Mitigation Action Plan
BPA/Lower Valley Transmission Project

Section 01 – Mitigation Approach

7.2 Background

This Mitigation Action Plan (MAP) addresses the BPA/Lower Valley Transmission Project. The project is to construct a new 115-kV (kilovolt) transmission line from BPA's Swan Valley Substation near Swan Valley in Bonneville County, Idaho about 36 miles east to to BPA's Teton Substation near Jackson in Teton County, Wyoming. This decision was documented in a Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) signed August 13, 1998. The Forest Service was a cooperating agency in the National Environmental Policy Act (NEPA) process and signed their ROD on August 14, 1998. BPA will design, build, own, and operate this line.

Department of Energy (DOE) Implementing Procedures and Guidelines for NEPA (10 CFR 1021) require the preparation of a MAP after an EIS is prepared on a Federal project. The MAP must address mitigation commitments made in the EIS and ROD. The MAP explains how the measures designed to mitigate adverse environmental impacts will be planned and implemented throughout the duration of the project. The mitigation plan included in this document only addresses impacts associated with construction of the transmission line. Clearing and road construction mitigation was covered in the MAP and included in the specifications for clearing and road building.

This MAP identifies a number of areas along the right-of-way (ROW) as environmentally sensitive. These areas are protected by Federal, state and local laws. These include areas classified as water-quality sensitive, such as riparian areas associated with rivers, streams, intermittent streams, ponds, floodplains and wetlands. Other non-water-quality sensitive areas include historic and archeological sites, sensitive and threatened and endangered plant sites, and sensitive recreation or public use sites. The mitigation actions and Best Management Practices (BMPs) required to avoid impacts to sensitive areas are described for each of these areas in the following sections.

7.2 Construction Schedule

Construction of this project began in Summer 1999 and will continue through the construction season of 2000. Because the construction season is constrained by extreme topography and weather, there will be parts of the year (late fall, winter, and early spring) when no construction will take place. BPA completed tree clearing, road improvements, and road building in the Fall 1999

and the actual construction of the transmission line is scheduled to begin in April, 2000. If energization does not occur by the end of the construction season in 2000, construction will extend into 2001.

7.2 Mitigation Commitments

Because the project will be built by contract, the mitigation measures discussed in this MAP will be included in the Construction Contract specifications. The mitigation measures included here address impacts related to construction of the transmission line only because road building and clearing activities were completed last year. These measures identified are current and effective. Several steps will ensure that these requirements are met:

1. Mitigation measures and processes used to implement mitigation on BPA's most recent transmission line construction projects were evaluated for effectiveness.
2. To improve communication with contractors, sensitive areas and associated buffers will be mapped on photomaps and provided to contractors (and BPA maintenance crews) to help ensure that each entity is fully aware of critical locations. In addition, all of the identified sensitive areas that may be affected by construction activities will be flagged in the field by BPA, to alert contract crews that they should be avoided. Contractors are to avoid ground disturbance in sensitive areas.
3. In some sensitive areas where structures will be removed or constructed, a Sensitive Area Site Plan (SASP) must be prepared by the construction contractor to indicate how structures will be removed or installed (including what would be done with the excavated soils, and any other action that may impact the sensitive area.
4. Construction specifications will require that all water pumped from any excavation will be directed away from sensitive areas and prevented from adding sediment to any water courses. It is not possible to know at this time where such situations may occur.
5. Culverts will be completed in standard fashion, in accordance with requirements of permits.
6. In removing existing structures, the contractor will not be allowed to pull poles across drainages.
7. To avoid sensitive areas during conductor stringing, a helicopter will be used to string the sock line.
8. In those sensitive areas where impacts are unavoidable, specific mitigation measures have been included in the following section of the MAP (Section 02 through 011) and in the Construction Contracts.
9. New and existing access roads, structure sites, staging areas, and new bridges will also be mapped on photomaps to aid in communication. When field or site conditions warrant a design change by the contractor or BPA, the change will be subject to the sensitive-area and other mitigation requirements identified in the MAP and Construction Contract.
10. The MAP will be made available to interested Federal, state, and local agencies and the public.
11. Although the MAP is considered complete at this time, it should be noted that revisions or improvements may be made in the field, should new information or more effective mitigation become available.

7.2 Pemits and Consultation

As a Federal agency, BPA is not required to obtain the same permits as are required for a private developer. There are few Federal permits required for this project. The primary ones have been identified in Sections 02 through Section 011 and are associated with the floodplain, wetland, and non-point pollution discharge (erosion control) requirements of the Clean Water Act. They are as follows:

Compliance with Clean Water Act requirements (Section 402) for non-point source (erosion) discharges is permitted by the Environmental Protections Agency's General Permits for Idaho and Wyoming. These permits allow Federal facilities to discharge stormwater from construction activities that disturb 5 or more acres of land into waters of the U.S. The General Permits outline requirements that this project must meet through the preparation of a project Storm Water Pollution Prevention Plan (SWPP Plan). BPA meets the requirements by incorporating the SWPP Plan directly into the Construction Contract. Standard erosion control specifications are identified with which the contract must comply. In addition, BPA will require that the contractor prepare a SASP for certain water-quality sensitive areas that will be affected by construction. The SASPs are included with the Construction Site Representative (CSR's) official copy of the Construction Contract which must be kept on-site as the Official SWPP Plan. EPA concurs with this approach.

The water-quality sensitive areas that require the preparation of a SASP are identified in Section 02.0. The erosion control BMP's pertinent to the type of impacts that will be experienced are also identified in Section 02.0.

Permits for cut-and-fill impacts in floodplains and wetlands are regulated principally under the requirements of Section 402 and 404 of the Clean Water Act. BPA's construction must meet the requirements of the U.S. Army Corps of Engineers' (COE) Nationwide Permits (33 CFR 330). State and local government also have authority for setting clean water standards; therefore, they also have ordinances and requirements that must be met. The requirement for permits and SASP for each affected water-quality sensitive area are identified in Section 02.0. BPA will take the lead in these permits.

The contractor has the responsibility for obtaining any other permits required for the project. These are primarily permits related to health and safety such as road crossing permits, permits for oversized equipment transportation, and so on. Where these permit requirements are known, they have been identified.

01.5 Monitoring and Appraisal Requirements

Monitoring is often required by NEPA and other environmental regulations, such as the Clean Water Act, where water and air quality pollutants are involved. However, since there are no major pollutants to be generated by the project, formal water quality monitoring is not required. BPA realizes the importance of monitoring or auditing to insure that mitigation commitments are carried out and that they perform as expected. The Environmental Protection Agency encourages Federal agencies to establish self-audit or appraisal programs to insure successful mitigation commitments. In response, BPA has developed a self-appraisal process that is directed at insuring that operating facilities and new construction perform with minimal impacts. On new construction, BPA places the responsibility for day to day inspections and compliance on the Construction Site Representative or CSR. In addition, BPA environmental staff stay involved with the project and conduct field reviews.

01.6 Mitigation Responsibility

Responsibility for mitigation is shared. Below is a summary of the principals and their responsibility for the environmental design, construction, monitoring, and permitting for this project.

- Contractor – The contractor has the primary responsibility for mitigating project impacts, as identified in the construction contract. The contractor has flexibility in the use of specific mitigation measures or best management practices, as long as impacts are mitigated. The mitigation approach and project-wide commitments discussed in Section 01.3 are supplemented in the MAP sections to follow and by BPA standard specifications in the construction contract.

- Contracting Officer – The contracting officer is responsible for the procurement and administration of the construction contracts including the authority to administer corrective action. The Contracting Officer is Donna Beeks (360) 418-2350.

- Project Manager – The project manager has the ultimate responsibility for contract content and environmental performance. He is responsible for budget, schedule and project compliance with environmental regulations. The Project Manager is Lou Driessen (503) 230-5525.

- Construction Project Coordinator – The construction project coordinator insures technical construction contract compliance during the construction phase of the contract. The Construction Project Coordinator is Michael Hoffman (360) 418-2822.

- Environmental Project Lead – The environmental project lead is responsible for the preparation of the MAP, contractor orientation and monitoring, and environmental issue resolution. The Environmental Project Lead is Leslie Kelleher (503) 230-7692.

- Construction Site Representative – The CSR is responsible for day-to-day construction inspection, which is intended to insure that environmental contract specifications are properly carried out and issues resolved. The Construction Site Representative is Bill Kelsey 360-921-5903.

- Project Design Engineer – The project design engineer is responsible for the design of the transmission line, including tower siting, conductor sagging, and material specification. In addition, he must insure that appropriate design measures are taken to avoid impacts to sensitive areas and to conform to other design mitigation commitments made through the environmental process. The Project Design Engineer is Mark Korsness (503) 230-3239.

- Access Road Design Specialist – The access road design specialist is responsible for the identification of new, improved, and unnecessary access roads (to be removed or closed) that avoid or minimize impacts on sensitive areas, while providing access necessary for pole line removal and new line construction. He is also responsible for taking the lead in identifying the need for culverts and other environmentally acceptable methods of stream or wetland crossings. The Access Road Design contractor is Dean Davies (208) 356-7616.

- Lead Specification Writer – The lead specification writer is responsible for incorporating those mitigation commitments made in the MAP into the construction specifications required for project construction. He will work closely with the environmental project lead and other team members. The Lead Specification Writer is Dan Dewey (503) 230-5530.

- Project Biologist – The project biologist is responsible for identifying and flagging sensitive riparian areas and endangered species areas, as well as identifying mitigation where impacts may occur. She is also responsible for assisting the Environmental Project Lead in resolving any biological issues encountered during construction and for providing biological information necessary for permits. The Project Biologist is Leslie Kelleher (503) 230-7692.

- Real Estate Specialist – The real estate specialist is primarily responsible for the acquisition of land rights, crop damage compensation and real estate agreements necessary for project construction. In this role, the specialist must work with landowners to try to compensate for or mitigate any impacts they may suffer as a result of project construction. The Real Estate Specialist is Dustin Smith (406) 755-6202.

- Real Estate Specialist (Permits) – The real estate specialist for permits is responsible for coordinating the preparation of Federally required permits. The Real Estate Specialist for permits is Marion Wolcott (503) 230-3273.

- Transmission Maintenance Foreman – The transmission maintenance foreman is responsible for insuring that maintenance crews that may be assigned responsibility for construction activities such as clearing are fully aware and in compliance with the MAP. He is also responsible for insuring that the sensitive areas and BMP's identified in the MAP are addressed in any follow-up maintenance that may occur on the Swan Valley – Teton ROW. The Transmission Maintenance Foreman is Larry Ringer (208) 524-8776.

- Project Archeologist – The project archeologist is responsible for the cultural survey completed for the project. He is also available to assist the Environmental Project lead in the resolution of any cultural resource problems encountered during construction. The cultural resource contractor from Sagebrush Archeological Consultants is Mike Polk.

- Clearing Specialist – The clearing specialist is responsible for coordinating with the Forest Service the clearing of trees and vegetation along the right-of-way in preparation for construction. The Clearing Specialist is Kathy Stephenson (503) 230- 5675.

7.2 For More Information

If you have any questions about the Mitigation Action Plan, please contact Leslie Kelleher at 1-800-282-3713. For questions about the project and construction schedule, please contact Lou Driessen at 1-800-282-3713.

If you need additional copies of the MAP, please contact BPA's document request line at 1-800-622-4520. The MAP is also available at the BPA, Environment, Fish & Wildlife Home Page: *www.efw.bpa.gov/Environment/POLICIES/NEPA*. Look for *PUBLICATIONS* and click on *BPA/Lower Valley Transmission Project*.

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
SECTION 02.0 WATER QUALITY, SOILS, GEOLOGY, WETLANDS, FLOODPLAINS			
General – Water Quality, Soils, Geology	• On roads, properly space and size culverts, use vegetative buffers, crossdrains, water bars, rolling the grade, and armoring of ditches and drain inlets and outlets to minimize soil movement. •Improve all existing culverts and stream crossings found to pose a risk to riparian, wetland or aquatic conditions to accommodate at least a 50-year flood and associated bedload and debris as prescribed in the revised Targhee Forest Plan (Aquatic Influence Zone prescription (2.8.3) goals (Revised Forest Plan III-106). •Coordinate all culvert installations with the U.S. Army Corps of Engineers, appropriate state agencies, and the U.S. Forest Service. •Wherever new roads cross perennial streams (delineated by Targhee National Forest Aquatic Influence Zone layer) a Forest Service biologist or hydrologist will work with BPA to determine the appropriate type of crossing structure. For example, cutthroat trout bearing streams require a bottomless culvert; streams inhabited by beaver should have bridges; culverts must accommodate a 50-year flood; etc. •Bring road rock in to surface the first 500 feet of the access road east of State Highway 33 and south of Moose Creek.		

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
	•Preserve existing vegetation where possible, and stabilize disturbed portions of construction sites. Stabilization measures would be started where construction activities have temporarily or permanently ceased, as soon as practicable. •Promptly (taking weather into account) seed disturbed sites with a certified weed-free seed mixture approved by the respective National Forest. BPA needs to monitor the effectiveness of the rehabilitation through its right-of-way maintenance program. •Use vegetative buffers and sediment barriers to prevent sediment from moving off-site and into water bodies. •Ensure that adequate amounts and textures of topsoil remain in the ROW. •Where necessary and as part of negotiations with the landowner, assist farm operators with subsoiling to restore soil productivity. •Design temporary bridges (where approved) to minimize bank erosion. Specific locations and measures would be determined when access and line designs are finalized. •When possible, schedule construction and maintenance operations during periods when precipitation and runoff possibilities are at a minimum to reduce the risk of erosion, sedimentation, and soil compaction. •Design facilities to meet regional seismic criteria.		

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
	•Site structures outside of known avalanche chutes or unstable areas to preserve transmission line integrity and slope stability. •Use full-bench road construction and end hauling excess sidecast material on slopes exceeding 60 percent if needed to stabilize the roadbed. • Where soils are excavated, protect exposed spoils from water and wind erosion. •Construct access roads consistent with the standards and guidelines of the revised forest plans for the Targhee and Bridger-Teton National Forests and the BMP's instituted by the states of Idaho and Wyoming. •Use the BMP's that would prevent further impairment of Water Quality Limited (WQL) drainages. The Teton River (headwaters to Trail Creek) is listed as WQL. •Avoid riparian areas, drainage ways, and other water bodies. Where these areas cannot be avoided, apply sediment reduction practices to prevent degradation of riparian or stream quality. Riparian plantings may be used where needed to restore streamside vegetation and insure streambank stability. •Restrict road construction to the minimum needed and with landowners concurrence, obliterate roads in agricultural land. •Avoid or mitigate water quality and fish habitat degradation. Design and maintain roads so that drainage from the road surface does not directly, where possible, enter live		

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
	streams, ponds, lakes, or impoundments. Direct water off roads into vegetation buffer strips or control through other sediment-reduction practices. Restrict road construction to areas physically suitable based on watershed resource characteristics. Design stream crossings to avoid adverse impacts to stream hydraulics and deterioration of stream bank and bed characteristics. •Avoid discharge of solid materials, including building materials, into waters of the United States unless authorized by a Section 404 permit of the Clean Water Act. Off-site tracking of sediment and the generation of dust shall be minimized. Vegetative buffers would be left along stream courses to minimize erosion and bank instability. •Prepare a stormwater pollution prevention plan (as required under the National Pollution Discharge Elimination System General Permit). •Set crossing structures as far back from stream banks as possible near any water body. •Avoid refueling and/or mixing hazardous materials where accidental spills could enter surface or groundwater. This information will also be included in the Project Plan. •Design the project to comply with federal water quality programs to prevent degradation of the quality of aquifers and not		

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
General-Riparian/Wetlands including Floodplains	jeopardize their usability as a drinking water source. •Locate structures and any new roads where possible to avoid floodplains. •Remove man-made debris from construction and clearing areas. •Limit disturbance to the minimal amount necessary when working adjacent to and around wetlands and floodplains. •Locate new access roads to avoid wetlands and floodplains. •Locate construction staging areas to avoid wetlands and floodplains. •Place all structures in upland where possible. •Anchor crossing structures as far back from stream banks as possible near any water body. •Minimize vegetation removal where road construction impacts riparian zones. •Delineate wetlands before final design so avoidance of wetlands is maximized. •Identify and flag wetlands in project area for avoidance during construction. •Use erosion control measures when conducting any earth-disturbing work uphill from a wetland. •Stockpile wetland topsoil when excavating. Redeposit soil in place for site restoration after construction. •Refuel equipment in designated areas away from water resources.		

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
	•Coordinate activities between BPA and regulatory agencies to ensure compliance with wetland and floodplain regulations. Mitigation would be monitored throughout the construction and post-construction phases to ensure effectiveness. Where adverse impacts could not be avoided, any necessary mitigation would be determined with appropriate jurisdictional agencies.		

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
02.1 SENSITIVE RIPARIAN/WETLAND AREAS (INCLUDING FLOODPLAINS)			
Sensitive riparian/wetland areas (including floodplains) to be protected are listed in sequence and shown on project photomaps. Numbering starts at Swan Valley Substation and proceeds east to Teton Substation. Survey station number and geographic location are listed, along with impact types. Sensitive riparian/wetland areas include wetlands, floodplains, ponds, intermittent and perennial streams, creeks, and rivers. Wetlands of significance have been identified from the U.S. Fish and Wildlife Service National Wetlands Inventory and from site surveys completed using the Corps of Engineers' 1987 Wetlands Delineation Manual.	Buffers protecting sensitive riparian/wetland areas subject to construction impacts will be flagged by BPA environmental specialists prior to start of construction. Buffer widths are from the Targhee National Forest Plan. Stream Type — Buffer width • Fish-bearing streams — 300 ft. • Perennial non-fishbearing streams — 150 ft. • Lakes — 300 ft. • Ponds and wetlands > 1acre — 150 ft. • Intermittent streams and wetlands < 1 acre — 100 ft. Buffer widths may be increased or decreased if on-site inspection determines that an adjusted width would adequately protect existing fish and wildlife species and aquatic resources. Sensitive riparian/wetland areas are shown on		The Construction Contractor is responsible for implementing the commitments made in this plan.

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
	photomaps to help communicate their location to contractors and maintenance personnel. The sensitive area boundaries shown on the photomaps are approximate and are intended only to indicate general location. Instruction on how to conduct activities near sensitive riparian/wetland areas is identified below. If sensitive areas could be affected by construction activities such as clearing, grubbing, borrow-and-fill operations, access road construction, structure site excavation and construction, or conductor stringing, the following site-specific BMP's will be applied to protect water quality. Temporary BMP's (To be removed after construction is complete and site has stabilized.) FSA – Flag Sensitive Area Buffer M - Mulch (wood or grass straw cellulose fiber, spray mulch, grass straw) BMF – Bonded fiber matrix PS - Plastic Sheeting SBB – Straw Bale Sediment Barriers CB – Cedar Biobag Sediment Barriers SF – Temporary Sediment Fences PGD – Pea Gravel Drainage Check Dams SBD – Straw Bale Drainage Check Dams		

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
	DF – Drain Filters SB – Sediment Basins Permanent BMP's S – Seeding GCE – Gravel Construction Entrance RV – Revegetation with Native Plants T – Terracing WB – Water Bars/Dips CD – Cross Drains CT – Contour Trenching C – Culverts The contractor will be required to complete a Sensitive Area Site Plan (SASP), as indicated, illustrating the location of site-specific BMP's. The SASP will be incorporated into the Storm Water Pollution Prevention Plan (SWPP Plan) that will be kept on-site by the Construction Site Representative (CSR). The SASPs will be reviewed by the Environmental Project Lead prior to construction. Additional SASPs may be required in areas not identified in the MAP because of changed conditions due to clearing, road building, etc. or other unknown circumstances.		
R-1 Unnamed Creek (Station 24+53)	1.) Maintain 100-foot vegetative buffer of intermittent drainage.		
R-2 Pine Creek (1st line crossing) (Station 209+30)	1.) Maintain 300-foot buffer of low-growing vegetation.	FSA (Flag Sensitive Area	

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
• Tower Construction	2.) Minimize clearing and disturbance to ground surface below canyon rim. 3.) No construction activities within 300-feet of stream.	Buffer) – south side of canyon.	
R-3 Unnamed Creek (Station 244+12) • Construction traffic	1.) Stay on existing access. 2.) Maintain 100-foot vegetative buffer of intermittent drainage.		
R-4 Unnamed Creek (Station 354+88) • Tower construction	1.) Maintain 100-foot vegetative buffer.	FSA	
R-5 Unnamed Creek (Station 378+47) • Construction traffic	1.) Maintain appropriate run-off and erosion controls. 2.) Maintain low-growing 100-foot riparian vegetative buffer.	FSA	
R-5a No Cut Timber Canyon (Station 416+55) • Construction traffic	1.) Maintain appropriate run-off and erosion controls. 2.) 2.) Maintain low-growing 100-foot riparian vegetative buffer.	FSA	
R-6 Pine Creek (2nd line crossing) (Off-ROW: Access Road from Pine Creek Lodge) • Construction traffic on existing access road adjacent to wetland.	1) Maintain integrity of existing run-off and erosion control devices including SF, SBB, or other sediment barriers installed between existing road and wetland to prevent runoff and sediment from entering wetland. 2) Maintain low-growing 300-foot riparian vegetative buffer within ROW.	SASP FSA	
R-6a Pine Creek (bridge crossing) (Off-ROW: Access Road# PGT-AR-8-2) • Construction traffic	1.) No disturbance to existing vegetation or streambanks 2.) No in-stream activity 3.) Keep traffic on existing roadway		

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
R-6b Mike Spencer Canyon (Station 479+50 to 487+38) • Construction traffic	1. Maintain low-growing 300-foot riparian vegetative buffer.		
R-7 Pine Creek (Station 503+06 to 511+16) • Tower construction • Construction traffic	1) Maintain road run-off and erosion controls to prevent concentrating surface run-off, subsequent erosion, and transport of sediment into Pine Creek. 2) Minimize ground disturbance. 3) Maintain 300-foot riparian vegetative buffer.		
R-7a Unnamed Creek (Station 516+18) • Tower construction	1.) Install SF or other appropriate run-off controls below tower site to protect riparian area. 2.) Maintain 100-foot vegetative buffer of intermittent drainage.	SASP FSA	
R-8 Unnamed Creek (Station 520+63) Tower construction	1.) Install SF below tower site to protect riparian area. 2.) Maintain 100-foot vegetative buffer of intermittent drainage.	SASP FSA	
R-9 Unnamed Creek (Station 540+00) • Tower construction	1.) Install SF or other appropriate run-off controls below tower/spur road site to protect riparian area. 2.) Maintain 100-foot vegetative buffer of intermittent drainage.	SASP FSA	
R-9a Poison Creek (Station 553+20)	1.) Maintain 150-foot vegetative buffer.	FSA	
R-10 Pine Creek (Station 557+40 to 571+17)	1.) Maintain road run-off and erosion controls to prevent concentrating surface run-		

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
• Construction traffic • Tower construction	off and subsequent erosion and sedimentation of Pine Creek. 2.) Maintain low-growing 300-foot riparian vegetative buffer within ROW.		
R-11 Unnamed Creek (Station 582+13) • Construction traffic	1.) Maintain low-growing 100-foot vegetative buffer in ROW..	FSA	
R-12 Unnamed Creek (Off-ROW: New access road near Station 584+75) • Construction traffic • Tower construction	1.) Install SF or other sediment barriers to prevent sediment from entering creek during construction until vegetation is established on exposed surfaces. 2.) Maintain low-growing 100-foot vegetative buffer in ROW.	SASP FSA	
R-13 Unnamed Creek (Station 610+10 to 612+02) • Tower construction	1.) Install SF or other sediment barriers below tower sites to protect riparian area. 2.) Maintain 100-foot vegetative buffer of intermittent drainage.	SASP FSA	
R-14A Unnamed Creek (Station 626+00) • Construction traffic	1.) Keep traffic on existing road to minimize impacts at creek crossing. 2.) Maintain 100-foot riparian vegetative buffer of creek.	FSA	
R-15 Wetland (Station 652+50) • Construction traffic	1.) Install SF, SBB, or other appropriate sediment barriers between road and wetland, if needed, to minimize disturbance from traffic. 2.) Keep traffic on existing road to minimize impacts.	SASP FSA	
R-16 Tie Creek (Off-ROW: Access Road# PGT-AR-11-3) • Construction traffic	1.) No in-stream activity.		

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
R-17 Tie Creek (Station 688+48) • Construction traffic	1.) Minimize disturbance to riparian vegetation. 2.) Maintain 300-foot low-growing riparian vegetative buffer 3.) No through access to 12/1.		
R-18 Unnamed Creek (Station 706+75) • Tower construction.	1.) Maintain a 300-foot buffer of low-growing vegetation between new ROW and creek. 2.) Install SF or other appropriate sediment barriers between construction area and creek.	SASP FSA	
R-19 Unnamed Creek (Station 711+57) • Construction traffic	1.) Maintain a 300-foot buffer of low-growing vegetation between new ROW and creek. 2.) Keep vehicles on existing access.	FSA	
R-20 Unnamed Creek (Station 769+17) • Tower construction	1.) No through access. 2.) Maintain 100-foot buffer of low-growing vegetation. 3.) Prevent sediment from entering drainage.	SASP FSA	
R-21 Coalmine Creek (Station 814+00) • Construction traffic	1.) Keep traffic on existing road to minimize impacts at creek crossing. 2.) Maintain a 300-foot buffer of low-growing vegetation between new ROW and creek.	FSA	
R-22 Wood Canyon Creek (Station 850+52) • Construction traffic	1.) Maintain a 300-foot buffer of low-growing vegetation between new ROW and creek. 2.) No access through Wood Canyon Creek.		
R-22a Little Pine Creek (Off-ROW: Access Road# PGT-AR-15-3)	1.) Minimize disturbance to riparian vegetation and streambanks. 2.) No in-stream activity.		

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
• Construction traffic			
R-23 Murphy Creek (Off-ROW: Access Road# PGT-AR-15-3) • Construction traffic	1.) Maintain run-off controls to prevent sediment from reaching Murphy Creek. 2.) Minimize impacts to riparian vegetation. 3.) Keep traffic on existing road.	FSA	
R-23a Murphy Creek (Off-ROW: Access Road# PGT-AR-15-4) • Construction traffic	1.) Keep traffic on existing road to minimize impacts at creek crossing. 2.) Minimize disturbance to riparian vegetation. 3.) Maintain 300-foot riparian buffer.	FSA	
R-23b Spring near Murphy Creek (Off-ROW: Access Road# PGT-AR-15-1) • Construction traffic	1.) Keep traffic on roadway 2.) Minimize disturbance to seep area.		
R-24 Allen Canyon (Station 906+64 and Off-ROW: Access Road# PGT-AR-16-1) • Construction traffic	1.) Maintain 100-foot riparian buffer. 2.) Keep traffic on existing road to minimize impacts at creek crossing.	FSA	
R-25 Unnamed spring (Station 927+00) • Tower construction • Construction traffic	1.) SF, SBB, or other appropriate sediment traps to protect spring during tower construction.	SASP FSA	
R-26 Pole Creek (Off-ROW: Access Road# PGT-AR-18-2) • Construction traffic	1.) Keep traffic on existing road to minimize impacts at creek crossing. 2.) Minimize disturbance to riparian vegetation. 3.) Maintain 300-foot vegetative buffer.		
R-27 Unnamed Creek (Station 1073+75) • Construction traffic	1.) Keep traffic on existing road to minimize impacts at creek crossing. 2.) Minimize disturbance to riparian vegetation.	FSA	

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
	3.) Maintain a 100-foot low-growing vegetative buffer.		
R-28 Unnamed Creek (Station 1158+00) • Construction traffic	1.) Keep traffic on existing road to minimize impacts at creek crossing. 2.) Minimize disturbance to riparian vegetation. 3.) Maintain a 100-foot low-growing vegetative buffer.	FSA	
R-29 Trail Creek (Station 1177+80) • Construction traffic • Staging area	1.) Keep traffic on existing road to minimize impacts at creek crossing. 2.) Avoid disturbance to riparian vegetation. 3.) Maintain 300-foot vegetation buffer between staging area and Trail Creek wetlands. 4.) No activity allowed within wetlands. 5.) Use SF or other appropriate sediment barriers to prevent sediment from entering Trail Creek or associated wetlands if used as a staging area.	SASP (if used as staging area) FSA	
R-30 Unnamed Creek (Station 1224+90) • Construction traffic	1.) Keep traffic on existing road to minimize impacts at creek crossing. 2.) Minimize disturbance to riparian vegetation. 3.) Maintain a 100-foot low-growing vegetative buffer.	FSA	
R-31 Unnamed Creek (Station 1255+63 and Off-ROW: Access Road# PGT-AR-22-4) • Construction traffic	1.) Keep traffic on road to minimize impacts at creek crossing. 2.) Minimize disturbance to riparian vegetation. 3.) Maintain a 100-foot low-growing		

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
	vegetative buffer.		
R-32 Unnamed Creek (Station 1404+42) • Construction traffic	1.) Keep traffic on road to minimize impacts at creek crossing. 2.) Minimize disturbance to riparian vegetation. 3.) Maintain a 100-foot low-growing riparian buffer.		
R-33 Unnamed Creek (Station 1417+77) • Construction traffic	1.) Keep traffic on road to minimize impacts at creek crossing. 2.) Minimize disturbance to riparian vegetation. 3.) Maintain a 100-foot low-growing riparian buffer.		
R-34 Unnamed Creek (Station 1437+83)	1.) No through access from towers 23/6 to 23/7. 2.) Maintain a 150-foot low-growing riparian buffer.		
R-35 Hungry Creek (Station 1470+00) • Construction traffic	1.) Keep traffic on existing roadway . 2.) Maintain access road run-off controls. 3.) Minimize disturbance to riparian and wetland vegetation by maintaining 150-foot creek buffer or 100-foot buffer of wetland whichever is greater.	FSA	
R-36 Unnamed Creek (Station 1486+85)	1.) Minimize disturbance to riparian vegetation. 2.) Maintain 100-foot vegetation buffer.		
R-37 Talbot Creek (Station 1500+18)	1.) Minimize disturbance to riparian vegetation. 2.) Maintain 150-foot vegetation buffer.		
R-38 Unnamed Springs (Station 1511+00)	1.) Minimize disturbance to riparian vegetation.		

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
	2.) Maintain 100-foot buffer of low growing vegetation.	FSA	
R-39 Unnamed Creek (Station 1511+50)	1.) Minimize disturbance to riparian vegetation. 2.) Maintain 100-foot buffer of low growing vegetation.	FSA	
R-40 Unnamed Creek (Station 1513+80)	1.) Minimize disturbance to riparian vegetation. 2.) Maintain 100-foot buffer of low growing vegetation.		
R-41 Coal Creek (Station 1592+95)	1.) Minimize disturbance to riparian vegetation. 2.) Maintain 300-foot riparian buffer.		
R-42 Unnamed Creek (Station 1654+00)	1.) Minimize disturbance to riparian vegetation. 2.) Maintain 100-foot riparian buffer.	FSA	
R-43 Unnamed Creek (Station 1655+37 to 1691+13) • Tower replacement • Construction traffic	1.) Keep traffic on existing road to minimize impacts at creek crossing. 2.) Minimize area of ground disturbance. 3.) No activities down-slope of existing access. 4.) Maintain integrity of any existing run-off or erosion controls to keep sediment from reaching tributary to Trail Creek. 5.) Maintain 300-foot vegetation buffer.	SASP FSA	
R-43a Unnamed Creek (Off-ROW: Access Road# PGT-AR-27-2) • Construction traffic	1.) Maintain integrity of any existing run-off or erosion controls to keep sediment from reaching tributary to Trail Creek. 2.) Minimize disturbance within 150-foot riparian buffer.	FSA	

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
	3.) Keep traffic on existing roadway.		
R-44a Unnamed Creek (Off-ROW: Access Road# PGT-AR-27-2) • Construction traffic	1.) Keep traffic on existing roadway. 2.) Minimize disturbance within 100-foot riparian buffer.	FSA	
R-45 Unnamed Creek (Station 1726+150)	1.) Minimize disturbance to riparian vegetation. 2.) Maintain 100-foot vegetative buffer		
R-46 Unnamed Creek (Station 1761+31)	1.) Minimize disturbance to vegetation. 2.) Maintain 100-foot vegetative buffer	FSA	
R-47 Unnamed Creek (Station 1776+46)	1.) Minimize disturbance to riparian vegetation. 2.) Maintain 150-foot vegetative buffer.	FSA	
R-48 Unnamed Creek (Station 1787+70) • Tower construction • Construction traffic	1.) Minimize disturbance to riparian vegetation. 2.) Maintain 100-foot vegetative buffer. 3.) Do not place excavated material in small stream near tower location. 4.) Use SF or other sediment retention devices to keep sediment from reaching small stream near tower location. 5.) Keep construction traffic on existing roadway.	SASP FSA	
R-49 Unnamed Creek (Station 1808+88) • Tower construction	1.) Minimize disturbance to vegetation. 2.) Use SF or other sediment retention devices to keep sediment from reaching tributary to Trail Creek at tower	SASP FSA	

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
	construction site. 3.) Maintain 100-foot vegetative buffer. 4.) No through access between 29/6 and 29/7.		
R-50 Unnamed Creek (Station 1812+19) • Tower construction	1.) Minimize disturbance to riparian vegetation. 2.) Maintain 100-foot vegetative buffer. 3.) Use SF or other sediment retention devices to keep sediment from reaching tributary to Trail Creek at tower construction site.	SASP FSA	
R-51 Unnamed Creek (Station 1833+39) • Construction traffic	1.) Keep traffic on existing road to minimize impacts at creek crossing. 2.) Minimize disturbance to riparian vegetation. 3.) Maintain 150-foot riparian buffer	FSA	
R-52 Phillips Canyon Creek (Off-ROW: Access Road# PGT-AR-35-1-R) • Construction traffic	1.) Minimize disturbance to riparian vegetation and streambanks. 2.) No in-stream activity. 3.) Keep construction traffic on existing roadway.	FSA	
R-52a Phillips Canyon Creek (Station 2092+25) • Possible temporary bridge.	1.) Minimize disturbance to riparian vegetation and streambanks. 2.) No in-stream activity. 3.) If creek is crossed , install temporary bridge to completely span channel.	SASP FSA	
R-53 Unnamed Creek (Station 2106+00) • Possible temporary bridge	1.) Minimize disturbance to riparian vegetation and streambanks. 2.) No in-stream activity. 3.) If creek is crossed , install temporary	SASP FSA	

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
	bridge to completely span channel.		
R-54 Fish Creek (Station 2113+26 to 2113+90) • Tower construction • Tower removal	1.) No disturbance to riparian vegetation and streambanks. 2.) No in-stream activity. 3.) Use silt fence or other sediment retention devices to keep sediment from Fish Creek.	SASP FSA	SASP's for both structures 35/5 and 35/6.
R-54a Wetland • Construction traffic • Tower construction • Tower removal	1.) No fill or construction debris to be placed in wetland. 2.) Minimize construction traffic.	SASP FSA	
R-55 Lake Creek (Station 2122+65 to 2122+95) • Tower construction • Tower removal	1.) Minimize disturbance to riparian vegetation and streambanks. 2.) No in-stream activity. 3.) Use silt fence or other sediment retention devices to keep sediment from reaching Lake Creek and associated wetlands.	SASP FSA	
R-56a Wetlands Construction traffic	1.) No fill or construction debris to be placed in wetlands. 2.) Minimized construction traffic.	SASP FSA	
R-56 Unnamed Creek (Station 2129+09) • Possible culvert replacement in existing irrigation ditch.	1.) Minimize disturbance to riparian vegetation and streambanks. 2.) Minimize in-stream activity. 3.) Use silt fence or other sediment retention devices to keep sediment out of ditch. 4.) Culvert replaced in accordance federal and state requirements. 5.) If not replaced, maintain integrity of existing culvert.	SASP FSA	
R-57 Unnamed Creek	1.) Minimize disturbance to riparian		

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
(Station 2142+45) • Tower construction • Construction traffic	vegetation and streambanks. 2.) No in-stream activity. 3.) Use silt fence or other sediment retention devices to keep sediment from reaching tributary to Lake Creek. 4.) Culvert or temporary bridge installed in accordance with permit requirements.	SASP FSA	
02.2 SENSITIVE UNSTABLE SOILS/SLOPES			
The project will cross steep and erosive soils in the Pine Creek and Teton Pass areas. Most, if not all, slopes are over 35%. Problem areas, indicated below, are locations requiring mitigation beyond standard measures to control erosion and run-off and prevent mass movement of earth materials. These areas have slopes that are very steep and/or have shown movement in the recent geologic past.	1.) Erosion control measures for unstable soils/slopes will be addressed in the Construction SWPP Plan. 2.) A SASP will be prepared for problem areas identified in this plan and additional areas identified by the CSR 3.) The construction contractor will insure that appropriate BMPs are used during construction activities. These BMPs will be incorporated into an SASP (if one is required). They are additions to BPA's standard erosion control specifications and to those short- and long-term BMPs listed in Section 02.1. • No mechanical clearing allowed • WB – Water bars/dips • CD – Crossdrains • M – Mulch (wood or grass straw cellulose fiber, spray mulch, grass straw)		

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
	• BFM – Bonded Fiber Matrix • SBB – Straw bale or cedar biobag sediment barriers • SF – Temporary sediment fences • S&RV – Seeding and revegetation • CT – Contour trenching cut or fill slopes		
S-1 Pine Creek (near 1st crossing)	1.) Maintain ground cover.		
S-2 Pine Creek (double-circuit section) • Tower construction • Tower removal	1.) Minimize disturbance of unstable talus slopes. 2.) Protect highway from rockfall.	SASP	
S-2a Tie Creek	1.) Avoid any actions that would destabilize active slump.		
S-3 Heading up to Teton Pass • Tower construction	1.) Protect highway from rockfall. 2.) Minimize disturbance.	SASP	
S-4 Heading up to Teton Pass Tower • Tower construction	1.) Minimize disturbance. 2.) Confine the area of ground disturbance to the minimum. 3.) Protect exposed soil materials from erosion with appropriate measures. 4.) Protect highway from rockfall.	SASP	
S-5 Heading up to Teton Pass • Tower construction	1.) Minimize disturbance from clearing. 2.) Confine the area of ground disturbance to a minimum. 3.) Protect exposed soil materials from erosion with appropriate measures. 4.) Use appropriate revegetation measures to stabilize disturbed areas.	SASP	
S-6 Heading up to Teton Pass	1.) Stay on existing roadway.		

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
• Construction traffic	2.) Minimize disturbed area. 3.) Take necessary measures to prevent spoils from moving downslope. 4.) Take necessary precautions to protect highway. 5.) Use appropriate measures to revegetate and stabilize disturbed areas.	SASP	
S-7 Teton Pass • Construction traffic • Tower construction	1.) Stay on existing roadway. 2.) Minimize disturbed area. 3.) Take necessary measures to prevent spoils from moving downslope. 4.) Take necessary precautions to protect highway. 5.) Use appropriate measures to revegetate and stabilize disturbed areas.	SASP	
S-8 Teton Pass • Construction traffic • Tower construction	1.) Construction traffic Minimize disturbed area. 2.) Take necessary precautions to protect road below. 3.) Use appropriate measures to revegetate and stabilized disturbed areas.	SASP	
S-8a Glory Bowl, Teton Pass		SASP (If used as staging area)	
S-9 Glory Slide, Teton Pass • Construction traffic	1.) Stay on existing roadway.		
S-10 Highway 22 • Tower construction	1.) Minimize disturbance. 2.) Prevent debris from falling on old	SASP	

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
	highway trail.		
SECTION 03.0 LAND USE			
03.1 Agriculture	1.) BPA will compensate landowners for any farmland removed from production. Compensation would be offered for the fair market value of the land rights acquired. 2.) BPA will locate structures outside of agricultural fields where possible or next to existing structures. 3.) BPA will compensate farmers for crop damage, help them control weeds within BPA ROW, and compensate the landowner to restore compacted soils caused by project activities.		
03.2 Grazing	1.) The construction contractor will keep gates and fences closed and in good repair to contain livestock or negotiate another arrangement with the landowner. 2.) BPA will notify the Palisades and Teton Basin ranger districts of the construction schedule and when staging areas will be in use. The USFS will pass this information on to the grazing permit holders. 3.) The construction contractor will exercise caution on Highways 31 and 33, access roads to and on the ROW, and U.S. Forest Service Road #253 (at Pine Creek Pass) for the presence of cattle and sheep to avoid collisions. U.S. Forest Service Road #253 (at Pine Creek Pass) will be kept open for passage. No materials or equipment will block the road at any time.		
03.3 Timberland	The US Forest Service would be		BPA and the USFS have

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
	compensated for marketable timber.		reached an agreement on how the USFS will be compensated for timber. This agreement is detailed in the Project Plan.
03.4 Residential	1.) BPA will develop and implement a landscaping plan around Teton Substation. 2.) BPA will use double-circuit structures from below Phillips Ridge to Teton Substation. 3.) BPA will work with landowners next to the existing ROW from Fish Creek Road to Teton Substation on the color and placement of new structures.		BPA, working with LakeCreek II Homeowners and Verdone Landscaping, have designed and implemented a landscaping plan around Teton Substation. All work was completed in 1998. BPA, working with landowners next to the existing ROW from Fish Creek Road to Teton Substation, has come to agreement on structure locations. Structures will be self-weathering steel.
03.5 General	1.) BPA will work closely with the US Forest Service, other land managers, and landowners to minimize conflicts and inconvenience from construction and maintenance activities.		
SECTION 04.0 VISUAL AND RECREATION RESOURCES			
04.1 General Visual and Recreation Resources	1.) For structures and above ground improvements, BPA would use native materials where feasible. 2.) Where the use		BPA and the USFS have coordinated on structure finish. Structures will either

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
	of native materials is not possible, structures and related hardware will be treated to reduce reflectivity and obtain a dark finish. 3.) BPA will use non-reflective conductors. 4.) BPA will use non-luminous insulators (i.e., non-ceramic insulators [a polymer] or porcelain that match existing lines). 5.) BPA will coordinate with the Forest Service on the use of stains or paints on structures on lands managed by the Forest Service. 6.) The construction contractor will minimize ground disturbing activities. 7.) The construction contractor will preserve the existing topsoil, were specified, near disturbed structure sites by stockpiling it during construction and spreading it after construction so native plant communities would regenerate and blend exactly with the surroundings. Phase and integrate these activities with the project construction schedule to ensure the quickest rehabilitation of sites. 8.) Where technically feasible and cost effective, BPA will use double-circuit single pole structures instead of double-circuit lattice steel structures. 9.) Where feasible, BPA will site new structures next to or very near existing structures. 10.) BPA will site new structures where feasible to minimize visual impacts by taking advantage of existing screening offered by topography and/or vegetation. 11.) BPA will install new conductor at about the same height as existing conductor where possible to		be self-weathering steel or galvanized steel with an acid wash for darkening. Since the USFS does not have a preference, BPA is clarifying the costs of each.

IMPACT CATEGORY	MITIGATION/BMP'S	PERMITS/SASP REQUIRED	NOTES
	lessen visual clutter. 12.) The construction contractor will use techniques as needed to revegetate disturbed areas near structure locations. 13.) BPA will minimize, where possible, access road placement in highly sensitive areas. 14.) BPA will coordinate with each Ranger District on the Targhee and Bridger-Teton National Forests to develop gating plans that would promote the types and levels of use desired at each access road.		See Water Quality Sensitive – Riparian/Wetland Areas (including Floodplains) and Unstable Soils/Slopes. BPA has worked closely with the USFS to minimize new access road construction in general and specifically in highly sensitive areas. BPA and the USFS have agreed on the number, type, and location of gates.
04.2 Visual Assessment Area 2	BPA will construct Option D, which uses double-circuit steel pole structures across from Pine Basin Lodge.		
04.3 Visual Assessment Area 4	Use double-circuit steel lattice structures from structures 26/2 to 28/5.		
04.4 Visual Assessment Area 5	1.) BPA will continue to work with the US Forest Service to meet the requirements of the Palisades Wilderness Study Area designated Preservation. 2.) Use double-circuit structures from 28/5 to 29/3 to eliminate the need to clear a wider easement. 3.) BPA will not build new access roads in the Palisades Wilderness Study Area.		

5.0 WILDERNESS, WILDERNESS STUDY AREAS, RECOMMENDED WILDERNESS, AND ROADLESS AREAS			
05.1 Palisades Wilderness Study Area and Palisades Roadless Area.	1.) BPA will continue to coordinate with each Ranger District on the Targhee and Bridger-Teton National Forests to minimize impacts to the WSA and the Palisades Roadless Areas. 2.) Do not construct new roads (temporary or permanent) in the Palisades WSA. 3.) Use helicopters to fly construction materials and equipment in to towers 29/1 and 29/2. Use existing steel structure footings. 4.) No ground disturbance within the wilderness study area.		

06.0 VEGETATION			
06.1 General	1.) BPA will locate proposed project adjacent to existing corridor to keep clearing to a minimum. 2.) BPA will maximize existing access road system with minimal development of new roads. 3.) Construction contractor will keep additional vegetation clearing to the minimum needed to maintain safety and operational standards. 4.) Where originally present, ensure that adequate topsoil depth and texture are in place. Promptly reseed or revegetate disturbed areas with native seed mix as soon as construction in an area is completed and weather permits. 5.) All reclamation plans would consist of native plant seed mixes approved by the USFS. 6.) All seed mix, mulches, and fertilizer composition and application rates, and reclamation plans would be approved by the USFS. 7.) Where specified, in excavated areas, contractor will stockpile soil and respread after construction is complete and weather permits.		3.) BPA is coordinating with the USFS to identify areas where additional trees will be cleared for visual purposes. The USFS will coordinate these areas of additional clearing with appropriate resource specialists. 4.) BPA will use native seed mix recommended by Forest Service.

06.2 Sensitive Plant Species	1.) As necessary , sensitive species (including *Lesquerella paysonii*) populations will be flagged in the field to avoid direct and indirect impacts from occurring. 2.) If sensitive plant populations cannot be avoided, then on-site mitigation will be determined by the USFS botanist. 3.) Designate vegetation management zones that restrict certain activities. 4.) If possible, leave felled trees on-site during the flowering and fruiting season if they fall within the habitat of sensitive plant species; remove trees in fall to avoid trampling species while flowering and fruiting. The areas should be disturbed as little as possible. 5.) For *Lesquerella paysonii*, minimize and delay tree and branch removal (if they fall into the population area) until fall to avoid crushing sensitive plants during flowering and fruiting (specifically for populations near structure 28/2). 6.) Spot spray weed species within habitats of sensitive plants. Use extra caution in these areas. Crews responsible for spraying should be able to identify these species so they can avoid spraying near them or inadvertently trampling them. A knowledgeable person could accompany spray crew members or flag sensitive populations prior to any spraying.		1.) Populations have also been delineated on photomaps. 6.) Pre-construction weed spraying was completed in 9/98. Crews responsible for spraying were given a copy of photomaps with locations of sensitive plant species delineated.

06.3 Undesirable plant species	1.) Minimize disturbance to native species to the greatest extent possible during construction to prevent invasion by non-native species. 2.) Work with the Forest Service and county agencies to determine appropriate methods for treating existing weed populations before construction. 3.) Use only herbicide treatments approved by the Targhee Noxious Weed EA. When the Bridger-Teton's Noxious Weed Control EA becomes final and is approved, amend BPA's permit to include applicable direction. 4.) Conduct preconstruction weed survey to document existing weed populations. 5.) Wash all earthmoving equipment at established wash stations prior to entry into project area. 6.) If earthmoving equipment has been operating in an area heavily infested with noxious weeds, wash equipment before moving into another area. 7.) Ensure that earth materials (such as gravel, fill, etc.) brought in from other sites are free of weed seed. 8.) Seed mixes, mulch, and earth materials will be Wyoming and Idaho "CERTIFIED" as noxious weed free.		2., 3. and 4.) BPA coordinated pre-construction weed survey and spraying with the USFS and local counties in 1998.

07.0 WILDLIFE			
07.1 Raptor Nest Disturbance	1.) Coordinate with the Forest Service to protect non-sensitive raptor nests. Time project activity to avoid critical nesting periods (nest trees may be removed once young have fledged and/or a permit has been issued from the USFWS). 2.) If required, survey in spring (from March to June) to identify nest site locations for Cooper's and sharp-shinned hawks, Swainson's hawks, red-tailed hawks, northern harriers, goshawk, and owls. 3.) For danger trees that would be cut outside the new ROW, BPA will work with the Forest Service on the possibility of topping some of these trees or other trees (creating snags) for wildlife habitat.		2.) BPA was required by the USFS to survey for goshawk and owls. 3.) BPA will count on the USFS to coordinate this mitigation with mitigation being requested for visual resources.
07.2 Sensitive Species	1.) Prior to initiating ground disturbing activities, conduct wildlife surveys, as determined through coordination with the USFS. BPA has worked closely with the Forest Service on survey timing and requirements. All surveys will be conducted in 1998 per an Interagency Agreement with attached protocols jointly developed by the Forest Service and BPA in 1997. 2.) After wildlife surveys are completed, coordinate with the USFS, USFWS, and the state wildlife agencies (IDFG or WDGF) on mitigation strategies.		1.) All wildlife surveys were completed in December 1998. 2.)Specific mitigation has been identified for several sensitive species: furbearers (fisher, lynx, and wolverine), goshawk, and spotted frog.

• Fisher, Lynx, Wolverine	1.) Access roads will be managed for public use as provided in the revised Targhee National Forest Plan. Access road run-off and erosion controls will be maintained. 2.) Right-of-way clearing will not exceed 300 feet. 3.) After initial clearing of new ROW, saplings and lodgepole pines along Phillips Ridge will grow, providing snowshoe hare habitat, until periodic maintenance clearing occurs. If saplings and pines are deemed a safety hazard to the line, they will need to be removed.		1.) BPA has coordinated access road closures and gates with the Forest Service. 2.) Average additional right-of-way clearing is 40 feet.
• Northern Goshawk	1.) Targhee National Forest Standards and Practices which apply to the northern goshawk will be applied with an exception made for timing stipulations. If a goshawk nest area is found adjacent to the ROW during construction, try to complete construction activities from October through February.		Wildlife surveys did not detect any sign of goshawks along the entire ROW.
• Flammulated, Great Gray, Boreal Owl	1.) If a flammulated, great gray, or boreal owl nest territory is found along the ROW, consult with the Forest Service wildlife biologist to see if potential effects can be mitigated through timing of construction activities.		Wildlife surveys did not detect flammulated owls or flammulated owl nest sites. Great grays were not detected in some areas. Boreal owls were detected during the surveys.
• Spotted Frog	Mitigation listed below applies to potential spotted Frog habitat along the right-of-way in the following locations: Slack waters of Pine Creek and at Mike Harris on Trail Creek.		Areas identified here as potential frog habitat have been identified in Section 02.0 as Water Quality

	Ephemeral and permanent seeps, pools and streams along the existing right-of-way from structure 9/1 to 9/4, 11-1 to Tie Canyon, 15/1 to 15/2 at Murphy Creek, 18/4 at Pole Creek, 20/8 to 21/2 at Mike Harris, 24/3 to 24/4 at Hungry Creek, 27/7, 29/2 to 30/4. The area between 26/8 to 27/6 has a spring/stream complex which seems to be the best potential frog habitat. 1.) All construction and maintenance activities should minimize soil erosion and prevent sediment from entering intermittent or permanent streams and wetlands. 2.) Access road run-off and erosion control features will be maintained. 3.) Where possible, construction should not occur close to seeps where such action could alter the flow of such wetland features. 4.) Follow Targhee National Forest Aquatic Influence Zone standards for Prescription Area 2.8.3 of the Bighole Mountain Subsection found on page III-108.		Sensitive – Riparian Wetland Areas. To reduce erosion and sedimentation, mitigation and BMP's are identified in Section 02.0

07.3 Big Game Winter Range Disturbance	1.) Avoid construction at lower elevations (Swan Valley, Teton Basin, and the Jackson area) during extreme winter weather or unusually heavy snow accumulations, when big-game species are less mobile and more vulnerable to disturbance. Coordinate with the state wildlife agencies to ensure that construction does not significantly interfere with big-game wintering. 2.) Construct from the Idaho state line to Mail Cabin Creek (from structure 22/8 to about structure 27/2) and Poison Creek to Swan Valley prior to November 15 or after April 30 to protect big-game winter range. 3.) Follow IDFG recommended seasonal restrictions on construction activities (between December 15 and April 15) from Poison Creek southwest to the Swan Valley substation. If unusually adverse weather conditions occur, restrictions are requested by IDFG prior to December. 4.) If an early spring occurs with favorable conditions for construction, BPA will coordinate construction in agricultural fields near Swan Valley before April 15 with the USFS and IDGF. BPA will request USFS and IDFG biologists to assess whether evidence of wintering deer, elk, and moose is in the area and whether construction may affect populations. 5.) Timing restrictions for activities in deer, elk, and moose wintering habitat would begin on November 15. Work in the fall may continue past November 15 for emergency reasons, and will be coordinated with the		

	Forest Service, WDGF, and IDFG. Timing restrictions would not conflict with timing restrictions for other species. 6.) Gate new roads and consider posting some or all of the new roads for no trespassing.		BPA and the USFS will keep all gates closed and locked.
07.4 Avian Collisions	1.) Consult an expert on avian power line collisions to identify appropriate line markers, such as aerial marking spheres, spiral vibration dampers, or bird flight diverters. Areas where markers should be considered include the Swan Valley area (between Swan Valley Substation and structure 4/3), the second crossing of Pine Creek (location depends on which Pine Creek Routing Option is chosen), Teton Pass (between structures 28/1 and 28/5), and the Jackson area (between structure 35/2 and Teton Substation). 2.) Where possible, line up new structures with existing structures to minimize the vertical separation between the two sets of lines. 3.) After construction, periodically monitor potential problem areas to identify unmitigated problem areas and increase or modify markers as appropriate.		On August 27, 1998, representatives from BPA and the USFS met on site with an avian expert to review the need for bird flight diverters in identified critical areas. Diverters will be installed between structures 35/6 and 35/4 in critical area 1 and 7/1 and 6/7 in critical area 3. Structure numbers refer to the existing Swan Valley-Teton No. 1 line. These areas are marked on the photomaps. BPA will request that the USFS periodically monitor the effectiveness of the diverters.

08.0 FISH			
08.1 Sedimentation and Degraded Water Quality	1.) Within Aquatic Influence Zones, do not fall or kill trees unless they pose a direct safety hazard. Leave all trees felled within the AIZ "on-site" to mitigate the long-term loss of large woody debris into the system.		See Section 02.0 for identification of Sensitive Riparian/Wetland Areas (including Floodplains) and Unstable Soils/Slopes.

09.0 CULTURAL RESOURCES			
09.1 Archeological and Historic Sites	1.) Conduct a pre-construction cultural resource survey to identify sites. 2.) Position structures and new access roads to avoid all sites where practical. 3.) Where sites cannot be avoided, coordinate mitigation with USFS and the Wyoming and Idaho SHPO. 4.) Provisions will be included in construction contract that contractor is responsible for halting work upon discovery of potential cultural site/artifacts and promptly notifying CSR. 5.) Map sensitive sites on photomaps and flag if appropriate. 6.) Require that contractors avoid disturbance in these areas if possible. 7.) Prior to construction, the contractor must submit a SASP indicating how disturbance of the historic wagon trail and corral will be minimized.	Section 106 of National Historic Preservation Act requirements.	1.) BPA completed a cultural resource survey in 1997. 3.) Two sites where avoidance may not be possible were found. Mitigation in the form of recordation was proposed for each site and has been completed for the Idaho site. Mitigation for the Wyoming site will be completed in June 1999. For more details on mitigation, contact Jamie Schoen, Bridger-Teton Archeologist, or Nancy Wittpenn, BPA Environmental Specialist.
010.0 SOCIOECONOMICS			

010.1 Lost Production	1.) BPA would compensate private landowners for the fair market value of any land taken out of production. 2.) BPA would work with landowners/land managers to site the new line and individual structures to minimize impact.		
011.0 AIR QUALITY			
011.1 Dust	1.) If necessary, water trucks would be used to spray roadways and construction areas to minimize dust.		
011.2 Vehicle Emissions	1.) All on-road vehicles would be in good running condition, thus minimizing their emissions. 2.) On-road vehicles would use low sulfur fuel.		
011.3 Burning	1.) BPA would try to avoid burning slash because of its potential detrimental effects on local air quality and visibility in nearby Class I areas. 2.) Burning permits and ignition approval would be obtained from Wyoming and Idaho and all permit requirements would be met. 3.) Burning on national forests would be coordinated with the USFS and the appropriate permits would be obtained. 4.) Burn as little material as possible. 5.) Burning would not occur during inversions. 6.) Initiate burning in late October or early November, after the first snows. Burning during this period would allow the slash to		

	dry, decreasing emissions; provide fire protection (because of the snow); and adequately disperse smoke from the fires, reducing impacts to the Jackson Valley and to the surrounding Class I areas. 7.) Lop and scatter residues on the ROW to degrade whenever possible.		