

APPENDIX A
Surface Disturbance

Surface Disturbance Category	Description	Type of Disturbance	Disturbance Variables	# of Structure Sites or Length of Feature(s)	Estimated* Total Initial Surface Disturbance Within ROW or Easement (acres)	Residual (after interim reclamation) Surface Disturbance - all ownership (acres)	BLM Sites or Length	BLM Initial Surface Disturbance Inside ROW (acres)	BLM Initial Surface Disturbance Outside ROW (acres)	Residual (after interim reclamation) BLM Surface Disturbance (acres)
Category 1	In-line (tangent) wood H-frame structures (2-pole) (minus poles in Category 6)	Auger (embed) poles - no foundation. Followed by gravel backfill and reclamation	2' (diameter) poles w/ 4' foot auger hole	286 sites (minus P&T sites); 2 poles per site	0.165	0.041	248	0.143	None	0.036
Category 2	Wooden Transmission Pole Structures at angles and dead ends (3-pole)	Auger (embed) poles - with guys but no foundation. Followed by gravel fill and reclamation	2' pole diameter + 4' diameter gravel fill	39 sites; 3 poles per site	0.034	0.008	33	0.029	None	0.007
Category 3	In-line (tangent) steel monopole structures (1-pole)	Auger (embed) poles, followed by or concrete backfill. Followed by reclamation.	3' (diameter) poles in 4 foot auger hole backfilled in concrete	132 sites (minus P&T sites); 1 pole	0.038	0.038	117	0.034	None	0.034
Category 4	Steel Deadend and Angle Pole Structures (1-pole)	6 foot auger holes for rebar reinforcement and concrete foundation. Followed by reclamation	4 foot pole diameter on 4'5" concrete foundation	24; 1 pole	0.016	0.009	15	0.010	None	0.005
Category 5	In-line pulling and tensioning sites	Temporary vegetation crushing and driving disturbance; blading as necessary to stabilize equipment; followed by recontouring and 100% reclamation. Occur every 2 miles.	100' x 500'= 1.14 acres	24	27.36	None	22	25.08	None	None
Category 6	Pulling and tensioning sites at dead ends and 45 degree angles (minus area covered by Category 7)	Temporary vegetation crushing and driving disturbance; blading as necessary to stabilize equipment, followed by 100% reclamation.	500' radius = 18 acres total; 3.44 acres in ROW per pole	10	34.40	None	5.00	17.200	TBD during BLM walk through	None
Category 7	In-ROW temporary transmission line construction disturbance (minus disturbance accounted for in categories 1-6 & 10)	Temporary vegetation crushing and soil disturbance by equipment, cable dragging, and driving; followed by limited reclamation	150' disturbance width	56.5 miles	896.75	None	48.8	785.178	None	None

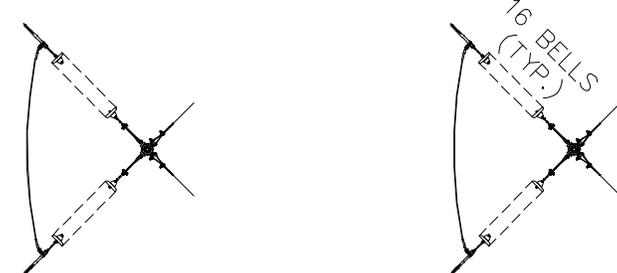
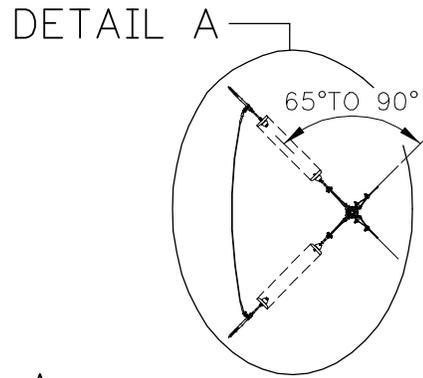
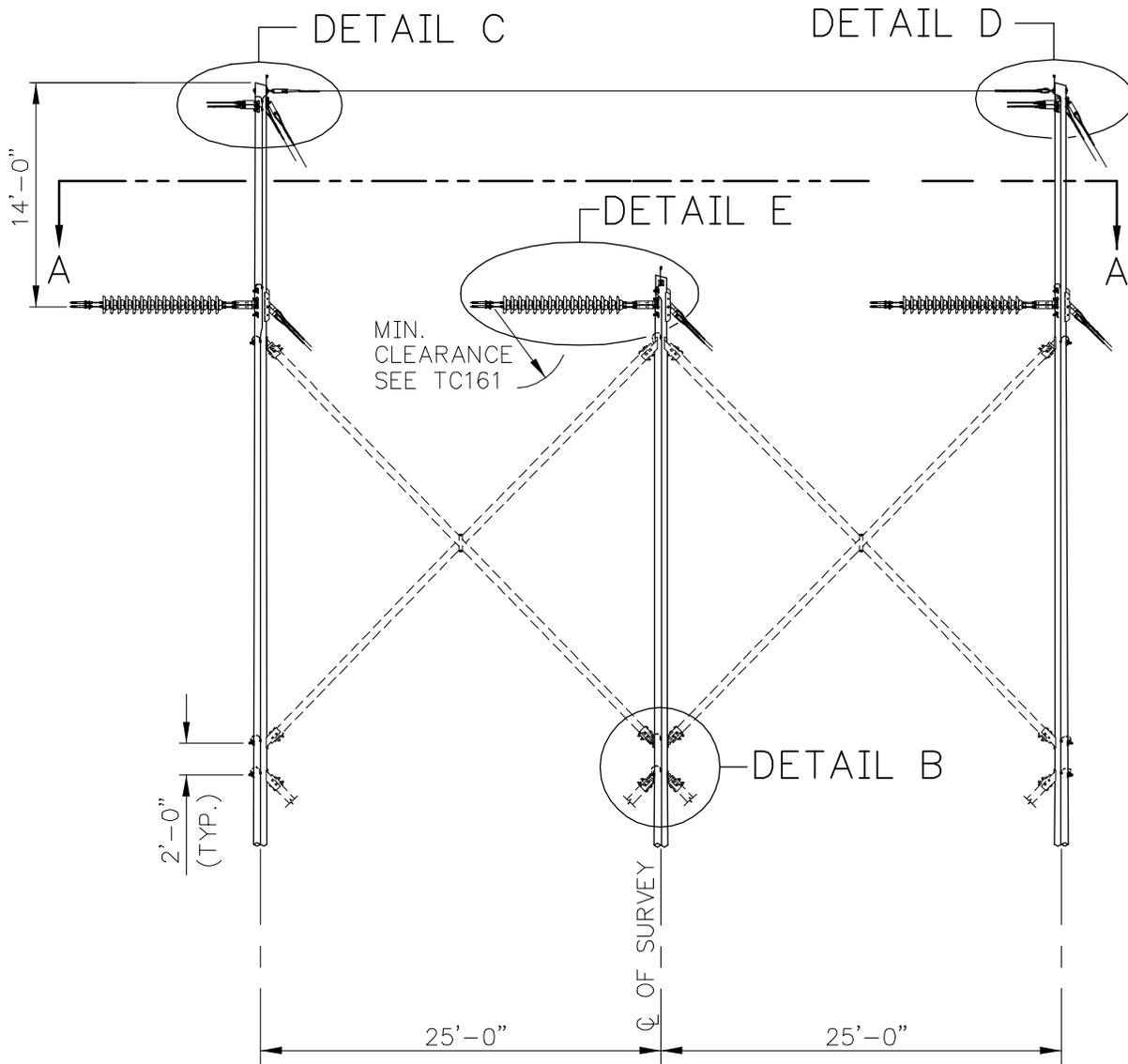
Surface Disturbance Category	Description	Type of Disturbance	Disturbance Variables	# of Structure Sites or Length of Feature(s)	Estimated* Total Initial Surface Disturbance Within ROW or Easement (acres)	Residual (after interim reclamation) Surface Disturbance - all ownership (acres)	BLM Sites or Length	BLM Initial Surface Disturbance Inside ROW (acres)	BLM Initial Surface Disturbance Outside ROW (acres)	Residual (after interim reclamation) BLM Surface Disturbance (acres)
Category 8	25 kV distribution line	Temporary vegetation crushing and soil disturbance by equipment, cable dragging, and driving; followed by limited reclamation	75' disturbance width	1.82 miles	16.55	0.003	0.63 mile	4.93 Acres Included in Substation initial 15-acre disturbance	None	0.001
Category 9	Out-of ROW permitted temporary use	To be determined in semi-final design and BLM Temporary- Use Permit, followed by 100% reclamation	TBD	NA	TBD	TBD	TBD	TBD	TBD	TBD
Category 10	Permanent 2-track road (assumes road along transmission line only)	Long-term, permanent disturbance from unauthorized access in the ROW (two-track)	10' disturbance width	56.500	68.511	68.485	49.17	59.6	None	59.6
Category 11	Substation	Grading followed by complete conversion of 8-acre industrial site, and restoration of temporary work areas	15	2	30.00	16	2	30	NA	16
Estimated* Total Acres:					1,073.82	84.58	NA	917.27	0.00	75.68

*All calculations are estimates based on the best information available from conceptual designs provided by project proponents.

APPENDIX B

Schematics

TI 452





 May be used
 In raptor areas

SECTION A-A

230 kV Structure—Shielded, 3-Pole—Dead-End, 65° to 90°



TI 452

RCMS Code: CU

May be used
In raptor areas

Scope

This structure is used for deadends with line angles up to 90° when shielding is required.
Line Angle: 65° to 90°

Standard References

- TC 161 *Clearances—for Conductors on the Same Support*
- TD 001 *Poles—General Information*
- TD 100 *Conductor—General Information*
- TD 200 *Shield and Guy Wire—General Information*
- TD 300 *Grounding—General Information*
- TD 500 *Tension Hardware—General Information*
- TD 600 *Guys and Anchors—General Information*
- TD 700 *Crossarms and Braces—General Information*
- TD 800 *Insulators—General Information*
- TD 900 *Bolts, Nuts, and Washers—General Information*

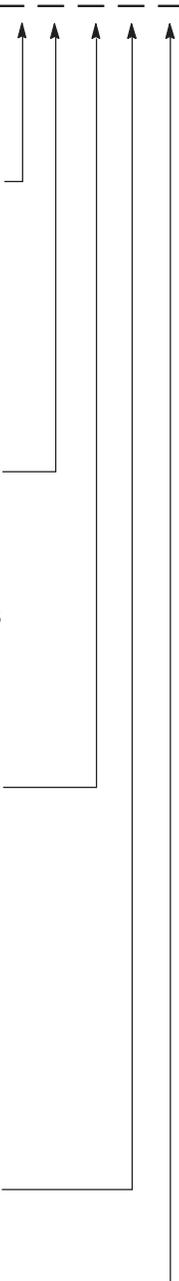
<u>Conductor</u>	<u>Code</u>
1/0 ACSR "Raven"	A
4/0 ACSR "Penguin"	B
397.5 ACSR "Ibis"	C
795 ACSR "Drake"	D
954 ACSR "Cardinal"	E
1272 ACSR "Bittern"	F
795 AAC "Arbutus"	G
1272 AAC "Narcissus"	H
None	Z

<u>Conductor Accessories</u>	<u>Code</u>
<u>Suspension Hardware</u>	
Armor rod	A
Line guard	B
None	Z
<u>Tension Hardware Compression Fittings</u>	
Jumper w/armor rod	C
Jumper w/o armor rod	D
<u>Tension Hardware Bolted Fittings</u>	
Jumper w/armor rod	E
Jumper w/o armor rod	F

<u>Shield Wire</u>	<u>Code</u>
3/8 EHS	A
1/2 EHS	B
7#8 AW	C
7#6 AW	D
3/8 EHS w/AGS	E
1/2 EHS w/AGS	F
7#8 AW w/AGS	G
7#6 AW w/AGS	H
3/8 EHS w/armor rod	I
1/2 EHS w/armor rod	J
7#8 AW w/armor rod	K
7#6 AW w/armor rod	L
None	Z

<u>Insulation</u>	<u>Code</u>
Porcelain	A
Polymer	B

<u>Pole Class</u>	<u>Species</u>	<u>Code</u>
3	Douglas fir	A
2	Douglas fir	B
1	Douglas fir	C
H1	Douglas fir	D
H2	Douglas fir	E
3	Western red cedar	F
2	Western red cedar	G
1	Western red cedar	H
H1	Western red cedar	I
H2	Western red cedar	J



**Transmission
Construction Standard**

Stds Team Leader (C. L. Wright):
Standards Services (M. Brimhall):

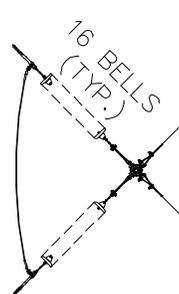
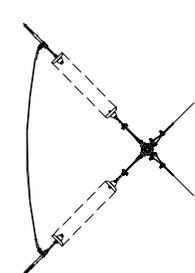
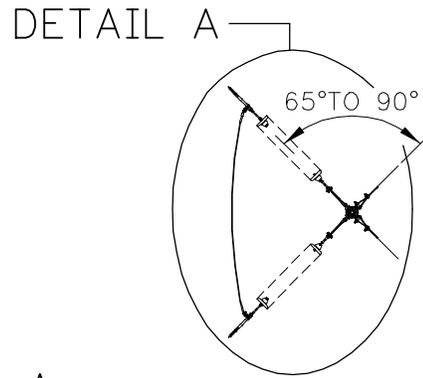
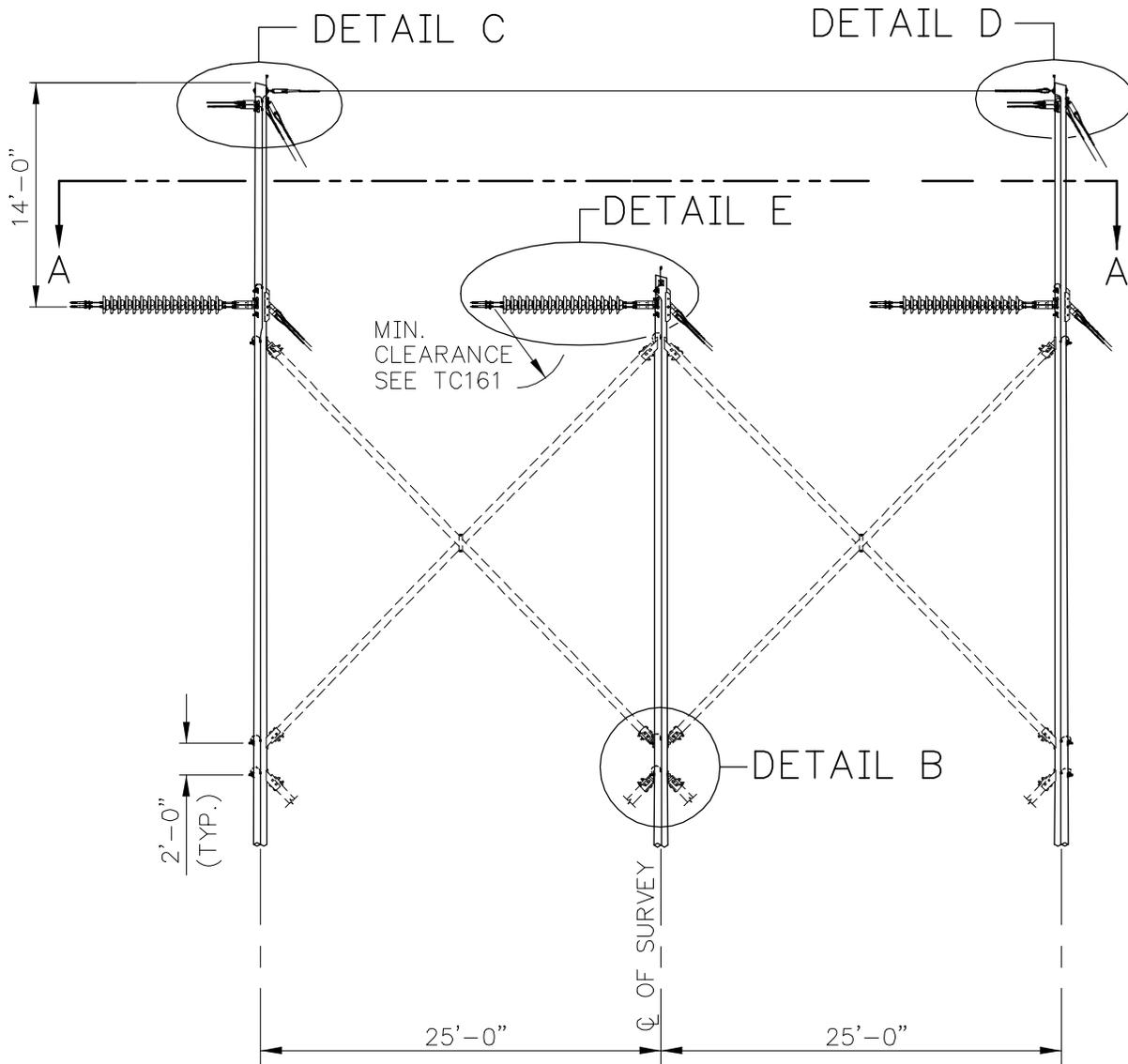
**230 kV Structure
Shielded, 3-Pole
Dead-End, 65° to 90°**



8 Sep 97

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TI 452



SECTION A-A



May be used
In raptor areas

TI 452

Table 1 – Components

Item	Qty.	Standard	Description
1	1	TD 022_	Pole Assembly, Split-Bolt, 3/4" Diameter
2A	3	TD 321E Z	Grounding Assembly, Hardware-to-Hardware
2B	1	TD 321C E	Grounding Assembly, Hardware-to-Hardware
2C	2	TD 321C Z	Grounding Assembly, Hardware-to-Hardware
3	2	TD 322E	Grounding Assembly, Hardware-to-Structure Ground
4	6	TD 520_ _	Tension Assembly, Conductor
5	4	TD 525_ A	Tension Assembly, Shield Wire, Guy Grip
6	1	TD 540_ E A	Tie Wire Assembly
7	6	TD 826_ B	Insulator Assembly, Dead-End, with 15" Link
8	2	TD 926_ F	Bolt Assembly, Machine, 3/4-Inch
9A	12	TD 928_ A	Bolt Assembly, Machine, 1-Inch
9B	20	TD 928_ D	Bolt Assembly, Machine, 1-Inch
10	4	TD 325_	Grounding Assembly, Shield Wire-to-Pole Ground

Table 2 – Additional Material To Be Specified To Complete This Structure

Item	Qty.	Standard	Description
A	3	TD 020_ _ A	Wood Pole Assembly
B	10	TD 620_ _ _ _	Guy Assembly
C	AS REQ	TD 630_ _ _	Anchor Assembly
D	AS REQ	TD 774F _ B A	Brace, Cross, Wood Assembly with Double Bolt Connection

Notes

1. All hardware is to be bonded when it is separated by less than 8 inches. Bond wire shall loop around the bolt.
2. Install spring washers with loop end up where possible.
3. All pole attachment hardware shall be bonded to the pole grounding assembly.
4. Class 1 or better poles are recommended.



TI 452

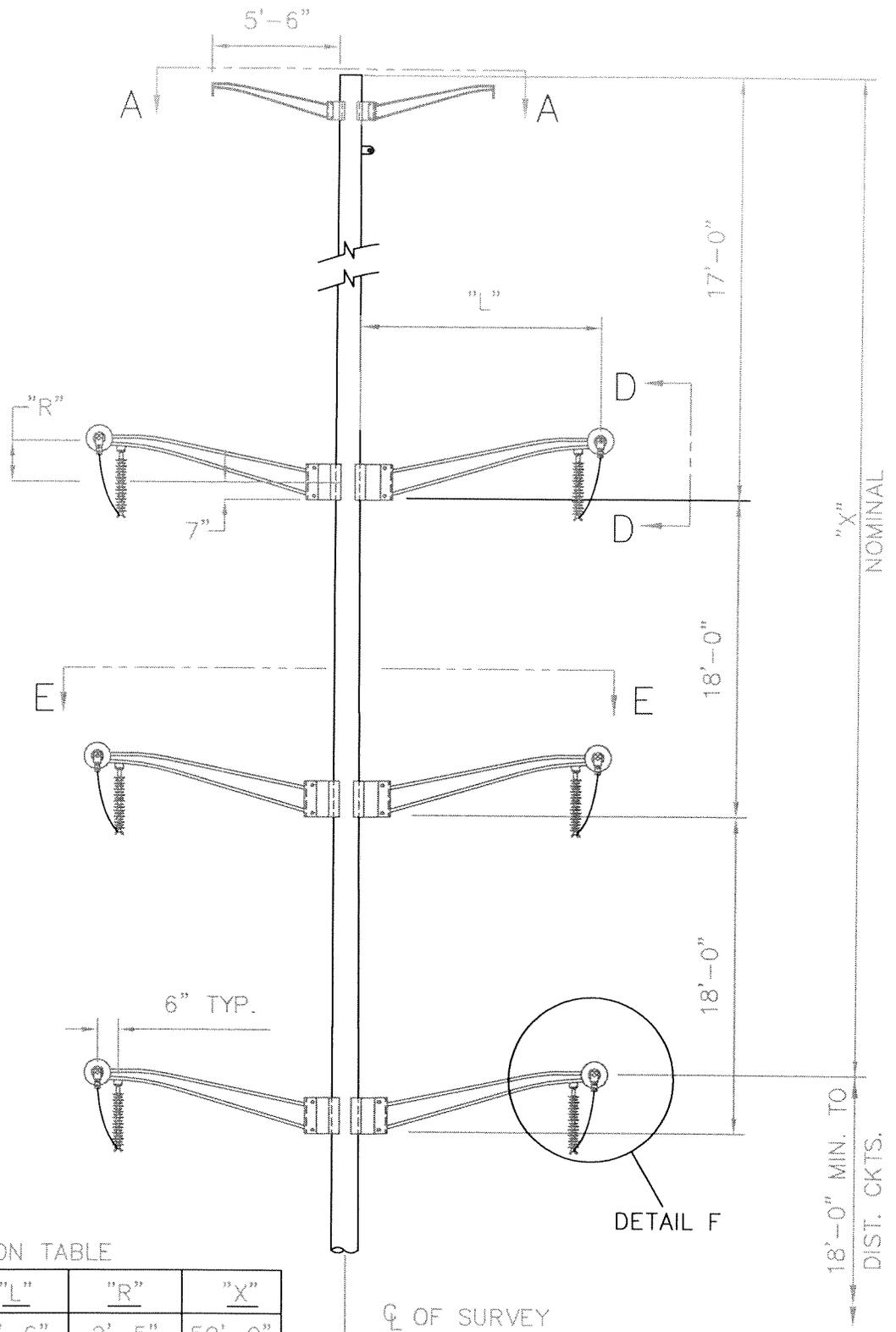
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8 Sep 97

**230 kV Structure
Shielded, 3-Pole
Dead-End, 65° to 90°**

**Transmission
Construction Standard**

Stds Team Leader (C. L. Wright):
Standards Services (M. Brimhall):



DIMENSION TABLE

LINE ANGLE	"L"	"R"	"X"
0°-30°	9'-6"	2'-5"	50'-0"
30°-60°	10'-6"	2'-9"	49'-8"
60°-90°	12'-6"	3'-5"	49'-0"

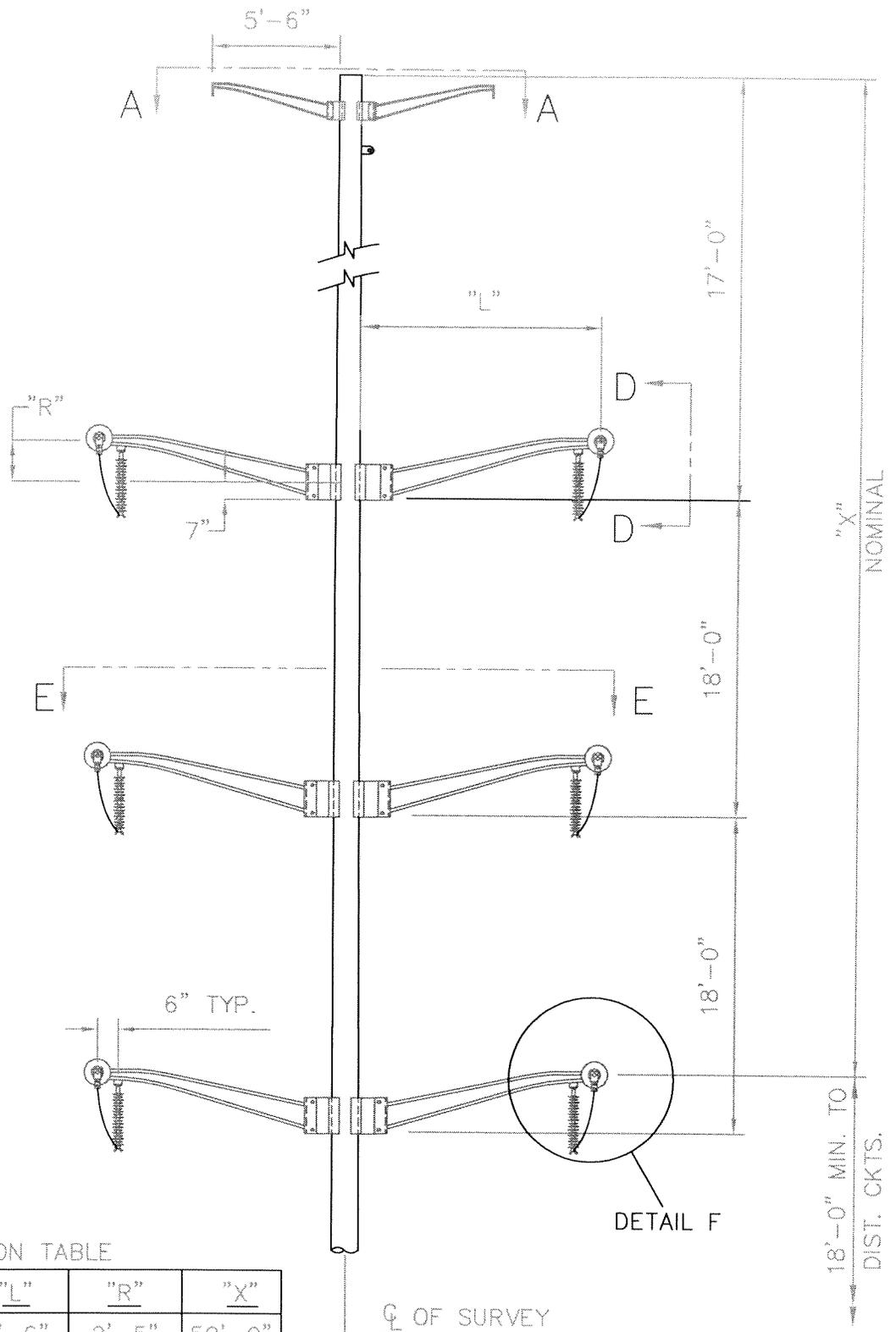
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ER/PR	
DATE	6 SEPT 06
ENG	/ DES
DR	CH
APP	

230KV STRUCTURE
SHIELDED, D. C.
DEADEND, 0° TO 90°, STEEL
POLE W/ DAVIT ARMS

PACIFIC CORP
PACIFIC

SHEET	1 of 2	SCALE	NONE
T1285		REV.	0



DIMENSION TABLE

LINE ANGLE	"L"	"R"	"X"
0°-30°	9'-6"	2'-5"	50'-0"
30°-60°	10'-6"	2'-9"	49'-8"
60°-90°	12'-6"	3'-5"	49'-0"

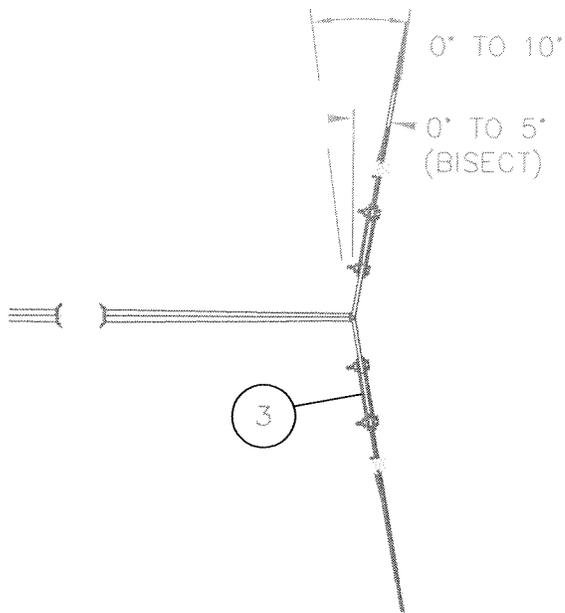
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ENG	/ DES
DR	CH
APP	

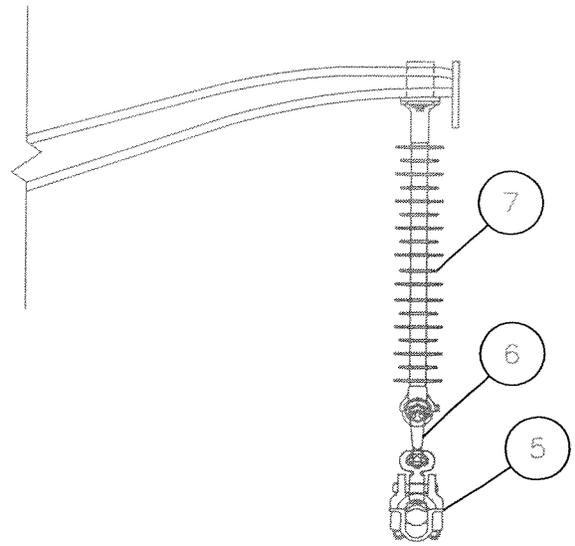
230KV STRUCTURE
SHIELDED, D. C.
DEADEND, 0° TO 90°, STEEL
POLE W/ DAVIT ARMS

PACIFIC CORP
PACIFIC

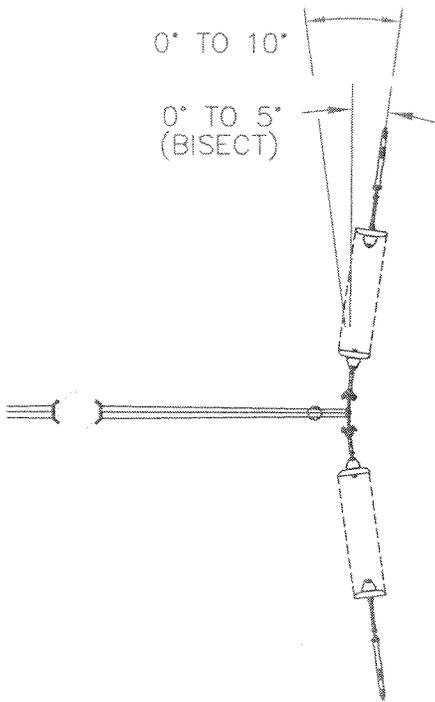
SHEET	1 of 2	SCALE	NONE
T1285		REV.	0



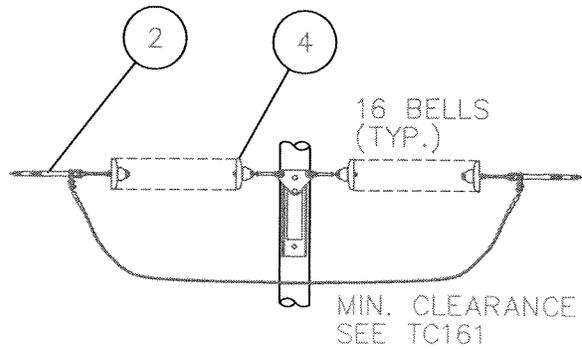
SECTION A-A



DETAIL F



SECTION E-E



SECTION D-D
(TYPICAL)

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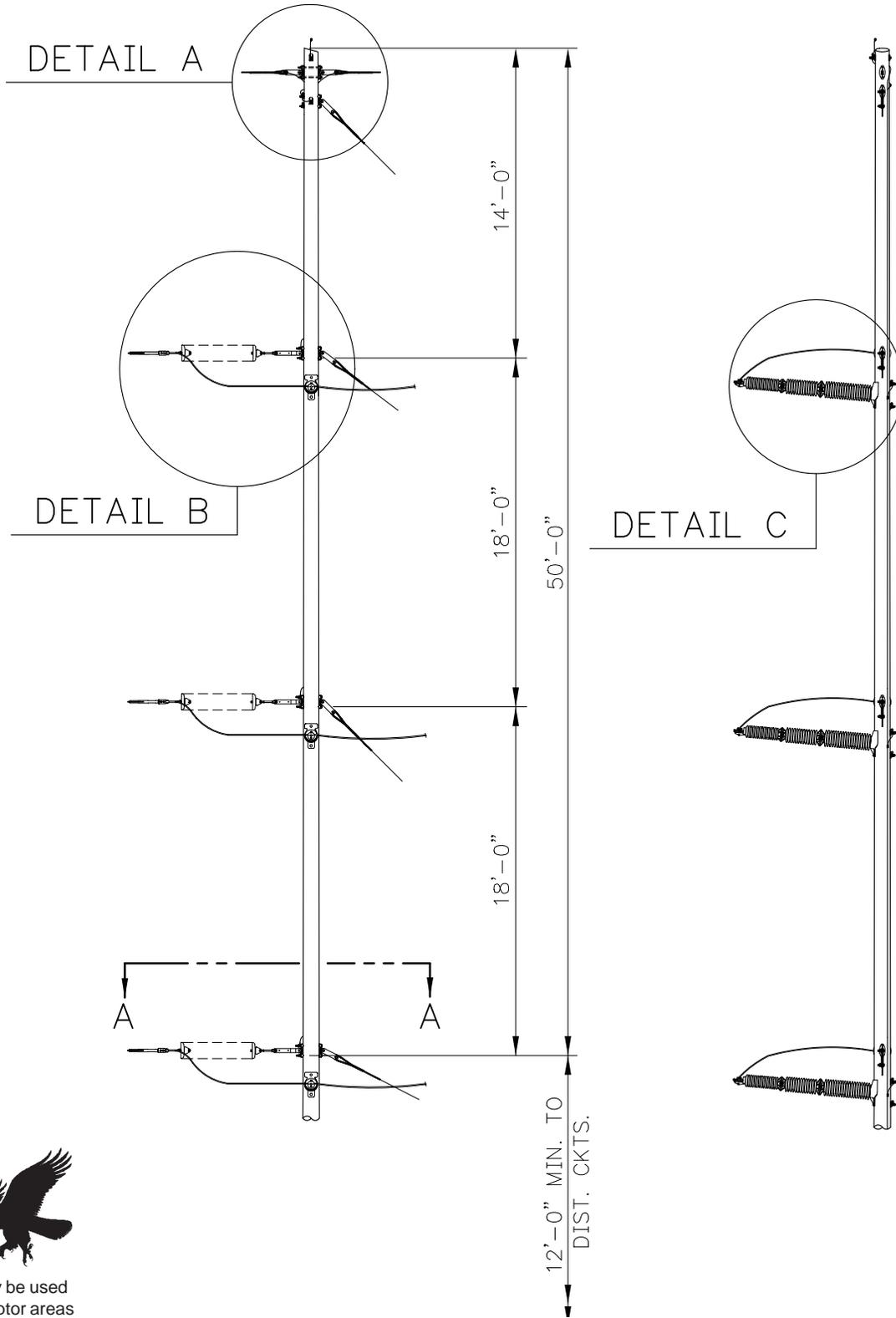
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ENG	DES
DR	CH
APP	

230KV STRUCTURE
SHIELDED D. C.
DEAD-END, 0° TO 90°, STEEL
POLE W/ DAVIT ARMS

PACIFICORP
PACIFIC

SHEET	2 of 2	SCALE	NONE
T1285F2		REV.	1

TI 253



May be used
In raptor areas

230 kV Structure—Shielded, Single-Circuit—Dead-End, Terminal, Slack into Substation



May be used
In raptor areas

TI 253

RCMS Code: CU



Scope

This structure is used for tangent deadends entering substations from full tension to reduced tension when shielding is required.
Line Angle: 0° to 1°

Standard References

- TD 001 *Poles—General Information*
- TD 100 *Conductor—General Information*
- TD 200 *Shield and Guy Wire—General Information*
- TD 300 *Grounding—General Information*
- TD 500 *Tension Hardware—General Information*
- TD 600 *Guys and Anchors—General Information*
- TD 800 *Insulators—General Information*
- TD 900 *Bolts, Nuts, and Washers—General Information*

<u>Conductor</u>	<u>Code</u>
1/0 ACSR "Raven"	A
4/0 ACSR "Penguin"	B
397.5 ACSR "Ibis"	C
795 ACSR "Drake"	D
954 ACSR "Cardinal"	E
1272 ACSR "Bittern"	F
795 AAC "Arbutus"	G
1272 AAC "Narcissus"	H
None	Z

<u>Conductor Accessories</u>	<u>Code</u>
<u>Suspension Hardware</u>	
Armor rod	A
Line guard	B
None	Z
<u>Tension Hardware Compression Fittings</u>	
Jumper w/armor rod	C
Jumper w/o armor rod	D
<u>Tension Hardware Bolted Fittings</u>	
Jumper w/armor rod	E
Jumper w/o armor rod	F

<u>Shield Wire</u>	<u>Code</u>
3/8 EHS	A
1/2 EHS	B
7#8 AW	C
7#6 AW	D
3/8 EHS w/AGS	E
1/2 EHS w/AGS	F
7#8 AW w/AGS	G
7#6 AW w/AGS	H
3/8 EHS w/armor rod	I
1/2 EHS w/armor rod	J
7#8 AW w/armor rod	K
7#6 AW w/armor rod	L
None	Z

<u>Insulation</u>	<u>Code</u>
Porcelain	A
Polymer	B

<u>Pole Class</u>	<u>Species</u>	<u>Code</u>
3	Douglas fir	A
2	Douglas fir	B
1	Douglas fir	C
H1	Douglas fir	D
H2	Douglas fir	E
3	Western red cedar	F
2	Western red cedar	G
1	Western red cedar	H
H1	Western red cedar	I
H2	Western red cedar	J

Transmission Construction Standard

Stds Team Leader (C. L. Wright):

Standards Services (M. Brimhall):

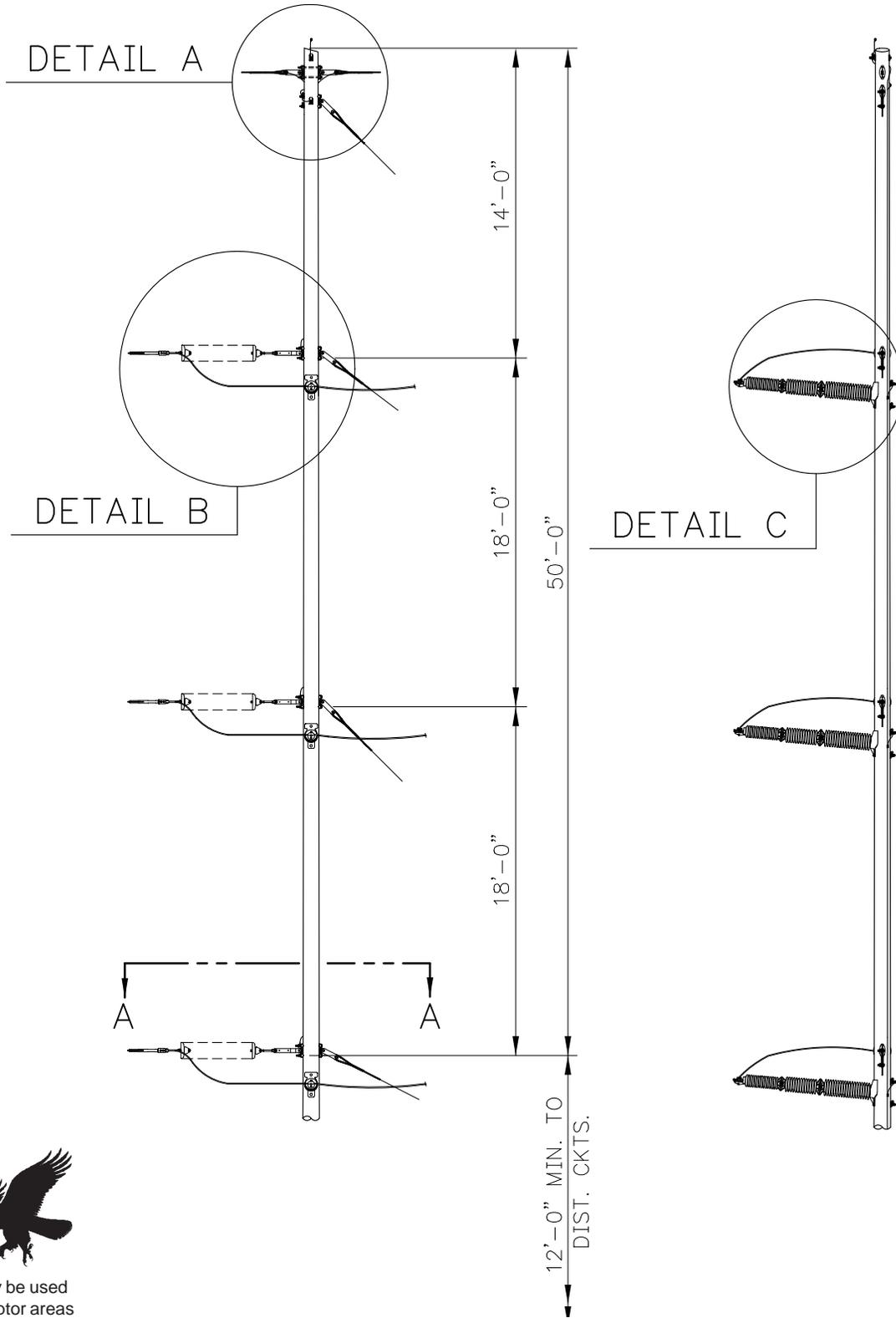
230 kV Structure Shielded, Single-Circuit Dead-End, Terminal, Slack into Substation



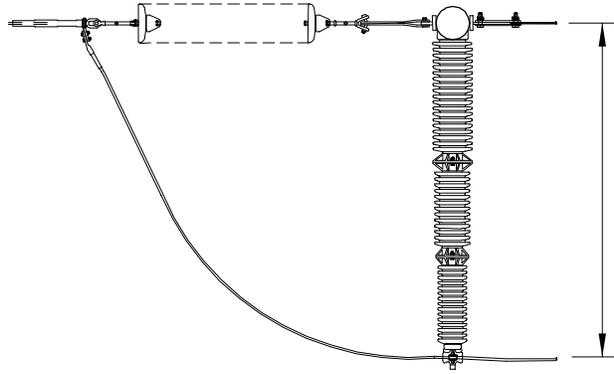
27 May 97

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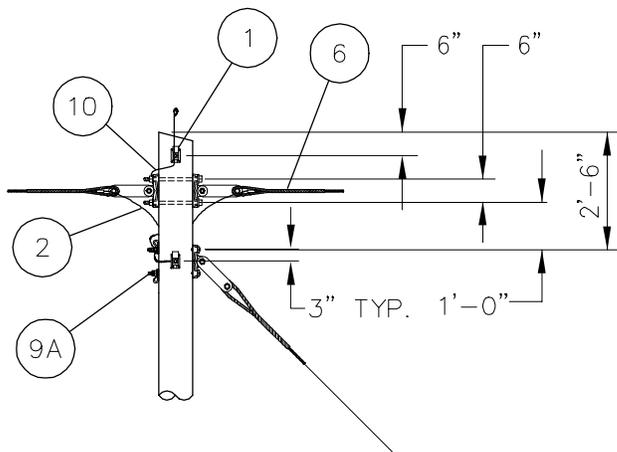


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In raptor areas

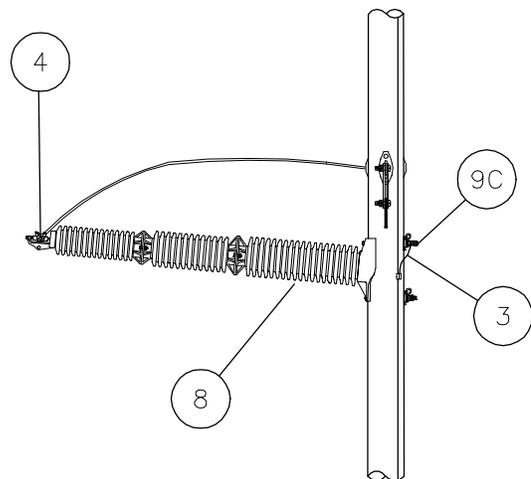


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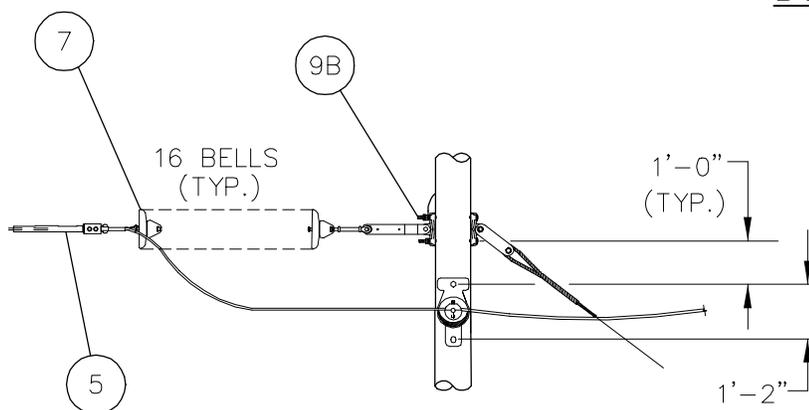
SECTION A-A



DETAIL A



DETAIL C



DETAIL B

**Transmission
Construction Standard**

Stds Team Leader (C. L. Wright): *CLW*
Standards Services (M. Brimhall): *MB*

**230 kV Structure
Shielded, Single-Circuit
Dead-End, Terminal,
Slack into Substation**



27 May 97

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Table 1 – Component Assemblies

Item	Qty.	Standard	Description
1	2	TD 022_	Pole Assembly, Split-Bolt, 3/4" Diameter
2	2	TD 325_	Grounding Assembly, Shield Wire-to-Pole Ground
3	7	TD 322E	Grounding Assembly, Hardware-to-Structure Ground
4	3	TD 420_ _ A	Suspension Assembly, Conductor
5	3	TD 520_ _	Tension Assembly, Conductor
6	2	TD 525_ A	Tension Assembly, Shield Wire, Guy Grip
7	3	TD 826E _ A	Insulator Assembly, Dead-End, with Link
8	3	TD 831F	Insulator, Post, Horizontal, Polymer
8	3	TD 835F	Insulator, Post, Horizontal, Porcelain
9A	2	TD 928_ A	Bolt Assembly, Machine, 1-Inch
9B	8	TD 928_ D	Bolt Assembly, Machine, 1-Inch
9C	6	TD 928_ E	Bolt Assembly, Machine, 1-Inch
10	2	TD 321C Z	Grounding Assembly, Hardware-to-Hardware

Table 2 – Additional Material To Be Specified To Complete This Structure

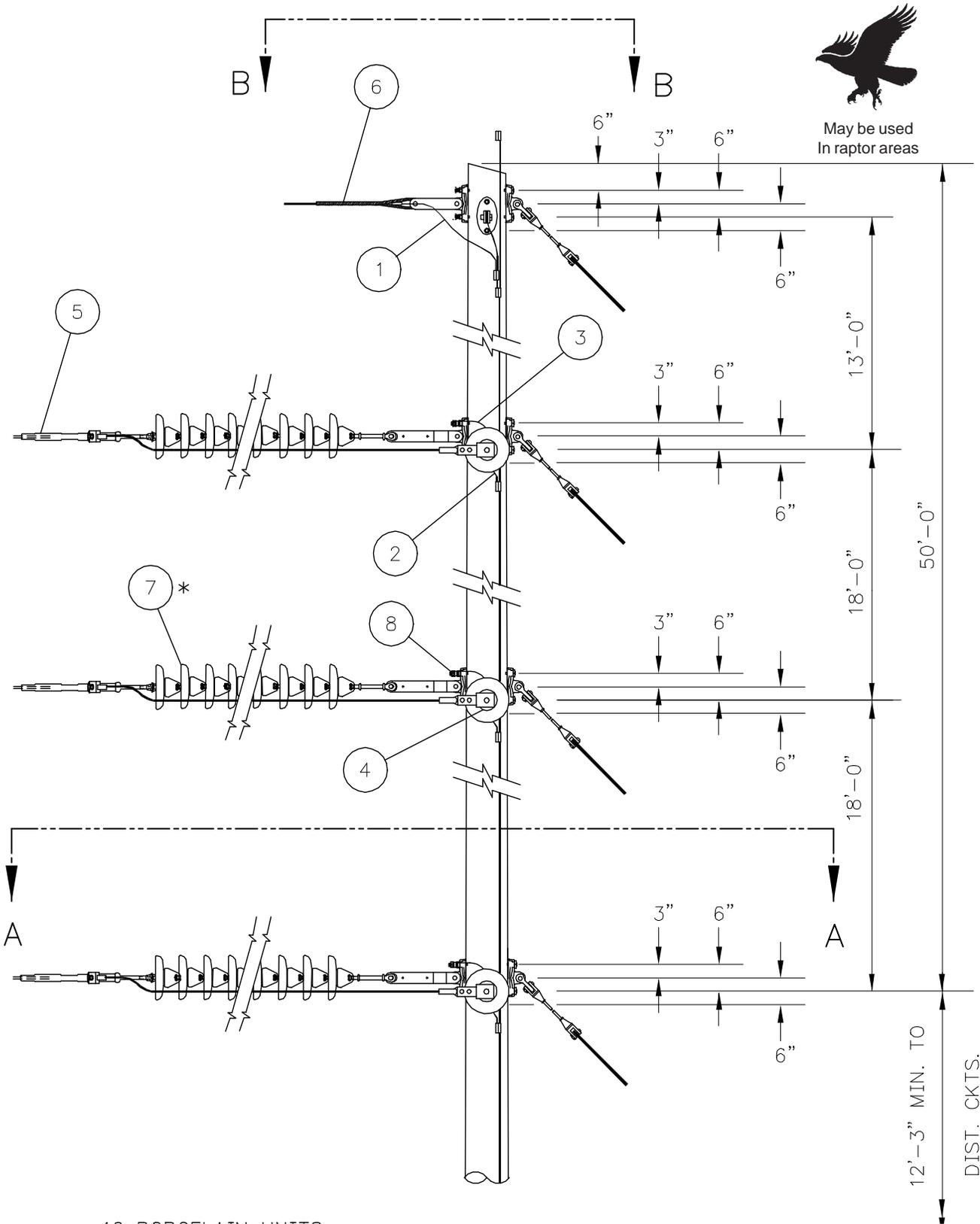
Item	Qty.	Standard	Description
A	1	TD 020_ _ A	Wood Pole Assembly
B	4	TD 620A _ _ _	Guy Assembly
C	AS REQ	TD 630_ _ _	Anchor Assembly

Notes

1. All hardware is to be bonded when it is separated by less than 8 inches. Bond wire shall loop around the bolt.
2. Install spring washers with loop end up where possible.
3. Guy clearance to the conductor shall be maintained.
4. All pole attachment hardware shall to be bonded to the pole grounding assembly.
5. In contaminated areas, use TD 840, code "F" for post insulators.
6. Class 1 or better pole is recommended.



TI 255



May be used
In raptor areas

PACIFICORP
PACIFIC POWER UTAH POWER

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**230 kV
Structure—Shielded,
Single-Circuit, Dead-End
Tap**

**Transmission
Construction Standard**

Stds Team Leader (C. L. Wright):

Standards Services (M. Brimhall):

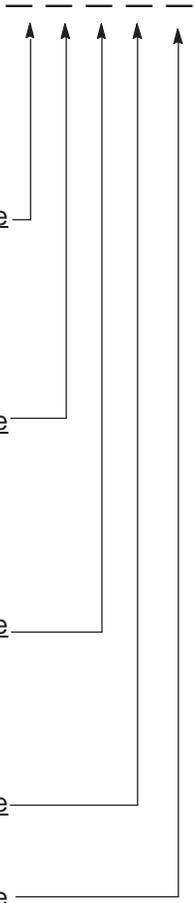
230 kV Structure—Shielded, Single-Circuit, Dead-End Tap



May be used
In raptor areas

TI 255

RCMS Code: CU



Scope

This structure is used for a three-way dead end when shielding is required.

Line Tap Angle: 65° to 90°

Standard References

- TD 001 *Poles—General Information*
- TD 100 *Conductor—General Information*
- TD 200 *Shield and Guy Wire—General Information*
- TD 300 *Grounding—General Information*
- TD 500 *Tension Hardware—General Information*
- TD 600 *Guys and Anchors—General Information*
- TD 800 *Insulators—General Information*
- TD 900 *Bolts, Nuts, and Washers—General Information*

<u>Conductor – Through Circuit</u>		<u>Code</u>
795 ACSR “Drake”	.....	D
954 ACSR “Cardinal”	.....	E
1272 ACSR “Bittern”	.....	F
795 AAC “Arbutus”	.....	G
1272 AAC “Narcissus”	.....	H
None	.....	Z
<u>Conductor – Tap Circuit</u>		<u>Code</u>
795 ACSR “Drake”	.....	D
954 ACSR “Cardinal”	.....	E
1272 ACSR “Bittern”	.....	F
795 AAC “Arbutus”	.....	G
1272 AAC “Narcissus”	.....	H
None	.....	Z
<u>Shield Wire</u>		<u>Code</u>
3/8” EHS	.....	A
1/2” EHS	.....	B
7 #8 AW	.....	C
7 #6 AW	.....	D
None	.....	Z
<u>Insulation</u>		<u>Code</u>
Porcelain	.....	A
Polymer	.....	B
<u>Pole Class</u>		<u>Species</u>
1	.....	Douglas fir
H1	.....	Douglas fir
H2	.....	Douglas fir
1	.....	Western red cedar
H1	.....	Western red cedar
H2	.....	Western red cedar

**Transmission
Construction Standard**

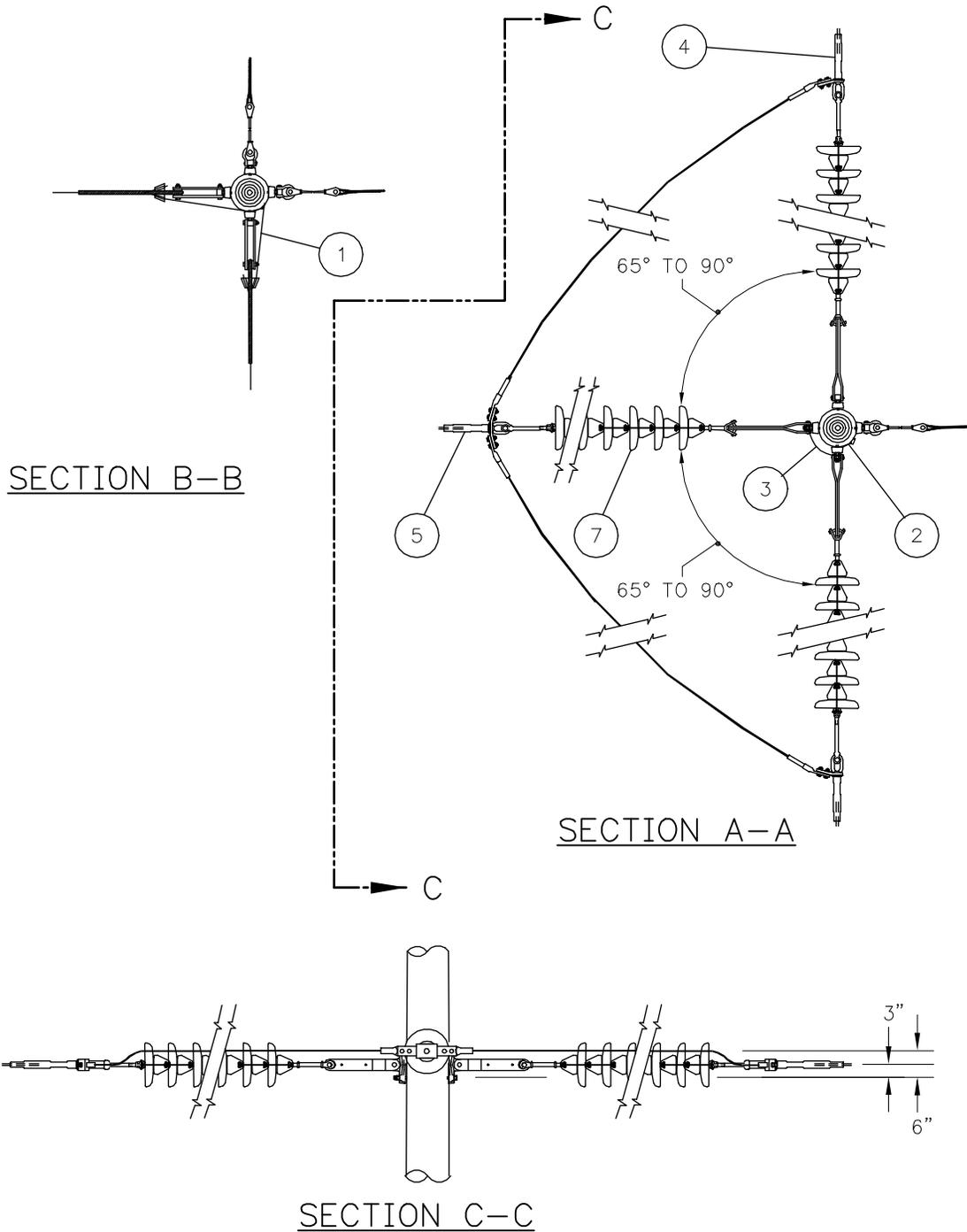
Stds Team Leader (C. L. Wright):
Standards Services (M. Brimhall):

**230 kV
Structure—Shielded,
Single-Circuit, Dead-End
Tap**

PACIFICORP
PACIFIC POWER UTAH POWER

30 Jan 98

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Page 1 of 4



**Transmission
Construction Standard**

Stds Team Leader (C. L. Wright): *CLW*
Standards Services (M. Brimhall): *MB*

**230 kV
Structure—Shielded,
Single-Circuit, Dead-End
Tap**



30 Jan 98

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TI 255

Table 1 – Components

Item	Qty.	Standard	Description
1	3	TD 325_	Grounding Assembly, Shield Wire-to-Pole Ground
2	3	TD 322E	Grounding Assembly, Hardware-to-Structure Ground
3	3	TD 321E Z	Grounding Assembly, Hardware-to-Hardware
4	6	TD 520_ _	Tension Assembly, Conductor
5	3	TD 521_ _	Tension Assembly, Conductor, Double Jumper
6	3	TD 525_ A	Tension Assembly, Shield Wire, Guy Grip
7	9	TD 826E _ D	Insulator Assembly, Dead-End, with 15" Link
8	16	TD 928_ A	Bolt Assembly, Machine, 1-Inch

Table 2 – Additional Material To Be Specified To Complete This Structure

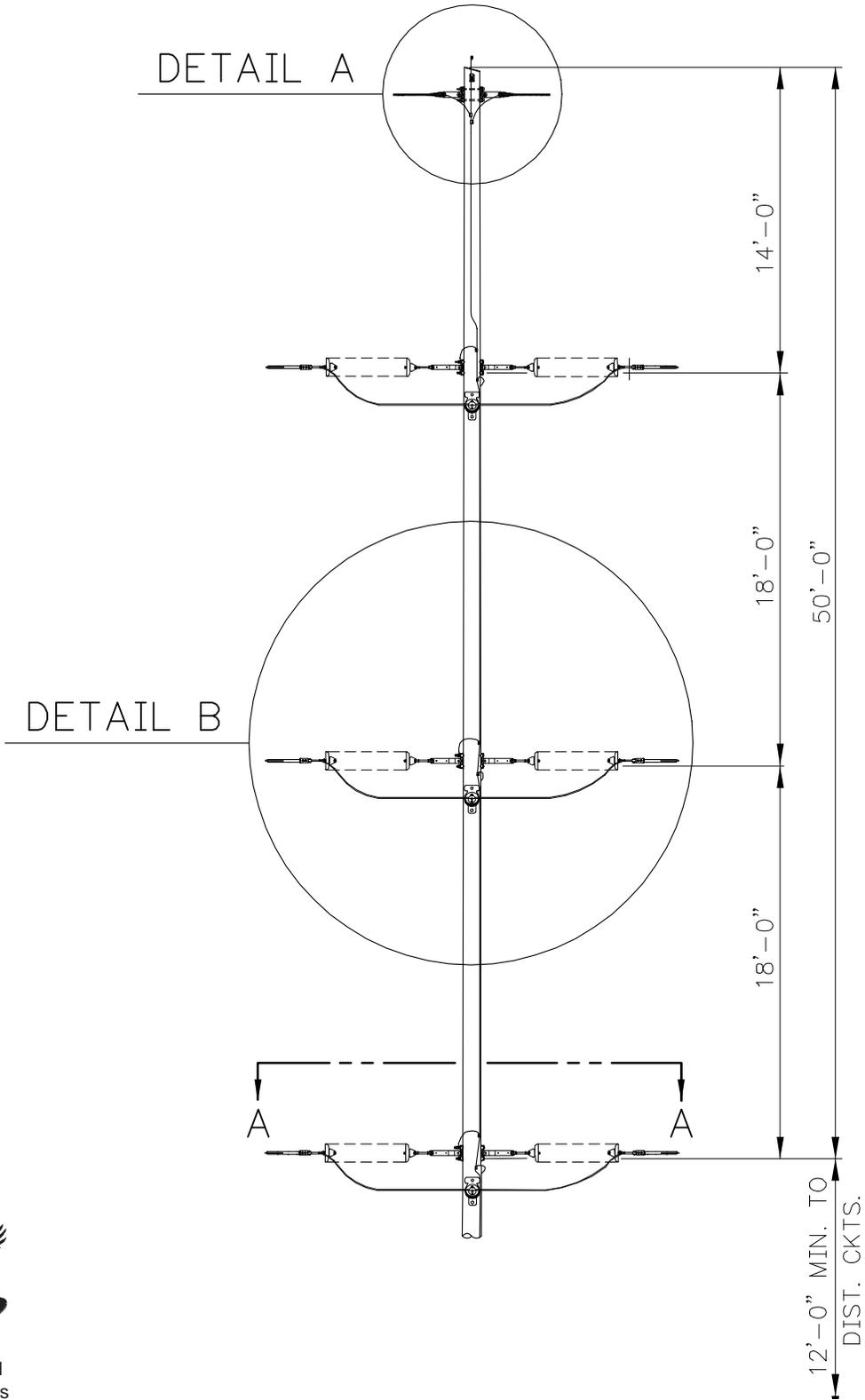
Item	Qty.	Standard	Description
A	1	TD 020_ _ A	Wood Pole Assembly
B	4	TD 620A _ _ _	Guy Assembly
C	AS REQ	TD 630_ _ _	Anchor Assembly

Notes

1. Compression fittings are specified for the *through* and *tap* circuit conductors.
2. If the *tap* conductor selected is smaller than the *through* conductor, the size of the smaller conductor dead end may restrict the maximum current that can be carried through it by the larger *through* conductor jumpers. Contact Transmission Engineering for assistance.
3. All hardware is to be bonded when it is separated by less than eight inches. Bond wire shall loop around the bolt.
4. Install spring washers with loop end up where possible.
5. All pole attachment hardware shall be bonded to the pole grounding assembly.
6. Class 1 or better pole is recommended.



TI 240



May be used
In raptor areas



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17 Mar 97

**230 kV Structure
Shielded, Single-Circuit
Strain, 0° to 3°, Unguyed**

**Transmission
Construction Standard**

Stds Team Leader (C. L. Wright):
Standards Services (M. Brimhall):



230 kV Structure—Shielded, Single-Circuit—Strain, 0° to 3°, Unguyed



TI 240

RCMS Code: CU

May be used
In raptor areas

Scope

This structure is used for strain deadends when shielding is required. It is used to handle conductor uplift or excessive weight span conditions. All wires shall be intact with equal tensions.

Line Angle: 0° to 3°

Standard References

TD 001	<i>Poles—General Information</i>
TD 100	<i>Conductor—General Information</i>
TD 300	<i>Grounding—General Information</i>
TD 500	<i>Tension Hardware—General Information</i>
TD 800	<i>Insulators—General Information</i>
TD 900	<i>Bolts, Nuts, and Washers—General Information</i>

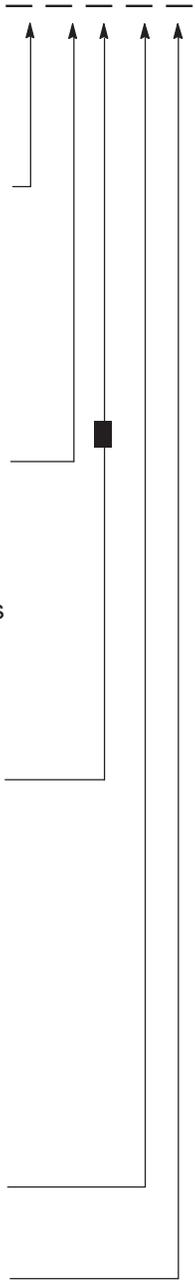
<u>Conductor</u>	<u>Code</u>
1/0 ACSR "Raven"	A
4/0 ACSR "Penguin"	B
397.5 ACSR "Ibis"	C
795 ACSR "Drake"	D
954 ACSR "Cardinal"	E
1272 ACSR "Bittern"	F
795 AAC "Arbutus"	G
1272 AAC "Narcissus"	H
None	Z

<u>Conductor Accessories</u>	<u>Code</u>
<u>Suspension Hardware</u>	
Armor rod	A
Line guard	B
None	Z
<u>Tension Hardware Compression Fittings</u>	
Jumper w/armor rod	C
Jumper w/o armor rod	D
<u>Tension Hardware Bolted Fittings</u>	
Jumper w/armor rod	E
Jumper w/o armor rod	F

<u>Shield Wire</u>	<u>Code</u>
3/8 EHS	A
1/2 EHS	B
7#8 AW	C
7#6 AW	D
3/8 EHS w/AGS	E
1/2 EHS w/AGS	F
7#8 AW w/AGS	G
7#6 AW w/AGS	H
3/8 EHS w/armor rod	I
1/2 EHS w/armor rod	J
7#8 AW w/armor rod	K
7#6 AW w/armor rod	L
None	Z

<u>Insulation</u>	<u>Code</u>
Porcelain	A
Polymer	B

<u>Pole Class</u>	<u>Species</u>	<u>Code</u>
3	Douglas fir	A
2	Douglas fir	B
1	Douglas fir	C
H1	Douglas fir	D
H2	Douglas fir	E
3	Western red cedar .	F
2	Western red cedar .	G
1	Western red cedar .	H
H1	Western red cedar .	I
H2	Western red cedar .	J



Transmission Construction Standard

Stds Team Leader (C. L. Wright):

Standards Services (M. Brimhall):

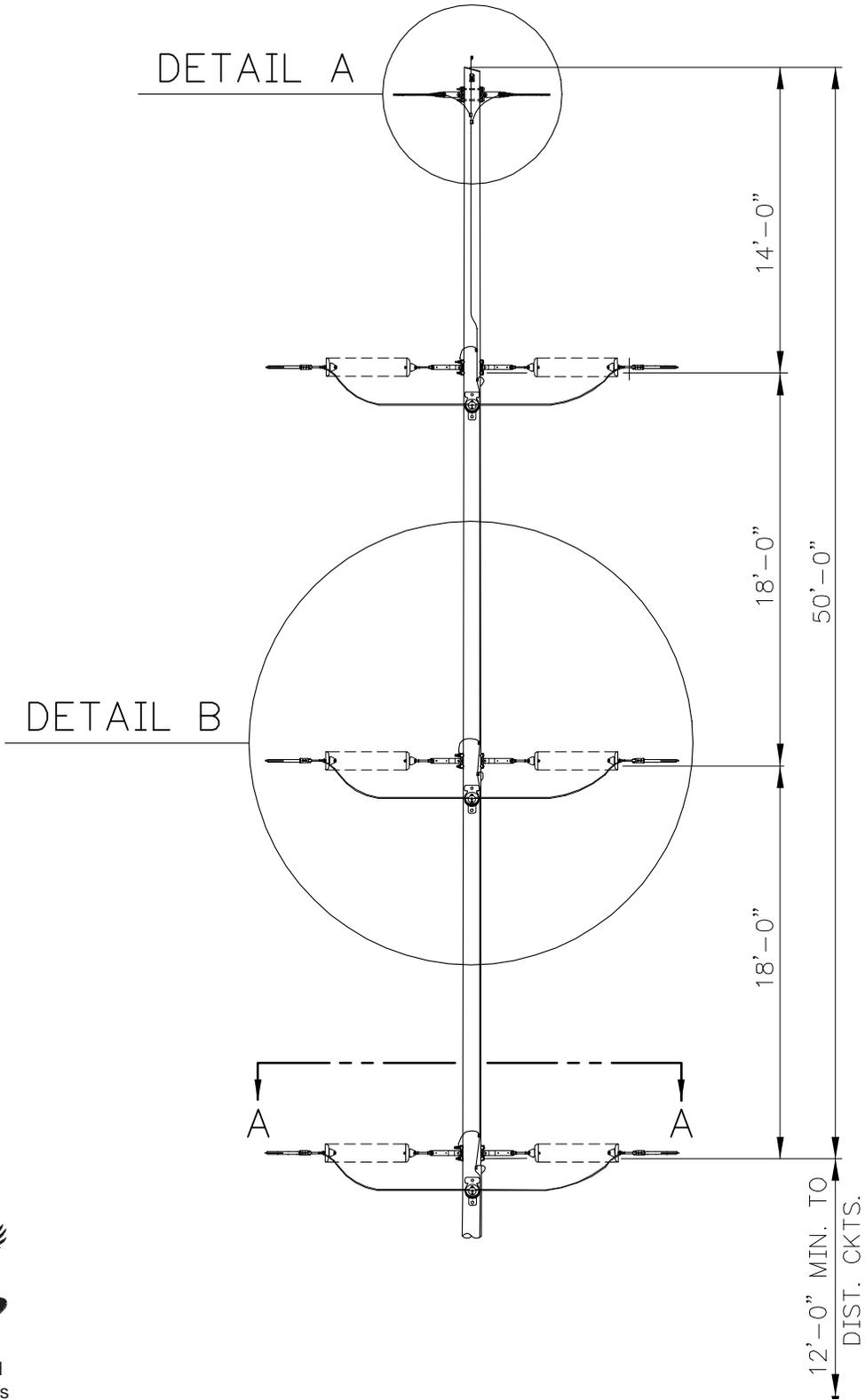
230 kV Structure Shielded, Single-Circuit Strain, 0° to 3°, Unguyed



17 Mar 97

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TI 240



May be used
In raptor areas



TI 240
Page 2 of 4

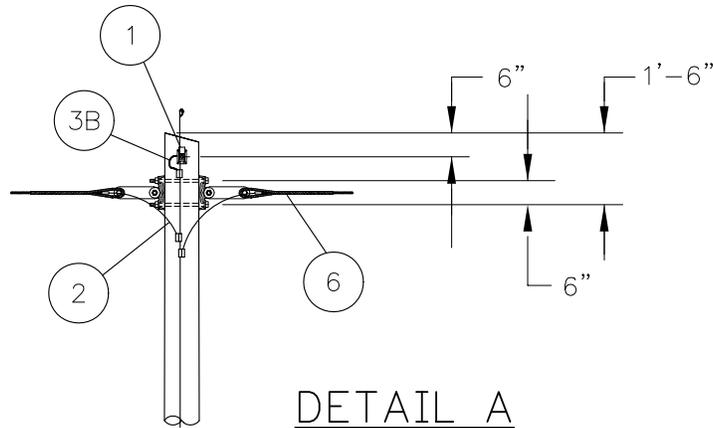
17 Mar 97

**230 kV Structure
Shielded, Single-Circuit
Strain, 0° to 3°, Unguyed**

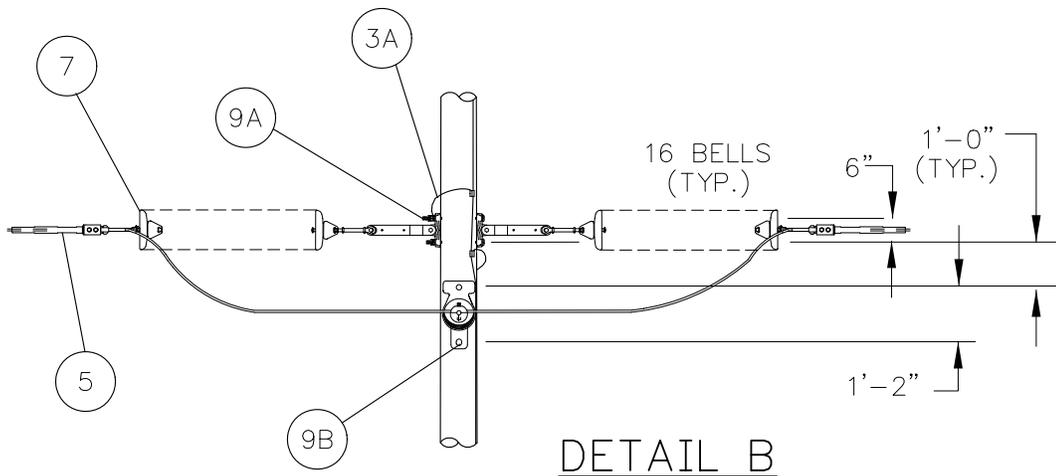
**Transmission
Construction Standard**

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Standards Services (M. Brimhall):

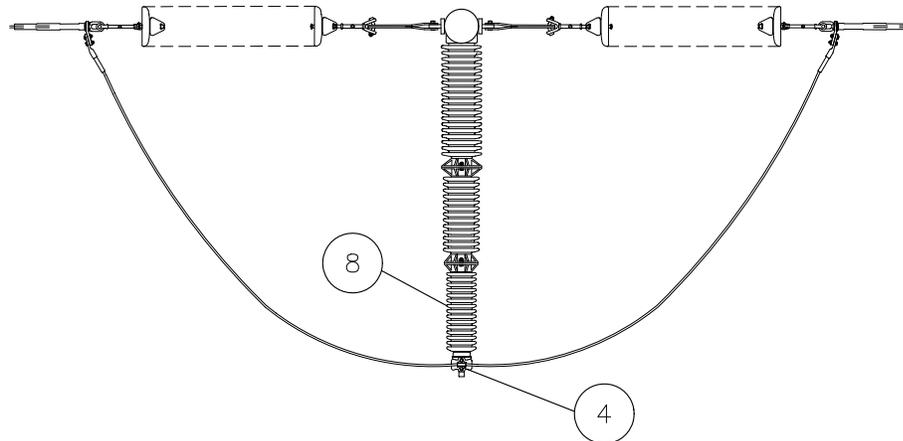




DETAIL A



DETAIL B



SECTION A-A

**Transmission
Construction Standard**

Stds Team Leader (C. L. Wright): 
Standards Services (M. Brimhall): 

**230 kV Structure
Shielded, Single-Circuit
Strain, 0° to 3°, Unguyed**



17 Mar 97

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TI 240

Table 1 – Components

Item	Qty.	Standard	Description
1	1	TD 022_	Pole Assembly, Split-Bolt, 3/4" Diameter
2	2	TD 325_	Grounding Assembly, Shield Wire-to-Pole Ground
3A	6	TD 322E	Grounding Assembly, Hardware-to-Structure Ground
3B	1	TD 322C	Grounding Assembly, Hardware-to-Structure Ground
4	3	TD 420_ _ A	Suspension Assembly, Conductor
5	6	TD 520_ _	Tension Assembly, Conductor
6	2	TD 525_ A	Tension Assembly, Shield Wire, Guy Grip
7	6	TD 826E _ A	Insulator Assembly, Dead-End, with 15" Link
8	3	TD 831F	Insulator, Post, Horizontal, Polymer
8	3	TD 835F	Insulator, Post, Horizontal, Porcelain
9A	8	TD 928_ D	Bolt Assembly, Machine, 1-Inch
9B	6	TD 928_ E	Bolt Assembly, Machine, 1-Inch

Table 2 – Additional Material To Be Specified To Complete This Structure

Item	Qty.	Standard	Description
A	1	TD 020_ _ A	Wood Pole Assembly

Notes

1. All hardware is to be bonded when it is separated less than 8 inches. Bond wire shall loop around the bolt.
2. Install spring washers with loop end up where possible.
3. All wires shall be intact with equal tensions.
4. All pole attachment hardware shall be bonded to the pole grounding assembly.
5. In contaminated areas, use TD 840, code "F" for post insulators.
6. Class 1 or better pole is recommended.



TI 240

Page 4 of 4

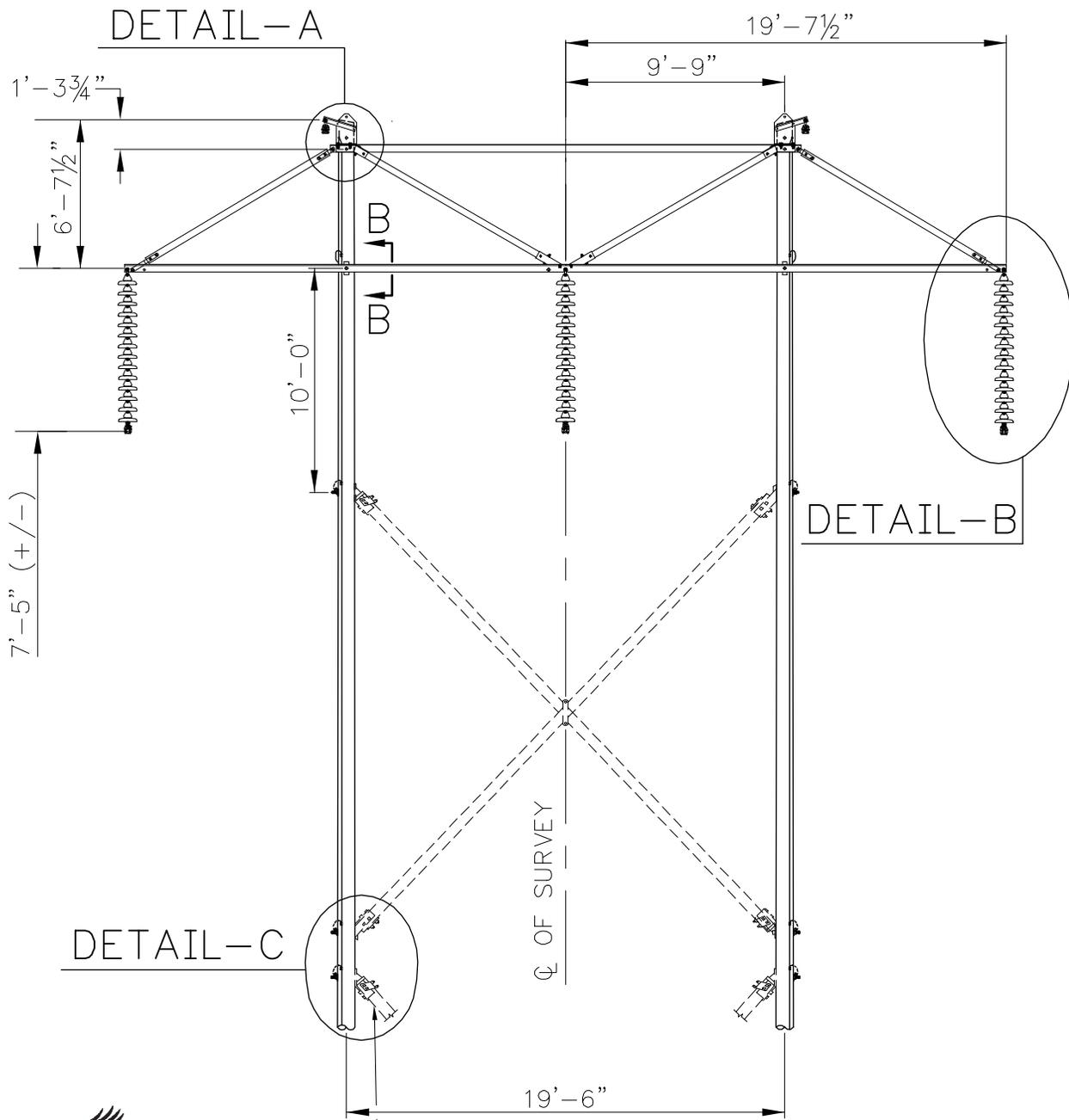
17 Mar 97

**230 kV Structure
Shielded, Single-Circuit
Strain, 0° to 3°, Unguyed**

**Transmission
Construction Standard**

Stds Team Leader (C. L. Wright):
Standards Services (M. Brimhall):

TI 403



ADDITIONAL CROSS BRACE(S) WHEN SPECIFIED

May be used
In raptor areas



**230 kV Structure
Shielded, H Frame
Tangent, with Steel Truss**

**Transmission
Construction Standard**

TI 403
Page 2 of 4

27 May 97

Std's Team Leader (C. L. Wright): *CLW*
Standards Services (M. Brimhall): *MAB*

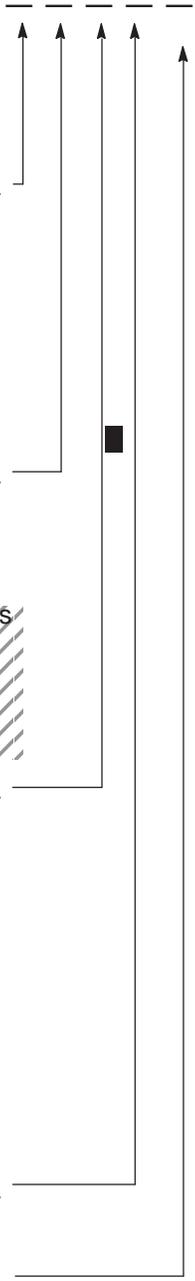
230 kV Structure—Shielded, H Frame—Tangent, with Steel Truss



TI 403

RCMS Code: CU

May be used
In raptor areas



Scope

This structure is used when shielding is required.

Line Angle: 0° to 1°

Standard References

- TD 001 *Poles—General Information*
- TD 100 *Conductor—General Information*
- TD 200 *Shield and Guy Wire—General Information*
- TD 300 *Grounding—General Information*
- TD 400 *Suspension Hardware—General Information*
- TD 700 *Crossarms and Braces—General Information*
- TD 800 *Insulators—General Information*
- TD 900 *Bolts, Nuts, and Washers—General Information*

<u>Conductor</u>	<u>Code</u>
1/0 ACSR "Raven"	A
4/0 ACSR "Penguin"	B
397.5 ACSR "Ibis"	C
795 ACSR "Drake"	D
954 ACSR "Cardinal"	E
1272 ACSR "Bittern"	F
795 AAC "Arbutus"	G
1272 AAC "Narcissus"	H
None	Z

<u>Conductor Accessories</u>	<u>Code</u>
<u>Suspension Hardware</u>	
Armor rod	A
Line guard	B
None	Z
<u>Tension Hardware Compression Fittings</u>	
Jumper w/armor rod	C
Jumper w/o armor rod	D
<u>Tension Hardware Bolted Fittings</u>	
Jumper w/armor rod	E
Jumper w/o armor rod	F

<u>Shield Wire</u>	<u>Code</u>
3/8 EHS	A
1/2 EHS	B
7#8 AW	C
7#6 AW	D
3/8 EHS w/AGS	E
1/2 EHS w/AGS	F
7#8 AW w/AGS	G
7#6 AW w/AGS	H
3/8 EHS w/armor rod	I
1/2 EHS w/armor rod	J
7#8 AW w/armor rod	K
7#6 AW w/armor rod	L
None	Z

<u>Insulation</u>	<u>Code</u>
Porcelain	A
Polymer	B

<u>Pole Class</u>	<u>Species</u>	<u>Code</u>
3	Douglas fir	A
2	Douglas fir	B
1	Douglas fir	C
H1	Douglas fir	D
H2	Douglas fir	E
3	Western red cedar	F
2	Western red cedar	G
1	Western red cedar	H
H1	Western red cedar	I
H2	Western red cedar	J

Transmission Construction Standard

Stds Team Leader (C. L. Wright): *CLW*
Standards Services (M. Brimhall): *MB*

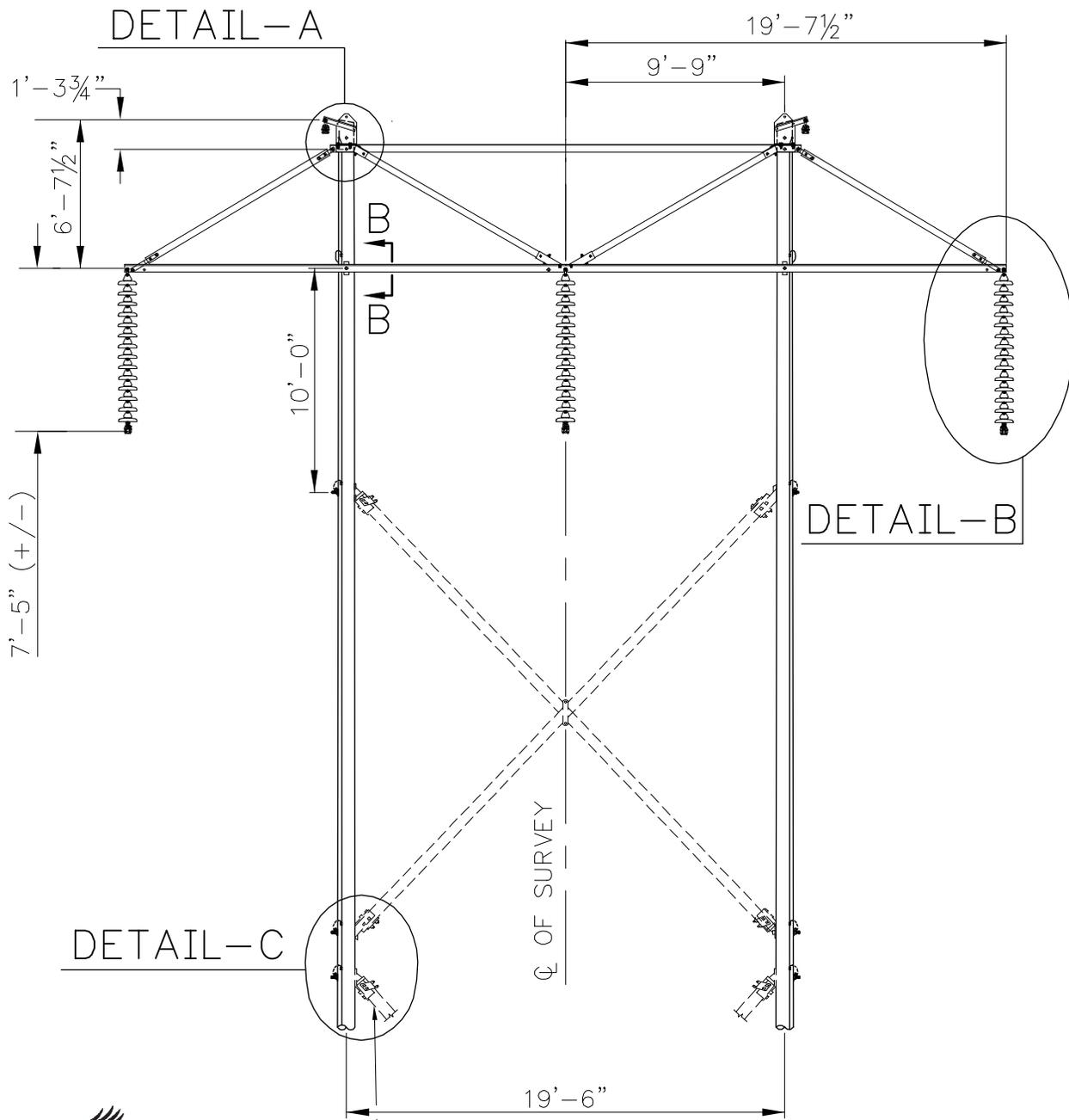
230 kV Structure Shielded, H Frame Tangent, with Steel Truss



27 May 97

TI 403
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TI 403



ADDITIONAL CROSS BRACE(S) WHEN SPECIFIED

May be used
In raptor areas



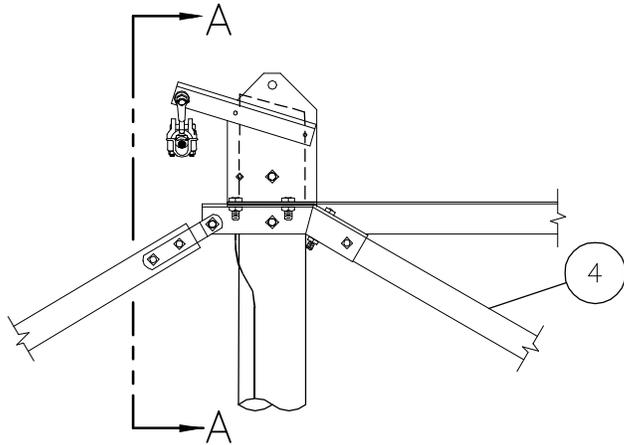
**230 kV Structure
Shielded, H Frame
Tangent, with Steel Truss**

**Transmission
Construction Standard**

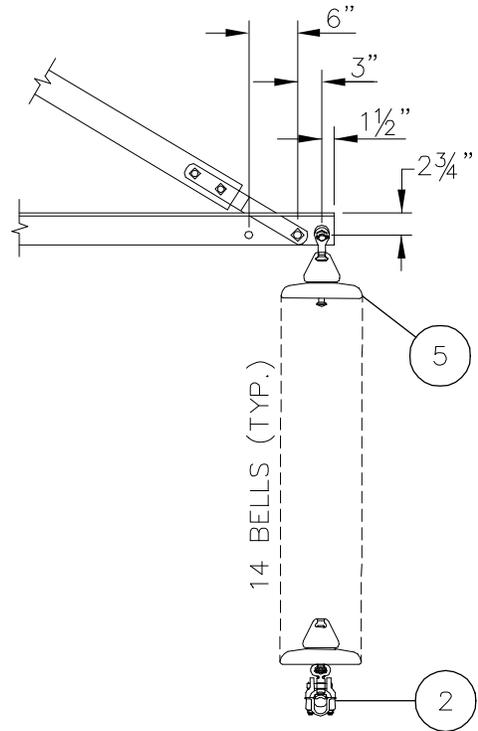
TI 403
Page 2 of 4

27 May 97

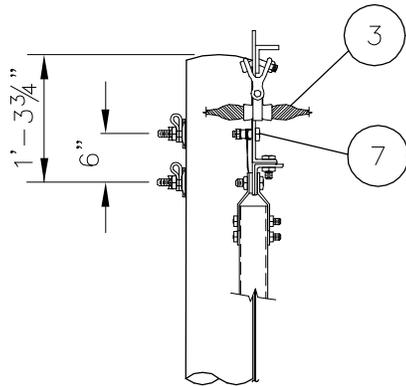
Std's Team Leader (C. L. Wright): *CLW*
Standards Services (M. Brimhall): *MAB*



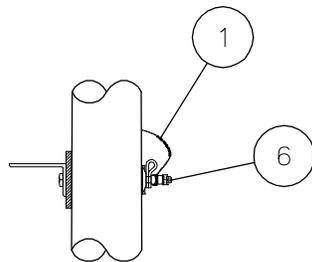
DETAIL A



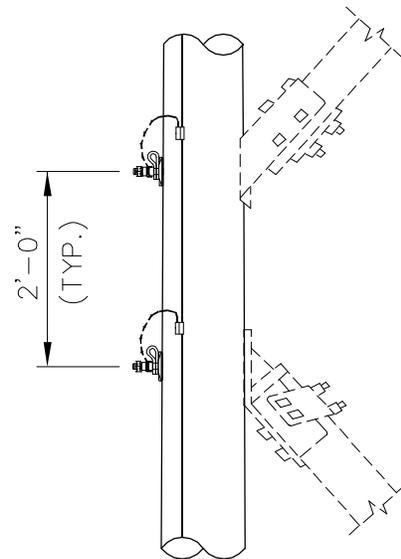
DETAIL B



SECTION A-A



SECTION B-B



DETAIL C

**Transmission
Construction Standard**

Stds Team Leader (C. L. Wright): *CLW*
Standards Services (M. Brimhall): *M.B.*

**230 kV Structure
Shielded, H Frame
Tangent, with Steel Truss**

PACIFICORP
PACIFIC POWER UTAH POWER

27 May 97

TI 403
Page 3 of 4

TI 403

Table 1 – Components

Item	Qty.	Standard	Description
1	2	TD 322D	Grounding Assembly, Hardware-to-Structure Ground
2	3	TD 420_ _ C	Suspension Assembly, Conductor
3	2	TD 425_ _ C	Suspension Assembly, Shield Wire
4	1	TD 728C	Arm Assembly, Suspension, Steel Truss
5	3	TD 824E _	Insulator Assembly, Suspension, Tangent
6	6	TD 927_ A	Bolt Assembly, Machine, 7/8-Inch
7	2	TD 361Z	Grounding Clip

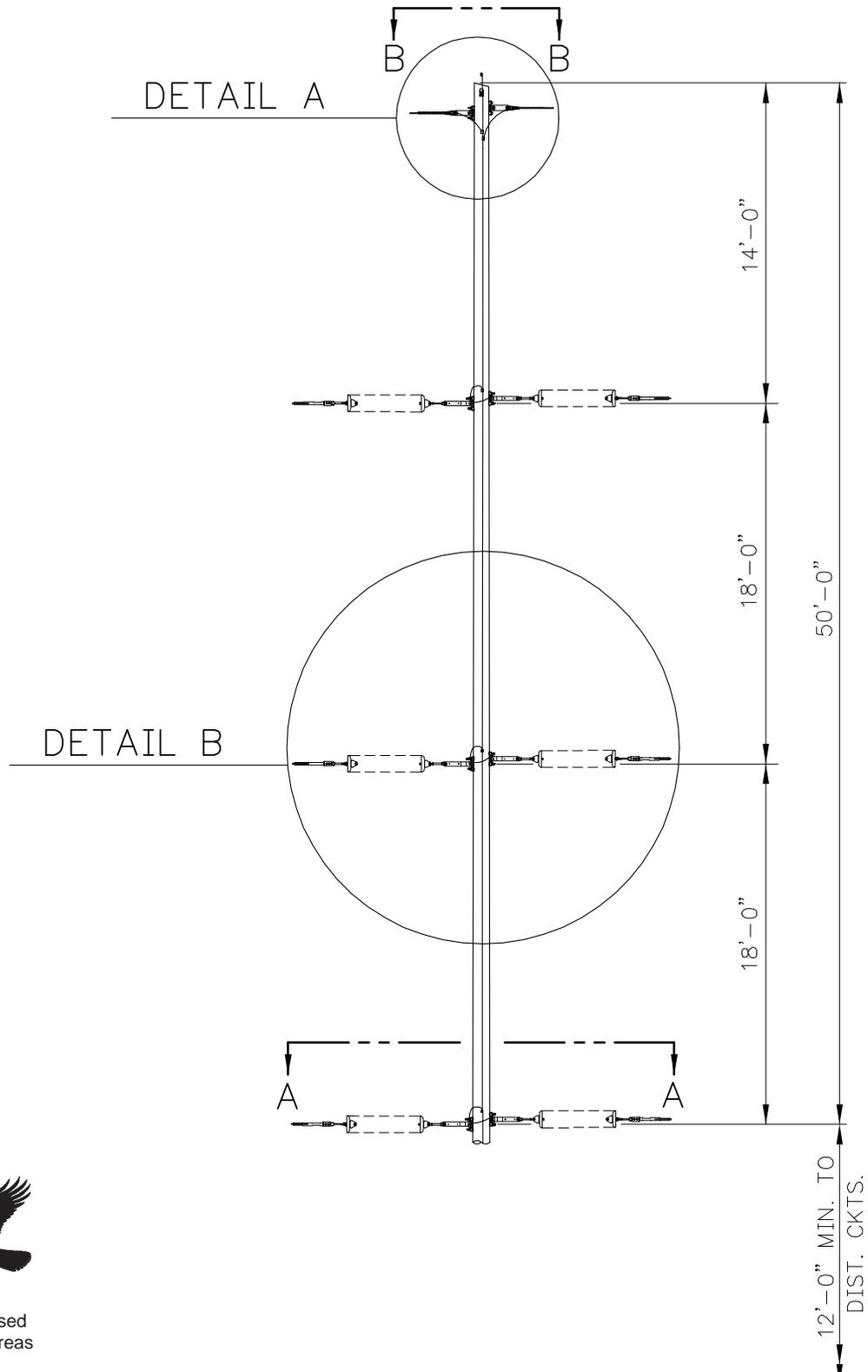
Table 2 – Additional Material To Be Specified To Complete This Structure

Item	Qty.	Standard	Description
A	2	TD 020_ _ A	Wood Pole Assembly
B	1 or More	TD 774A _ A A	Brace, Cross, Wood Assembly with Double Bolt Connection

Notes

1. All hardware is to be bonded when it is separated by less than 8 inches. Bond wire shall loop around the bolt.
2. Install spring washers with loop end up where possible.
3. All pole attachment hardware shall be bonded to the pole grounding assembly.

TI 252



May be used
In raptor areas

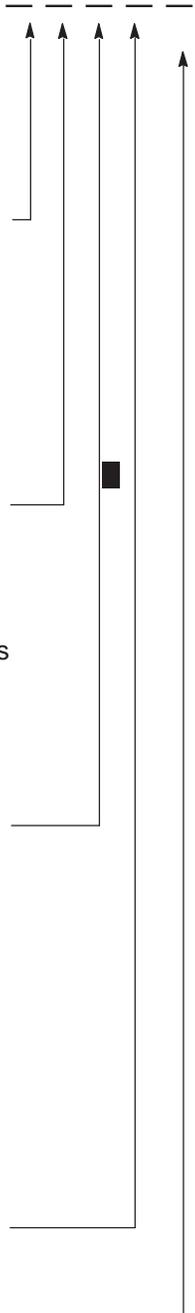
230 kV Structure—Shielded, Single-Circuit—Dead-End, 65° to 90°



May be used
In raptor areas

TI 252

RCMS Code: CU



Scope

This structure is used for strain deadends with line angles up to 90° when shielding is required.

Line Angle: 65° to 90°

Standard References

- TD 001 *Poles—General Information*
- TD 100 *Conductor—General Information*
- TD 200 *Shield and Guy Wire—General Information*
- TD 300 *Grounding—General Information*
- TD 500 *Tension Hardware—General Information*
- TD 600 *Guys and Anchors—General Information*
- TD 800 *Insulators—General Information*
- TD 900 *Bolts, Nuts, and Washers—General Information*

<u>Conductor</u>	<u>Code</u>
1/0 ACSR "Raven"	A
4/0 ACSR "Penguin"	B
397.5 ACSR "Ibis"	C
795 ACSR "Drake"	D
954 ACSR "Cardinal"	E
1272 ACSR "Bittern"	F
795 AAC "Arbutus"	G
1272 AAC "Narcissus"	H
None	Z

<u>Conductor Accessories</u>	<u>Code</u>
<u>Suspension Hardware</u>	
Armor rod	A
Line guard	B
None	Z
<u>Tension Hardware Compression Fittings</u>	
Jumper w/armor rod	C
Jumper w/o armor rod	D
<u>Tension Hardware Bolted Fittings</u>	
Jumper w/armor rod	E
Jumper w/o armor rod	F

<u>Shield Wire</u>	<u>Code</u>
3/8 EHS	A
1/2 EHS	B
7#8 AW	C
7#6 AW	D
3/8 EHS w/AGS	E
1/2 EHS w/AGS	F
7#8 AW w/AGS	G
7#6 AW w/AGS	H
3/8 EHS w/armor rod	I
1/2 EHS w/armor rod	J
7#8 AW w/armor rod	K
7#6 AW w/armor rod	L
None	Z

<u>Insulation</u>	<u>Code</u>
Porcelain	A
Polymer	B

<u>Pole Class</u>	<u>Species</u>	<u>Code</u>
3	Douglas fir	A
2	Douglas fir	B
1	Douglas fir	C
H1	Douglas fir	D
H2	Douglas fir	E
3	Western red cedar .	F
2	Western red cedar .	G
1	Western red cedar .	H
H1	Western red cedar .	I
H2	Western red cedar .	J

Transmission Construction Standard

Stds Team Leader (C. L. Wright):

Standards Services (M. Brimhall):

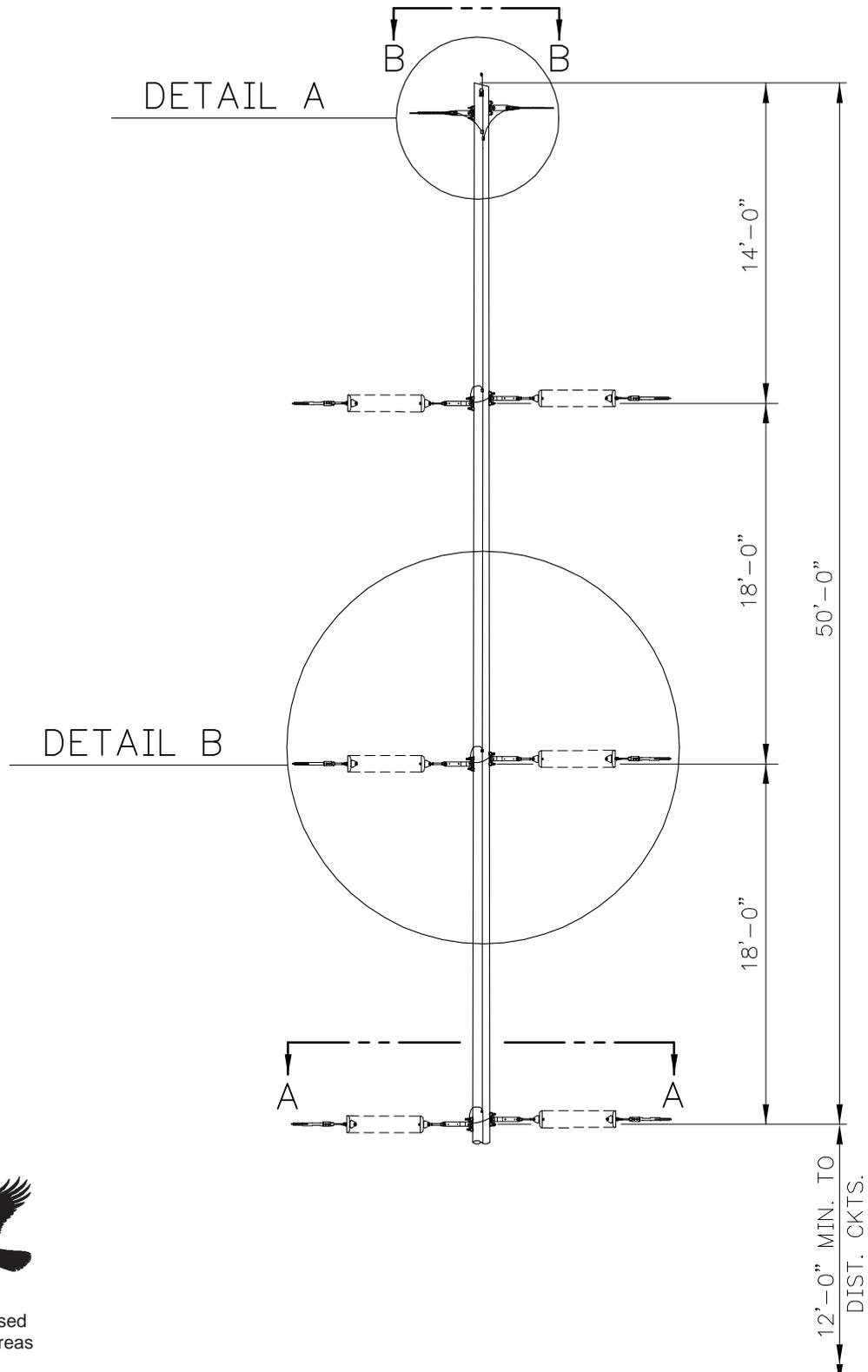
230 kV Structure Shielded, Single-Circuit Dead-End, 65° to 90°



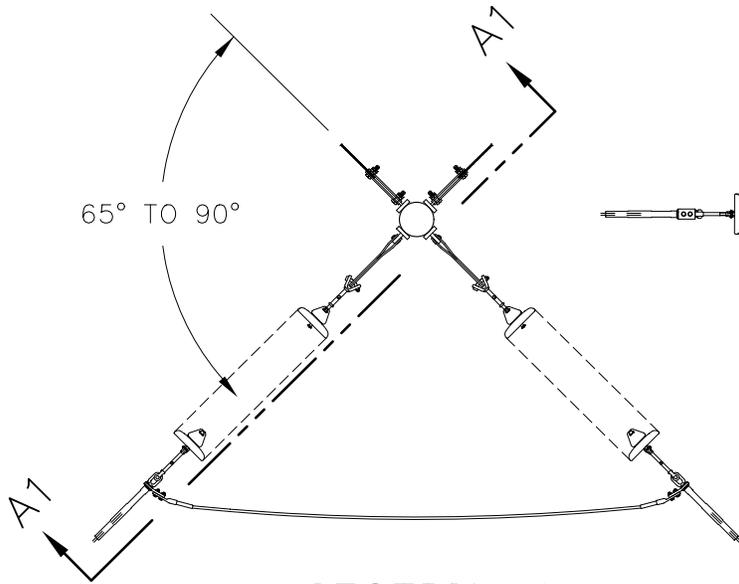
17 Feb 97

TI 252
Page 1 of 4

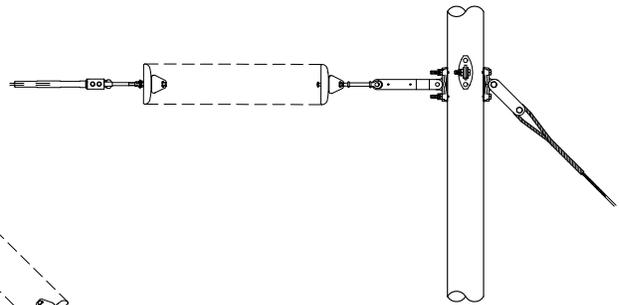
TI 252



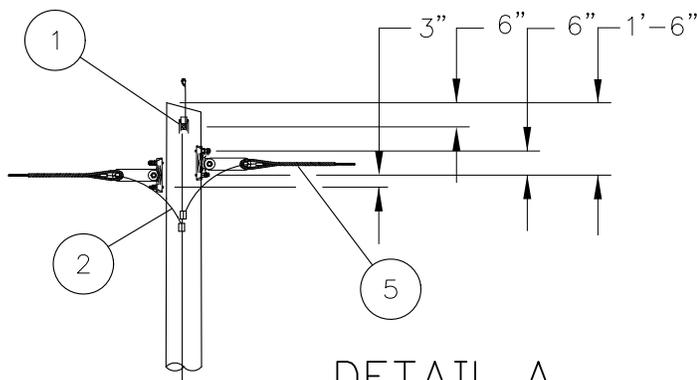
May be used
In raptor areas



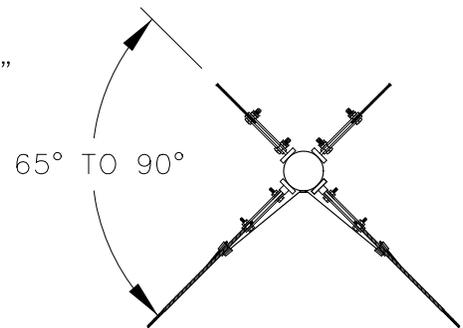
SECTION A-A



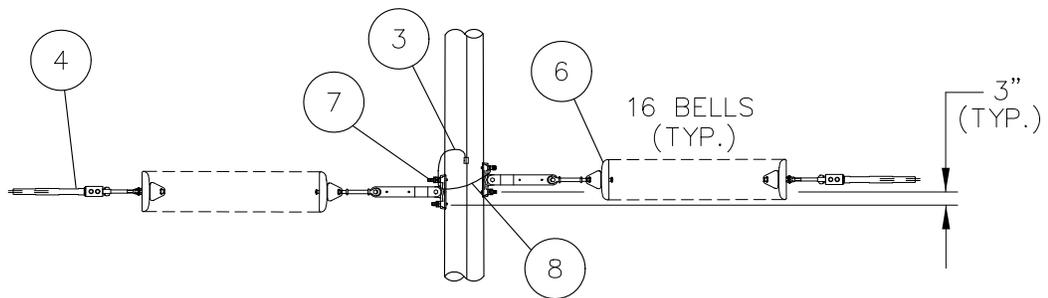
SECT. A1-A1



DETAIL A



SECTION B-B



DETAIL B

**Transmission
Construction Standard**

Stds Team Leader (C. L. Wright): 
Standards Services (M. Brimhall): 

**230 kV Structure
Shielded, Single-Circuit
Dead-End, 65° to 90°**



17 Feb 97

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Page 3 of 4

TI 252

Table 1 – Components

Item	Qty.	Standard	Description
1	1	TD 022_	Pole Assembly, Split-Bolt, 3/4" Diameter
2	2	TD 325_	Grounding Assembly, Shield Wire-to-Pole Ground
3	3	TD 322E	Grounding Assembly, Hardware-to-Structure Ground
4	6	TD 520_ _	Tension Assembly, Conductor
5	2	TD 525_ A	Tension Assembly, Shield Wire, Guy Grip
6	6	TD 826E _ A	Insulator Assembly, Dead-End, with Link
7	16	TD 928_ D	Bolt Assembly, Machine, 1-Inch
8	4	TD 321E Z	Grounding Assembly, Hardware-to-Hardware

Table 2 – Additional Material To Be Specified To Complete This Structure

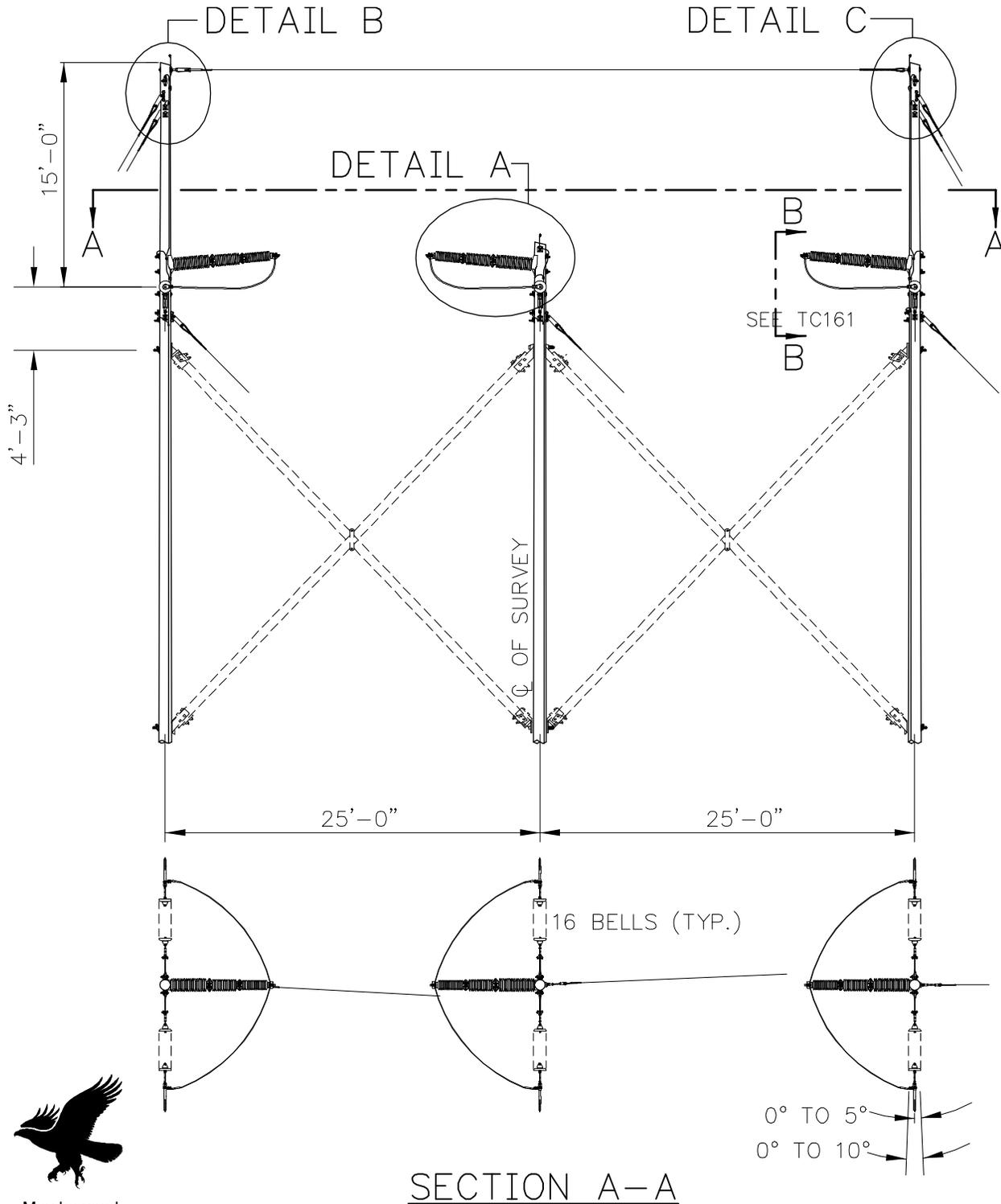
Item	Qty.	Standard	Description
A	1	TD 020_ _ A	Wood Pole Assembly
B	8	TD 620A _ _ _	Guy Assembly
C	AS REQ	TD 630_ _ _	Anchor Assembly

Notes

1. All hardware is to be bonded when it is separated by less than 8 inches. Bond wire shall loop around the bolt.
2. Install spring washers with loop end up where possible.
3. All pole attachment hardware shall be bonded to the pole grounding assembly.
4. Class 1 or better pole is recommended.



TI 450



SECTION A-A



May be used
in raptor areas



TI 450

Page 2 of 6

26 Jun 03

**230 kV Structure
Shielded, 3-Pole
Dead-End, 0° to 10°**

**Transmission
Construction Standard**

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Engineer (C. L. Wright): *CLW*

Standards Manager (G. Shaw): *GShaw*

230 kV Structure—Shielded, 3-Pole—Dead-End, 0° to 10°



TI 450

RCMS Code: CU

May be used
In raptor areas

Scope

This structure is used for deadends with line angles up to 10° when shielding is required.
Line Angle: 0° to 10°

Standard References

- TD 001 *Poles—General Information*
- TD 100 *Conductor—General Information*
- TD 200 *Shield and Guy Wire—General Information*
- TD 300 *Grounding—General Information*
- TD 500 *Tension Hardware—General Information*
- TD 600 *Guys and Anchors—General Information*
- TD 700 *Crossarms and Braces—General Information*
- TD 800 *Insulators—General Information*
- TD 900 *Insulators—General Information*

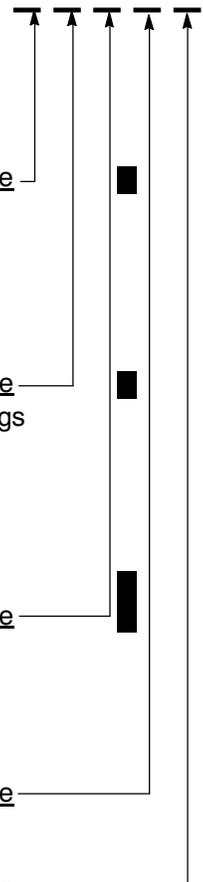
<u>Conductor</u>	<u>Code</u>
795 ACSR "Drake"	D
954 ACSR "Cardinal"	E
1272 ACSR "Bittern"	F
795 AAC "Arbutus"	G
1272 AAC "Narcissus"	H
None	Z

<u>Conductor Accessories</u>	<u>Code</u>
Tension Hardware Compression Fittings	
Jumper w/armor rod	C
Jumper w/o armor rod	D
Tension Hardware Bolted Fittings	
Jumper w/armor rod	E
Jumper w/o armor rod	F
None	Z

<u>Shield Wire</u>	<u>Code</u>
3/8 EHS	A
1/2 EHS	B
7#8 AW	C
7#6 AW	D
None	Z

<u>Insulation</u>	<u>Code</u>
Porcelain	A
Polymer	B

<u>Pole Class</u>	<u>Species</u>	<u>Code</u>
3	Douglas fir	A
2	Douglas fir	B
1	Douglas fir	C
H1	Douglas fir	D
H2	Douglas fir	E
3	Western red cedar .	F
2	Western red cedar .	G
1	Western red cedar .	H
H1	Western red cedar .	I
H2	Western red cedar .	J



Transmission Construction Standard

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Engineer (C. L. Wright): *CLW*
Standards Manager (G. Shaw): *GShaw*

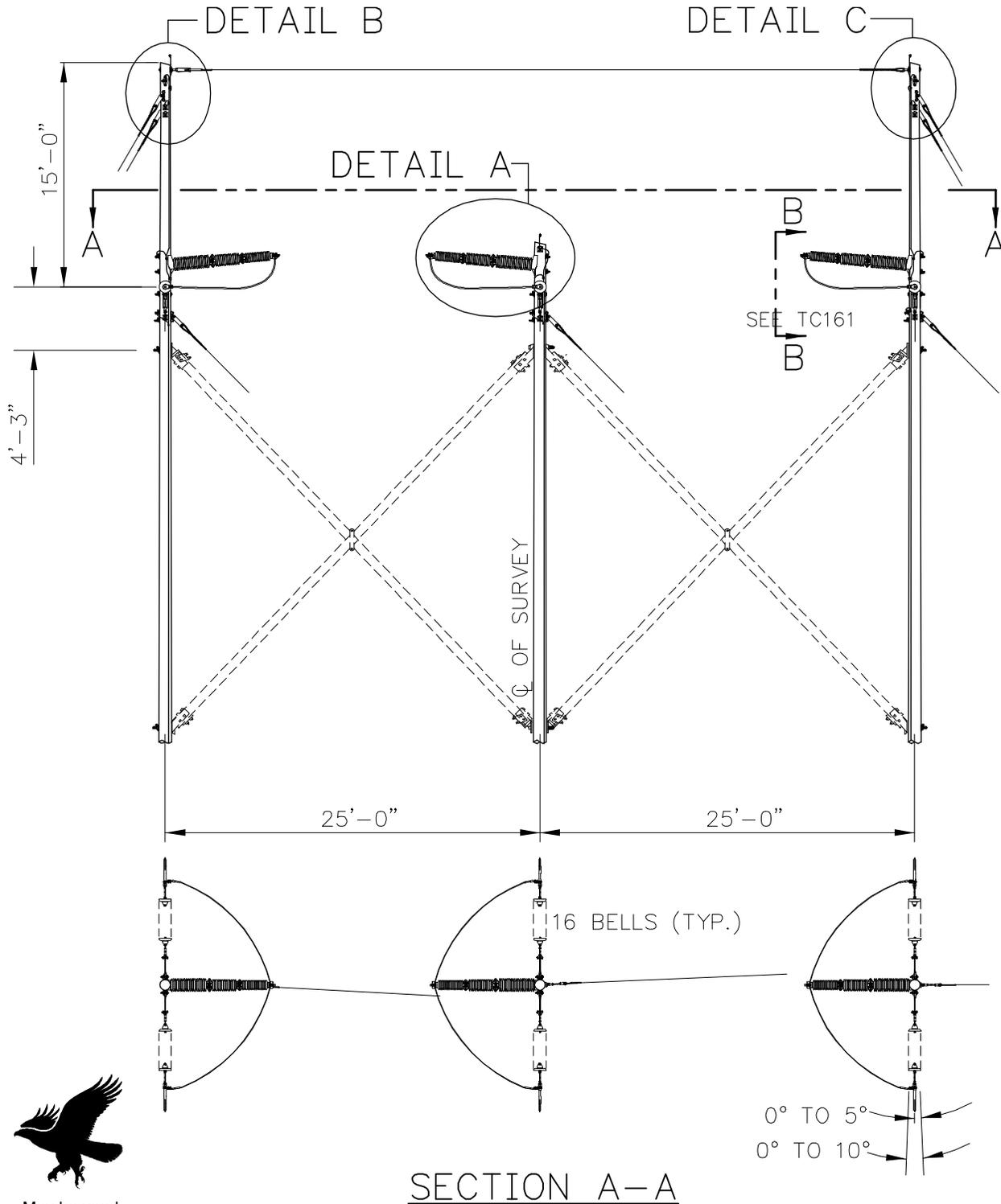
230 kV Structure Shielded, 3-Pole Dead-End, 0° to 10°



26 Jun 03

TI 450
Page 1 of 6

TI 450



May be used
in raptor areas



TI 450

Page 2 of 6

26 Jun 03

**230 kV Structure
Shielded, 3-Pole
Dead-End, 0° to 10°**

**Transmission
Construction Standard**

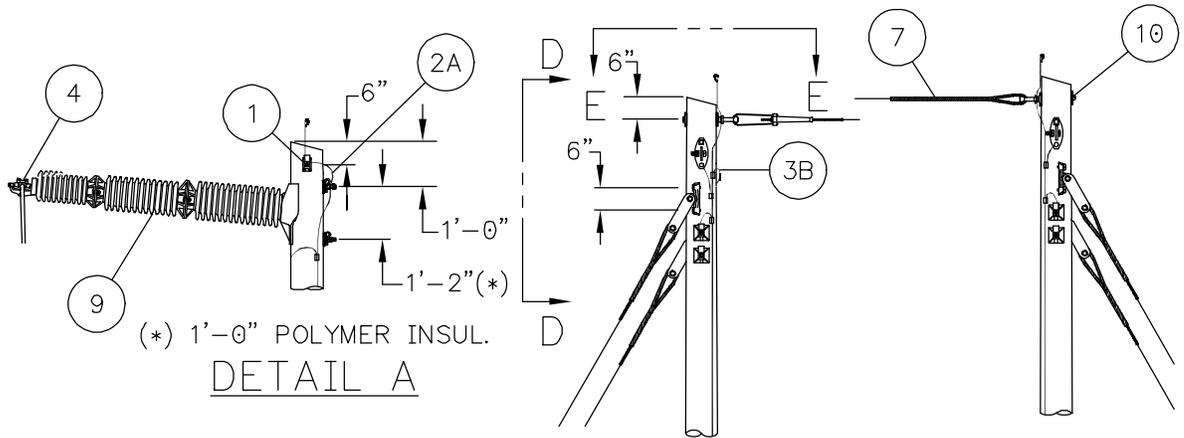
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Engineer (C. L. Wright):

CLW

Standards Manager (G. Shaw):

G. Shaw

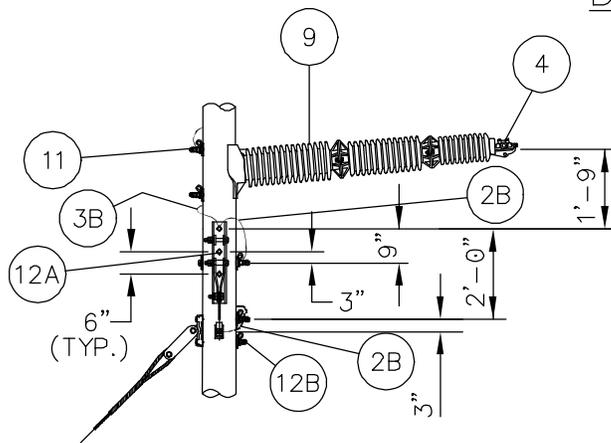


(*): 1'-0" POLYMER INSUL.

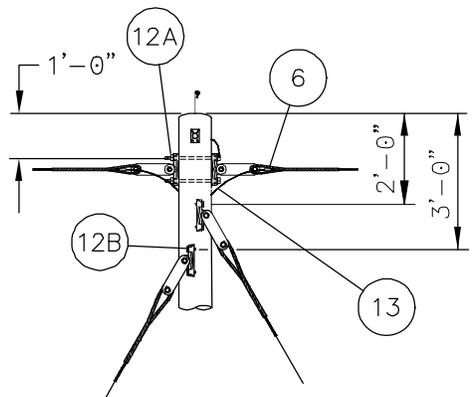
DETAIL A

DETAIL B

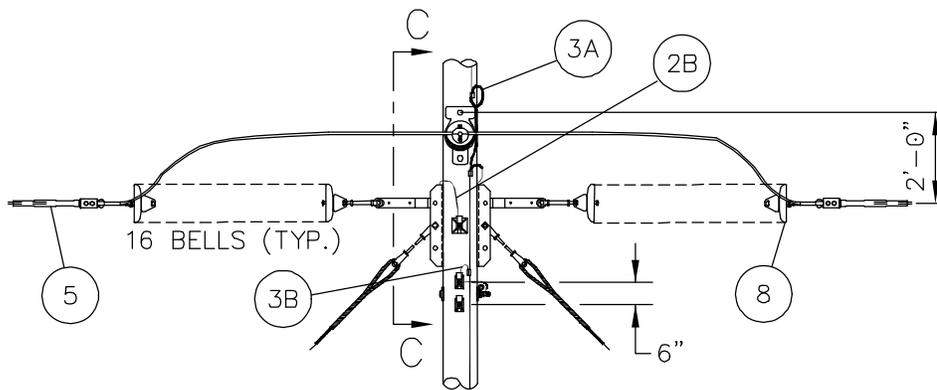
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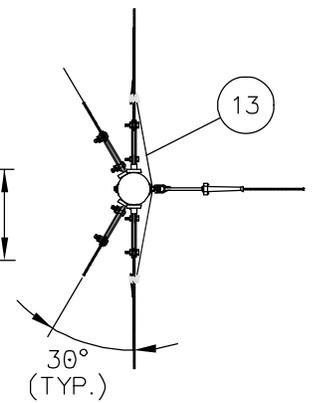
SECTION C-C



SECTION D-D



SECTION B-B



SECTION E-E

Transmission Construction Standard

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Engineer (C. L. Wright): *CLW*
Standards Manager (G. Shaw): *GShaw*

**230 kV Structure
Shielded, 3-Pole
Dead-End, 0° to 10°**



26 Jun 03

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TI 450

Table 1 - Components

Item	Qty.	Standard	Description
1	7	TD 022_	Pole Assembly, Split-Bolt, 3/4" Diameter
2A	1	TD 321CD	Grounding Assembly, Hardware-to-Hardware
2B	6	TD 321CZ	Grounding Assembly, Hardware-to-Hardware
3A	3	TD 322D	Grounding Assembly, Hardware-to-Structure Ground
3B	6	TD 322E	Grounding Assembly, Hardware-to-Structure Ground
4	3	TD 420__A	Suspension Assembly, Conductor
5	6	TD 520__	Tension Assembly, Conductor
6	4	TD 525_A	Tension Assembly, Shield Wire, Guy Grip
7	1	TD 540_EA	Tie Wire Assembly
8	6	TD 826E_B	Insulator Assembly, Dead-End, with 15" Link
9	3	TD 831G	Insulator, Post, Horizontal, Polymer
9	3	TD 835F	Insulator, Post, Horizontal, Porcelain
10	2	TD 926_F	Bolt Assembly, Machine, 3/4-Inch
11	6	TD 927_A	Bolt Assembly, Machine, 7/8-Inch
12A	16	TD 928_D	Bolt Assembly, Machine, 1-Inch
12B	14	TD 928_A	Bolt Assembly, Machine, 1-Inch
13	4	TD 325_	Grounding Assembly, Shield Wire-to-Pole Ground

Table 2 - Additional Material to Be Specified to Complete this Structure

Item	Qty.	Standard	Description
A	3	TD 020__A	Wood Pole Assembly
B	AS REQ	TD 622B ___	Guy Assembly, Dead-End Tee Pole Attachment
C	AS REQ	TD 627 ___	Guy Assembly, Bent Link Attachment
D	AS REQ	TD 630 ___	Anchor Assembly
E	AS REQ	TD 774F _ B A	Brace, Cross, Wood Assembly with Double Bolt Connection



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26 Jun 03

**230 kV Structure
Shielded, 3-Pole
Dead-End, 0° to 10°**

**Transmission
Construction Standard**

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Engineer (C. L. Wright): *CLW*

Standards Manager (G. Shaw): *GShaw*

Notes

1. All hardware is to be bonded when it is separated by less than 8 inches. Bond wire shall loop around the bolt. All pole attachment hardware shall be bonded to the pole grounding assembly.
2. Install spring washers with loop end up where possible.
3. In contaminated areas, used TD 840, code "F" for post insulators.
4. Class 1 or better poles are recommended.

**Transmission
Construction Standard**

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Engineer (C. L. Wright):

CLW

Standards Manager (G. Shaw):

GShaw

**230 kV Structure
Shielded, 3-Pole
Dead-End, 0° to 10°**



26 Jun 03

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APPENDIX C

Owner Committed Measures

1 **OWNER COMMITTED MEASURES FOR THE PARADISE 230-KV**
2 **TRANSMISSION PROJECT**

3 **BEST MANAGEMENT PRACTICES**

4 Best Management Practices (BMPs) are loosely defined as techniques that are used to lessen
5 the visual and physical impacts of development on public lands. When properly implemented,
6 these BMPs can assist industry in a project's design, scheduling, and construction techniques.
7 Rocky Mountain Power is committed to implementing the following BMPs to the maximum
8 extent possible during the construction and operation of the Paradise 230-kV Project in
9 Sublette County, Wyoming.

10 **GENERAL BMPs**

11 General BMPs that Rocky Mountain Power is committed to during the construction period
12 include the following:

- 13 • Planning roads and facility sites to minimize visual impacts to the extent possible.
- 14 • Using existing roads to the extent possible; reasonable upgrading as needed.
- 15 • Development of facility sites and of roads to a size only as required for construction,
16 maintenance, and operation of the line to minimize surface disturbance.
- 17 • Minimizing topsoil removal.
- 18 • Stockpiling stripped topsoil and protecting it from erosion until reclamation activities
19 commence. At that time, the soil will be redistributed and reseeded on the disturbed
20 areas. The reclaimed areas will be protected and maintained until the sites are fully
21 stabilized.
- 22 • Avoiding removal of, and damage to, trees, shrubs, and groundcover outside of the
23 right-of-way (ROW) and temporary disturbance areas where possible. Trees near
24 construction areas and outside of the line ROW will be marked clearly to ensure that
25 they are not removed.
- 26 • Mowing, instead of clearing vegetation, if required for vehicle or equipment access.
- 27 • Maintaining buffer strips or using other sediment control measures to avoid sediment
28 migrating to stream channels as a result of construction activities.
- 29 • Using interim reclamation specified by the Pinedale Field Office (PFO) to restore
30 areas that are not needed following construction.
- 31 • Planning for erosion control through the construction period.
- 32 • Proper storage of chemicals.
- 33 • Keeping sites clean, including containing trash in a portable trash cage. The trash cage
34 will be emptied at an approved sanitary landfill.
- 35 • Maintaining buffers around work areas where there is a risk of fire as a result of
36 construction activities.
- 37 • Keeping fire extinguishers in all vehicles.

- 38 • Practicing dust abatement on roads with use of water application as needed during
39 construction period.
- 40 • Recontouring disturbed areas to approximate the original contours of the landscape.
- 41 • Developing a final reclamation plan that allows temporarily disturbed areas to be
42 absorbed into the natural landscape.

43 **TRANSMISSION LINE BMPS**

44 Rocky Mountain Power recognizes that there are several BMPs that can be used to mitigate
45 environmental concerns specific to projects associated with above-ground linear alignments,
46 such as the transmission line. These include:

- 47 • reclaiming the ROW corridor;
- 48 • staying below ridge tops to minimize visual effects to the extent possible;
- 49 • using Cor-Ten, wood, or galvanized finish monopole;
- 50 • using non-specular conductor materials;
- 51 • avoiding locating structures in floodplains or wetlands to the extent possible;
- 52 • avoiding locating ROWs on steep slopes to the extent possible;
- 53 • using existing natural (topography, vegetation outside the line ROW) features to help
54 screen poles to the extent possible; and
- 55 • inspecting the transmission line via air when possible instead of driving the ROW.

56 Rocky Mountain Power will implement these BMPs to the extent that they are technically
57 feasible.

58 **COMMITMENTS FOR RESOURCE PROTECTION IDENTIFIED IN THE** 59 **PARADISE EA**

60 Commitments for Surface Disturbance Mitigation

- 61 • Implementation of the 2008 Pinedale Resource Management Plan (RMP) Appendix 3
62 (Bureau of Land Management [BLM] 2008) will be used to minimize potential
63 impacts to soil resources as a result of project construction, to protect surface water
64 quality, and to promote the revegetation of disturbed areas.

65 Commitments for Paleontology Mitigation

- 66 • Monitoring by a qualified and BLM-permitted paleontologist will occur in all areas
67 underlain by Potential Fossil Yield Classification system (PFYC) Class 5 geologic
68 units where there is the potential for adverse impacts to subsurface (buried)
69 paleontological resources during ground disturbance.
- 70 • If feasible, the fossil fish locality in Section 20, Township (T) 29 North (N), Range
71 (R) 107 West (W), will be avoided to reduce the potential for adverse impacts to these
72 known resources. If avoidance is not feasible, subsurface disturbance during
73 construction will be monitored by a qualified and BLM-permitted paleontologist.

- 74 • If feasible, the fossil locality in Section 3, T30N, R108W, will be avoided. If
75 avoidance is not feasible, subsurface disturbance during construction will be
76 monitored by a qualified and BLM-permitted paleontologist.
- 77 • Should any subsurface bones or other potential fossils be discovered by construction
78 personnel anywhere within the project area of potential effect (APE), the BLM will be
79 notified immediately, as specifically stated in the Green River RMP (BLM 1997a),
80 and work in the area of the discovery should cease until the BLM or a qualified and
81 BLM-permitted paleontologist can assess the discovery, determine its significance,
82 and make additional recommendations.

83 Commitments for Water Resource Mitigation

- 84 • Rocky Mountain Power is committed to following all BLM construction standards and
85 the implementation of Section 404 of the Clean Water Act and Executive Orders
86 (EOs) 11988 and 11990.
- 87 • Rocky Mountain Power is committed to following all Wyoming BLM's Standard
88 Mitigation Guidelines for Surface-Disturbing Activities.
- 89 • For surface disturbance within the high bank of any ephemeral or intermittent stream,
90 or within the high bank +50 feet of any perennial stream, the Proposed Action will be
91 designed to protect fish spawning, fry, and other important fish life stages and habitats
92 within the stream or connected streams and to maintain fish passage. All disturbances
93 occurring within the high bank +50 feet will be reclaimed to meet Proper Functioning
94 Condition standards.
- 95 • Prudent use of erosion control measures will be employed to control transportation of
96 upland erosion from surface-disturbing activities to stream systems during
97 construction activities.

98 Commitments for Vegetation Mitigation in Areas of Temporary Disturbance Where
99 Vegetation Has Been Removed

- 100 • Once construction is complete for all temporary locations and access roads, the
101 reclamation contractor or operator will redistribute topsoil, recontour, and revegetate
102 all temporarily disturbed areas outside of transmission pole, substation, and substation
103 access footprints with a BLM-approved seed mixture.
- 104 • Revegetation will commence in the first approved planting season after construction
105 and debris will not be scattered on the transmission line until after seeding operations
106 are completed. Seed mixtures will meet all the requirements of the Federal Seed Act
107 and the seed laws and noxious weed laws of Wyoming and only certified, weed-free
108 seed will be used.
- 109 • Broadcast seeding will be used as the method of application after the seedbed
110 preparation is complete.
- 111 • Seeding will take place in the fall (September to November); however, if this cannot
112 be done, spring seeding should take place in February or March as conditions dictate.
- 113 • If the seed does not germinate and establish to at least one desirable perennial species
114 per square foot after two growing seasons, the contractor will reseed the area or take
115 other reclamation actions until the success criteria are met.

- 116 • The operator and reclamation contractor will coordinate with the BLM Authorized
117 Officer (AO) to determine the specifics of site reclamation.
- 118 • Rocky Mountain Power and/or the contractor will conduct all surface activities in
119 accordance with the Pinedale RMP (BLM 2008) and the Green River RMP (BLM
120 1997a). Materials and methods must be approved in advance by the BLM AO.
- 121 • Reclamation achievement will be evaluated using the Public Land Health Standards
122 that include Indicators of Rangeland Health (BLM 1997b). Periodic monitoring will
123 take place during construction and reclamation to assure contractor compliance to
124 specified construction activities and success of restoration practices. Rehabilitation
125 efforts must be repeated if it is concluded that the success rate is below an acceptable
126 level as determined by the BLM.
- 127 • A reclamation status report will be submitted to the Rock Springs Field Office (RSFO)
128 and PFO for all actions that require the temporary disturbance of surface soils on
129 BLM-administered lands as a result of the Proposed Action.
- 130 • Off-road driving and equipment operation will be restricted to the ROW corridors and
131 areas pre-approved in Temporary Use Permit areas during construction activities,
132 including temporary access to the permanent transmission ROW.

133 Commitments for Wildlife and Special Status Species Mitigation

- 134 • BLM-approved seasonal stipulations for surface-disturbing activities will be followed
135 (BLM 2008).
- 136 • Rocky Mountain Power is committed to maintaining the required buffer distance for
137 raptors, and will coordinate with the BLM biologist to determine the appropriate
138 buffers, which may vary depending on the species involved, prey availability, natural
139 topographic barriers, line-of-sight distances, and other conflicting issues.
- 140 • In addition to the above seasonal stipulations, the following BLM-recommended
141 mitigations measures (BLM 2008) will be applied to the BLM Selected Alternative:
 - 142 ○ Pre-construction surveys for sensitive raptors and other species will be conducted
143 in areas of potential habitat by a qualified biologist.
 - 144 ○ Initiation of the project should occur within 14 days of plover surveys if plovers
145 are determined to be not present and during known plover nesting season. If an
146 active plover nest is found in the survey area, the planned activity should be
147 delayed 37 days, or one week post-hatching. If a brood of flightless chicks are
148 observed, activities should be delayed at least 7 days.
 - 149 ○ U.S. Fish and Wildlife Service (USFWS) and Wyoming Game and Fish
150 Department consultation and coordination will be conducted for all mitigation
151 activities relating to raptors and threatened and endangered species and their
152 habitats, and all permits required for movement, removal, and/or establishment of
153 raptor nests will be pursued if they meet the requirements of the USFWS
154 Migratory Bird Treaty Act.
 - 155 ○ Permanent structures requiring repeated human presence will not be constructed
156 within 1,000 feet (1,400 feet for ferruginous hawks; 2,600 feet for bald eagles) of
157 active raptor nests.

- 158 ○ Permanent, high-profile structures will not be constructed within 0.25 mile of an
159 occupied greater sage-grouse lek.
- 160 ● The following measures will also be applied to the BLM Selected Alternative to
161 protect federally listed and BLM sensitive species during construction of the proposed
162 transmission lines.
- 163 ○ Avoid sensitive biological resources within the ROW. Avoidance areas will be
164 clearly marked with wooden stakes 3 to 4 feet in height, which will be spray
165 painted to indicate avoidance.
- 166 ○ If construction occurs during migratory bird breeding season, a survey for
167 migratory birds (including BLM sensitive bird species) shall be made just prior to
168 construction. Activities will avoid impacts to nests and fledglings.
- 169 ○ Transmission lines will be constructed with avian-safe design standards.
- 170 ● The following measures will also be applied to the BLM Selected Alternative to
171 protect raptors, sensitive prey species, and big game during construction of the
172 proposed transmission lines.
- 173 ○ Activities and surface use will not be allowed within big game crucial winter range
174 from November 15 to April 30. Exception, waiver, or modification of this
175 limitation may be approved in writing, including documented supporting analysis,
176 by the BLM AO.
- 177 ○ Raptor nest surveys will be conducted before commencement of surface-disturbing
178 activities within a 0.5- to 1.0-mile radius of surface use or activity areas if
179 activities are proposed to be conducted between February 1 and July 31.
- 180 ○ No surface-disturbing activities will occur within 1 mile of bald and golden eagle
181 nests and 0.5 mile of active raptor nests (defined as having been occupied within
182 the past 3 years) from February 1 to July 31 or until active nest fledging has
183 occurred and the area is cleared for activities by the BLM. Buffer distance may
184 vary depending on the species involved, prey availability, natural topographic
185 barriers, line-of-sight distances, and other conflicting issues. Linear disturbances,
186 such as the proposed transmission line project, may be granted exceptions if
187 analysis of the disturbance concludes no adverse effects to the nesting individuals.
188 Where the proposed line will interrupt existing raptor nest platforms, platforms
189 may be relocated to adjacent optimal habitat within ROW constraints with USFWS
190 direction and concurrence.
- 191 ○ If areas are identified by BLM data as having specific raptor nesting concerns,
192 perch discouragers will include designs that discourage nesting on structures.
- 193 ○ Perch discouragers will be applied to both the bottom and top crossarm of H-frame
194 structures located within buffer zones identified by the BLM as sensitive prey area.
195 Structures outside of identified sensitive areas will be left without any perch
196 discourages as research shows that perch deterrents are most effective when
197 alternative perching areas are available.
- 198 ○ In river crossings or wetland areas, three spans on either side will include bird
199 flight diverters installed on the high neutral.
- 200 ○ New or modified distribution lines and/or underbuild will be built to avian safe
201 specifications.

- 202 ○ A 7-foot-high big game-proof fence will be used around the perimeter of the 8.0-
203 acre substations.

204 Commitments for Noxious Weeds Mitigation

- 205 • The operator will conduct all surface activities in accordance with the BLM Manual
206 9015 - Integrated Weed Management, the Pinedale RMP (BLM 1987, 2008), and the
207 Green River RMP (BLM 1997a). Materials and methods must be approved in advance
208 by the AO. Mitigation measures to be incorporated will include the following:
- 209 ○ Conduct pre-construction surveys in the spring for noxious weed infestations
210 within the site boundaries and along access roads.
- 211 ○ Consult with BLM and Sublette County Weed and Pest Control to determine
212 treatment for noxious weeds, if identified.
- 213 • Construction vehicles and equipment will be cleaned, power-washed, and free of soil
214 and vegetation debris prior to initial entry and use of access roads to prevent
215 transporting weed seeds.
- 216 • All seed mix, erosion control materials, and reclamation materials will be certified
217 weed free.
- 218 • Revegetated areas will be monitored following seeding to evaluate the need for
219 supplemental seeding and noxious weed control.
- 220 • The ROW and other disturbed areas will be monitored for noxious weed infestations,
221 and new or expanding populations will be controlled or eradicated for the duration of
222 the construction and reclamation phases.

223 Commitments for Grazing and Livestock Mitigation

- 224 • Rocky Mountain Power is committed to reclamation and weed control program
225 beginning the first growing season after each segment of project completion.
- 226 • All allottees will be notified of the proposed construction schedule and specific
227 instructions will be obtained in writing for access, including gate closures, and other
228 measures to secure livestock.

229 Commitments for Recreation and Visual Resources Mitigation

- 230 • Temporary effects to recreation, such as noise from construction, will cease after dark.
- 231 • Direct construction impacts to a recreation site will be repaired as soon as possible
232 following completion of construction activities.

233 Commitments for Fire Management Mitigation

- 234 • All federal, state, and county laws, ordinances, rules, and regulations that pertain to
235 prevention, pre-suppression, and suppression of fires shall be strictly adhered to.
- 236 • All personnel will be advised of their responsibilities under the applicable fire laws
237 and regulations and will be required to take note of the local fire danger levels and any
238 specific fire restrictions in place at the time that work activities take place. It shall be
239 the responsibility of the construction contractor to notify the BLM when a project-
240 related fire occurs within or adjacent to the construction area.

- 241 • The construction contractor shall be responsible for any fire started, in or out of the
242 Project Area, by its employees or operations during construction. The contractor will
243 be responsible for fire suppression and rehabilitation. The contractor will take
244 aggressive action to prevent and suppress fires on and adjacent to the Project Area,
245 and will use its workers and equipment on the project for fighting fires within the
246 Project Area.
- 247 • Specific construction-related activities and safety measures, as listed below, will be
248 implemented during construction of the transmission line to prevent fires and to ensure
249 quick response and suppression in the event a fire occurs.
- 250 • All vehicles will stay on designated roads or park in areas free of vegetation, to the
251 extent practicable.
- 252 • Construction vehicles, gas-powered equipment, and flues shall be equipped with spark
253 arrestors approved by the AO.
- 254 • The construction contractor will provide and store in a place easily accessed at each
255 construction site five shovels, two backpack pumps with water, and one 5-pound ABC
256 dry powder CO fire extinguisher during all construction activities.
- 257 • All vehicles will be equipped with at least one fire extinguisher.
- 258 • The construction contractor will have the appropriate fire notification numbers for
259 BLM fire dispatch, the AO, and the Construction Manager readily available for all
260 employees in case of a fire.

261 Commitments for Traffic Mitigation

- 262 • Resource sensitive areas along the overland travel routes used for construction and
263 reclamation will be provided on maps and will be marked with flagging and fenced for
264 avoidance.
- 265 • All existing county and state roads will be left in a condition equal to or better than
266 their condition prior to the construction of the transmission line.
- 267 • Appropriate permits will be obtained from Wyoming Department of Transportation
268 for oversized or slow-moving equipment.

269 Commitments for Cultural Resource Mitigation

- 270 • Cultural resources determined to be eligible for National Register of Historic Places
271 (NRHP) nomination, and thereby determined significant, will be protected, to the
272 extent possible, through avoidance and confidentiality of location.
- 273 • Where avoidance is not feasible or prudent, mitigation through data recovery,
274 monitoring, or other data collection, as specified in an approved Cultural Resource
275 Mitigation Plan.
- 276 • Where sites of concern to Native American tribes are identified, appropriate tribes will
277 be consulted and “The input received from affected tribal groups will be considered
278 before any irretrievable or irrevocable decisions are made” (BLM 2008:[2]11);
279 moreover, these sites are stipulated for no surface occupancy (BLM 2008).
- 280 • Archaeological sites eligible for NRHP nomination under Criterion D
281 (36.CFR.60.4[d]) will be avoided. If such an archaeological site cannot be avoided,

282 additional mitigation such as data recovery may be required. Data recovery is
283 generally defined as excavation, analysis, and dissemination of all significant
284 archaeological data as determined by a federal archaeologist.

- 285 • For this project, archaeological sites that are determined to be eligible for nomination
286 to the NRHP and that fall within the APE for physical impacts, may be avoided by 1)
287 rerouting the construction traffic around site boundaries, and 2) shifting the tower
288 locations away from site areas to ensure that no adverse effects occur to historic
289 properties as a result of transmission line construction activities. This avoidance may
290 be further supported by barrier fencing and archaeological monitoring or inspection
291 during construction. These stipulations will be determined as necessary by the BLM
292 archaeologist.
- 293 • Residual impacts to archaeological sites will be avoided post-construction, as during
294 normal maintenance episodes, by mitigation of threatened sites and assessment during
295 normal maintenance activities, communication with the BLM regarding proposed
296 normal maintenance episodes, and reclamation/replanting of vegetation in disturbed
297 areas.
- 298 • If a large, NRHP-eligible archaeological site straddles the corridor so that avoidance is
299 impossible, evaluative testing may be required to assess the effects of the project on
300 those portions of the site which contribute to the overall NRHP eligibility
301 determination. If contributing and non-contributing portions of the site are identified,
302 it is feasible that construction may be permitted on non-contributing portions, while
303 contributing portions may require mitigation. If significant sites or significant site
304 portions cannot be avoided by construction activities, mitigation measures such as
305 intensive data recovery may be required.

306 **OTHER PROJECT-SPECIFIC MITIGATION PLANS**

307 Following the selection of a final Alternative for the Paradise 230-kV Transmission Project
308 EA, additional mitigation may be developed as part of the Decision Record. This would likely
309 include an Historic Trails and NHPA Mitigation Plan and a Visual Resources Mitigation Plan.
310 Rocky Mountain Power is committed to the implementation of these additional project-
311 specific mitigation plans.

312 **REFERENCES CITED**

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327

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329

330

APPENDIX D

Biological Assessment

[Pending USFWS Consultation]

APPENDIX E
Visual Impacts Assessment

Visual Impact Assessment for the Paradise 230-kV Transmission Project, Sublette County, Wyoming

Prepared for

**Rocky Mountain Power, a Division of PacifiCorp,
Inc.**

Prepared by

SWCA Environmental Consultants

April 2009

**Visual Impact Assessment for the Paradise 230-kV Transmission Project,
Sublette County, Wyoming**

Prepared for

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April 2009

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- B Visual Contrast Rating Worksheets

1.0 INTRODUCTION

Rocky Mountain Power has filed joint applications with the Bureau of Land Management (BLM) Pinedale Field Office (PFO) for the construction and operation of a new high-voltage substation and 230-kilovolt (kV) overhead transmission lines in Sublette County, Wyoming, with some infrastructure to be located in northern Sweetwater County in the jurisdiction of the BLM Rock Springs Field Office (RSFO). The proposed Paradise 230-kV Transmission Project (Project) would add infrastructure to complete a loop of high-voltage power between the Jonah Gas Field area and the Paradise Road area near the New Fork River, connecting to the Big Piney Substation in Big Piney, Wyoming. The purpose of the Project would be to serve growing residential, commercial, and industrial electrical loads in the region. This Visual Impact Assessment evaluates the visual impacts of the No Action and action alternatives. The alternatives are described in Section 2.0.

1.1 PROJECT LOCATION

The proposed transmission line would be located in Sweetwater and Sublette counties, between U.S. Highway 191 (U.S. 191) and U.S. 189 (Project Area). The proposed route would begin at an existing substation in the town of Big Piney and would generally run along State Highway (SH) 351, crossing the Green and New Fork rivers, and would turn south to end at the Jonah Substation.

The proposed route has been divided into the following seven segments (listed west to east) for this assessment (Figure 1). Alternative routes have been analyzed for Segments 1, 2, 4, and 6. All segments and alternative segments are described further in Section 2.0.

Segment 1. Begins at the Big Piney Substation located in the town of Big Piney and terminates at the western edge of the Green River floodplain along SH 351.

Segment 2. Crosses the Green River and follows Green River Road for approximately 3 miles, then heads northeast to the proposed Paradise Substation.

Segment 3. Begins at the proposed substation and terminates just south of the intersection of Paradise Road and SH 351.

Segment 4. Crosses the New Fork River and terminates on the south side of SH 351 and the eastern edge of the New Fork River floodplain.

Segment 5. Parallels the south side of SH 351 from the eastern edge of the New Fork River floodplain to a point near BLM Road 5410.

Segment 6. Diverges from SH 351 and heads south by southeast across the landscape along the Jonah Gas Field.

Segment 7. Heads west by southwest from the terminus of Segment 6 to the proposed Jonah Substation.

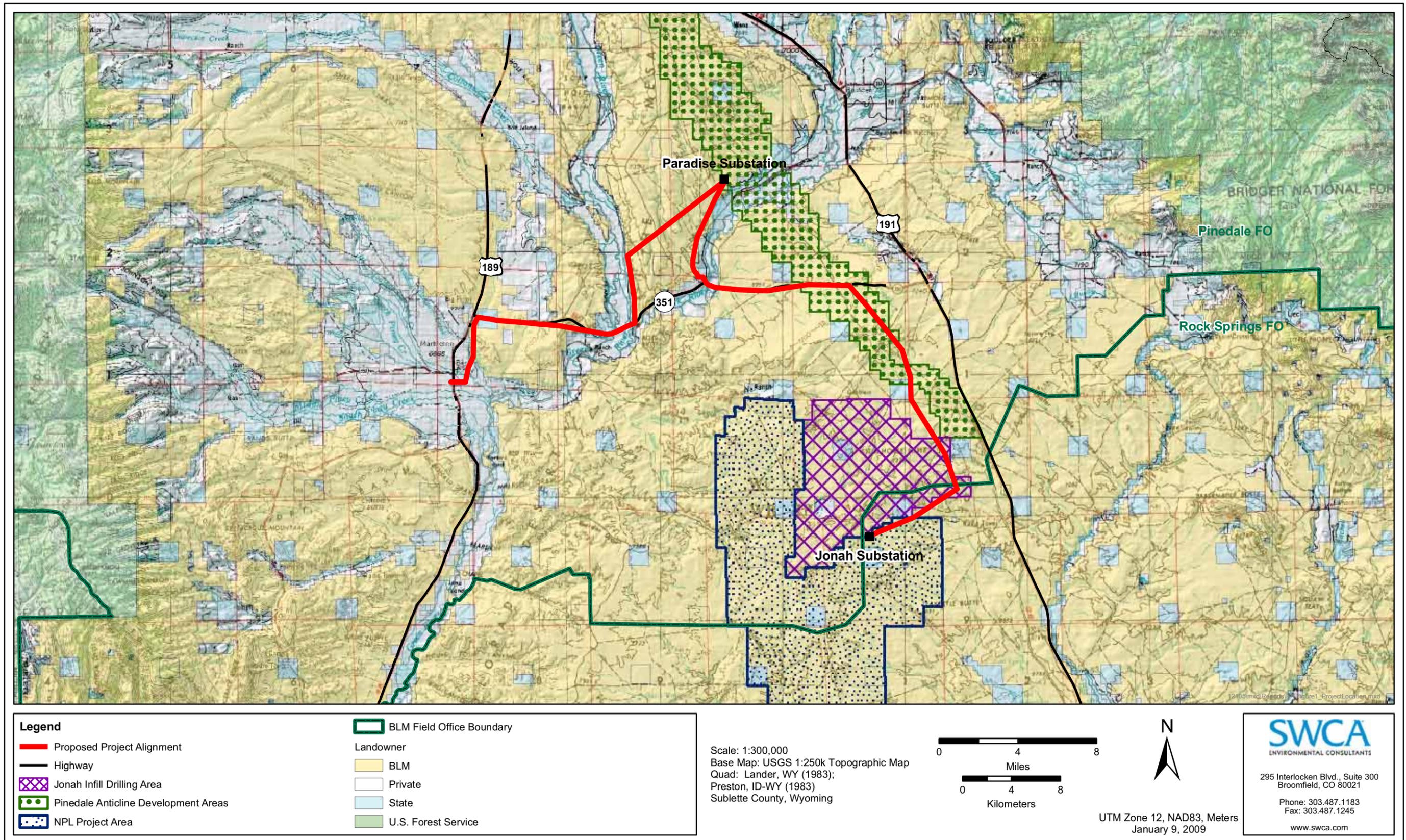


Figure 1. Project Location.

1.2 DESCRIPTION OF THE VISUAL SETTING

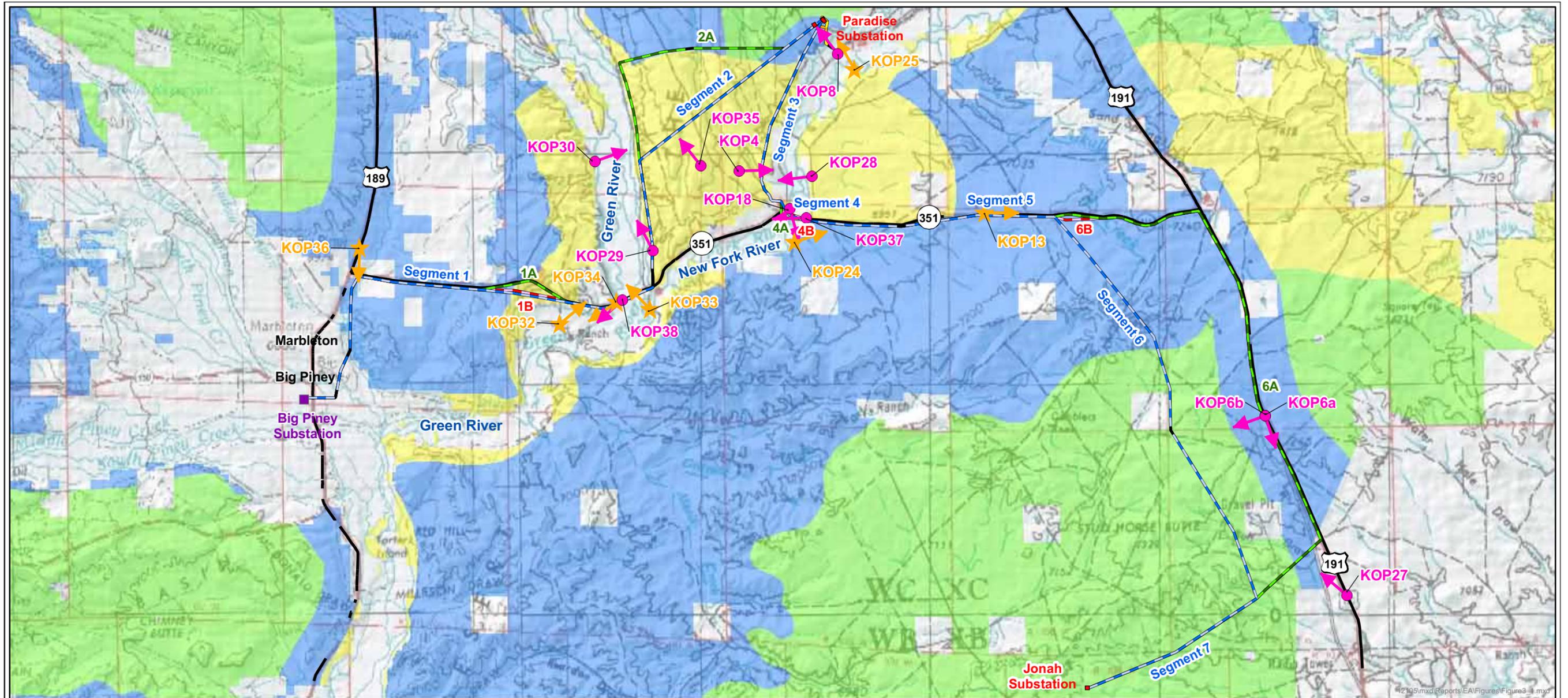
The Project Area is in an undeveloped setting with an open and flat landscape and distance views that are generally unimpeded by trees, tall structures, or other vertical landscape features. Buttes, mesas, rivers lined with trees, and agriculture provide variety in topography and color that contributes to the scenic quality of the area. Rolling hills are at the center of the Project Area with bluffs and floodplains along the New Fork River in the northern portion. The vegetation is dominated by sagebrush and native grasses on the plains and riparian vegetation along the floodplains. The predominant line in the landscape is the horizon and long, flat plane of the sages and grasslands. For most of the year, colors in the landscape have a strong gray hue. During the growing season, vegetation is a light grayish-green, which matures and fades to gray for fall and winter seasons. Soils are colors of buff, umber, and light browns. Structures are present in the landscape and in certain locations create a high level of visual disturbance. Textures from vegetation and landform are mostly smooth at middle distances, but may be coarse in the foreground due to patchy sagebrush and strips of riparian trees. On the southeastern stretch of the proposed line (Segments 6 and 7; portions of Segment 5) at the Jonah Gas Field and Pinedale Anticline, several linear features and structures, such as gas wells, well pads, and roads, are present. The areas along South Boulder Road and near Big Piney are developed with clusters of residential neighborhoods.

1.3 VISUAL RESOURCE MANAGEMENT

The Visual Resource Management (VRM) System classifies land based on visual appeal, public concern for scenic quality, and visibility from travel routes or observation points. The BLM defines VRM as a system for minimizing the visual impacts of surface-disturbing activities and maintaining scenic values for the future by repeating the basic elements of line and form (BLM Manual H-8410-1) (BLM 1986). The VRM classes are used to identify the degree of acceptable visual change within a landscape based on the physical and sociological characteristics—Classes I and II being the most valued, Class III representing a moderate value, and Class IV being of least value.

The Pinedale Resource Management Plan (RMP) designates VRM classes and corresponding objectives for the Project Area and determines management protection and priorities for scenic resources (BLM 2008a). The BLM must consider, at the site-specific activity level, all uses proposed for an area within a given VRM class and determine if those uses would be consistent with the objectives for that class. Projects like the Paradise 230-kV Transmission Project are evaluated using the Contrast Rating System described in BLM Manual H-8431 as a systematic way to evaluate a proposed project to determine if it meets the objectives established by the RMP. This process also identifies mitigation measures to minimize visual impacts should they occur.

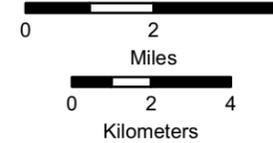
As shown in Figure 2, much of the Project Area is designated as VRM Classes II and III (BLM 1997, 2008a). VRM Class III areas are generally found along highways, including U.S. 191 and portions of SH 351. VRM Class II areas are found along the Green and New Fork rivers and their floodplains, as well as portions of the historic Lander Cutoff of the Oregon/California/Mormon emigrant trail system (Lander Trail). VRM Class IV lands are found near the Jonah Substation, Jonah Gas Field, and Pinedale Anticline.



Legend

- | | | |
|---------------|----------------------|-------------------------------------|
| Alternative 1 | Proposed Facility | VRM (BLM Pinedale 2008)
Class II |
| Alternative 2 | Existing Facility | Class III |
| Alternative 3 | KOP Photo Simulation | Class IV |
| 25-kV Line | KOP Visual Analysis | |

Scale: 1:180,000
 Base Map: USGS 1:250k Topographic Map
 Quad: Lander, WY (1982);
 Preston, ID-UT-WY (1961)
 Sublette County, Wyoming



UTM Zone 12, NAD83, Meters
 March 23, 2009



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According to BLM Manual H-8410-1, the objectives of VRM Class II are to “retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape” (BLM 1986, p. 6).

Class III areas should partially retain the existing character of the landscape, and the level of landscape change should be moderate (BLM 1986). Activities may be seen and attract attention, but should not dominate the view. Changes should repeat the basic elements found in the predominant natural landscape features.

Class IV area objectives are to “provide for managing activities that require major modifications of the existing character of the landscape” (BLM 1986, p. 7). Management activities may dominate the view and be a major focus of viewer attention; however, for management of Class IV areas “every attempt should be made to minimize the impact of activities through careful location, minimal disturbance, and repeating the landscape character elements” (BLM 1986, p. 7). Basically, this class allows for substantial modification of the landscape but places emphasis on mitigation, where possible, of those impacts.

Additionally, the Pinedale RMP has established management guidelines for historic trails, such as the Lander Trail. The historic integrity of the trail includes the open range, sagebrush vistas, and long views to the mountains that are part of the characteristic landscape experience during the historic use of the trail. A portion of the Lander Trail in the Project Area is identified in the RMP as contributing to the trail’s eligibility for the National Register of Historic Places. To protect its visual historic setting, public land within 3 miles of the contributing segment of the trail was designated as VRM Class II. Non-contributing segments of the trail in the Project Area are managed as VRM Class III.

1.4 VIEWSHEDS, VIEWERS, AND USER GROUPS

The following discussion introduces the viewsheds, viewers, and user groups present within the Project Area. The viewsheds within the Project Area were analyzed to identify the viewers that travel through or live within these areas and which level of sensitivity each type of viewer may have for landscape change. Key observation points (KOPs) were then selected to represent the average experience of traveling through the landscape and the scenery associated with each location or view corridor. Several factors were analyzed to guide the selection of KOPs to evaluate the impacts of project activities in terms of landscape change and contrast with the surroundings, including type of users, amount of use, public interest, and sensitivity of each viewer type.

The Project Area can be viewed from U.S. 191, which runs north/south along the east end of the Project Area; U.S. 189, which runs north/south along the west end of the Project Area; and SH 351, which bisects the Project Area from east to west. Some people may also view the area when using the unimproved and two-track roads that provide access to ranches, well pads, and industrial sites within the Project Area. Average daily traffic (ADT) for roads in the area is provided in Table 1. All of the primary highways have experienced a consistent increase in ADT since 2000 (BLM 2008b).

Table 1. Average Daily Traffic along Travel Routes within the Project Area, 2006.

Station	Milepost	ADT
U.S. 191 at Sweetwater/Sublette County Line	51.62	3,340
U.S. 191 at SH 351	75.75	2,280
SH 351 at U.S. 191	NA	2,230
SH 351 at County Road 136 North	12.91	1,620
SH 351 at U.S. 189	NA	550
U.S. 189 at SH 351	109.38	1,430
U.S. 189 at Marbleton (North Corps Limits)	107.47	4,520
U.S. 189 at Big Piney (North Corps Limits)	106.32	6,190
Luman Road	NA	312–610 ¹
Paradise Road	NA	506 ²

¹Predicted ADT volume associated with Jonah Gas Field activities. Does not include other vehicular activity (BLM 2006).

²2006 ADT recorded along North Anticline Road 0.62 mile north of its intersection with Paradise Road; assumes all traffic was using Paradise Road (BLM 2008b).

Travelers driving through the area would have temporary views of the transmission line. Passengers in moving vehicles would have greater opportunities for off-road views of the Project than would drivers. A majority of people using these roads are the hundreds of industrial employees accessing local oil and gas fields in the Project Area. Industrial users are expected to have a low sensitivity to changes in the landscape. Viewers also include local residents traveling to and from their homes, including homeowners in neighborhood developments and on ranches. These users would be moderately sensitive to visual impacts.

Forty-two percent of the population within Sublette County lives in the towns of Pinedale, Marbleton, and Big Piney; 58 percent live in smaller communities such as Bondurant, Boulder, Cora, and Daniel. Homes are located around Big Piney (Segment 1), along East Green River Road (Segment 2), and off Boulder South Road (Segment 3). Powerlines have been installed underground in a new subdivision near Segment 3 to preserve the character of the landscape. Most residents are expected to be highly sensitive to changes in the landscape that can be viewed from their homes and neighborhoods.

Due to the diversity of natural features and topography, such as the Upper Green River and mountain ranges within and around the Project Area, the region offers several recreational opportunities, most of which are individually initiated and involve undeveloped or limited developed access. Undeveloped recreation opportunities in the area include off-highway vehicle (OHV) use, snowmobiling, boating, hunting, fishing, camping, and hiking. Seven developed recreation areas are available within 3 miles of the proposed route: the Green River Fear Access, Green River Ferry Island Fishing Access Area, South New Fork Bridge Road Access, New Fork Olson Ranch Access, New Fork/Ross Butte Fishing Access Area, New Fork Boating Access Area, and New Fork Campground. Recreational use within the Project Area is primarily fishing and rafting on the New Fork and Green rivers, as well as visitors to the historic Lander Trail. Recreational users travel on U.S. 191 through the area to reach nearby destinations such as the Grand Tetons, Yellowstone National Park, and the Green and Snake rivers. Recreational users would be highly sensitive to changes in the landscape.

2.0 PROPOSED ALTERNATIVES

2.1 NO ACTION ALTERNATIVE

The existing conditions represent the No Action Alternative. Several miles of existing transmission and distribution lines are in place along the proposed routes in the Project Area. The Big Piney Substation is an existing facility located on private land with no VRM classification. Under the No Action Alternative, no new transmission lines or facilities would be constructed. The existing 69-kV transmission line and any distribution lines would remain in current locations along Segments 1, 2, and 6A.

2.2 PROPOSED ACTION

The Proposed Action would consist of the construction and operation of two new high-voltage substations and a 230-kV overhead transmission line in Sublette County, Wyoming. The proposed Project would add infrastructure to complete a loop of high-voltage power between the Jonah Gas Field area and the Paradise Road area near the New Fork River, connecting to the Big Piney Substation in Big Piney, Wyoming.

2.2.1 Structures

The new transmission line structures would be a combination of wood H-frame and COR-TEN steel monopole design approximately 80 to 100 feet tall. Structures would be spaced approximately every 500 to 1,000 feet, except where the line is double circuit 230/69-kV, in which case the spacing would be approximately 300 to 700 feet. The exact height of each structure and spacing would be governed by topography, final design, and safety requirements for conductor clearances and line loading. The COR-TEN steel monopoles are made of weathering steel that is light rust to dark brown in color. The individual tones of brown may vary from pole to pole in the Project Area and over the life of the pole structures as they continue to weather. See Appendix A for photographs of these structures.

The 230-kV line would consist of three conductor cables with an Optical Ground Wire in the top position and a static wire on the opposite top position on each structure. The 230/69-kV line would consist of a three-phase single circuit 230-kV and three-phase single circuit 69-kV with an Optical Ground Wire in the top position on each structure. Conductors would be non-reflective.

The tangent structures of the 230-kV line would have polymer suspension insulators 80 to 86 inches long. The angle and dead-end structures would have polymer insulators 92 to 99 inches long. One polymer insulator per phase would be used on all of the tangent structures, and up to three insulators per phase on the dead-end and angle structures would be used. All angle and dead-end structures would have associated down guying, except where steel poles with foundations are used.

The proposed Paradise Substation would be constructed on a 15-acre parcel approximately 1.25 miles north of Paradise Road. The Paradise Substation would step down voltage to 69/25 kV to be distributed to local industrial customers by means of either a new 25-kV distribution line from the substation to existing distribution lines near Paradise Road or various user-

constructed distribution lines. The proposed Jonah Substation would be constructed on a 15-acre parcel near the Jonah Gas Gathering primary delivery point. At each site, an 8-acre area would be graded and covered with rock/gravel. Steel structural support would be installed followed by the installation of the electrical equipment such as breakers, transformers, control houses, etc. A 7-foot fence with gating and topped with 1 foot of barbed wire would surround the substations when completed. See Appendix A for photographs of similar substations.

2.2.2 Segments

The overall length of the proposed transmission line is approximately 52 miles. Table 2 summarizes the miles and acreages that the Proposed Action right-of-way (ROW) would impact within each VRM Class by segment. In most places, it would not be necessary to clear vegetation from the ROW. Temporary crushing of vegetation within this 150-foot-wide ROW would cause short-term visual impacts along the proposed and alternative segments. A two-track road would remain for maintenance activities along the ROW, creating long-term surface impacts shown in Table 2. The greatest visual impact from vegetation disturbance would be at the substations, where bare soils from bladed areas would cause visual contrast. This contrast would begin to diminish over three to five years once the vegetation returned to the temporary work area outside of the fence.

Segment 1. This segment would consist of 10.89 miles of three-phase 230-kV single circuit transmission line strung as three conductors on wooden H-frame structures. The segment would begin at the existing Big Piney Substation and terminate at the western edge of the Green River floodplain along SH 351. The transmission would be aligned parallel to an existing 69-kV transmission/distribution line and follow the south side of SH 351, except for approximately 2 miles where the highway veers north.

Segment 2. This segment would consist of 11.11 miles of three-phase 230-kV and 69-kV double circuit transmission line conductors on steel monopole structures spaced approximately 400 feet apart with a pole height of 85 to 95 feet above ground, depending on topography. An electrical switch would be installed on the 69-kV line where the new 69-kV line intersects with the existing 69-kV line. This new double circuit would be constructed parallel to an existing 69-kV transmission/distribution line and would replace the transmission portion of the existing line. The existing distribution line would remain in place on the existing wooden structures, which would be shortened. The segment would cross the Green River and follow Green River Road for approximately 3 miles, then head northeast to the proposed Paradise Substation.

Paradise Substation and 25-KV distribution line. The proposed Paradise Substation would be located approximately 1 mile north of Paradise Road. The initial construction disturbance would be approximately 15 acres, but reclamation would result in a final permanent disturbance area of 8 acres, including a gravel equipment yard surrounded by a 7-foot chain link fence. This substation would step down voltage to 69/25 kV to be distributed to local industrial customers. Two new 25-kV distribution lines would be constructed from the substation onto adjacent BLM land on the north and east of the substation fence.

Table 2. Disturbance within VRM Class by Segment.

Segments and Components	VRM Class	Mileage	Long-term ROW Disturbance (acres)
1	II	1.75	2.12
	III	5.22	6.33
1A	II	1.76	2.13
	III	5.37	6.51
1B	II	1.77	2.14
	III	5.22	6.33
2	II	7.85	9.52
	III	1.90	2.23
2A	II	6.42	7.79
	III	4.36	5.14
	IV	1.17	1.41
Paradise Substation	III	NA	7.99
	IV		0.01
Paradise Substation A	III	NA	8.00
Paradise Substation B	III	NA	8.00
25-kV Distribution Line	III	0.63	0.29
3	II	3.90	4.73
	III	1.08	1.23
4	II	0.37	0.45
4A	II	0.13	0.16
4B	II	0.43	0.40
	III	0.11	0.12
5	III	6.67	8.08
6	III	4.56	5.53
	IV	7.36	8.92
6A	III	12.92	15.66
	IV	1.33	1.62
6B	III	12.92	15.66
	IV	1.33	1.62
7	IV	5.16	6.26
Jonah Substation	IV	NA	8.00

Note: does not include state or private land.

Segment 3. This segment would consist of approximately 5.33 miles of three-phase 230-kV single circuit transmission line beginning at the proposed Paradise Substation and terminating just south of the intersection of Paradise Road and SH 351. The structures would consist of wooden H-frame, spaced approximately 800 feet apart with a pole height of 80 to 100 feet above ground, depending on topography. The alignment would be approximately 0.5 mile west of and roughly parallel to Paradise Road.

Segment 4. The proposed crossing of the New Fork River would consist of approximately 1 mile of three-phase 230-kV single circuit, constructed on steel monopole structures, spaced approximately 400 feet apart with a pole height of 85 to 95 feet above ground, depending on

topography. The segment would terminate on the south side of SH 351 and the eastern edge of the New Fork River floodplain.

Segment 5. This segment would parallel the south side of SH 351 from the eastern edge of the New Fork River floodplain for approximately 6.83 miles. The proposed transmission line would consist of three-phase 230-kV single circuit on wooden H-frame structures, spaced approximately 800 feet apart with a pole height of 80 to 100 feet above ground, depending on topography.

Segment 6. Segment 6 would diverge from the southern side of SH 351 and head south by southeast for approximately 11.92 miles. The proposed transmission line would consist of three-phase 230-kV single circuit on wooden H-frame structures, spaced approximately 800 feet apart with a pole height of 80 to 100 feet above ground, depending on topography. The segment would terminate in Section 28, Township 29 North, Range 107 West.

Segment 7. This segment would also consist of a three-phase 230-kV single circuit transmission line on wooden H-frame structures, spaced approximately 800 feet apart with a pole height of 80 to 100 feet above ground. Beginning in Section 28 where Segment 6 would terminate, the alignment would head in a west by southwest direction to terminate at the proposed Jonah Substation.

Jonah Substation. The Jonah Substation would be constructed on a 15-acre parcel near the Jonah Gas Gathering primary delivery point. The initial construction disturbance would be approximately 15 acres, but reclamation would result in a final permanent disturbance area of 8 acres, including a gravel equipment yard surrounded by a 7-foot chain link fence.

2.3 ALTERNATIVE SEGMENTS AND SUBSTATIONS

In consideration of different resource values present in the project segments, alternative segment alignments have been developed to avoid or minimize potentially adverse impacts within four segments and a second substation location. The alternatives modify the location, but the design of the structures would be the same as described for the Proposed Action. The impacts to VRM classified areas are compared to the Proposed Action in Table 2.

Segment 1A. Along the 2 miles where the highway veers north, this alternative to Segment 1 would follow SH 351 rather than the alignment of the 69-kV transmission line to the south. The total length of Segment 1A would be 11.04 miles.

Segment 1B. Similar to Segment 1, but the alignment of the transmission structures would be adjusted slightly north of the existing 69-kV transmission line, and approximately 0.5 mile south of the southern ROW of SH 351.

Segment 2A. This alternative to Segment 2 would include a north/south alignment following Green River Road before turning to the northeast and then east and intercepting the proposed alternative alignment. The total length of Segment 2A would be 13.38 miles.

Paradise Substation A and 25-kV distribution line. An alternative location for the Paradise Substation would be approximately 800 feet west of the proposed substation, on the east side of a gravel road.

Paradise Substation B and 25-kV distribution line. The footprint of this substation would be slightly adjusted, but would generally occupy the same space as the proposed substation on the east side of a gravel road.

Segment 4A. This alternative to Segment 4 would include the single circuit on steel monopole structures from the point just south of the Paradise Road and SH 351 intersection on the west side of the New Fork River, with an alignment that would begin on private land near the southeastern corner of a gravel pit, then head approximately 0.5 mile south, then turn due east and cross the New Fork River and its floodplain before intercepting Segment 5 near the South Boulder Road intersection. The total length of Segment 4A would be 1.3 miles.

Segment 4B. This alternative would be a short and perpendicular crossing of the New Fork River just south of the SH 351 ROW and parallel to the New Fork River Bridge.

Segment 6A. Segment 6A would continue on the south side of SH 351 until reaching the intersection with U.S. 191 at Sand Draw. The alternative would then follow the east side of U.S. 191 and parallel the ROW fence south for approximately 9 miles. The transmission line would then make a sharp turn and head southwest for approximately 2.3 miles. The total length of Segment 6A would be 15.96 miles.

Segment 6B. Similar alignment as Segment 6A, but with a slight modification at the northern end of the segment along SH 351. The line would veer south of SH 351 for 1.35 miles to avoid existing gas wells.

3.0 VISUAL ANALYSIS

The visual analysis determines whether the potential visual impacts from proposed surface-disturbing activities or developments would meet the management objectives established for the area or whether design adjustments would be required. Visual Contrast Ratings are determined by comparing the features of the proposed Project with the major features in the existing landscape using the basic design elements of form, line, color, and texture. This process is described in BLM Handbook H-8431, Visual Resource Contrast Rating. The results of the analysis are then used as a guide for reducing visual impacts. Additional mitigation stipulations may be used to bring the proposed Project into compliance with VRM objectives.

3.1 KEY OBSERVATION POINTS

KOPs along the proposed transmission line routes were selected by the BLM and SWCA Environmental Consultants (SWCA) (see Figure 2). The KOPs represent the most critical viewpoints or typical views encountered in representative landscapes along the proposed route for regional commuters, residents, industrial workers, and recreational visitors to the area. The KOPs were visited by SWCA in September 2008, and several photographs were taken at various angles from each point. Table 3 describes the location of each KOP analyzed for this

report, the segment of the transmission line seen from that point, and if a photo simulation was created for that KOP.

3.2 EXISTING CONDITIONS

The existing visual characteristics of the eight segments are described below. These conditions describe the No Action Alternative and are used as a baseline to analyze impacts of the Proposed Action and alternatives using BLM Visual Contrast Rating Worksheet 8400-04, photo analysis, and photo simulation at KOPs. See Figure 2 for segment and KOP locations.

3.2.1 Segments 1, 1A, and 1B

Segment 1 would begin in the town of Big Piney and run north parallel to U.S. 189, then turn east and run along SH 351 to the Green River. Views along this segment would include open sagebrush and rolling hills. An existing powerline could be viewed along most of this section. People driving on SH 351 and U.S. 189 would have views of this segment as well as residents in the Big Piney area. The portion of the segment that deviates south of SH 351 may be seen by visitors at the planned Wardell Bison Trap Interpretive Site. Most of this segment would cross through land managed as VRM Class III, but the east end of the segment would be VRM Class II. See KOPs 36 and 32 for visual analysis.

Alternatively, Segment 1A would follow SH 351 rather than the existing line that deviates from the highway. The segment would be farther away from the Wardell Bison Trap Interpretive Site and therefore would have less impact on viewers from that location compared to the Proposed Action. However, the existing line would still be visible from the interpretive site and would remain in place. Segment 1B would be located just north of Segment 1 near the Wardell Bison Trap, and therefore less visible from both the interpretive site and SH 351 compared to the alternatives.

3.2.2 Segments 2 and 2A

Segment 2 would cross the Green River floodplain, run north along East Green River Road for approximately 3.5 miles, and then run cross country to the proposed Paradise Substation. The existing view includes an existing transmission line along SH 351 and East Green River Road. Vegetation along the segment includes open horizontal planes of sagebrush, meadows, and grassy fields. Other features include the Green River and associated riparian habitat and irrigated agriculture. Ranch buildings and scattered homes are also visible in the foreground. In the distance are rolling hills and mountains to the east.

Most of the segment is classified as VRM II with some VRM III at the east end. Residents and other people driving along East Green River Road and SH 351 would have views of this segment, including residents and landowners. Recreationists rafting or fishing on the Green River would have views of this segment, as well as those visiting the Lander Trail. The cross-country portion of the segment would only be visible from undeveloped roads. See KOPs 34, 38, 33, 29, 30, 35, 8, and 25 for visual analysis.

Table 3. Key Observation Points Analyzed for Visual Impacts.

KOP # (west to east)	UTM (NAD 83 Z12 Meters)		VRM Class	Azimuth in Photo	Description	Segment Viewed	Photo Sim.?
36	575149	4716093	III	182	Looking south from U.S. 189	1	No
32	583875	4712786	none	50	Looking northeast at SH 351 near Green River crossing	1	No
34	586358	4713740	none	236	Looking southwest at Green River crossing from boat launch along Green River	2	No
38	586600	4713837	none	228	Looking southwest from SH 351 at Green River floodplain	2	Yes
33	587811	4713428	none	316	Looking northwest at East Green River Road and SH 351 intersection from New Fork River boat launch	2	No
29	587931	4715984	II	332	Looking northwest from East Green River Road	2	Yes
30	585403	4719848	II	70	Looking east from Chapel Hill Road; line would come over hill then turn and go south along other side of Green River floodplain	2	Yes
35	590007	4719669	II	322	Looking north from the Lander Trail at top of ridge	2 or 2A	Yes
8	595974	4724522	none	322	Looking northwest from Paradise Road at substation where two lines converge	3	Yes
25	596707	4723851	II	330	Looking north from butte above New Fork River	3	No
4	591680	4719435	II	88	Looking east from historic trail, east along trail toward New Fork River	3	Yes
28	594854	4719205	II	263	Looking across New Fork River from historic trail marker	3	Yes
18	593892	4717799	II	164	Looking downstream at crossing of the New Fork River from boat launch	4 or 4A	Yes
37	594610	4717406	none	268	Looking at SH 351 bridge crossing	4 or 4A	Yes
24	594110	4716351	II	72	Looking northeast from Yellow Point Road at historic Opal Wagon Road	5	No
13	602375	4717621	III	90	Looking east along SH 351	5	No
6a	614608	4708808	III	250	Looking west from U.S. 191	6 or 6A	Yes
6b	614608	4708808	III	162	Looking south from U.S. 191	6A	Yes
27	618165	4701011	IV	310	Looking north along U.S. 191	6A	Yes

Segment 2A would be outside the 3-mile buffer of the Lander Trail (a VRM Class II area). The existing views would be similar to Segment 2, but Segment 2A would follow Green River Road farther to the north. Recreational users on the Green River and travelers and residents on East Green River Road would have views of these areas. See KOP 35 for visual analysis.

3.2.3 Segment 3

This segment would be located on the west side of Paradise Road in lands managed as VRM Classes II and III. Existing views along this segment include riparian vegetation along the New Fork River to the east and open sagebrush to the west. This area is generally undeveloped; however, existing wells/rigs are present on the northern end of the segment. Existing vertical structures such as homes, drill rigs, industrial structures, and electrical distribution powerlines are visible from Paradise Road, which runs west of the New Fork River and connects Boulder to SH 351, and South Boulder Road, which parallels the New Fork River. Recreational users visiting the New Fork River or the Lander Trail would have views of this segment from several viewpoints, as would residents from subdivisions along the river. See KOPs 8, 4, 25, and 28 for visual analysis.

3.2.4 Segments 4, 4A, and 4B

Segment 4 would cross the New Fork River and its floodplain. Existing views include the New Fork River and associated riparian vegetation and irrigated agriculture. Most of this segment is on private land and therefore does not have a VRM Class; however, a small area at the New Fork River Campground is VRM Class II. People driving across the bridge on SH 351 at the New Fork River would see this segment. Also, recreators fishing or rafting on the New Fork River would have views of the segment. There are homes to the north, and residents driving south on South Boulder Road would see the segment as they approach SH 351. See KOPs 37 and 18 for visual analysis.

3.2.5 Segment 5

Segment 5 would follow the south side of SH 351 east of the New Fork River. Existing views along the segment include flat, open sagebrush in the foreground and middleground. There are some gently rolling hills in the background and distant views of the Wind River Range when driving east on SH 351. When driving west along SH 351, there are views of trees, buildings, and homes along the New Fork River on the west end of the segment. Oil and gas field development (Pinedale Anticline) is interspersed with undeveloped rolling hills along SH 351. The topography is flat with gently rolling hills covered in sagebrush habitat. This segment is within VRM Class III. People traveling along SH 351 would have near views of the proposed transmission line in this segment. Users include residents accessing their homes and ranches; tourist/travelers passing through the area; recreators going to the Bridger-Teton National Forest, New Fork River, or Opal Wagon Road; and industrial traffic from area oil and gas development. See KOPs 24 and 13 for visual analysis.

3.2.6 Segment 6

This segment would cross through an area dominated by natural gas development (Jonah Gas Field and Pinedale Anticline) and would be 3 to 4 miles west of U.S. 191. Segment 6 would

cross country but approximately follow the South Anticline Road where there are views of existing gas wells, well pads, drill rigs, and access roads. The topography is flat with gently rolling hills covered in sagebrush habitat. There are distant views of the Wind River Range to the east. This segment is within VRM Classes III and IV and would primarily be viewed by people using the unimproved BLM roads in the area. Users primarily consist of industrial traffic from area oil and gas development. Travelers on U.S. 191 and SH 351 may occasionally have views of this segment in the distance. See KOP 6a for visual analysis.

3.2.7 Segments 6A and 6B

Segments 6A and 6B would both follow U.S. 191, and existing views include open sagebrush that is generally flat with some gently rolling hills in the foreground and middleground. There are distant views of natural gas development to the west and the Wind River Range to the east. An existing single pole 69-kV line runs along the west side of U.S. 191 between Boulder and Sand Draw and a 12-kV line along the east side of the highway. Other existing development includes oilfield services and residences on private lands near the junction of U.S. 191 and SH 351.

The majority of this segment is managed as VRM Class III except for the southern portion that deviates from the highway which is VRM Class IV. People who drive U.S. 191 would have views of this segment. Users include residents accessing their homes and ranches, tourist/travelers passing through the area, recreators going to the Bridger-Teton National Forest, and industrial traffic from area oil and gas development. See KOPs 27 and 6 for visual analysis.

3.2.8 Segment 7

This segment would cross the south end of the Jonah Gas Field, where there are views of existing gas wells, well pads, drill rigs, and access roads, and would end at the proposed Jonah Substation. The land is open sagebrush with a distant view of the Wind River Range to the east. This segment is within VRM Class IV and would only be viewed by people using the unimproved BLM roads in the area, such as industrial traffic from area oil and gas development. There are no KOPs along this segment.

3.3 PHOTO ANALYSIS AND SIMULATION

The photo analysis and simulation compares the Proposed Action with the existing conditions for each segment and segment alternative. To illustrate the anticipated visual changes associated with the proposed Project, computer-enhanced photo images were used to create realistic views of the completed transmission line and substation from selected KOPs. Photographic simulations were developed by GeoEngineers using the transmission line and substation specifications and alignments, as well as geographic information system (GIS) coordinates, to accurately place the structures in the environment. For steel monopoles, two simulations were created: one for the proposed COR-TEN material and one for galvanized steel. Galvanized steel is the typical material used for steel monopoles and this shiny material tends to dull with weathering. The COR-TEN material weathers into a rust/brown color, but the poles may vary in color from light rust to dark brown. The appearance of both materials

would depend on background and light conditions. The difference in visual impacts of the two materials are shown and analyzed in the photographs.

Visual Contrast Rating Worksheets were completed for each KOP to determine the degree of contrast the proposed transmission line would have in comparison to the existing landscape. The forms are attached in Appendix B.

The degree of contrast at each KOP was rated none, weak, moderate, or strong, as defined in BLM Handbook H-8431:

None: The element is not visible or perceived.

Weak: The element contrast can be seen but does not attract attention.

Moderate: The element contrast begins to attract attention and begins to dominate the characteristic landscape.

Strong: The element contrast demands attention, will not be overlooked, and is dominant in the landscape.

The degree of contrast at each KOP is also described in terms of the structure's distance from the viewer in Table 4.

Table 4. BLM Distance Zones, Average Distances, and Descriptions.

Distance Zone	Average Distance	Description
Foreground	1 foot to 0.25 mile	Individual plants and landscape features are visible and detailed.
Middleground	0.25 mile to 3–5 miles	Texture and forms of individual plants are no longer apparent.
Background	3–5 miles to 15 miles	Vegetation and landscape features appear as patterns and massing.
Seldom seen	Obstructed view or 15+ miles	Portions of the landscape are generally not visible or over 15 miles away.

Source: BLM Manual H-8410-1 Visual Resource Inventory.

3.3.1 KOP 36

VRM Class: III



Photograph 1. Existing view of Segment 1 (KOP 36 at 182°).

This KOP is located along U.S. 189, just north of Segment 1, and represents travelers driving south approaching Big Piney. The existing view is flat, open range with patches of sagebrush vegetation, and smooth bands of vegetation that are visible in the foreground. Rolling hills, ranch buildings, fences, and powerlines traverse the landscape parallel to the highway in the middleground, and foothills or plateaus and powerlines can be seen in the background.

No photo simulation was conducted for this KOP. The proposed transmission line would have a similar impact at this location as the existing line. The transmission line would be slightly visible in the distance along the same route as the existing line where it turns east along SH 351. The brown colors of the wood poles would mimic other browns in the landscape and existing powerlines. The proposed Project would meet the VRM Class III objectives. Overall, the Contrast Rating is weak from this typical viewpoint location, but may become moderate as the viewer proceeds toward Big Piney.

3.3.2 KOP 32

VRM Class: None/Private (Adjacent to VRM Class II)



Photograph 2. Existing view of Segment 1 (KOP 32 at 50°).

The view is from a private driveway along a dirt road looking northeast towards SH 351 at the Green River floodplain and is a typical setting for the few ranches and homes that occur within view of SH 351. This KOP represents the views that local ranchers would have from less developed area roads. The landscape form is dominated by the flat, open range in the foreground. Some trees and rolling hills are visible in the middleground to background. The vertical poles of the existing transmission line are also faintly visible in the background. Lines in the landscape are horizontal in nature, following these bands and landforms. Colors in the view consist of light beige soils and gray to light green shrub vegetation. Trees along the river create a linear band of dark green in the distant landscape. The clumps of low-growing vegetation are evenly distributed in the foreground, which creates a texture that is of medium grain and density, while the trees and rolling hills in the background appear more solid and uniform.

No simulation was conducted for this KOP. The proposed transmission line would have a similar impact on the viewer at this location as the existing poles. The vertical wooden poles would be slightly visible in the distance along the same route as the existing line and would contrast with the horizontal nature of the landscape, but would not be the focus of the observer's attention. The horizontal wires are unlikely to be visible from this distance. The Contrast Rating is weak.

3.3.3 KOP 34

VRM Class: None/Private (Adjacent to VRM Class II)



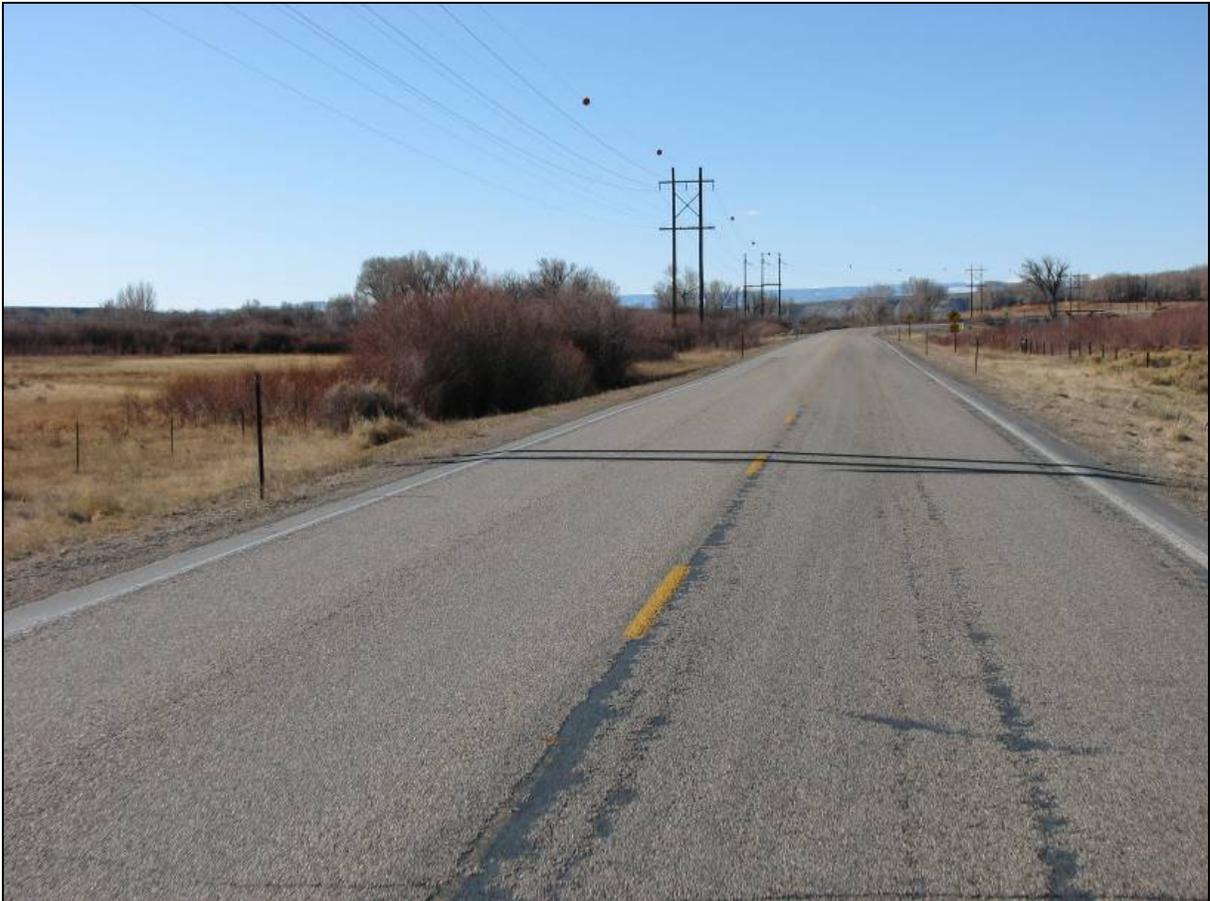
Photograph 3. Existing view of Segment 2 (KOP 34 at 236°).

The view is from a fishing access point on the Green River, just south of SH 351. This KOP represents the views that recreators (e.g., fishers, rafters) on the Green River would have of the river crossing. The landscape form includes a flat river bottom contrasting with the highly textured, vegetated banks. The trees and poles of the exiting transmission line are vertical elements visible along the river in the middleground and background. Colors in the view consist of the dark water with sun glare and dark green vegetation lining the river.

No simulation was conducted for this KOP. The steel monopoles would follow the same alignment as the existing H-frame poles, but at river-level the taller monopoles would more strongly attract the viewer's attention. The COR-TEN monopoles would be a rusty brown color, similar to the color of the existing wooden H-frame poles. Galvanized poles would be a lighter color material and would contrast more against existing colors in the landscape, while darker COR-TEN would contrast more with the light-colored sky during most light conditions. Vegetation would obscure portions of the proposed structures. The transmission line would attract the attention of recreators at this KOP but would not dominate the characteristic of the landscape. The Contrast Rating is moderate.

3.3.4 KOP 38

VRM Class: None/Private (Adjacent to VRM Class II)



Photograph 4. Existing view of Segment 2 (KOP 38 at 228°).



Photograph 5. Simulated view of Segment 2 with galvanized steel (KOP 38 at 228°).



Photograph 6. Simulated view of Segment 2 with COR-TEN steel (KOP 38 at 228°).

KOP 38 looks southwest along SH 351 from a point near the Green River Bridge and represents the views that people driving would have of the Green River crossing. The existing transmission line is visible along the south side of SH 351 and rolling hills are visible in the background. Other vertical elements in the existing view include the riparian shrubs and trees within the Green River floodplain, with light to dark browns and reds. Textures are smooth fields and plains interrupted by rough clumps and groves of riparian trees and shrubs.

As shown in the simulations, the proposed transmission line would have a similar impact on viewers at this location. The steel monopoles would follow the same alignment as the existing H-frame poles, but would be taller and larger than the existing poles creating more vertical contrast between the sky and the pole structure. A portion of the existing H-frame poles would be removed, leaving shorter single wood poles. Vegetation in the immediate foreground would obscure portions of the proposed structures. The COR-TEN monopoles would be a rusty brown color, similar to the color of the existing poles and surrounding vegetation. Galvanized poles would be a lighter color material that would contrast more against existing colors in the landscape, but contrast less against the color of the sky. The transmission line would attract the attention of travelers at this KOP, but it would not dominate the characteristic of the landscape. The Contrast Rating is moderate.

3.3.5 KOP 33

VRM Class: None/Private (Adjacent to VRM Class II)



Photograph 7. Existing view of junction of Segment 2 (KOP 33 at 316°).

KOP 33 looks northwest at the East Green River Road and SH 351 intersection from a boat launch on the New Fork River. This KOP represents the views that recreators (e.g., fishers, rafters) on the Green River would have of the Green River crossing. The existing transmission line is faintly visible in the background. The river and white building attract the attention of the viewers. The foreground is generally flat grassland/meadow adjacent to the river.

No simulation was conducted for this KOP. The proposed transmission line would have a similar impact on the viewer at this location as the existing view. The difference between galvanized steel and COR-TEN steel poles would not be apparent at this distance. The steel monopoles would be faintly visible in the background, but the alignment would follow the existing powerlines and blend with other vertical lines in the background such as trees. The transmission line would not attract the attention of recreators on the river at this KOP. There is a low level of landscape change and the Contrast Rating for this KOP is weak. However, the contrast may be moderate from vantage points farther upstream.

3.3.6 KOP 29

VRM Class: II



Photograph 8. Existing view of Segment 2 (KOP 29 at 332°).



Photograph 9. Simulated view of Segment 2 with galvanized steel (KOP 29 at 332°).



Photograph 10. Simulated view of Segment 2 with COR-TEN steel (KOP 29 at 332°).

KOP 29 looks northwest at Segment 2 from East Green River Road on the east side of the Green River. The foreground is flat, open plains of sagebrush and grasses and fine-grained, smooth textures. The existing powerline in the foreground is the dominant feature that attracts the viewer's attention. The powerline does not block the view of the background, which consists of buildings associated with a ranch and rolling hills in the distance. The view is of an area classified as VRM Class II along the Green River. The Green River is not visible from this KOP, but it is located in front of the hills. This KOP represents the view of local traffic, residents, and recreators.

The steel monopoles would be in the immediate foreground and follow the same alignment as the existing wooden poles. As shown in the simulations, portions of the existing wooden poles would be removed, leaving shorter poles. The monopoles would be taller and closer to the road than the existing poles and therefore more noticeable. The COR-TEN monopoles would be a rusty brown color, similar to the color of the existing poles. Galvanized poles would be a lighter color that is similar to the grays in the landscape and that contrasts less with the sky. Although the transmission line would not block the view of the landscape, it would attract the attention of drivers along East Green River Road and demand attention in the flat landscape. Therefore, the proposed Project would not meet the management objectives of the VRM Class II area. The Contrast Rating is strong.

3.3.7 KOP 30

VRM Class: II



Photograph 11. Existing view of Segment 2 (KOP 30 at 70°).



Photograph 12. Simulated view of Segment 2 with galvanized steel (KOP 30 at 70°).



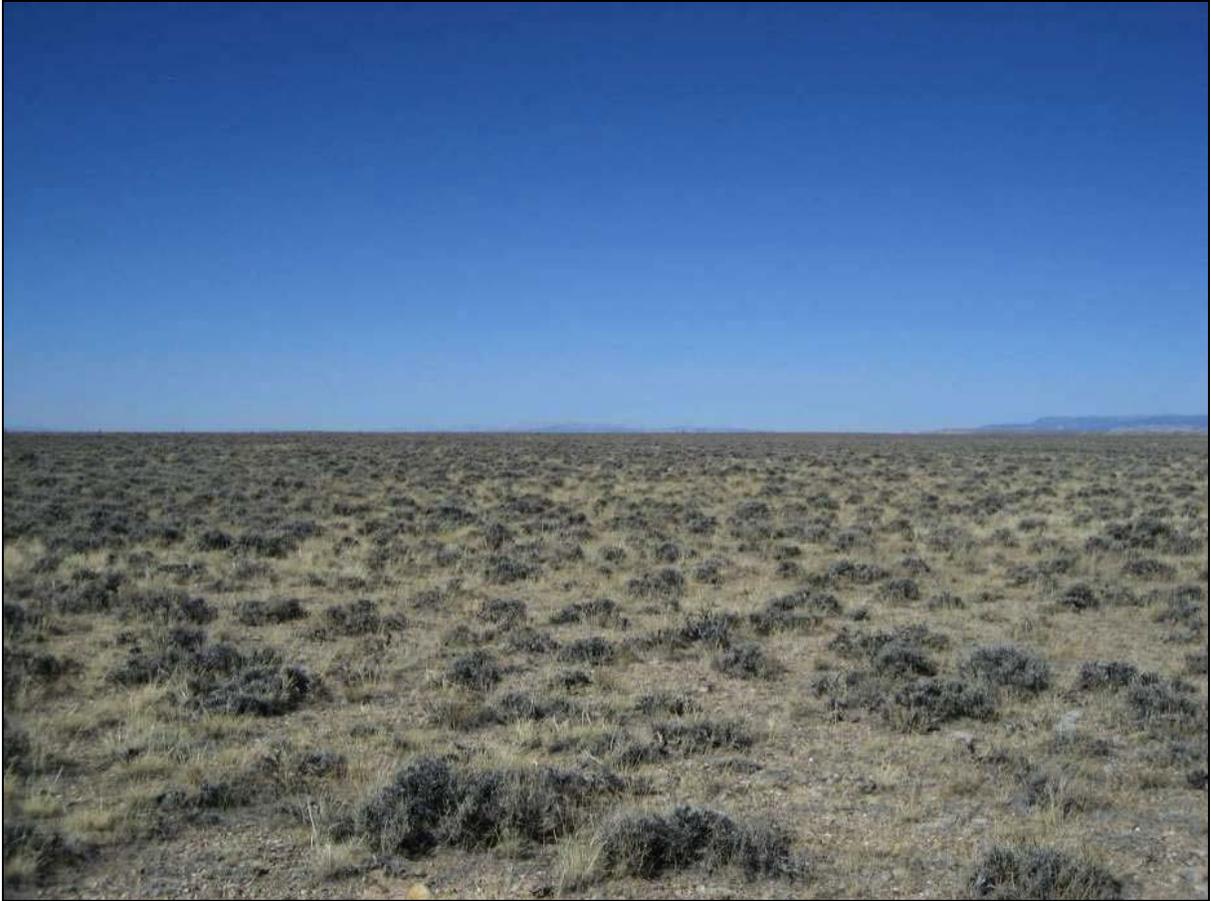
Photograph 13. Simulated view of Segment 2 with COR-TEN steel (KOP 30 at 70°).

KOP 30 looks east across the Green River from Chapel Hill Road to the bend in Segment 2 where it turns northeast to cross open country towards the Paradise Substation. In the foreground is an open field. The horizontal dark green band of trees along the Green River floodplain is visible in the middleground. Beige and brown hills with exposed white slopes are seen in the background. Few structures are visible from this location.

As seen in the simulations, the proposed transmission line is visible in the background where it comes over the hill and then turns south along the other side of the Green River floodplain. The visibility and contrast is similar for galvanized poles and COR-TEN poles at this distance, although the COR-TEN appears slightly darker against the light brown hills. In certain light and seasonal conditions (e.g., snow cover, greener vegetation) the vertical poles and linear alignment would be more noticeable than shown in the simulations. The transmission line does not dominate the view from this KOP, but it does attract attention of the casual observer; therefore, the proposed Project would not meet the VRM Class II objectives. The Contrast Rating is moderate.

3.3.8 KOP 35

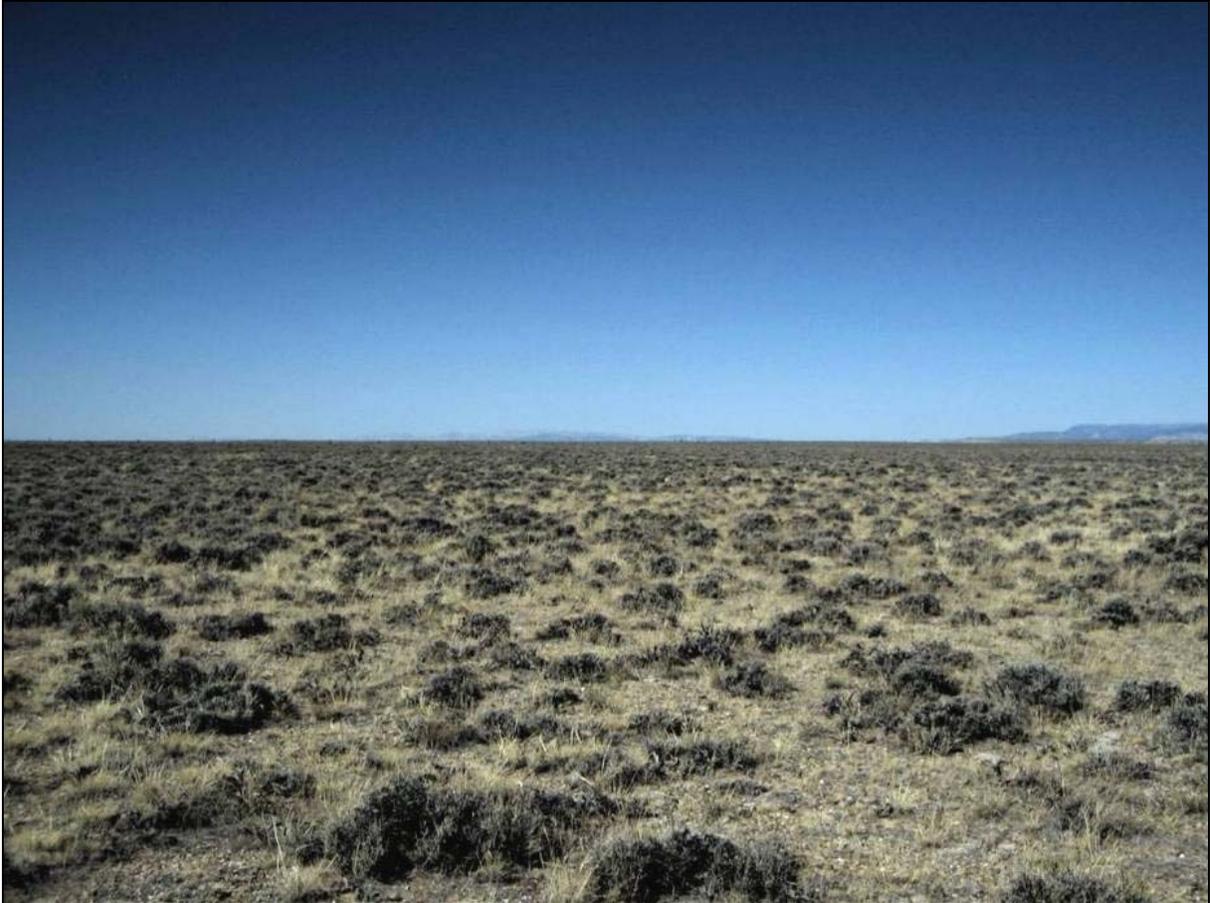
VRM Class: II



Photograph 14. Existing view of Segment 2 (KOP 35 at 273°).



Photograph 15. Simulated view of Segment 2 with galvanized or COR-TEN steel (KOP 35 at 273°).



Photograph 16. Simulated view of Segment 2A with galvanized or COR-TEN steel (KOP 35 at 273°).

KOP 35 looks north from the Lander Trail from the top of a ridge towards Segment 2. This KOP represents the views of people hiking or visiting the Lander Trail. The entire foreground and middleground is flat open sagebrush, evenly textured, strong horizontal landscape with no noticeable vertical lines. Hills are faintly visible in the far distance against the skyline creating the only topographic variation in the view.

As seen in the first simulation (Photograph 15), the proposed transmission line would be faintly visible in the background. The impact would be the same for galvanized or COR-TEN steel poles at this distance. The transmission line would be seen by recreators, but it would not attract their attention or dominate the view. The monopoles would not obscure the skyline or block the views of the hills in the distance; therefore, the proposed Project would meet the VRM Class II objectives. The Contrast Rating is weak. At certain vantage points further west along the Lander Trail, the structures may be more noticeable and the contrast rating may be moderate.

Segment 2A is 3 miles north of KOP 35. As shown in the second simulation (Photograph 16), the proposed transmission line would not be visible from KOP 35 at this distance. There would be no impact on recreators on the Lander Trail. The Contrast Rating is none.

3.3.9 KOP 8

VRM Class: None/Private (Adjacent to VRM Class III)



Photograph 17. Existing view of Segment 3 (KOP 8 at 322°).



Photograph 18. Simulated view of Segment 3 and the Paradise Substation (KOP 8 at 322°).



Photograph 19. Simulated view of Segment 3 and the Paradise Substation A (KOP 8 at 322°).

KOP 8 looks northwest from Paradise Road towards the proposed Paradise Substation. This KOP represents the views of drivers on Paradise Road, who are mostly local residents and industrial workers. The existing view is of flat grassland plane and an existing powerline in the foreground, and oil and gas development along the hills in the background. Existing power poles create a vertical element that contrasts against the flat, horizontal land. The drill rigs in the background are another vertical contrasting element; however, these are expected to be temporary.

As shown in the first simulation (Photograph 18), the proposed Paradise Substation is visible in the center of the photograph to the right of the dirt road. Since Paradise Substation B is generally located in the same area as the proposed substation, this simulation represents both alternatives. The lower portion of the substation is somewhat blocked by the topography of the hills. The form and line of the substation repeats the elements of the drill rigs; however, these rigs are temporary structures. The gray metallic substation and fencing contrast with the colors of the surrounding landscape. The vertical poles would be faintly visible and the horizontal wires would not be apparent. The substation would attract the attention of local traffic, but it would not demand the viewer's attention or dominate the landscape. The Contrast Rating for the proposed Paradise Substation and Substation B is moderate.

In comparison, the Paradise Substation A is visible in the center of the photograph above the dirt road (Photograph 19). The substation is fully visible and not blocked by the topography, unlike the simulation of the proposed Paradise Substation. The form and vertical line of the substation repeats the elements of the drill rigs; however, these rigs are temporary structures. The gray metallic substation and fencing contrast with the colors of the surrounding landscape. The substation would attract the attention of local traffic, but it would not demand the viewer's attention or dominate the landscape. The Paradise Substation A is slightly more noticeable than the proposed Paradise Substation; however, the overall impact and Contrast Rating are the same. The Contrast Rating is moderate.

3.3.10 KOP 25

VRM Class: II



Photograph 20. Existing view of Segment 3 (KOP 25 at 330°).

KOP 25 looks north from a butte above the New Fork River. There are several homes and subdivisions in the New Fork River valley. This KOP represents the views of local residents and recreators along New Fork River Road. The view includes a dark green band of trees along the river in the foreground. In the middleground, Paradise Road creates a horizontal line across the flat green floodplain and flat open rangeland, and several ranch structures and rural activities are present. In the background, drill rigs create vertical lines that contrast with the landscape.

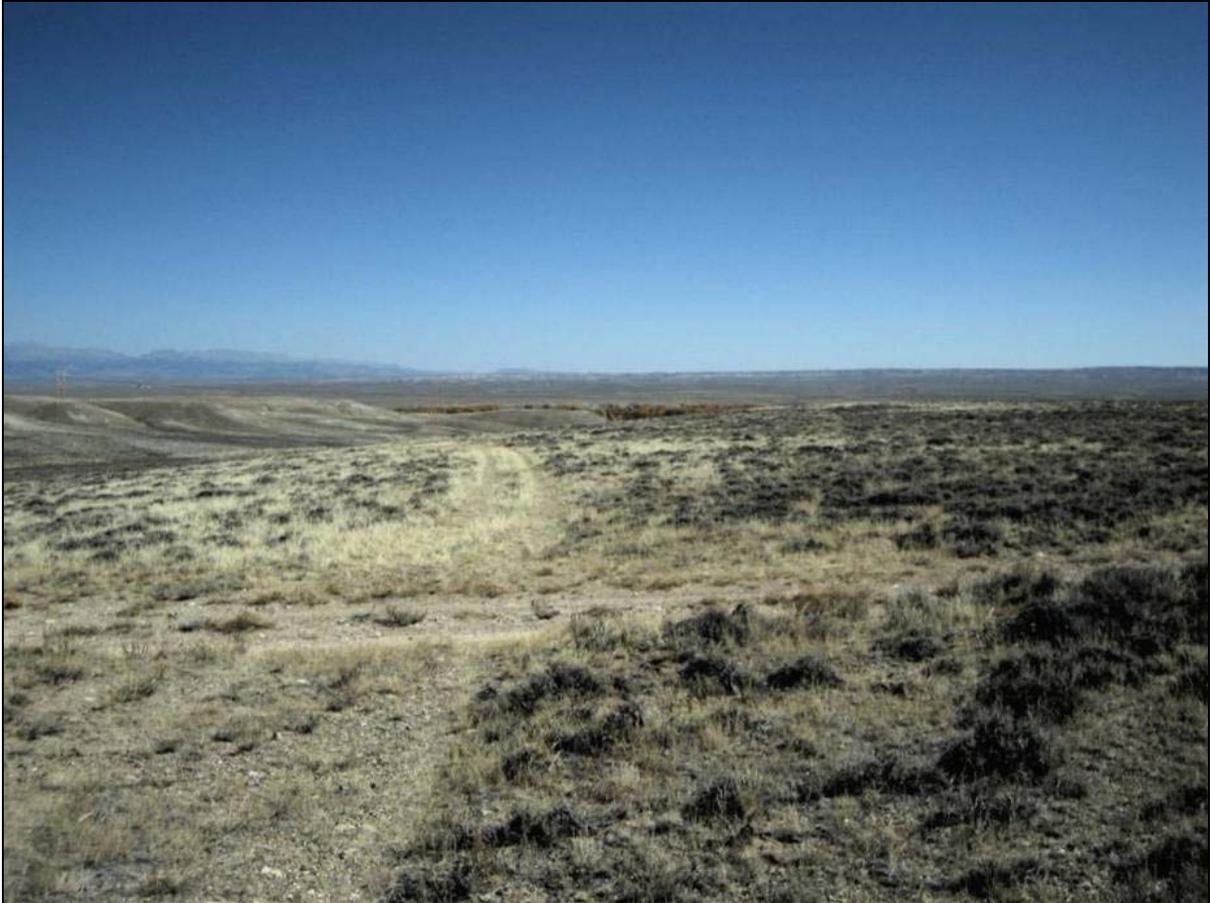
No simulation was conducted for KOP 25. The transmission line would be slightly visible in the background near the drill rigs. The horizontal wires are unlikely to be visible from this distance and the vertical wooden poles would blend with the browns of the background. The transmission line could be seen but would not attract the attention of the viewer; therefore, it meets the VRM Class II objectives. The Contrast Rating is weak.

3.3.11 KOP 4

VRM Class: II



Photograph 21. Existing view of Segment 3 (KOP 4 at 88°).



Photograph 22. Simulated view of Segment 3 (KOP 4 at 88°).

KOP 4 looks east along an historic trail towards the New Fork River from the Lander Trail. This KOP represents the views of people hiking or visiting the Lander Trail. The trail, patches of exposed soils, and flat, open planes of sagebrush are visible in the foreground. A horizontal band of trees along the New Fork River and gently rolling hills are seen in the middleground. The background is generally flat, with mountains faintly visible to the north.

As shown in the simulation, the wooden poles would be visible in the middleground. The transmission line would be most apparent where it would transition from being located on top of a hill to the valley floor, as seen in the center or the left side of Photograph 22. The transmission line would create a vertical element in an open landscape with no other structures present. The transmission line begins to attract attention of the viewer, but does not dominate the landscape. The proposed Project would not meet VRM Class II management objectives. The Contrast Rating is moderate.

3.3.12 KOP 28

VRM Class: II



Photograph 23. Existing view of Segment 3 (KOP 28 at 263°).



Photograph 24. Simulated view of Segment 3 (KOP 28 at 263°).

KOP 28 looks northwest across the New Fork River from an historic trail marker. This KOP represents the views of people visiting the Lander Trail. The foreground is flat, open sagebrush. There is a contrasting horizontal band of green and yellow trees along the New Fork River in the middleground that attracts the attention of the viewer. In the background are rolling hills vegetated with sagebrush.

As shown in the simulation, the poles and wires would be only faintly visible in the background and at times would not be visible against the rolling hills. From this view a short section of the transmission line would be silhouetted against the horizon. The wooden poles blend with the colors of the gray vegetation in the background. The poles and wires would be seen, but would not attract attention or dominate the view of the casual observer; therefore, the VRM Class II objectives would be met. The character of the landscape would be retained and the trees in the middleground would remain the dominant element that captures the attention of the viewer. As this historic marker will attract heritage tourists and historic trail visitors to linger at this spot, the Contrast Rating is weak to moderate depending upon the sensitivity of the viewer.

3.3.13 KOP 18

VRM Class: II



Photograph 25. Existing view of Segment 4 (KOP 18 at 164°).



Photograph 26. Simulated view of Segment 4 with galvanized steel (KOP 18 at 164°).



Photograph 27. Simulated view of Segment 4 with COR-TEN steel (KOP 18 at 164°).



Photograph 28. Simulated view of Segment 4A with galvanized steel (KOP 18 at 164°).



Photograph 29. Simulated view of Segment 4A with COR-TEN steel (KOP 18 at 164°).



Photograph 30. Simulated view of Segment 4B with galvanized steel (KOP 18 at 164°).



Photograph 31. Simulated view of Segment 4B with COR-TEN steel (KOP 18 at 164°).

KOP 18 looks downstream (south) from a boat ramp on the New Fork River. This KOP represents the views that recreators (e.g., fishers, rafters) on the New Fork River would have of the crossing. The existing landscape consists of the flat river bottom with blue reflective water and the highly textured, vegetated slopes of the river bank. An existing bridge creates a horizontal structure in the middleground.

As seen in the simulations for proposed Segment 4 (Photographs 26 and 27), the steel monopoles introduce a strong vertical element that contrasts with existing horizontal lines and forms. Both the galvanized steel and COR-TEN steel poles would add contrasting colors to the sky with the COR-TEN having a higher level of contrast from this view angle. The sky and background landscape would not be blocked by the narrow lines of the new structures, so the observer would notice the contrasting structures, but would still feel connected to existing elements of the landscape. The tall poles attract and demand attention of the observer. The Contrast Rating is strong.

In comparison, the simulations for Segment 4A (Photographs 28 and 29) reveal that the transmission line would be less visible than the proposed alignment due to additional distance from the boat ramp. The Contrast Rating would be moderate. However, the transmission line would become more noticeable and dominate as recreators float downstream and approach the structures.

The simulations for Segment 4B (Photographs 30 and 31) show that the transmission line would be as visible from this KOP as the proposed location. The tall poles would attract and demand attention of the observer. The proposed Project would not meet VRM Class II management objectives. The Contrast Rating is strong.

3.3.14 KOP 37

VRM Class: None/Private (Adjacent to VRM Class II)



Photograph 32. Existing view of Segment 4 (KOP 37 at 268°).



Photograph 33. Simulated view of Segment 4 with galvanized steel (KOP 37 at 268°).



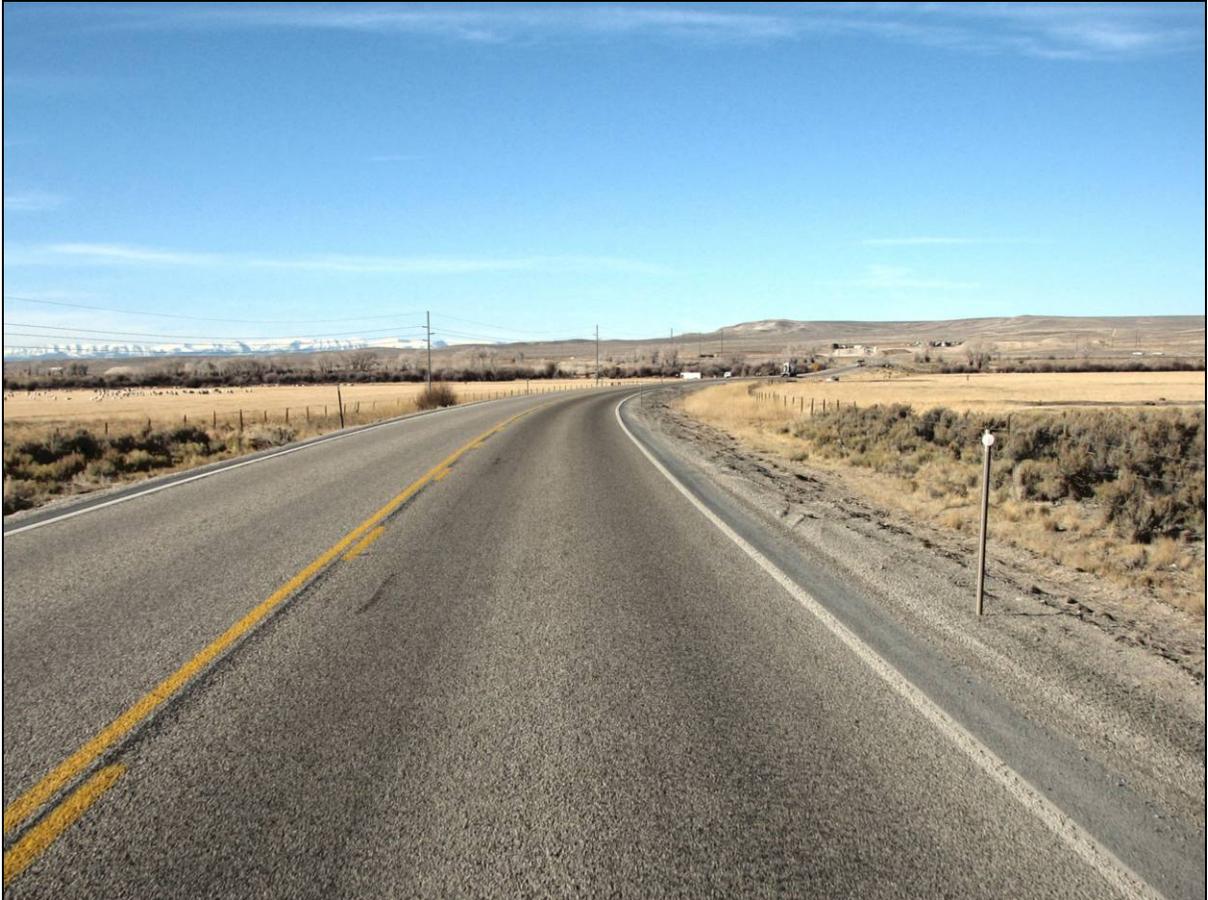
Photograph 34. Simulated view of Segment 4 with COR-TEN steel (KOP 37 at 268°).



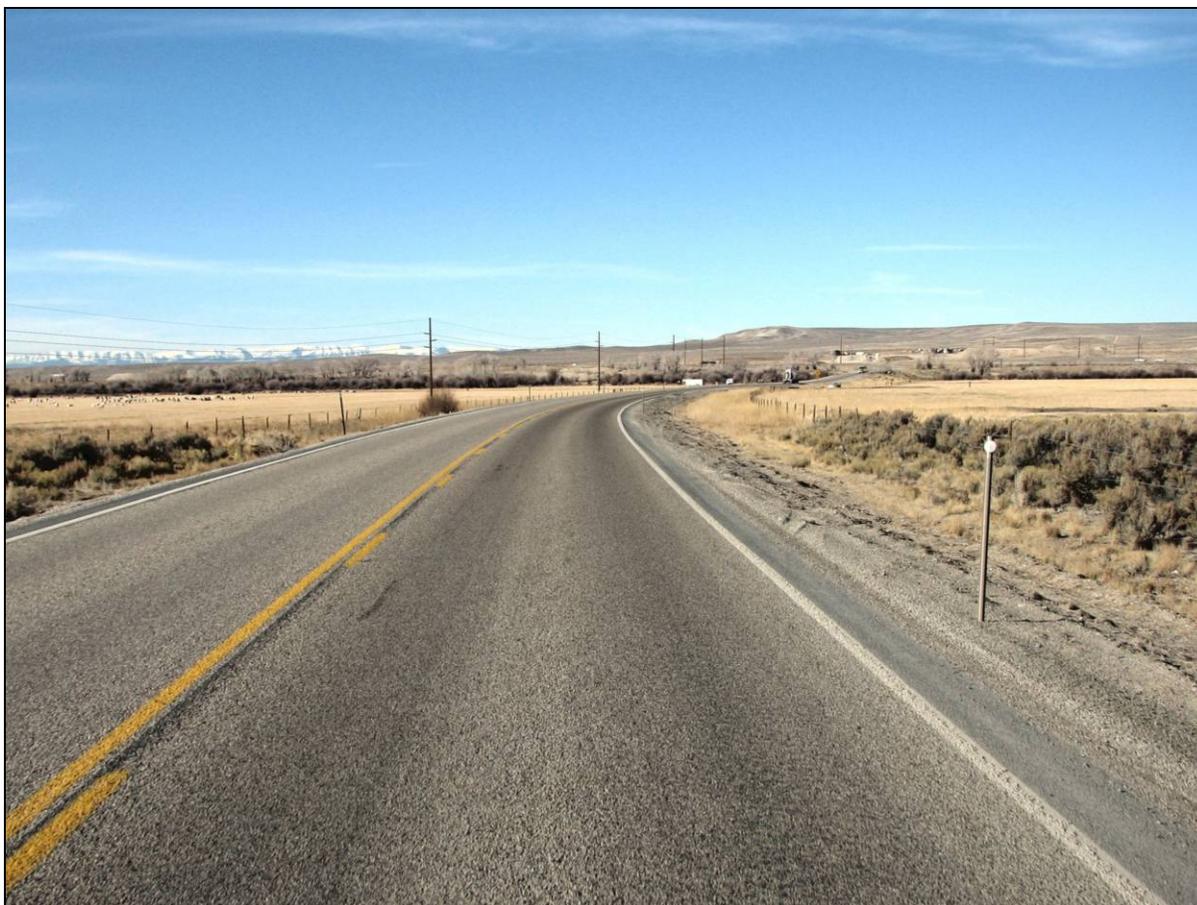
Photograph 35. Simulated view of Segment 4A with galvanized steel (KOP 37 at 268°).



Photograph 36. Simulated view of Segment 4A with COR-TEN steel (KOP 37 at 268°).



Photograph 37. Simulated view of Segment 4B with galvanized steel (KOP 37 at 268°).



Photograph 38. Simulated view of Segment 4B with COR-TEN steel (KOP 37 at 268°).

The view is from SH 351 and represents travelers driving west and approaching the New Fork River crossing. The existing view is flat, open range visible in the foreground; a flat floodplain, ranch buildings, and riparian vegetation in the middleground; and rolling hills and ragged mountains in the background.

As seen in the simulations for the proposed alignment (Photographs 33 and 34), the transmission line would add a vertical element to the flat middleground of open grasslands and silhouette against the lighter colors of the sky and mountains in the background. The element would begin to attract the attention of the observer but would not dominate the characteristic landscape. The Contrast Rating is moderate.

In comparison, the simulations for Segment 4A (Photographs 35 and 36) show that the transmission line is less visible than the proposed alignment. In this location, the poles are positioned closer to the dark band of riparian vegetation and less apparent as a vertical element in the landscape. The dark brown color of the COR-TEN steel poles does not blend as well as galvanized steel against the lighter colors in the landscape. The transmission line can be seen in the distance, but it does not attract the attention of a driver at this point on SH 351. The Contrast Rating is weak.

Segment 4B would be located adjacent to SH 351 in this area in order to avoid impacts to the private landowner's field. The dark COR-TEN steel poles do not blend as well as galvanized steel against the lighter colors in the landscape and sky. The transmission line would attract the attention of the observer but would not dominate the characteristic landscape. The Contrast Rating is moderate.

3.3.15 KOP 24

VRM Class: III



Photograph 39. Existing view of Segment 5 (KOP 24 at 72°).

KOP 24 looks northeast towards the historic Opal Wagon Road from Yellow Point Road near the New Fork River. This KOP represents the views of recreators on the river and those visiting the historic trail. The view is of flat, open sagebrush in the foreground and middleground, and mountains in the background. The majority of the scenery is a long, horizontal plane below a dominant horizon line. SH 351 crosses through the view in the distance and occasionally is blocked by intervening terrain. The texture is generally sparse and patchy sagebrush in the foreground that appears smooth as it transitions into the background. There are no existing structures.

No simulation was conducted for this KOP. The proposed transmission line would be slightly visible in the distance where it would follow SH 351. The vertical structures would create contrast in the flat landscape; however, they would be clustered with the existing line of the highway. The poles and wires would be seen, but would not attract attention or dominate the view of the casual observer; therefore, the VRM Class III objectives are met. The Contrast Rating is weak.

3.3.16 KOP 13

VRM Class: III



Photograph 40. Existing view of Segment 5 (KOP 13 at 90°).

KOP 13 looks east along SH 351 and represents the views of travelers along this route. The landscape is flat to low rolling hills, with views of the Wind River Mountains, Blue Rim escarpment, and Green River Basin visible in the background. There is existing oil and gas development along approximately 3 miles of SH 351, including cleared areas for well pads and access roads, wells, tanks, and drill rigs. An access road is also visible on the north side of the highway. These structures create contrast with the natural landscape.

No simulation was conducted for this KOP. The transmission line would be visible in the foreground along the south side of SH 351. The vertical poles and horizontal powerlines would contrast with the flat landscape. The structures would add to the existing development

of the area. Since there is a moderate degree of existing development along portions of the highway, the new structures would not greatly change the existing view in these areas. The transmission line would attract the attention of drivers on the highway, but it would not dominate the view or block the view of the landscape. The Contrast Rating is moderate.

3.3.17 KOP 6a

VRM Class: III



Photograph 41. Existing view of Segments 6 and 6A (KOP 6a at 250°).



Photograph 42. Simulated view of Segment 6 (KOP 6a at 250°).



Photograph 43. Simulated view of Segment 6A (KOP 6a at 250°).

KOP 6a looks west from U.S. 191 at Segment 6, which is approximately 3 miles to the west of Segment 6A adjacent to the highway. U.S. 191 is a major corridor for tourism-related traffic. This KOP represents the view of industrial workers and residents, as well as recreators and tourist traveling through the area along U.S. 191. The existing landscape is flat, open sagebrush with low rolling hills in the background. A few existing gas wells and structures are faintly visible in the distance.

The first simulation (Photograph 42) shows that the proposed transmission line is faintly visible in the middleground. Travelers along U.S. 191 may have glimpses of the transmission line poles as they travel at 65 miles per hour (mph) along the highway, but it is likely that the distant transmission structures and line would not be noticeable at this speed and distance. The proposed transmission line would add a new vertical element in an otherwise flat and featureless landscape that may occasionally appear against the horizon from U.S. 191. However, such structural elements are consistent with views of existing gas development that occurs at a similar distance in the area and may add cumulatively to the visual effects of proposed future development in the area. Due to the location and placement of the line at this distance from the highway, the transmission line would not attract the attention of the observer and VRM Class III objectives would be met. The Contrast Rating is weak.

In Segment 6A (and 6B), the transmission line would be adjacent to the west side of U.S. 191 for approximately 9 miles. The line would be approximately 75 feet from the fenceline. Both the vertical structures and the horizontal cables would be visible 100 percent of the travel time. As shown in the simulation (Photograph 43), the transmission line would attract the attention of the viewer and would be a dominant element in the landscape. Drivers and passengers would have a competing view of the Wind River Range to the east. The vertical structures and the horizontal cables would add new lines, colors, and textures to the view, but would not obstruct the view of the existing landscape. The Contrast Rating is strong. Since the existing character of the landscape is partially retained, the proposed Project would meet the VRM Class III objectives.

3.3.18 KOP 6b

VRM Class: III



Photograph 44. Existing view of Segment 6A (KOP 6b at 162°).



Photograph 45. Simulated view of Segment 6A (KOP 6b at 162°).

KOP 6b looks south along U.S. 191 and represents the view of industrial workers, residents, and recreation travelers driving along this route. The existing view is flat, open sagebrush with no apparent contrast. A few oil and gas structures are faintly visible in the distance to the west.

For Segment 6A, the transmission line would be adjacent to the west side of U.S. 191 for approximately 9 miles. The line would be approximately 75 feet from the fenceline. Drivers and passengers would have a competing view of the Wind River Range to the east. Both the vertical structures and the horizontal cables would be visible 100 percent of the travel time. As the simulation shows, the vertical structures and the horizontal cables would add new lines, colors, and textures to the view, but would not obstruct the view of the existing landscape. Although the transmission line would not block the view of the landscape, it would attract the attention of drivers and demand attention in the flat landscape. Since the existing character of the landscape is partially retained, the proposed Project would meet the VRM Class III objectives. The Contrast Rating is strong.

3.3.19 KOP 27

VRM Class: IV



Photograph 46. Existing view of Segment 6A (KOP 27 at 310°).



Photograph 47. Simulated view of Segment 6A (KOP 27 at 310°).

This KOP represents the view that industrial workers, residents, and recreation travelers have on U.S. 191 driving north. The existing features include flat, open sagebrush with no apparent contrasting features in a predominantly horizontal landscape. The texture is an even, coarse carpet of sagebrush. The Wind River Range is visible in the distance to the east. This would be the first view of Segment 6A for northbound drivers and passengers traveling from Rock Springs and Farson to Pinedale on U.S. 191.

At KOP 27, Segment 6A would be seen for the first time in the distance when driving north on U.S. 191. The segment would be seen turning west off the highway, where it goes cross country to the proposed Jonah Substation. The powerlines and poles add new vertical lines, colors, and textures to the view, but would not obstruct the view of the existing landscape. Drivers and passengers would have a competing view of the Wind River Range to the east. The Contrast Rating is weak at KOP 27 and meets VRM Class IV objectives; however, the Contrast Rating would become strong as the traveler drives north and parallels the transmission line in a VRM Class III area. Both the vertical structures and the horizontal cables would be visible 100 percent of the travel time. Although the transmission line would not block the view of the landscape, it would attract the attention of drivers and demand attention in the flat landscape. Since the existing character of the landscape is partially retained, the proposed Project would meet the VRM Class III objectives.

4.0 SUMMARY OF CONTRAST RATINGS AND POTENTIAL IMPACTS

Impacts to visual resources from the proposed transmission line and alternative segments would be adverse, since the proposed Project would introduce new visual elements to some important viewsheds in the Project Area. VRM Class objectives would not be met at KOP 29, KOP 30, KOP 18, and KOP 4. These KOPs are within VRM Class II areas and are managed to retain the existing character of the landscape. Projects in VRM Class II should not attract the attention of the casual observer; however, the simulations showed moderate to strong contrasts with the existing landscape. VRM Class objectives are met at the other KOPs. Table 5 summarizes Contrast Ratings and KOPs.

Table 5. Summary of Visual Contrast Ratings by Alternative and Affected Areas.

KOP #	VRM Class	Segment Viewed	Sensitive Viewers	Visual Contrast Rating
36	III	1	Industrial and local traffic	weak
32	none	1	Residents and local traffic	weak
34	none	2	Recreators	moderate
38	none	2	Industrial and local traffic, recreators	moderate
33	none	2	Recreators	weak
29	II	2	Local traffic, residents, recreators	strong
30	II	2	Local traffic and recreators	moderate
35	II	2 or 2A	Recreators	2: weak 2A: none
8	none	3, Paradise Substation or Substation A or Substation B	Industrial and local traffic	Substation: moderate Substation A: moderate Substation B: moderate
25	II	3	Residents, recreators	weak
4	II	3	Recreators	moderate
28	II	3	Recreators	weak to moderate
18	II	4, 4A, or 4B	Industrial and local traffic, recreators	4: strong 4A: moderate 4B: strong
37	none	4, 4A, or 4B	Industrial and local traffic, recreators	4: moderate 4A: weak 4B: moderate
24	III	5	Recreators	weak
13	III	5	Industrial and local traffic	moderate
6a	III	6, 6A, or 6B	Regional through traffic, industrial and local traffic	6: weak 6A or 6B: strong
6b	III	6A or 6B	Regional through traffic, industrial and local traffic	strong
27	IV	6A or 6B	Regional through traffic, industrial and local traffic	weak

The proposed Project would produce several moderate and strong contrasts to sensitive viewers, as summarized in Table 5. KOPs that received a strong visual contrast rating include KOP 29, KOP 18 (Proposed Action and 4B), and KOP 6a and 6b (Segments 6A and 6B only). In these areas the transmission line demands the viewer's attention and would not be overlooked, primarily due to proximity in the foreground and the addition of vertical elements in a predominantly horizontal, flat landscape. From the other KOPs, the transmission line was rated weak to moderate, since it would be seen but would not demand attention or dominate the landscape. At KOP 35, located on the Lander Trail, Segment 2A was rated 'none' since it could not be seen from the trail due to the distance and intervening topography in the middleground.

The transmission line would create moderate to strong adverse impacts along SH 351 and U.S. 191 depending on the existing conditions and distance between the highway and the viewer. Along portions of SH 351, where there is existing oil and gas development, the visual impact would be moderate (as seen in KOP 13). Along U.S. 191, where there is little existing development and the landscape is flat, horizontal, and open, the visual impact would be strong (as seen in KOPs 6a and 6b). The visual impact would also be strong on East Green River Road, as seen in KOP 29 and would be moderate for highly sensitive viewers at the Lander Trail overlook as seen in KOP 28. Industrial employees would be the least sensitive to changes in the landscape along these roads while local residents who repeatedly travel these routes would be most sensitive to visual impacts. Recreational users would also be highly sensitive to changes in the landscape when driving these routes or accessing the Green and New Fork rivers.

Travelers driving on U.S. 189, SH 351, and U.S. 191 would have temporary views of the transmission line, as summarized in Table 6. Travelers on U.S. 189 would have views of Segment 1 briefly at the intersection with SH 351 and where it crosses U.S. 189 in Big Piney, but would not be continually exposed to the segment. As reported in Table 6, Segment 1 parallels SH 351 for 4.4 miles and since the average speed is 50 mph, the segment would be visible for approximately 5.3 minutes. Segment 1A parallels SH 351 for a total of 7.0 miles (an additional 2.6 miles compared to the proposed segment) so the segment would be visible 3.1 minutes longer than the proposed alternative, or a total of 8.4 minutes. Segment 1B would parallel SH 351 for the same distance as Segment 1.

Travelers who use East Green River Road, primarily local traffic traveling at approximately 30 mph, would have views of Segment 2 for 2.0 miles. The segment would be visible for 4 minutes. Segment 2A parallels East Green River Road for a total of 4.7 miles (an additional 2.7 miles compared to the proposed segment), so the segment would be visible for a total of 9.4 minutes.

Table 6. Anticipated Visual Impacts for Project Segment and Components.

Segment	VRM Class	Contrast Rating	Miles in View	Minutes in View	2006 ADT ¹	Est. Traveler Visual Effects (minutes X ADT)	Impact Determination ²
1 and 1B	II and III	Weak	4.4	5.3	1,430	7,579	Low Impact
1A	II and III	Weak	7.0	8.4	1,430	12,012	Low Impact
2	II and III	Weak–Strong	2.0	4.0	unknown	unknown	Moderate Impact
2A	II, III, and IV	Weak–Strong	4.7	9.4	unknown	unknown	Moderate Impact
Paradise Substation and Alternatives	III	Moderate	N/A	N/A	unknown	unknown	Low Impact
3	II	Weak–Moderate	5.3	7.1	unknown	unknown	Moderate Impact
4 and 4B	II	Moderate–Strong	1.0	1.2	1,620	1,944	Strong Impact
4A	II	Weak–Moderate	1.0	1.2	1,620	1,944	Moderate Impact
5	II and III	Weak–Moderate	6.8	8.2	2,230	18,286	Moderate Impact
6	III and IV	Weak	1.0	0.9	2,280	2,052	Low Impact
6A	III	Weak–Strong	13.6	13.7	2,280	31,236	Strong Impact
6B	III	Weak–Strong	12.3	12.0	2,280	27,360	Strong Impact
Jonah Substation	IV	Weak	0	0	0	0	No Impact

¹ Average Daily Traffic reported in Table 1.

² Determined based on Contrast Rating, estimated traveler visual effects, and VRM class objectives.

Travelers using Paradise Road between the Paradise Substation and the intersection with SH 351 would have a continuous view of the transmission line of Segment 3 for approximately 5.3 miles, or 7.1 minutes, if traveling at 45 mph.

Segment 4 parallels SH 351 for 1 mile along the south side of the New Fork River Bridge, where it would be visible for 1.2 minutes. Segments 4A and 4B would be visible from the highway for the same length of time as Segment 4.

Segment 5 parallels SH 351 for 6.8 miles and since the average speed is 50 mph, the segment would be visible for 8.2 minutes.

Segment 6 is visible in the distance from a few locations along U.S. 191, for less than 30 seconds at any interval. Segment 6A parallels SH 351 for 4.0 miles, and since the speed limit is 50 mph, the segment would be visible for 4.8 minutes. This segment also parallels U.S. 191 for 9.6 miles. At the speed limit of 65 mph, the segment would be visible for 8.9 minutes. Segment 6B would be visible for approximately the same amount of time as 6A, but veers off SH 351 for 1.4 miles.

Table 6 quantifies the overall impacts based on the Contrast Ratings, visibility times along roads, the numbers and types of users along those roads, and VRM class. Based on these factors, Segments 4 and 4B and Segments 6A and 6B would have a strong overall impact on visual resources while the other segments would have low to moderate impacts. The overall impacts depend on the final route chosen; however, all potential routes would result in impacts to VRM management objectives within the Project Area, primarily in VRM Class II areas near the Green and New Fork rivers.

Finally, the differences in visual impacts from galvanized steel monopoles versus COR-TEN steel monopoles would vary by location and distance. Neither material best fits the BLM visual standards for blending with the representative environmental colors. In some locations, the rust color of COR-TEN would blend with soil colors and vegetation, while in many locations the dark color would provide more contrast. Galvanized steel poles tend to blend with the background blue or gray sky more than the COR-TEN poles. Since the tall structures would typically be seen from an angle with the sky as a background, the galvanized steel would likely create less contrast in most locations. In the visual simulations, the COR-TEN poles typically appeared more like the traditional wooden poles that are characteristic of a rural landscape. Seasonal variations in the color of vegetation and snow cover would create a different degree of contrast for both of the materials (i.e., galvanized steel is less visible against white snow, but may be more visible against brown soils compared to the COR-TEN).

5.0 MITIGATION

VRM class objectives and design considerations have been considered throughout the project planning process. Various alignments and pole materials (i.e., galvanized and COR-TEN steel) were considered to reduce visual impacts of structures within sensitive areas. Potential additional mitigation measures to reduce long-term visual impacts in the Project Area include the following.

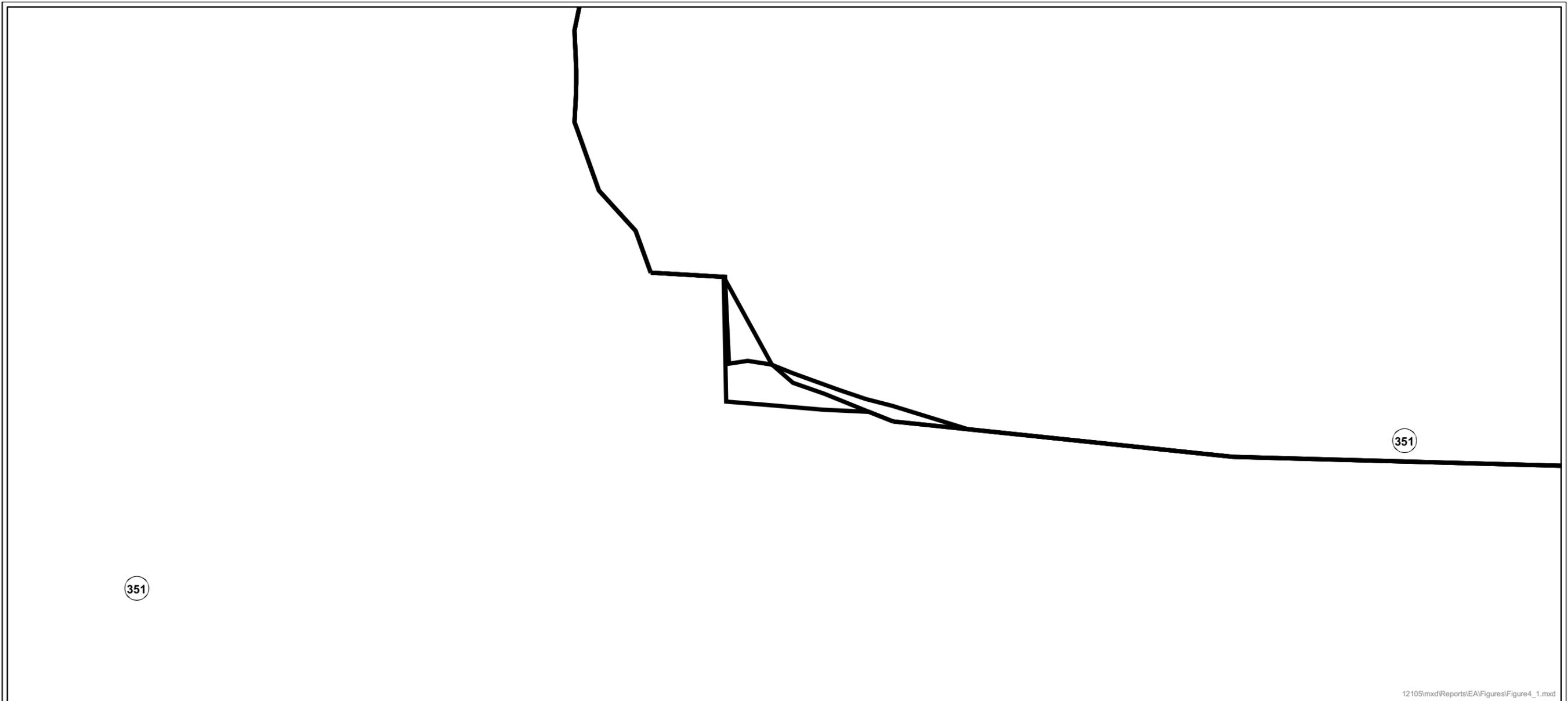
- **Compensatory mitigation of visual impacts to the New Fork Campground and New Fork River No Surface Occupancy area.**

To maintain the viability of recreation-dependent natural resources and settings within the planning area, the PFO established a 0.25-mile No Surface Occupancy (NSO) buffer around developed recreation sites, including the New Fork Campground (BLM 2008a). The New Fork Campground is located along SH 351 and is directly adjacent to Segment 4 of the proposed transmission line (Figure 3). This popular area provides the recreating public with a boat launch site, restrooms, several primitive campsites, and pedestrian access to the New Fork River for swimming and fishing activities. The potential alignments of Segment 4 along SH 351 near the campground were chosen in order to avoid impacts to a private landowner's field.

Since Segment 4 would be located within 0.25 mile of the New Fork Campground, compensatory mitigation is proposed to offset the visual impacts associated with the transmission line. Upgrades that would improve visitor experience at the campground would be provided by Rocky Mountain Power, as approved by BLM. The improvements would not necessarily minimize visual impacts, but would compensate for the loss of recreation values at this site.

- **Mitigation of visual impacts along U.S. 191 by removal of the existing 12-kV powerline located on the opposite side of the highway.**

An existing powerline parallels the east side of U.S. 191 for 9 miles within the Project Area. Segment 6A would parallel the west side of U.S. 191, creating additional visual impacts along the highway. To mitigate the visual impacts of Segment 6A, the existing powerline could be moved to the west side of the highway. This would allow unobstructed views of the Wind River Mountains to the east. The powerline could either be buried or constructed above ground next to the proposed transmission line. Implementation of this mitigation measure may require its own analysis under the National Environmental Policy Act to identify potential impacts to natural and cultural resources.



351

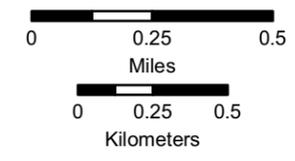
351

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Legend

Alternative 1	No Surface Occupancy	VRM (BLM Pinedale 2008)
Alternative 2		Class II
Alternative 3		Class III
		Class IV

Scale: 1:24,000
 Base Map: USGS 1:24k Topographic Map
 Quad: Olsen Ranch, WY (1964);
 Ross Butte, WY (1991)
 Sublette County, Wyoming



UTM Zone 12, NAD83, Meters
 March 23, 2009

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- **Mitigation of visual impact of steel monopoles by use of galvanized steel poles and painting poles a color that blends with the natural color of the landscape.**

BLM has identified the preferred mitigation is to use galvanized poles to reduce visual impacts caused by dark rust COR-TEN poles in lighter colored landscapes. Galvanized steel is a shiny medium gray when new, and dulls over time. Using galvanized steel poles in place of COR-TEN would mitigate the visual impacts of dark-colored poles. In total, 156 steel structures would be mitigated by the use of galvanized steel.

Additional mitigation of visual impacts would be to paint poles to blend with lighter colored landscapes in areas with a high contrast rating. Two areas with high contrast ratings have been identified for this mitigation measure.

- Monopoles along Segment 2 from the Paradise Substation to the existing 69-kV line near the Green River would be painted ‘Carlsbad Canyon’ to blend with the floodplain and Mesa in that area. This would reduce the contrast rating for this area. Approximately 78 galvanized steel poles would be painted, and would require repainting approximately every three to five years.
- Monopoles in Segment 4 along SH 351 at the Green River would be painted ‘Slate Gray’ to cause less contrast with the highway setting. This would reduce the contrast rating at the river crossing. Approximately 16 galvanized steel poles would be painted ‘Slate Gray’ over the normal gray of galvanized metal poles. Poles painted in this manner would require repainting approximately every three to five years.
- A third potential area for pole painting is the area of Segment 2 along Green River; however this needs to be analyzed further.

Several technical aspects of painting poles must be considered for this mitigation measure:

- The process of repainting the poles involves driving a crane, cherry picker, or other heavy equipment up to each pole.
- Power to the line must be shut down before work begins, and must remain off for two to three months until all structures are re-painted, which takes one to two days per pole. Since the 69-kV line is the one single feed to the Pinedale area, the outage would require the shutdown of power to the area. Outage of the 230-kV line would impact customers that are fed off of the line and possibly the customers fed out of the Jonah or Paradise substations.
- The poles would be sand blasted and painted; then paint must be cleaned off parts such as insulators.
- Foreseen environmental impacts of these actions include crushing or removal of vegetation around the poles and along the ROW and the introduction of paint into the environment.
- The painting schedule is estimated at every 3 to 5 years based on local environmental conditions versus unpainted galvanized steel and COR-TEN which have an expected

life of 50 to 100 years without the need of any attention to the condition or integrity of the pole. Note that some sources estimate the paint schedule to be 8 or more years.

- Long-term surface disturbance, estimated at 23 acres, would occur around the 94 painted structures due to the frequency of the painting schedule and length of time of normal reclamation in the arid environment.

There are advantages and disadvantages to using COR-TEN or galvanized steel poles in areas to be painted. Newly galvanized steel does not hold paint well; after fully weathered (for approximately two years), paint adheres better. COR-TEN poles hold paint better than galvanized steel and may require less frequent repainting. However, there would be a high-contrast, speckled look as a gray-colored paint begins to wear off a COR-TEN pole. Peeling gray paint would blend more with the silver color of a galvanized pole. Also, sand blasting can cause surface pitting, leading to water corrosion and reduced pole life.

▪ **Mitigate visual impacts of vegetation clearing and surface disturbance.**

In addition to the elements of the transmission lines as long-term additions to the landscape, construction of the infrastructure may introduce short-term impacts through the clearing of vegetation along the ROW. Vegetation such as sagebrush and shrubs along the ROW would be crushed, rather than removed, which would reduce visual contrast. Crushed vegetation will return quicker than reclamation by reseeding. Timely reclamation of surface disturbances at the substations and any areas with vegetation disturbance beyond temporary crushing of sagebrush and shrubs would reduce short-term impacts related to color and line contrasts from exposed soils. The following mitigation measures are suggested for areas of vegetation removal and reclamation:

- Avoid straight line-of-sight clearing of vegetation for the construction of the substation areas, access roads, and ROWs; vary the edge of the vegetation removal at the edge of construction where it may cause a strong visual contrast in the landscape.
- Save and store removed vegetation (e.g., piñon trees, sagebrush) for use during reclamation.
- Scarrify, or roughen, the surface soils prior to reseeding to create soil pockets for seed and water to collect and increase the success of reclamation and reduce visual contrast from a smooth surface.
- Place dead vegetation on reseeded areas to reduce contrast, provide visual screening, and create microhabitat for wildlife.
- If rock is removed, stockpile for reclamation and redistribute randomly throughout the seeding area as part of interim reclamation.
- Complete reclamation as soon as possible so that successful revegetation can be established to stabilize soils, reduce weed effects, and reduce visual contrast.

▪ **Other possible mitigation considered to reduce visual impacts.**

Other measures considered, but not selected as potential mitigation by BLM, included moving Segment 6A more than 200 feet west of U.S. 191; and using a combination of

galvanized poles and COR-TEN poles, depending on which creates less visual contrast at each given location.

6.0 REFERENCES

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_____. 2006. Final Environmental Impact Statement for the Jonah Infill Drilling Project, Sublette County, Wyoming. U.S. Department of the Interior, Bureau of Land Management, Pinedale Field Office.

_____. 2008a. Record of Decision and Approved Pinedale Resource Management Plan for Public Lands Administered by the Bureau of Land Management Pinedale Field Office Pinedale, Wyoming. November 2008.

_____. 2008b. Final Supplemental Environmental Impact Statement, Pinedale Anticline Oil and Gas Exploration and Development Project, Sublette County, Wyoming.

APPENDIX A
Photographs of Proposed Structures



Photograph A. Example of a wooden H-frame pole.



Photograph B. Example of a COR-TEN steel monopole.



Photograph C. Example of a galvanized steel monopole.



Photograph D. Example of a substation.

APPENDIX B
Visual Contrast Rating Worksheets

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__30N_____	5. Location Sketch 
2. Key Observation Point KOP 36	Range_____111 W____	
3. VRM Class III	Section_____9_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat, open range in the foreground; rolling hills in the middleground; and foothills/plateau in the background	sagebrush, grassland	ranch buildings, and powerlines in the middleground, powerlines in the background.
LINE	rounded and flat top hills, rugged lines	horizontal/low growing	horizontal, vertical, and diagonal lines; geometric buildings
COLOR	light beige soils, medium gray hills	light to medium brown in foreground, turns medium to dark gray in background	light brown, light gray buildings; dark brown powerlines
TEX-TURE		medium grain and density in foreground, becomes fine, dense in background	smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			new transmission structures and cables in middleground, similar to existing structures in middleground
LINE			vertical poles, horizontal wires visible from highway
COLOR			dark brown
TEX-TURE			Smooth, solid

SECTION D. CONTRAST RATING __SHORT TERM _x_LONG TERM

ELEMENTS	DEGREE OF CONTRAST	FEATURES												2. Does project design meet visual resource management objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverses side) 3. Additional mitigating measures recommended <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Explain on reverses side) Evaluator's Names _____ Date _____	
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)					
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE		
		FORM											x		
		LINE									x				
COLOR											x				
TEXTURE											x				

SECTION D. (Continued)

Comments from item 2.

The project would meet the VRM Class III objectives. The transmission line would be visible in the distance along the same route as the existing line. The brown colors of the wood poles would mimic other browns in the landscape and existing powerlines. The form and line would repeat the form and line of existing structures.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__30N_____	5. Location Sketch
2. Key Observation Point KOP 32	Range____110 W____	
3. VRM Class private	Section____20_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat, open range in the foreground; rolling hills in the background	sagebrush, grassland, some trees in background	The vertical poles of the exiting transmission line are faintly visible in the background, small buildings on hills in background
LINE	horizontal, following landforms	horizontal/low growing shrubs, linear band of trees	vertical poles, square buildings
COLOR	light beige soils	gray to light green shrubs; trees along the river create band of dark green; medium green hay field	dark brown poles, white buildings
TEX-TURE	rolling hills in the background appear solid and uniform	clumps of low-growing vegetation are evenly distributed - medium grain and density. Trees appear solid and uniform	solid, smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			additional transmission line
LINE			vertical poles may be faintly visible in the background; horizontal wires unlikely to be seen from this distance
COLOR			wood/brown or metal poles
TEX-TURE			solid, smooth

SECTION D. CONTRAST RATING SHORT TERM LONG TERM

1.	DEGREE OF CONTRAST	FEATURES												2. Does project design meet visual resource management objectives? <input type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverses side) 3. Additional mitigating measures recommended <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Explain on reverses side)	
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)					
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE		
		FORM											x		
		LINE											x		
COLOR											x				
TEXTURE											x				
ELEMENTS													Evaluator's Names _____ Date _____		

SECTION D. (Continued)

Comments from item 2.

There are no VRM objectives at this location. The wooden poles would be slightly visible in the distance along the same route as the existing line, but would not be the focus of the observer's attention. The horizontal wires are unlikely to be visible from this distance.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__30N_____	5. Location Sketch
2. Key Observation Point KOP 34	Range____110 W____	
3. VRM Class private	Section____15____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat water of river, slight slopes at banks	riparian trees and grasses	vertical poles of the exiting transmission
LINE	sharp edge between water and land/vegetation creates curving line	vertical trees with rounded lines	vertical poles, horizontal wires, cross shape supports
COLOR	dark blue water with glare from the sun; light to dark gray cobble	medium and dark shades of green, dark shadows	dark brown
TEX-TURE	glossy water, smooth stones create medium grain river bank	course, random	smooth, solid

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			additional transmission line – steel monopoles
LINE			vertical poles, horizontal wires
COLOR			whitish galvanized steel or rusty brown CORTEN poles
TEX-TURE			smooth, solid

SECTION D. CONTRAST RATING __SHORT TERM xLONG TERM

1.	DEGREE OF CONTRAST	FEATURES												2. Does project design meet visual resource management objectives? ___Yes ___No (Explain on reverses side) 3. Additional mitigating measures recommended ___Yes <u>x</u> No (Explain on reverses side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	
											x			
											x			
ELEMENTS	FORM													Evaluator's Names _____ Date _____
	LINE													
	COLOR											x		
TEXTURE											x			

SECTION D. (Continued)

Comments from item 2.

There are no VRM objectives at this location. The steel monopoles would follow the same alignment as the existing H-frame poles. The monopoles would be taller than the existing poles and would be a rusty brown color, similar to the color of the existing poles. The transmission line would attract the attention of viewers, but it would not dominate the characteristic of the landscape.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__30N_____	5. Location Sketch 
2. Key Observation Point KOP 38	Range____110 W____	
3. VRM Class private	Section____15_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat floodplain in foreground, hills in background	grasses, shrubs, trees	H frame poles of the exiting transmission line
LINE	sharp edge between water and land/vegetation creates curving line	vertical trees with rounded lines	vertical poles, horizontal wires, cross shape supports
COLOR	light foreground, darker background	light beige, brown, red	dark brown
TEXTURE	course foreground becomes finer with distance	course, random	smooth, solid

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			additional transmission line – steel monopoles
LINE			vertical poles, horizontal wires
COLOR			whitish galvanized steel or rusty brown CORTEN poles
TEXTURE			smooth, solid

SECTION D. CONTRAST RATING __SHORT TERM xLONG TERM

ELEMENTS	DEGREE OF CONTRAST	FEATURES												2. Does project design meet visual resource management objectives? __Yes __No (Explain on reverses side) 3. Additional mitigating measures recommended __Yes <u>x</u> No (Explain on reverses side)	
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)					
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE		
		FORM									x				
		LINE									x				
COLOR											x				
TEXTURE											x				
													Evaluator's Names	Date	

SECTION D. (Continued)

Comments from item 2.

There are no VRM objectives at this location. The steel monopoles would follow the same alignment as the existing H-frame poles, but would be taller than the existing poles. A portion of the existing H-frame poles will be removed, leaving one shorter wood pole. Vegetation would obscure portions of the proposed structures. The monopoles would be a rusty brown color, similar to the color of the existing poles and surrounding vegetation. The transmission line would attract the attention of viewers, but it would not dominate the characteristic of the landscape.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__30N_____	5. Location Sketch 
2. Key Observation Point KOP 33	Range_____110 W_____	
3. VRM Class private	Section_____22_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat water of river, slight slopes at banks, flat floodplain	riparian trees and grasses	transmission line is faintly visible in the background, ranch building
LINE	sharp edge between water and land/vegetation creates curving line	scattered vertical trees with rounded lines	vertical poles, horizontal wires, cross shape supports
COLOR	dark blue water	yellows, medium and dark shades of green	dark brown poles, white buildings
TEXTURE	glossy water	medium	smooth, solid

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			additional transmission line – steel monopoles
LINE			vertical poles, horizontal wires
COLOR			whitish galvanized steel or rusty brown CORTEN poles
TEXTURE			smooth, solid

SECTION D. CONTRAST RATING __SHORT TERM _x_LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? ___Yes ___No (Explain on reverses side) 3. Additional mitigating measures recommended ___Yes ___x_No (Explain on reverses side)	
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)					
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE		
ELEMENTS	FORM													x	
	LINE													x	
	COLOR													x	
	TEXTURE													x	
												Evaluator's Names	Date		

SECTION D. (Continued)

Comments from item 2.

There are no VRM objectives at this location. The steel monopoles would be faintly visible in the background, but the alignment would follow the existing powerlines and blend with other vertical lines in the background such as trees. It would not attract the attention of viewers along the river.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__30N_____	5. Location Sketch 
2. Key Observation Point KOP 29	Range____110 W____	
3. VRM Class II	Section____11_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat, open foreground and middleground; low rolling hills in background	low growing sagebrush	powerlines in the middleground; powerlines and ranch buildings in the background.
LINE	horizontal	horizontal/low growing	horizontal, vertical, and diagonal lines; geometric buildings
COLOR	light gray soils, darker background	medium gray, light green with dark shadows	white buildings; dark brown powerlines
TEX-TURE		clumps of low-growing vegetation are grainy in the foreground, becoming solid in the distance.	smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			additional transmission line – steel monopoles
LINE			vertical poles, horizontal wires
COLOR			whitish galvanized steel or rusty brown CORTEN poles
TEX-TURE			smooth, solid

SECTION D. CONTRAST RATING __SHORT TERM _x_LONG TERM

ELEMENTS	DEGREE OF CONTRAST	FEATURES												2. Does project design meet visual resource management objectives? __Yes _x__No (Explain on reverses side) 3. Additional mitigating measures recommended __Yes __No (Explain on reverses side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	
		FORM								x				
		LINE								x				
COLOR									x					
TEXTURE									x					
												Evaluator's Names _____ Date _____		

SECTION D. (Continued)

Comments from item 2.

The proposed project would not meet the management objectives of the VRM II area. The steel monopoles would follow the same alignment as the existing H-frame poles. The monopoles would be taller and closer to the road than the existing poles. The transmission line would not block the view of the landscape, but it would attract the attention of drivers along East Green River Road and demands attention in the flat landscape.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__31N_____	5. Location Sketch 
2. Key Observation Point KOP 30	Range_____110 W____	
3. VRM Class II	Section_____33_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat, open foreground and middleground; low rolling hills in background	grasses, band of trees	none
LINE	horizontal	horizontal lines created by contrasting vegetation in foreground, middleground, background	
COLOR	light beige to medium browns and grays on hills in background darker background	light greens in foreground, band of dark green in middleground, browns in background	
TEX-TURE		medium grain foreground, clumps of trees in middleground, fine grain in the distance	

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			transmission line with steel monopoles
LINE			vertical poles, horizontal wires
COLOR			whitish galvanized steel or rusty brown CORTEN poles
TEX-TURE			smooth, solid

SECTION D. CONTRAST RATING __SHORT TERM xLONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <u>x</u> Yes ___No (Explain on reverses side) 3. Additional mitigating measures recommended ___Yes <u>x</u> No (Explain on reverses side)	
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)					
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE		
ELEMENTS	FORM													x	
	LINE													x	
	COLOR													x	
	TEXTURE													x	
														Evaluator's Names	Date

SECTION D. (Continued)

Comments from item 2.

The transmission line can be seen from this KOP, but it does not attract attention of the casual observer. Therefore it would meet the VRM Class II objectives. The proposed transmission line is visible in the background where it comes over the hill then turns south along the other side of the Green River floodplain. There are no existing vertical structures so the poles contrast with the existing lines in the landscape. The horizontal wires are not visible from this distance and the colors would blend with elements in the existing landscape.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__31N_____	5. Location Sketch 
2. Key Observation Point KOP 35 – Proposed Action	Range_____110 W_____	
3. VRM Class II	Section____36_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat foreground and middleground; rugged mountains in background	sagebrush	none
LINE	gently curving lines of two-track road, jagged line of mountains against sky	horizontal/low growing	
COLOR	light beige soils, grayish blue mountains, blue sky	medium gray, light green with dark shadows	
TEX-TURE	fine textured mountains with subtle contrast to smooth sky and fine-grain vegetation in background	clumps of low-growing vegetation are homogeneous, uniform across landscape; course/grainy in the foreground, becoming solid in the distance.	

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			new transmission line structures in middleground, adds horizontal and vertical element
LINE			vertical poles, horizontal wires; continuous horizontal line with evenly spaced vertical lines
COLOR			cool, medium gray or dark brown
TEX-TURE			smooth, matte metallic

SECTION D. CONTRAST RATING __SHORT TERM x_LONG TERM

ELEMENTS	DEGREE OF CONTRAST	FEATURES												2. Does project design meet visual resource management objectives? <u> </u> x__Yes __No (Explain on reverses side) 3. Additional mitigating measures recommended ___Yes <u> </u> x_No (Explain on reverses side) Evaluator's Names _____ Date _____
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	
												x		
											x			

SECTION D. (Continued)

Comments from item 2.

The proposed transmission line is faintly visible in the background and adds vertical lines where there are no existing vertical structures. The transmission line can be seen by the casual viewer, but it does not attract their attention or dominate the view. It does not block the views of the hills in the distance. Therefore, the proposed project meets the VRM Class II objectives.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__31N_____	5. Location Sketch 
2. Key Observation Point KOP 35 – Alternative	Range_____110 W____	
3. VRM Class II	Section____36_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat foreground and middleground; rugged mountains in background	sagebrush	none
LINE	gently curving lines of two-track road, jagged line of mountains against sky	horizontal/low growing	
COLOR	light beige soils, grayish blue mountains, blue sky	medium gray, light green with dark shadows	
TEX-TURE	fine textured mountains with subtle contrast to smooth sky and fine-grain vegetation in background	clumps of low-growing vegetation are homogeneous, uniform across landscape; course/grainy in the foreground, becoming solid in the distance.	

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			new transmission line structures in middleground, adds horizontal and vertical element
LINE			vertical poles, horizontal wires; continuous horizontal line with evenly spaced vertical lines
COLOR			cool, medium gray or dark brown
TEX-TURE			smooth, matte metallic

SECTION D. CONTRAST RATING __SHORT TERM xLONG TERM

ELEMENTS	DEGREE OF CONTRAST	FEATURES												2. Does project design meet visual resource management objectives? <u> </u> x_Yes <u> </u> No (Explain on reverses side) 3. Additional mitigating measures recommended <u> </u> Yes <u> </u> x_No (Explain on reverses side) Evaluator's Names _____ Date _____	
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)					
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE		
		FORM													x
		LINE													x
COLOR												x			
TEXTURE												x			

SECTION D. (Continued)

Comments from item 2.

Not visible from this distance. Meets Class II objectives.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__31N_____	5. Location Sketch 
2. Key Observation Point KOP 8 – Proposed Action	Range____109 W____	
3. VRM Class private	Section____10_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat foreground; low rolling hills in middleground/background	low growing grassland, sagebrush	powerline and pole in foreground, drill rigs, well development in middleground/background
LINE	horizontal with rugged line of hills against sky	horizontal/low growing	vertical drill rig, power pole; horizontal powerlines
COLOR	light beige soils, light to medium brown hills, blue sky	grasses are light beige with some medium green, grayish vegetation on hills	white, red, blue, brown
TEX-TURE		fine to medium grain, some clumped vegetation	smooth, solid

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			Transmission lines merging at a fenced substation
LINE			vertical poles, horizontal wire, geometric substation/fence
COLOR			metallic gray
TEX-TURE			smooth, solid

SECTION D. CONTRAST RATING __SHORT TERM _x_LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? __Yes __No (Explain on reverses side) 3. Additional mitigating measures recommended __Yes __x_No (Explain on reverses side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	
ELEMENTS	FORM									x				Evaluator's Names _____ Date _____
	LINE									x				
	COLOR									x				
	TEXTURE									x				

SECTION D. (Continued)

Comments from item 2.

There are no VRM objectives at this location. The proposed Paradise Substation is visible would be visible from this KOP, but the lower portion of the substation is somewhat blocked by the topography of the hills. The form and line of the substation repeats the elements of the drill rigs, however these rigs are temporary structures. The gray metallic substation and fencing contrast with the colors of the surrounding landscape. The substation would attract the attention of local traffic, but it would not demand their attention or dominate the landscape. The vertical poles are faintly visible and the horizontal wires are not apparent.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__31N_____	5. Location Sketch 
2. Key Observation Point KOP 8 – Alternative Substation A	Range____109 W____	
3. VRM Class private	Section____10_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat foreground; low rolling hills in middleground/background	low growing grassland, sagebrush	powerline and pole in foreground, drill rigs, well development in middleground/background
LINE	horizontal with rugged line of hills against sky	horizontal/low growing	vertical drill rig, power pole; horizontal powerlines
COLOR	light beige soils, light to medium brown hills, blue sky	grasses are light beige with some medium green, grayish vegetation on hills	white, red, blue, brown
TEX-TURE		fine to medium grain, some clumped vegetation	smooth, solid

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			Transmission lines merging at a fenced substation
LINE			vertical poles, horizontal wire, geometric substation/fence
COLOR			metallic gray
TEX-TURE			smooth, solid

SECTION D. CONTRAST RATING __SHORT TERM xLONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? __Yes __No (Explain on reverses side) 3. Additional mitigating measures recommended __Yes __x_No (Explain on reverses side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	
ELEMENTS	FORM											x		Evaluator's Names _____ Date _____
	LINE											x		
	COLOR											x		
	TEXTURE											x		

SECTION D. (Continued)

Comments from item 2.

There are no VRM objectives at this location. Alternative Substation A is fully visible and not blocked by the topography. The form and line of the substation repeats the elements of the drill rigs, however these rigs are temporary structures. The gray metallic substation and fencing contrast with the colors of the surrounding landscape. The substation would attract the attention of local traffic, but it would not demand their attention or dominate the landscape.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__31N_____	5. Location Sketch 
2. Key Observation Point KOP 25	Range____109 W____	
3. VRM Class II	Section____15_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	view is from a hill looking down on a flat floodplain with rolling hills in the distance	low growing grassland, sagebrush; riparian trees	road, ranch, and drill rigs in background
LINE	horizontal with rugged line of hills against sky	horizontal bands of vegetation, vertical trees along the river	horizontal road, vertical drill rigs
COLOR	light beige soils, light to medium brown hills, blue sky	light to dark green, grayish vegetation on hills	white, red, blue, brown
TEX-TURE	medium	course grain in foreground becoming fine in distance	smooth, solid

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			transmission structures and cables in background
LINE			vertical poles, horizontal wires
COLOR			dark brown
TEX-TURE			Smooth, solid

SECTION D. CONTRAST RATING __SHORT TERM _x_LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <input checked="" type="checkbox"/> _Yes __No (Explain on reverses side) 3. Additional mitigating measures recommended <input type="checkbox"/> _Yes <input checked="" type="checkbox"/> _No (Explain on reverses side)	
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)					
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE		
ELEMENTS	FORM													x	
	LINE													x	
	COLOR													x	
	TEXTURE													x	
Evaluator's Names _____ Date _____															

SECTION D. (Continued)

Comments from item 2.

The transmission line would be slightly visible in the background near the drill rigs. The transmission line could be seen but would not attract the attention of the viewer; therefore it meets the VRM Class II objectives.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__31N_____	5. Location Sketch 
2. Key Observation Point KOP 4	Range_____109 W_____	
3. VRM Class II	Section_____31_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat foreground, gently rolling terrain in middleground; rugged mountains in background	sagebrush with riparian trees in middleground	none
LINE	gently curving lines of two-track road, jagged line of mountains against sky	horizontal/low growing	
COLOR	light beige soils, grayish blue mountains, blue sky	medium gray, light green with dark shadows; band of yellow and green at New Fork River	
TEX-TURE	fine textured mountains with subtle contrast to smooth sky and fine-grain vegetation in background	clumps of low-growing vegetation are homogeneous, uniform across landscape; course/grainy in the foreground, becoming solid in the distance.	

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			new transmission line structures in middleground, adds horizontal and vertical element
LINE			vertical poles, horizontal wires; continuous horizontal line with evenly spaced vertical lines
COLOR			dark brown
TEX-TURE			Smooth, solid

SECTION D. CONTRAST RATING __SHORT TERM xLONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? ___Yes ___x_No (Explain on reverses side) 3. Additional mitigating measures recommended ___Yes ___x_No (Explain on reverses side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	
ELEMENTS	FORM										x			Evaluator's Names _____ Date _____
	LINE										x			
	COLOR										x			
	TEXTURE										x			

SECTION D. (Continued)

Comments from item 2.

The wooden poles are only slightly visible in the middleground. The transmission line is most apparent where located on top of hill, as seen on the center or the left side of the photo. The transmission line would create a vertical element in an open landscape with no other structures. It attracts attention of the viewer, but does not dominate the landscape. The proposed project would not meet VRM Class II management objectives.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

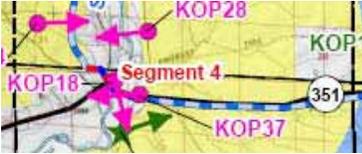
Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__31N_____	5. Location Sketch 
2. Key Observation Point KOP 28	Range____109 W____	
3. VRM Class II	Section____33_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat foreground, slopes downward to New Fork River and flat floodplain in middleground, rolling hills in background	sagebrush in foreground and background; riparian trees in the middleground	a few ranch buildings in middleground
LINE	horizontal transitional lines between foreground, floodplain, background, and horizon; diagonal topography of hills	horizontal band of riparian trees, vertical trees	geometric
COLOR	light brown soils, bright blue sky	lt-med. grays/browns with dark shadows in foreground; band of warm yellows/greens in middleground; medium grays/browns in back	light gray
TEX-TURE	course, patchy foreground, middleground; medium texture on hills, striated with dirt roads; smooth sky	clumps of low-growing vegetation are course in the foreground, becoming finer in the distance; clumped trees are med-coarse	smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			new transmission line faintly visible in background along the horizon
LINE			vertical poles, horizontal wires
COLOR			dark brown
TEX-TURE			Smooth, solid

SECTION D. CONTRAST RATING __SHORT TERM x LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <u> x </u> Yes __No (Explain on reverses side) 3. Additional mitigating measures recommended <u> </u> Yes <u> x </u> No (Explain on reverses side)	
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)					
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE		
ELEMENTS	FORM													x	
	LINE													x	
	COLOR													x	
	TEXTURE													x	
Evaluator's Names _____ Date _____															

SECTION D. (Continued)

Comments from item 2.

The VRM Class II objectives are met. Due to distance, the poles and wires are only faintly visible in the background and at times are not visible against the rolling hills. The structures blend with the colors in the background. The level of change is low. The poles and wires do not dominate the view of the casual observer. They can be seen, but do not attract the attention of a casual observer so that the character of the landscape is retained.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

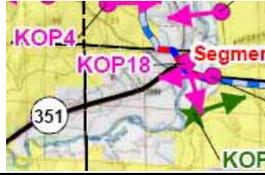
Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__30N_____	5. Location Sketch 
2. Key Observation Point KOP 18	Range____109 W____	
3. VRM Class private	Section____5_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat water of river, sloped river banks	grasses and riparian trees line the river	bridge, one utility pole
LINE	flowing line of water, vertical sloped river bank	low growing grasses, vertical round trees	horizontal bridge (SH 351), vertical pole and bridge pillars
COLOR	blue water with white reflection	dark greens and browns, dark shadows	dark brown bridge and pole
TEXTURE	ripples in water, smooth to medium	smooth to medium, patchy	solid, smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			steel monopole transmission line, horizontal line with spaced vertical lines
LINE			vertical poles; horizontal wires follow the line of the bridge
COLOR			metal poles appear rusty brown or white to light brown, wires appear dark gray
TEXTURE			solid, smooth

SECTION D. CONTRAST RATING __SHORT TERM xLONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? __Yes __No (Explain on reverses side) 3. Additional mitigating measures recommended __Yes <u>x</u> No (Explain on reverses side)				
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)								
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE					
ELEMENTS	FORM													x				Evaluator's Names _____ Date _____
	LINE													x				
	COLOR													x				
	TEXTURE													x				

SECTION D. (Continued)

Comments from item 2.

There are no VRM objectives at this location. The steel monopoles introduce a strong vertical element that contrasts with existing horizontal lines and forms. The observer will notice the contrasting structures, but can still feel connected to existing elements of the landscape. The sky and background landscape is not blocked by narrow lines of the new structures.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

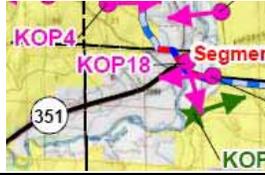
Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__30N_____	5. Location Sketch 
2. Key Observation Point KOP 18 – Alternative Segment 4A	Range____109 W____	
3. VRM Class private	Section____5_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat water of river, sloped river banks	grasses and riparian trees line the river	bridge, one utility pole
LINE	flowing line of water, vertical sloped river bank	low growing grasses, vertical round trees	horizontal bridge (SH 351), vertical pole and bridge pillars
COLOR	blue water with white reflection	dark greens and browns, dark shadows	dark brown bridge and pole
TEXTURE	ripples in water, smooth to medium	smooth to medium, patchy	solid, smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			steel monopole transmission line, horizontal line with spaced vertical lines
LINE			vertical poles; horizontal wires follow the line of the bridge
COLOR			metal poles appear rusty brown or white to light brown, wires appear dark gray
TEXTURE			solid, smooth

SECTION D. CONTRAST RATING __SHORT TERM xLONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? __Yes __No (Explain on reverses side) 3. Additional mitigating measures recommended __Yes <u>x</u> No (Explain on reverses side)				
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)								
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE					
ELEMENTS	FORM													x				Evaluator's Names _____ Date _____
	LINE													x				
	COLOR													x				
	TEXTURE													x				

SECTION D. (Continued)

Comments from item 2.

There are no VRM objectives at this location. The steel monopoles introduce a vertical element that contrasts with existing horizontal lines and forms. The observer will notice the contrasting structures, but can still feel connected to existing elements of the landscape. The sky and background landscape is not blocked by narrow lines of the new structures.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__30N_____	5. Location Sketch 
2. Key Observation Point KOP 37 – Proposed Action	Range_____109 W____	
3. VRM Class private	Section_____4_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat foreground, floodplain turning to rolling hills in middle ground, gravel pit area across the river, mountains in background	grassland, band of riparian trees in middleground.	small structures near gravel pit area
LINE	horizontal line of floodplain to jagged mountain line against the sky	horizontal/low growing, vertical trees in middleground	horizontal, vertical, and diagonal lines; geometric buildings
COLOR	white and blue-gray mountains, light brown hills in background	medium greens and grays in foreground, light beige field	white and dark brown
TEX-TURE	medium grain and density in foreground, becomes fine, dense in background	medium grain and density in foreground, becomes fine, dense in background	smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			new transmission structures and cables in middleground
LINE			vertical poles, horizontal wires visible from highway
COLOR			dark brown
TEX-TURE			Smooth, solid

SECTION D. CONTRAST RATING __SHORT TERM _x_LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? ___Yes ___No (Explain on reverses side) 3. Additional mitigating measures recommended ___Yes _x_No (Explain on reverses side)				
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)								
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE					
ELEMENTS	FORM													x				Evaluator's Names _____ Date _____
	LINE													x				
	COLOR													x				
	TEXTURE													x				

SECTION D. (Continued)

Comments from item 2.

There are no VRM objectives at this location. The transmission line would add a vertical element to the flat middleground. The element begins to attract the attention of the observer, but does not dominate the characteristic landscape.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__30N_____	5. Location Sketch 
2. Key Observation Point KOP 37 – Alternative Segment 4A	Range_____109 W_____	
3. VRM Class private	Section_____4_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat foreground, floodplain turning to rolling hills in middle ground, gravel pit area across the river, mountains in background	grassland, band of riparian trees in middleground.	small structures near gravel pit area
LINE	horizontal line of floodplain to jagged mountain line against the sky	horizontal/low growing, vertical trees in middleground	horizontal, vertical, and diagonal lines; geometric buildings
COLOR	white and blue-gray mountains, light brown hills in background	medium greens and grays in foreground, light beige field	white and dark brown
TEX-TURE	medium grain and density in foreground, becomes fine, dense in background	medium grain and density in foreground, becomes fine, dense in background	smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			new transmission structures and cables in middleground
LINE			vertical poles, horizontal wires visible from highway
COLOR			dark brown
TEX-TURE			Smooth, solid

SECTION D. CONTRAST RATING __SHORT TERM xLONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? __Yes __No (Explain on reverses side) 3. Additional mitigating measures recommended __Yes <u>x</u> No (Explain on reverses side)	
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)					
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE		
ELEMENTS	FORM													x	
	LINE													x	
	COLOR													x	
	TEXTURE													x	
														Evaluator's Names	Date

SECTION D. (Continued)

Comments from item 2.

There are no VRM objectives at this location. The transmission line would add a vertical element to the flat middleground. The element begins to attract the attention of the observer, but does not dominate the characteristic landscape.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__30N_____	5. Location Sketch 
2. Key Observation Point KOP 24	Range____109 W____	
3. VRM Class II	Section____8_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat foreground and middle ground, mountains in background	flat, open sagebrush	none
LINE	horizontal line of flatland to jagged mountain line against the sky	low growing, horizontal	
COLOR	gray, white	gray, dark shadows, some snow cover	
TEX-TURE	fine textured mountains in background	clumps of low-growing vegetation are homogeneous, uniform across landscape; course/grainy in the foreground, becoming solid in the distance.	

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			new transmission line structures in background, adds horizontal and vertical element
LINE			vertical poles, horizontal wires; continuous horizontal line with evenly spaced vertical lines
COLOR			dark brown
TEX-TURE			Smooth, solid

SECTION D. CONTRAST RATING __SHORT TERM xLONG TERM

ELEMENTS	DEGREE OF CONTRAST	FEATURES												2. Does project design meet visual resource management objectives? <input type="checkbox"/> x <input type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverses side) 3. Additional mitigating measures recommended <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Explain on reverses side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	
												x		
											x			
	FORM											x		
	LINE										x			
	COLOR											x		
	TEXTURE											x		
												Evaluator's Names _____ Date _____		

SECTION D. (Continued)

Comments from item 2.

The proposed transmission line would be slightly visible in the distance. The vertical structures would create contrast in the flat landscape. The poles and wires can be seen, but do not attract attention or dominate the view of the casual observer; therefore the VRM Class II objectives are met.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__30N_____	5. Location Sketch 
2. Key Observation Point KOP 13	Range____108 W____	
3. VRM Class III	Section____5_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat to low rolling hills, mountains in distance to the east; flat well pads	low growing sagebrush	wells, pads, tanks, drill rigs, roads from foreground to background
LINE	horizontal to rugged, curved access roads	horizontal/low growing	horizontal and vertical, broken/irregular
COLOR	light beige exposed soils, slopes	light green, gray, yellow in foreground, darker browns and grays in middleground and background	white, dark brown, dark green
TEX-TURE	smooth	course, patchy in foreground becoming fine, regular in distance	smooth, fine grain

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			new transmission structures and cables in foreground
LINE			vertical poles, horizontal wires visible from highway
COLOR			dark brown
TEX-TURE			Smooth, solid

SECTION D. CONTRAST RATING __SHORT TERM _x_LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <input checked="" type="checkbox"/> Yes __No (Explain on reverses side) 3. Additional mitigating measures recommended __Yes _x_No (Explain on reverses side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	
ELEMENTS	FORM										x			Evaluator's Names _____ Date _____
	LINE										x			
	COLOR										x			
	TEXTURE										x			

SECTION D. (Continued)

Comments from item 2.

The transmission line would be visible in the foreground along the south side of SH 351. The vertical poles and horizontal powerlines would contrast with the flat landscape. The structures would add to the existing development of the area, repeating some of the horizontal and vertical lines of existing structures. The transmission line would attract the attention of drivers on the highway, but it would not dominate the view or block the view of the landscape. This would meet the VRM Class III objectives.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__30N_____	5. Location Sketch 
2. Key Observation Point KOP 6a – Proposed Action	Range____107W____	
3. VRM Class III and IV	Section____33_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat, open foreground and middleground; low rolling hills in background; strong uniform horizon line against sky	sagebrush	well pads, wells, tanks barely visible in background
LINE	horizontal	horizontal/low growing	low, vertical wells; horizontal well pad
COLOR	light beige soils; blue and white sky	medium gray, light green with dark shadows	light browns
TEX-TURE	sky is smooth, dotted with variable cloud forms, in contrast to land and vegetation	clumps of low-growing vegetation are homogeneous, uniform across landscape; grainy in the foreground, becoming solid in the distance.	smooth, solid to the extent visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			new transmission line in background along the horizon, blend with existing structures in background
LINE			vertical poles, horizontal wires faintly visible in background
COLOR			dark brown
TEX-TURE			Smooth, solid

SECTION D. CONTRAST RATING __SHORT TERM xLONG TERM

ELEMENTS	DEGREE OF CONTRAST	FEATURES												2. Does project design meet visual resource management objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverses side) 3. Additional mitigating measures recommended <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Explain on reverses side) Evaluator's Names _____ Date _____
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	
												x		
		FORM										x		
	LINE									x				
	COLOR									x				
	TEXTURE									x				

SECTION D. (Continued)

Comments from item 2.

The KOP is in VRM III, but the transmission line is located in VRM IV. Due to distance, the poles and wires are only faintly visible in the background and at times are not visible against the rolling hills. The structures blend with existing wells in the background. The level of change is low. The poles and wires do not attract attention or dominate the view of the casual observer. The VRM Class III and IV objectives are met.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__30N_____	5. Location Sketch 
2. Key Observation Point KOP 6a – Alternative Segment 6A	Range____107 W____	
3. VRM Class III	Section____33_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat, open foreground and middleground; rolling hills in background; strong uniform horizon line against sky	sagebrush	well pads, wells, tanks barely visible in background
LINE	horizontal	horizontal/low growing	low, vertical wells; horizontal well pad
COLOR	light beige soils	medium gray, light green with dark shadows	light browns
TEX-TURE	sky is smooth, dotted with variable cloud forms, in contrast to land and vegetation	clumps of low-growing vegetation are homogeneous, uniform across landscape; grainy in the foreground, becoming solid in the distance.	smooth, solid to the extent visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			new transmission structures and cables in foreground, differ from existing structures in background
LINE			vertical poles, horizontal wires visible from highway; continuous horizontal line with spaced vertical lines
COLOR			dark brown
TEX-TURE			Smooth, solid

SECTION D. CONTRAST RATING __SHORT TERM _x_LONG TERM

ELEMENTS	DEGREE OF CONTRAST	FEATURES												2. Does project design meet visual resource management objectives? <input checked="" type="checkbox"/> _Yes <input type="checkbox"/> _No (Explain on reverses side) 3. Additional mitigating measures recommended <input type="checkbox"/> _Yes <input checked="" type="checkbox"/> _No (Explain on reverses side)			
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)							
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE				
		FORM					STRONG					STRONG					
		LINE					STRONG					STRONG					
COLOR					STRONG					STRONG							
TEXTURE					STRONG					STRONG							
												Evaluator's Names	Date				

SECTION D. (Continued)

Comments from item 2.

The vertical structures and the horizontal cables would add new lines, colors, and textures to the view, but do not obstruct the view of the existing landscape. The proposed transmission structures would not impede the view of the observer and the existing landscape of the foreground, middle ground, and background are still visible. The observer will notice the contrasting structures in the foreground, but can still feel connected to existing elements of vegetation/view. Although the transmission line would not block the view of the landscape, it would attract the attention of drivers and demand attention in the flat landscape. Since the existing character of the landscape is partially retained, the project would meet the VRM Class III objectives.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__30N_____	5. Location Sketch 
2. Key Observation Point KOP 6b –Segment 6A Alternative	Range____107 W____	
3. VRM Class III	Section____33_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat, open foreground and middleground; rolling hills in background; uniform horizon line against sky	sagebrush	a few tanks barely visible in background against the horizon
LINE	horizontal	horizontal/low growing	low, vertical wells; horizontal well pad
COLOR	light beige soils	medium gray, light green with dark shadows	white to light brown
TEX-TURE	sky is smooth, dotted with variable cloud forms, in contrast to land and vegetation	clumps of low-growing vegetation are homogeneous, uniform across landscape; grainy in the foreground, becoming solid in the distance.	smooth, solid to the extent visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			new transmission structures and cables in foreground
LINE			vertical poles, horizontal wires visible from highway
COLOR			dark brown
TEX-TURE			Smooth, solid

SECTION D. CONTRAST RATING __SHORT TERM _x_LONG TERM

ELEMENTS	DEGREE OF CONTRAST	FEATURES												2. Does project design meet visual resource management objectives? <input checked="" type="checkbox"/> _Yes <input type="checkbox"/> _No (Explain on reverses side) 3. Additional mitigating measures recommended <input type="checkbox"/> _Yes <input checked="" type="checkbox"/> _No (Explain on reverses side) Evaluator's Names _____ Date _____
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	
										x				
		FORM									x			
	LINE									x				
	COLOR									x				
	TEXTURE										x			

SECTION D. (Continued)

Comments from item 2.

The vertical structures and the horizontal cables would add new lines, colors, and textures to the view. The poles and cross supports create strong vertical and diagonal lines against the sky, but the sky is not blocked by narrow lines of the new structures. The proposed transmission structures would not impede the view of the observer and the existing landscape of the foreground, middle ground, and background are still visible. The observer will notice the contrasting structures in the foreground, but can still feel connected to existing elements of vegetation/view. Although the transmission line would not block the view of the landscape, it would attract the attention of drivers and demand attention in the flat landscape. Since the existing character of the landscape is partially retained, the project would meet the VRM Class III objectives.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 2008

District/ Field Office: Pinedale, WY

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Paradise 230 KV Project	4. Location Township__29N_____	5. Location Sketch 
2. Key Observation Point KOP 27 – Alternative Segment 6A	Range_____107 W____	
3. VRM Class IV	Section__26_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat, open foreground and middleground; distant mountains to the east	sagebrush	small building to the right in middleground; road straight ahead
LINE	horizontal	horizontal/low growing	low, vertical wells; horizontal well pad
COLOR	light beige soils	medium gray, light green with dark shadows	white to light brown
TEXTURE	sky is smooth, dotted with variable cloud forms, in contrast to land and vegetation	clumps of low-growing vegetation are homogeneous, uniform across landscape; grainy in the foreground, becoming solid in the distance.	smooth, solid to the extent visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			new transmission structures and cables in background
LINE			vertical poles, horizontal wires visible from highway
COLOR			dark brown
TEXTURE			Smooth, solid

SECTION D. CONTRAST RATING __SHORT TERM LONG TERM

ELEMENTS	DEGREE OF CONTRAST	FEATURES												2. Does project design meet visual resource management objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverses side) 3. Additional mitigating measures recommended <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Explain on reverses side) Evaluator's Names _____ Date _____	
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)					
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE		
		FORM											x		
		LINE											x		
COLOR											x				
TEXTURE											x				

SECTION D. (Continued)

Comments from item 2.

The vertical structures and the horizontal cables would add new lines, colors, and textures to the view. The poles and cross supports create strong vertical and diagonal lines, but the landscape is not blocked by narrow lines of the new structures. The proposed transmission structures would not impede the view of the observer and the existing landscape of the foreground, middle ground, and background are still visible. The observer will notice the contrasting structures in the distance, but can still feel connected to existing elements of vegetation/view. From the KOP, the degree of contrast is weak because of distance. As the transmission line is approached, the contrast would become strong because of the change in distance/scale. Although the transmission line would not block the view of the landscape, it would attract the attention of drivers and demand attention in the flat landscape. Since the existing character of the landscape is partially retained, the project would meet the VRM Class III and IV objectives.

Additional Mitigating Measures (See item 3)
