Addendum to the Restoration Plan and Environmental Assessment for Natural Resource Damages Settlement, Freeport-McMoRan Morenci Mine

October 17, 2018

Prepared by:
Arizona Game and Fish Department
Arizona Department of Environmental Quality
on behalf of the
State of Arizona

and

The United States Fish and Wildlife Service
on behalf of the
U.S. Department of the Interior

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1.0 Introduction

1.1 Introduction and Purpose of Document

The State of Arizona and the United States Department of Interior (DOI) (together "the Trustees") conducted a cooperative Natural Resource Damage Assessment and Restoration (NRDAR) process for Freeport-McMoRan Copper & Gold Inc. (hereafter referred to as FMI). In 2012, the Trustees and FMI entered into a voluntary settlement of the Trustees' claim for alleged injuries to natural resources incurred at the Morenci Mine Site (the "Site") owned and operated by FMI in southeastern Arizona. The consent decree was approved by the United States (U.S.) District Court on June 28, 2012.

The Trustees finalized a Wildlife and Wildlife Habitat Restoration Plan and Environmental Assessment for the Site (RP/EA) in September 2017 (AGFD and USFWS 2017). The natural resource trustee agencies involved in developing the original RP/EA were the DOI represented by the U.S. Fish and Wildlife Service (USFWS), and the State of Arizona represented by the Arizona Department of Environmental Quality (ADEQ) and the Arizona Game and Fish Department (AGFD). The RP/EA summarized natural resource injuries that occurred as a result of site-related releases of hazardous substances from the Site, provided an evaluation of proposed restoration projects, and described the Trustees' preferred restoration alternatives to compensate the public for injuries to wildlife and wildlife habitat resources.

The Trustees are currently implementing four of the restoration projects identified in the finalized RP/EA (AGFD and USFWS 2017). However, the Trustees determined that after these four projects were funded, surplus funding would remain and additional restoration projects would be needed to provide sufficient wildlife benefits, particularly to waterfowl and other bird species. This document represents an addendum to the RP/EA developed by the Trustees. The Trustees are publishing this Addendum to the RP/EA (Addendum) to provide a description and evaluation of an additional proposed restoration project.

This introductory chapter explains the responsibilities and the legal authority of the Trustees to develop this plan, summarizes the settlement between FMI and the Trustees, describes the role of public involvement in developing this RP/EA, discusses the responsible party involvement and the Administrative Record, and provides an overview of the remainder of this document.

1.2 Trustee Responsibilities under Comprehensive Environmental Response, Compensation, and Liability Act and the National Environmental Policy Act

The purpose of this RP/EA is to inform the public of the restoration action selected by the Trustees to compensate for natural resource injuries and associated lost services resulting from releases of hazardous substances at the Site. This document serves as an EA pursuant to the National Environmental Policy Act (NEPA) [42 USC 4321 et seq.] and the regulations guiding its implementation at 40 CFR 1500 et seq. This plan describes the purpose and need for the chosen restoration action, the restoration alternatives considered, including a no-action alternative, and the potential individual and cumulative impacts of the restoration action on the quality of the physical, biological, and cultural environment.

This document also serves as an RP for implementing the selected restoration alternative, pursuant to NRDAR regulations [43 CFR Part 11] issued by the DOI. Under these regulations, the alternative selected in the RP should ensure that damages recovered from the responsible parties are used to undertake feasible, safe, and cost-effective projects that address injured natural resources, consider actual and anticipated conditions, and are consistent with applicable laws and policies. This RP presents the selected alternative and describes how settlement monies received will be spent to achieve project goals

1.3 Summary of Settlement

As part of the Trustees' NRDAR responsibilities, the Trustees assessed injuries to natural resources at the Site, and cooperatively reached a natural resource damage settlement with FMI in June 2012 in the amount of $6.8 million. The terms of the settlement are set forth in the Consent Decree (CD) entered with the United States District Court for the District of Arizona (Case No. CV-12-0307-TUC-CKJ). In voluntarily settling the Trustees' claim, FMI did not make any admission of liability or responsibility for injury to or loss of natural resources at the Site.

A Memorandum of Agreement (MOA) implemented by the Arizona Freeport Settlement Restoration Council (the "Council") stipulates that NRDAR funds received, including any accrued interest, may only be used to plan and implement appropriate actions to restore, rehabilitate, or acquire the equivalent of natural resources or resource services injured, destroyed, or lost as a result of releases from the Site. As specified in the MOA, such actions will be in accordance with a RP presented here. Trustee agencies that comprise the Council include the USFWS representing the DOI, and the ADEQ and AGFD representing the State of Arizona. Each of the participating Trustee agencies has one primary representative on the Council. The Council, through its members acting on behalf of each Trustee agency, is responsible for all aspects of the restoration process, including developing and selecting final projects, implementing and overseeing the implementation of those projects, and monitoring and evaluating project effectiveness. All actions approved by the Council are by unanimous agreement.

1.4 Public Involvement

During the development of the RP/EA, the Trustees held an informal public meeting on April 9, 2013 in Thatcher, Arizona to inform the public about the restoration planning process and to request suggestions for potential restoration projects for the Trustees' consideration. The Trustees also contacted relevant agencies, organizations, and stakeholder groups to learn more about potential restoration project opportunities.

Public review of the RP/EA is an integral component of the restoration planning process. In accordance with NRDAR regulations (43 CFR 11.81 [d]), the Trustees are required to solicit public comment on a RP and consider and respond to comments during the preparation of a Final RP. In addition, public review of the RP, which also serves as an EA, is consistent with NEPA (42 U. S.C. 4321 *el seq.)* and it's implementing regulations (40 CFR Parts 1500- 1508).

During the public comment period on the RP/EA, an additional public meeting was held on July 13, 2017, where the Trustees were available to answer questions as well as present information

about the restoration process, the projects described in the RP/EA, and how the selected projects were evaluated and selected.

1.5 Responsible Party Involvement

The assessment process for the Site was conducted as a cooperative assessment with FMI and the Trustees. Cooperative assessments (such as this one) can increase the cost-effectiveness of the process by facilitating the sharing of information and avoiding duplication of study efforts. Input from FMI was sought and considered throughout the assessment process. The Trustees have the final authority to make determinations regarding restoration actions for wildlife and wildlife habitat resources.

1.6 Administrative Record

The administrative record contains the official documents pertaining to the NRDAR activities at the Site, and is housed at the USFWS Arizona Ecological Services Field Office, 9828 North 31st Avenue #C3, Phoenix, Arizona 85051.

1.7 Document Organization

The remainder of this document is organized as follows:
Chapter 2.0 summarizes the purpose and need for restoration, including an overview of injuries to wildlife at the Site. Chapter 3.0 describes the process used to evaluate proposed restoration projects, as well as the selected restoration alternative and the project that makes up this alternative. A description of the no-action alternative is also included in Chapter 3.0. Chapter 4.0 describes the affected environment, and presents the potential environmental and cultural impacts of the selected restoration alternative. Chapter 5.0 provides a list of agencies, organizations, and parties who assisted in the preparation of this document.

2.0 Purpose and Need for Restoration

This chapter provides a description of the Site (Section 2.1) and summarizes sources of hazardous substances at the Site, pathways to natural resources, and resulting injuries to natural resources (Section 2.2). The purpose and need for restoration is described in Section 2.3.

2.1 Site Description

The Site is located in Greenlee County, Arizona, approximately 72 kilometers (45 miles) northeast of Safford and near the towns of Clifton and Morenci on U.S. Highway 191 (Figure 2.1). Perennial drainages near the Site include the Gila River, San Francisco River, and Eagle Creek. Mean annual rainfall in the area is 320 millimeters (12.6 inches) and is bimodal, with peaks occurring during summer thunderstorms and winter rains. Elevations range from approximately 1,036-2,103 meters (3,400-6,900 feet) above sea level. Vegetation community types in the area include interior chaparral, semi-desert grassland, Great Basin conifer woodland, post-climax conifer woodland, xero-riparian mixed scrub, maple (*Acer* spp.)-oak (*Quercus* spp.) meso-riparian habitat, *Baccarhis*-cottonwood (*Populus* spp.) meso-riparian habitat, and herbaceous wetland (PDMI 2002).

Freeport-McMoRan Corporation, formerly known as Phelps Dodge Corporation, is the parent corporation of FMI and currently owns and operates the Site, which is the largest producing

copper mine in North America (Securities and Exchange Commission 2002). The Site includes a large complex of open pits, numerous leach rock and development rock stockpiles, beneficiation plants, tailings impoundments, and uncovered ponds. Mining processes at the Site include crush and convey systems, an agglomerating facility, solution-extraction plants, electrowinning tank houses, and a copper concentrator facility. The open pit mining area is located in the Middle Chase Creek watershed, in the northern part of the Site (Figure 2.2). The tailings impoundments and most of the ore and solution beneficiation facilities are located in the southern part of the Site near the San Francisco River (Figure 2.3). Historically, six smelters were operated at the Site (Figures 2.4-2.5). Additional details of the ecological, cultural, and social environments at the Site and surrounding communities can be found in the final RP/EA (AGFD and USFWS 2017).

2.2 Summary of Natural Resource Injuries

Pursuant to NRDAR regulations [43 CFR Part 11], the cooperative assessment of natural resource injuries conducted by the Trustees and FMI concluded that releases of hazardous substances occurred at the Site and these releases caused injuries to natural resources. The Trustees identified migratory birds and terrestrial wildlife habitat as the primary natural resource injuries addressed by this NRDAR settlement.

2.3 Sources of Hazardous Substances and Pathways to Natural Resources

Ponded fresh slurry water on top of mine tailings at the Site attracted migratory waterfowl and other birds. When the Site converted mine operations to solvent extraction-electrowinning, fresh water was no longer deposited on the tailings ponds. As the ponded water evaporated, the water acidified and became toxic to birds through exposure and ingestion. The Site historically operated six smelter smokestacks, the emissions of which potentially deposited contaminants through wind dispersion to wildlife habitat surrounding the Site.

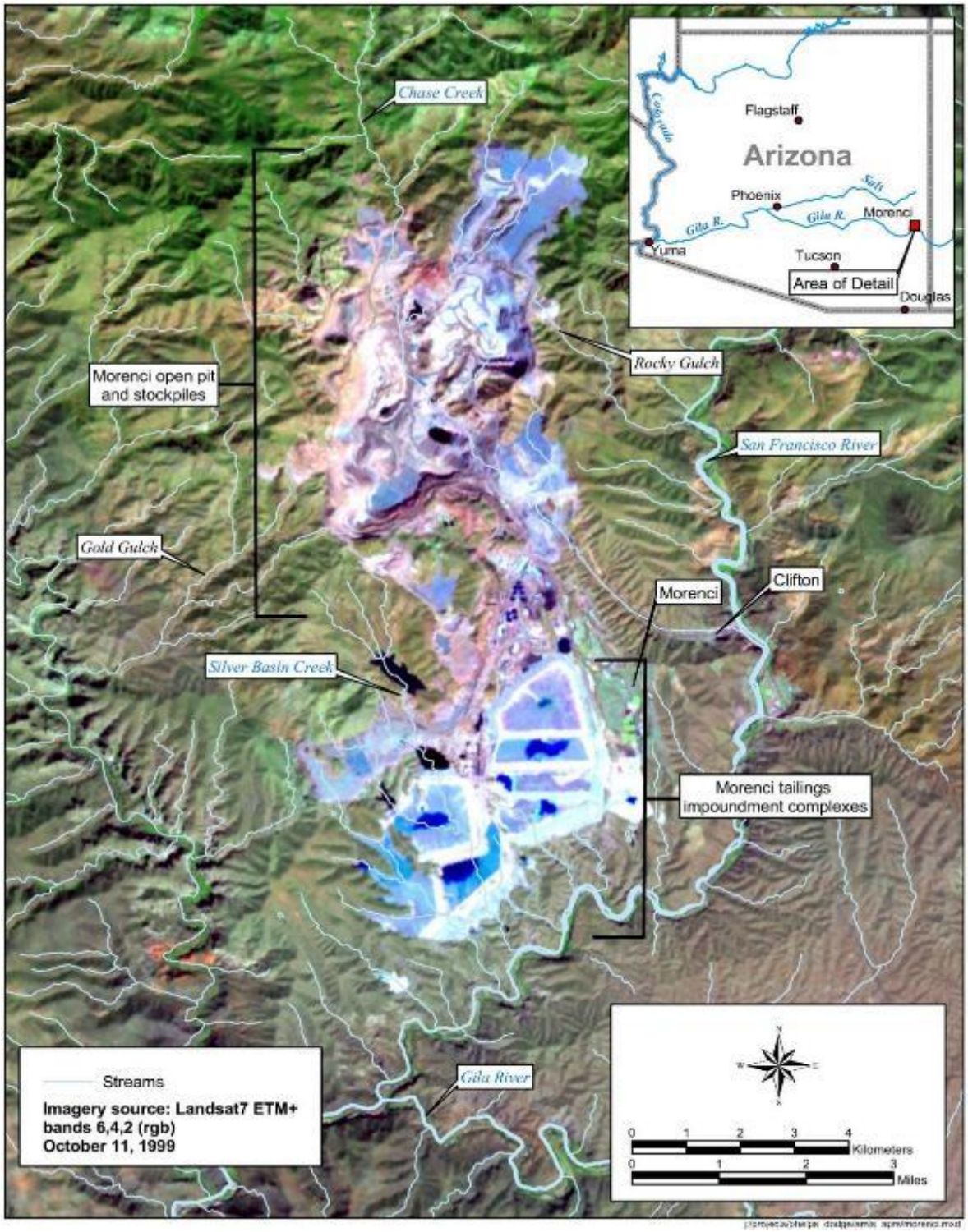

Figure 2.1. Morenci Mine in southeastern Arizona (Map Source: Stratus Consulting Inc. 2003).

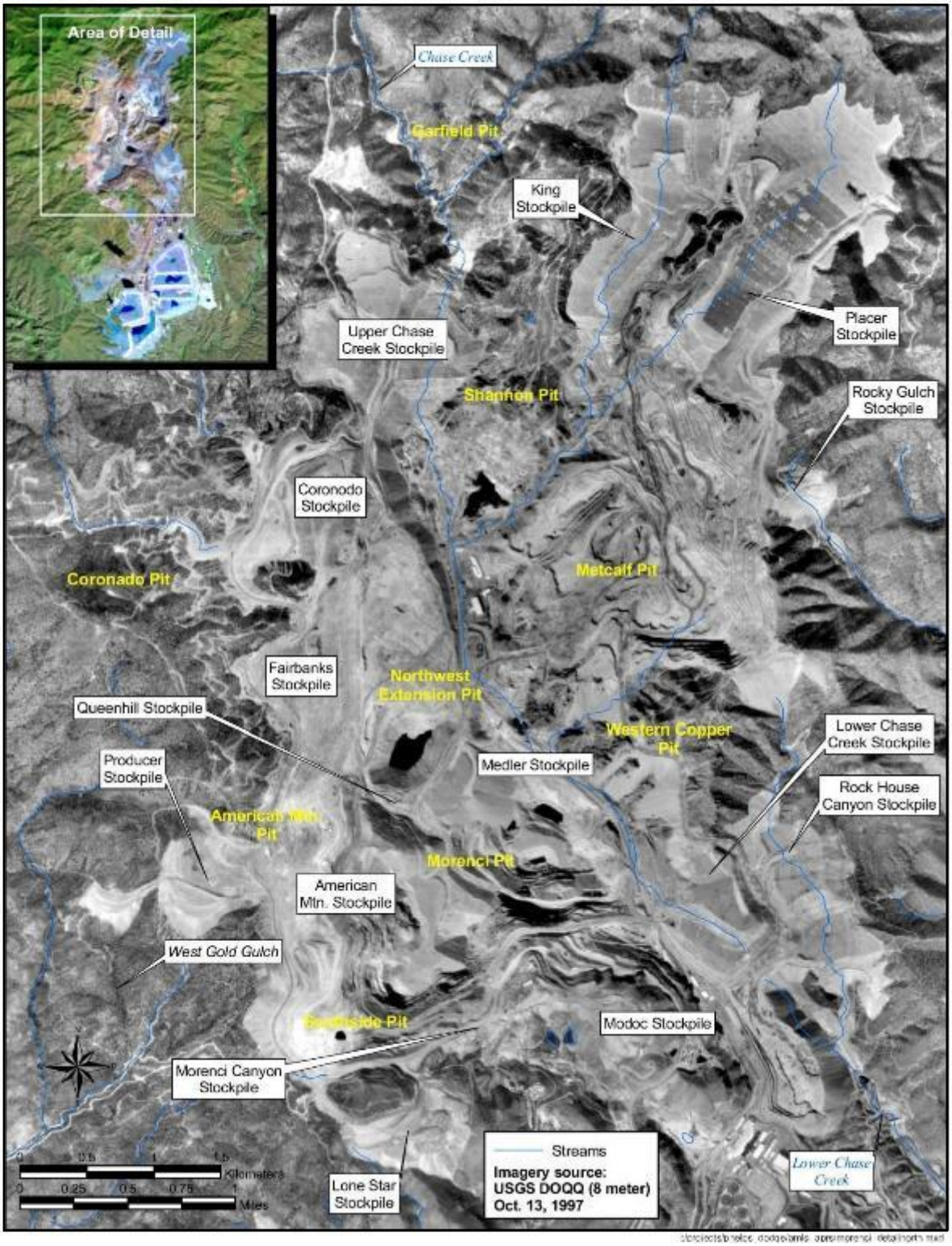

Figure 2.2. Northern portion of the Morenci Mine, including the open pits and stockpiles (Map Source: Stratus Consulting Inc. 2003; Image Source: USGS 1997).

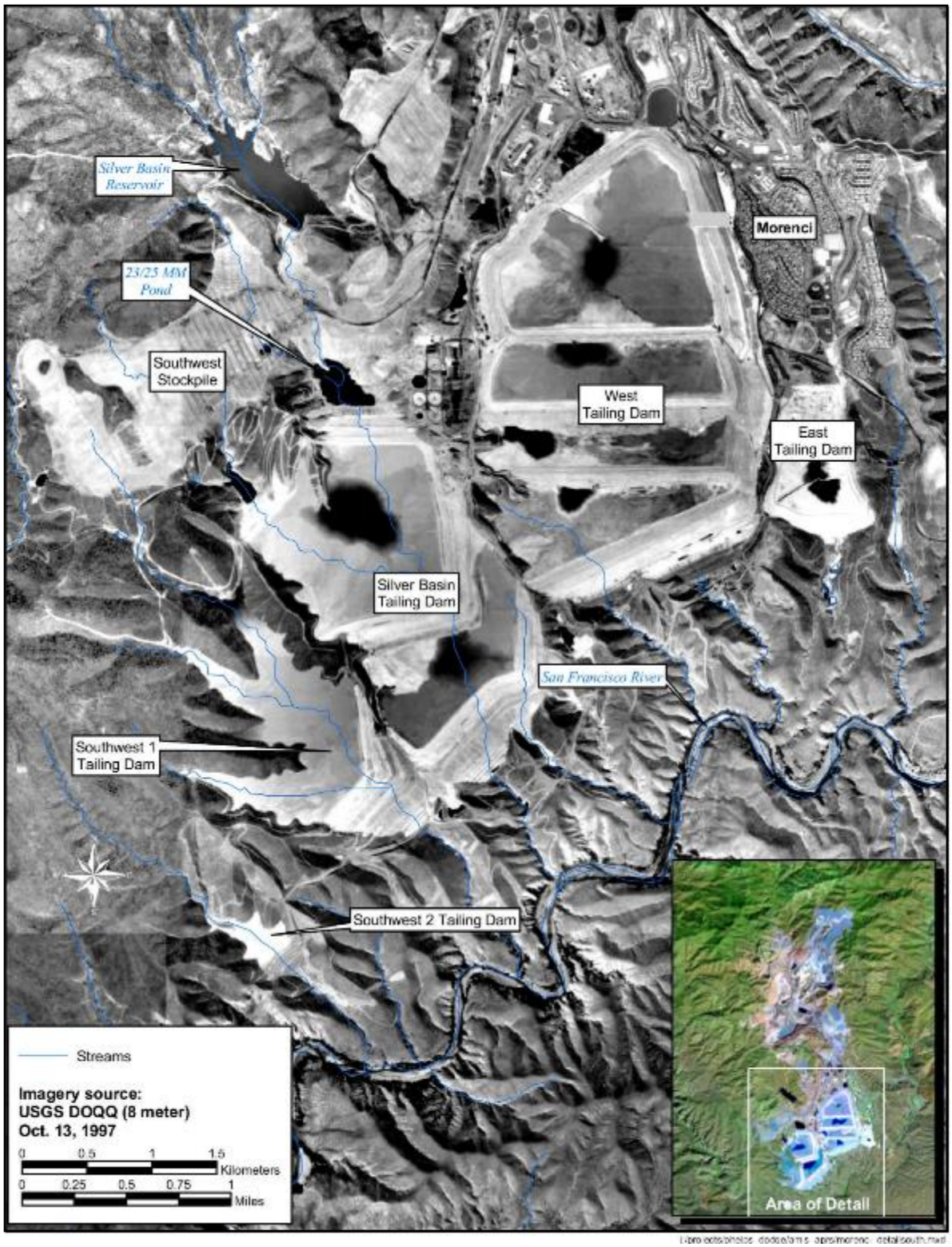

Figure 2.3. Southern portion of the Morenci Mine, including Silver Basin Reservoir and the tailings dams (Map Source: Stratus Consulting Inc. 2003; Image Source: USGS 1997).

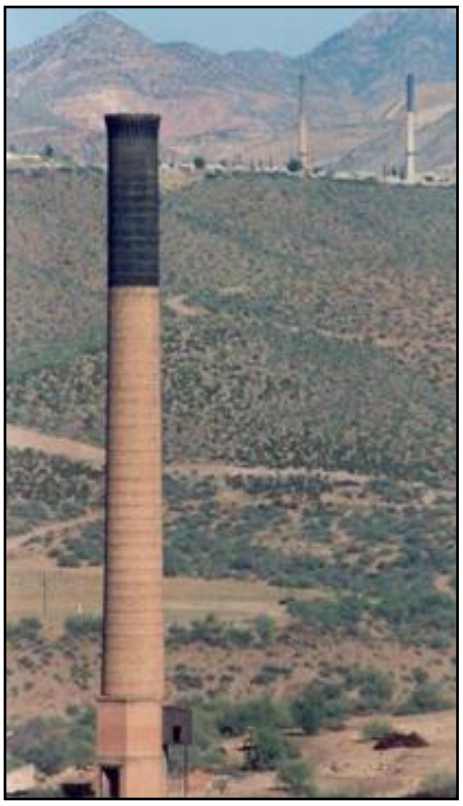

Figure 2.4. Photograph of a historic smelter stack at the Site.

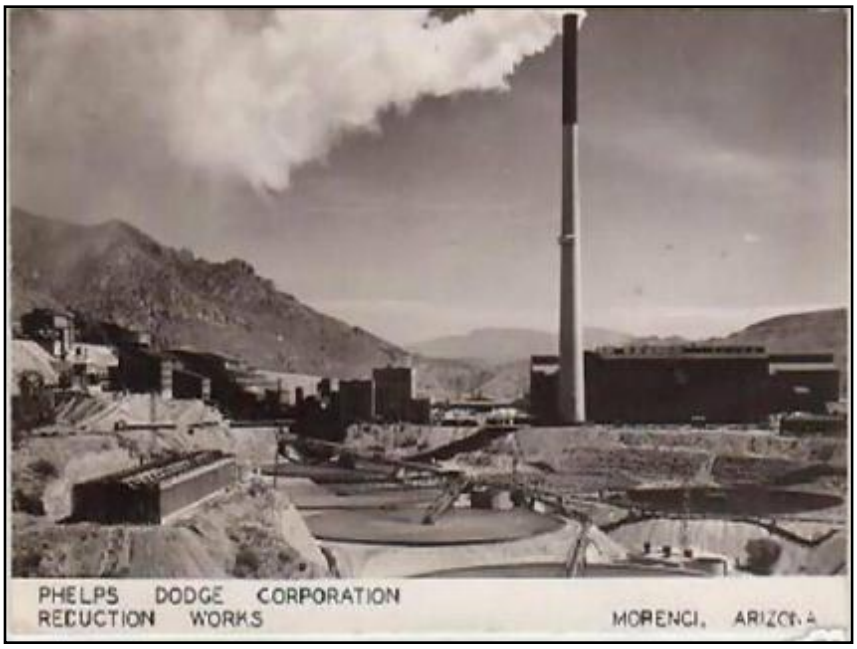

Figure 2.5. Photograph of a historic smelter at the Site.

2.4 Injuries to Migratory Birds

In the arid environments of the Southwest, areas of open water are critical resources for wildlife, particularly for migrating passerine and waterfowl species that seek open water for resting and drinking. Mine tailings ponds at other mine sites have been documented to contain high concentrations of sulfuric acid (resulting in low pH levels) and metals (Stratus Consulting Inc 2003). Laboratory studies have demonstrated that ingestion of sulfuric acid and copper solutions is lethal to migratory birds (Isanhart et al. 2011). Exposure or ingestion of the contaminated water at the Site resulted in death and other injuries to migratory birds.

In 2000, dead migratory birds were found in the vicinity of tailings ponds and pregnant leach solution (PLS) ponds at the Site (Figures 2.6-2.7; Stratus Consulting, Inc. 2003). Following the discovery of bird carcasses, FMI initiated a corrective action plan to prevent future bird mortalities. Corrective actions included pumping visible surface water from ponds, minimizing the amount of time visible water was present at ponds, a bird hazing program to discourage birds from landing or staying on ponds, and a monitoring and reporting program for dead and injured birds.

Figure 2.6. Dead passerine bird found at the Site in 2000.

As part of the NRDAR assessment activities, the Trustees and FMI cooperatively attempted to estimate the number of birds injured from exposure to acidified and metalliferous waters at the Site, as well as the number of years of "lost bird life" associated with any premature mortalities. The Trustees and FMI reviewed observations made by bird hazers at the Site regarding the number and types of birds trying to land on the tailings ponds, and the level of bird mortality and sub-lethal injuries that likely occurred at the ponds based on the assumed length of time that birds were exposed to hazardous substances and low pH water. Ultimately, no consensus was reached during the cooperative assessment on the number of waterfowl and other birds potentially injured at the Site.

Figure 2.7. Dead waterfowl found at the Site near a tailings impoundment in 2002.

2.5 Injuries to Terrestrial Resources

Aerial transport of historic smelter emissions, in addition to windblown erosion of materials from un-vegetated waste rock, leach rock, and tailings piles may have adversely impacted surrounding terrestrial vegetation and soils. The Site and surrounding area are habitat for bighorn sheep and other wildlife.

As part of the NRDAR assessment activities, data from the FMI Hurley smelter at the Chino Mine in southwestern New Mexico were reviewed as an analog for estimating the area impacted by smelter emissions at the Site and injuries to natural resources. Surface soils at sampling locations downwind from the Hurley smelter had high acidity and metals concentrations, resulting in toxicity to vegetation, and reduced canopy cover and plant species richness. Soil copper concentrations were most elevated near the smelter and decreased with increasing distance from the smelter (MFG 2003). For NRDAR assessment purposes, the Trustees assumed that soil copper concentrations at the Site followed the same general pattern with distance from the smelter stacks as at Hurley. Following additional analyses and comparison of wind patterns between the Chino Mine Hurley smelter and the Site, the Trustees estimated that the area impacted by emissions deposition at the Site was approximately 3,968 hectares (9,800 acres) divided among three deposition zones. The Trustees based estimations of terrestrial ecosystem service loss on the direct relationship between vegetation canopy cover and soil copper concentrations observed at the Hurley smelter. Reductions in vegetation canopy cover (i.e., terrestrial ecosystem service loss) ranged from 14-37% for the three deposition zones at the Site. FMI did not concur with these calculations.

2.6 Need for Restoration under CERCLA

The objective of the NRDAR process under CERCLA is to compensate the public for natural resources and the services provided by these resources that have been injured, destroyed, or lost as a result of hazardous substance releases at the Site. Given the injuries to wildlife and wildlife habitat described above, as defined in CERCLA [43 CRF § 11.82a], the Trustees are required to

evaluate and implement actions to: (1) restore injured natural resources back to baseline conditions (i.e., conditions that would have occurred if the hazardous substance releases did not occur), and (2) replace or acquire natural resources equivalent to those injured, destroyed, or lost from the releases of hazardous substances. Notwithstanding the difficulties presented in estimating potential resource injuries at the Site, the Trustees and FMI cooperatively reached a natural resource damage settlement in the amount of $6.8 million without any admission of liability by FMI. Settlement funds for NRDAR resource restoration can only be used to restore, rehabilitate, replace, or acquire the equivalent of these injured natural resources and the services provided by them.

3.0 Restoration Project Evaluation and Alternative

This chapter provides information on the restoration project considered as part of this Addendum. Specifically, this chapter describes an additional restoration alternative that will compensate for natural resource injuries and associated lost services resulting from releases of hazardous substances at the Site. The original solicitation for restoration projects occurred at a meeting on April 9, 2013 in Thatcher, Arizona. Subsequently, project suggestions were requested from the public for the Trustees' consideration and ranked (Table 3.0). This chapter describes the criteria used for identifying and selecting the submitted restoration alternatives (Section 3.1), explains how priority tiers for funding projects were developed (Section 3.2), presents a detailed description of the project included in the selected alternative (Section 3.3), and describes the no-action alternative and (Sections 3.4). A more detailed discussion of impacts, including environmental, cultural and socioeconomic impacts, as well as cumulative impacts, from implementing the performed project alternative can be found in Chapter 4.0.

3.1 Screening and Evaluation Criteria for Proposed Restoration Projects

In the original RP/EA (AGFD and USFWS 2017) the Trustees based their process for evaluating restoration projects on the guidance for restoration project selection provided by NRDAR regulations [43 CFR § 11.82]. First, the Trustees developed criteria for screening proposed restoration projects (Table 3.1). Each project was evaluated with these criteria to determine if the project met minimum standards for acceptability. Projects that failed to meet all of the criteria were not considered further by the Trustees. Projects that met the initial screening criteria were then evaluated using the project evaluation criteria and assigned a weighted score (Table 3.1). Project ratings were weighted more heavily for high-priority criteria and less heavily for lower priority criteria.

Table 3.0. List of screened and evaluated projects submitted to the Trustees for funding.		
Project Title	**Project Proponent**	**Tier Ranking**
1. San Simon Wildlife Water Development (Rabbit Farms)	Bureau of Land Management	1
2. Chevelon Creek WA Wetland Restoration	Arizona Game and Fish Dept.	1
3. Cluff Ranch WA Wetland Restoration	Arizona Game and Fish Dept.	1
4. Bighorn Sheep population Enhancements	Arizona Game and Fish Dept.	1
5. Wildlife Care and Educational Center	Arizona Game and Fish Dept.	2
6. Gila Box RNCA Restoration	Bureau of Land Management	2
7. Salt River Restoration	Adaptive Restoration Community	2
8. West Pigeon Water Development	Arizona Game and Fish Dept.	2
9. White Water Draw Restoration	Arizona Game and Fish Dept.	2
10. St. David Cienega and Dunlavy Wetland Restoration	Bureau of Land Management	2

Table 3.1. Project screening and evaluation criteria used by the Trustees to select restoration projects for funding.
PROJECT SCREENING CRITERIA
Package Complete
Financial Oversight
Proposal Addresses Injury
Geographic Relevance
PROJECT EVALUATION CRITERIA
Budget
Cost Effective (e.g., acres restored)
Permit Acquisition Costs Addressed
Cost Sharing Partnerships
Budgetary Feasibility
Personal Qualifications
Project Proponents Qualified to Perform Tasks
Technical Feasibility
Services Restored
Monitoring Sufficiency and Adaptive Management
Address Operations and Management Costs
Technical Feasibility
Project Risk
Human Health and Safety
Short Term/Long Term Adverse Environmental Impacts
Address Restoration Goals and Objectives
Project Lifespan
Time to Restoration/Project Completion

Outreach Potential
WEIGHTED SCORES ***Budget (15%); Personal Qualifications (25%); Technical Feasibility (30%);*** ***Address Restoration Goals and Objectives (30%)***

3.2 Development of Priority Tiers for Project Funding

The Trustees developed a preferred restoration alternative that included all proposed projects that met the screening criteria. However, the funding available to the Trustees from the settlement was insufficient to fund all of these projects. Therefore, the Trustees placed projects in two funding priority tiers according to how each project scored against the evaluation criteria and on the total cost of different combinations of projects. These tiers reflect the Trustees' best efforts to select projects that will most effectively compensate the public for the loss of wildlife, especially migratory birds, and the loss of wildlife habitat that resulted from releases of hazardous substances at the Site. The Trustees selected to fund all the Tier 1 projects (Table 3.0). Projects in Tier 1 were top priority and all were funded by the Trustees (AGFD and USFWS 2017). It was decided that projects in Tier 2 may be implemented if funds were available or if a Tier 1 project could not be implemented. At the time of the original RP/EA, no Tier 2 projects had been identified for implementation. Given current available funds, the Trustees are now considering funding the Tier 2 project titled: Wildlife Care and Educational Center.

3.3 Description of the Tier 2 Selected Alternative Project

The Wildlife Care and Educational Center (WCEC) is a project sponsored by the Arizona Game and Fish Department (AGFD). AGFD proposes to build a WCEC facility on the Ben Avery Shooting Facility, adjacent to the AGFD headquarters (5000 West Carefree Highway, Phoenix, AZ) and within the originally cleared development footprint (Figure 3.3). The property is owned by the Arizona Game and Fish Commission. The project site is on a 1972 land patent from the State Land Department. An AGFD review of the original conveyance document shows no restrictions that would prohibit the proposed project. The WCEF will serve the wildlife and citizens of Arizona by: 1) providing timely care for sick, injured, orphaned, and confiscated wildlife until they can be returned to the wild, and 2) promoting wildlife education and conservation through public outreach presentations.

Migratory birds protected under the federal Migratory Bird Treaty Act (e.g., raptors, passerines, shorebirds, waterfowl) will likely be the species most commonly brought to the proposed WCEC for treatment. However, other native birds, mammals, reptiles, amphibians, and special status species will also be treated at the facility. In addition, establishing the new WCEC will allow the AGFD to provide a variety of other services benefiting native wildlife and the citizens of Arizona, including:

- Response to disasters impacting wildlife (e.g., forest fires, oil spills, accidental poisoning)
- Mentoring future generations of new biologists (e.g., interns and students)
- Training, licensing, and monitoring of private wildlife rehabilitators
- Resolving nuisance wildlife issues
- Temporary holding of wildlife used by scientific researchers

- Provision of live and deceased wildlife specimens for researchers and Tribal uses
- Holding seized animals for law enforcement cases
- Technical support for special status species projects or management issues
- Holding and testing of wildlife potentially carrying zoonotic diseases
- Providing community volunteer opportunities
- Falconry support

Building a new WCEC will provide the infrastructure necessary to provide restorative care to large numbers of health compromised migratory birds (e.g., waterfowl, shorebirds). For example, the proposed Center will allow for the treatment of migratory birds or other wildlife that accidently ingest toxic water or food sources, are externally contaminated by a foreign substance, or exposed to viral outbreaks accelerated by unnatural conditions. To provide these services for wildlife, the new Center will include a veterinary treatment room, procedure recovery rooms, commissary, and numerous outdoor holding enclosures to facilitate the restoration of large numbers of migratory birds and other wildlife.

Another benefit for building the new WCEC will be the experience and knowledge gained when providing restorative care to large numbers of migratory birds, especially the identification, development, and refinement of successful veterinary and restoration techniques. Processing large numbers of migratory birds and other wildlife will allow AGFD staff and volunteers to compare and contrast techniques, thus providing data-driven insight on the success of a particular technique. As these bird and wildlife restoration techniques are refined and determined successful, they will be quickly shared with other rehabilitators working with similar species around the State and perhaps across the continent.

Lastly, the new WCEC will strongly support efforts in maintaining a diverse collection of non-releasable migratory birds and other wildlife for public outreach programs. These wildlife outreach programs are designed to engage school children and the general public at events statewide, promoting an awareness and appreciation of Arizona's biodiversity. For example, in 2012, staff and volunteers at the AGFD's recently decommissioned wildlife center interacted with over 239,000 people all who have the potential to make informed decision on how their actions can benefit wildlife and habitat in the future.

The new WCEC is a "shovel-ready" project. Once funding is acquired and the procurement process completed construction can begin. The AGFD has identified a building site, finalized construction-ready blueprints, completed all necessary environmental compliance documents including a cultural clearance, and distributed the proposal to the USFWS Federal Aid office for review. The proposed WCED will consist of a 2,400 sq. ft. wildlife care/veterinary support building, outdoor wildlife holding enclosures, utilities infrastructure, landscaping, and parking (Figure 3.3.1). The Center will operate seven days a week and take calls 24 hours a day.

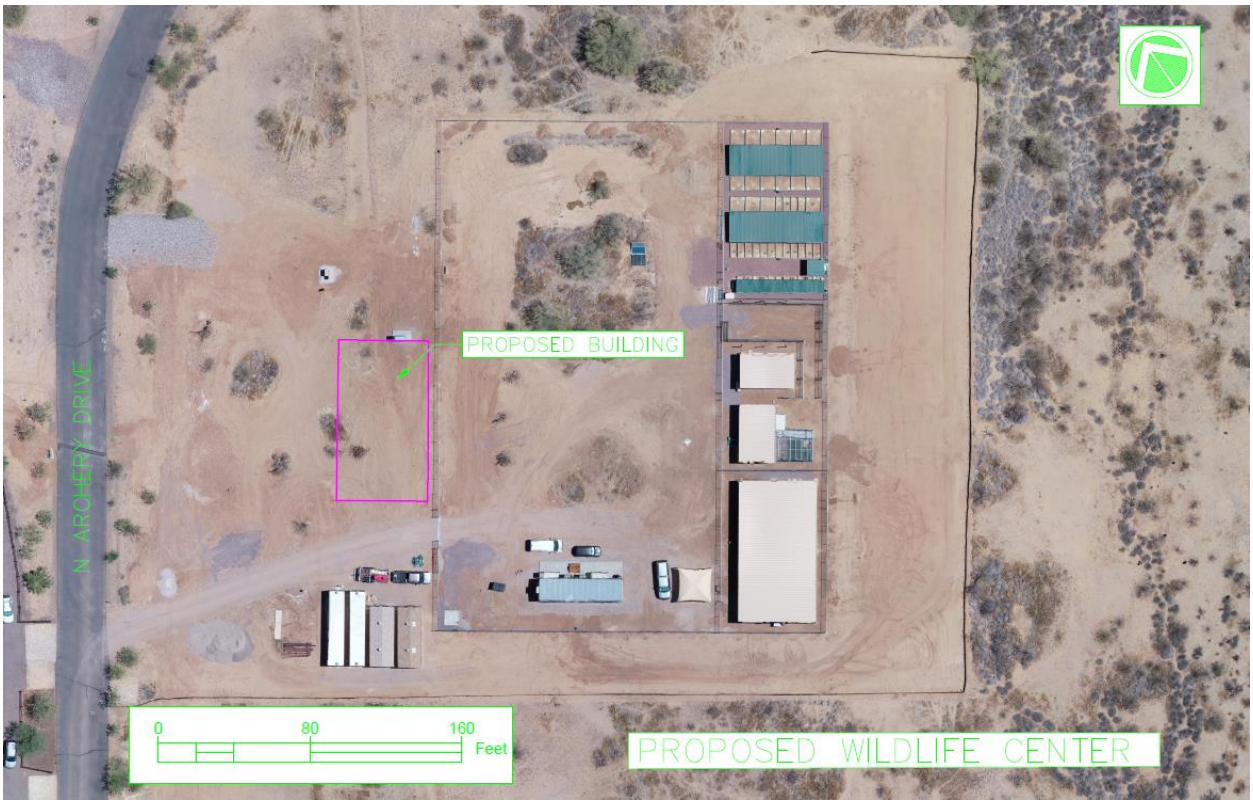

Figure 3.3 Location of the proposed Wildlife Care and Education Center adjacent to the Arizona Game and Fish Department Headquarters in Phoenix, Arizona.

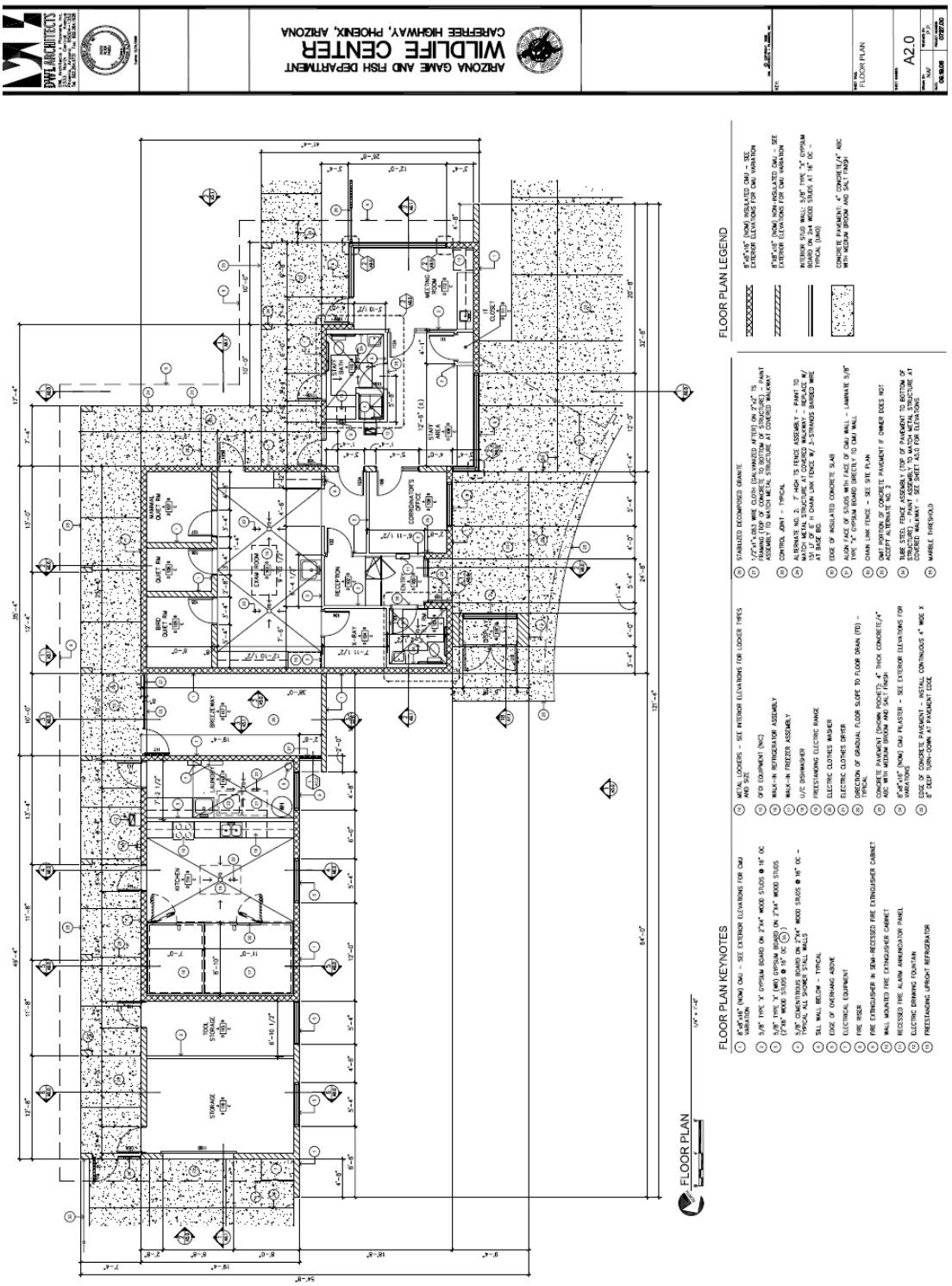

Figure 3.3.1. The proposed Wildlife Care and Education Center consisting of a 2,400 sq. ft. wildlife care/veterinary support building, outdoor wildlife holding enclosures, utilities infrastructure, and landscaping, and parking.

3.4. No Action / Natural Recovery Alternative

Evaluation of a no-action alternative is required under NEPA [40 CFR § 1502.14(d)]. The selection of this alternative by the Trustees would mean that no actions would be taken by the Trustees to restore injured wildlife and wildlife habitat resources, and that the public would not receive compensation for past or ongoing losses. This alternative may be used as a benchmark to evaluate the comparative benefit of other actions. Because no action is taken, this alternative also has no cost.

4.0 Environmental Consequences

Actions undertaken by the Trustees to restore natural resources and their services under CERCLA and other federal laws are subject to the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 et seq., and the regulations guiding its implementation at 40 C.F.R. Parts 1500 through 1517. NEPA and its implementing regulations outline the responsibilities of Federal agencies, including those for preparing environmental assessments (EA). In general, Federal agencies contemplating implementation of a major Federal action must produce an environmental impact statement (EIS) if the action is expected to have significant impacts on the quality of the human environment. When it is uncertain whether a contemplated action is likely to have significant impacts, Federal agencies prepare an EA to evaluate the need for an EIS. If the EA demonstrates that the proposed action will not significantly impact the quality of the human environment, the agency issues a Finding of No Significant Impact (FONSI), which satisfies the requirements of NEPA, and no EIS is required.

This chapter describes the environmental conditions (i.e., affected environment) where the additional proposed restoration project (i.e., the WCEC) would be implemented. It provides the background information needed to assess the potential impacts of the proposed project on the environment, as required by NEPA. The environmental and socioeconomic impacts associated with the proposed action including no-action are identified in this chapter. Descriptions of the cumulative environmental and socioeconomic impacts that would result from implementing the WCEC construction project are included in this chapter.

4.1 Affected Environment

The WCEC will be built on less than five acres of disturbed lands within the Lower Colorado River subdivision biotic community, dominated by creosote (*Larrea tridentate*) and mesquite (*Prosopis* spp.; Brown 1994). Much of the disturbed area will be cleared, leveled, and then raised in elevation with fill material. Construction is estimated to take 18 to 24 months. The project area was previously cleared of most plants when the Department's headquarters complex was developed in 2006. When feasible, native plants will be protected and left in place for landscaping needs.

A variety of motorized equipment will be used at the project site throughout the construction process. Many of the construction activities will result in noise and visual disturbances. Equipment likely to be used includes: concrete trucks, excavators, loaders, dump trucks, trenchers, welders, forklifts, mortar mixers, cranes, generators, work trucks, and a variety of electrical and pneumatic tools. Maricopa County Air Quality Department requires a dust control

permit on all job sites that will disturb more than 0.10 acres of soil. The project developer /contractor will be required to obtain a permit.

There is no aquatic habitat in the project area. Thus, no fish or aquatic species will be impacted. An environmental compliance consultant, Logan Simpson Design, completed a Section 404 Jurisdictional Delineation for the Army Corps of Engineers for the original headquarters project (Logan Simpson Design 2006a). No delineated waters of the United States were identified within the project boundaries.

A cultural clearance survey was completed for the entire Arizona Game and Fish Department Ben Avery Shooting Range facility by Aztec Archeological Consultants and for just the Arizona Game and Fish Department headquarters project by Logan Simpson Design (Logan Simpson Design 2006b). Both surveys identified eligible sites within and nearby the WCEC project footprint. Results were compiled into a report and forwarded to the State Historic Preservation Office (SHPO) and City of Phoenix for review. Both agencies concurred with the findings of no significant impact. A representative of SHPO visited the project site and determined the artifacts not substantive to preserve.

The proposed building site is entirely within the built portion of the Arizona Game and Fish headquarters and possesses limited wildlife value, with no federally protected species or habitat supporting federally protected species present. The Arizona Game and Fish Department's Online Environmental tool was used to search for the presence of special status species at the proposed project site (see Search ID 20110826015949). No listed species were documented or critical habitat identified within a three-mile buffer of the project area. Although the overall quality of the habitat at the project site is poor, undoubtedly some wildlife (e.g., lizards, small rodents, birds) will be temporarily or permanently displaced by the construction. An unknown number of animals could be crushed or otherwise unintentionally killed during the construction process.

There are no known active or inactive landfills, buried tanks, septic systems, wells, waste tires, or hazmat conditions on the proposed project site

4.2 Impact of No Action Alternative

Under the No Action Alternative, no construction activities connected with the proposed action would occur and the operation in and around the Arizona Game and Fish headquarters would not be affected. Therefore, the No Action Alternative would not affect any water, biological, cultural, or socioeconomic conditions.

5.0 Conclusions and Preliminary Finding of No Significant Impact on the Quality of the Human Environment

Based on the analysis in this Section and the other information and analyses included throughout the document as part of the environmental review process for the proposed action, the Trustees have concluded that the preferred action will not, if implemented, result in significant impacts on the quality of the human environment. The selected project would provide care for sick, injured, and orphaned wildlife resulting from hazardous substance releases (e.g., oil spills, poisoning from

mine ponds), and promote wildlife education and conservation through public outreach presentations. The development of a wildlife center and education facility will have no significant negative impacts to the cultural and human environment. In fact, we expect the project will provide increased opportunities for educating the public on the value of wildlife and the potential hazards they face.

6.0 Public Participation

This Chapter provides a summary of the public comments received on the Draft Addendum to the RP/EA and the Trustee's response to those comments.

6.1 Agencies, Organizations and Parties Consulted

The Trustees contacted the relevant government agencies, nonprofit organizations and other stockholders and private parties through an email notification on XXXX and as part of a public meeting held on XXXX. The Trustees informed the public that they had reopened the restoration project selection process and that they were developing an Addendum to the final PR/EA that was published in 2017, and encouraged the public to submit comments.

6.2 General Comments on the Draft Addendum to the RP/EA

(add and summarize comments)

6.3 Administrative Record

The Trustees have maintained records documenting the information considered and actions taken by the Trustees during this restoration planning process, and these records collectively comprise the Trustees' administrative record supporting this draft restoration plan. The administrative record is a dynamic file. Information and documents are included in the administrative record as they become available. These records are available for review by interested members of the public. Interested persons can access or view these records at the offices of:

Renee Wilcox, Project Manager
Arizona Game and Fish Department
5000 West Carefree Highway
Phoenix, Arizona 85086

Arrangements must be made in advance to review or to obtain copies of these records by contacting the office listed above. Access to and copying of these records is subject to all applicable laws and policies including, but not limited to, laws and policies relating to copying fees and the reproduction or use of any material that is copyrighted.

7.0 List of Preparers

The Addendum RP/EA was prepared by representatives of the natural resource trustee agencies listed below:

Michael Ingraldi, Program Supervisor, Arizona Game and Fish Department

Krista Osterberg, Surface Water Section Manager, Arizona Department of Environmental Quality

Carrie Marr, Wildlife Biologist, U.S. Fish and Wildlife Service

Kevin Russell, Wildlife Biologist, U.S. Fish and Wildlife Service

8.0 References

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