Basin Electric Power Cooperative's Submittal to the South Dakota Public Utilities Commission

Deer Creek Station Project

Post-Construction Requirements

August 2012
Docket #EL09-15

BASIN ELECTRIC POWER COOPERATIVE
A Touchstone Energy® Cooperative

BASIN ELECTRIC POWER COOPERATIVE

1717 EAST INTERSTATE AVENUE
BISMARCK, NORTH DAKOTA 58503-0564
PHONE: 701-223-0441
FAX: 701-557-5336

August 30, 2012

Ms. Patricia Van Gerpen
Executive Director
South Dakota Public Utilities Commission
500 East Capitol
Pierre, SD 57504-5070

Re: Basin Electric Power Cooperative's Deer Creek Station Project
Case No: EL09-15

Dear Ms. Van Gerpen:

Basin Electric Power Cooperative's (**Basin Electric**) Deer Creek Station was placed into commercial operation on August 1, 2012. The stipulation approved by the South Dakota Public Utilities Commission (**SD PUC**) on June 2, 2010, had several conditions which required responses within thirty (30) days of completion of the project. Enclosed please find the Report addressing these items. Basin Electric has provided two hard copies and has also filed the report electronically.

Should you have any questions or require additional information, please contact Mr. Cris Miller, Sr. Environmental Project Administrator at 701.557.5635.

Sincerely,

Gavin McCollam
Deer Creek Project Manager

cm/kz
Enclosures
cc: Casey Jacobson w/o enclosures
Dave Erickson w/o enclosures
Service List

BASIN ELECTRIC POWER COOPERATIVE
DEER CREEK STATION
EL09-15
Completion of Construction Requirements

Background

Basin Electric Power Cooperative's (**Basin Electric**) Deer Creek Station was placed into commercial operation on August 1, 2012. The Stipulation approved by the South Dakota Public Utilities Commission (**SD PUC**) on June 2, 2010, had several conditions which required responses within thirty (30) days of completion of the project. This report will address those items.

Condition 10

Condition 10 provides, "Thirty days upon conclusion of construction, Basin Electric shall file detailed maps with the Commission depicting the final as built project." Appendix A is the as-built transmission line drawings and Appendix B is the general arrangement for the Deer Creek Station.

Condition 19

Condition 19 provides, "The Number of operations employees, broken out by class shall be filed for public information within thirty days upon completion of the project."

Appendix C is the operational work force of the Deer Creek Station.

Condition 21

Condition 21 provides, "the noise levels associated with the Deer Creek Station Project facilities will not exceed the following standards at the nearest occupied, existing residence (determined on the date the permit is issued) not owned by Basin Electric: Daytime L_{10}=60 dbA; Nighttime: L_{10}=55dbA. The point of measurement will be within 100 feet of the nearest occupied residence existing at the beginning of construction, which is not owned by Basin Electric. A post-construction operational noise assessment will be completed by an independent third-party noise consultant, approved by Commission Staff, to show compliance with the noise level. The noise assessment will be performed in accordance with American National Standards Institute (ANSI) B133.8 – Gas Turbine Installation Sound Emissions. "

Appendix D is the Operational Noise Compliance Assessment Study that was done in August 2012. The Study concludes that the Deer Creek Station is operating within the Commission limits.

Condition 27

Condition 27 provides, "Basin Electric shall use appropriate preventative measures to prevent damage to paved roads and to remove excess soil or mud from such roadways. Before commencing construction, the Applicant shall furnish an indemnity bond in the amount of

$800,000 to comply with the requirements of SDCL 49-41-B-38. Such bond shall be issued in favor of, and for the benefit of, all such townships, counties and other governmental entities whose property is crossed by the transmission facilities. The bond shall remain in effect until released by the Commission, which release shall not be unreasonably denied following completion of the construction and repair period. Basin Electric shall give notice of the existence and amount of these bonds to all counties, townships and other governmental entities whose property is crossed by the transmission facilities."

Appendix E includes the Post-Construction Road Assessments from the townships of Richland, Sherman, Lake Hendricks, Scandinavia, Alton and Brookings County Planning and Zoning Director.

The assessments can be summarized as follows:

Basin Electric coordinated with Brookings County and the five affected townships to evaluate the transportation impacts of the Project to the project Area. To facilitate the affects of the Project, Basin Electric contracted with Banner Engineering, of Brookings, SD to perform pre and post-project roadway assessments. The post-project assessments were performed in August 2012.

The townships of Scandinavia, Lake Hendricks and Sherman are satisfied with the condition of the roadways. The townships of Alton and Richland just completed restoration efforts to the affected roadways and have submitted invoices reflecting Basin Electric's financial responsibilities. Basin Electric agrees with these billings and we are currently in process of submitting reimbursement for 100% of those costs to the townships.

Brookings County communicated verbally to Banner Engineering in August 2012, of an area of 482nd Ave that requires improvements to bring the post-project roadway to the County's satisfaction. Basin Electric is responsible to arrange the services of a qualified contractor and to make these repairs and incur the cost for the repairs directly. The coordination efforts are currently underway by Basin Electric to fulfill this requirement.

Please note that for, Brookings County and the Townships of Alton, Sherman, Scandinavia, Lake Hendricks and Richland, there are no outstanding issues known to Basin Electric outside of the two reimbursements and the road repair for 482nd Ave. It is our expectations that the remaining efforts will be satisfactorily completed within the next 45-60 days. These efforts will then bring the post-construction assessment process to completion. At that time, Basin Electric will submit documentation for the three outstanding entities and request that the $800,000 Indemnity Bond be released by the SD PUC.

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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF THE APPLICATION BY	)	
BASIN ELECTRIC POWER COOPERATIVE	)	
FOR AN ENERGY CONVERSION FACILITY	)	**DOCKET NUMBER EL09-015**
PERMIT FOR THE DEER CREEK STATION	)	
PROJECT COMBINED-CYCLE NATURAL	)	
GAS ENERGY CONVERSION FACILITY	)	**CERTIFICATE OF SERVICE**
AND ASSOCIATED INFRASTRUCTURE,	)	
INCLUDING A WATER SUPPY SYSTEM	)	
AND ELECTRIC TRANSMISSION SYSTEM	)	

I hereby certify that the Stipulation Post-Construction Conformance submittal for Docket EL09-015 was served upon all of the parties listed below on the 30th day of August 2012, electronically to their last known e-mail address:

MS PATRICIA VAN GERPEN
patty.vangerpen@state.sd.us

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gmccollam@bepc.com

MS KAREN E CREMER
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MS CASEY JACOBSON
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MS VICKI BUSETH
elections@brookingscountysd.gov

MR BRIAN ROUNDS
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MS PAM LYNDE
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tonysimons@k12.sd.us

MR. GREGG JONGELING
jong@swiftel.net

BASIN ELECTRIC POWER COOPERATIVE

By: _____

Cris Miller
Senior Environmental Project Administrator
1717 East Interstate Avenue
Bismarck, ND 58503-0564
Phone: (701) 557-5635
cmiller@bepc.com

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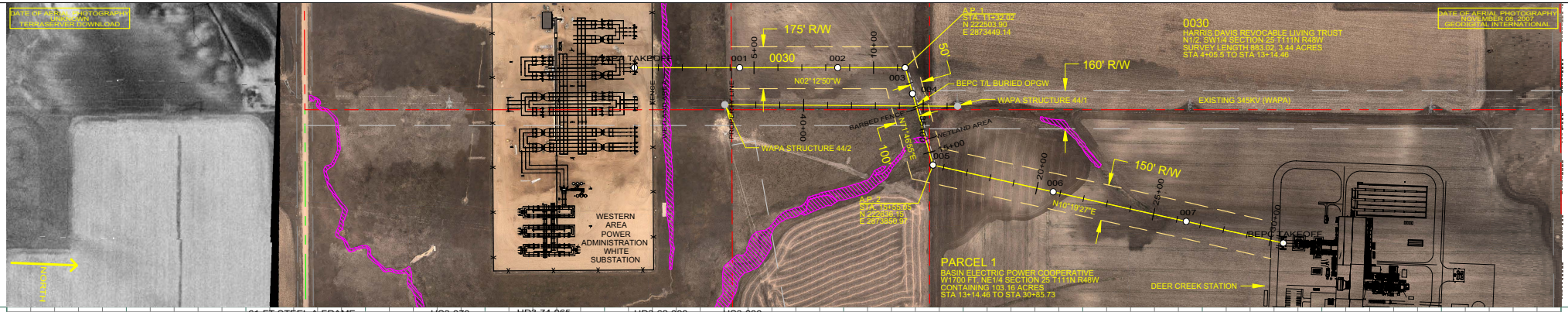
Appendix A

As-built Transmission Line



61-FT STEEL A-FRAME
STA=0+00.00
HT ADJUST=35.00
WAPA TAKEOFF

HS3-075
STA=4+40.00
HT ADJUST=1.00
478-001

HS3-070
STA=8+50.00
HT ADJUST=1.00
478-002

HD3-74-065
STA=11+32.02
HT ADJUST=1.50
478-003
AP 1

TPD-030
STA=12+45.00
HT ADJUST=1.25
478-004

HD3-62-080
STA=15+55.06
HT ADJUST=1.50
478-005
AP 2

HS3-080
STA=20+70.00
HT ADJUST=1.00
478-006

HS3-075
STA=26+40.00
HT ADJUST=1.00
478-007

70-FT STEEL A-FRAME
STA=30+56.22
HT ADJUST=39.00
BEPC TAKEOFF

LEFT PROFILE 30'
RIGHT PROFILE 30'
167°F FINAL CONDUCTOR SAG AT 30 FT GROUND CLEARANCE

STRUCTURE STAKING COORDINATES (ON CENTERLINE)
(SDSPCS NORTH ZONE 4001, NAD83, US SURVEY FT)

STR. NO.	NORTHING	EASTING
478-001	221,812.39	2,873,475.87
478-002	222,222.09	2,873,460.04
478-003	222,503.90	2,873,449.14
478-004	222,539.22	2,873,556.45
478-005	222,636.15	2,873,850.97
478-006	223,142.75	2,873,943.26
478-007	223,703.53	2,874,045.41

200.0 FT. HORIZ. SCALE
20.0 FT. VERT. SCALE

ACTUAL R.S. = 111.1 FT
DESIGN R.S. = 100.0 FT
CONDUCTOR - 5000 LBS NESC HEAVY

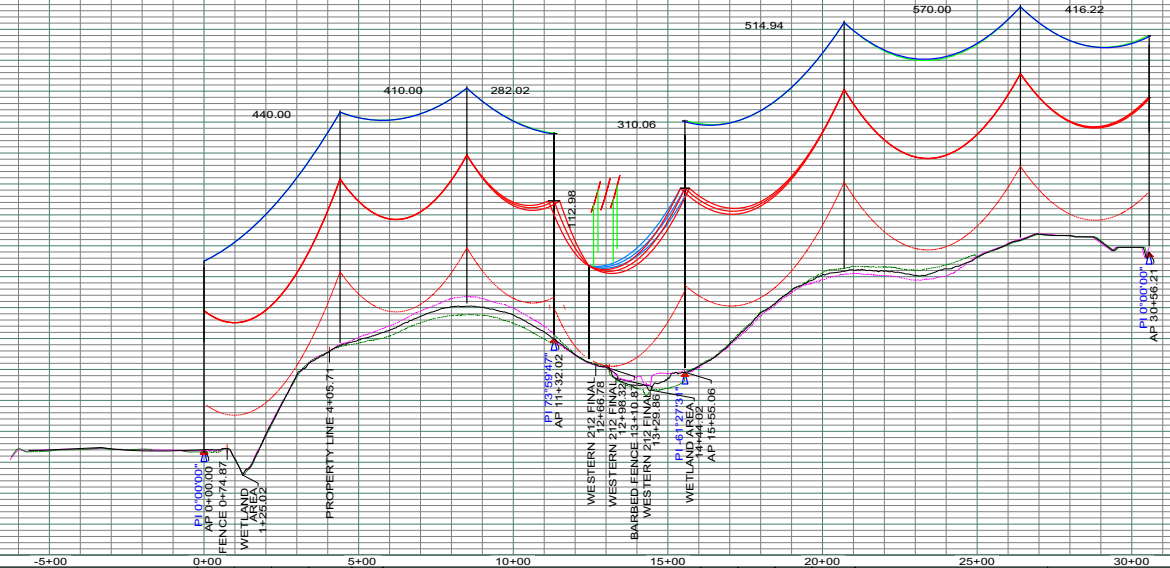
ACTUAL R.S. = 404.6 FT
DESIGN R.S. = 400.0 FT
OHGW - 3000 LBS NESC HEAVY
CONDUCTOR - 5000 LBS NESC HEAVY

WAPA TOS
DEPARTURE ANGLE 00°22'07"

ACTUAL R.S. = 309.1 FT
DESIGN R.S. = 300.0 FT
CONDUCTOR - 5000 LBS NESC HEAVY

ACTUAL R.S. = 512.0 FT
DESIGN R.S. = 500.0 FT
OHGW - 4000 LBS NESC HEAVY
CONDUCTOR - 6500 LBS NESC HEAVY

BEPC TOS
DEPARTURE ANGLE 10°19'27"



LEGEND

WETLAND AREA

OPGW INSTALLATION

OPGW SPLICE AT STR. 003 (DESCENDING STRUCTURE)
OPGW SHALL BE BURIED UNDERGROUND FROM STR. 003 TO STR. 005
ALONG NORTHWEST POLES OF H-FRAME AND THREE-POLE DEADEND STRUCTURES
OPGW SPLICE AT STR. 005 (ASCENDING STRUCTURE)

BEPC CROSSING CRITERIA UNDER WESTERN LINE

60° INITIAL @ 5000 LBS NESC HEAVY
167° FINAL @ 5000 LBS NESC HEAVY

WESTERN CROSSING CRITERIA OVER BEPC LINE

212° FINAL USING INITIAL SAG TO AMBIENT AIR TEMPERATURE
20 FT CLEARANCE LINES (WESTERN OVER BEPC)

CROSSING CLEARANCES BETWEEN WAPA AND BEPC

20.15 FT VERTICAL - WAPA 212° FINAL TO BEPC 60° INITIAL (5000 LBS NESC HEAVY)
20.61 FT VERTICAL - WAPA 212° FINAL TO BEPC 167° FINAL (5000 LBS NESC HEAVY)

3-POLE DEADEND (TPD-030) HORIZONTAL CLEARANCES (NO WIND CONDITION)

27.66 FT - NORTHERN MOST POLE TO WAPA WEST PHASE
20.88 FT - MIDDLE POLE TO WAPA WEST PHASE
14.10 FT - SOUTHERN MOST POLE TO WAPA WEST PHASE

GENERAL 345KV LINE DESIGN INFORMATION (BEPC)

167° FINAL CURVE (BASED ON MAXIMUM RATED PLANT CURRENT OUTPUT OF 725 AMPS) (30-FT GROUND CLEARANCE)

REV	DESCRIPTION	DRWN	DSGN	APPD	DATE
0B	CHANGED STRUCTURE NAMES ON 478-003 AND 478-005 TO "HD3-74-065" AND "HD3-62-080" RESPECTIVELY	CDB	CDB	SW / DGE	09-09-10
0C	DCS TOS MOVED, INTRODUCED ANGLE AT STRUCTURE 478-007	CDB	CDB	DGE	09-27-10
0D	MODIFIED PROFILE TO MATCH BANNER SURVEY FROM NEAR STA. 29+00 TO NEAR STA. 29+40. MOVED STR 007 BACK 50 FT, MOVED STR 006 BACK 10 FT, CHANGED ACTUAL R.S.	CDB	CDB	DGE	11-24-10
0E	ISSUED FOR CONSTRUCTION	CDB	CDB	DGE	12-28-10
0F	CHANGED STRS. 478-001, 478-002, 478-006 & 478-007 FROM DIRECT EMBED. TO STRS W/CONCRETE FOUNDATIONS	CDB	CDB	DGE	01-05-11
0G	REVISED WHITE SUBSTATION TAKEOFF STR HEIGHTS MOVED STR 478-001 BACK 40 FT AND STR 478-002 BACK 10 FT REMOVED AP 2A	CDB	CDB	DGE	02-02-11
1	AS-BUILT	CDB	CDB	DGE	08-01-12

STATE NAME: SOUTH DAKOTA ZONE: SD NORTH 4001

DESIGN INFORMATION

	SIZE	STRINGING TENSION	NESC TENSION	DESIGN R.S.	ACTUAL R.S.
OPGW	AC-71/571	-	MATCH OHGW AT 60° F	VARIES	VARIES
OHGW	3/8" E.H.S. STEEL	-	2,275	VARIES	VARIES
CONDUCTOR	1272.0 KCMIL 45/7 ACSR	-	5,000 6,500	VARIES	VARIES

DESIGN BY: CDB 08-10-10
DRAWN BY: CDB 08-10-10
DESIGN CHK: SW/GCC 08-10-10
DRAFT CHK:
APPROVED: SW/DGE 08-10-10

FACILITY: TRANSMISSION SYSTEM MAINTENANCE
LOCATION UNIT: 478 - 345KV LINE - DEER CREEK TO WAPA WHITE SUBSTATION

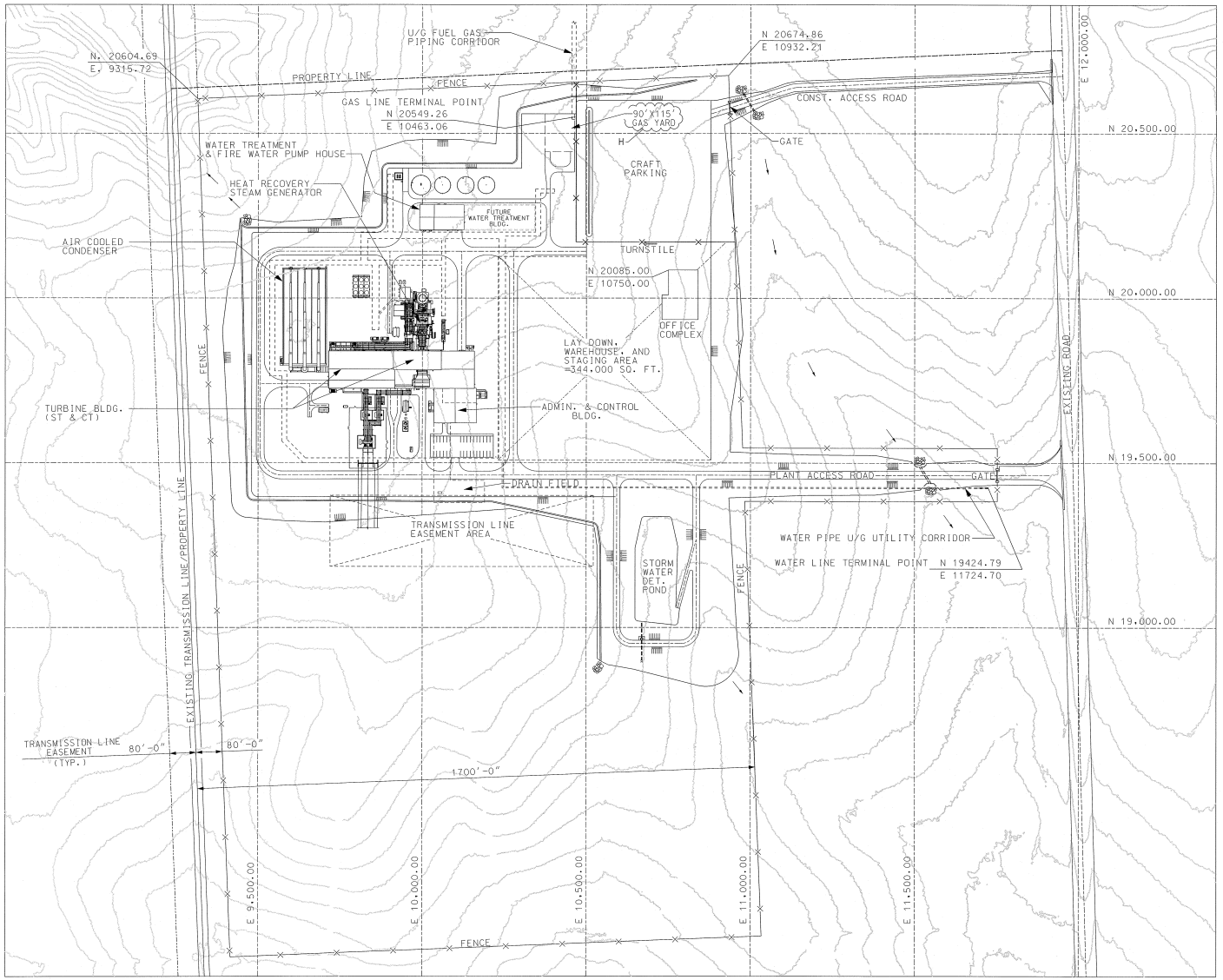
DEER CREEK 345KV TIE LINE
PLAN AND PROFILE
DEER CREEK STATION TO WAPA SUBSTATION

BASIN ELECTRIC POWER COOPERATIVE
1717 EAST INTERSTATE AVENUE
BISMARCK, NORTH DAKOTA
PHONE 701-223-0441

SCALE: AS SHOWN
COUNTY NAME: BROOKINGS
BASIN DRAWING NO.: 478-090-T3-001
REV.: 1

Appendix B

Deer Creek Station General Arrangement Drawings



REFERENCE DRAWINGS:

1. DCS-GA-100-0001 GENERAL ARRANGEMENT/PERSPECTIVE VIEW
2. DCS-GA-100-0003 GENERAL ARRANGEMENT/POWER BLOCK AREA
3. DCS-GA-100-0004 GENERAL ARRANGEMENT/TURBINE BUILDING GRADE FLOOR PLAN
4. DCS-GA-100-0005 GENERAL ARRANGEMENT/TURBINE BUILDING OPERATING FLOOR PLAN
5. DCS-GA-100-0006 GENERAL ARRANGEMENT/ELEVATION VIEW SECTION C-C & D-D
6. DCS-GA-100-0007 GENERAL ARRANGEMENT/ELEVATION VIEW SECTION A-A
7. DCS-GA-100-0008 GENERAL ARRANGEMENT/ELEVATION VIEW SECTION B-B
8. DCS-GA-100-0009 GENERAL ARRANGEMENT/ADMINISTRATION & CONTROL BUILDING

LEGEND:
= BERM

PLANT NORTH
TRUE NORTH

NOTES :

1. TRUE NORTH COINCIDES WITH PLANT NORTH.
2. COORDINATE SYSTEM REFLECTS PLANT COORDINATE SYSTEM. SEE NOTE 3 FOR STATE COORDINATE REFERENCE POINT.
3. THE REFERENCE POINT AT THE CENTER OF UNIT 1 STACK IS SET AT PLANT COORDINATES N 20.000.00 / E 10.000.00, AND IS EQUIVALENT TO STATE COORDINATES N 224.615 / E 2.874.285.00.

150' 50' 0 150' 300'
GRAPHIC SCALE (FT)

REV.	DESCRIPTION	PREPARED	REVIEWED	APPROVED	DATE
H	ISSUED FOR INFORMATION	G. HENSHAW	V. SHAH	-	03-15-2011
G	ISSUED FOR INFORMATION	A. MALDONADO	V. SHAH	B. YEE	09-30-2010
F	ISSUED FOR PERMIT	A. MALDONADO	V. SHAH	B. YEE	06-03-2010

Sargent & Lundy LLC

FILE NAME: DCS-GA-100-0002.DGN

CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S/INSTALLER'S PERSONNEL (OR THAT OF ITS SUBCONTRACTOR(S)) PERFORMING THE WORK.

FACILITY: DEER CREEK STATION
LOCATION/UNIT: 1
CONTRACT/DESIGNATION: S&L PROJECT 12214

GENERAL ARRANGEMENT
SITE DEVELOPMENT

BASIN ELECTRIC POWER COOPERATIVE
Your Touchstone Energy® Partner

DESIGN BY	V. SHAH	03-20-2009
DRAWN BY	A. MALDONADO	03-20-2009
DESIGN CHK.	E. DUCDUC	03-20-2009
CONST CHK.	V. SHAH	03-20-2009
APPROVED	B. YEE	03-20-2009

SCALE: 1" = 150'-0"
VENDOR/ORIGINATED FROM: N/A
VENDOR DRAWING NO. N/A
ORIGINAL REV. N/A
BASIN DRAWING NO. DCS-GA-100-0002
REV. NO. H

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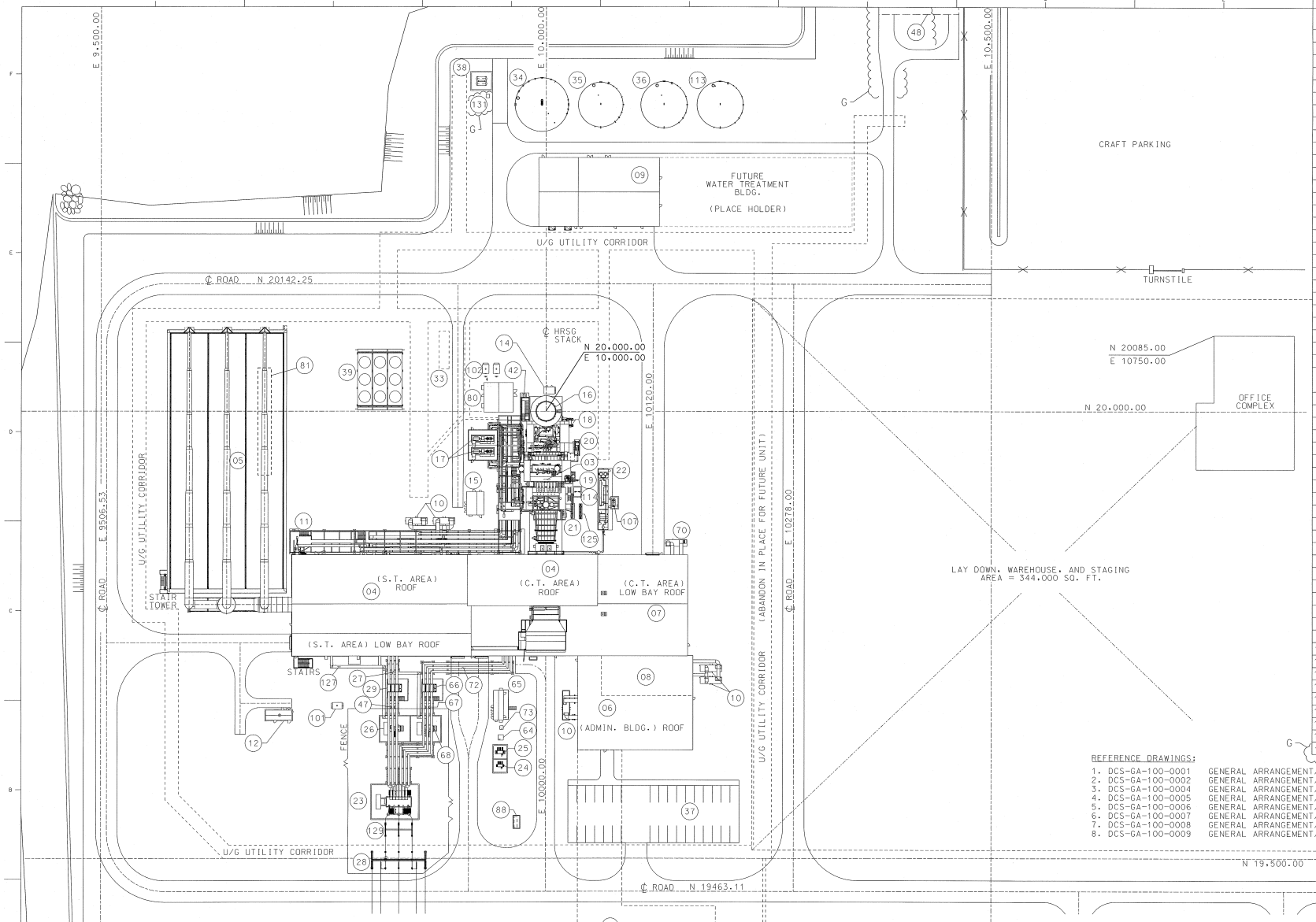

LEGEND	
03	HEAT RECOVERY STEAM GENERATOR
04	TURBINE BUILDING (ST & CT)
05	AIR COOLED CONDENSER (ACC)
06	ADMINISTRATION BUILDING
07	MAINTENANCE SHOP
08	CONTROL ROOM
09	WATER TREATMENT & FP PUMP HOUSE
10	AIR CONDITIONING UNIT
11	PIPERACK
12	EMERGENCY DIESEL GENERATOR
14	CEMS BUILDING
15	CHEM. FEED/SAMPLING ENCLOSURE
16	STACK
17	BOILER FEED PUMPS
18	HRSG RECIRC PUMP SKID
19	HRSG BLOWDOWN TANK
20	AMMONIA SKID
21	HRSG DUCT BURNER SKID
22	FUEL GAS CONDITIONING UNIT
23	GENERATOR STEP-UP TRANSFORMER
24	CTG EXCITATION TRANSFORMER
25	CTG ISOLATION TRANSFORMER
26	STG UNIT AUX. TRANSFORMER
27	STG ISOLATED PHASE BUS DUCT
28	DEAD END STRUCTURE
29	STG GENERATOR CIRCUIT BREAKER
33	OILY WATER SEPARATOR
34	SERVICE WATER & FIRE PROTECTION WATER STORAGE TANK
35	DEMIN. WATER STORAGE TANK
36	RAW WATER STORAGE TANK
37	PARKING AREA
38	AMMONIA STORAGE TANK/CONTAINMENT
39	CCW HEAT EXCHANGER
42	MAINTENANCE ELEVATOR
45	SEPTIC TANK
47	STG 1PBD GROUNDING TRANSFORMER
48	FUEL GAS YARD
64	CTG DC LINK REACTOR
65	CTG LCI/EXCITATION ENCLOSURE
66	CTG GENERATOR CIRCUIT BREAKER
67	CTG 1PBD GROUNDING TRANSFORMER
68	CTG UNIT AUX. TRANSFORMER
70	AIR HANDLING UNIT
72	CTG ISOLATED PHASE BUS DUCT
73	CTG AC LINK REACTOR
80	HRSG ELECT. BLDG.
81	ACC ELECT. EQUIP. BLDG.
88	H2 BOTTLE STORAGE (3'X12')
101	SUS-RESERVE TRANSFORMER
102	TRANSFORMERS
107	FUEL GAS LIQUID DRAIN TANK (PIT)
113	WASTE WATER TANK
114	HRSG BLOW DOWN TANK DRAIN SUMP PIT
125	FUEL GAS PRESSURE REDUCING STATION
127	NON-SEG BUS DUCT
129	MOTOR OPERATED DISCONNECT SWITCH
131	EYEWASH STATION

REFERENCE DRAWINGS:

1. DCS-GA-100-0001 GENERAL ARRANGEMENT/PERSPECTIVE VIEW
2. DCS-GA-100-0002 GENERAL ARRANGEMENT/SITE DEVELOPMENT
3. DCS-GA-100-0004 GENERAL ARRANGEMENT/TURBINE BUILDING GRADE FLOOR PLAN
4. DCS-GA-100-0005 GENERAL ARRANGEMENT/TURBINE BUILDING OPERATING FLOOR PLAN
5. DCS-GA-100-0006 GENERAL ARRANGEMENT/ELEVATION VIEW SECTION C-C & D-D
6. DCS-GA-100-0007 GENERAL ARRANGEMENT/ELEVATION VIEW SECTION A-A
7. DCS-GA-100-0008 GENERAL ARRANGEMENT/ELEVATION VIEW SECTION B-B
8. DCS-GA-100-0009 GENERAL ARRANGEMENT/ADMINISTRATION & CONTROL BUILDING

NOTES :

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REV.	DESCRIPTION	PREPARED	REVIEWED	APPROVED	DATE
G	ISSUED FOR INFORMATION	G. HENSHAW	V. SHAH	-	03-15-2011
F	ISSUED FOR PERMIT	A. MALDONADO	V. SHAH	B. YEE	09-30-2010
E	ISSUED FOR INFORMATION	G. HENSHAW	V. SHAH	B. YEE	06-18-2010

Sargent & Lundy LLC

FILE NAME: DCS-GA-100-0003.DGN

CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S/INSTALLER'S PERSONNEL (OR THAT OF IT'S SUBCONTRACTORS!!) PERFORMING THE WORK.

FACILITY: DEER CREEK STATION
LOCATION/UNIT: 1
CONTRACT/DESIGNATION: S&L PROJECT 12214

GENERAL ARRANGEMENT POWER BLOCK AREA

BASIN ELECTRIC POWER COOPERATIVE
Your Touchstone Energy® Partner

DESIGN BY	V. SHAH	02-27-2009
DRAWN BY	A. MALDONADO	02-27-2009
DESIGN CHK.	E. DUCDUC	02-27-2009
DRFT CHK.	V. SHAH	02-27-2009
APPROVED	B. YEE	02-27-2009

SCALE: 1" = 50'-0"
VENDOR/ORIGINATED FROM: N/A
VENDOR DRAWING NO. N/A
ORIGINAL REV N/A
BASIN DRAWING NO. DCS-GA-100-0003
REV. NO. G

dcs-ga-100-0003.dgn 3/14/2011 4:51:46 PM

Appendix C

Deer Creek Station

Work Force Staffing

Deer Creek Station Staffing	
Plant Superintendant	1
Administrative Assistant	1
Maintenance Supervisor	1
Operations Supervisor	1
Mechanical Engineer	1
Lead Operator Technician	5
Operator Technicians	10
Mechanical Technician	2
Mechanical Helper	2
Electrical/Instrument & Control Technician	4
Total	28

Appendix D

Deer Creek Station

Operational Noise Compliance Assessment Study

Report on the

Operational Noise Compliance Assessment Study

Deer Creek Station Project

Brookings County, South Dakota

Basin Electric Power Cooperative

Project No. 51236

August 2012

OPERATIONAL NOISE COMPLIANCE ASSESSMENT STUDY

DEER CREEK STATION PROJECT
BROOKINGS COUNTY, SOUTH DAKOTA

prepared for

Basin Electric Power Cooperative

August 2012

Project No. 51236

prepared by

Burns & McDonnell Engineering Company, Inc.
Kansas City, Missouri

Executive Summary

An operational facility noise evaluation was performed for the Basin Electric Power Cooperative Deer Creek Station located near Elkton, South Dakota. The purpose of this evaluation was to compare noise levels of the operational Deer Creek Station to the South Dakota Public Utilities Commission (Commission) noise limits for the facility.

Operational sound level measurements were taken on July 30th, 2012 near the new Deer Creek Station utilizing the previously prepared Noise Measurement Protocol (Appendix A). Five locations in the vicinity of the facility served as measurement points (MPs). These points were conducted at the pre-construction survey locations. The facility was running at full load during all measurements. Because none of the operational sound levels exceeded the Commission's limits at the nearest residence, the facility was determined to be in compliance with the established noise limits for the facility.

* * * * *

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* * * * *

1.0 INTRODUCTION

Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) was contracted as a third-party independent contractor by Basin Electric Power Cooperative (Basin) to conduct an operational facility noise evaluation for the Deer Creek Station near Elkton, South Dakota. The facility includes a natural-gas fired combustion turbine, a heat recovery steam generator (HRSG), a steam turbine, an air cooled condenser, and other associated equipment. Residences are located to the northeast, southeast, south, and southwest of the facility. Figure 1-1 shows the facility location.

A pre-construction sound study titled *Noise Technical Report: Deer Creek Station Project* (Burns & McDonnell 2009) was performed in May of 2009 to determine the potential noise levels of the proposed facility at neighboring residences and the site fence line. That study documented the existing ambient sound levels in the area and the noise levels of the proposed project through the use of predictive modeling.

As part of the South Dakota Public Utilities Commission (Commission) permitting process, Basin is required to demonstrate compliance with the Commission's noise limits for the facility. This report details the methodology used to obtain the operational Deer Creek Station noise levels and then compares those noise levels to the Commission's noise limits.

* * * * *

Figure 1-1
Deer Creek Station Location
Operational Noise Compliance
Assessment Study

2.0 APPLICABLE REGULATIONS

The Commission set forth in stipulation EL09-015 that the Deer Creek Station has a L_{10} (sound level that is exceeded 10 percent of the time) sound limit of 60 dBA during the day and 55 dBA at night. These limits apply only to the noise measured at the nearest occupied residence to the facility.

Compliance will be demonstrated at MP5, as it is the nearest occupied residence. Measurements at the other four locations were performed for informational purposes.

* * * * *

3.0 OPERATIONAL NOISE LEVELS

An operational noise survey was conducted for the Deer Creek Station after construction was completed. Sound level measurements were taken at five locations (MP3 through MP7, as shown in Figure 3-1) in the surrounding area of the facility between 8:00 A.M. and 9:00 A.M., 12:30 P.M. and 1:30 P.M., and 5:30 P.M. and 6:30 P.M. on July 30, 2012. The measurements were conducted in parallel with the required Reasonable Accuracy Test Audit (RATA) for air emissions at the facility. The facility was running at full load during each measurement period. The combined-cycle combustion turbine has a duct burner that may increase power output on certain occasions to meet peak demand. The duct burner was off during the sound testing. Table 3-1 contains the operational loads during the measurement periods.

Table 3-1: Deer Creek Station Operating Loads during Measurement Periods

Time	Facility Load (MW)
8:00 A.M. - 9:00 A.M.	229-226
12:30 P.M. - 1:30 P.M.	221
5:30 P.M. - 6:30 P.M.	226-228

For all measurements, Burns and McDonnell personnel followed the noise testing protocol which is attached in Appendix A. Specifically, measurements were made using a Larson-Davis Model 824 sound level meter (Type I sound level meter as specified in American National Standards Institute S1.4-1984/85A). The sound level meter was calibrated before and after each set of measurements. None of the calibration level changes exceeded ± 0.3 dB. The meter was mounted on a tripod approximately five feet above ground with the microphone directed toward the facility. A windscreen was used at all times on the meter.

Weather conditions were ideal for performing noise measurements. Between the morning and midday measurements, the wind shifted from blowing out of the southeast to blowing out of the north. The change in wind direction caused the facility to become more audible at some locations and less audible at other locations. For all measurement points, except MP7, the wind direction had a noticeable effect on the noise from the facility. When the measurement point was downwind of the facility, the facility was clearly audible. Conversely, when the measurement point was upwind of the facility, the facility noise could not be heard. Approximate ambient meteorological conditions during the noise survey are displayed in Table 3-2.

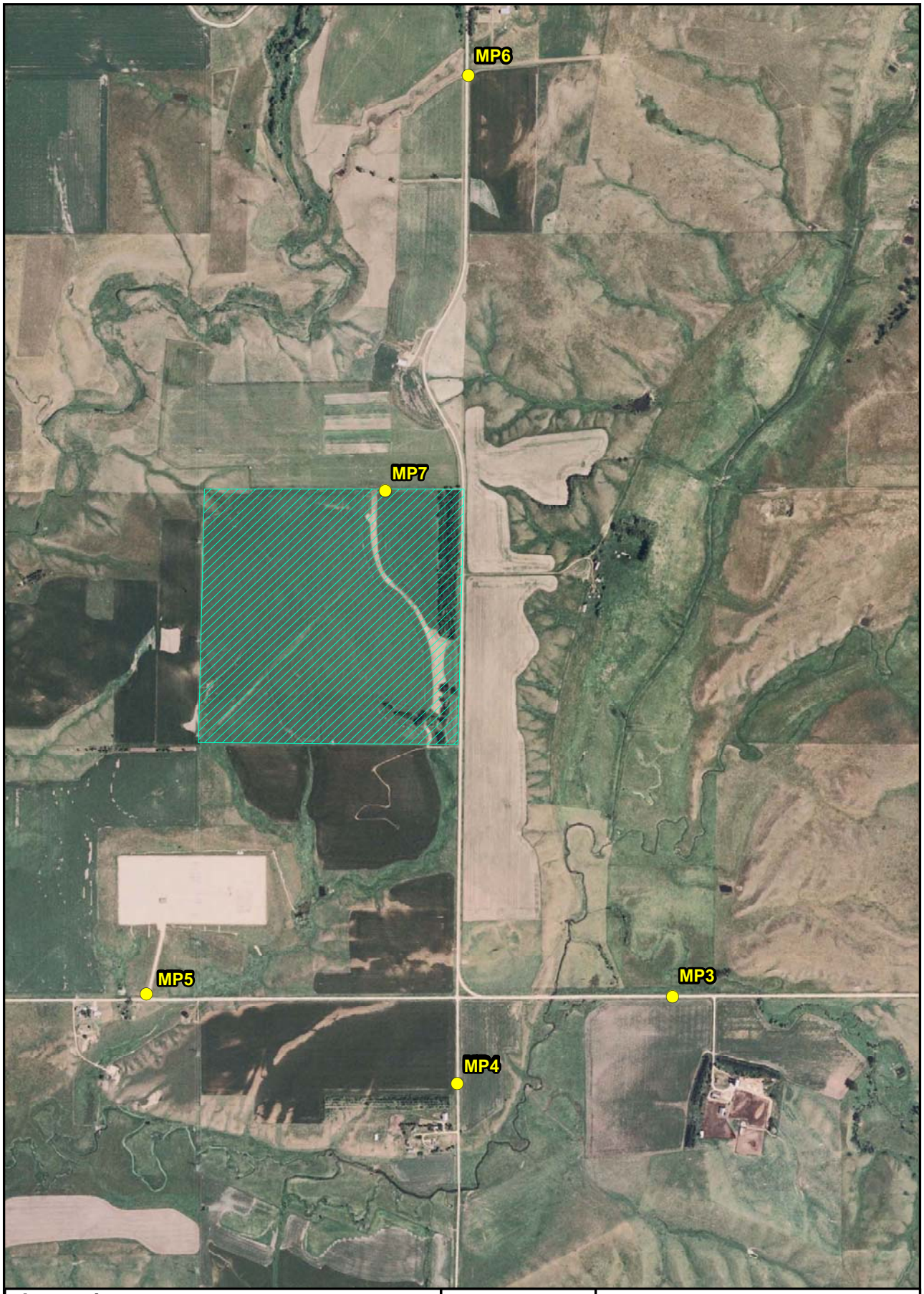


Figure 3-1
Measurement Point Locations
Operational Noise Compliance
Assessment Study

Table 3-2: Meteorological Conditions During Noise Measurements

Date	Time Period	Temperature (°F)	Relative Humidity (%)	Wind Direction[1]	Wind Speed (mph)	Sky Cover
July 30, 2012	8:00 A.M. to 9:00 A.M.	70 to 75	73 to 87	Southeast	1-3, gusts to 6	Mostly cloudy; foggy
July 30, 2012	12:30 P.M. to 1:30 P.M.	87 to 90	36 to 39	North	3-7, gusts to 11	Partly cloudy
July 30, 2012	5:30 P.M. to 6:30 P.M.	84 to 85	36 to 40	North	4-7, gusts to 13	Partly cloudy

[1] Direction from which the wind is blowing.

Five-minute measurement samples were taken at each of the five locations to document steady-state, operational sound levels. The measured A-weighted L_{eq} and L_{10} values are given in Table 3-3. Efforts to minimize extraneous noise were made, such as waiting for vehicular traffic to pass before starting the measurement period. Some extraneous noise was unavoidable and is noted in Table 3-3.

Table 3-3: Post Operational Ambient Noise Levels

Time Period	Measurement Point	Measured L_{eq} (dBA)	Measured L_{10} (dBA)	Extraneous Noises
8 AM to 9 AM	MP3	44.1	44.7	Cow moos nearby, insect noise constant and dominant when cows not mooing, facility audible but faint, birds, car on distant gravel road (x3)
	MP4	43.5	45.6	Loud birds in nearby tree cove, insects, facility barely audible
	MP5	38.3	39.0	Birds and insects dominant noise source, facility not audible at most times- very faint on a couple 10-20 second spans, cow moos
	MP6	45.7	46.0	Birds and crickets dominant noise sources, cow moos, facility noise audible as distant hum
	MP7	50.0	51.5	Birds and crickets, soft wind rustle, facility audible and dominant noise source
12:30 PM to 1:30 PM	MP3	41.5	44.5	Facility dominant noise source, few birds and insects, few wind gusts caused vegetation rustle to be loudest noise source during each gust
	MP4	40.1	41.5	Facility noise dominant except during period of stronger winds causing loud vegetation rustling, few insects and birds
	MP5	42.7	44.5	Facility dominant noise source except during strong wind gusts, insects, occasional bird chirping
	MP6	38.6	40.3	Birds, insect noise dominant source, wind rustle, very faint hum of facility barely audible
	MP7	46.2	47.7	Facility noise dominant, wind rustle, birds and insects
5:30 PM to 6:30 PM	MP3	44.1	45.1	Birds and insects dominant, facility noise constant and audible, wind rustle
	MP4	43.9	45.9	Facility noise dominant, faint sound of birds and insects, wind rustle, distant cars passing toward middle of measurement period (x2), cow moos
	MP5	48.5	46.7	Insect noise dominant, facility noise constant, occasional loud wind rustle, birds, car drove by at very end (last 5 seconds)
	MP6	42.2	44.4	Insect noise dominant, birds, distant hum of facility audible occasionally, tractors working in field ~500m away, wind rustle
	MP7	45.2	46.7	Facility noise and insect noise both significant, facility noise seems to be the dominant source, soft wind rustle

The noise levels varied at each measurement point depending on the proximity of animals (livestock, birds, insects, etc), distance from facility, wind speed, and wind direction. Ambient A-weighted L_{eq} sound levels ranged from 38.3 dBA at MP5 to 50.0 dBA at MP7. The highest L_{10} sound level was measured to be 51.5 dBA at MP7, the measurement point (not a residence) at the facility fence line. The highest L_{10} value measured for MP5, which is the closest residence to the facility and is thus used to determine compliance with the limits from the Commission, was 46.7 dBA.

* * * * *

4.0 COMPLIANCE DEMONSTRATION

Sound levels at the nearest residence to the facility (MP5) were monitored to confirm that the facility is operating within the Commission limits. The maximum measured L_{10} noise level was 46.7 dBA during the evening measurement set. This is well below both the L_{10} daytime requirement of 60 dBA and the nighttime requirement of 55 dBA. There is generally less extraneous noise at night, so sound levels are usually at their lowest at night and highest during the day when human activity is at its highest. Additionally, since the facility sound levels should be fairly constant throughout a 24-hour period, measurements taken during the daytime would over-estimate sound levels during the nighttime due to the lack of extraneous noises. Since the sound levels measured near the Deer Creek Station were lower than the nighttime limit during the day, the facility would not exceed the nighttime limit.

As mentioned earlier, measurements were taken when the facility was at full load, but the duct burner was not operational. A duct burner can be placed in a HRSG to increase the output of the steam turbine by increasing the combustion turbine exhaust temperature. There are only a few operational differences between having a duct burner operational and not having one operational. Boiler feed pumps, condensate pumps, and the duct burner valve train operate much closer to capacity, and potentially at higher speeds when a duct burner is firing. Also, the cooling air fans for the duct burner flame scanners, which are relatively small blowers, would be running at the base of the HRSG during duct burner operation. While there is the potential for increased localized sound levels (directly adjacent to the above-mentioned equipment), the additional operation described would not noticeably increase sound levels at any of the measurement points and cannot physically increase the sound levels by the 8 decibels necessary to cause a violation of the PUC limits at MP5. It would require an additional sound source as loud as the entire facility to add 3 decibels at MP5. Therefore, it was determined that sound levels from the facility at full load with duct burner firing are below the Commission's noise requirements and the project is in compliance.

* * * * *

5.0 CONCLUSION

An operational facility noise evaluation was performed for the Basic Electric Power Cooperative Deer Creek Station. The noise evaluation consisted of an operational noise survey to document the sound levels of the operational facility.

The South Dakota Public Utilities Commission has established limits on the noise emissions for the Deer Creek Station. In accordance with the Commission's limits, the facility is subject to L_{10} sound level limits of 60 dBA at the nearest residence during the day and 55 dBA at night.

The measured operational noise levels at residential locations varied slightly, but all of the sound levels were below the Commission's limits. At the nearest residence to the facility (MP5), the sound levels reached a maximum L_{10} of 46.7 dBA during the day, well below the day and nighttime limits. While the duct burner was not firing during the measurement periods, the increase in sound that would be created by the additional operating equipment cannot physically increase the L_{10} sound levels by the 8 decibels it would take to create an exceedance. Therefore, the facility is determined to be in compliance with the established limits for noise.

* * * * *

APPENDIX A – DEER CREEK STATION POST-CONSTRUCTION NOISE MEASUREMENT PROTOCOL

OPERATIONAL NOISE TESTING PROTOCOL

DEER CREEK STATION PROJECT

prepared for

Basin Electric Power Cooperative

July 2012

Project No. 51236

prepared by

Burns & McDonnell Engineering Company, Inc.
Kansas City, Missouri

TABLE OF CONTENTS

1.0 SCOPE

This document provides the noise testing protocol to be employed for measuring and evaluating the ambient post-construction far-field sound emissions from the Basin Electric Power Cooperative – Deer Creek Station (Project). This protocol discusses the methodology to be employed for the post-construction noise measurements. Measured noise levels will be compared to the limits set forth by the South Dakota Public Utilities Commission (PUC) in the Project's PUC Stipulation. The resulting final A-weighted L_{10} and L_{eq} sound levels after corrections for environmental influences, instrumentation tolerances and measurement uncertainty, shall be reported. The results of these efforts will be detailed in a final noise report document.

Additions, deletions, or alterations to this procedure must be agreed upon between Basin Electric Power Cooperative and Burns & McDonnell Engineering, Inc. (BMcD) prior to the actual noise testing.

2.0 PERMIT LIMITS

Per the Public Utilities Commission of The State of South Dakota Stipulation EL09-015, signed on May 10, 2010, the Deer Creek Station shall meet the following noise standard:

"The noise levels associated with Deer Creek Station Project facilities will not exceed the following standards at the nearest occupied, existing residence (determined on the date the permit is issued) not owned by Basin Electric: Daytime: L_{10} – 60 dBA; Nighttime: L_{10} – 55dBA. The point of measurement will be within 100 feet of the nearest occupied residence existing at the beginning of construction, which is not owned by Basin Electric. A post-construction operation noise assessment will be completed by an independent third-party noise consultant, approved by Commission Staff, to show compliance with the noise level. The noise assessment will be performed in accordance with American National Standard Institute (ANSI) B133.8 – Gas Turbine Installation Sound Emissions."

Therefore, at the nearest residence (denoted as MP5 in Appendix A), the noise level emanating from the Deer Creek Station shall not exceed an L_{10} of 60 dBA during the daytime nor an L_{10} of 55 dBA during the nighttime. Compliance will be determined only at MP5. Other measurement point sound levels will be measured for the record.

3.0 INSTRUMENTATION

3.1 General

3.1.1 Sound Level Meter

Sound level measurements shall be made with a sound level meter that meets the requirement of the latest revision of ANSI S1.4 for a Type 1, Precision Sound Level Meter. A one and one-quarter centimeter random-incidence microphone shall be used. The sound level meter shall have the capability of determining the equivalent A-weighted and one-third octave band frequencies sound levels over a specified measurement period.

A microphone windscreen shall be used for all measurements. The windscreen shall not affect the response of the sound level meter by more

than ± 0.5 decibel (dB) at frequencies below 2,000 Hertz (Hz) and ± 1.0 dB at frequencies from 2,000 Hz to 10,000 Hz.

3.1.2 Anemometer

Wind speed, atmospheric temperature, and relative humidity shall be recorded during each set of measurements when measuring far-field noise levels.

3.2 Calibration

Instruments shall be calibrated using a portable sound level calibrator with accuracy of ± 0.5 dB. The standard reference sound pressure shall be 20 microPascals.

Calibrations shall be performed before and after each measurement series and upon any significant change in recording conditions (i.e. battery change operation). The calibration frequency shall be 1,000 Hz. The calibrator shall be checked annually to verify compliance with the U.S. National Institute of Standards and Technology specifications.

A calibration level change exceeding ± 1.0 dB will require that the measurement series be repeated.

4.0 NOISE MEASUREMENT PROCEDURE

4.1 General

4.1.1 Qualifications

Sound level measurements shall be measured by an engineer, technician, or acoustical consultant qualified by experience and/or training.

4.1.2 Technique

Sound level measurements shall be made with the sound level meter mounted on a tripod or held in the hand of the observer in such a way that the microphone is at least one-half meter from the observer's body and one and one-half meters from the ground, with the microphone pointed vertically. The angle of incidence of the sound on the microphone shall be as specified by the manufacturer as that angle for which the microphone has the most uniform frequency response. The observer shall not stand between the microphone and the source, and shall stand behind and to one side of the microphone at all times during the actual noise testing periods.

Care shall be exercised to assure that the measurement position is free from excess reflections due to walls, columns, or other equipment, and from significant shadowing effects. Care shall also be taken to minimize the effect of airflow from fans, vent discharges, strong electric or magnetic fields, etc.

The A-weighting filter network shall be used for all sound level measurements, except for the un-weighted octave band sound pressure level measurements.

The equivalent A-weighted sound levels (L_{eq}), L_{10}, and one-third octave band frequency sound levels shall be measured and recorded at each measurement location for all steady sounds.

The measured A-weighted sound levels shall be reported. The "slow" time weighting characteristic will be used since these are environmental noise measurements and not near-field measurements where "fast" weighting is required.

All equivalent and L_{10} A-weighted sound level data shall be visually observed and recorded by reading the digital or analog output of the sound level meter. The data will also be electronically stored such that data analysis can occur at a later time. The measured sound levels will be provided as part of the final report.

Extraneous noise sources (nearby vehicular traffic, birds chirping, etc) will be documented during each measurement.

All final sound level data shall be reported to the nearest tenth of a decibel.

4.1.3 Atmospheric Conditions

Sound measurements shall not be made under any condition that allows the instrumentation to become wet (i.e. when raining or snowing) or when the average wind velocity exceeds 7 mph (3 m/s) measured 5.0 ft (1.5 m) above the ground, unless agreed upon by Basin Electric and the testing personnel.

The atmospheric conditions recorded during the sound measurements will be reported in the final noise report document.

4.2 Noise Measurements

4.2.1 Microphone Locations

The microphone shall be located at a height of 1.5 meters above the ground. The microphone shall be positioned at each of the five measurement points as identified in Appendix A. The microphone shall be vertically oriented in the direction of the Deer Creek Station.

4.2.2 Daytime Noise Measurements

Measurements will be taken at the five locations marked in Appendix A. The actual location of each measurement point will be determined by accessibility and safety of field personnel.

The L_{eq} (equivalent noise level), L_{10} (noise level that is exceeded 10 percent of the time), and one-third octave band frequency sound levels will be measured.

The observation period shall be a minimum of five minutes, or long enough to obtain a representative sound level reading. Sound level measurements will be taking at three times between the hours of 6 am and 8 pm.

If daytime noise levels meet the PUC stipulation limit of 55 dBA (L_{10}) at MP5, then no further nighttime measurements are required to determine compliance; it is assumed that nighttime levels will be the same or lower due to lack of extraneous noises due to human activity that are not present at night.

4.2.3 Nighttime Noise Measurements

Nighttime measurements will be taken only if daytime measurements at MP5 do not meet the nighttime L_{10} limit of 55 dBA. Nighttime noise measurements will be taken at all five measurement points depicted in Appendix A if MP5 does not meet the nighttime limit during the daytime measurements.

4.2.4 Operational Environment Specifications

The measurements shall be taken once the facility is operating to determine compliance with the limits set forth by the PUC.

Care shall be taken by Basin Electric and noise testing personnel to minimize extraneous noise during the noise test that may impact the results of the test.

In the event that the above procedure indicates that noise level exceeds the guarantees, another set of measurement points may be required.

5.0 DATA REPORTING

5.1 Owner-Required Data

Basin Electric will be responsible for providing to the noise testing personnel the operating conditions of the facility during the noise testing so they may be included in the report.

5.2 Acoustical Environment

5.2.1 Drawing showing all sound level measurement locations for the facility.

5.2.2 Identification of all non-Basic Electric sources of sound that were determined to potentially affect the sound level measurements.

5.2.3 Ambient conditions during sound level measurement periods including temperature, relative humidity, wind speed and direction and cloud cover (if any).

5.2.4 Name, manufacturer, model number, serial number, ANSI type and last calibration date of all sound measuring instrumentation utilized.

5.2.5 Names of all personnel who performed and/or observed the sound level measurements.

5.2.6 Relevant remarks on the subjective impression of noise (i.e. time variations of sound level, audible discrete tones, spectral content, background sound from other sources, etc.)

5.2.7 Any deviations from this test procedure that may significantly impact the intent of this procedure, as agreed upon by Basin Electric and Burns & McDonnell

5.3 Sound Level Data

The L_{10} data for MP5 for each measurement period shall be reported and compared to the PUC Stipulation noise limits. The overall L_{eq} measured sound levels for each measurement point and period shall also be reported. If nighttime measurements were required, then nighttime as well as daytime measurements will be reported.

6.0 REFERENCES

ANSI S1.4 – "Specification for Sound Level Meters".

ANSI S1.11 – "Specification for Octave Band and Fractional Octave Band Analog and Digital Filters".

ANSI S1.6 – "Preferred Frequencies and Band Numbers for Acoustical Measurements".

ANSI S1.13 – "Methods for the Measurement of Sound Pressure Levels".

APPENDIX A
RECEPTOR POINT LOCATIONS

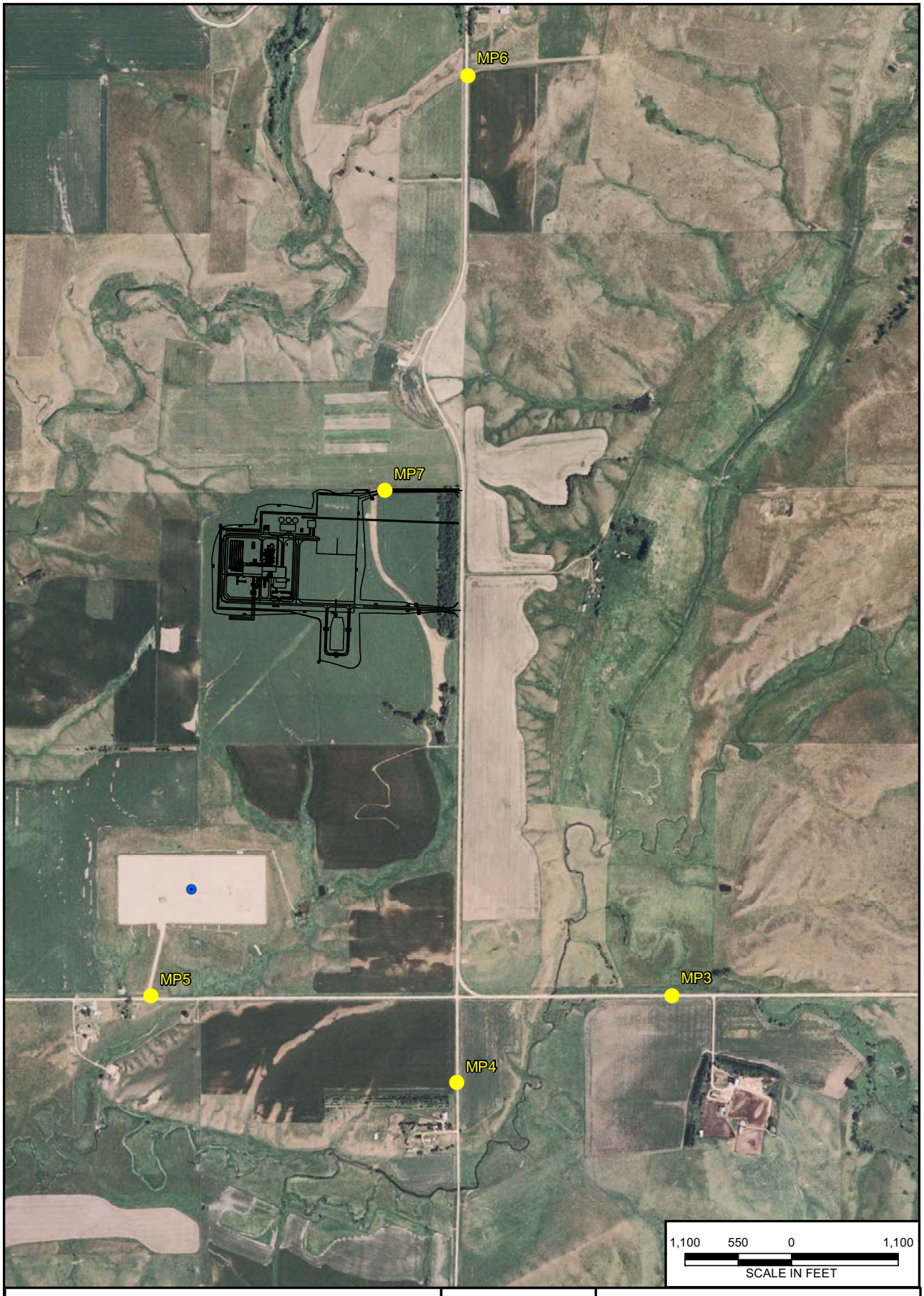


Figure 1-1
Ambient Noise
Measurement Point Locations
Deer Creek Station
Post-Construction Noise Study Protocol

Burns & McDonnell World Headquarters
9400 Ward Parkway
Kansas City, MO 64114
Phone: 816-333-9400
Fax: 816-333-3690
www.burnsmcd.com

Burns & McDonnell: Making our clients successful for more than 100 years

Appendix E

Deer Creek Station

Post-Construction Road Assessments

BANNER
Engineering | Architecture | Surveying
Banner Associates, Inc. | 409 22nd Ave So | PO Box 298
Brookings, South Dakota 57006 | 605.692.6342
www.bannerassociates.com

August 14, 2012

Mr. David Erickson, Sr. Civil Engineer
Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismarck, ND 58503-0564

Re: Deer Creek Station Post-Construction Road Inspections – Alton Township
BAI. No. 20953.02.02
F:\20953-02\2012 Road Evaluations\BEPC Letters\Alton Letter.doc

Dear Mr. Erickson:

Banner Associates recently completed the post-construction road inspections in Alton Township as part of the Deer Creek Station construction project. Inspections in this township were conducted at the same locations as completed in 2010 at the pre-construction inspections. These locations were identified by entering the coordinates of the original inspection location into a GPS device. A video log was also completed of the identified routes documenting the post-construction conditions.

A letter was sent to Mr. Tom Davis, Alton Township Supervisor, on July 19th, 2012 inviting him to attend the inspection to be conducted on August 7th. Mr. Davis met me on-site to discuss the activities and repairs occurring on 484th Avenue during the construction of Deer Creek Station. Mr. Davis acknowledged that wet weather and local traffic has also contributed to some of the gravel loss and repairs that were necessary during the construction period. Gravel surfacing was installed earlier this summer on 484th Avenue. Mr. Davis mailed me a receipt for gravel installed on 484th Avenue totaling $2,150.51. He also indicated he did not receive reimbursement from Richland Township for the pit run material he supplied for their road repairs. He stated it was in everyone's best interest to just get the road open so he did not invoice Richland Township for the pit run. Mr. Joel Koch, Richland Township, indicated Tom Davis had not been reimbursed and presented me a receipt for the pit run they installed totaling $538.98. Alton Township incurred additional expenses for damage repair on 484th Avenue between 209th Street and 210th Street. This was due to truck traffic not following the construction traffic signing on US Highway 14. Mr. Davis stated truck drivers were using GPS devices to get to the construction site and these devices directed them down 484th Avenue. The damaged segment, nearly 0.75 miles in length, required digging out the existing base, installing rock as base material, and installing gravel surfacing. Mr. Davis supplied a receipt for these repairs totaling $4,564.10.

In total, Alton Township submitted receipts for $6,714.61 along with a receipt for pit run material for Tom Davis $538.98. Mr. Davis informed me he does not expect Basin Electric to

reimburse Alton Township for all of these expenses as wet weather and local traffic also contributed to the needs for gravel surfacing and road repairs. He stated he would just like to be reimbursed for what Basin Electric feels would be fair.

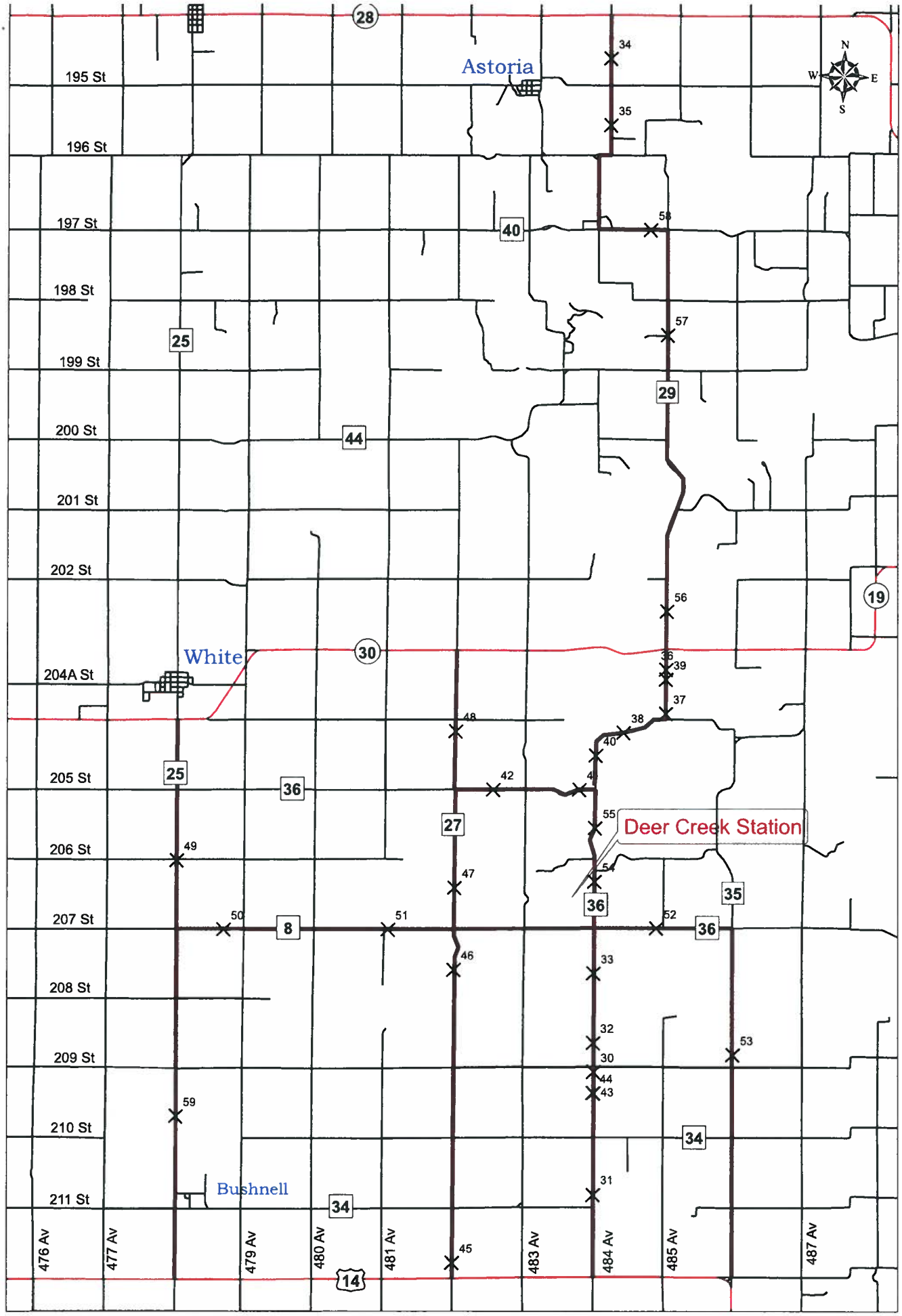
Attached you will find the Post-Construction Road Inspection reports for Alton Township along with documentation for repair and maintenance expenses. If you have any questions, please do not hesitate to contact me at (605) 692-6342.

Sincerely,

Richard Uckert, PE
Banner Associates, Inc.

Encl.

Cc: Tom Davis
48185 210th St.
Elkton, SD 57026



Test Locations

BANNER
Engineering | Architecture | Surveying

Legend

Inspected Roads

40 Test Location

ROAD CONDITION REPORT

Date: 8/07/2012

Road: 484th Avenue

Between: 209th Street and 210th Street

Surfacing: Gravel

Gravel Depth: 1.5 inches

General Road Condition: Fair

Test Location: #30

Coordinates: 44° 21' 14.24" N
96° 31' 35.87" W

Road Width: 21.5 feet

Cross Slope: 6.1% west side, 4.2% east side

Other Notes: Road is on designated heavy haul route for Deer Creek Station project. Tom Davis with Alton Township stated they corrected an area between 209th Street and 210th Street in the Spring of 2011. They dugout the road, installed pitrun and gravel surfacing. Alton Township also installed gravel surfacing in 2012. Alton Township requested reimbursement for this gravel surfacing. Tom also stated he did not get reimbursed for pitrun he sold Richland Township for their road repairs. He would like $0.54/ton for pitrun.

ROAD CONDITION REPORT

Date: 8/07/2012

Road: 484th Avenue

Between: 210th Street and 211th Street

Surfacing: Gravel

Gravel Depth: 2.5 inches

General Road Condition: Good/Fair

Test Location: # 31

Coordinates: 44° 19' 42.60" N
96° 31' 36.67" W

Road Width: 24 feet

Cross Slope: 5.4% west side, 2.3% east side

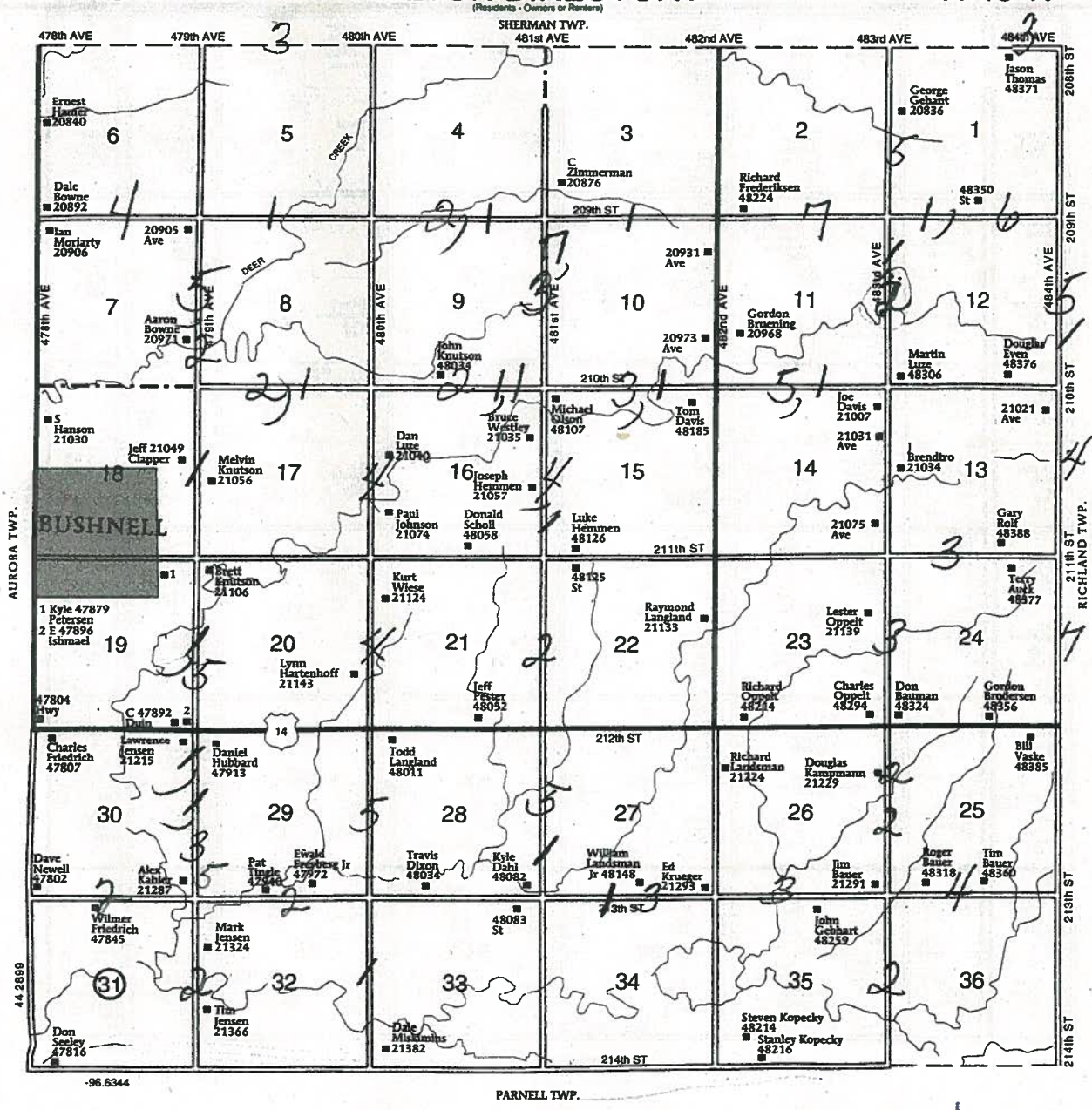
Other Notes: Road is on designated heavy haul route for the Deer Creek Station project.

P.O Box

T-110-N ALTON DIRECTORY R-48-W

(Residents - Owners or Renters)

2012 map verification



2012 gravel – In June & July

June 2012 gravel
484th Ave

STERZINGER CONSTRUCTION, LLC
2675 220TH AVE
IVANHOE, MN 56142

S T A T E M E N T

30-60 60-90 OVER 90

BALANCES CARRIED FORWARD

ALTON TOWNSHIP GRAVEL 2012
B FREDERICKSEN 48224 209TH ST
ELKTON, SD 57026

( ) - 06/25/2012 PREVIOUS BALANCE $.0

0

DATE	DESCRIPTION						QTY	RATE	CHARGE	CREDIT	BALANCE
06/25/12	K3	S-11	C	SP	5	LDS	133.48	4.750	634.03		634.03
06/25/12	K3	S-1	C	SP	1	LD	26.82	4.750	127.39		761.42
06/26/12	K15	S-2	C	SP	7	LDS	186.70	4.750	886.82		1648.24
06/26/12	K15	S-4	C	SP	1	LD	26.46	4.750	125.68		1773.92
06/26/12	K15	S-10	C	SP	1	LD	26.28	4.750	124.83		1898.75
06/26/12	K15	S-3	C	SP	1	LD	26.56	4.750	126.16		2024.91
06/26/12	K15	W-22	C	SP	2	LDS	53.04	4.750	251.94		2276.85
06/26/12	K3	S-1	C	SP	6	LDS	160.86	4.750	764.08		3040.93
06/26/12	K3	S-11	C	SP	1	LD	26.86	4.750	127.58		3168.51
06/26/12	K3	N-1	C	SP	3	LDS	80.10	4.750	380.47		3548.98
06/26/12	K3	E-12	C	SP	5	LDS	132.96	4.750	631.56		4180.54
06/27/12	K15	W-10	C	SP	7	LDS	187.47	4.750	890.48		5071.02
06/27/12	K15	W-29	C	SP	1	LD	26.84	4.750	127.49		5198.51
06/27/12	K15	W-27	C	SP	5	LDS	134.08	4.750	636.88		5835.39
06/27/12	K15	S-27	C	SP	1	LD	26.32	4.750	125.02		5960.41
06/27/12	K15	W-33	C	SP	1	LD	26.94	4.750	127.96		6088.37
06/27/12	K3	E-12	C	SP	1	LD	26.56	4.750	126.16		6214.53
06/27/12	K3	E-13	C	SP	4	LDS	107.14	4.750	508.91		6723.44
06/27/12	K3	S-13	C	SP	3	LDS	80.12	4.750	380.57		7104.01
06/28/12	K15	W-27	C	SP	1	LD	26.26	4.750	124.73		7228.74
06/28/12	K15	S-27	C	SP	3	LDS	79.32	4.750	376.77		7605.51
06/28/12	K15	S-25	C	SP	4	LDS	107.06	4.750	508.53		8114.04
06/28/12	K15	W-25	C	SP	2	LDS	52.68	4.750	250.23		8364.27
06/28/12	K3	E-24	C	SP	7	LDS	186.08	4.750	883.88		9248.15
06/28/12	K3	W-1	C	SP	5	LDS	133.28	4.750	633.08		9881.23
06/28/12	K3	W-12	C	SP	2	LDS	53.62	4.750	254.69		10135.92
06/29/12	K3	W-12	C	SP	1	LD	26.70	4.750	126.82		10262.74
06/29/12	K3	W-24	C	SP	3	LDS	80.10	4.750	380.47		10643.21
06/29/12	K3	W-32	C	SP	2	LDS	53.22	4.750	252.79		10896.00
06/29/12	K3	S-30	C	SP	2	LDS	53.54	4.750	254.31		11150.31
06/29/12	K3	S-29	C	SP	2	LDS	53.14	4.750	252.41		11402.72
06/29/12	K3, 15	W-29	C	SP	5	LDS	133.50	4.750	634.12		12036.84
06/29/12	K15	W-28	C	SP	5	LDS	133.98	4.750	636.40		12673.24
06/29/12	K15	W-25	C	SP	2	LDS	52.60	4.750	249.85		12923.09
06/29/12	K15	S-26	C	SP	3	LDS	79.40	4.750	377.15		13300.24

TOTAL = $2,150.51

STIRZINGER CONSTRUCTION, LLC
2675 220TH AVE
IVANHOE, MN 56142
(507) 694-1262

S T A T E M E N T

30-60	60-90	OVER 90
.00	.00	.00

RICHLAND TOWNSHIP BOLDT
48062 206TH ST.
WHITE, SD 57276

( ) 06/30/2011 PREVIOUS BALANCE .00

TE	D E S C R I P T I O N	QTY	RATE	CHARGE	CREDIT	BALANCE
7/20/2011	953 LOADER	4.50	115.000	517.50	BOLDT will Pay	517.50
7/20/2011	K44 3-8" ROCK 6 LOADS	79.28	12.000	951.36		1468.86
7/20/2011	SD SALES TAX	951.36	.040	38.05		1506.91
7/20/2011	SD EXCISE TAX	517.50	.020	10.35		1517.26
7/30/2011	953 LOADER	9.50	115.000	1092.50		2609.76
7/30/2011	SD EXCISE TAX	1092.50	.020	21.85		2631.61
7/30/2011	K44,99 PIT RUN DP 12 LDS	345.82	4.200	1456.33		4087.94
7/30/2011	K44,99 SCRD WP 6 LDS	300.12	4.400	1320.53		5421.10
7/31/2011	PATROL 140	11.00	82.000	900.40		6327.50
7/31/2011	953 LOADER	10.50	115.000	1207.50		7535.00
7/31/2011	K44,86,2 PIT RUN DP 23 LDS	663.10	4.200	2775.67		10310.67
7/31/2011	K44,86 SCREENED WP 6 LDS	165.66	4.400	728.90		11039.57
7/31/2011	953 LOADER	1.00	115.000	160.00		11199.57
7/31/2011	K44,86 SCR WP 2 LDS	55.22	4.400	242.96		11742.53
7/31/2011	PATROL 140	.00	.000	.00		11742.53
7/31/2011	SD SALES TAX	6537.82	.040	261.48		12004.01
7/31/2011	SD EXCISE TAX	2573.98	.020	51.47		12055.48

10,538.

Davis Pit
35 Loads
998.12
x .54¢ a Ton
$538.98
Pay to Tom Davis

19 loads (522 Ton)

#762

BALANCE.. 12055.48

484th Ave. Repair June 2011

STERZINGER CONSTRUCTION
2675 220TH AVE
IVANHOE, MN 56142
(507) 694-1262

ALTON TWP
B FREDERIKSEN 48224 209
ELKTON SD 57026

( ) -

05/31/2011 PREVIOUS BALANCE $.00

DATE	DESCRIPTION	QTY	RATE	CHARGE	CREDIT	BALANCE
05/31/2011	953 LOADER	3.50	115.000	402.50		402.50
05/31/2011	K33,44 3'4" ROCK 3 LDS	61.98	12.000	743.76		1146.26
05/31/2011	953 LOADER	5.00	115.000	575.00		1721.26
05/31/2011	PATROL 140 BLADE IN ROCK	3.50	82.400	288.40		2009.66
06/01/2011	K33 3-4" ROCK	99.00	12.000	1188.00		3197.66
06/01/2011	K33,44 GRAVEL	251.62	5.330	1341.13		4538.79
06/01/2011	SD EXCISE TAX	1265.90	.020	25.31		4564.10
11/21/2011	PAYMENT RECEIVED	.00	.000		-4564.10	.00
11/21/2011	PD WITH 11000 CHECK	.00	.000	.00		.00

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BROOKINGS COUNTY ZONING DIRECTOR
Brookings City and County Government Center
520 3rd Street, Suite 200
BROOKINGS, SOUTH DAKOTA 57006

ROBERT W. HILL
TELEPHONE (605) 696-8350
FAX (605) 696-8355
E-MAIL rhill@brookingscountysd.gov

August 3, 2012

Basin Electric Power Cooperative
Attn: Curt Pearson
1717 East Interstate Ave
Bismarck, ND 58503

Dear Mr. Pearson:

Thank you for your phone call on Thursday, August 2, 2012. Brookings County has enjoyed working with your organization in the construction of the Basin Electric Power Cooperative Deer Creek Station and its associated pipeline in our county.

Brookings County, South Dakota has issued several building permits for your organization and as of today the requested inspection paperwork has been received and is on file in our office.

All invoices have been paid for in a timely manner. There are no outstanding payments due to this office.

If you have any questions please contact my office at 605-696-8350.

Sincerely,

Robert W. Hill
Brookings County
Planning, Zoning and Drainage Director

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Engineering | Architecture | Surveying
Banner Associates, Inc. | 409 22nd Ave So | PO Box 298
Brookings, South Dakota 57006 | 605.692.6342
www.bannerassociates.com

August 9, 2012

Mr. David Erickson, Sr. Civil Engineer
Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismarck, ND 58503-0564

Re: Deer Creek Station Post-Construction Road Inspections – Lake Hendricks Township
BAI. No. 20953.02.02
F:\20953-02\2012 Road Evaluations\BEPC Letters\Lake Hendricks Letter.doc

Dear Mr. Erickson:

Banner Associates recently completed the post-construction road inspections in Lake Hendricks Township as part of the Deer Creek Station construction project. Inspections in this township were conducted at the same locations as completed in 2010 at the pre-construction inspections. These locations were identified by entering the coordinates of the original inspection location into a GPS device. A video log was also completed of the identified routes documenting the post-construction conditions.

A letter was sent to Mr. Mark Sandro, Lake Hendricks Township Supervisor, on July 19th, 2012 inviting him to attend the inspection to be conducted on August 7th. During a follow-up phone call, Mr. Sandro informed me to call Mr. Dan Lutgen prior to the inspection. Banner contacted Mr. Lutgen prior to the inspection and reached his wife and left a message. He did not return the call.

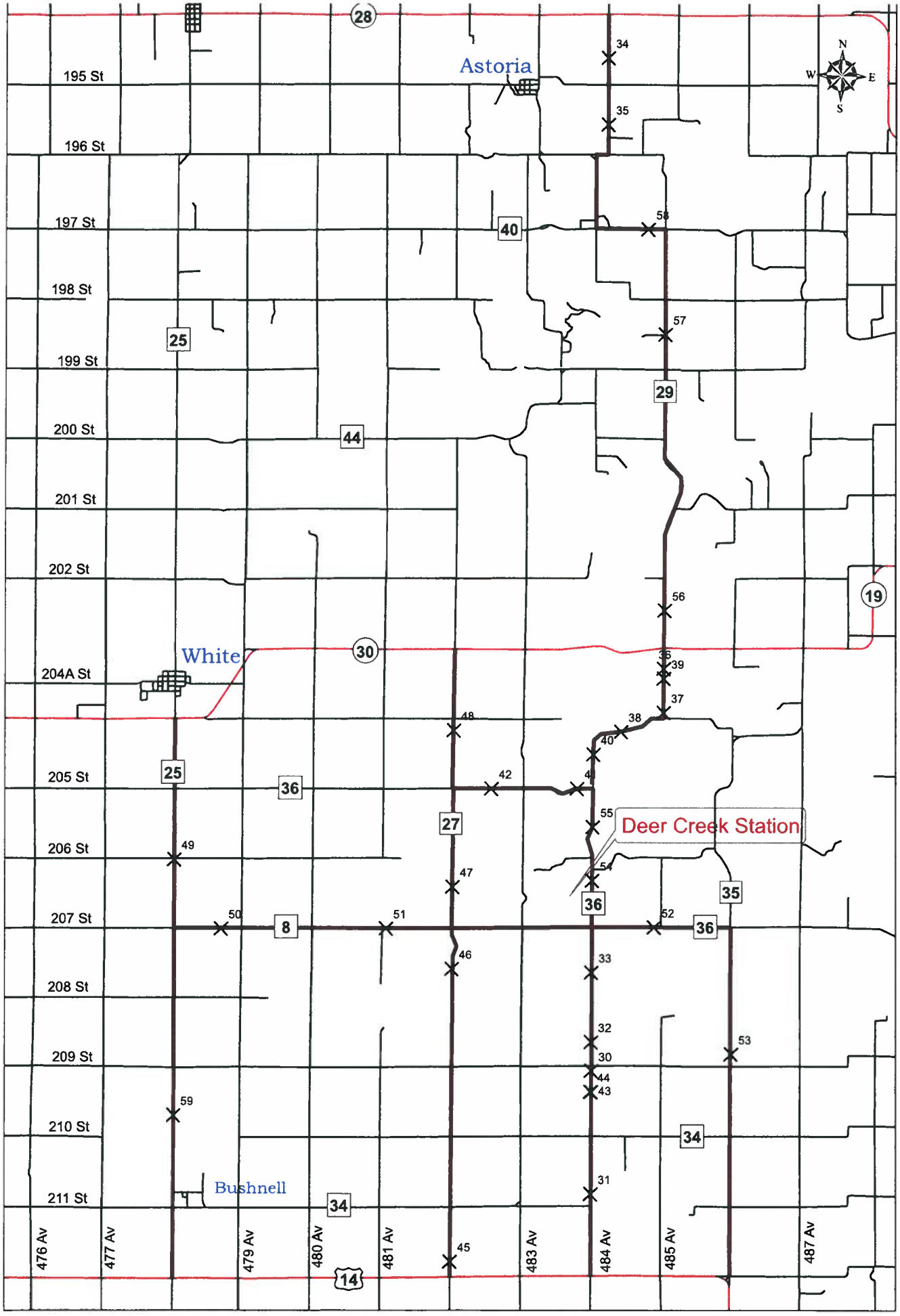
Attached you will find the Post-Construction Road Inspection reports for Lake Hendricks Township. If you have any questions, please do not hesitate to contact me at (605) 692-6342.

Sincerely,

Richard Uckert, PE
Banner Associates, Inc.

Encl.

Cc: Mark Sandro
20018 486th Avenue
Hendricks, MN 56136



Test Locations

BANNER
Engineering | Architecture | Surveying

Legend
Inspected Roads
40 Test Location

1 0.5 0 1 Miles

ROAD CONDITION REPORT

Date: 8/07/2012

Road: 485th Avenue

Between: Hwy 30 and 204th Street, North of gravel pit

Surfacing: Gravel

Gravel Depth: 4.5 inches

General Road Condition: Fair – Some soft spots with little gravel

Test Location: #36

Coordinates: 44° 26' 14.24" N
96° 30' 19.00" W

Road Width: 23 feet

Cross Slope: 5.9% west side, 0.9% east side

Other Notes: Road is along gas route.

ROAD CONDITION REPORT

Date: 8/07/2012

Road: 485th Avenue

Between: Hwy 30 and 204th Street South of gravel pit

Surfacing: Gravel

Gravel Depth: 5.0 inches

General Road Condition: Good

Test Location: #37

Coordinates: 44° 25' 41.37" N
96° 30' 19.59" W

Road Width: 22 feet

Cross Slope: 5.7% west side, 6.4% east side

Other Notes: Road is along gas route.

ROAD CONDITION REPORT

Date: 8/07/2012

Road: 204th Street

Between: 485th Avenue and 484th Avenue

Surfacing: Gravel

Gravel Depth: 2.5 inches

General Road Condition: Good/Fair

Test Location: #38

Coordinates: 44° 25' 27.18" N
96° 31' 3.54" W

Road Width: 20 feet

Cross Slope: 2.0% north side, 3.5% south side

Other Notes: Road is along gas route.

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Brookings, South Dakota 57006 | 605.692.6342
www.bannerassociates.com

August 9, 2012

Mr. David Erickson, Sr. Civil Engineer
Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismarck, ND 58503-0564

Re: Deer Creek Station Post-Construction Road Inspections – Richland Township
BAI. No. 20953.02.02
F:\20953-02\2012 Road Evaluations\BEPC Letters\Richland Letter.doc

Dear Mr. Erickson:

Banner Associates recently completed the post-construction road inspections in Richland Township as part of the Deer Creek Station construction project. Inspections in this township were conducted at the same locations as completed in 2010 at the pre-construction inspections. These locations were identified by entering the coordinates of the original inspection location into a GPS device. A video log was also completed of the identified routes documenting the post-construction conditions.

A letter was sent to Mr. Joel Koch, Sherman Township Chairman, on July 19th, 2012 inviting him to attend the inspection to be conducted on August 7th. Mr. Koch met me on-site to discuss the repairs his township needed to make to 484th Avenue due to truck traffic incorrectly using 484th Avenue instead of using 482nd Avenue as traffic signing indicated. He indicated he informed someone at the plant site regarding this issue. He presented me a receipt for repair costs the Township incurred which totaled $10,538.22. Sherman Township hired a contractor to dig out the soft spots and haul and install pitrun and gravel surfacing during the Spring of 2011. The Township had previously been reimbursed by Boldt Construction for $1,517.26 for work done at a different location on 484th Avenue, however, the Township identified this and it is not included in the $10,538.22. Mr. Koch acknowledged the weather and farm equipment also contributed to this need for repairs and is requesting Basin Electric reimburse the Township for only half of the total bill, or $5,269.11.

BANNER
Engineering | Architecture | Surveying

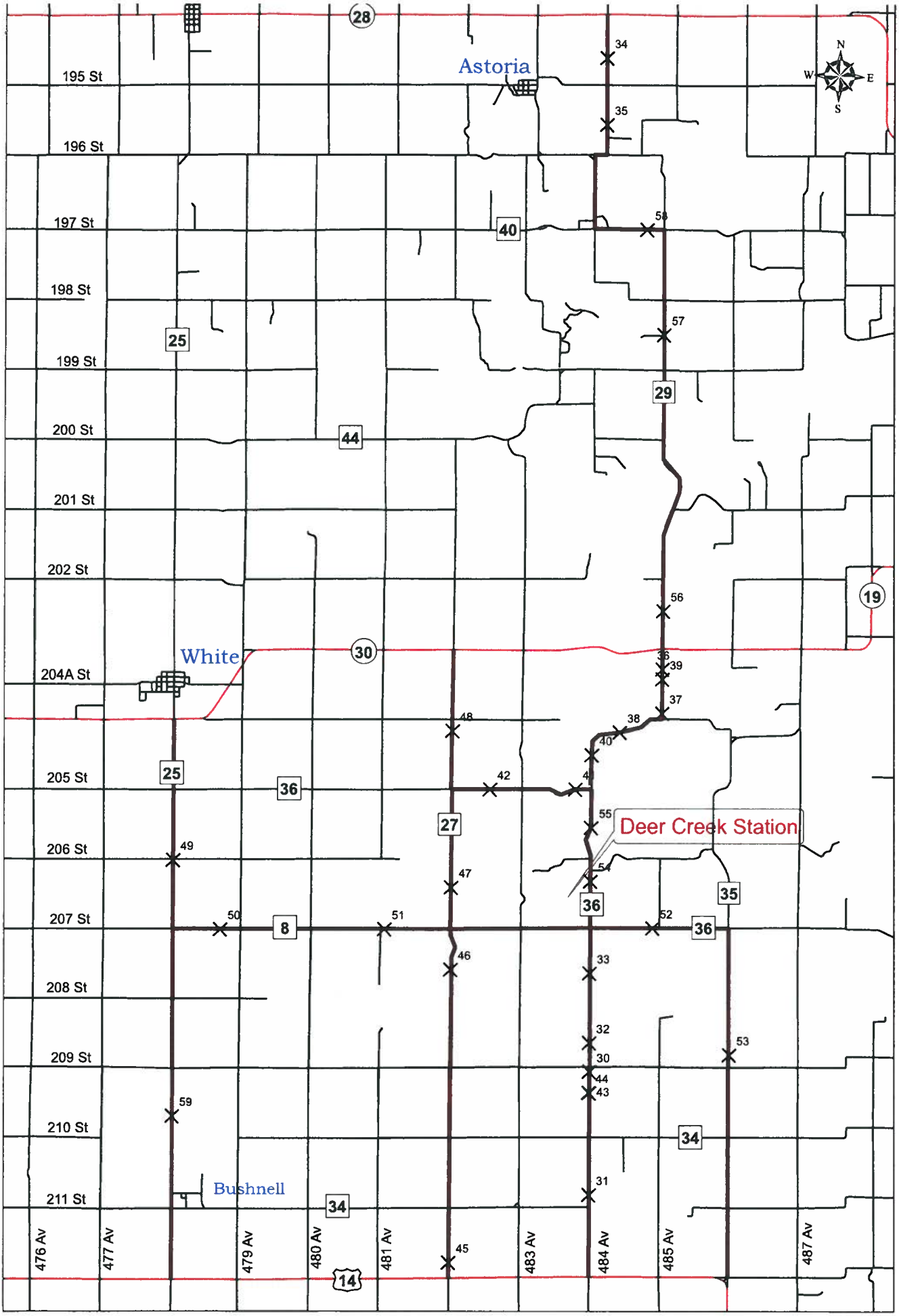
Attached you will find the Post-Construction Road Inspection reports for Richland Township along with a receipt for incurred expenses. If you have any questions, please do not hesitate to contact me at (605) 692-6342.

Sincerely,

Richard Uckert, PE
Banner Associates, Inc.

Encl.

cc: Joel Koch
21008 484th Avenue
Elkton, SD 57026



Test Locations

BANNER
Engineering | Architecture | Surveying

Legend
Inspected Roads
40 Test Location

ROAD CONDITION REPORT

Date: 8/07/2012

Road: 484th Avenue

Between: 209th Street and 208th Street

Surfacing: Gravel

Gravel Depth: 3.0 inches

General Road Condition: Good

Test Location: #32

Coordinates: 44° 21' 35.62" N
96° 31' 36.11" W

Road Width: 23.5 feet

Cross Slope: 5.3% west side, 5.5% east side

Other Notes: Road is on designated heavy haul route for Deer Creek Station project. Richland Township did work around this location in the Spring of 2011. Boldt reimbursed them for $1,517.26 but they incurred additional expenses of $10,538.22 due to a large amount of truck traffic not obeying the posted signage to use 482nd Avenue. Joel Koch said the township would split the bill with Basin Electric as he did acknowledge township farmers would have caused some damage as well.

ROAD CONDITION REPORT

Date: 8/07/2012

Road: 484th Avenue

Between: 208th Street and 207th Street

Surfacing: Gravel

Gravel Depth: 3.0 inches

General Road Condition: Good

Test Location: #33

Coordinates: 44° 22' 27.55" N
96° 31' 35.50" W

Road Width: 23 feet

Cross Slope: 6.4% west side, 6.2% east side

Other Notes: Road is on designated heavy haul route for Deer Creek Station project.

STERZINGER CONSTRUCTION, LLC
2675 220TH AVE
IVANHOE, MN 56142
(507) 694-1262

S T A T E M E N T

30-60	60-90	OVER 90
$.00	$.00	$.00

recd 11-19

RICHLAND TOWNSHIP BOLDT
48562 206TH ST.
WHITE, SD 57276

( ) ... 06/20/2011 PREVIOUS BALANCE $.00

DATE	D E S C R I P T I O N	QTY	RATE	CHARGE	CREDIT	BALANCE
06/20/2011	953 LOADER	4.50	115.000	517.50		517.50
06/20/2011	K44 3 5" ROCK 3 LDS	79.20	12.000	951.36	paid by Boldt	1469.86
06/20/2011	SD SALES TAX	951.36	.040	38.05		1506.91
06/20/2011	SD EXCISE TAX	517.50	.020	10.35		1517.26
08/30/2011	953 LOADER	9.50	115.000	1092.50		2609.76
08/30/2011	SD EXCISE TAX	1092.50	.020	21.85		2631.61
08/30/2011	K44,99 PIT RUN DP 12 LDS	345.02	4.250	1466.33		4097.94
08/30/2011	K44,99 SCRE WP 6 LDS	300.72	4.400	1323.16		5421.10
08/31/2011	PATROL 140	11.00	82.400	906.40		6327.50
08/31/2011	953 LOADER	10.50	115.000	1207.50		7535.00
08/31/2011	K44,88,2 PIT RUN DP 23 LDS	653.10	4.250	2775.67		10310.67
08/31/2011	K44,38 SCREENED WP 6 LDS	165.36	4.400	728.00		11039.57
09/01/2011	953 LOADER	4.00	115.000	460.00		11499.57
09/01/2011	K44,88 SCR WP 2 LDS	55.22	4.400	242.96		11742.53
09/01/2011	PATROL 140	.00	.000	.00		11742.53
09/01/2011	SD SALES TAX	6537.02	.040	261.48		12004.01
09/01/2011	SD EXCISE TAX	2573.90	.020	51.47		12055.48
11/16/2011	PAYMENT RECEIVED	.00	.000		-1517.26	10538.22

(10,538.22)

Paid $8,000.- 3-20-12
#779

BALANCE.. 10538.22

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Brookings, South Dakota 57006 | 605.692.6342
www.bannerassociates.com

August 9, 2012

Mr. David Erickson, Sr. Civil Engineer
Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismarck, ND 58503-0564

Re: Deer Creek Station Post-Construction Road Inspections – Scandinavia Township
BAI. No. 20953.02.02
F:\20953-02\2012 Road Evaluations\BEPC Letters\Scandinavia Letter.doc

Dear Mr. Erickson:

Banner Associates recently completed the post-construction road inspections in Scandinavia Township as part of the Deer Creek Station construction project. Inspections in this township were conducted at the same locations as completed in 2010 at the pre-construction inspections. These locations were identified by entering the coordinates of the original inspection location into a GPS device. A video log was also completed of the identified routes documenting the post-construction conditions.

A letter was sent to Mr. Jesse Knutson, Scandinavia Township Supervisor, on July 19th, 2012 inviting him to attend the inspection to be conducted on August 7th. Mr. Knutson contacted me via phone call on August 7th indicating representatives from the Township would not be available but that they did not have any areas of concern.

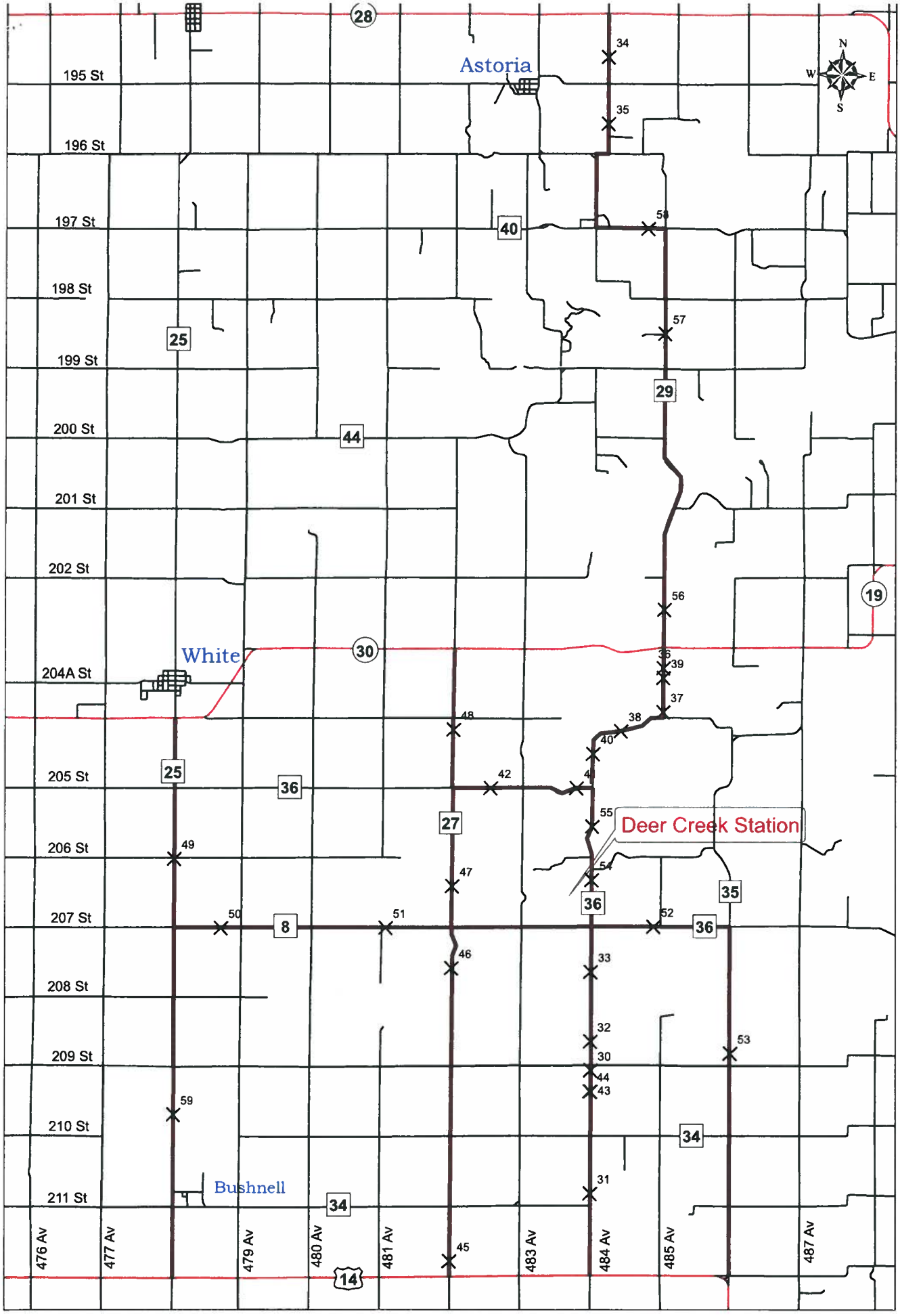
Attached you will find the Post-Construction Road Inspection reports for Scandinavia Township. If you have any questions, please do not hesitate to contact me at (605) 692-6342.

Sincerely,

Richard Uckert, PE
Banner Associates, Inc.

Encl.

cc: Jesse Knutson
48068 192nd St.
Toronto, SD 57268



Test Locations

BANNER
Engineering | Architecture | Surveying

Legend

Inspected Roads

40 Test Location

ROAD CONDITION REPORT

Date: 8/07/2012

Road: 484th Avenue

Between: 194th Street and 195th Street

Surfacing: Gravel

Gravel Depth: 2.0 inches

General Road Condition: Fair/ Poor

Test Location: #34

Coordinates: 44° 33' 49.78" N
96° 31' 15.86" W

Road Width: 20 feet

Cross Slope: 2.2% west side, 3.0% east side

Other Notes: Road is along gas route.

Jesse Knutson informed me via phone call on 8/07 they had no issues with existing road conditions.

ROAD CONDITION REPORT

Date: 8/07/2012

Road: 484th Avenue

Between: 195th Avenue and 195th Avenue

Surfacing: Gravel

Gravel Depth: 1.5 inches

General Road Condition: Fair/ poor

Test Location: #35

Coordinates: 44° 33' 4.91" N
96° 31' 16.07" W

Road Width: 19.0 feet

Cross Slope: 3.5% west side, 3.7% east side

Other Notes: Black material is showing on edge of roadway. Some gravel was recently installed north of this point.

Road is along gas route.

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Engineering | Architecture | Surveying
Banner Associates, Inc. | 409 22nd Ave So | PO Box 298
Brookings, South Dakota 57006 | 605.692.6342
www.bannerassociates.com

Contact Report

Date: Tuesday - August 7, 2012
Contact: Mr. Jesse Knutson – Scandinavia Township Supervisor
Tel/Fax: 605-690-3697
Email:
Address:
Subject: Deer Creek Station/Basin Electric Road Inspections
Project: Deer Creek Station/Basin Electric Road Inspections
BAI. No. 20953.02.02

Mr. Knutson contacted me on my cell phone at 10:41 a.m. indicating he would not be able to attend the road inspections nor would anyone else from his township. He indicated they had no issues with their roads.

Prepared By: Rich Uckert

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Brookings, South Dakota 57006 | 605.692.6342
www.bannerassociates.com

August 9, 2012

Mr. David Erickson, Sr. Civil Engineer
Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismarck, ND 58503-0564

Re: Deer Creek Station Post-Construction Road Inspections – Sherman Township
BAI. No. 20953.02.02
F:\20953-02\2012 Road Evaluations\BEPC Letters\Sherman Letter.doc

Dear Mr. Erickson:

Banner Associates recently completed the post-construction road inspections in Sherman Township as part of the Deer Creek Station construction project. The inspection in this township was conducted at the same location as completed in 2010 at the pre-construction inspections. These locations were identified by entering the coordinates of the original inspection location into a GPS device. A video log was also completed of the identified routes documenting the post-construction conditions.

A letter was sent to Mr. Craig Haber, Sherman Township Chairman, on July 19th, 2012 inviting him to attend the inspection to be conducted on August 7th. A follow-up phone call was made to Mr. Haber on July 25th and a message was left. He did not return the call.

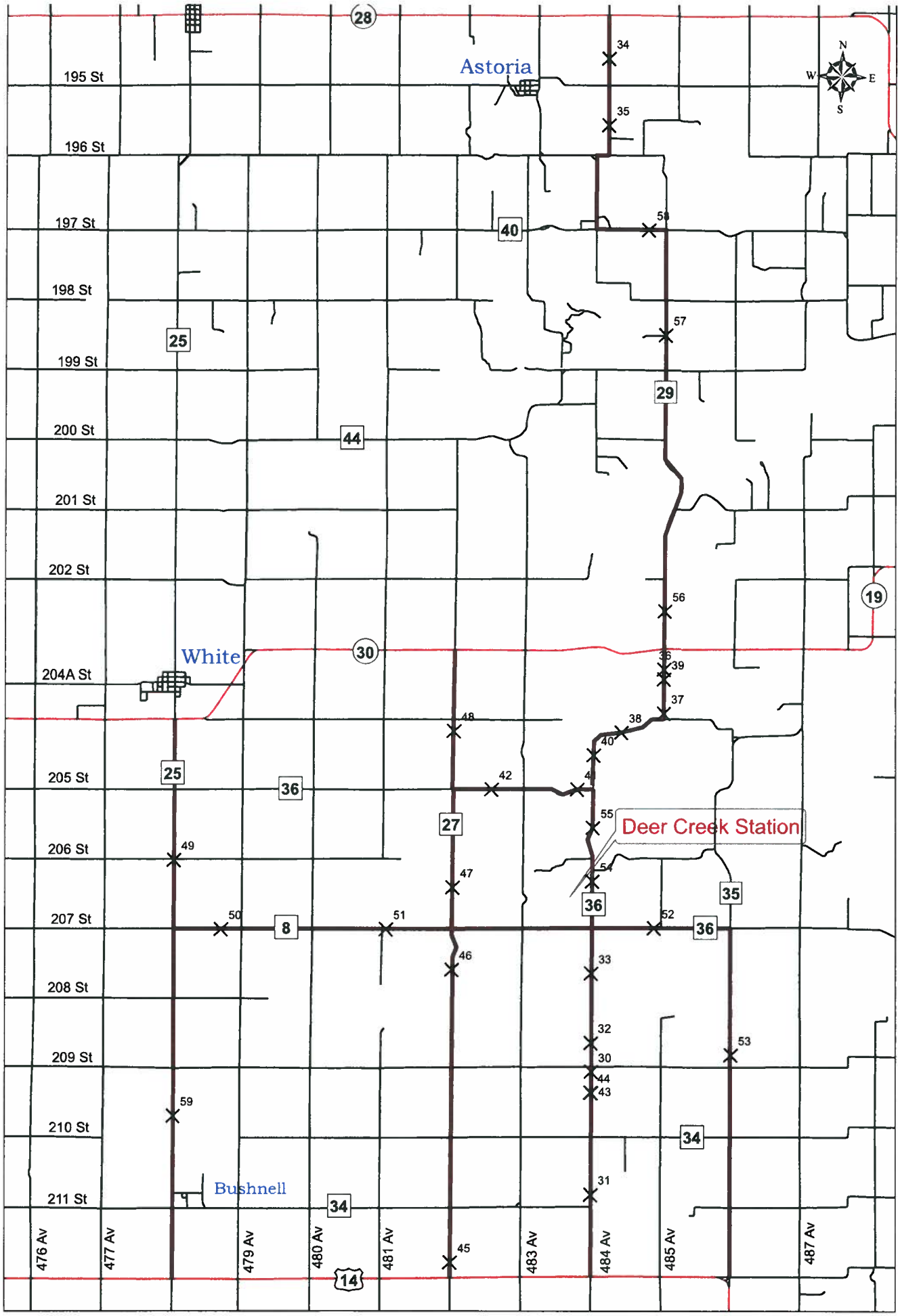
Attached you will find the Post-Construction Road Inspection reports for Sherman Township. If you have any questions, please do not hesitate to contact me at (605) 692-6342.

Sincerely,

Richard Uckert, PE
Banner Associates, Inc.

Encl.

cc: Craig Haber
20446 481st Avenue
White, SD 57276



Test Locations

BANNER
Engineering | Architecture | Surveying

Legend
Inspected Roads
40 Test Location

ROAD CONDITION REPORT

Date: 8/07/2012

Road: 484th Avenue

Between: 208th Street and 207th Street

Surfacing: Gravel

Gravel Depth: 3.0 inches

General Road Condition: Good

Test Location: #33

Coordinates: 44° 22' 27.55" N
96° 31' 35.50" W

Road Width: 23 feet

Cross Slope: 6.4% west side, 6.2% east side

Other Notes: Road is on designated heavy haul route for Deer Creek Station project.