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**RECORD OF DECISION
FOR THE ROSEMONT COPPER PROJECT
(SPL-2008-00816-MB)**

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RECORD OF DECISION

ACTION ID: SPL-2008-0816-MB

APPLICANT: Rosemont Copper Company

PROJECT NAME: Rosemont Copper Project

This is the United States Army Corps of Engineers' (Corps) Record of Decision (ROD) concerning Rosemont Copper Company's (applicant) application for a Department of the Army (DA) permit to discharge fill material into waters of the United States (waters of the U.S.) pursuant to Section 404 of the Clean Water Act (CWA) associated with the Rosemont Copper Project. I have reviewed and evaluated, in light of the overall public interest, the documents and factors concerning the permit application for the proposed action, as well as the stated views of interested agencies and the public. In doing so, I have considered the possible consequences of the proposed action in accordance with regulations published in 33 Code of Federal Regulations (C.F.R.) Parts 320 through 332 and 40 C.F.R. Part 230.

The proposed action involves the permanent and temporary discharge of dredged or fill material into 39.00 acres of waters of the United States on the proposed mine site (see Figures 2 and 3 in Attachment B) and the permanent discharge of fill material into 9.48 acres of waters of the U.S. for the proposed compensatory mitigation under Section 404 of the CWA. As such a Department of the Army (DA) permit under the Regulatory Program is required for the proposed action.

I. Background and Existing Environment

a. Background

In July 2007, the applicant submitted a preliminary mine plan of operations (MPO) to the Coronado National Forest (the Coronado), requesting approval to construct, operate, reclaim, and close an open-pit mine on and adjacent to National Forest System lands administered by the Coronado for development of the Rosemont ore deposit.

On October 26, 2011, the applicant, a subsidiary of Augusta Resource Corporation at that time, applied for a DA standard individual permit to the U.S. Army Corps of Engineers, Los Angeles District (SPL) under Section 404 of the CWA to discharge dredged or fill material into waters of the U.S. consistent with the Barrel Alternative (Alternative 4 in the Environmental Impact Statement (EIS)).

The United States Forest Service (USFS) was the lead Federal agency for the preparation of an EIS pursuant to the National Environmental Policy Act (NEPA). The Corps, three other federal agencies (Department of the Air Force, BLM, and the Smithsonian Astrophysical Observatory), nine state agencies, and three local agencies were cooperating agencies in the development of the EIS. A Notice of Intent (NOI) to prepare an

EIS was published in the Federal Register (FR, 73 FR 13527) on March 13, 2008. The public scoping comment period was extended with an NOI which was published in the FR on April 29, 2008 (73 FR 23181). A Notice of Availability (NOA) of the Draft EIS for review and comment was published in the FR by the U.S. Environmental Protection Agency (USEPA) on October 21, 2011, with comments accepted through January 18, 2012 (76 FR 65509). The USFS subsequently extended the comment period to January 31, 2012, in a notice of extension published in the FR on January 27, 2012 (77 FR 4275).

SPL issued a separate public notice, dated December 6, 2011, announcing the availability of the Draft EIS, the receipt of an application for a DA permit, and requesting comments on the proposed action (Barrel Alternative) from interested parties by January 5, 2012. On January 2, 2012, the Corps issued a public notice extending the comment period to January 19, 2012.

Between December 1, 2011, and January 14, 2012, the USFS held seven public meetings at various locations in Cochise, Pima, and Santa Cruz counties to share information and solicit comments on the Draft EIS. Comments on the Draft EIS were considered by the USFS in the Final EIS, and comments on the Corps' public notice were fully considered in preparing the Final EIS and this ROD, respectively (see Section V of this ROD).

As a result of comments received during the Draft EIS comment period, modifications were made by the USFS to the Barrel Alternative between the application submittal and the publication of the Final EIS to further minimize environmental impacts. Thereafter, the applicant submitted an updated project description to the Corps consistent with Alternative 4 as described in the Final EIS (pp. 78-86) as its proposed action and depicted in Attachment B. Hudbay Minerals, Inc. completed a takeover of Augusta Resource Corporation, including Rosemont Copper Company in July 2014 and is the current owner of Rosemont Copper Company. Rosemont Copper Company continues to be the applicant.

The NOA for the Final EIS was published in the FR by USEPA on December 13, 2013 (78 FR 75919). The Final EIS was made available for public review until January 29, 2014. The USFS Final EIS/draft ROD objection period for those parties with standing began on December 21, 2013, and lasted 45 calendar days. Subsequently, the USFS determined that preparing a Supplemental Information Report (SIR) was appropriate to address extensive issues identified during the objection process. The SIR was released to the public on May 22, 2015. Subsequent to the release of the May 2015 SIR, the USFS received additional information that warranted the preparation and publication of a second SIR. The USFS released the second SIR to the public on July 20, 2016. The USFS issued their final ROD for the proposed action on June 6, 2017.

On March 4, 2014, then Arizona Governor Janice K. Brewer submitted a letter to the SPL stating the public interest would be advanced by approval of the proposed action and issuance of a permit by the Corps. On May 28, 2015, current Arizona Governor Douglas A. Ducey submitted a letter to SPL reaffirming the position of Arizona that the public's interest would be served by the proposed action. As identified in 33 C.F.R. 325.8(b)(1), District Engineers will refer applications to the division engineers for resolution when the

recommended decision is contrary to the written position of the Governor of the state in which the work would be performed. On July 25, 2016, SPL referred the application to the SPD Division Engineer for resolution, recommending the application for the proposed action be denied.

In a letter dated December 28, 2016, the SPD Division engineer sent a letter to the applicant, providing a description of the conclusions identified by SPL prior to referring the proposed action to SPD. These conclusions identified by SPD were: (1) implementation of the proposed action would cause or contribute to violations of state water quality standards, and minimization and mitigation measures, along with proposed monitoring were inadequate to ensure that degradation did not occur; (2) the proposed action would result in significant degradation of waters of the U.S., as a result of a substantial reduction of functions and services and that the project would contribute to the degradation of Outstanding Arizona Waters (OAWs); (3) the proposed mitigation is inadequate; and (4) implementation of the proposed action would be contrary to the public interest. Since the referral of the application to the SPD Division Engineer from SPL, the applicant has reduced the proposed discharge of fill material into waters of the U.S. as a result of a proposed reduction in the footprint of the proposed plant site (see Section IV), and the Corps has further refined the scopes of analysis for the proposed action to more accurately define the limit of the Corps' authority for the evaluation of effects under the public interest review and the Section 404(b)(1) Guidelines (see Section III). In addition, the applicant has further revised and refined the proposed compensatory mitigation, including a proposal to remove four stock tanks to minimize reductions in downstream flows to OAWs, as identified in Sections VII and VIII, below.

As identified above, since the publishing of the Second SIR and referral of the proposed action to the SPD Division Engineer, the applicant has revised and refined the proposed permittee-responsible compensatory mitigation plan, and has submitted the September 12, 2017, *Final Habitat Mitigation and Monitoring Plan*, prepared by WestLand Resources and Water & Earth Technologies. While the proposed compensatory mitigation has been refined, the majority, including conducting compensatory mitigation at Sonoita Creek and the removal of two stock tanks (Gunsight Pass and McCleary Canyon) were included in the review area analyzed in the Final EIS, and a conceptual plan for the compensatory mitigation at SCR was identified in the December 6, 2011, public notice issued by SPL. The Barrel Canyon East and Rosemont Crest stock tanks were not identified in the Final EIS or public notices issued by SPL.

NEPA regulations require an agency prepare a supplement to a draft or final EIS if (1) the agency makes substantial changes in the proposed action that are relevant to environmental concerns; or (2) there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts (see 40 CFR 1502.9(c)). Other than additional avoidance of waters of the U.S., the only changes to the proposed action after the publishing of the Final EIS are modifications to the proposed compensatory mitigation to include refinement of the proposed activities at Sonoita Creek and the removal of four stock tanks. In order to ensure compliance with NEPA, the Corps has prepared a supplemental Environmental Assessment, Section 404(b)(1) Analysis, and Public Interest Review (Supplemental EA), located in Attachment G,

to determine whether the proposed compensatory mitigation will result in significant adverse effects that require the preparation of a supplemental environmental impact statement. The Supplemental EA also contains the Corps' determination on whether the proposed compensatory mitigation complies with the Section 404(b)(1) Guidelines and whether the proposed compensatory mitigation is contrary to the public interest. Although the proposed compensatory mitigation at the Sonoita Creek property and removal of the Gunsight Pass and McCleary Canyon stock tanks were identified in the Final EIS, in order to ensure a full evaluation of the potential environmental effects associated with the compensatory mitigation, the Corps has included all proposed compensatory mitigation in the Supplemental EA. This has allowed the Corps to make a reasoned decision based on an evaluation of the significance, or lack of significance, of changes to the proposed compensatory mitigation as well as other information SPD has received regarding the mitigation proposal.

The Corps and USEPA's 2008 Mitigation Rule, *Compensatory Mitigation for Losses of Aquatic Resources* (Rule, 33 C.F.R. 332) does not require a public notice for a final mitigation and monitoring plan, nor does it require a public notice for any changes to the proposed compensatory mitigation. The preamble to the Rule (73 FR 19640) states:

We have clarified in the final rule that the mitigation statement in the public notice is to be based on the information submitted by the applicant, in accordance with the new requirement at 33 CFR 325.1(d)(7). As discussed in the section of this preamble that addresses § 325.1(d)(7), this should be a brief statement because this occurs in the early stages of the evaluation process, and the evaluation of mitigation options is an iterative process. As district engineers conduct their evaluations in accordance with applicable Corps regulations, the Guidelines, and regulations governing other applicable laws (e.g., section 7 of the Endangered Species Act), additional avoidance and minimization may be required, and compensatory mitigation requirements will be determined in greater detail to offset the permitted impacts to the extent appropriate and practicable...We do not believe it is necessary to reword this subsection to clarify that the mitigation statement contains preliminary mitigation measures proposed by the permit applicant. It is understood that these preliminary measures may be revised in response to public comment and other input to the permit process.

In addition, as identified in the Corps' 2009 Standard Operating Procedures (2009 SOP, pp. 13-14),

if the applicant substantially modifies the project so that either the project or its reasonably foreseeable impacts to the aquatic environment are substantially different from those described in the original public notice, then a new public notice may be appropriate or necessary for proper evaluation of the proposal....If project impacts are similar to or less than the original submittal (e.g. if expected impacts are reduced as a result of modifications to the project through efforts to avoid and minimize a proposed project's adverse effects), as

a general rule the district should proceed with a decision without issuing another public notice.

Proposed permittee-responsible compensatory mitigation at Sonoita Creek was identified within the Final EIS issued by the USFS, and was available for public review and comment (see Section 1.f of the Supplemental EA for a discussion of the history of the proposed compensatory mitigation). Because proposed permittee-responsible compensatory mitigation was identified in the original public notice and there was not a substantial change in the reasonably foreseeable impacts associated with the proposed action requiring the issuance of a public notice (i.e. the proposed discharge of fill material into waters of the U.S. for the proposed Rosemont Copper project), the Corps has determined a new public notice is not necessary.

b. Existing Environment

(1) Proposed Mine Site and Off-Site Infrastructure Area: The proposed mine site is located approximately 30 miles southeast of Tucson, Arizona, within unincorporated Pima County. Within the proposed security fence, the mine site would encompass approximately 900 acres of private land owned by the applicant and 3,328 acres of National Forest System land within the Coronado. A total of 5,431 acres of land would be disturbed as a result of the proposed activities within the mine-site and off-site infrastructure areas (including the mine, primary access road and utility line corridors, road disturbance, and realignment of an historic trail) and a total of 6,990 acres (including the 4,228 acres of disturbed area within the security fence) would be excluded from public access by a perimeter fence. The proposed action's location and footprint are depicted on Figures 1-3, which can also be found in Attachment B.

The proposed action is located on the east side of the Santa Rita Mountains. The topography of the proposed mine site is dominated by rolling to steep hills, drainages, and canyons. The Santa Rita Mountain Range includes numerous drainages that contain riparian habitat. The streams within and around the project site are ephemeral, flowing in response to precipitation events. According to the November 2008 report, *The Ecological and Hydrological Significance of Ephemeral and Intermittent Streams in the Arid and Semi-arid American Southwest*. USEPA/600/R-08/134; ARS/233046, published by the USEPA and Agricultural Research Service Southwest, Watershed Research Center, ephemeral streams in arid environments perform critical hydrologic functions by moving water, sediment and debris through the stream network and providing connectivity within the watershed. Barrel Canyon is the principal drainage system within the project site. Wasp, McCleary, and Scholefield Canyons discharge to Barrel Canyon, which discharges to Davidson Canyon and then to Cienega Creek approximately 14 miles northeast of the project site. Empire Gulch and Gardner Canyon, located south of the project site, discharge into upper Cienega Creek to the southeast of the proposed mine site. The northwest side of the project site is drained by a series of unnamed headwater tributaries of Sycamore Canyon. Box Canyon is the major drainage system southwest of the project site, west of the main ridgeline.

The proposed mine site supports both riparian and terrestrial vegetation communities. The proposed mine site and surrounding area is primarily comprised of three terrestrial vegetation communities: semi desert grassland, characterized by open grasslands with widely scattered shrubs and cacti, generally covers the lower elevations of the project site; Madrean evergreen woodland, characterized by open woodlands or savanna, primarily consisting of trees interspersed with grasses and forbs, mostly covers the higher elevations of the project site; and chihuahuan desertscrub, dominated by the shrub, creosotebush (*Larrea tridentata* var. *tridentata*), on plains, low hills, and valleys on the uplands surrounding middle Cienega Creek (Brown, D.E., *Biotic Communities: South Western United States and Northwestern Mexico*, 1994).

As identified on in the Final EIS (p. 605), a number of special status plant and animal species occur on the proposed mine site or within the analysis area evaluated in the Final EIS, of which 2 plant species and 8 animal species are federally-listed threatened and/or endangered species, as further described in Table 115 and pages 605-651 of the Final EIS.

Previous mining activity has resulted in a number of mine adits and shafts within and adjacent to the project site. There are numerous talus slopes and rock outcrops present on the steeper portions of the project site. The applicant holds grazing permits for the allotments within the proposed mine site.

The major recreational activities within the Coronado include camping, hiking, and scenic driving. An important component of the recreational experience is night sky viewing. The cloudless night skies, minimal atmospheric pollution, and low humidity of the southwestern United States provide ideal conditions for this activity. The Kitt Peak National Observatory and the Smithsonian Institution's Fred Lawrence Whipple Observatory are astronomy research facilities located in the Coronado that rely on the area's naturally dark, unpolluted skies for optical and infrared astronomy research.

Based on the Corps' November 1, 2010, preliminary jurisdictional determination (PJD), there are approximately 101.60 acres of potentially jurisdictional waters of the U.S. in and around the project site. These waters of the U.S. are comprised of 154 individual ephemeral washes and springs that encompass 18 linear stream miles, and 2 wetlands (Scholefield Spring No. 1 and Fig Tree Spring). Additional potential waters of the U.S. were identified in the PJD along the proposed utility alignments west of the proposed mine site (see the Corps' PJD, described in the Final EIS (p. 11, pp. 446-447, and 451-452). The ephemeral drainages on the site include Barrel Canyon and its headwater tributaries, including McCleary Canyon and Wasp Canyon.

Barrel Canyon is a tributary to Davidson Canyon, located approximately 4 stream miles to the northeast. Davidson Canyon flows north-west for approximately 14 stream miles to Cienega Creek. Cienega Creek becomes Pantano Wash downstream of the confluence with Davidson Canyon, and then flows to the Rillito River to the north-west. The Rillito River flows west to the Santa Cruz River, which, although not a navigable water subject to Section 10 of the Rivers and Harbors Act, at this location is considered a traditional navigable water subject to Section 404 of the Clean Water Act. The Santa Cruz River is a tributary to the Gila River to the north. The Gila River flows west and south to the

confluence with the Colorado River, just west of Yuma, Arizona. The Colorado River is the closest navigable water subject to Section 10 of the Rivers and Harbors Act. The proposed mine site is located more than 45 stream miles upstream of the Santa Cruz River, and more than 350 stream miles upstream of the Colorado River. Additional information regarding the affected environment of the proposed mine site can be found in Chapter 3 of the Final EIS.

(2) Proposed Compensatory Mitigation Site:

The proposed compensatory mitigation includes activities on the Sonoita Creek Ranch and Rail X Ranch sites (SCR), and the removal of four stock tanks near the proposed mine site. A specific discussion of the proposed compensatory mitigation, including a description of the proposed compensatory mitigation, compliance with the Rule, the Corps' determination on the amount, type, and location of required compensatory mitigation is located in located in Section VII of this ROD and Attachment G. Additional information on the proposed compensatory mitigation, including responses to comments on the proposed compensatory mitigation, the evaluation of whether or not the proposed compensatory mitigation is appropriate and sufficient, and the evaluation of the effects of the proposed compensatory mitigation can be found in the Supplemental EA located in Attachment G.

II. Purpose and Need

a. NEPA Purpose and Need

As the lead agency for compliance with NEPA, the USFS identified the purpose and need for the proposed action, which is located in Chapter 1 (pp. 6-8) of the Final EIS.

(1) Purpose: To process Rosemont Copper's MPO.

(2) Need: The USFS identified the following needs for the action (Final EIS, pp. 6-8):

(a) Respond to Rosemont Copper's proposed MPO to develop and mine the Rosemont Copper, Molybdenum, and Silver deposit;

(b) Ensure that the selected alternative would comply with other applicable Federal and State laws and regulations;

(c) Ensure that the selected alternative, where feasible, would minimize adverse environmental impacts on USFS surface resources; and

(d) Ensure that measures would be included that provide for reclamation of the surface disturbance.

Figure 1: Vicinity Map

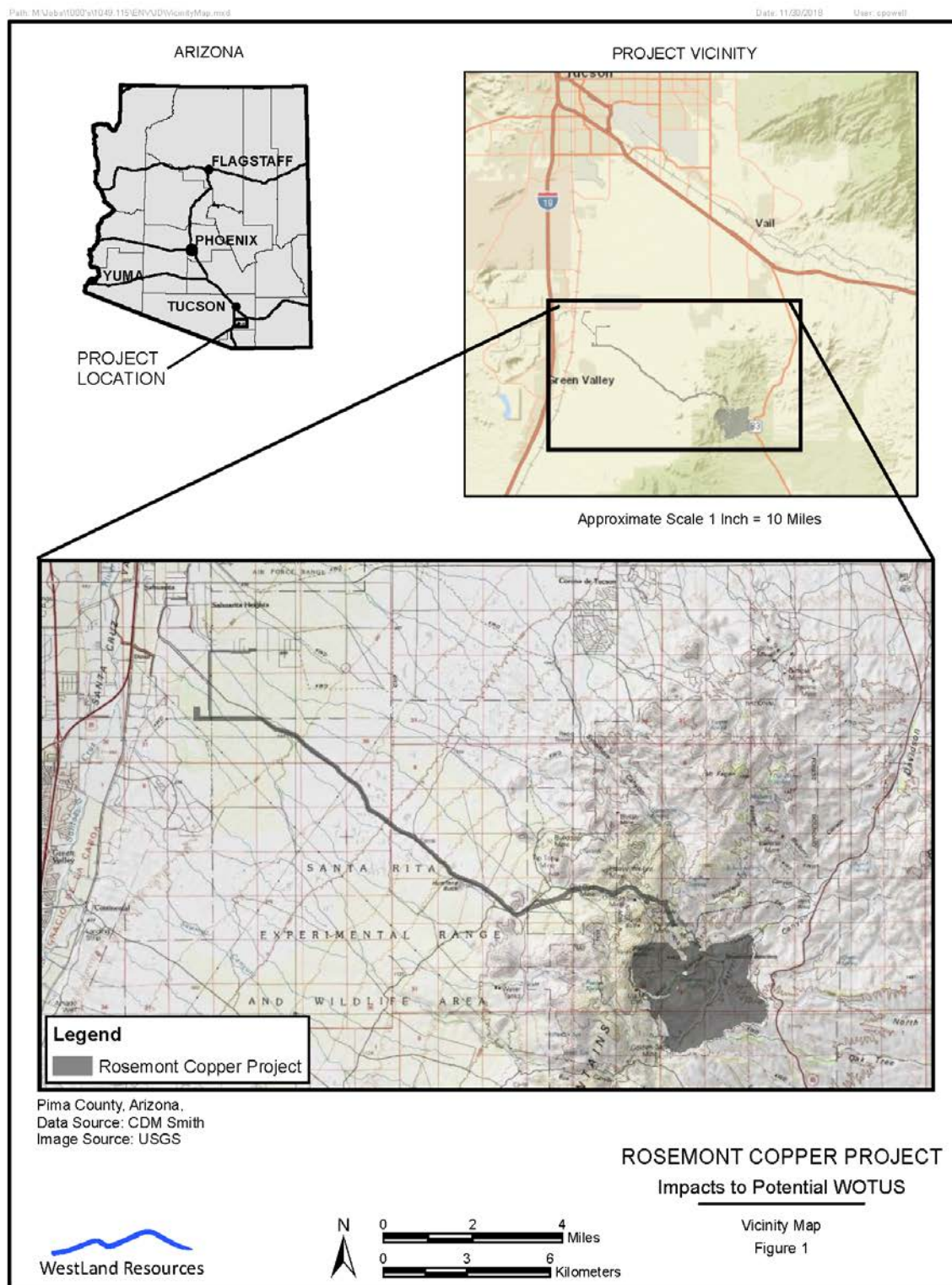
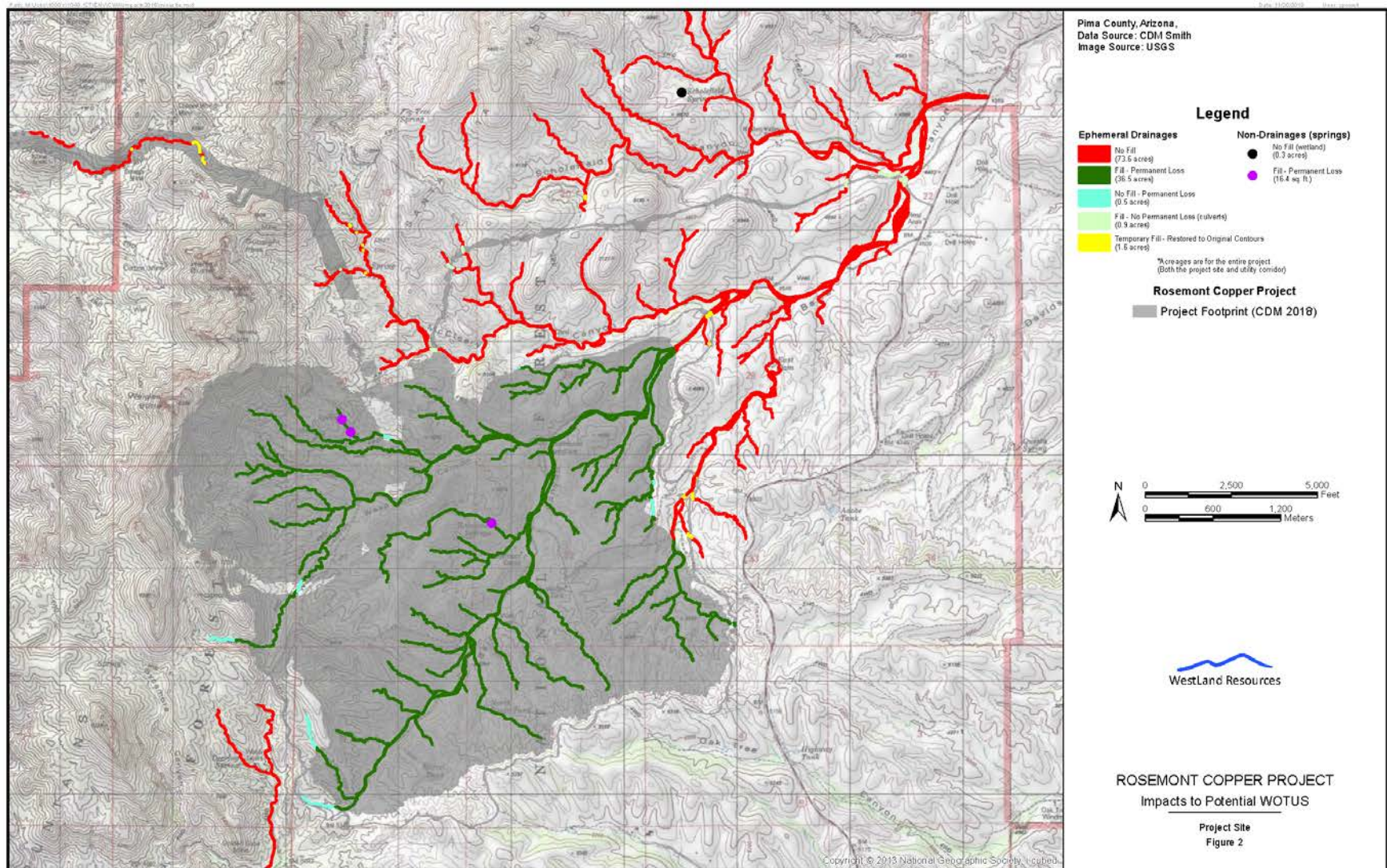
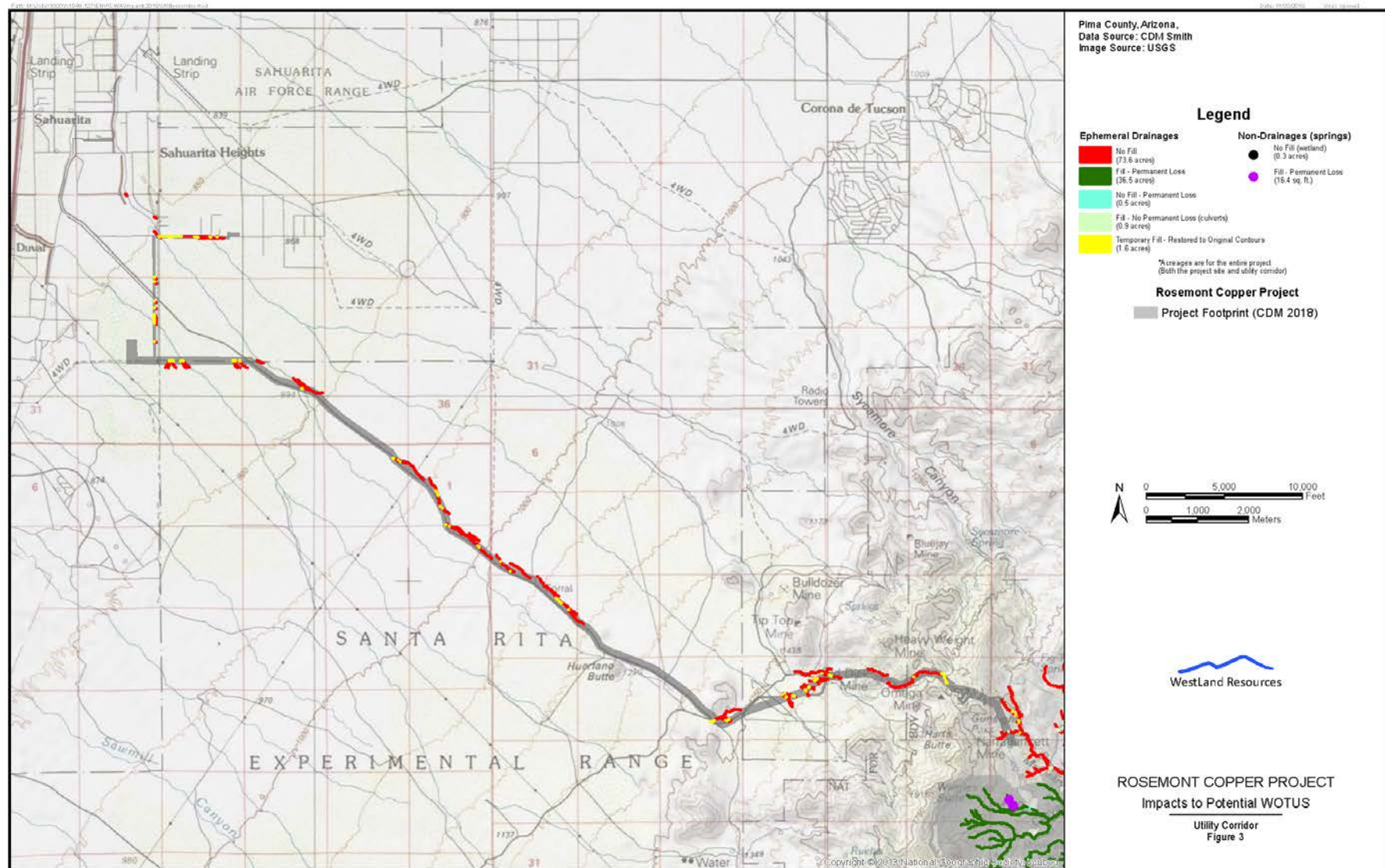


Figure 2: Proposed Project - Mine Site





b. Basic and Overall Project Purpose

For activities requiring a permit under Section 404 of the CWA, the Corps identifies a basic and overall project purpose for compliance with the USEPA's Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material (Corps' SOP and Section 404(b)(1) Guidelines; 40 C.F.R. 230.10(a)). C.F.R. As explained in more detail below, the basic purpose helps determine whether a project is water dependent. In the event a project results in the discharge of dredge or fill material into special aquatic sites, a determination that a project is not water dependent triggers a set of rebuttable assumptions. For activities that would result in the discharge of dredged and/or fill material into special aquatic sites (i.e. sanctuaries and refuges, wetlands, mudflats, vegetated shallows, coral reefs, and riffle and pool complexes), the basic project purpose is used to identify whether or not the activity is water dependent (i.e. requires access or proximity to or sighting within the special aquatic site in question to fulfill its basic purpose (40 C.F.R. 230.10(a)(3))). Per the Guidelines, no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic environment, so long as the alternative does not have other significant adverse environmental consequences. In addition, for any activity that is not water dependent and would result in the discharge of dredged or fill material into special aquatic sites, the Corps presumes: (1) practicable alternatives that do not involve special aquatic sites are available, unless clearly demonstrated otherwise; and (2) practicable alternatives that do not involve special aquatic sites have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise (40 C.F.R. 230.10(a)(3)). In this case, the proposed action would not result in the discharge of dredged or fill material into special aquatic sites, and therefore identification by the Corps of a basic project purpose is not necessary, and the presumptions identified above do not apply (see also the discussion on the effects of the proposed action on special aquatic sites located in Section VIII.4 of this ROD)..

The overall project purpose is used to evaluate whether there are less environmentally damaging practicable alternatives (Corps SOP, Section 12 and 40 C.F.R. 230.10(a)). The Corps has identified the overall project purpose is to develop the mineral resources associated with an ore deposit in southeastern Arizona (Pima, Pinal, Gila, Graham, Greenlee, Cochise, and Santa Cruz counties) using conventional open pit mining and sulfide (mill and concentrate) ore processing for the purpose of producing copper, copper precursors, silver, and/or molybdenum.

III. Corps Scope of Analysis

a. NEPA Scope of Analysis

Per 33 C.F.R. 325, Appendix B, paragraph 7, the scope of analysis under NEPA extends to those areas where the Corps is considered to have control and responsibility for portions of a project beyond the limits of Corps' jurisdiction where the Federal involvement is sufficient to turn an essentially private action into a federal action. The typical factors to be considered are:

- (1) Whether or not the regulated activity comprises "merely a link" in a corridor type project
- (2) Whether there are aspects of the upland facility in the immediate vicinity of the regulated activity which affect the location and configuration of the regulated activity.
- (3) The extent to which the entire project would be within Corps' jurisdiction
- (4) The extent of cumulative federal control and responsibility.

Because of the location and configuration of waters of the U.S. on the site, as well as the involvement of the USFS as the lead Federal Agency, the NEPA scope of analysis includes the entire surface footprint of the proposed mine, tailings and waste rock, roads, utilities, and other infrastructure. In addition, because of the involvement of the USFS, the scope of the NEPA document includes construction, operations, reclamation, and closure of the proposed mine (see p. 1 of the Final EIS).

b. Public Interest Review Scope of Analysis

As identified in the Corps' regulations at 33 C.F.R. 320.4(a)(1),

the decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. Evaluation of the probable impact which the proposed activity may have on the public interest requires a careful weighing of all those factors which become relevant in each particular case. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments.

The proposed activity is the activity requiring a DA permit, which is the discharge of dredged and/or fill material into waters of the U.S. subject to Section 404 of the CWA, as well as any required compensatory mitigation required to offset the loss of waters of the U.S. associated with the proposed discharge. Under Section 404 of the CWA, activities that would result in a discharge of dredged/fill material into waters of the U.S. require a permit. Operation of the proposed mine, including excavation of the mine pit, would occur following the discharge of fill material into waters of the U.S. (see Table 2)

associated with clearing, grubbing, grading, and construction of facilities. The discharge of fill material within the mine pit area and the waste rock/tailing disposal area would occur through using typical earth moving construction equipment to spread fill material throughout the disposal site. No material from the excavated mine pit would be discharged into waters of the U.S. as the placement of excavated material from the mine pit would occur only after the waters of the U.S. have been filled with native material. Following the placement of fill material into the ephemeral washes and three springs (note a total of five springs are proposed to be filled, but only three are considered potential waters of the U.S. See Section VIII.a.4), and prior to the excavation of the mine pit, no waters of the U.S. will exist within the proposed mine pit area. No waters of the U.S. would be filled for excavation activities associated with operation of the mine pit (e.g. excavation to 2,900 feet below existing ground surface). For this reason, the operation of the mine is not within the Corps' jurisdiction.

Therefore, while the overall NEPA scope of analysis, as identified in Section III.a, includes the construction, operations, and maintenance of the mine and off-site infrastructure, which was evaluated by USFS in the Final EIS, the Corps has control and responsibility only for direct, indirect, and cumulative effects to the environment as a result of the discharge of dredged/fill material on the mine site, primary access roads, and off-site infrastructure area, which includes waters of the U.S. and uplands that would be disturbed on 5,434 acres as shown for Alternative 4 in Table 1, below. In addition, the Corps' scope includes the proposed compensatory mitigation, including the proposed Sonoita Creek site and removal of four stock tanks (see the Supplemental EA in Attachment G). The Corps does not have control or responsibility for any effects occurring as a result of excavation of the mine pit to the maximum proposed depth of 2,900 feet. Therefore, the effects of operations and maintenance of the proposed mine will not be considered in the public interest review.

c. Section 404(b)(1) Scope

The Section 404(b)(1) Guidelines provide a number of restrictions for the discharge of dredged and/or fill material into waters of the U.S. (40 C.F.R. 230.10). One of these restrictions on discharge is that no discharge of dredged or fill material shall be permitted which will cause or contribute to significant degradation of waters of the U.S. (40 C.F.R. 230.10(c)). The findings of significant degradation are based upon factual determinations, evaluations, and tests required by Subparts B and G of the 404(b)(1) Guidelines, after consideration of subparts C through F (40 C.F.R. 230.10(c)). The factual determinations are based on an evaluation of the direct, secondary, and cumulative effects of the proposed discharge on the aquatic ecosystem. Secondary effects are defined in 40 C.F.R. 230.11(h), as effects on an aquatic ecosystem that are associated with a discharge of dredged or fill material, but do not result from the actual placement of the dredged or fill material. The proposed action would result in the permanent and temporary discharge of fill material into waters of the U.S. for the construction of the proposed action, which includes clearing, grubbing, grading, and construction of facilities, within the area of the mine pit, the waste rock/tailing disposal area, utility line, and road improvement areas, as identified in Table 2 and on Figures 2 and 3 in Attachment B. In addition, the proposed compensatory mitigation would result

in the permanent discharge of fill material into waters of the U.S. as further described in the Supplemental EA for the compensatory mitigation in Attachment G.

Unlike the NEPA scope of analysis, the analysis of direct, secondary, and cumulative effects under the Section 404(b)(1) Guidelines is tied solely to the discharge of dredged and/or fill material into waters of the U.S. Within the proposed mine pit area, the permanent placement of fill material into 3.60 acres of waters of the U.S. as a result of clearing, grubbing, grading, and construction of facilities, would be completed prior to the excavation of the proposed mine pit to 2,900 feet. Construction, including excavation, of the mine pit, would not result in the discharge of fill material into waters of the U.S. Similarly, the proposed discharge of dredged and/or fill material into 32.80 acres of waters of the U.S. within the waste rock disposal area, dry stack tailings area, and plant site, would occur through clearing, grubbing, and grading, and not from the discharge of waste rock or tailings. Therefore, the effects of the proposed operations of the mine, including full excavation of the mine pit, are not within the Corps' purview under the Section 404(b)(1) Guidelines. The Corps' scope under the 404(b)(1) Guidelines extends only to those direct, secondary, and cumulative effects associated with the discharge of fill material into waters of the U.S., including direct, secondary, and cumulative effects to surface water quantity and quality. Any effects related to the excavation of the mine pit, including those related to groundwater quantity or quality, are outside of the Corps' scope under the Section 404(b)(1) Guidelines. See also Section VIII.a.2.a of this ROD for additional discussion.

d. Summary

As explained above, the NEPA scope of analysis for this action is very broad. This is appropriate because the USFS as the lead federal agency exercises control and responsibility that extends through the operation of the mine. However, the Corps' authority under the CWA is considerably more circumscribed as the Corps' jurisdiction under Section 404 of the CWA is based on the discharge of fill material into waters of the U.S.

The Corps recognizes that many of those opposed to the mine have suggested that the Corps must assume a broad jurisdiction that includes the operation of the mine. Ultimately, however, the Corps is bound by the limits the CWA and cannot exercise authority where none exists. The operation of the mine will occur later in time and after all waters of the U.S. on the mine site cease to exist. At the time the mine goes into operation, there will be no waters of the U.S. into which fill could be discharged and no basis for the Corps to exert jurisdiction.

It should be noted, however, that the Corps' scope of review for its 404(b)(1) analysis and public interest review remain quite broad, though not as broad as some would urge. The Corps recognizes that because of the location and configuration of waters of the U.S. throughout the mine site, it would be inappropriate to limit its CWA scope to only that part of the mine site containing waters of the U.S. The Corps has considered impacts on the entire mine site, as well as primary access roads, off-site infrastructure areas, and the proposed compensatory mitigation site. However, the

Corps declines to exercise jurisdiction where none exists, including the operation of the mine and its associated impacts on groundwater. This will disappoint many. Nonetheless, the Corps is bound by the limits of its authority.

IV. Alternatives Considered:

A reasonable range of alternatives were considered in the EIS for the proposed action on the mine site (Final EIS, Volume 1, Chapter 2, pp. 27-100). The EIS also identified those alternatives that were considered but rejected from further analysis (Final EIS, Volume 1, Chapter 2, pp. 100-114). The alternatives were further modified in response to comments received on the Draft EIS from the public, agencies, and tribes. In addition to the project as originally proposed and submitted to the USFS (presented as Alternative 2 in the EIS), five other alternatives were analyzed in detail in the EIS. The EIS includes Alternative 1 – No Action, and Alternatives 2 through 6, which feature differing configurations of waste rock, tailings, plant site, and associated facilities. Alternatives 2 through 6 include all the common facilities, processes, and activities described under *General Overview of Mining Operations* in Chapter 2 of the Final EIS. The connected actions described in the Final EIS (the electrical transmission line, the water supply pipeline, the electrical distribution line, the Arizona National Scenic Trail (ANST) Reroute, and the State Route (SR) 83 Maintenance and Improvements), are also included in each of the action alternatives. The components of Alternatives 2 through 6 are summarized in Table 1. Alternatives 2 through 6 are further described in Chapter 2 of the Final EIS.

In September 2013, the applicant submitted information regarding the practicability of alternatives in light of the overall project purpose, which the Corps has utilized (in conjunction with the Final EIS) to conduct the alternatives analysis required for compliance with the USEPA's Section 404(b)(1) Guidelines. It is important to note that, despite the name, the document prepared by the applicant is not a final alternatives analysis for compliance with the Section 404(b)(1) Guidelines, but is only a document containing information on the practicability of alternatives. While the information submitted by the applicant is utilized by the Corps, the Section 404(b)(1) Alternatives Analysis is an independent evaluation made by the Corps of the proposed action's compliance with the Guidelines. The analysis of each of the alternatives, the practicability of the alternatives in light of the overall project purpose, and the final determination of the least environmentally damaging, practicable alternative, has been conducted as described below.

The alternatives are summarized below and discussed in detail in the Final EIS (Volume 1, Chapter 2, pages 25 to 138) and in the September 2013 alternatives information document, prepared by the Applicant's consultant Westland Resources, Inc., entitled *Rosemont Copper Project, CWA Section 404(b)(1) Alternatives Analysis (SPL-2008-00816-MB)* ("applicant's Alternatives Information"), which was included in Volume 5 of the EIS, as Appendix A. See Response to Comment 32 in Attachment A, as well as the Supplemental EA, located in Attachment G for information related to alternatives for the proposed compensatory mitigation.

a. Off-site Alternatives

Eleven sites in southern Arizona were considered in the Final EIS and the applicant's Alternatives Information. These alternatives were identified as sites that were in various states of exploration or development as a copper mine in 2005 (the year the Rosemont Copper Company acquired the proposed mine site). We have determined these alternatives are not practicable, as they either were not available or were in an exploration phase and the mineral reserves were not yet proven. (See Volume 1, Chapter 2, p. 101 of the Final EIS and Section 2.2.2 of the applicant's Alternatives Information).

b. Alternate Methods

Alternative mining methods that were considered are discussed in the EIS (Volume 1, Chapter 1, pp. 101-109). Those alternative mining methods included: shafts, adits, and other underground methods; reducing pit size; in situ leaching; high-temperature/high-pressure leaching; traditional slurry tailings; transporting tailings by slurry pipeline to Scholefield Canyon; configuring the pit to allow "continuous" backfill; complete backfill or partial backfill of the pit; complete waste rock pit backfill; partial pit backfill; reconfiguring or relocating the waste rock and tailings facilities; relocating waste rock and tailings to existing mines; avoiding placement in drainages; depositing the tailings on the northwestern slope of the Santa Rita Mountains; using a natural backfill configuration; modifying the life of the mine; change in scheduled hours of operation; twelve-hour operation with the same production planned for a 24-hour operation and same mine life; twelve-hour operation with half the production planned for a 24-hour operation and double the mine life; suspending operations during high-wind events. These alternatives, excluding suspending operations during high-wind events, were considered, but eliminated from detailed evaluation, based on determinations that they were not technically, economically, or environmentally feasible, as described within those pages of the EIS. As indicated on p. 109 of the Final EIS, the air quality permit requires cessation when dust loads exceed an opacity compliance level, whether or not there are "high" winds. In the Final EIS, it was therefore determined that it is practically feasible to suspend selected operations temporarily during wind velocities or dust loads that exceed permit compliance conditions in order to comply with air quality permit requirement, since this is a standard industry practice.

c. Alternatives Evaluated in the EIS

Table 1. Alternatives comparison table: disturbance (in acres) elements (FEIS, Table 11)

Disturbance Element	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
Security fence disturbance area – all area within security fence	4,387	4,308	4,228	4,688	5,045
Primary access road corridor – 600 feet wide to allow for designed cut areas (outside security fence)	263	194	226	225	192

Utility line corridor – 500 feet wide for transmission with others co-located – water line and utility maintenance road – 150-foot corridor where not within transmission line, except for the designated 30- to 40-foot easement or ROW (outside security fence)	899	897	899	899	899
Road disturbance (outside security fence) – New Roads – 100 feet wide; Decommissioned Roads – 14 feet wide	39 14	59 12	39 20	39 17	1 42
Arizona National Scenic Trail – 8 feet wide trail plus trailheads	11	11	19	19	19
Total Disturbance Area (acres)	5,612	5,481	5,431	5,888	6,197
Total Area Excluded from Public Access (acres) – within the Perimeter Fence	6,177	6,073	6,990	6,994	8,889

(1) Alternative 1, No Action, no permit issued: Under this alternative, the applicant would not develop the Rosemont mineral deposit at this time. The environmental, social, and economic conditions described as the affected environment in Chapter 3 of the Final EIS would not be affected by the construction, operation, reclamation, or closure of the mine. The no action alternative serves as the baseline against which to evaluate impacts of the proposed action and other action alternatives. Existing uses such as grazing and recreation would continue at current levels. On lands administered by the USFS and impacted by the applicant as part of exploration-related or baseline data, collection disturbances would be reclaimed in accordance with existing laws and permits. The distribution of waters of the United States across the project site would preclude implementation of a mining operation of the size and scope of the applicant's proposed action. Alternative 1 was dismissed from further consideration, as it did not meet the overall project purpose.

(2) Alternative 2, Proposed Action – Revised Barrel Alternative): This alternative is the Barrel Alternative identified as Alternative 4 in the Final EIS, except for a slight reduction in direct fill in waters of the U.S. due to a further refinement after the Final EIS was published. This alternative would result in the discharge of fill material into 39.00 acres of waters of the U.S., consisting of ephemeral drainages and three springs within the Barrel Canyon watershed including Barrel Canyon and its main tributaries (Wasp Canyon, McCleary Canyon, and Scholefield Canyon) as well as several unnamed smaller tributaries within the proposed mine site. Scholefield Spring and Fig Tree Spring, the only special aquatic sites (wetlands) on the project site, would be avoided under this alternative. The proposed action would result in the permanent discharge of fill material into 37.40 acres of waters of the U.S. on the mine site. Of the proposed discharge, 36.50 acres of waters of the U.S. (36.50 acres of ephemeral drainages, and 0.0003 acre (16.4 square feet) of spring) would occur in the mine footprint, and would result in a permanent loss of these waters of the U.S. Of the 26.50 acres of permanent fill in waters of the U.S., 0.90 acres would consist of ephemeral drainages that would be filled for the installation of culverts for road crossings. Because all but one of the crossings in 0.90 acres of ephemeral drainages would be constructed

using bottomless arch culverts, and the upstream and downstream portions of all ephemeral drainages would be maintained, the Corps' has determined this discharge would not result in the loss of waters of the U.S. In addition, the proposed action would result in the temporary discharge of fill material into 1.60 acres of ephemeral drainages on the mine site and off-site infrastructure area, which would be restored to pre-construction contours and conditions following completion of construction activities in waters of the U.S. Approximately 0.50 acres of ephemeral drainages on the mine site would not be filled, and therefore would not be directly affected. However, because the upstream and downstream portions of these ephemeral drainages would be permanently filled, the indirect effects to these ephemeral drainages would result in a loss of 0.50 acres of waters of the U.S. Therefore, the proposed action on the mine site and off-site infrastructure area would result in the permanent loss of 37.00 acres of ephemeral drainages and 0.0003 acre of springs, permanent impacts to, but not a loss of 0.90 acres of ephemeral drainages, and temporary impacts to 1.60 acres of ephemeral drainages (see Figures 2 and 3). Under this alternative, waters of the U.S. would be filled for the construction of the proposed compensatory mitigation. See Attachment G for information regarding the proposed discharge of fill material into waters of the U.S. associated with the proposed compensatory mitigation. Proposed permanent and temporary discharges into waters of the U.S. on the proposed mine site and off-site infrastructure area are detailed in Table 2.

This alternative was developed to respond to significant issues regarding potential impacts on biological resources, cultural resources, and the surface water component of water resources. Subsequent to the release of the Draft EIS, refinements were made to this alternative in response to public comments and agency efforts toward geomorphic reclamation, such as inclusion of rock cover as part of reclamation on the east slope of tailings and waste rock facilities to promote long-term stability; stormwater redesign, including removing the underdrains, eliminating storage on the top and benches of the tailings and waste rock facilities, and incorporating more stormwater routing downstream; relocation of the ANST to the east side of SR 83; and removal of the oxide ore processing. Since publishing of the Final EIS, the applicant has further reduced the size of the plant site and reduced the area of discharge of fill material into McCleary Canyon.

The proposed action and associated impacts are more fully described in the Final EIS (Chapter 2, pp. 78-86), as Alternative 4, and the applicant's Alternatives Information, as Alternative 3 (p. 38), although, as noted above, the proposed discharge to waters of the U.S. has been reduced since the Final EIS was published. This alternative is the proposed action and a similar alternative was identified as the preferred alternative in the Draft EIS.

Table 2. Rosemont Proposed Action Feature Permanent and Temporary Impacts to Waters of the U.S.

Project Feature	Impact Type/Fill Type to Waters of the U.S.	Permanent Fill - Loss (ac)	No Fill - Permanent Loss (ac)	Permanent Fill - No Loss (Culverts) (ac)	Temporary Fill (ac)	Total
Mine Pit Area	Clearing, grubbing, and grading: native material	3.6	0	0	0	3.60
Waste Rock Disposal Area	Clearing, grubbing, and grading: native material	6.5	0.25	0	0	6.75
Dry Stack Tailings Area	Clearing, grubbing, and grading: native material	24.6	0.25	0	0	24.85

PLANT SITE						
Regrading and Pad Construction	Grading: native material	1.4	0	0	0	1.4
Process and Stormwater Ponds	Grading, Pond Preparation: native material	0.2	0.2	0	0	0.2
Access/Haul Roads	Road Construction: clearing, grubbing, grading	0.1	0.1	0	0.1	0.2

PRIMARY ACCESS ROAD CROSSINGS						
Culvert C1	Triple Con-Arch Culvert: native material and rock fill	0	0	0.4	0	0.4

Project Feature	Impact Type/Fill Type to Waters of the U.S.	Permanent Fill - Loss (ac)	No Fill - Permanent Loss (ac)	Permanent Fill - No Loss (Culverts) (ac)	Temporary Fill (ac)	Total
Culvert C2	Culvert: native material and rock fill	0	0	0.3	0	0.3
Culvert C3	Culvert: native material and rock fill	0	0	0.1	0	0.1
Culvert C4	Culvert: native material and rock fill	0	0	0	0	0
Culvert C5	Culvert: native material and rock fill	0	0	0.1	0	0.1

OFFSITE WATER LINE

Water Line Crossings	Trenching, sidecast, temp. road access: native material, riprap, pipe bedding	0	0	0	1	1
Bedrock Crossings	General Grading: native rock and fill and concrete	0	0	0	0.2	0.2

OFFSITE TRANSMISSION LINE

Utility Pole Construction	Utility Pole Installation: native material and concrete	0.1	0	0	0	0.1
Road Access for Utility Pole Construction	Ramp Access: native material	0	0	0	0.3	0.3
TOTAL		36.5	0.5	0.9	1.6	39.5

(3) Alternative 3, Original Proposed Action: This alternative would result in the discharge of fill material into 42.50 acres of waters of the U.S., 3.50 acres more than the proposed action. This alternative represents the MPO submitted by the applicant to the USFS in July 2007, and evaluated in the Draft EIS. The applicant's preliminary MPO proposes construction, operation/reclamation, and closure of an open-pit mine to extract locatable minerals such as copper, molybdenum, and silver. The preliminary MPO also includes associated infrastructure and ancillary facilities. Associated infrastructure consists of haul, access and maintenance roads, ore transportation systems, ore processing facilities, waste rock and tailings facilities, leach facilities, electrical and water transmission lines, and ancillary facilities integral to the operations, such as the administration building, employee change house, warehouse, analytical laboratory, vehicle servicing facilities, storage facilities, guard house, and truck scale. At the end of mine life, the roughly circular open-pit mine would measure between 6,000 and 6,500 feet in diameter, with a final depth of 1,800 to 2,900 feet, depending on the elevation of the pit rim. The mine would produce a total of approximately 550 million tons of ore and 1,288 million tons of waste rock. The pit would disturb 955 acres, of which 590 acres would be private land and 365 acres would be National Forest System lands.

The Original Proposed Action and associated impacts are more fully described in the Final EIS (Volume 1, Chapter 2, pages 64-71), as Alternative 2, and the applicant's Alternatives Information, as Alternative 1, (pages 34-35).

(4) Alternative 4, Phased Tailings: This alternative would result in the discharge of dredged and/or fill material into 41.80 acres of waters of the U.S., 2.80 acres more than the proposed action. This alternative was developed to address issues raised during public scoping. This alternative is similar to Alternative 3, however, it entails an alternative tailings sequence in which the McCleary Canyon drainage would be left un-impacted longer (approximately 10 years) and tailings would first be deposited in Barrel Canyon. At the end of mine life, the final waste rock and tailings facilities would encompass the same footprint as Alternative 2. Alternative 4 also includes other minor design element changes including a revised underdrain system and revised alignment for the offside roadway.

The Phased Tailings Alternative and associated impacts are more fully described in the FEIS (Volume 1, Chapter 2, pages 72-78), as Alternative 3, and the applicant's Alternatives Information, as Alternative 2, (p.37).

(5) Alternative 5, Barrel Trail Alternative: This alternative would result in the discharge of dredged and/or fill material into 50.0 acres of waters of the U.S., 11.00 acres more than the proposed action. This alternative was developed to address concerns regarding visual impacts and stormwater runoff. This alternative is similar to Alternative 4 with the exception of modifications to the surface of the waste rock storage area, heap leach pad, and tailings facility to provide a more natural topography. This modification results in the expansion of the facility footprint.

The Barrel Trail Alternative and associated impacts are more fully described in the Final EIS (Volume 1, Chapter 2, pages 87-90), as Alternative 5, and the applicant's Alternatives Information, as Alternative 4 (p.38-39).

(6) Alternative 6, Scholefield-McCleary Alternative: This alternative would result in the discharge of dredged and/or fill material into 26.20 acres of waters of the U.S., 12.80 acres less than the proposed action. This alternative would result in the loss of Scholefield Spring, a special aquatic site (wetland). Significant cultural resources, riparian habitat, and recreational opportunities within Barrel Canyon prompted the development of Alternative 6. The dry stack tailings facility would be located within Scholefield Canyon under this alternative. Waste rock would be located in two locations outside of canyon bottoms: (1) adjacent to and immediately south of the dry stack tailings within McCleary Canyon drainage basin (but outside the drainage bottom) and (2) between Wasp and Barrel Canyons overlying the heap leach pad (located in the Barrel Canyon drainage) once leaching operations are complete and the leach pad has been reclaimed. This alternative would require tailings slurry be transported either by conveyor or slurry pipeline. This alternative would result in additional adverse effects, including those to special aquatic sites, air quality, riparian habitat, a Biological Core area as designated by the Pima County Sonoran Desert Conservation Plan, and would result in substantial additional costs, as compared to the proposed action.

The Scholefield-McCleary Alternative and associated impacts are more fully described in the Final EIS (Volume 1, Chapter 2, pages 90-93), as Alternative 6, and the applicant's Alternatives Information, as Alternative 5 (p.39-42).

d. Determination of Practicable Alternatives

Based on the information in the Final EIS and submitted by the applicant, the Corps has determined that Alternatives 2, 3, 4, and 5 are practicable alternatives. Alternatives 1 and 6 are not practicable or do not meet the overall project purpose. Specifically, Alternative 1 would not meet the overall project purpose. In addition, Alternative 6 is not practicable due to logistical challenges and cost, including significant increases in haulage distance for waste rock and conveyor or pipeline distance for dry stack tailings material, as well as an increased haulage distance for deposition of tailings buttress material in Scholefield Canyon. Alternative 6 would also result in greater effects to other environmental resources than the proposed action, including effects related to the discharge of fill material into special aquatic sites, effects to air quality, riparian habitat, and a Biological Core Area as identified by Pima County.

e. Environmentally Preferable Alternative

The environmentally preferable alternative as identified by the USFS in their June 6, 2017, ROD, is Alternative 1, the No Action Alternative. However, of the action alternatives, the environmentally preferable alternative is Alternative 2, Proposed Action (Revised Barrel Alternative). Although Alternatives 3, 4, and 5, would meet the overall project purpose and are practicable, these alternatives would have greater adverse effects to the aquatic environment. Although Alternatives 1 and 6 would result in the discharge of dredged and/or fill material into substantially fewer acres of waters of the U.S., than the proposed action, Alternative 1 would not meet the overall project purpose, and Alternative 6 is not practicable, and would result in other potential significant adverse environmental consequences, as described above.

V. Public Involvement

a. Comments on the Final EIS

Because the Corps was not the lead Federal Agency for compliance with NEPA, no comments on the Final EIS were provided to the Corps.

b. Public Notice Comments

On December 6, 2011, SPL issued a public notice announcing the availability of the Draft EIS, the receipt of an application for a DA permit, and requesting comments from interested parties by January 5, 2012. On January 2, 2012, SPL extended the comment period to January 19, 2012. As a result of the public notice, a total of 7,030 letters or emails were received. Of these 449 were in support of the proposed action and 6,581 provided information or expressed concerns with, or opposition to, the proposed action. By letter dated February 8, 2012, the Corps provided the applicant with the public comments it received on the proposed action. The applicant provided a letter dated July 16, 2012, in response to the comments. Since the public notice comment period, a number of additional comments have been received by the Corps regarding the proposed action, as described in Attachment A of this ROD. Although Corps regulations and guidance do not require a specific response to those comments received after the close of the public comment period, the Corps has considered, evaluated, and addressed all concerns, including those received after the close of the public comment period, in making a final decision on the proposed action. A summary of the comments received and the Corps' response to these comments is located in Attachment A of this ROD.

VI. Consideration of Applicable Laws and Policies

a. National Environmental Policy Act (NEPA)

The Corps' evaluation of the proposed action complies with all provisions of NEPA. The EIS was completed to evaluate a reasonable range of alternatives and the direct, indirect, and cumulative effects associated with 6 alternatives. The USFS followed the NEPA process identified in 40 C.F.R. 1500, including noticing and timeline requirements, to produce an EIS that discloses to the public the probable impacts of each alternative, taking into account mitigation. The Corps, as a cooperating agency on the EIS, followed the requirements of 40 C.F.R. 1500, 33 C.F.R. 325, Appendix B, and 33 C.F.R. 230, and has evaluated the EIS to ensure that the requirements of NEPA have been met. The EIS is being utilized to make a permit decision on the proposed action.

b. Section 401 of the CWA

The Water Quality Certification (WQC) was issued by the Arizona Department of Environmental Quality (ADEQ) on February 3, 2015 for the proposed activities on the mine site (ADEQ No. LTF 55425), and an addendum was issued by ADEQ for the proposed compensatory mitigation on November 27, 2017 (ADEQ No. SWGP17-0333). The Section 401 WQC's are located in Attachment D. Special conditions of the Section 401 WQC will be added as a special condition of the DA permit, if issued (see 33 U.S.C. 1341). See

Section VIII of this ROD for the Corps' determination regarding the other water quality aspects identified by the USEPA.

c. Endangered Species Act of 1973 (ESA)

The Corps' evaluation of the proposed action complies with Section 7 of the ESA. Chapter 3, *Biological Resources* of the Draft and Final EIS identifies the impacts of the proposed action on Federally-listed threatened and/or endangered species. On October 30, 2013, the U.S. Fish and Wildlife Service (USFWS), issued a Biological Opinion (BO) and Conference Opinion (CO) (USFWS # 22410-2009-F-0389) to USFS for proposed impacts to the endangered Gila chub (*Gila intermedia*) and its critical habitat, the endangered Gila topminnow (*Poeciliopsis occidentalis occidentalis*), the endangered Huachuca water umbel (*Lilaeopsis schaffneriana* var. *recurva*), the endangered southwestern willow flycatcher (*Empidonax traillii extimus*) and its critical habitat, the threatened Chiricahua leopard frog (*Lithobates chiricahuensis*), the endangered lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*), the endangered jaguar (*Panthera onca*), the endangered ocelot (*Felis pardalis*), the endangered Pima pineapple cactus (*Coryphantha scheeri* var. *robustispina*), and, via conference, proposed critical habitat for the jaguar. Due to changes to the proposed action and/or listing status for threatened and endangered species, including the Western yellow-billed cuckoo (*Coccyzus americanus*), northern Mexican gartersnake (*Thamnophis eques megalops*), Chiricahua leopard frog, Mexican gray wolf (*Canis lupus baileyi*), the endangered desert pupfish (*Cyprinodon macularius*), jaguar, and ocelot, on May 25, 2015, the USFS re-initiated consultation and conference with the USFWS. The USFWS issued a revised BO and CO April 28, 2016 (USFWS # 22410-2009-F-0389R1). The BO and CO covers all impacts associated with the proposed action and activities associated with proposed mitigation as identified in the September 26, 2014, *Rosemont Copper Project, Revised Habitat Mitigation and Monitoring Plan, Permit No. SPL-2008-00816*, prepared by WestLand Resources, Inc. The BO and CO included all activities proposed to the Corps for authorization, as well as all proposed compensatory mitigation. Compliance with the BO would be added as a special condition of the DA permit, if issued. In December 2018, the USFS sent a letter to the USFWS containing a review and evaluation of changes to the conservation and mitigation measures in the Final HMMP. The USFS determined the proposed modifications in the Final HMMP did not result in any changes to the conclusions of impacts disclosed in the Final EIS, and that formal consultation for Section 7 of the ESA was not required at this time. The USFWS concurred with the USFS determination that formal consultation is not required for the proposed compensatory mitigation at this time. The Final BO/COs and USFWS concurrence that formal consultation is not required for the compensatory mitigation at this time, is located in Attachment E of this ROD.

d. Fish and Wildlife Coordination Act (FWCA)

The Corps' evaluation of the proposed action complies with the FWCA. Chapter 3, *Biological Resources* of the Draft EIS identifies the impacts of the proposed action on fish and wildlife species. The USFWS commented on the Corps' public notice for the proposed action, which is further discussed in Attachment A of this ROD. In addition, the USFS coordinated with USFWS during preparation of the Draft EIS, and provided copies of the Draft and Final EIS to USFWS. The USFS requested that USFWS be a cooperating agency in July 2008, although USFWS did not provide a response to this request.

e. Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA)

No essential fish habitat (EFH) occurs within or near the proposed action or proposed compensatory mitigation sites. Therefore, there would be no effect to EFH.

f. Section 106 of the National Historic Preservation Act (NHPA)

The Corps' evaluation of the proposed action complies with Section 106 of the NHPA. The USFS, as the lead federal agency, has determined that the proposed action would have an adverse effect on cultural resources listed on or eligible for listing on the National Register of Historic Places (NRHP), which includes the Traditional Cultural Property *Ce:wi Duag* (i.e. the Santa Rita Mountains). The Corps participated as a Cooperating Agency and is also a Signatory to the Memorandum of Agreement (MOA) that was executed to mitigate adverse effects to historic properties. The MOA was signed by the USFS, Corps, State Historic Preservation Officer (SHPO), Advisory Council on Historic Preservation (ACHP), and concurring parties in October and November of 2013, and the Mescalero Apache Tribe signed in January of 2014. As such, and at the time of the elevated permit application review process to SPD, impacts to historic properties, resolution of adverse effects via the MOA, and tribal concerns related to the proposed action were all known factors.

The MOA directs the USFS to continue to coordinate with the consulting parties to finalize, approve, and implement historic properties treatment plans (HPTPs) for adversely affected historic properties on federal and private lands (Federal HPTP) within the area of potential effects and a Utilities HPTP for those historic properties located on state lands. The Federal HPTP includes a Plan for the Treatment of Human Remains, Funerary Objects, Sacred Objects, and Objects of Cultural Patrimony. This plan incorporates a Native American Graves Protection and Repatriation Act (NAGPRA) Plan of Action for Native American remains encountered on Federal land as well as a Burial Agreement for the treatment of human remains discovered on private or state land. The MOA also contains mitigation measures for impacts to *Ce:wi Duag*.

The MOA further stipulates that the applicant coordinate with the Tohono O'odham Nation, Mescalero Apache Tribe, Salt River Pima- Maricopa Indian Community, and the USFS to develop and implement a cultural sensitivity training program and archaeological monitor training program. In addition, personnel engaged in ground-disturbing activities will receive cultural-sensitivity training and ongoing training on site protection measures, including information on the statutes and regulations protecting cultural resources.

As part of project-related compensatory mitigation requirements associated with the DA permit application review process, the applicant chose to acquire four parcels of private land within the Santa Cruz River Watershed and develop a Habitat Mitigation and Monitoring Plan (HMMP) at the SCR. Because this location is beyond the limits of the proposed mine site and was not evaluated for effects to historic properties under the existing MOA, the Corps assumed the role of lead federal agency for compliance with Section 106 of the NHPA. In this role the Corps directed the applicant to conduct a cultural resources inventory of the Sonoita Creek Compensatory Mitigation Site.

The archaeological sites and components recorded in the Area of Potential Effects (APE) and evaluated as part of this consultation include prehistoric, protohistoric, and Early Historic Native American resource procurement/processing and habitation activities, as well as Historic period Euro-American habitation, agriculture, transportation, and utility land-use. The seven archaeological sites determined eligible for inclusion in the National Register of Historic Places (i.e. historic properties) include a former grade of the New Mexico & Arizona Railroad, an abandoned alignment of State Road (SR) 82, a complex of mounded earth features associated with a scatter of historic artifacts, a scatter of historic artifacts associated with structural elements and midden areas, and three protohistoric/historic Sobaipuri sites.

In 2017, the Corps consulted with the SHPO and all other consulting parties regarding its determination of no adverse effect to historic properties from the proposed compensatory mitigation activities at Sonoita Creek. This determination was based on the fact that all but the abandoned alignment of SR 82 would be avoided by construction activities at the Sonoita Creek Mitigation Site. In regard to the abandoned alignment of SR 82, two features will be impacted, but both are common features (i.e., a culvert and a bank protection) that do not, in themselves, contain the kinds of information that contribute to the historic significance of the road as a whole, and burial of the features will not alter the characteristics that qualify the property for inclusion on the NRHP.

Regarding indirect effects, none of the historic properties are considered significant for architectural, engineering, or other visual characteristics. Furthermore, the proposed mitigation is designed to restore the Sonoita Creek floodplain to its historical flow regime, which is expected to result in the gradual return of large portions of the APE to a riparian environment similar to that which would have characterized this area throughout most of prehistoric and historic times. Therefore, the Corps determined that there will be no indirect adverse effect to the historic properties in the APE.

The SHPO concurred with the Corps' determination of effect on September 1, 2017 (Log Number SHPO-2017-1129 [138705]). The Corps also received responses from several other consulting parties that provided either concurrence with the determination of effect (e.g. USFS, Arizona State Land Office, San Carlos Apache Tribe) or a statement that no historic properties significant to a particular Tribe would be affected by the proposed scope of work (i.e. White Mountain Apache Tribe). The Corps did receive requests for additional information from the Tohono O'odham Nation and Pima County, and the requested documents, which included the revised HMMP, were provided. The Corps did

not receive any objections to the determination of no adverse effect to historic properties at the SCR compensatory mitigation site.

Following the 2017 inventory and consultation, the locations of two proposed fence lines were finalized in accordance with the Biological Opinion from the U.S. Fish and Wildlife Service. These are a wildlife-exclusion fence separating the restored floodplain habitat from State Route 82 to the west and a wildlife-friendly fence along the eastern side of the parcels designed to permit wildlife to enter the restored area while excluding livestock. The final plans for the two fence lines revealed that not all of the proposed areas of new fence construction were surveyed in 2017.

The APE was increased by a total of 65.59 acres consisting of four non-contiguous corridors of varying widths comprised of both private (55.06 acres) and Arizona Department of Transportation- (ADOT-) owned land (10.53 acres). These corridors measure between 845 and 2,758 meters long and are located along and east of State Route 82 between Sonoita and Patagonia, Santa Cruz County, Arizona. Three previously recorded linear sites were identified: the former grade of the New Mexico & Arizona Railroad, an in-use natural gas pipeline exempt from Section 106 review by federal agencies, and the abandoned alignment of State Road (SR) 82. The three sites are all associated with Euro-American land use for transportation infrastructure and utilities during the Late Historic period. The former grade of the New Mexico & Arizona Railroad and abandoned alignment of SR 82 have been determined eligible for inclusion in the NRHP.

All new fence line construction has been designed to avoid the historic properties. The wildlife-friendly fence crosses the southern end of the New Mexico & Arizona Railroad extension that was recorded in 2018. At this location, the fence is already in existence, and the only project activity would be the replacement of the upper and lower barbed wire strands with smooth wire strands. All fence replacement would be carried out by hand, and no vehicles would be driven across the railroad grade. It is further noted that these fences, by their nature, allow light to pass, and will not impede the visibility of any of the NRHP-eligible sites. The Corps has therefore determined that the fence lines will not cause indirect adverse effects to the historic properties in the APE. The Corps subsequently notified all consulting parties regarding our determination of effect. The SHPO again concurred with the Corps' determination of no adverse effect to historic properties from the proposed compensatory mitigation activities on October 23, 2018 (Log Number SHPO-2017-1129(145343)).

On October 24, 2018, the Corps received notice from the Tohono O'odham Nation's Tribal Historic Preservation Officer that the Tohono O'odham Nation does not concur with the determination of no adverse effect to historic properties, stating that a cultural landscape study is necessary to further evaluate the impacts from the proposed work. In response to the Nation's assertion that a cultural landscape study be conducted at the Sonoita Creek Compensatory Mitigation Site, the Corps considered the types of historic properties identified in the APE in relation to existing guidance regarding these types of assessments. A cultural landscape is defined as "a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values." (National Park Service Preservation Brief 36: *Protecting Cultural Landscapes: Planning, Treatment and*

Management of Historic Landscapes). Regarding the first part of the definition it is noted that the types and various historical contexts represented by the cultural resources identified in the APE are not collectively, or in the majority, associated with a specific historic activity, event, or person. Regarding the latter part of the definition, the determination as to whether a geographic area exhibits “other cultural or aesthetic values” is a difficult one to make based on the broad scope of the statement. Having said that, the APE and surrounding area does not contain natural features or cultural resource types that are only found in that location. In addition to these factors, the purpose of the proposed mitigation is to provide beneficial enhancements to the natural landscape, hydrology, and aquatic resource functions in this reach of Sonoita Creek. Therefore, the Corps determined that additional studies are not necessary to further support the determination of no adverse effect to historic properties.

In response to subsequent communications attempting to resolve the disagreement, a second correspondence from the Tohono O’odham Nation’s THPO dated November 9, 2018 indicated that the Tohono O’odham Nation’s view is that there would be an adverse effect on the cultural and natural landscape of the Sonoita Creek project area. As a result, and per 36 C.F.R. 800.5(c)(3) and our *Revised Interim Guidance for Implementing Appendix C of 33 C.F.R. Part 325 with the Revised Advisory Council on Historic Preservation Regulations at 36 C.F.R. Part 800*, the Corps requested an opinion from the ACHP regarding our determination of no adverse effect to historic properties from the proposed compensatory mitigation at Sonoita Creek in a letter dated November 19, 2018. The Corps notified all consulting parties regarding the request for the ACHP’s opinion, posted a public notice on the SPD website, and sent the notice via the Arizona email distribution list maintained by the Phoenix Office of SPL.

The Corps received the ACHP’s opinion in a letter dated December 11, 2018, which is summarized by the following excerpt:

...it is the ACHP’s advisory opinion that the Corps has adequately taken reasonable steps to identify historic properties, assessed and consulted on the potential effects of the undertaking, and that these steps support its finding of NAE [No Adverse Effect].

The Corps provided the ACHP’s letter to all consulting parties and posted a follow-up public notice to the SPD website in December 2018. The Corps also sent a letter to the ACHP dated January 2, 2019 providing our response for how we considered the advisory opinion in reaching our final decision regarding the determination of effect. The ACHP provided confirmation of its receipt via email on January 30, 2019, which also included a statement acknowledging that the Corps has fulfilled the agency official’s responsibilities in accordance with Section 800.5(c)(3) of the NHPA. These actions completed the Section 106 process for the Sonoita Creek Compensatory Mitigation Site.

The Corps has received comments suggesting the lead agency’s consultation under Section 106 of the NHPA was flawed because commenters disagreed with that agency’s analysis under NEPA or other statutes. There is no merit to these suggestions. Disagreement with the results of analyses conducted in accordance with NEPA, the ESA, or other substantive laws does not invalidate the extensive and well documented compliance

with the NHPA. Other comments have suggested that USFS unilaterally terminated the consultation process by signing the MOA and that reliance on the lead federal agency's NHPA compliance is inappropriate because the USFS issued a record of decision before the Corps. The Corps disagrees with this assertion. The MOA was the culmination of years of Section 106 consultation, not a truncation of that consultation. Additionally, it is not unusual for one federal agency to issue its decision before another agency. The fact that the USFS issued its record of decision before the Corps completed its analysis does not invalidate the many years of work by the USFS as lead federal agency, as well as the efforts of cooperating agencies and other stakeholders.

The Corps also disagrees with comments that developments such as the recommended denial from the Los Angeles District, the updated HMMP, the amended BO/CO, and Hudbay's acquisition of Augusta Resources trigger consultation under Section 106. None of these are new undertakings within the meaning of 36 CFR 800.16(y), which defines an undertaking as a project, activity or program under the jurisdiction, funding or approval of a federal agency. The project is the proposed mine. While none of these are undertakings that automatically trigger Section 106 consultation, the Corps recognizes that some changes in the project, including the proposed compensatory mitigation, may result in potential impacts that had previously not been considered in the Section 106 process. Under those circumstances additional consultation may be necessary. For this reason, the Corps undertook consultation with respect to the proposed compensatory mitigation activities at the Sonoita Creek mitigation project.

g. Section 176(C) of the Clean Air Act (CAA) General Conformity Rule Review

The proposed action has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. The Corps has determined that direct emissions from the proposed activities that require a DA permit will not exceed de minimis levels of a criteria pollutant or its precursors and are exempted by 40 C.F.R. 93.153. Any later indirect emissions are generally not within the Corps' continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons, a conformity determination is not required for this action.

h. Executive Order 11988, Floodplain Management

The proposed mining site and off-site infrastructure areas are not located within a floodplain, and therefore there would be no effects. The proposed compensatory mitigation would involve construction within the floodplain of Sonoita Creek. The applicant is required to receive local approvals for these activities. Because the proposed compensatory mitigation at Sonoita Creek is intended, in part, to restore floodplain functions, no adverse effects to the floodplain are anticipated.

i. Executive Order 13175, Consultation with Indian Tribes, Alaska Natives, and Native Hawaiians

The proposed action is not located on, or adjacent to designated tribal lands. This portion of southern Arizona was acquired by the United States via a treaty signed on December 30, 1853 as part of the Gadsden Purchase. The Pascua Yaqui Tribe reservation is approximately 15 miles northwest of the location of the proposed action, and the Tohono O'odham Nation reservation is approximately 30 miles to the northwest. These are the existing tribal lands geographically closest to the location of the proposed action. In addition, and per consultation with the USFS and review of historical documents, the Corps did not identify any treaty rights within the Rosemont Copper Project site or Sonoita Creek mitigation site that were ratified by the federal government.

Consultation for the proposed action was initiated by the USFS with 12 Tribes in March 2006 upon receiving notice of the applicant's intent to file a preliminary MPO. The 12 Tribes include the Tohono O'odham Nation, Ak Chin Indian Community, Fort Sill Apache Tribe, Gila River Indian Community, Hopi Tribe, Mescalero Apache Tribe, Pascua Yaqui Tribe, Salt River Pima-Maricopa Indian Community, San Carlos Apache Tribe, White Mountain Apache Tribe, Yavapai-Apache Nation, and Pueblo of Zuni. Another letter was sent by the USFS to Tribes in March 2008 giving notice that the project was moving forward. Tribes were invited to participate in the identification and evaluation of historic properties, including properties of traditional religious and cultural significance. Furthermore, Tribes were asked to provide information about past and ongoing uses of the area by Native Americans to determine the effects the proposed action would have on other resources important to surrounding tribal communities and potential mitigation for those effects.

Meetings with Tribes occurred on over 25 separate occasions from 2006 to 2018. These meetings have consisted of field trips, formal consultation meetings, interviews, and presentations to Tribal Councils and other tribal groups. During these engagements, the Tohono O'odham Nation and the Pascua Yaqui Tribe expressed concern regarding the potential disturbance to known ancestral villages, human remains, sacred sites, and traditional resource-collecting areas. The Tohono O'odham Nation and Pascua Yaqui Tribe also expressed concerns regarding issues relating to water, air, wildlife, vegetation, scenery, and other resources considered by them to be integral to their heritage. In meetings between the Tohono O'odham Nation, the Corps, the USFS, and USEPA, the Tohono O'odham Nation explained how the proposed mine site has been one of their traditional resource collection areas for the grasses they use to make their traditional baskets. The Tohono O'odham Nation stated that the loss of such a large site where the grasses are known to occur is an adverse impact to their cultural traditions and heritage.

The legislative councils of the Tohono O'odham Nation, Salt River Pima-Maricopa Indian Community, Pascua Yaqui Tribe, and San Xavier District of the Tohono O'odham Nation have set forth resolutions in opposition to the proposed action because it would significantly and adversely impact, destroy, or alter cultural and archaeological sites containing sacred objects; and permanently and negatively alter the cultural and natural landscapes of the area, and cause adverse effects on properties of traditional religious and cultural significance. Despite their opposition to the proposed action, several tribes

participated in the formulation of the MOA, and the Mescalero Apache Tribe chose to sign it as a Concurring Party.

On August 10, 2018, the Corps met with Chairman Edward D. Manuel of the Tohono O'odham Nation, Chairman Valencia and Vice-Chairman Yucupicio of the Pascua Yaqui Tribe, Vice-Chairman Tenakhongva of the Hopi Tribe, as well as their attorneys and other tribal representatives at the Casino del Sol in Tucson, Arizona. General Helmlinger, former SPD Commander and current NWD Commander, participated via teleconference. This meeting provided an opportunity for an exchange of information and for the Corps to hear directly from Tribal leaders about their concerns.

On September 20, 2018, General Helmlinger and Corps staff met with representatives from the Tohono O'odham Nation, Pascua Yaqui Tribe, Hopi Tribe, and EarthJustice attorneys at the proposed mine site. The purpose of this visit was to provide an opportunity for General Helmlinger to meet face-to-face with tribal leaders and hear their perspective and concerns. During this meeting, several locations containing cultural and natural resources significant to the tribes were visited by the attendees. At these various locations the tribal leaders continued to express their concerns related to proposed impacts to ancestral sites and the physical environment, and shared their perspective on the utilization and management of natural resources and its interconnectedness with their lifeways and cultural values. Additionally, they discussed their historical ties to the proposed action area and its continued use for rituals, resource procurement, and recreation.

As a Cooperating Agency in the development of the EIS, as a Consulting Party and Signatory to the MOA, and as a result of over 10 years of engagement between consulting party tribes and federal agencies, the Corps is aware of and understands the tribes' concerns in regard to the Project. The Corps values the input of our many tribal partners across the country and, therefore, these concerns have been incorporated into the DA application review and decision process for the Project.

j. Executive Order 12898, Environmental Justice

Volume 3, Chapter 3, *Socioeconomics and Environmental Justice* (pp. 1053-1131) of the Final EIS describes the effects of the proposed action, including operations and decommissioning that are not within the Corps' scope, on environmental justice. Additional discussion can also be found in the SIR and Second SIR prepared by the USFS. As identified in the Final EIS (see Table 238, p. 1123), the only potential disproportionate impacts to a low-income or minority population are potential effects to cultural resources, which would adversely impact Tohono O'odham Nation, and other consulting tribes. All action alternatives evaluated would result in similar adverse effects to Native American Tribes. As described in Section VI.f, above, the USFS, as the lead federal agency, has determined that the proposed action would have an adverse effect on cultural resources listed on or eligible for listing on the National Register of Historic Places (NRHP), which includes the Traditional Cultural Property *Ce:wi Duag* (i.e. the Santa Rita Mountains). The Corps participated as a Cooperating Agency and is also a Signatory to the Memorandum of Agreement (MOA) that was executed to mitigate adverse effects to historic properties. The MOA was signed by the USFS, Corps, State Historic Preservation Officer (SHPO), Advisory Council on Historic Preservation (ACHP), and concurring parties in October and November

of 2013, and the Mescalero Apache Tribe signed in January of 2014. The MOA contains a number of mitigation measures for impacts to *Ce:wi Duag*. These include the following:

(1) On Forest lands, opportunities to collect plants for traditional, medicinal, and ceremonial uses will continue with requests for collection coordinated by the Forest Archaeologist.

(2) The applicant will schedule a week during which tribal representatives can visit the mine area before construction to collect culturally significant and medicinal plants. Prior to the removal of any plants, Tribes may perform ceremonies.

(3) The applicant will incorporate culturally important plants in the reclamation seed mixture. Species selected for the revegetation mix will be those that can be successfully propagated by seed and for which seeds are readily available in quantity.

(4) The applicant will permit collection of plants on conservation lands to the extent allowable under conservation requirements. The applicant will coordinate access to the conservation lands by tribal representatives and may require a five day notice of request for access.

(5) To the extent allowable under conservation requirements, the conservation lands set aside for the COE Clean Water Act, Section 404 Permit for the Project will be available to Tribal representatives for hunting, providing that the licenses and tags from Arizona Game and Fish Department have been obtained for large and small game.

(6) As part of the week-long visit by Tribal representatives there will be an opportunity for Tribal representatives to conduct blessing ceremonies at the springs and to collect mineral resources associated with them and other areas within the APE.

(7) Access to Forest lands within the perimeter fence for medicinal, ceremonial, and traditional uses will be coordinated by the Forest Archaeologist in compliance with USDA regulations and policy.

(8) The applicant will provide access to the conservation lands by tribal representatives for ceremonial purposes and may require five (5) days advance request.

(9) No later than the end of the third production year, the applicant will create an exhibit at the Rosemont Public Visitor Center that describes the 7,000 years of occupation in the project site, the importance of *Ce:wi Duag*, and the new knowledge gained as a result of the data recovery conducted for the Project.

(10) Concurrently, the applicant will use the information developed for the exhibit to create public brochures that will be accessible online via Rosemont and the Forest websites.

(11) Any interpretive exhibit, brochure, or other production that presents material about *Ce:wi Duag* or the Native American occupation and use of the area will be made in consultation with the Tribes.

The MOA further stipulates that the applicant coordinate with the Tohono O'odham Nation, Mescalero Apache Tribe, Salt River Pima- Maricopa Indian Community, and the USFS to develop and implement a cultural sensitivity training program and archaeological monitor training program. In addition, personnel engaged in ground-disturbing activities will receive cultural-sensitivity training and ongoing training on site protection measures, including information on the statutes and regulations protecting cultural resources.

Although the proposed action would disproportionately affect Native American Tribes as a result of the destruction of cultural resources, these effects have been fully analyzed, alternatives to these effects have been evaluated, and the effects have been avoided and minimized to the maximum extent practicable. Therefore, we have determined the proposed action is in compliance with EO 12898.

VII. Consideration of Mitigation Measures

The Draft and Final EIS included a number of mitigation measures to reduce or offset impacts that fall outside of the Corps' responsibility and generally cannot be practicably controlled by the Corps, such as those associated with traffic, air quality, and noise. Many of the mitigation measures are requirements of the USFS. As such, these mitigation measures are enforced by the USFS and not the Corps.

The Corps requires mitigation measures to reduce or offset impacts to waters of the U.S. as special conditions of each DA permit issued. These special conditions are identified in Section X of this ROD, and take into account the mitigation measures identified in Chapter 3 of the Draft and Final EIS, and also include additional conditions that avoid, minimize, and compensate for effects to waters of the U.S., and those that ensure compliance with Section 7 of the ESA, Section 106 of NHPA, and Section 401 of the CWA. Additional discussion regarding the proposed and required compensatory mitigation, including the effects of the proposed compensatory mitigation, is included in the EA for the compensatory mitigation, located in Attachment G.

For compensatory mitigation, the Rule (33 C.F.R. 332) requires compensatory mitigation for unavoidable impacts after avoidance and minimization to ensure no net losses of aquatic resources. The Rule also requires use of a mitigation preference hierarchy, directing the applicant to seek mitigation opportunities at mitigation banks, in-lieu fee programs, permittee-responsible mitigation under a watershed approach, permittee-responsible mitigation through on-site and in-kind mitigation, and permittee responsible mitigation through off-site and/or out-of kind mitigation, in that order (33 C.F.R. 332.3(b)). In 2015, SPD developed the *Final 2015 Regional Compensatory Mitigation and Monitoring Guidelines for South Pacific Division USACE* (SPD MMGs), which is used in SPD in conjunction with the Rule in the evaluation of compensatory mitigation projects. Divergence from the hierarchy or from the use of a watershed approach must be justified and explained (SPD MMGs, Section 3.1).

Arizona does not currently have a mitigation bank with a service area including the proposed action. The applicant applied to two in-lieu fee programs whose service areas include the proposed action, the Arizona Game and Fish Department's Lower San Pedro Wildlife Area and the Tucson Audubon Society on June 12, 2018. The Arizona Department of Game and Fish indicated that no credits were available in the Lower San Pedro Wildlife Area in a letter to the applicant dated July 12, 2018. No response has been received from the Tucson Audubon Society, which has raised concerns about the environmental impacts of the mine, as of the date of this document.

The applicant also sought mitigation within the greater Cienega Creek watershed, purchasing 1122 acre feet per annum of water rights within the watershed at the Pantano Dam in order to pursue an in-lieu fee project with Pima County downstream of the Pantano Dam. The applicant and Pima County were not able to reach an agreement regarding the proposed in-lieu fee utilizing the Cienega water rights at Pantano Dam, and that mitigation proposal was abandoned, though the applicant still retains the water rights. A preservation-only group of Davidson Canyon parcels totaling 383 to 574 acres was presented as part of the mitigation package through 2014, but these were removed from the Final HMMP submitted in 2017. Based on input from the Corps project manager at the time (2008-2016), the Davidson Canyon parcels would not receive mitigation credit and were therefore removed from the final mitigation proposal. No other compensatory mitigation was identified within the Cienega Creek watershed. Therefore, permittee-responsible mitigation under a watershed approach is not feasible. However, the four stock tanks proposed to be removed are located within the same watershed as, and within close proximity to, the proposed action. Due to the extensive activities proposed on the mine site, on-site compensatory mitigation is not feasible or environmentally preferable. Therefore, permittee-responsible compensatory mitigation off-site and in-kind/out-of-kind is the only feasible compensatory mitigation.

During the review process, the Corps provided comments to the applicant regarding the proposed compensatory mitigation, including comments on the HMMP. Based on the Corps' comments, the applicant revised the Habitat Mitigation and Monitoring Plan (HMMP), which was submitted on September 12, 2017, to further refine the proposed compensatory mitigation. The Final HMMP contains three components: the SCR stream and floodplain restoration, four stock tank removals in the proposed mine site, and purchase of in-lieu fee credits (if needed and available; although, as identified above, in-lieu fee credits are not available).

Of the proposed compensatory mitigation, approximately 46.68 acres would consist of re-establishment and rehabilitation of upland buffers adjacent to Sonoita Creek. The Rule states the following with regards to buffers around riparian areas or aquatic resources (33 C.F.R. 332.3(i)):

District engineers may require the restoration, establishment, enhancement, and preservation, as well as the maintenance, of riparian areas and/or buffers around aquatic resources where necessary to ensure the long-term viability of those resources. Buffers may also provide habitat or corridors necessary for the ecological functioning of aquatic resources. If buffers are required by the district engineer as part of the compensatory mitigation project, compensatory mitigation credit will be provided for those buffers.

Because the establishment of floodplain buffers of Sonoita Creek are essential to the long-term viability of Sonoita Creek and necessary for the ecological functions of aquatic resources, the Corps has determined it is appropriate to provide compensatory mitigation credit for these resources, although they are not aquatic resources.

The applicant has proposed compensatory mitigation for preservation of the proposed enhancement (as discussed above) on the project site. Separate credit for preservation is not being given, as the resources to be preserved include those being re-established, rehabilitated, and enhanced, as described above. Nonetheless, because the applicant has proposed it as mitigation, the Corps has evaluated the proposed preservation as compensatory mitigation in accordance with 33 CFR 332.3(h), as follows:

a. The resources to be preserved provide important physical, chemical, or biological functions for the watershed: The 1,200 acre Sonoita Creek Ranch had been targeted for potential acquisition as a valuable wildlife corridor by Arizona Game and Fish Department (AGFD) due to its extensive certificated water rights and stream restoration potential. AGFD had applied for grant money from USFWS to acquire the property but was unsuccessful due to a lack of matching funds. The applicant obtained additional private lands as they became available within the Sonoita Creek floodplain to reach the final acquisition amount of 1,580 acres.

b. The resources to be preserved contribute significantly to the ecological sustainability of the watershed: SCR, with its associated certificated water rights, occupies a key location within the watershed and the creek and floodplain restoration would provide for substantial wildlife habitat and corridor opportunities as well as substantial stream function improvement (HMMP).

c. Preservation is determined by the district engineer to be appropriate and practicable: The ephemeral components of stream and buffer are integral to the entire project design and provide substantial wildlife and habitat function within the entire compensatory mitigation package.

d. The resources are under threat of destruction or adverse modifications: The original 1,200 acres of Sonoita Creek Ranch were available for private purchase to be utilized as agricultural and cattle grazing land. The additional parcels acquired were available for ranchette-style development at the time of purchase.

e. The preserve site will be permanently protected through an appropriate real estate or other legal instrument: The applicant will utilize a Restrictive Covenant during the implementation and establishment phases of the mitigation. Once the mitigation has reached its performance standards, the applicant will identify and submit a suitable third-party conservation partner for approval to the Corps. At that time, a conservation easement would be established.

In order to determine whether adequate compensatory mitigation was proposed, the Corps utilized the SPD Mitigation Ratio Setting Checklist. A determination of the required amount of compensatory mitigation is based on a number of factors, including: (1) a

qualitative or quantitative assessment of the functions and services at the impact site and mitigation site; (2) the location of the compensatory mitigation; (3) whether there would be a net loss of aquatic resource surface area; (4) whether the compensatory mitigation would be in-kind or out-of-kind; (5) the extent of risk and uncertainty, and (6) whether there would be a temporal loss of functions and services associated with delays in construction of the compensatory mitigation or success of the compensatory mitigation. Based on the SPD Mitigation Ratio Setting Checklist, the Corps has determined that in order to adequately compensate for the loss of waters of the U.S. associated with the proposed action, the following compensatory mitigation at Sonoita Creek will be required:

- a. Rehabilitation of 61.54 acres of Sonoita Creek and its tributaries;
- b. Enhancement of 6.0 acres of Sonoita Creek Ranch ponds;
- c. Re-establishment of 34.58 acres of Sonoita Creek channel buffer;
- d. Rehabilitation of 6.22 acres of Sonoita Creek channel buffer;
- e. Enhancement and preservation of 66.30 acres of Sonoita Creek ephemeral tributaries buffer;
- f. Enhancement and preservation of 4.41 acres of Sonoita Creek ephemeral tributaries; and
- g. Enhancement and preservation of 19.28 acres of ephemeral channels including avoided portions of Sonoita Creek, Corral Canyon, and other unnamed ephemeral tributaries to Sonoita Creek.

In addition, the Corps has determined the removal of the McCleary Canyon, Gunsight Pass, Barrel Canyon East, and Rosemont Crest stock tanks are necessary to compensate for potential loss of stream flow and assist with compliance with the Section 401 WQC.

Since the Final HMMP was submitted in September 2017, a number of comments have been received from USEPA, Pima County, tribes, and other non-governmental organizations. Additional discussion on the proposed compensatory mitigation, including the consideration of comments received on the Final HMMP, evaluation of effects, and determinations on the effectiveness of the proposed compensatory mitigation can be found in the Supplemental EA, located in Attachment G.

The Corps has evaluated all comments received regarding the Final HMMP, as described in the Supplemental EA. Based on the analysis in the Supplemental EA, the Corps has determined the proposed compensatory mitigation is appropriate to compensate for the loss of waters of the U.S. associated with the proposed action.

VIII: Compliance with 404(b)(1) Guidelines

a. Restrictions on Discharge

1. Yes ☐ No ☒ Based on the discussion in Section 4.0, are there available, practicable alternatives having less adverse impact on the aquatic ecosystem and without other significant adverse environmental consequences that do not involve discharges into "waters of the U.S." or at other locations within these waters?

Discussion: As identified in Section IV, there are no practicable alternatives to the proposed discharge that would have less adverse impact on the aquatic environment without other significant adverse environmental consequences.

Yes ☒ No ☐ If the project is in a special aquatic site and is not water dependent, has the applicant clearly demonstrated that there are no practicable alternative sites available?

Discussion: N/A. As identified in Section III, the proposed action would not result in a discharge of dredged and/or fill material into special aquatic sites. See additional discussion regarding special aquatic sites in Section VIII.a.4 below.

2. Will the discharge

(a) Yes ☐ No ☒ Violate state water quality standards?

Discussion: The evaluation of the effects of the proposed action on surface water and climate change has been analyzed in Chapter 3, *Air Quality and Climate Change*, *Surface Water Quantity*, and *Surface Water Quality* of the Draft and Final EIS, and is further discussed in the SIR and Second SIR prepared by USFS. The evaluation of the effects of the proposed action on groundwater has been analyzed in Chapter 3, *Groundwater Quantity* and *Groundwater Quality and Geochemistry*, of the Draft and Final EIS, with further information provided in the SIR and Second SIR prepared by the USFS. The Final EIS describes effects of the construction, operations, and maintenance of the proposed mining, including those effects outside of the Corps' control and responsibility for the public interest review and evaluation for compliance with the Section 404(b)(1) Guidelines. As described in Section III, for the public interest review, the Corps has control and responsibility only for the grading, grubbing, and clearing on the mine site, and for the Section 404(b)(1) Guidelines, the grading, grubbing, and clearing resulting in a discharge of fill material into waters of the U.S. Operations of the mine, including excavation of the mine pit and the side-casting of waste rock and tailings is not within the Corps' control and responsibility. It should be noted, however, that the Corps' scope of review for its 404(b)(1) analysis remains quite broad, even without extending to the operation of the mine. The Corps has considered impacts on the entire mine site, as well as primary access roads and off-site infrastructure areas, from the discharge of fill into waters of the U.S. The Corps has also considered impacts related to the compensatory mitigation site, which are further described in the Supplemental EA located in Attachment G.

ADEQ issued a Section 401 WQC on February 3, 2015. ADEQ issued an addendum to the 401 WQC on November 27, 2017, to address the proposed compensatory mitigation (See Attachment D). ADEQ concluded that the proposed action would not violate state water quality standards. Compliance with both the February 3, 2015, Section 401 WQC and November 27, 2017, Section 401 WQC Addendum would be a condition of the DA permit, if issued.

Corps regulations at 33 C.F.R. 320.4(d) identifies that the Section 401 WQC will be considered conclusive with respect to water quality considerations unless the USEPA Regional Administrator advises of other water quality aspects to be taken into consideration. The Corps' October 29, 2009, *Memorandum for Major Subordinate Commands and District Commands, SUBJECT: Water Quality Certification* (Corps WQC Memo) further clarifies these other water quality aspects may include water quality concerns outside the scope of the state certification, indirect impacts on water quality not addressed by the state certification, and water quality aspects addressed in the state certification but regarding which USEPA has a different view point. On April 14, 2015, USEPA provided the Corps with a letter stating that it had determined that the impacts of the proposed action include substantial water quality aspects which may be outside of the state's 401 WQC review. USEPA's letter stated they had identified "other water quality aspects" outside of ADEQ's 401 certification. Therefore, as identified in the Corps WQC Memo, while the ADEQ WQC satisfies the requirements of Section 401 of the CWA, as required by 33 C.F.R. 320.4(d), the Corps must evaluate those particular water quality issues raised by USEPA for purposes of the public interest review and compliance with the Section 404(b)(1) Guidelines. In order to determine whether the proposed action under the Corps' scope may violate state water quality standards for the purpose of the determination of the public interest review and compliance with the Section 404(b)(1) Guidelines, the Corps has reviewed the Draft and Final EIS, SIR and second SIR, USEPA's comments (including their April 14, 2015, letter, and November 30, 2017, letter related to significant degradation), information from ADEQ (including their Section 401 WQC, Basis for State 401 Certification Decision, and response to USEPA's comments), as well as information submitted by the applicant and other commenters.

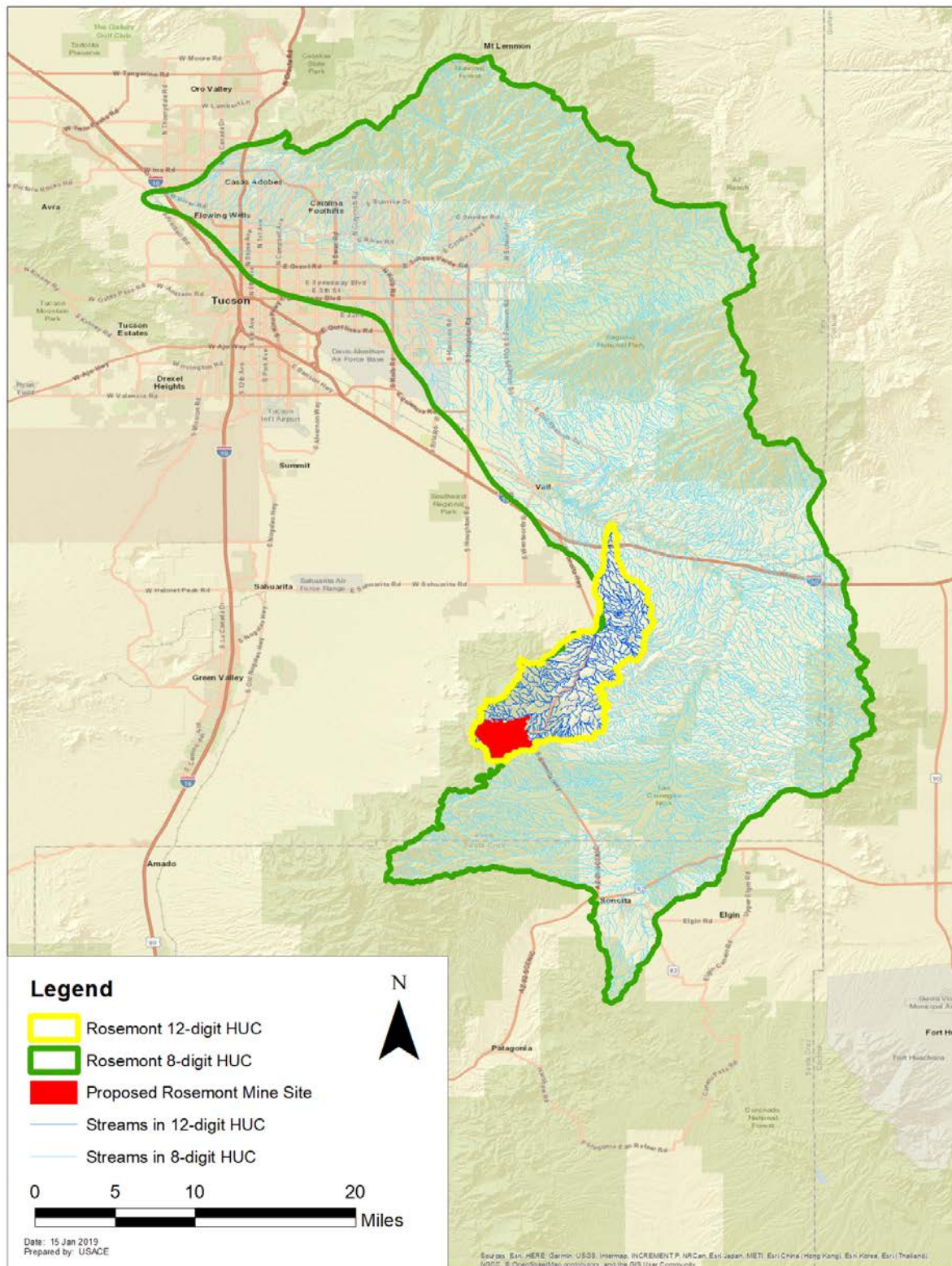
In its April 14, 2015, letter, USEPA provided three specific areas they believed were the most critical of the "other water quality aspects" still outstanding and not adequately addressed by ADEQ's 401 WQC. Primarily, USEPA asserted: (1) that Tier 3 antidegradation standards are likely to be violated without "reasonable assurance of impact avoidance," (2) that a specific and complete monitoring program is necessary, and (3) that specific and enforceable commitment to corrective measures to potential diminutions of water quality is needed. USEPA also identified concerns regarding potential effects to public and private water supplies as a result of groundwater drawdown.

With regards to USEPA's comments regarding Tier 3 antidegradation standards being violated, it is unclear from their letter what extent of avoidance USEPA believes would be necessary to ensure Tier 3 antidegradation standards are not being violated. As described in Section IV of this ROD, the applicant has avoided and minimized adverse effects to waters of the U.S. to the maximum extent practicable. Within their November 30, 2017, letter regarding significant degradation, USEPA stated that mercury, lead, molybdenum, selenium, and silver, as well as sulfate, will be released in concentrations

exceeding the stormwater quality for Davidson Canyon. USEPA further asserts that these heavy metals and other constituents will be transported downstream through stormwater and lower the existing water quality of Davidson Canyon and Cienega Creek, in violation of water quality standards. USEPA references Table 105 of the Final EIS in their assessment of stormwater quality effects. Table 105 in the Final EIS provides predicted runoff water quality of various contaminants from the project site as a result of waste rock, soil cover, and potential tailings seepage water. These water quality impacts associated with runoff analyzed in the Final EIS would occur during operations of the mine, after waste rock and soil cover are placed, which, as described in Section III and above, is outside of the Corps' control and responsibility. During activities subject to the Corps' jurisdiction (i.e. clearing, grubbing, and grading), downstream effects to water quality could occur as a result of stormwater runoff from exposed soils. This runoff could release naturally occurring substances into downstream waters, resulting in adverse effects to water quality. Special conditions placed on the permit, if issued, including a requirement for the installation of best management practices and erosion control, and compliance with the Section 401 WQC, which prohibits adverse effects to water quality, would ensure these downstream effects under the Corps jurisdiction do not occur.

In addition, even if the operations of the mine were within the Corps' scope for the determination of significant degradation under the Section 404(b)(1) Guidelines, USEPA appears to assert that if predicted runoff into Barrel Canyon from the waste rock and soil cover on the mine site exceeds the existing water quality in the Davidson Canyon Outstanding National Resource Water (i.e. OAWs), state water quality standards would be violated. For example, in Table 2, of their November 30, 2017, letter, USEPA identifies the total predicted runoff of molybdenum would exceed water quality standards, because the predicted runoff of molybdenum is 0.0117 mg/L, and the existing water quality data in Davidson Canyon has molybdenum measured at less than 0.01 mg/L. However, this assertion by USEPA does not take into account runoff from other areas into Davidson Canyon. The proposed mine site is located at the headwaters of the Davidson Canyon 12-digit hydrologic unit code (HUC) watershed (HUC 150503020110), which encompasses approximately 32,857-acres. As identified in Table 1 of this ROD, the proposed area of disturbance within the proposed security fence is 4,228 acres, approximately 13% of the size of the 12-digit HUC watershed. Figure 4 depicts the location of the proposed mine in relation to the 12-digit HUC and 8-digit HUC, showing the relatively small size of the proposed project compared to the overall watersheds, as well as all of the National Hydrography Dataset (NHD) streams that drain the 12-digit and 8-digit HUC watershed (see Figure 4). Because runoff from the remaining 87% of the 12-digit HUC watershed contributes flows into Davidson Canyon, it is not appropriate to infer a direct correlation between the potential predicted runoff from the proposed mine site to the existing water quality of Davidson Canyon, as the potential water quality leaving the proposed mine site is not in direct correlation with the water quality that would occur within the downstream portions of Barrel Canyon, the Davidson Canyon OAW more than 12 miles downstream of the proposed mine site, or the Cienega Creek OAW more than 15 miles downstream of the proposed mine site. A number of factors influence downstream water quality and the hydrologic contribution of a specific stream, including, but not limited, to soil types, gradient, infiltration rates, and precipitation amounts. Tables 100 to 102 of the Final EIS, containing baseline water quality

Figure 4: Proposed Rosemont Mine 12- and 8-digit HUC watersheds



or contributes to an exceedance of an applicable water quality standard, then the applicant is required to take corrective action, document the corrective actions, and report the corrective actions to ADEQ (Final EIS, p. 473).

Therefore, while the available information supports USEPA's claims that, without adherence to existing laws and permits, operations of the mine may result in contaminants leaving the mine site that exceed the existing water quality in Davidson Canyon, as shown in Tables 100 to 102 and 105 of the Final EIS, the information does not support the inference by USEPA that there is then a direct correlation to the pollutants within the Davidson Canyon OAW more than 12 miles downstream. In addition, the requirements of the Section 401 WQC and Mining MSGP would ensure that operations of the mine would not exceed state water quality standards. For construction of the mine, which, unlike operations, is within the Corps' control and responsibility, adherence to the special conditions of the permit, if issued, including those requiring the installation and maintenance of construction BMPs and erosion control, as well as adherence to the Section 401 WQC, would ensure the proposed action would not violate state water quality standards as a result of stormwater runoff from exposed soils.

In addition to adverse effects to water quality from stormwater runoff, the Corps has also reviewed existing information to determine whether any potential reductions in flow would result in downstream effects to water quality in Barrel Canyon, Davidson Canyon OAW, or Cienega Creek OAW. The *Summary of Expected Effects on Outstanding Arizona Waters* (pp. 553-554) of the Final EIS notes that the only potential effect on the OAWs in Lower Davidson Canyon and Lower Cienega Creek would be the result of "a decrease in runoff that would occur because portions of the Davidson Canyon watershed would be cut off in perpetuity by the mine site." The Final EIS further notes that there would be an estimated reduction in ephemeral flow estimated at between 4.3 to 11.5% in Lower Davidson Canyon, identifying the reduction in surface flow itself would likely have no impact to riparian vegetation or water quality, although could represent a reduction in recharge to the shallow alluvial aquifer and subflow from Davidson Canyon to Cienega Creek (Final EIS, p. 554). The Final EIS further notes the "distance downstream of the project area (12 miles) that flows have to travel before reaching lower Davidson Canyon gives the predicted effect a high level of uncertainty, as recharge in lower Davidson Canyon is more likely to occur either from very large storm events or from more localized runoff events" (Final EIS, p. 554). The Corps concurs with comments submitted by USEPA and others that a reduction in flows downstream may result in a loss of assimilative capacity in the OAWs, which could, in turn, result in adverse effects to water quality, although the extent of these effects is uncertain, due to the distance of the OAWs. The Corps worked with the applicant to develop a mitigation proposal to minimize effects to downstream waters of the U.S. as a result of reduced stormwater flows. As noted in Section VII of this ROD, and further described in the EA for the compensatory mitigation in Attachment G, the applicant developed a proposal to remove four existing stock tanks within the immediate vicinity of the proposed mine, in order to provide additional flows to the Davidson Canyon Wash. Based on an independent evaluation conducted by the Corps, the proposed

removal of the four stock tanks may not fully compensate for downstream reductions in surface water flows prior to reclamation, although these effects, which are uncertain, would be minimized.

In December 2014, the applicant submitted a Surface Water Mitigation Plan to ADEQ, which identifies measures to be taken to offset predicted reductions in surface water flows and sediment to the Davidson Canyon and Cienega Creek OAWs. Specific Condition 1 of the Section 401 WQC issued by ADEQ requires the applicant begin implementing the Surface Water Mitigation Plan. Specific Condition 1 further identifies if monitoring demonstrates that water quality upstream of or in the OAWs has been degraded as a result of the certified activities, ADEQ will request the Corps suspend the permit in order for ADEQ to evaluate issues and require additional mitigation measures should the impacts be more than a temporary degradation. The ADEQ certification also does not allow the proposed action to cause more than a temporary degradation of the water quality in the OAW stream segments or upstream of those segments. In summary, ADEQ concluded in its Section 401 WQC that the work would not cause significant degradation of the OAWs. ADEQ's Fact Sheet and Basis for Decision documents provide detailed explanations of how it reached conclusions that the work would not violate state water quality standards and would not cause significant degradation of OAWs. The Corps has determined that the removal of four stock tanks and compliance with the Section 401 WQC, including the Surface Water Mitigation Plan, will ensure there is no reduction in downstream flows that would result in a violation of state water quality standards.

Compliance with the Section 401 WQC is a General Condition of a Corps' standard permit, and would also be added as a Special Condition of the permit, if issued, to further emphasize the importance of compliance with the Section 401 WQC. If the applicant does not comply with the Section 401 WQC, the applicant would be in non-compliance with the Corps' permit. Non-compliance with a Corps permit may result in an enforcement action taken by the Corps, in which a number of measures may be taken for resolution, including voluntary or involuntary restoration by the permittee, modification, suspension, or revocation of the permit, referral of the violation to the U.S. Attorney for criminal or civil action, or initiation and administration of Class I administrative penalties. Based on the above, the Corps has determined the conditions of the 401 WQC are enforceable and sufficient to ensure the proposed activity under the Corps scope would not result in a reduction in stormwater quantity that would result in a violation of state water quality standards.

With regards to USEPA's comments that a specific and complete monitoring program is necessary, and specific commitment to corrective measures to potential diminutions of water quality are needed, the Corps has reviewed the Section 401 WQC. ADEQ included a requirement in its certification for the applicant to develop a Surface Water Mitigation Plan, which the applicant submitted in December 2014. The Surface Water Mitigation Plan provides for collection and evaluation of water quality data, along with implementation of mitigation strategies to prevent impacts from occurring. Adaptive management is an important aspect of mitigation and monitoring plans, allowing

applicants and resource agencies to determine the best course of action to address unexpected issues that may arise. While the Surface Water Mitigation Plan does not identify prescriptive actions that must be taken by the applicant, it does identify a selection order for mitigation actions. The Corps has determined the flexibility afforded in the Section 401 WQC and Surface Water Mitigation Plan is essential to ensure appropriate actions are taken to ensure the proposed action under the Corps' scope does not result in a violation of state water quality standards.

The Corps has fully considered the views provided by commenters that groundwater drawdown is a regulated secondary effect under Section 404 of the Clean Water Act. As explained below, the Corps finds this statement to be inaccurate.

The 404(b)(1) guidelines require the determination of secondary effects on the aquatic ecosystem (40 C.F.R. 230.11(h)). As summarized in their November 30, 2017, comments to the Corps, USEPA Region 9 views impacts to groundwater to be a secondary effect regulated by the Corps. This view does not comport with the regulation, which requires analysis of the secondary effects *of the discharge* of dredged or fill material *on the aquatic ecosystem*. The aquatic ecosystem is defined in 40 C.F.R. 230.3(c) to mean waters of the U.S. and does not include groundwater. All secondary effects of the proposed discharge on waters of the U.S. have been fully considered. To the extent there are impacts to groundwater, they are the result of activities that do not require a permit under Section 404 of the CWA, including the operation of the mine. USEPA Region 9 suggests that a secondary effect of the discharge is the operation of the mine, which will result in groundwater drawdown, which in turn could have a secondary effect on waters of the U.S. Simply put, this is too attenuated a connection. The Guidelines require the analysis of secondary impacts of the discharge on the aquatic ecosystem, not an analysis of the possible third, fourth or fifth order effects. The Corps has also considered USEPA Region 9's reference to a 1983 EPA Office of General Counsel opinion discussing secondary impacts. Using the rule of reason advocated by the opinion, the causal connection between the impacts to groundwater and the discharge of fill is simply too attenuated.

Under the Guidelines, activities to be conducted on fast land created by the discharge of dredged or fill material in waters of the United States may have secondary impacts *within those waters* which should be considered in evaluating the impact of creating the fast lands (40 C.F.R. 230.11(h)(2)). Once the discharge is complete, there will be no waters of the U.S. to impact on the mine site. Groundwater is not a water of the U.S. and not within the jurisdiction of the Corps. Furthermore, fast land is created by the discharge of dredged or fill material. The mine pit is an excavated depression, not the discharge of dredged or fill material. While USEPA, Pima County, and others have expressed substantial concerns about the potential effects that mine-induced groundwater drawdown might have on the aquatic resources downstream of the mine, the Corps regulatory authority under Section 404 does not allow us to consider those impacts.

When specialists have conflicting views, an agency has the discretion to rely on the reasoned opinions of its own experts, which the Corps has done. In light of all information considered, the Corps has determined the special conditions placed on the permit and the Section 401 WQC will ensure the proposed action does not violate state water quality standards.

(b) Yes ☐ No ☒ Violate toxic effluent standards or prohibition under Section 307 of the CWA?

Discussion: There is no evidence that the proposed action will violate toxic effluent standards or is prohibited under Section 307 of CWA.

(c) Yes ☐ No ☒ Jeopardize endangered or threatened species or their critical habitat?

Discussion: As described in Section VI.c of this ROD, a Biological Opinion (BO) and Conference Opinion (CO) (USFWS # 22410-2009-F-0389) was issued to USFS for proposed impacts to the endangered Gila chub and its critical habitat, the endangered Gila topminnow, the endangered Huachuca water umbel, the endangered southwestern willow flycatcher and its critical habitat, the threatened Chiricahua leopard frog, the endangered lesser long-nosed bat, the endangered jaguar, the endangered ocelot, the endangered Pima pineapple cactus, and, via conference, proposed critical habitat for the jaguar. Due to changes to the proposed action and/or listing status for threatened and endangered species, including the yellow-billed cuckoo, northern Mexican gartersnake, Chiricahua leopard frog, Mexican gray wolf, desert pupfish, jaguar, and ocelot, on May 25, 2015, the USFS re-initiated consultation and conference with the USFWS. The USFWS issued a revised BO and CO April 28, 2016 (USFWS # 22410-2009-F-0389R1). The BO and CO covers all impacts associated with the proposed action and activities associated with proposed mitigation as identified in the Final HMMP September 26, 2014, *Rosemont Copper Project, Revised Habitat Mitigation and Monitoring Plan, Permit No. SPL-2008-00816*, prepared by WestLand Resources, Inc. The BO and CO included all activities proposed to the Corps for authorization, as well as all compensatory mitigation proposed at that time. In December 2018, The USFS sent a letter to the USFWS containing a review and evaluation of changes to the conservation and mitigation measures in the Final HMMP. The USFS determined the proposed modifications in the Final HMMP did not result in any changes to the conclusions of impacts disclosed in the Final EIS, and that formal consultation for Section 7 of the ESA was not required at this time. The USFWS concurred with the USFS determination that formal consultation is not required for the proposed compensatory mitigation at this time.

(d) Yes ☐ No ☒ Violate standards set by the Department of Commerce to protect marine sanctuaries?

Discussion: N/A. The proposed action is not located near marine sanctuaries.

3. Evaluation and Testing (Subpart G, 40 C.F.R. 230.61): Within the extraction site, historic mining remnants, including piles of waste rock and an approximately 0.40 acre slag pile exists in Barrel Canyon, downstream of the confluence of Barrel and Wasp Canyons, which may have the potential to carry contaminants. The applicant is not proposing to discharge this material into waters of the U.S. In order to ensure the material is not discharged into waters of the U.S., a special condition would be placed on the permit, if issued, with this requirement. For the remainder of the waters of the U.S. proposed to be filled within the mine pit and waste rock disposal areas, the fill material would be generated from the proposed clearing and grubbing activities, and would be redistributed into the waters of the U.S. Naturally occurring substances, such as silver, occur in the soils on the project's site, which could release contaminants into downstream waters of the U.S. Because of the relatively undisturbed nature (with the exception of the historic mining identified above) of the extraction site, the fill material is unlikely to be a carrier of contaminants that do not already naturally occur on the project site. All other fill material into waters of the U.S. would be limited to imported gravel and culverts. A special condition would be placed on the permit, if issued, which would require that only clean and non-toxic material is discharged into waters of the U.S. The special condition would also prohibit the applicant from discharging waste rock, tailings or material from the slag pile, into waters of the U.S. The incorporation of the identified special condition and the requirements of the Section 401 WQC would ensure contaminated material is not placed in waters of the U.S. Based on the above, we have determined that testing is not required because the extraction site is similar to the disposal site and there are available constraints to prevent contaminants from being transported beyond the boundaries of the disposal site.

Other material that would be disposed on the site, including tailings and waste rock from operations of the proposed mine, are outside of the Corps' scope, as identified in Section III of this ROD, as these activities would occur after fill material has been discharged into waters of the U.S., thereby eliminating waters of the U.S. prior to the placement of tailings and waste rock. However, Chapter 3 of the EIS fully identifies the likelihood of contamination related to the operations of the mine.

4. Will the discharge contribute to significant degradation of "waters of the U.S." through adverse impacts to:

(a) Yes ☐ No ☒ Human health or welfare, including, but not limited to effects on municipal water supplies, plankton, fish, shellfish, wildlife and/or special aquatic sites?

(b) Yes ☐ No ☒ Life stages of aquatic life and/or wildlife?

(c) Yes ☐ No ☒ Diversity, productivity, and stability of the aquatic life and other wildlife? Or wildlife habitat or loss of the capacity of wetlands to assimilate nutrients, purify water or reduce wave energy?

(d) Yes ☐ No ☒ Recreational, aesthetic and economic values?

Discussion: During the processing of the permit application, USEPA provided extensive comments supporting their position that the proposed action would cause significant degradation to waters of the U.S. Comments were provided to the public notice issued by SPL and additional comments on this issue were provided to SPD in November 2017. Many of the comments were echoed by other commenters. These comments were provided to the applicant for review and response. The applicant provided a detailed response to USEPA's significant degradation comments on February 1, 2018.

As described in Section IV, Table 2, the preferred alternative, the Barrel Alternative, would have permanent direct and secondary adverse effects to approximately 37.4 acres of waters of the U.S. and temporary impacts to approximately 1.6 acres of waters of the U.S. for the off-site infrastructure. In addition, permanent discharges, which would not result in a loss of waters of the U.S., would occur in 0.50 acres of waters of the U.S. as a result of the construction of road crossings. Approximately 75% of these stream impacts occur in ephemeral washes and springs within the footprints of the tailings and waste rock storage facilities. The remainder of the streams to be impacted are also ephemeral washes that would be impacted at the plant site, mine pit, road crossings, and at locations off the mine site for construction of road crossings and a water supply line. A description of the aquatic resources present can be found in Section I.b of this ROD.

Comments submitted by USEPA stated that it had determined that the proposed mine will have unacceptable adverse impacts on municipal and private water supplies through reduction in water quantity and water quality. USEPA's stated concerns are directly related to pumping of groundwater for supplying the mine operations and impacts from pumping of the mine pit. Although there may be valid concerns to be addressed (and the applicant has worked extensively to address those concerns through other authorities), groundwater drawdown due to pumping is not within the Corps' scope of analysis. As described in Section III of this ROD, the analysis of direct, secondary, and cumulative effects under the Section 404(b)(1) Guidelines is tied solely to the discharge of dredged and/or fill material into waters of the U.S. USEPA has submitted extensive comments about the impacts from groundwater drawdown and explained its position as to why those impacts must be considered in the Corps' Section 404(b)(1) analysis. Much of the overall rationale for USEPA's significant degradation determination is based on impacts due to groundwater drawdown that may occur many years in the future. The extent of groundwater drawdown that may occur and the effects that reduction may have would need to be analyzed through other regulatory avenues, as further described in Section VIII.a.2.a of this ROD. The USFS reviewed

impacts from groundwater drawdown during its review and approval of the proposed action.

Concern has been expressed about the potential impacts to OAWs located downstream of the project site. As described in Section VIII.a.2.a of this ROD, the special conditions placed on the permit, if issued, and the requirements of the Section 401 WQC would ensure adverse effects to water quality in the OAWs do not occur. Other potential adverse effects to OAWs are further described below.

The proposed clearing, grubbing, and grading of waters of the U.S. would not result in adverse effects to municipal water supplies. While there may be some reductions in surface water quantity leaving the project site, as described in Section VIII.a.2.a, the surface water mitigation plan required by the Section 401 WQC will ensure there is no reduction of flow within any downstream perennial waters utilized for municipal water supply. Within their November 30, 2017, letter, USEPA identified their belief the proposed action would result in significant effects on private and municipal water supplies, as groundwater pumping for the mine would reduce available groundwater supply, possibly degrade the water quality, and cause significant economic hardship for private and municipal water users. However, as described in Section III and VIII.a.2.a, effects of groundwater drawdown are outside of the Corps' scope for compliance with the Section 404(b)(1) Guidelines, as they are not an effect of the proposed discharge into waters of the U.S.

Volume 2, Chapter 3, *Biological Resources* (pp. 653-723) of the Final EIS describes direct and indirect effects of the proposed action on fish and wildlife species, including those activities that are not within the Corps' scope, on wildlife. Due to the ephemeral nature of the washes at the project site, there would be no impacts to fish at the site. Impacts to fish in reaches of downstream intermittent and/or perennial streams would be negligible due to the distance from the project site to those waters (more than 12 miles downstream). A number of potential direct and secondary adverse effects to wildlife species, including federally-listed threatened and/or endangered species, would occur as a result of the proposed action under the Corps' scope. In particular, direct habitat destruction from clearing, grubbing, and grading activities would occur within the proposed perimeter fence. In addition, effects would occur to species on or near the project site as a result of changes to traffic, air quality, noise and vibration, lighting, etc. (Final EIS, pp. 653-670 and 704-706). While some of the effects to wildlife under the Corps' scope will be less than that identified in the Final EIS, impacts resulting from habitat destruction would be similar. In their November 30, 2017, letter, USEPA identified the following potential adverse effects to wildlife species: destruction of highly diverse assemblages of animals and their habitats, adverse effects to endangered species, adverse effects to bird overwintering areas, fragmentation of critical animal migration corridors, and effects to wildlife from contamination of the mine pit lake. Effects associated with contamination of the mine pit lake are not within the Corps' scope, as explained in Section III of this ROD, and therefore will not be discussed further. As identified in Section VI.c of this ROD, the proposed action would result in adverse effects to federally-listed threatened and/or endangered species, the effects of

which are described in Chapter 3, *Biological Resources*, of the Final EIS (pp. 671-697 and p. 706). The U.S. Fish and Wildlife Service has issued a BO/CO, determining the proposed action would not jeopardize the continued existence of threatened or endangered species. In addition, on December 14, 2018, the USFWS concurred with the USFS determination that formal consultation was not required for the proposed compensatory mitigation at this time. Mitigation measures required by the USFS, compliance with the BO/CO, and compliance with the special conditions of the permit will ensure the proposed action will not jeopardize the continued existence of species.

As identified in Chapter 3 of the Final EIS (p. 668), the proposed action would result in the direct loss or alteration of habitat movement corridors, and would result in the loss of the portions of Wasp and Barrel Canyon within the proposed security fence. Under the proposed action, McCleary Canyon, which is "probably the most structurally complex and biologically diverse of the various canyons" (Final EIS p. 668) would be avoided, with the exception of road crossings. As identified in the Final EIS (p. 668):

most animals, especially those that do not tolerate human activity, would likely avoid the project area and would navigate a different route to cross between mountains to reach an area with less human activity. Similarly, there would not be the full complement of resident animals present during mining operations; therefore, the project area would not function as a source for those animals that had already vacated. It is not possible to predict how animals would or would not use the project area after closure, except to say that the landscape would be significantly altered from existing conditions due to the actions associated with the mine, and the movement throughout the area would be severely compromised for some species.

Table 129 of the Final EIS (p. 705) identifies the total acreage of animal movement corridors affected. Overall, the proposed action would result in the loss of 0.7% of Linkage 92, 4.1% of Linkage 95, 0.4% of Landscape Movement Area 31, 0.2% of Riparian Movement Area 22, 3.2% of Riparian Movement Area 25, and 0.001% of Linkage 94 (see Final EIS, Table 118, pp. 602-605, and Figure 76, p. 606 for more information on these wildlife corridors). Approximately 8.8 acres of linkages would be restored through decommissioning of roads not being used for the proposed action (Final EIS pp. 704-705). Overall, the proposed action would result in the loss of a small proportion of the existing animal movement corridors within the area.

The proposed compensatory mitigation at SCR would permanently enhance and preserve approximately 1,580 acres of wildlife corridor and riparian habitat on Sonoita Creek. As identified in Table 125 of the Final EIS, the proposed action would result in the loss of 3,634 acres (2.6%) of the Santa Rita Mountains Important Bird Area (IBA). The Corps concurs with the Final EIS (pp. 698-699) and USEPA that the proposed action would adversely affect overwintering for a variety of bird species. The proposed action would also adversely affect nesting, foraging, roosting, and molt migration habitat for migratory and residents birds (Final EIS, pp. 698-699). Additional secondary effects

to migratory birds could occur from changes to air quality, noise, vibration, lighting, and traffic. The proposed compensatory mitigation would enhance and preserve, in perpetuity, habitat for birds. While the proposed action would result in a slight reduction in the identified IBA, the majority of the IBA is undeveloped, and restoration of habitat following reclamation and the proposed compensatory mitigation would reduce effects to bird species.

Effects to wildlife species would be avoided and minimized to the maximum extent practicable through special conditions placed on the Corps' permit, if issued, as well as the terms and conditions of the BO/CO's for federally-listed threatened and/or endangered species. In addition, the proposed compensatory mitigation, including the proposed activities at SCR and removal of four stock tanks, would off-set adverse effects to wildlife species, providing feeding, foraging, and nesting habitat for species in perpetuity. Overall, the proposed action would result in a small reduction of the overall existing habitat for wildlife in the area.

There are no special aquatic sites at the mine site that would be impacted by the discharge of fill material. Within their November 30, 2017, letter, USEPA states three of the six special aquatic sites described in Subpart E of the 404(b)(1) Guidelines occur on or adjacent to the proposed action and would be adversely affected by the proposed mine. USEPA asserts that riffle and pool complexes, wetlands, and sanctuaries and refuges occur on or near the proposed mine site. USEPA identified that lower Cienega Creek contains riffle and pool complexes used by Gila Chub, Gila topminnow, and longfin dace. The Corps disagrees with USEPA's statement that the proposed action under the Corps' scope for the purposes of evaluation of compliance with the Section 404(b)(1) Guidelines would have a direct or secondary effect on riffle and pool complexes in lower Cienega Creek located more than 15 miles from the proposed mine site as a result of a reduction in stream flow. As identified above and in Section VIII.a.2.a, the Section 401 WQC requires the applicant to implement a surface water mitigation plan in order to ensure there is no reduction in flows downstream to the Davidson Canyon or Cienega Creek, therefore, there would be no secondary effects to riffle and pool complexes in Cienega Creek.

USEPA identified portions of lower Davidson Canyon and Cienega Creek are designated as OAWs and are within the Cienega Creek Natural Preserve, and are therefore sanctuaries and refuges. On page 3 of their November 30, 2017, letter, USEPA opined that "The Rosemont Mine will significantly degrade downstream reaches of Davidson Canyon and Cienega Creek." While USEPA did not identify specifically how they believe the mine will "significantly degrade" downstream reaches of Davidson Canyon and Cienega Creek in this paragraph, the Corps infers this is due to USEPA's claims that construction activities would release contaminants into Barrel Canyon and reduce surface flows, adversely affecting surface water quality and quantity, and that groundwater drawdown associated with excavation of the mine pit would result further adverse effects to the OAWs. As identified in Section VIII.a.2.a and this section, the conditions of the Surface Mining MSGP and 401 WQC, including water quality monitoring and mitigation, implementation of the surface water mitigation plan, and the

special conditions placed on the permit, if issued, would ensure the proposed action under the Corps' scope of analysis, as described in Section III of this ROD, would not violate state water quality standards and would not result in a reduction of surface water quantity in Davidson Canyon or Cienega Creek. As identified in in Section III and VIII.a.2.a, the effects of groundwater drawdown on OAWs are not within the Corps' scope of analysis.

With regards to wetlands, USEPA identified desert springs support wetland ecosystems including rare and endemic species, and "direct and secondary impacts to these seeps and springs because of the Rosemont Mine will adversely affect the aquatic biota dependent on the range of spring-associated water sources." USEPA identified "sixty-three springs are expected to be lost from direct disturbance or lowering of the groundwater table during construction and operation." Table 108 of the Final EIS (p. 510) states the following regarding springs: "Five springs directly lost due to surface disturbance; 1 spring highly likely to be indirectly impacted due to drawdown; 60 springs may be indirectly impacted due to drawdown, but water source is unknown; 19 springs unlikely to be impacted." The springs identified in the Final EIS as being directly lost due to surface disturbance are shown on Figure 2 in Attachment B. Three of the springs proposed to be filled and lost are considered to be waters of the U.S. The other two springs proposed to be filled and lost are concrete lined and do not contain an ordinary high water, and therefore are not waters of the U.S. The Corps disagrees with USEPA's inference that all springs are wetlands and therefore are special aquatic sites. The Corps acknowledges that some springs may be considered wetlands, if they meet the definition of wetland as defined in the Corps' 1986 regulations at 33 C.F.R. 328.3(b), which states: "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." However, the springs that would be directly affected by the proposed clearing, grubbing, and grading activities under the Corps' scope do not meet the definition of wetlands, and are therefore not special aquatic sites. While it is unknown whether the remaining springs identified in Table 108 of the Final EIS are considered to be wetlands, as identified in Table 108, the potential effects to these would be caused by groundwater drawdown, which, as explained in Section III and VIII.a.2.a of this ROD, are not within the Corps' scope under the Section 404(b)(1) Guidelines. Therefore, the proposed clearing, grubbing, and grading activities would have no direct or secondary effects to wetlands. The proposed compensatory mitigation would result in enhancement of forested and emergent wetlands along the fringe of the two ponds being enhanced (see Attachment G). Overall, the proposed action would result in a beneficial effect to wetlands.

The proposed clearing, grubbing, and grading activities under the Corps' scope would not result in adverse effects to water-related recreation. In their November 30, 2017, letter, USEPA identified that several water-related recreational opportunities exist on lands within and adjacent to the Rosemont Mine, including wildlife observations, bird watching, camping, biking, and hiking along streams within the Cienega Creek watershed. While the recreation identified by USEPA may occur on the project site, and

the project site does contain a portion of the Arizona National Scenic Trail, this recreation is not related to the ephemeral drainages on the project site, and therefore is not water-related recreation. While water-related recreation may occur downstream in the Davidson Canyon or Cienega Creek OAW's, as described above, the proposed action related to the Corps' scope would not have a secondary adverse effect to these waters located more than 12 miles downstream of the proposed mine site as a result of the special conditions placed on the Corps' permit, if issued, including the conditions of the Section 401 WQC.

With regard to aesthetics, the action under the Corps' scope for compliance with the Section 404(b)(1) Guidelines would result in clearing, grubbing, and grading of the waters of the U.S., which would have a direct and secondary effect on aesthetics on the proposed mine site. Chapter 3 of the Final EIS (pp. 767-833) analyzes the effects on visual resources of the proposed action under the USFS scope, which analyzes construction, operations, and closure of the proposed mine. The effects to aesthetics for the activities under the Corps' scope would be similar to those identified in the Final EIS, in particular the clearing, grubbing, and grading activities would result in exposed soils and change the contrast and the visual character of the area. However, the effects to aesthetics under the Corps' scope for the 404(b)(1) Guidelines is less than that described in the Final EIS, as the aesthetics of the mine pit, processing facility, waste rock disposal area, and tailings disposal area are not included in the Corps' scope. Impacts to aesthetics would be minimized through the mitigation measures required by the USFS. While there would be a loss of aesthetic values within the proposed mine site, very little development occurs in the surrounding area, the impacts would be minimized through USFS imposed mitigation measures, and the proposed compensatory mitigation will ensure long-term protection of improved aesthetic values at the Sonoita Creek site.

5. Yes ☒ No ☐ Will all appropriate and practicable steps be taken to minimize adverse impacts of the discharge on the aquatic ecosystem? Does the proposal include satisfactory compensatory mitigation for losses of aquatic resources?

Discussion: As identified in Section IV of this ROD, the Corps has determined there are no practicable alternatives to the proposed discharge that would have fewer adverse effects to the aquatic ecosystem. Special conditions to further minimize adverse effects to the aquatic ecosystem would be added to the permit, if issued, as identified in Section X of this ROD. The Corps followed the SPD QMS procedure 12501-SPD *Standard Operating Procedure for Determination of Mitigation Ratios*. The results are included as Attachment C of this ROD. Through this procedure, the Corps has determined that the proposed compensatory mitigation would offset the loss of ephemeral streams and springs within the project site. See Section VII and Attachment G of this ROD for additional information regarding the proposed compensatory mitigation. In addition, special conditions placed on the permit, if issued, would further minimize adverse effects to waters of the U.S.

b. Factual Determinations

(1) Physical Substrate Determination: Chapter 3, *Geology, Minerals, and Paleontology* (pp. 144-177) and *Soils and Revegetation* (pp. 145-215) of the Final EIS, identifies the nature and degree of effect that the proposed action will have, individually and cumulatively, on the characteristics of the substrate at the disposal site for development of the proposed action, including operations of the proposed mine. As identified in Section III of this ROD, the Corps' scope of analysis is limited to the effects associated with the discharge of dredged/fill material into waters of the U.S. as a result of clearing, grubbing, and grading prior to the operations associated with extraction of copper and other material, as well as the discharge of fill material into waters of the U.S. associated with construction of off-site infrastructure. The Corps' scope of analysis also includes any permittee-responsible compensatory mitigation actions required to compensate for the loss of waters of the U.S. The effects of the proposed action under the Corps' scope of analysis is substantially less than the effects of the construction and operations of the mine, as evaluated in the Final EIS. The proposed action would result in clearing, grubbing, and grading of substrate within the ephemeral drainages and three springs on the proposed mine site, and ephemeral drainages, ponds, and wetlands on the proposed compensatory mitigation sites. Clearing, grubbing, and grading would not substantially affect substrate as existing substrate would be relocated. Additional effects to substrate would occur from the construction of on-site and off-site infrastructure, including installation of culverts and transmission line installation. During construction of the proposed compensatory mitigation, potential short-term direct and indirect effects to substrate would occur as a result of grading, which could result in temporary increases in erosion within Sonoita Creek.

The special conditions identified in Section X of this ROD would minimize effects to substrate, and the proposed compensatory mitigation identified in Section VII of this ROD, would fully compensate for the effects to substrate under the Corps' scope and jurisdiction.

(2) Water circulation, fluctuation, and salinity determinations: Chapter 3, *Surface Water Quantity* (pp. 398-443), *Surface Water Quality* (pp. 443-485), *Seeps, Springs, and Riparian Areas* (pp. 485-570) of the Final EIS identify the nature and degree of effect that the proposed action will have, individually and cumulatively on water, current patterns, circulation including downstream flows, and normal water fluctuation for development of the proposed action. No affects to salinity gradients would occur. As identified in Section III of this ROD, the Corps' scope of analysis is limited to the effects associated with the discharge of dredged/fill material into waters of the U.S. as a result of clearing, grubbing, and grading prior to the operations associated with extraction of copper and other material, as well as the discharge of fill material into waters of the U.S. associated with construction of off-site infrastructure. The Corps' scope of analysis also includes any permittee-responsible compensatory mitigation actions required to compensate for the loss of waters of the U.S. The effects of the proposed action under the Corps' scope of analysis is substantially less than the effects of the construction and operations of the mine, as evaluated in the Final EIS. The proposed action would result

in clearing, grubbing, and grading of and the direct loss of 36.5 acres of ephemeral drainages and springs on the mine site, as a result of clearing, grubbing, and grading activities, which would eliminate water circulation and fluctuation within these ephemeral drainages and springs. In addition, as identified on Figure 2 of this ROD (see also Attachment B) the proposed action would result in secondary effects to 0.5 acre of ephemeral drainages on the proposed mine site. While these ephemeral drainages would not be filled, the downstream ephemeral drainages would be filled, thereby eliminating water circulation and fluctuation within these ephemeral drainages. The placement of fill material into 0.90 acres of waters of the U.S. for the installation of culverts for road crossings and temporary placement of fill material into 1.6 acres of waters of the U.S. would not result in permanent adverse effects to water circulation or fluctuation.

With the exception of an access road, culverts, and utility line activities, the proposed action would avoid McCleary Canyon and Scholefield Canyon. While concerns have been raised that adverse indirect effects could result from the loss of the watersheds of these headwater ephemeral washes, thereby resulting in indirect adverse effects to water circulation and fluctuation downstream in Barrel Canyon, and potentially further downstream, as identified in Section VIII.a.2.a, the special conditions placed on the permit, if issued, and conditions of the Section 401 WQC would ensure there is no reduction in surface water flow to downstream waters, and therefore there would be no effect.

The proposed removal of 4 stock tanks, as described in Section VII of this ROD and the Final HMMP, as well as the requirements of the Section 401 WQC and Mining MSGP, as described in Section VIII of this ROD, would ensure there is no reduction in flows to the downstream portions of Barrel Canyon, Davidson Canyon, or Cienega Creek. As identified in Section VII of this ROD, the Supplemental EA in Attachment G, as well as the SPD Compensatory Mitigation Ratio Setting Checklist located in Attachment C, the proposed compensatory mitigation would fully compensate for the loss of waters of the U.S. associated with the proposed action.

(3) Suspended particulate/turbidity determinations: Chapter 3, *Surface Water Quality* (pp. 443-485), *Seeps, Springs, and Riparian Areas* (pp. 485-570), and *Biological Resources* (pp. 570-651), of the Final EIS, identify the nature and degree of effect that the proposed action will have, individually and cumulatively, in terms of potential changes and concentrations of suspended particulate/turbidity in the vicinity of the disposal site for the proposed action. During construction, potential effects to downstream waters of the U.S. from exposed soils could result in increases in suspended particulates and turbidity in waters of the U.S. on the mine site, compensatory mitigation site, and downstream areas. Because of the ephemeral nature of the drainages on the mine site and compensatory mitigation site, these effects would occur only during and immediately following rain events. Adherence to the Section 401 WQC and National Pollutant Discharge Elimination System (NPDES) permit, and the special conditions identified in Section X of this ROD, in particular those requiring the applicant install and maintain best management practices (BMPs) and

erosion control adjacent to avoided waters of the U.S. on- and off-site, and conduct work in waters of the U.S. when the areas are naturally dewatered, would minimize effects from suspended particulates and turbidity.

(4) Contaminant determinations: Chapter 3, *Soils and Revegetation* (pp. 178-216), *Surface Water quality* (pp. 443-485), and *Biological Resources* (pp. 570-651), of the Final EIS, identify the degree to which the material proposed for discharge will introduce, relocate, or increase contaminants for the proposed action. As identified in Section III of this ROD, the Corps' scope of analysis under the CWA is limited to the effects associated with the discharge of dredged/fill material into waters of the U.S. as a result of clearing, grubbing, and grading prior to the operations associated with extraction of copper and other material, as well as the discharge of fill material into waters of the U.S. associated with construction of off-site infrastructure. The Corps' scope of analysis also includes any permittee-responsible compensatory mitigation actions required to compensate for the loss of waters of the U.S. The effects of the proposed action under the Corps' scope of analysis is substantially less than the effects of the construction and operations of the mine, as evaluated in the Final EIS.

As described in Section VIII.a.3 of this ROD, historic mining remnants, including piles of waste rock and an approximately 0.40 acre slag pile exists in Barrel Canyon, downstream of the confluence of Barrel and Wasp Canyon, which may have the potential to carry contaminants. The applicant is not proposing to discharge this material into waters of the U.S. and a special condition would be placed on the permit, if issued, to further ensure the material is not discharged into waters of the U.S. In addition, naturally occurring substances, such as silver, occur in the soils on the project's site, which could release contaminants into downstream waters of the U.S. As described in Section VIII.a.3, the special conditions placed on the permit, if issued, and requirements of the Section 401 WQC, would ensure no contaminants are released that would result in adverse effects to water quality in downstream waters of the U.S. as a result of the proposed activities under the Corps' scope.

(5) Aquatic ecosystem and organism determinations: Chapter 3, *Seeps, Springs, and Riparian Areas* (pp. 485-570), and *Biological Resources* (pp. 570-651), of the Final EIS, identify the nature and degree of effect that the proposed action will have, individually. As identified in Section III of this ROD, the Corps scope of analysis under the CWA is limited to the effects associated with the discharge of dredged/fill material into waters of the U.S. as a result of clearing, grubbing, and grading prior to the operations associated with extraction of copper and other material, as well as the discharge of fill material into waters of the U.S. associated with construction of off-site infrastructure. The Corps' scope of analysis also includes any permittee-responsible compensatory mitigation actions required to compensate for the loss of waters of the U.S. The effects of the proposed action under the Corps' scope of analysis is substantially less than the effects of the construction and operations of the mine, as evaluated in the Final EIS. See Section VIII.d above for a complete discussion regarding potential effects to fish and wildlife species. The proposed action would result in permanent loss of 37.0 (36.5 acres of direct fill, and 0.5 acres of secondary effects),

which would result in permanent adverse effects to aquatic organisms within these features. Temporary adverse effects to 1.6 acres of waters of the U.S. would result from the proposed utility lines, roads, and fencing. Areas impacted by the temporary effects would be restored, and therefore there would be no long-term adverse effects to these waters of the U.S. Adverse effects to the aquatic ecosystem located downstream of the proposed mine site would be minimized through special conditions placed on the permit, if issued, and the requirements of the Section 401 WQC. The proposed compensatory mitigation, including proposed activities at Sonoita Creek and the removal of four stock tanks, would compensate for the loss of the aquatic ecosystem associated with the proposed action.

(6) Proposed disposal site determination: No effects to the mixing zone would occur on either the proposed mine site or compensatory mitigation site, as the drainages that would be filled are ephemeral in nature, and special conditions placed on the permit, as described in Section X of this ROD, in particular those requiring installation and maintenance of BMPs and erosion control, and limiting the discharge of fill material into waters of the U.S. when there is no flowing water, would ensure no effects to the mixing zone.

(7) Determination of cumulative effects on the aquatic ecosystem: Chapter 3 of the Final EIS describes the cumulative effects of the proposed action on all evaluated resources areas, including the aquatic ecosystem. As identified in Section III of this ROD, the Corps' scope of analysis under the CWA is limited to the effects associated with the discharge of dredged/fill material into waters of the U.S. as a result of clearing, grubbing, and grading prior to the operations associated with extraction of copper and other material, as well as the discharge of fill material into waters of the U.S. associated with construction of off-site infrastructure. The Corps' scope of analysis also includes any permittee-responsible compensatory mitigation actions required to compensate for the loss of waters of the U.S. The cumulative effects of the proposed action under the Corps' scope of analysis is substantially less than the effects of the construction and operations of the mine, as evaluated in the Final EIS. The proposed compensatory mitigation at the SCR is located within the Upper Santa Cruz 8-digit hydrologic unit code (HUC) watershed (HUC 15050301), while the proposed action is located within the Rillito 8-digit HUC watershed (HUC 15050302), both of which are located in the Santa Cruz 6-digit HUC watershed (HUC 150503). The Santa Cruz River is the nearest traditional navigable water to the proposed mine site. While the proposed compensatory mitigation will not provide ecological benefits to the 8-digit HUC where the proposed action on the mine site would occur, it will provide ecological benefits to the same traditional navigable water as the impact site. The required compensatory mitigation, special conditions placed on the permit, if issued, and the requirements of the Section 401 WQC, would ensure adverse effects to the aquatic ecosystem are avoided, minimized, and fully compensated.

(8) Determination of secondary effects on the aquatic ecosystem: Chapter 3 of the Final EIS describes the secondary (i.e. indirect) effects of the proposed action on all evaluated resource areas, including the aquatic ecosystem. As identified in Section III

of this ROD, the Corps' scope of analysis under the CWA is limited to the effects associated with the discharge of dredged/fill material into waters of the U.S. as a result of clearing, grubbing, and grading prior to the operations associated with extraction of copper and other material, as well as the discharge of fill material into waters of the U.S. associated with construction of off-site infrastructure. The Corps' scope of analysis also includes any permittee-responsible compensatory mitigation actions required to compensate for the loss of waters of the U.S. The cumulative effects of the proposed action under the Corps' scope of analysis is substantially less than the effects of the construction and operations of the mine, as evaluated in the Final EIS. Secondary effects to the aquatic environment would occur on-site and off-site, as a result of clearing, grubbing, and grading activities, as described in this section and Section IX. The proposed compensatory mitigation, although it would be conducted outside of the 8-digit hydrologic unit code (HUC) of the proposed mine site, would be conducted within the same 6-digit HUC code, and would fully compensate for the loss of waters of the U.S. within the 6-digit HUC. In addition, the removal of 4 stock tanks, the special conditions identified in Section X of this ROD, and the Section 401 WQC would ensure secondary effects to downstream waters of the U.S. are minimized to the maximum extent practicable.

IX. Public Interest Review

a. The relative extent of the public and private need for the proposed work has been considered: The proposed action, which would produce resources such as copper, molybdenum, and silver, would further the objective of the applicant as well as stated interests of both Arizona and the United States in the development of mineral resources. Copper is a necessary part of many of the products used throughout the world, such as appliances and electronic equipment. In addition to the public need for these minerals and the products and materials they would become a part of, the public has need for the economic benefits associated with the development of the proposed action, including increased jobs and tax revenues at the local, state, and national level. Finally, the proposed action would meet the financial needs of the applicant to mine and sell copper and other materials mined from the project site.

b. Where there are unresolved conflicts as to resource use, the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work: Alternatives to the proposed action were considered and rejected from further analysis as identified in Chapter 2 of the Draft and Final EIS. Alternatives considered in the EIS have been evaluated for compliance with the Section 404(b)(1) Guidelines, as discussed in the Sections IV and VIII of this ROD. The Corps has determined there are no other practicable locations or methods to accomplish the objective of the proposed work that would result in fewer adverse environmental effects.

c. The extent and permanence of the beneficial and/or detrimental effects that the proposed structures or work may have on the public and private uses which the area is suited has been reviewed: As identified in Section III of this ROD, the Corps' scope of analysis under the CWA is limited to the effects associated with the discharge of

dredged/fill material into waters of the U.S. as a result of clearing, grubbing, and grading prior to the operations associated with extraction of copper and other material, as well as the discharge of fill material into waters of the U.S. associated with construction of off-site infrastructure. The Corps scope of analysis also includes any permittee-responsible compensatory mitigation actions required to compensate for the loss of waters of the U.S. As further described below, the proposed action under the Corps scope would result in: (1) no or negligible effects to land use, navigation, food and fiber production, energy needs, and property ownership, without mitigation; (2) negligible or neutral effects to fish and wildlife values, shore erosion and accretion, water supply and conservation, and water quality, after incorporation of mitigation (including avoidance, minimization, and compensation); (3) temporary detrimental effects to conservation, general environmental concerns (dark skies and astronomy, traffic, air quality, and noise), and safety; (4) permanent detrimental effects to aesthetics, historic properties, and recreation; (5) beneficial effects to economics, wetlands, flood hazards, and floodplain values; and (6) both beneficial and detrimental effects on the needs and welfare of the people.

(1) Conservation: Based on a review of the Pima County Preserves, Lands Owned or Managed by Pima County for Open Space, Habitat, and Resource Protection (see http://webcms.pima.gov/UserFiles/Servers/Server_6/File/Government/Office%20of%20Sustainability%20and%20Conservation/Conservation%20Science/The%20Sonoran%20Desert%20Conservation%20Plan/pc_preserves_june2018.pdf), the majority of the proposed mine site is located within an existing natural preserve (i.e. Coronado National Forest). The proposed action would result in permanent impacts and a change in existing uses of 3,643 acres of Coronado National Forest. In addition, the proposed mine site is part of the Conservation Land System (CLS) as identified in the Sonoran Desert Conservation Plan (see <https://webcms.pima.gov/cms/One.aspx?portalId=169&pageId=52654> for more information on the Sonoran Desert Conservation Plan), of which portions are identified as "Important Riparian Areas", "Biological Core Areas" or "Multiple Use Management Areas." Pima County's 2016 Multi-species Conservation Plan for Pima County (<http://www.pima.gov/cmo/sdcp/reports.html>) defines these areas as follows (p.9):

- Biological Core Management Areas are primarily distinguished from other lands within the CLS by their potential to support habitat for five or more Priority Vulnerable Species. They also overlay large blocks of contiguous habitat and biological reserves.
- Multiple Use Management Areas are primarily distinguished from other lands within the CLS by their potential to support habitat for three or more Priority Vulnerable Species and they connect large blocks of contiguous habitat and biological reserves. As such they are not as biologically rich as those lands designated as Biological Core Management Areas.

- Important Riparian Areas are valued for their higher water availability, vegetation density, and biological productivity. They are also fundamental to preserving landscape connectivity.

It is important to note that while the Sonoran Desert Conservation Plan identifies these portions of the proposed mine site as within the CLS, they are not lands currently permanently preserved, but rather lands managed in accordance with the 1986 Coronado National Forest Land and Resource Management Plan (forest plan). As part of their evaluation, the USFS proposed an amendment to the forest plan, which would create a new management area (MA) for which specific standards and guidelines would be established relative to a large-scale mining operation (Final EIS pp. 7-8). In June 2017, the USFS issued a ROD for the proposed action. As part of the ROD, the USFS decided to amend the forest plan "creating a new MA that provides for mining of privately held mineral resources while allowing other forest uses to the degree that they are safe, practical, and appropriate for an active mining or post-mine environment" (USFS ROD p. 33). In their ROD, USFS also determined that an amendment to the forest plan is not significant as it "would not significantly alter the multiple-use goals and objectives for long-term land and resource management for the forest as a whole." (USFS ROD p. 33). As a result of the USFS determination to amend the forest plan, there would be no adverse effects to the management of the Coronado National forest associated with the proposed action under the Corps' scope.

As identified in the Final EIS (pp. 699-700), the proposed action would result in direct impacts and the loss of 537 (4.0% of that identified in the CLS) acres of Important Riparian Areas, 974 (1.1% of that identified in the CLS) acres of Biological Core Areas, and 4,141 (9.4% of that identified in the CLS) acres of Multiple Use Management Areas. Total, the proposed action would result in a direct loss of 3.9% of the CLS system as identified by Pima County. Impacts to the CLS under the Corps' scope would be similar to that identified in the Final EIS, as the Corps' scope for the public interest review, while it does not include mine operations, would include the loss of waters of the U.S. and uplands within the proposed security fence. The loss of these lands within the CLS would permanently adversely affect wildlife habitat and corridors in the area. However, in general, surrounding areas are undeveloped, and sufficient habitat and travel corridors for wildlife species will still occur within the CLS.

In addition to conservation on the project site, conservation lands occur downstream of the proposed mine site, primarily in or adjacent to the lower Davidson Canyon and Cienega Creek OAWs. As identified in Section VIII of this ROD, adverse effects to these OAWs would be limited to potential reductions in surface water quantity. The reduction in surface water quantity could result in adverse effects to other resource areas, including, but not limited to, effects to water quality, fish and wildlife species, vegetation communities, and riparian areas. As identified in Section VIII, the special conditions of the permit, if issued, and requirements of the Section 401 WQC would ensure no adverse effects occur as a result of a reduction in surface water quantity.

Finally, the Final EIS identified potential effects to other conservation areas, such as Las Cienegas National Conservation Area approximately 3 miles from the eastern boundary of the proposed mine site, Saguaro National Park East and Saguaro National Park West, located approximately 27 and 41 miles north of the project site. As described in Chapter 3, *Conflicts with Regional, State, and Local Plans, Policies, and Controls*, of the Final EIS (pp. 1143-1151), the proposed operations of the mine could result in potential impacts associated with potential groundwater drawdown, as well as potential effects to the visual character of Las Cienegas National Conservation Area. As described in Section III of this ROD, effects as a result of groundwater drawdown are outside of the Corps control and responsibility, and therefore are not applicable to the action under consideration by the Corps. Visual effects to Las Cienegas National Conservation Area as a result of clearing, grubbing, and grading activities under the Corps' scope would occur, although these effects would be less than those identified in the Final EIS, as impacts to aesthetics as a result of construction of facilities and waste rock/tailing are not within the Corps' control and responsibility. As identified in the Final EIS (p. 1144), a number of mitigation measures have been incorporated into the proposed action to "soften or reduce" visual impacts of the proposed action, however, no mitigation measures have been identified to fully eliminate these potential effects. The Final EIS identifies the following with regards to the effects of the proposed action on the Las Cienegas National Conservation Area:

While the Rosemont Copper Project would not further the achievement of many of the goals of the national conservation area, it would not violate the implementing legislation for the Las Cienegas National Conservation Area. Section 5 of the Public Law 106-538 establishes management of the Las Cienegas National Conservation Area. Section 5(i) contains the following language: NO BUFFER ZONES – The establishment of the Conservation Area shall not lead to the creation of protective perimeters or buffer zones around the Conservation Area. The fact that there may be activities or uses on lands outside the Conservation Area that would not be permitted in the Conservation Area shall not preclude such activities or uses on such lands up to the boundary of the Conservation Area consistent with other applicable laws.

Based on the above, the Corps concurs with the USFS determination that while the proposed action may result in adverse effects to Las Cienegas National Conservation Area, it will not conflict with existing requirements for this area.

For Saguaro National Park East and Saguaro National Park West, as identified in the Final EIS (pp. 1146-1147), the primary concerns are related to air quality, including impacts to visibility from haze and nitrogen deposition. Air quality effects to Saguaro National Park East and Saguaro National Park West were evaluated in Chapter 3, *Air Quality* of the Final EIS (pp. 256-279), which includes air quality impacts associated with construction and operations of the proposed mine. While the clearing, grubbing, and grading activities under the Corps' scope, as identified in Section III of this ROD, may result in adverse effects to air quality affecting Saguaro National Park East and Saguaro

National Park West, including impacts to visibility from haze and impacts associated with nitrogen deposition, the activities under the Corps' scope would be temporary, and would therefore not result in long term effects to Saguaro National Park East or Saguaro National Park West. In addition, given the distance between the proposed mine site and Saguaro National Park East and Saguaro National Park West (27 miles and 41 miles, respectively) these effects would be attenuated from the proposed action under the Corps' scope.

As identified in Section VIII of this ROD, we have determined the special conditions of the permit, as well as the requirements of the Section 401 WQC, would ensure there is no reduction in surface water quantity. Therefore, there would be no adverse effects to conservation areas within or adjacent to the downstream OAWs. Overall, activities under the Corps' scope may result in direct and indirect adverse effects to conservation lands, primarily resulting in effects to aesthetics and air quality. The proposed compensatory mitigation, in particular the proposed activities at Sonoita Creek, would result in the establishment of approximately 1,590 acres of new conservation area, resulting in a beneficial effect to conservation. Overall, there would be a temporary and attenuated adverse effect to conservation, and a long-term beneficial effect to conservation on the proposed compensatory mitigation site.

(2) Economics: The evaluation of the impacts of the proposed action on Economics, has been analyzed in Chapter 3, pages 1053-1130, *Socioeconomics and Environmental Justice*, in the Final EIS, and is further discussed in the SIR and Second SIR prepared by USFS. The Corps, as a cooperating agency on the EIS, was involved in the preparation and review of the Draft and Final EIS. The proposed action would result in beneficial and detrimental effects to economics in the area. Beneficial effects would occur as a result of increases in employment and local, state, and federal tax revenue as a result of the proposed construction and operations of the mine. Potential detrimental effects to economics could occur as a result of a potential decrease in tourism in the area. Economic impacts most closely associated with the Corps' scope of analysis identified in the Final EIS are those associated with the premining phase. As identified in the Final EIS (p. 1109), detrimental effects as a result of loss of recreation and tourism are difficult to predict, as "decisions concerning recreation, tourism, and quality of life are based on highly personal, subjective judgments...Negative economic analyses are not often undertaken in the course of preparing NEPA documentation because of the inherent difficulty in predicting the vagaries of human nature and subjective preference. Therefore, while the negative economic effects presented are based on the best available techniques, with all assumptions explicitly noted, they carry with them a high level of uncertainty." In addition, the potential detrimental effects associated with loss of recreation are attenuated from the effects associated with clearing, grubbing, and grading of the site, as these effects would occur from the construction of a mine whether or not a Corps permit was required and therefore are not heavily weighed in the Corps decision (see Regulatory Guidance Letter 88-13, *Subject: National Environmental Policy Act (NEPA) Scope of Analysis and Alternatives*, for more information regarding the evaluation of impacts that are attenuated from the action under consideration). The clearing, grubbing, and grading activities on the proposed

mine-site, off-site infrastructure area, and compensatory mitigation area, would result in a beneficial effect to economics from an increase in employment, sales and income taxes, and sale of goods, and are the effects most closely associated with the Corps' action. The beneficial effects of the Corps' action would be substantially less than identified in the EIS, as the Corps does not have authority over the operations or activities that occur once fill in waters of the U.S. have been completed. Overall, the economic effects associated with the proposed action under the Corps' scope would be beneficial. Potential detrimental effects are too uncertain and attenuated from the proposed action under the Corps' scope to be weighed heavily in the evaluation.

(3) Aesthetics: The evaluation of the impacts of the proposed action on Aesthetics, has been analyzed in Chapter 3, pages 767-832, *Visual Resources*, in the Final EIS, and is further discussed in the SIR and Second SIR prepared by USFS. The Corps, as a cooperating agency on the EIS, was involved in the preparation and review of the Draft and Final EIS. In addition, the Corps has reviewed the SIR and Second SIR, and believes these documents incorporate the best available information on the effects of the proposed action on aesthetics. The proposed clearing, grubbing, and grading in waters of the U.S., as well as on-site and off-site infrastructure, would result in a direct and indirect adverse effect aesthetics due to the removal of waters of the U.S. and construction of off-site infrastructure. Construction activities associated with the construction of the proposed compensatory mitigation would result in a short-term adverse effect to aesthetics as a result of grading activities. These effects would occur until compensatory mitigation construction has been completed and the soils have been vegetated and stabilized. The proposed compensatory mitigation would result in a long-term beneficial affect to aesthetics, as it would result in re-establishment, rehabilitation, and enhancement of a degraded creek corridor and floodplain. The effects of the Corps action would be less than identified in the EIS, as the Corps does not have authority over the operations or activities that occur once fill in waters of the U.S. have been completed. See Section VIII for additional discussion on the effects of the proposed action on aesthetics. Overall, the proposed action would result in a detrimental effect to aesthetics.

(4) General Environmental Concerns:

(a) Dark Skies and Astronomy: The evaluation of the impacts of the proposed action on Dark Skies and Astronomy, has been analyzed in Chapter 3, pages 751-767, Dark Skies, in the Draft and Final EIS, and is further discussed in the SIR and Second SIR prepared by USFS. The Corps, as a cooperating agency on the EIS, was involved in the preparation and review of the Draft and Final EIS. In addition, the Corps has reviewed the SIR and Second SIR, and believes these documents incorporate the best available information on the effects of the proposed action on dark skies and astronomy. The effects of the Corps action would be substantially less than identified in the EIS, as the Corps does not have authority over the operations or activities that occur once fill in waters of the U.S. have been completed. Clearing, grubbing, and grading activities on the proposed mine-site, off-site infrastructure areas, and compensatory mitigation site, could affect dark skies and astronomy if construction activities were to occur during

nighttime hours. However, these effects would be temporary and substantially less than those identified in the EIS. The proposed compensatory mitigation would have no effect to dark skies or astronomy, as construction activities would not result in additional lighting in the area. Overall, the proposed action under the Corps' scope would result in a temporary detrimental effect to dark skies and astronomy.

(b) Traffic: Effects to traffic, including those related to mining operations outside of the Corps' scope, have been fully evaluated in Chapter 3, *Transportation/Access* (pp. 921-958) of the Final EIS. The effects of the Corps action would be substantially less than identified in the EIS, as the Corps does not have authority over the operations or activities that occur once fill in waters of the U.S. have been completed, including transportation of mining byproducts for delivery. Clearing, grubbing, and grading activities on the proposed mine-site, off-site infrastructure areas, and compensatory mitigation site, as a result of large equipment accessing these areas, may result in temporary traffic delays. Overall, the proposed action would result in a temporary detrimental effect to traffic.

(c) Noise: Effects from increased noise, including effects associated with mining operations outside of the Corps' scope, have been fully evaluated in Chapter 3, *Noise* (p. 958 of the Final EIS). The effects of the Corps action would be substantially less than identified in the EIS, as the Corps does not have authority over the operations or activities that occur once fill in waters of the U.S. have been completed, including transportation of mining byproducts for delivery. Clearing, grubbing, and grading activities on the proposed mine-site, off-site infrastructure areas, and compensatory mitigation site would result in temporary and localized increases in noise. Noise impacts for the activities under the Corps' scope would be similar to those identified for the premining phase in the Final EIS (pp. 982-984). Impacts from noise and vibration could also result in effects to plant and animal species if they are present within the area, as explained in Chapter 3, *Biological Resources* (pp. 656-658) of the Final EIS, which would likely result in disruptions to wildlife, although these effects are difficult to predict, as the effects vary depending on the nature of the sound and the species present within the project area. Overall, the proposed action would result in a temporary detrimental effect from noise.

(d) Air Quality: Effects on air quality and climate change were evaluated in Chapter 3, *Air Quality and Climate Change* of the Final EIS (pp. 217-288). The effects of the Corps' action would be substantially less than identified in the EIS, as the Corps does not have authority over the operations or activities that occur once fill in waters of the U.S. have been completed, including transportation of mining byproducts for delivery. Clearing, grubbing, and grading activities on the proposed mine-site, off-site infrastructure areas, and compensatory mitigation site would result in temporary impacts to air quality. Air quality impacts for the activities under the Corps' scope would be similar to those identified for the premining phase in the Final EIS (p. 249, and pp. 251-258). Air quality effects under the Corps' scope would be temporary during construction, and would be minimized by the mitigation measures identified in the Final EIS (pp. 283-285) and the requirements of the air quality permit. Impacts to plant and

wildlife species from air quality affects are also discussed in Chapter 3, *Biological Resources* section of the Final EIS. Overall, the proposed action would result in a temporary detrimental effect to air quality.

(5) Wetlands: As described in Section VIII.a.4 of this ROD, no wetlands would be directly affected as a result of the proposed action on the mine site or off-site infrastructure area. The two wetlands that occur within the area covered by the Corps' preliminary jurisdictional determination (Scholefield Spring No. 1 and Fig Tree Spring), would be avoided by the proposed action, and therefore will not be affected by the action under the Corps' scope. As identified in Table 108 of the Final EIS, indirect effects to wetlands may occur as a result of groundwater drawdown, which is outside of the Corps' scope, which, as described in Section III, is limited to clearing, grubbing, and grading activities. The proposed compensatory mitigation would consist of rehabilitation of forested and emergent wetlands abutting two rehabilitated ponds. With the proposed compensatory mitigation, there would be a net beneficial effect to wetlands as a result of the proposed action.

(6) Historic Properties: As described in Section VI.f of the ROD and Chapter 3, *Cultural Resources* (pp. 1014-1053) of the Final EIS, the proposed action on the mine site, including grading, grubbing, and clearing activities under the Corps' scope, would result in an adverse effect to cultural resources listed on or eligible for listing on the National Register of Historic Places, including a Traditional Cultural Property. The Corps participated as a Cooperating Agency and is also a Signatory to the Memorandum of Agreement (MOA) that was executed to mitigate adverse effects to historic properties. The MOA was signed by the USFS, Corps, SHPO, ACHP, and concurring parties in October and November of 2013, and the Mescalero Apache Tribe signed in January of 2014. For the proposed compensatory mitigation, the Corps was the lead federal agency for compliance with Section 106 of the NHPA. On October 23, 2018, the SHPO concurred with the Corps' determination of no adverse effect to historic properties for the proposed compensatory mitigation (File no. SHPO-2017-1129(145343)). Overall, there would be a detrimental effect to historic properties as a result of the proposed clearing, grubbing, and grading activities under the Corps' scope, although these effects would be mitigated through the MOA, and measures to avoid adverse effects at the Sonoita Creek Compensatory Mitigation Site, which will be added as special conditions of the permit, if issued.

(7) Fish and Wildlife Values: The evaluation of the impacts of the proposed action on Fish and Wildlife Values has been analyzed in Chapter 3, *Biological Resources*, in the Draft and Final EIS (pp. 570-653), and is further discussed in the SIR and Second SIR prepared by USFS. The Corps, as a cooperating agency on the EIS, was involved in the preparation and review of the Draft and Final EIS. In addition, the Corps has reviewed the SIR and Second SIR, and believes these documents incorporate the best available information on the effects of the proposed action on wildlife values. The proposed action may result in direct and indirect effects to fish and wildlife values as a result of clearing, grubbing, and grading activities on the mine site, off-site infrastructure area, and compensatory mitigation site. The effects on the mine

site and off-site infrastructure area would be permanent, while the effects on the compensatory mitigation site would be temporary. The loss of habitat, including transportation and foraging, for wildlife would occur on the proposed mine site. Additional indirect effects from filling headwater ephemeral washes may occur downstream. The effects of the Corps action would be substantially less than identified in the EIS, as the Corps does not have authority over the operations or activities that occur once fill in waters of the U.S. have been completed. Long-term, the compensatory mitigation site would provide substantially greater wildlife values than currently exist. The proposed compensatory mitigation would off-set the adverse effects to fish and wildlife values as a result of the proposed action on the mine site. See Section VIII.a.4 and VIII.d of this ROD for an additional discussion of effects to fish and wildlife values as a result of the proposed activities under the Corps' scope. Overall, the proposed action under the Corps' scope would result in negligible effects to fish and wildlife values with the incorporation of mitigation.

(8) Flood Hazards: The proposed action on the mine site and off-site infrastructure areas would not result in the construction of flood hazards, and therefore there would be no direct or indirect effects. The proposed compensatory mitigation would, in part, rehabilitate and enhance the existing floodplain of Sonoita Creek, which would help eliminate potential flood hazards, and therefore there would be a net beneficial effect. Overall, the proposed action under the Corps' scope would result in permanent beneficial effects to flood hazards.

(9) Floodplain Values: Because no floodplains occur on the proposed mine site or off-site infrastructure areas, there would be no direct or indirect effects to floodplain values as a result of the proposed activity under the Corps' scope. The proposed compensatory mitigation would, in part, rehabilitate and enhance the existing floodplain of Sonoita Creek, which would increase floodplain values for Sonoita Creek. Overall, the proposed action under the Corps' scope would result in permanent beneficial effects to floodplain values.

(10) Land Use: The evaluation of the impacts of the proposed action on Land Use, has been analyzed in Chapter 3, *Landownership and Boundary Management* (pp. 725-731), in the Draft and Final EIS. The Corps, as a cooperating agency on the EIS, was involved in the preparation and review of the Draft and Final EIS, and believes these documents incorporate the best available information on the effects of the proposed action on land use. Effects associated with landownership and boundary management are related to mineral survey fractions (small parcels of National Forest Service lands interspersed within or adjacent to lands transferred out of Federal ownership under mining laws), and mineral survey corner monuments (wood posts, stones, and iron pipes that control the property boundary between USFS lands and private land owned by Rosemont Copper within or very near the footprint of the proposed action). As identified in the Final EIS (p. 731), with incorporation of the mitigation measures of the Final EIS, impacts to the mineral survey fractions and mineral survey corner monuments would be avoided. In addition to those effects identified in Chapter 3, *Landownership and Boundary Management* of the Final EIS, the

proposed action would result in removal of between 4.4 and 6.5% of National Forest Lands within the Santa Rita Ecosystem Management Area (Final EIS, p. 858). Direct and indirect effects to recreational uses of the project site are located in Chapter 3, *Recreation and Wilderness* of the Final EIS (pp. 833-874). However, the USFS, in their ROD, determined the change in the forest plan to allow for the proposed change in use is not significant. Overall, the proposed action would have negligible effects to land use.

(11) Navigation: There are no navigable waters in or near the proposed mine site. As identified in Section I.b, the nearest navigable water is the Colorado River, located more than 350 stream miles from the proposed mine site. Therefore, there would be no effects to navigation.

(12) Shore Erosion and Accretion: The proposed mine site and off-site infrastructure area does not contain shores, and therefore there would be no effects to shore erosion and accretion. However, effects as a result of erosion or accretion may occur within and downstream of the ephemeral drainages and springs that would be affected by the proposed action. Chapter 3, *Surface Water Quantity* provides a description of potential erosion that may occur as a result of the proposed action. The proposed action under the Corps' scope would result in clearing, grading, and grubbing of the entire project site and off-site infrastructure areas, including all ephemeral drainages and 5 springs. In addition, activities in the off-site infrastructure area will result in impacts to ephemeral drainages from off-site utility lines and roads. Exposed soils from construction could result in changes to existing erosion and accretion patterns in downstream waters of the U.S. These changes in erosion and accretion patterns could result in adverse effects to downstream water quantity, hydrology, and, potentially, effects to plant and wildlife species. The conditions of the Section 401 WQC and Mining MSGP, as well as special conditions placed on the permit, if issued, requiring the applicant install and maintain BMPs and erosion control near avoided waters of the U.S., would ensure downstream effects as a result of erosion are minimized. In addition, as identified in Chapter 3, Issue 1: Impact on *Land Stability and Soil Productivity* (p. 213), the proposed action could result in a reduction of downstream sediment delivery as a result of the reduction in downstream flows, which could affect erosion or accretion patterns. However, as explained in Section VIII.a.2.a, with the requirements of the Section 401 WQC, there would be no downstream reductions in flow. Therefore this effect is not expected to occur. Overall, the proposed action under the Corps' scope would result in minimal effects to erosion and accretion with mitigation.

(13) Recreation: The evaluation of the impacts of the proposed action on Recreation, has been analyzed in Chapter 3, pages 833-873, *Recreation and Wilderness*, in the Draft and Final EIS, and is further discussed in the SIR and Second SIR prepared by USFS. The Corps, as a cooperating agency on the EIS, was involved in the preparation and review of the Draft and Final EIS. In addition, the Corps has reviewed the SIR and Second SIR, and believes these documents incorporate the best available information on the effects of the proposed action on groundwater. The clearing, grubbing, and grading activities on the proposed mine site and off-site infrastructure area have the potential to result in direct and indirect effects to recreation,

as visitors to USFS lands would be prevented from unrestricted access the proposed mine site. The proposed action would also result in the relocation of the Arizona National Historic Trail, which could result in adverse effects to recreation, although this effect is attenuated from the proposed discharge of fill material into waters of the U.S. The effects of the Corps action on recreation would be substantially less than identified in the EIS, as the Corps does not have authority over the operations or activities that occur once fill in waters of the U.S. have been completed. Because the proposed compensatory mitigation site consists of private land with no existing recreational opportunities, construction of the proposed compensatory mitigation will have no effect on recreation. See Section VIII.a.2.d for additional discussion related to effects on recreation. Overall, the proposed action under the Corps' scope would result in permanent detrimental effects to recreation.

(14) Water Supply and Conservation: The evaluation of the impacts of the proposed action on Water Supply and Conservation, has been analyzed in Chapter 3, pages 288-362, *Groundwater Quantity*, and 398-443, *Surface Water Quantity*, in the Draft and Final EIS, and is further discussed in the SIR and Second SIR prepared by USFS. The Corps, as a cooperating agency on the EIS, was involved in the preparation and review of the Draft and Final EIS. In addition, the Corps has reviewed the SIR and Second SIR, and believes these documents incorporate the best available information on the effects of the proposed action on water supply and conservation. As identified in Section III of this ROD, the Corps' scope of analysis under the CWA does not include effects as a result of groundwater drawdown, which is the primary concern related to effects on water supply and conservation. On the mine site, effects to water supply and conservation would be detrimental as a result of the clearing, grubbing, and grading of ephemeral headwater drainages, which have the potential to affect water circulation and fluctuation in downstream waters of the U.S. These effects would be substantially less than those identified in the EIS, as the Corps does not have authority over the operations or activities that occur once fill in waters of the U.S. have been completed. The special conditions of the permit, if issued, requirements of the Section 401 WQC would ensure there is no reduction in surface water quantity, and therefore there would be no effects to water supply and conservation as a result of the activities under the Corps' scope. The proposed compensatory mitigation would provide a beneficial effect to water supply and conservation, as it would result in the permanent enhancement and preservation of surface water flows on Sonoita Creek and provide additional surface water flows into Davidson Canyon from the removal of four stock tanks. Overall, the proposed action would result in beneficial effects to water supply and conservation.

(15) Water Quality: The evaluation of the impacts of the proposed action on Water Quality, has been analyzed in Chapter 3, *Groundwater Quality and Geochemistry* (pp. 362-398), and *Surface Water Quality* (pp. 443-484), in the Final EIS, and is further discussed in the SIR and Second SIR prepared by USFS. The Corps, as a cooperating agency on the EIS, was involved in the preparation and review of the Draft and Final EIS. In addition, the Corps has reviewed the SIR and Second SIR, and believes these documents incorporate the best available information on the effects of the proposed action on water quality. The direct and indirect effects to water quality associated with

the activities under the Corps' control and responsibility would be less than those identified in the Final EIS as the Corps' scope includes only clearing, grubbing, and grading activities on the proposed mine site, proposed activities in the off-site infrastructure areas, and the proposed compensatory mitigation. Indirect effects to water quality could occur from clearing, grubbing, and grading of waters of the U.S. adjacent to avoided waters of the U.S. on the proposed mine site and off-site infrastructure area. Temporary adverse effects to water quality may occur as a result of grading activities associated with the proposed compensatory mitigation, which would exist until compensatory mitigation activities are completed and any exposed soils are stabilized. Long-term, the proposed compensatory mitigation would have a beneficial effect on water quality, due to the restoration of Sonoita Creek and its associated floodplain. The effects to water quality would be minimized and compensated through special conditions identified in Section X of this ROD, as well as compliance with the Section 401 WQC and NPDES permit. See Section VIII.a.2.a of this ROD for additional discussion regarding the effects of the proposed discharge on water quality. Overall the proposed action under the Corps' scope would result in negligible effects to water quality with mitigation.

(16) Energy Needs: As identified in Chapter 2, *Alternatives, Including the Proposed Action* (pp. 40-41), the proposed action includes the construction of a new 136-kilovolt (kV) power transmission line, to provide some of the needed electricity for the proposed action. The transmission line would extend from the proposed Toro switchyard located 13 miles from the proposed mine site, to the proposed Rosemont substation, located on the proposed mine site. In addition, the applicant is proposing to utilize solar power for administrative buildings, and, potentially, other areas. As part of the proposed action, the applicant would realign an existing 46-kV distribution line that currently runs north-south through the project area. Environmental effects as a result of the construction of the new power transmission line and realigned distribution line are described throughout Chapter 3 of the Final EIS. Overall, the proposed action under the Corps' scope would have negligible effects on energy needs.

(17) Safety: The evaluation of the impacts of the proposed action on public health and safety, has been analyzed in Chapter 3, *Public Health and Safety* (pp. 989-1014), and is further discussed in the SIR and Second SIR prepared by USFS. The Corps, as a cooperating agency on the EIS, was involved in the preparation and review of the Draft and Final EIS. In addition, the Corps has reviewed the SIR and Second SIR, and believes these documents incorporate the best available information on the effects of the proposed action on safety. The Final EIS evaluated potential safety risks associated with mine operations and facilities, geological hazards, noise and vibration, air quality impacts, potential change in traffic accidents, transportation of hazardous materials, and effects to local emergency response to accidents or spills. Table 192 of the Final EIS (pp. 994-996) provides a summary of the potential effects of each of the alternatives evaluated in the EIS. Effects associated with the operations of the mine, including risk from geologic hazards, transportation of hazardous materials, emergency response to spills on public roadways are outside of the Corps' control and responsibility, as identified in Section III of this ROD. Potential effects associated noise

and vibration, air quality, and traffic during clearing, grubbing, and grading activities, are within the Corps scope of analysis. While there is a potential the proposed action may result in an increase in safety hazards during construction, these effects will be temporary and less than those identified in the Final EIS. Potential safety effects to construction workers could occur, although it is assumed all construction activities would meet any required safety standards. No long-term adverse effects to safety would occur for those activities under the Corps' scope, as these risks would end once clearing, grubbing, and grading activities are completed. Overall, the proposed action would result in short-term safety risks.

(18) Food and Fiber Production: No food or fiber production occurs on the project site, and therefore there would be no effect as a result of the proposed action.

(19) Mineral Needs: The proposed clearing, grubbing, and grading activities on the proposed mine site would not result in an increase in mineral needs. Activities associated with the construction of roads, utility lines, and facilities, could result in an increase in mineral needs, although it is assumed there is sufficient supply to meet the demand of the proposed action. Overall, the proposed action would result in negligible effects to mineral needs.

(20) Consideration of Property Ownership: The proposed action, including activities on the proposed mine site and off-site infrastructure, would occur on public and private lands. Public lands include those lands owned by the USFS and the Arizona State Land Department, while private lands are owned by the applicant. Chapter 3, *Landownership and Boundary Management* pp. 725-731), in the Final EIS identifies potential effects to property ownership, which are summarized in the discussion of Land Use in Section IX.c.9, above. Overall, the proposed action would not result in effects to property ownership.

(21) Needs and Welfare of the People: The evaluation of the impacts of the proposed action on public health, has been analyzed in Chapter 3, *Public Health and Safety* (pp. 989-1014), and is further discussed in the SIR and Second SIR prepared by USFS. The Corps, as a cooperating agency on the EIS, was involved in the preparation and review of the Draft and Final EIS. In addition, the Corps has reviewed the SIR and Second SIR, and believes these documents incorporate the best available information on the effects of the proposed action on public health. As described for economics in Section IX.c.2, above, the proposed action under the Corps' scope would have a beneficial effects on economics during construction, which are the effects most associated with the Corps' action. Potential adverse effects may occur to a number of resource areas as identified in this section and Section VIII, above, however, with the inclusion of special condition on the permit, if issued, incorporation of mitigation measures required by the USFS, these effects would be minimized. Overall, the proposed action would result in both detrimental and beneficial effects to the needs and welfare of the public.

d. Conclusion: The Corps has carefully weighed the beneficial and detrimental effects of the proposed action on the public interest, balancing the benefits that may reasonably be expected to accrue against the reasonably foreseeable detriments. Effects most closely related to the Corps' action (i.e. the discharge of fill material into waters of the U.S.) as well as those effects related to health and welfare of the people, have been given more weight than those effects more attenuated from the Corps' action. Therefore, the effects to navigation, wetlands, fish and wildlife values, erosion and accretion, water quality, flood hazards, floodplain values, historic properties, safety, and the needs and welfare of the people, are given greater weight than effects to land use, food and fiber production, energy needs, property ownership, dark skies and astronomy, traffic, air quality, noise, aesthetics, recreation, and economics. In light of the analyses above, and considering the need for the proposed action and the lack of other locations or methods to accomplish the proposed work, the Corps concludes that issuance of the permit is not contrary to the public interest.

X. Special Conditions

The following special conditions would be included in the DA permit, if issued to ensure the project is not contrary to the public interest and complies with the 404 (b)(1) Guidelines:

Special Condition 1: In order to compensate for the permanent loss of 37.00 acres of waters of the U.S. you shall conduct re-establishment, rehabilitation, and enhancement activities on the SCR property, as described in the September 12, 2017, *Final Mitigation and Monitoring Plan Permit No. SPL-2008-00816-MB, Rosemont Copper Project* (Final HMMP), prepared by Westland Resources. The required compensatory mitigation on the SCR Property shall include:

- a. Rehabilitation of 61.54 acres of Sonoita Creek and its tributaries;
- b. Enhancement of 6.0 acres of Sonoita Creek Ranch ponds;
- c. Re-establishment of 34.58 acres of Sonoita Creek channel buffer;
- d. Rehabilitation of 6.22 acres of Sonoita Creek channel buffer;
- e. Enhancement and preservation of 66.30 acres of Sonoita Creek ephemeral tributaries buffer;
- f. Enhancement and preservation of 4.41 acres of Sonoita Creek ephemeral tributaries; and
- g. Enhancement and preservation of 19.28 acres of ephemeral channels including avoided portions of Sonoita Creek, Corral Canyon, and other unnamed ephemeral tributaries to Sonoita Creek.

Rationale: This special condition is necessary to ensure successful compensatory mitigation for the unavoidable losses of waters of the U.S. due to the construction of the proposed action. (33 C.F.R. 320.4(r)(1); 33 C.F.R. 325.4(a)(3); 33 C.F.R. 332; 40 C.F.R. 230).

Special Condition 2: In order to minimize effects to downstream surface water quantity, you shall remove the Barrel Canyon East, McCleary Canyon, Rosemont Crest, and Gunsight Pass stock tanks, as described in your Final HMMP.

Rationale: This special condition is necessary to ensure minimization of temporary adverse effects to downstream surface water quality and quantity during construction of the proposed action, and to compensate for potential adverse effects to downstream waters as a result in the reduction of downstream flows. (33 C.F.R. 320.4(r)(1); 33 C.F.R. 325.4(a)(3); 33 C.F.R. 332; 40 C.F.R. 230).

Special Condition 3: Except as otherwise specified in this permit, you shall fully implement and comply with the Final HMMP identified in Special Condition 1, which is hereby incorporated by reference as a condition of this permit.

Rationale: This special condition is necessary to ensure avoidance and minimization of impacts to waters of the U.S. as well as ensure successful compensatory mitigation and replacement of the functions of the aquatic environment that would be lost as a result from the construction of the proposed action. (33 C.F.R. 320.4(r)(1); 33 C.F.R. 325.4(a)(3); 33 C.F.R. 332; 40 C.F.R. 230).

Special Condition 4: You shall monitor compensatory mitigation areas required in Special Conditions 1 and 2 for a minimum of 15 years or until the performance standards described in the approved Final HMMP identified in Special Condition 3 are met, whichever is greater. This period shall commence upon completion of the construction of the required compensatory mitigation. You shall demonstrate continued success of the compensatory mitigation, without human intervention, for a minimum of three consecutive years after the final performance standards have been met, which may run concurrent with the minimum 15-year monitoring period. If the compensatory mitigation is not meeting the required performance standards at any time, this office may determine that the compensatory mitigation is not in compliance and require remedial action, including the identification of alternative compensatory mitigation.

a. You shall submit annual monitoring reports to this office by December 31 for each year of the monitoring period and for each additional year, if remediation is required, until the performance standards have been met. You shall submit a monitoring report at the end of the three-year period demonstrating continued success of the compensatory mitigation without human intervention. If the three-year period occurs wholly within the 15-year monitoring period, annual monitoring reports describing the condition of the mitigation sites in Special Conditions 1 and 2 shall continue to be submitted until the end of the monitoring period. The annual reports shall follow the format identified in the Final 2015 Regional Compensatory Mitigation and Monitoring

Guidelines for the South Pacific Division, or any subsequent updates to the regional guidelines, which can be found online at <http://www.spd.usace.army.mil/Portals/13/docs/regulatory/mitigation/MitMon.pdf>.

b. Your responsibility to complete the required compensatory mitigation as set forth in special conditions 1 and 2 will not be considered fulfilled until you have demonstrated mitigation success with respect to the HMMP performance standards and have received written verification from this office.

Rationale: This special condition is necessary to ensure the project is meeting the required performance standards and to determine if measures are necessary to ensure that the compensatory mitigation project is accomplishing its objectives. (33 C.F.R. 320.4(r)(1); 33 C.F.R. 325.4(a)(3); 33 C.F.R. 332.6; 40 C.F.R. 230).

Special Condition 5: To ensure successful completion of the compensatory mitigation required in special conditions 1 and 2 in accordance with 33 C.F.R. 332.3(n), you shall establish a short-term financial assurance in the form of a letter of credit, escrow account, or other appropriate instrument. You shall submit a proposal for the short-term financial assurance prior to initiation of construction activities in waters of the U.S. associated with this permit. The proposal shall include the type, language, amount, justification for the amount of the financial assurance, and, if applicable, phasing for the release of the financial assurance proposed. The type, language, and amount of the financial assurance must be approved, in writing, by this office. You shall submit proof of the establishment of the financial assurance to this office prior to initiation of construction activities in waters of the U.S. authorized by this permit. In the event it becomes necessary to draw upon the financial assurance, funds must be payable to a designee specifically proposed by you, and approved, in writing, by this office, or placed in a fund pursuant to a standby trust agreement specifically proposed by you, and approved, in writing, by this office. You shall ensure that the financial assurance is in a form that assures that termination or revocation of the financial assurance shall not occur without 120 days advance notice and prior approval by this office.

Rationale: This special condition is necessary to ensure a high level of confidence that the compensatory mitigation projects will be successfully completed (33 C.F.R. 320.4(r)(1); 33 C.F.R. 325.4(a)(3); 33 C.F.R. 332).

Special Condition 6: Prior to initiation of construction activities in waters of the U.S. authorized by this permit, you shall establish and maintain, in perpetuity, a 1,580 acre preserve containing the compensatory mitigation required by Special Condition 1, as follows:

a. Prior to initiation of construction activities in waters of the U.S. authorized by this permit, you shall record a Restrictive Covenant over the preserve, which shall remain until the required compensatory mitigation is completed and the performance standards identified in Chapter 10 of the HMMP have been met, and you have been

notified by this office that the compensatory mitigation is successful and implementation of the long-term management plan (LTMP) described in the Final HMMP of the preserve may begin. You shall provide a draft of the proposed Restrictive Covenant to this office for review and written approval prior to recordation. The Restrictive Covenant shall be specifically approved by this office, in writing, prior to recordation. You shall provide copies of the recorded Restrictive Covenant to this office within 30 days following recordation. You shall not modify the approved Restrictive Covenant unless proposed modifications have been reviewed and specifically approved by this office, in writing, prior to recordation.

b. Within 60-days after notification from this office that long-term management of the preserve may begin, as identified in Special Condition 6(a), you shall place the compensatory mitigation areas under a permanent conservation easement, and designate an appropriate conservation-oriented third-party entity to hold the required conservation easements. The Grantee shall be either Land Trust Alliance accredited or equivalent. You shall submit information on the proposed Grantee to this office for review and approval. The Grantee shall be specifically approved by this office, in writing, prior to designation. You shall record the permanent conservation easement with the Santa Cruz County Recorder. You shall provide a draft of the proposed conservation easement to this office for review and written approval prior to recordation. The conservation easement shall be specifically approved by this office, in writing, prior to recordation. You shall provide copies of the recorded conservation easement to this office within 30 days following recordation. You shall not modify the approved conservation easement unless proposed modifications have been reviewed and specifically approved by this office, in writing, prior to recordation.

Rationale: This special condition is necessary to ensure protection of the compensatory mitigation area at SCR required for the unavoidable losses of waters of the U.S. associated with construction of the proposed action. (33 C.F.R. 320.4(r)(1); 33 C.F.R. 325.4(a)(3); 33 C.F.R. 332).

Special Condition 7: Prior to the end of monitoring year 12 of the 15-year monitoring period, you shall establish a fully-funded endowment or other long-term financial assurance specifically approved by this office, in writing, for management of the preserve required in Special Condition 1 in perpetuity. Prior to the initiation of construction activities in waters of the U.S. authorized by this permit, you shall submit a proposal for the establishment of the endowment or other long-term financial assurance, including an itemized list of costs with justification, as well as a proposed phasing schedule for implementation of the financial assurance. For a proposed endowment, you shall submit information on the proposed endowment holder and the proposed endowment agreement to this office for review and written approval prior to establishment. The financial assurance type, amount, phasing, and, for endowments, endowment holder, shall be specifically approved by this office prior to establishment. You shall implement the following measures:

a. The financial assurance required for long-term management of the preserve shall be governed by an investment policy statement that is designed, over long periods of time, to generate investment returns sufficient to increase in value to keep pace with inflation and pay the costs of long-term management, the net of any financial investment and administrative fees. The financial assurance funds shall be used in funding perpetual management, maintenance, monitoring, and other activities as required by the Final HMMP identified in Special Condition 3. If either (1) the value of the required financial assurance decreases to levels that may threaten its continued existence as a source of perpetual funding for long-term management, or (2) if long-term management expenses exceed those estimated in the financial assurance analysis and schedule approved by this office, you shall consult with this office and the endowment holder to identify a plan to implement the management and biological monitoring tasks identified in the Final HMMP with the resources that are available. The plan may include modifications to the financial assurance payments to the preserve manager and associated land management and monitoring tasks in order to protect the long-term viability of the endowment amount. This plan must be reviewed and approved, in writing, by this office.

b. You shall ensure disbursements from the financial assurance fund earnings beyond those necessary to provide for growth of the endowment fund commensurate with inflation are made available by the endowment holder to the property owner or preserve manager to fund annual long-term management of the preserve.

Rationale: This special condition is necessary to ensure avoidance and minimization of impacts to waters of the U.S. as well as ensure successful compensatory mitigation for the unavoidable losses of waters of the U.S. due to the construction of the proposed action. (33 C.F.R. 320.4(r)(1); 33 C.F.R. 325.4(a)(3); 33 C.F.R. 332; 40 C.F.R. 230).

Special Condition 8: You shall maintain the elevation (grade) of the thalweg (deepest part of the channel) at the downstream end of the Sonoita Creek Ranch portion of the mitigation project to the baseline level determined prior to onset of mitigation construction. Annual survey data for this requirement shall be submitted with the annual monitoring report. Should the elevation of the thalweg differ by more than two (2) feet, you shall submit an adaptive management plan to return the grade to the original elevation to the Corps for review and approval within 45 days of survey date. Should the downstream crossing acting as grade control be proposed to be changed or removed, you shall submit an adaptive management plan to maintain the grade/elevation at the downstream end of the mitigation property within 45 days of notification of the change in crossing design. The adaptive management plan shall provide a detailed description of why the grade/elevation has changed as well as a plan to return the grade/elevation to the baseline level. You shall implement an approved adaptive management plan upon receipt of written Corps approval or on a Corps-approved date.

Rationale: This special condition is necessary to ensure the success of the mitigation, and to determine if measures are necessary to protect the overall grade of the mitigation project. (33 C.F.R. 320.4(d); 33 C.F.R. 325.4(a)(3); 33 CFR 332; 40 C.F.R. 230)

Special Condition 9: You shall restore all temporary impacts to waters of the U.S. and impacted adjacent upland areas within 50 feet of the temporarily impacted waters of the U.S. to their original contour and condition within 60 days following completion of construction activities associated with the temporary impacts. In order to ensure compliance with this condition, you shall comply with the June 2018, *Utility Corridor Reclamation Plan*, prepared by the Rosemont Copper Company, in conducting all restoration of temporary impact areas. In addition, you shall:

a. Prior to the initiation of temporary construction activities in waters of the U.S. authorized by this permit, you shall provide a report containing a description of, and drawings showing, the existing contours (elevation) and existing vegetation of the temporary impact areas. This information shall include pre-construction site photographs taken of the temporary impact area. For linear projects, these photographs shall be taken from the alignment, in both directions and taken every 25-feet for the length of the temporary impact area;

b. You shall conduct annual monitoring for a minimum of three growing seasons after completion of restoration of the temporary impact activities. You shall submit an annual report by December 31 of each year of the required monitoring. The report may be included with the annual reports provided as part of the Final HMMP. You shall ensure the monitoring reports include information regarding inspections and maintenance, and contain photographs illustrating the condition of the area. You shall also ensure monitoring reports include a description of the results of inspections for signs of excessive erosion, which shall be conducted annually and after storm events generating 0.1" of rain in a 24-hour period. If excessive erosion is identified during monitoring, you shall contact this office within 10-days following identification of excessive erosion to determine necessary measures to correct the erosion. No correction of excessive erosion that results in a discharge of fill material into waters of the U.S. shall be conducted without prior written approval from this office.

c. Within 30 days following completion of restoration activities, submit to this office a report describing the restoration activities including color photographs of the restored area. The compass angle and position of all photographs shall be similar to pre-construction photographs.

Rationale: This special condition is necessary to ensure minimization of impacts to waters of the U.S. and to ensure successful restoration of all temporary impacts authorized (33 C.F.R. 320.4(r)(1); 33 C.F.R. 325.4(a)(3); 33 C.F.R. 332; 40 C.F.R. 230).

Special Condition 10: Prior to commencement of construction activities in waters of the U.S. authorized by this permit, you shall clearly identify the limits of disturbance in

the field with highly visible markers (e.g. construction fencing, flagging, silt barriers, etc.). You shall maintain such identification properly until construction is completed and the soils have been stabilized. You are prohibited from any activity (e.g. equipment usage or materials storage) that results in the discharge of dredged or fill material into waters of the U.S. outside of the permit limits as shown on the enclosed, Figure 2, *Rosemont Copper Project, Waters of the US Impacts, Project Site*, and Figure 3, *Rosemont Copper Project, Waters of the US Impacts, Utility Corridor*, dated November 27, 2018, prepared by Westland Resources.

Rationale: This condition is necessary to ensure the construction activities do not occur outside of the project area, which would cause adverse impacts to the aquatic ecosystem (33 C.F.R. 325.4(a)(3)).

Special Condition 11: You shall conduct all work when the project area is naturally dewatered, or is dewatered in accordance with a dewatering plan specifically approved by this office, in writing. If dewatering of waters of the U.S. is proposed, you shall submit a plan for the proposed dewatering, including restoration of temporary impacts in accordance with Special Condition 8. You shall not conduct any work in waters of the U.S. until the temporary dewatering plan is approved by this office, in writing.

Rationale: This condition is necessary to minimize downstream impacts to the aquatic environment from suspended sediments and turbidity to the maximum extent practicable. (33 C.F.R. 320.4(d); 33 C.F.R. 325.4(a)(3); 40 C.F.R. 230).

Special Condition 12: Prior to initiation of any construction activities in waters of the U.S. authorized by this permit, you shall install and maintain construction best management practices (BMPs) on-site to prevent degradation to on-site and off-site avoided waters of the U.S. Methods shall include the use of appropriate measures to intercept and capture sediment prior to entering waters of the U.S., as well as erosion control measures along the perimeter of all work areas within 50 feet of on-site and off-site avoided waters of the U.S. to prevent the displacement of fill material. All BMPs shall be in place prior to initiation of (each phase of) construction activities in waters of the U.S. authorized by this permit. You shall ensure the BMPs are inspected every two weeks, and maintained in good condition while ground disturbing activities are occurring, until construction activities in waters of the U.S. authorized by this permit are complete. All BMPs shall remain until construction activities within 50 feet of waters of the U.S. are completed and all disturbed soils are stabilized. You shall submit a description of and photo-documentation of your BMPs to this office within 30 days following commencement of construction activities authorized by this permit.

Rationale: This condition is necessary to minimize adverse impacts to water quality, from construction activities, to the maximum extent practicable (33 C.F.R. 320.3(a); 33 C.F.R. 320.4(d); 33 C.F.R. 325.4(a)(3)).

Special Condition 13: You shall ensure only clean and nontoxic fill material is discharged into waters of the U.S. on the mine site, off-site infrastructure area, or

compensatory mitigation site. The fill material discharged into waters of the U.S. shall be free from items such as trash, debris, automotive parts, asphalt, construction materials, concrete with exposed reinforcement bars, and soils contaminated with any toxic substance, in toxic amounts in accordance with Section 307 of the Clean Water Act. You shall ensure no excavated material from the mine pit, including waste rock or tailings, is discharged into waters of the U.S. until all discharges into waters of the U.S. authorized by this permit are completed. In addition, you shall ensure no historic mining remnants, including piles of waste rock or material from the approximately 0.40 acre slag pile, are discharged into waters of the U.S.

Rationale: This condition is necessary to ensure that contaminated material is not placed in waters of the U.S. (33 C.F.R. 325.4(a)(3); 40 C.F.R. 230).

Special Condition 14: This Corps permit does not authorize you to take an endangered species, in particular Gila chub (*Gila intermedia*), Gila topminnow (*Poeciliopsis occidentalis occidentalis*), Huachuca water umbel (*Lilaeopsis schaffneriana* var. *recurva*), southwestern willow flycatcher (*Empidonax traillii extimus*), Chiricahua leopard frog (*Lithobates chiricahuensis*), lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*), jaguar (*Panthera onca*), ocelot (*Felis pardalis*), Pima pineapple cactus (*Coryphantha scheeri* var. *robustispina*), yellow-billed cuckoo (*Coccyzus americanus*), northern Mexican garter snake (*Thamnophis eques megalops*), the endangered desert pupfish (*Cyprinodon macularius*), and/or their critical habitat. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (ESA) (e.g., an ESA Section 10 permit, or a Biological Opinion (BO) under ESA Section 7, with "incidental take" provisions with which you must comply). The enclosed U.S. Fish and Wildlife Service (USFWS) BO and Conference Opinion (CO) (Number 22410-2009-F-0389, dated October 30, 2013), and Amended Final Reinitiated BO/CO (Number 22410-2009-F-0389R1, dated April 28, 2016), issued to the U.S. Forest Service (USFS), contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the BO(s). Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with "incidental take" of the attached BO(s), which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the BO(s), where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The USFWS is the appropriate authorities to determine compliance with the terms and conditions of its/their BO(s), and with the ESA.

Rationale: This condition is necessary to ensure compliance with Section 7 of the Endangered Species Act for impacts to threatened and/or endangered species; 50 C.F.R. 402; 33 C.F.R. 320.4(j)(4); 33 C.F.R. 325.2(b)(5); 33 C.F.R. 325.4(a)(1)).

Special Condition 15: Should the revegetation of native woody shrub and tree species as a result of seeding and natural regeneration of the riparian floodplain not

reach the density and frequency performance standards during monitoring years 5-7, the permittee shall plant xeroriparian trees (mostly velvet mesquite [*Prosopis velutina*]) in amounts to meet the performance standards as well as requirements stated in the April 28, 2016, Amended Final Reinitiated BO/CO or any subsequent, superseding BO/CO, within no less than 730 acres of the riparian floodplain. Five-year survival rates of planted trees shall meet the density and frequency of woody tree and shrub species performance standards. Should the planted trees not meet these performance standards, this office may require additional plantings until survival rates meet or exceed these performance standards. This office may extend the monitoring period based on performance standard non-achievement and planted tree survival rates

Rationale: This condition is necessary to ensure compliance with Section 7 of the Endangered Species Act for impacts to threatened and/or endangered species; 50 C.F.R. 402; 33 C.F.R. 320.4(j)(4); 33 C.F.R. 325.2(b)(5); 33 C.F.R. 325.4(a)(1)).

Special Condition 16: You shall implement the enclosed Memorandum of Agreement (MOA), entitled Memorandum of Agreement Among the Coronado National Forest, Arizona State Historic Preservation Officer, Advisory Council on Historic Preservation, U.S. Army Corps of Engineers, And The Rosemont Copper Company, Regarding Resolution of Adverse Effects on Historic Properties from The Rosemont Copper Mine, and signed by these entities, in its entirety. Per the MOA, the USFS shall ensure the treatment measures in the approved Utilities HPTP on Federal and private lands are implemented. The Corps shall ensure the treatment measures in the approved Utilities HPTP on State land within its permit area are implemented. The ASLD retains responsibility for ensuring compliance with the Utilities HPTP for historic properties located on State lands outside the Corps' permit area. If you fail to comply with the implementation and associated enforcement of the MOA, this office may determine that you are out of compliance with the conditions of your permit and suspend the permit. Suspension may result in modification or revocation of the authorized work.

Rationale: This condition is necessary to ensure compliance with Section 106 of the National Historic Preservation Act (54 U.S.C. 300101 et seq.; 33 C.F.R. 320.3(g); 33 C.F.R. 325.2(b)(3); 33 C.F.R. Part 325, Appendix C; 36 C.F.R. 800).

Special Condition 17: Prior to installation of the wildlife-exclusion fence at the Sonoita Creek Compensatory Mitigation Site, you shall install high resolution fencing around the boundary of archaeological site AZ EE:6:128(ASM) to ensure avoidance of impacts to this historic property. This same wildlife-exclusion fence crosses the southern end of the extension to Segment 1 of archaeological site AZ EE:4:43(ASM). At the crossing of AZ EE:4:43(ASM), all fence replacement will be carried out by hand, and no vehicles will be driven across the railroad grade.

Rationale: This condition is necessary to ensure avoidance of adverse effects to historic properties in accordance with consultation conducted under Section 106 of the

National Historic Preservation Act (4 U.S.C. 300101 et seq.; 33 C.F.R. 320.3(g); 33 C.F.R. 325.2(b)(3); 33 C.F.R. 325; Appendix C; 36 C.F.R. 800).

Special Condition 18: You shall comply with all terms and conditions of the enclosed February 3, 2015, Section 401 Water Quality Certification, and November 27, 2017, addendum, issued by the Arizona Department of Environmental Quality, and any future amendments.

Rationale: This condition is necessary to ensure compliance with Section 401 of the Clean Water Act for the permit (33 U.S.C. 1341; 33 C.F.R. 320.3; 33 C.F.R. 320.4(d); 33 C.F.R. 325.2(b)(1); 33 C.F.R. 325.4(a)(1).

Special Condition 19: A minimum of 14 days prior to initiation of construction activities in waters of the U.S. authorized by this permit, you shall notify this office of the anticipated start date for the work and schedule a pre-construction meeting. You shall ensure all employees/contractors involved with work authorized by this permit attend the meeting. The purpose of the meeting is to review all terms and conditions and for this office to answer any questions you or your contractors may have. You shall develop a training program based on the information provided at this meeting and ensure it is given to all employees/contractors involved with work authorized by this permit.

Rationale: This condition is necessary to assist the Corps in scheduling compliance inspections to ensure compliance with the permit and applicable conditions (33 C.F.R. 325.4; 33 C.F.R. 326).

Special Condition 20: You shall allow representatives from this office to inspect the activity authorized by this permit and all compensatory mitigation, preservation, and/or avoidance areas at any time deemed necessary to ensure that work is being or has been accomplished in accordance with the terms and conditions of this permit.

Rationale: This condition is necessary to allow the Corps access to the site for inspections in order to ensure compliance with the DA permit, including all terms & conditions (33 C.F.R. 325.4; 33 C.F.R. 326).

Special Condition 21: You are responsible for all work authorized herein and ensuring that all contractors and workers are made aware and adhere to the terms and conditions of this permit. You shall ensure that a copy of the permit and associated drawings are available for quick reference at the project site until all construction activities in waters of the U.S. authorized by this permit are completed.

Rationale: This condition is necessary to ensure that all workers on site are aware of the terms and conditions of the permit in order to ensure compliance with the permit and applicable conditions (33 C.F.R. 325.4; 33 C.F.R. 326).

Special Condition 22: No later than 10 calendar days following completion of construction activities in waters of the U.S. authorized by this permit, you shall notify this

office in writing that construction activities have been completed. Within 90 days following completion of the discharge of dredged and/or fill material into waters of the U.S. authorized by this permit, or at the expiration of this permit (see General Condition 1), whichever occurs first, you shall submit a final report containing a description of the work conducted on the project site and compensatory mitigation required in Special Conditions 1 and 2, to this office for review. You shall provide annual progress reports to this office, which shall be submitted by December 31 of each year, until all activities authorized by this permit have been completed, or the expiration date of this permit (see General Condition 1), whichever occurs first. The reports shall include the following:

- a. The Department of the Army Permit number.
- b. A plan view drawing of the location of the authorized work footprint (as shown on the permit drawings) with an overlay of the work as constructed in a scale sufficient to show the completed work. The report shall include figures and ground-photographs of completed facilities showing all waters of the U.S. and areas where fill in waters of the U.S. were authorized.
- c. A certification indicating all work as authorized by this permit have been constructed. Any minor deviations from the authorized work shall be described and indicated on the drawings in the report.
- d. Annual reports shall include a table of activities associated with impacts to waters of the United States with information related to impacts planned for the year, impacts completed for the previous year, cumulative impacts since project initiation, and a schedule for planned impacts in subsequent years.

Rationale: This condition is necessary to ensure compliance with the permit and applicable conditions and to ensure that the proposed work and final restoration work has been conducted in accordance with the permit and all applicable conditions. (33 U.S.C. 1344(a); 33 U.S.C. 401 et. seq.; 33 C.F.R. 320.4(r)(1); 33 C.F.R. 325.4(a)(3); 33 C.F.R. 326).

XI. Findings

a. The EIS has been reviewed by Corps staff. It is technically and procedurally adequate, and meets the standards for an EIS. The Corps participated in the development of the EIS as a cooperating agency. The Corps' comments and suggestions have been satisfied and there are no omissions of factors important to the Corps' decision. Therefore, pursuant to 40 C.F.R. 1506.3(c), the Corps adopts the EIS prepared by the lead federal agency, the U.S. Forest Service. The evaluation of the proposed action and alternatives was done in accordance with all applicable laws, executive orders, regulations, and agency regulations. The EIS and supporting documents are adequate and contain sufficient information to make a reasoned permit decision.

b. The selected alternative is Alternative 2, the proposed action, with appropriate and practicable mitigation measures to minimize environmental harm and potential adverse impacts of the discharges on the aquatic ecosystem and the human environment. The no action alternative, because it would result in no impacts, is the environmentally preferable alternative, as identified by the USFS in their June 6, 2017, ROD, although the no action alternative does not meet the overall project purpose. Of the action alternatives, Alternative 2 is the environmentally preferable and least environmentally damaging, practicable alternative.

c. The discharge complies with the Section 404(b)(1) guidelines, and the proposed action is considered the least environmentally damaging practicable alternative, with the inclusion of appropriate and practicable general and special conditions in the permit to minimize pollution or adverse effects to the affected ecosystem.

d. After a careful weighing of the beneficial and detrimental effects closely associated with the proposed action, as described in Section IX, issuance of a DA permit, with the inclusion of special conditions on the permit, as prescribed by regulations published in 33 C.F.R. Parts 320 to 330, and 40 C.F.R. Part 230 is not contrary to the public interest.

e. The compensatory mitigation identified in Section VII of this ROD was determined using the *South Pacific Division Mitigation Ratio Setting Checklist*, as well as additional analysis for the stock tank removals as described in Section VII and is sufficient to ensure no net loss of aquatic resource functions and services for effects to waters of the U.S. associated with the proposed action. The required compensatory mitigation differs from the order of options presented in 33 C.F.R. 332.3(b)(2) – (6) as described in Section VII. Therefore, the required compensatory mitigation is permittee-responsible compensatory mitigation off-site, as described in Section VII, and required as special conditions, as identified in Section X of this ROD.

f. The Corps is aware that granting the permit represents a change from the recommended denial by the Los Angeles District. As detailed in the analysis above, the Corps concludes there are good reasons for this change, including changes in the proposed discharge of fill material into waters of the U.S., the proposed compensatory mitigation and refinement of the scope of analysis.

Attachments:

Attachment A: Corps' Response to Comments

Attachment B: Project Figures

Attachment C: South Pacific Division Mitigation Ratio Setting Checklist

Attachment D: Section 401 Water Quality Certifications

Attachment E: U.S. Fish and Wildlife Service Biological Opinions/Conference Opinions

Attachment F: Section 106 National Historic Preservation Act Memorandum of Agreement

Attachment G: Environmental Assessment for Rosemont Copper Proposed Compensatory Mitigation

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