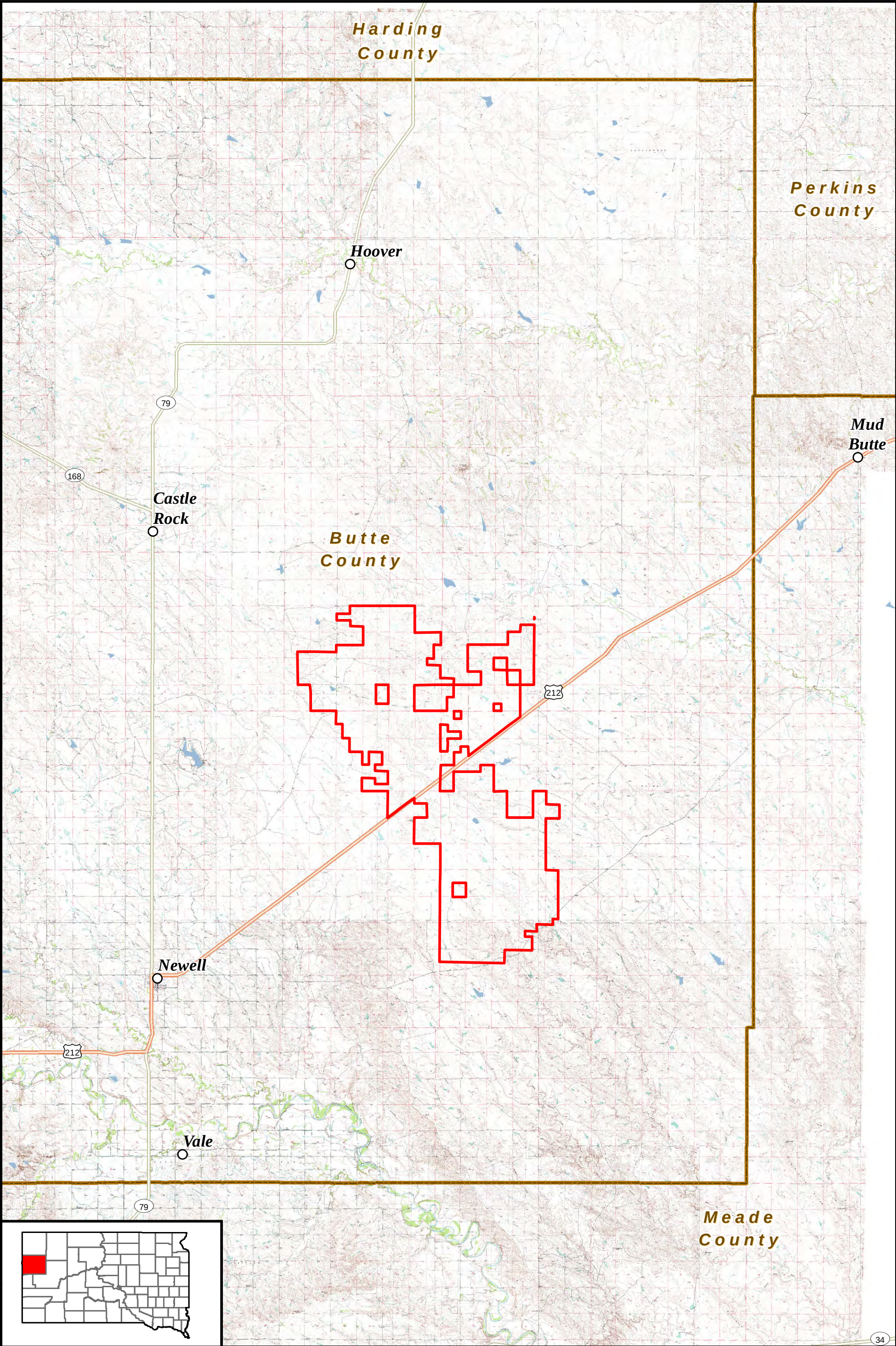


## **APPENDIX A - FIGURES**



Path: Z:\Clients\ESP\WindQuarry\84046\_WillowCreek\Studies\Geospatial\DataFiles\ArcDocs\Figure1\_ProjectLocation.mxd barker 5/15/2015  
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- |                                                                                     |                           |                                                                                     |        |                                                                                     |             |
|-------------------------------------------------------------------------------------|---------------------------|-------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|-------------|
|  | Willow Creek Project Area |  | Cities |  | Interstates |
|  | County Boundaries         |  |        |  | Highways    |
|                                                                                     |                           |                                                                                     |        |  | Major Roads |
|                                                                                     |                           |                                                                                     |        |  | Ramps       |

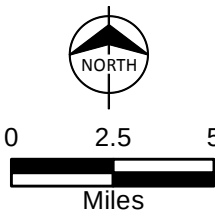
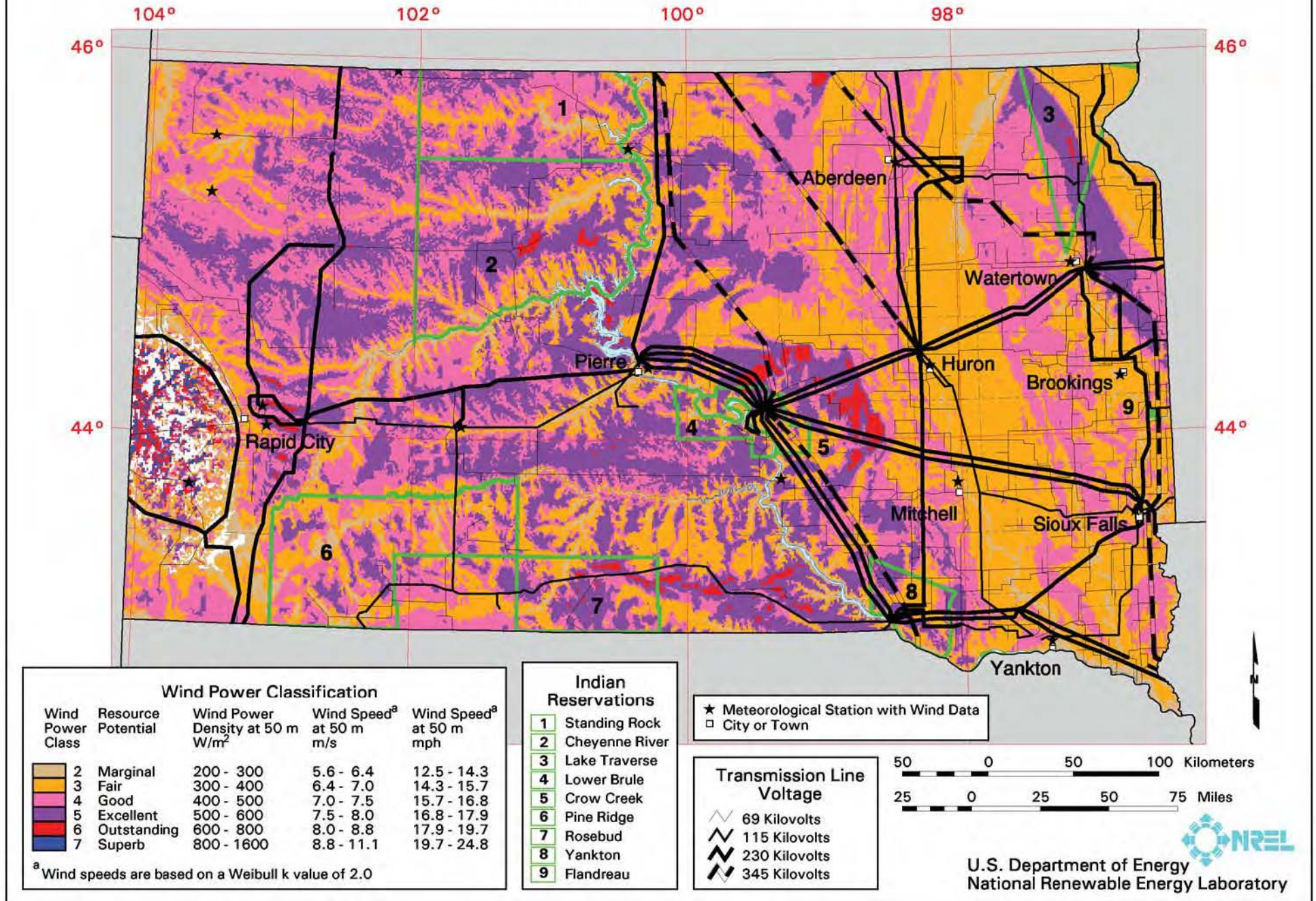


Figure 1  
Project Location Map  
Wind Quarry, LLC  
Willow Creek Project  
Butte County, SD

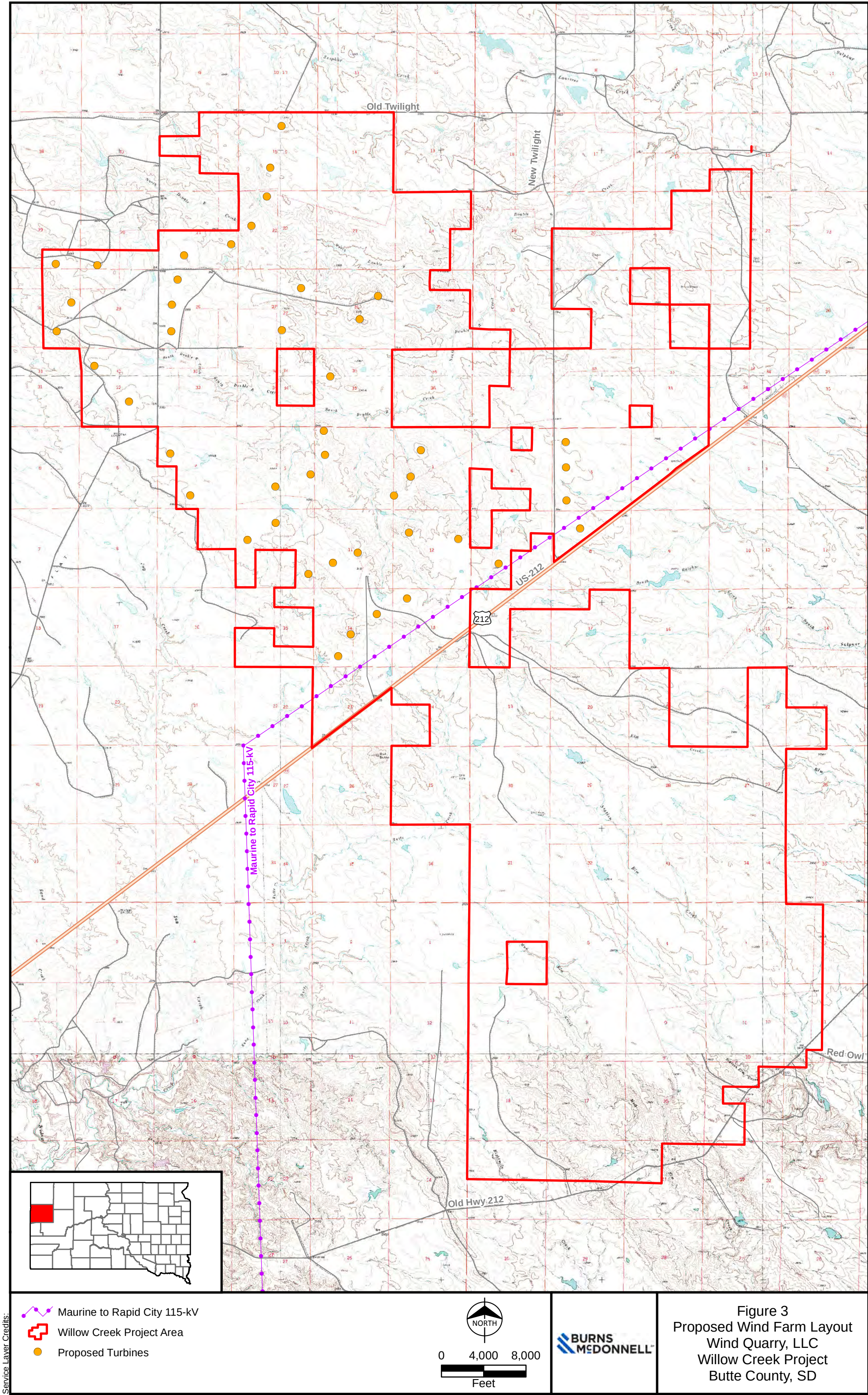


Figure 2

# South Dakota - Wind Resource Map

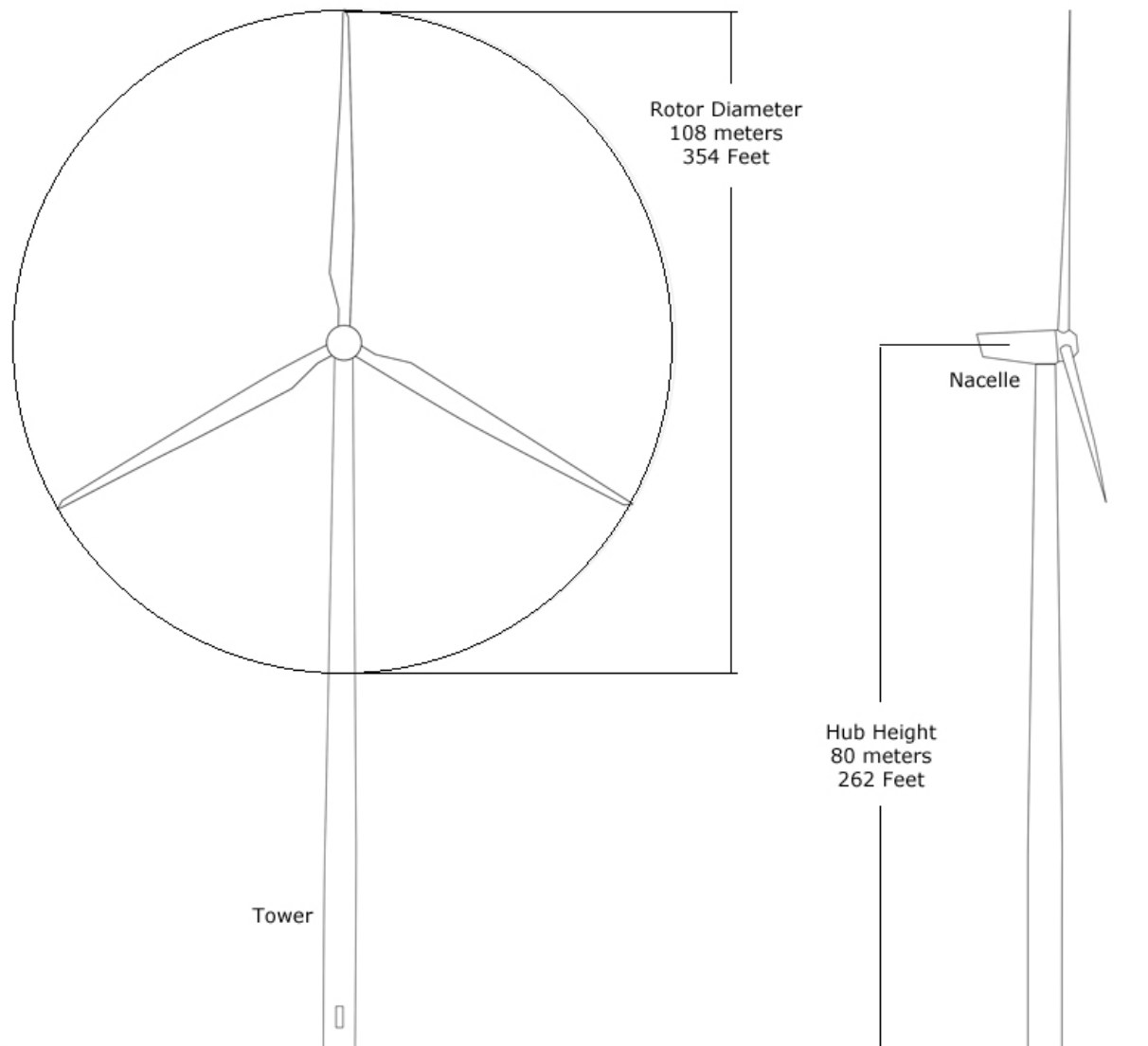




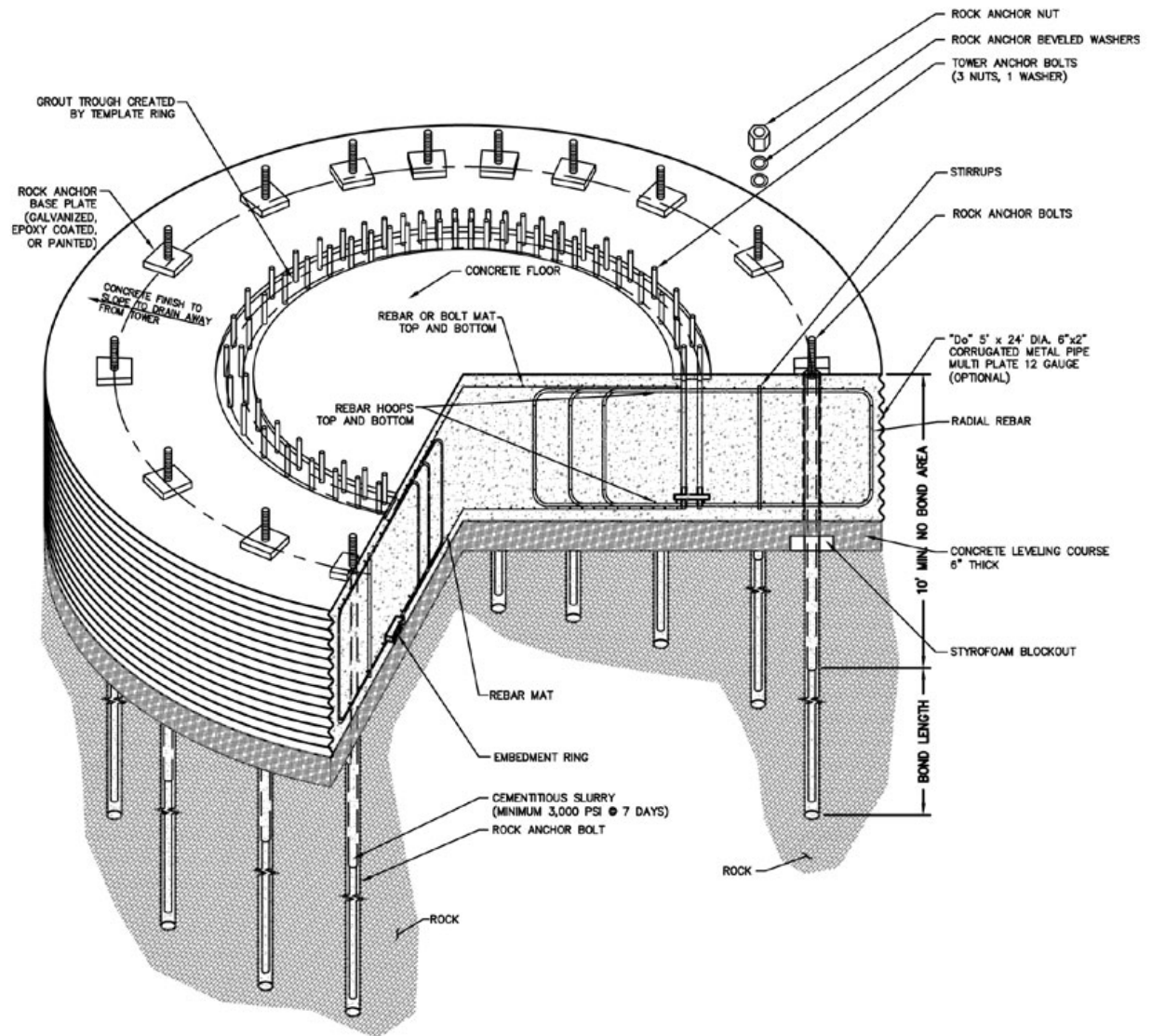




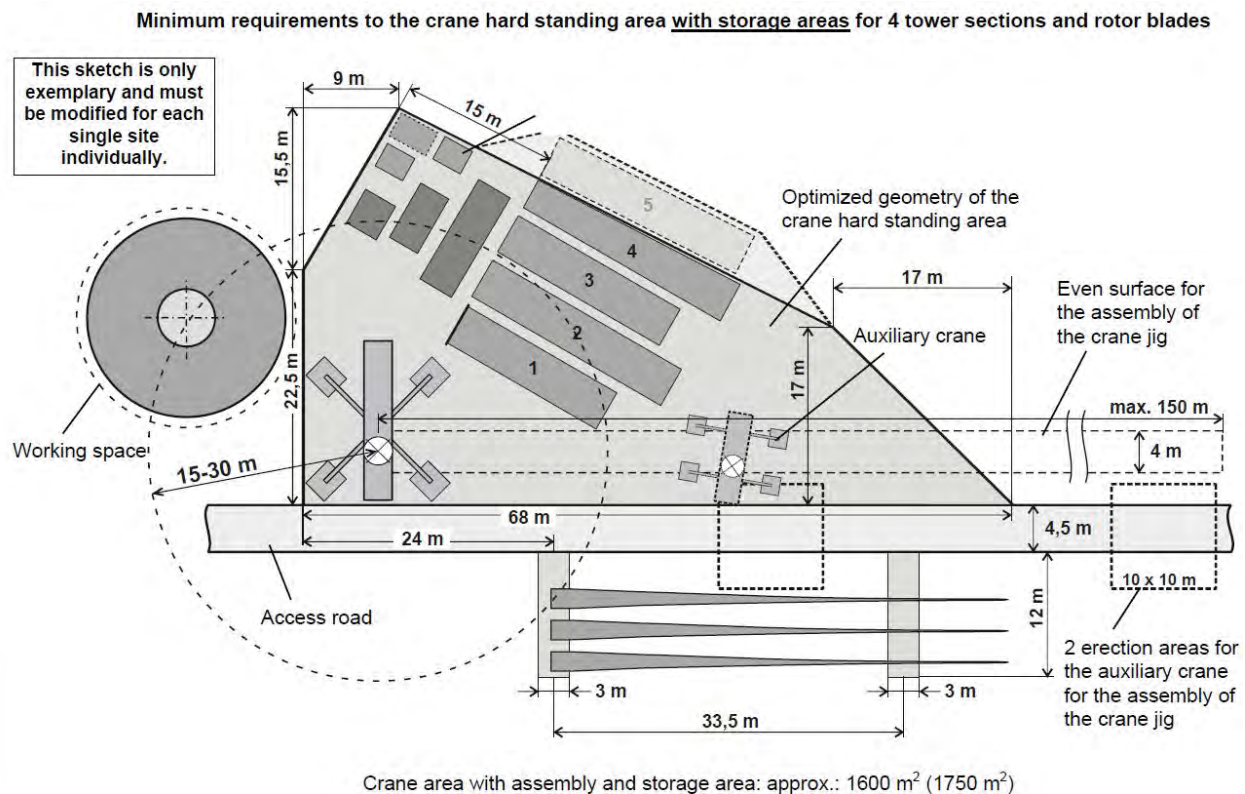
**Figure 4 Proposed Wind Turbine Dimensions**



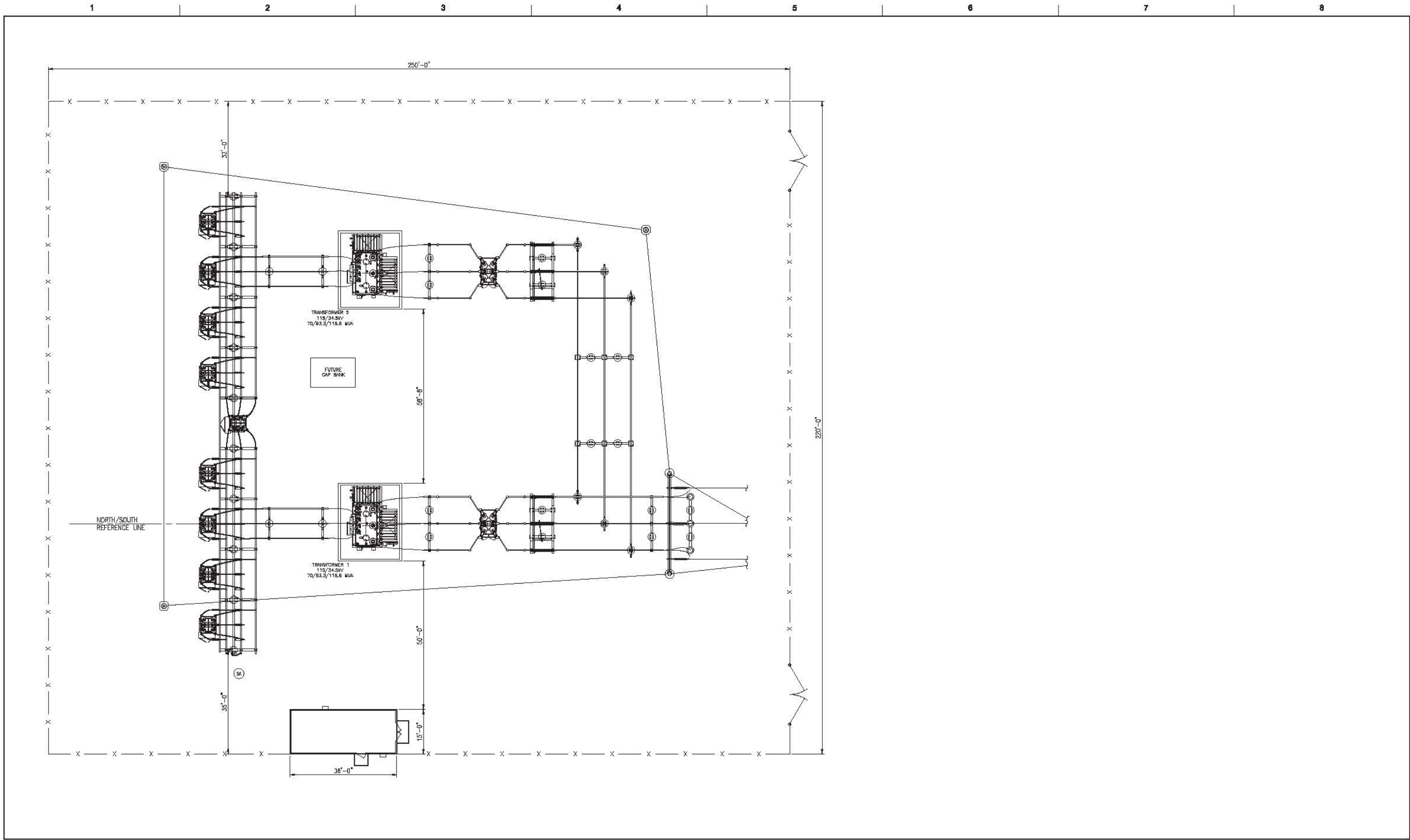
**Siemens SWT 2.3 – 108 Wind Turbine with 80 meter Tower**



**Figure 6 Typical Wind Turbine Crane Pad Layout**



Example shows layout for 80 meter tower. Crane and component layout will be individually designed for each turbine location.



|       |      |             |                 |  |           |
|-------|------|-------------|-----------------|--|-----------|
|       |      |             | PROJECT MANAGER |  | PAT WALSH |
|       |      |             |                 |  |           |
|       |      |             |                 |  |           |
|       |      |             |                 |  |           |
|       |      |             |                 |  |           |
|       |      |             |                 |  |           |
| ISSUE | DATE | DESCRIPTION | PROJECT NUMBER  |  | 240774    |

WIND QUARRY, LLC

WILLOW CREEK WIND PROJECT  
BUTTE COUNTY, SD

GENERAL ARRANGEMENT  
115KV/34.5K PROJECT SUBSTATION  
PLAN VIEW

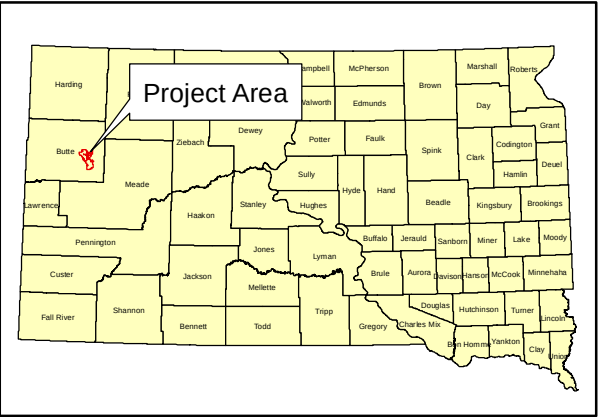
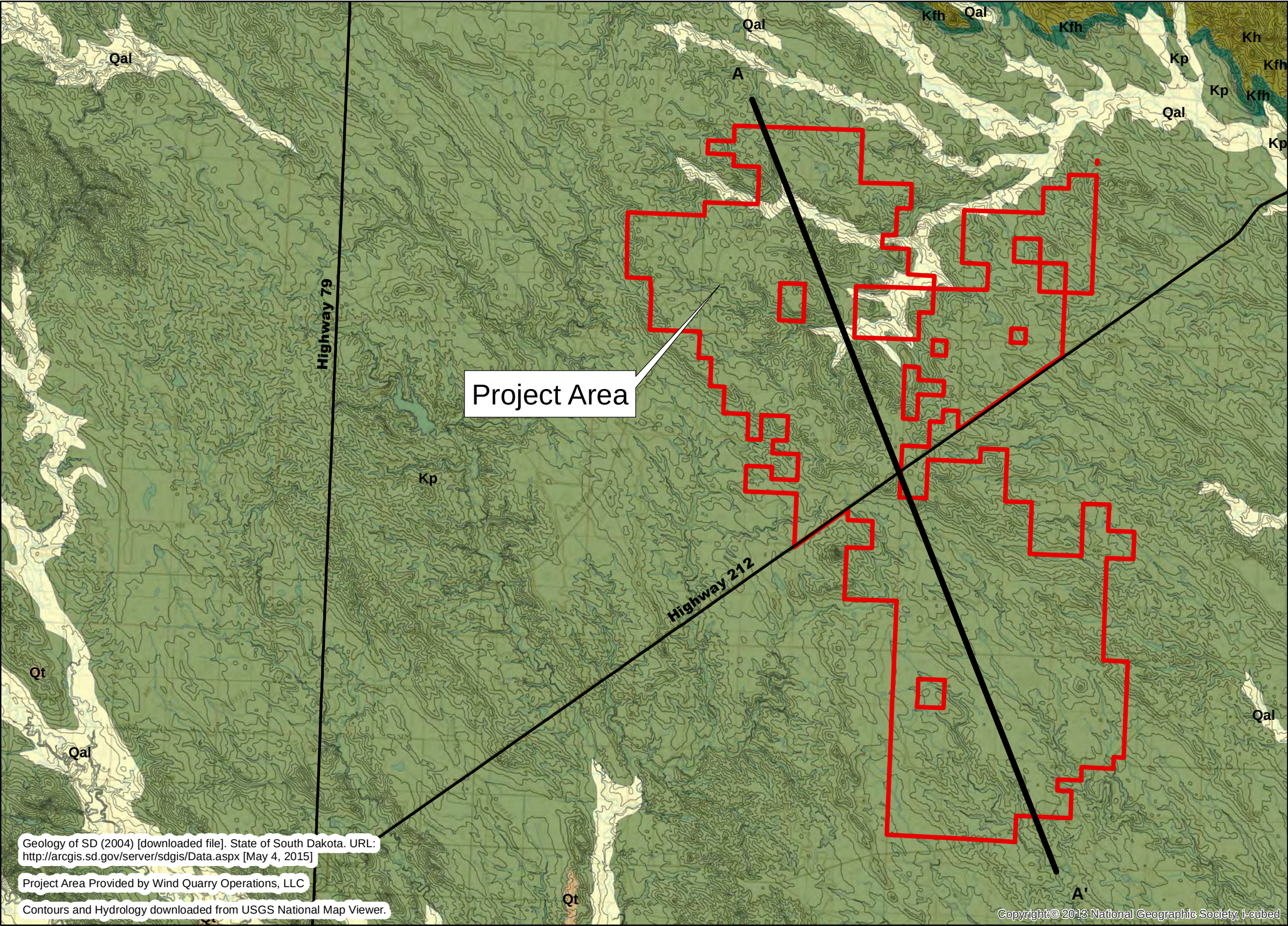
0 1" 2"

FILENAME WCGAD101  
SCALE 1" = 15'-0"

SHEET  
GA-01



Figure 8a - Surficial Geology



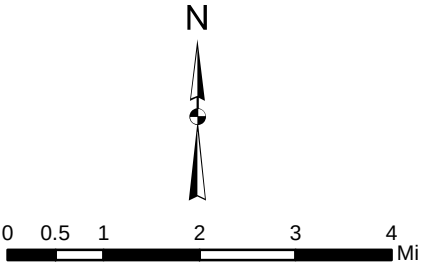
Legend

- Highway
- Project Boundary

Surficial Geology

- Qt: Terrace Deposits (Quaternary)
- Qal: Alluvium (Quaternary)
- Kh: Hell Creek Formation (Upper Cretaceous)
- Kfh: Fox Hills Sandstone (Upper Cretaceous)
- Kp: Pierre Shale (Upper Cretaceous)

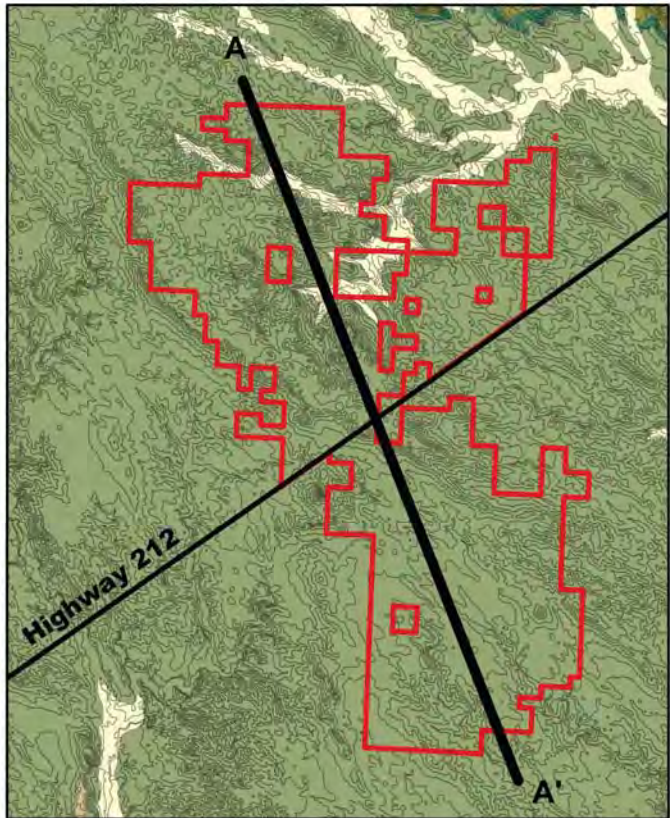
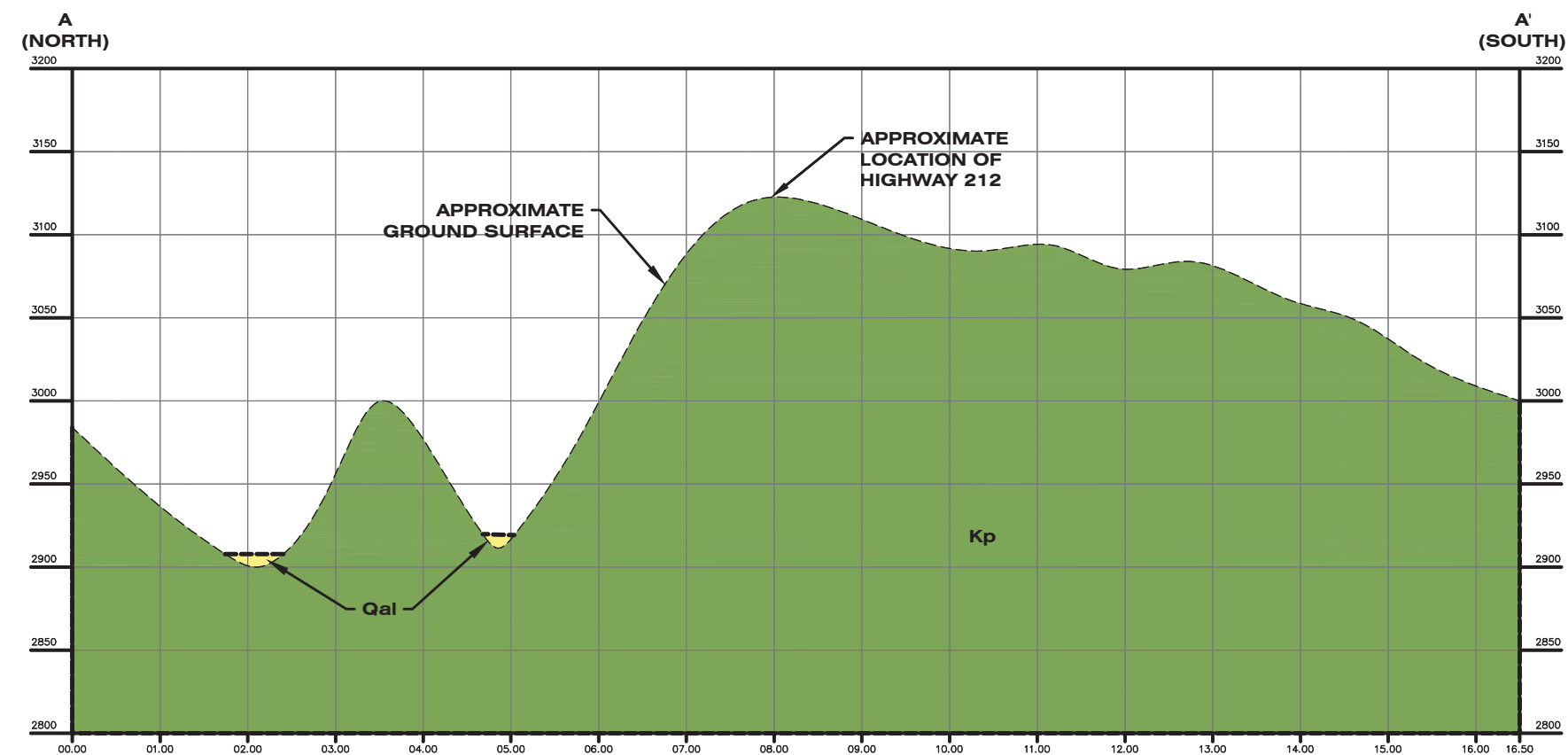
A—A' Geologic Section (see Figure 1c)



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Figure 8b - Geologic Cross Section



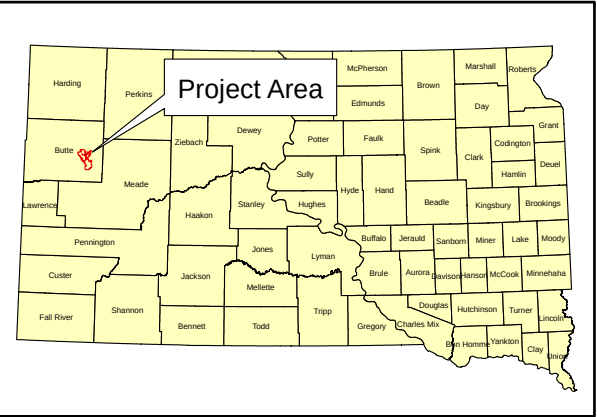
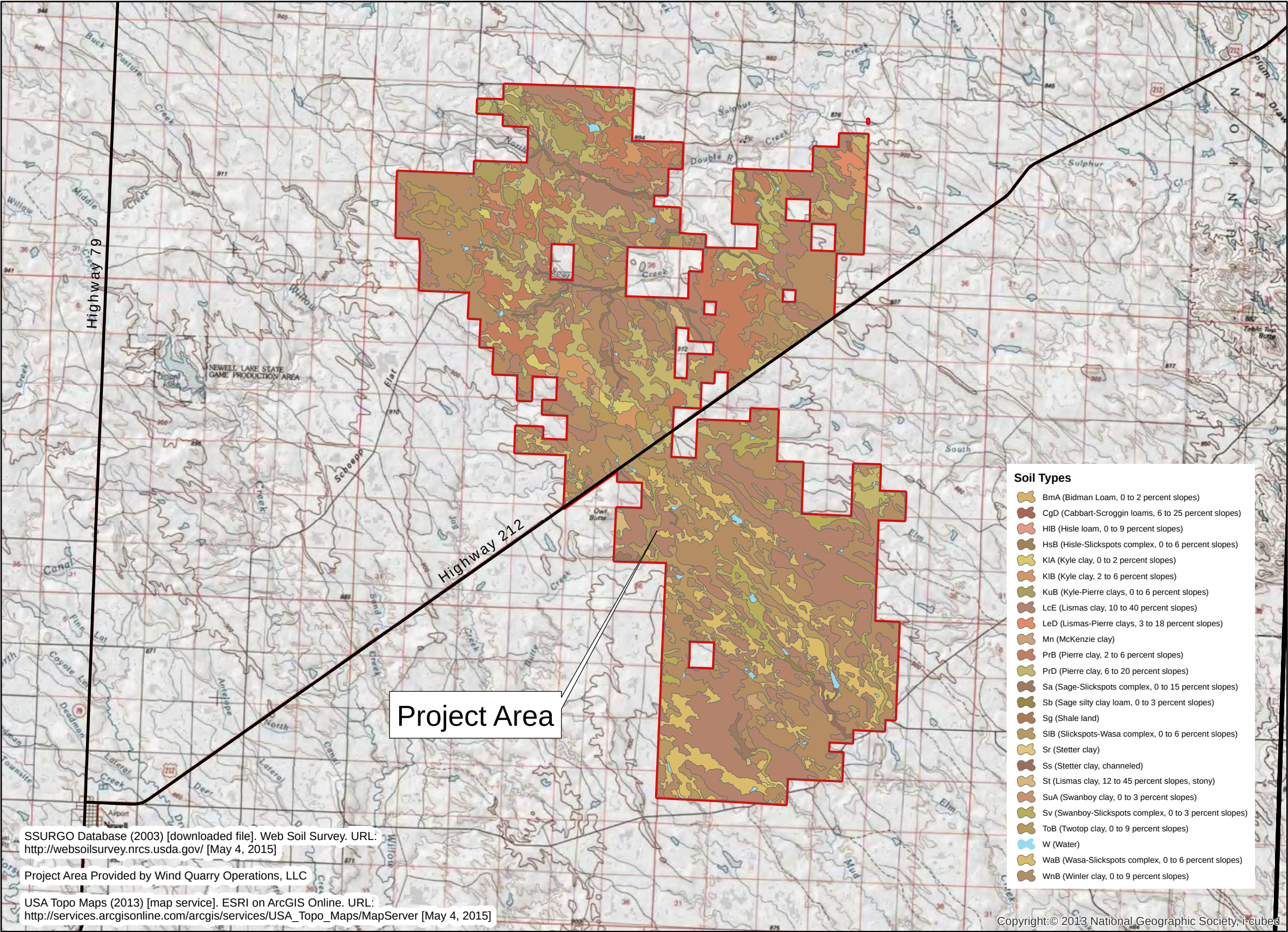
**LEGEND**

- Qal : ALLUVIUM
- Kp : PIERRE SHALE

HORIZONTAL SCALE: 1"=5000'  
VERTICAL SCALE: 1"=50'

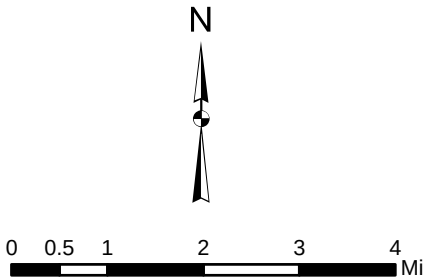


Figure 9 - Soil Types



Legend

- Highway
- Project Boundary



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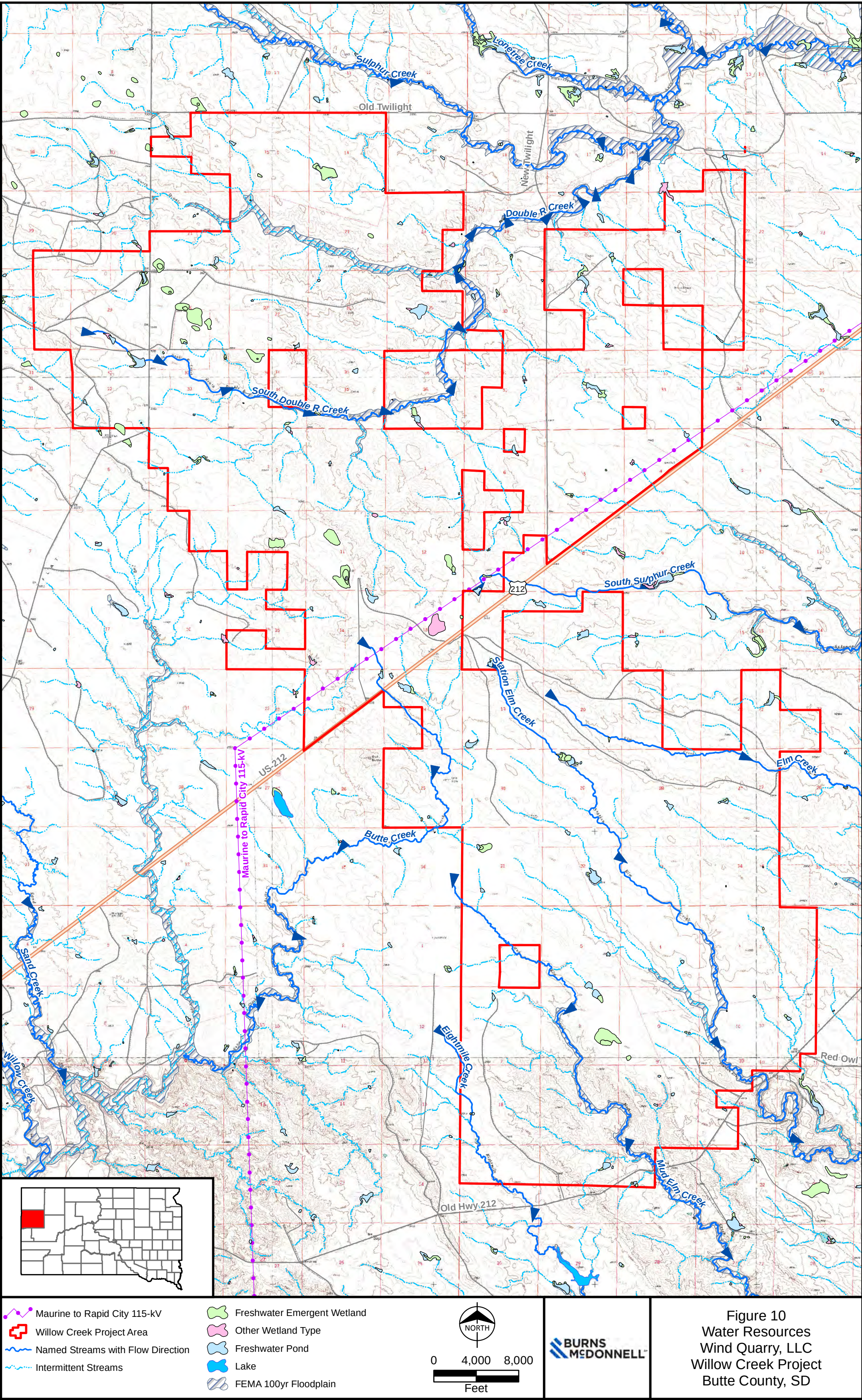
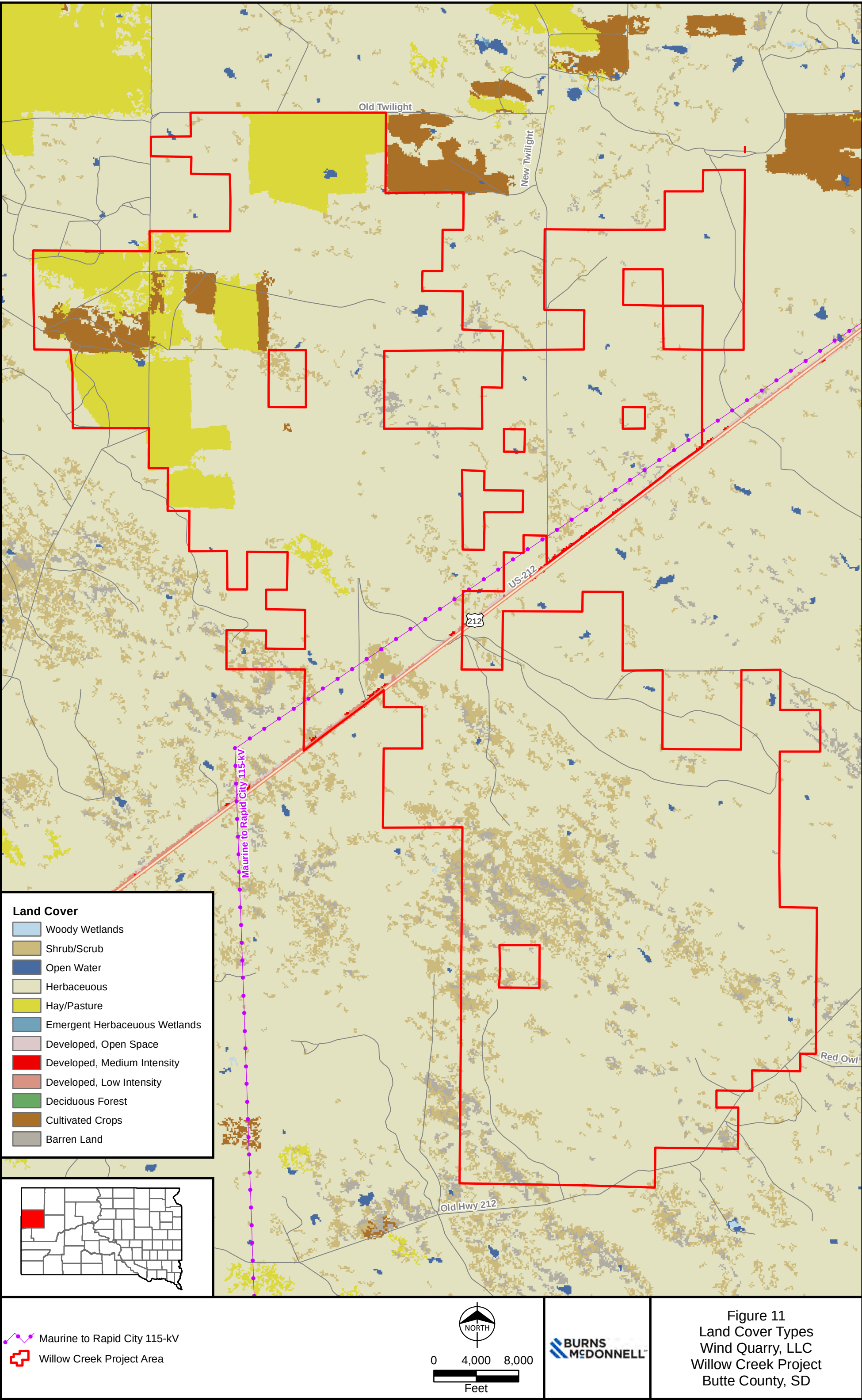
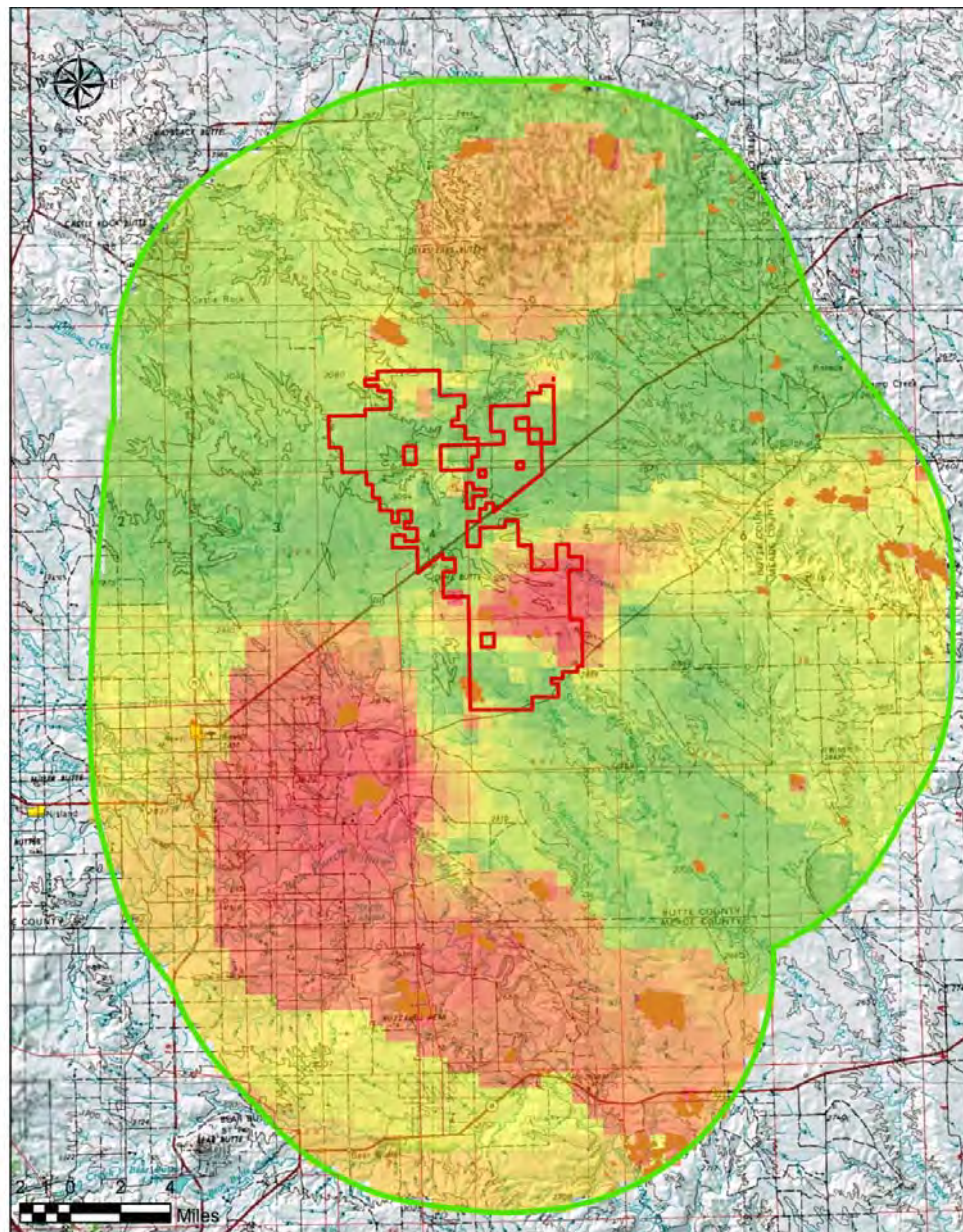


Figure 10  
Water Resources  
Wind Quarry, LLC  
Willow Creek Project  
Butte County, SD







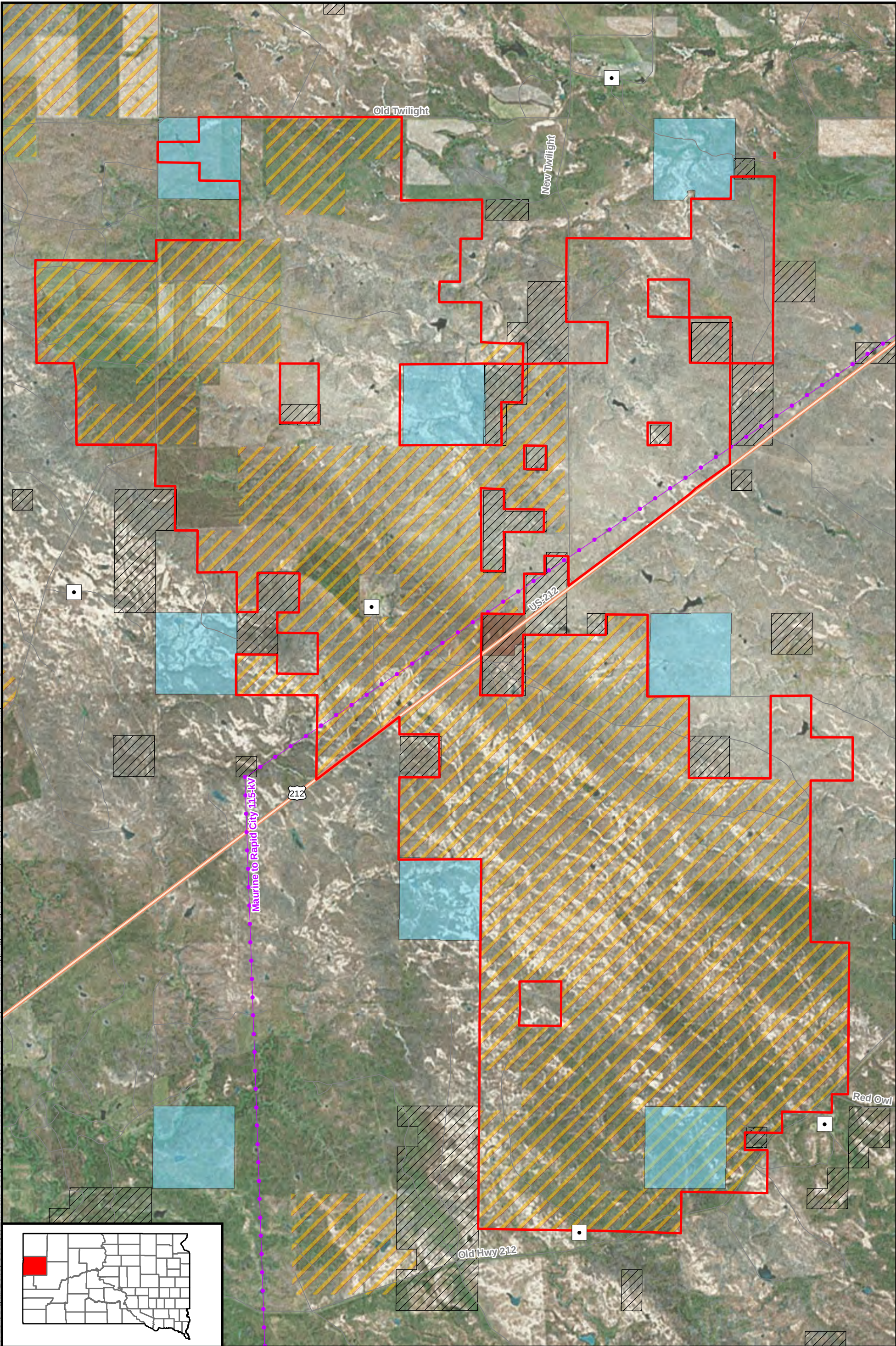


Prepared by  
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Marmot's Edge Conservation  
99 Lovers Lane  
Belfry, MT 59008  
ecology@coonsagefarm.org



Figure 12 – Most suitable areas for wind turbine placement based upon areas of lowest bald eagle and golden eagle suitability





- |                                                                                     |                              |                                                                                     |                            |
|-------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------|----------------------------|
|  | Residences                   |  | BLM Ownership Land         |
|  | Maurine to Rapid City 115-kV |  | Bureau of Reclamation Land |
|  | Willow Creek Project Area    |  | South Dakota Public Land   |
|                                                                                     |                              |  | Walk-In Hunting Areas      |

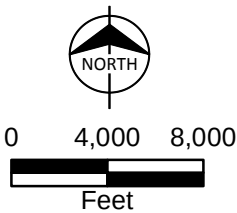
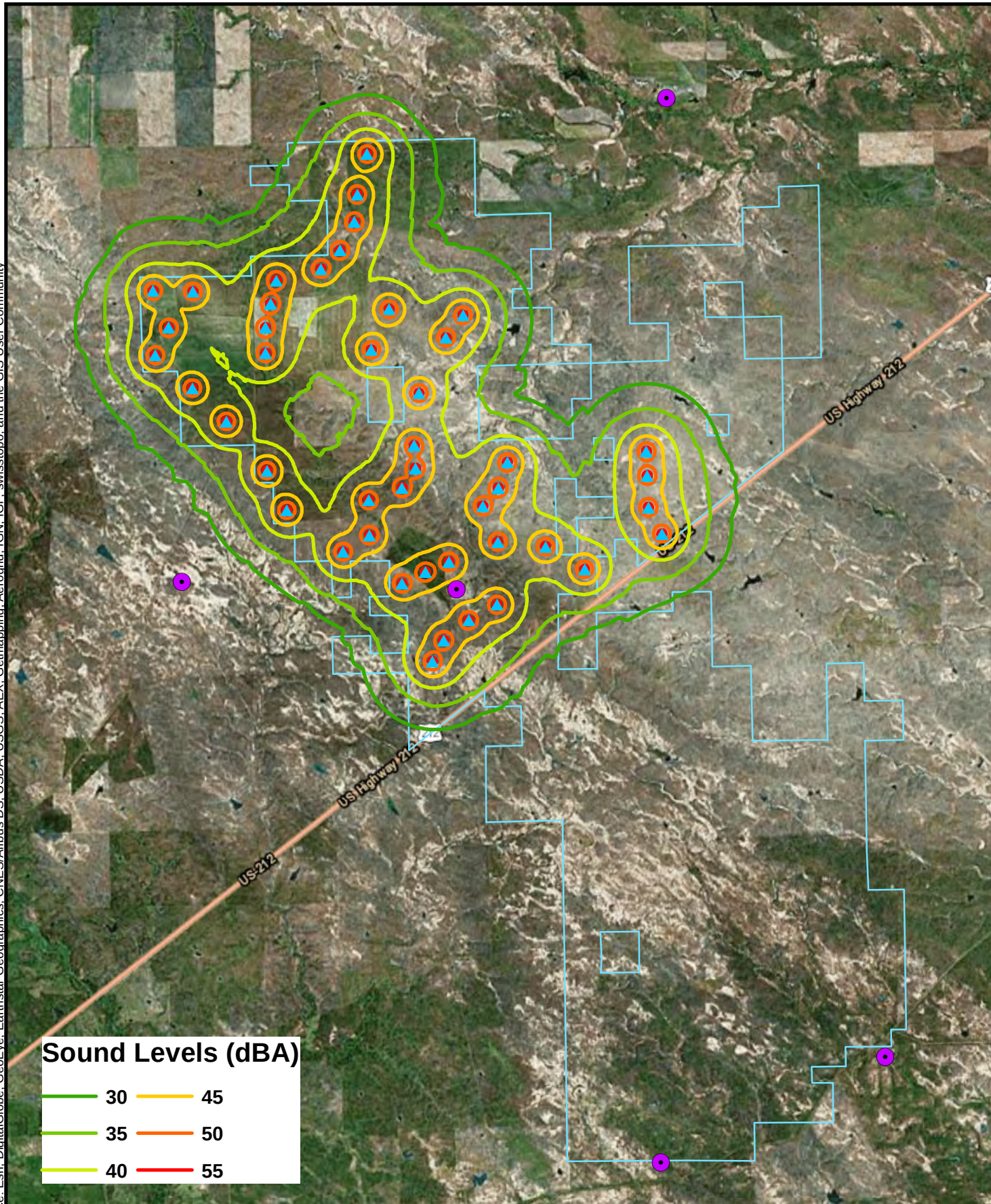


Figure 13  
Land Use and Public Lands  
Wind Quarry, LLC  
Willow Creek Project  
Butte County, SD





### Sound Levels (dBA)

|    |    |
|----|----|
| 30 | 45 |
| 35 | 50 |
| 40 | 55 |



Receivers



Wind Turbine Layout



Willow Creek Project Area

9,100 4,550 0

Scale in Feet



**BURNS  
MCDONNELL**

Figure 14  
Predicted Sound Level Contours  
Wind Quarry, LLC  
Willow Creek Project  
Butte County, SD