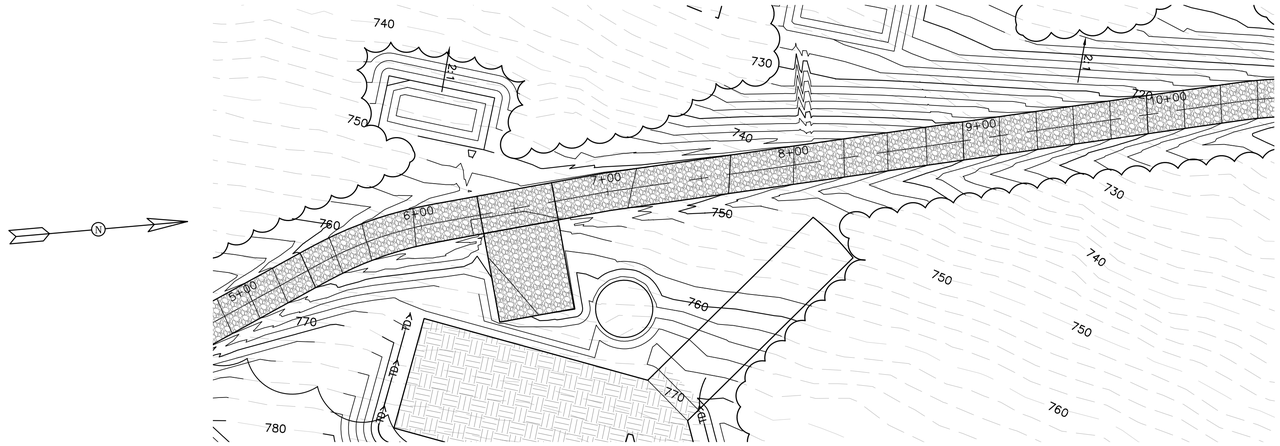
6302 FAIRVIEW ROAD #600 PHONE: (704) 358-8240
CHARLOTTE, NC 28210 FAX: (704) 358-8342
ZAPATA@ZAPATAINC.COM WWW.ZAPATAINC.COM

WIND PROSPECT
CONNECTICUT

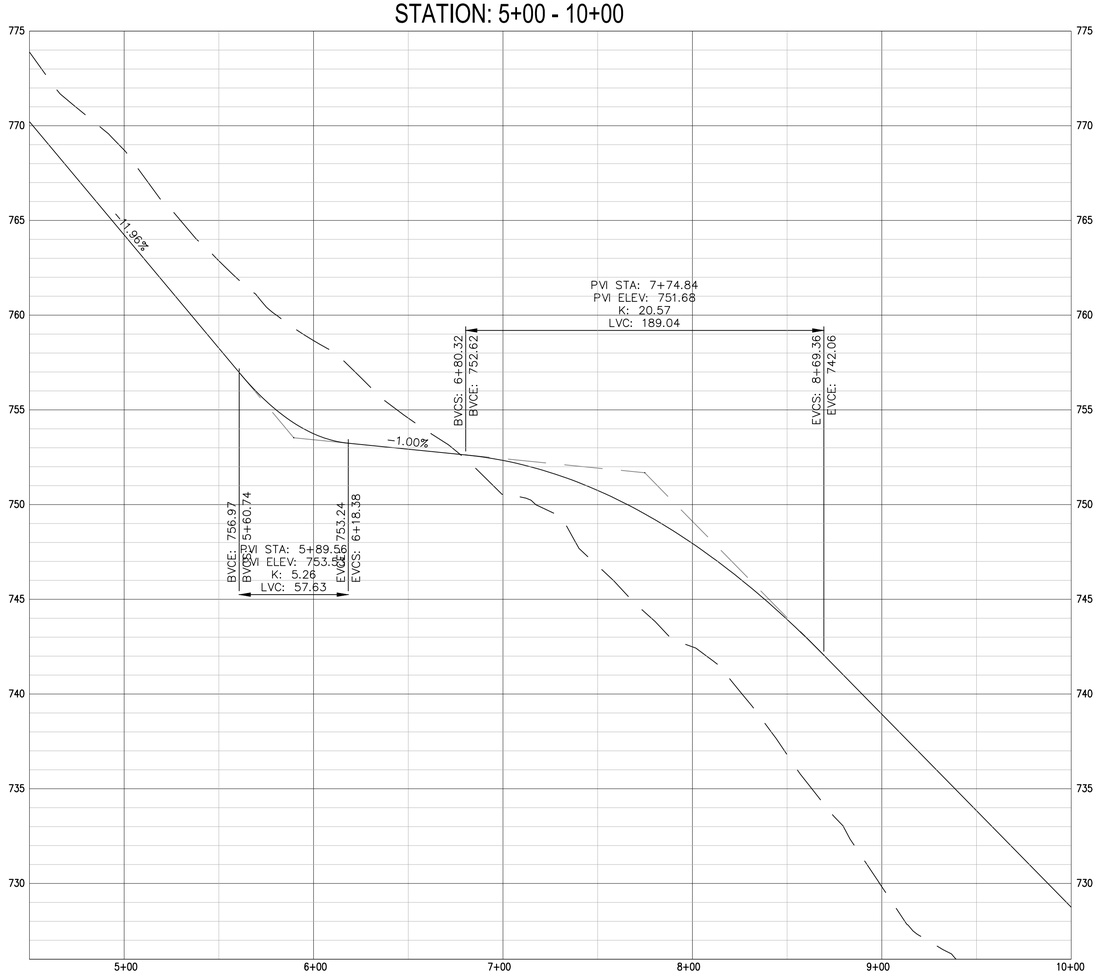
ACCESS ROAD PLAN AND PROFILE
STA: 0+00 TO 5+00

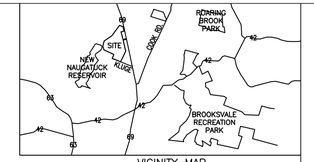


SHEET IDENTIFICATION
C-304

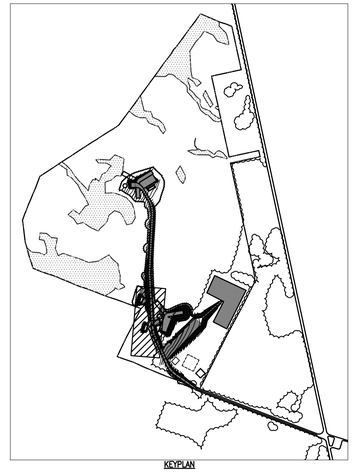


STATION: 5+00 - 10+00





VICINITY MAP



KEYPLAN

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS	DATE: 03-28-11
DWN BY: RSW	CKD BY: TLK
SUBMITTED BY: ZAPATA INC.	OWNER: BNE ENERGY
PLOT SCALE: AS SHOWN	PARCEL NO.: TAX MAP 132, BLOCK 84, LOT 17.8
SIZE: ANSI D	PLOT DATE: 03/28/11
	FILE NUMBER: 13253
	FILE NAME:

ZAPATA ENGINEERING
6301 FAIRVIEW ROAD #650 CHARLOTTE, NC 28210
PHONE: (704) 366-5040 FAX: (704) 366-5042
ZAPATAINC@ZAPATAINC.COM WWW.ZAPATAINC.COM

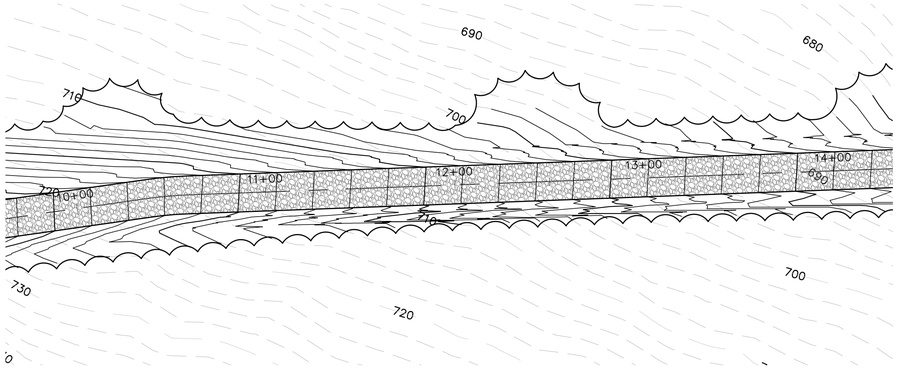
WIND PROSPECT
CONNECTICUT

ACCESS ROAD PLAN AND PROFILE
STA: 5+00 TO 10+00

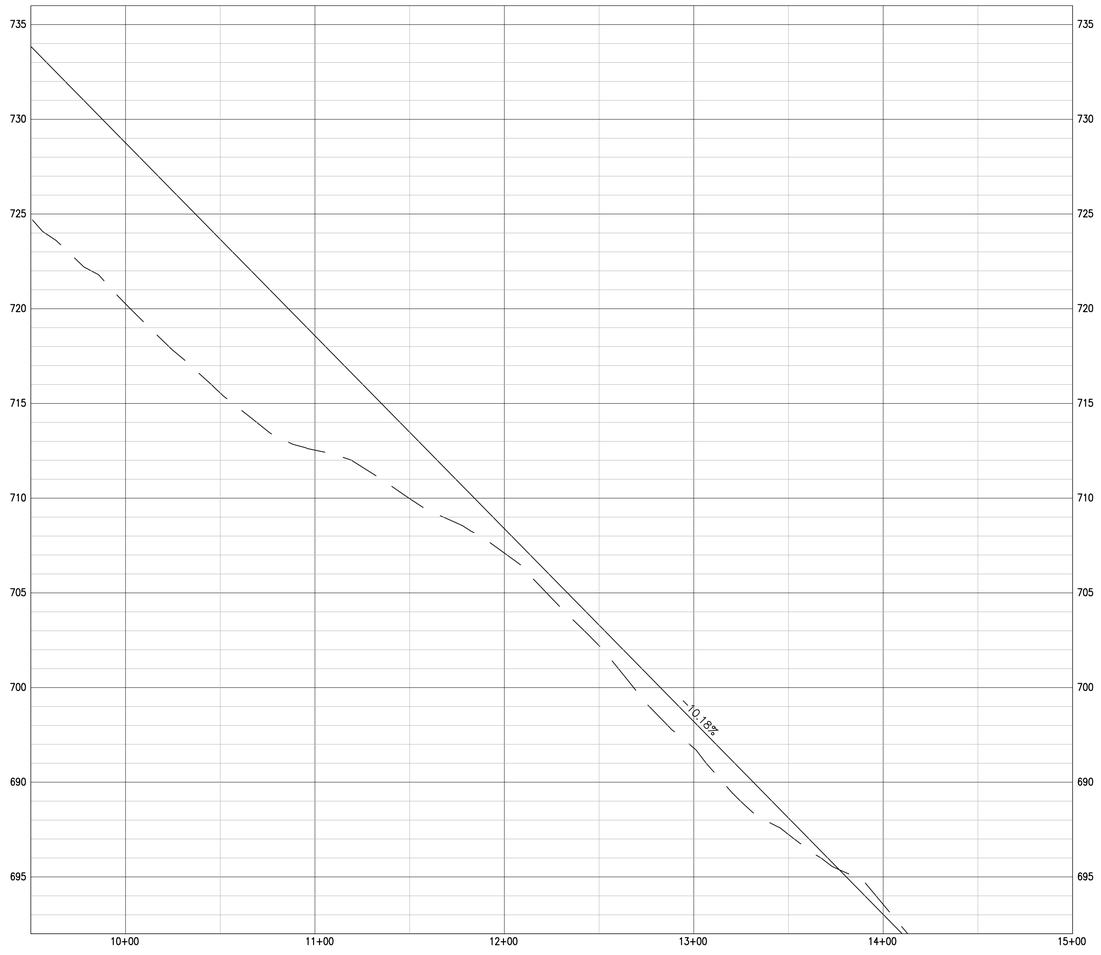
SHEET IDENTIFICATION
C-305

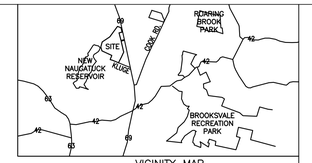
VERTICAL SCALE 0 4' 8'

HORIZONTAL SCALE 0 40' 80'

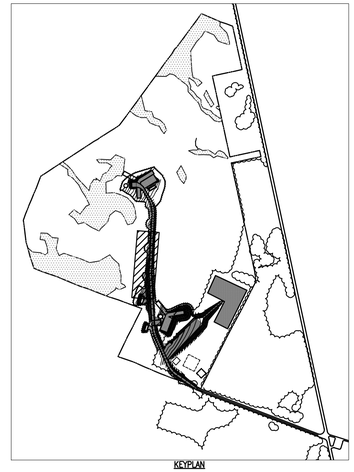


STATION: 10+00 - 14+00





VICINITY MAP



KEYPLAN

VERTICAL SCALE 0 4' 8'

HORIZONTAL SCALE 0 40' 80'

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

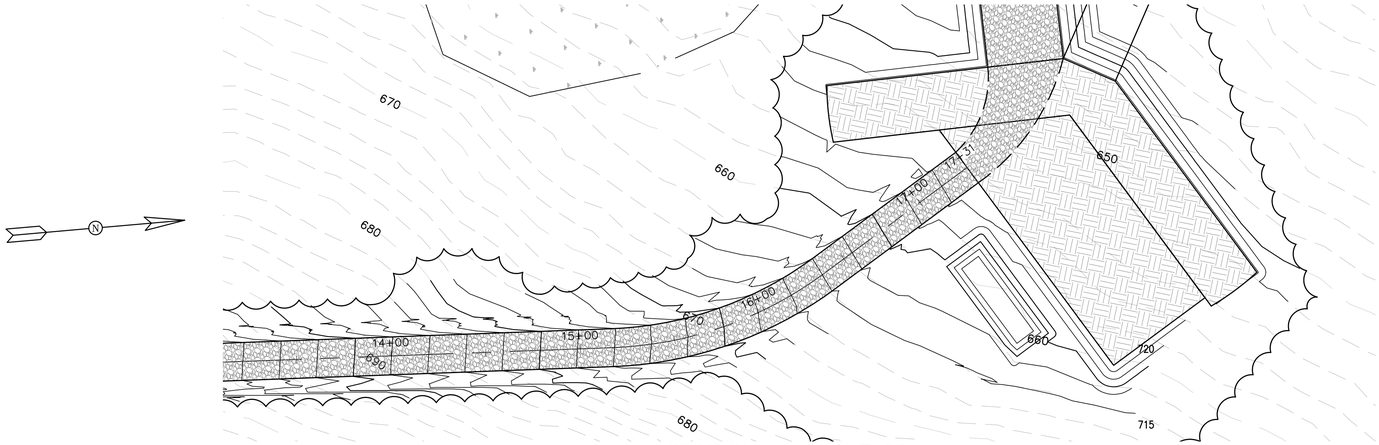
DESIGNED BY: RSS
DWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
PLOT SCALE: AS SHOWN
SIZE: ANSI D
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 112, BLOCK 8A, LOT 17.8
PLOT DATE: 03-28-11
FILE NUMBER: 2305
FILE NAME: W:\Projects\BNE Energy Inc\2305\CAD\2305-S01 Present\2305_ROAD.dwg

ZAPATA ENGINEERING
4300 FAIRVIEW ROAD 28209 PHONE (704) 336-8240
CHARLOTTE, NC FAX (704) 336-8242
ZAPATAINC@ZAPATAINC.COM WWW.ZAPATAINC.COM

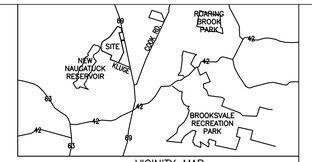
WIND PROSPECT
CONNECTICUT

ACCESS ROAD PLAN AND PROFILE
STA:10+00 TO 14+00

SHEET IDENTIFICATION
C-306



STATION: 14+00 - 17+30



VICINITY MAP

KEYPLAN

VERTICAL SCALE 0 4' 8'

HORIZONTAL SCALE 0 40' 80'

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
PLOT SCALE: 1:500
PLOT DATE: 03-28-11
FILE NUMBER: 1505
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 112, BLOCK 96, LOT 178
AS SHOWN
ANSI D
FILE NAME: W:\Projects\BNE Energy Inc\Arch\1505-310 Prospect\CAD\C_ROAD.dwg

ZAPATA ENGINEERING
6302 FAIRVIEW ROAD #600 PHONE: (704) 364-9040
CHARLOTTE, NC 28210 FAX: (704) 364-9242
ZAPATAENGINEERING.COM WWW.ZAPATAINC.COM

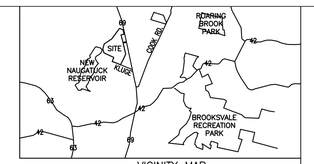
WIND PROSPECT
CONNECTICUT

ACCESS ROAD PLAN AND PROFILE
STA:14+00 TO 17+30

SHEET IDENTIFICATION
C-307

GRADING NOTES:

1. DISCREPANCIES SHOULD BE NOTED AND GUIDANCE OBTAINED FROM THE ENGINEER PRIOR TO CONTINUING WORK.
2. GENERAL CONTRACTOR IS RESPONSIBLE FOR LOCATING AND AVOIDING ALL EXISTING UNDERGROUND UTILITIES.
3. GENERAL CONTRACTOR TO MONITOR STORM WATER RUNOFF DURING AND AFTER CONSTRUCTION TO ENSURE PROPER DRAINAGE.
4. ALL GRADES SHOWN ON PLANS TO BE FIELD-VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. SHOULD ANY DISCREPANCIES EXIST, NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION.
5. ALL SURFACES SHALL HAVE A SLOPE AS INDICATED ON DRAWINGS.
6. GENERAL CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM TOWER PADS.
7. MASS GRADING WILL NOT BE CONDUCTED ON THIS SITE.
8. ALL EROSION CONTROL STRUCTURES TO BE INSTALLED PRIOR TO CONSTRUCTION.
9. CONTRACTOR IS RESPONSIBLE FOR PLACING BARRICADES, USING FLAG MEN, ETC. AS NECESSARY TO INSURE SAFETY TO THE PUBLIC.
10. ALL PAVEMENT CUTS, CONCRETE OR ASPHALT, ARE TO BE REPLACED ACCORDING TO STANDARDS OF THE CONNECTICUT DEPARTMENT OF TRANSPORTATION.
11. SHORING WILL BE ACCORDING TO OSHA TRENCHING STANDARDS PART 1926, SUBPART P, OR AS AMENDED.



VICINITY MAP

LEGEND

- CULVERT PIPE
- DITCH LINE
- EXISTING TOPO
- NEW TOPO
- WETLAND LIMITS
- PROPERTY LINE
- VEGETATION
- COMPACTED EARTH
- WETLAND
- GRAVEL
- LAYDOWN AREA

0 200' 400'

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
PLOT SCALE: AS SHOWN
PLOT DATE: 03-28-11
SIZE: ANSI D
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 112, BLOCK 66, LOT 17.8
FILE NUMBER: 12253
FILE NAME: M:\Projects\BNE Energy Inc\Data\CAD\12253-11 Proposed\C308A_POST GRADING.dwg

ZAPATA ENGINEERING
6301 FAIRVIEW ROAD #650 CHARLOTTE, NC 28210
PHONE: (704) 366-9240 FAX: (704) 366-9242
ZAPATAINC.COM WWW.ZAPATAINC.COM

WIND PROSPECT
CONNECTICUT

POST-CONSTRUCTION GRADING PLAN

SHEET IDENTIFICATION
C-308

RIPRAP LINED SWALES WITH ROCK CHECK DAMS EVERY 100'-0" TO REMAIN (TYP)

ELEV 763.00

CRANE PAD TO REMAIN TO BE UTILIZED FOR TURBINE ACCESS

ACCESS ROAD TO REMAIN

ROCK CHECK DAM TO REMAIN (TYP)

RIPRAP LINED SWALE TO REMAIN (TYP)

PIPES AND CATCH BASINS TO REMAIN (TYP)

FACILITY SUPPORT BUILDING (40'X50') WILL INCLUDE EQUIPMENT STORAGE, MAINTENANCE OFFICE AND EDUCATIONAL SPACE.

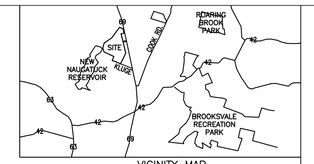
EXISTING CELL TOWER

ELECTRICAL COLLECTOR YARD FINAL LOCATION TO BE COORDINATED WITH PUBLIC UTILITY COMPANY

9+00 | 8+00 | 7+00 | 6+00 | 5+00 | 4+00 | 3+00 | 2+00 | 1+00 | 0+00

5:1 | 6:1 | 2:1

FLOW



VICINITY MAP

LEGEND

- CULVERT PIPE
- DITCH LINE
- EXISTING TOPO
- NEW TOPO
- WETLAND LIMITS
- PROPERTY LINE
- VEGETATION
- COMPACTED EARTH
- WETLAND
- GRAVEL
- LAYDOWN AREA

GRADING NOTES:

1. DISCREPANCIES SHOULD BE NOTED AND GUIDANCE OBTAINED FROM THE ENGINEER PRIOR TO CONTINUING WORK.
2. GENERAL CONTRACTOR IS RESPONSIBLE FOR LOCATING AND AVOIDING ALL EXISTING UNDERGROUND UTILITIES.
3. GENERAL CONTRACTOR TO MONITOR STORM WATER RUNOFF DURING AND AFTER CONSTRUCTION TO ENSURE PROPER DRAINAGE.
4. ALL GRADES SHOWN ON PLANS TO BE FIELD-VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. SHOULD ANY DISCREPANCIES EXIST, NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION.
5. ALL SURFACES SHALL HAVE A SLOPE AS INDICATED ON DRAWINGS.
6. GENERAL CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM TOWER PADS.
7. MASS GRADING WILL NOT BE CONDUCTED ON THIS SITE.
8. ALL EROSION CONTROL STRUCTURES TO BE INSTALLED PRIOR TO CONSTRUCTION.
9. CONTRACTOR IS RESPONSIBLE FOR PLACING BARRICADES, USING FLAG MEN, ETC. AS NECESSARY TO INSURE SAFETY TO THE PUBLIC.
10. ALL PAVEMENT CUTS, CONCRETE OR ASPHALT, ARE TO BE REPLACED ACCORDING TO STANDARDS OF THE CONNECTICUT DEPARTMENT OF TRANSPORTATION.
11. SHORING WILL BE ACCORDING TO OSHA TRENCHING STANDARDS PART 1926, SUBPART P, OR AS AMENDED.

0 40 80

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 122, BLOCK 64, LOT 17.8
PLOT SCALE: 1=80
PLOT DATE: 03-28-11
FILE NUMBER: 1303
SHEET SIZE: ANSI D
FILE NAME: w:\projects\bne energy inc\1303-011 prospect\CIVIL\C309.dwg

ZAPATA ENGINEERING
4201 FAIRVIEW PKWY, #200, CHARLOTTE, NC 28210
PHONE: (704) 366-9240
FAX: (704) 366-9242
ZAPADRAFT@AOL.COM
WWW.ZAPADRAFT.COM

WIND PROSPECT
CONNECTICUT
TURBINE LOCATION ONE AND CRANE ASSEMBLY AREA
POST-CONSTRUCTION GRADING PLAN

SHEET IDENTIFICATION
C-309

RIPRAP LINED SWALES WITH ROCK CHECK DAMS EVERY 100'-0" TO REMAIN (TYP)

RCP TO REMAIN (TYP)

CATCH BASINS TO REMAIN (TYP)

PERMANENT LEVEL SPREADERS

RIPRAP LINED OVERFLOW WEIR

24" RCP OUTFALL PIPE WITH RIPRAP APRON

POND #1 (BIO-RETENTION POND)
REFER TO DETAILS ON C-504
FINAL POND DESIGN TO BE COMPLETED UPON RECEIPT OF GEO-TECHNICAL REPORT.

ACCESS POINT FOR POND #1

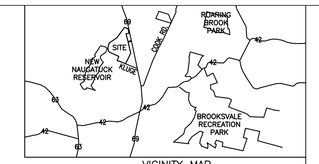
CONTROL STRUCTURE

EROSION CONTROL BLANKET AND PERMANENT SEEDING

RIPRAP LINED SWALE CONNECTION

RIPRAP LINED SWALES WITH ROCK CHECK DAMS EVERY 100'-0" TO REMAIN (TYP)

VICINITY MAP



LEGEND

- CULVERT PIPE
- DITCH LINE
- EXISTING TOPO
- NEW TOPO
- WETLAND LIMITS
- PROPERTY LINE
- VEGETATION
- COMPACTED EARTH
- WETLAND
- GRAVEL
- LAYDOWN AREA

GRADING NOTES:

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2. GENERAL CONTRACTOR IS RESPONSIBLE FOR LOCATING AND AVOIDING ALL EXISTING UNDERGROUND UTILITIES.
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6. GENERAL CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM TOWER PADS.
7. MASS GRADING WILL NOT BE CONDUCTED ON THIS SITE.
8. ALL EROSION CONTROL STRUCTURES TO BE INSTALLED PRIOR TO CONSTRUCTION.
9. CONTRACTOR IS RESPONSIBLE FOR PLACING BARRICADES, USING FLAG MEN, ETC. AS NECESSARY TO INSURE SAFETY TO THE PUBLIC.
10. ALL PAVEMENT CUTS, CONCRETE OR ASPHALT, ARE TO BE REPLACED ACCORDING TO STANDARDS OF THE CONNECTICUT DEPARTMENT OF TRANSPORTATION.
11. SHORING WILL BE ACCORDING TO OSHA TRENCHING STANDARDS PART 1926, SUBPART P, OR AS AMENDED.

0 40 80

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK

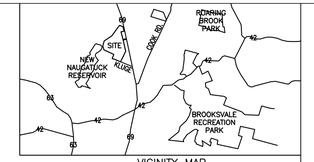
NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 112, BLOCK 96, LOT 17.9
PLOT SCALE: 1=1
PLOT DATE: 03-28-11
FILE NUMBER: 1305
SIZE: ANSI D
FILE NAME: w:\Projects\BNE Group Inc\Jobs\1305-001 Proposed\CSHA_POST 3000.dwg

ZAPATA ENGINEERING
6301 FAIRVIEW ROAD, #150 PHONE: (704) 366-8040
CHARLOTTE, NC 28210 FAX: (704) 366-8042
ZAPATAENG@ZAPATAINC.COM WWW.ZAPATAINC.COM

WIND PROSPECT
CONNECTICUT
ACCESS ROAD STA: 9+00 TO 15+00
POST-CONSTRUCTION GRADING PLAN

SHEET IDENTIFICATION
C-310



VICINITY MAP

LEGEND

- CULVERT PIPE
- DITCH LINE
- EXISTING TOPO
- NEW TOPO
- WETLAND LIMITS
- PROPERTY LINE
- VEGETATION
- COMPACTED EARTH
- WETLAND
- GRAVEL
- LAYDOWN AREA

GRADING NOTES:

DISCREPANCIES SHOULD BE NOTED AND GUIDANCE OBTAINED FROM THE ENGINEER PRIOR TO CONTINUING WORK.

GENERAL CONTRACTOR IS RESPONSIBLE FOR LOCATING AND AVOIDING ALL EXISTING UNDERGROUND UTILITIES.

GENERAL CONTRACTOR TO MONITOR STORM WATER RUNOFF DURING AND AFTER CONSTRUCTION TO ENSURE PROPER DRAINAGE.

ALL GRADES SHOWN ON PLANS TO BE FIELD-VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. SHOULD ANY DISCREPANCIES EXIST, NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION.

ALL SURFACES SHALL HAVE A SLOPE AS INDICATED ON DRAWINGS.

GENERAL CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM TOWER PADS.

MASS GRADING WILL NOT BE CONDUCTED ON THIS SITE.

ALL EROSION CONTROL STRUCTURES TO BE INSTALLED PRIOR TO CONSTRUCTION.

CONTRACTOR IS RESPONSIBLE FOR PLACING BARRICADES, USING FLAG MEN, ETC. AS NECESSARY TO INSURE SAFETY TO THE PUBLIC.

ALL PAVEMENT CUTS, CONCRETE OR ASPHALT, ARE TO BE REPLACED ACCORDING TO STANDARDS OF THE CONNECTICUT DEPARTMENT OF TRANSPORTATION.

SHORING WILL BE ACCORDING TO OSHA TRENCHING STANDARDS PART 1926, SUBPART P, OR AS AMENDED.

0 40 80

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 112, BLOCK 96, LOT 17.9
PLOT SCALE: 1:1
PLOT DATE: 03-28-11
FILE NUMBER: 1305
SIZE: ANSI D
FILE NAME: W:\Projects\BNE Group Inc\Data\1305-001 Permit\CSM4_POST 2010.dwg

ZAPATA ENGINEERING, P.A.
6301 FAIRVIEW ROAD, #200 PHONE: (704) 366-8040
CHARLOTTE, NC 28210 FAX: (704) 366-8242
ZAPATA@ZAPATAINC.COM WWW.ZAPATAINC.COM

WIND PROSPECT
CONNECTICUT
TURBINE LOCATION TWO
POST-CONSTRUCTION GRADING PLAN

SHEET IDENTIFICATION
C-311

PROJECT DESCRIPTION
THIS PROJECT WILL CONSIST OF THE CONSTRUCTION OF TWO WIND TURBINES, ACCESS ROAD AND OTHER RELATED SUPPORT STRUCTURES.

SITE DESCRIPTION
THE PROPERTY IS LOCATED AT 178 NEW HAVEN ROAD AND CONSISTS OF 67.5 ACRES. CURRENTLY, THE MAJORITY OF THE PROPERTY IS UNDEVELOPED. THERE IS A 160 FOOT TALL TELECOMMUNICATIONS TOWER DEVELOPED IN THE SOUTHEAST CORNER OF THE PROPERTY. THE PROPERTY IS ABUTTED BY THE NEW NAUGATUCK RESERVOIR PROPERTY, WHICH CONSISTS OF APPROXIMATELY 67.50 ACRES OF UNDEVELOPED LAND. THE SURROUNDING LAND USES ARE MIXED, CONSISTING OF BOTH COMMERCIAL AND RESIDENTIAL DEVELOPMENT.

PLANNED SEDIMENTATION AND CONTROL PRACTICES
SEDIMENT FENCE (SSF): WILL RETAIN SEDIMENT FROM SMALL DISTURBED AREAS. SEDIMENT FENCE WILL BE PLACED ALONG SLOPES AS SHOWN ON CONSTRUCTION DETAILS. THE CONTRACTOR WILL USE HIS BEST JUDGMENT TO INSTALL ADDITIONAL SEDIMENT FENCE AS NECESSARY TO PREVENT LOSS OF SEDIMENT. REFER TO SECTION 5-11 OF 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.

MAINTENANCE: INSPECT THE SILT FENCE AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCHES OR GREATER TO DETERMINE MAINTENANCE NEEDS. WHEN USED FOR DEWATERING OPERATIONS, INSPECT FREQUENTLY BEFORE, DURING AND AFTER PUMPING OPERATIONS. REMOVE THE SEDIMENT DEPOSITS, OR IF ROOM ALLOWS, INSTALL A SECOND SILT FENCE UP SLOPE FROM THE EXISTING FENCE WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE EXISTING FENCE. REPLACE OR REPAIR WITHIN 24 HOURS OF AN OBSERVED FAILURE. REFER TO CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL FIGURE GF-5 FOR TROUBLESHOOTING FAILURES. MAINTAIN SILT FENCE UNTIL THE CONTRIBUTING AREA IS STABILIZED.

HAY BALE BARRIER (HB): WILL RETAIN SEDIMENT FROM SMALL DISTURBED AREAS. HAY BALES WILL BE PLACED ALONG SLOPES AS SHOWN ON CONSTRUCTION DETAILS. THE CONTRACTOR WILL USE HIS BEST JUDGMENT TO INSTALL ADDITIONAL HAY BALES AS NECESSARY TO PREVENT LOSS OF SEDIMENT. REFER TO SECTION 5-11 OF 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.

MAINTENANCE: INSPECT THE HAY BALE BARRIER AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCHES OR GREATER TO DETERMINE MAINTENANCE NEEDS. WHEN USED FOR DEWATERING OPERATIONS, INSPECT FREQUENTLY BEFORE, DURING AND AFTER PUMPING OPERATIONS. REMOVE THE SEDIMENT DEPOSITS, OR IF ROOM ALLOWS, INSTALL A SECONDARY BARRIER UP SLOPE FROM THE EXISTING BARRIER WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. REPLACE OR REPAIR WITHIN 24 HOURS OF AN OBSERVED FAILURE. REFER TO CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL FIGURE HB-5 FOR TROUBLESHOOTING FAILURES. MAINTAIN HAY BALE BARRIER UNTIL THE CONTRIBUTING AREA IS STABILIZED.

STONE CHECK DAM (SCD): WILL BE USED TO REDUCE VELOCITY OF CONCENTRATED FLOWS, THUS REDUCING EROSION OF THE DRAINAGE WAY.

MAINTENANCE: INSPECT THE STONE CHECK DAM AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCHES OR GREATER TO DETERMINE MAINTENANCE NEEDS. REMOVE THE SEDIMENT DEPOSITS WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE CHECK DAM. REPLACE OR REPAIR WITHIN 24 HOURS OF AN OBSERVED FAILURE. MAINTAIN UNTIL THE CONTRIBUTING AREA IS STABILIZED.

TEMPORARY PIPE SLOPE DRAIN (TSD): WILL BE USED TO CARRY WATER OVER EXCESSIVE CHANGES IN GRADE. TSD'S WILL CONVEY CONCENTRATED STORM WATER RUNOFF FLOWS WITHOUT CAUSING EROSION PROBLEMS EITHER ON OR AT THE TOE OF THE SLOPE.

MAINTENANCE: INSPECT THE TEMPORARY PIPE SLOPE DRAIN AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCHES OR GREATER TO DETERMINE MAINTENANCE NEEDS. REPAIR DAMAGE AS NECESSARY. AVOID THE PLACEMENT OF ANY MATERIAL ON THE TOP OF THE PIPE AND PREVENT VEHICULAR TRAFFIC FROM CROSSING THE SLOPE DRAIN.

TEMPORARY DIVERSION (TD): WILL BE USED TO DIVERT SEDIMENT LADEN RUNOFF FROM A DISTURBED AREA TO A SEDIMENT TRAPPING FACILITY.

MAINTENANCE: WHEN THE TEMPORARY DIVERSION IS LOCATED WITHIN CLOSE PROXIMITY TO ON GOING CONSTRUCTION ACTIVITIES, INSPECT THE DIVERSION AT THE END OF EACH WORK DAY AND IMMEDIATELY REPAIR DAMAGE CAUSED BY CONSTRUCTION EQUIPMENT. OTHERWISE, INSPECT THE TEMPORARY DIVERSION AND ASSOCIATED MEASURES AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCHES OR GREATER TO DETERMINE MAINTENANCE NEEDS. REPAIR WITHIN 24 HOURS OF AN OBSERVED FAILURE.

TEMPORARY FILL BERM (TFB): WILL BE USED TO DIVERT RUNOFF FROM UNPROTECTED FILL SLOPES DURING CONSTRUCTION TO A STABILIZED OUTLET OR SEDIMENT TRAPPING FACILITY.

MAINTENANCE: INSPECT THE TEMPORARY FILL BERM AND ASSOCIATED CONTROLS AT THE END OF EACH WORK DAY TO ENSURE THE CRITERIA FOR INSTALLING THE MEASURES HAVE BEEN MET. DETERMINE IF REPAIR OR MODIFICATION IS NEEDED. THIS MEASURE IS TEMPORARY AND UNDER MOST SITUATIONS WILL BE COVERED THE NEXT WORK DAY. MAINTENANCE REQUIREMENTS SHOULD BE MINIMAL. THE CONTRACTOR SHOULD AVOID PLACING OTHER MATERIAL OVER THE BERM AND CONSTRUCTION TRAFFIC SHOULD NOT BE ALLOWED TO CROSS.

TEMPORARY SEDIMENT TRAP (TST): WILL BE USED TO DETAIN SEDIMENT LADEN RUNOFF FROM SMALL DISTURBED AREAS LONG ENOUGH TO ALLOW THE MAJORITY OF SEDIMENT TO SETTLE OUT.

MAINTENANCE: INSPECT THE TEMPORARY SEDIMENT TRAP AND ASSOCIATED CONTROLS AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCHES OR GREATER TO DETERMINE MAINTENANCE NEEDS. CHECK THE OUTLET TO VERIFY THAT IT IS STRUCTURALLY SOUND AND HAS NOT BEEN DAMAGED BY EROSION OR CONSTRUCTION EQUIPMENT. THE HEIGHT OF THE STONE OUTLET SHOULD BE MAINTAINED AT LEAST 1 FOOT BELOW THE CREST OF THE EMBANKMENT. WHEN SEDIMENT HAS ACCUMULATED MORE THAN ONE QUARTER OF THE MINIMUM WET STORAGE VOLUME, DEWATER AND REMOVE SEDIMENT AS NECESSARY TO RESTORE THE TRAP TO ITS ORIGINAL DIMENSIONS.

CONSTRUCTION ENTRANCE (CE): WILL BE USED TO REDUCE TRACKING OF SEDIMENT OFF SITE TO PAVED AREAS.

MAINTENANCE: MAINTAIN THE ENTRANCE IN A CONDITION WHICH WILL PREVENT TRACKING AND WASHING OF SEDIMENT ONTO PAVED SURFACES. PROVIDE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS REQUIRED. IMMEDIATELY REMOVE ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PAVED SURFACES.

TREE PROTECTION (TP): WILL BE USED TO ENSURE THE SURVIVAL OF EXISTING DESIRABLE TREES FOR THEIR EFFECTIVENESS IN SOIL EROSION AND SEDIMENT CONTROL DURING CONSTRUCTION.

MAINTENANCE: INSPECT TREE PROTECTION ZONES WEEKLY DURING SITE CONSTRUCTION FOR DAMAGE TO THE TREE CROWN, TRUNK AND ROOT SYSTEM. WHEN TREES HAVE BEEN DAMAGED OR THE PROTECTION ZONE HAS BEEN COMPROMISED, CONSULT AN ARBORIST LICENSED IN CT TO DETERMINE HOW DAMAGE SHOULD BE ADDRESSED.

TEMPORARY EROSION CONTROL BLANKETS (ECB): WILL BE USED TO PROVIDE TEMPORARY SURFACE PROTECTION TO DISTURBED SOILS TO ABSORB RAINDROP IMPACT AND TO REDUCE SHEET AND RILL EROSION. TEMPORARY SEDIMENT CONTROL BLANKET SHOULD BE INSTALLED ON FILL SLOPES ADJACENT TO THE BLADE LAY DOWN AREA AT TURBINE LOCATION TWO AFTER THE SLOPES HAVE BEEN CONSTRUCTED.

MAINTENANCE: INSPECT TEMPORARY EROSION CONTROL BLANKETS AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCHES OR GREATER TO DETERMINE MAINTENANCE NEEDS. REPAIR ANY DISLODGED OR FAILED BLANKETS IMMEDIATELY.

CONSTRUCTION SEQUENCE

ACCESS ROAD

1. FLAG THE LIMITS OF CONSTRUCTION, ROADWAY BASE-LINE, AND TREE PROTECTION ZONES.

2. CONDUCT PRECONSTRUCTION MEETING.

3. CONDUCT TREE CUTTING MEETING.

4. INSTALL THE CONSTRUCTION ENTRANCE.

5. INSTALL PERIMETER EROSION AND SEDIMENT CONTROLS AND TREE PROTECTION DEVICES IN ACCORDANCE WITH THE E&S PLAN.

6. CUT TREES WITHIN THE DEFINED CLEARING LIMITS AND REMOVE CUT WOOD. CHIP BRUSH AND SLASH, STOCKPILE CHIPS FOR FUTURE USE OR REMOVE OFF SITE

7. CONSTRUCT SEDIMENT TRAPS.

8. EXCAVATE ALL STUMPS LOCATED IN THE STRUCTURAL AREA AND REMOVE TO A DISPOSAL SITE OR STOCKPILE AREA TO BE CHIPPED. STUMPS IN NON-STRUCTURAL AREAS MAY BE GROUND IN PLACE OR CUT FLUSH WITH THE GROUND LEVEL AND LEFT IN PLACE IN ACCORDANCE WITH THE PLANS.

9. STRIP ALL TOPSOIL WITHIN THE ROADWAY BASE-LINE AND SLOPE LIMITS. STOCKPILE ALL TOPSOIL IN AN APPROVED AREA AND SECURE WITH EROSION AND SEDIMENT CONTROLS.

10. CUT OR FILL THE PROPOSED ROADWAY TO ESTABLISH THE SUB-GRADE.

11. PLACE, GRADE AND COMPACT THE AGGREGATE IN THE ROADWAY BASE.

12. APPLY STABILIZATION MEASURES TO REMAINING DISTURBED AREAS IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLAN.

EQUIPMENT LAY-DOWN AREAS

1. FLAG THE LIMITS OF CONSTRUCTION NECESSARY TO FACILITATE THE PRECONSTRUCTION MEETING.

2. HOLD PRECONSTRUCTION MEETING.

3. FLAG REMAINDER OF THE LIMITS OF CONSTRUCTION AND TREE PROTECTION ZONES.

4. INSTALL PERIMETER EROSION AND SEDIMENT CONTROLS AND TREE PROTECTION DEVICES IN ACCORDANCE WITH THE E&S PLAN.

5. CUT TREES WITHIN THE DEFINED CLEARING LIMITS AND REMOVE CUT WOOD. CHIP BRUSH AND LASH, STOCKPILE CHIPS FOR FUTURE USE OR REMOVE OFF SITE.

6. CONSTRUCT SEDIMENT TRAPS.

7. STRIP AND STOCKPILE ALL TOPSOIL THAT IS WITHIN THE FOOTPRINT OF THE CONSTRUCTION SITE AND REFERENCE STOCKPILE MANAGEMENT FOR EROSION AND SEDIMENT CONTROLS. EITHER REMOVE TREE STUMPS TO AN APPROVED DISPOSAL SITE OR CHIP IN PLACE AS INDICATED ON THE PLANS.

8. MAKE ALL CUTS AND FILLS REQUIRED. ESTABLISH THE SUB GRADE FOR THE EQUIPMENT LAY DOWN AREAS AS REQUIRED. ALLOW A REASONABLE AMOUNT OF AREA AROUND THE FOOTPRINT OF THE BUILDING FOR THE CONSTRUCTION ACTIVITIES.

9. BEGIN CONSTRUCTION OF THE TOWER.

10. PRIOR TO INSTALLING SURFACE WATER CONTROLS SUCH AS TEMPORARY DIVERSIONS AND STONE DIKES, INSPECT EXISTING CONDITIONS TO ENSURE DISCHARGE LOCATIONS ARE STABLE. IF NOT STABLE, REVIEW DISCHARGE CONDITIONS WITH THE DESIGN ENGINEER AND IMPLEMENT ADDITIONAL STABILIZATION MEASURES PRIOR TO INSTALLING WATER SURFACE CONTROLS.

11. UPON SUBSTANTIAL COMPLETION TOWERS, COMPLETE THE BALANCE OF SITE WORK AND STABILIZATION OF ALL OTHER DISTURBED AREAS.

12. AFTER SITE IS STABILIZED REMOVE TEMPORARY EROSION AND SEDIMENT CONTROLS.

STANDARD EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND LOCAL AGENCIES AS REQUIRED PRIOR TO COMMENCING ANY LAND DISTURBING ACTIVITY. UNLESS SPECIFICALLY WAIVED BY THE AGENCY A PRECONSTRUCTION CONFERENCE IS REQUIRED.

2. THE CONTRACTOR SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLANS AND CONSTRUCTION SEQUENCE AND SHALL HAVE THEM INSPECTED AND APPROVED BY THE AGENCY INSPECTOR AT THE BEGINNING OF ANY OTHER LAND DISTURBING ACTIVITY. MINOR SEDIMENT CONTROL DEVICE LOCATION ADJUSTMENTS MAY BE MADE IN THE FIELD WITH APPROVAL OF ENGINEER AND/OR INSPECTOR. THE CONTRACTOR SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREA IS DIRECTED TO THE SEDIMENT CONTROL DEVICES AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURE WITHOUT PRIOR APPROVAL. THE CONTRACTOR MUST OBTAIN PRIOR AGENCY APPROVAL FOR CHANGES TO THE SEDIMENT CONTROL PLAN AND / OR SEQUENCE OF CONSTRUCTION.

3. THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO PUBLIC ROADS. ALL MATERIAL DEPOSITED ONTO PUBLIC ROADS SHALL BE REMOVED IMMEDIATELY.

4. THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN AN EFFECTIVE OPERATION CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIME AS THEY ARE REMOVED. ALL SEDIMENT BASINS, TRAP EMBANKMENTS AND SLOPES, PERIMETER DIKES, SWALES, AND ALL DISTURBED SLOPES STEEPER OR EQUAL TO 3:1 SHALL BE STABILIZED WITH APPROVED STABILIZATION MEASURES AS SOON AS POSSIBLE BUT NO LATER THAN 7 DAYS AFTER ESTABLISHMENT. ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST BE MINIMIZED. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.

5. THE CONTRACTOR SHALL APPLY SOD OR SEED AND ANCHORED STRAW MULCH OR OTHER STABILIZATION MEASURES TO ALL DISTURBED AREAS AND STOCKPILES WITHIN 14 CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED IN THE AREA. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.

6. PRIOR TO REMOVAL OF THE SEDIMENT CONTROL MEASURES, THE CONTRACTOR SHALL STABILIZE AND HAVE ESTABLISHED PERMANENT STABILIZATION FOR ALL CONTRIBUTORY DISTURBED AREAS USING APPROVED PERMANENT SEED MIXTURE WITH REQUIRED SOIL AMENDMENTS AND APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON WHERE THE SLOPE DOES NOT EXCEED 10% AND GRADING HAS BEEN PERFORMED TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED AS SOON AS POSSIBLE BUT NO LATER THAN 14 DAYS AFTER ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISH GRADE DURING THE MONTHS OF NOVEMBER TO FEBRUARY AND PERMANENT STABILIZATION IS IMPRACTICAL, TEMPORARY SEEDING AND ANCHORED MULCH SHALL BE APPLIED TO DISTURBED AREAS.

7. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE APPLIED BY MARCH 15 OR EARLIER IF GROUND AND WEATHER CONDITIONS ALLOW.

8. THE SITES APPROVAL LETTER, APPROVED EROSION CONTROL PLANS, DAILY LOG BOOKS, AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS.

9. SURFACE DRAINAGE FLOWS OVER UN-STABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING PROTECTIVE DEVICES TO LOWER THE WATER DOWN THE SLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF A CUT OR FILL SLOPE UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE FULLY STABILIZED, AT WHICH TIME THEY MUST BE REMOVED AND FINAL GRADING COMPLETED TO PROMOTE SHEET FLOW. PROTECTIVE MEASURES MUST BE EMPLOYED IN AREAS WHERE CONCENTRATE FLOW IS LIKELY TO OCCUR.

10. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED FLOW SHALL BE STABILIZED WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING, RIP-RAP, OR BY OTHER APPROVED STABILIZATION MEASURES. TEMPORARY SEDIMENT CONTROL DEVICES MAY BE REMOVED UPON APPROVAL OF INSPECTOR, WITHIN 30 DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTING DRAINAGE AREAS. STORM WATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO PERMANENT CONFIGURATION DURING THIS TIME PERIOD AS WELL.

11. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT GREATER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN NON-MAINTENANCE AREAS PROVIDED THAT THOSE ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH A LOW MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENTS GREATER THAT 2:1 WILL NOT BE PERMITTED WITH VEGETATIVE STABILIZATION.

12. FOR FINISHED GRADING THE CONTRACTOR SHALL PROVIDE ADEQUATE GRADIENTS TO PREVENT WATER FROM PONDING FOR MORE THAN 24 HOURS AFTER THE END OF A RAINFALL EVENT. DRAINAGE COURSES AND SWALES MAY TAKE UP TO 48 HOURS AFTER THE END OF A RAINFALL EVENT TO DRAIN. AREAS DESIGNED TO HAVE STANDING WATER SHALL NOT BE REQUIRED TO MEET THIS REQUIREMENT.

13. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A FOUNDATION THAT EXISTS OR IS UNDER CONSTRUCTION. NO STRUCTURES SHALL BE CONSTRUCTED WITHIN 20 FEET OF AN ACTIVE SEDIMENT TRAP OR BASIN.

14. THE SEDIMENT AND EROSION CONTROL INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SAFETY OR SEDIMENT CONTROL MEASURES IF DEEMED NECESSARY.

15. ALL TRAP DEPTHS DIMENSIONS ARE RELATIVE TO THE OUTLET ELEVATION. ALL TRAPS MUST HAVE A STABLE OUTFALL. ALL TRAPS AND BASINS MUST HAVE STABLE INFLOW POINTS.

16. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL. REFER TO APPROPRIATE SPECIFICATIONS FOR TEMPORARY SEEDING, PERMANENT SEEDING, MULCHING, SODDING, AND GROUND COVERS.

17. SEDIMENT SHALL BE REMOVED AND THE TRAP OR BASIN RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE QUARTER OF THE TOTAL DEPTH OF THE TRAP OF BASIN. TOTAL DEPTH SHALL BE MEASURED FROM THE BOTTOM TO THE CREST OF THE OUTLET.

18. SEDIMENT REMOVED FROM THE TRAPS SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN, WETLAND, OR TREE SAVE AREA. WHEN PUMPING SEDIMENT LADEN WATER, THE DISCHARGE MUST BE DIRECTED TO A SEDIMENT TRAPPING DEVICE PRIOR TO RELEASE FORM THE SITE. A SUMP PIT MAY BE UTILIZED IF SEDIMENT TRAPS THEMSELVES ARE BEING PUMPED OUT. ALL WATER REMOVED FROM EXCAVATED AREAS SHALL BE PASSED THROUGH AN APPROVED DEWATERING PRACTICE OR PUMPED TO A SEDIMENT TRAP OR BASIN PRIOR TO DISCHARGE FROM THE SITE.

19. WHERE DEEMED NECESSARY BY THE ENGINEER OR INSPECTOR, SEDIMENT TRAPS AND BASINS MAY NEED TO BE SURROUNDED WITH AN APPROVED SAFETY FENCE. THE FENCE MUST CONFORM TO LOCAL ORDINANCES AND REGULATIONS.

20. ALL WASTE AND BORROW AREAS OFF-SITE MUST BE PROTECTED BY SEDIMENT CONTROL MEASURES AND STABILIZED.

21. SITES WHERE INFILTRATION DEVICES ARE USED FOR THE CONTROL OF STORM WATER, EXTREME CARE MUST BE TAKEN TO PREVENT RUNOFF FROM UN-STABILIZED AREAS FROM ENTERING THE STRUCTURE DURING CONSTRUCTION. SEDIMENT CONTROL DEVICES PLACED IN INFILTRATION AREAS MUST HAVE BOTTOM ELEVATIONS AT LEAST 2 FEET HIGHER THAN THE FINISHED GRADE BOTTOM ELEVATION OF THE INFILTRATION PRACTICE. WHEN CONVERTING A SEDIMENT TRAP TO AN INFILTRATION DEVICE, ALL ACCUMULATED SEDIMENT MUST BE REMOVED AND DISPOSED OF PRIOR TO FINAL GRADING OF THE INFILTRATION DEVICE.

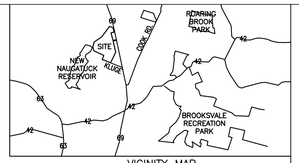
SITE INFORMATION:

TOTAL PROPERTY AREA: 67.50 ACRES
TREE AREA TO BE CLEARED 193798 SQ. FT. / 4.28 ACRES
AREA TO BE DISTURBED: 384885 SQ. FT. / 8.84 ACRES
AREA WITHIN 100' WETLAND REVIEW AREA: 27934 SQ. FT. / 0.64 ACRES

CONSTRUCTION PHASE:
TOTAL CUT: 47869 CUBIC YARDS
TOTAL FILL: 8692 CUBIC YARDS
NET CUT: 39177 CUBIC YARD

POST CONSTRUCTION PHASE:
TOTAL CUT: 1978 CUBIC YARDS
TOTAL FILL: 47192 CUBIC YARDS
NET FILL: 45214 CUBIC YARDS

OFF-SITE WASTE / BORROW AREA LOCATION: NOT APPLICABLE



VICINITY MAP

THIRD PARTY INSPECTIONS

1. A THIRD PARTY ENVIRONMENTAL INSPECTOR SHALL INSPECT THE INSTALLATION OF EROSION AND SEDIMENTATION CONTROLS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES AND THE CONNECTICUT WATER COMPANY SHALL BE CONTACTED A MINIMUM OF 48 HOURS PRIOR TO THE START OF EROSION AND SEDIMENTATION CONTROLS INSTALLATION. A PRE-CONSTRUCTION MEETING SHALL BE HELD WITH THE THIRD PARTY ENVIRONMENTAL INSPECTOR, CONNECTICUT WATER COMPANY AND GENERAL CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.

2. A THIRD PARTY ENVIRONMENTAL INSPECTOR WILL MONITOR EROSION AND SEDIMENTATION CONTROLS THROUGHOUT THE CONSTRUCTION PERIOD TO ENSURE THAT CONTROLS ARE PROPERLY MAINTAINED AND ANY RECOMMENDATIONS TO REMEDIATE FAILING CONTROLS OR REMOVE ACCUMULATED SEDIMENT ARE IMPLEMENTED BY THE CONTRACTOR IN A TIMELY FASHION.

3. A THIRD PARTY ENVIRONMENTAL INSPECTOR SHALL MONITOR EROSION AND SEDIMENTATION CONTROLS ON A WEEKLY BASIS OR WITHIN 24 HOURS OF A RAINFALL EVENT OF 0.5 INCHES OR GREATER.

4. EROSION AND SEDIMENTATION CONTROL MONITORING REPORTS WILL BE PREPARED BY THE THIRD PARTY ENVIRONMENTAL INSPECTOR ON A BI-WEEKLY BASIS AND SUBMITTED TO THE CONNECTICUT SITING COUNCIL AND CONNECTICUT WATER COMPANY. IF SIGNIFICANT FAILURE OF EROSION AND SEDIMENTATION CONTROLS RESULT IN IMPACT TO WETLAND RESOURCES ON THE SUBJECT PROPERTY, THE CONNECTICUT SITING COUNCIL WILL BE NOTIFIED WITHIN 24 HOURS AND CONNECTICUT WATER COMPANY SHALL BE NOTIFIED IMMEDIATELY OF SUCH AN EVENT AND RECOMMENDED REMEDIATION MEASURES WILL BE IDENTIFIED.

5. THE CONNECTICUT WATER COMPANY SHALL BE CONTACTED A MINIMUM OF 48 HOURS PRIOR TO THE START OF INSTALLATION OF EROSION AND SEDIMENTATION CONTROL MEASURES AND WILL HAVE ACCESS TO THE SITE AT ALL TIMES FOR INSPECTION.

SPILL PREVENTION PLAN

THE PROPOSED PROJECT IS LOCATED IN THE NEW NAUGATUCK RESERVOIR PUBLIC DRINKING WATER SUPPLY WATERSHED. AS A RESULT, THE CONTRACTOR SHALL TAKE CERTAIN PRECAUTIONS NECESSARY TO CONTAIN AND PROPERLY CLEAN UP ANY INADVERTENT FUEL OR PETROLEUM (I.E., OIL, HYDRAULIC FLUID, ETC.) SPILLS. A SPILL CONTAINMENT KIT CONSISTING OF A SUFFICIENT SUPPLY OF ABSORBENT PADS AND ABSORBENT MATERIAL SHALL BE MAINTAINED ON SITE THROUGHOUT THE DURATION OF THE PROJECT. IN ADDITION, A WASTE DRUM SHALL BE KEPT ON SITE TO CONTAIN ANY USED ABSORBENT PADS/MATERIAL FOR PROPER DISPOSAL OFF SITE. REFUELING AND MAINTENANCE OF VEHICLES OR MACHINERY SHALL TAKE PLACE IN A DESIGNATED AREA WITHIN THE CRANE ASSEMBLY AREA. FUEL AND OTHER HAZARDOUS MATERIALS SHALL BE STORED WITHIN A DESIGNATED AREA WITHIN THE CRANE ASSEMBLY AREA AND UTILIZE APPROPRIATE SECONDARY CONTAINMENT.

THE FOLLOWING PROCEDURES SHALL BE ADHERED TO BY THE CONTRACTOR IN CASE OF A PETROLEUM RELEASE.

INITIAL RESPONSE
- STOP OPERATIONS AND SHUT OFF EQUIPMENT.
- REMOVE ANY SOURCES OF SPARK OR FLAME.
- CONTAIN THE SOURCE OF THE SPILL.
- DETERMINE THE APPROXIMATE VOLUME OF THE SPILL.
- IDENTIFY THE LOCATION OF NATURAL FLOW PATHS TO PREVENT THE RELEASE OF THE SPILL TO SENSITIVE NEARBY WATERWAYS OR WETLANDS.
- ENSURE THAT FELLOW WORKERS ARE NOTIFIED OF THE SPILL.

CLEAN UP & CONTAINMENT
- OBTAIN SPILL RESPONSE MATERIALS FROM THE ON-SITE SPILL RESPONSE KIT.
- LIMIT THE SPREAD OF THE SPILL BY PLACING ABSORBENT MATERIALS AROUND THE PERIMETER OF THE SPILL.
- CONTACT THE CONNECTICUT WATER COMPANY IMMEDIATELY AT (800) 428-3985 OR (860) 669-8630 ALONG WITH OTHER APPROPRIATE LOCAL, STATE AND/OR FEDERAL AGENCIES, AS NECESSARY.
- CONTACT A DISPOSAL COMPANY TO PROPERLY DISPOSE OF CONTAMINATED MATERIALS.

FOLLOW-UP
- COMPLETE AN INCIDENT REPORT.
- SUBMIT A COMPLETED INCIDENT REPORT TO THE CONNECTICUT WATER COMPANY.

SEDIMENT AND EROSION CONTROL SHALL BE STRICTLY ENFORCED.

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DRWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
PLOT SCALE: AS SHOWN
SIZE: ANSI D
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: 13A MAP 112 BLOCK 96 LOT 17.9
FILE NUMBER: 1535
PLOT DATE: 03-28-11
FILE NAME: M:\Projects\BNE Energy Inc\Conn\1535-013 Prospect\2000_EROS.dwg

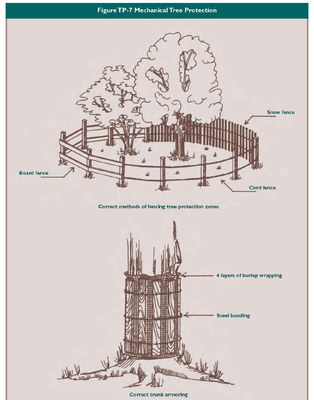
ZAPATA ENGINEERING
6420 FAIRVIEW ROAD #600 PHONE: (704) 364-9090
CHARLOTTE, NC 28210 FAX: (704) 364-9242
ZAPATAENGINEERING.COM WWW.ZAPATAINC.COM

WIND PROSPECT
CONNECTICUT

EROSION CONTROL NOTES

SHEET IDENTIFICATION
C-500

Figure TP-7 Mechanical Tree Protection



Source: Adapted from Virginia Erosion and Sediment Control Handbook, 1992.

1 TREE PROTECTION

Scale: NTS

4-Short Term Non-living Soil Protection

Temporary Erosion Control Blanket (ECB)

Definition

A manufactured blanket composed of biodegradable / photodegradable natural or polymer fibers and/or filaments that have been mechanically, structurally or chemically bound together to form a continuous matrix.

Purpose

To provide temporary surface protection to newly seeded and/or disturbed soils to absorb raindrop impact and to reduce sheet and rill erosion and to enhance the establishment of vegetation.

Applicability

- On disturbed soils where slopes are 2:1 or flatter.
- Where wind and traffic generated air flow may dislodge standard, unanchored mulches.
- May be used as a substitute for **Temporary Soil Protection**.
- May be used as a substitute for **Mulch for Seed**.

Planning Considerations

When considering the use of ECB keep in mind the blanket's capability to conform to ground surface irregularities. If the blanket is not capable of developing a continuous contact with the soil then it must be applied to a fine graded surface. Some blankets will soften and when wetted reconform to the ground. Also, when the ground is frozen, proper anchoring can be difficult, if not impossible.

Care must be taken to choose the type of blanket which is most appropriate for the specific need of the project. With the abundance of erosion control blankets available, it is impossible to cover all of the advantages, disadvantages and specifications of all manufactured blankets. There is no substitute for a thorough understanding of the manufacturer's instructions and recommendations in conjunction with a site visit by the erosion and sedimentation plan designer prior to and during installation to verify a product's appropriateness.

The success of temporary erosion control blankets is dependent upon strict adherence to the manufacturer's installation recommendations. As such, a final inspection should be planned to ensure that the lap joints are secure, all edges are properly anchored and all stitching/stapling patterns follow the manufacturer's recommendations.

Specifications

Materials

Temporary erosion control blankets shall be composed of fibers and/or filaments that:

- *are biodegradable or photodegradable within two years but without substantial degradation over the period of intended usage (five months maximum);*
- *are mechanically, structurally or chemically bound together to form a continuous matrix of even thickness and distribution that resist removal by splash and when used with seedings allows expansion to penetrate the blanket;*
- *are of sufficient structural strength to withstand stretching or movement by wind or water when installed in accordance with the manufacturer's recommendations;*
- *are free of any substance toxic to plant growth and unprocessed human skin or which interferes with seed germination;*
- *contain no contaminants that pollute the air or waters of the State when properly applied; and*

3 GEO-TEXTILE MAT

Scale: NTS

5-Stabilization Structures

Temporary Lined Chute (TC)

Definition

A temporary channel constructed with a non-erosive material, such as concrete, bituminous concrete, riprap, sacked concrete, gabions, half round pipes, erosion control mats with cement grout or similar materials used to carry concentrated runoff down a slope.

Purpose

To temporarily convey concentrated storm water runoff down a slope without causing erosion problems on or below the slope.

Applicability

- For drainage areas less than or equal to 36 acres.
- Where the intended use is less than one year.
- For protection of disturbed cut or fill slopes where planned vegetative cover is not established and/or permanent drainage controls have not been completed.
- On slopes no steeper than 1.5:1 and no flatter than 5:1. For slopes flatter than 5:1 use **Temporary Lined Channel**, **Vegetated Waterway** or **Permanent Lined Waterway** where appropriate.

Planning Considerations

Temporary lined chutes should be planned and installed along with, or as part of, other erosion control practices in an overall surface water control plan. If the chute is anticipated to be needed for more than 1 year see Permanent Lined Waterway measure, **Permanent Slope Drain** measure, or consider revising the sequence of construction to eliminate the need for a temporary lined chute. For drainage areas less than 5 acres the **Temporary Pipe Slope Drain** measure may be used as an alternative to a temporary lined chute. If the drainage area exceeds 36 acres then either split the drainage area or use alternate measures such as Permanent Lined Waterway measure.

Design Criteria

Slope Limitations

Temporary lined chutes shall be designed for placement on undisturbed or well compacted slopes that are not steeper than 1:1.5 and not less than 5:1.

Sizing Limitations

Design criteria are divided into two groups depending on the size of the drainage area. Group A is limited to a maximum area of 10 acres, and Group B may be used for drainage areas between 14 and 36 acres. Within each group the height of the lining at the entrance, depth of the chute down the slope, and length of the inlet and outlet sections are constant (See **Figure TC-1**). These are determined by the selection of a bottom width. The bottom width of the chute is dependent upon the size of the drainage area involved.

Use **Figure TC-1** to determine the sizing requirements for chute and associated groups based on drainage area and proposed bottom width.

The selected size shall be identified in the E&S plan. For dimensions, grades, and construction details of concrete chutes see **Figure TC-2**.

Channel Linings

The lining shall consist of riprap, bituminous concrete or other compatible non-erodible material as described below. Design temporary chute linings with inlet and outlet protection to prevent erosion, or undermining or loosening imposed by site conditions, and to meet durability requirements for the proposed maintenance program. Provide for adequate filter blankets, geotextile, or both, for those types of channel linings.

(a) **Riprap** shall be designed in accordance with the **Riprap** measure.

(b) **Bituminous concrete** linings shall be designed with a minimum thickness of 2 inches and in accordance with accepted engineering practices for structural adequacy.

(c) **Portland Cement Concrete** shall be 2500 PSI minimum with 2.5 inches minimum thickness.

(d) **Sacked concrete** shall be designed for both structural and hydraulic stability.

(e) **Gabions** shall be designed in accordance with the Gabions measure.

4 LINED CHUTE STABILIZATION

Scale: NTS

3-Vegetative Soil Cover

Temporary Seeding (TS)

Definition

Establishment of temporary stand of grass and/or legumes by seeding and mulching soils that will be exposed for a period greater than 1 month but less than 12 months.

Purpose

To temporarily stabilize the soil and reduce damage from wind and/or water erosion and sedimentation until permanent stabilization is accomplished.

Applicability

- Within the first 7 days of suspending work on a grading operation that exposes erodible soils where such exposure is expected to last for 1 to 12 months. Such areas include soil stockpiles, borrow pits, road banks and other disturbed or unstable areas.
- Not for use on areas that are to be left dormant for more than 1 year. Use permanent vegetative measures in those situations.

Specifications

Seed Selection

Select grass species appropriate for the season and site conditions from **Figure TS-2**.

Timing Considerations

Seed with a temporary seed mixture within 7 days after the suspension of grading work in disturbed areas where the suspension of work is expected to be more than 30 days but less than 1 year. Seeding outside the optimum seeding dates given in **Figure TS-2** may result in either inadequate germination or low plant survival rates, reducing erosion control effectiveness.

Site Preparation

Install needed erosion control measures such as diversions, grade stabilization structures, sediment basins and grassed waterways in accordance with the approved plan.

Grade according to plans and allow for the use of appropriate equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. All grading should be done in accordance with the **Land Grading** measure.

Seedbed Preparation

Loosen the soil to a depth of 3-4 inches with a slightly roughened surface. If the area has been recently loosened or disturbed, no further roughening is required. Soil preparation can be accomplished by tracking with a bulldozer, discing, harrowing, raking or dragging with a section of chain link fence. Avoid excessive compaction of the surface by equipment traveling back and forth over the surface. If the slope is tracked, the cleat marks shall be perpendicular to the anticipated direction of the flow of surface water (see **Surface Roughening** measure).

Apply ground limestone and fertilizer according to soil test recommendations (such as those offered by the University of Connecticut Soil Testing Laboratory or other reliable source). Soil sample mailers are available from the local Cooperative Extension System office. Appendix E contains a listing of the Cooperative Extension System offices.

If soil testing is not feasible on small or variable sites, or where timing is critical, fertilizer may be applied at the rate of 200 pounds per acre or 7.5 pounds per 1,000 square feet of 10-10-10 or equivalent. Additionally, lime may be applied using rates given in **Figure TS-1**.

Figure TS-1 Soil Texture vs. Liming Rates

Soil Texture	Tons / Acre of Lime	Lbs / 1000 ft² of Lime
Clay-clay loam and high organic soil	3	135
Sandy loam, loam, silt loam	2	90
Loamy sand, sand	1	45

Seeding

Apply seed uniformly by hand, cyclone seeder, drill, cultipacker type seeder or hydroseeder at a minimum rate for the selected seed identified in **Figure TS-2**. Increase

2 SOIL COVER

Scale: NTS

Figure TS-2 Temporary Seeding Rates and Dates

Species[1]	Seeding Rates (pounds per 1000 sq ft)	Optimum Seeding Dates[2]								Plant Characteristics
	Seed	Optimum Seed Depth[3] (inches)	JF	MR	AP	MY	JN	JL	AU	SE	OC	NV	DE	
Annual ryegrass Lolium multiflorum	40	1.0	0.5											May be added in mixes. Will snow out of most stands.
Perennial ryegrass Lolium perenne	40	1.0	0.5											Use for winter cover. Tolerates cold and low moisture.
Winter Rye Secale cereale	120	3.0	1.0											Quick germination and heavy spring growth. Dies back in June with little regrowth.
Oats Avena sativa	86	2.0	1.0											In northern CT, will winter kill with the first killing frost and may thoroughout the state in severe winters.
Winter Wheat Triticum aestivum	120	3.0	1.0											Quick germination with moderate growth. Dies back in June with no regrowth.
Millet Echinochloa crusgalli	20	0.5	1.0											Warm season small grass. Dies with frost in September.
Sudangrass Sorghum sudanense	30	0.7	1.0											Tolerates warm temperatures and droughty conditions.
Buckwheat Fagopyrum esculentum	35	0.4	1.0											Hardy plant that will reseed itself and is good as a green manure crop.
Weeping lovegrass Eragrostis curvula	5	0.2	0.25											Warm-season perennial. May bunch. Tolerates hot, dry slopes, acid infertile soils. Excellent matter crop. Usually winter kills.
DOT All Purpose Mix[5]	150	3.4	0.7											Suitable for all conditions.

1 May be planted throughout summer if soil moisture is adequate or can be irrigated. Fall seeding may be extended 15 days in the coastal zones.

2 Seed at twice the indicated depth for sandy soils.

3 See Permanent Seeding **Figure PS-3** for seeding mixture requirements.

4 Listed species may be used in combinations to obtain a broader time spectrum. If used in combination, reduce each species planting rate by 20% of that listed.

Source: USDA-NRCS

Figure ECB-1
Example of Temporary Erosion Control Blanket Installation

Maintenance

Inspect temporary erosion control blankets at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater for failures. Blanket failure has occurred when (1) soils and/or seed have washed away from beneath the blanket and the soil surface can be expected to continue to erode at an accelerated rate, and/or (2) the blanket has become dislodged from the soil surface or is torn.

If washouts or breakouts occur, re-install the blanket after regrading and re-seeding, ensuring that blanket installation still meets design specifications. When repetitive failures occur at the same location, review conditions and limitations for use and determine if diversions, stone check dams or other measures are needed, to reduce failure rate.

Repair any dislodged or failed blankets immediately.

When used as a substitute for **Mulch for Seed**, continue to inspect as required by the seeding measure. When used as a substitute for **Temporary Soil Protection**, continue to inspect until it is replaced by other erosion control measures or until work resumes.

Figure TC-1 Chute Size Determination

Group A			Group B		
Size	Bottom Width b (ft)	Maximum Drainage Area[1] (acres)	Size	Bottom Width b (ft)	Maximum Drainage Area[1] (acres)
A-2	2	5	B-4	4	14
A-4	4	8	B-6	6	22
A-6	6	11	B-8	8	25
A-8	8	14	B-10	10	31
A-10	10	18	B-12	12	35
Height at entrance (H) = 1.5 feet Depth of Chute (d) = 8 inches Length of inlet & outlet section (L) = 6 feet			Height at entrance (h) = 2 feet Depth of Chute (d) = 10 inches Length of inlet & outlet section (L) = 10 feet		

[1] Criteria for extending the maximum allowable drainage area listed above.

If good mulch cover (equivalent to landscape mulch or temporary soil protection) is maintained over a minimum of 75% of the drainage area throughout the life of the measure, then the drainage areas listed above may be increased by 25%, providing the 36 acre drainage area limit is not exceeded.

If good grass cover (i.e. well established turf) or woodland cover is maintained over a minimum of 75% of the drainage area through the life of the measure, then the drainage areas listed above may be increased by 50%, providing for 25 acre drainage area limit is not exceeded.

Source: USDA-NRCS

(f) **Erosion control blankets and turf reinforcement mats**, when used, shall be designed in accordance with manufacturer's recommendations.

Inlet Design

(a) The top of the earth lining at the entrance to the chute shall not be lower at any point than the top of the lining at the entrance of the chute ("H" as shown in **Figure TC-2**).

(b) The lining of the side slopes at the chute entrance shall extend the distance H above the lining invert as shown in **Figure TC-2**.

(c) The entrance floor at the upper end of the chute shall have a minimum slope toward the outlet of 0.25 inch per foot.

(d) Design the cutoff wall at the entrance so that it is continuous with the lining.

Outlet Design

The erosion requirements for outlet protection are shown in **Figure TC-2**. Verify adequacy of outlet stabilization using **Outlet Protection** measure. Design the cutoff wall at end of the discharge apron so that it is continuous with the lining.

Installation Requirements

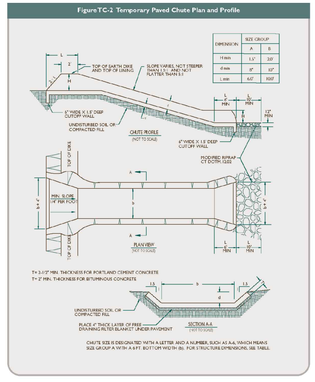
1. Install the chute on undisturbed soil, if possible, or if not possible, on well compacted fill.
2. Begin construction of the chute at its lower end. Compact or place the lining so that it is free of voids and reasonably smooth.
3. Construct the cutoff walls at the entrance and at the end of the discharge aprons so that they are continuous with the lining.
4. Stabilize all areas disturbed by construction immediately after work is completed.

Maintenance

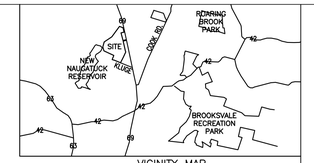
Inspect the temporary lined chute at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater for erosion damage. Repair as needed. If repeated failure occurs, check design limitations and installation requirements. Correct deficiencies as needed.

Prevent construction traffic across the chute and avoid the placement of any material on the chute.

Figure TC-2 Temporary Paved Chute Plan and Profile



Source: USDA-NRCS



VICINITY MAP

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
3	INCORPORATED REQUESTED REVISIONS	03-08-11	M.C.
4	INCORPORATED REQUESTED REVISIONS	03-28-11	M.C.

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DRN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 112, BLOCK 96, LOT 378
PLOT SCALE: ANSI D
PLOT DATE: 3/28/2011
FILE NUMBER: 1550
SCALE: AS SHOWN
FILE NAME: M:\Projects\BNE Energy Inc\DRAWINGS\1550-242 Proposed\CHEC_ECP1.dwg

ZAPATA ENGINEERING
6302 FAIRVIEW ROAD #600 PHONE: (704) 364-9040
CHARLOTTE, NC 28210 FAX: (704) 364-9242
ZAPATA@ZAPATAINC.COM WWW.ZAPATAINC.COM

WIND PROSPECT
CONNECTICUT

EROSION CONTROL DETAILS

SHEET IDENTIFICATION
C-501

5-Stabilization Structures

Temporary Pipe Slope Drain (TSD)

Definition
A flexible or rigid pipe used to conduct water from the top of a slope to the toe of the slope.

Purpose
- To convey water over excessive grade changes.
- To convey concentrated stormwater runoff flows down the face of a slope without causing erosion problems either on or at the toe of the slope.

Applicability
- On cut or fill slopes where the soil or existing vegetative cover will not withstand concentrated runoff flows.
- For use less than 6 months.
- Where the contributing drainage area is 5 acres or less.

Planning Considerations
Temporary pipe slope drains should be planned and installed along with, or as part of, other conservation practices in an overall surface water disposal system. This measure should be used only for the temporary conveyance of water and consideration should be given to the final stabilization of the area during the initial planning stages. Temporary pipe slope drains are commonly used in conjunction with temporary diversions (see Diversion Functional Group) which direct water to the drain.

Figure TSD-1 Size of Slope Drain

Maximum Drainage Area (Acres)	Pipe Diameter, D (in.)
0.5	12
2.5	18
5.0	24

Source: USDA-NRCS

Design Criteria
The maximum allowable drainage area per drain is 5 acres.

Material used in the temporary pipe slope drain shall be heavy duty flexible (see **Figure TSD-2**) or rigid conduit (see **Figure TSD-3**) designed for the purpose with hold down grommets or rigid pipe supplied with anchors. Additionally, use only one size pipe for any single installation.

The bottom of the pipe slope drain shall be flush with the toe of the diversion berm (see **Figure TSD-3**).

The pipe slope drains shall be sized according to **Figure TSD-1** and shall be provided with watertight fittings.

Water directed into the temporary slope drain shall be in accordance with temporary diversion measures found in the Diversion Functional Groups, where applicable. However, at a minimum, the height of the berm at the centerline of the inlet shall be equal to the diameter of the pipe (D) plus 12 inches. Where the berm height is greater than 10 inches at the inlet, it shall be sloped 3:1 or flatter.

The area immediately below the outlet of the pipe slope drain shall be protected from excessive discharges with appropriate energy dissipators. For drainage areas greater than 1 acre, hay bale check dams and geotextile silt fences are not appropriate.

Installation Requirements
1. Install a temporary pipe slope drain on a cut or a stable fill slope during or immediately after construction of diversion berms.
2. Stabilize the area from the top of the berm, around and under the entrance section of the drain to prevent erosion and piping failure at the inlet.
3. Anchor the pipe slope drain securely. Space anchors a maximum of 10 feet on center.
4. Securely fasten the sections of pipe together with watertight fittings.

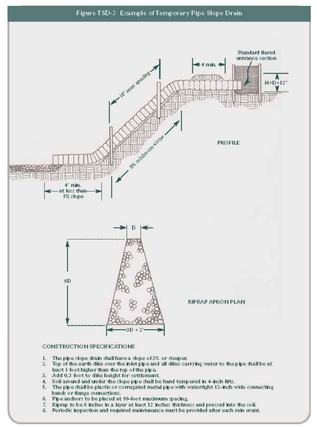
Maintenance
Inspect the temporary pipe slope drain at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater to determine maintenance needs. Repair damage as necessary. Avoid the placement of any material on top of the pipe and prevent vehicular traffic from crossing the slope drain.

Temporary Pipe Slope Drain (TSD)

1 TEMPORARY PIPE DRAIN STABILIZATION

Scale: NTS

Figure TSD-3 Example of Temporary Pipe Slope Drain



CONSTRUCTION SPECIFICATIONS
1. The pipe slope drain shall have a slope of 5% or steeper.
2. Top of the earth dike over the inlet pipe and all dike carrying water to the pipe shall be at least 1 foot higher than the top of the pipe.
3. Add 6-12 feet to dike height for pipes 24 inches or greater.
4. Fill around the pipe at the inlet area shall be hand tamped in 4-inch lifts.
5. The pipe shall be pipe-rite or corrugated metal pipe with watertight 12-inch wide connecting bands or flange connections.
6. Pipe anchors to be placed at 10-foot maximum spacing.
7. Riprap to be 6 inches in a layer at least 12 inches thickness and pressed into the soil.
8. Periodic inspection and required maintenance must be provided after each rain event.

7-Diversions

Permanent Diversion (PD)

Definition
A channel constructed across a slope with a supporting earthen ridge on the lower side.

Purpose
- To increase slope length and reduce erosive velocities.
- To intercept and divert storm water runoff to a stabilized outlet.
- To protect downgradient areas from erosion and sedimentation.

Applicability
- Where the contributing watershed is 25 acres or less. For watersheds with a drainage area greater than 25 acres, either use **Permanent Lined Waterway** or **Vegetated Waterway**.
- Where the diversion is to be included as an integral part of a permanent water management system.
- Where runoff from areas of higher elevation may damage property, cause erosion, or interfere with the establishment of vegetation on lower areas.
- Where surface and/or shallow subsurface flow is damaging sloping uplands.
- Where the slope length needs to be reduced to control excessive overland flow velocities and minimize soil loss.

Planning Considerations
Diversions are useful tools for managing surface water flows and preventing soil erosion. On moderately sloping areas, they may be placed at intervals to trap and divert sheet flow before it has a chance to concentrate and cause rill and gully erosion. They may be placed at the top of cut or fill slopes to keep runoff from upland drainage areas off the slope. They can also be used to protect structures, parking lots, adjacent properties, and other special areas from flooding. When properly coordinated into the landscape design of a site, permanent diversions can be visually pleasing as well as functional. (see **Figure PD-2**)

The supporting ridge of the permanent diversion may be constructed from soil excavated from the channel if the soil encountered meets the installation requirements for ridge construction. If it is known at the planning stage that the soil will not meet the installation requirements, then plan on importing soil which is adequate to meet the installation requirements.

Should permanent seeding (as opposed to stabilizing with stone) of the top and outside of the ridge be planned for ridge stabilization, then plan on requiring the use of topsoil and seed bed preparation in accordance with the **Topsoiling** and **Permanent Seeding** measures.

Maintenance requirements should be planned in accordance with the intended use.

Design Criteria
Design the permanent diversion according to generally accepted engineering standards (e.g., NRCS National Engineering Handbook – Part 650; the NRCS Rural Office Technical Guide – Section IV; DOT Drainage Manual).

Location
Determine the permanent diversion location by considering outlet conditions, topography, land use, soil type, length of slope, seepage planes (i.e., seepage breakout locations where seepage is expected to be a problem) and the development layout.

Capacity
Design the minimum capacity to safely carry the peak flow expected from a 10-year frequency, 24-hour duration storm with a freeboard of at least 0.3 feet. (see **Figure PD-1**).

Diversions designed to protect homes, schools, industrial buildings, roads, parking lots, and comparable high-risk areas, and those designed to function in connection with other storm water management systems, shall be designed at a minimum to safely carry the peak flow from a 25- year frequency, 24-hour duration storm with a freeboard of at least 0.3 feet.

If a contributing or receiving drainage system is designed to a standard greater than the 10-year frequency storm, then design the permanent diversion to that higher standard. If pre-development flooding problems exist or if the consequences of flooding are severe, then consider increasing the capacity beyond the 10-year frequency storm. If drainage systems which convey larger storms converge with the diversion in question, design the diversion to the same design storm as the contributing drainage system.

Permanent Diversion (PD)

2 PERMANENT DIVERSIONS

Scale: NTS

10-Energy Dissipators

Level Spreader (LS)

Definition
An outlet for diversions and other water conveyances consisting of an excavated depression with a broad stable point of discharge constructed at zero grade across a slope.

Purpose
To reduce the depth and velocity of concentrated runoff and release it uniformly as sheet flow onto a stable area.

Applicability
- Where there is a need to carry storm water away from disturbed areas and to avoid stressing erosion control measures.
- Where sediment reduced runoff can be released in sheet flow over a stabilized slope without causing erosion.
- Where the spreader can be constructed on undisturbed soil.
- Where the area below the level spreader lip has a slope of 5% or flatter and is stabilized by vegetation.

Planning Considerations
The **Temporary Diversion** measure and the **Water Bar** measure each calls for a stable outlet for concentrated storm water flows. The level spreader is a relatively low-cost structure to release small volumes of concentrated flow where site conditions are suitable.

Check the proposed location of the level spreader to ensure it can be constructed on level, stable, and undisturbed ground. Any depressions in the outlet lip of the spreader could concentrate flow, and result in erosion. Check conditions downslope from the spreader to ensure the runoff water will not reconcentrate after release unless it occurs during interception by another measure (such as a permanent pond or detention basin) located below the level spreader.

For higher design flow conditions, a rigid outlet lip-design is required to ensure the desired sheet flow conditions.

Special care should be taken when designing level spreaders on terrace escarpments located in the Connecticut River valley. These areas are very susceptible to erosion by the concentration flows. Consider using alternative methods to discharge runoff through the escarpment area.

Design Criteria
Slopes shall be sufficiently smooth to preserve sheet flow and prevent flow from concentrating.

Criteria provided below are for flows from a 10-year frequency storm that is equal to or less than 25 cfs ($Q_{25} \leq 25$ cfs). For higher flows use other standard engineering practices that will result in a diffuse non-erosive discharge.

Spreader Dimensions
Determine the size of the level spreader by estimating the peak flow expected from a 10-year storm (Q_{10}).

Select the appropriate length, width and depth of the spreader from **Figure LS-1**.

Provide a 20-foot transition section in the diversion channel so that the width of the diversion will smoothly transition with the width of the spreader to ensure more uniform outflow.

Make the depth of the level spreader, as measured from the lip, at least 6 inches. The depth may be made greater to increase temporary storage capacity, improve trapping of debris and to enhance settling of any suspended solids.

Figure LS-1 Minimum Dimensions for Level Spreader

Design Flow, Q_{10} (cfs)	Depth (ft.)	Width of Lower Side Slope of Spreader (D_s)	Length (ft.)
0 – 10	0.5	6	10
10 – 20	0.6	6	20

Grade
The grade of the channel for the last 20 feet of the dike or diversion entering the level spreader shall be no steeper than 1%.

Level Spreader (LS)

3 LEVEL SPREADERS

Scale: NTS

8-Subsurface Drain

Subsurface Drain (SD)

Definition
An underground water conveyance system consisting of a perforated conduit, such as pipe, tubing, tile or a stone filled trench installed beneath the ground to intercept and convey ground water (see **Figure SD-1**).

Purpose
- To prevent sloping soils from becoming excessively wet causing sloughing.
- To improve the bearing capacity of soils.
- To reduce frost heaving of fine grained soils.
- To prevent hydrostatic pressures from developing behind retaining walls, foundations or floor slabs and to reduce cracking and heaving of pavement.
- To relieve artesian pressures.
- To lower water tables as vegetated waterways and diversions as order to maintain stable vegetative conditions.
- To drain storm water detention areas or structures.

Applicability
- Used in areas having a high water table where benefits of lowering or controlling groundwater or surface runoff are desired.
- Where soil permeability is sufficient to permit installation of an effective and economically feasible system.
- Not intended for use within septic system setbacks, in areas of ground water pollution, or to drain inland wetlands or tidal wetlands without prior authorization.

Planning Considerations
Subsurface drains are generally installed within a slope to lower the water table (see **Figure SD- 2**).

Subsurface drainage systems are either relief drains or interceptor drains (sometimes called curtain drains) or a combination of both. Relief drains are used either to lower the water table in order to keep structures (e.g. basements) dry or to improve the growth of vegetation. They are generally installed along a slope, draining in the direction of the slope and are provided with a stable outlet. They can be installed in a parallel pattern, a herringbone pattern, or a random pattern (see **Figure SD-3**).

Interceptors are used to remove water as it seeps down a slope, to prevent the soil from becoming saturated and subject to slippage. They are installed across a slope and are provided with a stable outlet.

A lowering of the groundwater table through the installation of a subsurface drain may have legal implications in that it may dewater adjacent wetlands as well as affect the property rights of adjacent owners. Damage may also occur at or near the point of discharge. Also, consolidation of soils and settlement of the soils and the structures they support can occur in some cases.

The design, drawings and installation shall comply with applicable federal, state and local laws and regulations. The landowner or developer is responsible for obtaining required permits. Drains shall comply with septic system setback and setbacks established for known ground water pollution.

Design Criteria
The design and installation of subsurface drains shall be based on detailed surveys and investigations. Where failure could cause damage to structures such as roadways, buildings or utilities a more detailed engineering design may be required than that provided below.

Capacity
The required capacity for interceptor drains shall be determined by **Figure SD-4**

Size of Drain
If a pipe is used in the drain installation, the minimum size shall be 4" diameter. If a stone filled trench is used without a conduit, the minimum size of the voids in the stone of the drain shall be equivalent to a 4" diameter conduit. The designer should check with the reviewing and approving authorities for different minimum and maximum sizes of conduit. Manning's formula may be used to size the drain when the hydraulic grade line is parallel to the bottom grade of the drain (see **Equation SD-1**).

Subsurface Drain (SD)

4 SUBSURFACE DRAIN

Scale: NTS

Figure SD-1 Subsurface Drains With and Without a Conduit

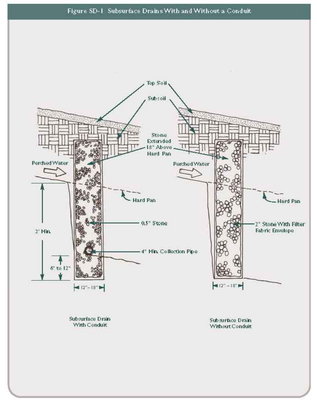
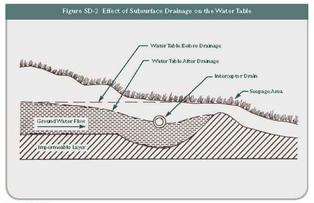
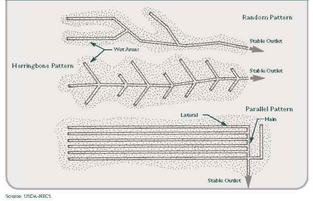


Figure SD-2 Effect of Subsurface Drainage on the Water Table



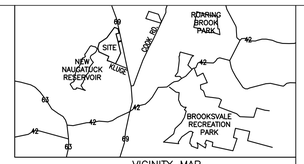
Source: USDA-NRCS

Figure SD-3 Subsurface Drain Layouts



Source: USDA-NRCS

Subsurface Drain (SD)



VICINITY MAP

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
PLOT SCALE: 1:1
PLOT STYLE TABLE: FULL.ctb
SIZE: ANSI D
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 12, BLOCK 96, LOT 17.8
FILE NUMBER: 1353
PLOT DATE: 3/28/2011
FILE NAME: w:\projects\BNE Energy Inc\cad\civil\C501-C512 Present\C502_SCH_.dwg

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WIND PROSPECT
CONNECTICUT

EROSION CONTROL DETAILS

SHEET IDENTIFICATION
C-502

Definition
Structurally lined aprons or other acceptable energy dissipating devices placed between the outlets of pipes or paved channel sections and a stable downstream channel.

Purpose
To prevent scour at storm drain, culvert or drainageway outlets and to minimize the potential for downstream erosion by reducing the velocity of concentrated storm water flows.

Applicability
At the outfall of all storm drain outlets, road culverts, paved channel outlets, new channels constructed as outlets for culverts and conduits, etc. discharging into natural or constructed channels, which in turn discharge into existing streams or drainage systems.

Planning Considerations
Analysis and appropriate treatment shall be done along the entire length of the flow path from the end of the conduit, channel or structure to the point of entry into an existing stream or publicly maintained drainage system. Where flow is excessive for the economical use of an apron, excavated stilling basin may be used. Acceptable designs for stilling basin may be found in the following sources.

- *Hydraulic Design of Energy Dissipators for Culverts and Channels*. Hydraulic Engineering Circular No. 14. U.S. Department of Transportation, Federal Highway Administration. December 1975.
- *Hydraulic Design of Stilling Basins and Energy Dissipators*. Engineering Monograph No. 25. U.S. Department of the Interior, Bureau of Reclamation.
- *Scour at Cantilevered Pipe Outlets – Plunge Pool Energy Dissipator Design Criteria*. Agricultural Service Research Publication ARS-76, 1989.

(All of the above are available from the U.S. Government Printing Office.)

- *Plunge Pool Design at Submerged Pipe Spillway Outlets*. American Society of Agricultural Engineers, Volume 37(4):1167-1175, 1994.

Design Criteria
Determination of Needs
The need for conduit outlet protection shall be determined by comparing the allowable velocity which the soil will withstand to the exit velocity of the flow from the conduit. The allowable velocity for water over the soil shall be that given in **Figure OP-1**. The exit velocity of the water in the conduit shall be calculated using the greater of the conduit design storm or the 25-year frequency storm. When the exit velocity of the water in the conduit exceeds the allowable velocity for the soil, outlet protection is required. Outlet protection is also required if the conduit outfall is set above the receiving channel (i.e., cantilevered) causing the water to drop at the outlet end of the culvert.

Figure OP-1 Allowable Velocities for Various Soils

Soil Texture	Allowable Velocity (ft./sec.)
Sand and sandy loam	2.5
Silt Loam	3.0
Sandy clay loam	3.5
Clay loam	4.0
Fine gravel, graded from to gravel	5.0
Cobbles	5.5
Shale	6.0

Source: USDA-NRCS

Riprap Aprons
Design Limitations: No bends or curves at the intersection of the conduit and the apron protection will be permitted.
There shall be no vertical drop from the end of the apron to the receiving channel.

1 OUTLET PROTECTION
Scale: NTS

Definition
A temporary stone dam placed across a drainageway.

Purpose
- To reduce the velocity of concentrated storm water flows, thereby reducing erosion of the drainageway.
- To temporarily pond storm water runoff to allow sediments to settle out.

Applicability
- Where concentrated flows are expected to cause erosion.
- For temporary drainageways which, because of their short length of service, will not receive a non-erodible lining but still need protection to reduce erosion.
- For permanent drainageways which, for some reason, will not receive a permanent non-erodible lining for an extended period of time.
- For temporary or permanent drainageways which need protection during the establishment of vegetative linings. This measure is not a substitute for a **Temporary Sediment Trap** or a **Temporary Sediment Basin**, however, stone check dams may be used in conjunction with those measures.

Planning Considerations
A stone check dam is considered to be temporary if it is used less than 1 year. It is considered to be permanent if it is used more than 1 year. Its length of use and the size of the watershed determine if an engineered design is required (see **Figure SCD-1**).

When planning the location of the stone check dam(s) consider the tailwater effects, duration of ponding, stone size, the contributing watershed and, if placed in a watercourse, the effects on fish habitat and fish passage. Also assess if the final use of the area will require the stone check dam(s) to be removed. Give consideration to mowing requirements and aesthetics. For stone check dams to be located in a vernal, intermittent or permanent watercourse, check with regulatory authorities regarding permits.

Figure SCD-1 Design Requirements

Design Requirements	Drainage Area	Length of Use
no engineered design	≤ 2 acres	<6 months
2-yr frequency storm	>2 acres	>6 months, <1 year
25-yr frequency storm	any drainage size	>1 year

Design Criteria
No engineered design is required for a stone check dam if the contributing drainage area is 2 acres or less and its intended use is shorter than 6 months.

If the contributing drainage area is greater than 2 acres or its intended use is longer than 6 months, design the stone check dam according to generally accepted engineering standards (e.g. National Engineering Handbook – Part 650, DOT Drainage Manual). Additionally, the design shall contain construction standards and specifications required for implementation and maintenance of the measure.

For use of a stone check dam less than 1 year, design the stone check dam to safely pass the peak flow expected from a 2-year frequency storm without structural failure and adverse tailwater effects.

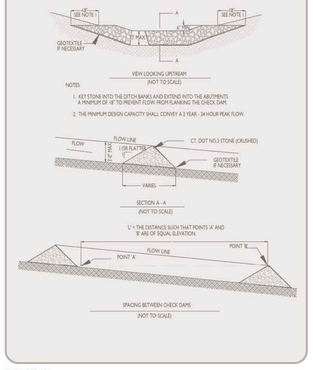
For use of a stone check dam exceeding 1 year, design the stone check dam to safely pass the peak flow expected from a 25-year frequency storm without structural failure of the check dam and adverse tailwater effects.

Specifications
For engineered stone check dams, construct the stone check dam in accordance with the design standards and specifications. For all non-engineered stone check dams, comply with the following specifications.

Materials
Stone: Shall meet the requirements of DOT Standard Specifications Section M.01.01, #2 aggregate. The stone shall be sound, tough, durable, angular, not subject to disintegration on exposure to water or weathering, be chemically stable, and shall be suitable in all other respects for the purpose intended.

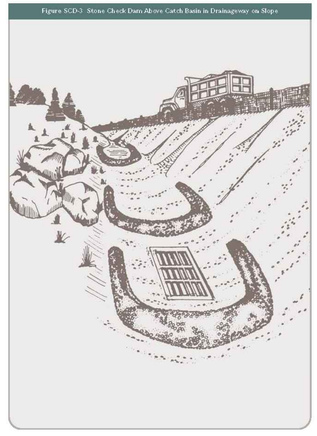
2 STONE CHECK DAM
Scale: NTS

Figure SCD-2 Stone Check Dam Installation in Drainageways



Source: USDA-NRCS

Figure SCD-3 Stone Check Dam Above Catch Basin in Drainageway on Slope



3 STONE CHECK DAM
Scale: NTS

Definition
A temporary ponding area with a stone outlet formed by excavation and/or constructing an earthen embankment.

Purpose
To detain sediment-laden runoff from small disturbed areas long enough to allow a majority of the sediment to settle out.

Applicability
- Below disturbed areas where the contributing drainage area is 5 acres or less. For drainage areas greater than 5 acres use **Temporary Sediment Basin** measure.
- Where the intended use is 2 years or less. For uses greater than 2 years use **Temporary Sediment Basin** measure.
- Where diverting sediment-laden water with temporary diversions that meet the above limitations for use.

Planning Considerations
Sequence the construction of temporary sediment traps, along with other perimeter erosion and sediment controls, so that they are constructed and made functional before land disturbance in the contributing drainage area takes place.

The temporary sediment trap has two storage requirements: one for wet storage and one for dry storage. Commonly, the wet storage is created by excavation within a drainage way and the dry storage created by the construction of a pervious stone dike across the drainage way. Sometimes the trap is formed, at least in part, by the construction of an embankment. Such an embankment constitutes a dam and is therefore limited to a height of no greater than 5 feet and requires care in its construction.

ESS plans should identify the size of the contributing drainage area, wet and dry storage requirements as well as the volume of sediment accumulation that will trigger trap cleaning. Sediment is required to be removed from the trap when the sediment accumulation exceeds half of the wet storage volume of the trap. The plans should also guarantee that access is provided for sediment removal and detail how excavated sediment will be disposed (such as by use in fill areas on-site or removal to an approved off-site location).

Variations in temporary sediment trap design may be considered, but plan reviewers should ensure the minimum storage requirements and structural requirements noted below are maintained.

Specifications
Location
Locate temporary sediment traps so that they can be installed prior to conducting any grading activities in the contributing watershed. Do not locate traps in close proximity to existing or proposed building foundations if there is any concern regarding seepage of water from the temporary sediment trap into the foundations or foundation excavation area. Locate traps to obtain maximum storage benefit from the terrain, for ease of clean out and disposal of the trapped sediment.

Trap Capacity
The temporary sediment trap shall have an initial storage volume of 134 cubic yards per acre of drainage area, half of which shall be as the form of wet storage to provide a stable settling medium. The remaining storage volume shall be in the form of a drawdown (dry storage) which will provide extended settling time during less frequent, larger storm events. **Figure TST-1** contains the formulas for calculating the wet storage volume and the dry storage volume.The volume of wet storage shall be measured from the low point of the excavated area to the base of the stone outlet structure (see **Figure TST-2**). The volume of the dry storage shall be measured from the base of the stone outlet to the top of the stone outlet (overflow mechanism).

Try to provide a storage area which has a minimum 2:1 length to width ratio (measured from point of maximum runoff introduction to outlet)

3 TEMPORARY SEDIMENT TRAP
Scale: NTS

Figure TST-1 Formula for Figuring Temporary Sediment Trap Storage Requirements

Wet storage volume may be approximated as follows:

$$Vw = 0.05 \times A_W \times D_W$$

where,

V_W = the wet storage volume in cubic feet
A_W = the surface area of the flooded area at the base of the stone outlet in square feet
D_W = the maximum depth in feet, measured from the low point in the trap to the base of the stone outlet.

Dry storage volume may be approximated as follows:

$$V_d = \frac{(A_W + A_d)}{2} \times D_d$$

where,

V_d = the dry storage volume
A_W = the surface area of the flooded area at the base of the stone outlet in square feet.
A_d = the surface area of the flooded area at the top of the stone outlet (over flow mechanism), in square feet
D_d = the depth in feet, measured from the base of the stone outlet to the top of the stone outlet.

Note: Conversion between cubic feet and cubic yards is: cubic feet x 0.037 = cubic yards

Slope Limitations
All cut and fill slopes shall be 2:1 or flatter except for the excavated wet storage area where slopes shall not exceed 1.5:1. The maximum depth of excavation within the wet storage area should not exceed 3 feet to facilitate clean-out and for site safety considerations.

Inlet / Outlet Configuration
The outlet shall be located at the most distant hydraulic point from the inlet. In cases where a long narrow site runs perpendicular to the direction of flow, baffles consisting of stone dikes or other structurally sufficient barriers should be added along the long axis of the trap to increase travel distance through the trap (see **Figure TST-A**).

Outlet
Plan the outlet in such a manner that the minimum wet storage and dry storage volumes are created (see Trap Capacity section above) and 1 foot of free board between the top of the outlet and the crest of the embankment is established. The outlet consists of a pervious stone dike with a core of modified riprap and keyed on the upstream side with DOT #5 stone. Temporary sediment traps must outlet onto stabilized (preferably undisturbed) ground, into a watercourse, stabilized channel, or into a storm drain system. **Figure TST-4** shows an example of an outlet for a temporary sediment trap.

Embankment
The maximum height of a temporary sediment trap embankment is limited to 5 feet as measured vertically from the crest of the embankment to the down slope base of the embankment or toe of the stone dike, whichever is lower. Minimum top widths (W) and outer lengths (Ow) for various embankment lengths (Bl) are shown in **Figure TST-2**. Side slopes of the embankment shall be 2:1 or flatter.

Materials
Modified Riprap: shall meet the requirements of DOT Standard Specifications Section M.12.02.

DOT #5 Stone: shall meet the requirements of DOT Standard Specifications Section M.01.04 for #3 Aggregate.

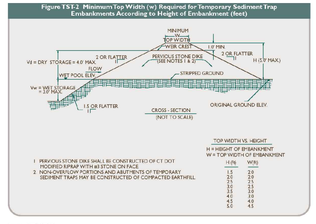
Construction
Clear, grub and strip any vegetation and root mat from any proposed embankment and outlet area. Remove stones and rocks whose diameter is greater than 3 inches and other debris.

Excavate wet storage and construct the embankment and/or outlet as needed to attain the necessary storage requirements. Use only fill material for the embankment that is free from excessive organics, debris, large rocks (over 6 inches) or other unsuitable materials. Compact the embankment in 9 inch layers by traversing with equipment while it is being constructed.

Stabilize the earthen embankment using any of the following measures: **Temporary Seeding, Permanent Seeding**, or **Stone Slope Protection** immediately after installation.

Carry out construction operations in such a manner that erosion and water pollution are minimized.

Figure TST-2 Minimum Top Width (w) Required for Temporary Sediment Trap Embankments According to Height of Embankment (feet)



TOP WIDTH VS. HEIGHT	
H = HEIGHT OF EMBANKMENT	
W = TOP WIDTH OF EMBANKMENT	
H (ft)	W (ft)
1.0	2.0
1.5	2.0
2.0	2.0
2.5	2.0
3.0	2.0
3.5	2.0
4.0	2.0
4.5	2.0
5.0	4.5

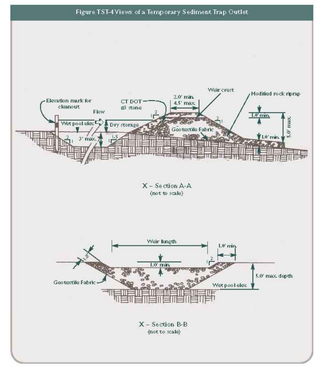
Source: USDA NRCS

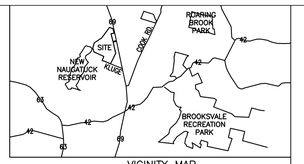
Maintenance
Inspect the temporary sediment trap at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater. Check the outlet to ensure that it is structurally sound and has not been damaged by erosion or construction equipment. The height of the stone outlet should maintained at least 1 foot below the crest of the embankment. Also check for sediment accumulation and filtration performance.

When sediment have accumulated to one half the minimum required volume of the wet storage, dewater the trap as needed, remove sediments and restore the trap to its original dimensions. Dispose of the sediment removed from the basin in a suitable area and in such a manner that it will not erode and cause sedimentation problems.

The temporary sediment trap may be removed after the contributing drainage area is stabilized. If it is to be removed, then the plans should show how the site of the temporary sediment trap is to be graded and stabilized after removal.

Figure TST-4 View of a Temporary Sediment Trap Outlet





VICINITY MAP

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
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NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DRWN BY: RSW
CKD BY: TLK
DATE: 03-28-11
OWNER: BNE ENERGY
SUBMITTED BY: ZAPATA INC.
PARCEL NO.: TAX MAP 112, BLOCK 94, LOT 11/8
PLOT SCALE: 1" = 1'-0"
PLOT DATE: 03-28-11
FILE NUMBER: 1303
SIZE: ANSI D
FILE NAME: w:\Projects\BNE Energy Inc\Submittals\1303-011 Pictures\C0304_OP5.dwg

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WIND PROSPECT
CONNECTICUT

EROSION CONTROL DETAILS

SHEET IDENTIFICATION
C-503

J.I.- Sediment Impoundments, Barriers and Filters

Hay Bale Barrier (HB)

Definition
A temporary sediment barrier consisting of a row of entrenched and anchored bales of hay or straw.

Purpose
- To intercept and detain small amounts of sediment from small disturbed areas.
- To decrease the velocity of sheet flows.
- To reduce small volumes of water away from erodible soils.
- To settle and retain in filtering waters discharged from pumping operations (see **Pumping Settling Basin** measure, Type I and Type II).

Applicability
- Below small disturbed areas where the drainage area (disturbed and undisturbed) is less than 1 acre in size.
- Above disturbed slopes to direct surface water away from erodible areas where the drainage area (disturbed and undisturbed) is less than 1acre in size.
- Where protection and effectiveness is required for less than 3 months.
- Where sedimentation will reduce the capacity of storm drainage systems or adversely affect adjacent areas, watercourses and other sensitive areas.
- Not for use in drainageways, except in special cases where it is applied with other measures (see **Geotextile Silt Fence** and **Stone Check Dams** Special Cases).
- Not intended for use as surmans.

Planning Considerations
See Planning Considerations for Sediment Impoundments, Barriers and Filters Function Group.

Specifications

Materials
Hay Bales shall be made of hay or straw with 40 pounds minimum weight and 120 pounds maximum weight hold together by twine or wire.

Stakes for Anchoring Hay Bales shall be a minimum of 36 inches long and made of either hardwood with dimensions of at least 1.5 inches square or steel posts with a minimum weight of 0.5 pound per linear foot.

Placement on the Landscape
Contributing drainage area is no greater than 1 acre. Maximum slope length is as shown in **Figure HB-1**.

Toe of Slope: Locate 5-10 feet down gradient from the toe of slope (see **Figure HB-2**), generally on the contour. When the contour can not be followed, stagger the bale installation and install perpendicular wings spaced as shown in **Figure HB-1** to break the velocity of water flowing behind the bales. The barrier should be located with sufficient distance from the toe of the slope to allow access by equipment for removal of accumulated sediments

Swales. Not recommended. See **Geotextile Silt Fence** or **Stone Check Dam** measures.

Catch Basins in Swales on Slopes: Not recommended. See **Geotextile Silt Fence** or **Stone Check Dam** measures.

Catch Basins in Depressions or Low Spots (yard drains): Encircle catchbasin (see **Figure HB-3**).

Culvert Inlets: Not recommended. See **Geotextile Silt Fence** measure.

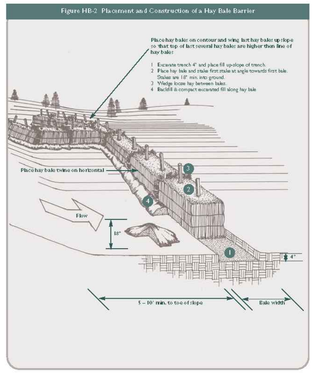
Culvert Outlets: Not recommended. Use **Temporary Sediment Trap** and/or **Stone Check Dam** measures.

Pumping Settling Basin: See **Pumping Settling Basin** measure.

***Installation* (see Figure HB-2)**
Trench excavation: Excavate a trench as wide as the bales and at least 4 inches deep. Each end of the trench should be wedged upslope so that the bottom of the last bale is higher than the top of the lowest hay bale in the barrier.

1 HAYBALE BARRIER
Scale: NTS

Figure HB-2 Placement and Construction of a Hay Bale Barrier



J.I.- Sediment Impoundments, Barriers and Filters

Geotextile Silt Fence (GSF)

Definition
A temporary sediment barrier consisting of a geotextile fabric pulled taut and attached to supporting posts and entrenched.

Purpose
- To intercept and retain sediment from disturbed areas.
- To decrease the velocity of sheet flows and low volume concentrated flows.

Applicability
- Below small disturbed areas where the contributing drainage area (disturbed and undisturbed) is less than 1 acre in size.
- At storm water drainage inlets and catch basin where sedimentation will reduce the capacity of storm drainage systems or adversely affect adjacent areas, watercourses and other sensitive areas.
- Not for use in areas where rock, frozen ground or other hard surface prevents proper installation of the barrier (see Special Case Combinations in **Stone Check Dam** measure).
- Prohibited from use in drainageways whose flow is supported by ground water discharge.

Planning Considerations
See Planning Considerations for Sediment Impoundments, Barriers and Filters Functional Group. When used at a culvert outlet, plan to install the geotextile silt fence before the start of construction and complete the installation of the required outlet protection before the culvert is made functional. It is preferable to control sediment at the inlets rather than at the outlet. Use at outlets should be limited to situations where inlet controls are not possible or to act as a backup to inlet controls.

Specifications

Materials
Geotextile fabric: shall be a pervious sheet of polypropylene, nylon, polyester, ethylene or similar filaments and shall be certified by the manufacturer or supplier as conforming to the requirements shown in **Figure GSF-1**. The geotextile shall be non-cutting, acid and alkali resistant and have sufficient strength and permeability for the purpose intended, including handling and backfilling operations. Filaments in the geotextile shall be resistant to absorption. The filament network must be dimensionally stable and resistant to deformation. The geotextile shall be free of any chemical treatment or coating that will reduce its permeability. The geotextile shall also be free of any flaws or defects which will alter its physical properties. Torn or punctured geotextiles shall not be used.

Supporting posts: shall be at least 42 inches long inside of either 1.5 inch square hardwood stakes or steel posts with projections for fastening the geotextile possessing a minimum strength of 0.5 pound per linear foot.

Placement on the Landscape
Contributing drainage area 1 acre or less. Maximum slope length is as shown in **Figure GSF-2**.

For toe of slope (Figure GSF-3): Locate 5-10 feet down gradient from the toe of slope, generally on the contour with maintenance and sediment removal requirements in mind. Where the contour can not be followed install the fence such that perpendicular wings are created to break the velocity of water flowing along the fence. See **Figure GSF-2** for spacing requirements.

Swales (see **Figure GSF-4**): Locate "U" shape across swale such that the bottoms of both ends of the fence are higher than the top of the lowest section of the fence.

Catch Basins in Swale on Slopes: Locate 2 "U" shapes across swale as above: one immediately up slope from the catch basin and the other immediately down slope from the catch basin.

Catch Basins in Depressions: Encircle catch basin.

Culvert Inlets: Locate in a "U" shape approximately 6 feet from the culvert in the direction of the incoming flow.

2 GEOTEXTILE SILT FENCE
Scale: NTS

Figure GSF-3 Toe of Slope Installations with Wings

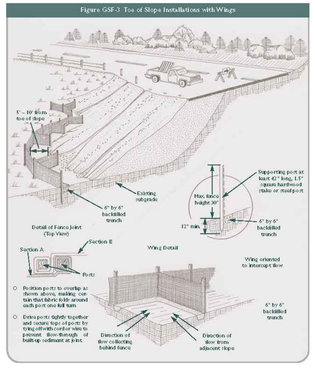
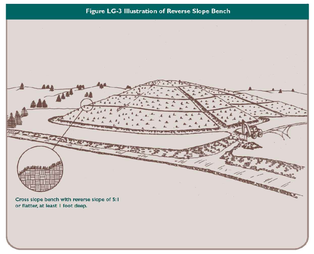
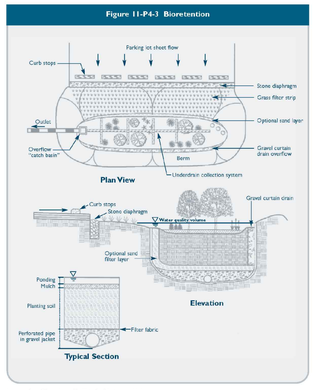


Figure LG-3 Illustration of Reverse Slope Bench



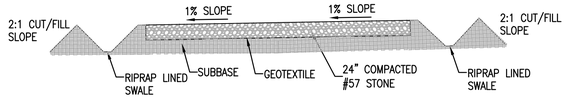
6 REVERSE SLOPE BENCH
Scale: NTS

Figure II-P4-3 Bioretention

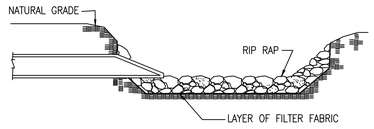


Source: Adapted from Center for Watershed Protection, 2000.

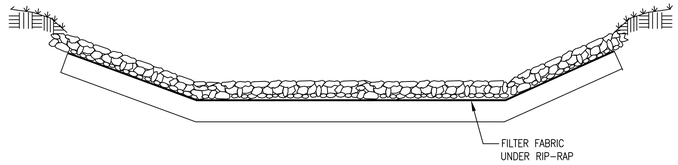
7 BIORETENTION POND
Scale: NTS



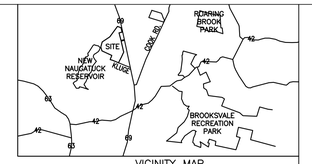
3 CRANE ROAD CROSS SECTION
Scale: 1:10



4 TYPICAL CULVERT PIPE INLET/OUTLET
Scale: NTS



5 TYPICAL RIPRAP LINED SWALE
Scale: NTS



VICINITY MAP

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
PLOT SCALE: 1:1
PLOT DRAWN BY: ASED
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 112, BLOCK 84, LOT 378
PLOT DATE: 03/28/2011 15:53:
FILE NUMBER:
FILE NAME: M:\Projects\BNE Energy Inc\Work\Civil\Site Plan\CSC\SSP_ARCH.dwg

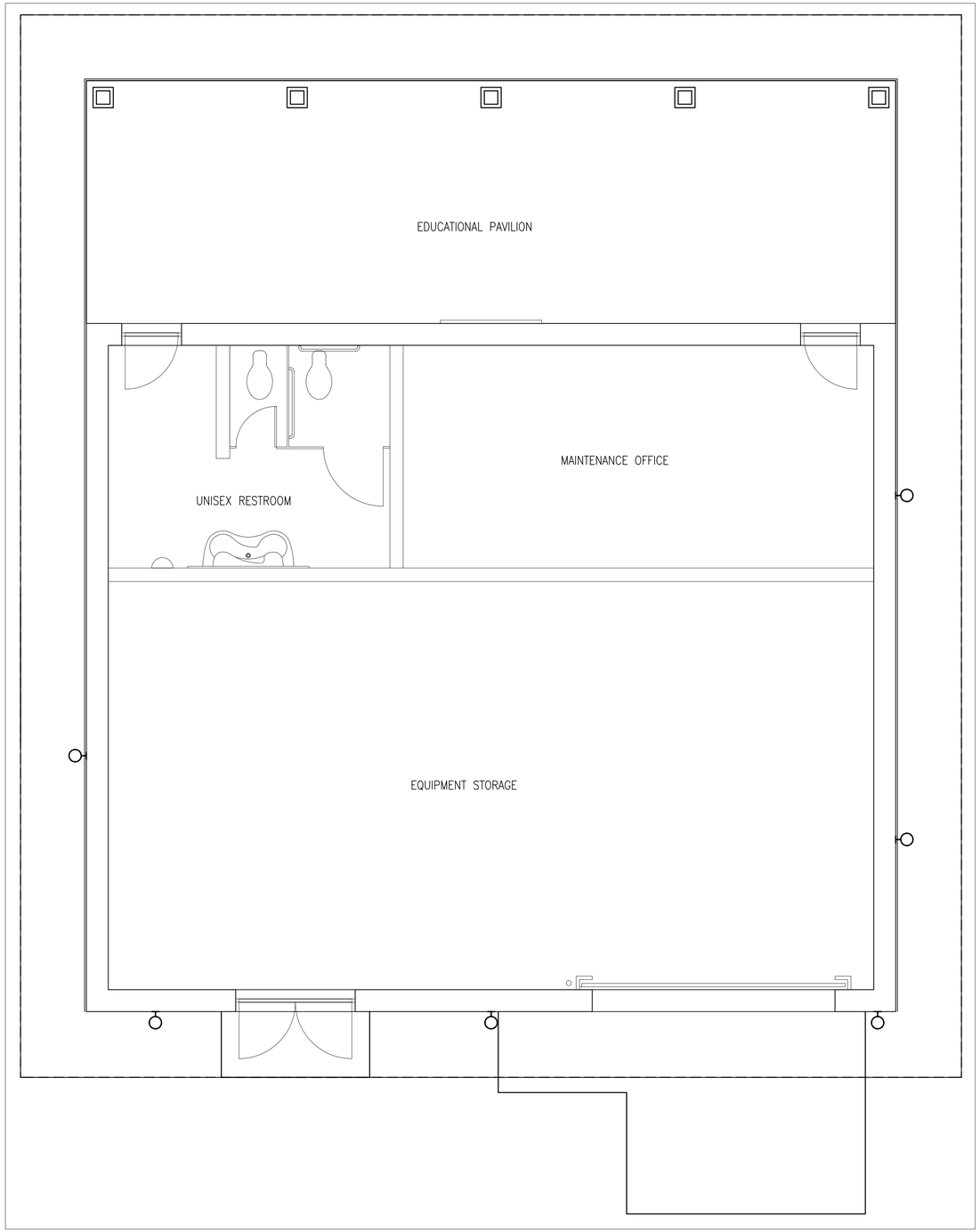
ZAPATA INCORPORATED
6302 FAIRVIEW ROAD #400 PHONE: (704) 364-9040
CHARLOTTE, NC 28210 FAX: (704) 364-9242
ZAPATA@ZAPATAINC.COM www.ZAPATAINC.COM

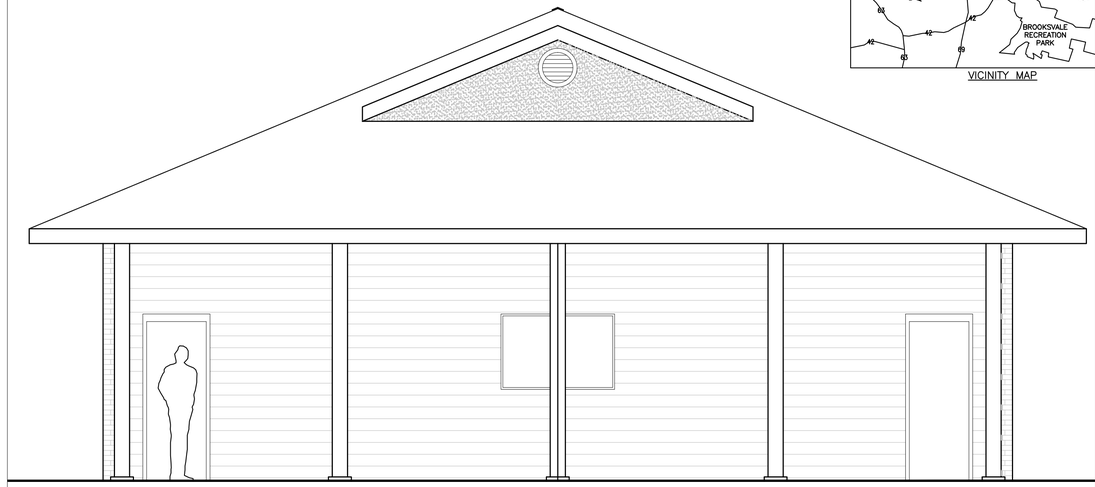
WIND PROSPECT
CONNECTICUT

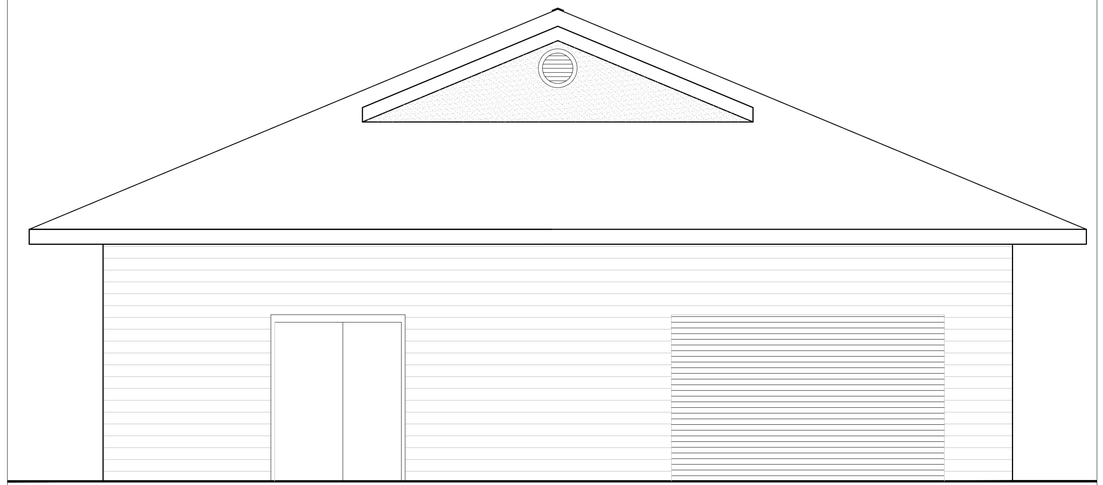
EROSION CONTROL DETAILS

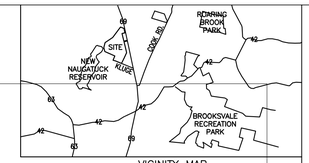
SHEET IDENTIFICATION
C-504

CONCEPTUAL ONLY - FINAL LAYOUT AND
ORIENTATION TO BE DETERMINED









VICINITY MAP

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR.
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DWN BY: RSW
CKD BY: TLK
SUBMITTED BY: ZAPATA INC.
PLOT SCALE: AS SHOWN
SIZE: ANSI D
DATE: 03-28-11
OWNER: BNE ENERGY
PARCEL NO.: TAX MAP 112, BLOCK 96, LOT 178
PLOT DATE: 03-28-11
FILE NUMBER: 1535
FILE NAME: M:\Projects\BE Energy Inc\Solar\CAD\1535-A1 Powerpoint Wind.dwg

ZAPATA ENGINEERING, P.A.
6301 FAIRVIEW ROAD #400 PHONE (704) 556-8540
CHARLOTTE, NC 28210 FAX (704) 556-8242
ZAPATA@ZAPATAINC.COM WWW.ZAPATAINC.COM

WIND PROSPECT
CONNECTICUT

FACILITY SUPPORT BUILDING

SHEET IDENTIFICATION
A-001

VICINITY MAP

CONSULTING ENGINEERS
421 PENMAN STREET, SUITE 200
CHARLOTTE, NC 28203
704-295-4263
AME PROJECT NO.: 09044

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

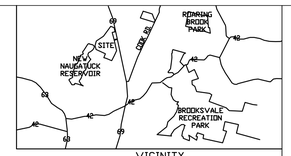
DESIGNED BY: RSS
DWN BY: BEE
CKD BY: PAO
SUBMITTED BY: ZAPATA INC.
PLOT SCALE: AS SHOWN
PLOT DATE: 03-28-11
DATE: 03-28-11
SOLICITATION NO.: -
CONTRACT NO.: -
FILE NUMBER: 1355
SIZE: ANSI D
FILE NAME:

6382 FAIRVIEW ROAD 8400 PHONE: (704) 366-9244
CHARLOTTE, NC 28210 FAX: (704) 366-9264
ZAPATAINC@ZAPATAINC.COM WWW.ZAPATAINC.COM

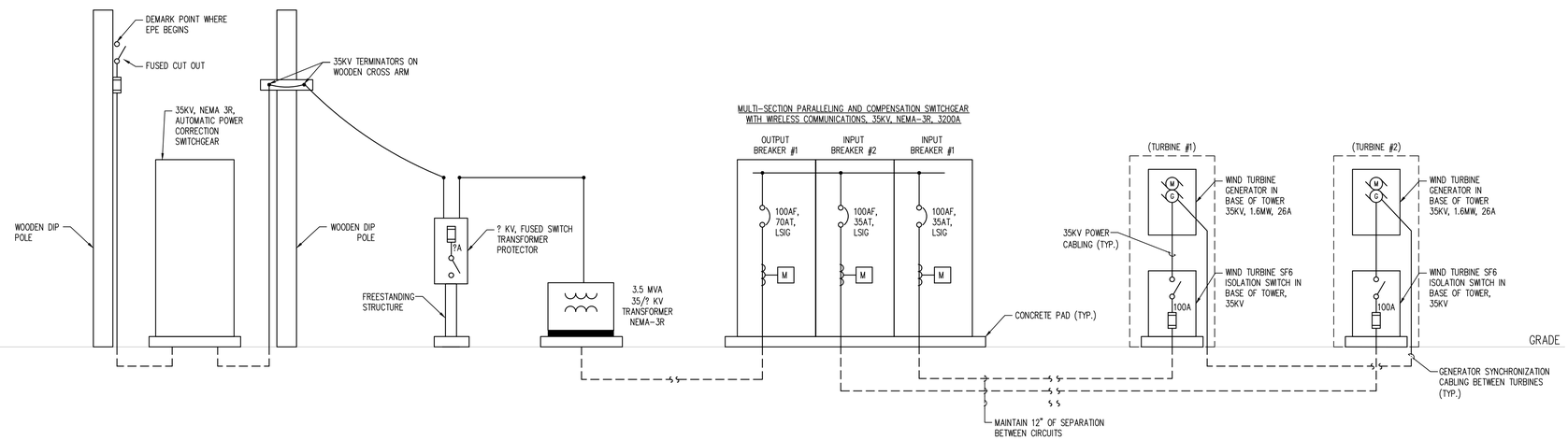
WIND PROSPECT
CONNECTICUT

ELECTRICAL - SITE PLAN

SHEET IDENTIFICATION
E-101



VICINITY MAP



ELECTRICAL – POWER RISER DIAGRAM

SCALE: NO SCALE

BNE Energy Inc.
Producer of green clean energy

MARK	DESCRIPTION	DATE	APPR
4	INCORPORATED REQUESTED REVISIONS	03-28-11	MLC
3	INCORPORATED REQUESTED REVISIONS	03-08-11	MLC
2	INCORPORATED REQUESTED REVISIONS	01-31-11	TLK
1	CONNECTICUT SITING COUNCIL SUBMISSION	11-04-10	TLK

NOT FOR CONSTRUCTION - CONNECTICUT SITING COUNCIL USE ONLY

DESIGNED BY: RSS
DWN BY: BES
CKD BY: DAJ
SUBMITTED BY: ZAPATA INC.
PLOT SCALE: AS SHOWN
PLOT DATE: 03-28-11
SIZE: ARCH D
DATE: 03-28-11
SOLICITATION NO.:
CONTRACT NO.: -
FILE NUMBER: 1355
FILE NAME:

ZAPATA ENGINEERING
6302 FAIRVIEW ROAD 8600 PIERCE (CNY) 298-9540
CHARLOTTE, NC 28210 (704) 525-1560
ZAPATAENGINEERING.COM WWW.ZAPATA.COM

WIND PROSPECT
CONNECTICUT

ELECTRICAL - RISER DIAGRAM

SHEET IDENTIFICATION
E-501