

ENVIRONMENTAL ASSESSMENT
FOR
RED MESA SOLAR GENERATION FACILITY AND ACCESS ROAD PROJECT

NTUA Work Order No. 72-180-0001

Prepared by
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March 2022

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1.0 - PROPOSED ACTION

A. Project Description

NTUA is non-profit enterprise established by the Navajo Nation Council to provide reliable multi-utility services to the Navajo Nation and the Navajo People. Since 1959, NTUA has supplied electricity, water, natural gas, wastewater treatment, off-grid systems, communications, power generation and information services to residents throughout the Navajo Nation.

The Navajo Tribal Utility Authority (NTUA), Fort Defiance, Arizona proposes to construct, operate, and maintain a 72-megawatt solar energy generation facility within 550.07± acres of land on the Navajo Nation, and including an access road to the facility in the vicinity of Red Mesa Chapter, San Juan County, Utah.

The access road, measures forty (40) feet wide and is 66± feet in length for an area of effect of 0.06± acres on Navajo Nation Trust Lands. The access road will be developed.

The total area of affected lands associated with the project, including the solar generation facility and the access road, will be 550.13± acres of land.

Construction activities will consist of the following:

1. NTUA will comply with the 25 Code of Federal Regulations, Part 169: Right-of-Way over Indian Lands.
2. Site preparation will involve removal of the sparse vegetation, ground leveling, compacting, and grading within the 550.13± acres tract.
3. Installation of posts and inverter station foundations.
4. Assemble the racking to the posts, attaching the panels to the racking, connecting wires, wiring the arrays to combiner boxes, to inverters, and the interconnection point. The interconnection facilities will be placed within the 550-acre tract.
5. Installation of electrical system, wiring, substation, and components.
6. The entire 550.13± acres will be securely fenced during construction and will remain fenced during the operation of the solar facility.
7. Operations and maintenance building will be constructed on-site.
8. The access road shall be constructed in accordance with NDOT Standard Drawings and the approved plans.
9. Construction crew will pick up debris resulting from the construction.
10. The operation stage will consist of maintenance and monitoring of the solar facility.

B. Purpose and Need for Action

The purpose and need of these facilities requested by Navajo Tribal Utility Authority, is to provide a long-term sustainable renewable energy source, transitioning from a purchased power coal-based energy source to a renewable energy source, in which the Navajo Nation and the Navajo Tribal Utility Authority would own.

Resources are needed to meet energy demand and future needs, which is expected to increase over time across the Navajo Nation and the region.

This project promotes green energy efficiency and economic growth through green jobs.

C. Locations

The proposed project is situated within Sections 16, 17, 20, 21, 28, and 29, Township 42 South, Range 23 East, Salt Lake Meridian, in Red Mesa, San Juan County, State of Utah.

Quadrangle Maps: 7.5 quads for the project area in Gray Spot Rock and Hogan Mesa, Utah.

D. Vicinity Maps

Exhibit "A-1" Right-of-Way Map

Exhibit "A-2" Location Map

2.0-ALTERNATIVES

A. Formulation of Alternatives

Alternatives are electric power transmission/distribution, Solar energy, Wind energy, and No action.

B. Reasonable Alternatives

1. Electric Power Transmission/Distribution Line

Although NTUA has transmission and distribution electric lines across the Navajo Nation, it relies on other sources of generation to provide adequate energy supply and meet future needs. In the future, NTUA may not be able to maintain lower rates or create energy independence if we continue to rely on energy generation that occurs outside the boundaries of the Navajo Nation.

2. Solar Energy

The implementation of a solar facility is a move towards more sustainable sources of energy as more companies move away from the use of fossil fuels to generate electric power. Solar power generation mitigates the negative impacts associated with coal-fired facilities that typically produce pollutants and require an abundance of water and fossil-fuel use. A Solar power generation project will create a Navajo owned generation facility that would provide long-term sustainable power for the Navajo Nation and would create an avenue to maintain lower rates for our Navajo People.

3. Wind Energy

Wind energy is a viable renewable technology, however, it is dependent on wind, if there is no wind blowing, there is no electricity generated. It would take time to complete wind studies, and, in the end, it may not be a sustainable location and would be deemed not feasible as wind systems are aesthetically unpleasing, loud and pose a hazard to birds and raptors.

4. No Action

No Action will result in NTUA not supplying renewable energy and clean energy, nor would it create energy independence that the Navajo Nation and NTUA would own. NTUA would have to continue to rely on other sources of generation to provide adequate energy supply and meet future needs.

C. Alternatives Beyond BIA Authority

The Navajo Tribal Utility Authority does not know of other reasonable alternatives beyond BIA Authority that may be considered.

3.0 - DESCRIPTION OF THE AFFECTED ENVIRONMENT

A. Land Resources

The project is located northwest of the Red Mesa Chapter adjacent to existing County Road 5062. The terrain is flat with the stabilized sand dune. The elevation ranges 4,860 feet to 5,040 feet.

Soil consists of fine to coarse Aeolian light-brown sand and silt. The Bluff Sandstone will underlie the development of the facilities.

The Navajo Nation Woodland Inventory Analysis Report (1986-1991) measurement estimates that there are approximately 29,439 acres of woodlands within the Red Mesa Chapter area. These woodlands comprise of juniper (*Juniperus Genus*) and pinyon pine (*Pinus Genus*) and, although noted to be present within the Red Mesa Chapter, these woodland species remain absent from the 550.13±acre tract.

The nearest stand of Juniper (*Juniperus Genus*) is approximately 1.04 miles northwest of the 550.13±acre tract. The Juniper (*Juniperus Genus*) woodlands identified in the Navajo Nation Woodland Inventory Analysis Report (1986-1991) can be described to be an open canopy, typical for this area. Moderate to dense coverage of non-woodland species is seen along the San Juan River that is located 10 miles north of the 550.06±acre tract.

B. Water Resources

No natural, permanent, or semi-permanent sources of water can be found in the immediate vicinity of the project area. An unnamed wash is observed on the northwest corner of the proposed tract, this unnamed wash is intermittent, only flowing when precipitation is received on the surface. The head of the unnamed wash begins just west of the 550.13± acre tract and head northeast, where it converges into the Desert Creek which is approximately 2.0 miles line of sight from the nearest section of the solar tract. The unnamed wash is approximately 20-feet wide at the narrowest point and 100- feet wide at the widest section of the wash. The unnamed wash is a slot-like canyon at the narrowest point and is shallow at the widest section, where it converges with Desert Creek. The unnamed wash and Desert Creek are located completely outside of the 550.13± acre tract.

There are no wetlands identified within the 550.13± acres. The National Wetlands Inventory records the nearest wetland to be 1,700-feet from the closest point of the 550.13± acre tract. (Source: US Fish and Wildlife National Wetlands Inventory).

The elevation undulates between elevations of 5080 feet to 4920 feet sloping from the southwest to northeast section of the tract, gently sloping 1.8% to the northeast.

C. Air Resources

Air quality in the area is generally good. Passing motor vehicles on dirt roads and prevailing dusty winds provides period of dense particulate pollution within the project areas.

The Navajo Nation is designated as Class II status and therefore is designated as unclassifiable/attainment for the National Ambient Air Quality Standards for criteria air pollutants

within Arizona, New Mexico, and Utah.

Visibility can exceed 30 miles or more on clear days. During winter months and windy days, visibility may be reduced or obstructed.

The proposed project area receives 8-12 inches of rainfall annually. The annual mean temperature is 25 degrees Fahrenheit during winter months and 90 degrees Fahrenheit during the summer months.

D. Biotic Resources

1. Wildlife

Wildlife and plant species observed within the project area are listed in *Appendix C* of the Biological Survey Report for Species of Concern on the Tapaha (Red Mesa) Solar Tract and Access Road Project, prepared by Zoology Unlimited, Flagstaff, Arizona, Exhibit "C".

Dexter D. Prall, Navajo Natural Heritage Program, Window Rock, Arizona, in a letter dated July 18, 2019, provided species known and potential to occur near the project area and are listed in *Appendix B* of the report.

In September 2019, Zoology Unlimited conducted the biological field survey within the tract and along the access road.

The ferruginous hawk is primarily a ground nester but still needs some abrupt topography. There is no potential nesting habitat on the solar tract itself because it is relatively flat with no trees, ridges, hills, or depressions. However, the area of potential habitat is located to the west and northwest, outside the boundaries of the solar tract. There is an unnamed wash running on the northwest and north sides (within 0.24 miles), and a ridge to the west and northwest (within 0.75 miles). The Navajo Nation Department of Fish and Wildlife's Ferruginous Hawk Management Guidelines for Nest Protection (2005) extends the area of potential effects out to 0.75 from the edge or end of the project area, and the wash and ridge in question is within the area of effect. This wash and ridge area is where there is potential habitat for nesting ferruginous hawk. Consequently, the entire project area, the solar tract and the area surrounding the tract up to 1.0 miles is deemed suitable habitat for foraging ferruginous hawks (small mammals, prey primarily cottontails, jackrabbits, prairie dogs, ground squirrels and gophers). The entire project area is located within the Great Basin Desert shrub.

Golden eagle nesting habitat is primarily steep cliffs. There is no potential nesting habitat on the solar tract itself. However, the area of potential habitat is to the west and northwest, outside the solar tract, where there is ridge with some short steep cliffs. The Navajo Nation, Department of Fish and Wildlife's Golden and Bald Eagle Nest Protection Policy (2008) extends the area of potential effects out to 0.75 miles from the edge or end of the project area, and the ridge in question is within that area of effect. This ridge area is where there is potential habitat for nesting Golden eagles. Consequently, the entire project area, the solar tract and the area surrounding the tract up to 1.0 miles is suitable habitat for foraging golden eagles (small mammals, primary prey of cottontails and jackrabbits).

No suitable habitat exists for the Burrowing owl, Mountain plover, Southwestern willow flycatcher, and the Peregrine falcon. No individuals found during the surveys.

NTUA obtained an updated specie list dated February 24, 2022, from Dexter D. Prall, Navajo Natural Heritage Program, Window Rock, Arizona; the updated species list did not have any new additions to the list.

2. Vegetation

Plant species observed within the project area listed in *Appendix B* of the report.

No suitable habitat exists within the project area for the Cronquist milk-vetch, Welsh's milkweed, Navajo sedge, Rydberg's thistle, Alcove bog-orchid, Parish's alkali grass, and the Alcove death camass. No impacts are expected to these specific plant species.

The Navajo Nation Woodland Inventory Analysis Report (1986-1991) measurement estimates that there is approximately 90.88 cubic feet of woodlands within the Red Mesa Chapter area. However, these woodlands, comprised of juniper (*Juniperus Genus*) and pinyon pine (*Pinus genus*), are absent from the 550.13± acre tract, thus no woodland species will be harvested.

E. Cultural Resources

The Navajo Nation Heritage & Historic Preservation Department (NNHHPD) records show that one previous survey was conducted under HPD-19-726, and no archaeological sites were identified within 300 feet of the project area.

Between July and August 2019, Carrizo Archaeological Group (CAG) of Farmington, New Mexico, conducted the cultural resources inventory within the tract and along the access road corridor. No Traditional Cultural Properties (TCPs) were recorded. Twenty-five Isolated Occurrences (IO) were identified and recorded in the CAG 2019-05 report. The IO's were determined not to be associated with an archaeological site. Furthermore, the NNHHPD did not stipulate a condition of compliance or avoidance measure associated with the IO's, therefore the IO's will not be avoided during the construction of the facilities.

F. Socioeconomic Conditions

The proposed undertaking would not result in any significant adverse impacts as measured by the following economic activities.

Major employment on the Navajo Nation found with Navajo Tribal offices, Federal agencies, and businesses situated locally or within principal towns of the Navajo Nation.

Red Mesa Chapter's population is estimated to be 1,138±. The project is located within the Red Mesa Chapter and BIA's Shiprock Agency.

The community is centered on the traditional lifestyle of the Navajo people through farming, ranching, silversmith, rug weaving, and arts & crafts. These activities do not occur within or adjacent to the 550 acre tract.

G. Resources/Land Use Patterns

The land in this area is used for livestock grazing (which is typically horses, cattle, and sheep) by two local community members who have permits to graze their livestock for this area. Evidence of the negative affects to over grazing is seen by the scarcity of grass land vegetation throughout the proposed solar tract area.

There are no oil, water, and gas industries within the vicinity of the project area.

The community is accessible by Arizona's State Highway No. 160, County Road 470, and BIA Route 35. Bus service and public transportation is available in Red Mesa and a paved airstrip is also available in the community.

The community has a Chapter House and a Senior Citizen Center. Recreational facilities include baseball fields. Education facilities include pre-school and high school. Students are also bussed to schools at Montezuma Creek and Aneth. Commercial establishments include a gas station, convenient store, Trading Post, Laundromat, and restaurant.

H. Other Values

The project is not located within or near wilderness areas. An unnamed wash located on the northwest corner designated as R4SBJ (R [Riverine], 4 [Intermittent], SB [Streambed J, and J [Intermittently Flooded]).

In reference to the National Pollutant Discharge Elimination System (NPDES) Permit, approximately 550.13± acres may be disturbed.

Section 404 Permit is not applicable, such as no discharge of dredged or fill material into waters will occur as a result of the proposed project.

In regards to the 100 and 500-year floodplain, the 550-acre solar tract is not listed within mapped areas of a 100 and 500-year floodplains.

4.0 - ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION

The following impacts (adverse or non-adverse) may occur as a result of the proposed undertaking:

A. Biological Impacts

1. Approximately 550.13± acres of surface area will be disturbed during installation of the solar facility, which may result in an influx of disturbance of soil, to species and the loss of wildlife cover and forage species.
2. There will be permanent displacement of certain wildlife species during the construction, operation, and maintenance of the facility.
3. There is no potential nesting habitat for the Golden Eagle or Ferruginous hawk within the 550.13± acres, however, foraging habitat within the 550.13± acres will be permanently affected for the Golden Eagle and Ferruginous Hawk species.
4. There may be potential impact to wetland and the unnamed intermittent wash located in the northwest corner of the proposed tract. Runoff from the 550.13± acre parcel from precipitation enters the unnamed wash and converge into the Desert Creek wash, which is a tributary of the San Juan River. The SWPP for this project includes erosion and sediment controls that will be placed prior to construction and will involve installing sediment control devices, velocity dissipation devices, stabilizing the site after construction, preserving vegetation where possible and managing the top soil. Erosion control measures will be placed along the fence line to avoid runoff into the unnamed wash.
5. If needed, surface shrubs will be removed within the 550.13± acre parcel. No woodland and non-woodland products will be harvested within the proposed project area as none exist within the solar tract.

B. Physical Impacts

1. Preparation of land to set up the solar facility, if needed surface shrubs will be removed, however, because of the scarcity of vegetation in the area, these impacts will be limited.
2. The construction and operation of the solar project and access road will alter the visual landscape. The land would be converted from a grazing use to utility complex, as the area is already comprised by a large transmission line and natural gas line.
3. The construction will be temporary and not have any lasting effect on local residents. Actual construction will be during daylight hours only and temporary increase of noise from the construction activities.
4. Material storage conducted on site and at the NTUA Red Mesa District compound. This will be determined at the pre-construction meeting, held for every project.
5. The proposed access road used for access during the construction period.

6. Fugitive dust generated by vehicular and equipment traffic, and wind erosion associated with construction activities, is expected to impact air quality on a minor, short-term basis. Dust control will consist of water application to alleviate dust generated by construction.

Under the Clean Air Act, EPA sets and reviews national air quality standards for PM. Air quality monitors measure concentrations of PM throughout the country. EPA, state, tribal and local agencies use that data to ensure that PM in the air is at levels that protect public health and the environment. Nationally, average PM10 concentrations have decreased over the years. <http://www.epa.gov/air-trends/oarticu/ate-matter-pm10-trends>

5.0 - MITIGATION MEASURES OF THE PROPOSED ACTION

A. Biological Measures

The following mitigative measures provided alleviate or minimize the negative impacts.

Avoid unnecessary ground disturbance within and adjacent to the project area during the construction and maintenance of the solar/access road project by use of vehicles, construction equipment, and machinery.

To avoid any impacts to the Golden Eagle and Ferruginous Hawk, construction is scheduled outside of the Migratory Bird breeding season (January through July). If unavoidable, a pre-construction survey will be conducted prior to any construction activities.

Due to the transient nature of the foraging Golden Eagle and Ferruginous Hawk, they are not expected to be adversely impacted.

Biological Resources Compliance Form No. 19ntua117 issued on January 10, 2020. See Exhibit "D".

No structures will be placed close to the unnamed wash located at the northwest corner of the tract, which will limit construction in the cornered northwest corner of the tract.

Due to lack of information on the effects of a solar facility studies will be conducted to ascertain the effects of the solar facility on wildlife. If needed, reports will be filed with Navajo Fish & Wildlife Department for further recommendation.

No forest products expected to be harvested within the proposed project area.

B. Physical Measures

Construction activities will utilize existing roads to access the facilities, with the exception of the proposed GO-feet by 40-foot access road that will be constructed during as part of this project. The parking and staging area will remain within the 550.13± tract.

C. Solid Waste Management

Navajo Tribal Utility Authority will practice the general procedure regarding Solid Waste Management as follows:

1. Solid waste such as trash/garbage generated from construction activities will be collected and transported by NTUA to the nearest designated trash bins. Salvage materials will be returned to the NTUA warehouse yard.
2. NTUA will not and does not generate any hazardous waste.

D. Archaeological Resources

CAG conducted the cultural resources inventory of the project area. Twenty-five Isolated Occurrences and no Traditional Cultural Properties were recorded.

A determination of "No Historic Properties Affected" is recommended for the project and no stipulations are contained in the Cultural Resources Compliance Form No. HPD-19-726, November 7, 2019. See Exhibit "E".

E. Socioeconomic Resources

Pursuant to Navajo Tribal Council Resolution No. CN-61-59, it is requested that the Navajo Tribal Utility Authority provide reliable and adequate electric, water, wastewater, and natural gas services across the Navajo Nation.

On April 15, 2019, Red Mesa Chapter passed resolution No. RMC-07-041519 supporting and approving the efforts of the NTUA to develop a solar plant. See Exhibit "F".

F. Pollution Prevention

To minimize dust and vehicle emissions, the vehicles are equipped with regular exhaust mufflers. A mechanic is scheduled to make routine preventative maintenance for vehicles, equipment, and other machinery at the job sites.

6.0 - CONCLUSIONS REGARDING THE SIGNIFICANCE

Thirteen species were identified that have the potential to occur on or near the project area. However, eleven (11) of the thirteen (13) species were not present in the proposed areas during the surveying and are unlikely to be present in the right-of-way corridor, due to the absence of critical habitat requirements.

To avoid any impacts to the Golden Eagle and Ferruginous Hawk, construction should be scheduled outside of the breeding season (January through July). If unavoidable, a pre-construction survey will be conducted prior to any construction activities.

Construction of the solar plant should avoid the Migratory Bird breeding season of March 1 to August 15. If any construction occurs during this time period after 2019, a pre-construction survey is recommended.

Due to the transient nature of the foraging Golden Eagle and Ferruginous Hawk, they are not expected to be adversely impacted.

Biological Resources Compliance Form No. 19ntua117 was issued on January 10, 2020. Preconstruction surveys must be completed if construction is not completed in 2019.

No structures will be placed close to the unnamed wash located at the northwest corner of the tract, which will limit construction in the cornered northwest corner of the tract.

Cultural Resource Compliance Form No. HPD-19-726 issued on November 7, 2019. The twenty-five (25) isolated occurrences recorded will not be avoided during construction. Avoidance measures were not a condition of compliance for CRCF NO. HPD-19-726 that was issued by the Navajo Heritage and Historic Preservation Department.

No forest products expected to be harvested within the proposed project area.

The construction of the solar facility and access road will be temporary and no significant adverse impacts on the environment are expected as a result of the proposed project.

The proposed solar facility will provide and improve safe, reliable, and adequate electrical services and accommodate future developments across the Navajo Nation.

7.0 & 8.0-CONSULTATION AND COORDINATION

A. Personnel

The Navajo Tribal Utility Authority, Fort Defiance, Arizona conducted the field investigations and research analyses associated with the Environmental Assessment.

1. Shannon Burnette, Assistant Manager
Electric & Information Systems Division, NTUA

B. Consultation and Coordination

1. Carrizo Archaeological Group
1201 N. Mesa Verde Ave.
Farmington, New Mexico 87401
2. T&D Services, LLC
Consulting Engineers & Surveyors
8904 Washington Street NE
Albuquerque, New Mexico 87113
3. Gloria M. Tom, Director
Navajo Nation Department of Fish and Wildlife
P.O. Box 1480
Window Rock, Arizona 86515
4. Zoology Unlimited, LLC
P.O. Box 31132
Flagstaff, Arizona 86504
5. Regional NEPA Coordinator
Division of Environmental, Cultural & Safety Management
BIA - Navajo Area Office
P.O. Box 1060
Gallup, New Mexico 87305 - 1060
6. Navajo Nation Heritage & Historic Preservation Department
P.O. Box 4950
Window Rock, Arizona 86515
7. Derek A. Dyson, Esq.
Duncan, Weinberg, Genzer, & Pembroke, P.C.
1615 M Street, NW, Suite 800
Washington, D.C. 20036
8. Red Mesa Chapter
Red Mesa Land Use Commission
P.O. Box 422
Montezuma Creek, Utah 84534

C. Bibliography/References

1. CAG 2019-05: A Cultural Resources Inventory of the Proposed NTUA Tapaha (Red Mesa) Solar Tract and Access Road Project in San Juan County, Utah, NTUA Work Order No. 72-180-0001. Prepared by Jeremy Begay, Senior Archaeologist, Brandi Bitsilli and Jeffrey C. Begay,

Archaeologists, Carrizo Archaeological Group, 1201 N. Mesa Verde Ave., Farmington NM 87401. October 9th, 2019.

2. Cultural Resources Compliance Form No. HPD-19-726, November 7, 2019.
3. Biological Survey Report for Species of Concern on the Tapaha (Red Mesa) Solar Tract and Access Road Project in San Juan County, Utah. Work Order No. 72-180-0001, Prepared by Zoology Unlimited, LLC, December 10, 2019.
4. Biological Resources Compliance Form No. 19ntua117, January 10, 2020.
5. Chapter Images: 2004 Edition, Division of Community Development, The Navajo Nation, P.O. Box 1896, Window Rock, Arizona 86515, 928.871.6810. Compiled, Edited and Prepared by LSR Innovations Research and Planning, April 2004.
6. Regional Hydrogeology of the Navajo and Hopi Indian Reservations, Arizona, New Mexico, and Utah, Geological Survey Professional Paper 521-A.
7. Suggested Practices for Raptor Protection on Power Lines: State of the Art in 2006.
8. U.S. Code of Federal Regulations, Title 40, Protection of the Environment.
9. U.S. Code of Federal Regulations, Title 50, Wildlife and Fisheries.
10. National Historic Preservation Act (NHPA), 36 CFR 60.4.
11. Archaeological Resources Protection Act of 1979 (ARPA), 43 CFR Part 7.
12. American Indian Religious Freedom Act (AIRFA), Public Law 95 341.
13. 36 CFR Part 800: Protection of Historic Properties.
14. Navajo Nation Cultural Resources Protection Act, Tribal Council Resolution No. CMY-19-88.
15. U.S. Code of Federal Regulations, Title 25, Part 169: Rights-of-Way over Indian Lands.

D. Signature


Shannon Burnette, Assistant Manager

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**Exhibit "A-1" Right-of-Way Map
Exhibit "A-2" Location Map**

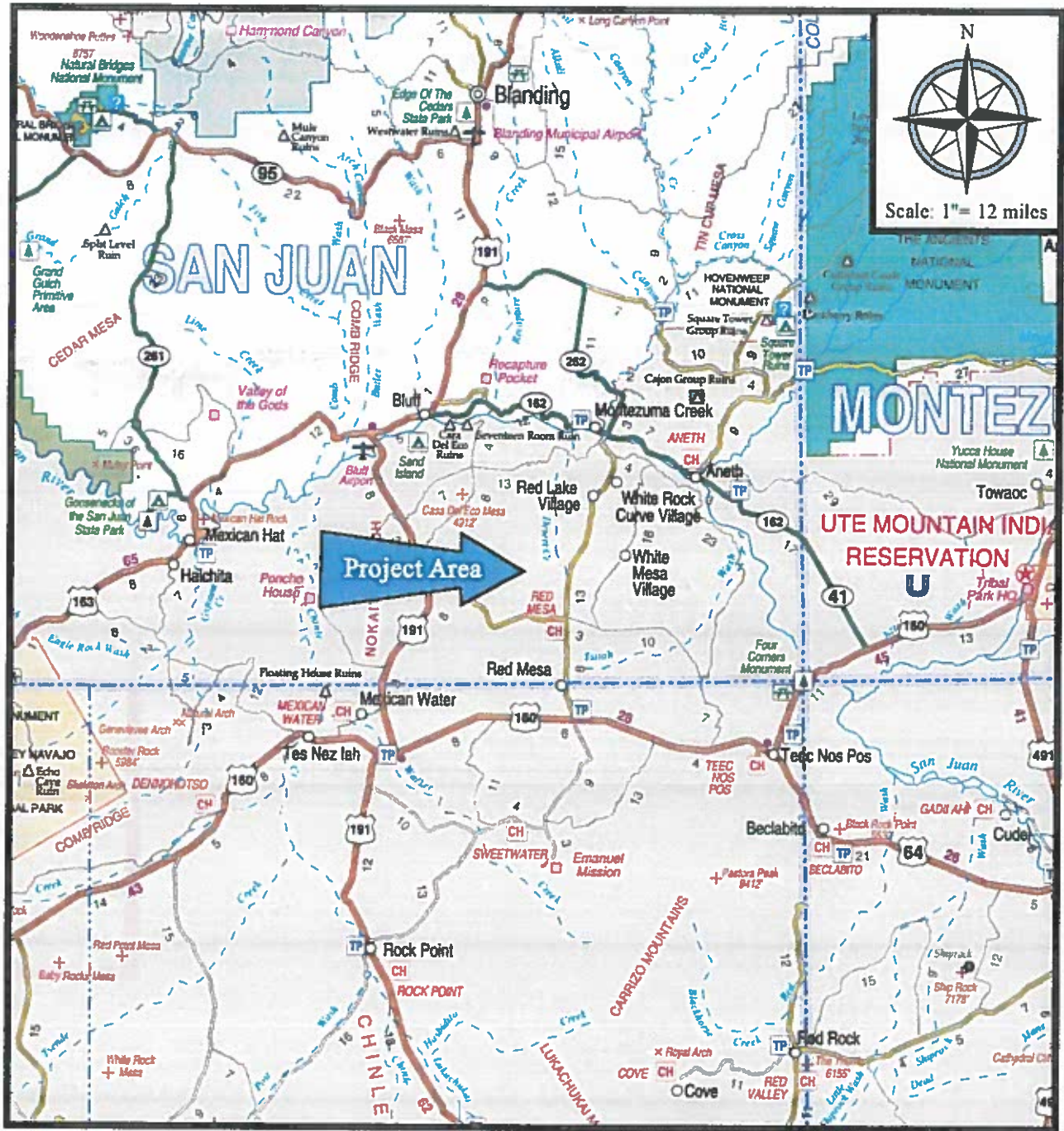


Figure 1. Navajo Country road map

**APPENDIX B:
Species of Concern Report**



NNHP

Navajo Natural Heritage Program

PO BOX 1480
Window Rock, AZ 86515

P 928.871.6472
F 928.871.7603

www.nndfw.org

18-July-2019
Jason Yazzie
NTUA

19ntua117

SUBJECT: NTUA's Proposed Red Mesa (Solar Tract) Project, San Juan County, Utah, Work Order No. 72-180-0001

Jason Yazzie,

NNHP has performed an analysis of your project in comparison to known biological resources of the Navajo Nation and has included the findings in this letter. The letter is composed of seven parts. The sections as they appear in the letter are:

1. **Known Species** – a list of all species within relative proximity to the project
2. **Potential Species** – a list of potential species based on project proximity to respective suitable habitat
3. **Quadrangles** – an exhaustive list of quads containing the project
4. **Project Summary** – a categorized list of biological resources within relative proximity to the project grouped by individual project site(s) or quads
5. **Conditional Criteria Notes** – additional details concerning various species, habitat, etc.
6. **Personnel Contacts** – a list of employee contacts
7. **Resources** – identifies sources for further information

Known Species lists "species of concern" known to occur within proximity to the project area. Planning for avoidance of these species is expected. If no species are displayed then based upon the records of the Navajo Nation Department of Fish and Wildlife (NNDFW) there are no "species of concern" within proximity to the project. Refer to the Navajo Endangered Species List (NESL) Species Accounts for recommended avoidance measures, biology, and distribution of NESL species on the Navajo Nation (www.nndfw.org/nnhp/sp_account.htm).

Potential Species lists species that are potentially within proximity to the project area and need to be evaluated for presence/absence. If no species are found within the Known or Potential Species lists, the project is not expected to affect any federally listed species, nor significantly impact any tribally listed species or other species of concern. Potential for species has been determined primarily on habitat characteristics and species range information. A thorough habitat analysis, and if necessary, species specific surveys, are required to determine the potential for each species.

Species of concern include protected, candidate, and other rare or otherwise sensitive species, including certain native species and species of economic or cultural significance. For legally protected species, the following tribal and federal statuses are indicated: NESL, federal Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), and Eagle Protection Act (EPA). No legal protection is afforded species with only ESA candidate, NESL group 4 status, and species listed on the Sensitive Species List. Please be aware of these species during surveys and inform the NNDFW of observations. Reported observations of these

species and documenting them in project planning and management is important for conservation and may contribute to ensuring they will not be up listed in the future.

In any and all correspondence with NNDFW or NNHP concerning this project please cite the Data Request Code associated with this document. It can be found in this report on the top right corner of the every page. Additionally please cite this code in any biological evaluation documents returned to our office.

1. Known Species *(NESL=Navajo Endangered Species List, FE=Federally Endangered, FT=Federally Threatened, FC=Federal Candidate)*

Species

PUPA = *Puccinellia parishii* / Parish's Alkali Grass NESL G4

2. Potential Species

Species

AQCH = *Aquila chrysaetos* / Golden Eagle NESL G3 ✓
 ASCR = *Astragalus cronquistii* / Cronquist Milk-vetch NESL G3 ✓
 ASWE = *Asclepias welshii* / Welsh's Milkweed NESL G3 FT ✓
 ATCU = *Athene cunicularia* / Burrowing Owl NESL G4 ✓
 BURE = *Buteo regalis* / Ferruginous Hawk NESL G3 ✓
 CASP = *Carex specuicola* / Navajo Sedge NESL G3 FT ✓
 CHMO = *Charadrius montanus* / Mountain Plover NESL G4 ✓
 CIRY = *Cirsium rydbergii* / Rydberg's Thistle NESL G4 ✓
 EMTREX = *Empidonax traillii extimus* / Southwestern Willow Flycatcher NESL G2 FE ✓
 FAPE = *Falco peregrinus* / Peregrine Falcon NESL G4 ✓
 PLZO = *Platanthera zothecina* / Alcove Bog-orchid NESL G3 ✓
 PUPA = *Puccinellia parishii* / Parish's Alkali Grass NESL G4 ✓
 ZIVA = *Zigadenus vaginatus* / Alcove Death Camass NESL G3 ✓

3. Quadrangles (7.5 Minute)

Quadrangles

Gray Spot Rock (37109-A4) / UT, AZ
 Hogan Mesa (37109-B4) / UT

4. Project Summary *(EO1 Mile/EO 3 Miles=elements occurring within 1 & 3 miles., MSO=mexican spotted owl PACs, POTS=potential species, RCP=Biological Areas)*

SITE	EO1MI	EO3MI	QUAD	MSO	POTS	RCP
Solar Tract	None	PUPA	Gray Spot Rock (37109-A4) / UT, AZ	None	AQCH, ATCU, BURE, CASP, CHMO, CIRY, EMTREX, FAPE, PLZO, ZIVA	Area 3

SITE	EO1MI	EO3MI	QUAD	MSO	POTS	RCP
Solar Tract	None	PUPA	Hogan Mesa (37109-84) / UT	None	AQCH, ASCR, ASWE, ATCU, BURE, FAPE, PUPA	Area 3

5. Conditional Criteria Notes (Recent revisions made please read thoroughly. For certain species, and/or circumstances, please read and comply)

A. Biological Resource Land Use Clearance Policies and Procedures (RCP) - The purpose of the RCP is to assist the Navajo Nation government and chapters ensure compliance with federal and Navajo laws which protect, wildlife resources, including plants, and their habitat resulting in an expedited land use clearance process. After years of research and study, the NNDFW has identified and mapped wildlife habitat and sensitive areas that cover the entire Navajo Nation.

The following is a brief summary of six (6) wildlife areas:

1. **Highly Sensitive Area** – recommended no development with few exceptions.
2. **Moderately Sensitive Area** – moderate restrictions on development to avoid sensitive species/habitats.
3. **Less Sensitive Area** – fewest restrictions on development.
4. **Community Development Area** – areas in and around towns with few or no restrictions on development.
5. **Biological Preserve** – no development unless compatible with the purpose of this area.
6. **Recreation Area** – no development unless compatible with the purpose of this area.

None - outside the boundaries of the Navajo Nation

This is not intended to be a full description of the RCP please refer to the our website for additional information at www.nndfw.org/clup.htm.

B. Raptors – If raptors are known to occur within 1 mile of project location: Contact the NNHP zoologist at 871-7070 regarding your evaluation of potential impacts and mitigation.

Golden and Bald Eagles- If Golden or Bald Eagle are known to occur within 1 mile of the project, decision makers need to ensure that they are not in violation of the *Golden and Bald Eagle Nest Protection Regulations* found at www.nndfw.org/nnhp/docs_reps/gben.pdf.

Ferruginous Hawks – Refer to *Navajo Nation Department of Fish and Wildlife's Ferruginous Hawk Management Guidelines for Nest Protection* (www.nndfw.org/nnhp/docs_reps.htm) for relevant information on avoiding impacts to Ferruginous Hawks within 1 mile of project location.

Mexican Spotted Owl - Please refer to the *Navajo Nation Mexican Spotted Owl Management Plan* (www.nndfw.org/nnhp/docs_reps.htm) for relevant information on proper project planning near/within spotted owl protected activity centers and habitat.

C. Surveys – Biological surveys need to be conducted during the appropriate season to ensure they are complete and accurate please refer to NN Species Accounts www.nndfw.org/nnhp/sp_account.htm. Surveyors on the Navajo Nation must be permitted by the Director, NNDFW. Contact Jeff Cole at (928) 871-6450 for permitting procedures. Questions pertaining to surveys should be directed to the NNDFW the NNHP Zoologist for animals, and the NNHP Botanist for plants. Questions regarding biological evaluation should be directed to Jeff Cole at 871-6450.

D. Oil/Gas Lease Sales – Any settling or evaporation pits that could hold contaminants should be lined and covered. Covering pits, with a net or other material, will deter waterfowl and other migratory bird use. Lining pits will protect ground water quality.

E. Power line Projects – These projects need to ensure that they do not violate the regulations set forth in the *Navajo Nation Raptor Electrocution Prevention Regulations* found at www.nndfw.org/nnhp/docs_reps/repr.pdf.

F. Guy Wires – Does the project design include guy wires for structural support? If so, and if bird species may occur in relatively high concentrations in the project area, then guy wires should be equipped with highly visual markers to reduce the potential mortality due to bird-guy wire collisions. Examples of visual markers include aviation balls and bird flight diverters. Birds can be expected to occur in relatively high concentrations along migration routes (e.g., rivers, ridges or other distinctive linear topographic features) or where important habitat for breeding, feeding, roosting, etc. occurs. The U.S. Fish and Wildlife Service recommends marking guy wires with at least one marker per 100 meters of wire.

G. San Juan River – On 21 March 1994 (Federal Register, Vol. 59, No. 54), the U.S. Fish and Wildlife Service designated portions of the San Juan River (SJR) as critical habitat for *Ptychocheilus lucius* (Colorado pikeminnow) and *Xyrauchen texanus* (Razorback sucker). Colorado pikeminnow critical habitat includes the SJR and its 100-year floodplain from the State Route 371 Bridge in T29N, R13W, sec. 17 (New Mexico Meridian) to Neskahai Canyon in the San Juan arm of Lake Powell in T41S, R11E, sec. 26 (Salt Lake Meridian) up to the full pool elevation. Razorback sucker critical habitat includes the SJR and its 100-year floodplain from the Hogback Diversion in T29N, R16W, sec. 9 (New Mexico Meridian) to the full pool elevation at the mouth of Neskahai Canyon on the San Juan arm of Lake Powell in T41S, R11E, sec. 26 (Salt Lake Meridian). All actions carried out, funded or authorized by a federal agency which may alter the constituent elements of critical habitat must undergo section 7 consultation under the Endangered Species Act of 1973, as amended. Constituent elements are those physical and biological attributes essential to a species conservation and include, but are not limited to, water, physical habitat, and biological environment as required for each particular life stage of a species.

H. Little Colorado River – On 21 March 1994 (Federal Register, Vol. 59, No. 54) the U.S. Fish and Wildlife Service designated Critical Habitat along portions of the Colorado and Little Colorado Rivers (LCR) for *Gila cypha* (humpback chub). Within or adjacent to the Navajo Nation this critical habitat includes the LCR and its 100-year floodplain from river mile 8 in T32N R6E, sec. 12 (Salt and Gila River Meridian) to its confluence with the Colorado River in T32N R5E sec. 1 (S&GRM) and the Colorado River and 100-year floodplain from Nautuloid Canyon (River Mile 34) T36N R5E sec. 35 (S&GRM) to its confluence with the LCR. All actions carried out, funded or authorized by a federal agency which may alter the constituent elements of Critical Habitat must undergo section 7 consultation under the Endangered Species Act of 1973, as amended. Constituent elements are those physical and biological attributes essential to a species conservation and include, but are not limited to, water, physical habitat, and biological environment as required for each particular life stage of a species.

I. Wetlands – In Arizona and New Mexico, potential impacts to wetlands should also be evaluated. The U.S. Fish & Wildlife Service's National Wetlands Inventory (NWI) maps should be examined to determine whether areas classified as wetlands are located close enough to the project site(s) to be impacted. In cases where the maps are inconclusive (e.g., due to their small scale), field surveys must be completed. For field surveys, wetlands identification and delineation methodology contained in the "Corps of Engineers Wetlands Delineation Manual" (Technical Report Y-87-1) should be used. When wetlands are present, potential impacts must be addressed in an environmental assessment and the Army Corps of Engineers, Phoenix office, must be contacted. NWI maps are available for examination at the Navajo Natural Heritage Program (NNHP) office, or may be purchased through the U.S. Geological Survey (order forms are available through the NNHP). The NNHP has complete coverage of the Navajo Nation, excluding Utah, at 1:100,000 scale; and coverage at 1:24,000 scale in the southwestern portion of the Navajo Nation. In Utah, the U.S. Fish & Wildlife Service's National Wetlands Inventory maps are not yet available for the Utah portion of the Navajo Nation, therefore, field surveys should be completed to determine whether wetlands are located close enough to the project site(s) to be impacted. For field surveys, wetlands identification and delineation methodology contained in the "Corps of Engineers Wetlands Delineation Manual" (Technical Report Y-87-1) should be used. When wetlands are present, potential impacts must be addressed in an environmental assessment and the Army Corps of Engineers, Phoenix office, must be contacted. For more information contact the Navajo Environmental Protection Agency's Water Quality Program.

J. Life Length of Data Request – The information in this report was identified by the NNHP and NNDFW's biologists and computerized database, and is based on data available at the time of this response. If project planning takes more than two (02) years from the date of this response, verification of the information provided herein is necessary. It should not be regarded as the final statement on the occurrence of any species, nor should it substitute for on-site surveys. Also, because the NNDFW information is continually updated, any given information response is only wholly appropriate for its respective request.

K. Ground Water Pumping - Projects involving the ground water pumping for mining operations, agricultural projects or commercial wells (including municipal wells) will have to provide an analysis on the effects to surface water and address potential impacts on all aquatic and/or wetlands species listed below. NESL Species potentially impacted by ground water pumping: *Carex specuicola* (Navajo Sedge), *Cirsium rydbergii* (Rydberg's Thistle), *Primula specuicola* (Cave Primrose), *Platanthera zothecina* (Alcove Bog Orchid), *Puccinellia parishii* (Parish Alkali Grass), *Zigadenus vaginatus* (Alcove Death Camas), *Perityle specuicola* (Alcove Rock Daisy), *Symphotrichum welshii* (Welsh's American-aster), *Coccyzus americanus* (Yellow-billed Cuckoo), *Empidonax traillii extimus* (Southwestern Willow Flycatcher), *Rana pipiens* (Northern Leopard Frog), *Gila cypha* (Humpback Chub), *Gila robusta* (Roundtail Chub), *Ptychocheilus lucius* (Colorado Pikeminnow), *Xyrauchen texanus* (Razorback Sucker), *Cinclus mexicanus* (American Dipper), *Speyeria nokomis* (Western Seep Fritillary), *Aechmophorus clarkia* (Clark's Grebe), *Ceryle alcyon* (Belted Kingfisher), *Dendroica petechia* (Yellow Warbler), *Porzana carolina* (Sora), *Catostomus discobolus* (Bluehead Sucker), *Cottus bairdi* (Mottled Sculpin), *Oxyloma kanabense* (Kanab Ambersnail)

6. Personnel Contacts

Wildlife Manager
(Vacant)
928.871.7062

Zoologist (Acting Manager)
Chad Smith
928.871.7070
csmith@nndfw.org

Botanist
Nora Talkington
ntalkington@nndfw.org

Biological Reviewer
Pamela Kyselka
928.871.7065
pkyselka@nndfw.org

GIS Supervisor
Dexter D Prall
928.645.2898
prall@nndfw.org

Wildlife Tech
Sonja Detsoi
928.871.6472
sdetsoi@nndfw.org

Dexter D Prall

Digitally signed by Dexter D Prall
DN: cn=Dexter D Prall, o=Navajo Nation
Department of Fish and Wildlife,
ou=Navajo Natural Heritage Program,
email=prall@nndfw.org, c=US
Date: 2019.07.18 13:22:24 -07'00'

Dexter D Prall, GIS Supervisor - Natural Heritage Program
Navajo Nation Department of Fish and Wildlife

7. Resources

Navajo Endangered Species List:
www.nndfw.org/nnhp/endorsed.htm

Species Accounts:
www.nndfw.org/nnhp/sp_account.htm

Biological Investigation Permit Application
www.nndfw.org/nnhp/study_permit.htm

Navajo Nation Sensitive Species List
www.nndfw.org/nnhp/trackinglist.htm

**Various Species Management and/or Document
and Reports**
www.nndfw.org/nnhp/docs_reps.htm

Consultant List
www.nndfw.org/bi_consult_list_2014.pdf

APPENDIX C:
Exhibit "C"

EXHIBIT C:

Reference: Biological Survey Report for Species of Concern on the Tapaha (Red Mesa) Solar Tract and Access Road Project, prepared by Zoology Unlimited, Flagstaff, Arizona.

Mammal Species

Jackrabbit

Lepus californicus

Bird Species

Common raven

Corvus corax

Horned lark

Eremophila alperstris

Turkey vulture

Cathartes aura

Reptile and Amphibian Species

None

Plant Species

Galleta

Hilaria Jamesii

Sand dropseed

Sporobolus cryptandrus

Rabbithrush

Chrysothamnus nauseosus

Broom snakeweed

Gutierrezia sarothrae

Green ephedra

Ephedra viridis

Groundsel

Senecio douglasii

Navajo yucca

Yucca navajoa

Plains cactus

Opuntia phaeacantha

Three-awn

Aristida purpurea

Purple aster

Machaeranthera canescens

Lupine

Lupinus argenteus

Tumble weed

Salsola kali

EXHIBIT "D"
Biological Resources
Compliance Form

BIOLOGICAL RESOURCES COMPLIANCE FORM
NAVAJO NATION DEPARTMENT OF FISH AND WILDLIFE
P.O. BOX 1480, WINDOW ROCK, ARIZONA 86515-1480

It is the Department's opinion the project described below, with applicable conditions, is in compliance with Tribal and Federal laws protecting biological resources including the Navajo Endangered Species and Environmental Policy Codes, U.S. Endangered Species, Migratory Bird Treaty, Eagle Protection and National Environmental Policy Acts. This form does not preclude or replace consultation with the U.S. Fish and Wildlife Service if a Federally-listed species is affected.

PROJECT NAME & NO.: Tapaha (Red Mesa) Solar Tract & Access Road, WO#72-180-0001

DESCRIPTION: NTUA proposes to construct, operate, and maintain a solar generation plant and access road. The solar tract and access road will affect 700.15± acres of land.

LOCATION: Sections 16, 17, 20, 21, 28, & 29, T42S, R23E, Red Mesa Chapter, San Juan County, Utah

REPRESENTATIVE: Bernice Tsosie, Government Liaison/ROW Specialist, Navajo Tribal Utility Authority

ACTION AGENCY: Navajo Nation and Bureau of Indian Affairs

B.R. REPORT TITLE / DATE / PREPARER: BSR for Species of Concern on the Tapaha (Red Mesa) Solar Tract and Access Road Project/10 DEC 2019/Zoology Unlimited, LLC.

SIGNIFICANT BIOLOGICAL RESOURCES FOUND: Area 3.

POTENTIAL IMPACTS

NESL SPECIES POTENTIALLY IMPACTED: NA

FEDERALLY-LISTED SPECIES AFFECTED: NA

OTHER SIGNIFICANT IMPACTS TO BIOLOGICAL RESOURCES: NA


AVOIDANCE / MITIGATION MEASURES: The NNDFW concurs with the mitigation measures outlined in the BSR.

CONDITIONS OF COMPLIANCE*: NA

FORM PREPARED BY / DATE: Pamela A. Kyselka/09 JAN 2020

COPIES TO: (add categories as necessary)

_____ _____

2 NTC § 164 Recommendation:	Signature	Date
<input checked="" type="checkbox"/> Approval	 Gloria M. Tom, Director, Navajo Nation Department of Fish and Wildlife	01/10/20
<input type="checkbox"/> Conditional Approval (with memo)		
<input type="checkbox"/> Disapproval (with memo)		
<input type="checkbox"/> Categorical Exclusion (with request letter)		
<input type="checkbox"/> None (with memo)		

*I understand and accept the conditions of compliance, and acknowledge that lack of signature may be grounds for the Department not recommending the above described project for approval to the Tribal Decision-maker.

Representative's signature _____ Date _____

EXHIBIT "E"
**Cultural Resource Compliance Form
and Archaeological Inventory Report**



THE NAVAJO NATION
 Heritage & Historic Preservation Department
 P.O. Box 4950 • Window Rock, Arizona 86515
 (928) 871-7198 (tel) • (928) 871-7886 (fax)



CULTURAL RESOURCE COMPLIANCE FORM

NNHHPD NO.: HPD-19-726

CONSULTANT REPORT NO.: CAG 2019-05

OTHER PROJECT NO.: WO# 72-180-0001

PROJECT TITLE: A Cultural Resources Inventory of the Proposed NTUA Tapaha (Red Mesa) Solar Tract and Access Road Project in San Juan County, Utah NTUA Work Order No. 72-180-0001

LEAD AGENCY: BIA/NRO

SPONSOR: Bernice Tsosie, Navajo Tribal Utility Authority, PO Box 170, Ft. Defiance, AZ, 86504

PROJECT DESCRIPTION: NTUA is proposing to construct, operate and maintain a photovoltaic solar facility and access road located on a 700.15-acre tract. Construction will involve heavy vehicle traffic, removal of destructive vegetation, the construction of the solar facilities and hardware. The area of effect is 700.15-acres.

PROJECT ARCHAEOLOGIST: Brandi Bitsilli

NAVAJO ANTIQUITIES PERMIT NO.: B19376

DATE INSPECTED: 7/29/2019

DATE OF REPORT: 10/9/2019

TOTAL ACREAGE INSPECTED: 726.0

METHOD OF INVESTIGATION: Class III pedestrian inventory with transects spaced 10 m apart

Number of Eligible Properties: 0

Number of Non-Eligible Properties: 0

Number of Unevaluated Properties: 0

Number of Burials: 0

Number of TCPs: 0

Number of Isolated Occurrences: 25

Number of In-Use Sites: 0

EFFECT/CONDITIONS OF COMPLIANCE: No Historic Properties Affected

PROCEED RECOMMENDED: Yes

CONDITIONS: No

In the event of a discovery ["discovery" means any previously unidentified or incorrectly identified cultural resources including but not limited to archaeological deposits, human remains, or locations reportedly associated with Native American religious/traditional beliefs or practices], all operations in the immediate vicinity of the discovery must cease, and the Navajo Nation Historic Preservation Department must be notified at (928) 871-7148.

FORM PREPARED BY: Tamara Billie

FINALIZED: 10/30/2019



Richard M. Begay, Department Manager/THPO
 Navajo Nation Heritage and Historic Preservation Department

Navajo Region Approval:

BIA- Navajo Regional Office

Date

ARCHAEOLOGICAL INVENTORY REPORT (AIRs) DOCUMENTATION PAGE

1. HPD REPORT NO:	2. (FOR HPD USE ONLY)	3. RECIPIENT'S ACCESSION NO.
4. TITLE OF REPORT: A Cultural Resources Inventory of the Proposed NTUA Tapaha (Red Mesa) Solar Tract and Access Road Project in San Juan County, Utah. NTUA Work Order No. 72-180-0001.		5. FIELDWORK DATES: July 29 th to August 26 th , 2019
Author (s): Brandi Bitsilli, Et al.		6. REPORT DATE: Oct, 9, 2019
7. CONSULTANT'S NAME AND ADDRESS: Gen. Charge: Jeremy Begay, Senior Archaeologist Org. Name: Carrizo Archaeological Group Org. Address: 1201 N. Mesa Verde Ave. Farmington, NM 87401 Phone: (505) 608-1077		8. PERMIT NO.: B19376
10. SPONSOR'S NAME AND ADDRESS: Ind. Responsible: Ms. Bernice Tsosie, Assistant Manager Org. Name: Navajo Tribal Utility Authority (NTUA) Org. Address: P.O. Box 170 Ft. Defiance, AZ 86504 Phone: (928) 729-5721		9. CONSULTANT'S REPORT NO.: CAG 2019-05
13. LOCATION (MAP ATTACHED)		11. SPONSOR'S PROJECT NO.: Work Order Number 72-180-0001
a. Chapter: Red Mesa	e. Land Status: Navajo Tribal Trust	12. AREA OF EFFECT: 700.15 ac. (283.35 ha.) AREA SURVEYED: 726 ac. (293.81 ha.)
b. Agency: Shiprock	f. UTM: See Table 1.	
c. County: San Juan	g. Legal Description: See Table 1.	
d. State: Utah	h. USGS 7.5' Maps: Gray Spot Rock, Utah., P.E. 1989 & Hogan Mesa, Utah., P.E. 1989	
	i. Lead Agency: Bureau of Indian Affairs	
14. REPORT		
a. Description of Undertaking: See Supplemental Sheet		
b. Existing Data Review: See Supplemental Sheet		
c. Environmental & Cultural Setting: See Supplemental Sheet		
d. Field Methods: See Supplemental Sheet		
15. CULTURAL RESOURCE FINDINGS:		
a. Location/Identification of Each Resource: During the cultural inventory, twenty-five (25) isolated occurrences were discovered and documented.		
b. Evaluation of Significance of Each Resource: See supplemental sheet.		
16. MANAGEMENT SUMMARY (RECOMMENDATION): It is recommended that archaeological clearance be granted for the construction of the proposed NTUA Tapaha (Red Mesa) Solar Tract and Access Road project provided that all construction be confined to the area of effect. Any new discoveries of undocumented cultural materials will halt all construction activities and be immediately reported to the Navajo Nation Heritage and Historic Preservation Department.		
17. CERTIFICATION:	SIGNATURE: 	Date: <u>10/9/19</u>
	General Charge Name: <u>Jeremy Begay, Senior Archaeologist</u>	
	SIGNATURE: 	Date: <u>10/9/19</u>
	Direct Charge Name: <u>Brandi Bitsilli, Senior Archaeologist</u>	

**CAG 2019-05:
A Cultural Resources Inventory of the Proposed NTUA Tapaha (Red Mesa) Solar
Tract and Access Road Project in San Juan County, Utah,
NTUA Work Order No. 72-180-0001.**

Prepared by

**Jeremy Begay, Senior Archaeologist
Brandi Bitsilli, Archaeologist
Jeffrey C. Begay, Archaeologist**

HPD Permit No.: B19376

October 9th, 2019

Submitted by:

**Jeremy Begay, Senior Archaeologist
Carrizo Archaeological Group
1201 N. Mesa Verde Ave.
Farmington, NM 87401**

Submitted to

**Navajo Nation Historic Preservation Department
Cultural Resources Compliance Section
P.O. Box 4950
Window Rock, Arizona 86515**

Prepared for

**Ms. Bernice Tsosie, Assistant Manager
Electric System Planning Section
Navajo Tribal Utility Authority
P.O. Box 170
Fort Defiance, Arizona 86504**

Abstract

The following report is submitted to the Navajo Nation Historic Preservation Department's Cultural Resources Compliance Program for review as part of the Navajo Nation cultural resources clearance process. The report details the results of the cultural resources inventory conducted in conjunction with the project entitled "*CAG 2019-05: A Cultural Resources Inventory of the Proposed NTUA Tapaha (Red Mesa) Solar Tract and Access Road Project in San Juan County, Utah, NTUA Work Order No. 72-180-0001*". The project was conducted at the request of Ms. Bernice Tsosie, NTUA Assistant Manager. The Navajo Tribal Utility Authority (NTUA) proposes to construct, operate, and maintain photovoltaic solar panel facilities and access road in the 700.15 acre (283.35 ha.) project area in the Red Mesa Chapter, San Juan County, Utah. Construction of the solar panel facilities will involve heavy vehicular traffic within the proposed solar tract and access road, removal of obstructive vegetation, the construction of solar facilities and other hardware as needed, and finally the maintenance of the solar system and access road. The project area is located on Navajo Tribal Trust Lands within the Shiprock Navajo Agency under the jurisdiction of the Bureau of Indian Affairs (BIA). The project area can be found on the Gray Spot Rock, Utah P.E., 1989, and Hogan Mesa, Utah P.E., 1989, 7.5' series USGS quadrangle maps. The project areas are located in Sections 16, 17, 20, 21, 28, and 29, Township 42 South, Range 23 East. The total number of acres surveyed in conjunction with this project is approximately 726 acres (293.81 ha.). Twenty-five isolated occurrences (IOs) were identified during the survey. It is recommended that archaeological clearance be granted for the construction of the proposed NTUA Tapaha (Red Mesa) solar tract and access road project provided that all construction be confined to the area of effect. If there are any new discoveries of undocumented cultural materials, NTUA must halt all construction activities and immediately report the findings to the Navajo Nation Heritage and Historic Preservation Department.

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Introduction

On July 29th through August 26th, 2019, Jeremy Begay, Brandi Bitsilli, Jeffery Begay, Clifford Werito, and Rius Goodman, archaeologists with Carrizo Archaeological Group (CAG), conducted an archaeological inventory of the proposed Tapaha (Red Mesa) Solar Tract and Access Road Project within the Red Mesa Chapter in San Juan County, Utah, for the Navajo Tribal Utility Authority (NTUA). Ms. Bernice Tsosie, NTUA Assistant Manager, requested the cultural resources inventory for the proposed project. Twenty-five (25) isolated occurrences (IOs) were identified during the archaeological inventory. The cultural resources inventory was completed under Navajo Nation Cultural Resources Inventory Permit Number B19376.

Description of Undertaking

The Navajo Tribal Utility Authority (NTUA) proposes to construct, operate, and maintain photovoltaic solar facilities and access road on the 700.15 acre (283.35 ha.) tract. Construction of the solar panel facilities will involve heavy vehicular traffic within the proposed tract and access road, removal of obstructive vegetation, the construction of solar facilities and other hardware as needed, and finally the maintenance of the solar equipment and access road. The area of effect of the proposed solar tract measures 700.15 ac. (283.35 ha). The total area surveyed is 726 ac. (293.81 ha).

Location

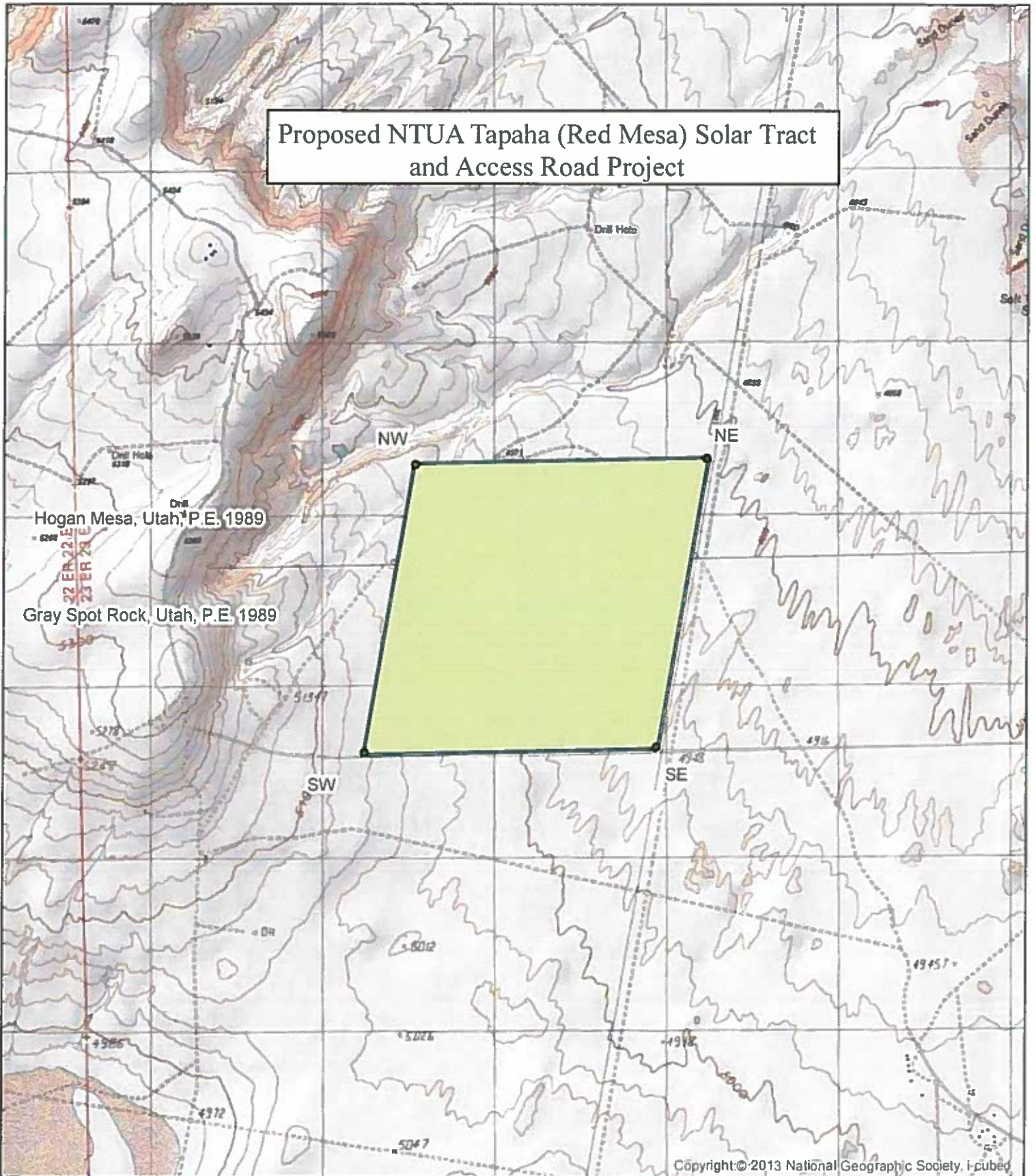
The proposed solar tract and access road is located approximately 5 miles (8.05 km) northwest of the Red Mesa Chapter House in San Juan County, Utah. The project area can be accessed by Indian Route 35 and associated dirt roads. The project areas are on Navajo Tribal Trust Lands within the Shiprock Agency under the jurisdiction of the Bureau of Indian Affairs (BIA). Figures 1 & 2 show the project area at different scales. Table 1 provides legal descriptions for the project area.

Table 1: Legal Description of the Proposed NTUA Tapaha (Red Mesa) Solar Tract and Access Road Project Area in the Red Mesa Chapter, San Juan County, Utah.

Section(s)	Township	Range
16, 17, 20, 21, 28, 29	42 South	23 East

Table 2: UTM Coordinates and Legal Descriptions of the Proposed NTUA Tapaha (Red Mesa) Solar Tract and Access Road Project in the Red Mesa Chapter, San Juan County, Utah.

Designation	UTM Coordinates: Zone 12 (NAD 83)		Legal Description						USGS Map Name (7.5' Quadrangle)
	Northing	Easting	¼	¼	¼	Sec.	T	R	
NTUA (Tapaha) Red Mesa Solar Tract									
NW Corner	4110486	0640488	*	SW	SW	17	42S	23E	Hogan Mesa, Utah P.E. 1989
NE Corner	4110515	0642183	*	SE	SW	16	42S	23E	
SW Corner	4108813	0640188	*	NW	NW	29	42S	23E	Gray Spot Rock, Utah P.E. 1989
SE Corner	4108841	0641885	*	NW	NW	28	42S	23E	
NTUA (Tapaha) Red Mesa Access Road									
NW Corner	4108839	0641867	*	NW	NW	28	42S	23E	Gray Spot Rock, Utah P.E. 1989
SW Corner	4108818	0641867	*	NW	NW	28	42S	23E	
SE Corner	4108817	0641880	*	NW	NW	28	42S	23E	
NE Corner	4108839	0641879	*	NW	NW	28	42S	23E	



Proposed NTUA Tapaha (Red Mesa) Solar Tract and Access Road Project

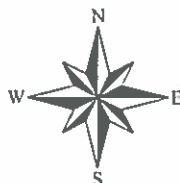
Hogan Mesa, Utah, P.E. 1989

Gray Spot Rock, Utah, P.E. 1989

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Fig. 1: Map showing proposed NTUA Tapaha (Red Mesa) Solar Tract and Access Road project area, CAG19-05.

Hogan Mesa, Utah, P.E., 1989
 Gray Spot Rock, Utah, P.E., 1989
 Scale: 1 : 24,000
 1 in = 2000 ft.



Legend

- Solar Tract
- Buffer Zone
- Solar Tract Corners

EXHIBIT "F"
Resolution



RED MESA CHAPTER
Red Mesa, Navajo Nation, Utah
RMC-07-041519



SUPPORTING AND APPROVING NAVAJO TRIBAL AUTHORITY (NTUA) TO DEVELOP SOLAR GENERATION PLANT(S) IN THE VICINITY OF THE RED MESA CHAPTER, SAN JUAN COUNTY, UTAH

WHEREAS:

1. The Red Mesa Chapter is a Chapter within the Navajo Nation and has the authority and responsibility to provide assistance and to address matters that are in the best interest of the community; and
2. The Navajo Tribal Utility Authority (NTUA) is delegated the authority for utility and resource development within the Navajo Nation, including renewable energy development in a cost-effective and feasible manner pursuant to 21 N.N.C. §5(a)(1) and (2); and
3. NTUA has identified approximately 700 acres (*The actual number of acres will be included in the Lease Agreement with the Navajo Nation, after the site has been surveyed for the purpose of establishing such a Lease Agreement*) located within the Red Mesa Chapter to develop solar generation, and related facilities, such as energy storage and interconnection facilities, which will be interconnect with transmission facilities operated and/or under the contractual control of NTUA, to partially serve the Red Mesa Chapter, the Navajo Nation and other communities with environmentally friendly renewable energy; and
4. NTUA needs to commence evaluation of the site by conducting land surveys, which would include a cultural and environmental analysis in order to coordinate the development and construction schedules of the solar generation to take advantage of the current solar equipment, construction pricing, and available tax credits that would allow for the actual cost of the energy to ensure the proposed project is viable on both a cost and timing basis; and
5. NTUA seeks to secure site control so that the proposed solar projects may commence development and construction in fourth quarter 2019 and provide jobs and economic development to the Red Mesa Chapter and the surrounding region, with initial project construction completion anticipated within twenty-four months after commencement; and
6. NTUA maintains that this project is not being developed at the expense of the Navajo people, but rather it is an essential component in creating energy and financial independence for the Navajo Nation and its people; and
7. NTUA recognizes that through the development of this large-scale project, that it should coincide with the opportunity for NTUA to build more utility infrastructure (e.g. communications, electric distribution, water, and wastewater line, etc.) within the Red Mesa Chapter, surrounding Chapters, and the surrounding communities; and
8. NTUA fully supports and will advocate, along with the Red Mesa Chapter Officials, that the Red Mesa Chapter should be compensated from the proceeds of the proposed Lease Agreement with the Navajo Nation for the proposed site of this solar energy project.

NOW THEREFORE BE IT RESOLVED:

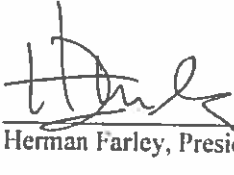
1. The Red Mesa Chapter hereby agrees that the identified approximate 700 acres within the Red Mesa Chapter are authorized for development of the aforementioned solar energy project, which includes interconnection facilities and ancillary resources by the Navajo Tribal Utility or its subsidiaries; and
2. The Red Mesa Chapter hereby supports and approves the Navajo Tribal Utility Authority or its subsidiaries to conduct all activities related to the site survey, analysis, development, construction, and operation of the solar generation, as well as energy storage, interconnection facilities and ancillary resources.

CERTIFICATION

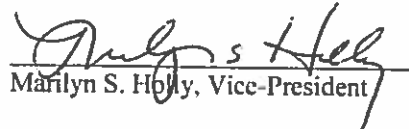
We hereby certify that the foregoing resolution was duly considered by the Red Mesa Chapter at a duly called meeting in Red Mesa, Utah, at which a quorum was present and that the same was passed by a vote of 26 in Favored; 00 -Opposed, and 03 ; Abstained, this 15th day of April 2019.

Motioned by: Mr. Stanley Sam

Seconded by: Mr. Norman Sam



Herman Farley, President



Marilyn S. Holly, Vice-President



Marlene Dee-Ben, Secretary/Treasurer

Charlaine Tso, Council Delegate