

RECLAMATION

Managing Water in the West

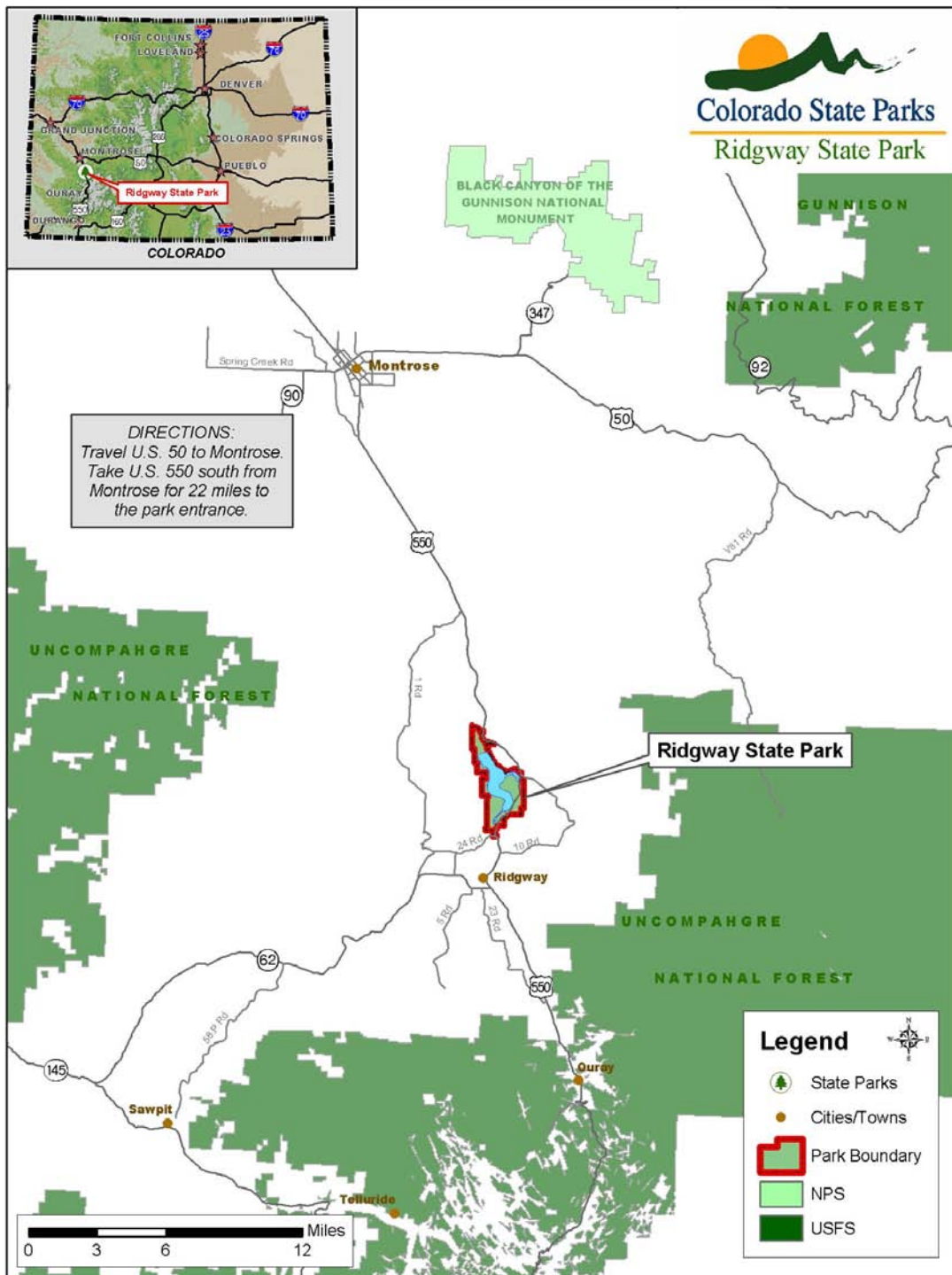
Final Supplemental Environmental Assessment- Tri-County Water Hydropower Project – Interconnection Facilities

**Western Colorado Area Office
Upper Colorado Region**



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Ridgway Dam and Reservoir and Ridgway State Park

CHAPTER 1-- INTRODUCTION

INTRODUCTION AND PROPOSED ACTION

Hydropower facilities at Ridgway Dam on the Uncompahgre River in Ouray County, Colorado are currently under construction. Ridgway Dam is the water storage feature of the Bureau of Reclamation's Dallas Creek Project. The hydropower development is permitted through a "Lease of Power Privilege" (LOPP) which allows a non-Federal party to develop the hydropower resource. The Tri-County Water Conservancy District (Tri-County), which operates and maintains Ridgway Dam, is constructing the hydropower facilities.

A final Environmental Assessment and Finding of No Significant Impact have been completed on the hydropower facilities (Reclamation 2011). That assessment provided information on power transmission and interconnection facilities. This final assessment supplements the 2011 document and addresses additional details and information on the transmission facilities.

The proposed action is to issue a license agreement to Tri-State Generation and Transmission Association (Tri-State) for construction of interconnection facilities to interconnect Tri-County Hydropower facilities to the existing 115-kV transmission line that runs along U.S. Highway 550. In addition, a Memorandum of Agreement (MOA) will be signed with Tri-County to relocate dry storage facilities and utilities operated by Colorado Parks and Wildlife (CPW) as part of Ridgway State Park.

This final supplemental Environmental Assessment (EA) is prepared in accordance with the National Environmental Policy Act, the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500-1508), and the U.S. Department of the Interior's regulations (43 CFR Part 46). The EA evaluates the environmental effects of issuing the license agreement and relocating Ridgway State Park facilities.

NEED FOR AND PURPOSE OF ACTION

Facilities are needed to interconnect the Tri-County Water Hydropower Project (Project) to the existing 115-kV transmission line along U.S. Highway 550. The purpose of the Project is to provide a clean, renewable energy source that is locally controlled. The electricity generated by

the Project will provide Tri-County a source of revenue that can be used to defray annual operating expenses and may assist in the repayment of the Dallas Creek Project.

BACKGROUND INFORMATION

Dallas Creek Project--The Dallas Creek Project is located near the town of Ridgway in west-central Colorado. Dallas Creek was authorized by the Colorado River Basin Project Act of 1968 (Public Law 90-537) as a participating project under the Colorado River Storage Project Act of 1956. The primary features are Ridgway Dam and Reservoir.

Ridgway Dam was constructed on the Uncompahgre River in 1987 to increase water supplies for irrigation and municipal and industrial purposes and to provide flood control. The Dallas Creek Project also includes recreation at the reservoir and measures to enhance fishing opportunities on the Uncompahgre River, improve wildlife habitat, and mitigate wildlife losses caused by the reservoir development. The generation of power is an authorized purpose of the Dallas Creek Project. Water supplies are distributed through existing facilities or facilities constructed by Tri-County, the Uncompahgre Valley Water Users, or others.

Tri-County is the general administrative agency for the Dallas Creek Project and is the contracting and marketing agency for all project water. The Dallas Creek Project makes available an annual water supply of 28,100 acre-feet (af) for drinking water and industrial purposes. In addition to municipal and industrial water, 11,200 af of irrigation water is supplied from Ridgway Reservoir to provide a supplemental supply to existing irrigated lands in Delta and Montrose Counties. This water is released from Ridgway Reservoir to the Uncompahgre River for diversions throughout the Uncompahgre Valley.

Recreation facilities and fisheries at Ridgway Reservoir State Park are managed by the CPW, and recreation supports 300,000 visits annually.

Tri-County Hydropower Project—Tri-County is presently constructing hydropower facilities at Ridgway Dam. The design calls for two vertical Francis turbines with a combined rated capacity of 8.0 megawatts (MW) of power and producing an average of 22,600 megawatt-hours (MWh) of energy per year. The units will be different sizes in order to take maximum advantage of the reservoir discharges. The larger of the two will generate 7.2 MW at rated head (200 feet) and peak efficiency (93 percent). This turbine will operate during the irrigation season, using flows ranging from 120 to 440 cubic feet per second (cfs). Maximum power from the unit will be 7.2 MW. The smaller turbine will nominally operate year-round, and will operate over a flow range of 30 to 60 cfs. Maximum power from the smaller unit will be 0.8 MW.

SCOPING

Scoping for the overall hydropower facility was conducted in 2011 and additional scoping of interconnection facilities continued into 2012 and 2013.

In general, there was support for development of hydropower at Ridgway Dam. Protection of the existing water supplies, fishery, and recreation resources was important. Specifically related to interconnection facilities, there were concerns with visual impacts, particularly in the vicinity of U.S. Highway 550 and existing recreation facilities.

Scoping comments included:

- The CPW and several citizens and groups were concerned about how fishery issues could be affected: river flows during the winter and nitrogen supersaturation are present concerns. Is there an opportunity to correct these problems; are there any opportunities to increase minimum winter flow commitments?
- Impacts of dam and reservoir are already in place; adding hydropower is a good idea.
- General support for renewable energy.
- Ouray County Land Use Department is concerned with visual impacts, particularly in the vicinity of Highway 550.
- Is there any change in non-native warm water fish escapement from the reservoir that might affect downstream endangered fish?
- What is the effect on: cost of Tri-County water to customers; mill levy to property owners in Delta, Montrose, Ouray Counties; what are financial benefits; effect on power rates?
- What are terms of the LOPP?
- Need to determine any effect on cultural resources.
- Is there any effect on streamflows or reservoir levels?
- Need to minimize environmental effects of any new powerline and substation.

CHAPTER 2 -- PROPOSED ACTION AND ALTERNATIVES

ALTERNATIVES CONSIDERED BUT ELIMINATED

Alternatives for an Interconnection 115kV Switching Station (Switching Station) facility initially included three general alternatives. Two of these alternatives have been eliminated from consideration as follows:

- Consideration was given to constructing switching facilities near the base of Ridgway Dam with a new transmission line being constructed to the existing 115-kV line along U.S. Highway 550. This alternative was eliminated because there was not adequate space and topography to construct the facilities at the base of the dam.
- Consideration was given to constructing the switching facilities along U.S. Highway 550. This alternative was eliminated because of visual impacts in the highway corridor and because of topographic and drainage limitations that would result in significant additional expenses.

PREFERRED ALTERNATIVE

The preferred alternative is shown on Figure 1 and includes:

- The Interconnection 115kV Switching Station (Cow Creek Switching Station) will be located at the existing dry storage area currently used by Ridgway State Park (Figures 1 and 2). The site is approximately 1,200 feet north of Ridgway Dam. The Switching Station will be graveled and fenced and will contain electrical components needed to support, switch, and protect the interconnection of the hydropower project. The station will be approximately two acres in size. The facility will be interconnected with the regional power grid. Attachment A includes a photograph of a typical Switching Station.

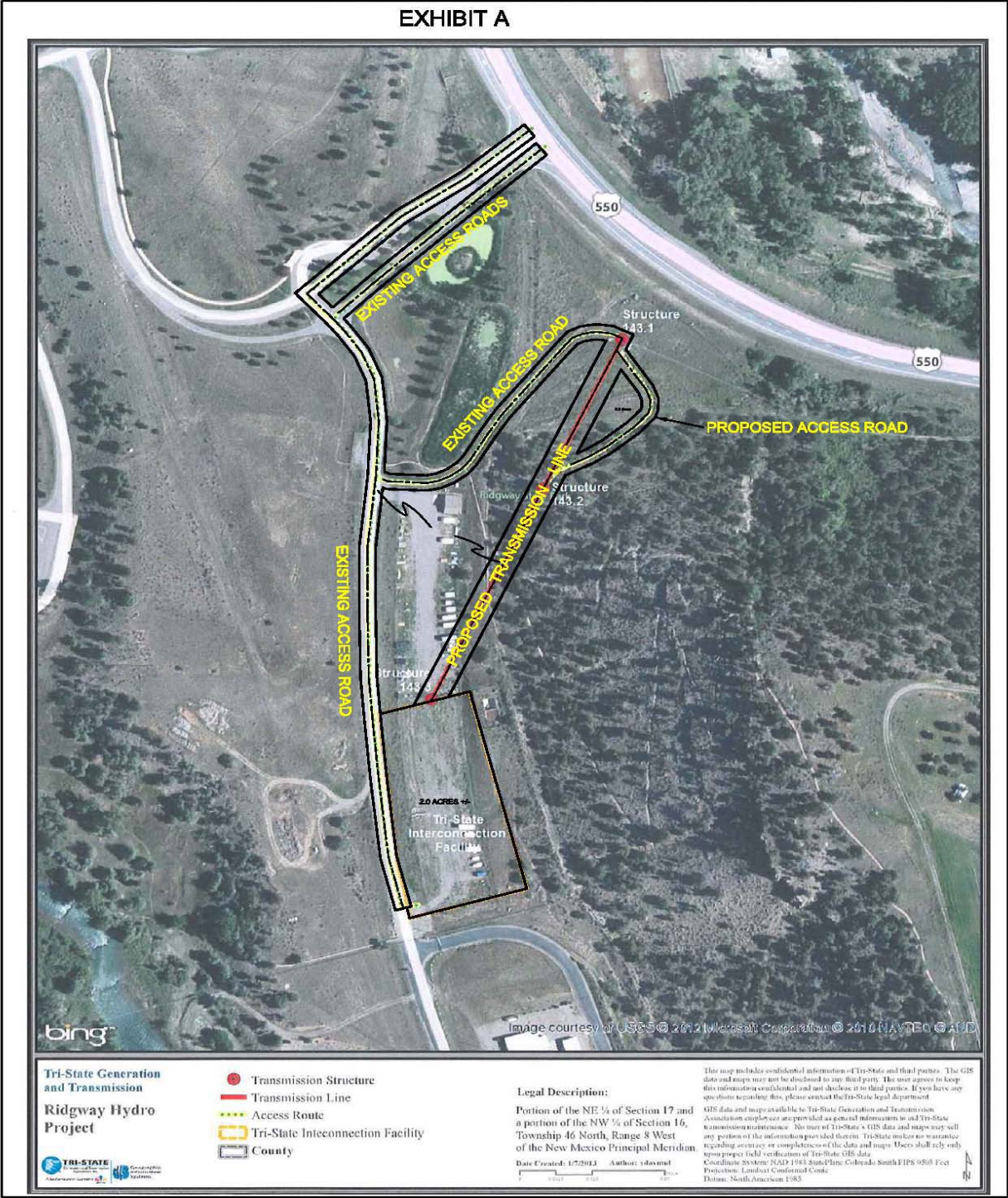


Figure 1. Interconnection facilities.



Figure 2. Proposed Switching Station and Dry Storage Relocation

- An approximately 900-foot long double-circuit transmission line will run from the Switching Station to the existing 115kV transmission line along U.S. Highway 550. Two transmission line structures (poles), approximately 65-70 feet tall, will lead to a 75-foot structure near the highway (Attachment A). The 75-foot structure will replace an existing wooden pole structure. New structures will be single, steel poles. The poles are Corten steel which has a rusty, weathered appearance that will make them less visually apparent. The transmission line will be cut or “opened” and redirected into and out of the new Switching Station. This “in/out” configuration requires the transmission line structures to suspend both the line going in and the line going out so it is referred to as a double-circuit line.

- It is anticipated that two outages of the existing 115-kV line along U.S. Highway 550 will be required to interconnect the new facilities; however, service to customers should not be interrupted.
- An access road will be constructed to build and maintain the transmission line as shown on Figure 1. The initial portion of this access, along an existing road beginning at the paved Ridgway State Park road, will be built within a 15-foot corridor. The remainder of the access road will be built within a 50-foot wide corridor. Details are shown in Attachment A (Exhibit C).

The location of the Switching Station is now being used as dry storage for Ridgway State Park, and other park facilities are in or near the station site. All displaced park facilities will be replaced or relocated by Tri-County as needed:

- The existing dry storage area will be replaced with a new area of approximately two acres immediately to the west as shown in Figure 2. This new park area will be graveled and fenced. Two entrance gates will be included.
- Sewer, water, and telephone lines will be relocated as necessary at the Switching Station.
- Access to the sewage aeration facility will be provided along the south and east side of the Switching Station site to replace existing access.
- Irrigation system filtration system will be relocated from the new dry storage area.
- Buried telephone lines will be relocated as needed.

MITIGATION MEASURES AND ENVIRONMENTAL COMMITMENTS

The following measures will be included in the project plan and will be included in the license agreement with Tri-State or the MOA with Tri-County.

Tri-State Responsibilities:

- Reclamation approval of final designs of the new access road is required prior to construction.
- The existing deer migration/movement corridor at the south end of proposed Switching Station will continue to be maintained at a minimum of the existing width.
- The access road for transmission line construction will not interfere with access to the Enchanted Mesa trail (although there will be periodic closures of the trail during construction).
- The access road for the transmission line construction and operation will not be gated so as not to interfere with big game movement.
- The corridor for the access road will vary from 15 feet to 50 feet as shown in Attachment A and will not interfere with the existing constructed wetlands or utility boxes/cabinets.

A minimum 4-foot buffer zone between the edge of the road and the elevation break to the wetlands will be maintained as well as between the road and existing utility boxes/cabinets.

- Vegetation clearing for the transmission line will be conducted to keep incompatible vegetation from growing near the energized conductors. The corridor will be managed to support stable, low growth plant communities.
- Vegetation removed for the access road and transmission line will be chipped and spread along the corridor. Depth of spread material will not exceed 3 inches.
- Erosion control and revegetation will be completed along areas disturbed by access road, transmission line, and other construction. The erosion control/revegetation plan will need approval by Reclamation prior to construction of those features.
- In order to minimize avian electrocution and collision risk, Tri-State shall implement measures outlined in the company's Avian Protection Plan (APP), which encompasses the: (1) APP Guidelines published by the Avian Power Line Interaction Committee (APLIC) and U.S. Fish and Wildlife Service (APLIC 2005); (2) standards developed by APLIC to minimize effects to birds from power line operation (APLIC 2006); (3) standards developed by APLIC to minimize collision risks to birds from overhead lines (APLIC 2012); and (4) National Electric Safety Code (NESC) requirements, which specify electric conductor clearances.
- A stormwater management plan will be developed and implemented for the Switching Station and other facilities.
- Construction equipment and supplies will be located within a designated staging area.
- Waste material such as concrete, fencing material, and other inorganic material will be disposed of off-site at an approved landfill.
- Dust control will be undertaken in all areas disturbed by construction.
- The facility will incorporate industry standard containment measures to prevent the release of any oils or other hazardous materials or chemicals to the environment in the event of equipment leakage or failure.
- Tri-State will need to submit an integrated pest management plan for approval by Reclamation prior to use. Restricted use pesticides may not be approved.
- Contract specifications will require halting work if unidentified cultural/archeological resources are discovered during construction until the resource can be evaluated under the National Historic Preservation Act and the terms of the National Register of Historic Places eligibility criteria in consultation with the State Historic Preservation Officer.
- Delivery of heavy equipment, power poles, Switching Station equipment and other large truck loads will be coordinated with CPW in advance of delivery to avoid any potential safety and traffic problems at the entrance to Ridgway State Park. Periods of high recreation traffic will be avoided by these large truck loads. Traffic control will be provided by the contractor when necessary for public safety.
- The Migratory Bird Treaty Act will be complied with during transmission line and access road construction either by doing construction outside of the nesting period (between

April 1 and July 15) or by inventory/avoidance as directed by Reclamation during the nesting period.

- If there is damage to roadways or other facilities of Ridgway State Park due to construction traffic, the damage will be repaired by Tri-State or its contractor.

Tri-County Responsibilities:

- Ridgway State Park's dry storage area and utility facilities will be replaced in-kind, and access to aeration facility will be replaced. The replacement dry storage area (compound fencing, gates, access ramps, grading, graveling) will be built and in place prior to removal of the old storage area so that park use may continue uninterrupted.
- Reclamation approval of the final designs/site plan of relocated dry storage area and relocation of utilities is required prior to construction of these features. The designs/site plans will provide adequate detail depicting the location of facilities (water lines, phone lines, etc.). The relocated utility lines will meet industry standards.
- The new dry storage area will be constructed to a similar standard as the existing dry storage area. Topsoil (4-inches) will be removed and stockpiled. Site will be graded to provide a cross slope not to exceed 2 percent for drainage, the sub-grade will be compacted; an 8- inch base of class 2 material will be added and compacted, then topped with 6 inches of compacted class 6 aggregate. A commercial grade 8-foot chain link fence equal to the existing security fence will enclose the dry storage area, with two double gated openings, locations to be determined by the CPW Manager. Access ramps from the existing paved road will be provided to accommodate safe vehicle and equipment access into the fenced compound.
- Existing water lines (treated domestic water lines and raw water irrigation lines from the dam), sewer lines, and phone line that may be impacted by the project including the irrigation system filtration system on the raw water irrigation line, will be relocated. Tri-County will provide designs and site plans for relocating these facilities to Reclamation for approval prior to work being done. The designs/site plans will show the new location for the relocated water and sewer lines, and phone line complete with detailed information pertaining to their relocation. If the on ground relocation does not match the designs/site plans, then as-built drawings will be required.
- A migration/movement corridor on the south (25 feet) and west sides of the new Ridgway State Park storage area will be provided. On the west side of the new storage area, a buffer zone of at least 20 feet between the fence and the crest of the hill will be maintained.
- A tree replacement plan to mitigate trees removed during the construction of the access road and transmission line will be developed and implemented. The plan will require approval by Reclamation. Twenty five replacement trees (minimum 1-inch diameter) will be required with location determined by CPW within the Cow Creek Recreation Area. CPW will water and maintain the trees.

- Work plans will require halting work if unidentified cultural/archeological resources are discovered during construction until the resource can be evaluated under the National Historic Preservation Act and the terms of the National Register of Historic Places eligibility criteria in consultation with the State Historic Preservation Officer.

OPERATIONS

The Switching Station and transmission line extending from the Switching Station to the existing line in the U.S. Highway 550 corridor will be owned and operated by Tri-State. Tri-State will be responsible for weed control and erosion control within the facilities and will conduct periodic inspections of the transmission line. The Switching Station will be operated remotely and will only require periodic on-site inspections. Tri-County will operate the hydropower facilities at the dam. CPW will maintain replacement trees, relocated utilities, and the relocated dry storage area.

CHAPTER 3 -- AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter discusses resources that may be affected by actions taken to construct and operate the interconnection facilities at Ridgway State Park. For each resource, existing conditions and impacts are described. Impacts are based on the alternative described in Chapter 2. Impacts of the overall hydropower project are described in the Final Environmental Assessment-Tri-County Water Hydropower Project (Reclamation 2012).

Several resources would not be affected by the interconnection facilities and are not discussed in this chapter. These include:

- Dallas Creek Project operations and water resources, including Ridgway Reservoir operations and flows in the Uncompahgre River.
- Fisheries
- Indian Trust Assets and Environmental Justice

ENERGY AND SOCIOECONOMIC CONDITIONS

As reported in the Tri-County Water Hydropower Project EA, the hydropower project would produce approximately 22,600 MWh of energy per year and would help meet increasing regional power demands in the future. The Switching Station would transmit energy to the existing 115-kV transmission line along U.S. Highway 550. Power from the Project would be distributed through Tri-State facilities. Energy from the project has now been contracted to Tri-State and the City of Aspen.

The electricity generated by the Project will provide Tri-County a source of revenue that can be used to defray annual operating expenses, may assist in the repayment of the Dallas Creek Project, and may provide the utility that ultimately purchases the power an opportunity to help diversify its generating portfolio and to meet legislatively-mandated requirements for renewable energy sources. While the lease of power privilege has a 40 year term, the life of the Project is expected to extend well beyond 50 years and could thus provide Tri-County both a short-term and a long-term reliable revenue stream. According to Tri-County, initial years revenues could be relatively small (<\$100,000), dependent on financial terms of interest and amortization schedule; but the Project should produce positive cash flow once operations start. After amortization (possibly 20-30 years), the Project would produce average annual revenue in the order of \$1 million, in 2009 dollars (Tri-County 2010).

Tri-County and Tri-State do not predict additional permanent staff to operate or maintain the new hydropower and interconnection facilities. There would be short-term employment and spending on goods, services, and materials during the construction period of the \$3-\$4 million interconnection project with an overall increase in the level of income in the county during the construction phase. This would benefit local communities and businesses, as well as increase tax revenues collected on these purchases.

There would be minor impacts to recreation during the construction phase but overall visitation is not expected to be affected and there should be no long-term impact on visitor numbers or the quality of the recreation experience.

Water supplies from Ridgway Reservoir for municipal, industrial, and recreation purposes would not be affected by hydropower development.

WILDLIFE AND VEGETATION

There are several plant communities at Ridgway State Park including pinon-juniper woodland, sagebrush shrubland, cottonwood forest, mountain shrubland, and ponderosa pine woodland. Wetlands with willows, cattails, water sedge and horsetails exist along the Uncompahgre River downstream from the dam; and there is a constructed wetland adjacent to the proposed access to the new transmission line.

The construction area for the Switching Station is now a graveled storage area. The transmission line route includes 500 feet of pinon-juniper woodland and 400 feet of grass/shrubland and barren areas. The pinon-juniper area has scattered oakbrush and sagebrush. The access route for transmission line construction includes an additional 300 feet of pinon-juniper. The relocated CPW storage area site now consists of approximately two acres of grassland/roadways with scattered sagebrush and two juniper trees.

More than 140 species of migratory and resident birds have been identified in the park, including many species of waterfowl and shorebirds attracted to the reservoir (Colorado State Parks 2011). Raptors are common along the Uncompahgre River including wintering bald eagles, osprey, and red-tailed hawks. Mule deer and occasionally elk are common and habitat in the project area provides winter range. Year-round movement of deer between the Uncompahgre River corridor and upland areas occurs in the area of switching facilities and the new transmission line.

Vegetation impacts would be limited to work areas along the transmission line and the new storage area. The new access road could impact approximately 50 pinon and juniper trees on 0.6 acres and 0.6 acres of grass/sagebrush. In the transmission line route, taller trees will be removed to provide adequate clearance (20 feet) for the transmission lines. The relocation of the dry storage area would remove two acres of grassland with scattered sagebrush, unimproved roadways, and two juniper trees.

Wildlife impacts would be minor with approximately two acres of winter range permanently affected. Movement corridors would be maintained. The transmission line would be designed raptor-proof to avoid electrocution of raptors. The Migratory Bird Treaty Act will be complied with during construction either by doing construction outside of the nesting period or by inventory/avoidance during the nesting period.

RECREATION AND AESTHETICS

Ridgway State Park includes three recreation areas constructed as part of the Dallas Creek Project (Figure 3). The largest area is the Dutch Charlie Recreation area located along the eastern side of Ridgway Reservoir. The Dallas Creek area is located at the upper end of the reservoir and the “Pa-Co-Chu-Puk” or Cow Creek area is located along the Uncompahgre River downstream from Ridgway Dam. Recreation is managed by the CPW and recreation activities include camping, boating, fishing, hiking, picnicking, and nature study. Visitation to the state park is approximately 300,000 visits annually.

Aesthetics is a key resource of Ouray County in general and Ridgway State Park specifically. Ouray County is very concerned with visual impacts in the county and in views from U.S. Highway 550.

The hydropower project is planned to operate under existing reservoir operations and thus changes in reservoir content or streamflows that might affect recreation activities are not expected. As discussed in the Ridgway Hydropower EA, the hydropower facility may reduce existing water quality problems with nitrogen supersaturation and this may improve the fisheries in the river and associated recreation.

Recreation facilities would not be affected by the Switching Station facility construction and operation. The only exception to this would be due to the construction of the transmission line which would require periodic closure of the Enchanted Mesa recreation trail.

There would be delivery of over-sized loads delivered to the work site. These deliveries would be coordinated with CPW personnel in advance to avoid conflicts with recreation access.

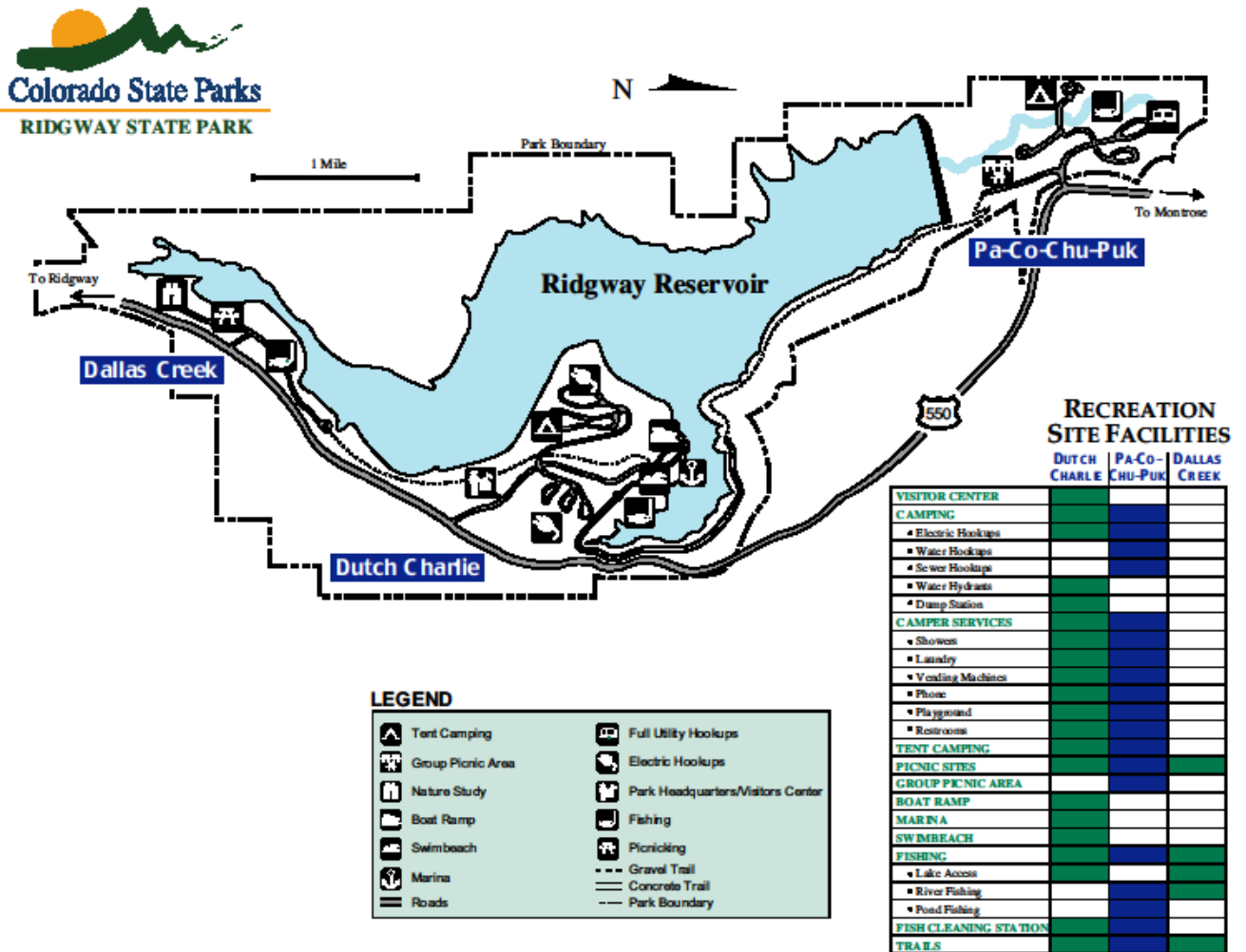


Figure 3. Ridgway State Park.

As seen in Figure 4, the distance, topography, and vegetation between the hydropower plant location at the foot of the dam and the Switching Station and the nearest major recreation site would minimize any visual or sound impacts. In addition non-reflective construction material would be used with colors that blend with the surroundings.

Overall there is no long-term effect on the quantity or quality of recreation at Ridgway State Park.



Figure 4. Looking south across the day use area toward Ridgway Dam. Stars show proposed locations for Switching Station on the left and CPW dry storage relocation site on the right.

THREATENED AND ENDANGERED SPECIES

Table 1 includes species potentially occurring in Ouray County or in downstream rivers that are listed under the Endangered Species Act as endangered, threatened, or a candidate for listing.

There are no known special status species in the vicinity of the proposed Project. The bonytail, Colorado pikeminnow, humpback chub, and razorback sucker are found in the Gunnison or Colorado rivers downstream. Potential habitat for the yellow-billed cuckoo occurs along the Uncompahgre River several miles downstream from Ridgway Dam.

Table 1. Special status species in Ouray County.

Common Name	Scientific Name	Status	General habitat
Bonytail	<i>Gila elegans</i>	Endangered	Colorado River and major tributaries
Canada lynx	<i>Lynx canadensis</i>	Threatened	High elevation forest
Colorado hookless cactus	<i>Sclerocactus glaucus</i>	Threatened	River benches, xeric slopes with cobbles, pebbles
Colorado pikeminnow	<i>Ptychocheilus lucius</i>	Endangered	Colorado River and major tributaries
Greenback cutthroat trout	<i>Oncorhynchus clarki stomias</i>	Threatened	Small, high elevation streams
Humpback chub	<i>Gila cypha</i>	Endangered	Colorado River and major tributaries
Razorback sucker	<i>Xyrauchen texanus</i>	Endangered	Colorado River and major tributaries
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Candidate	Riparian, cottonwood woodland
Uncompahgre Fritillary butterfly	<i>Boloria acrocroma</i>	Endangered	High elevations, snow willow areas
North American wolverine	<i>Gulo gulo luscus</i>	Candidate	Mountainous wilderness areas

Generated by the Information, Planning, and Conservation (IPaC) System of Fish and Wildlife Service on 07/19/2011

The Fish and Wildlife Service (1979) issued a jeopardy biological opinion for the Dallas Creek Project on November 16, 1979. The reasonable and prudent alternative was the release of water from the Dallas Creek Project or from other projects that regulate flows in the Gunnison River and the Colorado River in order to replace the 17,200 acre-feet (af) depletion caused by the Dallas Creek Project. The biological opinion stated that it may be necessary that an equal volume be released to the Gunnison River from one or more projects, but studies may reveal that flow releases totaling less than 17,200 af annually may be adequate for the fishes to survive in the areas and in the numbers necessary for recovery. The biological opinion identified the Aspinall Unit (Blue Mesa Reservoir) as the best source of water for such releases. In January 2009, Reclamation requested reinitiation of consultation for the Dallas Creek Project in conjunction with consultation on the Aspinall Unit.

In accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.), and the Interagency Cooperation Regulations (50 CFR 402), the Fish and Wildlife Service (2009) issued a Programmatic Biological Opinion (PBO) for the Gunnison River Basin and the operation of the Aspinall Unit and the reconsultation for the Dallas Creek and Dolores Projects and their effects on the endangered Colorado pikeminnow (*Ptychocheilus lucius*), humpback chub (*Gila cypha*), bonytail (*Gila elegans*), and razorback sucker (*Xyrauchen texanus*) and their critical habitats. Consultation for the Gunnison River basin includes operation and depletions associated with existing Reclamation projects, other Federal projects and existing non-federal water depletions. This consultation concluded ESA consultation on the Dallas Creek Project.

There would be no effect on endangered or threatened species or their habitat due to the development of the interconnection facilities. There are no species present in areas that would be affected by construction.

CULTURAL RESOURCES

Cultural resource surveys and research have been completed for the Dallas Creek Project. The “Old Dallas Historical Archaeological Program” documented extensive prehistoric and historic use of what is now Ridgway Reservoir and Ridgway State Park (Buckles et al. 1986). The report presents a synthesis of prehistoric and historic lifeways of the areas past inhabitants. There are no sites recorded within the area of potential effect of the hydropower and interconnection facilities.

There have been no cultural resources identified that could be impacted by the proposed hydropower project or interconnection facilities. The State Historic Preservation Officer (2011) concluded that “Based on the nature of the proposed project and previous disturbances in the project vicinity, it is our opinion that a finding of no historic properties affected is appropriate for the proposed project and the project may proceed without additional cultural resource inventory.” Agreements will require halting work if unidentified cultural/archeological resources are discovered during construction until the resource can be evaluated under the National Historic Preservation Act and the terms of the National Register of Historic Places eligibility criteria in consultation with the State Historic Preservation Officer.

AIR QUALITY AND NOISE

Air quality is generally excellent in the Project area and there are no air quality non-attainment areas in the vicinity. Agricultural operations and construction activities can be sources of dust pollution during wind events in the general region. There are no significant noise sources or problems in the Project area. The primary source of noise in the Project area is traffic along U.S. Highway 550. The Uncompahgre River itself along with campground noises are the major sources within the recreation area downstream from Ridgway Dam.

There could be short-term dust impacts during construction of the Switching Station and relocated dry storage area although this would be limited because most access and storage areas are graveled/paved and dust control would be followed during construction. There would be no long-term adverse impacts on air quality due to operation and maintenance of the hydropower or interconnection facilities. There would be minor noise impacts during construction due to vegetation clearing, heavy equipment movement, and fence building. The Switching Station will consist of energized bus conductors and circuit breakers. This equipment will only produce a small amount of audible noise due to the electric field surrounding the energized conductors in

the Switching Station. This level of noise will be small due to the design of the lines and the voltage level.

CUMULATIVE IMPACTS

Cumulative impacts are impacts on the environment, which result from the incremental impact of the action, when added to other past, present, and reasonably foreseeable future actions including the hydropower plant. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The tailwater fishery developed after the original construction of Ridgway Dam may benefit from the proposed hydropower development due to water quality improvements. Overall, the construction of the switching facilities and the hydropower plant should not have significant cumulative impacts.

SUMMARY

In summary, the primary effect of the proposed action would be to provide facilities to carry energy from the Tri-County Water Hydropower Project to the regional power grid. There would be short term economic benefits due to construction expenditures and employment. In the long-term, Tri-County and its members would benefit from income generated from the Project and a renewable energy resource would be developed.

CHAPTER 4 -- CONSULATATION AND COORDINATION

GENERAL

Scoping was initiated in April 2011 for the overall hydropower project through news release, mailings, and email contacts. Scoping for the interconnection facilities continued into 2013. Consultation was conducted with the Colorado State Historic Preservation Officer under Section 106 of the National Historic Preservation Act and with the Fish and Wildlife Service under the Endangered Species Act. The CPW was contacted concerning potential effects of the proposal on fish and wildlife and recreation resources.

The draft supplemental EA was released to the public on February 25, 2013. No comments were received on the supplement.

DISTRIBUTION LIST

News Releases announced the availability of the draft supplemental EA, and the EA has been placed on Reclamation's website at: www.usbr.gov/uc/ under environmental documents. The draft supplemental EA was distributed to the following list:

Colorado Division of Water Resources, Montrose, CO
Colorado Division of Parks and Wildlife, Montrose, Ridgway, Clifton, CO
Colorado State Historic Preservation Officer, Denver, CO
Colorado Department of Natural Resources, Denver, CO
Tri-County Water Conservancy District, Montrose, CO
Uncompahgre Valley Water Users Association, Montrose, CO
Colorado River Water Conservation District, Glenwood Springs, CO
Project 7 Water Authority, Montrose, CO
San Miguel Power Association, Ridgway, CO
Tri-State Generation and Transmission Association, Denver, CO
Ouray County Commission, Ouray, CO
Town of Ridgway, Ridgway, CO
Ouray County Land Use Department, Ridgway, CO
Montrose Daily Press, Montrose, CO
Ouray Plain Dealer, Ouray, CO

Daily Sentinel, Grand Junction, CO
Trout Unlimited, Montrose, CO
Friends of Ridgway State Park, Ridgway, CO
Fish and Wildlife Service, Grand Junction, CO
U.S. Environmental Protection Agency, Denver, CO
Western Area Power Administration, Montrose, CO
Bureau of Land Management, Montrose, CO

REFERENCES

Bureau of Reclamation. 2011. Final Environmental Assessment-Tri-County Water Hydropower Project. Western Colorado Area Office. Grand Junction CO.

Buckles, William G and M. Rossillon, C. Haecker, R. Lawrence, C. Muceus, N. Buckles, S. Hilvitz, R. Moore, and M. Anderson. 1986. Old Dallas Historical Archaeological Program. Prepared for Bureau of Reclamation, Salt Lake City UT.

Bureau of Reclamation. 1976. Dallas Creek Project, Colorado, Final Environmental Statement. Salt Lake City UT.

Colorado Division of Wildlife. 1975. Analysis: Fish and Wildlife Resources, Dallas Creek Project Area. Prepared for Bureau of Reclamation. Grand Junction CO.

_____. 2009. Memorandum from Dan Kowalski to Kirstin Copeland, Ridgway State Park. November 30. Montrose CO.

_____. 2010. Fish Survey and Management Information-Ridgway Reservoir. Colorado Division of Wildlife. Montrose CO.

_____. 2011. Memorandum to Bureau of Reclamation, Grand Junction CO. May 25, 2011.

Colorado State Historic Preservation Officer. 2011. Memo to Bureau of Reclamation Area Manager re: determination of effect: Ridgway Hydropower Project (CHS#60273). September 6, 2011. Denver CO.

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<http://www.parks.state.co.us/Parks/Ridgway/Pages/RidgwayStateParkHome.aspx>

Fish and Wildlife Service. 1979. Biological Opinion for the Dallas Creek Project, Colorado. Memorandum from Acting Regional Director, Region 6 to Regional Director, Upper Colorado Region. Lakewood, Colorado.

_____. 2009. Final Gunnison River Basin Programmatic Biological Opinion. Memorandum from Field Supervisor to Reclamation Area Manager, Grand Junction CO.

Tri-County Water Conservancy District. 2010. Application for Lease of Power Privilege, Ridgway Dam Hydropower Project. Montrose CO.

Attachment A



Proposed location of Switching Station in upper graveled lot.



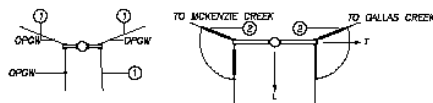
Example of a typical Tri-State Switching Station similar in scope to the proposed Cow Creek Switching Station



TRI-STATE

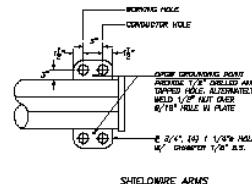
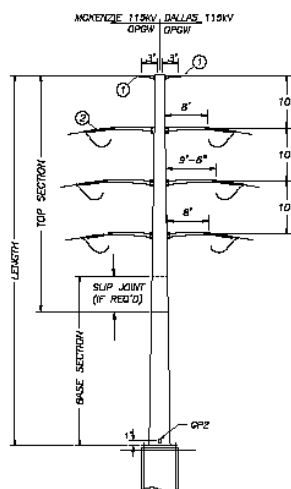
Generation and Transmission
Association, Inc.

1100 W. 11th Ave.
Denver, Colorado 80233
303-733-4111

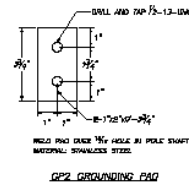
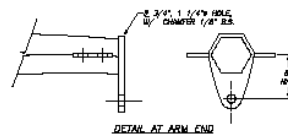
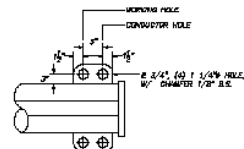


PLAN VIEWS AT
SHIELD WIRES

PLAN VIEW
AT PHASES



SHIELDWIRE ARMS



GP2 GROUNDING PAD

NOTES FOR POLE 71

- POLE TOP ASSEMBLY IN ASSEMBLY.
- POLE WITH ARMS AND NUMBER SHOWN, AND DTG UNITS.
- POLE TOP ASSEMBLY IN

ITEM NO.	QTY.	DESCRIPTION
1	2	OPGW DEADEND
2	10	115KV GIDGE

NOTES FOR STEEL

- POLE AND ARMS SHALL ANCHOR BOLTS.
- DESIGN CAPACITY WITH WIND SPAN AND WIND LOAD SHALL BE AS SHOWN IN THE DRAWING. POLE IS ALSO DESIGN TRUSS ARE SHOWN IN THE DRAWING.
- POLES MAY BE SINGLE.
- CROSSINGS SHALL BE DIMENSIONS SHOWN IN THE DRAWING. SHALL BE TO SAT. STANDING WIND.
- LADDER CLIPS FOR STEEL SHALL BE SHOWN IN THE DRAWING.
- OVERALL LENGTH 7' 0" 0 LENGTHS AND WEIGHTS

POLE TYPE	1
DO-85	

- THE FOLLOWING LIMITS SHALL BE TOP GIBNET PAPER. ALTERNATE TOP GIBNET PAPER IS ADDED.
- CONSTRUCTION UNIT OF ATTACHING THE ARMS.
- FOUNDATION POLE TOP CONSTRUCTION UNITS.
- SLIP JOINTS SHALL BE ANCHORED IN CONCRETE.

DD 115KV

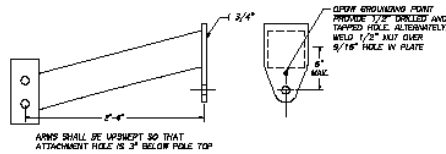
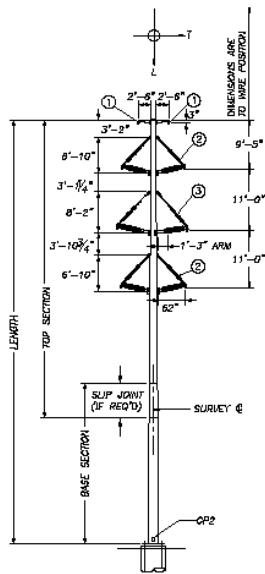
PROJECT	RIDGWAY DAM 115KV T/LINE	REV. NO.	0	DATE	12/21/12	REVISION	ORIGINAL ISSUE	SCALE	N/T	DRG.	EM
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Preliminary drawing of Transmission Pole proposed to be constructed near Highway 550 and at north end of Switching Station.

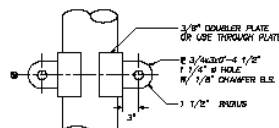


TRI-STATE
Generation and Transmission
Association, Inc.

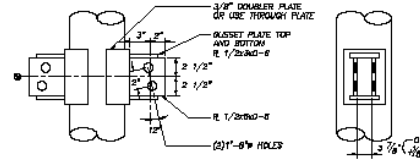
1100 W. 118th Ave.
Denver, Colorado 80233
303-952-2111



DETAIL AT OPGW ARMS



SUSPENSION INSULATOR ATTACHMENT

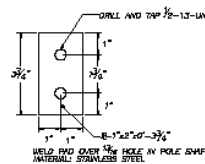


SIDE VIEW

END VIEW

FOR MIDDLE PHASE, PROVIDE SHORT ARM WITH SIMILAR END DETAIL. SHORT ARM SHALL BE 1'-3" FROM BODY LINE AT POLE TO INSULATOR MOUNTING HOLES AND SHALL HAVE 12" UP-SLOPE FROM FACE OF ARM BRACKET TO INSULATOR MOUNTING HOLES.

DETAIL AT POST INSULATOR ATTACHMENT



GP2 GROUNDING PAD

NOTES FOR POLE TOP ASSEMBLY

1. POLE TOP ASSEMBLY INCLUDES INSULATORS, HARN ASSEMBLIES.
2. POLE, FOUNDATION, GROUNDING, POLE NUMBER IS SEPARATE CONSTRUCTION UNITS.
3. POLE TOP ASSEMBLY INCLUDES:

ITEM NO.	QTY.	DESCRIPTION
1	1	OPGW SUSPENSION ASSEMBLY
2	4	115kV BRACED POST INSULATOR ASSEMBLY
3	2	115kV BRACED POST INSULATOR ASSEMBLY

NOTES FOR STEEL POLE MATERIALS

1. POLE AND ARMS SHALL BE WEATHERING STEEL.
2. DESIGN CAPACITY WITH 477 KCM 26/7 ACSS CDR RND SPAN 500 FEET WEIGHT SPAN 300 FEET LINE ANGLE 0 DEG. SPECIFIC LOAD CASES AND LOADING TRACES ARE
3. POLES MAY BE SINGLE PIECE OR HAVE A SINGLE
4. ATTACHMENT POINTS FOR BRACED POST INSULATOR MIDDLE PHASE WILL REQUIRE A 1'-3" OFFSET OF ATTACHMENTS MAY BE REQUIRED TO MAINTAIN OF INSULATOR ASSEMBLIES.
5. LADDER CLIPS FOR STANDARD LADDERS ARE USED. CLIMBING LADDERS SHALL BE INCLUDED FOR THE
6. AERIAL NUMBER SIGN ATTACHMENT DETAIL SHALL ORIGINATE 10'-11.5' FOR DETAILS.
7. OVERALL LENGTH "L" IS SHOWN BY THE POLE OR HEIGHTS ARE AS FOLLOWS.

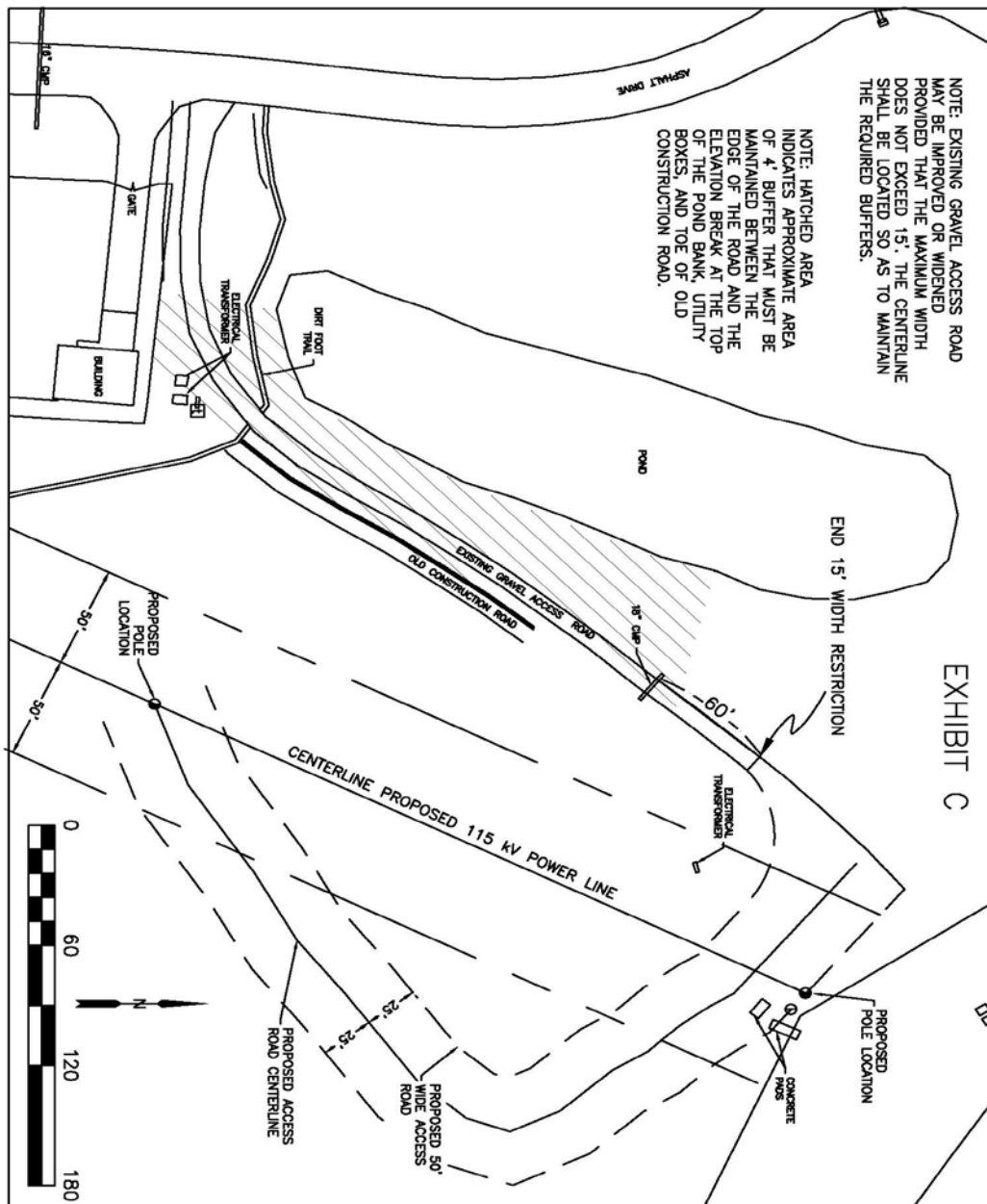
POLE TYPE	LENGTH	SECTION AND APP. TOP LENGTH	WT.
BP2-70	70	37'-0	1450

8. THE FOLLOWING LIMITING DIMENSIONS SHALL APPLY: ANCHOR BOLT CIRCLE 3/4" DIA. TOP DIAMETER 8" DIA. PAPER 0.30" PER 1" ALTERNATE TOP DIAMETER AND THICK MAY BE 1" ACCEPTABLE.
9. CONSTRUCTION UNIT BP2-10; INCLUDES ASSEMBLY ERECTING THE POLE ON THE FOUNDATION.
10. FOUNDATION, POLE TOP ASSEMBLY, AND GROUNDING
11. SLIP JOINTS SHALL BE ASSEMBLED ACCORDING TO APPLICATION OF FULL SPECIFIED JOINTING FORCE.

BP2 115kV BRACI

PROJECT	REV.	NO.	DATE	REVISION	SCALE	DATE	BY	CHK.
RIDGWAY DAM 115kV T/LINE	0		12/21/12	ORIGINAL ISSUE				

Preliminary drawing of transmission pole proposed to be constructed between Switching Station and pole at Highway 550



Corridor width for access road and transmission line

