



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA, 95814-2922

Environmental Resources Branch

MAY 27 2010

TO ALL INTERESTED PARTIES:

The final Environmental Assessment (EA) and Finding of No Significant Impact for the Prison Hill Water Tank #2, Carson City, Nevada, project are enclosed for your information. Carson City is proposing to (1) construct a new steel water tank, (2) install connecting pipeline, and (3) demolish an existing concrete water tank that shows signs of serious structural deterioration. The project area is located on public land managed by the U.S. Bureau of Land Management.

The work would eliminate the risk of structural failure and associated damages to down-gradient structures, as well as maintain the current municipal water storage volume for the residents and businesses in Carson City. This EA evaluates the potential effects of the proposed action on the environmental resources in the project area.

The public review period for the draft EA ended on May 3, 2010. All comments received on the draft document were considered and incorporated into the final EA, as appropriate. If you have any questions, please contact Ms. Lynne Stevenson, Environmental Manager, at (916) 557-6774 or email: Lynne.L.Stevenson@usace.army.mil. Thank you for your interest in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Alicia E. Kirchner".

 Alicia E. Kirchner
Chief, Planning Division

Enclosure

**FINAL
ENVIRONMENTAL ASSESSMENT**

**PRISON HILL WATER TANK #2
CARSON CITY, NEVADA**

May 2010



**US Army Corps
of Engineers** ®
Sacramento District



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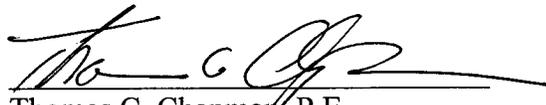
FINDING OF NO SIGNIFICANT IMPACT
Prison Hill Water Tank #2
Carson City, Nevada

I have reviewed and evaluated the information in this Environmental Assessment (EA) for the Prison Hill Water Tank #2, Carson City, Nevada, project. The work would involve construction of a new steel water tank, installation of connecting pipeline, and demolition of an existing concrete water tank that shows signs of serious structural deterioration. The project area is located on public land managed by the U.S. Bureau of Land Management. The work would eliminate the risk of structural failure and associated damages to down-gradient structures, as well as maintain the current municipal water storage volume for the residents and businesses in Carson City.

During this review, the possible consequences of the work described in the EA have been studied with consideration given to environmental, social, cultural, and engineering feasibility. In evaluating the effects of the proposed project, specific attention has been given to significant environmental resources that could potentially be affected. I have also considered the views of other interested agencies, organizations, and individuals concerning the project. The EA has been prepared in close coordination with the U.S. Bureau of Land Management, and the effects and mitigation measures have been reviewed by the U.S. Fish and Wildlife Service and the Nevada State Historic Preservation Officer.

Based on my review of the EA and my knowledge of the project area, I am convinced that the proposed project is a logical and desirable alternative. Furthermore, I have determined that the project would have no significant effects on the environment. All construction will be implemented in compliance with applicable Federal, State, and local laws, rules, and regulations. Based on the results of the environmental evaluation and completion of interagency coordination, I have determined that the EA and Finding of No Significant Impact provide adequate documentation and that no further environmental document is required.

25 May '10
Date


Thomas C. Chapman, P.E.
Colonel, U.S. Army
District Engineer

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1.0 PURPOSE AND NEED

1.1 Proposed Action

Carson City, Nevada, is proposing to (1) construct a new 3-million gallon steel water storage tank, (2) install approximately 500 feet of PVC pipeline, and (3) demolish the existing concrete water storage tank in the Prison Hill area within the City. The existing water tank shows signs of serious structural deterioration. The work would eliminate the risk of structural failure and associated damages to down-gradient structures, as well as maintain the current municipal water storage volume for the residents and businesses in Carson City.

1.2 Location of the Project Area

Carson City is located in the Carson Valley approximately 30 miles south of Reno in the western part of Nevada (Plate 1). The project area is located at the eastern end of Koontz Lane in the City on the southeast side of the valley (Plate 2). The existing water storage tank sits on the side of Prison Hill with a sweeping slope from east to west. The new water tank would be located directly south of the existing water tank at the same elevation. The project area is located on public land managed by the U.S. Bureau of Land Management (BLM). Carson City has applied to the BLM to amend Right-of-Way (ROW) NVN 013400 to include additional lands for a new water tank and access road.

1.3 Need for Proposed Action

The existing cylindrical water storage tank was constructed in 1978. The concrete tank is pre-stressed composite construction with 7-inch-thick “shotcrete” walls, and is approximately 140 feet in diameter and 26 feet tall. The tank roof varies in thickness from 3 inches at the center to 11 inches at the edge and is a concrete clear span dome. This tank currently provides 3 million gallons of municipal water storage for the residents and businesses in Carson City.

In the winter of 2007, BJG Architectural+Engineering conducted a structural evaluation of the existing water storage tank (BJG, 2008). This evaluation included review of the design, a diving investigation, and multiple onsite investigations, including digital concrete scanning, concrete coring, and concrete chipping (BJG, 2008). Results of the evaluation indicated that the roof was concaving, delaminating, and cracking at numerous locations, and that the tension ring was delaminating. In addition, the water tank walls exhibited numerous sections of cracking; leaking was observed during the diving investigation; and the tank wall reinforcement was exposed at three locations (BJG, 2008).

Based on the evaluation, BJG recommended that the existing water storage tank be replaced since the roof was found to be structurally inadequate and the steel reinforcements could corrode due to deterioration of the walls and leaking. In addition, the seismic capacity of the water tank had decreased with the deterioration, presenting an

increased potential for damage and failure in a major seismic event (BJG, 2008). Because of the extent of structural deterioration, they determined that it would not be technically or economically practical to try and repair the existing water tank to make it structurally sound.

The proposed steel water storage tank would improve the City's water storage system by replacing the existing deteriorating concrete tank. The work would eliminate the risk of structural failure and resulting downstream damages. Once constructed, the new water tank would continue to provide the critical 3 million gallons of municipal water storage volume needed for the residents and businesses in Carson City. To maintain water service, the existing water tank would remain in operation until the new water tank has been constructed and is operational.

1.4 Project Authorization

This project was authorized by the Water Resources Development Act of 1999 (Public Law 106-53), which authorized the U.S. Army Corps of Engineers (Corps) to participate in environmental infrastructure projects in rural Nevada and Montana. The Corps is the Federal lead agency, and Carson City is the local sponsor for the project.

1.5 Purpose of the Environmental Assessment

This Environmental Assessment (EA) discusses the environmental resources in the project area; evaluates the effects of the alternatives (including the proposed action) on the resources; and proposes measures to avoid, minimize, or mitigate any adverse effects to a less-than-significant level. This EA is in compliance with the National Environmental Policy Act and provides full public disclosure of the effects of the proposed action.

The BLM's purpose for the Prison Hill Water Tank #2 EA is to respond to Carson City's application under Title V of the Federal Land Policy and Management Act (FLPMA) (43 U.S.C. 1761) for a ROW grant amendment to construct, operate, and maintain a water storage facility and associated infrastructure in compliance with FLPMA, BLM ROW regulations, and other applicable Federal laws. The decision the BLM will make is whether or not to grant a ROW amendment to Carson City, and if so, under what terms and conditions.

2.0 ALTERNATIVES

2.1 No Action

Under the no action alternative, the existing water storage tank would not be replaced. The existing water tank would continue to operate in a seriously degraded condition. As a result, the existing water tank would continue to deteriorate and eventually would no longer be usable. Without replacement, the tank could eventually fail. The risk of structural failure would be particularly elevated during seismic events.

As a result of structural deterioration and potential failure, there would remain a risk of damage to down-gradient structures and residential communities. In addition, the City would lose 3 million gallons of storage, which is currently a critical component of the City's municipal water storage system.

2.2 Replace Water Tank (Preferred Alternative)

The preferred alternative includes construction of a new 3-million gallon steel water storage tank adjacent to the existing concrete water storage tank. This alternative would include a new access road, underground PVC pipeline, drainage swale, earthen berm, steel water tank, and fencing. The new pipeline would connect with the City's existing water delivery system. The project also includes the demolition of the existing concrete water tank, including grading and revegetation of the work site. The features, as well as the staging areas and construction footprint are shown on Plates 3 and 4. The total area of disturbance would be approximately 5 acres.

2.2.1 Pre-Construction Activities

Geotechnical Studies. Based on geotechnical investigations conducted by Wood Rodgers in 2009, groundwater is not expected to be intercepted during construction. As a result, no dewatering plan would be required for either site preparation or pipeline installation (Wood Rodgers, 2009).

Right-of-Way. Carson City has applied to amend BLM ROW NVN 013400 to include additional lands for a new water tank and access road. The new ROW would include an area approximately 400 feet by 420 feet and is shown on Plate 4 as the "Limits of Work."

Permits and Utilities. Prior to initiation of work, the construction contractor would be required to obtain all Federal, State, and local permits and approvals necessary to perform the work, including those related to stormwater discharge, fugitive dust, and traffic. Specific permits and approvals related to environmental resources are discussed in Section 3.0.

The contractor would also be required to verify the depths and locations of all existing utilities in the project area. Potentially affected utility companies would be notified and coordinated with directly concerning the timing and degree of the proposed work. These utility companies could include Southwest Gas, Carson City Water Department, and Carson City Sewer Department.

Staging and Mobilization. There would be two staging areas for the project. One area would be located near the existing water storage tank, and the other area would be adjacent to the new water tank site. These two staging areas are labeled for "soil stockpiles and equipment storage" on Plate 4. Both areas have scattered areas of sagebrush vegetation. The staging areas for the project would encompass approximately

0.2 acre. Once the project is completed, the soil stockpile and equipment storage areas would be restored by reseeded with a seed mix approved by the BLM.

During mobilization, construction equipment would be moved onto the staging areas, along with PVC piping, concrete, steel, and other construction materials. Types of equipment that would be used during construction include hydraulic excavators, track hoes, haul trucks, and water trucks. In addition, a crane would be used to load steel plates.

2.2.2 Construction Details

Clearing and Grading. Construction would begin by removing fencing around the existing water storage tank where it intercepts the area to be graded for the new water storage tank. Temporary fencing would be installed to maintain security of the existing water tank during construction. The construction contractor would then clear and grub the surface vegetation and debris at the new water tank site. Since these materials are not suitable for reuse onsite, they would be temporarily stockpiled within the limits of construction and then removed via haul trucks for disposal at the Carson City landfill located approximately 8 miles northeast of the project area.

The new water tank site would then be graded and shaped to the approximate elevation of the existing water tank. This initial grading would involve excavation of a total of approximately 8,550 cubic yards (cy) of material, including 7,200 cy of fill and 1,350 cy of topsoil. All fill and topsoil needed for the project would be obtained from this initial grading, and all excavated material would be reused in the project area. As a result, no import or export of fill or topsoil would be required for this project.

From this excavated material, approximately 3,970 cy of fill and 700 cy of top soil would be reused at the new water tank site for fill material. The remaining 3,230 cy of fill and 650 cy of top soil would be temporarily stockpiled within the limits of construction for reuse in restoring the existing tank site once the tank is demolished. The topsoil would be placed on finished graded slopes, including the berm around the new water tank and the reshaped slope once the existing water tank is removed.

Access Road and Fencing. A new access road would be constructed from the existing access road to, and around the base of, the new water storage tank (Plate 4). The new access road would be approximately 300 feet long and 20 to 30 feet wide with a 5-foot shoulder. The road around the water tank would be approximately 400 feet long and 16 feet wide. The work would involve surface clearing, grading, filling, and shaping the roadway, and then covering and compacting the roadway surface with 6 inches of aggregate base material (Plate 5).

A 20-foot-wide double swing gate would be installed at the entrance to the new access road, and a 6-foot chain link fence with barbed wire and coiled razor ribbon would be installed around the perimeter of the access road. The gate and fencing would provide security from unauthorized access or vandalism.

Pipeline and Fire Hydrant Installation. Prior to construction of the new water storage tank, a water pipeline would be installed from the new water tank location to the connection with the existing waterline. A trench approximately 500 feet long, 54 inches wide, and 90 inches deep would be excavated within the new roadway alignment for the new water pipeline. The material from trench excavation would be temporarily stockpiled within the limits of construction.

The water pipeline would consist of steel-encased 20-inch-diameter PVC pipe. The trench would be filled around the pipe with approximately 6 inches of compacted bedding material below the pipe and 12 inches above the pipe. The excavated material would be reused to backfill the trench, and a minimum of 42 inches of cover would be provided above the pipe (Plate 6). The new PVC pipe would be connected to the existing water main within the alignment of the existing access road. In addition, a fire hydrant would be connected to the 20-inch PVC pipe. The fire hydrant would be located adjacent to the tank at the end of the new drainage swale.

A trench would also be excavated for installation of a 12-inch diameter PVC pipe from the location of the new water storage tank to the altitude vault. Material excavated from the trench would be stored within the limits of construction for reuse as fill. This new PVC pipe would be installed from the location of the inlet/outlet structure at the base of the new water tank to the altitude valve. Sub-grade material would be compacted, and the trench would be backfilled with approximately 6 inches of compacted bedding material below the pipe and 12 inches above the pipe.

At the bend in the pipe, a thrust block would be placed below the pipe for support. The 12-inch PVC pipe would direct water to the altitude valve, which would be installed adjacent to the new water tank to control tank inflow/outflow. The 20-inch-diameter PVC pipe discussed above would be connected to the altitude valve, which would also control the release of water to the City water system.

Overflow piping would be installed at the overflow weir, approximately 1 foot below the top of the new water tank. The overflow piping would consist of approximately 200 feet of 12-inch PVC pipe and would discharge to the riprapped drainage swale. A trench would be excavated for installation of the overflow pipe. Excavated material would be stored within the limits of construction. The trench would be backfilled with bedding material and covered with excavated fill material. Any overflow water would be discharged to the riprapped drainage swale and would drain to an undisturbed vegetated area to the west, where it would infiltrate into the soil.

Drainage Swale and Berm. A riprapped drainage swale and an earthen berm would be constructed around the new water storage tank and beyond the access road to direct drainage away from the new water tank foundation. The swale would be approximately 10 feet wide, and would be constructed with a geotextile filter fabric keyed in at the top of slope and backfilled with a minimum of 1 foot of rock riprap (Plate

5). The swale would convey runoff and drainage from upslope areas around the water tank and offsite to the west and south.

Runoff directed to the south would drain to a riprapped dissipater to decrease runoff velocities and reduce the potential for scour. Runoff within the drainage swale and riprap dissipater would drain to an undisturbed vegetated area where it would infiltrate into the soil. During larger events, water that does not infiltrate would sheet flow to a residential area approximately 1,200 feet southwest of the project area and would then enter the City storm drain system.

Beyond the drainage swale, a berm would be constructed both upslope and downslope around the new water tank. The berm would be covered with a minimum of 6 inches of native topsoil. Approximately 700 cubic yards of native top soil would be used as fill material for the berm (Plate 5). The berm would be constructed to reduce visual effects of the project by shielding the majority of the tank from view. A 6-foot-high chainlink fence with barbed wire would be installed at the top of the berm to provide security.

New Water Storage Tank. The new water storage tank would be approximately 130 feet in diameter and 31 feet tall. The tank would include a concrete base, reinforced concrete ringwall footings, and steel construction. The tank bottom would be constructed with ground-supported, welded steel plates. An aggregate cushion would be provided under the tank bottom in accordance with the design standards of the American Water Works Association (AWWA). Twelve inches of drain rock would be used in the flooring of the tank, and this rock would be covered with a floor plate (Plate 7).

The roof would be domed and would be supported by a column in the center of the roof, and the structural design of the tank would meet AWWA standards. The water storage tank would include both interior and exterior ladders for access and ventilation in the roof. Telemetry equipment would be installed adjacent to the water storage tank to transmit information regarding tank operation including tank water levels to the City. Solar panels would be used for operation of the telemetry equipment and to turn off the groundwater well pumps when the tank is full. Following construction, the tank would be painted with an appropriate color to blend in with the natural landscape as stipulated by the BLM.

Demolish Existing Storage Tank. The existing water storage tank and associated piping would be demolished once the new water tank is online and fully operational. The demolition would include removal of the floor slab and footings. The existing pipeline from the tank to the tie-in with the new water tank would also be removed. The slope would be restored reusing the stockpiled fill, and the area would be covered with 6 inches of topsoil (Plate 8).

A drainage swale would be constructed down-gradient of the restored site, and runoff would be directed to a riprapped dissipater. Runoff would be directed to an undisturbed vegetated area offsite where runoff would infiltrate into the soil. All

demolished material unsuitable to be reused as fill, including concrete, piping, and other debris, would be removed and disposed offsite at the Carson City landfill.

Restore Vegetation. Following construction of the new tank, disturbed areas with a slope of 3H:1V or less would be covered with native top soil and reseeded with a seed mix similar to the surrounding area and approved by the BLM. Areas that would be reseeded include, but are not necessarily limited to, the berm surrounding the new water storage tank, the existing/restored water storage tank site, staging areas, and other areas disturbed by construction.

2.2.3 Borrow, Stockpiling, and Disposal

Borrow. Borrow materials would include riprap, drain rock, aggregate base, and bedding material to be used as layering material for road surfaces, trenches, drainage swales, and the new water storage tank. The material would be obtained and transported from a local commercial source of aggregate. Other materials such as concrete and structural steel would be obtained from other commercial sources in the region. Excavated topsoil would be reused for cover of slopes flatter than 3H:1V, including the berm and the restored water tank site.

Stockpiling. Soils excavated at the location of the new water tank would be temporarily stockpiled onsite within the limits of the two staging areas for reuse as fill material. Stockpiled materials would also be used in the new water tank to construct the berm. Topsoil would be stockpiled, and 6 inches of native topsoil would be placed on finished slopes.

Disposal. All cleared brush, concrete, and other waste associated with the construction of the new water tank and demolition of the existing tank would be transported offsite via haul trucks and disposed of at the Carson City landfill. This landfill is located approximately 7 miles northeast of the project area.

2.2.4 Construction Schedule

Construction of the project is scheduled to begin in late spring of 2010. Clearing and grading, including grading for the new access road, would be conducted in approximately 2 months. Following site grading, the pipelines would be installed, and the new water storage tank would be constructed in approximately 4 months. Once the new water tank is online and fully operational, the existing water tank would be demolished. All work is scheduled to be completed in late fall of 2010.

2.2.5 Post-Construction Activities

Clean Up of Work Areas. After construction and restoration is completed, all equipment, remaining materials, and temporary best management practices (BMP's) would be removed. Work areas would be cleaned of excess soils and debris, and all areas

would be left in a neat and presentable condition. This would include work areas at the existing water storage tank, as well as the new water tank.

Operation and Maintenance. The existing water storage tank would remain in operation until the new water tank is approved and connected to the existing Carson City water system. After completion of construction, the project would be operated and maintained by Carson City as part of the City's existing water storage system. The new water tank would be inspected regularly by the City, and repairs would be made as needed to ensure the integrity of the new water tank and piping.

3.0 AFFECTED RESOURCES AND ENVIRONMENTAL EFFECTS

This section identifies resources, describes existing conditions, and evaluates the effects of the proposed action on those resources. In addition, the BLM maintains a list of "supplemental authorities" that must be considered in all BLM environmental documents. Table 1 lists these supplemental authorities and their status in the project area. Those supplemental authorities that may be affected by the proposed action are discussed further in this EA.

3.1 Resources Not Considered in Detail

Because of the nature of the work, the project would have little to no effect on several resources in the project area. These resources are discussed in Sections 3.1.1 to 3.1.10 to add to the overall understanding of the project area.

3.1.1 Climate

Located in a high desert river valley, Carson City, Nevada, enjoys four fairly distinct seasons and averages 265 sunny days a year. The average temperatures ranges from winter lows in the 20's (degrees Fahrenheit) to summer highs in the upper 80's (Western Regional Climate Center, 2009). The majority of the precipitation occurs in winter and spring, with summer and fall being fairly dry. Average annual rainfall is approximately 10.41 inches, and average annual snowfall is 26 inches. Because of the nature of the work, the project would have no effect on valley climate.

3.1.2 Geology and Seismicity

Geology. The surficial geology of the project area consists of Holocene deposits (Bingler, 1977). In addition to this surficial layer, the bedrock geologic make-up of Prison Hill consists of two different rock types. Jurassic aged metamorphosed volcanic rock is exposed at the northern end, and a Cretaceous, medium-grained granitic rock exists at the southern end of the hill. In the northern end, as the larger rock mass disintegrates, pieces of broken outcrop appear that are dark-colored and consist of an andesite mud-flow breccia (BLM, 2009).

Table 1. BLM Supplemental Authorities and Their Status in the Project Area

Supplemental Authority	Not Present	Present/Not Affected	Present/May Be Affected	Rationale
Air quality		X		Refer to Section 3.5.
Areas of critical environmental concern	X			Resource not present.
Cultural resources		X		Refer to Section 3.8.
Environmental justice	X			Resource not present. Refer to Section 3.1.7.
Farm lands (prime or unique)	X			Resource not present. Refer to Section 3.1.6.
Floodplains	X			Resource not present. Refer to Section 3.4
Invasive, nonnative species		X		The existing site would be periodically inspected for the presence of noxious weeds. Refer to Section 3.2.3.
Migratory birds			X	Refer to Section 3.2.
Native American religious concerns		X		Native American Religious Concerns are discussed in Section 3.8, and consultation with Native Americans is included in Appendix B.
Threatened or endangered species	X			Resource not present Refer to Section 3.3.
Wastes, hazardous or solid	X			Resource not present. Refer to Section 3.1.10.
Water quality (surface/ground)	X			Resource not present. Refer to Section 3.4.
Wetlands/riparian zones	X			Resource not present. Refer to Section 3.4.
Wild and scenic rivers	X			Resource not present. Refer to Section 3.4.
Wilderness	X			Resource not present.

A geotechnical investigation for the project determined that the new water tank site is located in an area mapped on the New Empire Quadrangle Geologic Map (Bingler, 1977) as Metavolcanic Breccia (Jb) – Gray to greenish-gray and greenish-black very poorly sorted coarse andesitic mud-flow breccia (Wood Rodgers, 2009). A breccia is a sheared and broken bedrock material that is recemented or reformed back into a solid rock mass by metamorphosis. This material is highly fractured.

Seismicity. The Nevada Bureau of Mines and Geology has mapped a potentially active fault in the vicinity of the project area (Bell, 1979). The fault is believed to have experienced movement between 10,000 and 35,000 years ago (Wood Rodgers, 2009). No active faults (movement within the last 10,000 years) have been mapped crossing the project area.

The geotechnical investigation for the project noted that a potentially active fault is mapped as forming a contact between the metavolcanic rock and deeper pediment soils in the vicinity (Wood Rodgers, 2009). During the investigation, no pediment soils were observed in the test pits. As a result, it was concluded that the fault boundary is located west and downslope of the site. Because of the nature of the work, the project would have no effect on geologic or seismic conditions.

3.1.3 Topography and Soils

Topography. The project area is located in Township 15 N, Range 20 E, and the NW ¼ of the SE ¼ of Section 28 of the USGS New Empire 7.5-minute quadrangle. The elevation at the location of the new water tank is approximately 4,879 feet. The ground surface at the tank site slopes moderately downward to the west, with a total relief of approximately 35 feet. The general topographic gradient of the project area is west/southwest.

Soils. The Natural Resource Conservation Service (NRCS) has identified and mapped the soils in the project area. This information is made available in their online Soil Survey Geologic Database, which currently identifies two soil type units in the project area. They are Indiano variant gravelly fine sandy loam, 4 to 15 percent slope (Map Unit 35), and Koontz-Sutro complex, 30 to 50 percent slope (Map Unit 41). Indiano variant gravelly fine sandy loam, 4 to 15 percent slopes (Map Unit 35), consists of moderately deep, well drained soils that formed in alluvium. Permeability is moderately slow. Surface runoff is medium, and the hazard of erosion is slight.

Koontz-Sutro complex, 30 to 50 percent slope (Map Unit 41), consists of 60 percent Koontz, an extremely stony loam, and about 25 percent Sutro, a very stony loam, and about 10 percent rock outcroppings. Koontz are shallow, well drained soils that formed in colluvium. Permeability of Koontz soils is moderately slow. Surface runoff is rapid, and the hazard of erosion is moderate. Sutro soils are moderately deep, well drained soils that formed in colluvium. Permeability is moderate. Surface runoff is rapid, and the hazard of erosion is moderate. Because of the nature of the work, the project would have no effect on the regional topography or soil conditions.

3.1.4 Fisheries

The project area is located in the Carson River watershed, part of the larger Lahontan Basin river system that also includes the Humboldt and Walker River watersheds. Fish species native to the Lahontan Basin include mountain whitefish, Tahoe

sucker, Lahontan mountain sucker, Lahontan tui chub, Lahontan speckle dace, Soldier Meadows desertfish, Belding sculpin, and Lahontan cutthroat trout (La Rivers, 1994).

The Carson River is located approximately 3 miles south of the project area, and there are no surface water resources in the project area. The project would not discharge directly to the Carson River or any of its tributaries. As a result, the project would have no effect on fisheries or aquatic habitat.

3.1.5 Land Use and Zoning

Carson City completed a Master Plan in 2006 to help guide and manage the growth in the area (Carson City, 2006a). The Master Plan identified current and future infrastructure developments and updated the City's zoning to reflect these developments. Under the Master Plan, the project area is identified as Public/Quasi-Public, while the area to the east is identified as Open Space and the area to the west is identified as Low Density Residential. Carson City regulates land use under Title 18, Zoning, of the Carson City Municipal Code (Carson City, 2009). The Carson City zoning map identifies the project area as Public Regional. Under Title 18, "Public Regional" is defined as Federal, State, and City facilities and uses whose main purpose is to sustain wide regional needs.

The project area is identified in BLM's Resource Management Plan (RMP) as available to State and local agencies for recreation/public purposes. In addition, this land is designated for conveyance to Carson City for parks and public purposes in the Omnibus Public Land Management Act of 2009 (Public Law 111-11), which also withdrew the land from entry and appropriation under the public land laws, including the mining and mineral leasing laws. The proposed action is in conformance with the RMP and consistent with the 2009 act.

Currently, there is an existing 3-million gallon water tank identified as Water Tank #1 located in the project area. Under the project, the current land use would not change. The project is replacing an existing water tank and would have no effect on current land use or zoning. The Federal Emergency Management Agency (FEMA) floodplain maps were reviewed, and no flood hazards were identified in the project area or vicinity; therefore the project is not located within a floodplain (EDR, 2009). Since the new water tank would have the same capacity as the tank to be demolished, the project would not encourage development in the floodplain.

3.1.6 Prime Farmland

Prime farmland is defined as land with the best combination of physical and chemical characteristics for producing food, feed, forage, and other agricultural crops with minimum input of fuel, fertilizer, and labor. Farmland of statewide importance is other farmland designated as such by the State (NRCS, 2009). The project would have no effect on prime farmland or farmland of statewide importance because there is no such farmland in the project area.

3.1.7 Socioeconomics and Environmental Justice

Carson City is the capital of Nevada and is the ninth largest city in Nevada. The estimated population of the City was 54,867 in 2008 (U.S. Census Bureau, 2009). The City encompasses a 143.35-square mile area. The population density based on 2000 U.S. Census Bureau data was 366.8 people per square mile.

In 2008, the ethnic makeup of the City was 72.1 percent white, 20.1 percent Latino of any race, 2.1 percent African American, 2.4 percent Native American, 2.2 percent Asian, 0.2 percent Pacific Islander, and 1.8 percent from other races (U.S. Census Bureau, 2009). There are no minority or low-income populations in the project area. In addition, all residents would benefit equally from the new water tank; thus, there would be no disproportionate effects on any minority or low-income populations in Carson City.

Carson City's local economy is based mainly on retail, wholesale, and manufacturing sales; government agencies; agriculture; and mining. The City draws from a trade area of about a quarter of a million people, with the largest portion (30 percent) of the local workforce employed by the service industry. Carson City is the State capital, and as such the government sector is the second largest employer. Fourteen percent of the workforce is employed in the manufacturing industry. In 2007, the median household income in Carson City was \$50,884 per year; the poverty rate was 12.9 percent (U.S. Census Bureau, 2009); and the unemployment rate was 11.7 percent (U.S. Bureau of Labor and Statistics, 2009).

The project includes the replacement of an existing water tank and would not affect the socioeconomic conditions in the City. The population growth, ethnic makeup, income, and poverty rate would continue to depend on factors such as social trends and overall economic conditions.

3.1.8 Noise

Noise can be defined as unwanted sound and noise levels, and effects are interpreted in relationship to noise level objectives for local agencies. Carson City does not currently have a specific noise ordinance to regulate sounds generated by development. The City relies on a public nuisance ordinance to regulate loud noise under Title 8, Public Peace, Safety, and Morals, of the Carson City Municipal Code. Excessive noise in the developed areas of the City is considered to be a nuisance (Carson City, 2009). Under this code it is unlawful for any person "to make in any place, or suffer to be made upon his or her premises, within his or her control, any noise, disorder or tumult, to the disturbance of the public peace" (amended by Ord. 1989-32 § 6, 1989).

The existing sources of noise in the project area are residential and recreational activities, motor vehicles on Edmonds Drive and Koontz Lane, and natural sounds such as wind and wildlife. There are no noise-sensitive land uses in the project area; potential sensitive receptors include nearby residents, recreationists, and wildlife. Operation of

equipment and work activities would increase noise levels during construction. However, because the noise levels would attenuate over distance, there would be minimal to no effect on nearby sensitive receptors during the work hours. No work would be conducted at night.

3.1.9 Recreation

Carson City offers residents many opportunities for outdoor recreation. They include open space/natural areas, water sports, fishing, picnicking, biking, and hiking, as well as the use of golf courses and ball fields. The City has developed a Carson City Parks and Recreation Master Plan (Carson City, 2006b) to help plan and promote parks and recreation in the City.

The approximately 2,450-acre Prison Hill Recreation Area is located on and adjacent to the project area. This recreation area provides access to public lands through a cooperative effort between the BLM and Carson City. It has been set aside and dedicated as open space for the community of Carson City. This is a popular open space area used for hiking, rock climbing, mountain biking, horseback riding, and All Terrain Vehicles (south end only). The Prison Hill Recreation Area is accessible through three areas for non-motorized access and one area for motorized access at the south end of the recreation area off Snyder Avenue. The main community parking area and trailhead are located at the east end of Koontz Lane. At this location, there is parking for 3 horse trailers and 20 to 30 cars (Silver Saddle Ranch, 2009).

Public recreation access to the Prison Hill Recreation Area would be maintained by the current Koontz Lane and Clearview trailhead. The project would not adversely affect recreational use or opportunities since the surrounding Prison Hill Recreation Area would remain open for public use and access throughout the duration of construction.

3.1.10 Hazardous, Toxic, and Radiological Waste

A Phase I Environmental Site Assessment (ESA) was completed for the project in January 2010 (Corps, 2010a). The purpose of the ESA was to identify the presence or likely presence of any hazardous, toxic, or radiological waste (HTRW) that may affect construction of the project. A comprehensive records review and site visit were conducted to compile information for the ESA. This assessment did not include sampling for analysis of soil or groundwater.

There were two sites identified on the State Hazardous Waste Site (SHWS) list. The SHWS list is a State and local database list that shows corrective actions for active non-hazardous waste. The two sites were located approximately 0.682 mile and 0.734 mile from the project location. Both of these sites have been cleaned and their files closed. Neither of the two sites were in the construction area for the new water tank. In addition, site reconnaissance revealed no evidence that HTRW contamination would affect the project (Corps, 2010a).

Construction of the project would involve use of substances that could be considered hazardous, such as fuels, lubricants, and oils. Inadvertent spills or leaks of these substances could enter surface waters via runoff or percolate into the groundwater. However, all spills or leaks would be cleaned up immediately. In addition, construction of the project would follow the regulatory requirements of the Nevada Division of Environmental Protection (NDEP) National Pollutant Discharge Elimination System (NPDES) permitting process. As a result, the project would have no effect on any existing HTRW, nor would it create any new HTRW.

3.2 Vegetation and Wildlife

3.2.1 Existing Conditions

Vegetation. The project area contains vegetation typical of the big sagebrush plant community (Corps, 2010b). This community is common throughout the Great Basin, and is found in upland desert areas with limited precipitation. The big sagebrush plant community consists of four subspecies of sagebrush: basin big sagebrush (*Artemisia tridentata tridentata*), mountain big sagebrush (*Artemisia tridentata vaseyana*), Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*), and subalpine big sagebrush (*Artemisia tridentata spiciformis*) (Frisina, 2004). Additional plant species typically associated with the big sagebrush plant community include antelope bitterbrush (*Purshia tridentata*), rabbitbrush (*Chrysothamnus viscidiflorus*), desert peach (*Prunus andersonii*), Indian ricegrass (*Achnatherum hymenoides*), and occasional juniper (*Juniperus occidentalis*) and pinyon (*Pinus monophylla*) trees (BLM, 2009).

During a field survey conducted by Huffman & Carpenter, Inc., on January 8, 2010, vegetation species were identified in the project area (Corps, 2010b). The big sagebrush plant community can be characterized as the Wyoming big sagebrush/squirreltail grass sub-community. This specific vegetation association is often associated with moderate disturbance (Peterson, 2008), and Wyoming big sagebrush occupies the most xeric of locations (Frisina and Wambolt, 2004). This vegetation community is dominated in the shrub layer by Wyoming big sagebrush and in the herbaceous layer by squirreltail grass (*Elymus elymoides*). Other shrubs include antelope bitterbrush, green ephedra (*Ephedra viridis*), and desert peach.

Other herbaceous species identified in the project area included needlegrass (*Achnatherum* sp.), buckwheat species (*Eriogonum* sp.), and several annual species including cheatgrass (*Bromus tectorum*), tumble mustard (*Sisymbrium altissimum*), herb Sophia (*Descurainia sophia*), and devil's lettuce (*Amsinckia tessellate*). Of these annuals, cheatgrass, tumble mustard, and herb Sophia are nonnative, invasive species. These annual species are particularly abundant in disturbed parts of the project area, such as road edges and areas with other past ground disturbance. There are no wetlands or riparian areas or associated plant species in the project area.

According to the Nevada Natural Heritage Program (NNHP), habitat may be available in the project area for the Lavin's egg milkvetch (*Astragalus oophorus* var. *lavinii*), a BLM sensitive plant species (Appendix A). Lavin's egg milkvetch is found throughout big sagebrush and pinyon-juniper habitat types; however, the plant is unlikely to be found in the project area due to the type of soil. Soil in the project area consists of a sand to sandy loam derived from the local granitic rocks. According to the NNHP habitat description, Lavin's egg milkvetch is found on "open, dry, relatively barren gravelly clay slopes, knolls, badlands, or outcrops, derived from volcanic ash or carbonate, usually on northeast to southeast aspects, in openings in the pinyon-juniper or sagebrush zones" (NNHP, 2001). This specific habitat type has not been found in the project area. No milkvetch species or their habitat were observed during the survey conducted by Huffman and Carpenter on January 8, 2010 (Huffman & Carpenter, 2010).

Wildlife. The big sagebrush plant community supports a variety of birds, mammals, and reptiles/amphibians. Raptors, songbirds, rodents, bats and other mammals, and reptiles commonly occur in the area. Because of the project's proximity to residences and South Edmonds Drive, the only big game species likely to use the area would be an occasional mule deer (*Odocoileus hemionus*). Other wildlife species that may use the area are likely habituated to human disturbances, including coyotes (*Canis latrans*), cottontail rabbits (*Sylvilagus audubonii*), whitetail jackrabbits (*Lepus townsendii*), California valley quail (*Callipepla californica*), short-horned lizards (*Phrynosoma douglassi*), and passerine birds. There are no BLM-designated Important Bird Areas or important wintering areas in the project area (McIvor, 2005). However, birds would be expected to use the area during the spring and summer months for nesting and forage.

The BLM manages species (and their habitat) designated as BLM-sensitive. These species are native species found on BLM-administered lands for which the BLM has the capability to significantly affect the conservation status of the species through management. In addition, one of the following applies to the species: (1) there is information that the species has recently undergone, is undergoing, or is predicted to undergo a downward trend such that the viability of the species or a distinct population segment of the species is at risk across all or a significant portion of the species range, or (2) the species depends on ecological refugia or specialized or unique habitats on BLM-administered lands, and there is evidence that such areas are threatened with alteration such that the continued viability of the species in that area would be at risk. Based on this criteria, no Nevada BLM sensitive species are likely to occur in the project area (Appendix A).

Species sighted and identified during Huffman and Carpenter's field survey included the cottontail rabbit and whitetail jackrabbit. Species identified through tracks and/or scat included rabbit, mule deer, and coyote. No BLM sensitive species or bird species were sighted or identified in the project area. Historically, this area was greater sage grouse (*Centrocercus urophasianus*) habitat. However, due to the encroachment and urbanization of Carson City, sage grouse no longer use the area (BLM, 2009).

Migratory Birds and Raptors. All native birds found commonly in the U.S. except native resident game birds and introduced species are protected under the Migratory Bird Treaty Act of 1918. Management for migratory bird species on BLM- administered land is based on BLM Instruction Memorandum – IM 2008-050, dated December 18, 2007. The IM includes the lists of migratory birds associated with western BLM lands. The BLM bird species of conservation concern that occur or have range in or near the project area are listed in Table 2.

Table 2. Birds of Conservation Concern Known to Occur or Have Range in or Near the Project Area

Common Name	Scientific Name
Burrowing owl	<i>Athene cunicularia</i>
Ferruginous hawk	<i>Buteo regalis</i>
Golden eagle	<i>Aquila chrysaetos</i>
Northern goshawk	<i>Accipiter gentilis</i>
Northern harrier	<i>Circus cyaneus</i>
Peregrine falcon	<i>Falco peregrines</i>
Prairie falcon	<i>Falco mexicanus</i>
Sage Sparrow	<i>Amphispiza belli</i>
Short-eared owl	<i>Asio flammeus</i>
Swainson’s hawk	<i>Buteo swainsoni</i>

Source: Corps, 2010b; IM 2008-050, 2007

A Nevada Department of Wildlife (NDOW) database search was conducted for raptors and migratory birds in the vicinity of the project area (NDOW, 2009). The analysis developed a 2-mile buffer around Township 15N, Range 20E, Section 28, and searched for raptor and migratory bird species occurrences within this buffer zone (Table 3). While raptors and migratory birds are known to exist in the vicinity of the project area, the big sagebrush plant community is not limited to the project area and is present throughout the Great Basin.

3.2.2 Effects

Basis of Significance. An alternative would be considered to have a significant effect on vegetation and wildlife if it would (1) result in the substantial loss or degradation of any plant community providing high quality wildlife habitat or (2) permanently displace substantial numbers of resident or migratory wildlife species.

No Action. This alternative would have no effects on existing vegetation and wildlife, including migratory birds in the project area. The plant communities and associated wildlife species would be expected to remain the same.

Replace Water Tank. This alternative would have short-term effects on the big sagebrush plant community in the project area. Initial clearing and grubbing would result in removal of 3.8 acres of the Wyoming big sagebrush/squirreltail grass sub-community,

Table 3. Migratory Birds and Raptors Known to Occur or Have Range in or Near the Project Area

Common Name	Scientific Name
Raptors	
American kestrel	<i>Falco sparverius</i>
Bald eagle	<i>Haliaeetus leucocephalus</i>
Barn owl	<i>Tyto alba</i>
Burrowing owl	<i>Athene cunicularia</i>
Cooper's hawk	<i>Accipiter cooperii</i>
Ferruginous hawk	<i>Buteo regalis</i>
Golden eagle	<i>Aquila chrysaetos</i>
Great horned owl	<i>Bubo virginianus</i>
Long-eared owl	<i>Asio otus</i>
Northern goshawk	<i>Accipiter gentilis</i>
Northern harrier	<i>Circus cyaneus</i>
Northern saw-whet Owl	<i>Aegolius acadicus</i>
Osprey	<i>Pandion haliaetus</i>
Peregrine falcon	<i>Falco peregrinus</i>
Prairie falcon	<i>Falco mexicanus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Sharp-shinned hawk	<i>Accipiter striatus</i>
Short-eared owl	<i>Asio flammeus</i>
Swainson's hawk	<i>Buteo swainsoni</i>
Turkey vulture	<i>Cathartes aura</i>
Migratory Birds	
American goldfinch	<i>Carduelis tristis</i>
American robin	<i>Turdus migratorius</i>
Bohemian waxwing	<i>Bombycilla garrulus</i>
California quail	<i>Callipepla californica</i>
Cedar waxwing	<i>Bombycilla cedrorum</i>
Cinnamon teal	<i>Anas cyanoptera</i>
Evening grosbeak	<i>Coccothraustes vespertinus</i>
Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>
Greater sage-grouse	<i>Centrocercus urophasianus</i>
Hermit thrush	<i>Catharus guttatus</i>
House finch	<i>Carpodacus mexicanus</i>
Hummingbird	<i>Trochilidae family</i>
Northern flicker	<i>Colaptes auratus</i>
Northern mockingbird	<i>Mimus polyglottos</i>
Pine siskin	<i>Carduelis pinus</i>
Red-breasted sapsucker	<i>Sphyrapicus ruber</i>
Rock pigeon	<i>Columba livia</i>
Thick-billed parrot	<i>Rhynchopsitta pachyrhyncha</i>
Western tanager	<i>Piranga ludoviciana</i>
Wilson's warbler	<i>Wilsonia pusilla</i>

Source: NDOW, 2009

as well as other native and nonnative herbaceous species. Once construction of the new water tank is completed, however, all disturbed areas with a slope of 3H:1V or less would be covered with native top soil and reseeded with a native seed mix approved by BLM. This would reduce potential erosion and encourage revegetation.

In addition, the existing water tank would be removed, and the resulting open area would be graded and shaped to match the surrounding topography and then also reseeded with a native seed mix approved by BLM. As a result, the vegetation lost as a result of construction of the new tank would be mitigated by restoration of the previous tank site and vegetation of slopes of 3H:1V or less at the new tank site. In addition, the project area is surrounded by thousands of acres of the big sagebrush plant community in the surrounding region. Therefore, there would be no significant effect to vegetation from this project.

Construction of the new water tank could have short-term effects on any wildlife currently using the area. These effects would include disturbance and/or displacement of individuals due to noise and construction activities. In addition, wildlife in the surrounding area would be expected to avoid the project area during construction. After construction and restoration are completed, however, wildlife would be expected to return to the project area once revegetation begins. Thus, there would be no significant effects on wildlife currently using the area. Because of the limited size of the construction area and the large amount of similar habitat nearby, any wildlife species using the surrounding area would not be significantly affected. Although there could be short-term effects to individual migratory birds, regional populations would not be affected.

3.2.3 Mitigation

Since there would be no significant effects on vegetation or wildlife, no mitigation would be required. However, to the extent possible, construction would be scheduled outside of the nesting season for migratory birds. If construction is necessary during the nesting season, Carson City would be required to have a qualified biologist survey for active nests of migratory birds within a 1/8-mile radius of the project area within 15 days prior to initiation of construction. If active nests are located during these surveys, the biologist would consult with the U.S. Fish and Wildlife Service (USFWS) and NDOW, as required, to determine the appropriate buffer around the nest.

During construction, the contractor would be required to implement BMP's to prevent the introduction and spread of noxious weeds. Carson City would coordinate with the Nevada Department of Agriculture for annual noxious weed surveys, following State protocols. If noxious weeds are discovered, a noxious weed management plan would be developed and implemented by Carson City following guidelines set forth by the Nevada Department of Agriculture and BLM. All weed treatments applied on BLM land would be required to be in conformance with BLM Manual 9011 and the Vegetation Treatments Using Herbicides in 17 Western States Programmatic Environmental Impact Statement (BLM 2007)

3.3 Threatened and Endangered Species

3.3.1 Existing Conditions

The USFWS, NNHP, and NDOW were consulted regarding Federally listed threatened and endangered species that could potentially occur in and/or near the project area. In response, the USFWS provided the Corps with a letter dated January 6, 2010, indicating that there are no listed, proposed, or candidate species in the project area (Appendix A). In the letter, the USFWS indicated that they no longer provide species of concern, but are adopting the sensitive species list for Nevada maintained by the NNHP.

The NNHP conducted a search of their database and maps for a 2-kilometer radius around Township 15N, Range 20E, and Section 28. Based on the search, no Federally listed threatened, endangered, proposed, or candidate wildlife species are known to occur in the area (Appendix A).

3.3.2 Effects

Basis of Significance. An alternative would be considered to have a significant effect on Federally threatened and endangered species if it would (1) result in the take of a Federally listed threatened or endangered species, or (2) adversely affect a species critical habitat.

No Action. This alternative would have no effect on Federally listed threatened or endangered species or their habitat.

Replace Water Tank. There are no Federally listed threatened or endangered species or their habitat in and/or near the project area. As a result, this alternative would have no effect on Federally listed threatened or endangered species or their habitat.

3.3.3 Mitigation

Since there would be no effect on Federally listed threatened or endangered species or their habitat, no mitigation would be required.

3.4 Water Resources and Water Quality

3.4.1 Existing Conditions

There are no surface water bodies such as streams, springs, wetlands, or other surface water resources in the project area. There are two non-jurisdictional dry swales adjacent to the project area. One appears to have been constructed to drain runoff around the existing water tank. The second is located just north of the existing water tank and originates in the hillside east of the project area. Both of these dry swales are no longer visible on the landscape prior to reaching South Edmonds Drive.

The nearest surface water resource is the Carson River, located approximately 3 miles east-southeast of the project area. The river is formed in the Carson Valley by the confluence of the East and West Forks of the Carson River, with headwaters in the Sierra Nevada of California. The major impoundment on the Carson River is the Lahontan Reservoir, a feature of the Newlands Project (USGS, 2005). An ephemeral drainage is identified on the New Empire Quadrangle, Nevada, USGS 7.5-minute series map as being located approximately 1,500 feet south-southeast of the project area. This ephemeral drainage flows towards the south-southwest for approximately 1 mile, where it ends just north of Snyder Avenue on the McTarnahan Hill Quadrangle, Nevada, USGS 7.5-minute series map. This ephemeral drainage is not a tributary to the Carson River.

The Saliman Road tributary is located approximately 0.25 mile west of the project area, and a floodplain has been delineated by FEMA (EDR 2009). What appears to be a constructed channel associated with the floodplain is visible on aerial photos approximately 0.75 mile from the project area. Stormwater runoff currently sheet flows from the project area down-gradient towards the west and southwest. Stormwater runoff from the project area infiltrates into the undisturbed area down-gradient, and during larger events, the water that does not infiltrate into the groundwater eventually drains to Clear Creek and then into the Carson River approximately 3 miles south of the site.

The project area is located within the Eagle Valley hydrographic area, an area of approximately 69 square miles (CWSCD, et al., 2007). The Eagle Valley basin contains a shallow water-table aquifer and one or more deeper alluvial aquifers (Welch, et al., 1997). The thickness of the deposit varies throughout the valley. Wells have been drilled 600 to 800 feet in depth and are still in unconsolidated deposits (1976). The main groundwater reservoir is the alluvium composed of gravel, sand, and clay. Recharge comes from runoff, underflow along the west side of the valley, and infiltration of streamflow and irrigation waters. Groundwater movement in the basin is complex, but is generally toward the Carson River.

During a geotechnical investigation conducted in the project area by Woods Rodgers, groundwater was not encountered (2009). Six test pits were drilled at the site between 3.8 feet and 11 feet in depth, and no groundwater was encountered (Woods Rodgers, 2009). Therefore, the depth to groundwater is expected to be greater than 11 feet.

Water Quality. The water quality in the Carson River is determined by flows, water diversions, and past and present land use activities in the watershed. Nonpoint source runoff from agriculture, construction, and urbanization has increased nutrient and suspended sediment levels in the river. The State of Nevada has identified total phosphorus, total suspended solids, turbidity, temperature, total iron, and total mercury as parameters of concern for the Carson River (Pahl, 2007). Much of the Carson River is included on Nevada's 303(d) list due to exceedances of phosphorus standards, excess algae, and depressed dissolved oxygen levels (NDEP, 2005).

Water quality in the underlying groundwater aquifers has been described as generally good and satisfactory for irrigation, domestic, and most common uses, with the exception of poor water quality in the New Empire area of northeast Carson City (Glancy and Katzer, 1975). Domestic, municipal, and industrial/commercial uses rely mainly on groundwater resources (CWSCD, et al., 2007). The groundwater perennial yield for Eagle Valley is 7,000 acre-feet per year (CWSCD, et al., 2007).

3.4.2 Effects

Basis of Significance. An alternative would be considered to have a significant effect on water resources if it would (1) substantially degrade the quality of natural surface or groundwater resources, (2) contaminate a public water supply, or (3) exceed or interfere with existing water rights.

No Action. This alternative would have no effect on surface or groundwater resources. However, the City water supply would continue to be threatened due to the potential for failure of the existing water tank, particularly during seismic events. In addition, failure of the tank could affect downstream water quality as a result of erosion and pollution from the discharge of millions of gallons of water into the Carson River.

Replace Water Tank. This alternative would have no effect on surface or groundwater resources, but could have short-term effects on water quality down-gradient during construction. Clearing, grading, and excavation activities would involve movement of loose soils, which could move down-gradient due to gravity or as suspended sediment in stormwater runoff. This sediment in the runoff could be carried into down-gradient swales, creeks, or even the Carson River. However, as discussed in Section 3.4.3, the City would require the construction contractor to avoid or minimize potential erosion and runoff during construction. As a result, any short-term effects on water quality would be less than significant.

In addition, the presence of the new tank and removal of the existing tank would change the surface drainage patterns during rain and snowmelt events. To avoid any adverse effects, the project would include new drainage swales and a riprapped dissipater to collect flows, reduce velocities, and limit scour from the flows leaving the project area. Both the swales and the riprapped dissipater would direct flows from upgradient and onsite areas to an undisturbed vegetated area offsite for infiltration.

3.4.3 Mitigation

Although the project would have no significant effects on water resources, the City would be required to obtain any permits and comply with State statutes and codes intended to protect water resources and quality as discussed below.

Since the project would disturb more than 1 acre, the NDEP would require an NPDES permit per the Clean Water Act, as amended. This permit is required for construction activities that disturb 1 or more acres of land and involve possible storm

water discharges to surface waters. Prior to construction, the construction contractor would be required to prepare a Storm Water Pollution Prevention Plan, which identifies BMP's to avoid or minimize any adverse effects of construction on surface waters and to protect channels from sediment input during construction. These BMP's could include the following:

- Install flags, markers, and/or temporary fences prior to construction activities to avoid soil disturbance outside of the work area.
- Minimize access routes for construction vehicles to prevent track-out of sediments; prohibit traffic over exposed soils during wet weather or when the soils are saturated or muddy.
- Prevent runoff from flowing over unprotected slopes and disturbed areas during construction.
- Trap sediment before it leaves the site, and stabilize disturbed areas as quickly as possible.
- Confine construction to the dry season, whenever possible. If construction needs to be scheduled for the wet season, ensure that erosion and sediment transport control measures are ready for implementation prior to the first storm.
- Develop a spill containment plan for dealing with spills of potentially toxic substances.
- Revegetate disturbed areas.

In addition, the project would comply with all provisions of the Nevada Revised Statutes, Chapter 533 and 534, regarding Nevada water rights and regulations, as well as Nevada Administrative code 445A.6715 to 445A.6718, inclusive, "Regulations for Public Water Systems."

3.5 Air Quality

3.5.1 Existing Conditions

Air Quality Management. The Nevada Bureau of Air Pollution Control (BAPC) and Nevada Bureau of Air Quality Planning (BAQP) are responsible for ensuring compliance with Federal and State air quality regulations in all Nevada counties except Washoe and Clark Counties (BAPC, 2009; BAQP, 2009). Among other activities, the Nevada BAPC issues emission and surface area disturbance permits while the Nevada BAQP monitors and manages ambient air quality throughout the rest of the State.

The State has adopted the U.S. Environmental Protection Agency's (EPA) National Ambient Air Quality Standards in determining compliance. According to the

EPA, the project area is classified as an “attainment” area (meets standards) for all required pollutants, including carbon monoxide, ozone, and particulate matter (PM10) (EPA, 2009). The primary sources of hydrocarbon emissions and fugitive dust in and near the project area are vehicles.

Sensitive Receptors. Air quality sensitive receptors include sensitive land uses and those individuals and/or wildlife that could be affected by changes in air quality due to emissions and fugitive dust from the project. Air quality sensitive land uses in the project area include residences and open space recreation area, and sensitive receptors include residents, recreationists, and occasional wildlife.

3.5.2 Effects

Basis of Significance. An alternative would be considered to have a significant effect on air quality if it would (1) violate any ambient air quality standard, (2) contribute on a long-term basis to an existing or projected air quality violation, (3) expose humans or sensitive species to substantial pollutant concentrations, or (4) not conform to applicable local standards.

No Action. This alternative would have no effect on existing air quality in the project area. Air quality would continue to be influenced by climatic conditions, wild fires, and local and regional emissions from vehicles and agriculture.

Replace Water Tank. This alternative would have short-term effects on air quality during construction of the project. The operation of vehicles and heavy equipment would produce emissions as hydrocarbon, exhaust, and PM10. In addition, there would be short-term increases in PM10 as fugitive dust during soil excavation and operation of vehicles and heavy equipment.

However, since it is a relatively small construction project, these short-term emissions are not expected to violate any Federal ambient air quality standards or expose any sensitive receptors to substantial pollutant concentrations. Once the project is completed, air quality would return to pre-project conditions so there would be no long-term effects on air quality in the region. As a result, the project would have no significant effects on air quality.

3.5.3 Mitigation

Although the project would have no significant effects on air quality, the City would be required to obtain any applicable permits and comply with applicable State statutes intended to protect air quality, as discussed below.

Construction of the project could disturb a total of approximately 3.8 acres of ground surface. Since construction would disturb fewer than 5 acres, a Surface Area Disturbance permit would not be required from the State. Prior to construction, the construction contractor would prepare a Fugitive Dust Control Plan identifying BMP's to

minimize the amount of emissions and PM₁₀ generated during construction. These practices could include water trucks, sprinklers, fences or windbreaks, and speed limits. The contractor would be required to implement these BMP's and maintain dust controls during construction.

Since this relatively small construction project is not located in a Federal air quality non-attainment area, it is in a category of actions considered exempt from general conformity requirements (BLM, 2009). The project would be required to comply with all provisions of the NRS Chapter 445B, "Air Pollution," and NRS Chapter 486A, "Alternative Fuels: Clean-Burning Fuels." Compliance with NAC Chapter 445B, "Air Controls," would also be required. As a result, no additional mitigation would be required.

3.6 Traffic

3.6.1 Existing Conditions

Regional and Local Roadways. The local roadways in the project area include paved City streets, gravel access road, and dirt all terrain vehicle roads. The City streets near the project area include Edmonds Drive and Koontz Lane. Edmonds Drive is the main north/south road in the vicinity and is located west of the project area. Koontz Lane runs east/west and terminates on its eastern end just past its intersection with Edmonds Drive at the project area. In addition, the project area has dirt roads and trails for recreation.

Truck traffic on South Edmonds Drive is regulated under a Carson City ordinance. The truck ordinance allows local deliveries and truck traffic from businesses located in the area, but restricts through truck traffic (Carson City, 2009).

Traffic Types and Volumes. The types of traffic on the City roads include cars, recreational vehicles, small utility vehicles, semi- and pickup trucks, buses, and motorcycles. The Nevada Department of Transportation records annual average daily traffic (AADT) volumes on paved roadways in Carson City. Table 4 shows the 2008 AADT counts at two locations near the project area (NDOT, 2009). The access road has occasional use by maintenance vehicles for the existing water tank and vehicles accessing BLM recreation land.

Table 4. Traffic Volumes on Roadways Near the Project Area in 2008

Station #	Road	Location	AADT
25-0127	South Edmonds Drive	100 feet south of Damon Road	8,400
25-0126	Koontz Lane	50 feet west of Raglan Circle	2,300

Source: Annual Average Daily Traffic (AADT) volumes obtained from NDOT, 2009.

3.6.2 Effects

Basis of Significance. An alternative would be considered to have a significant effect on traffic if it would cause an increase in vehicle traffic that is substantial in

relation to the existing load and capacity of a roadway or a substantial deterioration of the physical condition of area roadways.

No Action Alternative. This alternative would have no effect on existing roadway traffic in the project area.

Replace Water Tank. This alternative could have short-term effects on traffic along South Edmonds Drive and Koontz Lane near the project area during construction. These effects could include increases in traffic volume, and delays or congestion. When the work is completed, however, the traffic volumes and flow along these roadways would be expected to return to pre-project conditions. As a result, there would be no long-term effects on traffic.

The types and volume of traffic on South Edmonds Drive and Koontz Lane would increase during construction as construction equipment, haul trucks, and worker vehicles access the project area. However, use of these roadways by equipment and trucks would be limited to a few days during initial staging, mobilization, and clean up. In addition, an average of only four worker vehicles would travel to and from the project area each work day, for a total of eight trips per day. Since these increases in traffic would not be considered to be substantial in relation to the existing volumes of traffic on South Edmonds Drive and Koontz Lane, they would not be considered to be significant.

The effects could also include brief traffic delays and congestion as vehicles on South Edmonds Drive or Koontz Lane slow down as construction equipment, haul trucks, or worker vehicles use these roadways to access or exit the project area. As discussed in Section 3.6.3, the City would require the construction contractor to minimize disruption and ensure public safety during construction. As a result, any effects on traffic flow or public safety would be less than significant.

3.6.3 Mitigation

Although the project would have no significant effects on traffic, the City would be required to ensure public safety on roadways. Prior to initiation of construction, the contractor would be required to prepare a traffic management plan and have it approved by the City. This plan would identify those measures that the contractor would implement during construction to minimize any effects on traffic and ensure public safety. These measures could include signs, flaggers, cones, barricades, traffic delineation, and designated detours.

3.7 Esthetics and Visual Resources

3.7.1 Existing Conditions

The esthetics in the project area include the existing water tank structure, access roads, chain link fencing, and all terrain vehicle roads, and surrounding undisturbed areas with big sagebrush plant species. The views from the project area include rolling hills to

the north, east, and south with no structures or other facilities in the immediate area. The hill slope provides views of Carson City and the Carson Valley to the west.

The project area occurs in BLM's Visual Resource Management (VRM) Class III Area. Key Observation Points were identified to assess the visual effect from the project. Photos were taken of the project area from five observation points (Appendix C). Photo points are indicated on Plate 9. As shown in the photos taken from the five observation points, the project area is within the viewshed of nearby residents and passing traffic.

The existing visual resource in the project area is a light green, 3-million gallon water tank surrounded by a chain link fence adjacent to the location of the new water tank. This existing water tank and chain link fence are visible from South Edmonds Drive, as well as across the valley from South Carson Street. The existing water tank and chain link fence are fully visible and not obstructed from view to residents or motorists below.

3.7.2 Effects

Basis of Significance. An alternative would be considered to have a significant effect on esthetics if changes in landform, vegetation, or structural features substantially increase levels of visual contrast as compared to surrounding conditions. The significance of esthetics effects is evaluated with reference to the number of viewers affected.

Public lands in the project area are managed under a Class III VRM objective by the BLM. The VRM Class III objective is to partially retain the existing character of the landscape. The level of change to the characteristic landscape is allowed to be moderate. Management activities may attract attention, but would not be expected to dominate the view of the casual observer. Changes would repeat the basic elements found in the predominant natural features of the characteristic landscape.

No Action This alternative would have no effect on existing esthetics in the project area. Under the No Action alternative, the existing light green water tank would remain clearly visible. The landscape and views in the area would be expected to remain the same.

Replace Water Tank. This alternative would have short-term effects on esthetics during construction. Equipment, worker vehicles, and construction activities would be within the view of nearby residents and recreationists. There is no practical way to avoid these effects. However, because of the relatively short construction period and limited number of viewers, these short-term effects on esthetics would be considered less than significant.

When the project is completed, the existing water tank would be replaced by a new tank surrounded by a chain link fence in nearly the same location. This would be a permanent change in the viewshed. However, this change from one tank to a similar tank

surrounded by a chain link fence would not be considered to substantially increase the levels of visual contrast in the viewshed.

In addition, the changes in the viewshed would be minimized in several ways. First, the berm around the new water tank would shield approximately two-thirds of the tank from view. In addition, the new water tank would be painted with an appropriate color to blend in with the natural landscape as stipulated by the BLM. The new fencing would also be a non-reflective color that blends with the natural landscape stipulated as stipulated by the BLM. Finally, all disturbed areas would be reseeded with a native plant mix to encourage revegetation consistent with the surrounding area. As a result, the project would have no significant long-term effects on esthetics or visual resources.

3.7.3 Mitigation

Since there would be no significant effect to esthetics and visual resources, no mitigation would be required.

3.8 Cultural Resources

3.8.1 Existing Conditions

Ethnography. The project area is located in a region originally inhabited by the Washoe Tribe of California of Northern Nevada (Chambers Group, Inc., 2010). There is evidence that this area also overlapped with the Northern Paiute and was used by both tribes (Price, 1962; 1980). This resulted in considerable intermarriage and bilingualism between the two tribes (Pendleton et al., 1982).

The Washoe occupied an area loosely centered around Lake Tahoe, with the southern boundary extending to Markleeville in California, the northern perimeter at Honey Lake, and the western edge close to the crest of the Sierra Nevada near Webber Lake, and extending eastward to the Pine Nut Mountains (Stewart, 1966). The Washoe are linguistically distinct from other ethnographic groups in the Great Basin, and the anomaly of their language suggests that they have resided in the Great Basin much longer than other groups (Jacobsen, 1986). The Washoe were traditionally divided into three groups based on geographic location, one of which included the Carson Valley (ITCN, 1976).

Both the Washoe and the Northern Paiute followed a hunting/gathering life style based on seasonal use of plant resources, especially seeds, berries, and roots; hunting and trapping; and fishing, with fishing being of more importance to the Washoe because of Lake Tahoe. Unlike their Western Shoshone and Northern Paiute neighbors, the Washoe did not totally abandon their permanent encampments during periods of seasonal foraging (D'Azevedo, 1986). From spring until fall, encampments were located around Lake Tahoe while their winter camps were located near the southern end of Truckee Meadow and in the vicinity of two springs in the Carson Valley near Carson City (ITCN, 1976).

Early Settlement. The first Euroamericans to enter the area were fur trappers exploring the area in the late 1820's and 1830's. One of the more famous of these mountain men was Jedediah Smith, who entered the area from California (Hulse, 1998). Smith was followed by John C. Fremont in the early and mid-1840's, along with Kit Carson who made several expeditions into Nevada. After gold was discovered in 1848 in California, the flow of emigrants increased considerably. In 1854, Brigham Young, Governor of the Utah Territory, created Carson County. The Eagle Valley trading post was established during this period and eventually became Carson City in 1858. The discovery of the Comstock Lode in 1859 changed everything, and proximity to the mines ensured the future of Carson City.

The Comstock mines created a demand for goods that brought early settlers to Carson City and the Carson Valley. They produced crops and dairy products for the mining towns while lumber was provided from the nearby Sierra Nevada (Hulse, 1998). These industries have peaked, and since the end of WWII, agriculture in the state has been dominated by livestock production.

Prior to irrigation, the Carson Valley consisted of a relatively narrow strip of meadow along the Carson River. The first known irrigation ditch and dam constructed on the river was at Brockliss Slough in 1855. The land along the East Fork of the river was brought under irrigation in 1857 with the construction of the Island Ditch. This was followed by the construction of small dams and ditches that brought water to the fields of the Carson Valley. The Mexican Dam and ditch were built in 1861 to divert water from the Carson River to the Mexican Mill. The dam is approximately 2 miles from the project area. The Mexican Ditch is located approximately 1.5 miles from the project area and is used today to bring water to the Silver Saddle Ranch and other users to the northeast of the project area.

The land where the project is located on land owned and managed by the BLM. The existing water tank was constructed in 1978. The area is part of the Prison Hill Recreation Area. The trails in the recreation area were established cooperatively by the BLM, State of Nevada, and the Carson City School District.

Records Search. The area of potential effects (APE) is located in the NW ¼ of the SE ¼ of Section 28, Township 15 North, Range 20 East (T15N R20E). The APE includes the area with the potential to be directly or indirectly affected by the project.

Prior to fieldwork, a background records search was conducted by the Chambers Group, Inc., to compile information about the prehistory and history of the project area. The records search was conducted online on the Nevada Cultural Resource Information System (NVCRIS) database and at the Carson City Field Office of the BLM.

A total of 15 cultural resource inventories have been conducted within 0.5 mile of the project area (Table 5). No previously recorded sites are present in the APE. As a result of these inventories, a total of eight archaeological sites and six isolated finds have been recorded within 1 mile of the current project area (Table 6). Five sites are historical

Table 5. Previous Cultural Resource Inventories within 1 Mile of the Project Area

NSM Report No.	Agency No.	Date	Author	Report Title	Sites within 1 mile
13-2	N/A	1977	Densie, A.	Nevada State Museum: Carson City Sewer Reconnaissance	OR 121 OR 120 OR 118
13-14	3-130 (N)	1977	Hatoff, B.	Cultural Resources Report: N-13400, Prison Hill Water Tank: Cr Report #BLM3-130(N) (FromNADB)	None
13-15	3-132 (P)	1977	Hatoff, B.	Cultural Resources Report For Prison Hill Recreation Management Plan: Cr Report # 3-132(P) (From NADB)	OR 134 OR 136
13-19	3-211 (N)	1978	Beals, G.	Cultural Resource Report Field Worksheet: Edmonds Feeder Cable Extention N-18990: Cr Report #3-211(N) (from NADB)	None
13-20	3-879 (P)	1978	Steinberg, L. and P. Sutton	Inventory and Assessment of Historical Landmarks and Structures Encountered by the Proposed U.S. 395 Carson City Bypass Corridors (NADB)	260r25
13-27	3-280 (N)	1989	Beals, G.	Cultural Resources Report Field Worksheet: Aurora Drive Extension N-19825: Cr Report #: 3-280 (N) (from NADB)	None
13-32	3-366	1980	Beals, G.	Cultural Resources Report Field Worksheet: Capitol City Baptist Church – R&PP – N -21688: Cr Report #: 3-366(N) (from NADB)	None
13-71	N/A	1993	Soper, D.	A Cultural Resources survey of a 10-acre Parcel for the Washoe Housing Authority, Carson City	OR207
13-63	3-1269	1977	Young, B.	Cultural Resource Inventory of Sierra Pacific Power Company’s Proposed Transmission Line G28, Carson City, Nevada	OR196 OR197 OR198
18-288-1	3-1433-2	1992	Johnson, F. and L. Lundemo	Archaeological Survey of 12.6 miles of Pipeline and four valve assembly locations	None
13-101	3-1870 (P)	1998	McCabe, A. and V. Clay	A Cultural Resources Inventory and Evaluation of 40 Acres for the Edmonds Sports Complex Expansion, Carson City, Nevada	OR291 OR292 OR293
N/A	3-2056	1996	Roide, T.	Cultural Resources Inventory Isolated Report: Prison Hill Fuels Treatment; Carson City, NV	None
N/A	3-1689(N)	1996	Abbett, T.	Prison Hill Trail Head Developments Project	None
N/A	3-1155(N)	1987	McGinty, M.	Cultural Resources Report of the Access Road Right-of-Way N-39816	None
N/A	3-573 (N)	1981	Botti, N. and Boykin, P.	Cultural Resources Report of the Church of Christ – Recreation and Public Purposes	None

Table 6. Previously Recorded Cultural Resources within 1 Mile of the Project Area

BLM Site Number	State Site Number	Description	NRHP Recommendation
CrNV-32-464	260r3	Lithic and ground stone scatter	Unevaluated
CrNV-03-3304	260r25	Isolated find - brown chert flake	Non-significant
CrNV-32-472	260r118	Point and core collected	Unevaluated
CrNV-32-474	260r120	Obsidian flakes	Unevaluated
CrNV-32-475	260r121	Historic debris and structure remains	Unevaluated
CrNV-03-701	260r134	Isolated find - Martis point	Non-significant
CrNV-31-1028	260r136	Isolated find - point tip	Non-significant
CrNV-32-3996	260r196	Isolated find – obsidian shatter	Non-significant
CrNV-32-3997	260r197	Isolated find - obsidian point fragment	Non-significant
CrNV-32-3998	260r198	Isolated find - can	Non-significant
	Or207	Historic dump	Non-significant
CrNV-03-5215	Or291	Historic artifact scatter	Non-significant
CrNV-03-5216	Or292	Historic artifact scatter	Non-significant
CrNV-03-5217	Or203	Historic road segment	Non-significant

artifact scatters; one is a historic road segment; and three are prehistoric lithic scatters. Four of the sites are unevaluated while the remaining sites were recommended as not being eligible for inclusion in the National Registrar of Historic Places (NRHP).

Field Survey. An archaeological field survey of the project site was conducted by the Chambers Group staff archaeologist JoEllen Ross-Hauer on February 12, 2010. Chambers Group senior archaeologist Harold Brewer, M.S., served as principal investigator for the project and meets the Secretary of Interior Standards for Professional Qualifications (48 FR 44738-44739). The entire project area was inventoried to BLM Class III standards, as defined in the BLM Cultural Resources Inventory Guidelines (Baker, 1990). The project area was examined by means of a pedestrian survey, with transects no more than 30 meters apart. Coverage was completed using cardinal transect techniques.

The cultural resources survey of the project area resulted in the identification of one newly identified archaeological site CrNV-03-7662. This site (CrNV-03-7662) consists of a large historic debris scatter dating from the 1940's to the 1970's. This site is located on the western edge of Prison Hill just southwest of the existing water tank. No shovel probe was conducted to test the depth of cultural material at the site. Visual inspection of deposition was weighed with the surface manifestations of the cultural material and site condition to make a judgment about potential depth.

The Corps has determined that site CrNV-03-7662 is not eligible for inclusion in the National Register of Historic Places (NRHP) because it is not associated with any particular historic theme. Such unassociated debris scatters are categorically ineligible

for inclusion in the NRHP according to the 2009 State Protocol Agreement between the State Historic Preservation Officer (SHPO) and the BLM.

3.8.2 Effects

Basis of Significance. An alternative would be considered to have a significant effect on cultural resources if it would adversely affect any properties listed, or eligible for listing, on the NRHP. Types of potential effects include physical destruction, damage, or alteration; isolation or alteration of the character of the setting; introduction of elements that are out of character; neglect; and transfer, lease, or sale.

No Action Alternative. This alternative would have no effect on cultural resources. Any cultural resources and historic structures in the vicinity of the project area would be expected to remain the same.

Replace Water Tank. A finding of no historic properties affected is applicable (36 CFR Part 800.4(d)(1)) since the one resource identified during the field survey, a historic debris scatter, has been determined by the Corps to be ineligible for inclusion in the NRHP and is therefore not a historic property.

3.8.3 Mitigation

Since there are no known properties listed, or eligible for listing, in the NRHP in the APE, no mitigation would be required. However because of the number of archeological sites and isolates within a mile of the APE, a qualified archaeological monitor would be required to be present during initial ground-disturbing construction activities into the first 3 feet of soil. In addition, if buried or previously unidentified cultural resources are located at any time during project activities, all work in the vicinity of the find would cease, and the Corps archaeologist and Nevada SHPO's office would be contacted for additional consultation per NRS 303.150-383.190 and 36 CFR 800.13(b)(3), Post Review Discoveries.

4.0 CUMULATIVE EFFECTS

Cumulative effects are effects of the project considered with other past, present, or reasonably foreseeable projects in the area. The only project that could contribute to cumulative effects is Phase 2 of the U.S. Hwy 395/Carson City Freeway project, under construction by NDOT.

Since 2002, the NDOT has been constructing the U.S. Hwy 395/Carson City Freeway (US 395) project through the east side of Carson City. The freeway project is intended to improve traffic circulation around Carson City, while improving drainage by rerouting stormwater north via a new flood control channel. Phases 1 and 2A were completed in 2006 and 2009, respectively, and included bridges, storm drains, soundwalls, interchanges, freeway traffic lanes, lighting, signals, and landscaping. The

only identifiable long-term effect of these past phases is the presence of the freeway features in the regional viewshed.

A portion of the US 395 Phase 2B project will be constructed at Koontz Lane and South Edmonds Drive directly west of the water tank project area. The US 395 Phase 2B project will be constructed in stages, with the first stage scheduled for the summer of 2010. The first stage will include the widening of Clearview Drive and Koontz Lane, followed by the construction of bridge structures, the Edmonds Flood Control Channel, and the relocation of major utilities in this area of the corridor.

The water tank project would be constructed at the same time as the US 395 Phase 2B project. Concurrent construction would result in both projects contributing to short-term cumulative effects on air quality, traffic, and noise. Because of the location and nature of the water tank project, however, the extent of the area affected would be limited to a few residential areas and roadways near Koontz Lane and South Edmonds Drive. In addition, the magnitude of the effects contributed by the water tank project would be expected to be very small because (1) the few sensitive receptors are located at a distance from the work site, (2) only a few construction-related vehicles would use the roadways to access the work site, and (3) minimization measures and best management practices would be implemented to reduce effects to the extent possible. These would include equipment emissions controls, traffic management, and sound walls.

Once constructed, the water tank project would no longer contribute to short-term cumulative effects. Air quality emissions, types and volume of traffic, and noise levels associated with the new tank would return to pre-project conditions. The visual change from one tank to another similar tank in close proximity would not be considered to contribute to long-term cumulative effects on esthetics. Therefore, when the effects of the water tank project are considered with other past, present, and reasonably foreseeable projects in the area, no significant cumulative effects are anticipated.

5.0 COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

Clean Air Act, as amended and recodified (42 U.S.C. 7401 et seq.).

Compliance. The project is not expected to violate any Federal or State air quality standards, or hinder the attainment of air quality objectives in the local air basin. The Corps has determined that the project would have no significant adverse effects on the future air quality of the area.

Clean Water Act (33 U.S.C. 1251 et seq.). *Compliance.* Since the project would not involve placing any fill material into waters of the U.S., including wetlands, a Section 404 permit would not be required. The project would require an NPDES permit from the State since it would disturb 1 or more acres of land and involve possible stormwater discharges to surface waters.

Endangered Species Act (16 U.S.C. 1531 et seq.). *Compliance.* No Federally listed threatened or endangered species or their habitat have been identified in or near the project area.

Executive Order 11988, Floodplain Management. *Compliance.* This order directs all Federal agencies to avoid to the extent possible the adverse effects associated with the modification of floodplains, and to avoid support of floodplain development wherever there is a practicable alternative. The project would have no effect on floodplains.

Executive Order 11990, Wetlands. *Compliance.* This order directs all Federal agencies to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. The project would have no effects on wetlands.

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. *Compliance.* The order directs all Federal agencies to identify any disproportionate human health or environmental effects of their programs, policies, and activities on minority and low-income populations. The project would have no such effects on any minority or low-income populations.

Farmland Protection Policy Act (7 U.S.C. 4201). *Compliance.* The project would have no effect on prime farmland or farmland of statewide importance because there is no such farmland in the work areas for the project.

Migratory Bird Treaty Act (15 U.S.C 701-18h). *Compliance.* This act requires that the project avoid destruction of active bird nests or young of migratory birds that breed in the area from March to August. If construction is necessary during the nesting season, Carson City would be required to have a qualified biologist survey for active nests of migratory birds within a 1/8-mile radius of the project area within 15 days prior to initiation of construction. If active nests are located during these surveys, the biologist would consult with the U.S. Fish and Wildlife Service (USFWS) and NDOW, as required, to determine the appropriate buffer around the nest.

National Environmental Policy Act (42 U.S.C. 4321 et seq.). *Compliance.* The draft EA and accompanying Finding of No Significant Impact (FONSI) were circulated for public review for 21 days. All comments received during the public review period were considered and incorporated into the final EA, as appropriate. The final EA and signed FONSI are in full compliance with this act.

National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 et seq.). *Compliance.* A letter dated April 16, 2010, was received from the Nevada SHPO, concurring with the Corps' finding that the project would have no effect on properties determined eligible for the National Register of Historic Places. The letter from SHPO is included in Appendix B. In addition, letters to potentially interested Native Americans

were sent on March 18, 2010, informing them of the project and requesting any traditional cultural information or concerns related to the project. No comments were received from Native American representatives in the area.

6.0 PUBLIC INVOLVEMENT

Public involvement for this project has included a presentation on the project at a Carson City Planning Commission meeting on December 16, 2009. Plans for the project were made available to the public prior to the meeting, and the public has been encouraged to comment on the proposed plan and the Commission's decision.

7.0 COORDINATION AND REVIEW OF THE EA

The draft EA and FONSI were circulated for 21 days to agencies, organizations, and individuals known to have an interest in the project (Appendix D). One comment letter was received from the Nevada Division of State Lands. The letter indicated that the project must comply with "Dark Sky" lighting practices, including the use of lighting and mitigation measures to follow "Dark Sky" lighting practices. Because this project does not include any lighting, no further evaluation of lighting practices is necessary. This project has been coordinated with all relevant government resource agencies including the BLM, USFWS, NDEP, Nevada SHPO, and Carson City.

8.0 CONCLUSIONS

Based on the information in this EA, the proposed project would have no significant adverse effects on the environment. No mitigation beyond avoidance, BMP's, and measures proposed in this EA would be required. In addition, the proposed project would meet the requirements for actions permitted following completion of a FONSI as described in 40 CFR 1508.13. These actions would not have a significant effect on the quality of the human environment and do not require preparation of an environmental impact statement. Therefore, a FONSI has been prepared and accompanies this EA.

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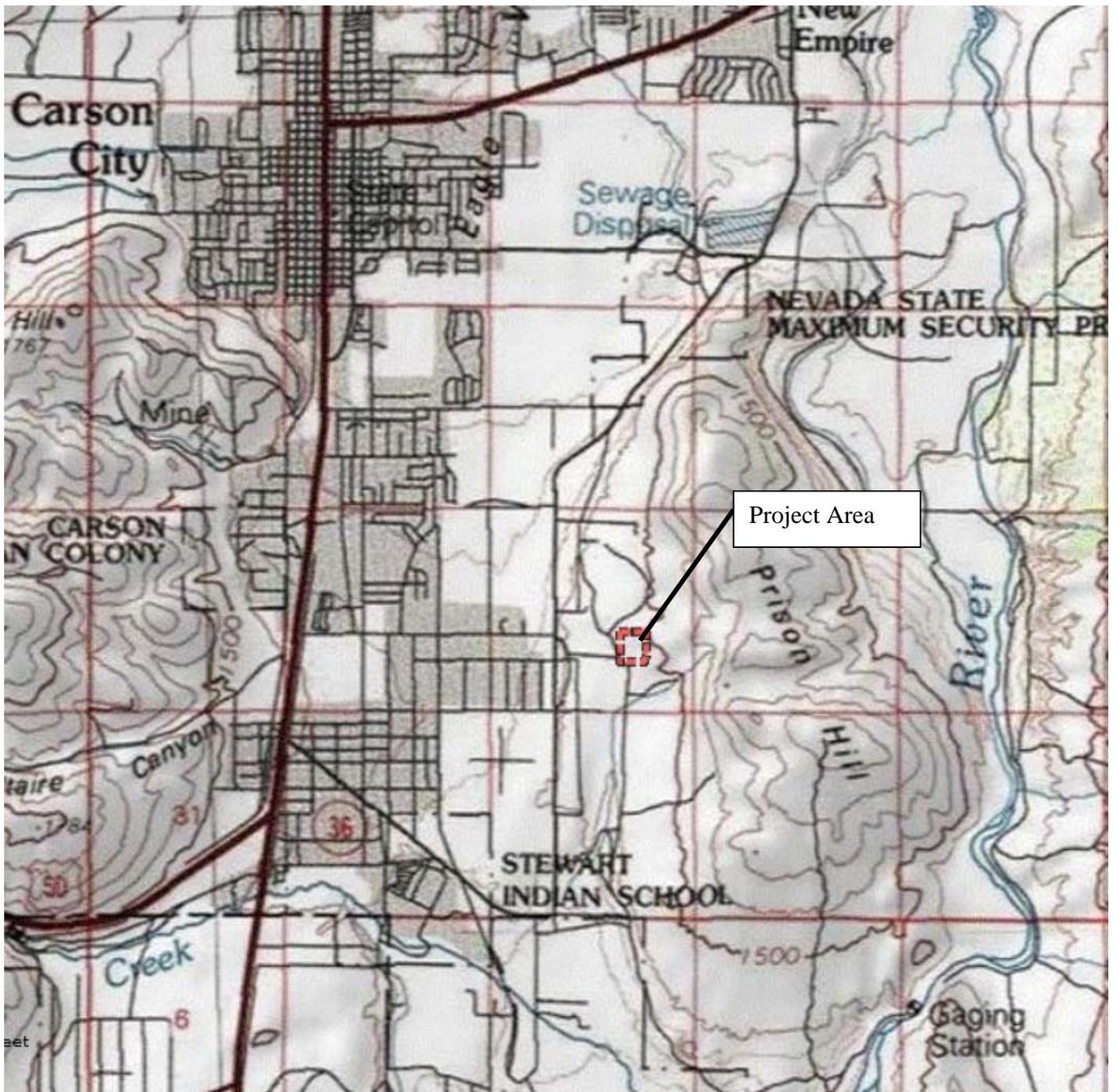
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Plates



**PLATE 2
VICINITY MAP**

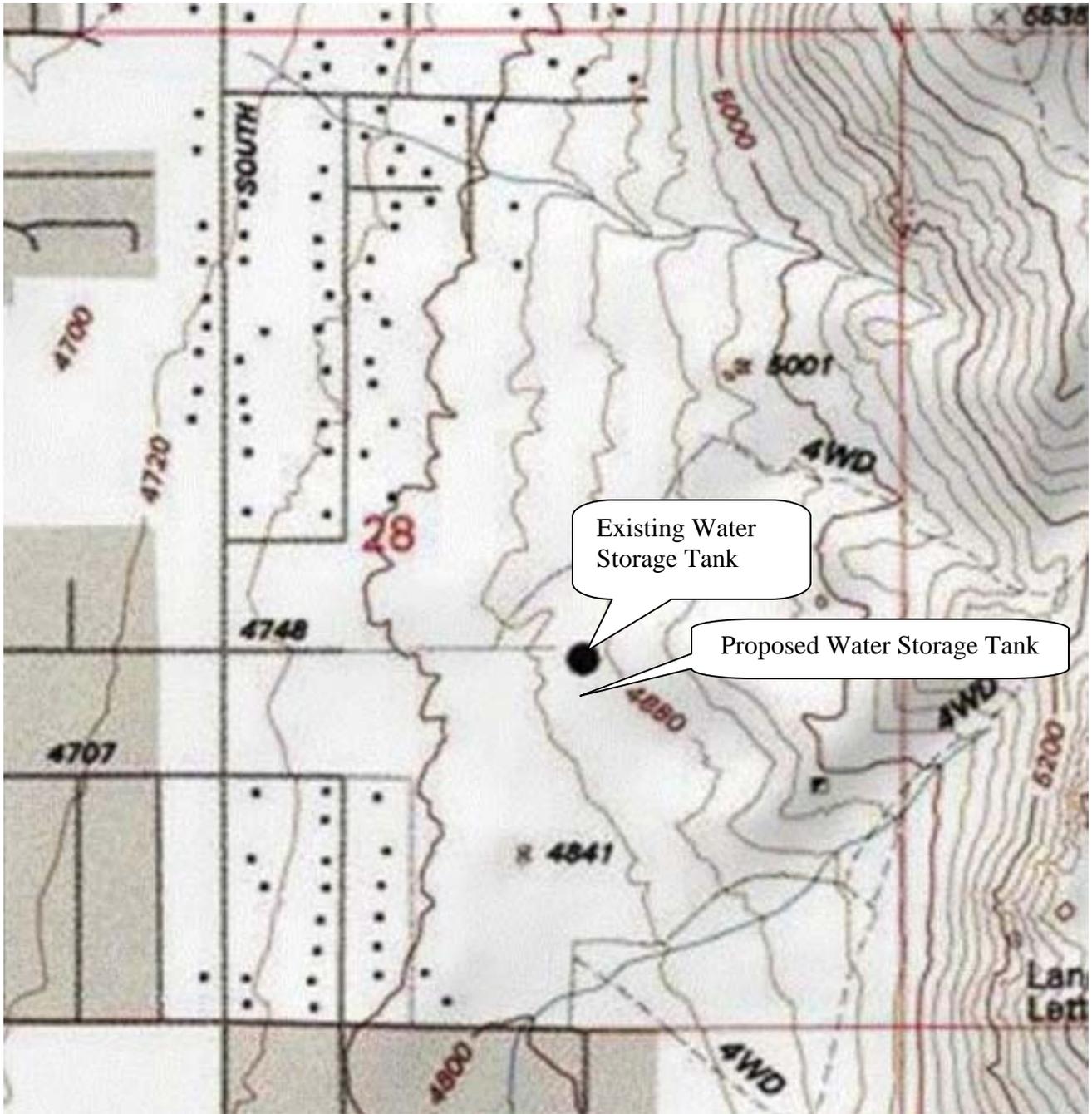
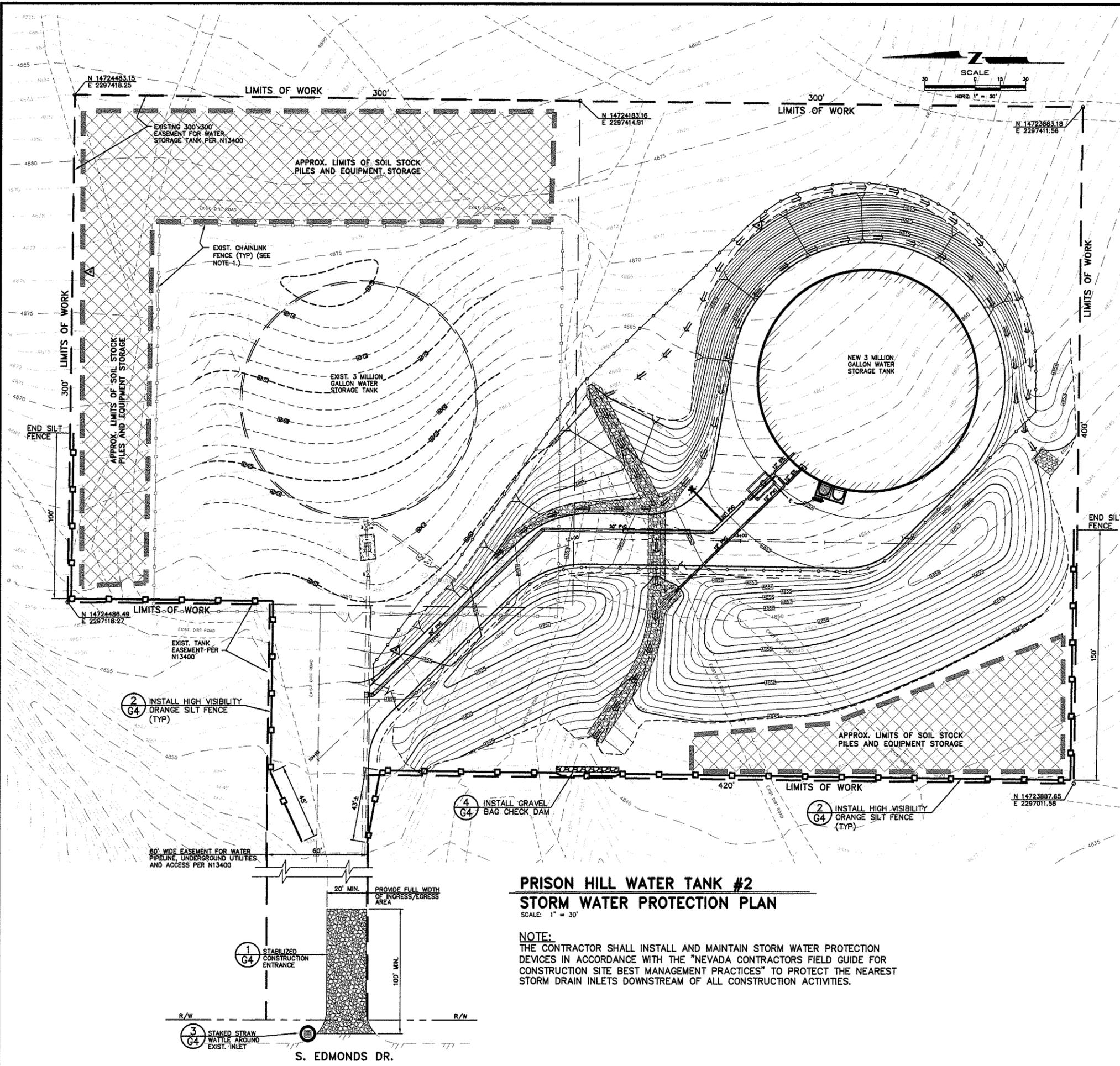


PLATE 3
PROJECT AREA

H:\PROJECTS\06-6019-Prison Hill Water Tank\dwg\06-6019-tank-site.dwg, 2/22/2010 1:08:29 PM, DRosenkoetter



**PRISON HILL WATER TANK #2
STORM WATER PROTECTION PLAN**

SCALE: 1" = 30'
NOTE:
THE CONTRACTOR SHALL INSTALL AND MAINTAIN STORM WATER PROTECTION DEVICES IN ACCORDANCE WITH THE "NEVADA CONTRACTORS FIELD GUIDE FOR CONSTRUCTION SITE BEST MANAGEMENT PRACTICES" TO PROTECT THE NEAREST STORM DRAIN INLETS DOWNSTREAM OF ALL CONSTRUCTION ACTIVITIES.

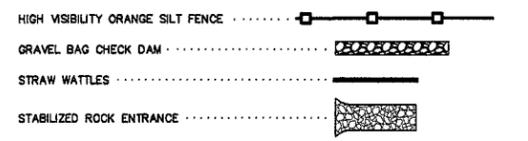
STORMWATER PROTECTION NOTES:

- PRIOR TO ANY CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL STORM WATER PROTECTION DEVICES IN ACCORDANCE WITH THE "NEVADA CONTRACTORS FIELD GUIDE FOR CONSTRUCTION SITE BEST MANAGEMENT PRACTICES" AND DETAILS AS SHOWN.
- ALL INSTALLED PROTECTION DEVICES SHALL BE INSPECTED AND APPROVED BY THE CARSON CITY CONSTRUCTION INSPECTOR PRIOR TO ANY CONSTRUCTION ACTIVITY.
- BMP'S IN ADDITION TO THOSE INDICATED ON THE SWPP PLAN MAY BE REQUIRED IF THEY DON'T MEET LOCAL PERFORMANCE STANDARDS.
- ALL BMP'S MUST BE INSPECTED WEEKLY, PRIOR TO FORECASTED RAIN EVENTS, AND WITHIN 24 HOURS AFTER ANY EVENT THAT CREATES RUNOFF AT THE SITE.
- ACCUMULATED SEDIMENT MUST BE REMOVED FROM BMP'S WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE. SEDIMENT MUST ALSO BE REMOVED WITHIN SEVEN DAYS AFTER A RUNOFF EVENT OR PRIOR TO THE NEXT FORECASTED RAIN EVENT WHICHEVER IS EARLIER.
- IF THE ENTRANCE STABILIZATION IS NOT PREVENTING SEDIMENT FROM BEING TRACKED ONTO PAVEMENT, ALTERNATIVE MEASURES TO KEEP THE STREETS FREE OF SEDIMENT SHALL BE USED. THIS MAY INCLUDE STREET SWEEPING, AN INCREASE IN THE DIMENSIONS OF THE ENTRANCE, OR THE INSTALLATION OF A WHEEL WASH.
- ANY QUARRY SPALLS THAT ARE LOOSEENED FROM THE ENTRANCE STABILIZATION PAD, WHICH END UP ON THE PAVED ROADWAY SHALL BE REMOVED IMMEDIATELY.
- CONTRACTOR SHALL INSPECT LOCAL ROADS ADJACENT TO THE SITE DAILY, SWEEP OR VACUUM TO REMOVE ANY VISIBLE ACCUMULATED SEDIMENT.
- ANY SEDIMENT THAT IS TRACKED ONTO PAVEMENT SHALL BE REMOVED BY SHOVELING, STREET SWEEPING OR VACUUMING. THE SEDIMENT COLLECTED BY SWEEPING SHALL BE REMOVED OR STABILIZED ON SITE. THE PAVEMENT SHALL NOT BE CLEANED BY WASHING DOWN THE STREET, EXCEPT WHEN SWEEPING IS INEFFECTIVE AND THERE IS A THREAT TO PUBLIC SAFETY. IF IT IS NECESSARY TO WASH THE STREETS, THE CONSTRUCTION OF A SMALL SUMP SHALL BE CONSIDERED. THE SEDIMENT WOULD THEN BE WASHED INTO THE SUMP WHERE IT CAN BE CONTROLLED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DUST CONTROL WITHIN THE CONSTRUCTION LIMITS AT ALL TIMES.
- STORM DRAIN INLET PROTECTION SHALL BE PLACED ACCORDINGLY ON THE NEAREST INLETS DOWNSTREAM OF ALL CONSTRUCTION ACTIVITIES.
- HIGH VISIBILITY ORANGE SILT FENCE SHALL BE INSTALLED PER THE DETAILS SHOWN HEREON, AND MAINTAINED THROUGH OUT THE PROJECT.
- THE CONTRACTOR OR HIS QUALIFIED AGENT IS REQUIRED TO ROUTINELY INSPECT ALL AREAS OF DISTURBED AND BARE SOIL, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, ONSITE VEHICLE ENTRANCE AND EXIT LOCATIONS AND ALL ONSITE EROSION AND SEDIMENT CONTROL BMP'S.

ESTIMATED QUANTITIES:

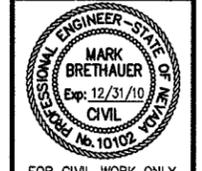
HIGH VISIBILITY ORANGE SILT FENCE	985 LF
GRAVEL BAG CHECK DAM	36 LF
STRAW WATTLES	24 LF
STABILIZED ROCK ENTRANCE	56 CY

LEGEND:



DESIGNED BY: MOB/OCR
DRAWN BY: DCR
CHECKED BY: MOB
DWG NO.: 06-6019-ALT2.dwg
SCALE (HORIZ): NOTED
LAYOUT NAME: SHT-31
PLOT DATE: 2/22/10

**CARSON CITY DEPARTMENT
PUBLIC WORKS DEPARTMENT**
3505 BUTTI WAY CARSON CITY, NEVADA 89701
PH: 887-2355 FAX: 887-2112



FOR CIVIL WORK ONLY

REV	DATE	DESCRIPTION

**PRISON HILL WATER TANK #2
PROJECT No. 06-6019
PRISON HILL TANK #2
STORM WATER PROTECTION PLAN**





PLATE 9
KEY OBSERVATION POINTS

Appendix A

**Correspondence Regarding Federally Listed
Threatened and Endangered Species**



United States Department of the Interior

Pacific Southwest Region FISH AND WILDLIFE SERVICE

Nevada Fish and Wildlife Office
1340 Financial Blvd., Suite 234
Reno, Nevada 89502

Ph: (775) 861-6300 ~ Fax: (775) 861-6301



January 6, 2010
File No. 2010-SL-0090

Ms. Susanne Heim
Huffman & Carpenter, Inc.
500 Damonte Ranch Parkway, Suite 929
Reno, Nevada 89521

Dear Ms. Heim:

Subject: Species List Request for Prison Hill Water Tank #2 Project, Carson City
County, Nevada

This responds to your letter received on December 11, 2009, requesting a species list for the Prison Hill Water Tank #2 Project in Carson City County, Nevada. To the best of our knowledge, no listed, proposed, or candidate species occur in the subject project areas. This response fulfills the requirements of the Fish and Wildlife Service (Service) to provide a list of species pursuant to section 7(c) of the Endangered Species Act of 1973 (Act), as amended, for projects that are authorized, funded, or carried out by a Federal agency.

The Nevada Fish and Wildlife Office no longer provides species of concern lists. Most of these species for which we have concern are also on the sensitive species list for Nevada maintained by the State of Nevada's Natural Heritage Program (Heritage). Instead of maintaining our own list, we are adopting Heritage's sensitive species list and partnering with them to provide distribution data and information on the conservation needs for sensitive species to agencies or project proponents. The mission of Heritage is to continually evaluate the conservation priorities of native plants, animals, and their habitats, particularly those most vulnerable to extinction or in serious decline. Consideration of these sensitive species and exploring management alternatives early in the planning process can provide long-term conservation benefits and avoid future conflicts.

For a list of sensitive species by county, visit Heritage's website at www.heritage.nv.gov. For a specific list of sensitive species that may occur in the project area, you can obtain a data request

Ms. Susanne Heim

File No. SL-2010-0090

form from the website or by contacting Heritage at 901 South Stewart Street, Suite 5002, Carson City, Nevada 89701-5245, (775) 684-2900. Please indicate on the form that your request is being obtained as part of your coordination with the Service under the Act. During your project analysis, if you obtain new information or data for any Nevada sensitive species, we request that you provide the information to Heritage at the above address. Furthermore, certain species of fish and wildlife are classified as protected by the State of Nevada (see <http://www.leg.state.nv.us/NAC/NAC-503.html>). Before a person can hunt, take, or possess any parts of wildlife species classified as protected, they must first obtain the appropriate license, permit, or written authorization from the Nevada Department of Wildlife (visit <http://www.ndow.org> or call 775-688-1500).

Based on the Service's conservation responsibilities and management authority for migratory birds under the Migratory Bird Treaty Act of 1918 (MBTA), as amended (16 U.S.C. 703 *et seq.*), we are concerned about potential impacts the proposed project may have on migratory birds in the area. Given these concerns, we recommend that any land clearing or other surface disturbance associated with proposed actions within the project area be timed to avoid potential destruction of bird nests or young, or birds that breed in the area. Such destruction may be in violation of the MBTA. Under the MBTA, nests with eggs or young of migratory birds may not be harmed, nor may migratory birds be killed. Therefore, we recommend land clearing be conducted outside the avian breeding season. If this is not feasible, we recommend a qualified biologist survey the area prior to land clearing. If nests are located, or if other evidence of nesting (*i.e.*, mated pairs, territorial defense, carrying nesting material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species) should be delineated and the entire area avoided to prevent destruction or disturbance to nests until they are no longer active.

Please reference File No. 2010-SL-0090 in future correspondence concerning this species list. If you have any questions regarding this correspondence or require additional information, please contact me or James Harter at (775) 861-6300.

Sincerely,


Robert D. Williams
State Supervisor

Appendix B

Correspondence Regarding Cultural Resources



JIM GIBBONS
Governor

MICHAEL E. FISCHER
Department Director

STATE OF NEVADA
DEPARTMENT OF CULTURAL AFFAIRS

State Historic Preservation Office
100 N. Stewart Street
Carson City, Nevada 89701
(775) 684-3448 • Fax (775) 684-3442

www.nvshpo.org

RONALD M. JAMES
State Historic Preservation Officer

April 16, 2010

Alicia E. E. Kirchner
Chief, Planning Division
U.S. Army Corps of Engineers
1325 J Street
Sacramento CA 95814

RE: Prison Hill Tank #2, Carson City (Undertaking #2010-290).

Dear Alicia E. E. Kirchner:

The Nevada State Historic Preservation Office (SHPO) reviewed the subject undertaking. The SHPO concurs with the U.S. Army Corps of Engineers's determination that the following site is not eligible for the National Register of Historic Places under any of the Secretary's criteria:

CrNV-03-7662.

The SHPO notes that you have not initiated consultation with the Washoe Tribe of Nevada and California. Please provide the results of this consultation when it is available so that this office can complete its review of the U.S. Army Corps of Engineers's determination of project effect.

If you have any questions concerning this correspondence, please contact me by phone at (775) 684-3443 or by e-mail at Rebecca.Palmer@nevadaculture.org.

Sincerely,

Rebecca Lynn Palmer
Review and Compliance Officer, Archaeologist



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEER
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

Environmental Resources Branch

March 18, 2010

Mr. Arlan Melendez, Chairman
Reno-Sparks Indian Colony
98 Colony Road
Reno, Nevada 89502

Dear Mr. Melendez:

In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, the U.S. Army Corps of Engineers (Corps), Sacramento District, is writing to inform you of the proposed Prison Hill Tank #2 Project in Douglas County, Nevada. The Corps is authorized to participate in water-related infrastructure and resource development projects in rural Nevada pursuant to Section 595 of the Water Resources Development Act of 1999, as amended (Public Law 106-53). The Corps is the lead Federal agency; the U.S. Bureau of Land Management (BLM) is a cooperating Federal agency; and Carson City is the local sponsor for the project.

This project would entail the installation of a new steel water storage tank, approximately 500 feet of PVC pipeline, and the demolition of the existing concrete water storage tank in the Prison Hill area within Carson City, Nevada. The existing water tank was built in 1978 and is at risk for structural failure. The area of potential effects (APE) is an area approximately 5 acres in size located on the west side of Prison Hill within Carson City in Section 28, Township 15N, Range 20E, on the New Empire, Nevada (1994), 7.5-minute USGS topographic quadrangle. The APE comprises the proposed site of the new water tank; the existing water tank, which will be demolished as part of the project; and unpaved access roads.

In January 2010, Chambers Group, Inc. (Chambers), performed a records and literature search of the Nevada Cultural Resource Information System online database and the files at the Carson City Field Office of the BLM. Eight archaeological sites and six isolated finds had been encountered within one mile of the APE, but no sites or isolates were found within the APE itself. Archival research was performed by examining General Land Office plats, historic topographic maps, patent records, historical indices, and master title plats. This research did not indicate the presence of any archaeological sites within the APE. No sites listed on the National Register of Historic Places (NRHP) exist within the APE.

Chambers performed an intensive pedestrian survey of the APE with transects spaced no more than 30 meters apart in conformance with State of Nevada standards for archeology survey. Upon the discovery of cultural resources, the surveyor team surveyed more intensively the immediate area to delineate the discovery and locate any associated artifacts or features. The one archeology site that was found, CrNV-03-7662, is a large historical period debris scatter that accumulated between the 1940's and the 1970's. The site comprises several concentrations of refuse associated with a number of temporally diagnostic artifacts including glass and ceramic pieces with maker's marks and evaporated milk cans. The range of dates indicated by these artifacts and the nature of the site demonstrate that the site is an aggregate of years of refuse deposition. The site is ineligible for inclusion in the NRHP because it is not associated with any particular historic theme. Such unassociated debris scatters are categorically ineligible for inclusion in the NRHP according to the 2009 State Protocol Agreement between the State Historic Preservation Office and the BLM.

We are sensitive toward the protection of traditional cultural properties and sacred sites, and make every effort to avoid them. Please let us know if you have knowledge of locations of archeological sites, or areas of traditional cultural value or concern in or near the Prison Hill Tank #2 Project area. Correspondence may be sent to Mr. S. Joe Griffin, Archaeologist (CESPK-PD-RC), U.S. Army Corps of Engineers, Sacramento District, 1325 J Street, Sacramento, California 95814. If you have any questions or comments, please contact Mr. Griffin at (916) 557-7897 or by email at s.joe.griffin@usace.army.mil.

Sincerely,

/original signed/

Alicia E. Kirchner
Chief, Planning Division

Copy furnished:

Mr. Jim Carter, Archeologist, Sierra Front Field Office – Carson City District BLM, 5665 Morgan Mill Road, Carson City, Nevada 89701



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEER
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

Environmental Resources Branch

March 18, 2010

Mr. Darrel Cruz, CRO/THPO Director
Washoe Tribe of Nevada and California
919 US Highway 395 South
Gardnerville, Nevada 89410

Dear Mr. Cruz:

In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, the U.S. Army Corps of Engineers (Corps), Sacramento District, is writing to inform you of the proposed Prison Hill Tank #2 Project in Douglas County, Nevada. The Corps is authorized to participate in water-related infrastructure and resource development projects in rural Nevada pursuant to Section 595 of the Water Resources Development Act of 1999, as amended (Public Law 106-53). The Corps is the lead Federal agency; the U.S. Bureau of Land Management (BLM) is a cooperating Federal agency; and Carson City is the local sponsor for the project.

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Sincerely,

/original signed/

Alicia E. Kirchner
Chief, Planning Division

Copy furnished:

Mr. Jim Carter, Archeologist, Sierra Front Field Office – Carson City District BLM, 5665 Morgan Mill Road, Carson City, Nevada 89701

Appendix C

Representative Photos

Key Observation Point Number #1 South Edmonds Drive situated approximately 0.35 miles (1,800 feet) west of the proposed site.



Key Observation Point Number #2 Valley View Drive approximately 0.19 miles (900 feet) south-west of the proposed site.



**Key Observation Point Number #3 East Clearview Drive and Gentry Lane
approximately .29 miles (1,500 feet) south of the proposed site.**



**Key Observation Point Number #4 Sinbad Street and Conte Drive
approximately 0.29 miles (1,500 feet) north-west of the proposed site.**



Key Observation Point Number #5 End of Trucker Court approximately 0.50 miles (2,450 feet) of the proposed site.



Appendix D Mailing List

Jo Ann Hufnagle U.S. Bureau of Land Management Carson City Field Office 5665 Morgan Mill Road Carson City, NV 98701	Carson City Building Department 2621 Northgate Lane Carson City, NV 89706
U.S. Bureau of Reclamation Lahontan Basin Area Office 701 N. Plaza Street, Room 320 Carson City, NV 89701	Carson City Dept of Parks and Recreation 3303 Butti Way, #9 Carson City, NV 989701
U.S. Fish and Wildlife Service Nevada Fish and Wildlife Office 1340 Financial Boulevard Reno, NV 89502	Carson City Planning Department 2621 Northgate Lane, Suite #62 Carson City, NV 89706
Nevada Department of Transportation 1263 South Stewart Street Carson City, NV 89712	Mark Brethauer Carson City Public Works 3505 Butti Way Carson City, NV 89701
NV Division of Environmental Protection 901 So. Stewart Street, Suite 4001 Carson City, NV 89701	Carson City Library 900 N. Roop Street Carson City, NV 89701
NV Division of Environmental Protection Bureau of Air Pollution Control 901 So. Stewart Street, Suite 4001 Carson City, NV 89701	Nevada Appeal Carson City News 580 Mallory Way Carson City, NV 89701
Nevada Department of Wildlife 1100 Valley Road Reno, NV 89512	Washoe Tribe 919 Highway 395 South Garnerville, NV 89410
Nevada State Clearinghouse 209 East Musser Street, Room 200 Carson City, NV 89701	Jennifer Pruitt, Principal Planner Planning Division 2621 Northgate Lane Suite 62 Carson City, NV 89706
Nevada State Historic Preservation Office 100 North Stewart Street Carson City, NV 89701	Skip Canfield Nevada Division of State Lands 901 S Stewart Street Carson City, NV 89701
Reginald C. Lang III, P.E. Bureau of Safe Drinking Water 901 S Stewart Street, Suite 4001 Carson City, NV 89701	

**DRAFT
ENVIRONMENTAL ASSESSMENT**

**PRISON HILL WATER TANK #2
CARSON CITY, NEVADA**

April 2010



**US Army Corps
of Engineers** ®
Sacramento District



Approved for public release; distribution is unlimited



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

Environmental Resources Branch

FINDING OF NO SIGNIFICANT IMPACT
Prison Hill Water Tank #2
Carson City, Nevada

I have reviewed and evaluated the information in this Environmental Assessment (EA) for the Prison Hill Water Tank #2, Carson City, Nevada, project. The work would involve construction of a new steel water tank, installation of connecting pipeline, and demolition of an existing concrete water tank that shows signs of serious structural deterioration. The project area is located on public land managed by the U.S. Bureau of Land Management. The work would eliminate the risk of structural failure and associated damages to down-gradient structures, as well as maintain the current municipal water storage volume for the residents and businesses in Carson City.

During this review, the possible consequences of the work described in the EA have been studied with consideration given to environmental, social, cultural, and engineering feasibility. In evaluating the effects of the proposed project, specific attention has been given to significant environmental resources that could potentially be affected. I have also considered the views of other interested agencies, organizations, and individuals concerning the project. The EA has been prepared in close cooperation with the U.S. Bureau of Land Management, and the effects and mitigation measures have been reviewed by the U.S. Fish and Wildlife Service and the Nevada State Historic Preservation Officer.

Based on my review of the EA and my knowledge of the project area, I am convinced that the proposed project is a logical and desirable alternative. Furthermore, I have determined that the project would have no significant effects on the environment. All construction will be implemented in compliance with applicable Federal, State, and local laws, rules, and regulations. Based on the results of the environmental evaluation and completion of interagency coordination, I have determined that the EA and Finding of No Significant Impact provide adequate documentation and that no further environmental document is required.

Date

Thomas C. Chapman, P.E.
Colonel, U.S. Army
District Engineer

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1.0 PURPOSE AND NEED

1.1 Proposed Action

Carson City, Nevada, is proposing to (1) construct a new 3-million gallon steel water storage tank, (2) install approximately 500 feet of PVC pipeline, and (3) demolish the existing concrete water storage tank in the Prison Hill area within the City. The existing water tank shows signs of serious structural deterioration. The work would eliminate the risk of structural failure and associated damages to down-gradient structures, as well as maintain the current municipal water storage volume for the residents and businesses in Carson City.

1.2 Location of the Project Area

Carson City is located in the Carson Valley approximately 30 miles south of Reno in the western part of Nevada (Plate 1). The project area is located at the eastern end of Koontz Lane in the City on the southeast side of the valley (Plate 2). The existing water storage tank sits on the side of Prison Hill with a sweeping slope from east to west. The new water tank would be located directly south of the existing water tank at the same elevation. The project area is located on public land managed by the U.S. Bureau of Land Management (BLM). Carson City has applied to the BLM to amend Right-of-Way (ROW) NVN 013400 to include additional lands for a new water tank and access road.

1.3 Need for Proposed Action

The existing cylindrical water storage tank was constructed in 1978. The concrete tank is pre-stressed composite construction with 7-inch-thick “shotcrete” walls, and is approximately 140 feet in diameter and 26 feet tall. The tank roof varies in thickness from 3 inches at the center to 11 inches at the edge and is a concrete clear span dome. This tank currently provides 3 million gallons of municipal water storage for the residents and businesses in Carson City.

In the winter of 2007, BJG Architectural+Engineering conducted a structural evaluation of the existing water storage tank (BJG, 2008). This evaluation included review of the design, a diving investigation, and multiple onsite investigations, including digital concrete scanning, concrete coring, and concrete chipping (BJG, 2008). Results of the evaluation indicated that the roof was concaving, delaminating, and cracking at numerous locations, and that the tension ring was delaminating. In addition, the water tank walls exhibited numerous sections of cracking; leaking was observed during the diving investigation; and the tank wall reinforcement was exposed at three locations (BJG, 2008).

Based on the evaluation, BJG recommended that the existing water storage tank be replaced since the roof was found to be structurally inadequate and the steel reinforcements could corrode due to deterioration of the walls and leaking. In addition, the seismic capacity of the water tank had decreased with the deterioration, presenting an

increased potential for damage and failure in a major seismic event (BJG, 2008). Because of the extent of structural deterioration, they determined that it would not be technically or economically practical to try and repair the existing water tank to make it structurally sound.

The proposed steel water storage tank would improve the City's water storage system by replacing the existing deteriorating concrete tank. The work would eliminate the risk of structural failure and resulting downstream damages. Once constructed, the new water tank would continue to provide the critical 3 million gallons of municipal water storage volume needed for the residents and businesses in Carson City. To maintain water service, the existing water tank would remain in operation until the new water tank has been constructed and is operational.

1.4 Project Authorization

This project was authorized by the Water Resources Development Act of 1999 (Public Law 106-53), which authorized the U.S. Army Corps of Engineers (Corps) to participate in environmental infrastructure projects in rural Nevada and Montana. The Corps is the Federal lead agency, and Carson City is the local sponsor for the project.

1.5 Purpose of the Environmental Assessment

This Environmental Assessment (EA) discusses the environmental resources in the project area; evaluates the effects of the alternatives (including the proposed action) on the resources; and proposes measures to avoid, minimize, or mitigate any adverse effects to a less-than-significant level. This EA is in compliance with the National Environmental Policy Act and provides full public disclosure of the effects of the proposed action.

The BLM's purpose and need for the Prison Hill Water Tank #2 EA is to respond to Carson City's application under Title V of the Federal Land Policy and Management Act (FLPMA) (43 U.S.C. 1761) for a ROW grant amendment to construct, operate, and maintain a water storage facility and associated infrastructure in compliance with FLPMA, BLM ROW regulations, and other applicable Federal laws. The decision the BLM will make is whether or not to grant a ROW amendment to Carson City, and if so, under what terms and conditions.

2.0 ALTERNATIVES

2.1 No Action

Under the no action alternative, the existing water storage tank would not be replaced. The existing water tank would continue to operate in a seriously degraded condition. As a result, the existing water tank would continue to deteriorate and eventually would no longer be usable. Without replacement, the tank could eventually fail. The risk of structural failure would be particularly elevated during seismic events.

As a result of structural deterioration and potential failure, there would remain a risk of damage to down-gradient structures and residential communities. In addition, the City would lose 3 million gallons of storage, which is currently a critical component of the City's municipal water storage system.

2.2 Replace Water Tank (Preferred Alternative)

The preferred alternative includes construction of a new 3-million gallon steel water storage tank adjacent to the existing concrete water storage tank. This alternative would include a new access road, underground PVC pipeline, drainage swale, earthen berm, steel water tank, and fencing. The new pipeline would connect with the City's existing water delivery system. The project also includes the demolition of the existing concrete water tank, including grading and revegetation of the work site. The features, as well as the staging areas and construction footprint are shown on Plates 3 and 4. The total area of disturbance would be approximately 5 acres.

2.2.1 Pre-Construction Activities

Geotechnical Studies. Based on geotechnical investigations conducted by Wood Rodgers in 2009, groundwater is not expected to be intercepted during construction. As a result, no dewatering plan would be required for either site preparation or pipeline installation (Wood Rodgers, 2009).

Right-of-Way. Carson City has applied to amend BLM ROW NVN 013400 to include additional lands for a new water tank and access road. The new ROW would include an area approximately 400 feet by 420 feet and is shown on Plate 4 as the "Limits of Work."

Permits and Utilities. Prior to initiation of work, the construction contractor would be required to obtain all Federal, State, and local permits and approvals necessary to perform the work, including those related to stormwater discharge, fugitive dust, and traffic. Specific permits and approvals related to environmental resources are discussed in Section 3.0.

The contractor would also be required to verify the depths and locations of all existing utilities in the project area. Potentially affected utility companies would be notified and coordinated with directly concerning the timing and degree of the proposed work. These utility companies could include Southwest Gas, Carson City Water Department, and Carson City Sewer Department.

Staging and Mobilization. There would be two staging areas for the project. One area would be located near the existing water storage tank, and the other area would be adjacent to the new water tank site. These two staging areas are labeled for "soil stockpiles and equipment storage" on Plate 4. Both areas have scattered areas of sagebrush vegetation. The staging areas for the project would encompass approximately

0.2 acre. Once the project is completed, the soil stockpile and equipment storage areas would be restored by reseeded with a seed mix approved by the BLM.

During mobilization, construction equipment would be moved onto the staging areas, along with PVC piping, concrete, steel, and other construction materials. Types of equipment that would be used during construction include hydraulic excavators, track hoes, haul trucks, and water trucks. In addition, a crane would be used to load steel plates.

2.2.2 Construction Details

Clearing and Grading. Construction would begin by removing fencing around the existing water storage tank where it intercepts the area to be graded for the new water storage tank. Temporary fencing would be installed to maintain security of the existing water tank during construction. The construction contractor would then clear and grub the surface vegetation and debris at the new water tank site. Since these materials are not suitable for reuse onsite, they would be temporarily stockpiled within the limits of construction and then removed via haul trucks for disposal at the Carson City landfill located approximately 8 miles northeast of the project area.

The new water tank site would then be graded and shaped to the approximate elevation of the existing water tank. This initial grading would involve excavation of a total of approximately 8,550 cubic yards (cy) of material, including 7,200 cy of fill and 1,350 cy of topsoil. All fill and topsoil needed for the project would be obtained from this initial grading, and all excavated material would be reused in the project area. As a result, no import or export of fill or topsoil would be required for this project.

From this excavated material, approximately 3,970 cy of fill and 700 cy of top soil would be reused at the new water tank site for fill material. The remaining 3,230 cy of fill and 650 cy of top soil would be temporarily stockpiled within the limits of construction for reuse in restoring the existing tank site once the tank is demolished. The topsoil would be placed on finished graded slopes, including the berm around the new water tank and the reshaped slope once the existing water tank is removed.

Access Road and Fencing. A new access road would be constructed from the existing access road to, and around the base of, the new water storage tank (Plate 4). The new access road would be approximately 300 feet long and 20 to 30 feet wide with a 5-foot shoulder. The road around the water tank would be approximately 400 feet long and 16 feet wide. The work would involve surface clearing, grading, filling, and shaping the roadway, and then covering and compacting the roadway surface with 6 inches of aggregate base material (Plate 5).

A 20-foot-wide double swing gate would be installed at the entrance to the new access road, and a 6-foot chain link fence with barbed wire and coiled razor ribbon would be installed around the perimeter of the access road. The gate and fencing would provide security from unauthorized access or vandalism.

Pipeline and Fire Hydrant Installation. Prior to construction of the new water storage tank, a water pipeline would be installed from the new water tank location to the connection with the existing waterline. A trench approximately 500 feet long, 54 inches wide, and 90 inches deep would be excavated within the new roadway alignment for the new water pipeline. The material from trench excavation would be temporarily stockpiled within the limits of construction.

The water pipeline would consist of steel-encased 20-inch-diameter PVC pipe. The trench would be filled around the pipe with approximately 6 inches of compacted bedding material below the pipe and 12 inches above the pipe. The excavated material would be reused to backfill the trench, and a minimum of 42 inches of cover would be provided above the pipe (Plate 6). The new PVC pipe would be connected to the existing water main within the alignment of the existing access road. In addition, a fire hydrant would be connected to the 20-inch PVC pipe. The fire hydrant would be located adjacent to the tank at the end of the new drainage swale.

A trench would also be excavated for installation of a 12-inch diameter PVC pipe from the location of the new water storage tank to the altitude vault. Material excavated from the trench would be stored within the limits of construction for reuse as fill. This new PVC pipe would be installed from the location of the inlet/outlet structure at the base of the new water tank to the altitude valve. Sub-grade material would be compacted, and the trench would be backfilled with approximately 6 inches of compacted bedding material below the pipe and 12 inches above the pipe.

At the bend in the pipe, a thrust block would be placed below the pipe for support. The 12-inch PVC pipe would direct water to the altitude valve, which would be installed adjacent to the new water tank to control tank inflow/outflow. The 20-inch-diameter PVC pipe discussed above would be connected to the altitude valve, which would also control the release of water to the City water system.

Overflow piping would be installed at the overflow weir, approximately 1 foot below the top of the new water tank. The overflow piping would consist of approximately 200 feet of 12-inch PVC pipe and would discharge to the riprapped drainage swale. A trench would be excavated for installation of the overflow pipe. Excavated material would be stored within the limits of construction. The trench would be backfilled with bedding material and covered with excavated fill material. Any overflow water would be discharged to the riprapped drainage swale and would drain to an undisturbed vegetated area to the west, where it would infiltrate into the soil.

Drainage Swale and Berm. A riprapped drainage swale and an earthen berm would be constructed around the new water storage tank and beyond the access road to direct drainage away from the new water tank foundation. The swale would be approximately 10 feet wide, and would be constructed with a geotextile filter fabric keyed in at the top of slope and backfilled with a minimum of 1 foot of rock riprap (Plate

5). The swale would convey runoff and drainage from upslope areas around the water tank and offsite to the west and south.

Runoff directed to the south would drain to a riprapped dissipater to decrease runoff velocities and reduce the potential for scour. Runoff within the drainage swale and riprap dissipater would drain to an undisturbed vegetated area where it would infiltrate into the soil. During larger events, water that does not infiltrate would sheet flow to a residential area approximately 1,200 feet southwest of the project area and would then enter the City storm drain system.

Beyond the drainage swale, a berm would be constructed both upslope and downslope around the new water tank. The berm would be covered with a minimum of 6 inches of native topsoil. Approximately 700 cubic yards of native top soil would be used as fill material for the berm (Plate 5). The berm would be constructed to reduce visual effects of the project by shielding the majority of the tank from view. A 6-foot-high chainlink fence with barbed wire would be installed at the top of the berm to provide security.

New Water Storage Tank. The new water storage tank would be approximately 130 feet in diameter and 31 feet tall. The tank would include a concrete base, reinforced concrete ringwall footings, and steel construction. The tank bottom would be constructed with ground-supported, welded steel plates. An aggregate cushion would be provided under the tank bottom in accordance with the design standards of the American Water Works Association (AWWA). Twelve inches of drain rock would be used in the flooring of the tank, and this rock would be covered with a floor plate (Plate 7).

The roof would be domed and would be supported by a column in the center of the roof, and the structural design of the tank would meet AWWA standards. The water storage tank would include both interior and exterior ladders for access and ventilation in the roof. Telemetry equipment would be installed adjacent to the water storage tank to transmit information regarding tank operation including tank water levels to the City. Solar panels would be used for operation of the telemetry equipment and to turn off the groundwater well pumps when the tank is full. Following construction, the tank would be painted with an appropriate color to blend in with the natural landscape as stipulated by the BLM.

Demolish Existing Storage Tank. The existing water storage tank and associated piping would be demolished once the new water tank is online and fully operational. The demolition would include removal of the floor slab and footings. The existing pipeline from the tank to the tie-in with the new water tank would also be removed. The slope would be restored reusing the stockpiled fill, and the area would be covered with 6 inches of topsoil (Plate 8).

A drainage swale would be constructed down-gradient of the restored site, and runoff would be directed to a riprapped dissipater. Runoff would be directed to an undisturbed vegetated area offsite where runoff would infiltrate into the soil. All

demolished material unsuitable to be reused as fill, including concrete, piping, and other debris, would be removed and disposed offsite at the Carson City landfill.

Restore Vegetation. Following construction of the new tank, disturbed areas with a slope of 3H:1V or less would be covered with native top soil and reseeded with a seed mix similar to the surrounding area and approved by the BLM. Areas that would be reseeded include, but are not necessarily limited to, the berm surrounding the new water storage tank, the existing/restored water storage tank site, staging areas, and other areas disturbed by construction.

2.2.3 Borrow, Stockpiling, and Disposal

Borrow. Borrow materials would include riprap, drain rock, aggregate base, and bedding material to be used as layering material for road surfaces, trenches, drainage swales, and the new water storage tank. The material would be obtained and transported from a local commercial source of aggregate. Other materials such as concrete and structural steel would be obtained from other commercial sources in the region. Excavated topsoil would be reused for cover of slopes flatter than 3H:1V, including the berm and the restored water tank site.

Stockpiling. Soils excavated at the location of the new water tank would be temporarily stockpiled onsite within the limits of the two staging areas for reuse as fill material. Stockpiled materials would also be used in the new water tank to construct the berm. Topsoil would be stockpiled, and 6 inches of native topsoil would be placed on finished slopes.

Disposal. All cleared brush, concrete, and other waste associated with the construction of the new water tank and demolition of the existing tank would be transported offsite via haul trucks and disposed of at the Carson City landfill. This landfill is located approximately 7 miles northeast of the project area.

2.2.4 Construction Schedule

Construction of the project is scheduled to begin in late spring of 2010. Clearing and grading, including grading for the new access road, would be conducted in approximately 2 months. Following site grading, the pipelines would be installed, and the new water storage tank would be constructed in approximately 4 months. Once the new water tank is online and fully operational, the existing water tank would be demolished. All work is scheduled to be completed in late fall of 2010.

2.2.5 Post-Construction Activities

Clean Up of Work Areas. After construction and restoration is completed, all equipment, remaining materials, and temporary best management practices (BMP's) would be removed. Work areas would be cleaned of excess soils and debris, and all areas

would be left in a neat and presentable condition. This would include work areas at the existing water storage tank, as well as the new water tank.

Operation and Maintenance. The existing water storage tank would remain in operation until the new water tank is approved and connected to the existing Carson City water system. After completion of construction, the project would be operated and maintained by Carson City as part of the City's existing water storage system. The new water tank would be inspected regularly by the City, and repairs would be made as needed to ensure the integrity of the new water tank and piping.

3.0 AFFECTED RESOURCES AND ENVIRONMENTAL EFFECTS

This section identifies resources, describes existing conditions, and evaluates the effects of the proposed action on those resources. In addition, the BLM maintains a list of "supplemental authorities" that must be considered in all BLM environmental documents. Table 1 lists these supplemental authorities and their status in the project area. Those supplemental authorities that may be affected by the proposed action are discussed further in this EA.

3.1 Resources Not Considered in Detail

Because of the nature of the work, the project would have little to no effect on several resources in the project area. These resources are discussed in Sections 3.1.1 to 3.1.10 to add to the overall understanding of the project area.

3.1.1 Climate

Located in a high desert river valley, Carson City, Nevada, enjoys four fairly distinct seasons and averages 265 sunny days a year. The average temperatures ranges from winter lows in the 20's (degrees Fahrenheit) to summer highs in the upper 80's (Western Regional Climate Center, 2009). The majority of the precipitation occurs in winter and spring, with summer and fall being fairly dry. Average annual rainfall is approximately 10.41 inches, and average annual snowfall is 26 inches. Because of the nature of the work, the project would have no effect on valley climate.

3.1.2 Geology and Seismicity

Geology. The surficial geology of the project area consists of Holocene deposits (Bingler, 1977). In addition to this surficial layer, the bedrock geologic make-up of Prison Hill consists of two different rock types. Jurassic aged metamorphosed volcanic rock is exposed at the northern end, and a Cretaceous, medium-grained granitic rock exists at the southern end of the hill. In the northern end, as the larger rock mass disintegrates, pieces of broken outcrop appear that are dark-colored and consist of an andesite mud-flow breccia (BLM, 2009).

Table 1. BLM Supplemental Authorities and Their Status in the Project Area

Supplemental Authority	Not Present	Present/Not Affected	Present/May Be Affected	Rationale
Air quality		X		Refer to Section 3.5.
Areas of critical environmental concern	X			Resource not present.
Cultural resources		X		Refer to Section 3.8.
Environmental justice	X			Resource not present. Refer to Section 3.1.7.
Farm lands (prime or unique)	X			Resource not present. Refer to Section 3.1.6.
Floodplains	X			Resource not present. Refer to Section 3.4
Invasive, nonnative species		X		The existing site would be periodically inspected for the presence of noxious weeds. Refer to Section 3.2.3.
Migratory birds			X	Refer to Section 3.2.
Native American religious concerns		X		Native American Religious Concerns are discussed in Section 3.8, and consultation with Native Americans is included in Appendix B.
Threatened or endangered species	X			Resource not present Refer to Section 3.3.
Wastes, hazardous or solid	X			Resource not present. Refer to Section 3.1.10.
Water quality (surface/ground)	X			Resource not present. Refer to Section 3.4.
Wetlands/riparian zones	X			Resource not present. Refer to Section 3.4.
Wild and scenic rivers	X			Resource not present. Refer to Section 3.4.
Wilderness	X			Resource not present.

A geotechnical investigation for the project determined that the new water tank site is located in an area mapped on the New Empire Quadrangle Geologic Map (Bingler, 1977) as Metavolcanic Breccia (Jb) – Gray to greenish-gray and greenish-black very poorly sorted coarse andesitic mud-flow breccia (Wood Rodgers, 2009). A breccia is a sheared and broken bedrock material that is recemented or reformed back into a solid rock mass by metamorphosis. This material is highly fractured.

Seismicity. The Nevada Bureau of Mines and Geology has mapped a potentially active fault in the vicinity of the project area (Bell, 1979). The fault is believed to have experienced movement between 10,000 and 35,000 years ago (Wood Rodgers, 2009). No active faults (movement within the last 10,000 years) have been mapped crossing the project area.

The geotechnical investigation for the project noted that a potentially active fault is mapped as forming a contact between the metavolcanic rock and deeper pediment soils in the vicinity (Wood Rodgers, 2009). During the investigation, no pediment soils were observed in the test pits. As a result, it was concluded that the fault boundary is located west and downslope of the site. Because of the nature of the work, the project would have no effect on geologic or seismic conditions.

3.1.3 Topography and Soils

Topography. The project area is located in Township 15 N, Range 20 E, and the NW ¼ of the SE ¼ of Section 28 of the USGS New Empire 7.5-minute quadrangle. The elevation at the location of the new water tank is approximately 4,879 feet. The ground surface at the tank site slopes moderately downward to the west, with a total relief of approximately 35 feet. The general topographic gradient of the project area is west/southwest.

Soils. The Natural Resource Conservation Service (NRCS) has identified and mapped the soils in the project area. This information is made available in their online Soil Survey Geologic Database, which currently identifies two soil type units in the project area. They are Indiano variant gravelly fine sandy loam, 4 to 15 percent slope (Map Unit 35), and Koontz-Sutro complex, 30 to 50 percent slope (Map Unit 41). Indiano variant gravelly fine sandy loam, 4 to 15 percent slopes (Map Unit 35), consists of moderately deep, well drained soils that formed in alluvium. Permeability is moderately slow. Surface runoff is medium, and the hazard of erosion is slight.

Koontz-Sutro complex, 30 to 50 percent slope (Map Unit 41), consists of 60 percent Koontz, an extremely stony loam, and about 25 percent Sutro, a very stony loam, and about 10 percent rock outcroppings. Koontz are shallow, well drained soils that formed in colluvium. Permeability of Koontz soils is moderately slow. Surface runoff is rapid, and the hazard of erosion is moderate. Sutro soils are moderately deep, well drained soils that formed in colluvium. Permeability is moderate. Surface runoff is rapid, and the hazard of erosion is moderate. Because of the nature of the work, the project would have no effect on the regional topography or soil conditions.

3.1.4 Fisheries

The project area is located in the Carson River watershed, part of the larger Lahontan Basin river system that also includes the Humboldt and Walker River watersheds. Fish species native to the Lahontan Basin include mountain whitefish, Tahoe

sucker, Lahontan mountain sucker, Lahontan tui chub, Lahontan speckle dace, Soldier Meadows desertfish, Belding sculpin, and Lahontan cutthroat trout (La Rivers, 1994).

The Carson River is located approximately 3 miles south of the project area, and there are no surface water resources in the project area. The project would not discharge directly to the Carson River or any of its tributaries. As a result, the project would have no effect on fisheries or aquatic habitat.

3.1.5 Land Use and Zoning

Carson City completed a Master Plan in 2006 to help guide and manage the growth in the area (Carson City, 2006a). The Master Plan identified current and future infrastructure developments and updated the City's zoning to reflect these developments. Under the Master Plan, the project area is identified as Public/Quasi-Public, while the area to the east is identified as Open Space and the area to the west is identified as Low Density Residential. Carson City regulates land use under Title 18, Zoning, of the Carson City Municipal Code (Carson City, 2009). The Carson City zoning map identifies the project area as Public Regional. Under Title 18, "Public Regional" is defined as Federal, State, and City facilities and uses whose main purpose is to sustain wide regional needs.

The project area is identified in BLM's Resource Management Plan (RMP) as available to State and local agencies for recreation/public purposes. In addition, this land is designated for conveyance to Carson City for parks and public purposes in the Omnibus Public Land Management Act of 2009 (Public Law 111-11), which also withdrew the land from entry and appropriation under the public land laws, including the mining and mineral leasing laws. The proposed action is in conformance with the RMP and consistent with the 2009 act.

Currently, there is an existing 3-million gallon water tank identified as Water Tank #1 located in the project area. Under the project, the current land use would not change. The project is replacing an existing water tank and would have no effect on current land use or zoning. The Federal Emergency Management Agency (FEMA) floodplain maps were reviewed, and no flood hazards were identified in the project area or vicinity; therefore the project is not located within a floodplain (EDR, 2009). Since the new water tank would have the same capacity as the tank to be demolished, the project would not encourage development in the floodplain.

3.1.6 Prime Farmland

Prime farmland is defined as land with the best combination of physical and chemical characteristics for producing food, feed, forage, and other agricultural crops with minimum input of fuel, fertilizer, and labor. Farmland of statewide importance is other farmland designated as such by the State (NRCS, 2009). The project would have no effect on prime farmland or farmland of statewide importance because there is no such farmland in the project area.

3.1.7 Socioeconomics and Environmental Justice

Carson City is the capital of Nevada and is the ninth largest city in Nevada. The estimated population of the City was 54,867 in 2008 (U.S. Census Bureau, 2009). The City encompasses a 143.35-square mile area. The population density based on 2000 U.S. Census Bureau data was 366.8 people per square mile.

In 2008, the ethnic makeup of the City was 72.1 percent white, 20.1 percent Latino of any race, 2.1 percent African American, 2.4 percent Native American, 2.2 percent Asian, 0.2 percent Pacific Islander, and 1.8 percent from other races (U.S. Census Bureau, 2009). There are no minority or low-income populations in the project area. In addition, all residents would benefit equally from the new water tank; thus, there would be no disproportionate effects on any minority or low-income populations in Carson City.

Carson City's local economy is based mainly on retail, wholesale, and manufacturing sales; government agencies; agriculture; and mining. The City draws from a trade area of about a quarter of a million people, with the largest portion (30 percent) of the local workforce employed by the service industry. Carson City is the State capital, and as such the government sector is the second largest employer. Fourteen percent of the workforce is employed in the manufacturing industry. In 2007, the median household income in Carson City was \$50,884 per year; the poverty rate was 12.9 percent (U.S. Census Bureau, 2009); and the unemployment rate was 11.7 percent (U.S. Bureau of Labor and Statistics, 2009).

The project includes the replacement of an existing water tank and would not affect the socioeconomic conditions in the City. The population growth, ethnic makeup, income, and poverty rate would continue to depend on factors such as social trends and overall economic conditions.

3.1.8 Noise

Noise can be defined as unwanted sound and noise levels, and effects are interpreted in relationship to noise level objectives for local agencies. Carson City does not currently have a specific noise ordinance to regulate sounds generated by development. The City relies on a public nuisance ordinance to regulate loud noise under Title 8, Public Peace, Safety, and Morals, of the Carson City Municipal Code. Excessive noise in the developed areas of the City is considered to be a nuisance (Carson City, 2009). Under this code it is unlawful for any person "to make in any place, or suffer to be made upon his or her premises, within his or her control, any noise, disorder or tumult, to the disturbance of the public peace" (amended by Ord. 1989-32 § 6, 1989).

The existing sources of noise in the project area are residential and recreational activities, motor vehicles on Edmonds Drive and Koontz Lane, and natural sounds such as wind and wildlife. There are no noise-sensitive land uses in the project area; potential sensitive receptors include nearby residents, recreationists, and wildlife. Operation of

equipment and work activities would increase noise levels during construction. However, because the noise levels would attenuate over distance, there would be minimal to no effect on nearby sensitive receptors during the work hours. No work would be conducted at night.

3.1.9 Recreation

Carson City offers residents many opportunities for outdoor recreation. They include open space/natural areas, water sports, fishing, picnicking, biking, and hiking, as well as the use of golf courses and ball fields. The City has developed a Carson City Parks and Recreation Master Plan (Carson City, 2006b) to help plan and promote parks and recreation in the City.

The approximately 2,450-acre Prison Hill Recreation Area is located on and adjacent to the project area. This recreation area provides access to public lands through a cooperative effort between the BLM and Carson City. It has been set aside and dedicated as open space for the community of Carson City. This is a popular open space area used for hiking, rock climbing, mountain biking, horseback riding, and All Terrain Vehicles (south end only). The Prison Hill Recreation Area is accessible through three areas for non-motorized access and one area for motorized access at the south end of the recreation area off Snyder Avenue. The main community parking area and trailhead are located at the east end of Koontz Lane. At this location, there is parking for 3 horse trailers and 20 to 30 cars (Silver Saddle Ranch, 2009).

Public recreation access to the Prison Hill Recreation Area would be maintained by the current Koontz Lane and Clearview trailhead. The project would not adversely affect recreational use or opportunities since the surrounding Prison Hill Recreation Area would remain open for public use and access throughout the duration of construction.

3.1.10 Hazardous, Toxic, and Radiological Waste

A Phase I Environmental Site Assessment (ESA) was completed for the project in January 2010 (Corps, 2010a). The purpose of the ESA was to identify the presence or likely presence of any hazardous, toxic, or radiological waste (HTRW) that may affect construction of the project. A comprehensive records review and site visit were conducted to compile information for the ESA. This assessment did not include sampling for analysis of soil or groundwater.

There were two sites identified on the State Hazardous Waste Site (SHWS) list. The SHWS list is a State and local database list that shows corrective actions for active non-hazardous waste. The two sites were located approximately 0.682 mile and 0.734 mile from the project location. Both of these sites have been cleaned and their files closed. Neither of the two sites were in the construction area for the new water tank. In addition, site reconnaissance revealed no evidence that HTRW contamination would affect the project (Corps, 2010a).

Construction of the project would involve use of substances that could be considered hazardous, such as fuels, lubricants, and oils. Inadvertent spills or leaks of these substances could enter surface waters via runoff or percolate into the groundwater. However, all spills or leaks would be cleaned up immediately. In addition, construction of the project would follow the regulatory requirements of the Nevada Division of Environmental Protection (NDEP) National Pollutant Discharge Elimination System (NPDES) permitting process. As a result, the project would have no effect on any existing HTRW, nor would it create any new HTRW.

3.2 Vegetation and Wildlife

3.2.1 Existing Conditions

Vegetation. The project area contains vegetation typical of the big sagebrush plant community (Corps, 2010b). This community is common throughout the Great Basin, and is found in upland desert areas with limited precipitation. The big sagebrush plant community consists of four subspecies of sagebrush: basin big sagebrush (*Artemisia tridentata tridentata*), mountain big sagebrush (*Artemisia tridentata vaseyana*), Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*), and subalpine big sagebrush (*Artemisia tridentata spiciformis*) (Frisina, 2004). Additional plant species typically associated with the big sagebrush plant community include antelope bitterbrush (*Purshia tridentata*), rabbitbrush (*Chrysothamnus viscidiflorus*), desert peach (*Prunus andersonii*), Indian ricegrass (*Achnatherum hymenoides*), and occasional juniper (*Juniperus occidentalis*) and pinyon (*Pinus monophylla*) trees (BLM, 2009).

During a field survey conducted by Huffman & Carpenter, Inc., on January 8, 2010, vegetation species were identified in the project area (Corps, 2010b). The big sagebrush plant community can be characterized as the Wyoming big sagebrush/squirreltail grass sub-community. This specific vegetation association is often associated with moderate disturbance (Peterson, 2008), and Wyoming big sagebrush occupies the most xeric of locations (Frisina and Wambolt, 2004). This vegetation community is dominated in the shrub layer by Wyoming big sagebrush and in the herbaceous layer by squirreltail grass (*Elymus elymoides*). Other shrubs include antelope bitterbrush, green ephedra (*Ephedra viridis*), and desert peach.

Other herbaceous species identified in the project area included needlegrass (*Achnatherum* sp.), buckwheat species (*Eriogonum* sp.), and several annual species including cheatgrass (*Bromus tectorum*), tumble mustard (*Sisymbrium altissimum*), herb Sophia (*Descurainia sophia*), and devil's lettuce (*Amsinckia tessellate*). Of these annuals, cheatgrass, tumble mustard, and herb Sophia are nonnative, invasive species. These annual species are particularly abundant in disturbed parts of the project area, such as road edges and areas with other past ground disturbance. There are no wetlands or riparian areas or associated plant species in the project area.

According to the Nevada Natural Heritage Program (NNHP), habitat may be available in the project area for the Lavin's egg milkvetch (*Astragalus oophorus* var. *lavinii*), a BLM sensitive plant species (Appendix A). Lavin's egg milkvetch is found throughout big sagebrush and pinyon-juniper habitat types; however, the plant is unlikely to be found in the project area due to the type of soil. Soil in the project area consists of a sand to sandy loam derived from the local granitic rocks. According to the NNHP habitat description, Lavin's egg milkvetch is found on "open, dry, relatively barren gravelly clay slopes, knolls, badlands, or outcrops, derived from volcanic ash or carbonate, usually on northeast to southeast aspects, in openings in the pinyon-juniper or sagebrush zones" (NNHP, 2001). This specific habitat type has not been found in the project area. No milkvetch species or their habitat were observed during the survey conducted by Huffman and Carpenter on January 8, 2010 (Huffman & Carpenter, 2010).

Wildlife. The big sagebrush plant community supports a variety of birds, mammals, and reptiles/amphibians. Raptors, songbirds, rodents, bats and other mammals, and reptiles commonly occur in the area. Because of the project's proximity to residences and South Edmonds Drive, the only big game species likely to use the area would be an occasional mule deer (*Odocoileus hemionus*). Other wildlife species that may use the area are likely habituated to human disturbances, including coyotes (*Canis latrans*), cottontail rabbits (*Sylvilagus audubonii*), whitetail jackrabbits (*Lepus townsendii*), California valley quail (*Callipepla californica*), short-horned lizards (*Phrynosoma douglassi*), and passerine birds. There are no BLM-designated Important Bird Areas or important wintering areas in the project area (McIvor, 2005). However, birds would be expected to use the area during the spring and summer months for nesting and forage.

The BLM manages species (and their habitat) designated as BLM-sensitive. These species are native species found on BLM-administered lands for which the BLM has the capability to significantly affect the conservation status of the species through management. In addition, one of the following applies to the species: (1) there is information that the species has recently undergone, is undergoing, or is predicted to undergo a downward trend such that the viability of the species or a distinct population segment of the species is at risk across all or a significant portion of the species range, or (2) the species depends on ecological refugia or specialized or unique habitats on BLM-administered lands, and there is evidence that such areas are threatened with alteration such that the continued viability of the species in that area would be at risk. Based on this criteria, no Nevada BLM sensitive species are likely to occur in the project area (Appendix A).

Species sighted and identified during Huffman and Carpenter's field survey included the cottontail rabbit and whitetail jackrabbit. Species identified through tracks and/or scat included rabbit, mule deer, and coyote. No BLM sensitive species or bird species were sighted or identified in the project area. Historically, this area was greater sage grouse (*Centrocercus urophasianus*) habitat. However, due to the encroachment and urbanization of Carson City, sage grouse no longer use the area (BLM, 2009).

Migratory Birds and Raptors. All native birds found commonly in the U.S. except native resident game birds and introduced species are protected under the Migratory Bird Treaty Act of 1918. Management for migratory bird species on BLM- administered land is based on BLM Instruction Memorandum – IM 2008-050, dated December 18, 2007. The IM includes the lists of migratory birds associated with western BLM lands. The BLM bird species of conservation concern that occur or have range in or near the project area are listed in Table 2.

Table 2. Birds of Conservation Concern Known to Occur or Have Range in or Near the Project Area

Common Name	Scientific Name
Burrowing owl	<i>Athene cunicularia</i>
Ferruginous hawk	<i>Buteo regalis</i>
Golden eagle	<i>Aquila chrysaetos</i>
Northern goshawk	<i>Accipiter gentilis</i>
Northern harrier	<i>Circus cyaneus</i>
Peregrine falcon	<i>Falco peregrines</i>
Prairie falcon	<i>Falco mexicanus</i>
Sage Sparrow	<i>Amphispiza belli</i>
Short-eared owl	<i>Asio flammeus</i>
Swainson’s hawk	<i>Buteo swainsoni</i>

Source: Corps, 2010b; IM 2008-050, 2007

A Nevada Department of Wildlife (NDOW) database search was conducted for raptors and migratory birds in the vicinity of the project area (NDOW, 2009). The analysis developed a 2-mile buffer around Township 15N, Range 20E, Section 28, and searched for raptor and migratory bird species occurrences within this buffer zone (Table 3). While raptors and migratory birds are known to exist in the vicinity of the project area, the big sagebrush plant community is not limited to the project area and is present throughout the Great Basin.

3.2.2 Effects

Basis of Significance. An alternative would be considered to have a significant effect on vegetation and wildlife if it would (1) result in the substantial loss or degradation of any plant community providing high quality wildlife habitat or (2) permanently displace substantial numbers of resident or migratory wildlife species.

No Action. This alternative would have no effects on existing vegetation and wildlife, including migratory birds in the project area. The plant communities and associated wildlife species would be expected to remain the same.

Replace Water Tank. This alternative would have short-term effects on the big sagebrush plant community in the project area. Initial clearing and grubbing would result in removal of 3.8 acres of the Wyoming big sagebrush/squirreltail grass sub-community,

Table 3. Migratory Birds and Raptors Known to Occur or Have Range in or Near the Project Area

Common Name	Scientific Name
Raptors	
American kestrel	<i>Falco sparverius</i>
Bald eagle	<i>Haliaeetus leucocephalus</i>
Barn owl	<i>Tyto alba</i>
Burrowing owl	<i>Athene cunicularia</i>
Cooper's hawk	<i>Accipiter cooperii</i>
Ferruginous hawk	<i>Buteo regalis</i>
Golden eagle	<i>Aquila chrysaetos</i>
Great horned owl	<i>Bubo virginianus</i>
Long-eared owl	<i>Asio otus</i>
Northern goshawk	<i>Accipiter gentilis</i>
Northern harrier	<i>Circus cyaneus</i>
Northern saw-whet Owl	<i>Aegolius acadicus</i>
Osprey	<i>Pandion haliaetus</i>
Peregrine falcon	<i>Falco peregrinus</i>
Prairie falcon	<i>Falco mexicanus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Sharp-shinned hawk	<i>Accipiter striatus</i>
Short-eared owl	<i>Asio flammeus</i>
Swainson's hawk	<i>Buteo swainsoni</i>
Turkey vulture	<i>Cathartes aura</i>
Migratory Birds	
American goldfinch	<i>Carduelis tristis</i>
American robin	<i>Turdus migratorius</i>
Bohemian waxwing	<i>Bombycilla garrulus</i>
California quail	<i>Callipepla californica</i>
Cedar waxwing	<i>Bombycilla cedrorum</i>
Cinnamon teal	<i>Anas cyanoptera</i>
Evening grosbeak	<i>Coccothraustes vespertinus</i>
Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>
Greater sage-grouse	<i>Centrocercus urophasianus</i>
Hermit thrush	<i>Catharus guttatus</i>
House finch	<i>Carpodacus mexicanus</i>
Hummingbird	<i>Trochilidae family</i>
Northern flicker	<i>Colaptes auratus</i>
Northern mockingbird	<i>Mimus polyglottos</i>
Pine siskin	<i>Carduelis pinus</i>
Red-breasted sapsucker	<i>Sphyrapicus ruber</i>
Rock pigeon	<i>Columba livia</i>
Thick-billed parrot	<i>Rhynchopsitta pachyrhyncha</i>
Western tanager	<i>Piranga ludoviciana</i>
Wilson's warbler	<i>Wilsonia pusilla</i>

Source: NDOW, 2009

as well as other native and nonnative herbaceous species. Once construction of the new water tank is completed, however, all disturbed areas with a slope of 3H:1V or less would be covered with native top soil and reseeded with a native seed mix approved by BLM. This would reduce potential erosion and encourage revegetation.

In addition, the existing water tank would be removed, and the resulting open area would be graded and shaped to match the surrounding topography and then also reseeded with a native seed mix approved by BLM. As a result, the vegetation lost as a result of construction of the new tank would be mitigated by restoration of the previous tank site and vegetation of slopes of 3H:1V or less at the new tank site. In addition, the project area is surrounded by thousands of acres of the big sagebrush plant community in the surrounding region. Therefore, there would be no significant effect to vegetation from this project.

Construction of the new water tank could have short-term effects on any wildlife currently using the area. These effects would include disturbance and/or displacement of individuals due to noise and construction activities. In addition, wildlife in the surrounding area would be expected to avoid the project area during construction. After construction and restoration are completed, however, wildlife would be expected to return to the project area once revegetation begins. Thus, there would be no significant effects on wildlife currently using the area. Because of the limited size of the construction area and the large amount of similar habitat nearby, any wildlife species using the surrounding area would not be significantly affected. Although there could be short-term effects to individual migratory birds, regional populations would not be affected.

3.2.3 Mitigation

Since there would be no significant effects on vegetation or wildlife, no mitigation would be required. However, to the extent possible, construction would be scheduled outside of the nesting season for migratory birds. If construction is necessary during the nesting season, Carson City would be required to have a qualified biologist survey for active nests of migratory birds within a 1/8-mile radius of the project area within 15 days prior to initiation of construction. If active nests are located during these surveys, the biologist would consult with the U.S. Fish and Wildlife Service (USFWS) and NDOW, as required, to determine the appropriate buffer around the nest.

During construction, the contractor would be required to implement BMP's to prevent the introduction and spread of noxious weeds. Carson City would coordinate with the Nevada Department of Agriculture for annual noxious weed surveys, following State protocols. If noxious weeds are discovered, a noxious weed management plan would be developed and implemented by Carson City following guidelines set forth by the Nevada Department of Agriculture and BLM. All weed treatments applied on BLM land would be required to be in conformance with BLM Manual 9011 and the Vegetation Treatments Using Herbicides in 17 Western States Programmatic Environmental Impact Statement (BLM 2007)

3.3 Threatened and Endangered Species

3.3.1 Existing Conditions

The USFWS, NNHP, and NDOW were consulted regarding Federally listed threatened and endangered species that could potentially occur in and/or near the project area. In response, the USFWS provided the Corps with a letter dated January 6, 2010, indicating that there are no listed, proposed, or candidate species in the project area (Appendix A). In the letter, the USFWS indicated that they no longer provide species of concern, but are adopting the sensitive species list for Nevada maintained by the NNHP.

The NNHP conducted a search of their database and maps for a 2-kilometer radius around Township 15N, Range 20E, and Section 28. Based on the search, no Federally listed threatened, endangered, proposed, or candidate wildlife species are known to occur in the area (Appendix A).

3.3.2 Effects

Basis of Significance. An alternative would be considered to have a significant effect on Federally threatened and endangered species if it would (1) result in the take of a Federally listed threatened or endangered species, or (2) adversely affect a species critical habitat.

No Action. This alternative would have no effect on Federally listed threatened or endangered species or their habitat.

Replace Water Tank. There are no Federally listed threatened or endangered species or their habitat in and/or near the project area. As a result, this alternative would have no effect on Federally listed threatened or endangered species or their habitat.

3.3.3 Mitigation

Since there would be no effect on Federally listed threatened or endangered species or their habitat, no mitigation would be required.

3.4 Water Resources and Water Quality

3.4.1 Existing Conditions

There are no surface water bodies such as streams, springs, wetlands, or other surface water resources in the project area. There are two non-jurisdictional dry swales adjacent to the project area. One appears to have been constructed to drain runoff around the existing water tank. The second is located just north of the existing water tank and originates in the hillside east of the project area. Both of these dry swales are no longer visible on the landscape prior to reaching South Edmonds Drive.

The nearest surface water resource is the Carson River, located approximately 3 miles east-southeast of the project area. The river is formed in the Carson Valley by the confluence of the East and West Forks of the Carson River, with headwaters in the Sierra Nevada of California. The major impoundment on the Carson River is the Lahontan Reservoir, a feature of the Newlands Project (USGS, 2005). An ephemeral drainage is identified on the New Empire Quadrangle, Nevada, USGS 7.5-minute series map as being located approximately 1,500 feet south-southeast of the project area. This ephemeral drainage flows towards the south-southwest for approximately 1 mile, where it ends just north of Snyder Avenue on the McTarnahan Hill Quadrangle, Nevada, USGS 7.5-minute series map. This ephemeral drainage is not a tributary to the Carson River.

The Saliman Road tributary is located approximately 0.25 mile west of the project area, and a floodplain has been delineated by FEMA (EDR 2009). What appears to be a constructed channel associated with the floodplain is visible on aerial photos approximately 0.75 mile from the project area. Stormwater runoff currently sheet flows from the project area down-gradient towards the west and southwest. Stormwater runoff from the project area infiltrates into the undisturbed area down-gradient, and during larger events, the water that does not infiltrate into the groundwater eventually drains to Clear Creek and then into the Carson River approximately 3 miles south of the site.

The project area is located within the Eagle Valley hydrographic area, an area of approximately 69 square miles (CWSCD, et al., 2007). The Eagle Valley basin contains a shallow water-table aquifer and one or more deeper alluvial aquifers (Welch, et al., 1997). The thickness of the deposit varies throughout the valley. Wells have been drilled 600 to 800 feet in depth and are still in unconsolidated deposits (1976). The main groundwater reservoir is the alluvium composed of gravel, sand, and clay. Recharge comes from runoff, underflow along the west side of the valley, and infiltration of streamflow and irrigation waters. Groundwater movement in the basin is complex, but is generally toward the Carson River.

During a geotechnical investigation conducted in the project area by Woods Rodgers, groundwater was not encountered (2009). Six test pits were drilled at the site between 3.8 feet and 11 feet in depth, and no groundwater was encountered (Woods Rodgers, 2009). Therefore, the depth to groundwater is expected to be greater than 11 feet.

Water Quality. The water quality in the Carson River is determined by flows, water diversions, and past and present land use activities in the watershed. Nonpoint source runoff from agriculture, construction, and urbanization has increased nutrient and suspended sediment levels in the river. The State of Nevada has identified total phosphorus, total suspended solids, turbidity, temperature, total iron, and total mercury as parameters of concern for the Carson River (Pahl, 2007). Much of the Carson River is included on Nevada's 303(d) list due to exceedances of phosphorus standards, excess algae, and depressed dissolved oxygen levels (NDEP, 2005).

Water quality in the underlying groundwater aquifers has been described as generally good and satisfactory for irrigation, domestic, and most common uses, with the exception of poor water quality in the New Empire area of northeast Carson City (Glancy and Katzer, 1975). Domestic, municipal, and industrial/commercial uses rely mainly on groundwater resources (CWSCD, et al., 2007). The groundwater perennial yield for Eagle Valley is 7,000 acre-feet per year (CWSCD, et al., 2007).

3.4.2 Effects

Basis of Significance. An alternative would be considered to have a significant effect on water resources if it would (1) substantially degrade the quality of natural surface or groundwater resources, (2) contaminate a public water supply, or (3) exceed or interfere with existing water rights.

No Action. This alternative would have no effect on surface or groundwater resources. However, the City water supply would continue to be threatened due to the potential for failure of the existing water tank, particularly during seismic events. In addition, failure of the tank could affect downstream water quality as a result of erosion and pollution from the discharge of millions of gallons of water into the Carson River.

Replace Water Tank. This alternative would have no effect on surface or groundwater resources, but could have short-term effects on water quality down-gradient during construction. Clearing, grading, and excavation activities would involve movement of loose soils, which could move down-gradient due to gravity or as suspended sediment in stormwater runoff. This sediment in the runoff could be carried into down-gradient swales, creeks, or even the Carson River. However, as discussed in Section 3.4.3, the City would require the construction contractor to avoid or minimize potential erosion and runoff during construction. As a result, any short-term effects on water quality would be less than significant.

In addition, the presence of the new tank and removal of the existing tank would change the surface drainage patterns during rain and snowmelt events. To avoid any adverse effects, the project would include new drainage swales and a riprapped dissipater to collect flows, reduce velocities, and limit scour from the flows leaving the project area. Both the swales and the riprapped dissipater would direct flows from upgradient and onsite areas to an undisturbed vegetated area offsite for infiltration.

3.4.3 Mitigation

Although the project would have no significant effects on water resources, the City would be required to obtain any permits and comply with State statutes and codes intended to protect water resources and quality as discussed below.

Since the project would disturb more than 1 acre, the NDEP would require an NPDES permit per the Clean Water Act, as amended. This permit is required for construction activities that disturb 1 or more acres of land and involve possible storm

water discharges to surface waters. Prior to construction, the construction contractor would be required to prepare a Storm Water Pollution Prevention Plan, which identifies BMP's to avoid or minimize any adverse effects of construction on surface waters and to protect channels from sediment input during construction. These BMP's could include the following:

- Install flags, markers, and/or temporary fences prior to construction activities to avoid soil disturbance outside of the work area.
- Minimize access routes for construction vehicles to prevent track-out of sediments; prohibit traffic over exposed soils during wet weather or when the soils are saturated or muddy.
- Prevent runoff from flowing over unprotected slopes and disturbed areas during construction.
- Trap sediment before it leaves the site, and stabilize disturbed areas as quickly as possible.
- Confine construction to the dry season, whenever possible. If construction needs to be scheduled for the wet season, ensure that erosion and sediment transport control measures are ready for implementation prior to the first storm.
- Develop a spill containment plan for dealing with spills of potentially toxic substances.
- Revegetate disturbed areas.

In addition, the project would comply with all provisions of the Nevada Revised Statutes, Chapter 533 and 534, regarding Nevada water rights and regulations, as well as Nevada Administrative code 445A.6715 to 445A.6718, inclusive, "Regulations for Public Water Systems."

3.5 Air Quality

3.5.1 Existing Conditions

Air Quality Management. The Nevada Bureau of Air Pollution Control (BAPC) and Nevada Bureau of Air Quality Planning (BAQP) are responsible for ensuring compliance with Federal and State air quality regulations in all Nevada counties except Washoe and Clark Counties (BAPC, 2009; BAQP, 2009). Among other activities, the Nevada BAPC issues emission and surface area disturbance permits while the Nevada BAQP monitors and manages ambient air quality throughout the rest of the State.

The State has adopted the U.S. Environmental Protection Agency's (EPA) National Ambient Air Quality Standards in determining compliance. According to the

EPA, the project area is classified as an “attainment” area (meets standards) for all required pollutants, including carbon monoxide, ozone, and particulate matter (PM10) (EPA, 2009). The primary sources of hydrocarbon emissions and fugitive dust in and near the project area are vehicles.

Sensitive Receptors. Air quality sensitive receptors include sensitive land uses and those individuals and/or wildlife that could be affected by changes in air quality due to emissions and fugitive dust from the project. Air quality sensitive land uses in the project area include residences and open space recreation area, and sensitive receptors include residents, recreationists, and occasional wildlife.

3.5.2 Effects

Basis of Significance. An alternative would be considered to have a significant effect on air quality if it would (1) violate any ambient air quality standard, (2) contribute on a long-term basis to an existing or projected air quality violation, (3) expose humans or sensitive species to substantial pollutant concentrations, or (4) not conform to applicable local standards.

No Action. This alternative would have no effect on existing air quality in the project area. Air quality would continue to be influenced by climatic conditions, wild fires, and local and regional emissions from vehicles and agriculture.

Replace Water Tank. This alternative would have short-term effects on air quality during construction of the project. The operation of vehicles and heavy equipment would produce emissions as hydrocarbon, exhaust, and PM10. In addition, there would be short-term increases in PM10 as fugitive dust during soil excavation and operation of vehicles and heavy equipment.

However, since it is a relatively small construction project, these short-term emissions are not expected to violate any Federal ambient air quality standards or expose any sensitive receptors to substantial pollutant concentrations. Once the project is completed, air quality would return to pre-project conditions so there would be no long-term effects on air quality in the region. As a result, the project would have no significant effects on air quality.

3.5.3 Mitigation

Although the project would have no significant effects on air quality, the City would be required to obtain any applicable permits and comply with applicable State statutes intended to protect air quality, as discussed below.

Construction of the project could disturb a total of approximately 3.8 acres of ground surface. Since construction would disturb fewer than 5 acres, a Surface Area Disturbance permit would not be required from the State. Prior to construction, the construction contractor would prepare a Fugitive Dust Control Plan identifying BMP's to

minimize the amount of emissions and PM₁₀ generated during construction. These practices could include water trucks, sprinklers, fences or windbreaks, and speed limits. The contractor would be required to implement these BMP's and maintain dust controls during construction.

Since this relatively small construction project is not located in a Federal air quality non-attainment area, it is in a category of actions considered exempt from general conformity requirements (BLM, 2009). The project would be required to comply with all provisions of the NRS Chapter 445B, "Air Pollution," and NRS Chapter 486A, "Alternative Fuels: Clean-Burning Fuels." Compliance with NAC Chapter 445B, "Air Controls," would also be required. As a result, no additional mitigation would be required.

3.6 Traffic

3.6.1 Existing Conditions

Regional and Local Roadways. The local roadways in the project area include paved City streets, gravel access road, and dirt all terrain vehicle roads. The City streets near the project area include Edmonds Drive and Koontz Lane. Edmonds Drive is the main north/south road in the vicinity and is located west of the project area. Koontz Lane runs east/west and terminates on its eastern end just past its intersection with Edmonds Drive at the project area. In addition, the project area has dirt roads and trails for recreation.

Truck traffic on South Edmonds Drive is regulated under a Carson City ordinance. The truck ordinance allows local deliveries and truck traffic from businesses located in the area, but restricts through truck traffic (Carson City, 2009).

Traffic Types and Volumes. The types of traffic on the City roads include cars, recreational vehicles, small utility vehicles, semi- and pickup trucks, buses, and motorcycles. The Nevada Department of Transportation records annual average daily traffic (AADT) volumes on paved roadways in Carson City. Table 4 shows the 2008 AADT counts at two locations near the project area (NDOT, 2009). The access road has occasional use by maintenance vehicles for the existing water tank and vehicles accessing BLM recreation land.

Table 4. Traffic Volumes on Roadways Near the Project Area in 2008

Station #	Road	Location	AADT
25-0127	South Edmonds Drive	100 feet south of Damon Road	8,400
25-0126	Koontz Lane	50 feet west of Raglan Circle	2,300

Source: Annual Average Daily Traffic (AADT) volumes obtained from NDOT, 2009.

3.6.2 Effects

Basis of Significance. An alternative would be considered to have a significant effect on traffic if it would cause an increase in vehicle traffic that is substantial in

relation to the existing load and capacity of a roadway or a substantial deterioration of the physical condition of area roadways.

No Action Alternative. This alternative would have no effect on existing roadway traffic in the project area.

Replace Water Tank. This alternative could have short-term effects on traffic along South Edmonds Drive and Koontz Lane near the project area during construction. These effects could include increases in traffic volume, and delays or congestion. When the work is completed, however, the traffic volumes and flow along these roadways would be expected to return to pre-project conditions. As a result, there would be no long-term effects on traffic.

The types and volume of traffic on South Edmonds Drive and Koontz Lane would increase during construction as construction equipment, haul trucks, and worker vehicles access the project area. However, use of these roadways by equipment and trucks would be limited to a few days during initial staging, mobilization, and clean up. In addition, an average of only four worker vehicles would travel to and from the project area each work day, for a total of eight trips per day. Since these increases in traffic would not be considered to be substantial in relation to the existing volumes of traffic on South Edmonds Drive and Koontz Lane, they would not be considered to be significant.

The effects could also include brief traffic delays and congestion as vehicles on South Edmonds Drive or Koontz Lane slow down as construction equipment, haul trucks, or worker vehicles use these roadways to access or exit the project area. As discussed in Section 3.6.3, the City would require the construction contractor to minimize disruption and ensure public safety during construction. As a result, any effects on traffic flow or public safety would be less than significant.

3.6.3 Mitigation

Although the project would have no significant effects on traffic, the City would be required to ensure public safety on roadways. Prior to initiation of construction, the contractor would be required to prepare a traffic management plan and have it approved by the City. This plan would identify those measures that the contractor would implement during construction to minimize any effects on traffic and ensure public safety. These measures could include signs, flaggers, cones, barricades, traffic delineation, and designated detours.

3.7 Esthetics and Visual Resources

3.7.1 Existing Conditions

The esthetics in the project area include the existing water tank structure, access roads, chain link fencing, and all terrain vehicle roads, and surrounding undisturbed areas with big sagebrush plant species. The views from the project area include rolling hills to

the north, east, and south with no structures or other facilities in the immediate area. The hill slope provides views of Carson City and the Carson Valley to the west.

The project area occurs in BLM's Visual Resource Management (VRM) Class III Area. Key Observation Points were identified to assess the visual effect from the project. Photos were taken of the project area from five observation points (Appendix C). Photo points are indicated on Plate 9. As shown in the photos taken from the five observation points, the project area is within the viewshed of nearby residents and passing traffic.

The existing visual resource in the project area is a light green, 3-million gallon water tank surrounded by a chain link fence adjacent to the location of the new water tank. This existing water tank and chain link fence are visible from South Edmonds Drive, as well as across the valley from South Carson Street. The existing water tank and chain link fence are fully visible and not obstructed from view to residents or motorists below.

3.7.2 Effects

Basis of Significance. An alternative would be considered to have a significant effect on esthetics if changes in landform, vegetation, or structural features substantially increase levels of visual contrast as compared to surrounding conditions. The significance of esthetics effects is evaluated with reference to the number of viewers affected.

Public lands in the project area are managed under a Class III VRM objective by the BLM. The VRM Class III objective is to partially retain the existing character of the landscape. The level of change to the characteristic landscape is allowed to be moderate. Management activities may attract attention, but would not be expected to dominate the view of the casual observer. Changes would repeat the basic elements found in the predominant natural features of the characteristic landscape.

No Action This alternative would have no effect on existing esthetics in the project area. Under the No Action alternative, the existing light green water tank would remain clearly visible. The landscape and views in the area would be expected to remain the same.

Replace Water Tank. This alternative would have short-term effects on esthetics during construction. Equipment, worker vehicles, and construction activities would be within the view of nearby residents and recreationists. There is no practical way to avoid these effects. However, because of the relatively short construction period and limited number of viewers, these short-term effects on esthetics would be considered less than significant.

When the project is completed, the existing water tank would be replaced by a new tank surrounded by a chain link fence in nearly the same location. This would be a permanent change in the viewshed. However, this change from one tank to a similar tank

surrounded by a chain link fence would not be considered to substantially increase the levels of visual contrast in the viewshed.

In addition, the changes in the viewshed would be minimized in several ways. First, the berm around the new water tank would shield approximately two-thirds of the tank from view. In addition, the new water tank would be painted with an appropriate color to blend in with the natural landscape as stipulated by the BLM. The new fencing would also be a non-reflective color that blends with the natural landscape stipulated as stipulated by the BLM. Finally, all disturbed areas would be reseeded with a native plant mix to encourage revegetation consistent with the surrounding area. As a result, the project would have no significant long-term effects on esthetics or visual resources.

3.7.3 Mitigation

Since there would be no significant effect to esthetics and visual resources, no mitigation would be required.

3.8 Cultural Resources

3.8.1 Existing Conditions

Ethnography. The project area is located in a region originally inhabited by the Washoe Tribe of California of Northern Nevada (Chambers Group, Inc., 2010). There is evidence that this area also overlapped with the Northern Paiute and was used by both tribes (Price, 1962; 1980). This resulted in considerable intermarriage and bilingualism between the two tribes (Pendleton et al., 1982).

The Washoe occupied an area loosely centered around Lake Tahoe, with the southern boundary extending to Markleeville in California, the northern perimeter at Honey Lake, and the western edge close to the crest of the Sierra Nevada near Webber Lake, and extending eastward to the Pine Nut Mountains (Stewart, 1966). The Washoe are linguistically distinct from other ethnographic groups in the Great Basin, and the anomaly of their language suggests that they have resided in the Great Basin much longer than other groups (Jacobsen, 1986). The Washoe were traditionally divided into three groups based on geographic location, one of which included the Carson Valley (ITCN, 1976).

Both the Washoe and the Northern Paiute followed a hunting/gathering life style based on seasonal use of plant resources, especially seeds, berries, and roots; hunting and trapping; and fishing, with fishing being of more importance to the Washoe because of Lake Tahoe. Unlike their Western Shoshone and Northern Paiute neighbors, the Washoe did not totally abandon their permanent encampments during periods of seasonal foraging (D'Azevedo, 1986). From spring until fall, encampments were located around Lake Tahoe while their winter camps were located near the southern end of Truckee Meadow and in the vicinity of two springs in the Carson Valley near Carson City (ITCN, 1976).

Early Settlement. The first Euroamericans to enter the area were fur trappers exploring the area in the late 1820's and 1830's. One of the more famous of these mountain men was Jedediah Smith, who entered the area from California (Hulse, 1998). Smith was followed by John C. Fremont in the early and mid-1840's, along with Kit Carson who made several expeditions into Nevada. After gold was discovered in 1848 in California, the flow of emigrants increased considerably. In 1854, Brigham Young, Governor of the Utah Territory, created Carson County. The Eagle Valley trading post was established during this period and eventually became Carson City in 1858. The discovery of the Comstock Lode in 1859 changed everything, and proximity to the mines ensured the future of Carson City.

The Comstock mines created a demand for goods that brought early settlers to Carson City and the Carson Valley. They produced crops and dairy products for the mining towns while lumber was provided from the nearby Sierra Nevada (Hulse, 1998). These industries have peaked, and since the end of WWII, agriculture in the state has been dominated by livestock production.

Prior to irrigation, the Carson Valley consisted of a relatively narrow strip of meadow along the Carson River. The first known irrigation ditch and dam constructed on the river was at Brockliss Slough in 1855. The land along the East Fork of the river was brought under irrigation in 1857 with the construction of the Island Ditch. This was followed by the construction of small dams and ditches that brought water to the fields of the Carson Valley. The Mexican Dam and ditch were built in 1861 to divert water from the Carson River to the Mexican Mill. The dam is approximately 2 miles from the project area. The Mexican Ditch is located approximately 1.5 miles from the project area and is used today to bring water to the Silver Saddle Ranch and other users to the northeast of the project area.

The land where the project is located on land owned and managed by the BLM. The existing water tank was constructed in 1978. The area is part of the Prison Hill Recreation Area. The trails in the recreation area were established cooperatively by the BLM, State of Nevada, and the Carson City School District.

Records Search. The area of potential effects (APE) is located in the NW ¼ of the SE ¼ of Section 28, Township 15 North, Range 20 East (T15N R20E). The APE includes the area with the potential to be directly or indirectly affected by the project.

Prior to fieldwork, a background records search was conducted by the Chambers Group, Inc., to compile information about the prehistory and history of the project area. The records search was conducted online on the Nevada Cultural Resource Information System (NVCRIS) database and at the Carson City Field Office of the BLM.

A total of 15 cultural resource inventories have been conducted within 0.5 mile of the project area (Table 5). No previously recorded sites are present in the APE. As a result of these inventories, a total of eight archaeological sites and six isolated finds have been recorded within 1 mile of the current project area (Table 6). Five sites are historical

Table 5. Previous Cultural Resource Inventories within 1 Mile of the Project Area

NSM Report No.	Agency No.	Date	Author	Report Title	Sites within 1 mile
13-2	N/A	1977	Densie, A.	Nevada State Museum: Carson City Sewer Reconnaissance	OR 121 OR 120 OR 118
13-14	3-130 (N)	1977	Hatoff, B.	Cultural Resources Report: N-13400, Prison Hill Water Tank: Cr Report #BLM3-130(N) (FromNADB)	None
13-15	3-132 (P)	1977	Hatoff, B.	Cultural Resources Report For Prison Hill Recreation Management Plan: Cr Report # 3-132(P) (From NADB)	OR 134 OR 136
13-19	3-211 (N)	1978	Beals, G.	Cultural Resource Report Field Worksheet: Edmonds Feeder Cable Extention N-18990: Cr Report #3-211(N) (from NADB)	None
13-20	3-879 (P)	1978	Steinberg, L. and P. Sutton	Inventory and Assessment of Historical Landmarks and Structures Encountered by the Proposed U.S. 395 Carson City Bypass Corridors (NADB)	260r25
13-27	3-280 (N)	1989	Beals, G.	Cultural Resources Report Field Worksheet: Aurora Drive Extension N-19825: Cr Report #: 3-280 (N) (from NADB)	None
13-32	3-366	1980	Beals, G.	Cultural Resources Report Field Worksheet: Capitol City Baptist Church – R&PP – N -21688: Cr Report #: 3-366(N) (from NADB)	None
13-71	N/A	1993	Soper, D.	A Cultural Resources survey of a 10-acre Parcel for the Washoe Housing Authority, Carson City	OR207
13-63	3-1269	1977	Young, B.	Cultural Resource Inventory of Sierra Pacific Power Company’s Proposed Transmission Line G28, Carson City, Nevada	OR196 OR197 OR198
18-288-1	3-1433-2	1992	Johnson, F. and L. Lundemo	Archaeological Survey of 12.6 miles of Pipeline and four valve assembly locations	None
13-101	3-1870 (P)	1998	McCabe, A. and V. Clay	A Cultural Resources Inventory and Evaluation of 40 Acres for the Edmonds Sports Complex Expansion, Carson City, Nevada	OR291 OR292 OR293
N/A	3-2056	1996	Roide, T.	Cultural Resources Inventory Isolated Report: Prison Hill Fuels Treatment; Carson City, NV	None
N/A	3-1689(N)	1996	Abbett, T.	Prison Hill Trail Head Developments Project	None
N/A	3-1155(N)	1987	McGinty, M.	Cultural Resources Report of the Access Road Right-of-Way N-39816	None
N/A	3-573 (N)	1981	Botti, N. and Boykin, P.	Cultural Resources Report of the Church of Christ – Recreation and Public Purposes	None

Table 6. Previously Recorded Cultural Resources within 1 Mile of the Project Area

BLM Site Number	State Site Number	Description	NRHP Recommendation
CrNV-32-464	260r3	Lithic and ground stone scatter	Unevaluated
CrNV-03-3304	260r25	Isolated find - brown chert flake	Non-significant
CrNV-32-472	260r118	Point and core collected	Unevaluated
CrNV-32-474	260r120	Obsidian flakes	Unevaluated
CrNV-32-475	260r121	Historic debris and structure remains	Unevaluated
CrNV-03-701	260r134	Isolated find - Martis point	Non-significant
CrNV-31-1028	260r136	Isolated find - point tip	Non-significant
CrNV-32-3996	260r196	Isolated find – obsidian shatter	Non-significant
CrNV-32-3997	260r197	Isolated find - obsidian point fragment	Non-significant
CrNV-32-3998	260r198	Isolated find - can	Non-significant
	Or207	Historic dump	Non-significant
CrNV-03-5215	Or291	Historic artifact scatter	Non-significant
CrNV-03-5216	Or292	Historic artifact scatter	Non-significant
CrNV-03-5217	Or203	Historic road segment	Non-significant

artifact scatters; one is a historic road segment; and three are prehistoric lithic scatters. Four of the sites are unevaluated while the remaining sites were recommended as not being eligible for inclusion in the National Registrar of Historic Places (NRHP).

Field Survey. An archaeological field survey of the project site was conducted by the Chambers Group staff archaeologist JoEllen Ross-Hauer on February 12, 2010. Chambers Group senior archaeologist Harold Brewer, M.S., served as principal investigator for the project and meets the Secretary of Interior Standards for Professional Qualifications (48 FR 44738-44739). The entire project area was inventoried to BLM Class III standards, as defined in the BLM Cultural Resources Inventory Guidelines (Baker, 1990). The project area was examined by means of a pedestrian survey, with transects no more than 30 meters apart. Coverage was completed using cardinal transect techniques.

The cultural resources survey of the project area resulted in the identification of one newly identified archaeological site CrNV-03-7662. This site (CrNV-03-7662) consists of a large historic debris scatter dating from the 1940's to the 1970's. This site is located on the western edge of Prison Hill just southwest of the existing water tank. No shovel probe was conducted to test the depth of cultural material at the site. Visual inspection of deposition was weighed with the surface manifestations of the cultural material and site condition to make a judgment about potential depth.

The Corps has determined that site CrNV-03-7662 is not eligible for inclusion in the National Register of Historic Places (NRHP) because it is not associated with any particular historic theme. Such unassociated debris scatters are categorically ineligible

for inclusion in the NRHP according to the 2009 State Protocol Agreement between the State Historic Preservation Officer (SHPO) and the BLM.

3.8.2 Effects

Basis of Significance. An alternative would be considered to have a significant effect on cultural resources if it would adversely affect any properties listed, or eligible for listing, on the NRHP. Types of potential effects include physical destruction, damage, or alteration; isolation or alteration of the character of the setting; introduction of elements that are out of character; neglect; and transfer, lease, or sale.

No Action Alternative. This alternative would have no effect on cultural resources. Any cultural resources and historic structures in the vicinity of the project area would be expected to remain the same.

Replace Water Tank. A finding of no historic properties affected is applicable (36 CFR Part 800.4(d)(1)) since the one resource identified during the field survey, a historic debris scatter, has been determined by the Corps to be ineligible for inclusion in the NRHP and is therefore not a historic property.

3.8.3 Mitigation

Since there are no known properties listed, or eligible for listing, in the NRHP in the APE, no mitigation would be required. However because of the number of archeological sites and isolates within a mile of the APE, a qualified archaeological monitor would be required to be present during initial ground-disturbing construction activities into the first 3 feet of soil. In addition, if buried or previously unidentified cultural resources are located at any time during project activities, all work in the vicinity of the find would cease, and the Corps archaeologist and Nevada SHPO's office would be contacted for additional consultation per NRS 303.150-383.190 and 36 CFR 800.13(b)(3), Post Review Discoveries.

4.0 CUMULATIVE EFFECTS

Cumulative effects are effects of the project considered with other past, present, or reasonably foreseeable projects in the area. The only project that could contribute to cumulative effects is Phase 2 of the U.S. Hwy 395/Carson City Freeway project, under construction by NDOT. The BLM is also proposing to construct a fire facility project along South Edmonds Drive. However, to date this project has not yet been approved, scheduled for construction, or funded. Thus, it is not considered to be "reasonably foreseeable" at this time.

Since 2002, the NDOT has been constructing the U.S. Hwy 395/Carson City Freeway (US 395) project through the east side of Carson City. The freeway project is intended to improve traffic circulation around Carson City, while improving drainage by rerouting stormwater north via a new flood control channel. Phases 1 and 2A were

completed in 2006 and 2009, respectively, and included bridges, storm drains, soundwalls, interchanges, freeway traffic lanes, lighting, signals, and landscaping. The only identifiable long-term effect of these past phases is the presence of the freeway features in the regional viewshed.

A portion of the US 395 Phase 2B project will be constructed at Koontz Lane and South Edmonds Drive directly west of the water tank project area. The US 395 Phase 2B project will be constructed in stages, with the first stage scheduled for the summer of 2010. The first stage will include the widening of Clearview Drive and Koontz Lane, followed by the construction of bridge structures, the Edmonds Flood Control Channel, and the relocation of major utilities in this area of the corridor. Completion of Phase 2 is anticipated to be 2012-2014, depending on funding availability.

The water tank project would be constructed at the same time as the US 395 Phase 2B project. Concurrent construction would result in both projects contributing to short-term cumulative effects on air quality, traffic, and noise. Because of the location and nature of the water tank project, however, the extent of the area affected would be limited to a few residential areas and roadways near Koontz Lane and South Edmonds Drive. In addition, the magnitude of the effects contributed by the water tank project would be expected to be very small because (1) the few sensitive receptors are located at a distance from the work site, and (2) only a few construction-related vehicles would use the roadways to access the work site.

Once constructed, the water tank project would no longer contribute to short-term cumulative effects. Air quality emissions, types and volume of traffic, and noise levels associated with the new tank would return to pre-project conditions. The visual change from one tank to another similar tank in close proximity would not be considered to contribute to long-term cumulative effects on esthetics. Therefore, when the effects of the water tank project are considered with other past, present, and reasonably foreseeable projects in the area, no significant cumulative effects are anticipated.

5.0 COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

Clean Air Act, as amended and recodified (42 U.S.C. 7401 et seq.).

Compliance. The project is not expected to violate any Federal or State air quality standards, or hinder the attainment of air quality objectives in the local air basin. The Corps has determined that the project would have no significant adverse effects on the future air quality of the area.

Clean Water Act (33 U.S.C. 1251 et seq.). *Compliance.* Since the project would not involve placing any fill material into waters of the U.S., including wetlands, a Section 404 permit would not be required. The project would require an NPDES permit from the State since it would disturb 1 or more acres of land and involve possible stormwater discharges to surface waters.

Endangered Species Act (16 U.S.C. 1531 et seq.). *Compliance.* No Federally listed threatened or endangered species or their habitat have been identified in or near the project area.

Executive Order 11988, Floodplain Management. *Compliance.* This order directs all Federal agencies to avoid to the extent possible the adverse effects associated with the modification of floodplains, and to avoid support of floodplain development wherever there is a practicable alternative. The project would have no effect on floodplains.

Executive Order 11990, Wetlands. *Compliance.* This order directs all Federal agencies to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. The project would have no effects on wetlands.

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. *Compliance.* The order directs all Federal agencies to identify any disproportionate human health or environmental effects of their programs, policies, and activities on minority and low-income populations. The project would have no such effects on any minority or low-income populations.

Farmland Protection Policy Act (7 U.S.C. 4201). *Compliance.* The project would have no effect on prime farmland or farmland of statewide importance because there is no such farmland in the work areas for the project.

Migratory Bird Treaty Act (15 U.S.C 701-18h). *Compliance.* This act requires that the project avoid destruction of active bird nests or young of migratory birds that breed in the area from March to August. If construction is necessary during the nesting season, Carson City would be required to have a qualified biologist survey for active nests of migratory birds within a 1/8-mile radius of the project area within 15 days prior to initiation of construction. If active nests are located during these surveys, the biologist would consult with the U.S. Fish and Wildlife Service (USFWS) and NDOW, as required, to determine the appropriate buffer around the nest.

National Environmental Policy Act (42 U.S.C. 4321 et seq.). *Partial Compliance.* This draft EA is in partial compliance with this act. Comments received during the public review period will be considered and incorporated into the final EA, as appropriate. The final EA and either a signed Finding of No Significant Impact (FONSI) or determination of need to prepare an Environmental Impact Statement (EIS) will result in full compliance with this act.

National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 et seq.). *Partial Compliance.* A letter dated 15, 2010, was sent to the Nevada SHPO, requesting concurrence with the Corps' determination of no historic properties affected in accordance with 36 CFR Part 800.4(d)(1). In addition, letters to potentially interested

Native Americans were sent on 18, 2010, informing them of the project and requesting any traditional cultural information or concerns related to the project. The response from the SHPO, as well as any responses from Native Americans, will be included in the final EA.

6.0 PUBLIC INVOLVEMENT

Public involvement for this project has included a presentation on the project at a Carson City Planning Commission meeting on December 16, 2009. Plans for the project were made available to the public prior to the meeting, and the public has been encouraged to comment on the proposed plan and the Commission's decision.

7.0 COORDINATION AND REVIEW OF THE EA

The draft EA and FONSI will be circulated for 21 days to agencies, organizations, and individuals known to have an interest in the project (Appendix E). All comments will be considered and addressed, as appropriate. This project is being coordinated with all relevant government resource agencies including the BLM, USFWS, NDEP, Nevada SHPO, and Carson City.

8.0 CONCLUSIONS

Based on the information in this EA, the proposed project would have no significant adverse effects on the environment. No mitigation beyond avoidance, BMP's, and measures proposed in this EA would be required. Following the public review period, a determination will be made whether a FONSI is warranted or whether preparation of an EIS is necessary.

9.0 PREPARERS

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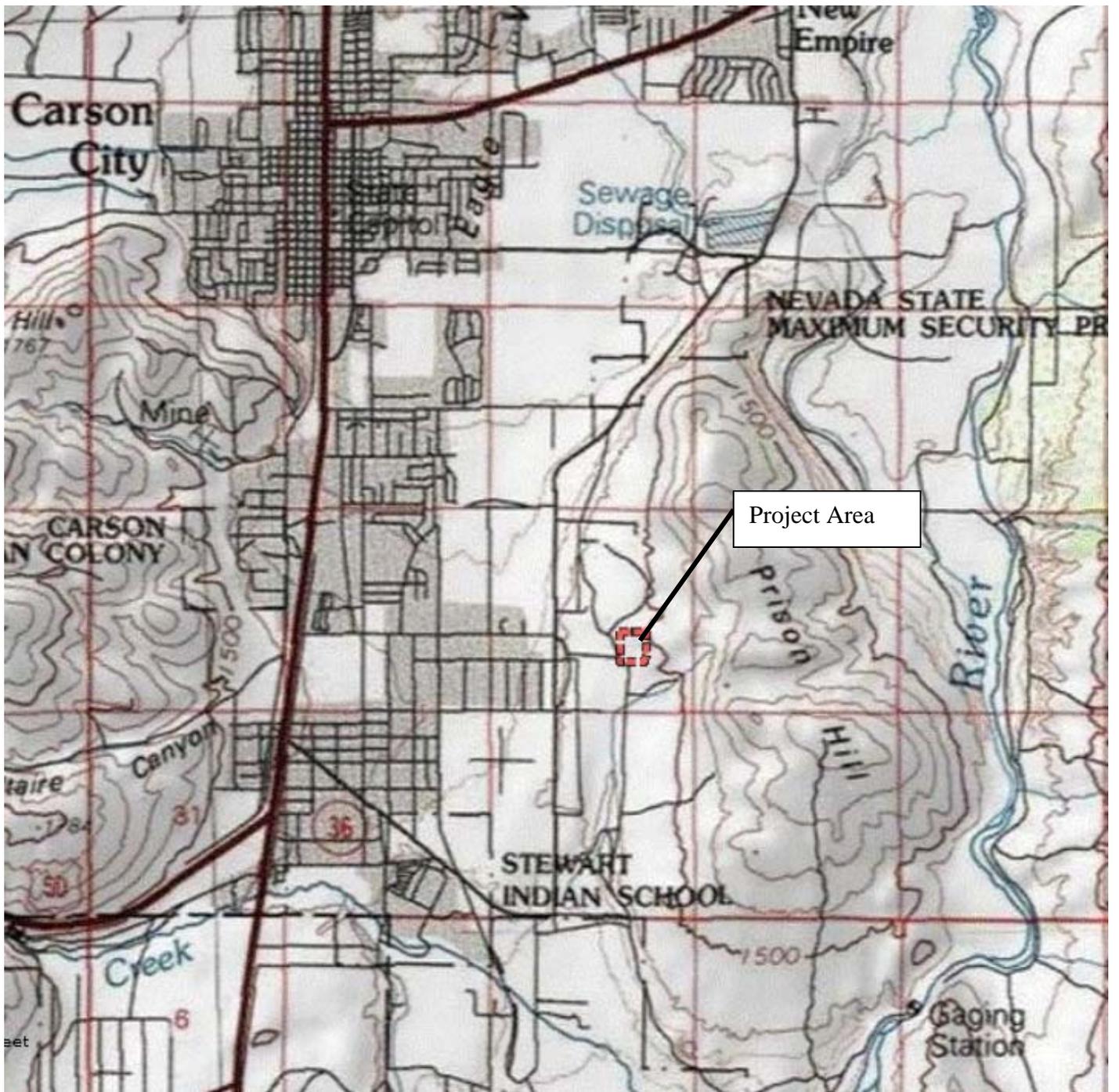
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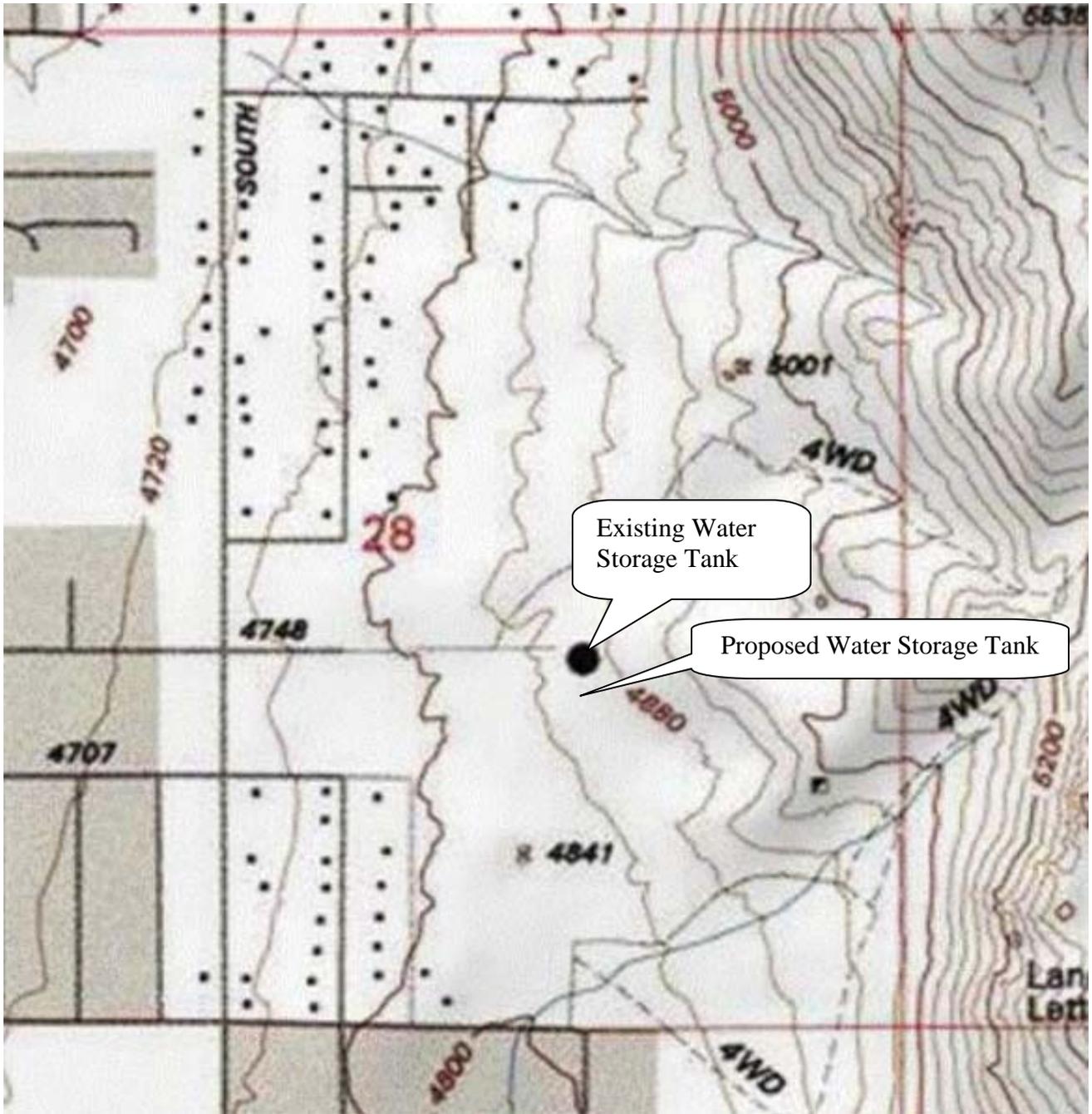
Plates



**PLATE 1
PROJECT LOCATION**

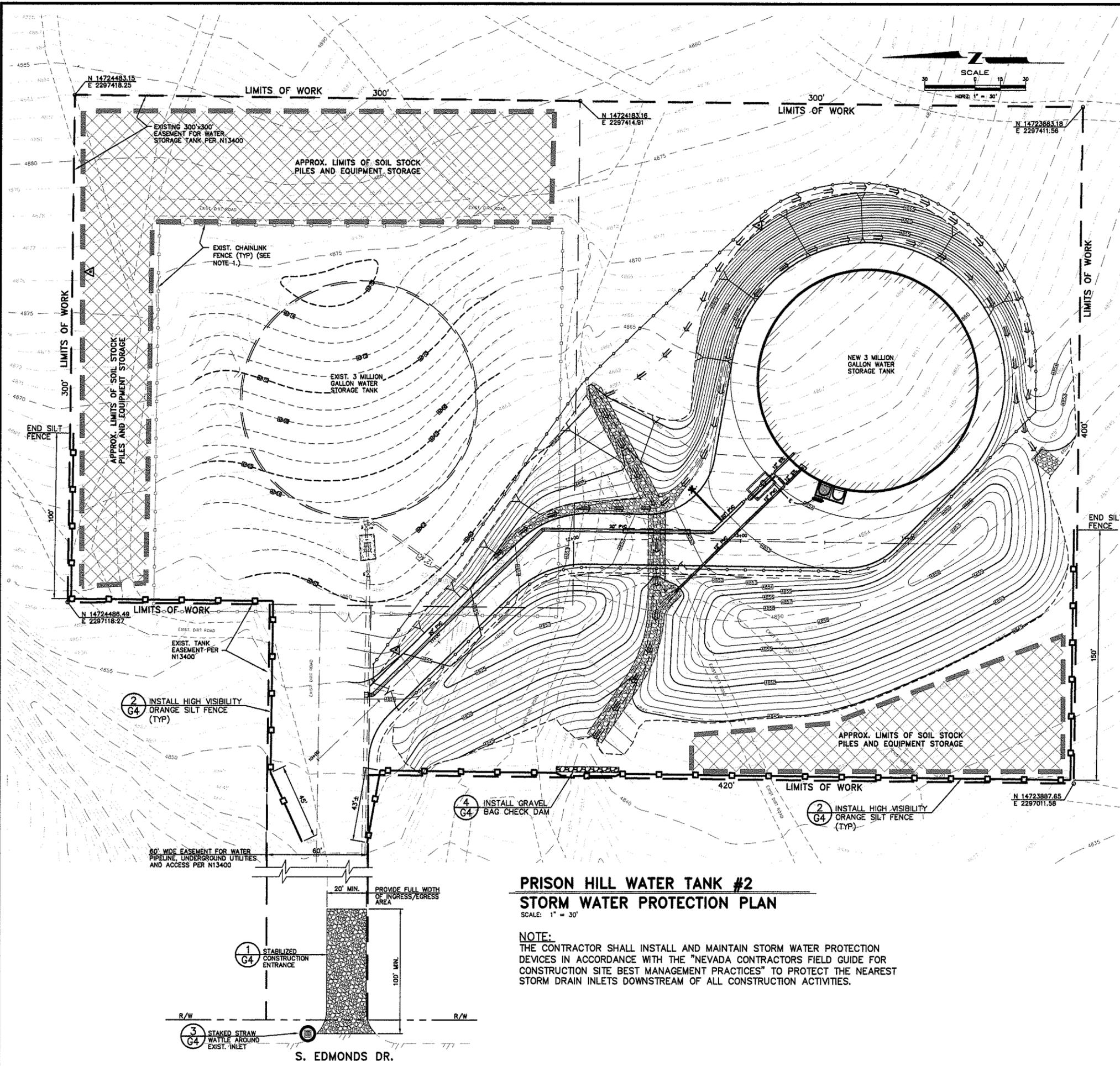


**PLATE 2
VICINITY MAP**



**PLATE 3
PROJECT AREA**

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**PRISON HILL WATER TANK #2
STORM WATER PROTECTION PLAN**

SCALE: 1" = 30'
NOTE:
THE CONTRACTOR SHALL INSTALL AND MAINTAIN STORM WATER PROTECTION DEVICES IN ACCORDANCE WITH THE "NEVADA CONTRACTORS FIELD GUIDE FOR CONSTRUCTION SITE BEST MANAGEMENT PRACTICES" TO PROTECT THE NEAREST STORM DRAIN INLETS DOWNSTREAM OF ALL CONSTRUCTION ACTIVITIES.

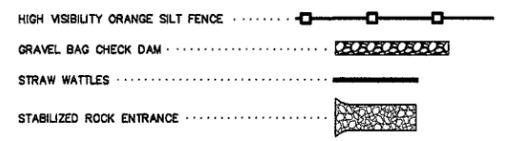
STORMWATER PROTECTION NOTES:

- PRIOR TO ANY CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL STORM WATER PROTECTION DEVICES IN ACCORDANCE WITH THE "NEVADA CONTRACTORS FIELD GUIDE FOR CONSTRUCTION SITE BEST MANAGEMENT PRACTICES" AND DETAILS AS SHOWN.
- ALL INSTALLED PROTECTION DEVICES SHALL BE INSPECTED AND APPROVED BY THE CARSON CITY CONSTRUCTION INSPECTOR PRIOR TO ANY CONSTRUCTION ACTIVITY.
- BMP'S IN ADDITION TO THOSE INDICATED ON THE SWPP PLAN MAY BE REQUIRED IF THEY DON'T MEET LOCAL PERFORMANCE STANDARDS.
- ALL BMP'S MUST BE INSPECTED WEEKLY, PRIOR TO FORECASTED RAIN EVENTS, AND WITHIN 24 HOURS AFTER ANY EVENT THAT CREATES RUNOFF AT THE SITE.
- ACCUMULATED SEDIMENT MUST BE REMOVED FROM BMP'S WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE. SEDIMENT MUST ALSO BE REMOVED WITHIN SEVEN DAYS AFTER A RUNOFF EVENT OR PRIOR TO THE NEXT FORECASTED RAIN EVENT WHICHEVER IS EARLIER.
- IF THE ENTRANCE STABILIZATION IS NOT PREVENTING SEDIMENT FROM BEING TRACKED ONTO PAVEMENT, ALTERNATIVE MEASURES TO KEEP THE STREETS FREE OF SEDIMENT SHALL BE USED. THIS MAY INCLUDE STREET SWEEPING, AN INCREASE IN THE DIMENSIONS OF THE ENTRANCE, OR THE INSTALLATION OF A WHEEL WASH.
- ANY QUARRY SPALLS THAT ARE LOOSEENED FROM THE ENTRANCE STABILIZATION PAD, WHICH END UP ON THE PAVED ROADWAY SHALL BE REMOVED IMMEDIATELY.
- CONTRACTOR SHALL INSPECT LOCAL ROADS ADJACENT TO THE SITE DAILY, SWEEP OR VACUUM TO REMOVE ANY VISIBLE ACCUMULATED SEDIMENT.
- ANY SEDIMENT THAT IS TRACKED ONTO PAVEMENT SHALL BE REMOVED BY SHOVELING, STREET SWEEPING OR VACUUMING. THE SEDIMENT COLLECTED BY SWEEPING SHALL BE REMOVED OR STABILIZED ON SITE. THE PAVEMENT SHALL NOT BE CLEANED BY WASHING DOWN THE STREET, EXCEPT WHEN SWEEPING IS INEFFECTIVE AND THERE IS A THREAT TO PUBLIC SAFETY. IF IT IS NECESSARY TO WASH THE STREETS, THE CONSTRUCTION OF A SMALL SUMP SHALL BE CONSIDERED. THE SEDIMENT WOULD THEN BE WASHED INTO THE SUMP WHERE IT CAN BE CONTROLLED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DUST CONTROL WITHIN THE CONSTRUCTION LIMITS AT ALL TIMES.
- STORM DRAIN INLET PROTECTION SHALL BE PLACED ACCORDINGLY ON THE NEAREST INLETS DOWNSTREAM OF ALL CONSTRUCTION ACTIVITIES.
- HIGH VISIBILITY ORANGE SILT FENCE SHALL BE INSTALLED PER THE DETAILS SHOWN HEREON, AND MAINTAINED THROUGH OUT THE PROJECT.
- THE CONTRACTOR OR HIS QUALIFIED AGENT IS REQUIRED TO ROUTINELY INSPECT ALL AREAS OF DISTURBED AND BARE SOIL, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, ONSITE VEHICLE ENTRANCE AND EXIT LOCATIONS AND ALL ONSITE EROSION AND SEDIMENT CONTROL BMP'S.

ESTIMATED QUANTITIES:

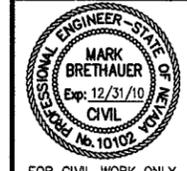
HIGH VISIBILITY ORANGE SILT FENCE	985 LF
GRAVEL BAG CHECK DAM	36 LF
STRAW WATTLES	24 LF
STABILIZED ROCK ENTRANCE	56 CY

LEGEND:



DESIGNED BY: MOB/OCR
DRAWN BY: DCR
CHECKED BY: MOB
DWG NO.: 06-6019-ALT2.dwg
SCALE (HORIZ): NOTED
LAYOUT NAME: SH1-31
PLOT DATE: 2/22/10

**CARSON CITY DEPARTMENT
PUBLIC WORKS DEPARTMENT**
3505 BUTTI WAY CARSON CITY, NEVADA 89701
PH: 887-2355 FAX: 887-2112



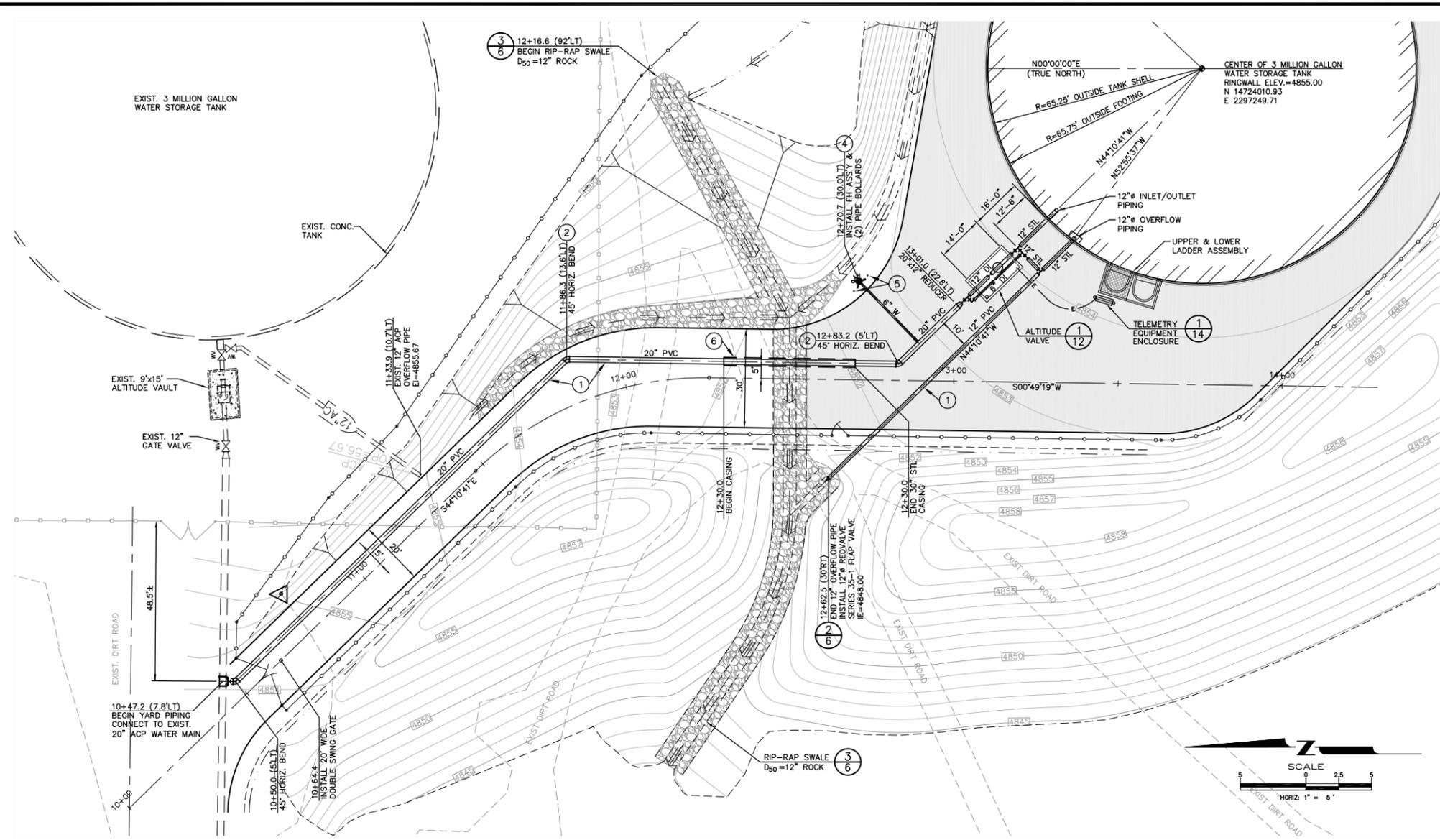
FOR CIVIL WORK ONLY

REV	DATE	DESCRIPTION

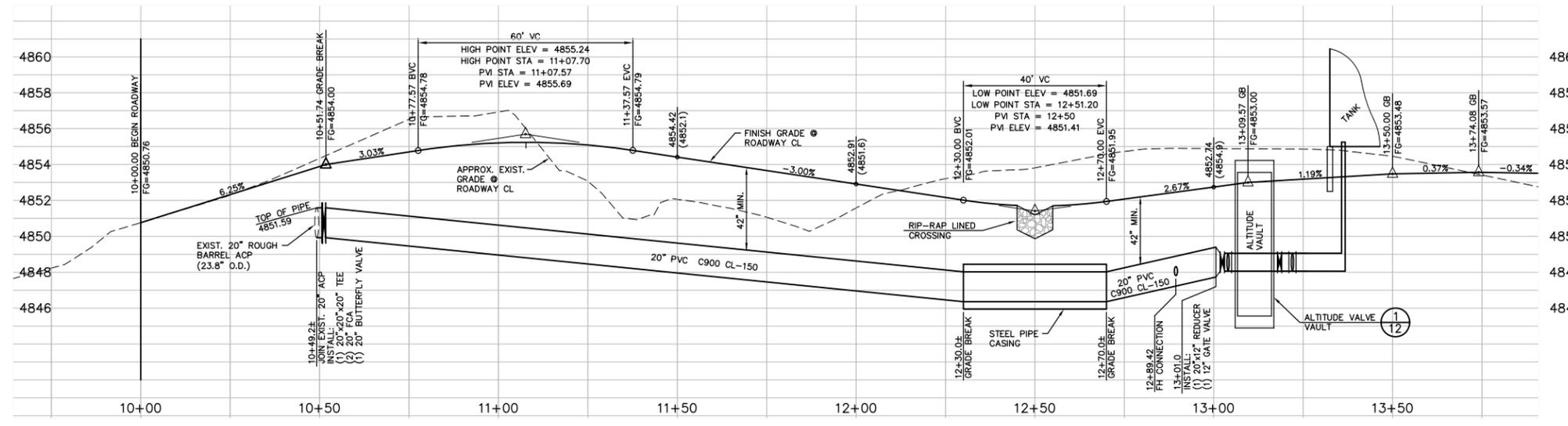
**PRISON HILL WATER TANK #2
PROJECT No. 06-6019
PRISON HILL TANK #2
STORM WATER PROTECTION PLAN**



H:\Projects\06-6019-Prison Hill Water Tank\dwg\alt-3a.dwg, 9/10/2009 7:20:19 AM, DRosenkoetter



YARD PIPING PLAN
 SCALE: 1" = 20'
 REFERENCE SHEET 4, FOR DETAILED HORIZONTAL CONTROL PLAN.
 REFERENCE SHEET 5, FOR DETAILED SITE GRADING & DRAINAGE.



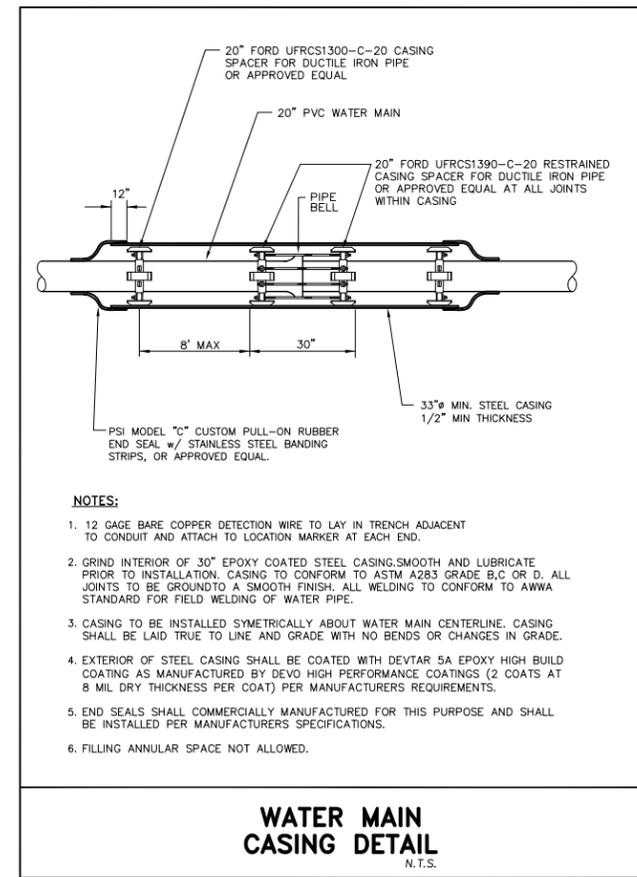
WATERLINE & ROADWAY PROFILE
 SCALE: 1" = 20' HORIZ.
 1" = 4' VERT

NOTES:

1. REFERENCE SHEET 4 FOR HORIZONTAL CONTROL AND COMPLETE SITE LAYOUT.
2. REFERENCE SHEET 5 FOR DETAILED SITE GRADING AND DRAINAGE IMPROVEMENTS.
3. REFERENCE SHEET 12 FOR ADDITIONAL ALTITUDE VAULT DETAILS, PIPING AND FITTING REQUIREMENTS.
4. ALL PVC PIPE SHALL BE NEW 12", C900 PVC CLASS 150 WATER PIPE.
5. ALL DUCTILE IRON PIPE SHALL BE NEW CLASS 150 DUCTILE IRON WATER PIPE.
6. ALL STEEL PIPE SHALL BE NEW 12" SCH 40 STEEL PIPE.

CONSTRUCTION NOTES:

- ① INSTALL WATER MAIN PER STD. DWG. C-1.2.1.
- ② INSTALL LINE LOCATION RISER, BOX & LID PER STD. DWGS. C-1.2.3 AND C-1.2.2.
- ③ INSTALL 12" GATE VALVE PER STD. DWG. C-3.1.4.
- ④ INSTALL FIRE HYDRANT ASSEMBLY PER STD. DWG. C-3.1.7.
- ⑤ INSTALL PERMANENT PIPE BOLLARD PER DETAIL 1, SHT 14.
- ⑥ INSTALL 40 LINEAR FEET OF STEEL CASING PIPE PER DETAIL HEREON CENTERED ON DRAINAGE SWALE.



NOTES:

1. 12 GAGE BARE COPPER DETECTION WIRE TO LAY IN TRENCH ADJACENT TO CONDUIT AND ATTACH TO LOCATION MARKER AT EACH END.
2. GRIND INTERIOR OF 30" EPOXY COATED STEEL CASING SMOOTH AND LUBRICATE PRIOR TO INSTALLATION, CASING TO CONFORM TO ASTM A283 GRADE B,C OR D. ALL JOINTS TO BE GROUND TO A SMOOTH FINISH. ALL WELDING TO CONFORM TO AWWA STANDARD FOR FIELD WELDING OF WATER PIPE.
3. CASING TO BE INSTALLED SYMMETRICALLY ABOUT WATER MAIN CENTERLINE. CASING SHALL BE LAID TRUE TO LINE AND GRADE WITH NO BENDS OR CHANGES IN GRADE.
4. EXTERIOR OF STEEL CASING SHALL BE COATED WITH DEVTAR 5A EPOXY HIGH BUILD COATING AS MANUFACTURED BY DEVO HIGH PERFORMANCE COATINGS (2 COATS AT 8 MIL DRY THICKNESS PER COAT) PER MANUFACTURERS REQUIREMENTS.
5. END SEALS SHALL COMMERCIALY MANUFACTURED FOR THIS PURPOSE AND SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS.
6. FILLING ANNULAR SPACE NOT ALLOWED.

PRELIMINARY
 FOR REVIEW ONLY
 95% SUBMITTAL
 DATE: 9-9-09



PLATE 6

DESIGNED BY: MOB/DGR
 DRAWN BY: DGR
 CHECKED BY: MOB
 DWG NO.: 06-6019-ALT2.dwg
 SCALE (HORIZ): 1"=20'
 LAYOUT NAME: SHT-7
 PLOT DATE: 9-9-09

CARSON CITY DEPARTMENT
PUBLIC WORKS DEPARTMENT
 3505 BUTTI WAY CARSON CITY, NEVADA 89701
 PH: 887-2355 FAX: 887-2112

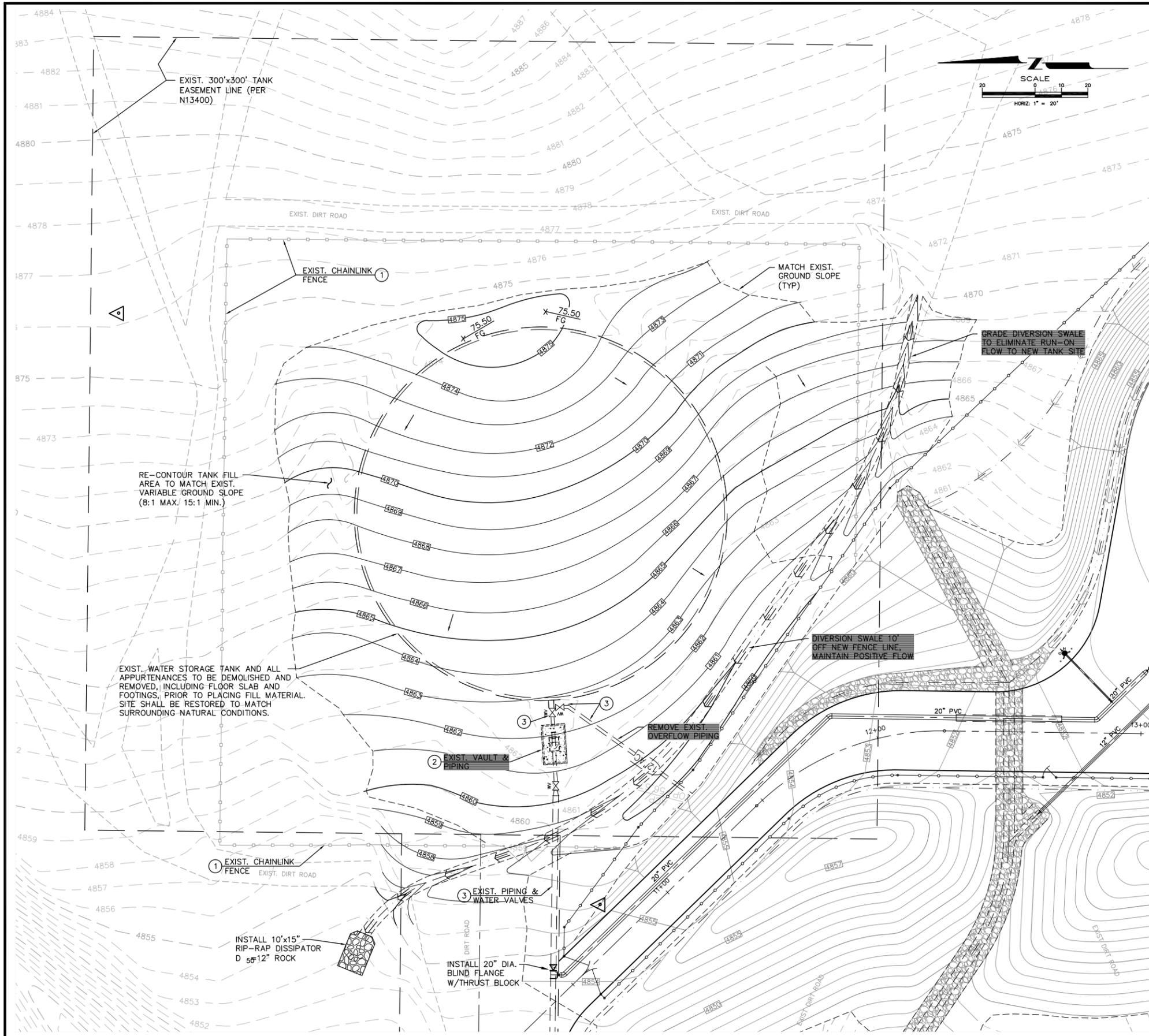
PROFESSIONAL ENGINEER-STATE OF NEVADA
MARK BRETHAUER
 Exp: 12/31/10
 CIVIL
 No. 10107
 FOR CIVIL WORK ONLY

REV.	DATE	DESCRIPTION

PRISON HILL WATER TANK #2
SITE IMPROVEMENT PLAN
 PROJECT No. 06-6019
PRISON HILL TANK
YARD PIPING PLAN

SHEET
8
 OF
15

H:\Projects\06-6019-Prison Hill Water Tank\dwg\alt-3a RESTORATION.dwg, 9/10/2009 7:21:31 AM, DRosenkoetter



EXISTING TANK SITE RESTORATION PLAN
 SCALE: 1" = 20'
 REFERENCE SHEET 3 FOR GRADING PLAN GENERAL NOTES.

CONSTRUCTION NOTES:

- ① DEMO AND REMOVE EXISTING CHAINLINK FENCE, POSTS, AND BARB WIRE.
- ② REMOVE AND SALVAGE EXISTING ALTITUDE VALVE, THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND DELIVERY OF THE UNDAMAGED VALVE TO CARSON CITY PUBLIC WORKS, THE VALVE SHALL BE SECURELY FASTENED TO A WOOD PALLET FOR DELIVERY. COORDINATE THIS WORK WITH THE CONSTRUCTION MANGER 24 HOURS IN ADVANCE TO DELIVERY.
- ③ DEMO AND REMOVE EXISTING PIPING AND ASSOCIATED CONTROL VALVES PRIOR TO PLACING FILL MATERIAL.

ESTIMATED EARTHWORK QUANTITIES:

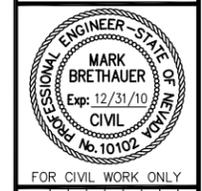
EXIST. TANK SITE FILL	3,230 CY
TOPSOIL FILL	650 CY
TOTAL IN PLACE FILL	3,880 CY

PRELIMINARY
 FOR REVIEW ONLY
 95% SUBMITTAL
 DATE: 9-9-09



DESIGNED BY: MBE/DGR
 DRAWN BY: DGR
 CHECKED BY: MBE
 DWG NO.: 06-6019-ALT2.dwg
 SCALE (HORZ): 1"=20'
 LAYOUT NAME: SHT-X
 PLOT DATE: 9-9-09

**CARSON CITY DEPARTMENT
 PUBLIC WORKS DEPARTMENT**
 3505 BUTTI WAY CARSON CITY, NEVADA 89701
 PH: 887-2355 FAX: 887-2112



REV.	DATE	DESCRIPTION

**PRISON HILL WATER TANK #2
 SITE IMPROVEMENT PLAN
 PROJECT No. 06-6019**
**PRISON HILL TANK
 SITE RESTORATION PLAN
 EXISTING TANK**



PLATE 9
KEY OBSERVATION POINTS

Appendix A

**Correspondence Regarding Federally Listed
Threatened and Endangered Species**



United States Department of the Interior

Pacific Southwest Region FISH AND WILDLIFE SERVICE

Nevada Fish and Wildlife Office
1340 Financial Blvd., Suite 234
Reno, Nevada 89502

Ph: (775) 861-6300 ~ Fax: (775) 861-6301



January 6, 2010
File No. 2010-SL-0090

Ms. Susanne Heim
Huffman & Carpenter, Inc.
500 Damonte Ranch Parkway, Suite 929
Reno, Nevada 89521

Dear Ms. Heim:

Subject: Species List Request for Prison Hill Water Tank #2 Project, Carson City
County, Nevada

This responds to your letter received on December 11, 2009, requesting a species list for the Prison Hill Water Tank #2 Project in Carson City County, Nevada. To the best of our knowledge, no listed, proposed, or candidate species occur in the subject project areas. This response fulfills the requirements of the Fish and Wildlife Service (Service) to provide a list of species pursuant to section 7(c) of the Endangered Species Act of 1973 (Act), as amended, for projects that are authorized, funded, or carried out by a Federal agency.

The Nevada Fish and Wildlife Office no longer provides species of concern lists. Most of these species for which we have concern are also on the sensitive species list for Nevada maintained by the State of Nevada's Natural Heritage Program (Heritage). Instead of maintaining our own list, we are adopting Heritage's sensitive species list and partnering with them to provide distribution data and information on the conservation needs for sensitive species to agencies or project proponents. The mission of Heritage is to continually evaluate the conservation priorities of native plants, animals, and their habitats, particularly those most vulnerable to extinction or in serious decline. Consideration of these sensitive species and exploring management alternatives early in the planning process can provide long-term conservation benefits and avoid future conflicts.

For a list of sensitive species by county, visit Heritage's website at www.heritage.nv.gov. For a specific list of sensitive species that may occur in the project area, you can obtain a data request

Ms. Susanne Heim

File No. SL-2010-0090

form from the website or by contacting Heritage at 901 South Stewart Street, Suite 5002, Carson City, Nevada 89701-5245, (775) 684-2900. Please indicate on the form that your request is being obtained as part of your coordination with the Service under the Act. During your project analysis, if you obtain new information or data for any Nevada sensitive species, we request that you provide the information to Heritage at the above address. Furthermore, certain species of fish and wildlife are classified as protected by the State of Nevada (see <http://www.leg.state.nv.us/NAC/NAC-503.html>). Before a person can hunt, take, or possess any parts of wildlife species classified as protected, they must first obtain the appropriate license, permit, or written authorization from the Nevada Department of Wildlife (visit <http://www.ndow.org> or call 775-688-1500).

Based on the Service's conservation responsibilities and management authority for migratory birds under the Migratory Bird Treaty Act of 1918 (MBTA), as amended (16 U.S.C. 703 *et seq.*), we are concerned about potential impacts the proposed project may have on migratory birds in the area. Given these concerns, we recommend that any land clearing or other surface disturbance associated with proposed actions within the project area be timed to avoid potential destruction of bird nests or young, or birds that breed in the area. Such destruction may be in violation of the MBTA. Under the MBTA, nests with eggs or young of migratory birds may not be harmed, nor may migratory birds be killed. Therefore, we recommend land clearing be conducted outside the avian breeding season. If this is not feasible, we recommend a qualified biologist survey the area prior to land clearing. If nests are located, or if other evidence of nesting (*i.e.*, mated pairs, territorial defense, carrying nesting material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species) should be delineated and the entire area avoided to prevent destruction or disturbance to nests until they are no longer active.

Please reference File No. 2010-SL-0090 in future correspondence concerning this species list. If you have any questions regarding this correspondence or require additional information, please contact me or James Harter at (775) 861-6300.

Sincerely,


Robert D. Williams
State Supervisor

Appendix B

Correspondence Regarding Cultural Resources



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
1325 J STREET
SACRAMENTO, CALIFORNIA 95814

REPLY TO
ATTENTION OF

Environmental Resources Branch

Mr. Ronald James
State Historic Preservation Officer
Historic Preservation Office
100 North Stewart Street
Carson City, NV 89701-4285

MAR 15 2010

Dear Mr. James:

The U.S. Army Corps of Engineers (Corps), Sacramento District, is writing regarding an environmental assessment we are preparing for the Prison Hill Tank #2 Project in Carson City, Nevada. The project is authorized by Section 595 of the Water Resources Development Act of 1999, as amended, which authorizes the Corps to participate in water-related infrastructure projects in rural Nevada and several other states. The project will be constructed on land managed by the U.S. Bureau of Land Management (BLM). The Corps is the lead Federal agency; the BLM is a cooperating agency; and Carson City is the local sponsor for the project.

We are initiating consultation with your office by notifying you of the proposed undertaking pursuant to 36 CFR 800.3(a). We have determined the area of potential effects (APE) pursuant to 36 CFR 800.4(a), and we have also determined that there will be no historic properties affected by the project pursuant to 36 CFR 800.4(d)(1). In addition, we will write to the Washoe Tribe of Nevada and California, as well as the Reno-Sparks Indian Colony, to inform them of our project and to request any information they may have regarding sacred sites or traditional cultural properties within the APE.

This project involves construction of a steel water storage tank, installation of approximately 500 feet of PVC pipeline, and demolition of the existing water storage tank in the Prison Hill area in the City. The existing tank was built in 1978 and is at risk for structural failure. The APE is an area approximately 5 acres in size located on the west side of Prison Hill in Section 28, Township 15N, Range 20E, on the New Empire, Nevada (1994), 7.5-minute USGS topographic quadrangle. The APE comprises the proposed site of the new water tank; the existing water tank, which will be demolished as part of the project, and unpaved access roads.

The task of inventorying cultural resources in the APE was contracted to Chambers Group, Inc. (Chambers). A draft copy of the Chambers' report entitled "Cultural Resources Inventory of the Prison Hill Tank 2 Project, Douglas County, Nevada," is enclosed for your information (enclosure). Although the report is a draft, it was reviewed by our archeologist, who agreed with Chambers findings and only provided editorial comments. In January 2010, Chambers conducted a records and literature search of the Nevada Cultural Resource Information System online database and the Carson City Field Office files of the BLM. Eight archaeological sites and six isolated finds had been encountered within 1 mile of the APE, but no sites or isolates were found within the APE itself. Archival research was performed by examining General Land Office plats, historic topographic maps, patent records, historical indices, and master title plats. This research did not indicate the presence of any archaeological sites within the APE. No sites listed on the National Register of Historic Places (NRHP) exist within the APE.

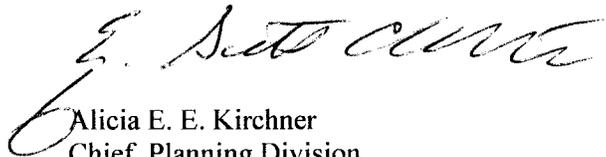
Chambers performed an intensive pedestrian survey of the APE with transects spaced no more than 30 meters apart. Upon the discovery of cultural resources, the surveyor transected the immediate area to delineate the discovery and locate any associated artifacts or features. The one site encountered during the survey, CrNV-03-7662, was recorded on an Intermountain Antiquities Computer System (IMACS) site form and mapped using a GPS unit capable of sub-meter accuracy.

Archeology site CrNV-03-7662 is a large historical period debris scatter that accumulated between the 1940's and the 1970's. The site comprises several concentrations of refuse associated with a number of temporally diagnostic artifacts including glass and ceramic pieces with maker's marks and evaporated milk cans. The range of dates indicated by these artifacts and the nature of the site demonstrate that the site is an aggregate of years of refuse deposition. The site is ineligible for inclusion in the NRHP because it is not associated with any particular historic theme. Such unassociated debris scatters are categorically ineligible for inclusion in the NRHP according to the 2009 State Protocol Agreement between the State Historic Preservation Office and the BLM.

The only cultural resource in the APE is not eligible for inclusion in the NRHP and is therefore not an historic property as defined under 36 CFR 800.16(1)(1). Based on these findings, the Corps has determined that there will be no historic properties affected by the project pursuant to 36 CFR 800.4(d)(1).

We request your concurrence with our determinations of the APE, NRHP ineligibility of site CrNV-03-7662, and finding of no historic properties affected by the proposed project. Please review the enclosed report and provide your comments, if any, and concurrence with our determinations. We are providing BLM with a copy of these findings for their concurrent review and will notify you if they have any concerns. We thank you for your review and look forward to your reply. If you have any questions or comments, please contact Mr. S. Joe Griffin, Archaeologist, at (916) 557-7897 or by email at s.joe.griffin@usace.army.mil.

Sincerely,


Alicia E. E. Kirchner
Chief, Planning Division

Enclosure

Copy furnished w/encl:

U.S. Bureau Land Management, Sierra Front Field Office, 5665 Morgan Mill Rd., Carson City, NV 89701



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEER
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

Environmental Resources Branch

March 18, 2010

Mr. Darrel Cruz, CRO/THPO Director
Washoe Tribe of Nevada and California
919 US Highway 395 South
Gardnerville, Nevada 89410

Dear Mr. Cruz:

In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, the U.S. Army Corps of Engineers (Corps), Sacramento District, is writing to inform you of the proposed Prison Hill Tank #2 Project in Douglas County, Nevada. The Corps is authorized to participate in water-related infrastructure and resource development projects in rural Nevada pursuant to Section 595 of the Water Resources Development Act of 1999, as amended (Public Law 106-53). The Corps is the lead Federal agency; the U.S. Bureau of Land Management (BLM) is a cooperating Federal agency; and Carson City is the local sponsor for the project.

This project would entail the installation of a new steel water storage tank, approximately 500 feet of PVC pipeline, and the demolition of the existing concrete water storage tank in the Prison Hill area within Carson City, Nevada. The existing water tank was built in 1978 and is at risk for structural failure. The area of potential effects (APE) is an area approximately 5 acres in size located on the west side of Prison Hill within Carson City in Section 28, Township 15N, Range 20E, on the New Empire, Nevada (1994), 7.5-minute USGS topographic quadrangle. The APE comprises the proposed site of the new water tank; the existing water tank, which will be demolished as part of the project; and unpaved access roads.

In January 2010, Chambers Group, Inc. (Chambers), performed a records and literature search of the Nevada Cultural Resource Information System online database and the files at the Carson City Field Office of the BLM. Eight archaeological sites and six isolated finds had been encountered within one mile of the APE, but no sites or isolates were found within the APE itself. Archival research was performed by examining General Land Office plats, historic topographic maps, patent records, historical indices, and master title plats. This research did not indicate the presence of any archaeological sites within the APE. No sites listed on the National Register of Historic Places (NRHP) exist within the APE.

Chambers performed an intensive pedestrian survey of the APE with transects spaced no more than 30 meters apart in conformance with State of Nevada standards for archeology survey. Upon the discovery of cultural resources, the surveyor team surveyed more intensively the immediate area to delineate the discovery and locate any associated artifacts or features. The one archeology site that was found, CrNV-03-7662, is a large historical period debris scatter that accumulated between the 1940's and the 1970's. The site comprises several concentrations of refuse associated with a number of temporally diagnostic artifacts including glass and ceramic pieces with maker's marks and evaporated milk cans. The range of dates indicated by these artifacts and the nature of the site demonstrate that the site is an aggregate of years of refuse deposition. The site is ineligible for inclusion in the NRHP because it is not associated with any particular historic theme. Such unassociated debris scatters are categorically ineligible for inclusion in the NRHP according to the 2009 State Protocol Agreement between the State Historic Preservation Office and the BLM.

We are sensitive toward the protection of traditional cultural properties and sacred sites, and make every effort to avoid them. Please let us know if you have knowledge of locations of archeological sites, or areas of traditional cultural value or concern in or near the Prison Hill Tank #2 Project area. Correspondence may be sent to Mr. S. Joe Griffin, Archaeologist (CESPK-PD-RC), U.S. Army Corps of Engineers, Sacramento District, 1325 J Street, Sacramento, California 95814. If you have any questions or comments, please contact Mr. Griffin at (916) 557-7897 or by email at s.joe.griffin@usace.army.mil.

Sincerely,

/original signed/

Alicia E. Kirchner
Chief, Planning Division

Copy furnished:

Mr. Jim Carter, Archeologist, Sierra Front Field Office – Carson City District BLM, 5665 Morgan Mill Road, Carson City, Nevada 89701



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEER
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

Environmental Resources Branch

March 18, 2010

Mr. Arlan Melendez, Chairman
Reno-Sparks Indian Colony
98 Colony Road
Reno, Nevada 89502

Dear Mr. Melendez:

In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, the U.S. Army Corps of Engineers (Corps), Sacramento District, is writing to inform you of the proposed Prison Hill Tank #2 Project in Douglas County, Nevada. The Corps is authorized to participate in water-related infrastructure and resource development projects in rural Nevada pursuant to Section 595 of the Water Resources Development Act of 1999, as amended (Public Law 106-53). The Corps is the lead Federal agency; the U.S. Bureau of Land Management (BLM) is a cooperating Federal agency; and Carson City is the local sponsor for the project.

This project would entail the installation of a new steel water storage tank, approximately 500 feet of PVC pipeline, and the demolition of the existing concrete water storage tank in the Prison Hill area within Carson City, Nevada. The existing water tank was built in 1978 and is at risk for structural failure. The area of potential effects (APE) is an area approximately 5 acres in size located on the west side of Prison Hill within Carson City in Section 28, Township 15N, Range 20E, on the New Empire, Nevada (1994), 7.5-minute USGS topographic quadrangle. The APE comprises the proposed site of the new water tank; the existing water tank, which will be demolished as part of the project; and unpaved access roads.

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We are sensitive toward the protection of traditional cultural properties and sacred sites, and make every effort to avoid them. Please let us know if you have knowledge of locations of archeological sites, or areas of traditional cultural value or concern in or near the Prison Hill Tank #2 Project area. Correspondence may be sent to Mr. S. Joe Griffin, Archaeologist (CESPK-PD-RC), U.S. Army Corps of Engineers, Sacramento District, 1325 J Street, Sacramento, California 95814. If you have any questions or comments, please contact Mr. Griffin at (916) 557-7897 or by email at s.joe.griffin@usace.army.mil.

Sincerely,

/original signed/

Alicia E. Kirchner
Chief, Planning Division

Copy furnished:

Mr. Jim Carter, Archeologist, Sierra Front Field Office – Carson City District BLM, 5665 Morgan Mill Road, Carson City, Nevada 89701

Appendix C

Representative Photos

Key Observation Point Number #1 South Edmonds Drive situated approximately 0.35 miles (1,800 feet) west of the proposed site.



Key Observation Point Number #2 Valley View Drive approximately 0.19 miles (900 feet) south-west of the proposed site.



**Key Observation Point Number #3 East Clearview Drive and Gentry Lane
approximately .29 miles (1,500 feet) south of the proposed site.**



**Key Observation Point Number #4 Sinbad Street and Conte Drive
approximately 0.29 miles (1,500 feet) north-west of the proposed site.**



Key Observation Point Number #5 End of Trucker Court approximately 0.50 miles (2,450 feet) of the proposed site.



Appendix D Mailing List

Jo Ann Hufnagle
U.S. Bureau of Land Management
Carson City Field Office
5665 Morgan Mill Road
Carson City, NV 98701

U.S. Bureau of Reclamation
Lahontan Basin Area Office
701 N. Plaza Street, Room 320
Carson City, NV 89701

U.S. Fish and Wildlife Service
Nevada Fish and Wildlife Office
1340 Financial Boulevard
Reno, NV 89502

Nevada Department of Transportation
1263 South Stewart Street
Carson City, NV 89712

NV Division of Environmental Protection
901 So. Stewart Street, Suite 4001
Carson City, NV 89701

NV Division of Environmental Protection
Bureau of Air Pollution Control
901 So. Stewart Street, Suite 4001
Carson City, NV 89701

Nevada Department of Wildlife
1100 Valley Road
Reno, NV 89512

Nevada State Clearinghouse
209 East Musser Street, Room 200
Carson City, NV 89701

Nevada State Historic Preservation Office
100 North Stewart Street
Carson City, NV 89701

Carson City Building Department
2621 Northgate Lane
Carson City, NV 89706

Carson City Dept of Parks and Recreation
3303 Butti Way, #9
Carson City, NV 989701

Carson City Planning Department
2621 Northgate Lane, Suite #62
Carson City, NV 89706

Mark Brethauer
Carson City Public Works
3505 Butti Way
Carson City, NV 89701

Carson City Library
900 N. Roop Street
Carson City, NV 89701

Nevada Appeal
Carson City News
580 Mallory Way
Carson City, NV 89701

Washoe Tribe
919 Highway 395 South
Garnerville, NV 89410