

CESAJ-RD-W
SAJ-1993-01395 (IP-JPF)

Supplemental Environmental Assessment, Draft Clean Water Act Section 404(b)(1) Guidelines Analysis, and Draft Public Interest Review for Department of the Army (DA) Permit Application SAJ-1993-01395

1) Background:

On May 3, 2013, the U.S. Army Corps of Engineers (Corps), U.S. Environmental Protection Agency (EPA), and Florida Department of Environmental Protection (FDEP) published a notice of availability for the Final Areawide Environmental Impact Statement on Phosphate Mining in the Central Florida Phosphate District (Final EIS). Department of the Army (DA) Permit Application SAJ-1993-01395 is included within the scope of action of the Final EIS. See Final EIS page 1-21 to 1-31. The Final EIS is available at: <https://cdxnodengn.epa.gov/cdx-enepa-II/public/action/eis/details?eisId=87814>.

On July 12, 2013, the Corps, EPA, and FDEP published an Addendum to the Final EIS. The Final EIS Addendum is available at: <https://cdxnodengn.epa.gov/cdx-enepa-II/public/action/eis/details?eisId=87864>.

The Final EIS states, "A draft of the Section 404(b)(1) and public interest review analyses for each project will be made available for public review and comment." See e.g., Final EIS page 5-2. Therefore, the Corps is exercising its discretion pursuant to the Clean Water Act (CWA) (33 U.S.C. § 1344(a)), the National Environmental Policy Act (NEPA) (40 C.F.R. § 1506.6), and its public interest review (33 C.F.R. § 320.4), to provide additional opportunity for public review and comment on the draft CWA Section 404(b)(1) Guidelines analysis and public interest review for DA Permit Application SAJ-1993-01395. Furthermore, pursuant to 40 C.F.R. §§ 1501.3(b) and 1502.9(c)(2), the Corps is also exercising its discretion to prepare an environmental assessment (EA) on DA Permit Application SAJ-1993-01395 in order to assist with the permit decision and further the purposes of NEPA. This draft analysis does not include any of the final determinations required by the CWA Section 404(b)(1) Guidelines or the public interest review as the Corps cannot make such determinations until the conclusion of the permit application review process. Comments made in response to this notice will be considered in making those final determinations. The conclusions of the CWA Section 404(b)(1) analysis and public interest review will be published in the record of decision and statement of findings (RODSOF) for DA Permit Application SAJ-1993-01395. The Corps plans to adopt the Final EIS and this EA in the RODSOF.

2) Application:

- a) Applicant: Mosaic Fertilizer, LLC
13830 Circa Crossing Drive
Lithia, FL 33547

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The applicant listed in the June 1, 2012, public notice for this project was CF Industries, Inc. On March 17, 2014, Mosaic Fertilizer, LLC, acquired CF Industries' Florida phosphate operations, including the proposed South Pasture Extension project.

- b) Location: The project is located partially in wetlands associated with Brushy Creek, Lettis Creek and Troublesome Creek, which are intermittent streams within the Peace River watershed. Specifically, the project is located along C.R. 663 (Ona Fort Green Road) in Sections 1, 2, 3, 10, 11, and 12, Township 34S, Range 23 East and Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10, Township 34 South, Range 24 East in Hardee County, Florida.
- c) Proposed Work: The applicant requests a 20 year construction window to mine phosphate ore located on approximately 7513 acres of property in Hardee County, Florida. The applicant proposes mining operations to extract the phosphate ore reserves on the proposed South Pasture Mine Extension for approximately 14 years. This project would provide phosphate ore to extend the life of the currently operating and adjacent South Pasture Mine and beneficiation plant. Upon completion of mining operations, the applicant proposes to reclaim all land disturbed by mining operations and establish some areas as wetlands mitigation as described below in Section 8 of this EA.

The applicant proposes approximately 1218.5 acres of impacts to waters of the United States (WOUS), including 1198.17 acres of wetland impacts, 3.75 acres of stream impacts, and 16.58 acres of impact to other surface waters such as cattle ponds and upland-cut ditches. The June 1, 2012, public notice for this project described a total of 1226 acres of wetland impacts, however the applicant has since minimized wetland impacts by 27.83 acres.

The applicant also proposes to impact 32,161 linear feet of ditched and unditched intermittent or ephemeral streams, which is a reduction of 1180 linear feet of stream impacts from the impacts described in the June 2012 public notice.

The jurisdictional impacts include 0.9 acre of temporary impacts to WOUS for a single, necessary consolidated dragline and infrastructure corridor crossing of Brushy Creek. Construction of this crossing would result in a total of approximately 0.7 acre of temporary impacts to forested wetlands, 0.1 acre of temporary impacts to herbaceous wetlands, and 0.1 acre of temporary impacts to

intermittent streams. This impact has not changed from the description in the June 2012 public notice.

3) Authority: Section 404 of the Clean Water Act of 1972 (33 U.S.C. § 1344)

- a) Jurisdictional Determination Information: The Corps issued an approved jurisdictional determination for the project on October 18, 2012.

4) Draft Clean Water Act Section 404(b)(1) Alternatives Analysis

- a) Basic and Overall Project Purpose and Need:

Basic: To extract phosphate ore.

Overall: To extract phosphate ore from the mineral reserves located in the Central Florida Phosphate District (CFPD) and to construct the associated infrastructure required to extract and process the phosphate ore at separation/beneficiation facilities recognizing that the ore extracted must be within a practicable distance to a new or existing beneficiation plant.

The change in applicant from CF Industries to Mosaic did not change the basic or overall purposes for this project.

Public Need: Section 1.2.1 of the Final EIS describes the public's general need.

Applicant's Need: Section 1.2.2 of the Final EIS describes the applicant's general need. In addition, the applicant provided the following statements about the specific need at an overall operational level and at a project specific level:

Overall Need: Mosaic currently operates the Four Corners, South Fort Meade, South Pasture, and Wingate Creek Mines in the CFPD to meet its phosphate rock needs (AEIS page 2-6). The AEIS estimate that Mosaic produce 17.1 million short tons of phosphate rock per year (MMTPY) at its four CFPD mines as follows: Four Corners – 6.1 MMTPY; Hookers Prairie – 1.9 MMTPY; South Fort Meade – 4.3 MMTPY; South Pasture – 3.5 MMTPY; and Wingate Creek – 1.3 MMTPY (AEIS Table 1-3). The Final EIS acknowledges that these estimated production rates are calculated based on mining at 85% of capacity, and that actual production rates may fluctuate from year to year.

All of Mosaic's existing CFPD mines will complete extraction of currently

permitted ore reserves between 2020 and 2025. In order to continue to obtain an uninterrupted phosphate rock supply to meet projected demands, Mosaic plans to extend mining onto the SPE property from the South Pasture Mine (mining activities are currently projected to begin in 2016), extend mining onto the Wingate East property from the Wingate Creek Mine, develop the Ona Mine to replace the Four Corners Mine, and develop the DeSoto Mine to replace the Hookers Prairie and South Fort Meade Mines. This mining development sequence is based upon business factors such as logistics, production needs, and projected rock supply. The USACE's AEIS evaluated all four of Mosaic's proposed mines and mine extensions and reasonably foreseeable extensions of the Ona Mine onto the Pioneer and West Pioneer Tracts and the DeSoto Mine onto the Pine Level-Keys Tract.

Project Specific Need: The South Pasture Extension parcel, which is located adjacent to the existing South Pasture Mine, will extend the life of the South Pasture Mine and beneficiation plant, thereby maintaining uninterrupted a long-term supply of phosphate rock to meet the fertilizer demand of the Applicant's customers. Without extending mining operations into the South Pasture Extension, the permitted reserves at the South Pasture Mine are projected to be depleted by 2025. This is a mine extension project; the applicant is seeking to extend the life of the South Pasture Plant through at least 2035 rather than construct a new beneficiation plant.

The applicant is proposing to optimize blending of South Pasture and South Pasture Extension rock, integrate materials backfill on the two sites, and optimize reserve recovery. In order to continue to produce the phosphate rock currently being supplied by the South Pasture Mine to meet demand uninterrupted, the applicant needs to expand mining operations into the South Pasture Extension as soon as possible to optimize rock blending opportunities and rock recovery between the two parcels. Therefore, mining activities on the South Pasture Extension are scheduled to begin in 2016 and continue for approximately 20 years, to 2035 to allow for rock extraction and beneficiation to be integrated and to optimize rock blending, materials backfill, and reserve recovery at both sites. With this in mind, the applicant needs a minimum life for a mine extension of at least ten years of mining on the South Pasture Extension, which, when integrated with mining on the South Pasture Mine (with mining occurring on both sites at times simultaneously and at times sequentially, as needed to optimize rock blending, reserve recovery, and materials backfill), would supplement and ultimately allow operation of the South Pasture Plant until at least 2035. Timely

development of the South Pasture Extension to continue the operation of the South Pasture Plant is necessary for the applicant to continue supplying its customers in the United States and over 40 countries with phosphate fertilizers and feed supplements for another 20 years.

The South Pasture Extension is adjacent to and, at its furthest corners, 5.3 miles from the South Pasture Mine beneficiation plant, which allows continued use of the existing South Pasture Plant, clay settling areas (CSAs), and other infrastructure while mining at South Pasture Extension, thereby offering not only cost and logistics benefits but also environmental benefits (e.g., avoiding unnecessary or lengthy movements of large equipment across the landscape, minimizing the overall CSA footprint by utilizing existing storage capacity on the South Pasture Mine, and more efficiently using water). The applicant's overall mining and operations plans will integrate both the South Pasture and South Pasture Extension Life of Mine Backfill Plan, including integrated disposal, storage, and use of generated clay and sand tailings for reclamation. The very close proximity of the South Pasture Extension property to South Pasture Mine and beneficiation facilities allows for the planned optimization of mine activities and facilitates uninterrupted production at the South Pasture Plant.

As stated in 33 CFR Part 325, Appendix B, when defining the purpose and need for a project “while generally focusing on the applicant's statement, the USACE will in all cases, exercise independent judgment in defining the purpose and need for the project from both from the applicant's and the public's perspective.” Therefore, the Corps independently reviewed and verified the information in the applicant's statements of need.

Section 1.2.1 of the Final EIS includes the information about yearly overall production rates and the plan of mine succession. The Corps determined that this information is valid, and will use it in its alternatives analysis.

To independently review and verify the applicant's statement about the project-specific production needed for the South Pasture Extension project (3.5 MMTPY for ten years), the Corps evaluated data from the publicly available 2012 and 2013 10-K Reports, as developed pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934, for the South Pasture Mine, as operated by the owner at that time, CF Industries, and the 2014 10-K Report for South Pasture Mine as operated by the applicant.

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The applicant states the 3.5 MMTPY is the full capacity of the South Pasture beneficiation plant. However, the 2012 10-K Report indicates that for 2010, the South Pasture Mine's production was 3.34 million short tons (MMT), in 2011, it was 3.5 MMT, and in 2012, it was 3.48 MMT. The 2013 10-K Report states that in 2013, the production was 3.57 MMT. The 2014 10-K Report indicates that the production from South Pasture for approximately nine months was 2.6 MMT. This extrapolates out to approximately 3.25 MMT. The average yearly production for the South Pasture Mine from 2010 to 2014 is 3.43 MMT. A project alternative would need 34.3 MMT of mineable reserves to meet this production for a ten-year period. However, the applicant states that their Preferred Alternative, as described in Section 4(e)(iii) of this EA, which would recover a total of approximately 33.7 MMT of phosphate rock, would meet their project-specific need.

The Corps will consider a need for 3.37 MMTPY for ten years, or a total of 33.7 MMT of phosphate recovered, in its alternatives analysis for this project. As described above this is the most conservative value for the project-specific need.

- b) Water Dependency Determination: Because the project's basic purpose, extracting phosphate ore, does not require siting within a water of the U.S., the proposed discharge is not water dependent.
- c) Offsite/Avoidance Alternatives Screening Process and Criteria: Section 2.2.4.1 and Appendix B of the Final EIS describe the screening process for offsite, or avoidance, alternatives used for the Final EIS. The Corps' project-specific evaluation of offsite alternatives under Clean Water Act Section 404(b)(1) began with the list of parcels identified in the Final EIS: Pioneer Tract, Desoto, Pine Level/Keys Tract, Site A-2, Site W-2, Ona, and Wingate East.

40 CFR 230.10(b)(2) states "An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." As described in Section 3.1.5 of the Final EIS, the Corps has previously determined that ten miles is the practicable pumping distance to move material to and from a phosphate beneficiation plant. Therefore, the first step in the Corps' project-specific screening process considered whether an alternative (or any part of an alternative) lay within a ten-mile radius of the applicant's South Pasture Mine beneficiation plant. Three alternatives met this criterion - Ona (22,457 acres), Pioneer Tract (9496 acres), and Wingate East (1519 acres). The acreage figures are the area of each parcel

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located within the 10-mile practicable pumping distance. Because the other four parcels identified in the Final EIS (Desoto, Pine Level/Keys Tract, Site A-2, and Site W-2) are outside of the ten-mile radius and therefore are not practicable alternatives, the Corps eliminated them from further consideration.

As stated in 40 CFR 230.1(a), “No discharge will be permitted if there is a practicable alternative which would have less adverse impact on the aquatic ecosystem provided the alternative does not have other significant adverse environmental consequences.” Therefore, for the next step in the project-specific alternatives analysis the Corps independently reviewed and verified both the practicability of and the environmental impacts for each alternative. The Corps evaluated five alternatives for this step - the No Action Alternative, the Applicant’s Preferred Site Alternative (South Pasture Extension), and the three offsite alternatives (Ona, Pioneer Tract, and Wingate East).

The specific practicability criteria applied by the Corps included the estimated total length of pipelines needed to carry material between an offsite alternative and the South Pasture beneficiation plant, and the number of stream crossings needed for pipelines, dragline crossings, and other mine infrastructure that the applicant would need to construct between an offsite alternative and the South Pasture beneficiation plant.

The pipeline information is based on the distance between each offsite alternative and the beneficiation plant, and on the number of draglines needed to maintain a maximum of 3.5 MMTPY production. The Wingate East alternative assumes only one dragline, due to the size of the alternative. Each dragline requires one matrix pipeline to the beneficiation plant and one sand tailings line back to the current reclamation site.

Also, for the Applicant’s Preferred Site Alternative, Ona, and Wingate East, the applicant used specific information about the mine plan to provide this data. Because there is no mine plan for the Pioneer Tract, the applicant provided estimates for the pipeline information. The stream crossing information also relies on the mine plans for the Applicant’s Preferred Site Alternative, Ona, and Wingate East, and on an estimated plan for the Pioneer Tract.

The clay settling area data uses the acreage of an alternative and an estimated volume of phosphate, and associated clay, that an alternative would produce. The data on production is based on each site’s total mineable reserves, to eliminate

any discrepancies in the comparison of the three alternatives with mine plans (and their associated onsite avoidance and minimization of wetland impacts), and the one alternative without a mine plan.

The Corps also considered the project-specific need and the overall need, as described in Section 4(a) of this EA. The Corps used estimated production values for South Pasture Extension, Ona, and Wingate East based on those alternative's mine plans. For Pioneer, the Corps assumed 16% preservation.

For the environmental criteria, the Corps used wetland acreage based on National Wetland Inventory data (NWI wetlands) and Southwest Florida Water Management District data (SWFWMD wetlands). The Corps chose these criteria to ensure a consistent approach and because the data is publicly available.

Figure 2-8 in Chapter 2 of the Final EIS shows the locations of all of the alternatives considered in the Final EIS, including the offsite alternatives evaluated in Section 4(d) of this EA. Appendix C of the Final EIS has aerial photographs of the alternatives.

d) Avoidance Alternatives

i. No Action Alternative: Section 4.1.9 of the Final EIS describes the two No Action Alternatives – No Mining and Upland Only Mining. This section of the EA will address the No Action – No Mining alternative. Section 4(e)(i) below describes the Corps' evaluation of the No Action– Upland Only Mining alternative as a minimization alternative.

Under the No Action – No Mining alternative, existing permitted mining on the South Pasture Mine would continue to completion, however, the applicant would not mine the South Pasture Extension at all. There is no construction of any mine infrastructure, including pipelines, crossings, or clay settling areas, within the South Pasture Extension parcel. This alternative does not produce any phosphate rock at all.

The South Pasture Extension parcel contains 1472.5 acres of NWI wetlands and 2663.5 acres of SWFWMD wetlands. Because there is no new mining, there are no mining-related impacts to these wetlands.

This alternative does not satisfy the overall project purpose, and therefore it is not

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a practicable alternative. The No Action Alternative also does not meet the overall need nor the project-specific need. The No Action Alternative – No Mining alternative is the least environmentally damaging alternative of all the avoidance alternatives, including the Applicant's Preferred Alternative.

ii. Applicant's Preferred Alternative: This is the 7513-acre South Pasture Extension parcel described in Section 2 of this EA. The entire 7513 acres is within ten miles of the South Pasture beneficiation plant. This alternative requires approximately 30.5 miles of pipelines and one stream crossing. The applicant states that this alternative has sufficient space for the necessary clay settling areas. Mining the South Parcel Extension parcel would produce 33.7 MMT of phosphate.

The South Pasture Extension parcel contains 1472.5 acres of NWI wetlands and 2663.5 acres of SWFWMD wetlands.

This alternative meets the overall project purpose and the applicant's need on both the overall and the project-specific levels.

iii. Ona: This alternative considers mining 18,752 acres of the 22,457 acres of the overall Ona parcel that lie within the ten-mile practicable pumping distance of the South Pasture beneficiation plant. This alternative requires approximately 55.5 miles of pipelines and 3 stream crossings. Mining the 18,752 acres would produce 150 MMT of phosphate.

The Ona alternative contains 3896.9 acres of NWI wetlands and 6143.7 acres of SWFWMD wetlands.

The Ona alternative meets the overall project purpose and the project-specific need. However, as explained in Section 4(a) of this EA, the applicant's overall mine plan has the phosphate production from the Ona Mine replacing the production from the Four Corners Mine after that mine's reserves run out. Therefore, this alternative does not meet the applicant's overall need. Also, this alternative would require 25 more miles of pipeline and two more crossings than the Applicant's Preferred Alternative. Considering the potential wetland impact acreage, the Ona alternative is more environmentally damaging than the Applicant's Preferred Alternative.

iv. Wingate East: This alternative considers mining 1364 acres of the 1519 acres of the Wingate East parcel that are within the 10-mile practicable pumping limit.

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This alternative requires approximately 37.2 miles of pipelines and two stream crossings. Mining this alternative would produce 10.9 MMT of phosphate.

The Wingate East alternative contains 466.7 acres of NWI wetlands and 346.8 acres of SWFWMD wetlands.

The Wingate East alternative meets the overall project purpose. However, it does not meet the project-specific need. In addition, as explained in Section 4(a) of this EA, the applicant's overall mine plan has the phosphate production from the Wingate East Mine replacing the production from the Wingate Mine after that mine's reserves run out. Therefore, this alternative does not meet the applicant's overall need. Also, this alternative would require 6.7 more miles of pipeline and one more crossing than the Applicant's Preferred Alternative. Considering the potential wetland impact acreage, the Wingate East alternative is less environmentally damaging than the Applicant's Preferred Alternative.

v. Pioneer Tract: Consideration of this alternative assumes mining 7977 of the 9496 acres of Pioneer Tract that are within the ten-mile practicable pumping limit. There is no current application to mine this parcel, and no mine plan. Therefore, as stated in Section 4(c) of this EA, the analysis of this alternative relies on an estimated mine plan. This alternative requires approximately 61.5 miles of pipelines and three stream crossings. Mining this alternative would produce 63.8 MMT of phosphate.

The Pioneer Tract alternative contains 2097.6 acres of NWI wetlands and 3818.3 acres of SWFWMD wetlands.

The Pioneer Tract alternative meets/does not meet the overall project purpose and the project-specific need. In addition, although the applicant did not specifically include Pioneer Tract in the overall mine plan as described in Section 4(a), the applicant has indicated that the Pioneer Tract will also replace a mine in the future. Therefore, this alternative does not meet the applicant's overall need. Also, this alternative would require 31 more miles of pipeline and two more crossings than the Applicant's Preferred Alternative. Considering the potential wetland impact acreage, the Pioneer Tract alternative is more environmentally damaging than the Applicant's Preferred Alternative.

- e) Minimization Alternatives: As with the consideration of offsite/avoidance alternatives described in Section 4(c) of this EA, the Corps considered both

practicability and environmental criteria in its evaluation of the onsite/minimization alternatives.

The practicability evaluation criteria for these alternatives included existing technology, and logistics in light of the overall project purpose, and availability of an alternative. The Corps' evaluation considered specific information about each alternative including the ditch and berm system, corridor crossings, pipelines, and clay settling areas.

The Corps also considered the independently reviewed and verified project-specific need described in Section 4(a) of this EA.

The environmental criteria included each alternative's expected level of impact to WOUS (based on the October 18, 2012, approved jurisdictional determination) and agreement with the mitigation framework described in Section 5.4 of the Final EIS. As stated in Section 5.4.1 of the Final EIS, the mitigation framework applies after consideration of the applicable presumptions for proposed discharges of fill into special aquatic sites under the Section 404(b)(1) Guidelines, and does not modify any law or regulation or the jurisdictional authority of USACE or any other agency.

As further described in Section 5.4.3 of the Final EIS, there are four steps in the mitigation framework. Step 1 is the identification of priority-based avoidance areas (reference Final EIS Section 5.4.3.1). Such resources include perennial and intermittent streams, forested wetlands, and high quality herbaceous wetlands (defined as having an overall UMAM score of 0.7 or higher).

Section 5.4.3.1 of the Final EIS also describes how the Corps can apply other factors in Step 1 of the mitigation framework, such as giving greater priority to areas where multiple criteria apply, higher-quality forested wetlands and streams, and other environmental criteria such as a wetland's or stream's location, surrounding land use, prior disturbance, connectivity, hydrology, plant species composition, and usage by wildlife or listed species.

The final part of Step 1 describes how the Corps can consider other criteria to support its evaluations, such as Critical Lands and Waters Identification Project (CLIP) priority, the Integrated Habitat Network, and 100-year floodplains.

Step 2 of the mitigation framework, as described in Section 5.4.3.2 of the Final EIS, is to determine the extent of onsite avoidance that is practicable under the

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Section 404(b)(1) Guidelines. Sections 4(e)(i)-(vii) below provide the Corps' evaluation of the seven alternatives for mine plans for the South Pasture Extension.

Step 3 of the mitigation framework, as described in Section 5.4.3.3 of the Final EIS, evaluates opportunities to minimize impacts through best management practices and mine plan design. Section 4(f) of this EA describes how the Corps considered Step 3 in its evaluation. Sections 5 ("Evaluation of the CWA Section 404(b)(1) Guidelines") and 6 ("Public Interest Review") of this EA also describe many of these minimization measures.

Section 8(c) of this EA, "Compensatory Mitigation for Unavoidable Impacts to Aquatic Resources" addresses Step 4 of the mitigation framework (reference Final EIS Section 5.4.3.4).

The Corps' evaluations of the seven onsite/minimization alternatives for the South Pasture Extension are as follows:

i. No Action – Uplands Only mine plan: This alternative involves mining only non-Corps-jurisdictional areas, including uplands and aquatic resources not considered to be WOUS, with no impacts to any WOUS, including from dragline and infrastructure crossings. Under this plan, the applicant could recover 7% of the total commercially mineable phosphate reserves, or 2.9 MMT, from 350.2 acres of mined area. The applicant would not need to construct any wetland or stream crossings with this plan, and has stated that it is possible that existing clay settling areas (for example, on South Pasture) could handle this alternative's output. This alternative requires an approximately 86,936-linear foot (16.5-mile) ditch and berm system and ten miles of pipelines. The applicant did not indicate that this alternative specifically conflicted with any local or state permitting requirements.

This mine plan avoids 100% of the onsite WOUS overall, and 100% of the wetlands and 100% of the streams prioritized by the mitigation framework.

The No Action – Uplands Only alternative meets the overall project purpose, however it does not meet the project-specific need. The Corps assumes that this alternative is available, because there are no conflicts with other agencies' requirements.

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Because there are no impacts to resources prioritized by the mitigation framework, this alternative agrees with Steps 1 and 2 of the mitigation framework. With no wetland or stream impacts, and agreement with of Steps 1 and 2 of the mitigation framework, this is the least environmentally damaging alternative compared to the other onsite alternatives, including the Applicant's Preferred Alternative.

Figure 1 shows this alternative.

ii. Upland mining with Crossings of WOUS: In this plan, the applicant would only mine upland/non-Corps-jurisdictional areas, however the applicant would impact wetlands and streams for dragline and infrastructure crossings. This plan allows the applicant to recover 27% of the total commercially mineable phosphate reserves, or 10.7 MMT, with 1290 acres of mining. Unlike the No Action Alternative, this alternative generates more clay waste than existing clay settling areas can accommodate, however there would be insufficient space available on the South Pasture Extension property to create new clay settling areas. This mine plan involves 19 crossings of WOUS, 30 miles of pipelines, and 305,149 linear feet (57.8 miles) for the ditch and berm system.

This mine plan impacts 5.5 acres of the onsite WOUS overall (avoiding approximately 99.7%), 2.7 acres of mitigation framework priority wetlands (avoiding approximately 99.8%) and no streams prioritized by the mitigation framework (100% avoidance).

The Upland Mining with Crossings alternative meets the overall project purpose, however it does not meet the project-specific need. The inability to store the waste clay produced would conflict with state and local requirements for disposal of such material, so the Corps does not consider this alternative to be available.

Because there are impacts to only 0.2% of the resources prioritized by the mitigation framework, this alternative agrees with Steps 1 and 2 of the mitigation framework. With less impact to WOUS overall and to framework wetlands and streams, and agreement with the mitigation framework, this alternative is less environmentally damaging than the Applicant's Preferred Alternative.

Figure 2 shows this alternative.

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iii. The Applicant's Preferred Alternative: This is the project as described in Section 2(c) of this EA. This alternative allows the applicant to recover 86% of the total commercially mineable phosphate reserves, or 33.7 MMT, with 4132.6 acres of mining. The state and county have approved this mine plan. This plan involves one crossing of WOUS, 30.5 miles of pipelines, and 160,781 linear feet (30.5 miles) for the ditch and berm system around avoided areas. This alternative has sufficient area for the necessary clay settling areas.

This mine plan impacts 1218.5 acres of the onsite WOUS overall (avoiding approximately 29.1%), 597.7 acres of mitigation framework priority wetlands (avoiding approximately 39.5% in total, including 41.6% of forested wetlands and 28.9% of high-quality herbaceous wetlands) and 2084 linear feet of streams prioritized by the mitigation framework (94.6% avoidance). The avoided area includes the riparian corridors of all natural intact intermittent streams onsite (there are no perennial streams onsite). In addition, this alternative integrates five of the six high quality wetland areas, along with other avoided areas of wetlands, streams, and upland buffers, into a contiguous landscape. Doing so addresses the environmental criteria in the mitigation framework such as a wetland or stream's location, surrounding land use, prior disturbance, connectivity, hydrology, plant species composition, and usage by wildlife or listed species. For priority avoidance overlap areas, this mine plan avoids 73.2% of intermittent streams in lower-quality forested wetlands, 99.3% of intermittent streams in high-quality forested wetlands, and 85.7% of intermittent streams in high-quality herbaceous wetlands.

The Applicant's Preferred Alternative meets the overall project purpose and the project-specific need. The Corps considers this alternative to be practicable and available.

Due to the contiguous avoided area, which contains natural streams, floodplains, high-quality forested and herbaceous wetlands, and upland buffers, this mine plan agrees with Steps 1 and 2 of the mitigation framework.

Figure 3 shows this alternative.

iv. The Original Mine Plan - Maximum Recovery/Minimal Avoidance: This alternative avoids only the main stem of Brushy Creek, and mines all other areas other than required property setbacks. Under this plan, the applicant would recover 94% of the total commercially mineable phosphate reserves, or 36.7 MMT,

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with 4527 acres of mining. The state rejected this mine plan during its review of the proposed project. This plan involves no crossings of WOUS, 29 miles of pipeline, and 112,836 linear feet (21.4 miles) of ditch and berm. This alternative has sufficient area for the necessary clay settling areas.

Environmentally, this mine plan impacts 1546.6 acres of the onsite waters of the United States overall (1% avoidance), 816 acres of mitigation framework priority wetlands (avoiding approximately 17.5%, including 19.1% of forested wetlands and 9.2% of high-quality herbaceous wetlands) and 23,046 linear feet of streams prioritized by the mitigation framework (40.2% avoidance). The alternative only avoids the southern/lower part of the main stem of Brushy Creek, including the highest quality forested wetlands, and an area of uplands and wetlands to the east of the creek. This alternative does not address other environmental criteria for avoidance such as a wetland or stream's location, surrounding land use, prior disturbance, connectivity, hydrology, plant species composition, and usage by wildlife or listed species. For priority avoidance overlap areas, this mine plan avoids 0% of intermittent streams in lower-quality forested wetlands, 46.8% of intermittent streams in high-quality forested wetlands, and 0% of intermittent streams in high-quality herbaceous wetlands.

The Original Mine Plan - Maximum Recovery/Minimal Avoidance alternative meets the overall project purpose and the project-specific need, and is considered practicable. Based on the state's rejection of this mine plan, it is not considered to be available.

This mine plan has more overall impacts to WOUS, impacts to framework wetlands, and impacts to framework streams, than the Applicant's Preferred Alternative. Also, because this mine plan avoids such a low level of the priority framework resources, including overlap areas, and does not address other environmental avoidance criteria, it does not agree with Steps 1 and 2 of the mitigation framework. This alternative is more environmentally damaging than the Applicant's Preferred Alternative.

Figure 4 shows this alternative.

v. UMAM-Based Avoidance: For this alternative, the applicant would avoid all high quality wetlands (UMAM score of 0.7 and above) and streams regardless of location, surrounding land use, connectivity, and other Final EIS mitigation framework criteria (as described in Section 5.4.3.1 of the Final EIS). Under this

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plan, the applicant could recover 88% of the total commercially mineable phosphate reserves, or 34.6 MMT, with 4292.9 acres of mining. The applicant states that the clay settling area configuration required under this mine plan would not comply with state and local requirements. This plan involves two crossings of WOUS, 34 miles of pipelines, and 200,822 linear feet (38 miles) of ditch and berm. This alternative has sufficient area for the necessary clay settling areas.

Environmentally, this mine plan impacts 1288.8 acres of the onsite waters of the United States overall (25% avoidance), 567.9 acres of mitigation framework priority wetlands (avoiding approximately 42.6%, including 44.7% of forested wetlands and 32% of high-quality herbaceous wetlands) and 5979 linear feet of streams prioritized by the mitigation framework (84.4% avoidance). The avoided area includes the riparian corridors of Brushy and Lettis Creeks and all of the high quality wetland areas, along with a 100-foot upland buffer. Some of the avoided wetlands would be contiguous with the avoided stream corridors, however several would be separated due to mining. For priority avoidance overlap areas, this mine plan avoids 0% of intermittent streams in lower-quality forested wetlands, 99.5% of intermittent streams in high-quality forested wetlands, and 85.7% of intermittent streams in high-quality herbaceous wetlands.

The UMAM-Based Avoidance alternative meets the overall project purpose and the project-specific need. If the state or county would not approve this plan, it would not be considered available.

This alternative impacts 70.3 less acres of wetlands overall, 29.8 less acres of framework wetlands, and 3895 more linear feet of framework streams than the Applicant's Preferred Alternative. Because this mine plan has no avoidance of areas where intermittent streams are within lower-quality forested wetlands, and no consideration of other environmental criteria such as a wetland or stream's location, surrounding land use, prior disturbance, connectivity, hydrology, plant species composition, and usage by wildlife or listed species, the Corps determined that this alternative does not agree with the mitigation framework. Therefore, although the measures of impact are comparable to the Applicant's Preferred Alternative, the UMAM-Based Avoidance alternative is more environmentally damaging than the Applicant's Preferred Alternative.

Figure 5 shows this alternative.

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vi. Applicant's Preferred Plus Additional Avoidance: This mine plan adds the avoidance of WOUS in Sections 5 and 6, Township 34 South, Range 24 East, and the avoidance of a section of Troublesome Creek. This alternative considers additional mitigation framework-based avoidance (forested wetlands, high-quality herbaceous wetlands, and perennial and intermittent streams) without conflicting with the applicant's planned siting of clay settling areas.

Under this plan, the applicant could recover 82% of the total commercially mineable phosphate reserves, or 32.2 MMT, with 3916.4 acres of mining. Although the additional avoided areas are in close proximity to an area proposed for future development by the county, the applicant did not indicate that this alternative specifically conflicted with any local or state permitting requirements, therefore the Corps assumes that this alternative would be available. This plan involves two crossings of WOUS, 27 miles of pipelines, and 185,775 linear feet (35.1 miles) of ditch and berm. This alternative has sufficient area for the necessary clay settling areas.

This mine plan impacts 1038 acres of the onsite WOUS overall (avoiding approximately 40%), 456.4 acres of mitigation framework priority wetlands (avoiding approximately 53.8%, including 55.1% of forested wetlands and 47.8% of high-quality herbaceous wetlands) and no streams prioritized by the mitigation framework (100% avoidance). The avoided area includes the riparian corridors of all natural intact intermittent streams onsite (there are no perennial streams onsite). In addition, this alternative integrates five of the six high quality wetland areas, along with other avoided areas of wetlands, streams, and upland buffers, into a contiguous landscape. Doing so addresses the environmental criteria in the mitigation framework such as a wetland or stream's location, surrounding land use, prior disturbance, connectivity, hydrology, plant species composition, and usage by wildlife or listed species. This alternative does create one separated avoidance area in the eastern half of the project area, along the southern part of the Troublesome Creek system. For priority avoidance overlap areas, this mine plan avoids 94.1% of intermittent streams in lower-quality forested wetlands, 100% of intermittent streams in high-quality forested wetlands, and 100% of intermittent streams in high-quality herbaceous wetlands.

The Applicant's Preferred Plus Additional Avoidance alternative meets the overall project purpose, however it does not meet the project-specific need. The Corps assumes that this alternative is available.

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This alternative impacts 180.5 less acres of wetlands overall, 141.3 less acres of framework wetlands, and 2084 less linear feet of framework streams than the Applicant's Preferred Alternative. With the exception of the Troublesome Creek section, the contiguous avoided area contains natural streams, floodplains, high-quality forested and herbaceous wetlands, and upland buffers, therefore this mine plan agrees with Steps 1 and 2 of the mitigation framework. Overall, the Applicant's Preferred Plus Additional Avoidance alternative is less environmentally damaging than the Applicant's Preferred Alternative.

Figure 6 shows this alternative.

vii. Maximum Framework Avoidance – For this alternative, the applicant would avoid all wetlands and streams identified as “priority” under the mitigation framework, with modifications to provide CSA capacity.

This plan allows the applicant to recover 66% of the total commercially mineable phosphate reserves, or 25.8 MMT, with 3123.6 acres of mining. There is insufficient room for clay settling areas with this alternative, even allowing for some impacts to priority areas for construction. The applicant has indicated that state and local regulations may not allow the use of other clay settling areas to accommodate this mine plan, therefore this plan is not available. This plan involves ten crossings of WOUS, 32 miles of pipelines, and 311,773 linear feet (59 miles of ditch and berm).

This mine plan impacts 481.2 acres of the onsite WOUS overall (avoiding approximately 72%), 173.3 acres of mitigation framework priority wetlands (avoiding approximately 82.5%, including 80.1% of forested wetlands and 94.1% of high-quality herbaceous wetlands) and 53 linear feet of streams prioritized by the mitigation framework (99.9% avoidance). The avoided area includes the riparian corridors of Brushy and Lettis Creeks and all of the high quality wetland areas. Most of the avoided wetlands and streams are contiguous, however they lack a supporting surrounding landscape of uplands and lower-quality wetlands. In addition, some of the avoided areas would be separated by mining. For priority avoidance overlap areas, this mine plan avoids 0% of intermittent streams in lower-quality forested wetlands, 99.5% of intermittent streams in high-quality forested wetlands, and 85.7% of intermittent streams in high-quality herbaceous wetlands.

This alternative meets the overall project purpose, however it does not meet the project-specific need. Without sufficient space for clay settling areas, this alternative is not available due to state and local requirements.

This alternative impacts 737.3 less acres of wetlands overall, 423.9 less acres of framework wetlands, and 2031 less linear feet of framework streams than the Applicant's Preferred Alternative. With some exceptions, the avoided areas are contiguous and contain natural streams, floodplains, high-quality forested and herbaceous wetlands. However, as proposed the avoided areas lack a supporting surrounding landscape of uplands and lower-quality wetlands. Therefore, this mine plan does not agree with Steps 1 and 2 of the mitigation framework. Because of the degree of impact reduction overall and within the framework resource categories, the Corps has determined that the Maximum Framework Avoidance alternative is less environmentally damaging than the Applicant's Preferred Alternative.

Figure 7 shows this alternative.

- f) Additional Minimization Measures – As stated in Section 5.4.3.3 of the Final EIS, “Impact minimization considerations may address both physical and temporal impacts as well as direct, indirect, and cumulative impacts. Potential minimization measures include, but are not limited to, reducing the widths of infrastructure corridors; using existing CSAs and constructing contiguous CSAs so that they have a common wall; minimizing CSA footprints through design and operation methods; using existing stream crossings created for agricultural operations; sequentially reusing disturbed areas; using upland buffers; using recharge ditch systems; and maintaining habitat interconnectivity and existing wildlife corridors.”

The measures described below are part of the mine plan for the Applicant's Preferred Alternative for South Pasture Extension, as described in Sections 4(d)(ii) and 4(e)(iii) of this EA. As stated in Section 5.4.2 of the Final EIS, the Corps will detail the specific avoidance and minimization measures and approaches determined to be appropriate in the final Record of Decision/Statement of Findings for each project.

- i. Corridor widths: The single crossing proposed for the Applicant's Preferred Alternative is approximately 300 feet wide between the upstream and downstream headwalls, including 100 feet of perimeter berms and slopes and 200 feet to accommodate a dragline walk path, a 25kva power line, and pipelines

to transport collected stormwater, mine process water, and] slurries of ore matrix and sand tailings. The dragline walk path will require approximately 100 feet, plus 20 feet on each side for mobile equipment to assist and support the dragline crossing, for a total of 140 feet, leaving 60 feet for the pipe lines and power line. The width of the crossing has been minimized to the extent technically feasible and to the extent mine safety is not compromised.

ii. CSAs: Implementation of the Applicant's Preferred Alternative allows the applicant to minimize CSA impacts through several means including utilization of existing CSA capacity within CF's adjacent SP Mine and stage filling; proper design of the overall mine backfill plan to advantageously site CSAs in areas with greater overall mining depths, thereby maximizing unit storage capacity in terms of disposal capacity per acre of land; strategic location of CSAs contiguous to each other so that common walls may be utilized and thereby reduce the overall footprint; and proper consideration of site hydrology effects in developing the mine backfill plan such that changes in runoff or recharge are not disproportionally assigned to any one subwatershed associated with the project.

iii. Using existing crossings: The Applicant's Preferred Alternative proposes one crossing for infrastructure, at the narrowest point along Brushy Creek and at a location where historic uses of the property crossed Brushy Creek with agricultural equipment. The existing agriculture crossing is approximately 150 feet wide and void of trees, such that the applicant's proposed use represents a widening of an existing disturbed crossing rather than clearing of an undisturbed riparian corridor.

iv. Buffers: Ninety percent of the wetland acreage within the avoided area has an upland buffer of greater than 100 feet. The width of this buffer is greatest where the native habitat is most prevalent and the wetlands are of a higher quality. A mine's ditch and berm system also buffers the adjacent area from the mining activity. As described in Section 5.4.3.3 of the Final EIS, "The berm of the ditch and berm system is set back approximately 135 feet to 150 feet from the edge of a stream or wetland; the ditch is between the berm and the mining/reclamation area."

In addition to a physical buffer, the applicant proposes to have a "temporal buffer" for avoided streams. Temporal buffers are manipulations of mine/reclamation sequencing that will prevent concurrent disturbance along both sides of avoided streams.

v. Recharge ditches: The ditch and berm systems protect the adjacent WOUS and the surficial aquifer by maintaining water table elevations at sufficient levels to hydrate nearby wetlands or streams while the adjacent mine cuts are temporarily dewatered. The recharge ditch delivers water to the nearby wetland via the surficial aquifer. This delivery mechanism mimics an important natural pathway and provides high quality water. The ditch and berm system also constitutes an effective and recognized BMP to protect downstream waters from water quality impacts and is a requirement of FDEP's ERP permit for the project.

vi. Maintaining connectivity: Although mine sequencing is subject to change for various operational reasons, the applicant has committed to maintain a 1,000 foot minimum natural or reclaimed buffer (along at least one bank) of each preserved stream within the avoided areas. The land within the 1,000 feet described above may be unmined land or recontoured mine lands, but will not be open mine cuts. This will act as a buffer/corridor for wildlife movement. The FDEP ERP for the project includes a condition requiring this buffer.

5) Draft Evaluation of the CWA Section 404(b)(1) Guidelines

a) Factual determinations (40 C.F.R. § 230.11).

- a. Physical Substrate (40 C.F.R. § 230.11(a)): As described in Section 4.10 of the Final EIS, phosphate mining leads to a moderate to major degree of effect on surficial geology and soils, including soils and substrate present in wetlands and waterbodies. However, the reclamation required by the state, and the mitigation required by the state and the Corps, will offset the adverse direct impacts of mining. In addition, the best management practices described throughout the Final EIS, including the perimeter ditch and berm system that separates the active mine from adjacent wetlands and surface waters, should protect those aquatic resources from indirect effects to substrate.
- b. Water circulation, fluctuation, and salinity (40 C.F.R. § 230.11(b)): Section 4.2.5 of the Final EIS describes the predicted effects of the South Pasture Extension project on surface water flows within the Peace River, Horse Creek, and Payne Creek. The Final EIS states that the project will have minor to no effect on the Peace River or Payne Creek, and a potentially moderate effect on Horse Creek. The Final EIS also states that measures such as monitoring and the use of recharge ditches to maintain flow in Horse Creek would reduce that moderate

level of effect.

Section 4.4.6 of the Final EIS describes the predicted effects of South Pasture Extension on surface water quality. As stated there, South Pasture Extension will have a minor to moderate degree of effect. Discharges from the mine will need to comply with both a Section 401 water quality certification (FDEP Environmental Resource Permit) and a Section 402 NPDES permit (also issued by FDEP).

- c. Suspended particulate/turbidity (40 C.F.R. § 230.11(c)): Section 4.4.6 of the Final EIS describes the predicted effects of South Pasture Extension on surface water quality. As stated there, South Pasture Extension will have a minor to moderate degree of effect. Discharges from the mine will need to comply with both a Section 401 water quality certification (FDEP Environmental Resource Permit) and a Section 402 NPDES permit (also issued by FDEP).
- d. Contaminant Availability (40 C.F.R. § 230.11(d)): Section 4.4.6 of the Final EIS describes the predicted effects of South Pasture Extension on surface water quality. As stated there, South Pasture Extension will have a minor to moderate degree of effect. Discharges from the mine will need to comply with both a Section 401 water quality certification (FDEP Environmental Resource Permit) and a Section 402 NPDES permit (also issued by FDEP).
- e. Aquatic Ecosystem Effects (40 C.F.R. § 230.11(e)): Section 4.5.1.5 of the Final EIS describes the predicted effects of South Pasture Extension on aquatic biological communities. As stated in that section, the applicant must provide compensation for lost function, which reduces the predicted level of impact to moderate, at the greatest. Similarly, Section 4.5.2.5 described the predicted effects on wetlands, and states that with mitigation, South Pasture Extension would have no impact to a minor impact on wetlands.

Chapter 5 of the Final EIS further describes mitigation, including the Corps' requirements, the sequence of avoidance, minimization, and compensation, and the mitigation framework developed for the evaluation of the four main phosphate mining projects. Section 8 of this document further describes the specific proposed compensatory mitigation for the South Pasture Extension project.

- f. Proposed Disposal Site (40 C.F.R. § 230.11(f)): The best management

- practices described throughout the Final EIS, including the perimeter ditch and berm system that separates the active mine from adjacent wetlands and surface waters, will confine the discharged materials within the mine boundaries.
- g. Cumulative Effects (40 C.F.R. § 230.11(g)): Section 4.12 of the Final EIS describes the predicted cumulative effects of the four proposed phosphate mines, including South Pasture Extension, plus two reasonably foreseeable future mines, plus other past, present, and reasonably foreseeable future actions, both mining-related and non-mining related, on five resource categories: surface water resources, groundwater resources, surface water quality, ecological resources (including aquatic resources and upland habitat), and economic resources.
 - h. Secondary Effects (40 C.F.R. § 230.11(h)): As stated in Section 4.1 of the Final EIS, the evaluations of impacts described in the Final EIS included both direct and indirect, or secondary, impacts. Therefore, Chapter 4 of the Final EIS describes the secondary effects of the South Pasture Extension project.
 - b) Potential Impacts on Physical and Chemical Characteristics of the Aquatic Ecosystem (40 C.F.R. Part 230, Subpart C): Chapter 4 of the Final EIS describes the South Pasture Extension's potential impacts on substrate, suspended particulates/turbidity, water, current patterns and water circulation, normal water fluctuations, and salinity gradients.
 - c) Potential Impacts on Biological Characteristics of the Aquatic Ecosystem (40 C.F.R. Part 230, Subpart D): Chapter 4 of the Final EIS describes the South Pasture Extension's potential impacts on threatened or endangered species, fish, crustaceans, mollusks, and other aquatic organisms, and other wildlife. As described in Section 7(h) of this EA, by letter dated June 9, 2014, the United States Fish and Wildlife Service (USFWS) provided a biological opinion (BO) for the proposed project. As also described in Section 7(h) of this EA, the result of a November 6, 2013, discussion of the project with the National Marines Fisheries Service Protected Resource Division (NMFS-PRD) was a determination by the Corps that the proposed mines would have no effect on the smalltooth sawfish. On December 16, 2015, the NMFS Habitat Conservation Division (NMFS-HCD) stated that they anticipated any adverse effects associated with the proposed project that might occur on marine and anadromous fishery resources would be minimal and, therefore, they did not object to issuance of a permit.

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- d) Potential Impacts on Special Aquatic Sites (40 C.F.R. Part 230, Subpart E): Chapter 4 of the Final EIS describes the South Pasture Extension project's potential impacts on sanctuaries and refuges, wetlands, mud flats, vegetated shallows, and riffle and pool complexes. Chapter 5 of the Final EIS further describes mitigation, including the Corps' requirements, the sequence of avoidance, minimization, and compensation, and the mitigation framework developed for the evaluation of the four main phosphate mining projects. Section 8 of this document further describes the specific proposed compensatory mitigation for the South Pasture Extension project. There are no coral reefs potentially impacted by the proposed South Pasture Extension project.
 - e) Potential Impacts on Human Use Characteristics (40 C.F.R. Part 230, Subpart F): Chapter 4 of the Final EIS describes the South Pasture Extension project's potential impacts on municipal and private water supplies, recreational and commercial fisheries, water-related recreation, and aesthetics.
 - f) Contaminant Evaluation and Testing (40 C.F.R. Part 230, Subpart G): Section 4.4 and Appendix D of the Final EIS describe the surface water quality monitoring, including aquatic biological monitoring, associated with existing phosphate mines, and reasonably expected to be required for proposed mines, including the South Pasture Extension.
- 6) Draft Public Interest Review (33 C.F.R. § 320.4): The Corps considers both cumulative and secondary impacts on these public interest factors within the geographic scope as defined in Chapter 4 of the Final EIS. The Corps has used information as provided in the Final EIS to the maximum extent, as appropriate. Additional information evaluated by the Corps for any of the specific public interest review factors is described below in the section for the specific factor.
- a) Wetlands (33 C.F.R. § 320.4(b); Corps' Wetland Policy): Section 4.5.2 of the Final EIS describes how the Corps considered direct and secondary impacts to wetlands in the Final EIS. Section 4.5.2.5 of the Final EIS describes the specific evaluation of wetland impacts associated with the South Pasture Extension project conducted for the Final EIS. Section 4.12.5 of the Final EIS describes the cumulative effects on ecological resources, including wetlands. Section 2(c) of this EA describes the currently proposed project, including the level of impacts to Corps-jurisdictional wetlands and surface waters (including streams). Section 8 of this EA describes the compensatory mitigation plan proposed to offset the project's wetland and

surface water impacts.

- b) Fish and wildlife (33 C.F.R. § 320.4(c)): Section 4.5.1 of the Final EIS describes how the Corps considered direct and secondary impacts to aquatic biological communities in the Final EIS. Section 4.5.1.5 of the Final EIS describes the specific evaluation of aquatic biological community impacts associated with the South Pasture Extension project conducted for the Final EIS. Section 4.5.3 of the Final EIS describes how the Corps considered direct and secondary impacts to wildlife habitat in the Final EIS. Section 4.5.3.5 of the Final EIS describes the specific evaluation of wildlife habitat impacts associated with the South Pasture Extension project conducted for the Final EIS. Section 4.12.5 of the Final EIS describes the cumulative effects on ecological resources. As described in Section 7(h) of this EA, by letter dated June 9, 2014, the USFWS provided a BO for the proposed project. As also described in Section 7(h) of this EA, the result of a November 6, 2013, discussion of the project with the NMFS-PRD was a determination by the Corps that the proposed mines would have no effect on the smalltooth sawfish. On December 16, 2015, the NMFS-HCD stated that they anticipated any adverse effects associated with the proposed project that might occur on marine and anadromous fishery resources would be minimal and, therefore, they did not object to issuance of a permit.
- c) Water quality (33 C.F.R. § 320.4(d)): Section 4.4 of the Final EIS describes how the Corps considered direct and secondary impacts to water quality in the Final EIS. Section 4.4.2 of the Final EIS describes the specific evaluation of water quality impacts associated with all of the action alternatives conducted for the Final EIS. Section 4.12.4 of the Final EIS describes the cumulative effects on surface water quality. The FDEP issued a water quality certification on June 22, 2012, as part of their Environmental Resource Permit (ERP). If the Corps issues a permit for this project, it will include a general condition requiring compliance with the conditions specified in the certification as special conditions to that permit.
- d) Historic, cultural, scenic, and recreational values (33 C.F.R. § 320.4(e)): Section 4.9 of the Final EIS describes how the Corps considered direct and secondary impacts to cultural resources and historic properties in the Final EIS. Section 4.9.5 of the Final EIS describes the specific evaluation of cultural resource and historic property impacts associated with the South Pasture Extension project conducted for the Final EIS. Section 4.1.8.5 of the Final AEIS describes how the Corps considered aesthetic impacts associated with phosphate mining, and Section 4.1.8.7 describes how the Corps considered effects on recreation. Section 7(f) of

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this EA describes how the project complies with the National Historic Preservation Act of 1966.

- e) Effects on limits of the territorial sea (33 C.F.R. § 320.4(f): The South Pasture Extension project will not affect coastal waters, either by erosion or accretion.
- f) Consideration of property ownership (33 C.F.R. § 320.4(g): The applicant owns the property that is the subject of this permit application. The project will not affect navigation nor riparian rights to navigable waters.
- g) Activities affecting coastal zones (33 C.F.R. § 320.4(h): The South Pasture Extension project will not affect coastal zones.
- h) Activities in marine sanctuaries (33 C.F.R. § 320.4(i)): The South Pasture Extension project is not within a marine sanctuary.
- i) Other Federal, state, or local requirements (33 C.F.R. § 320.4(j)): Section 7 of this EA describes the project's compliance with other federal, state, and local requirements.
- j) Safety of impoundment structures (33 C.F.R. § 320.4(k)): The construction and operation of the clay settling areas will comply with federal, state and local requirements. Specifically, the FDEP's NPDES permit requires compliance with Rule 62-672, F.A.C., "Minimum Requirements for Earthen Dams Used in Phosphate Mining and Beneficiation Operations and for Dikes Used in Phosphogypsum Stack System Impoundments." Also, the Hardee County Development Order requires additional inspection, reporting, and emergency management elements that apply to the dams proposed for the South Pasture Extension,
- k) Floodplain management (33 C.F.R. § 320.4(l)): Section 4.1.8.4 of the Final AEIS describes how the Corps considered floodplain impacts associated with phosphate mining. As stated in that section, FDEP regulations state that no net encroachment into the floodplain, up to that encompassed by the 100-year event, can be allowed unless equivalent compensating storage is provided between the seasonal high water level and the 100-year flood level. FDEP issued an ERP for the project on June 22, 2012. Additionally, the Corps' evaluation of wetland impacts described in Section 6(a) of this EA includes consideration of floodplains.

- l) Water supply and conservation (33 C.F.R. § 320.4(m)): Section 4.2.5 of the Final EIS describes the predicted effects of the South Pasture Extension project on surface water flows within the Peace River, Horse Creek, and Payne Creek. The Final EIS states that the project will have minor to no effect on the Peace River or Payne Creek, and a potentially moderate effect on Horse Creek. The Final EIS also states that measures such as monitoring and the use of recharge ditches to maintain flow in Horse Creek would reduce that moderate level of effect.

Section 4.12.2.5 of the Final EIS describes the cumulative effects of phosphate mining on water supply withdrawals in the lower Peace River, and Section 4.12.2.6 describes the magnitude and significance. As stated in those two sections, the cumulative effect of mining on water supply withdrawals has at most a minor level of effect.

Section 4.4.6 of the Final EIS describes the predicted effects of South Pasture Extension on surface water quality. As stated there, South Pasture Extension will have a minor to moderate degree of effect. Discharges from the mine will need to comply with both a Section 401 water quality certification (FDEP Environmental Resource Permit) and a Section 402 NPDES permit (also issued by FDEP).

Section 4.3.5 of the Final EIS describes the predicted effects of South Pasture Extension on groundwater resources. As stated there, South Pasture Extension will have a minor degree of effect on any aquifers.

Section 4.12.3.12 of the Final EIS describes the cumulative effect of phosphate mining on groundwater resources, and Section 4.12.3.13 describes mitigation, monitoring, and adaptive management measures to protect groundwater resources. As stated in those two sections, the cumulative effect of phosphate mining on groundwater resources would be at most be minor.

- m) Energy conservation and development (33 C.F.R. § 320.4(n)): The Corps does not consider the proposed action, a phosphate mine, to be an energy project. In addition, the project will not significantly increase demands on energy production over and above the current levels at the South Pasture Mine.
- n) Navigation (33 C.F.R. § 320.4(o)): The proposed project will not have any effects on navigation.
- o) Environmental benefits (33 C.F.R. § 320.4(p)): The proposed project will cause the

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short-term disruption of the existing altered ecosystem; however, successful implementation of the proposed reclamation plan and compensatory mitigation plans will result in long term benefits through the reclamation of native habitat and mitigation of aquatic resources. The proposed compensatory mitigation plan provides for the reestablishment, management, and preservation of wetland habitats.

- p) Economics (33 C.F.R. § 320.4(q)): Section 4.6.5 of the Final EIS describes the predicted effects of the South Pasture Extension project on the economy of Hardee County.
- q) Mitigation (33 C.F.R. § 320.4(r)): Chapter 5 of the Final EIS further describes mitigation, including the Corps' requirements, the sequence of avoidance, minimization, and compensation, and the mitigation framework developed for the evaluation of the four pending phosphate mine applications. Section 8 of this document further describes the specific proposed compensatory mitigation for the South Pasture Extension project.
- r) Conservation: Decades of agricultural activity have resulted in a degraded condition for many of the onsite wetlands. As described in Section 4 of this EA, and in accordance with the mitigation framework described in Section 5.4 of the Final EIS, the applicant has preferentially avoided forested wetlands, higher-quality herbaceous wetlands, and stream systems in their mine plan. As described in Section 8 of this EA, the applicant also proposes to preserve and manage these avoided areas as part of the compensatory mitigation plan.
- s) Shore erosion and accretion: The proposed action will not affect shore erosion or accretion.
- t) Safety: Industry OSHA requirements will be in place during all construction activities. Section 4.8 of the Final EIS addresses the potential effects of radiation associated with phosphate mining.
- u) Food and fiber production: The recovered phosphate ore will be processed into fertilizer and animal feed supplements. This is a direct benefit to food and fiber production.

7) Other Federal, State, and Local Requirements:

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- a) Section 401 of the Clean Water Act: The FDEP issued a water quality certification on June 22, 2012, as part of their ERP.
- b) Section 307(c) of the Coastal Zone Management Act: The FDEP issued a coastal zone management consistency determination on June 22, 2012, as part of their ERP.
- c) Section 302 of the Marine Protection, Research and Sanctuaries Act: This proposed project is not located in a marine sanctuary as established by the Secretary of Commerce under authority of Section 302 of the Marine Protection, Research and Sanctuaries Act of 1972.
- d) Fish and Wildlife Act of 1956, Migratory Marine Game-Fish Act, Fish and Wildlife Coordination Act, and other acts protecting fish and wildlife resources: Chapter 4 of the Final EIS describes the South Pasture Extension's potential impacts on threatened or endangered species, fish, crustaceans, mollusks, and other aquatic organisms, and other wildlife. As described in Section 7(h) of this EA, by letter dated June 9, 2014, the United States Fish and Wildlife Service (USFWS) provided a biological opinion (BO) for the proposed project.
- e) National Historic Preservation Act of 1966: Section 6.3 of the Final EIS describes how the actions considered in that document, including this proposed action, will comply with the National Historic Preservation Act of 1966. The SHPO, by letter dated June 20, 2012, stated their review of the Florida Master Site File indicates that no historical properties are recorded within the project area. Furthermore, because of the location and/or nature of the project, the SHPO determined that it is unlikely that historic properties will be affected. If the Corps issues a permit for this project, it will include a special condition requiring protection of previously unidentified archaeological/cultural materials and notification of appropriate authorities including the SHPO and THPO.

In addition, the Seminole Tribe of Florida's Tribal Historic Preservation Officer (STOF-THPO), by letter dated June 25, 2012, stated that they had no objection to the proposed project provided the applicant avoided the Turkey Feeder Site (8HR702). The applicant avoided that site, and it is within the boundaries of a preservation area. In addition, if the Corps issues a permit for this project, it will include a special condition requiring protection of previously unidentified archaeological/cultural materials, including human remains, and notification of appropriate authorities including the SHPO and THPO.

- f) Endangered Species Act: By letter dated June 9, 2014, the USFWS provided a BO for the proposed project. In that BO, the USFWS concurred with the Corps' determinations of 'may affect, not likely to adversely affect' for the Florida panther, Florida scrub jay, and Florida grasshopper sparrow. The USFWS also concurred with the Corps' determinations of 'may affect' for the Audubon's crested caracara, eastern indigo snake, and wood stork, and provided reasonable and prudent measures to minimize incidental take of the caracara, indigo snake, and wood stork. If the Corps issues a permit for this project, it will include a special condition requiring compliance with the BO, and have the BO as a permit attachment.

On November 6, 2013, the Corps and NMFS-PRD held a meeting to discuss the effects of phosphate mining, including this project, on the smalltooth sawfish and the sawfish critical habitat unit in Charlotte Harbor. In regards to surface water quality effects, as described in Sections 4.4.6 and 4.12.4 of the Final EIS, and Sections 5 and 6 of this EA, individually and cumulatively the expected level of potential impact is low enough that there will be no effect downstream on the sawfish or its critical habitat. In regards to surface water quantity effects, as described in Sections 4.2.5 and 4.12.2 of the Final EIS, and Sections 5 and 6 of this EA, individually and cumulatively the expected level of potential impact is low enough that there will also be no effect downstream on the sawfish or its critical habitat. Therefore, the Corps determined that the proposed project would have no effect on the smalltooth sawfish.

- g) Marine Mammal Protection Act of 1972: The proposed project does not affect any marine mammals.
- h) Section 7(a) of the Wild and Scenic Rivers Act: Section 6.10 of the Final EIS describes how the actions considered in that document, including this proposed action, will comply with Section 7(a) of the Wild and Scenic Rivers Act.

In addition, Section 4.2.5 of the Final EIS describes the predicted effects of the South Pasture Extension project on surface water flows within the Peace River. The Final EIS states that the project will have minor to no effect on the Peace River. Section 4.12.2 of the Final EIS describes the predicted cumulative effects on the Peace River, and Section 4.12.2.6 describes the magnitude and significance of those cumulative effects. As stated in the Final EIS, the cumulative effects are minor to no effect, and not significant.

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- i) Section 402 of the Clean Water Act: The state of Florida issued an NPDES permit for the South Pasture mine on April 23, 2015. Prior to operation of the South Pasture Extension, including discharge from outfalls, the applicant will need to request and receive a modification of that NPDES permit.
 - j) Magnuson-Stevens Fishery Conservation and Management Act: On December 16, 2015, the NMFS Habitat Conservation Division (NMFS-HCD) stated that they anticipated any adverse effects associated with the proposed project that might occur on marine and anadromous fishery resources would be minimal and, therefore, they did not object to issuance of a permit.
 - k) Migratory Bird Treaty Act: Section 6.12 of the Final EIS describes how the actions considered in that document, including this proposed action, will comply with the Migratory Bird Treaty Act.
- 8) Compensation and other mitigation actions.
- a) Description of impacts: The applicant proposes approximately 1218.5 acres of impacts to Corps-jurisdictional wetlands and surface waters, including 1198.17 acres of wetland impacts, 3.75 acres of stream impacts, and 16.58 acres of impact to other surface waters such as cattle ponds and upland-cut ditches. Proposed impacts to streams as a linear measurement total 32,161 linear feet. The jurisdictional impacts include 0.9 acre of temporary impacts to wetlands and surface waters of the U.S. for a single, necessary consolidated dragline and infrastructure corridor crossing of Brushy Creek. Construction of this crossing would result in a total of approximately 0.7 acre of temporary impacts to forested wetlands, 0.1 acre of temporary impacts to herbaceous wetlands, and 0.1 acre of temporary impacts to intermittent streams.
- The applicant provided a functional analysis using UMAM indicating that the project as proposed will result in 209.1 units of functional loss due to the forested wetland impacts, and 325.1 units of functional loss due to the herbaceous wetland impacts. The applicant also provided a functional analysis using the FDEP stream habitat assessment methodology indicating that the project will result in 338.95 units of functional loss due to the stream impacts. The Corps has not finalized its review of these functional assessments.
- b) Mitigative Actions (33 C.F.R. §320.4(r) and 40 C.F.R. Part 230, Subpart F): Chapter 4 of the Final EIS describes actions proposed by the applicant to avoid, minimize,

and offset adverse impacts to the human and natural environment associated with phosphate mining in addition to the avoidance, minimization, and compensation of impacts to aquatic resources. For example, Section 4.1.8.1 describes the best management practice of watering down roads within the mine to reduce fugitive dust and protect air quality. Section 4.1.8.5 describes how the berms around the mine function as a visual barrier to protect aesthetics, in addition to being part of the overall water management system. Chapter 5 of the Final EIS provides information about compensatory mitigation for impacts to aquatic resources and mitigation alternatives for phosphate mining within the Central Florida Phosphate District, with consideration of the mitigation proposed at that time for the four pending phosphate mine applications (South Pasture Extension, Ona, Wingate East, and Desoto).

Sections 4(e) and 4(f) of this EA describe the applicant's proposed alternatives for avoidance and minimization of impacts to aquatic resources associated with the South Pasture Extension project. Section 8(c) of this EA describes the applicant's current plan for compensatory mitigation of impacts to aquatic resources for South Pasture Extension.

- c) Compensatory Mitigation for Unavoidable Impacts to Aquatic Resources (33 C.F.R. § 332): As stated in Section 5.1.2 of the Final EIS, on March 31, 2008, the Environmental Protection Agency and the Corps issued revised regulations governing compensatory mitigation for authorized impacts to wetlands, streams, and other waters of the U.S. to advance the federal objective of "no net loss" of wetlands. These regulations, 33 CFR Parts 325 and 332 and 40 CFR Part 230 (the 2008 Compensatory Mitigation Rule), are designed to improve the effectiveness of compensatory mitigation to offset the loss of aquatic resource area and function, and to increase the efficiency and predictability of the mitigation project review process.

Section 5.5 of the Final EIS provides additional information on compensatory mitigation options as described in the 2008 Compensatory Mitigation Rule. As of June 3, 2016, there are two federally-approved mitigation banks whose service areas cover the proposed project – Boran Ranch Mitigation Bank and Peace River Mitigation Bank. Boran Ranch has 123.21 freshwater herbaceous credits available, and Peace River has 52.21 freshwater forested credits available. Neither bank has specific stream credits available. Based on the current functional assessment of the project's impacts as described in Section 8(a) of this EA, the available mitigation banks do not have sufficient numbers of credits available to

compensate for the proposed wetland impacts, and have no credits available to compensate for the proposed stream impacts. There are no in-lieu fee projects whose service areas cover the proposed project.

Therefore, the applicant proposes to implement a program of onsite, in-kind, permittee-responsible mitigation to offset unavoidable impacts to aquatic resources associated with the construction and operation of the South Pasture Extension phosphate mine. The applicant states that this permittee-responsible mitigation is the most appropriate and practicable mitigation alternative based on consideration of project-specific circumstances, such as the availability of mitigation banks or in-lieu fee programs, and the watershed approach. In regard to the watershed approach, the applicant states that the proposed mitigation plan addresses watershed needs identified in the Charlotte Harbor National Estuary Program Comprehensive Conservation and Management Plan (CCMP). The CCMP constitutes a watershed plan pursuant to 33 C.F.R. § 332.3(c).

In accordance with 33 C.F.R. § 332.4(c), the applicant has provided a draft mitigation plan which includes the following 12 components:

- i. Objectives: The applicant's proposed mitigation plan includes the following:
 - a. preservation of 396 acres of wetlands (325.8 acres forested and 70.2 acres herbaceous), 51,297 linear feet of streams, and 699 acres of adjacent upland buffers before commencement of mining,
 - b. enhancement of 123.5 acres of wetlands (20.6 acres forested and 102.9 acres herbaceous) before commencement of mining, and preservation of the enhancement areas after they have achieved the required success criteria,
 - c. reestablishment of 1211.2 acres of wetlands (501.5 acres forested and 709.7 acres herbaceous) on a rolling basis across the site, as reclamation follows behind mining, and preservation of the reestablished areas after they have achieved the required success criteria,
 - d. enhancement and reestablishment of 48,042 linear feet of streams on a rolling basis across the site, as reclamation follows behind mining, and preservation of the enhanced and reestablished streams after they have achieved the required success criteria
- ii. Site Selection: As stated above, neither of the two available mitigation banks has sufficient numbers of credits available to compensate for the proposed wetland impacts, or any stream credits at all, therefore the applicant proposed onsite mitigation as the most appropriate and practicable mitigation alternative.

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The proposed preservation areas include the area avoided as described in Section 4(e)(iii) of this EA. The proposed enhancement areas are also within the avoided area. The applicant based the locations of the reestablished wetlands and streams on extensive monitoring, data collection, analyses and modeling. Results of the modeling indicate that the proposed mitigation takes into account watershed needs and will result in ecologically self-sustaining mitigation.

iii. Site Protection Instrument: Perpetual conservation easements granted to the FDEP will provide require long-term protection of the mitigation areas. The conservation easements will grant third party rights of notice and enforcement to the Corps. The Corps will review the site protection instrument by the District for compliance with 33 CFR Section 332.7(a).

iv. Baseline Information: As described in the June 1, 2012, public notice for the South Pasture Extension project, the 7,512.8-acre project site consists predominantly of agricultural land, with 1,769.2 acres of jurisdictional waters of the United States including: 786.4 acres of forested wetland, 930.1 acres of herbaceous wetland, 31.1 acres of intermittent stream, and 21.5 acres of other surface waters (ditches and cattle ponds). The site also contains 242.3 acres of non-jurisdictional aquatic resources including: 25.8 acres of forested wetland, 186.0 acres of herbaceous wetland, 0.3 acres of intermittent stream, and 30.2 acres of other surface waters (ditches and cattle ponds). The existing land use surrounding the project site consists of A-1 zoning designation, which is agricultural land.

The applicant has collected ecological baseline data for the site since 2004 including wetland delineations, wetland quality assessments using UMAM, detailed vegetation and land use mapping, and wildlife and listed species surveys. A hydrologic assessment was also completed as a part of the MIKE SHE / MIKE-11 integrated groundwater / surface water modeling analysis. Data collected for water modeling analysis included stream and drainage area characteristics, topography, precipitation rates, measurements of evapotranspiration, and hydrogeology. The Corps considered this baseline information both in its evaluation of the proposed impacts associated with the South Pasture Extension project and its evaluation of the proposed compensatory mitigation.

v. Determination of Credits: The applicant provided a functional assessment using UMAM indicating that the proposed mitigation provides 209.4 units of functional

gain for forested wetlands and 326.3 units of functional gain for herbaceous wetlands, and a functional assessment using the FDEP stream habitat assessment methodology showing 346.99 units of functional gain for streams. The Corps has not finalized its review of these functional assessments.

vi. Mitigation Work Plan: The enhancement described in Section 8(c)(i) of this EA includes the placement of a ditch block at the southern end of a 103-acre wetland, and removal of an impoundment the western end of a 1.2-acre wetland, to restore natural hydrology and drainage.

For the wetland reestablishment mitigation, after mining and reclamation, the applicant proposes to create forested and herbaceous wetlands on sand tailings, and then grade and cap the wetlands with suitable wetland topsoil/muck, if available, or other suitable organic matter with specific depths and structure to be determined by habitat type. To create microhabitat and habitat heterogeneity within the wetlands, the applicant will grade the created systems to provide a range of habitat types and distinct zonations, from seasonal to permanent inundation. In addition, the applicant will install habitat enhancements including snags to encourage wildlife usage, and stumps, logs, and shrubs to provide hummocks in the created wetlands where appropriate. The applicant will directly transfer of small shrubs and trees from the future mining areas into the reestablished wetlands to the extent practicable. Where direct transfer or natural recruitment of vegetation is not sufficient, the applicant will plant vegetation that is consistent with the species diversity and density of the targeted wetland community type.

The stream reestablishment and enhancement incorporates in-stream channel design and improvements, as well as a comprehensive overview of all lotic site conditions, which include headwater wetlands and in-line wetlands and the surrounding habitat zones of flanking wetlands and terrestrial communities within and along the riparian valley. To accomplish these goals, forested corridors and native upland riparian zones will typically replace those that were historically cleared for agriculture on the SPE. The reclaimed valleys will form an unditched drainage network with a flow regime that is not artificially flashy like the existing ditched systems. The Stream Restoration Plan pays significant attention to landscape scale associations important to overall stream function by matching drainage area to valley geomorphology, width of the meander belt, and functional process zone (FPZ) types and sequences. The design covers a full hierarchy of scales, restoring a series of habitat patches and zones progressing from in-stream meso-habitats, such as individual logs and pools a few feet long, to the geomorphic

and hydraulic linkages of entire lentic, paralotic, and lotic waterbodies and their associated ecotones encompassing many acres. These landscape linkages are based largely on the historic conditions of the property, prior to land clearing and ditching, which will provide a better overall lotic system versus that existing immediately prior to mining. The successful implementation of the stream restoration plan will result in the restoration of historic native, pre-agricultural conditions, wherever practical.

vii. Maintenance Plan: The applicant will implement a mitigation maintenance plan to ensure the constructed mitigation sites progress towards success as defined by the permit performance standards and in accordance with the mitigation work plan. Plan elements include inspections, nuisance/exotic species control/removal, and supplemental tree and herbaceous plantings.

viii. Performance Standards: If issued, the Corps permit for South Pasture Extension will include required performance standards, or success criteria, for hydrology, water quality, vegetative cover, and other criteria. Appendix I of the Final EIS provides examples of ecological performance standards applicable to phosphate mining.

ix. Monitoring Requirements: The applicant will implement a monitoring program to gather the data necessary for the Corps to evaluate the status of the mitigation. Data collected will include but not be limited to coverage of desirable plant species and of nuisance/exotic plant species, dominance of plant species, hydrology, and tree health/viability and density.

The applicant will summarize the mitigation wetland monitoring data into a report that will include the above information as well as observed wildlife usage, an overall ecological evaluation, and any actions that may be required to improve the system. To the extent practicable, reports will be tabular in form for ease of review and year-to-year comparisons. The applicant will submit reports prior to the end of the second month following the month in which the monitoring event took place (e.g., monitoring event in September, report submitted no later than 30 November).

Subsequent to completion of the compensatory mitigation objectives, the applicant will perform monitor herbaceous and shrub wetland mitigation areas semi-annually for the first three years and annually thereafter for a total of no less than five years of monitoring, and monitor forested wetland mitigation areas semi-annually for the first 5 years and annually thereafter for a total of no less than 10 years of

monitoring.

x. Long-Term Management Plan: After the Corps' determination that a mitigation area has achieved the necessary performance standards, the applicant will maintain that mitigation areas in perpetuity in accordance with mitigation objectives and an approved Long-term Management Plan. The long-term management plan will include a description of long-term management needs and the annual cost estimates for these active long-term management needs, an identified funding mechanism for the long-term management, a requirement for an Ecological Baseline Report, provisions for management of proposed secondary uses of the mitigation areas such as cattle grazing, hunting, and passive recreation, and annual reporting to document the ecological conditions within the post-release mitigation areas, the status of secondary activities conducted within the mitigation areas, and maintenance activities expenses. A surety bond and standby trust, reviewed and approved by the Corps, will provide the long term funding mechanism for the long term management needs of the mitigation areas.

xi. Adaptive Management Plan: If monitoring identifies habitat deficiencies such as low plant survivorship or exotic/nuisance vegetation, or if the Corps determines that any mitigation area is not meeting its goals, the applicant will develop and implement a site-specific adaptive management/corrective action plan that addresses specific construction, maintenance, and/or enhancement measures to be implemented to achieve the design objectives. Items to be considered in the corrective actions may include adjusting wetland hydrology, supplemental plantings, or changes to the maintenance plan to address nuisance species negatively affecting the mitigation. Any such adaptive management plan will be submitted to the Corps for approval prior to implementation.

xii. Financial Assurances: Financial assurances for permittee-responsible mitigation are a mechanism that ensures that a sufficient amount of money will be available for use to complete or replace a mitigation provider's obligations to implement a required mitigation project and meet specified ecological performance standards in the event that the mitigation provider proves unable or unwilling to meet those obligations.

For the South Pasture Extension project, the applicant proposes to provide a financial responsibility mechanism equal to 110 percent (%) of the estimated mitigation costs for WOUS affected in the first three years of operation, including monitoring and maintenance. Further, the applicant will update the financial

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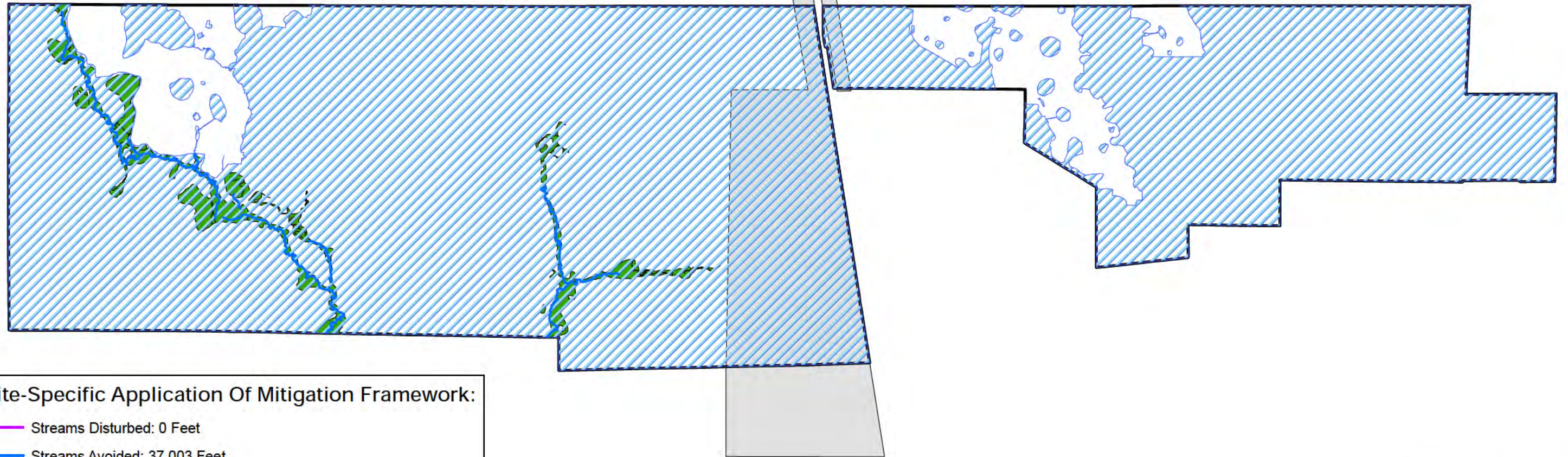
responsibility yearly to cover, on a rolling basis, the cost of mitigation activities proposed to be undertaken over the next three year period, with a 10% contingency factor for any adaptive management that might be required. The applicant will update the mechanism with revised costs until release. The Corps permit, if issued, will include a special condition requiring the financial assurances to be in place prior to commencement of the authorized activities.

The Corps has not yet completed its review of the applicant's compensatory mitigation plan. Prior to permit issuance, the Corps will ensure that the applicant's compensatory mitigation plan fully complies with the requirements of the 2008 Compensatory Mitigation Rule.

Figure 1 - No Action – Uplands Only

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By: mseibel Date: 5/19/2014



Site-Specific Application Of Mitigation Framework:

- Streams Disturbed: 0 Feet
- Streams Avoided: 37,003 Feet
- Avoided Area
- Forested Wetlands Disturbed: 0.0 Acres
- Forested Wetlands Avoided: 192.1 Acres
- Herbaceous Wetlands (None Present)
- South Pasture Extension Boundary
- Future Land Use - Industrial Corridor

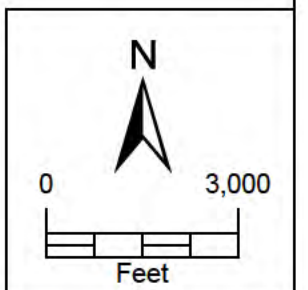


FIGURE Q3-18.
ALTERNATE MINE PLAN #7
SOUTH PASTURE EXTENSION
HARDEE COUNTY, FLORIDA

Sources: Kucera International, Inc. 2014. Mosaic. 2014. ECT 2014.



Figure 2 - Upland mining with Crossings of WOUS

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By: mseibel Date: 5/19/2014



Site-Specific Application Of Mitigation Framework:

- Streams Disturbed: 538 Feet
- Streams Avoided: 36,465 Feet
- Avoided Area
- Forested Wetlands Disturbed: 0.7 Acres
- Forested Wetlands Avoided: 191.4 Acres
- Herbaceous Wetlands (None Present)
- South Pasture Extension Boundary
- Future Land Use - Industrial Corridor

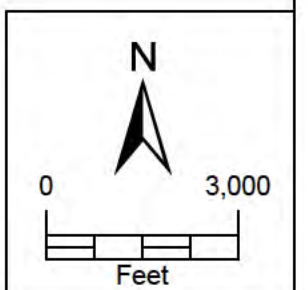


FIGURE Q3-17.
ALTERNATE MINE PLAN #6
SOUTH PASTURE EXTENSION
HARDEE COUNTY, FLORIDA

Sources: Kucera International, Inc. 2014. Mosaic. 2014. ECT 2014.



Figure 3 - Applicant's Preferred Alternative

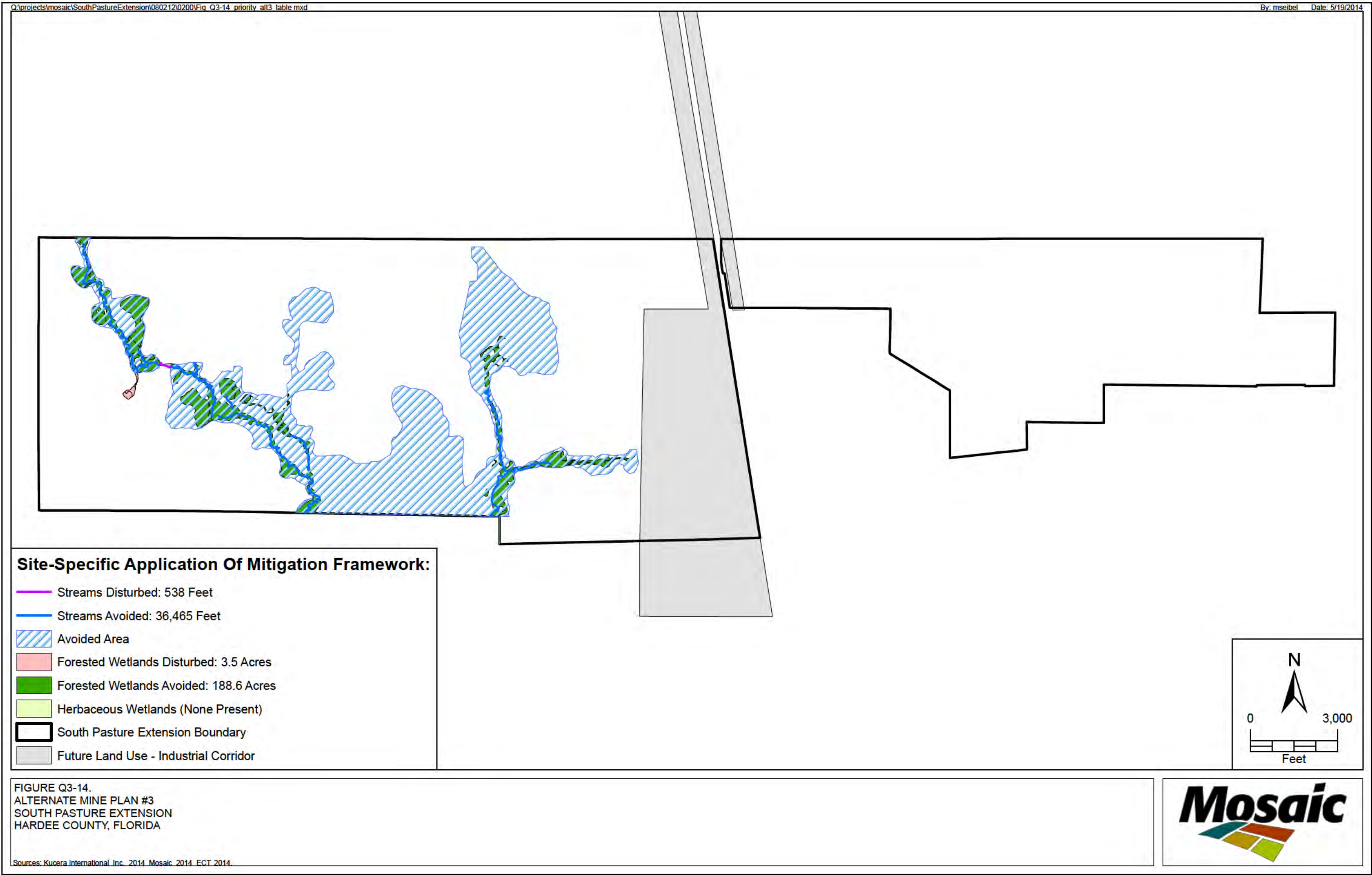


Figure 4 - Original Mine Plan - Maximum Recovery/Minimal Avoidance

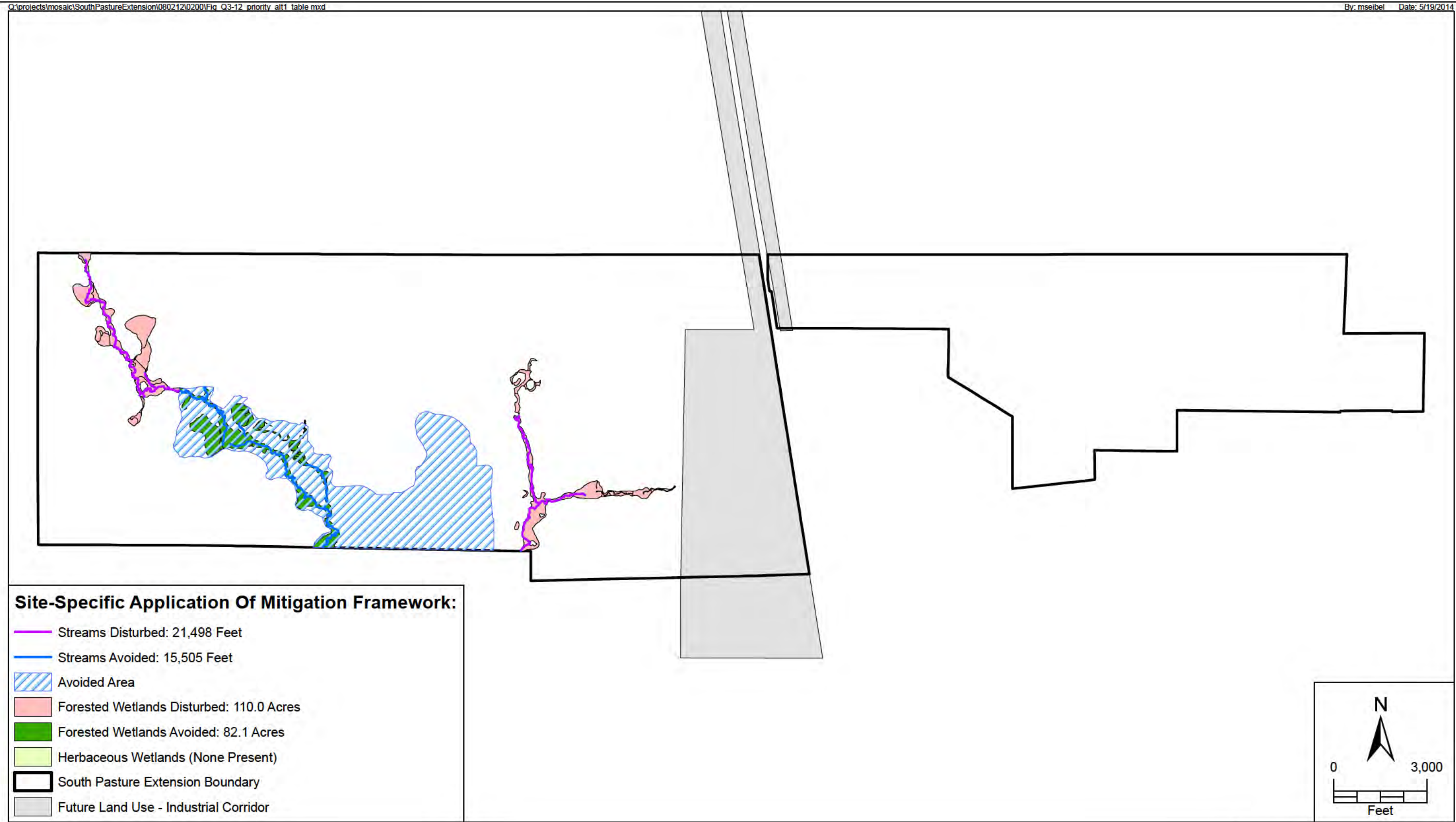


FIGURE Q3-12.
ALTERNATE MINE PLAN #1
SOUTH PASTURE EXTENSION
HARDEE COUNTY, FLORIDA

Sources: Kucera International, Inc. 2014. Mosaic. 2014. ECT 2014.



Figure 5 - UMAM-Based Avoidance

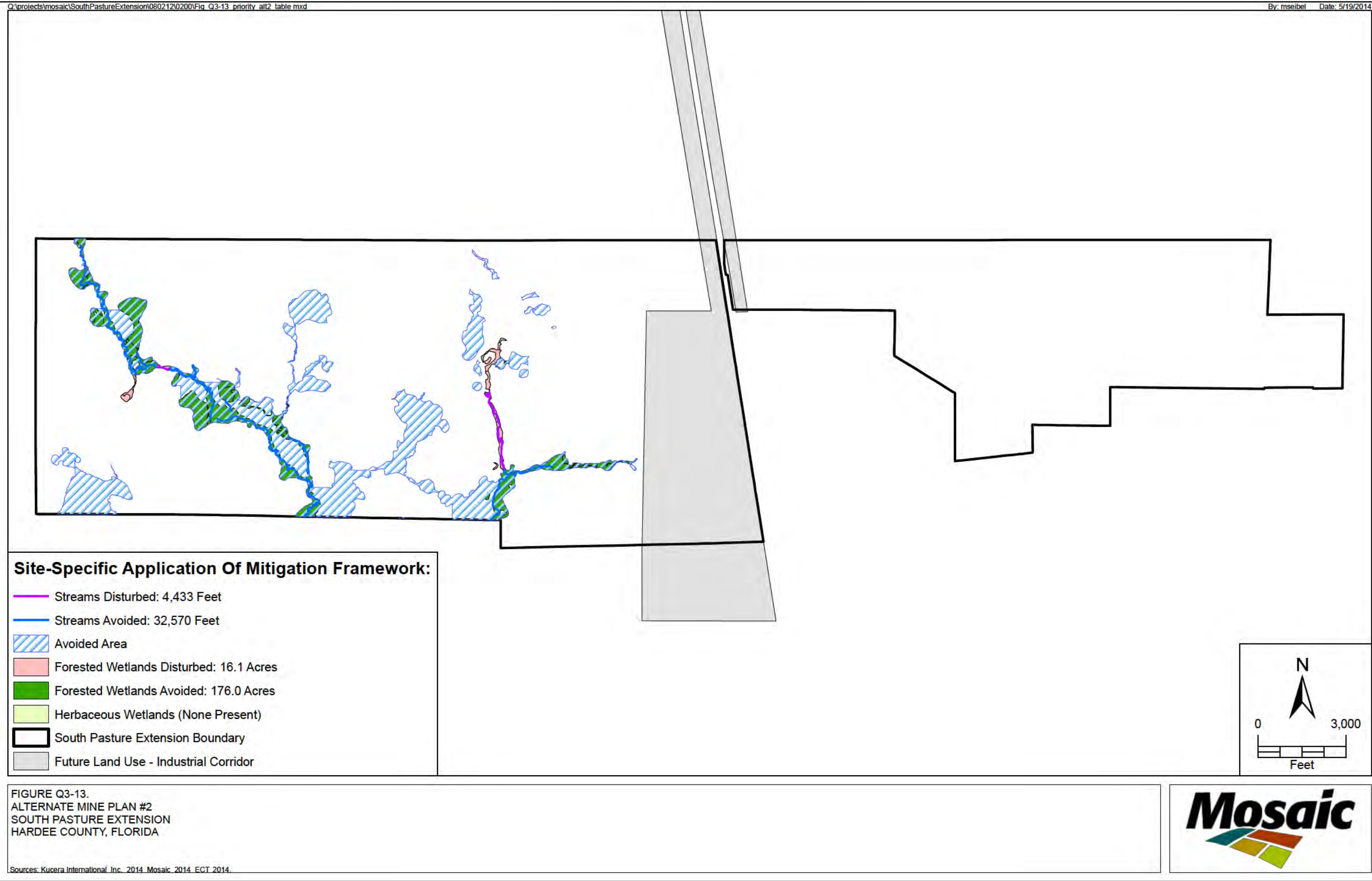


Figure 6 - Applicant's Preferred Plus Additional Avoidance

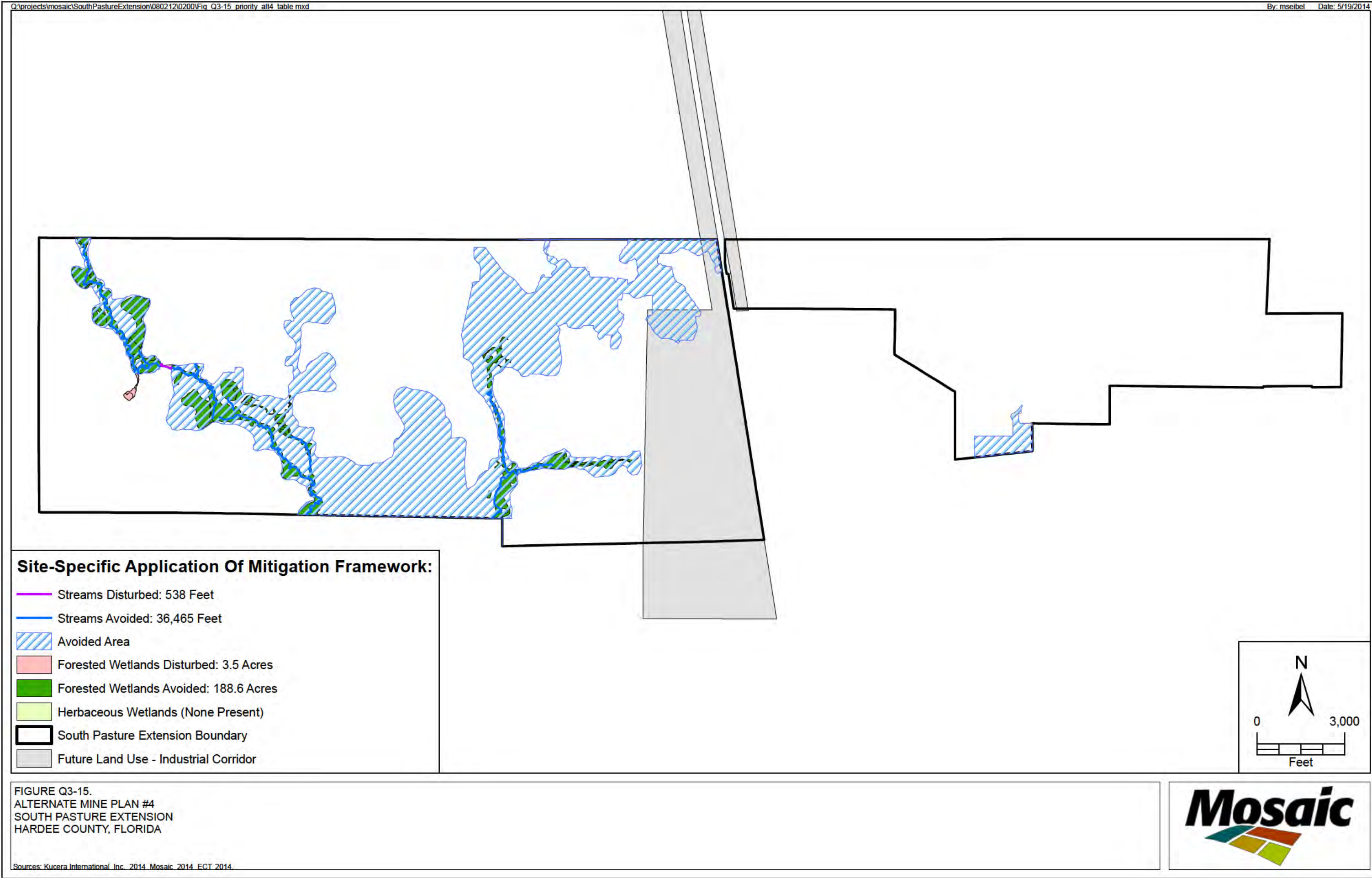


Figure 7 - Maximum Framework Avoidance

