RECLAMATION
Managing Water in the West

Record of Decision

TransWest Express Transmission Project

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Volume 1- Record of Decision

Approved:

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Acronyms and Abbreviations

BLM	Bureau of Land Management
CFR	Code of Federal Regulations
DC	Direct current
EIS	Environmental Impact Statement
IPP	Intermountain Power Project
IRA	Inventoried Roadless Area
ITA	Indian Trust Assets
kV	Kilovolt
LMNRA	Lake Mead National Recreation Area
NEPA	National Environmental Policy Act of 1969
NHT	National Historic Trail
NPS	National Park Service
NTP	Notice to Proceed
POD	Plan of Development
ROD	Record of Decision
RMP	Resource Management Plan
ROW	Right-of-way
TAC	The Anschutz Corporation
USFS	U.S. Forest Service
WWEC	West-wide Energy Corridor

1.0 Summary of Action

This Record of Decision (ROD) for the TransWest Express Transmission Line Project (TransWest Express or Project) approves the construction, operation, maintenance, and termination (which includes decommissioning) of the Agency Preferred Alternative across Bureau of Reclamation (Reclamation) administered lands as described in the TransWest Express Transmission Project Final Environmental Impact Statement (Final EIS). The TransWest Express 600-kilovolt (kV) direct current (DC) transmission system extends from south-central Wyoming to southern Nevada, as analyzed in the Final EIS, as noticed in the May 1, 2015 Federal Register (**Figure ROD-1**). The Project traverses Carbon County, Wyoming, Moffat County Colorado, Uintah, Carbon, Wasatch, Duchesne, Salt Lake, Juab, Millard and Iron counties in Utah and Clark and Lincoln counties in Nevada.

This approval will take the form of right-of-use (ROU) authorizations, issued in conformance with the Act of Congress of June 17, 1902 (32 Stat. 388), the Act of Congress approved August 4, 1939 (53 Stat. 1187), Section 10, and 43 Code of Federal Regulations (CFR) Part 429 to respond to a request for ROU authorization on Reclamation-administered Federal lands. The new ROU authorization will allow TransWest Express LLC (TransWest, or the Proponent) the right to construct, operate, maintain, and terminate a 600-kV electric transmission line on Reclamation administered lands. The Agency Preferred Alternative alignment for the transmission line was identified in the Final EIS (Alternatives I-B, II-G, III-D, and IV-A).

1.1 Description of the Transmission Line Project

The TransWest Project as analyzed in the Final EIS includes the following key components:

- **Transmission Lines** – The proposed option is a 600-kV DC line and associated 250-foot-wide ROW between the northern and southern terminals. TransWest proposes to utilize guyed-lattice towers as the preferred transmission structure.
- **Terminals** – Two terminal stations to be located on private or public lands at either end of the transmission line, near Sinclair, Wyoming, and at the Marketplace Hub in the Eldorado Valley, within Boulder City, Nevada. Terminal facilities would include converter stations and related substation facilities necessary for interconnections to existing and planned regional AC transmission systems.
- **Ground Electrode Facilities** – Two ground electrode facilities, each connected to the respective terminal with a low voltage electrical line, to be located on private or public lands within 100 miles of each of the Northern and Southern terminals. These ground electrode facilities will be used to maintain system operations in the event of the loss of one or more poles (or circuits).
- **Access Roads** – Access routes, including improvements to existing roads, new overland access, and new unpaved roads to access the proposed Project facilities and work areas during the construction, operation, and maintenance Project phases.
- **Fiber Optic Regeneration Sites** – A network of 12 to 15 fiber optic communication and regeneration sites, typically within the 250-foot-wide transmission line ROW, and microwave facilities at each terminal.
- **Temporary Construction Sites** – Temporary construction sites, including wire pulling/fly yards, material storage and concrete batch plant sites.

Two design options were included to maintain Project flexibility. The Notice to Proceed (NTP) Plan of Development (POD) will disclose the option selected during the NTP process:

- **Design Option 2:** a 600-kV DC transmission line from the Northern Terminal in Sinclair, Wyoming, to a new AC/DC converter station near the existing Intermountain Power Project (IPP) substation near Delta, Utah. From there, a single circuit 1,500-megawatt, 500-kV AC transmission line to one of the existing substations in the Eldorado Valley, in Boulder City, Nevada (Marketplace Hub).
- **Design Option 3:** A two-phase approach: Phase one to construct the portion of the transmission line from Sinclair, Wyoming, to the IPP substation near Delta, Utah, to be operated as a AC transmission system; Phase two to construct the Northern and Southern terminals, the remaining portion of the line from IPP to the Southern Terminal, the ground electrode systems, and convert operations to a DC system.

Implementation of the design options will only be considered under the conditions that sufficient capacity became commercially available to transmit energy delivered by the Project to California, and that the Project is able to establish commercial interconnection agreements with the utility owning and operating the IPP transmission line. The Bureau of Land Management (BLM) and Reclamation will issue NTPs for the option that is identified during the NTP process.

Construction of the TransWest Express Project is currently planned to start upon issuance of the NTP, and is expected to take 3 years. Construction is expected to occur in 3 spreads simultaneously. Use of any public/Federal lands authorized under this grant is contingent upon BLM and Reclamation receiving and approving final engineering design construction plans as part of the NTP POD. Final approval will take the form of an NTP. Until an NTP is approved, no surface disturbing activities can occur, including geotechnical survey or exploration. In addition, the proponents may not begin construction until compliance with all applicable Federal, state, local and other laws and regulations are documented as satisfactorily complete.

2.0 Reclamation's Decision

Based on review of the analysis as documented in the Draft EIS (BLM 2013) and Final EIS (BLM/WY/PL-15/012+5101 (2015)), Reclamation adopts the Final EIS and Selected Alternative as described in the BLM's ROD (**Figure ROD-1**). Reclamation's decision is to issue 30 year ROU authorizations to TransWest Express for 250-foot-wide ROWs on 0.08 miles of Upper Colorado Region-administered lands and 7 miles of Reclamation's Lower Colorado Region-administered lands along the 728-mile total distance of the Selected Alternative for the construction, operation, maintenance, and termination (which includes decommissioning) of a 600-kV transmission line following the BLM's Selected Alternative. Portions which cross Reclamation administered lands are portions of Alternative II-G in Duchesne County, Utah and portions of Alternative IV-A in Clark County, Nevada.

Alternatives are portrayed by region in **Figure ROD-2** through **Figure ROD-5**. Alternative II-G and IV-A and Reclamation-administered lands applicable to this decision are portrayed in **Figures ROD-3, ROD-5. ROD-6, and ROD-7**. The full set of detail maps can be found in **Appendix B** (Specifically in Appendix AA to the Plan of Development) of this ROD. Those detail maps which show project features on Lower Colorado Region land are also included in **ROD-8** (the crossing of Upper Colorado Region land is by overhead lines only). Legal descriptions for the ROU authorizations on applicable Reclamation-administered lands are included in **Appendix A** of this ROD. Also included in this decision are the Mitigation Measures for the TransWest Project (**Appendix B** of this ROD), and all terms and conditions in the Programmatic Agreement (refer to **Appendix C** of this ROD). The U.S. Fish and Wildlife Service issued a Biological Opinion (**Appendix D** of this ROD), which has been

incorporated into this ROD. Additionally, all mitigation measures in the NTP POD as well as mitigation measures presented in **Appendix E** shall be applied.

Reclamation's Upper Colorado ROU includes:

- The linear alignment of the transmission line across 0.08 miles of Reclamation administered land, centered within a 250-foot-wide right-of-way (ROW) (approximately 2.5 acres).

Reclamation's Lower Colorado ROU includes:

- The linear alignment of the transmission line including structures (*i.e.*, lattice or poles), foundations, and associated hardware on 7 miles of Reclamation administered land, centered within a 250-foot-wide ROW (approximately 196.5 acres); and
- Temporary wire-pulling, tensioning, and splicing sites; and
- Approximately 20 miles of access roads on Reclamation land as shown in Table 1.

Table 1- Miles of Access Roads for Project on Reclamation Lower Colorado Region Lands

	Outside Project ROW	Within Project ROW	Total
Existing Road	0.6	0.1	0,7
Improve Existing Road	16.3	1.2	17.5
New Road	0.9	1.2	2.1
Total	17.8	2.5	20.3

3.0 Purpose and Need

Reclamation's purpose for their Federal action related to the proposed project is to respond to TransWest's Application for a ROU application on Reclamation-administered lands. The need for this is established by Reclamation's responsibility under the Act of Congress of June 17, 1902 (32 Stat. 388), the Act of Congress approved August 4, 1939 (53 Stat. 1187), Section 10, and 43 CFR Part 429 to respond to a request for ROU authorization on Reclamation-administered Federal lands. The proposed project will create: (1) economical transmission service to foster the development of new renewable energy resources; and (2) a new energy pathway to reduce congestion on the existing transmission grid, increasing interstate transmission system reliability.

3.1 National Environmental Policy Act Process

The BLM (through the Wyoming State Office) and Western Area Power Administration (Western) are joint lead agencies for the National Environmental Policy Act (NEPA) process, and have mutually overseen the preparation of the EIS. Reclamation is one of 49 cooperating agencies who assisted in the preparation of the EIS. A Memorandum of Understanding was implemented between the lead agencies and each cooperating agency.

The lead agencies conducted a corridor refinement process to identify potentially feasible corridors to be analyzed in the EIS, eliminating corridors that were duplicative or presented

extensive resource constraints. After receiving and addressing input from the BLM Interdisciplinary Team and cooperating agency reviewers, a range of alternative corridors were presented to the public during the public scoping period (January through April 2011). Scoping comments identified issues that helped to inform the lead agencies' identification of those alternative corridors to retain for further analysis.

The Draft EIS evaluated and disclosed the potential Project-related environmental impacts that could result from the implementation of the Proposed Action and any of the alternatives (which are described in Section 5 of this ROD). The analysis included disclosure of applicant-committed design features and proposed mitigation to reduce resource impacts. The analysis also supports the analysis needed for compliance with the requirements of other Federal laws and to inform and support other agency actions.

The environmental analysis used a prospective layout and design for the transmission line, access roads and temporary construction areas. The EIS analyzed a 2-mile-wide siting and study area centered on the prospective transmission line which was refined in the Final EIS to avoid sensitive areas. This approach allowed the NEPA process to assist the proponent in avoiding and mitigating many acute resource impacts identified during the environmental analysis by micro-siting the 250-foot-wide transmission line to produce the preliminary engineered alignment shown in the Final EIS and associated facilities within the Study Area.

Additional comments on the alternatives were received from the public on the Draft EIS (see response to Draft EIS comments contained in Appendix J of the Final EIS). Public comments on the Draft EIS continued to inform those alternatives retained for further analysis. Resource and/or siting constraints identified through the NEPA process and associated cooperating agency coordination were then used to guide further refinements to the alternative transmission alignments and reduce the width of the transmission line corridors previously analyzed in the Draft EIS.

4.0 Authority for Action

Reclamation's basis and authority for this decision is based on the Act of Congress of June 17, 1902 (32 Stat. 388), the Act of Congress approved August 4, 1939 (53 Stat. 1187), Section 10, and 43 CFR Part 429.

5.0 Alternatives Considered in the Final EIS

5.1 Alternatives Development

An iterative, adaptive process was used for this Project to identify an adequate range of alternative transmission corridors that directly respond to addressing potential resource or siting constraints and help to inform decision-makers. Resource and/or siting constraints identified through the NEPA process and associated cooperating agency coordination were then used to guide further refinements to the alternative transmission alignments and reduce the width of the transmission line corridors previously analyzed between the Draft and Final EIS.

This iterative process allowed for the systematic identification of alternatives and mitigation measures to reduce resource impacts. This reduction in resource impacts occurred by allowing the flexibility for site-specific transmission line routing within the refined transmission corridor described in the Final EIS. The boundaries of the corridor restrict routing options

based on large-scale resource constraints. Subsequent fine-scale routing of the transmission line can then avoid site-specific sensitive resources and ensure implementation of required mitigation as disclosed in the Final EIS and required in this ROD. Site-specific resource surveys conducted prior to the Project's approval for construction, combined with the flexibility of the refined transmission corridor, ensure that this routing minimizes resource impacts. This approach ensures transparency through the NEPA analysis by minimizing Project variances. Alternatives eliminated from detailed analysis are shown in **Appendix F** of this ROD.

5.2 No Action Alternative

Under the No Action Alternative, the BLM or Reclamation will not issue ROW grants or ROU grants, respectively, and the Project will not be constructed. Under the No Action Alternative, Western will not provide funding to the Project.

5.3 Alternatives Facilities and Transmission Line Routes

The length and surface disturbance from the proposed and alternative routes are described in this section. This includes transmission line alternative routes, variations, connectors, and ground electrode systems.

The Project has been split into four distinct regions, each of which will require independent alternatives decisions regarding transmission line routing based on region-specific topographical or resource constraints. The result will be a complete Project decision across all Project Regions. The alternative transmission line routes are depicted by region in **Figures ROD-2** through **ROD-5**. The alternatives within each of these regions can be combined to define a distinct end-to-end route from Wyoming to Nevada. Reclamation-administered lands that are transected by Project alternatives are portrayed in **Figures ROD-3, ROD-5** and **ROD-6.**

5.3.1 Region I (Sinclair, Wyoming, to northwest Colorado near Rangely, Colorado, see Figure ROD-2)

5.3.1.1 Northern Terminal

The Northern Terminal would be located approximately 3 miles southwest of Sinclair, Wyoming (Carbon County), on private lands. The terminal would include an AC/DC converter station and adjacent AC substation. The AC/DC converter station would include a 600-kV DC switchyard; AC/DC conversion equipment; transformers; and multiple equipment, control, maintenance, and administrative buildings. Two buildings would house the AC/DC conversion equipment; smaller buildings would house the control room, control and protection equipment, auxiliary equipment, and cooling equipment. Connections to the existing transmission infrastructure also would be constructed. The three major components (AC/DC converter station, 500-/230-kV AC substation, and 230-kV AC substation) are planned to be co-located and contiguous.

5.3.1.2 Alternative I-A Transmission Line Route (Proposed Action)

TransWest's proposed alignment would begin in Sinclair, Wyoming, and would travel west just south of the Interstate 80 (I-80) corridor to Wamsutter. At Wamsutter, it would turn south and generally follow the Carbon-Sweetwater county line along a corridor preferred by the Wyoming Governor's Office and Carbon and Sweetwater counties. It then would continue south-southwest across the Wyoming-Colorado state line and south along a corridor preferred by Moffat County and coordinated with the BLM Northwest Colorado District Office's ongoing greater sage-grouse planning effort. It would then intersect with U.S. Highway 40

(US-40) just west of Maybell, Colorado. The alignment would then generally parallel US-40, turning southwest toward the Colorado-Utah border.

Alternative I-A includes segments 1030, 1040, 1100, 1101, 1106, 1110, 1120, 1120.2,1180, and 1187, and is approximately 156 miles, 66 percent of which would be located on BLM lands. 24 miles would be in BLM RMP utility corridors and 25 miles would be in West-wide Energy Corridors (WWECs). There would be 201 miles of access roads associated with this alternative.

5.3.1.3 Alternative I-B Transmission Line Route (Final EIS Agency Preferred Alternative)

Alternative I-B as considered in the Final EIS would be the same as Alternative I-A for nearly its entire length, with one exception just north of the Wyoming-Colorado state line. A length of approximately 8 miles of Alternative I-B diverges to the southeast from Alternative I-A in this area to minimize potential impacts to areas eligible for historic trail designation.

Alternative I-B includes segments 1030, 1040, 1100, 1101, 1106, 1110, 1116, 1120, 1120.1, and 1187, and is approximately 158 miles, 67 percent of which would be located on BLM lands. 24 miles would be in BLM RMP utility corridors and 25 miles would be in WWECs. There would be 204 miles of access roads associated with this alternative.

5.3.1.4 Alternative I-C Transmission Line Route

This alternative was developed to reduce the overall proliferation of utility corridors and associated impacts by following existing designated utility corridors. Alternative I-C would begin by following Alternative I-A to near Creston, Wyoming, where Alternative I-C would turn south and parallel Wyoming State Highway 789 (SH-789) toward Baggs, Wyoming. From there, Alternative I-C would continue south, deviating from SH-789 to the east and passing east of Baggs. After crossing into Colorado, this alternative would parallel Colorado SH-13 into Craig, Colorado. Alternative I-C would pass east and south of Craig, turning to the west after crossing US-40, generally paralleling the highway and joining with Alternative I-A to the end of Region I.

Alternative I-C includes segments 1030, 1100, 1106, and 1190, and is approximately 186 miles, 44 percent of which would be located on BLM lands; 53 miles would be in BLM RMP utility corridors; and 60 miles would be in WWECs. There would be 237 miles of access roads associated with this alternative.

5.3.1.5 Alternative I-D Transmission Line Route

Alternative I-D was developed to reduce multiple resource concerns, including impacts to visual resources and greater sage-grouse. It would follow the route of Alternative I-A, going west from Sinclair, Wyoming (Carbon County, Wyoming), basically paralleling I-80 in a designated WWEC, until turning south near Wamsutter. It would follow Alternative I-A south for approximately 15 miles. Alternative I-D then would diverge to the east, where it generally would parallel SH-789 at an offset distance of 2 to 5 miles to the west. Before reaching the Baggs area, Alternative I-D would turn west and follow the Shell Creek Stock Trail road for approximately 20 miles, where it would cross into Sweetwater County and again join Alternative I-A while turning south into Colorado (Moffat County).

Alternative I-D includes segments 1030, 1040, 1100, 1101, 1106, 1110, 1115, 1116, and 1187, and is approximately 168 miles, 70 percent of which would be located on BLM lands; 24 miles would be in BLM RMP utility corridors; and 25 miles would be in WWECs. There would be 213 miles of access roads associated with this alternative.

5.3.1.6 Alternative Variations, Connectors, and Micro-siting Options

There are no alternative variations within Region I. The Region I alternative connectors were removed from further consideration at the request of the lead agencies in response to public comments received on the Draft EIS.

Two micro-siting options have been developed to address specific land use concerns in all Region I alternative routes related to the Tuttle Ranch Conservation Easement and the Cross Mountain Ranch proposed conservation easement.

- Tuttle Ranch Micro-siting Options 3 (segments 1103 and 1104)
- Tuttle Ranch Micro-siting Options 4 (segments 1103 and 1105)

Both micro-siting options would replace segments 1101 and 1106. Tuttle Ranch Micro-siting Option 3 would avoid the Tuttle Ranch Conservation Easement, but would cross the National Park Service (NPS) Deerlodge Road west of US-40 and would cross the largest portion of the Cross Mountain Ranch property. Tuttle Ranch Micro-siting Option 4 would avoid the Tuttle Ranch Conservation Easement and the NPS Deerlodge Road, and would cross the least amount of the Cross Mountain Ranch property.

5.3.1.7 Ground Electrode Locations

One ground electrode system would be required within approximately 100 miles of the Northern Terminal to establish and maintain electrical current continuity during normal operations, and any unexpected outage of one of the two poles (or circuits) of the 600-kV DC terminal or converter station equipment. The ground electrode facility would consist of a network of approximately 60 deep earth electrode wells arranged along the perimeter of a circle expected to be about 3,000 feet in diameter. All wells at a site would be electrically interconnected and wired via approximately 10 low-voltage underground cable "spokes" to a small control building. A low voltage electrode line would connect the ground electrode facilities to the AC/DC converter stations. General siting areas and conceptual alternative site locations have been identified in Regions I; selection of specific location of the ground electrode systems would be identified during final engineering and design stages.

There are four potential locations for ground electrode systems in Region I (Bolten Ranch, Separation Flat, Separation Creek, and Eight Mile Basin). All locations would apply to all alternatives.

5.3.2 Region II (Northwest Colorado to IPP near Delta, Utah, see Figure ROD-3)

5.3.2.1 Alternative II-A Transmission Line Route (Proposed Action)

The TransWest proposed alignment would continue into Utah in a westerly direction, then deviate south from US-40 toward Roosevelt, Utah. From Roosevelt, it would pass north of Duchesne, again paralleling US-40 for several miles, then turn southwest and cross the Uinta National Forest Planning Area[1] generally within a WWEC-designated utility corridor, then turn west along US-6 and Soldier Creek. At the junction with US-89, Alternative II-A would then turn south generally along US-89 where it would cross a portion of the Manti-La Sal National Forest. The alignment would pass through Salt Creek Canyon then north around Nephi. It would continue west and then turn southwest following a path north of and adjacent to IPP. Portions of this corridor have been identified as preferred in a joint resolution by representatives of Juab and Millard counties.

[1] In March 2008, the Uinta National Forest and the Wasatch-Cache National Forest were combined into one administrative unit (Uinta-Wasatch-Cache National Forest). Each of these forests continues to operate under individual forest plans approved in 2003. The term Uinta National Forest Planning Area is used to refer to that portion of the Uinta-Wasatch-Cache National Forest managed under the Uinta National Forest Land and Resource Management Plan.

Alternative II-A includes the following segments: 1210, 1211, 1212, 1320.05, 1320.15, 1320.2, 1320.21, 1321.01, 1321.02, 1322.01, 1322.02, 1322.03, 1323.01, 1323.02, 1324, 1325, 1340, 1360, and 1430.

Alternative II-A would be approximately 258 miles, 45 percent of which would be located on BLM/USFS lands. 34 miles would be in BLM RMP utility corridors and 63 miles would be in WWECs. There would be 395 miles of access roads associated with this alternative.

5.3.2.2 Alternative II-B Transmission Line Route

Alternative II-B was developed to address impacts to private lands and to generally follow established utility corridors. These corridors are designated for underground utilities only and use of the corridor for the transmission line would require a plan amendment. The route would travel southwest in Colorado from the beginning of Region II, cross the Yampa River, and pass east of Rangely, Colorado. It would continue southwest where it would cross the Colorado-Utah state line and turn generally south, crossing back into Colorado in the Baxter Pass area. At that location, it would intersect the I-70 corridor, turning in a southwesterly and westerly direction, paralleling I-70. After passing south of Green River, Utah, Alternative II-B would diverge from I-70 and turn to the north along US-191. This highway generally would be followed until just south of the Emery-Carbon county line, where Alternative II-B would turn west and pass near the county line for approximately 25 miles. Then it would generally would turn south, pass west of Huntington, Utah, turn northwest, cross a portion of the Manti-La Sal National Forest, and pass northeast of Mount Pleasant, Utah. From there, it would pass through Salt Creek Canyon to Nephi, and then south around Nephi. It then would turn southwest and west adjacent to IPP, following a path south of Alternative II-A across a portion of the Fishlake National Forest.

Alternative II-B includes segments 1220, 1222.05, 1222.3, 1310, 1320.21, 1350, 1370, 1380, 1420, and 1440.

Alternative II-A would be approximately 346 miles, 65 percent of which would be located on BLM/USFS lands; 136 miles would be in BLM RMP utility corridors; and 33 miles would be in WWECs. There would be 492 miles of access roads associated with this alternative.

5.3.2.3 Alternative II-C Transmission Line Route

Alternative II-C also would decrease impacts to private lands and generally would follow established utility corridors as well as avoid USFS IRAs. Alternative II-C would follow Alternative II-B through Colorado, along I-70 into Utah, and north at US-191. Approximately 15 miles north on US-191, Alternative II-C would diverge from Alternative II-B and turn in a general westerly direction toward Castle Dale. Approximately 3 miles east of Castle Dale, this alternative would turn south and roughly parallel Utah SH-10 at a distance of approximately 3 miles to the east. The alternative would cross State Route 10 near the Emery-Sevier county line and turn west, again generally following the I-70 corridor across a portion of the Fishlake National Forest into the Salina, Utah, area. Alternative II-C would pass south of Salina, turn north, and parallel US-50 toward Scipio, Utah. The alternative would turn west and pass Scipio on the south, again crossing a portion of the Fishlake National Forest, then turn north, passing east of Delta, Utah, continuing into IPP.

Alternative II-C includes segments 1220, 1225.2, 1330.1, 1410, and 1440.

Alternative II-C would be approximately 365 miles, 67 percent of which would be located on BLM/USFS lands; 146 miles would be in BLM RMP utility corridors; and 17 miles would be in WWECs. There would be 488 miles of access roads associated with this alternative.

5.3.2.4 Alternative II-D Transmission Line Route

This alternative was developed to avoid USFS IRAs and to provide additional northern route options to avoid impacts to historic trails and areas designated for special resource management along the southern routes (Alternatives II-B and II-C). It would begin along the same route as Alternative II-A. However, as it would enter Utah, it would diverge briefly to follow a designated utility corridor, causing it to zigzag once across Alternative II-A. It then would diverge to the south of the designated utility corridor and turn west-southwest, skirting the edge of the Ashley National Forest. Alternative II-D would cross into Carbon County northwest of Price, and then turn southwest in the Emma Park area along US-191. It would follow this highway west of Helper, across a portion of the Manti-La Sal National Forest and, then turn west toward Salt Creek Canyon where it would join and follow Alternative II-B, skirt the edge of the Uinta National Forest Planning Area, then join and follow Alternative II-A into IPP.

Alternative II-D includes segments 1210, 1214, 1215, 1217.01, 1217.02, 1217.1, 1217.15, 1320.2, 1320.21, 1350, 1360, and 1430, and is approximately 259 miles, 57 percent of which would be located on BLM/USFS lands; 71 miles would be in BLM RMP utility corridors; and 46 miles would be in WWECs. There would be 422 miles of access roads associated with this alternative.

5.3.2.5 Alternative II-E Transmission Line Route

Alternative II-E also was developed to provide additional northern route options to address the previously mentioned resource impacts from the southern routes. This alternative would follow Alternative II-D into Utah and along the designated utility corridor, zigzagging across Alternative II-A. It then would rejoin Alternative II-A to continue west across the Uintah-Duchesne county line. Approximately 10 miles east of Duchesne, Alternative II-E would turn southwest and generally parallel SH-191, offset by 1 to 6 miles, through a utility window of the Ashley National Forest. At the Utah-Carbon county line, this alternative would turn west through the Emma Park area, then northwest along US-6 through a utility window of the Uinta National Forest Planning Area until rejoining Alternative II-A and following its siting through the Manti-La Sal National Forest to Salt Creek Canyon. At this canyon, Alternative II-E would begin to follow the alignment of Alternative II-B south of Nephi, then join and follow Alternative II-A adjacent and into IPP.

Alternative II-E includes the following segments: 1210, 1214, 1215, 1215.05, 1217.051, 1217.052, 1219.4, 1320.05, 1320.15, 1320.2, 1320.21, 1325.1, 1325.2, 1350, 1360, and 1430.

Alternative II-E is approximately 268 miles, 44 percent of which would be located on BLM/USFS lands; 40 miles would be in BLM RMP utility corridors; and 66 miles would be in WWECs. There would be 412 miles of access roads associated with this alternative.

5.3.2.6 Alternative II-F Transmission Line Route

Alternative II-F was adjusted in the Final EIS at the request of the lead agencies in response to public comments on the Draft EIS. This alternative combines portions of other alternatives in the region and contains unique segments in the Emma Park area that together would minimize impacts to USFS IRAs, Tribal and private lands, sage-grouse habitat, and avoid impacts to NHTs. It would begin in southwest Moffat County (Colorado) by following Alternative II-A in designated WWEC and BLM utility corridors. As it enters Utah (Uintah County), it would separate from Alternative II-A to the northwest and follow the designated utility corridors, which then turn southwest and cross Alternative II-A. It then would diverge to the south off of the designated WWEC (still following the BLM-designated corridor) and turn west-southwest, crossing the Uintah and Ouray Indian Reservation. It then would cross into Duchesne County, where it would turn west-southwest out of the BLM utility corridor, skirt

the Ashley National Forest and generally follow the southern county line. The alternative would follow Argyle Ridge west and US-191 to the southwest for a short distance, then would turn west and follow the base of Reservation Ridge. It would then turn northwest and cross US-6 at Soldier Summit where it would turn west-northwest and follow US-6 to Thistle (Utah County) through a portion of designated WWEC and BLM utility corridors and a utility window of the Uinta National Forest Planning Area. It then would turn south, following US-89 for about 10 miles and through a portion of the Manti-La Sal National Forest before cutting south-southwest (Sanpete County) to State Route 132. At this highway, it would turn west into Nephi (Juab County) and follow a path south around the community and continue west until turning southwest where it would parallel US-6 north of Lynndyl for a short distance, then diverging west, southwest, and finally west along the southern edge of the Millard-Juab county line into IPP north of Delta (Millard County); the end of Region II.

Alternative II-F includes the following segments: 1210, 1214, 1215, 1217.01, 1217.052, 1218, 1219.1, 1219.3, 1219.5, 1219.6, 1320.15, 1320.2, 1320.21, 1350, 1360, and 1430.

Alternative II-F is approximately 265 miles, 55 percent of which would be located on BLM/USFS lands. 72 miles would be in BLM RMP utility corridors and 31 miles would be in WWECs. There would be 455 miles of access roads associated with this alternative.

5.3.2.7 Alternative II-G Transmission Line Route (Final EIS Agency Preferred Alternative)

Alternative II-G is a reconfiguration of segments that also are included in multiple other alternatives, mainly Alternatives II-A and II-F. This specific alternative configuration was not included in the Draft EIS, but was added to the Final EIS to reflect the Agency Preferred Alternative in Region II. This alternative avoids crossing Tribal trust lands of the Uintah and Ouray Indian Reservation, while also avoiding NHTs, maximizing avoidance of potential habitat of Federally protected plant species, and maximizing co-location with existing aboveground utilities. It would begin in southwest Moffat County (Colorado), by following the other alternatives in designated WWEC and BLM utility corridors. After entering Utah, this alternative would follow Alternatives II-F, II-D, and II-E and continue along the designated utility corridor, zigzagging across Alternative II-A. At this point, it would follow Alternative II-E to the northwest, and rejoin Alternative II-A to continue west across the Uintah-Duchesne county line. Alternative II-G would continue to follow Alternative II-A to near Fruitland. East of Fruitland it would diverge from Alternative II-A, but parallel closely to the south for several miles avoiding a conservation easement, and then rejoin Alternative II-A. The alignment would then turn southwest and cross portions of the Uinta National Forest Planning Area, then turn west along US-6 and Soldier Creek, rejoining Alternative II-F. At the junction with US-89, Alternative II-G would then turn south generally along US-89 where it would cross a portion of the Manti-La Sal National Forest. The alignment would pass through Salt Creek Canyon. Here Alternative II-G would again diverge from Alternative II-A and pass south around Nephi. It would continue west and then turn southwest following a path north of and adjacent to IPP. Portions of this corridor have been identified as preferred in a joint resolution by representatives of Juab and Millard counties.

The Fruitland and Strawberry IRA micro-siting options also are applicable to this alternative. See the description of these micro-siting options below.

Alternative II-G includes the following segments: 1210, 1211, 1212, 1320.05, 1320.15, 1320.2, 1320.21, 1321.01, 1321.02, 1322.21, 1322.22, 1322.23, 1322.51, 1323.02, 1324, 1325, 1350, 1360, and 1430.

Alternative II-G is approximately 252 miles, 45 percent of which would be located on BLM/USFS lands; 32 miles would be in BLM RMP utility corridors; and 63 miles would be in WWECs. There would be 395 miles of access roads associated with this alternative.

5.3.2.8 Alternative Variations, Connectors, and Micro-siting Options

One alternative variation (Reservation Ridge Alternative Variation, segment 1219.2) was developed to address potential impacts to greater sage-grouse issues along comparable portions of Alternative II-F (segments 1219.5 and 1219.6).

Micro-siting options for Alternative II A and Alternative II-G have been developed to address concerns with construction in Uinta National Forest Planning Area IRAs at a location where the designated WWEC offsets from a continual corridor: Strawberry IRA Micro-siting Option 2 (segment 1324.2) and Strawberry IRA Micro-siting Option 3 (segment 1324.4). Both of these micro-siting options would replace segment 1324.

Three micro-siting options for Alternative II-A and Alternative II-G also were developed to address conflicts with siting through the Town of Fruitland, a Utah Division of Wildlife Resources conservation easement, and greater sage-grouse habitat:

- Fruitland Micro-siting Options 1: segments 1321.02, 1322.51, 1322.52, 1322.53, and 1323.01.
- Fruitland Micro-siting Options 2: segments 1321.02, 1322.01, 1322.11, 1322.12, 1322.22, and 1322.23.
- Fruitland Micro-siting Options 3: segments 1322.23, and 1322.71.

For Alternative II-G, each of these of these micro-siting options would replace segments 1321.02, 1322.01, 1322.02, and 1323.01. For Alternative II-G, each of these micro-siting options would replace segments 1321.02, 1322.21, 1321.22, 1322.23, and 1322.51.

Five alternative connectors were developed in Region II to provide the flexibility to combine alternative segments to address resource conflicts. One connector could be used with Alternative II-B, two connectors could be used with Alternative II-C, and one could be used with Alternative II-E.

5.3.3 Region III (IPP to North Las Vegas, Nevada, see Figure ROD-4)

5.3.3.1 Alternative III-A Transmission Line Route (Proposed Action)

The TransWest proposed alignment would leave IPP to the west and turn south toward Milford, Utah, following the WWEC. For the remainder of Utah, the alignment roughly would parallel I-15 approximately 20 miles west of the highway. The alignment would pass west of Milford, then generally trend south-southwest, passing east of Enterprise, Utah, across a portion of the Dixie National Forest, and directly west of Central, Utah; exiting Utah just north of the southwest corner of the state. In Nevada, the alignment would cross I-15 west of Mesquite, Nevada, and remain on the south side of I-15 until reaching the North Las Vegas area northeast of Nellis Air Force Base.

Alternative III-A includes the following segments: 1450, 1470, 1480, 1500, 1500.02, 1500.05, 1501.1, 1501.15, 1502.5, 1530, 1550.1, 1550.2, 1560, and 1600. Alternative III-A is approximately 276 miles; 84 percent of which would be located on BLM/USFS lands and 67 percent of the route would be within a designated RMP or WWEC (107 miles and 158 miles, respectively). There would be 335 miles of access roads associated with this alternative.

5.3.3.2 Alternative III-B Transmission Line Route

Alternative III-B was developed to decrease resource impacts in southwestern Utah (including potential impacts to the Mountain Meadows National Historic Landmark and Site and IRAs in the Dixie National Forest). It would begin following Alternative III-A through Millard and

Beaver counties. Near the Beaver-Iron county line, it would diverge toward the west. Alternative III-B would follow a west-southwest course, crossing into Lincoln County, Nevada, near Uvada, Utah, where it would turn to a general southerly direction, rejoining Alternative III-A to the northwest of Mesquite. It then would diverge to the west from Alternative III-A approximately 16 miles west of Mesquite, cross into Clark County, pass southeast of Moapa, Nevada, pass through the designated utility corridor on the Moapa Reservation, and rejoin Alternative III-A approximately 4 miles north of the end of Region III.

Alternative III-B includes the following segments: 1450, 1470, 1480, 1490, 1490.05, 1510, 1530, 1540.1, 1540.2, 1590, and 1600. Alternative III-B is approximately 284 miles, 74 percent of which would be located on BLM lands and 54 percent of the route would be within a designated RMP or WWEC (103 miles and 80 miles, respectively). There would be 320 miles of access roads associated with this alternative.

5.3.3.3 Alternative III-C Transmission Line Route

Alternative III-C also was developed to address the same resource impacts as Alternative III-B and to take advantage of an existing corridor with existing transmission line development, thereby potentially consolidating cumulative transmission line impacts. This alternative would follow Alternatives III-A
and III-B before diverging from them shortly after traveling west out of IPP, where it would follow the existing IPP power line to the south for approximately 30 miles and then rejoin Alternative III-B to the Utah-Nevada state line. After passing into Nevada at Uvada, Alternative III-C would turn west away from Alternative III-B, passing north of Caliente, Nevada; turning south approximately 15 miles west of Caliente. This alternative would follow that southern course, intersecting with US-93 and paralleling the highway for all but the last 15 miles into North Las Vegas. Alternative III-C would rejoin Alternative III-A northeast of Nellis Air Force Base at the end of Region III.

Alternative III-C includes the following segments: 1450, 1460, 1480, 1490, 1490.05, 1520, and 1610. Alternative III-C is approximately 308 miles, 83 percent of which would be located on BLM lands and 63 percent of the route would be within a designated RMP or WWEC (160 miles and 121 miles, respectively). There would be 338 miles of access roads associated with this alternative.

5.3.3.4 Alternative III-D Transmission Line Route (Final EIS Agency Preferred Alternative)

Alternative III-D was developed as a minor reconfiguration to Alternative III-B for the purpose of decreased resource impacts in southwestern Utah (including potential impacts to the Mountain Meadows National Historic Landmark and Site and IRAs in the Dixie National Forest) as well as addressing concerns raised by the Department of Defense. Alternative III-D would begin following Alternative III-B, then diverge through Millard County to maintain co-location with the existing IPP power line to the south for approximately 30 miles, and then rejoin Alternative III-B through the remainder to the Region III.

Alternative III-D includes the following segments: 1450, 1460, 1480, 1490, 1490.05, 1510, 1530, 1540.1, 1540.2, 1590, and 1600. Alternative III-D is approximately 281 miles, 75 percent of which would be located on BLM/USFS lands and 55 percent of the route would be within a designated RMP or WWEC (137 miles and 50 miles, respectively). There would be 303 miles of access roads associated with this alternative.

5.3.3.5 Alternative Variations, Connectors, and Micro-siting Options

Three alternative variations were developed to address potential impacts to the Mountain Meadows National Historic Landmark resulting from Alternative III-A: the Ox Valley East

Variation (segments 1503, 1503.5, and 1505), the Ox Valley West (segments 1503.5, 1504, and 1505) and the Pinto Alternative Variation (segment 1506). Each of these variation would replace 1501.1 and 1501.15 of Alternative III-A.

Three alternative connectors also were developed in Region III to provide the flexibility to combine alternative segments to address resource conflicts. One connector could be used with Alternative III-A, two connectors could be used with Alternatives III-B and III-D, and one could be used with Alternative III-C.

5.3.3.6 Ground Electrode Locations

There are eight potential locations for ground electrode systems in Region III. Three of the locations would only apply to Alternative III-A (Mormon Mesa-Carp Elgin Rd, Halfway Wash - Virgin River, and Halfway Wash East); three would apply only to Alternative III-B or Alternative III-D (Mormon Mesa-Carp Elgin Rd, Halfway Wash - Virgin River, and Halfway Wash East); one would apply only to Alternative III-C (Meadow Valley 2); and one would apply only to Design Option 2 (Delta).

5.3.4 Region IV (North Las Vegas to Marketplace Hub in the City of Boulder, Nevada, see Figure ROD-5)

5.3.4.1 Southern Terminal

The Southern Terminal facilities would be located in the Eldorado Valley on private land, within the city limits of Boulder City, in Clark County, Nevada. The Southern Terminal would include an AC/DC converter station and adjacent AC substation. The AC/DC converter station would include a 600-kV DC switchyard and a converter building containing power electronics and control equipment. The Southern Terminal would connect to all four of the existing 500-kV substations (Eldorado, Marketplace, Mead, and McCullough) located at the Marketplace Hub. Connections to the existing transmission infrastructure at the Mead and Marketplace substations would be via the existing Mead – Marketplace 500-kV transmission line, and connections to the Eldorado and McCullough substations also would be constructed. The three major components (AC/DC converter station, 500-/230-kV AC substation, and 230-kV AC substation) are planned to be co-located and contiguous.

5.3.4.2 Alternative IV-A Transmission Line Route (Proposed Action and Final EIS Agency Preferred Alternative)

The TransWest Proposed Action would follow a designated WWEC following existing transmission lines running to the south, passing North Las Vegas to the east, and through the Rainbow Gardens area. It would run between Whitney, Nevada, and the Lake Las Vegas development skirting the edge of Henderson, Nevada. It would then turn in a general southwest direction at Railroad Pass, and then in a southern direction to the Marketplace endpoint.

Alternative IV-A includes the following segments: 1620, 1630, 1660, 1700, 1740, 1790, and 1830. Alternative IV-A is approximately 37 miles, 92 percent of which would be located on Federally managed lands. There would be 11 miles of BLM RMP corridors and 14 miles of designated WWEC. Approximately 7 miles would transect Reclamation-administered lands. There would be 49 miles of access roads associated with this alternative. Access roads associated with Lower Colorado Region lands can be found in Table 1 in Section 2.0.

5.3.4.3 Alternative IV-B Transmission Line Route

Alternative IV-B would follow the proposed alternative for approximately 7 miles, diverge to the southeast as it passed directly east of Nellis Air Force Base and travel south through the

Lake Mead National Recreation Area (LMNRA), passing between the Lake Las Vegas development and Lake Mead. Along the south edge of Lake Las Vegas, it would turn southwest, north of the Boulder City, Nevada, then turn west and join with Alternative IV-A west of Henderson to the Marketplace endpoint. This alternative was originally developed to provide an alternative that did not require crossing the recent congressionally released Sunrise Mountain Instant Study Area.

Alternative IV-B includes the following segments: 1620, 1640, 1670, 1710, 1750, 1760, 1772, 1800, 1820, and 1830. Alternative IV-B is approximately 40 miles, 55 percent of which would be located on Federally managed lands. There would be 5 miles of BLM RMP corridors and 5 miles of designated WWEC. There would be 51 miles of access roads associated with this alternative.

5.3.4.4 Alternative IV-C Transmission Line Route

Alternative IV-C would decrease impacts to populated areas. This alternative would follow Alternative IV-B through the Lake Mead NRA and between the Lake Las Vegas development and Lake Mead to north of the Boulder City. It would then continue south before it turned southwest around the southeast edge of the metropolitan area of Boulder City, and into the Marketplace endpoint. It also was originally developed to provide an alternative that did not require crossing the recent congressionally released Sunrise Mountain Instant Study Area.

Alternative IV-C includes the following segments: 1620, 1640, 1670, 1710, 1750, and 1771. Alternative IV-C is approximately 44 miles, 55 percent of which would be located on Federally managed lands. There would be 5 miles of BLM RMP corridors and 5 miles of designated WWEC. There would be 54 miles of access roads associated with this alternative.

5.3.4.5 Alternative Variations, Connectors, and Micro-siting Options

One alternative variation (the Marketplace Variation, segment 1810) was developed to address impacts to private lands. This variation would replace segment 1820 of Alternative IV-B.

Five alternative connectors were developed in Region IV to provide the flexibility to combine alternative segments to address resource conflicts. Each of the five connectors could be used with Alternative IV-B and four would be used with Alternative IV-C.

5.4 Alternate Development Design Options

5.4.1 Design Option 2

If Design Option 2 was implemented, the Northern Terminal would be constructed as in the Proposed Action. The Southern Terminal would be relocated to the IPP in Millard County near Delta, Utah. A series compensation station would be necessary along the AC-configured alternative routes of Region III. There are three potential sites, each corresponding to a specific alternative route. Additional studies would be performed to identify specific locations.

5.4.2 Design Option 3

If Design Option 3 was implemented, a substation would be constructed near IPP under Phase 1 and the Southern Terminal would be constructed in Nevada under phase two.

A series compensation station would be necessary along the alternative routes of Region II during the first phase (AC operation). There are three potential sites, each corresponding to specific alternative routes. Series Compensation Station 1 corresponds to Alternatives II-A

and II-E, and would be located near the Uintah-Duchesne County line approximately 7 miles east of the Town of Roosevelt, Utah, and 2 miles south of US-40. Series Compensation Station 2 corresponds to Alternatives II-B and II-C, and would be located approximately 5 miles west of the Utah-Colorado State line on the north side of I-70. Series Compensation Station 3 corresponds to Alternatives II-D and II-F, and would be located in the Uinta Basin area approximately 8 miles west of the Green River and near the Uintah-Duchesne County line. Additional studies would be performed to identify specific locations. Upon completion of Phase 2 of Design Option 3, when the utility of the station ceased, the site would be deconstructed and reclaimed to the original condition.

5.5 Final EIS Agency Preferred Alternative

The Agency Preferred Alternative was developed through a comparative evaluation of routing opportunities and constraints and the relative potential impacts among the various alternative segments. The Agency Preferred Alternative within each Project region was identified by the BLM and Western with input from cooperating agencies considering criteria linked to the CEQ criteria for significant impacts. While these criteria informed the decision, there is no hierarchy for consideration of criteria or requirement that the Agency Preferred Alternative fulfill any certain criteria. These criteria were broadened and refined based on input from the Project's cooperating agencies regarding other key resource concerns as follows:

- Maximizes the use of appropriate (e.g., non-underground-only) existing designated utility corridors by locating within or paralleling areas of existing utility ROWs.
- Minimizes the need for plan amendments through maximizing conformance to current land use plans.
- Avoids or minimizes resource impacts that are regulated by law (Endangered Species Act, Clean Water Act, National Historic Preservation Act, wilderness, wilderness study areas, instant study areas, IRAs, etc.) after consideration of Project design features and agency best management practices. This includes impacts to greater sage-grouse.
- Avoids or minimizes proximity to private residences and residential areas, thereby addressing concerns with public health and safety, aesthetics, visual effects, and others.
- Avoids or minimizes resource impacts that demonstrate potentially unavoidable adverse impacts (residual impacts) after consideration of Project design features and agency best management practices, even though they may not be specifically regulated by law.
- Minimizes use of private lands, if natural resource impacts are similar.
- If multiple alternatives meet the preceding criteria, the Agency Preferred Alternative will be the alternative that minimizes construction, operation, and maintenance expense and/or time.

In their selection of the Agency Preferred Alternative for the Project, agency decision-makers reviewed the EIS and considered the alternatives and their relative impacts on resources, as well as corresponding public and agency input. The Agency Preferred Alternative presented in the Final EIS was chosen to meet the Federal agencies' purpose and need and Proponent objectives while balancing Federal land managers' multiple use mandate. The Agency Preferred Alternative was identified in the Final EIS as the following combination of Project regional alternatives and facilities:

- Alternative I-B was identified through Region I in Wyoming and Colorado.

- The Bolten Ranch Ground Electrode System location was selected as the preferred northern alternative for that system.
- Alternative II-G was identified through Region II in Colorado and Utah.
- Alternative III-D was identified through Region III in Utah and Nevada.
- The Halfway Wash East Ground Electrode System location was selected as the preferred southern alternative for that system.
- Alternative IV-A was identified through Region IV in Nevada.

Each of these routes and Project elements are described in greater detail in Section 5.2, above.

Approximately 276 miles (38 percent) of the Agency Preferred Alternative is located within designated Federal utility corridors. The Agency Preferred Alternative is co-located with existing transmission lines for a distance of 408 miles (56 percent) of the total length. The Agency Preferred Alternative also transects approximately 7 miles of Reclamation-administered lands.

Because the selection of the Agency Preferred Alternative was considered through the four individual BLM State Offices during the EIS process, the rationale for the determinations that follow are discussed by state.

5.5.1 Final EIS Agency Preferred Alternative in Wyoming

The Agency Preferred Alternative route through Wyoming was chosen to minimize impacts to natural resources (including sage-grouse), visual resources, cultural resources, and private lands. This required consideration not only of the potential impacts on these resources in Wyoming, but also consideration of the impacts on resources in Colorado because the Agency Preferred Alternative must match across state lines. The specific considerations in choosing the Agency Preferred Alternative in Wyoming include the following:

- The Agency Preferred Alternative route exits the State of Wyoming and enters Colorado at a location that corresponds to the Colorado Field Office's Agency Preferred Alternative.
- The Agency Preferred Alternative route provides less visual impacts from key observation points along SH-789 and from the Town of Baggs due to the distance from these areas. A trade-off that has been considered is the impact to areas along the Old Cherokee Trail where the Agency Preferred Alternative route parallels, and/or is within sight of the Cherokee Trail for 14 to 15 miles through areas with very little modern development.
- The Agency Preferred Alternative crosses non-contributing segments of both the Overland and Old Cherokee trails.
- There are fewer sage-grouse leks along the Agency Preferred Alternative route. However, when comparing the number of birds that attend the leks, there is not a significant difference between alternative routes.
- The Agency Preferred Alternative route will minimize habitat impacts to the Federally listed Ute ladies-tresses' orchid.
- The Agency Preferred Alternative route will minimize impacts to big game crucial winter range.
- The Agency Preferred Alternative route reflects the route agreed upon by the Tri-county Resolution between Carbon and Sweetwater counties, Wyoming, and Moffat County, Colorado, adopted July 5, 2011.

In Wyoming, the Agency Preferred Alternative crosses 59 miles of federal, 4 miles of state, and 30 miles of private land.

5.5.2 Final EIS Agency Preferred Alternative in Colorado

The Agency Preferred Alternative route through Colorado was chosen to minimize impacts to natural resources (including sage-grouse), as well as human resources (including visual resources, and private lands). This required consideration not only of the potential impacts on these resources in Colorado, but also consideration of the impacts on resources in Wyoming and Utah because the Agency Preferred Alternative must match across state lines. The specific considerations in choosing the Agency Preferred Alternative in Colorado include the following:

- The Agency Preferred Alternative route exits the State of Wyoming and enters Colorado at a location that corresponds to the Wyoming Field Office's Agency Preferred Alternative. The Agency Preferred Alternative route exits the State of Colorado and enters Utah at a location that corresponds to BLM Utah's Agency Preferred Alternative.
- The Agency Preferred Alternative route will minimize impacts to sage-grouse habitat.
- The Agency Preferred Alternative route will minimize impacts to big game crucial winter range.
- The Agency Preferred Alternative route maximizes Project placement on Federal lands, and minimizes crossing of private lands.
- A trade-off to be recognized is that more undeveloped areas are impacted by the Agency Preferred Alternative as it uses less existing designated utility corridors.
- The Agency Preferred Alternative route minimizes the length of the ROW and the need for construction and operation disturbance, thus minimizing overall Project impacts.
- The Agency Preferred Alternative route reflects the route agreed upon by the Tri-county Resolution between Carbon and Sweetwater counties, Wyoming, and Moffat County, Colorado, adopted July 5, 2011.

In Colorado, the Agency Preferred Alternative crosses 62 miles of Federal, 12 miles of state, and 15 miles of private land.

5.5.3 Final EIS Agency Preferred Alternative in Utah

The Agency Preferred Alternative route through Utah was chosen to minimize impacts to natural resources (including sage-grouse), visual resources, cultural resources, and private lands. This required consideration not only of the potential impacts on these resources in Utah, but also consideration of the impacts on resources in Colorado and Nevada because the Agency Preferred Alternative must match across state lines.

The specific considerations in choosing the Agency Preferred Alternative in Utah include the following:

- The Agency Preferred Alternative complies with Endangered Species Act of 1973, National Historic Preservation Act of 1966, Archaeological Resources Protection Act, and Clean Water Act. These four laws have been enacted to protect finite resources—endangered animals, historic artifacts and sites, and water.
- The Agency Preferred Alternative avoids desert tortoise habitat in Utah.

- The Agency Preferred Alternative maximizes avoidance of potential habitat for threatened and endangered plant species. The preferred route avoids 43 miles identified as potential habitat for the Uintah Basin hookless cactus and reduces the crossing of modeled potential suitable clay phacelia habitat.
- There are a multitude of historic sites along all alternatives but three are of more cultural importance than others that have been documented. Those three are: Yellow-Springs cultural complex, Mountain Meadows National Historic Landmark, and the Old Spanish Trail. All of these cultural assets come together along the alternatives that will go through the Dixie National Forest. That area also has the highest known and expected density of archaeological sites along the alternatives. The Agency Preferred Alternative minimizes impacts to important and sensitive cultural and historic resources in southwestern Utah by avoiding these resources in and near the Dixie National Forest.
- The Agency Preferred Alternative avoids the San Rafael Swell, and avoids conflicts with significant cultural resources including the Old Spanish Trail and Quitchupah Creek area. The San Rafael Swell is an area of high geologic and anthropologic importance. It is critical to maintaining the cultural and scenic integrity of this area. The Old Spanish Trail also is present in the vicinity of several of the alternatives that transect the San Rafael Swell. The Agency Preferred Alternative avoids crossing the Quitchupah Creek area, which is considered sacred and traditional by the Paiute Tribe. Alternatives that impacted the San Rafael Swell were not selected due to significant resource conflicts.
- The Agency Preferred Alternative avoids crossing tribal trust lands on the Uintah and Ouray Indian Reservation, where uncertainty exists regarding legal right of access.
- The Agency Preferred Alternative maximizes miles of transmission line co-located with existing aboveground utilities.
- The Agency Preferred Alternative minimizes new access road construction in steep or mountainous terrain when compared to other alternatives.
- The agencies recognize that there are trade-offs in resource impacts when comparing alternative alignments. For example, the Agency Preferred Alternative route involves a small portion of IRA in the Uinta National Forest Planning Area. Because IRA impacts can be minimized through micro-siting, and because Project-wide impacts to IRAs are minimized by avoiding IRAs in other areas, the BLM and Western determined this to be a reasonable trade-off with the issues identified above. The BLM and Western also recognize that this Agency Preferred Alternative affects more total acres of occupied greater sage-grouse habitat as compared to some other alternatives but minimizes impacts to threatened and endangered plants.

In Utah, the Agency Preferred Alternative crosses 210 miles of Federal, 27 miles of state, and 153 miles of private land.

5.5.4 Final EIS Agency Preferred Alternative in Nevada

The Agency Preferred Alternative route through Nevada was chosen to minimize impacts to natural resources, including desert tortoise, and private lands through maximized use of designated corridors and co-location with existing transmission. This required consideration not only of the potential impacts on these resources in Nevada, but also consideration of the impacts on resources in Utah because the preferred alternative must match across state lines. The specific considerations in choosing the Agency Preferred Alternative in Nevada include the following:

- The Agency Preferred Alternative minimizes impacts to desert tortoise while connecting with the Agency Preferred Alternative in Utah.
- The Agency Preferred Alternative maximizes co-location with existing transmission and use of designated utility corridors while connecting with the Agency Preferred Alternative in Utah.
- The Agency Preferred Alternative avoids the Lake Mead NRA.

In Nevada, the Agency Preferred Alternative crosses 137 miles of Federal, 14 miles of tribal, and 5 miles of private land. Of the 137 miles of Federal land transected, approximately 7 miles consist of Reclamation-administered lands.

6.0 Environmentally Preferable Alternative

The environmentally preferred alternative is the alternative that, on balance, appears to best promote the national environmental policy in Section 101 of the NEPA. This is ordinarily the alternative that causes the least damage to the biological and physical environment and best protects, preserves, and enhances the historic, cultural and natural resources (Question 6a, *CEQ, Forty Most Asked Questions Concerning NEPA Regulations, March 23, 1981*).

Identification of the environmentally preferable alternative across the Project's entirety involves some difficult judgments regarding tradeoffs between different natural and cultural impacts and values. Rationale for this decision across Reclamation-administered lands includes the following:

- The Selected Alternative minimizes the disturbance necessary to construct and operate the Project by co-locating with existing high-voltage transmission lines within an identified WWEC utility corridor across Reclamation-administered lands.
- The Selected Alternative meets Reclamation's purpose and need while implementing measures to protect environmental resources.

7.0 Basis for Decision

This decision approves the ROU authorizations for TransWest Express in accordance with the Agency Preferred Alternative as analyzed in the Final EIS and the Selected Alternative included in this ROD. The Selected Alternative was chosen to meet the agencies' purpose and need and Proponent objectives while balancing multiple Federal land managers' multiple-use mandates. Reclamation's decision to authorize this Project is based on the rationale described in the following sections.

7.1 Consideration of Applicable Laws, Regulations, and Policies

Reclamation has met all Federal obligations requiring specific actions or reviews as part of Federal approval, as described in Section 4.0 of this ROD (Authority for Action).

7.2 Response to Reclamation's Purpose and Need

Consideration and approval of the ROU authorization for the Selected Alternative responds to Reclamation's purpose and need by responding to the Proponents' application for a ROU on Reclamation-administered lands.

7.3 Consideration of Resource Issues

The Final EIS considered the effects of each alternative route on climate and air resources; geological, mineral, and paleontological resources; soils; water; vegetation, including special status plant species; wildlife, including special status wildlife species and migratory birds; aquatic resources; cultural resources and Native American concerns; visual resources; recreation; land use, including rangeland resources; special designations, transportation; social and economic resources; public health and safety; wild horses, lands with wilderness characteristics; and wildland fire, as part of the process of evaluating the impacts of the alternatives in the EIS including the identification of the Agency Preferred Alternative. This analysis can be found in Chapter 3 of the Final EIS.

The Selected Alternative is the same as the Agency Preferred Alternative identified in the Final EIS with the modifications of the Tuttle Micro-siting Option 4 and Halfway Wash-Virgin River ground electrode system siting. These modifications do not occur on Reclamation-administered lands included in this decision. Section 5.5, Final EIS Agency Preferred Alternative, identifies for each region, the resource issues that were considered in this selection.

Reclamation participated as a cooperating agency in the selection of the Agency Preferred Alternative, and considered the effects of the alternatives with respect to Reclamation land. Reclamation concurs with the rationale for the Final EIS Agency Preferred Alternative in Nevada presented in Section 5.5.4. Specific considerations that further support the rationale for Reclamation's decision are:

Reclamation's Indian Trust Assets (ITA) Policy, dated July 2, 1993, requires evaluation of the potential effects of proposed actions on ITAs. Reclamation's ITA Policy defines ITAs as "legal interests in property held in trust by the U.S. for Indian tribes or individuals". ITAs are those properties, interests, or assets of a Federally recognized Indian tribe or individual Indian over which the Federal government also has an interest, either through administration or direct control. The Federal government acts as a trustee with respect to these properties, interests, or assets. Examples of ITAs include lands, minerals, timber, hunting rights, fishing rights, water rights, in-stream flows, and other treaty rights. The Selected Alternative does not transect any ITAs.

Alternatives IV-B and IV-C would not have crossed Reclamation land in Clark County, NV, but would be routed through the LMNRA. Reclamation concurs with the rational for the Final EIS Agency Preferred Alternative with respect to LMNRA. The Land Use section of the Final EIS documents that the National Park Service (NPS), who administers LMNRA, generally would oppose granting any new utility corridors. The Special Designation Area section of the Final EIS documents that a new utility corridor in that portion of the LMNRA would result in permanent adverse impacts to the recreation setting and would not meet the "no impairment" standard to which NPS lands are held. Alternative IV-A is a practicable alternative to crossing the LMNRA and is located in an identified utility corridor with existing transmission lines. It minimizes impacts to residential areas by locating features as far as possible from residential areas, utilizes existing roads as much as possible, and has lower impacts to the River Mountains Loop Trail (a portion of the trail is located on Reclamation-administered land) than Alternatives IV-B and IV-C. It also contains measures to minimize impacts to recreation facilities. Potential impacts to cultural resources have been addressed through the preparation of the Programmatic Agreement to which Reclamation is a signatory (Appendix C).

The Selected Alternative could result in impacts to the Federally threatened Mojave Desert tortoise (*Gopherus agassizii*) on Reclamation-administered lands in Clark County. Potential impacts are addressed in the Biological Assessment (Appendix D) and Section 3.8 in the Final

EIS. However; the potential construction, operational, and indirect impacts to Mojave Desert tortoise from the Selected Alternative would be lower than the impacts to the tortoise that could result from Alternatives IV-B and IV-C. This ROD incorporates conservation measures to avoid and minimize impacts to the Mojave Desert tortoise. These conservation measures are outlined in the Biological Opinion (Appendix D)

Where the Agency Preferred Alternative crosses Reclamation land in Duchesne County, Utah, there will be adverse effects to visual resources caused by the transmission line. No other adverse impacts from excavation or other Project activities are anticipated; as only the overhead transmission lines will cross Reclamation land. There will be no structures (i.e. lattice or poles, foundations, associated hardware, or roads) placed on Reclamation land at this location (See **ROD-7**).

Reclamation has concluded that all practicable measures to avoid or minimize environmental impacts (Appendices B and E) to resources were adopted and will be implemented to avoid effects to the human environment as part of the Selected Alternative.

7.4 Consideration of Public Comments and Concerns

The Selected Alternative was chosen by the BLM after careful consideration of public comments and concerns. The BLM and Western received a total of 562 submittals containing comments on the Draft EIS. As a result of cooperating agency input and public comments, refinements were made to the Agency Preferred Alternative presented in the Final EIS. Appendix L of the Final EIS contains each unique substantive comment received, and its associated response.

8.0 Environmental Commitments and Monitoring

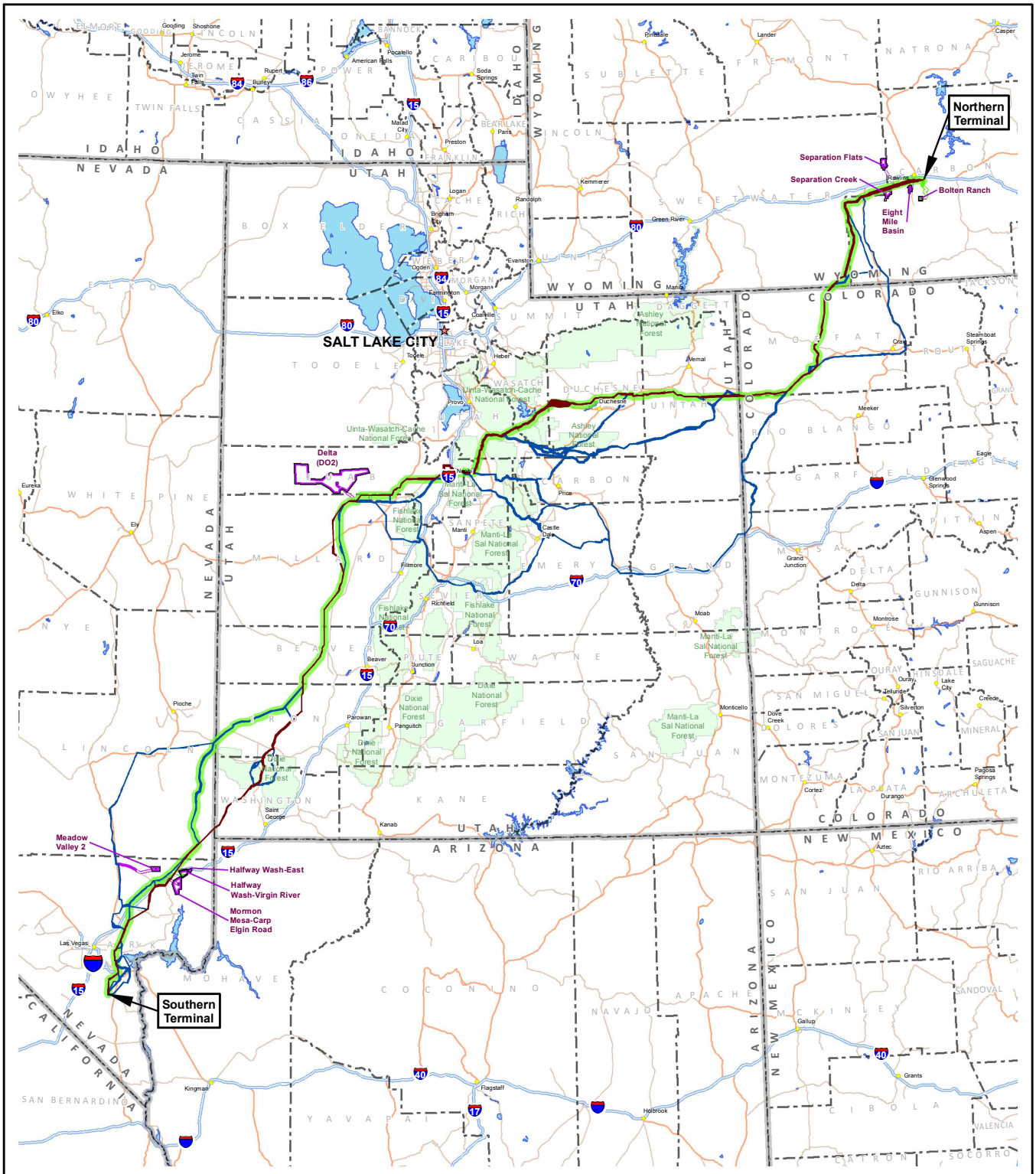
TransWest has committed to an extensive list of generic and selective environmental protection and mitigation measures as outlined in their POD, and incorporated into the Selected Alternative. The measures are intended to minimize or avoid impacts to resources, including biological, cultural, soils, land use, air quality, water, visual, and paleontological resources. In addition to those measures incorporated into the Agency Preferred Alternative, further minimization and mitigation measures were developed during the NEPA and National Historic Preservation Act of 1966 analysis and consultation with the U.S. Fish and Wildlife Service pursuant to Section 7 of the Endangered Species Act of 1973. U.S. Fish and Wildlife Service issued a Biological Opinion (**Appendix D** of this ROD), which has been incorporated into this ROD. Adherence to the Programmatic Agreement (**Appendix C**) as well as these additional measures will be a stipulation to the grant of any ROW or ROU document. A summary of these measures is given in **Appendix E**.

9.0 Public Availability of the Final EIS

On May 1, 2015, the BLM and Western published the Notice of Availability of the Final EIS and the Final EIS was circulated for public availability. During the 30-day land use plan amendment protest period and 60-day Final EIS public availability period, the BLM received 16 submissions with comments on the Final EIS. Five of the submissions were identified as protests. In general, the comments were geared towards Lands with Wilderness Characteristics and greater sage-grouse, in addition to concerns regarding pipeline crossings, stray current, and restoration of the ROW. No comments were specific to Reclamation-administered lands.

There were no comments provided by the State of Nevada during the 60-day Governor's consistency review. The State of Utah's Public Land Policy Office submitted comments; however, they are not related to Reclamation's action of issuing the ROU.

Figures



Project Corridors

- Applicant Proposed
- Alternative
- Selected Alternative

- Potential Ground Electrode Siting Area
- Potential Ground Electrode Site
- Potential Ground Electrode Overhead Electrical Line
- Selected Ground Electrode Siting Area
- Selected Ground Electrode Site
- Selected Ground Electrode Overhead Electrode Line

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure ROD-1
Final EIS Routes and Selected Alternative
Project Location

0 20 40 80 Miles
0 20 40 80 km
1:4,750,000

N

Western AREA POWER ADMINISTRATION

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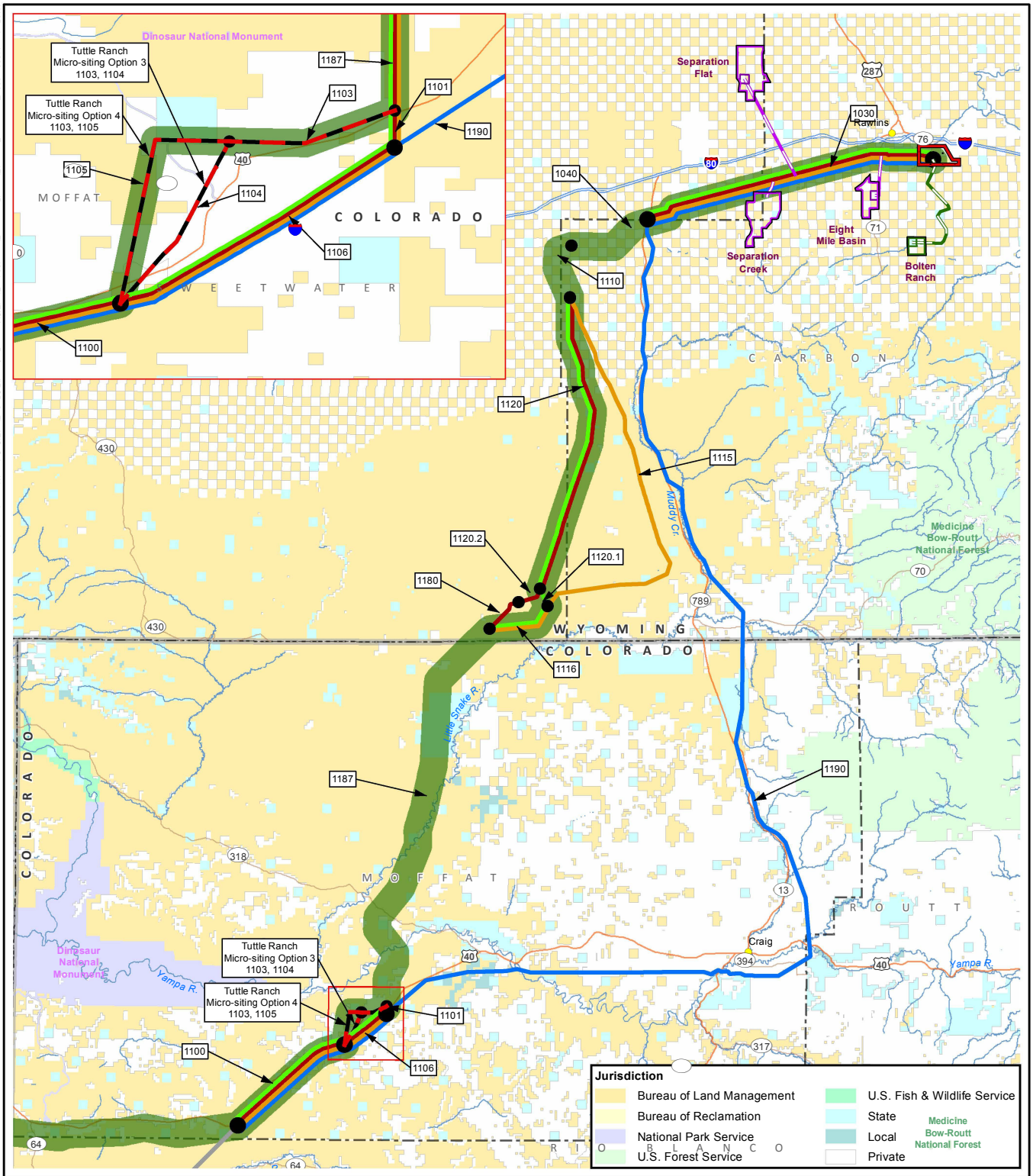
Dinosaur National Monument
Tuttle Ranch Micro-siting Option 3 1103, 1104
Tuttle Ranch Micro-siting Option 4 1103, 1105
1187
1103
1101
1190
1105
1104
1106
1100
MOFFAT
COLORADO
WESTWATER
Separation Flat
1030 Rawlins
Eight Mile Basin
Separation Creek
Bolten Ranch
1040
1110
1120
1115
CARBON
Muddy Ck
1120.2
1120.1
1180
1116
Medicine Bow-Routt National Forest
WYOMING
COLORADO
Little Snake R.
Yampa R.
Craig
ROUTT
Jurisdiction
Bureau of Land Management
Bureau of Reclamation
National Park Service
U.S. Forest Service
U.S. Fish & Wildlife Service
State
Local
Private
EIS Alternative Routes
Applicant Proposed I-A
Agency Preferred I-B
Alternative I-C
Alternative I-D
Alternative Variation (Var.) or Alternative Connector (Con.)
Segment not in this Region
Selected Alternative
Terminal Siting Area
Potential Ground Electrode Siting Area
Potential Ground Electrode Site
Potential Ground Electrode Overhead Electrical Line
Selected Ground Electrode Siting Area
Selected Ground Electrode Site
Selected Ground Electrode Overhead Electrode Line
TRANSWEST EXPRESS TRANSMISSION PROJECT
Figure ROD-2
Final EIS Routes and Selected Alternative
Region I
1:1,000,000
Western AREA POWER ADMINISTRATION
Exported On: 1/15/2016

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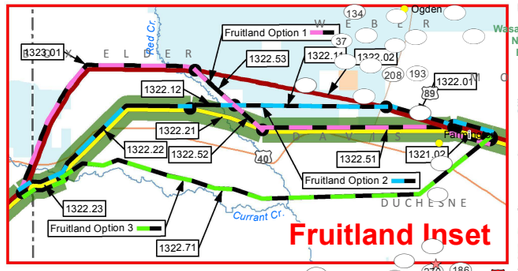
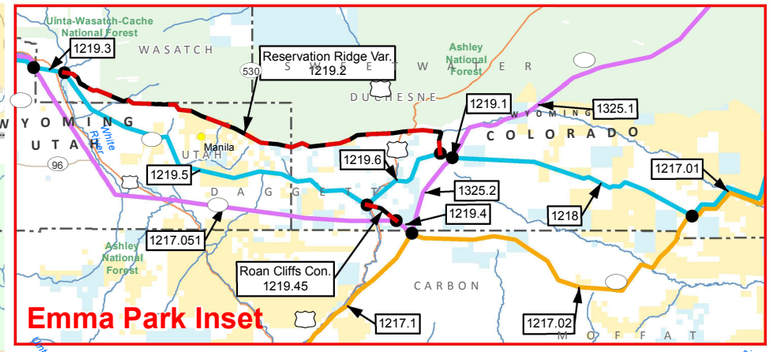
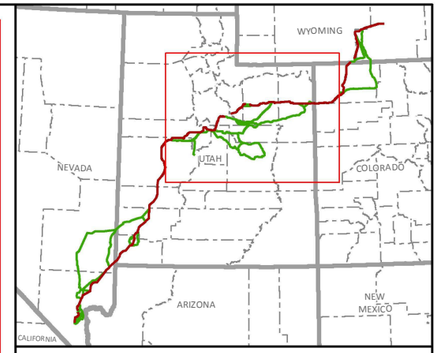
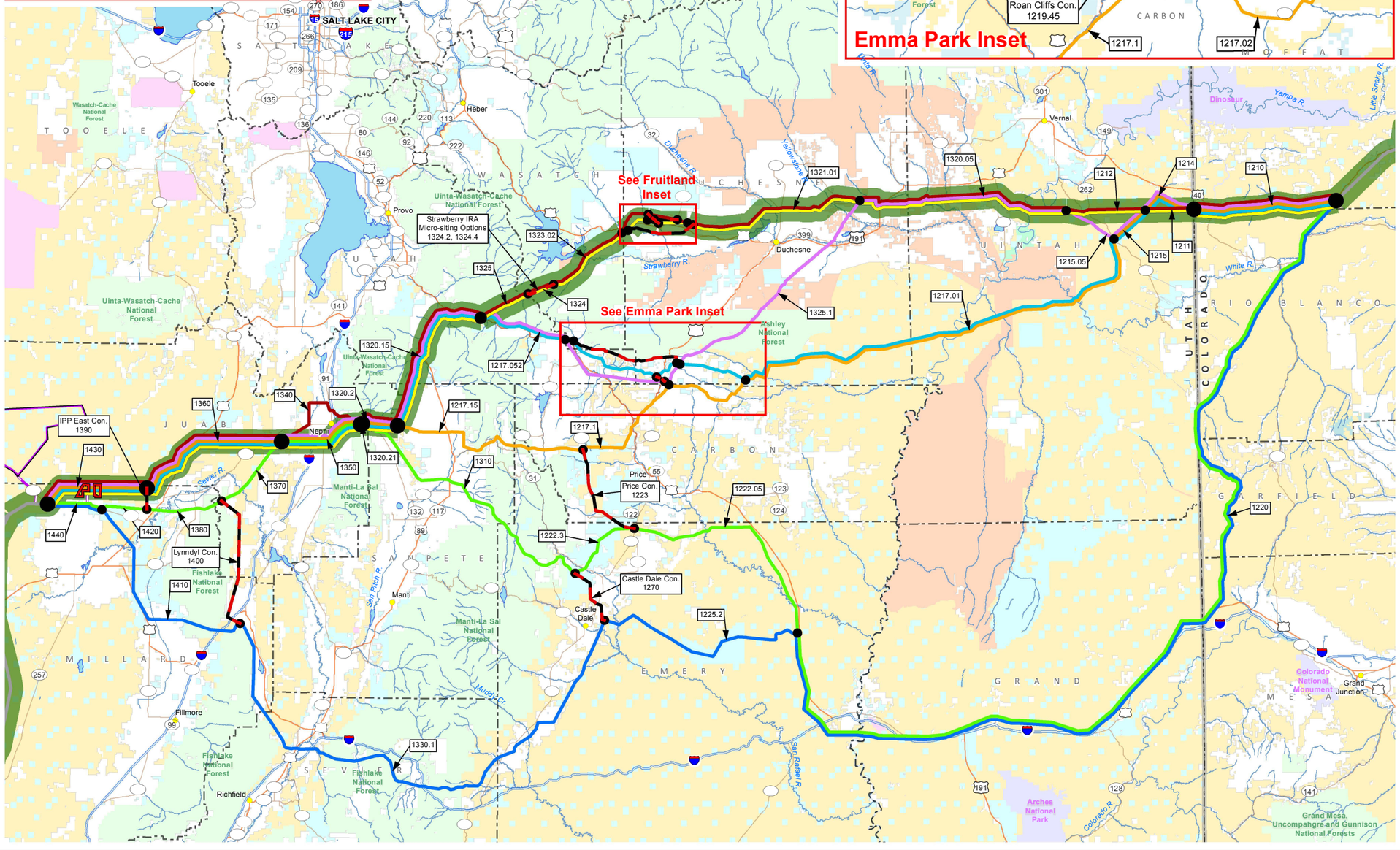








EIS Alternative Routes

- Applicant Proposed II-A
- Alternative II-B
- Alternative II-C
- Alternative II-D
- Alternative II-E
- Alternative II-F
- Agency Preferred II-G
- Alternative Variation (Var.) or Alternative Connector (Con.)
- Segment not in this Region
- Selected Alternative
- Node

Other Project Components

- Terminal Siting Area
- Potential Ground Electrode Siting Area
- Potential Ground Electrode Overhead Electrical Line

Jurisdiction

- BIA/Tribal
- Bureau of Land Management
- Bureau of Reclamation
- DOD/USACE
- National Park Service
- U.S. Forest Service
- U.S. Fish & Wildlife Service
- Other Federal
- State
- Local
- Private

TRANSWEST EXPRESS TRANSMISSION PROJECT

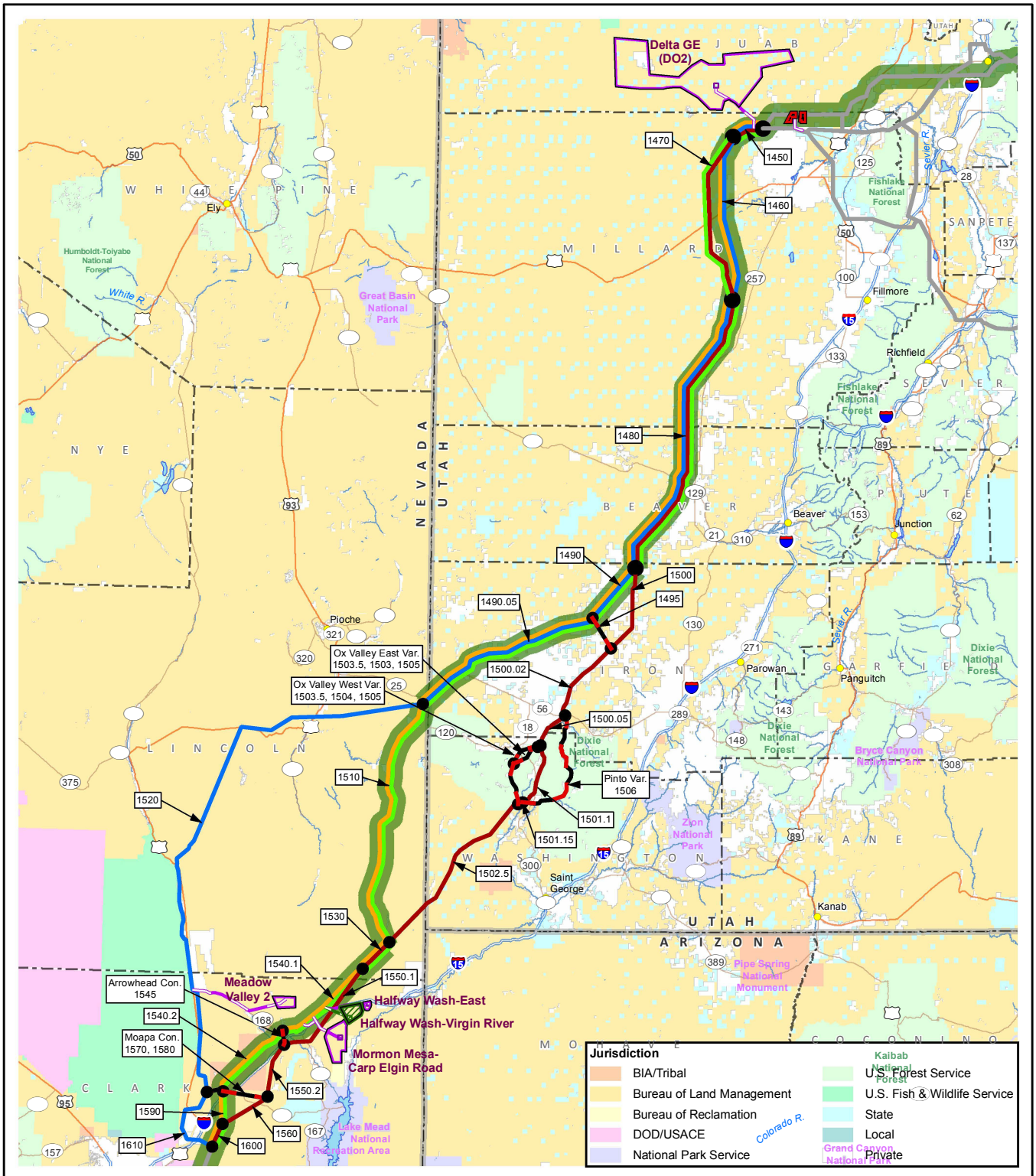
Figure ROD-3
Final EIS Routes and Selected Alternative
Region II

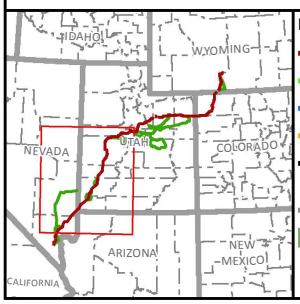
0 10 20 40 Miles
0 10 20 40 Kilometers
1:1,200,000

N

Western Area Power Administration

Exported On: 3/8/2016





EIS Alternative Routes

- Applicant Proposed III-A
- Alternative III-B
- Alternative III-C
- Agency Preferred III-D
- Alternative Variation (Var.) or Alternative Connector (Con.)
- Segment not in this Region
- Selected Alternative

- Terminal Siting Area
- Potential Ground Electrode Siting Area
- Potential Ground Electrode Site
- Potential Ground Electrode Overhead Electrical Line
- Selected Ground Electrode Siting Area
- Selected Ground Electrode Site
- Selected Ground Electrode Overhead Electrode Line

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure ROD-4
Final EIS Routes and Selected Alternative
Region III

0 10 20 40 Miles
0 10 20 40 km
1:2,000,000

N

Western AREA POWER ADMINISTRATION

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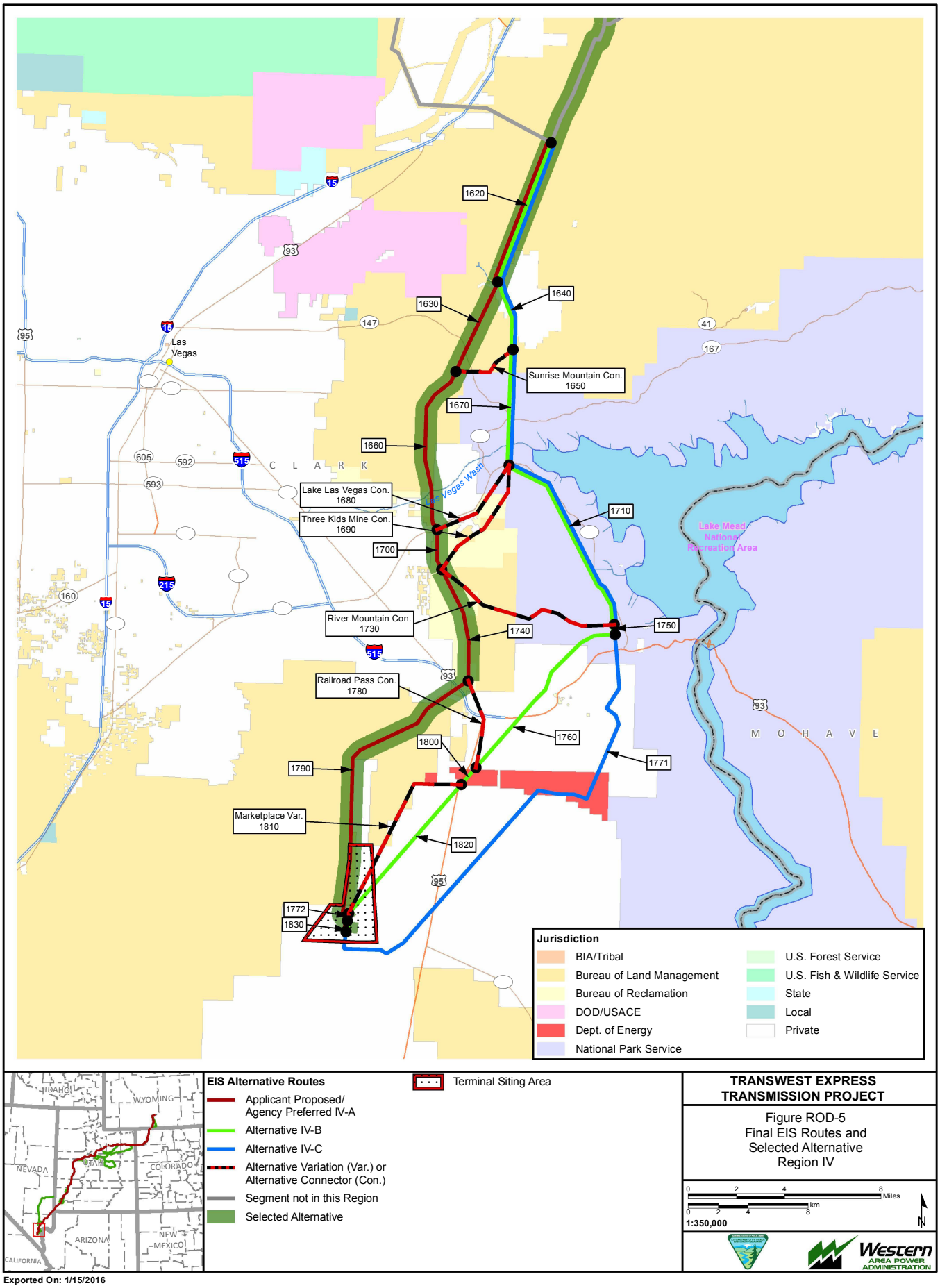
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1620
1640
1630
1650
Sunrise Mountain Con.
1670
1660
1680
Lake Las Vegas Con.
1690
Three Kids Mine Con.
1700
1710
1730
River Mountain Con.
1740
1750
1780
Railroad Pass Con.
1760
1800
1771
1790
1810
Marketplace Var.
1820
1772
1830
Las Vegas
C L A R K
M O H A V E
Lake Mead National Recreation Area
Las Vegas Wash
Jurisdiction
BIA/Tribal
Bureau of Land Management
Bureau of Reclamation
DOD/USACE
Dept. of Energy
National Park Service
U.S. Forest Service
U.S. Fish & Wildlife Service
State
Local
Private
EIS Alternative Routes
Applicant Proposed/ Agency Preferred IV-A
Alternative IV-B
Alternative IV-C
Alternative Variation (Var.) or Alternative Connector (Con.)
Segment not in this Region
Selected Alternative
Terminal Siting Area
IDAHO
WYOMING
NEVADA
UTAH
COLORADO
ARIZONA
NEW MEXICO
CALIFORNIA
TRANSWEST EXPRESS TRANSMISSION PROJECT
Figure ROD-5
Final EIS Routes and Selected Alternative
Region IV
Miles
km
1:350,000
N
Western AREA POWER ADMINISTRATION
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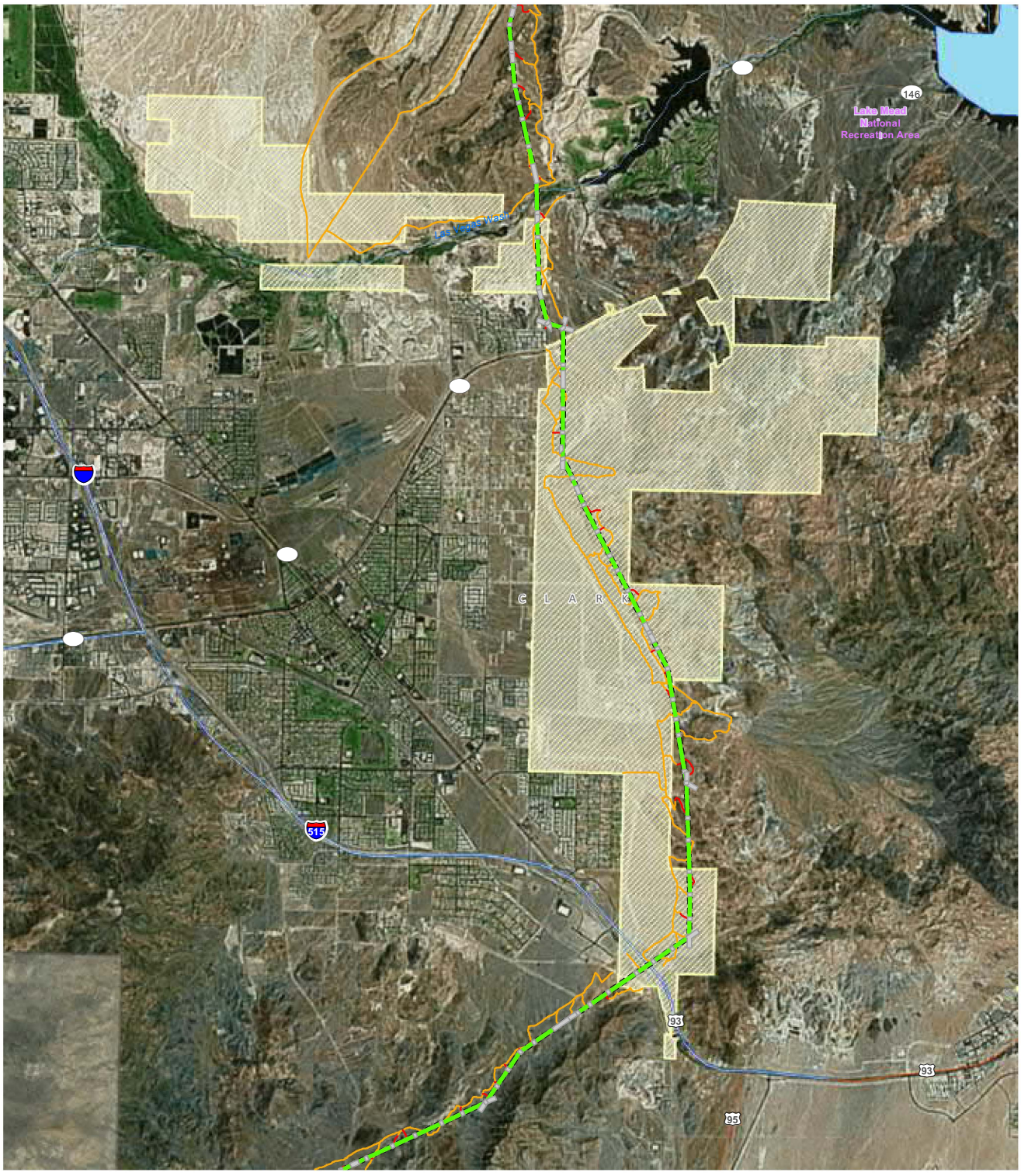

Project Components

- Selected Alternative
- 250-foot-wide ROW
- Improved Existing Access Road
- New Access Road
- Temporary Work Area
- Bureau of Reclamation Land

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure ROD-6
Selected Alternative Location
on Bureau of Reclamation
Lower Colorado Region Lands

0 1 2 Miles
0 1 2 km
1:100,000

N

Western AREA POWER ADMINISTRATION

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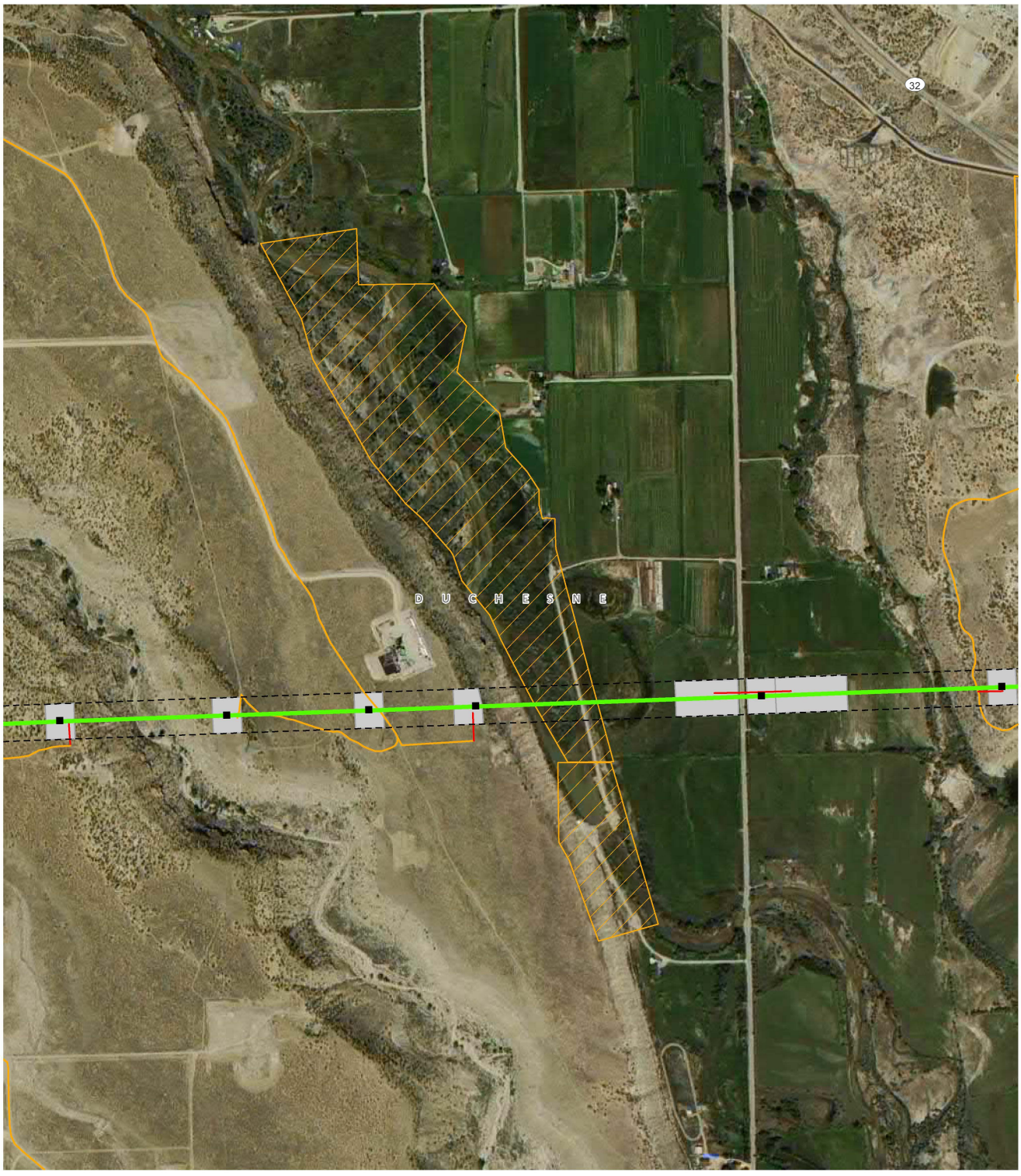


Project Components

- Selected Alternative
- 250-foot-wide ROW
- Tower Locations
- Improved Existing Access Road
- New Access Road
- Temporary Work Area
- US Bureau of Reclamation [1]

[1]USA Lands digitized from Transwest Express LLC Figure 2-Knight Diversion. Published July 14, 2016.

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure ROD-7
Selected Alternative Location
on Bureau of Reclamation
USA Lands

0 0.125 0.25 Miles
0 0.125 0.25 km
1:12,500

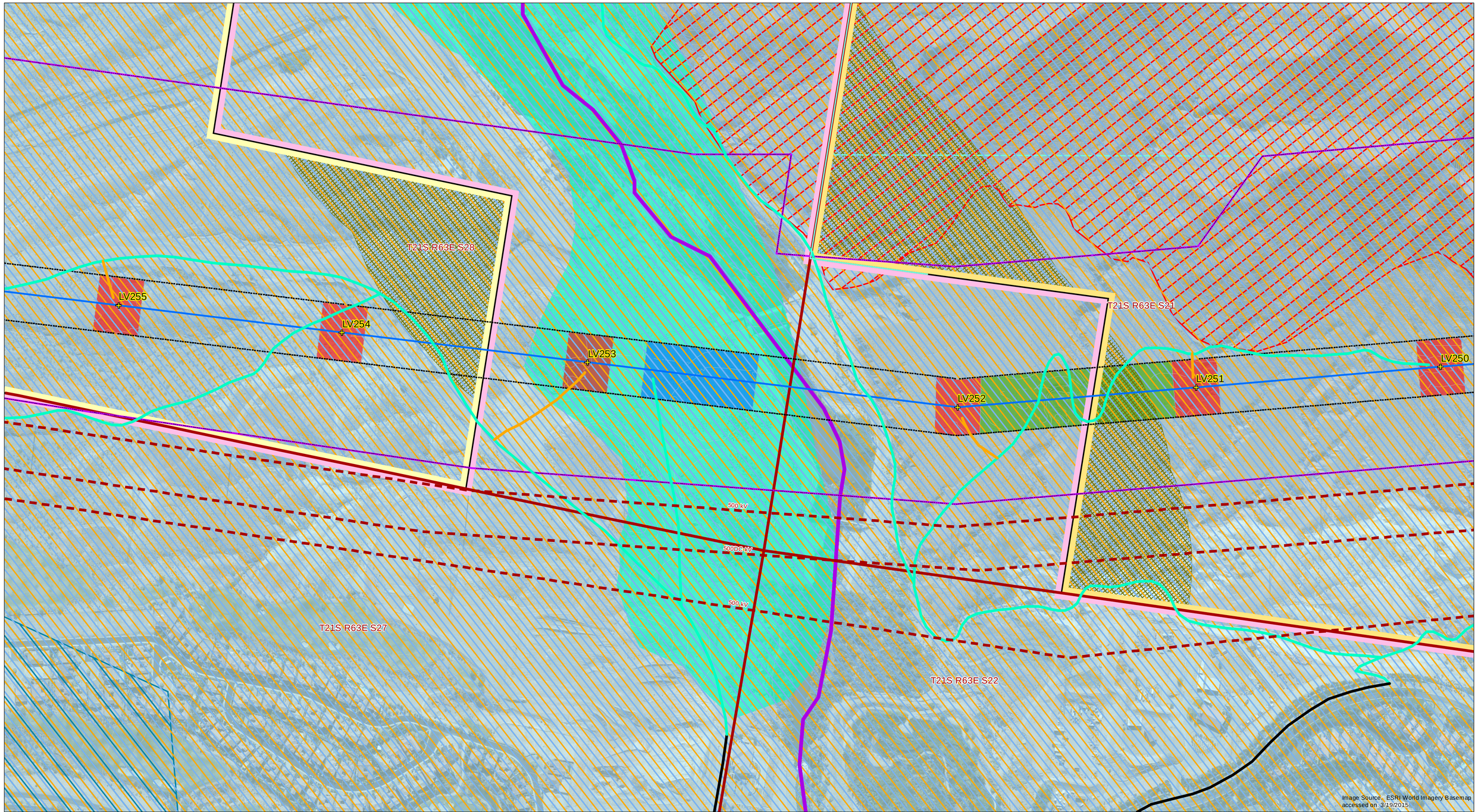
N

Western AREA POWER ADMINISTRATION

Exported On: 3/20/2017

ROD-8

Las Vegas Detail Maps showing Project features on Reclamation land



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POWER ENGINEERS

TRANSWEST EXPRESS LLC

Legend

Project Features (Agency Preferred Alternative)
- TWE Project Transmission Centerline
- TWE Project Transmission Interconnection Centerline
- TWE Project Transmission Line ROW Edge
- Preliminary Tower Location
- TWE Project Transmission Line Corridor
- Fly Yard/Staging Area
- Wire-Pulling, Tensioning, Splicing Site
- Structure Work Area
- Existing Improved Road
- Existing Road Requiring Improvement
- New Road

Environmental Resources
- Bighorn Sheep (NDOW 2013)
- Desert Tortoise Potential Habitat (AECOM 2013)
- 303D Impaired Waters (AECOM 2012)
- Las Vegas Buckwheat (AECOM 2013)
- Bird Habitat Concentration Area (AECOM 2014)
- Recreation Mitigation (AECOM 2014)
- Permanent Water Source (AECOM 2013)
- Special Management Area (AECOM 2013)
- NWI Wetland (USGS 2012)

Existing Transportation
- Interstate
- US Highway
- State Highway

Jurisdiction
- BLM
- BOR
- PRIVATE
- Section

- Contours - 10 ft interval (USGS 10 meter DEM & LiDAR)

Existing Utilities
- Existing Transmission (115 kV or Higher)

Note 1: All design features shown on this drawing are based on best available preliminary engineering and are subject to change after field verification and during final detailed design.

Note 2: Section and jurisdiction misalignments are due to different data sets and will be reconciled once land surveying is completed.

Las Vegas FO - Constraints, Access Roads, and Work Area Details

Date: 3/19/2015

PRELIMINARY DRAFT: NOT FOR CONSTRUCTION

TRANSWEST EXPRESS TRANSMISSION PROJECT: LAS VEGAS FIELD OFFICE

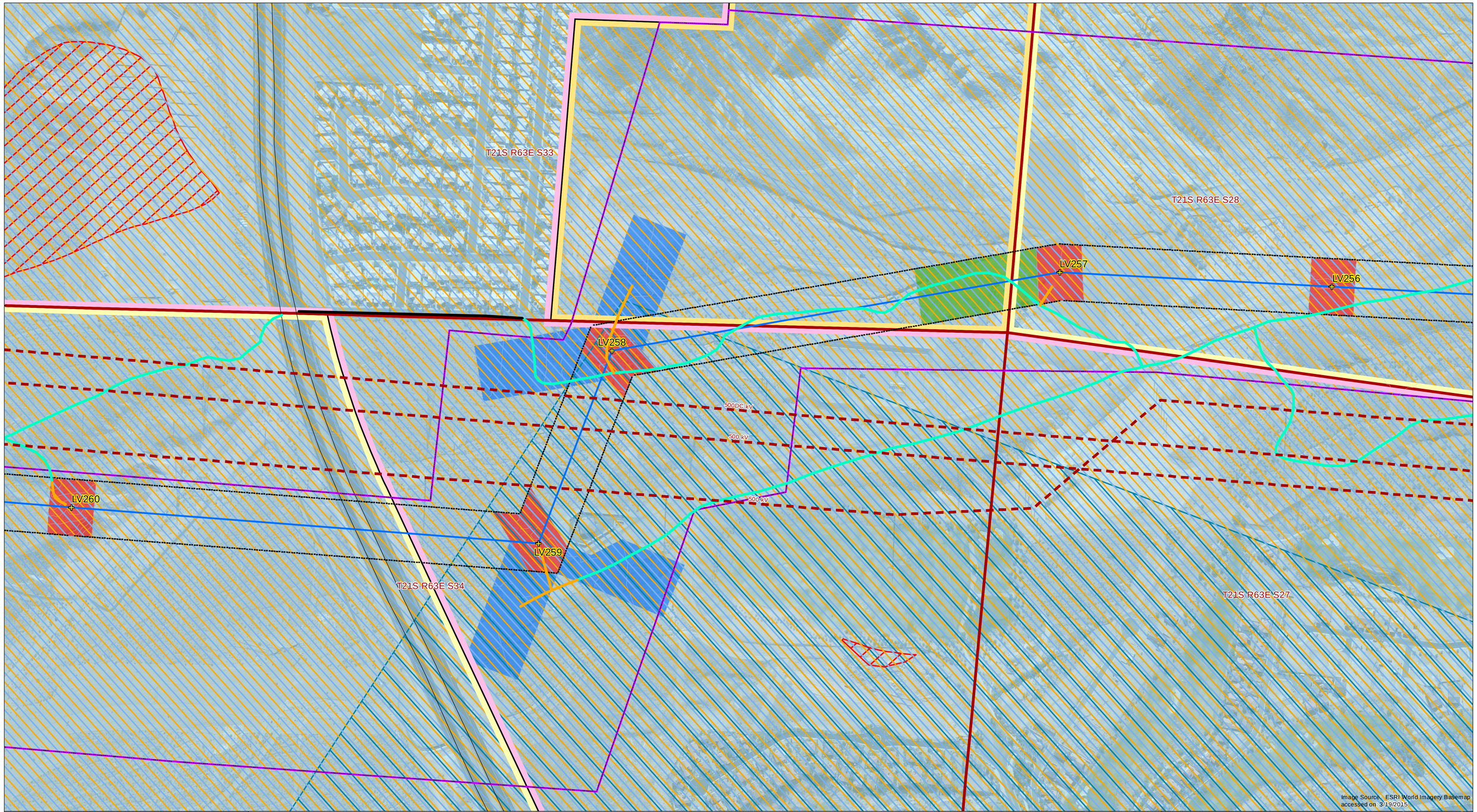

Image Source: ESRI World Imagery Basemap accessed on 3/19/2015

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POWER ENGINEERS

TRANSWEST EXPRESS LLC

Legend

Project Features (Agency Preferred Alternative)
- TWE Project Transmission Centerline
- TWE Project Transmission Interconnection Centerline
- TWE Project Transmission Line ROW Edge
- Preliminary Tower Location
- TWE Project Transmission Line Corridor
- Fly Yard/Staging Area
- Wire-Pulling, Tensioning, Splicing Site
- Structure Work Area
- Existing Improved Road
- Existing Road Requiring Improvement
- New Road

Environmental Resources
- Bighorn Sheep (NDOW 2013)
- Desert Tortoise Potential Habitat (AECOM 2013)
- Las Vegas Buckwheat (AECOM 2013)
- Bird Habitat Concentration Area (AECOM 2014)
- Recreation Mitigation (AECOM 2014)

Existing Transportation
- Interstate
- US Highway
- State Highway

Jurisdiction
- BLM
- BOR
- PRIVATE
- Section

Contours - 10 ft interval (USGS 10 meter DEM & LiDAR)

Existing Utilities
- Existing Transmission (115 kV or Higher)

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Las Vegas FO - Constraints, Access Roads, and Work Area Details

Date: 3/19/2015

PRELIMINARY DRAFT: NOT FOR CONSTRUCTION

TRANSWEST EXPRESS TRANSMISSION PROJECT: LAS VEGAS FIELD OFFICE

T22S R63E S9

T22S R63E S10

T22S R63E S4

T21S R63E S33

T22S R63E S3

T21S R63E S34

230 kV

500DC kV

500 kV

500 kV

LV264

LV263

LV262

LV261

LV265

Image Source: ESRI World Imagery Basemap accessed on 3/19/2015

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POWER ENGINEERS

TRANSWEST EXPRESS LLC

Legend

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- Structure Work Area
- Existing Improved Road
- Existing Road Requiring Improvement
- New Road

Environmental Resources
- Desert Tortoise Potential Habitat (AECOM 2013)
- Las Vegas Buckwheat (AECOM 2013)
- Bird Habitat Concentration Area (AECOM 2014)
- Recreation Mitigation (AECOM 2014)
- Special Management Area (AECOM 2013)

Existing Transportation
- Interstate
- US Highway
- State Highway

Jurisdiction
- BLM
- BOR
- PRIVATE

- Section
- Contours - 10 ft interval (USGS 10 meter DEM & LiDAR)

Existing Utilities
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Las Vegas FO - Constraints, Access Roads, and Work Area Details

Date: 3/19/2015

PRELIMINARY DRAFT: NOT FOR CONSTRUCTION

TRANSWEST EXPRESS TRANSMISSION PROJECT: LAS VEGAS FIELD OFFICE

T22S R63E S15

T22S R63E S9

T22S R63E S4

230 kV

500DC kV

500 kV

T22S R63E S10

T22S R63E S3

T22S R63E S11

LV269

LV268

LV267

LV266

LV265

Image Source: ESRI World Imagery Basemap accessed on 3/19/2015

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POWER ENGINEERS

TRANSWEST EXPRESS LLC

Legend

Project Features (Agency Preferred Alternative)

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- TWE Project Transmission Line Corridor
- Wire-Pulling, Tensioning, Splicing Site
- Structure Work Area
- Existing Improved Road
- Existing Road Requiring Improvement
- New Road

Environmental Resources

- Bighorn Sheep (NDOW 2013)
- Desert Tortoise Potential Habitat (AECOM 2013)
- Las Vegas Buckwheat (AECOM 2013)
- Recreation Mitigation (AECOM 2014)
- Special Management Area (AECOM 2013)

Existing Transportation

- Interstate
- US Highway
- State Highway

Jurisdiction

- BLM
- BOR
- PRIVATE
- Section

- Contours - 10 ft interval (USGS 10 meter DEM & LiDAR)

Existing Utilities

- Existing Transmission (115 kV or Higher)

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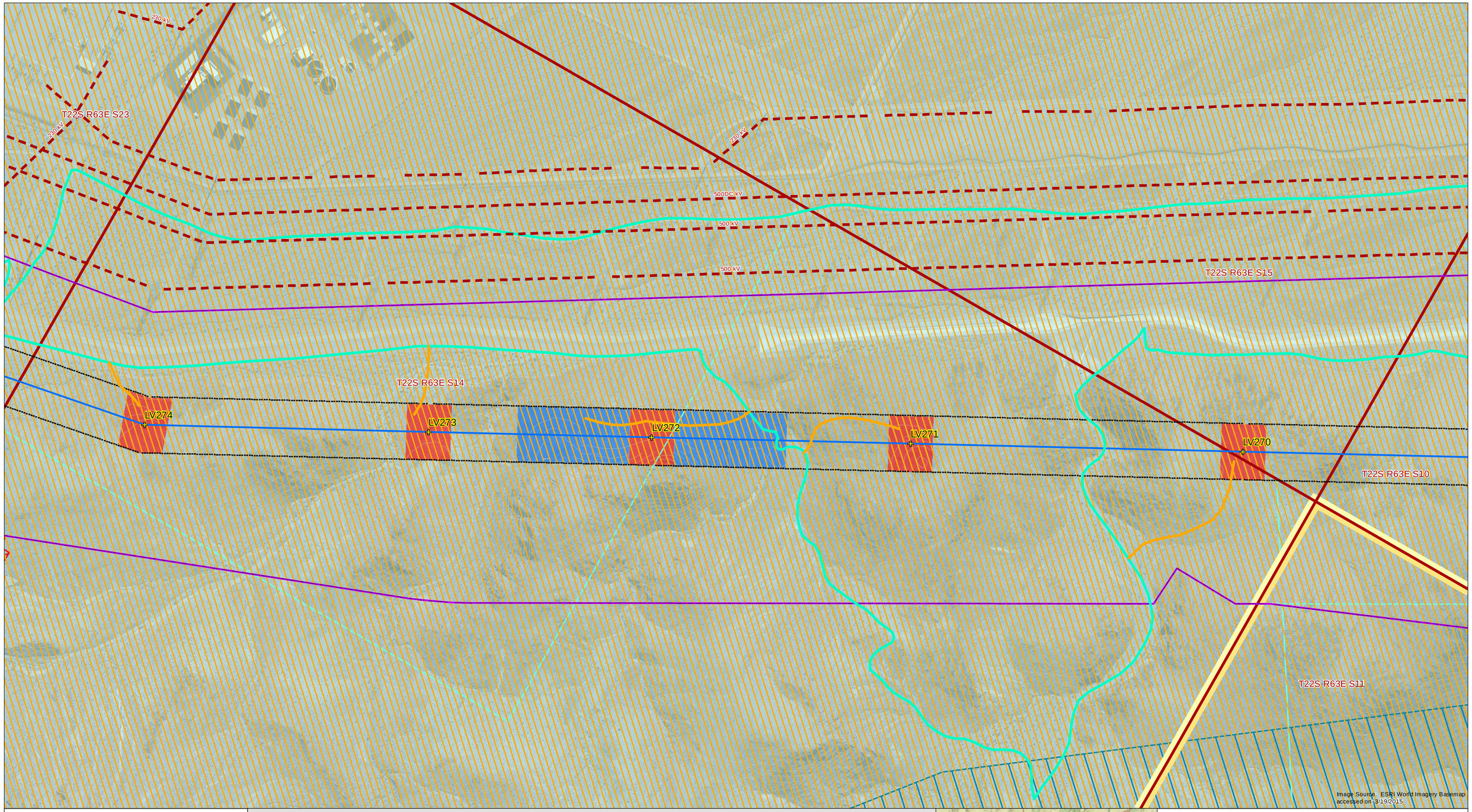
Las Vegas FO - Constraints, Access Roads, and Work Area Details

Date: 3/19/2015

PRELIMINARY DRAFT: NOT FOR CONSTRUCTION

TRANSWEST EXPRESS TRANSMISSION PROJECT: LAS VEGAS FIELD OFFICE



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POWER ENGINEERS

TRANSWEST EXPRESS LLC

Legend

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- Existing Improved Road
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- New Road

Environmental Resources
- Bighorn Sheep (NDOW 2013)
- Desert Tortoise Potential Habitat (AECOM 2013)
- Las Vegas Buckwheat (AECOM 2013)
- Recreation Mitigation (AECOM 2014)
- Special Management Area (AECOM 2013)

Existing Transportation
- Interstate
- US Highway
- State Highway

Jurisdiction
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- BOR
- Section
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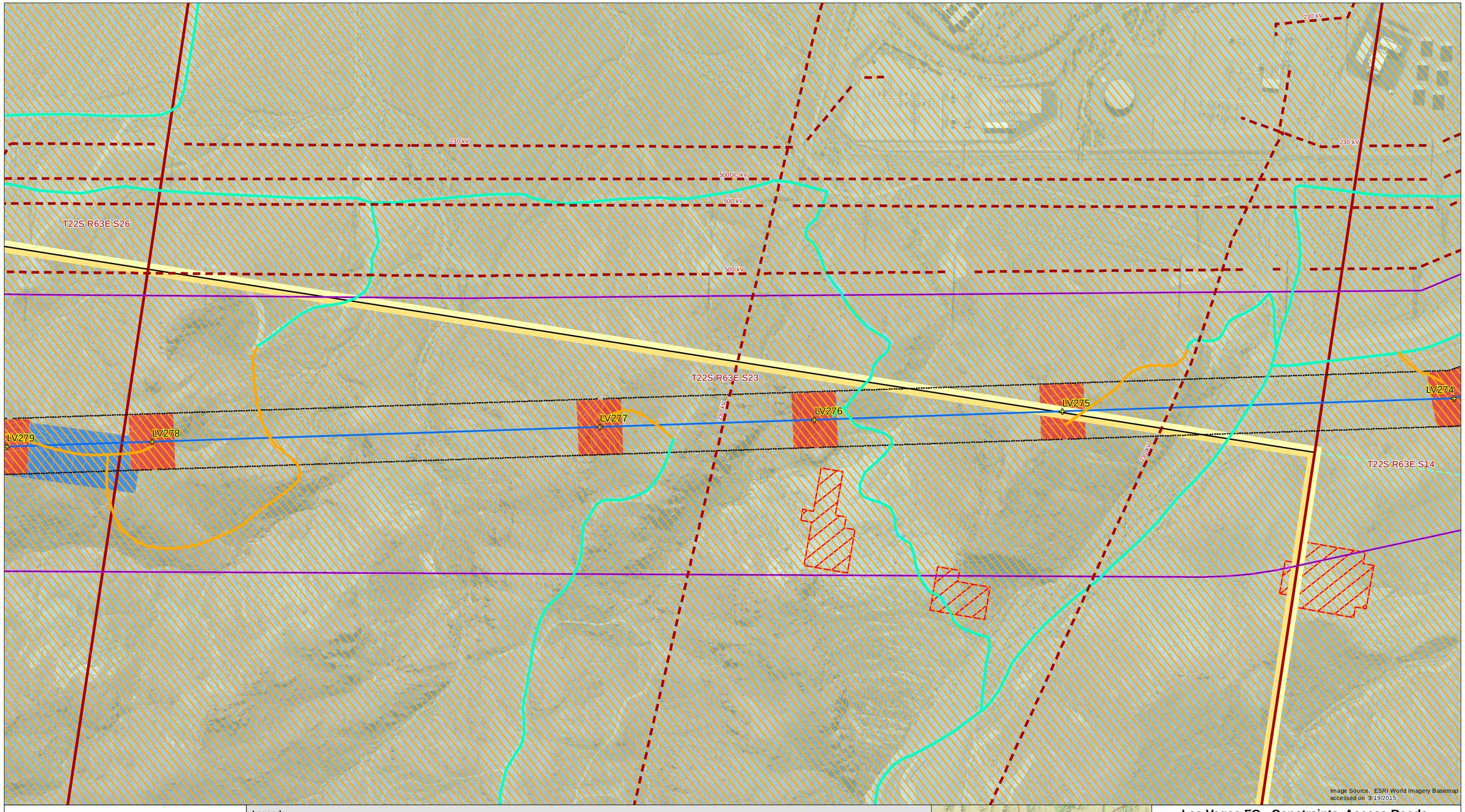
Las Vegas FO - Constraints, Access Roads, and Work Area Details

Date: 3/19/2015

PRELIMINARY DRAFT: NOT FOR CONSTRUCTION

TRANSWEST EXPRESS TRANSMISSION PROJECT: LAS VEGAS FIELD OFFICE



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POWER ENGINEERS

TRANSWEST EXPRESS LLC

Legend

Project Features (Agency Preferred Alternative)
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Environmental Resources
- Desert Tortoise Potential Habitat (AECOM 2013)
- Las Vegas Buckwheat (AECOM 2013)
- Recreation Mitigation (AECOM 2014)
- Special Management Area (AECOM 2013)

Existing Transportation
- Interstate
- US Highway
- State Highway

Jurisdiction
- BLM
- BOR
- Section
- Contours - 10 ft interval (USGS 10 meter DEM & LiDAR)

Existing Utilities
- Existing Transmission (115 kV or Higher)

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Las Vegas FO - Constraints, Access Roads, and Work Area Details

Date: 3/19/2015

PRELIMINARY DRAFT:
NOT FOR CONSTRUCTION

TRANSWEST EXPRESS TRANSMISSION PROJECT:
LAS VEGAS FIELD OFFICE

T22S R63E S35

T22S R63E S26

T22S R63E S36

500DC kV

500 kV

230 kV

500 kV

LV283

LV282

LV281

LV280

LV279

Image Source: ESRI World Imagery Basemap accessed on 3/19/2015

0 200 400 800 Feet

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POWER ENGINEERS

TRANSWEST EXPRESS LLC

Legend

Project Features (Agency Preferred Alternative)

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- Structure Work Area
- Existing Improved Road
- Existing Road Requiring Improvement
- New Road

Environmental Resources

- Desert Tortoise Potential Habitat (AECOM 2013)
- Recreation Mitigation (AECOM 2014)
- Special Management Area (AECOM 2013)

Existing Transportation

- Interstate
- US Highway
- State Highway

Jurisdiction

- BLM
- BOR
- Section

Contours - 10 ft interval (USGS 10 meter DEM & LiDAR)

Existing Utilities

- Existing Transmission (115 kV or Higher)

Note 1: All design features shown on this drawing are based on best available preliminary engineering and are subject to change after field verification and during final detailed design.

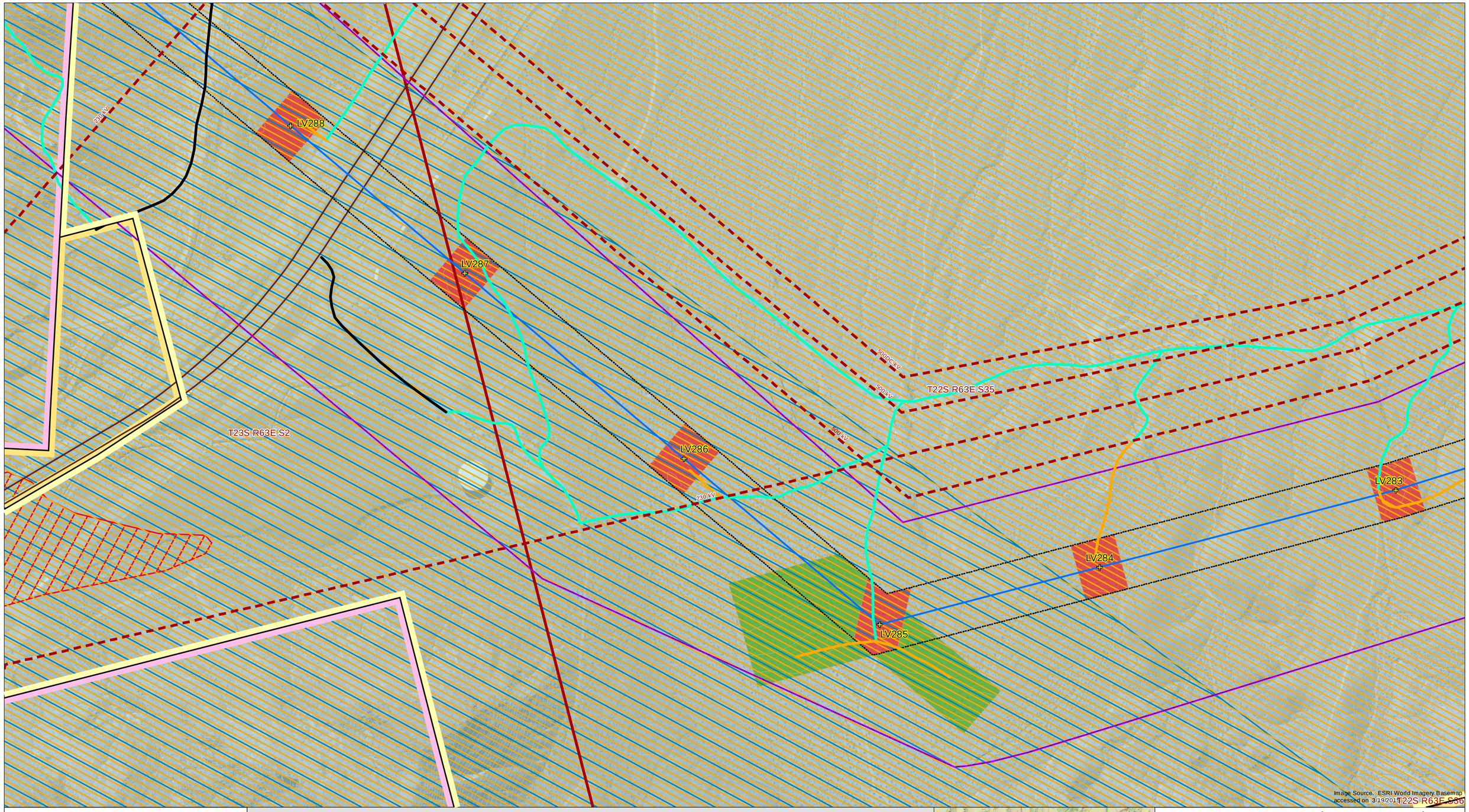
Note 2: Section and jurisdiction misalignments are due to different data sets and will be reconciled once land surveying is completed.

Las Vegas FO - Constraints, Access Roads, and Work Area Details

Date: 3/19/2015

PRELIMINARY DRAFT: NOT FOR CONSTRUCTION

TRANSWEST EXPRESS TRANSMISSION PROJECT: LAS VEGAS FIELD OFFICE



0 200 400 800 Feet

1:2,400 when printed on 34x22 inch sheet
1:4,800 when printed on 11x17 inch sheet

POWER ENGINEERS

TRANSWEST EXPRESS LLC

Legend

Project Features (Agency Preferred Alternative)
- TWE Project Transmission Centerline
- TWE Project Transmission Interconnection Centerline
- TWE Project Transmission Line ROW Edge
- Preliminary Tower Location
- TWE Project Transmission Line Corridor
- Fly Yard/Staging Area
- Wire-Pulling, Tensioning, Splicing Site
- Structure Work Area
- Existing Improved Road
- Existing Road Requiring Improvement
- New Road

Environmental Resources
- Bighorn Sheep (NDOW 2013)
- Desert Tortoise Potential Habitat (AECOM 2013)
- Las Vegas Buckwheat (AECOM 2013)
- Recreation Mitigation (AECOM 2014)
- Special Management Area (AECOM 2013)

Existing Transportation
- Interstate
- US Highway
- State Highway

Jurisdiction
- BLM
- BOR
- PRIVATE

- Section
- Contours - 10 ft interval (USGS 10 meter DEM & LiDAR)

Existing Utilities
- Existing Transmission (115 kV or Higher)

Note 1: All design features shown on this drawing are based on best available preliminary engineering and are subject to change after field verification and during final detailed design.

Note 2: Section and jurisdiction misalignments are due to different data sets and will be reconciled once land surveying is completed.

Las Vegas FO - Constraints, Access Roads, and Work Area Details

Date: 3/19/2015

PRELIMINARY DRAFT:
NOT FOR CONSTRUCTION

TRANSWEST EXPRESS TRANSMISSION PROJECT:
LAS VEGAS FIELD OFFICE

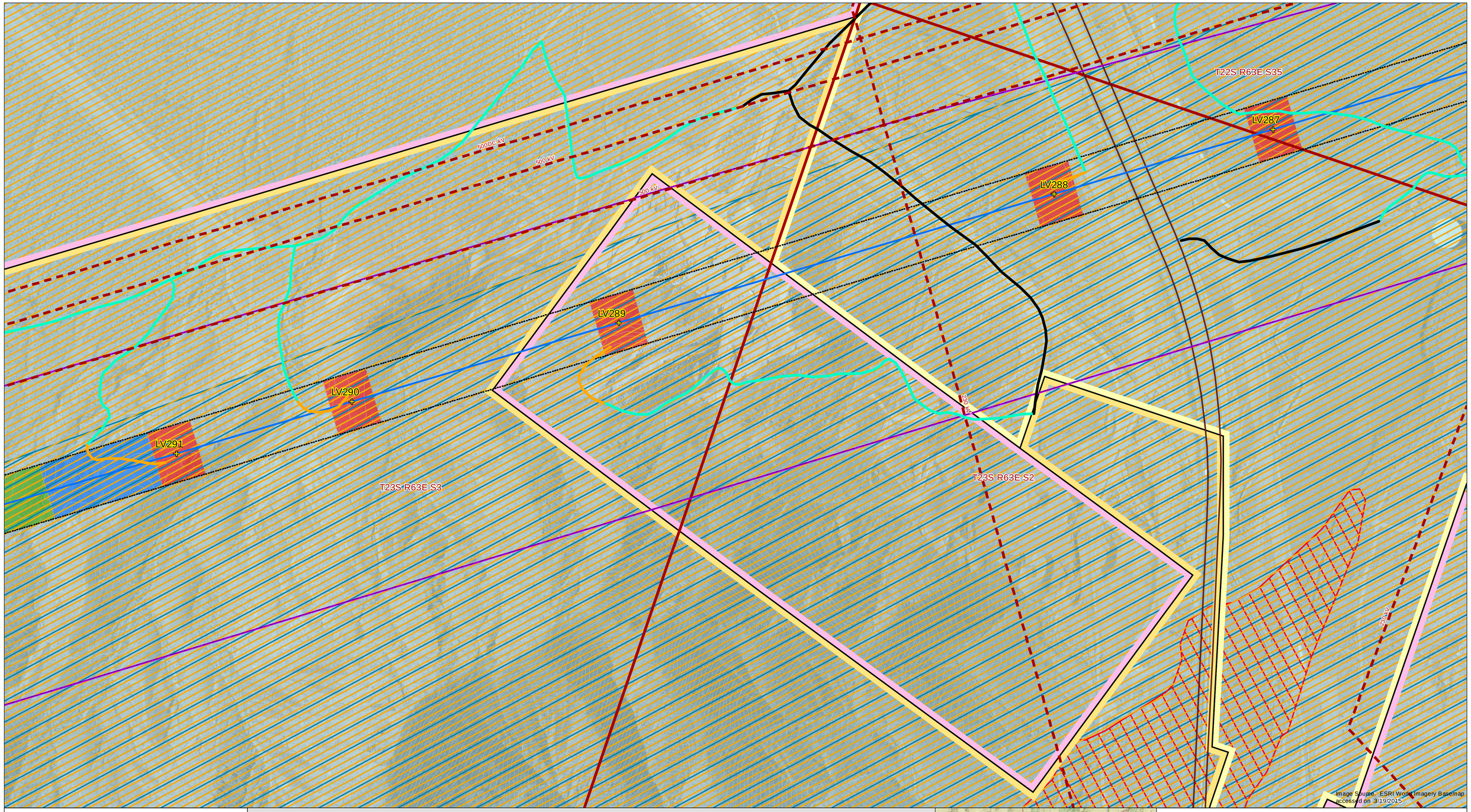


Image Source: ESRI World Imagery Basemap accessed on 3/19/2015

0 200 400 800 Feet

1:2,400 when printed on 34x22 inch sheet
1:4,800 when printed on 11x17 inch sheet

POWER ENGINEERS

TRANSWEST EXPRESS LLC

Legend

Project Features (Agency Preferred Alternative)
- TWE Project Transmission Centerline
- TWE Project Transmission Interconnection Centerline
- TWE Project Transmission Line ROW Edge
- Preliminary Tower Location
- TWE Project Transmission Line Corridor
- Fly Yard/Staging Area
- Wire-Pulling, Tensioning, Splicing Site
- Structure Work Area
- Existing Improved Road
- Existing Road Requiring Improvement
- New Road

Environmental Resources
- Bighorn Sheep (NDOW 2013)
- Desert Tortoise Potential Habitat (AECOM 2013)
- Las Vegas Buckwheat (AECOM 2013)
- Recreation Mitigation (AECOM 2014)

Existing Transportation
- Interstate
- US Highway
- State Highway

Jurisdiction
- BLM
- BOR
- PRIVATE
- Section

Contours - 10 ft interval (USGS 10 meter DEM & LiDAR)

Existing Utilities
- Existing Transmission (115 kV or Higher)

Note 1: All design features shown on this drawing are based on best available preliminary engineering and are subject to change after field verification and during final detailed design.

Note 2: Section and jurisdiction misalignments are due to different data sets and will be reconciled once land surveying is completed.

Las Vegas FO - Constraints, Access Roads, and Work Area Details

Date: 3/19/2015

PRELIMINARY DRAFT: NOT FOR CONSTRUCTION

TRANSWEST EXPRESS TRANSMISSION PROJECT: LAS VEGAS FIELD OFFICE