

**APPENDIX D
DETAILED ROUTE IMPACT SUMMARIES AND ROUTE
COMPARISONS**

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ZONE 1 - Route 1a Impact Summary

Zone 1: Route 1a Summary (2.2 mi. Length)

Resource			
Land Use, Recreation, & Transportation	Inventory Summary	<u>Jurisdiction (mi.)</u>	
		BLM: 0	Irrigated Agriculture: 0
	JBLM-YTC: 0	# Center Pivots Crossed: 0	
	BOR: 0.3	Statewide Important Farmland: 0.1	
	Total Federal Land Crossed: 0.3 (13.6%)	Unique Farmland: 1.8	Prime if Irrigated: 0.1
	State: 0	Public (Fed./State) Lease Land (Oil/Gas/Grazing): 0	
	Private: 2.0 (90.9%)		
		<u>Linear Features (mi.)</u>	
	Parallels Existing HVTL: 0	# Recreation Trails Crossed: 0	
	Within Designated Utility Corridor: 0	# Residences w/in 500': 63	
	% of Federal Land crossed within Designated Corridor: -	# Parcels Crossed: 21	
		# Private Landowners: 14	
		# (State/Federal) Highway Crossings: 0	
	Impacts/Key Issues	2.0 mile Moderate land use impact 1.8 acres long-term disturbance to residential land uses Requires 0.9 miles new road construction CRP Land (potential LT impact, acres): 0	
Visual	Inventory Summary	- Immediate foreground views from residences, primarily - Strong to moderate/strong structure contrast	- Crosses primarily residential character areas - Moderate to moderate/strong project contrast
	Impacts/Key Issues	2.3 miles High impact on residences 0.5 miles High impact to moderately sensitive viewers - Scenic views from residences toward background mountains and valleys affected	

- Existing transmission lines infrastructure in area influencing character - Generally weak landscape contrast

Zone 1: Route 1a Summary (2.2 mi. Length)

Resource		Habitat Types (Acres) within the Project Area (2 mile corridor)			
Wildlife	Inventory Summary	Perennial Grassland	144.5	Sagebrush/Perennial Grassland	335.2
		Riparian	5.2	Trees/Aspen	0.7
		Basalt Cliff/Rock	0		
		<u>Sage Grouse Habitat (Acres)</u>			
	Tier 1 (Regularly Occupied)	3,816	Tier 3 (Occasionally Occupied)	0	
	Tier 4 (Expansion Habitat)	0			
	<u>Sage-Grouse Leks and Observations</u>				
	<u>Active or Inactive Leks (#)</u>			<u>PHS Historic Leks (#)</u>	
	Within 0.6 mile	0	Within 0.6 mile	0	
	Within 2.0 miles	0	Within 2.0 miles	0	
Within 3.0 miles	0	Within 3.0 miles	0		
	<u>Observations (#)</u>	2001-2011	0		
		1988-2000	0		
Impacts/Key Issues	<u>Disturbance to Habitat</u>				
		<u>Long Term</u>		<u>Short Term</u>	
		<i>Ac. Disturbed</i>	<i>% Disturbed w/in Project Area</i>	<i>Ac. Disturbed</i>	<i>% Disturbed w/in Project Area</i>
	Perennial Grassland	0	0	0	0
	Riparian	0	0	0	0
	Basalt Cliff/Rock	0	0	0	0
	Trees/Aspen	0	0	0	0
	Riparian	0	0	0	0
	Sagebrush/Perennial Grassland	0.4	<1	2.2	<1
	Trees/Aspen	0	0	0	0
<u>Disturbance to Sage-Grouse Priority Habitats</u>					
	<u>Long Term</u>		<u>Short Term</u>		
	<i>Ac. Disturbed</i>	<i>% Disturbed w/in Project Area</i>	<i>Ac. Disturbed</i>	<i>% Disturbed w/in Project Area</i>	
Tier 1 (Regularly Occupied)	1.8	<0.1%	9.7	0.3%	
Tier 3 (Occasionally Occupied)	0	0	0	0	
Tier 4 (Expansion Habitat)	0	0	0	0	
<u>Estimated Number of New Structures Installed</u>					
	<u>Total Number of Structures</u>		<u>Estimated Number of New Structures NOT within 0.25 mile of Existing Transmission Line</u>		
	40		18		
-No known active or inactive leks within 0.6, 2 or 3 miles. -Long- and short-term disturbance to sagebrush/perennial grassland. -0.5 miles of moderate impacts to habitat. -0.8 mile of moderate impacts to sage-grouse habitat. -2.2 miles of low impacts to special status species.					

Zone 1: Route 1a Summary

Resource		Route Segment 1a (2.2 mi. Length)				
Vegetation	Inventory Summary	<u>Vegetation Type Crossed (mi.)</u>		<u>Special Status & Priority Habitats Crossed (mi.)</u>		
		Riparian	0	Habitat Suitability		
		Sagebrush/Perennial Grassland	0.5		Suitable	0.5
		Trees (Aspen/Poplar)	0		Marginal	1.1
					<u>Special Status Plants & Communities Crossed (mi.)</u>	
					NHP Special Status Polygons	0
				Special Status Plants Found During Survey	0	
				NHP Priority Plant Communities	0	
Impacts/Key Issues	Long Term Disturbance to Riparian Vegetation	0	Moderate Impacts to General Vegetation (mi.)	0.5		
	Long Term Disturbance to Sagebrush/Perennial Grassland	0.4	Moderate Impacts to Special Status Plant Species and their Habitat (mi.)	0.5		
	Long Term Disturbance to Trees (Aspen/Poplar)	0	Overall Long Term Impacts to All Vegetation (acres long term disturbance)	1.3		
	No known special status plants within 1 mile.					

Zone 1: Route 1a Summary

Resource		Route Segment 1a (2.2 mi. Length)			
Cultural	Inventory Summary	<u>Cultural Resources within 75-feet of Centerlines</u>		<u>Cultural Resources within 250-feet of Centerlines</u>	
		Districts	0	Districts	0
	Archeological Sites	0	Archeological Sites	0	
		Isolated Finds	0	Isolated Finds	0
		Architectural Resources	0	Architectural Resources	0
		<i>Total Cultural Resources</i>	0	<i>Total Cultural Resources</i>	0
		National Register Status of Sites		National Register Status of Sites	
		Eligible	0	Eligible	0
		Not Eligible	0	Not Eligible	0
		Unevaluated	0	Unevaluated	0
	Impacts/ Key Issues	- Very limited previous surveys conducted within one mile of route. - No land within 250 feet of route previously surveyed. - Archeological resources, if present, likely to be located along drainages. - No resources likely to be visually sensitive within 250 feet - Impacts to all resources expected to be Low to Moderate .			
Other Resources (Water, Wetlands, Soils & Geology)	Inventory Summary	<u>Water Resources (mi. crosses)</u>		<u>Geologic Resources</u>	
		Intermittent Stream/Gully	0	30% Slope or greater crossed (mi.)	0
	100-year floodplain	0	Mapped Landslide (High Hazard)	0	
		Total Miles of Water Resource (Long Term) Disturbance	0	<u>Soil Resources</u>	
		Total Acres of Water Resource (Long Term) Disturbance	0	High Water erodibility (mi. crossed)	2.1
		Perennial Streams	0	High Water erodibility (ac. long-term disturbance)	1.6
		Total Miles of Water Resource (Long Term) Disturbance	0	Low reclamation potential (ac. long-term disturbance)	0
		Total Acres of Water Resource (Long Term) Disturbance	0		
	Impacts/ Key Issues	- 2.2 miles Low Impact to Water Resources - 1.8 acres of long-term disturbance on moderate wind erosion soils - 1.6 acres long term disturbance on high water erosion soils - 0.1 acre long term disturbance on moderate water erosion soils			
Other Issues					
Total Short-Term Ground Disturbance (ac.)		10.17			
Total Long-Term Ground Disturbance (ac.)		1.78			
Engineering & Costs		\$1.18 million Total construction cost (w/out ROW)			
		40 Structures (Single wood pole construction typical)			
Overall Key Issues		- Mostly private land, 0.3 mi. BOR - Moderate residential land use impacts - 2.3 mi. High visual impact on residences - Small amount of Sagebrush-Perennial Grassland disturbed, 0.5 ac. - 1.8 ac. Tier 1 Sage-Grouse Priority Habitat Disturbed			

VANTAGE-POMONA HEIGHTS 230 kV PROJECT

ZONE 1 - Route 1b/1c Comparison

ZONE 1:Route 1b/1c Comparison					
Resource		Route Segment 1b (12.5 mi. Length)		Route Segment 1c (12.9 mi. Length)	
Land Use, Recreation, & Transportation	Inventory Summary	<u>Jurisdiction (mi.)</u>		<u>Land Use, Recreation & Transportation Resources (mi.)</u>	
		BLM: 0	Irrigated Agriculture: 0	BLM: 0	Irrigated Agriculture: 0.4
		JBLM-YTC: 12.5	# Center Pivots Crossed: 0	JBLM-YTC: 0	# Center Pivots Crossed: 0
	BOR: 0	Statewide Important Farmland 1.5	BOR: 0	Statewide Important Farmland 0	
	<i>Total Federal Land Crossed:</i> 12.5 (100%)	Unique Farmland 0.1	<i>Total Federal Land Crossed:</i> 0	Unique Farmland 0.1	
State: 0	Prime if Irrigated 6.0	State: 1.0 (7.8%)	Prime if Irrigated 0		
Private: 0.0		Private: 11.9 (92.2%)			
Impacts/ Key Issues	<u>Linear Features (mi.)</u>		<u>Linear Features (mi.)</u>		
	Parallels Existing HVTL: 0	Public (Fed./State) Lease Land (Oil/Gas/Grazing): 0	Parallels Existing HVTL: 0	Public (Fed./State) Lease Land (Oil/Gas/Grazing): 0	
	Within Designated Utility Corridor: 0	# Recreation Trails Crossed: 0	Within Designated Utility Corridor: 0	# Recreation Trails Crossed: 17	
% of Federal Land crossed within Designated Corridor: -	# Residences w/in 500': 2	% of Federal Land crossed within Designated Corridor: -	# Residences w/in 500': 17		
	# Parcels Crossed: 3		# Parcels Crossed: 74		
	# Private Landowners: 2		# Private Landowners: 49		
	# (State/Federal) Highway Crossings: 0		# (State/Federal) Highway Crossings: 0		
Summary Comparison	<ul style="list-style-type: none"> - Lower impacts on residential land uses - Higher impacts on military land uses 		<ul style="list-style-type: none"> - Lower Impacts on agricultural land uses - Requires less new road construction 		
Inventory Summary	<ul style="list-style-type: none"> - 12.6 miles Moderate land use impact - 11.2 acres long-term disturbance to military land uses 		<ul style="list-style-type: none"> - 0.1 mile High land use impact - 2.1 miles Moderate land use impact - 19.0 acres long-term disturbance to residential - 0.3 acres long-term disturbance to irrigated agriculture - 1.5 acres long-term disturbance to dryland agriculture 		
Impacts/ Key Issues	<ul style="list-style-type: none"> - Requires 5.8 miles new road construction (Not Utilizing JBLM-YTC Roads) - CRP Land (potential LT Impact, acres): 0 		<ul style="list-style-type: none"> - Requires 8.3 miles new road construction (Not Utilizing JBLM-YTC Roads) - CRP Land (potential LT impact, acres): 0 		
Summary Comparison	<ul style="list-style-type: none"> - Lower impacts on residential land uses - Higher impacts on military land uses 		<ul style="list-style-type: none"> - Higher impacts on residential land uses - Lower impact on military land uses - Higher impacts on agricultural land uses - Requires more road construction 		
Visual	Inventory Summary	<ul style="list-style-type: none"> - <u>Sensitive viewers</u> - Foreground and middleground views from residences, primarily - Some immediate foreground views from residences - Crosses primarily Class C scenery - Some residential character and industrial character areas - No existing transmission lines or similar infrastructure 		<ul style="list-style-type: none"> - <u>Sensitive viewers</u> - Immediate foreground/foreground and middleground views from residences, primarily - Crosses primarily Class C scenery - Some residential character, agricultural character and industrial character areas - No existing transmission lines or similar infrastructure 	
	Impacts/ Key Issues	<ul style="list-style-type: none"> - 2.8 miles High impact on residences - 0.5 miles High impact to moderately sensitive viewers - 10.0 miles Moderate impact on scenic quality 		<ul style="list-style-type: none"> - 6.2 miles High impact on residences - 0.2 miles High impact on moderately sensitive viewers - 10.2 miles Moderate impact on scenic quality 	
	Summary Comparison	<ul style="list-style-type: none"> - Generally weak landscape contrast - Strong structure contrast - Moderate to moderate/strong project contrast 		<ul style="list-style-type: none"> - Generally weak to moderate landscape contrast - Strong structure contrast - Moderate to strong project contrast 	
Summary Comparison	<ul style="list-style-type: none"> - Reduced visual impacts on residences - Further from sensitive viewers - Lower landscape contrast due to reduced road building 		<ul style="list-style-type: none"> - Higher visual impacts on residences - Scenic views from residences toward background mountains and valleys affected - Stronger landscape contrast due to increased road building 		

ZONE 1:Route 1b/1c Comparison

Resource		Route Segment 1b (12.5 mi. Length)				Route Segment 1c (12.9 mi. Length)			
Wildlife	Inventory Summary	Habitat Types (Acres) within the Project Area (2 mile corridor)				Habitat Types (Acres) within the Project Area (2 mile corridor)			
		Basalt Cliff/Rock	0	Sagebrush/Perennial Grassland	5,147	Basalt Cliff/Rock	0	Sagebrush/Perennial Grassland	4,701.9
		Perennial Grassland	3,688.2	Trees/Aspen	1.4	Perennial Grassland	3,399.3	Trees/Aspen	1.4
		Riparian	61.0			Riparian	60.2		
		<u>Sage Grouse Habitat (Acres)</u>				<u>Sage Grouse Habitat (Acres)</u>			
	Tier 1 (Regularly Occupied)	17,046	Tier 3 (Occasionally Occupied)	820	Tier 1 (Regularly Occupied)	16,837	Tier 3 (Occasionally Occupied)	1,519	
	Tier 4 (Expansion Habitat)	0			Tier 4 (Expansion Habitat)	0			
	Sage-Grouse Leks and Observations				Sage-Grouse Leks and Observations				
	<u>Active or Inactive Leks (#)</u>		<u>PHS Historic Leks (#)</u>		<u>Active or Inactive Leks (#)</u>		<u>PHS Historic Leks (#)</u>		
	Within 0.6 mile	0	Within 0.6 mile	1	Within 0.6 mile	0	Within 0.6 mile	0	
Within 2.0 miles	2	Within 2.0 miles	2	Within 2.0 miles	2	Within 2.0 miles	2		
Within 3.0 miles	2	Within 3.0 miles	4	Within 3.0 miles	2	Within 3.0 miles	3		
<u>Observations (#)</u>		2001-2011		<u>Observations (#)</u>		2001-2011			
		1988-2000				1988-2000			
Impacts/Key Issues	Disturbance to Habitat				Disturbance to Habitat				
	<u>Long Term</u>		<u>Short Term</u>		<u>Long Term</u>		<u>Short Term</u>		
	<i>Ac. Disturbed</i>	<i>% Disturbed w/in Project Area</i>	<i>Ac. Disturbed</i>	<i>% Disturbed w/in Project Area</i>	<i>Ac. Disturbed</i>	<i>% Disturbed w/in Project Area</i>	<i>Ac. Disturbed</i>	<i>% Disturbed w/in Project Area</i>	
	Basalt Cliff/Rock	0	0	0	0	0	0	0	
	Perennial Grassland	3.1	<1	10.4	<1	2	<1	3.7	
	Riparian	0	0	0	0	0	0	0	
	Sagebrush/Perennial Grassland	5.1	<1	23.1	<1	5.9	<1	11.3	
	Trees/Aspen	0.1	7	0.4	29	0	0	0	
	Disturbance to Sage-Grouse Priority Habitats				Disturbance to Sage-Grouse Priority Habitats				
	<u>Long Term</u>		<u>Short Term</u>		<u>Long Term</u>		<u>Short Term</u>		
<i>Ac. Disturbed</i>	<i>% Disturbed w/in Project Area</i>	<i>Ac. Disturbed</i>	<i>% Disturbed w/in Project Area</i>	<i>Ac. Disturbed</i>	<i>% Disturbed w/in Project Area</i>	<i>Ac. Disturbed</i>	<i>% Disturbed w/in Project Area</i>		
Tier 1 (Regularly Occupied)	11.3	0.1%	46.6	0.3%	Tier 1 (Regularly Occupied)	22.5	0.1%		
Tier 3 (Occasionally Occupied)	0	0	0	0	Tier 3 (Occasionally Occupied)	0.6	<0.1%		
Tier 4 (Expansion Habitat)	0	0	0	0	Tier 4 (Expansion Habitat)	0	0		
Estimated Number of New Structures Installed				Estimated Number of New Structures Installed					
<u>Total Number of Structures</u>	<u>Estimated Number of New Structures NOT within 0.25 mile of Existing Transmission Line</u>			<u>Total Number of Structures</u>	<u>Estimated Number of New Structures NOT within 0.25 mile of Existing Transmission Line</u>				
89	85			92	88				
Summary Comparison	-Same number of active/inactive leks within 2 and 3 miles (2 each). -Similar long-term impacts to perennial grassland and sagebrush/perennial grassland. -More long-term impacts to aspen. -Less long-term impacts to Tier 1 Priority Habitat. Similar short-term impacts to Tier 1 Habitat. -No impacts to Tier 3 Priority Habitat. -3.5 miles of moderate impacts to nesting burrowing owls (w/in 1 mile). -5.4 miles of moderate impacts to sage-grouse habitat. -3.2 miles of moderate impacts to a Priority Species Regional Area for long-billed curlew (w/in 1 mile).				-Same number of active/inactive leks within 2 and 3 miles (2 each). -Similar long-term impacts to perennial grassland and sagebrush/perennial grassland. -No long- or short-term impacts to aspen. -More long-term impacts to Tier 1 Priority Habitat. Similar short-term impacts to Tier 1 Priority Habitat. -More short- and long-term impacts to Tier 3 Priority Habitat. -3.2 miles of moderate impacts to nesting burrowing owls (w/in 1 mile). -3.1 miles of moderate impacts to sage-grouse habitat. -0.1 miles of moderate impacts to a Priority Species Regional Area for long-billed curlew (w/in 1 mile).				

ZONE 1:Route 1b/1c Comparison									
Resource		Route Segment 1b (12.5 mi. Length)			Route Segment 1c (12.9 mi. Length)				
Vegetation	Inventory Summary	<u>Vegetation Type Crossed (mi.)</u>			<u>Vegetation Type Crossed (mi.)</u>				
		Riparian	0		Riparian	0			
		Sagebrush/Perennial Grassland	6.3		Sagebrush/Perennial Grassland	3.1			
		Trees (Aspen/Poplar)	0.1		Trees (Aspen/Poplar)	0			
	<u>Special Status & Priority Habitats Crossed (mi.)</u>			<u>Special Status & Priority Habitats Crossed (mi.)</u>					
	<u>Habitat Suitability</u>		<u>Special Status Plants & Communities Crossed (mi.)</u>		<u>Habitat Suitability</u>		<u>Special Status Plants & Communities Crossed (mi.)</u>		
	Suitable	6.3	NHP Special Status Polygons	0	Suitable	3.2	NHP Special Status Polygons	0	
	Marginal	5.1	Special Status Plants Found During Survey	0.4	Marginal	8.5	Special Status Plants Found During Survey	0	
			NHP Priority Plant Communities				NHP Priority Plant Communities		0
	Impacts/ Key Issues	Long Term Disturbance to Riparian Vegetation (acres)	0	Moderate Impacts on General Vegetation (mi.)	6.4	Long Term Disturbance to Riparian Vegetation	0	Moderate Impacts on General Vegetation (mi.)	3.1
Long Term Disturbance to Sagebrush/Perennial Grassland (acres)		5.1	Moderate Impacts on Special Status Species (mi.)	6.4	Long Term Disturbance to Sagebrush/Perennial Grassland	5.9	Moderate Impacts on Special Status Species (mi.)	3.2	
Long Term Disturbance to Trees (Aspen/Poplar; acres)		0.1	Overall Long Term Impacts to All Vegetation (acres long term disturbance)	10.5	Long Term Disturbance to Trees (Aspen/Poplar)	0	Overall Long Term Impacts to All Vegetation (acres long term disturbance)	22.2	
Summary Comparison	<ul style="list-style-type: none"> - Similar long-term disturbance to sagebrush/perennial grassland. - More long-term disturbance to trees (aspen). - Lower overall disturbance to ALL vegetation types combined. -Special status plants identified during plant survey (Nuttall's sandwort; hedgehog cactus). -Hoover's tauschia is known to occur within 1 mile. -More miles with moderate impacts to general vegetation. -More miles with moderate impacts to special status plants and potential habitat. 				<ul style="list-style-type: none"> - Similar long-term disturbance to sagebrush/perennial grassland. - No impacts to trees (aspen). - Higher overall disturbance to ALL vegetation types combined. - No special status plants were found during survey; however most of the route is non-federal land and was not surveyed. -Hoover's tauschia is known to occur within 1 mile. -Fewer miles with moderate impacts to general vegetation. -Fewer miles with moderate impacts to special status plants and potential habitat. 				

ZONE 1:Route 1b/1c Comparison							
Resource		Route Segment 1b (12.5 mi. Length)		Route Segment 1c (12.9 mi. Length)			
Cultural Resources	Inventory Summary	<u>Cultural Resources within 75-feet of Centerlines</u>		<u>Cultural Resources within 75-feet of Centerlines</u>			
		Districts	0	<u>National Register Sites</u>	Districts	0	
		Archeological Sites	0	Eligible	0	Eligible	
	Isolated Finds	0	Not Eligible	0	Not Eligible		
	Architectural Resources	0	Unevaluated	0	Unevaluated		
		Total Cultural Resources		0			
		<u>Cultural Resources within 250-feet of Centerlines</u>		<u>Cultural Resources within 250-feet of Centerlines</u>			
		Districts	0	<u>National Register Sites</u>	Districts	0	
		Archeological Sites	0	Eligible	0	Eligible	
		Isolated Finds	0	Not Eligible	0	Not Eligible	
		Architectural Resources	0	Unevaluated	0	Unevaluated	
		Total Cultural Resources		0			
Impacts/ Key Issues		- No previous surveys conducted within 75' of route. - Archeological resources, if present, likely to be located along drainages. - No resources likely to be visually sensitive within 250 feet - Impacts to all resources expected to be Low .		- No previous surveys conducted within 75' of route. - Archeological resources, if present, likely to be located along drainages. - No resources likely to be visually sensitive within 250 feet - Impacts to all resources expected to be Low .			
Summary Comparison		- Cultural resources not likely to be a factor in route selection. - Similar to Route 1c		- Cultural resources not likely to be a factor in route selection. - Similar to Route 1b			
Other Resources (Water, Wetlands, Soils & Geology)	Inventory Summary	<u>Water Resources (mi. crosses)</u>		<u>Water Resources (mi. crosses)</u>			
		Intermittent Stream/Gully	0.8	Perennial Streams	0.3	Intermittent Stream/Gully	0
		100-year floodplain	0.0			100-year floodplain	0
			Total Miles of Water Resource (Long Term) Disturbance		1.1		
			Total Acres of Water Resource (Long Term) Disturbance		1.3 acres		
			<u>Geologic Resources</u>		<u>Geologic Resources</u>		
			30% Slope or greater crossed (mi.)	0.8	Mapped Landslide (High Hazard)	1.0	
		<u>Soil Resources</u>		<u>Soil Resources</u>			
		High Water erodibility (mi. crossed)	4.8	High Water erodibility (ac. long-term disturbance)	5.0		
		Low reclamation potential (ac. long-term disturbance)	4.8	Low reclamation potential (ac. long-term disturbance)	5.9		
Impacts/ Key Issues		Moderate Impact to Water Resources (mi.)		Moderate Impact to Water Resources (mi.)			
		Total Acres of Water Resources Disturbed		0.1			
		High impacts to soils in areas of high water erosion potential and low reclamation potential (mi.)		0.2			
		- Long term disturbance to Kittitas Canyon Creek, Washout Gulch, 6 intermittent streams, 3 perennial streams		2.3			
Summary Comparison		- Slightly lower impact to water resources, crosses fewer streams - More miles of High impact from due to high erosion potential-low reclamation potential - Crosses less mapped landslide areas - Crosses more steep slopes		- Slightly higher impact to water resources, crosses more streams - Fewer miles of High impact from due to high erosion potential-low reclamation potential - Crosses more mapped landslide areas - Crosses fewer steep slopes			

ZONE 1:Route 1b/1c Comparison		
	Route Segment 1b (12.5 mi. Length)	Route Segment 1c (12.9 mi. Length)
Other Issues		
Total Short-Term Ground Disturbance (ac.)	46.63	47.80
Total Long-Term Ground Disturbance (ac.)	11.27	23.09
Engineering & Costs	\$3.28 million total construction cost (w/out ROW) 89 Structures (H-frame wood pole construction typical)	\$3.50 million total construction cost (w/out ROW) 92 Structures (H-frame wood pole construction typical)
Overall Key Issues & Comparison	<ul style="list-style-type: none"> - <i>Less long-term ground disturbance due to reduced road construction</i> - <i>Follows existing roads generally causing reduced ground disturbance and overall impacts</i> - <i>Shorter route & Fewer Structures</i> - <i>Lower Construction and ROW acquisition costs due to single (military) ownership</i> - <i>Potential for impacts to military training operations on YTC</i> - <i>Reduced land use and visual impacts on private landowners</i> - <i>Lower impacts to Sagebrush/Perennial Grassland habitat</i> - <i>Higher impact to trees (aspen)</i> - <i>Similar potential cultural impacts</i> - <i>Lower impacts to water resources & fewer stream crossings</i> - <i>Higher impacts on soils</i> - <i>Less mapped landslide area crossed</i> - <i>Crosses fewer steep slopes</i> 	<ul style="list-style-type: none"> - <i>Greater long-term ground disturbance due to increased road construction</i> - <i>Longer route & More structures</i> - <i>Reduced potential impact to military training operations</i> - <i>Higher land use and visual impacts on private landowners</i> - <i>Increased construction and ROW acquisition costs</i> - <i>Potential impact to Unique Farmland</i> - <i>Higher impact to Sagebrush/Perennial Grassland habitat</i> - <i>No impact to trees</i> - <i>More impact to Tier 1 Sage-Grouse Priority habitat</i> - <i>Higher water resource impacts</i> - <i>Lower soils impacts</i> - <i>Crosses more mapped landslide area</i> - <i>Crosses fewer steep slopes</i>

ZONE 2 - Route 2a/2d
Impact Summary

ZONE 2:Route 2a/2d Summary					
Resource		Route Segment 2a (1.0 mi. Length)		Route Segment 2d (7.0 mi. Length)	
<u>Land Use, Recreation, & Transportation</u>	Inventory Summary	<u>Jurisdiction (mi.)</u>	<u>Land Use, Recreation & Transportation Resources (mi.)</u>	<u>Jurisdiction (mi.)</u>	<u>Land Use, Recreation & Transportation Resources (mi.)</u>
		BLM: 0	Irrigated Agriculture: 0	BLM: 1.0	Irrigated Agriculture: 0
	JBLM-YTC: 0	# Center Pivots Crossed: 0	JBLM-YTC: 0	# Center Pivots Crossed: 0	
	BOR: 0	Statewide Important Farmland: 0.2	BOR: 0	Statewide Important Farmland: 0.1	
	Total Federal Land Crossed: 0	Unique Farmland: 0.4	Total Federal Land Crossed: 1.0 (14.3%)	Unique Farmland: 2.3	
	State: 0	Prime if Irrigated: 0	State: 0	Prime if Irrigated: 0.1	
	Private: 1.0 (100%)	Public (Fed./State) Lease Land (Oil/Gas/Grazing): 0	Private: 6.0 (85.7%)	Public (Fed./State) Lease Land (Oil/Gas/Grazing): 0.8	
	<u>Linear Features (mi.)</u>	# Recreation Trails Crossed: 0	<u>Linear Features (mi.)</u>	# Recreation Trails Crossed: 0	
	Parallels Existing HVTL: 0	# Residences w/in 500': 0	Parallels Existing HVTL: 0	# Residences w/in 500': 0	
	Within Designated Utility Corridor: 0	# Parcels Crossed: 5	Within Designated Utility Corridor: 0	# Parcels Crossed: 13	
	% of Federal Land crossed within Designated Corridor: -	# Private Landowners: 2	% of Federal Land crossed within Designated Corridor: -	# Private Landowners: 3	
		# (State/Federal) Highway Crossings: 0		# (State/Federal) Highway Crossings: 0	
	Impacts/Key Issues	1.0 mile Low land use impact CRP Land (potential LT impact, acres): 0	- Requires 0.8 miles new road construction	6.8 mile Low land use impact	- Requires 6.2 miles new road construction - CRP Land (potential LT impact, acres): 0.3
<u>Visual</u>	Inventory Summary	- Middleground views from residences - Crosses Class C scenery - No existing transmission lines or similar infrastructure		- Background views from residences - Foreground views from the Columbia River - Crosses primarily Class C scenery - Also crosses Class B scenery along Columbia River - No existing transmission lines or similar infrastructure	
	Impacts/Key Issues	0.1 miles High impact on residences 0.2 miles Moderate impact to moderately sensitive viewers 1.0 mile Moderate impact on scenic quality	- Weak to moderate landscape contrast - Strong structure contrast - Strong/moderate project contrast	1.9 miles Moderate impact on residences 2.2 miles Moderate impact on moderately sensitive viewers 3.1 miles High impact on scenic quality	- Generally moderate to strong landscape contrast - Strong structure contrast - Strong to moderate project contrast

ZONE 2:Route 2a/2d Summary

Resource		Route Segment 2a (1.0 mi. Length)				Route Segment 2d (7.0 mi. Length)			
Wildlife	Inventory Summary	Habitat Types (Acres) within the Project Area (2 mile corridor) Basalt Cliff/Rock 0 Sagebrush/Perennial Grassland 745.2 Perennial Grassland 184.0 Trees/Aspen 0 Riparian 41.4 <u>Sage Grouse Habitat</u> Tier 1 (Regularly Occupied) 2,829.0 Tier 3 (Occasionally Occupied) 422.9 Tier 4 (Expansion Habitat) 0				Habitat Types (Acres) within the Project Area (2 mile corridor) Basalt Cliff/Rock 5.3 Sagebrush/Perennial Grassland 9,960 Perennial Grassland 503.6 Trees/Aspen 0.2 Riparian 0.3 <u>Sage Grouse Habitat</u> Tier 1 (Regularly Occupied) 9,984.3 Tier 3 (Occasionally Occupied) 890 Tier 4 (Expansion Habitat) 0			
		Sage-Grouse Leks and Observations <u>Active or Inactive Leks (#)</u> <u>PHS Historic Leks (#)</u> Within 0.6 mile 0 Within 0.6 mile 0 Within 2.0 miles 0 Within 2.0 miles 0 Within 3.0 miles 0 Within 3.0 miles 0 <u>Observations (#)</u> 2001-2011 0 1988-2000 0				Sage-Grouse Leks and Observations <u>Active or Inactive Leks (#)</u> <u>PHS Historic Leks (#)</u> Within 0.6 mile 0 Within 0.6 mile 0 Within 2.0 miles 0 Within 2.0 miles 0 Within 3.0 miles 1 Within 3.0 miles 0 <u>Observations (#)</u> 2001-2011 1 1988-2000 0			
	Impacts/Key Issues	Disturbance to Habitat <u>Long Term</u> <u>Short Term</u> Ac. Disturbed % Disturbed w/in Project Area Ac. Disturbed % Disturbed w/in Project Area Basalt Cliff/Rock 0 0 0 0 Perennial Grassland 0.2 <1 0.4 <1 Riparian 0 0 0 0 Sagebrush/Perennial Grassland 0 0 0 0 Trees/Aspen 0 0 0 0				Disturbance to Habitat <u>Long Term</u> <u>Short Term</u> Ac. Disturbed % Disturbed w/in Project Area Ac. Disturbed % Disturbed w/in Project Area Basalt Cliff/Rock 0 0 0 0 Perennial Grassland 0 0 2.6 <1 Riparian 0 0 0 0 Sagebrush/Perennial Grassland 12.7 <1 21.3 <1 Trees/Aspen 0 0 0 0			
		Disturbance to Sage-Grouse Priority Habitats <u>Long Term</u> <u>Short Term</u> Ac. Disturbed % Disturbed w/in Project Area Ac. Disturbed % Disturbed w/in Project Area Tier 1 (Regularly Occupied) 2.1 0.1% 4.0 0.1% Tier 3 (Occasionally Occupied) 0 0 0 0 Tier 4 (Expansion Habitat) 0 0 0 0				Disturbance to Sage-Grouse Priority Habitats <u>Long Term</u> <u>Short Term</u> Ac. Disturbed % Disturbed w/in Project Area Ac. Disturbed % Disturbed w/in Project Area Tier 1 (Regularly Occupied) 15.3 0.2% 26.5 0.3% Tier 3 (Occasionally Occupied) 0 0 0 0 Tier 4 (Expansion Habitat) 0 0 0 0			
		Estimated Number of New Structures Installed <u>Total Number of Structures</u> <u>Estimated Number of New Structures NOT within 0.25 mile of Existing Transmission Line</u> 7 7				Estimated Number of New Structures Installed <u>Total Number of Structures</u> <u>Estimated Number of New Structures NOT within 0.25 mile of Existing Transmission Line</u> 50 50			
		-No known active or inactive leks within 0.6, 2 or 3 miles. -No impacts to sagebrush/perennial grassland. -1.0 mile of low impacts to habitat and special status species. -1.0 mile of low impacts to sage-grouse habitat.				-One known active or inactive lek within 3.0 miles. Low impact level with implementation of PDFs. -Long- and short-term disturbance to sagebrush/perennial grasslands. - Moderate impacts for 5.1 miles to wildlife habitat. - Moderate impacts for 0.9 mile of a Priority Species Regional Area for chukar (w/in 1 mile). - Moderate impacts to 5.8 miles of sage grouse habitat. - Moderate impacts to 4.5 miles of nesting raptors (ferruginous hawk and prairie falcon; w/in 1 mile).			

ZONE 2:Route 2a/2d Summary					
Resource		Route Segment 2a (1.0 mi. Length)		Route Segment 2d (7.0 mi. Length)	
Vegetation	Inventory Summary	<u>Vegetation Type Crossed (mi.)</u>		<u>Vegetation Type Crossed (mi.)</u>	
		Riparian	0	Riparian	0
		Sagebrush/Perennial Grassland	0	Sagebrush/Perennial Grassland	5.6
	Trees (Aspen/Poplar)	0	Trees (Aspen/Poplar)	0	
		<u>Special Status & Priority Habitats Crossed (mi.)</u>		<u>Special Status & Priority Habitats Crossed (mi.)</u>	
		<u>Habitat Suitability</u>	<u>Special Status Plants & Communities Crossed (mi.)</u>	<u>Habitat Suitability</u>	<u>Special Status Plants & Communities Crossed (mi.)</u>
		Suitable 0	NHP Special Status Polygons 0	Suitable 5.6	NHP Special Status Polygons 2.1
		Marginal 1.0	Special Status Plants Found During Survey 0	Marginal 1.4	Special Status Plants Found During Survey 0.6
			NHP Priority Plant Communities 0		NHP Priority Plant Communities 0
	Impacts/ Key Issues	Long Term Disturbance to Riparian Vegetation	0	Low Impacts on General Vegetation (mi.)	1.0
		Long Term Disturbance to Sagebrush/Perennial Grassland	0	Low Impacts on Special Status Species (mi.)	1.0
		Long Term Disturbance to Trees (Aspen/Poplar)	0	Overall Long Term Impacts to All Vegetation (acres long term disturbance)	2.1
				Long Term Disturbance to Riparian Vegetation	0
				Moderate Impacts on General Vegetation (mi.)	5.2
				Long Term Disturbance to Sagebrush/Perennial Grassland	12.7
				Moderate Impacts on Special Status Species (mi.)	6.8
				Long Term Disturbance to Trees (Aspen/Poplar)	0
				Overall Long Term Impacts to All Vegetation (acres long term disturbance)	15.2
				-Special status plants identified during plant survey (Columbia milkvetch).	
				-Awned halfchaff sedge is known to occur within 1 mile.	

ZONE 2:Route 2a/2d Summary									
Resource		Route Segment 2a (1.0 mi. Length)		Route Segment 2d (7.0 mi. Length)					
Cultural Resources	Inventory Summary	<u>Cultural Resources within 75-feet of Centerlines</u>		<u>Cultural Resources within 75-feet of Centerlines</u>					
		Districts	0	National Register Sites	0	National Register Sites			
	Archeological Sites	0	Eligible	0	Archeological Sites	1	Eligible	0	
	Isolated Finds	0	Not Eligible	0	Isolated Finds	0	Not Eligible	0	
Architectural Resources	0	Unevaluated	0	Architectural Resources	0	Unevaluated	1		
		Total Cultural Resources		0	Total Cultural Resources		1		
Impacts/ Key Issues	<u>Cultural Resources within 250-feet of Centerlines</u>		<u>Cultural Resources within 250-feet of Centerlines</u>						
	Districts	0	National Register Sites	0	Districts	0	National Register Sites		
Archeological Sites	0	Eligible	0	Archeological Sites	1	Eligible	0		
Isolated Finds	0	Not Eligible	0	Isolated Finds	0	Not Eligible	0		
Architectural Resources	0	Unevaluated	0	Architectural Resources	0	Unevaluated	1		
		Total Cultural Resources		0	Total Cultural Resources		1		
		<ul style="list-style-type: none"> - No previous surveys conducted within 75' of route. - Archeological resources, if present, likely to be located along drainages. - No resources likely to be visually sensitive within 250 feet - Impacts to all resources expected to be Low to Moderate. 		<ul style="list-style-type: none"> - Limited surveys within one mile. - 9 sites recorded within one mile (on south side of Columbia River). - Sites include lithic scatters - Reported burial site within 0.25 mile - Potential disturbance to Hanford Grade (Chicago, Milwaukee, & St. Paul Railroad) causing High physical impact 		<ul style="list-style-type: none"> - 3.2% land within 250 feet surveyed - Burial site may be visually sensitive - Wanapum Village site of special concern (2.3 mi. from route) - Impacts to all resources expected to be Low to High. - Crosses property of special concern 			
Other Resources (Water, Wetlands, Soils & Geology)	Inventory Summary	<u>Water Resources (mi. crosses)</u>		<u>Water Resources (mi. crosses)</u>					
		Intermittent Stream/Gully	0.1	Perennial Streams	0	Intermittent Stream/Gully	1.3	Perennial Streams	0
		100-year floodplain	0			100-year floodplain	0		
		Total Miles of Water Resource (Long Term) Disturbance		0.1		Total Miles of Water Resource (Long Term) Disturbance		1.3	
	Total Acres of Water Resource (Long Term) Disturbance		0.2 acres		Total Acres of Water Resource (Long Term) Disturbance		2.8 acres		
			<u>Geologic Resources</u>		<u>Geologic Resources</u>				
30% Slope or greater crossed (mi.)	0	Mapped Landslide (High Hazard)	0	30% Slope or greater crossed (mi.)	0.9	Mapped Landslide (High Hazard)	1.9		
		<u>Soil Resources</u>		<u>Soil Resources</u>					
High Water erodibility (mi. crossed)	1.0	High Water erodibility (ac. long-term disturbance)	2.1	High Water erodibility (mi. crossed)	4.7	High Water erodibility (ac. long-term disturbance)	10.2		
Low reclamation potential (ac. long-term disturbance)		0		Low reclamation potential (ac. long-term disturbance)		4.0			
Impacts/ Key Issues	Low Impact to Water Resources (mi.)		0.1	Moderate Impact to Water Resources (mi.)		0.1			
	Total Acres of Water Resources Disturbed		0.1	Total Acres of Water Resources Disturbed		2.8			
		High impacts to soils in areas of high water erosion potential and low reclamation potential (mi.)		High impacts to soils in areas of high water erosion potential and low reclamation potential (mi.)		0			
		- Long term disturbance to Coyote Springs Creek.		- Long term disturbance to Cold Creek and 12 unnamed intermittent streams					

ZONE 2:Route 2a/2d Summary		
	Route Segment 2a (1.0 mi. Length)	Route Segment 2d (7.0 mi. Length)
Other Issues		
Total <i>Short-Term</i> Ground Disturbance (ac.)	3.95	59.61
Total <i>Long-Term</i> Ground Disturbance (ac.)	2.06	35.72
Engineering & Costs	\$275,000 total construction cost (w/out ROW) 7 Structures (H-frame wood pole construction typical)	\$2.0 million total construction cost (w/out ROW) 50 Structures (H-frame wood pole construction typical)
Overall Key Issues	<ul style="list-style-type: none"> - <i>Low</i> land use impact - 0.1 miles <i>High Visual</i> impact on residences - 0.2 miles <i>Moderate Visual</i> impact to moderately sensitive viewers - 1.0 mile <i>Moderate Visual</i> impact on scenic quality - No impact to Riparian vegetation, Sagebrush/Perennial Grassland or trees - 1.0 mile of <i>LOW</i> impact to General Vegetation - 1.0 mile of <i>LOW</i> impact to Special Status Plants and Communities - Impacts to all Cultural resources expected to be <i>Low</i> to <i>Moderate</i> - Low impacts to soils, water and geological resources 	<ul style="list-style-type: none"> - <i>Low</i> land use impact - 1.9 miles <i>Moderate Visual</i> impact on residences - 2.2 miles <i>Moderate Visual</i> impact to moderately sensitive viewers - 3.1 mile <i>High Visual</i> impact on scenic quality - No impact to Riparian vegetation or trees - 12.7 acres impact on Sagebrush/Perennial Grassland - 5.2 mile of <i>Moderate</i> impact to General Vegetation - 6.8 mile of <i>Moderate</i> impact to Special Status Plants and Communities - 1 Lek within 3 miles - 1 Sage-Grouse observation 1988-2011 - 15.3 acres of disturbance in Tier 1 Priority Sage-Grouse Habitat - 15.2 acres of Long Term impact to All Vegetation - Impacts to all Cultural resources expected to be <i>Low</i> to <i>High</i> - 0.1 mile <i>Moderate</i> impacts to water resources - One cultural resource within 250'

ZONE 2 - Route 2b/2c
Comparison

ZONE 2:Route 2b/2c Comparison					
Resource		Route Segment 2b (16.4 mi. Length)		Route Segment 2c (18.1 mi. Length)	
Land Use, Recreation, & Transportation	Inventory Summary	<u>Jurisdiction (mi.)</u>		<u>Land Use, Recreation & Transportation Resources (mi.)</u>	
		BLM: 0.7	Irrigated Agriculture: 0	BLM: 0	Irrigated Agriculture: 0.9
	JBLM-YTC: 0	# Center Pivots Crossed: 0	JBLM-YTC: 0	# Center Pivots Crossed: 5	
	BOR: 0	Statewide Important Farmland 0.4	BOR: 0	Statewide Important Farmland 2.8	
Impacts/ Key Issues	Total Federal Land Crossed: 0.7 (4.3%)		Unique Farmland 3.4	Total Federal Land Crossed: 0	
	State: 0		Prime if Irrigated 0.5	State: 1.0 (5.5%)	
Summary Comparison	Private: 15.7 (95.7%)		Public (Fed./State) Lease Land (Oil/Gas/Grazing/Ag): 0.7	Private: 17.1 (94.5%)	
	<u>Linear Features (mi.)</u>		<u>Linear Features (mi.)</u>		
Visual	Inventory Summary	Parallels Existing HVTL: 0	# Recreation Trails Crossed: 0	Parallels Existing HVTL: 8.6	# Recreation Trails Crossed: 0
		Within Designated Utility Corridor: 0	# Residences w/in 500': 0	Within Designated Utility Corridor: 0	# Residences w/in 500': 1
	Impacts/ Key Issues	% of Federal Land crossed within Designated Corridor: -	# Parcels Crossed: 5	% of Federal Land crossed within Designated Corridor: -	# Parcels Crossed: 44
Summary Comparison	# Private Landowners: 2		# (State/Federal) Highway Crossings: 0	# Private Landowners: 8	
	# (State/Federal) Highway Crossings: 0			# (State/Federal) Highway Crossings: 0	
Impacts/ Key Issues	16.4 miles Low land use impact 0 acres long-term disturbance to irrigated agriculture CRP Land (potential LT impact, acres): 4.8		- Requires 17.1 miles new road construction	0.5 mile High land use impact 2.5 miles Moderate land use impact 2.5 acres long-term disturbance to irrigated agriculture CRP Land (potential LT impact, acres): 3.9	
	- Lower impacts on agricultural and residential land uses - Higher impacts on BLM lands		- Higher potential impacts to CRP lands - Requires more new road construction - Lower ROW acquisition costs	- Higher impacts on agricultural residential land uses - Potential interference with center pivot irrigation - Requires less road construction - More landowners and higher ROW acquisition costs	
Inventory Summary	- Background or seldom-seen views from residences, primarily			- Middleground and background views from SR 24, primarily	
	- Crosses primarily Class C scenery - No existing transmission lines or similar infrastructure			- Immediate foreground and foreground views from some residences - Some residential character, agricultural character and industrial character areas	
Impacts/ Key Issues	0.1 miles High impact on residences		- Strong to moderate landscape contrast	0.7 miles High impact on residences	
	2.6 miles Moderate impact to moderately sensitive viewers		- Strong structure contrast	4.0 miles Moderate impact on moderately sensitive viewers	
Summary Comparison	14.6 miles Moderate impact on scenic quality		- Strong to strong/moderate project contrast - Compliant with Interim VRM Class III	8.7 miles Moderate impact on scenic quality	
	- Lower visual impacts on residences - Further from sensitive viewers - Lower impacts on agricultural character areas			- Higher visual impacts on residences - Higher impacts on agricultural character areas - Parallels existing facilities reducing proliferation across landscape (scenic quality impacts)	

ZONE 2:Route 2b/2c Comparison									
Resource		Route Segment 2b (16.4 mi. Length)				Route Segment 2c (18.1 mi. Length)			
Wildlife	Inventory Summary	Habitat Types (Acres) within the Project Area (2 mile corridor)				Habitat Types (Acres) within the Project Area (2 mile corridor)			
		Perennial Grassland	1,152	Sagebrush/Perennial Grassland	13,857	Perennial Grassland	412	Sagebrush/Perennial Grassland	6,968
		Riparian	0	Trees/Aspen	0	Riparian	0	Trees/Aspen	0
		Basalt Cliff/Rock	1.2			Basalt Cliff/Rock	0.3		
		Sage Grouse Habitat				Sage Grouse Habitat			
	Tier 1 (Regularly Occupied)	22,412.9	Tier 3 (Occasionally Occupied)	516.4	Tier 1 (Regularly Occupied)	18,800.6	Tier 3 (Occasionally Occupied)	6300.6	
	Tier 4 (Expansion Habitat)	0			Tier 4 (Expansion Habitat)	0			
	Sage-Grouse Leaks and Observations				Sage-Grouse Leaks and Observations				
	Active or Inactive Leaks (#)		PHS Historic Leaks (#)		Active or Inactive Leaks (#)		PHS Historic Leaks (#)		
	Within 0.6 mile	0	Within 0.6 mile	0	Within 0.6 mile	0	Within 0.6 mile	0	
Within 2.0 miles	2	Within 2.0 miles	0	Within 2.0 miles	0	Within 2.0 miles	0		
Within 3.0 miles	2	Within 3.0 miles	0	Within 3.0 miles	2	Within 3.0 miles	0		
Observations (#)		2001-2011		Observations (#)		2001-2011			
		1988-2000				1988-2000			
		4				0			
		1				0			
Impacts/Key Issues	Disturbance to Habitat				Disturbance to Habitat				
	Long Term		Short Term		Long Term		Short Term		
	Ac. Disturbed	% Disturbed w/in Project Area	Ac. Disturbed	% Disturbed w/in Project Area	Ac. Disturbed	% Disturbed w/in Project Area	Ac. Disturbed	% Disturbed w/in Project Area	
	Basalt Cliff/Rock	0	0	0	0	0	0	0	
	Perennial Grassland	1.6	0	2.5	<1	0.1	<1	0.4	<1
Riparian	0	0	0	0	0	0	0	0	
Sagebrush/Perennial Grassland	25.5	<1	40.3	<1	8.0	<1	16.8	<1	
Trees/Aspen	0	0	0	0	0	0	0	0	
Estimated Number of New Structures Installed	Disturbance to Sage-Grouse Priority Habitats				Disturbance to Sage-Grouse Priority Habitats				
	Long Term		Short Term		Long Term		Short Term		
	Ac. Disturbed	% Disturbed w/in Project Area	Ac. Disturbed	% Disturbed w/in Project Area	Ac. Disturbed	% Disturbed w/in Project Area	Ac. Disturbed	% Disturbed w/in Project Area	
Tier 1 (Regularly Occupied)	35.7	0.2%	59.6	0.3%	Tier 1 (Regularly Occupied)	21.6	0.1%	60.7	0.3%
Tier 3 (Occasionally Occupied)	0	0	0	0	Tier 3 (Occasionally Occupied)	1.1	<0.1%	5.4	0.1%
Tier 4 (Expansion Habitat)	0	0	0	0	Tier 4 (Expansion Habitat)	0	0	0	0
Total Number of Structures	Estimated Number of New Structures NOT within 0.25 mile of Existing Transmission Line			Total Number of Structures	Estimated Number of New Structures NOT within 0.25 mile of Existing Transmission Line				
116	116			124	60				
Summary Comparison	<ul style="list-style-type: none"> -Two known active or inactive leks within 2 and 3 miles. -More long- and short-term disturbance to perennial grassland and sagebrush/perennial grassland. -More miles of moderate impacts to sage-grouse habitat (10.3 mi). -More long term impacts to Tier 1 Priority Habitat. -Similar short-term impacts to Tier 1 Habitat. -No impacts to Tier 3 Priority Habitat. -1.9 miles of moderate impacts to black-tailed jackrabbit (w/in 1 mile). -Fewer number of new structures required. 				<ul style="list-style-type: none"> -No active or inactive leks known to occur within 2 miles. Two known/active leks known within 3 miles. -Less long- and short-term disturbance to perennial grassland and sagebrush/perennial grassland. -Fewer miles of moderate impacts to sage-grouse habitat. -Less long-term impacts to Tier 1 Priority Habitat. -Similar short-term impacts to Tier 1 Priority Habitat. -More short- and long-term impacts to Tier 3 Priority Habitat. -5.3 miles of moderate impacts to burrowing owl nests (w/in 1 mile). -0.8 miles of moderate impacts to a long-billed curlew nesting area (w/in 1 mile). -More new structures required. 				

ZONE 2:Route 2b/2c Comparison								
Resource		Route Segment 2b (16.4 mi. Length)		Route Segment 2c (18.1 mi. Length)				
<u>Vegetation</u>	Inventory Summary	<u>Vegetation Type Crossed (mi.)</u>		<u>Vegetation Type Crossed (mi.)</u>				
		Riparian	0	Riparian	0			
	Sagebrush/Perennial Grassland	11.1	Sagebrush/Perennial Grassland	4.6				
	Trees (Aspen/Poplar)	0	Trees (Aspen/Poplar)	0				
	<u>Special Status & Priority Habitats Crossed (mi.)</u>		<u>Special Status & Priority Habitats Crossed (mi.)</u>					
<u>Habitat Suitability</u>	<u>Special Status Plants & Communities Crossed (mi.)</u>		<u>Habitat Suitability</u>	<u>Special Status Plants & Communities Crossed (mi.)</u>				
Suitable	11.4	NHP Special Status Polygons	0.5	Suitable	4.6	NHP Special Status Polygons	0	
Marginal	3.9	Special Status Plants Found During Survey	0.5	Marginal	6.0	Special Status Plants Found During Survey	0	
		NHP Priority Plant Communities	0			NHP Priority Plant Communities	0	
Impacts/ Key Issues	Long Term Disturbance to Riparian Vegetation	0	Moderate Impacts on General Vegetation (mi.)	11.1	Long Term Disturbance to Riparian Vegetation	0	Moderate Impacts on General Vegetation (mi.)	4.6
	Long Term Disturbance to Sagebrush/Perennial Grassland	25.5	Moderate Impacts on Special Status Species (mi.)	11.8	Long Term Disturbance to Sagebrush/Perennial Grassland	8.0	Moderate Impacts on Special Status Species (mi.)	4.6
	Long Term Disturbance to Trees (Aspen/Poplar)	0	Overall Long Term Impacts to All Vegetation (acres long term disturbance)	33.5	Long Term Disturbance to Trees (Aspen/Poplar)	0	Overall Long Term Impacts to All Vegetation (acres long term disturbance)	17.5
Summary Comparison	<ul style="list-style-type: none"> - More long-term disturbance to sagebrush/perennial grassland. - Higher overall disturbance to ALL vegetation types combined. -Special status plants identified during plant survey (Columbia milkvetch). -More miles with moderate impacts to general vegetation. -More miles with moderate impacts to special status plants and potential habitat. 			<ul style="list-style-type: none"> - Less long-term disturbance to sagebrush/perennial grassland. - Lower overall disturbance to ALL vegetation types combined. - No special status plants were found during the survey; however most of the route is non-federal land and was not surveyed. -Columbia milkvetch is known to occur within 1 mile. -Fewer miles with moderate impacts to general vegetation. -Fewer miles with moderate impacts to special status plants and potential habitat. 				

ZONE 2:Route 2b/2c Comparison													
Resource		Route Segment 2b (16.4 mi. Length)			Route Segment 2c (18.1 mi. Length)								
Cultural Resources	Inventory Summary	<u>Cultural Resources within 75-feet of Centerlines</u>			<u>Cultural Resources within 75-feet of Centerlines</u>								
		Districts	0	<u>National Register Sites</u>	Districts	0	<u>National Register Sites</u>						
	Archeological Sites	0	Eligible	0	Archeological Sites	0	Eligible						
	Isolated Finds	0	Not Eligible	0	Isolated Finds	0	Not Eligible						
	Architectural Resources	0	Unevaluated	0	Architectural Resources	0	Unevaluated						
		Total Cultural Resources			Total Cultural Resources								
		0			0								
	Inventory Summary	<u>Cultural Resources within 250-feet of Centerlines</u>			<u>Cultural Resources within 250-feet of Centerlines</u>								
Districts		0	<u>National Register Sites</u>	Districts	0	<u>National Register Sites</u>							
Archeological Sites	0	Eligible	0	Archeological Sites	1	Eligible							
Isolated Finds	0	Not Eligible	0	Isolated Finds	0	Not Eligible							
Architectural Resources	0	Unevaluated	0	Architectural Resources	0	Unevaluated							
		Total Cultural Resources			Total Cultural Resources								
		0			1								
	Impacts/ Key Issues	<ul style="list-style-type: none"> - Washington DAHP WISAARD indicates no surveys within one mile. - 36 sites recorded within one mile. - Historic sites include trash scatters and remains of homesteads. - 0.3% land within 75' of route surveyed. - Know burial site 0.85 mil from route 			<ul style="list-style-type: none"> - Talus pit 0.6 mile from route - Similar resource may exist - 0.5% land within 250 feet surveyed - Burial site and talus pit may be visually sensitive - Impacts to all resources expected to be Low to Moderate. 			<ul style="list-style-type: none"> - Limited cultural surveys within one mile. - 1/3 of route crosses cultivated land - c. 1/2 of route parallels existing transmission line - 12 previously recorded sites within one mile; includes lithic scatters & talus pits - Historic trash scatters & stage stop/outbuildings 			<ul style="list-style-type: none"> - Burial site within 0.5 mile of route - No lands within 75 of route surveyed - No land within 250 feet of route surveyed - Talus & burial sites could be visually sensitive - Stage stop may be visually sensitive; integrity in question - No site of special concern identified - Impacts to all resources expected to be Low to Moderate. 		
	Summary Comparison	-Higher probable impacts to cultural resources			- Greater amount of recorded sites within 1 mi.			- Lower probable impacts to cultural resources			- Previously disturbed areas		
Other Resources (Water, Wetlands, Soils & Geology)	Inventory Summary	<u>Water Resources (mi. crosses)</u>			<u>Water Resources (mi. crosses)</u>								
		Intermittent Stream/Gully	2.6	Perennial Streams	0	Intermittent Stream/Gully	2.2	Perennial Streams	0				
		100-year floodplain	0.0			100-year floodplain	0						
		Total Miles of Water Resource (Long Term) Disturbance			Total Miles of Water Resource (Long Term) Disturbance								
		2.6			2.2								
	Total Acres of Water Resource (Long Term) Disturbance			Total Acres of Water Resource (Long Term) Disturbance									
	5.8 acres			3.6 acres									
	Inventory Summary	<u>Geologic Resources</u>			<u>Geologic Resources</u>								
30% Slope or greater crossed (mi.)		0.2	Mapped Landslide (High Hazard)	0.2	30% Slope or greater crossed (mi.)	0	Mapped Landslide (High Hazard)	0					
	Inventory Summary	<u>Soil Resources</u>			<u>Soil Resources</u>								
High Water erodibility (mi. crossed)		7.3	High Water erodibility (ac. long-term disturbance)	15.2	High Water erodibility (mi. crossed)	12.7	High Water erodibility (ac. long-term disturbance)	17.0					
		Low reclamation potential (ac. long-term disturbance)			Low reclamation potential (ac. long-term disturbance)								
		14.1			2.8								
	Impacts/ Key Issues	Moderate Impact to Water Resources (mi.)			Moderate Impact to Water Resources (mi.)								
		0.1			0.3								
	Impacts/ Key Issues	Total Acres of Water Resources Disturbed			Total Acres of Water Resources Disturbed								
		5.8			3.6								
	Impacts/ Key Issues	High impacts to soils in areas of high water erosion potential and low reclamation potential (mi.)			High impacts to soils in areas of high water erosion potential and low reclamation potential (mi.)								
		0			0.1								
	Impacts/ Key Issues	- Long term disturbance to Firewater Canyon and 25 unnamed intermittent streams			- Long term disturbance to 22 unnamed intermittent streams								
	Summary Comparison	- Higher impact to water resources, crosses more streams			- Lower impact to water resources, crosses fewer streams								
		- Fewer miles of High impact from due to high erosion potential-low reclamation potential			- More miles of High impact from due to high erosion potential-low reclamation potential								
	Summary Comparison	- Crosses more mapped landslide areas			- Crosses fewer mapped landslide areas								
		- Crosses more steep slopes			- Crosses fewer steep slopes								

ZONE 2:Route 2b/2c Comparison		
	Route Segment 2b (16.4 mi. Length)	Route Segment 2c (18.1 mi. Length)
<i>Other Issues</i>		
Total <i>Short-Term</i> Ground Disturbance (ac.)	59.61	66.11
Total <i>Long-Term</i> Ground Disturbance (ac.)	35.72	22.66
Engineering & Costs	\$4.03 million total construction cost (w/out ROW) 116 Structures (H-frame wood pole construction typical)	\$4.78 million total construction cost (w/out ROW) 124 Structures (H-frame wood pole construction typical)
Overall Key Issues & Comparison	<ul style="list-style-type: none"> - Crosses Federal land - Does not parallel existing transmission lines - Greater long-term ground disturbance due to increased road construction - Fewer structures & shorter route - Lower construction costs and fewer parcels and landowners crossed - Reduced land use and visual impacts on private landowners - Greater (intact) scenery impacts - Less impact on Statewide Important/Unique/Prime if Irrigated Farmland - No irrigated agriculture impacts - Greater potential for impacts to CRP lands - Greater impacts to Sagebrush-Perennial Grassland habitat - Greater # of Sage-Grouse leks within 2 miles - Greater # of Sage-Grouse observations 1988-2011 - Greater impact to Tier 1 Sage-Grouse Priority habitat - Crosses more Suitable Sage-Grouse Habitat, Less Marginal habitat - Higher impacts to special status plants and potential habitat - Higher probability of cultural resource impacts - Crosses more steep slope and mapped landslide areas 	<ul style="list-style-type: none"> - Crosses only private and state land - Longer route & more structures - Less overall ground disturbance due to decreased road construction - Greater construction costs and more parcels and landowners crossed - More residences within 500' - Greater visual impact due to proximity to residences and proximity to highway - Greater impact to Statewide Important/Unique/Prime if Irrigated Farmland - Impacts 2.5 acres of irrigated farmland and 5 pivots - Less potential impact to CRP land - Parallels existing transmission lines and roads - Less impact to Sagebrush-Perennial Grassland habitat - 2 Leks within 3 miles - No Sage-Grouse observations 1988-2011 - Less impact to Tier 1 Sage-Grouse Priority habitat - Crosses more Marginal habitat - Crosses less Suitable habitat - Fewer impacts on Special Status Plants & Potential Communities - Lower probability of cultural resource impacts

ZONE 3 - Route 3a Impact Summary

Resource		Zone 3: Route 3a Summary 0.1 mi. Length			
<u>Land Use, Recreation, & Transportation</u>	Inventory Summary	<u>Jurisdiction (mi.)</u>		<u>Land Use, Recreation & Transportation Resources (mi.)</u>	
		BLM:	0	Irrigated Agriculture:	0
		JBLM-YTC:	0	# Center Pivots Crossed:	0
	BOR:	0	Statewide Important Farmland	0	
Total Federal Land Crossed:		0	Unique Farmland	0	
State:		0	Prime if Irrigated	0	
Private:		0.1 (100%)			
		<u>Linear Features (mi.)</u>		Public (Fed./State) Lease Land (Oil/Gas/Grazing):	
Parallels Existing HVTL:		0.1	# Recreation Trails Crossed:	0	
Within Designated Utility Corridor:		0	# Residences w/in 500':	0	
% of Federal Land crossed within Designated Corridor:		-	# Parcels Crossed:	0	
			# Private Landowners:	1	
			# (State/Federal) Highway Crossings:	0	
	Impacts/Key Issues	0.1 mile Low land use impact Requires minimal new road construction CRP Land (potential LT impact, acres): 0			
<u>Visual</u>	Inventory Summary	- Immediate foreground views from road - Crosses primarily industrial character area - Weak contrasts			
	Impacts/Key Issues	0.1 miles Low impact on Moderately Sensitive viewers			

Resource		<u>Zone 3: Route 3a Summary 0.1 mi. Length</u>			
Wildlife	Inventory Summary	<u>Habitat Types (Acres) within the Project Area (2 mile corridor)</u>			
		Perennial Grassland	2.2	Sagebrush/Perennial Grassland	2,120
		Riparian	0	Trees/Aspen	0
		Basalt Cliff/Rock	0		
		<u>Sage Grouse Habitat (Acres)</u>			
	Tier 1 (Regularly Occupied)	0	Tier 3 (Occasionally Occupied)	2,193.5	
	Tier 4 (Expansion Habitat)	0			
		<u>Sage-Grouse Leks and Observations</u>			
		<u>Active or Inactive Leks (#)</u>		<u>PHS Historic Leks (#)</u>	
		Within 0.6 mile	0	Within 0.6 mile	0
	Within 2.0 miles	0	Within 2.0 miles	0	
	Within 3.0 miles	0	Within 3.0 miles	0	
		<u>Observations (#)</u>			
		2001-2011	0		
		1988-2000	0		
	<u>Disturbance to Habitat</u>				
		<u>Long Term</u>		<u>Short Term</u>	
		<u>Ac. Disturbed</u>	<u>% Disturbed w/in Project Area</u>	<u>Ac. Disturbed</u>	<u>% Disturbed w/in Project Area</u>
	Perennial Grassland	0	0	0	0
	Riparian	0	0	0	0
	Basalt Cliff/Rock	0	0	0	0
	Trees/Aspen	0	0	0	0
	Riparian	0	0	0	0
	Sagebrush/Perennial Grassland	0.1	<1	1.1	<1
	Trees/Aspen	0	0	0	0
	<u>Disturbance to Sage-Grouse Priority Habitats</u>				
		<u>Long Term</u>		<u>Short Term</u>	
		<u>Ac. Disturbed</u>	<u>% Disturbed w/in Project Area</u>	<u>Ac. Disturbed</u>	<u>% Disturbed w/in Project Area</u>
	Tier 1 (Regularly Occupied)	0	0	0	0
	Tier 3 (Occasionally Occupied)	0.1	<0.1%	0.5	<0.1%
	Tier 4 (Expansion Habitat)	0	0	0	0
	<u>Estimated Number of New Structures Installed</u>				
		<u>Total Number of Structures</u>		<u>Estimated Number of New Structures NOT within 0.25 mile of Existing Transmission Line</u>	
		3		0	
	<ul style="list-style-type: none"> -No known active or inactive leks within 0.6, 2 or 3 miles. -Long- and short-term disturbance to sagebrush/perennial grassland. -0.1 mile of low impacts to habitat. -Moderate impacts (0.1 mile) to sagebrush lizard, striped whipsnake, nightsnake and black-tailed jackrabbit (w/in 1 mile). -Low impacts (0.1 mile) to a Priority Species Regional Area for mule deer (w/in 1 mile). -Low impacts to Tier 3 (Occasionally Occupied) habitat. 				

Zone 3: Route 3a Summary (0.1 mi. Length)			
Resource			
Vegetation	Inventory Summary	<u>Vegetation Type Crossed (mi.)</u> Riparian 0 Sagebrush/Perennial Grassland 0.1 Trees (Aspen/Poplar) 0	<u>Special Status & Priority Habitats Crossed (mi.)</u> <u>Habitat Suitability</u> Suitable 0.1 Marginal 0 <u>Special Status Plants & Communities Crossed (mi.)</u> NHP Special Status Polygons 0 Special Status Plants Found During Survey 0 NHP Priority Plant Communities 0
	Impacts/Key Issues	Long Term Disturbance to Riparian Vegetation 0 Long Term Disturbance to Sagebrush/Perennial Grassland 0.1 Long Term Disturbance to Trees (Aspen/Poplar) 0 No special status plants are known to occur within 1 mile.	Low Impacts to General Vegetation (mi.) 0.1 Low Impacts to Special Status Species (mi.) 0.1 Overall Long Term Impacts to All Vegetation (acres long term disturbance) 0.1

Zone 3: Route 3a Summary (0.1 mi. Length)			
Resource			
Cultural	Inventory Summary	<u>Cultural Resources within 75-feet of Centerlines</u>	<u>Cultural Resources within 250-feet of Centerlines</u>
		Districts 0 Archeological Sites 2 Isolated Finds 0 Architectural Resources 1 Total Cultural Resources 3 <u>National Register Status of Sites</u> Eligible 1 Not Eligible 1 Unevaluated 1	Districts 0 Archeological Sites 2 Isolated Finds 0 Architectural Resources 1 Total Cultural Resources 3 <u>National Register Status of Sites</u> Eligible 1 Not Eligible 1 Unevaluated 1
	Impacts/ Key Issues	- Extensive surveys conducted around Wanapum Dam and Vantage Substation - 150 previously recorded sites - All land within 75 feet of route surveyed - Impacts may be High on unevaluated site - All land within 250 feet of route surveyed - Vantage Substation, Midway to Vantage #1 Transmission Line and Vantage to Columbia #1 Transmission Line recorded as cultural resources - No sites of special concern within 3 miles of route. - Overall impacts expected to be Low	
Other Resources (Water, Wetlands, Soils & Geology)	Inventory Summary	<u>Water Resources (mi. crosses)</u>	<u>Geologic Resources</u>
		Intermittent Stream/Gully 0 100-year floodplain 0 Total Miles of Water Resource (Long Term) Disturbance 0 Total Acres of Water Resource (Long Term) Disturbance 0 Perennial Streams 0 Total Miles of Water Resource (Long Term) Disturbance 0 Total Acres of Water Resource (Long Term) Disturbance 0	30% Slope or greater crossed (mi.) 0 Mapped Landslide (High Hazard) 0 <u>Soil Resources</u> High Water erodibility (mi. crossed) 0 High Water erodibility (ac. long-term disturbance) 0 Low reclamation potential (ac. long-term disturbance) 0.1
	Impacts/ Key Issues	- No impacts to water resources	

Zone 3: Route 3a Summary (0.1 mi. Length)	
Other Issues	
Total Short-Term Ground Disturbance (ac.)	1.08
Total Long-Term Ground Disturbance (ac.)	0.14
Engineering & Costs	<p>\$224,000 Total construction cost (w/out ROW)</p> <p>3 Structures (Single steel pole construction typical)</p>
Overall Key Issues	<ul style="list-style-type: none"> - <i>Low impacts due to existing transmission and substation development</i> - <i>All private land</i> - <i>Impacts to 0.1 acres Sagebrush-Perennial Grassland habitat, primarily</i> - <i>0.1 acres disturbance to Tier 3 Sage-Grouse Priority Habitat</i> - <i>Crosses 0.1 mile Suitable (Special Status & Priority) habitat</i> - <i>All land within 75 feet of route surveyed for Cultural Resources</i> - <i>Impacts may be High on unevaluated cultural sites</i>

ZONE 3 - Route 3b/3c Comparison

ZONE 3:Route 3b/3c Comparison					
Resource		Route Segment 3b (21.7 mi. Length)		Route Segment 3c (25.4 mi. Length)	
Land Use, Recreation, & Transportation	Inventory Summary	Jurisdiction (mi.)		Jurisdiction (mi.)	
		BLM: 0.4	Irrigated Agriculture: 0	BLM: 4.4	Irrigated Agriculture: 2.7
		JBLM-YTC: 0.8	# Center Pivots Crossed: 0	JBLM-YTC: 0	# Center Pivots Crossed: 9
		BOR: 1.4	Statewide Important Farmland: 4.5	BOR: 5.2	Statewide Important Farmland: 3.4
	Total Federal Land Crossed: 2.7 (12.4%)		Unique Farmland: 0.6	Total Federal Land Crossed: 9.6 (37.8%)	Unique Farmland: 8.1
State: 0		Prime if Irrigated: 0.3	State: 0	Prime if Irrigated: 1.1	
Private: 17.5 (87.6%)			Private: 15.6 (62.2%)		
Linear Features (mi.)		Public (Fed./State) Lease Land (Oil/Gas/Grazing): 0.5	Linear Features (mi.)		Public (Fed./State) Lease Land (Oil/Gas/Grazing): 4.5
Parallels Existing HVTL: 2.1		# Recreation Trails Crossed: 1	Parallels Existing HVTL: 6.5	# Recreation Trails Crossed: 1	
Within Designated Utility Corridor: 0		# Residences w/in 500': 21	Within Designated Utility Corridor: 6.2	# Residences w/in 500': 14	
% of Federal Land crossed within Designated Corridor: -		# Parcels Crossed: 55	% of Federal Land crossed within Designated Corridor: 65%	# Parcels Crossed: 79	
		# Private Landowners: 3		# Private Landowners: 27	
		# (State/Federal) Highway Crossings: 1		# (State/Federal) Highway Crossings: 1	
Impacts/ Key Issues	0 mile High land use impact 1.7 miles Moderate land use impact		0.4 mile High land use impact 6.3 miles Moderate land use impact 1.3 acres long-term disturbance to irrigated agriculture		- Requires 8.5 miles new road construction - CRP Land (potential LT impact, acres): 0
Summary Comparison	- Lower impacts on agricultural land uses - Fewer # landowners affected		- Higher impacts on residential and agricultural land uses - Greater # landowners affected		- Requires less new road construction - Requires more road construction
Visual	Inventory Summary	- Immediate foreground and foreground views from Columbia River and Priest Rapids Reservoir, primarily - Immediate foreground views from John Wayne Pioneer Trail - Some immediate foreground views from residences - Crosses primarily Class B scenery - Some residential character, agricultural character and industrial character areas Existing transmission lines or similar infrastructure only at Wanapum crossing		- Immediate foreground and foreground views from Columbia River, Beverly Sand Dunes OHV Park, Nunnally Lake fishing access, John Wayne/Milwaukeo Road Trail, Saddle Mountains (recreation area, hang gliding), Burkett Lake Recreation Area - Immediate foreground views from residences along "N" Road, "O" Road, & north of Beverly - Crosses primarily Class C scenery and residential-agricultural character areas - Existing transmission lines or similar infrastructure (industrial character) north of Columbia River crossing & Hanford-Vantage line	
	Impacts/ Key Issues	3.4 miles High impact on residences 3.2 miles High impact to highly sensitive viewers (recreation/travel) 6.7 miles High impact on moderately sensitive viewers (recreation/travel) 4.3 miles High impact on scenic quality		5.9 miles High impact on residences 2.6 miles High impact to highly sensitive viewers (recreation/travel) 4.0 miles High impact on moderately sensitive viewers (recreation/travel) 5.3 miles High impact on scenic quality	
	Summary Comparison	- Generally lower visual impacts on residences and recreation areas - Parallels John Wayne Trail - Higher impacts on adjacent water recreationists along Columbia River and reservoir - Stronger structure contrasts because generally not paralleling existing lines		- Higher visual impacts on residences, agricultural character areas, and recreationists - Scenic views to and from Saddle Mountains affected - Generally reduced structure contrasts due to proximity to existing transmission lines	

ZONE 3:Route 3b/3c Comparison											
Resource		Route Segment 3b (21.7 mi. Length)				Route Segment 3c (25.4 mi. Length)					
Wildlife	Inventory Summary	Habitat Types (Acres) within the Project Area (2 mile corridor)				Habitat Types (Acres) within the Project Area (2 mile corridor)					
		Perennial Grassland	3,908	Sagebrush/Perennial Grassland	16,413	Perennial Grassland	2.9	Sagebrush/Perennial Grassland	14,031		
		Riparian	415	Trees/Aspen	0	Riparian	172.9	Trees/Aspen	0.2		
		Basalt Cliff/Rock	20.6			Basalt Cliff/Rock	8.3				
	<u>Sage Grouse Habitat (Acres)</u>				<u>Sage Grouse Habitat</u>						
	Tier 1 (Regularly Occupied)	17,702.0	Tier 3 (Occasionally Occupied)	8227.0	Tier 1 (Regularly Occupied)	2,494.6	Tier 3 (Occasionally Occupied)	17,795.7			
	Tier 4 (Expansion Habitat)	0			Tier 4 (Expansion Habitat)	3290.9					
	<u>Sage-Grouse Leks and Observations</u>				<u>Sage-Grouse Leks and Observations</u>						
	<u>Active or Inactive Leks (#)</u>		<u>PHS Historic Leks (#)</u>		<u>Active or Inactive Leks (#)</u>		<u>PHS Historic Leks (#)</u>				
	Within 0.6 mile	0	Within 0.6 mile	0	Within 0.6 mile	0	Within 0.6 mile	0			
Within 2.0 miles	1	Within 2.0 miles	0	Within 2.0 miles	0	Within 2.0 miles	0				
Within 3.0 miles	1	Within 3.0 miles	0	Within 3.0 miles	0	Within 3.0 miles	0				
<u>Observations (#)</u>		2001-2011		<u>Observations (#)</u>		2001-2011					
		1988-2000				1988-2000					
Impacts/Key Issues	Disturbance to Habitat	<u>Long Term</u>		<u>Short Term</u>		<u>Long Term</u>		<u>Short Term</u>			
		<i>Ac. Disturbed</i>	<i>% Disturbed w/in Project Area</i>	<i>Ac. Disturbed</i>	<i>% Disturbed w/in Project Area</i>	<i>Ac. Disturbed</i>	<i>% Disturbed w/in Project Area</i>	<i>Ac. Disturbed</i>	<i>% Disturbed w/in Project Area</i>		
		Basalt Cliff/Rock	0.2	<1	0.3	1.5	Basalt Cliff/Rock	0.6	7	1.1	13
		Perennial Grassland	0.7	<1	2.5	<1	Perennial Grassland	0	0	0	0
		Riparian	0.4	<1	0.7	<1	Riparian	0.3	<1	1.2	<1
	Sagebrush/Perennial Grassland	6.4	<1	19.2	<1	Sagebrush/Perennial Grassland	11.9	<1	37.7	<1	
	Trees/Aspen	1.2	6	5.9	28	Trees/Aspen	0	0	0	0	
	Disturbance to Sage-Grouse Priority Habitats	<u>Long Term</u>		<u>Short Term</u>		<u>Long Term</u>		<u>Short Term</u>			
		<i>Ac. Disturbed</i>	<i>% Disturbed w/in Project Area</i>	<i>Ac. Disturbed</i>	<i>% Disturbed w/in Project Area</i>	<i>Ac. Disturbed</i>	<i>% Disturbed w/in Project Area</i>	<i>Ac. Disturbed</i>	<i>% Disturbed w/in Project Area</i>		
		Tier 1 (Regularly Occupied)	22.5	0.1%	54.1	0.3%	Tier 1 (Regularly Occupied)	3.6	0.1%	6.7	0.3%
Tier 3 (Occasionally Occupied)		5.4	0.1%	14.8	0.2%	Tier 3 (Occasionally Occupied)	12.9	0.1%	45.0	0.3%	
Tier 4 (Expansion Habitat)		0	0	0	0	Tier 4 (Expansion Habitat)	4.4	0.1%	13.2	0.4%	
<u>Total Number of Structures</u>		<u>Estimated Number of New Structures NOT within 0.25 mile of Existing Transmission Line</u>		<u>Total Number of Structures</u>		<u>Estimated Number of New Structures NOT within 0.25 mile of Existing Transmission Line</u>					
181		160		186		119					
Summary Comparison	-One known active or inactive lek within 2 and 3 miles. -Less long- and short-term disturbance to basalt cliffs/rock and sagebrush/perennial grassland. -More long- and short-term disturbance to perennial grassland and trees/aspen. -More long- and short-term disturbance to Tier 1 Priority Habitat; less long- and short-term disturbance to Tier 3 Priority Habitat; and no disturbance to Tier 4 Priority Habitat. -6.8 miles of moderate impacts to sagebrush lizard, striped whipsnake and nightsnake (w/in 1 mile)				-No active or inactive leks known to occur within 2 or 3 miles. -More long- and short-term disturbance to basalt cliffs/rock and sagebrush/perennial grassland. -Less long- and short-term impacts to Tier 1 Priority Habitat; more long- and short-term disturbance to Tier 3 and 4 Priority Habitat. -5.1 miles of moderate impacts to sagebrush lizard, striped whipsnake and nightsnake (w/in 1 mile). -1.7 miles of moderate impacts to black-tailed jackrabbit (w/in 1 mile). -2.7 miles of moderate impacts to Priority Regional Species Areas for chukar. -14.3 miles of moderate impacts to nesting raptors (prairie falcon, peregrine falcon, golden eagle; w/in 1 mile).						

ZONE 3:Route 3b/3c Comparison								
Resource		Route Segment 3b (21.7 mi. Length)		Route Segment 3c (25.4 mi. Length)				
Vegetation	Inventory Summary	<u>Vegetation Type Crossed (mi.)</u>		<u>Vegetation Type Crossed (mi.)</u>				
		Riparian	0.2	Riparian	0.3			
		Sagebrush/Perennial Grassland	5.4	Sagebrush/Perennial Grassland	9.8			
		Trees (Aspen/Poplar)	1.7	Trees (Aspen/Poplar)	0			
	<u>Special Status & Priority Habitats Crossed (mi.)</u>		<u>Special Status & Priority Habitats Crossed (mi.)</u>					
	<u>Habitat Suitability</u>	<u>Special Status Plants & Communities Crossed (mi.)</u>	<u>Habitat Suitability</u>	<u>Special Status Plants & Communities Crossed (mi.)</u>				
Suitable	7.4	NHP Special Status Polygons	7.3	Suitable	10.5	NHP Special Status Polygons	5.4	
Marginal	1.8	Special Status Plants Found During Survey	1.2	Marginal	5.7	Special Status Plants Found During Survey	0	
		NHP Priority Plant Communities	0			NHP Priority Plant Communities	2.9	
Impacts/ Key Issues	Long Term Disturbance to Riparian Vegetation	0.4	Moderate Impacts on General Vegetation (mi.)	7.3	Long Term Disturbance to Riparian Vegetation	0.3	Moderate Impacts on General Vegetation (mi.)	9.8
	Long Term Disturbance to Sagebrush/Perennial Grassland	6.9	Moderate Impacts on Special Status Species (mi.)	8.3	Long Term Disturbance to Sagebrush/Perennial Grassland	11.9	Moderate Impacts on Special Status Species (mi.)	13.3
	Long Term Disturbance to Trees (Aspen/Poplar)	1.2	Overall Long Term Impacts to All Vegetation (acres long term disturbance)	10.5	Long Term Disturbance to Trees (Aspen/Poplar)	0	Overall Long Term Impacts to All Vegetation (acres long term disturbance)	19.0
Summary Comparison	<ul style="list-style-type: none"> - Less long-term disturbance to sagebrush/perennial grassland. - Similar long-term disturbance to riparian vegetation. - Lower overall disturbance to ALL vegetation types combined. - Special status plants identified during plant survey (Nuttall's sandwort; Columbia milkvetch; caespitose evening primrose). - Hoover's desert parsley, gray cryptantha, beaked spike rush, and Kalm's lobelia are known to occur within 1 mile. - Fewer miles with moderate impacts to general vegetation. - Fewer miles with moderate impacts to special status plants and potential habitat. 			<ul style="list-style-type: none"> - More long-term disturbance to sagebrush/perennial grassland. - Similar long term disturbance to riparian vegetation. - Higher overall disturbance to ALL vegetation types combined. - No known special status plants occur (NHP data); however most of the route is non-federal land and was not surveyed. - Awned halfchaff sedge, Columbia milkvetch, gray cryptantha, and Hoover's desert parsley are known to occur within 1 mile. - More miles with moderate impacts to general vegetation. - More miles with moderate impacts to special status plants and potential habitat. 				

Zone 3: Route 3a Summary (0.1 mi. Length)			
Resource			
Cultural	Inventory Summary	<u>Cultural Resources within 75-feet of Centerlines</u>	<u>Cultural Resources within 250-feet of Centerlines</u>
		Districts 0	Districts 0
	Archeological Sites 2	Archeological Sites 2	
	Isolated Finds 0	Isolated Finds 0	
	Architectural Resources 1	Architectural Resources 1	
	<i>Total Cultural Resources</i> 3	<i>Total Cultural Resources</i> 3	
	<u>National Register Status of Sites</u>	<u>National Register Status of Sites</u>	
	Eligible 1	Eligible 1	
	Not Eligible 1	Not Eligible 1	
	Unevaluated 1	Unevaluated 1	
	Impacts/ Key Issues	<ul style="list-style-type: none"> - Extensive surveys conducted around Wanapum Dam and Vantage Substation - 150 previously recorded sites - All land within 75 feet of route surveyed - Impacts may be High on unevaluated site - All land within 250 feet of route surveyed - Vantage Substation, Midway to Vantage #1 Transmission Line and Vantage to Columbia #1 Transmission Line recorded as cultural resources - No sites of special concern within 3 miles of route. - Overall impacts expected to be Low 	
Other Resources (Water, Wetlands, Soils & Geology)	Inventory Summary	<u>Water Resources (mi. crosses)</u>	<u>Geologic Resources</u>
		Intermittent Stream/Gully 0	30% Slope or greater crossed (mi.) 0
	100-year floodplain 0	Mapped Landslide (High Hazard) 0	
	Total Miles of Water Resource (Long Term) Disturbance 0	<u>Soil Resources</u>	
	Total Acres of Water Resource (Long Term) Disturbance 0	High Water erodibility (mi. crossed) 0	
	Perennial Streams 0	High Water erodibility (ac. long-term disturbance) 0	
	Total Miles of Water Resource (Long Term) Disturbance 0	Low reclamation potential (ac. long-term disturbance) 0.1	
	Total Acres of Water Resource (Long Term) Disturbance 0		
	Impacts/ Key Issues	- No impacts to water resources	

ZONE 3:Route 3b/3c Comparison		
	Route Segment 3b (21.7 mi. Length)	Route Segment 3c (25.4 mi. Length)
Other Issues		
Total Short-Term Ground Disturbance (ac.)	76.97	95.53
Total Long-Term Ground Disturbance (ac.)	30.92	26.29
Engineering & Costs	<p>\$12.0 million total construction cost (w/out ROW)</p> <p>181 Structures (Single wood pole construction typical)</p>	<p>\$9.98 million total construction cost (w/out ROW)</p> <p>186 Structures</p> <p>88 H-frame wood pole structures</p> <p>60 Single wood pole structures</p>
Overall Key Issues & Comparison	<ul style="list-style-type: none"> - Crosses less Federal land - More structures - Longer route - Higher construction costs but fewer parcels and landowners resulting in lower ROW acquisition costs - No agricultural impacts - Crosses more Statewide Important Farmland - Crosses less Unique & Prime if Irrigated Farmland - More residences within 500' (due to proximity to houses located in Auvil Fruit Co.), but fewer within immediate foreground view of line - Greater visual impact on recreationists due to more dispersed use (Priest Rapids Lake, Columbia River Corridor) : 3.2 miles High impact - highly sensitive viewers; 6.7 miles High impact -moderately sensitive viewers - 1 active/inactive lek within 2 and 3 miles - Fewer Sage-Grouse observations (1988-2011) - Greater disturbance to Tier 1 Priority Habitat - Greater disturbance to Riparian and Tree habitats - Special Status Plants identified during surveys - More cultural resources within 75' & 250' - Crosses more streams but lower overall water impacts -Greater soil impacts -Crosses more mapped landslide areas 	<ul style="list-style-type: none"> - Crosses more Federal land - Parallels more existing transmission line - Crosses irrigated land and pivots - Crosses more Unique/Prime if Irrigated Farmland - Greater impact on public oil/gas/grazing lease land - More parcels and landowners increasing ROW acquisition costs - Greater residential visual impacts - Greater scenery impacts - No active/historic leks - More Sage-Grouse observations (1988-2011) - Greater disturbance to Tier 3 and Tier 4 Priority habitat - Greater disturbance to Basalt/Rock and Sagebrush-Perennial Sagebrush habitats - Higher impacts to Special Status Plants and potential habitat - Greater overall impacts to general vegetation - Crosses fewer streams greater lower overall water impacts -Crosses more steep slope

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