Habitat Conservation Plan

for

Audubon's Crested Caracara Nest Area within

South Fort Meade Eastern Extension Mine Site

Mosaic Fertilizer, LLC

Hardee County, Florida

May 7th, 2024

Title of Proposed Action: Issuance of Endangered Species Act section 10(a)(1)(B) permit covering incidental take of threatened Audubon's crested caracara (*Polyborus plancus audubonii*) currently nesting within the South Fort Mead Eastern Extension Mine, Hardee County, Florida.

Correspondence Unit of Fish and Wildlife Service: Region 4, U.S. Fish and Wildlife Service. 1875 Century Boulevard Atlanta, GA30345

Legal Mandate for Proposed Action: Endangered Species Act of 1973, as amended, section 10(a)(1)(B), as implemented by 50 CFR 17.32 for threatened species.

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Executive Summary

This Habitat Conservation Plan (HCP) has been prepared in connection with an application submitted by Mosaic Fertilizer, LLC (Mosaic or the Applicant) for a permit authorizing limited incidental take of one pair of Audubon's crested caracara (*Polyborus plancus audubonii*) currently nesting at the northwest corner of the South Fort Meade Eastern Extension Phosphate Mine Project (SFM-EE mine) in Hardee County, Florida. The potential incidental take of this pair could occur as a result of disturbance during otherwise lawful, already permitted activities in support of the SFM-EE mine. The HCP area, where Mosaic anticipates potential incidental take of this pair of caracara could occur, is an area of partial overlap between the SFM-EE mine boundary and Secondary Zone (1500-meter territory buffer) and Primary Zone (300-meter nesting buffer), [1] around the caracara nest tree, as depicted as SFMEE Site 1 on Figure 4. The HCP area totals 700.9 acres, including 42.7 acres of Primary Zone and 658.2 acres of Secondary Zone.[2]

On September 19, 2023, the Florida Department of Environmental Protection issued a State 404 Program Individual Permit for the SFM-EE mine pursuant to section 404 of the Clean Water Act (CWA) (Permit No. ST404_398010-003)[3], and an Environmental Resource Permit (ERP) pursuant to Chapter 373, Part IV, Florida Statutes and Chapter 62-330 of the Florida Administrative Code (Permit No. MMR_398010-002). A joint Biological Assessment and Wildlife Habitat Management Plan (BA/WHMP), dated July 2022, was prepared in support of the technical assistance process pursuant to a Programmatic Biological Opinion issued by the U.S. Fish and Wildlife Service (USFWS) on the U.S. Environmental Protection Agency's (EPA) Approval of FDEP's Assumption of the Administration of the Dredge and Fill Permitting Program under CWA

[1] Primary Zone (300m) and Secondary Zone (1500m) are identified as intended by USFWS Audubon's Crested Caracara draft Species Conservation Guidelines South Florida (USFWS, 2004). Avoidance of activities within the Primary Zone during nesting season is important to provide conditions for successful reproduction. This zone is generally defined as the foraging territory in which the nest site is located. The Secondary Zone is used by caracaras for the collection of nest material, roosting, and feeding.

[2] There are four other caracara nest trees that are not within the mine site and whose Primary Zones are entirely outside the mine site, which have Secondary Zones that partially overlap the mine site (depicted on Figure 4 as SFMEE Site 2, SFMEE Site 3, SFMEE Site 4, and SFMEE Site 5). [Take associated with SFMEE Site 5 was addressed through Endangered Species Act (ESA) section 7 consultation for the SFM-Hardee mine, which was permitted in 2010. Incidental take of the caracara pair associated with this nest was authorized through that previous action.] Due to the temporary, cell-by-cell nature of mining activity that occurs within only limited portions of these Secondary Zones at a time, post-mine reclamation plans to replace foraging habitat with addition of supplemental nesting structures (planted cabbage tree palms greater than 16 feet, and old utility poles left for perching structure), the presence of thousands of acres of adjacent conservation easements, and no other detrimental activities known within these four territories, incidental take associated with these four nests is not anticipated and incidental take coverage is not requested.

[3] On February 15, 2024, nearly five months after permits for the Project were issued, the U.S. District Court for the District of Columbia Circuit vacated EPA's approval of Florida's CWA Section 404 program and the U.S. Army Corps of Engineers became the sole CWA Section 404 permitting authority for Florida.

Section 404. The BA/WHMP addressed potential Project impacts on federally-listed and state-listed species – including the Audubon's crested caracara, which is federally-listed as threatened – and establish habitat management plans to be implemented to minimize Project impacts to protected species. During pre-mining Crested Caracara surveys conducted by Flatwoods Consulting Group within the SFM-EE mine site between January and April 2022 and described in a report dated June 2022, two active caracara nest locations were documented on properties adjacent to the SFM-EE mine site, outside of the mine boundary. Although the nests were located outside the mine boundary, one nest was located 267 meters from the mine site boundary, and therefore a small portion of the 300-meter Primary Zone overlapped with the mine site; the other nest (SMFEE Site 2) was located 457 meters from the mine site boundary and there was therefore no overlap between the Primary Zone for that nest and the mine site. Portions of the 1500-meter Secondary Zone for each nest overlapped with the mine boundary.[4] Based on the results of the surveys, USFWS determined that the SFM-EE mine project "May Affect [but is] Not Likely to Adversely Affect" Audubon's Crested Caracara. Condition 53 of the CWA 404 permit issued for the SFM-EE mine (ST404_398010-003) states that, if evidence of caracara nesting is observed onsite, coordination with USFWS is required. The coordination required by Condition 53 began on January 25, 2024, and remains ongoing.

Mosaic has undertaken continual monitoring surveys of Audubon's Crested Caracara across its permitted mine sites since 2004 (methods described in Appendix VI). In anticipation of the South Fort Meade Eastern Extension mine being permitted, extensive monitoring began in January 2023. During the nesting season of 2023/2024, one of the Crested Caracara pair documented nesting adjacent to the mine site during the 2022 surveys was observed to have moved from their 2022 active nest location and to have established a new nest (SFMEE Site 1) just inside the mine boundary, leaving the former nest site inactive. On January 25, 2024, coordination between Mosaic and USFWS began pursuant to Condition 53. The coordination led to an agreement by Mosaic to prepare an HCP and submit an application for an incidental take permit (ITP). During this time SFMEE Site 1 all access to the primary zone on applicants property has been avoided and monitoring showed the pair of caracara fledged a single nestling. In addition, during 2024 nesting season two additional offsite nests were documented with partial overlap of the Secondary Zone (SFMEE Site 3 and SFMEE Site 4).

In this HCP, the Applicant describes the impacts likely to result from take of caracara that occurs under the requested ITP, the steps the Applicant will take to monitor, minimize, and mitigate those impacts, the funding that will be available to implement the HCP, the procedures to be used to address unforeseen circumstances, and the alternatives the Applicant considered and reasons why those alternatives were not practicable. *See* 50 CFR 17.32

[4] According to the June 2022 report, a third nest was identified on adjacent property that had apparently been lost to a fire observed in the area, and the caracara pair renested in the active nest located 267 meters from the mine site boundary.

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1.1 Overview/Background

1.1.1 Project Location Area

The HCP area, where Mosaic anticipates potential incidental take of caracara could occur, is a 700.9 acre area of partial overlap between the SFM-EE mine site boundary and portions of the Primary and Secondary Zones surrounding an onsite caracara nest tree, as depicted at SFMEE Site 1 (overlap totaling 42.7 acres of Primary Zone and 658.2 acres of Secondary Zone). The HCP area is within the SFM-EE mine site, which is located to the east of the South Fort Meade Mine and North of State Road 64, in northeast Hardee County (Figure 1: Location Map).

The SFM-EE mine site includes the SFM-EE mine boundary, an approximately eight-mile access/utility corridor (which is designed to largely follow an existing utility corridor adjacent to County Line Road) that will connect the SFM-EE mine boundary to the existing South Fort Meade Mine, and a four-mile dragline walk path that will be used to transport the dragline from Mosaic's Eastern Reserves mine area to the SFM-EE mine boundary. The SFM-EE mine site totals 4,386.1 acres, including a 3,169.8 acre mine boundary, the eight mile utility corridor, and the four-mile dragline path. The mine boundary is bounded by Mel Smith Road to the north and east, Old Town Creek Road to the west, and State Road 64 to the south. The SFM-EE mine site is located in sections 1-4 and 12-14, Township 33S, Range 26E, sections 5, 6, 8, 9, 14-16, 21-23, and 26-28, Township 33S, and Range 27E, at latitude 27º 36' 10.1"/longitude 81º 36' 1.4". The SFM-EE mine site can be accessed from I-75 South, by taking Exit 220 to State Road (SR) 64 and heading east on SR 64 for approximately 55 miles to the intersection with Old Town Creek Road.

1.1.2 Permitting History

On September 19, 2023, the Florida Department Environmental Protection (FDEP) issued a State 404 Program Individual Permit for the SFM-EE mine project pursuant to section 404 of the Clean Water Act (CWA) (Permit No. ST404_398010-003), [5] and an Environmental Resource Permit (ERP) pursuant to Chapter 373, Part IV, Florida Statutes and Chapter 62-330 of the Florida Administrative Code (Permit No. MMR_398010-002). A joint Biological Assessment and Wildlife Habitat Management Plan (BA/WHMP), dated July 2022, was prepared in support of the technical assistance process pursuant to a Programmatic Biological Opinion prepared by the U.S.

[5] On February 15, 2024, nearly five months after permits for the Project were issued, the U.S. District Court for the District of Columbia Circuit vacated EPA's approval of Florida's CWA Section 404 program and the U.S. Army Corps of Engineers became the sole CWA Section 404 permitting authority for Florida.

Fish and Wildlife Service (USFWS) on the U.S. Environmental Protection Agency's (EPA) Approval of FDEP's Assumption of the Administration of the Dredge and Fill Permitting Program under CWA Section 404. The BA/WHMP (Appendix I) addresses potential SFM-EE mine impacts to federally-listed and state-listed species – including the Audubon's crested caracara, which is federally-listed as threatened – and establishes habitat management plans to be implemented to minimize impacts to protected species. During pre-mining Crested Caracara surveys conducted by Flatwoods Consulting Group within the SFM-EE mine site between January and April 2022 and documented in a report dated June 2022 (Appendix A to the BA, attached as Appendix I), two active caracara nest locations were documented on properties adjacent to the mine site, outside of the mine boundary. Although the nests were located outside the mine boundary, portions of the Secondary Zones associated with these nests overlapped the mine boundary.[6] Based on the results of the surveys, USFWS determined that the mine project "May Affect [but is] Not Likely to Adversely Affect" Audubon's Crested Caracara. Condition 53 of the CWA 404 permit issued for the mine project (ST404_398010-003) states that, if evidence of caracara nesting is observed onsite, coordination with USFWS is required.

The Florida Fish and Wildlife Conservation Commission (FWC) and USFWS assessments of the CWA Section 404 permit application and the agencies' determinations regarding likely impacts were communicated to FDEP in a letter dated May 8, 2023 from Jason Hight, Director of FWC's Office of Conservation Planning Services, to Olivia Willoughby. The determination for the Audubon's Crested Caracara is quoted below.

> "Audubon's Crested Caracara
>
> The project lies within the Consultation Area for the Audubon's crested caracara. The caracara prefers habitats that contain mostly short-stature vegetation with a low density of trees, including dry or wet prairie and improved and unimproved pasture containing scattered cabbage palms, their preferred nesting tree. They may also be found in lightly wooded areas with scattered saw palmetto, scrub oaks, and cypress. The applicant performed a comprehensive foraging and nesting survey for Audubon's crested caracara from January 10, 2022, to April 20, 2022, which resulted in the identification of two active caracara nests located approximately 257 meters (843 feet) and 457 meters (1500 feet) outside the project area. Additionally, the project area is used for foraging by breeding adults. USFWS staff reviewed the proposed project through technical assistance coordination and determined that the project "may affect but is not likely to adversely affect" the Audubon's crested caracara. FWC staff provided conditions for this species at the end of this letter that should be included in the State 404 permit."
>
> (Hight Letter, 2023, pg. 3. Appendix V)

[6] According to the June 2022 report, a third nest was identified on adjacent property but that had apparently been lost to a fire observed in the area, and the caracara pair renested in the active nest in 2022 located 267 meters from the mine site boundary, which ultimately moved to SFMEE Site 1 in 2023/2024

1.1.3 Adjacent Landscape

The landscape adjacent to the HCP area, as well as the overall mine site is dominated by low density rural landscape. Traffic volume on roadways in the area is typically low, with the exception of the east-west travel corridor of State Road 64. Neighboring properties consist of large agricultural operations, including orange groves to the southeast; improved grazing pastures for cattle interspersed with herbaceous wetlands, native rangelands, and pine flatwoods, as well as hardwood forests; and some dairy pastures. Caracara-occupied habitat will remain surrounding the project site while temporary mining activities occur. The majority of adjacent landscape is under conservation easement, coupled with onsite preservation areas. Given the temporary nature of habitat removal within the Project site, the expected impact to the regional caracara population is expected to be minimal.

1.2 Permit Duration

The Applicant is requesting the issuance of a 10-year ITP.

The HCP area is located near the utility corridor that will serve the mine throughout its active life. While the life of the mine is anticipated to be approximately 10 years from 2024, the progression of the mining operation is dependent on market conditions and other site-specific variables and mining may proceed at a faster or slower rate than forecasted. In the case of a decreased demand for product, the life of the mining operation may need to extend beyond the 10-year duration of the permit.

If, nine years following the issuance of the ITP, it appears that the actions authorized under the permit will not be completed within the 10-year duration, the Applicant will initiate consultation with USFWS to discuss the renewal of the ITP.

2.0 Impact Audubon's Crested Caracara

2.1 Natural History

The Florida population of the Audubon's crested caracara, aka the Northern Crested Caracara (*Polyborus plancus audubonii* or *Caracara plancus audubonii*) is listed as Threatened under the federal Endangered Species Act. The caracara is a large raptor with a crest, naked face, heavy bill, elongated neck, and unusually long legs. It is about 50 to 64 centimeters (cm) long and has a wingspan of 120 cm. The adult is dark brownish black on the crown, wings, back, and lower abdomen. The lower part of the head, throat, upper abdomen, and under tail coverts are white; the breast and upper back are whitish, heavily barred with black. Caracaras are terrestrial and often forage by walking for extended periods on the ground (Morrison and Humphrey 2001).

Adult caracaras may be found in their territory year-round. Territories average 3,000 acres (1250 hectares), corresponding to a radius of 1.2 to 1.5 miles surrounding the nest site (Morrison and Humphrey 2001). However, the core area where most activity occurs within the territory is smaller. USFWS has defined a Primary Zone of 300 meters surrounding the nest tree and a Secondary Zone of 1500 meters surrounding the nest tree to help define, measure and evaluate impacts to caracara (USFWS 2004).

Foraging occurs throughout the territory during nesting and non-nesting seasons. The caracara population in Florida historically inhabited native dry or wet prairie areas containing scattered cabbage palms (*Sabal palmetto*), their preferred nesting tree. Over the last century, many of the native prairie vegetation communities in central and south Florida have been converted to agricultural land uses, and frequently replaced by improved pasture dominated by short-stature, non-native, sod forming grasses. Morrison and Humphrey (2001) hypothesize that the vegetation structure of these open grasslands may be preferred by the caracara, due to its tendency to walk on the ground during foraging activities. The short vegetation stature and relatively simple vegetation structure may directly facilitate foraging by caracaras and provide less cover for predators.

Caracaras are highly opportunistic in their feeding habits, eating carrion and capturing live prey. Their diets include insects and other invertebrates, fish, snakes, turtles, birds, and mammals (Layne 1978). Live prey also includes rabbits, young opossums, rats, mice, squirrels, frogs, lizards, young alligators, crabs, crayfish, fish, young birds, beetles, grasshoppers, maggots, and worms (Bent 1961; Layne et al. 1977; Morrison 2001). More recent information indicates that wetland dependent prey items comprise about 64 percent of the total diet (Morrison 2005).

The following caracara nesting information has been summarized from available scientific literature (Morrison 1997, 1999, 2001 and 2003; Morrison et al. 2007; Barnes 2007; FWS 2009). The primary breeding season is considered to be November through April; however, breeding activity can occur from September through June. Nest initiation and egg-laying peak from December through February. Caracaras construct new nests each nesting season, often in the same tree as the previous year. Both males and females participate in nest building. Nests are well concealed and most often found in the tops of cabbage palms (Morrison and Humphrey 2001), although nests have been found in live oaks, cypress (*Taxodium* spp.) (Morrison et al. 1997), Australian pine (*Casuarina* spp.), red cedar (*Juniperus virginiana*), and gum (*Nyssa spp*.). Caracaras usually construct their nests four to 18 meters above the ground and nests consist primarily of haphazardly woven vines trampled to form a depression (Bent 1938; Sprunt 1954; Humphrey and Morrison 1997). Caracaras vigorously defend their nesting territory during the breeding season (Morrison 2001). Clutch size is two or three eggs, but most often two. Incubation lasts for about 31 to 33 days (Morrison 1999) and is shared by both sexes. Ordinarily only one brood is raised in a season; however, approximately 10 percent of the population may raise a second brood. The young fledge at about seven to eight weeks of age and post-fledgling dependency lasts approximately eight weeks.

2.2 Occurrence in the SFMEE Mine Site

2.2.1 Pre-mine Permit Occurrence 2022

The entirety of the SFM-EE mine site is located within the USFWS Caracara Consultation Area. Flatwoods Consulting Group conducted surveys for the caracara within the Project site from January 10 to April 20, 2022 in accordance with the USFWS-approved survey protocols (USFWS Crested Caracara Draft Survey Protocol – Additional Guidance (2016- 2017 Breeding Season)) within the boundary of the Crested Caracara Action Area established in the July 2022 BA/WHMP (Figure 2). During those surveys, no active caracara nests were found within the boundaries of the mine site, but two active caracara nests were found offsite, as depicted on the Caracara Nest Map (Figure 3). The two active nests were located approximately 267 meters and 457 meters outside the mine boundary (Caracara Nest Map). A third nest was also found during the surveys but had been lost to an apparent wildfire (see Lost Caracara Nest, depicted on Figure 3). Further surveys indicated that the pair re-nested nearby just northwest of the originally found nest and the mine site, and is depicted as one of the two active nests, located 267m from the mine boundary. (Appendix A to the BA, attached as Appendix I).

2.2.2 Post-mine Permit Occurrence 2023/2024

The Applicant conducts periodic surveys within its permitted mine locations to monitor Caracara activity and changes in breeding locations. The survey methodology is focused on the breeding season and known active sites, and includes 18 surveys of active nest locations conducted between January and April, as well as four surveys conducted in November and March. In addition, vehicular surveys are conducted throughout and around the active mine sites during those same periods to scout for any new pairs up to 1,500 meters into neighboring properties. Currently, the Applicant is monitoring 9 pair of Crested Caracara and their breeding nest site trees within the overall vicinity of the South Fort Meade mine sites.

The compiled locations of both pre-mining survey inactive nest locations with primary zone 300m (orange buffer circle) and active nest locations (pink/red) are presented in the Crested Caracara Nest Location Map (Figure 4). The SFM-EE mine site (red cross hatch) currently has five active nest sites for which secondary zone overlaps the mine site with, but only one in which the primary 300m zone overlaps, the SFMEE Site 1 where the nest tree was established onsite. Of the five nests, SFMEEE Site 5 (Lochlar Road) was addressed in the Biological Opinion for the South Fort Meade Hardee Mine application (2010, Appendix VII) and continues to remain active. Incidental take of the caracara pair associated with this nest was authorized through that previous action. The SFMEE Site 1 (Old Town Creek Road) primary zone cannot be avoided, and impacts will occur across 42.7 acres (61.2% of the primary zone area), including take of the nest tree if authorized, as well as 658.2 acres of the secondary zone (yellow buffer circle). The SFMEE Site 1 caracara breeding pair has inhabited four active nest trees since 2022 all depicted on Figure 4. The first was described as being lost in fire (depicted in black) following

which the pair moved north to two different nest trees in 2022 (depicted in blue), and in 2023/2024 the pair moved back to the south along Old Town Creek Rd to the current active nest (SFMEE Site 1). The last three nests SFMEE Site 2 – Parnell Rd & SR64, Site 3 – Jersey Lane, and Site 4 – Maude Rd, have all nested offsite greater than 300m from any mine activity. Due to the temporary nature of mining activity within these secondary zones, post-mine reclamation plans to replace foraging habitat with addition of supplemental nesting structures (planted cabbage tree palms greater than 16 feet, and old utility poles left for perching structure), the presence of thousands of acres of adjacent conservation easements, and no other detrimental activities known within these four territories, incidental take associated with these three nests is not anticipated and incidental take coverage is not requested.

Communication for technical assistance specifically for SFMEE Site 1 was initiated with representatives of USFWS and has been ongoing. Entry into the 300-meter Primary Zone has been prohibited and a sign-posted fence has been installed. Ongoing monitoring has shown the nestling fledged from the nest in late March.

As depicted on Figure 4, there are four other active nests within the South Fort Meade mine region which Mosaic continually monitors. Most recently, in the 2024 breeding season, these nests include South Fort Meade Eastern Reserve (SFMER) Site 1 – Peeples Lane, and SFMER Site 2-Van Simmons Road, each of which were addressed in the Biological Opinion for the SFMER mine application. Based on avoidance of the breeding sites and limitation of temporary habitat removal to only a portion of the territory, USFWS issued a “May Affect Not Likely to Affect” determination with respect to these nest sites. The final two nests in the region are completely offsite from all mine sites and are located at W Bereah Road and N Holland Town Road. These efforts to maintain knowledge of Crested Caracara locations allow for advanced planning and avoidance of impacts especially during breeding season.

3.0 Proposed Effects Determination

The Action Area is defined as all areas to be affected directly or indirectly by the federal action (i.e., issuance of the ITP that the Applicant has requested) and not merely the immediate area involved in the action (50 CFR 402.02). In determining the Action Area, we evaluated the extent of effects that would result from incidental take of the caracara under the requested ITP. The form of potential incidental take anticipated is harm or harassment from mining and related activities within Secondary Zone around the caracara nest tree (within the HCP area). The Action Area includes the 700.9acre HCP area, as well as any locations where indirect effects of the authorized incidental take may occur.

The impacts of take of a pair of caracara in the form of harm or harassment include the potential for habitat modification or degradation that kills or injures caracara by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering, and the

potential for annoying the caracara pair to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. *See* 50 C.F.R. § 17.3. Such impacts to the pair of caracara to be covered by the ITP would be expected to occur at or near the location of the nest tree, within the HCP area. Outside of the direct effects upon the nest tree (removal in the non-breeding season), the loss of foraging habitat in the secondary zone (658.2 acres) will be temporary while mining occurs, and the post mining reclamation plan includes extensive suitable caracara foraging habitat. It is expected the caracara will continue to use the current territory area and nesting will shift offsite while mining occurs. It is unlikely the temporary loss of foraging will cause any other territories to be displaced in the region.

Impacts during the active nesting period have been avoided by appropriate timing of activities near the nest tree, until after fledgling.

3.1 Direct Impacts

Direct impacts include potential direct injury or mortality, including the loss and/or degradation of available caracara habitat for foraging and breeding where such a loss of habitat kills or injures caracara by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. As of 2024 breeding season, five pair of caracara have been identified to occupy the area in the general vicinity of the mine site, but only one has been documented to nest within the mine site (SFMEE Site 1, the nest of the pair that will be covered by the requested ITP). This pair's nest will be directly impacted by mining activities, but the impacts will be timed to occur during the non-breeding season, after all young have fledged and are independent. The current nest tree will need to be removed as it is within an infrastructure corridor for the mine, and a ditch and berm system is required to retain hydrological profiles of the region during mining. In addition, 42.7 acres of the 70-acre Primary Zone will be cleared. Based on the ability of caracara to find new nest trees in the region, it is expected this pair will remain on territory and use an alternate nest site, typically offsite, away from disturbance.

The majority of the available habitats within the Action Area (i.e., pastures and citrus groves) are potential foraging habitat for both adult and juvenile caracaras. The loss of foraging habitat can be defined as a temporary loss because all mined land will be reclaimed. The degradation and loss of caracara foraging habitat (i.e., when pastures or citrus groves are temporarily converted to mine pits) may be offset if caracara prey becomes available at sufficient densities inside the open water areas and ditches. The foraging habitat types will be replaced as part of reclamation following mining.

[SFM-EE mine activities within the Action Area will temporarily impact habitat through conversion to access corridors, mine pits and stockpile areas, and caracara may accordingly be affected by mining operations. It is expected that any nest abandonment due to the mining activities would be temporary except for SFMEE Site 1. Mosaic does not anticipate mortality of caracaras from vehicular traffic, given that no increase in traffic above the environmental

baseline is proposed. All mined lands will be reclaimed following mining. Specifically, all wetlands and streams will be reclaimed on an acre-for-acre, foot-for-foot basis, and approximately 2,400 acres of upland habitat suitable for caracara foraging will be reclaimed.

Other forms or causes of incidental take associated with the SFM-EE mine are not anticipated. For example, the slow speeds of travel to be implemented on mining roads (less than or equal to 35 mph) within the Project site likely do not pose risk to caracaras and there is no known vehicle incident with a caracara related to mine activities. Therefore, the Project is not expected to result in increased injury or death to a caracara due to vehicular traffic associated with the Proposed Action.

No Critical Habitat has been designated for the caracara; therefore, no impacts to Critical Habitat will occur.

3.2 Indirect Impacts

Indirect effects are those that may occur later in time and may include consequences occurring outside the immediate area involved in the authorized incidental take. *See* 50 C.F.R. § 402.02. There are unlikely to be any indirect impacts as it is expected the caracara pair will stay within their current territory, as they have been recorded nesting in several trees offsite that will not be impacted. In addition, it is believed there are ample available nest trees within the assumed territory. Based on these factors, coupled with the staggered footprint of mining, the planned reclamation and revegetation, and the ability of caracara to continue to use the landscape, there are no long-term indirect impacts expected. Through continuation of the longstanding monitoring in place in the area where the mine site is located, the Applicant will record the breeding activities of the caracara as mining proceeds.

3.3 Cumulative Impacts:

Several activities adjacent to or within the vicinity of the mine site are authorized under separate federal action subject to Section 7 of the ESA where effect determinations for the caracara have been documented in the following FWS Biological Opinions.

- South Fort Meade Mine, Service Consultation Code 41420-2007-F-1189, May 28, 2010,
- South Fort Meade Mine – Modification #11, Service Consultation Code 04EF2000-2019-F-0780, July 15, 2019,
- South Fort Meade Mine – Eastern Reserves, Service Consultation Code 04EF2000-2019-F-0981, January 7, 2020.

Mosaic's ongoing annual monitoring has documented the continual use by Caracara of the landscape, including active mine areas, reclamation areas and offsite areas. The effect of disturbance is mostly associated with loss of nesting strata during mining requiring selection of new nest sites away from the increased habitat disturbance.

Future federal actions that are not related to the Proposed Action include the future permitting of the highlighted area South of 64 (see Crested Caracara Nest Location Map), in which SFMEE-Site 3 – Jersey Ln 2024 active nest site has been documented. As no disturbance is planned for this site until January 2028, following additional permitting, and because in the future it is unknown if the pair will be nesting at its current location, we anticipate a separate consultation either to amend this HCP, or undertake a Section 7 assessment for mining within WOTUS on Mosaic-owned lands within the Action Area, if any, that will then be subject to the Programmatic BO and the technical assistance process described therein.

The mine site will be reclaimed to contain suitable caracara habitat. Most of the remaining surrounding landscape in the Action Area consists of cattle ranches, agricultural lands, and low-density residential uses, of which many have been placed in Conservation Easements, restricting residential development. The habitat loss to residential and industrial development is unlikely to occur in this part of Hardee County as most areas surrounding the SFM-EE mine area are not currently subject to habitat conversion. The likelihood of land conversion of reclaimed habitat to residential development is possible but deemed unlikely in the foreseeable future. The proposed post reclamation of vegetative communities within the SFM-EE mine site will support caracara foraging, and potential future use of the SFM-EE mine site is expected to be compatible with the predominantly rural/agricultural nature of the area. We anticipate the Action Area will support the caracara in the future. The incremental impact of the mine area on caracaras will be limited as described above, and in light of limited anticipated impacts of other activities within the Action Area, is not expected to accumulate in a meaningful or adverse manner with the effects of other activities within the Action Area.

The Proposed Action will temporarily impact habitat through conversion to access corridors, mine pits and stockpile areas, and caracara may accordingly be adversely affected by mining operations. It is expected that any nest abandonment due to the mining activities would be temporary except for SFMEE- Site 1, and we do not anticipate mortality of caracaras from vehicular traffic, given that no increase in traffic above the environmental baseline is proposed. All mined lands will be reclaimed following mining. Specifically, all wetlands and streams will be reclaimed on an acre-for-acre, foot-for-foot basis, and approximately 2,400 acres of upland habitat suitable for caracara foraging will be reclaimed. The reclamation is expected to provide equal habitat than in the pre-mining condition.

3.4 Determination of Incidental Take

The extent of incidental take anticipated is the take through harassment or harm of one pair of caracara. The likelihood of this take occurring is difficult to quantify because, nest locations may change from year to year, and move across the Action Area and the number of nesting pairs and individuals within the Action Area may change in future years.

The establishment of an active nest of one pair of Caracara in the mine area, within one year since an initial MANLAA determination, in the middle of the proposed utility corridor illustrates

the difficulty in determining the likelihood of incidental take occurring. However, this HCP anticipates that activities in and near the nest are likely to cause incidental take of the caracara in the form of harm or harassment through disturbance of the nest site, in the non-breeding season.

Mosaic requests the following authorization for incidental take of one pair of caracara over a 10-year period.

The Proposed Action "may affect, but is likely to adversely affect" the caracara, but would not jeopardize its continued existence for the following reasons:

1. It is anticipated that the habitat lost to mining will be temporary with caracara potentially utilizing the SFM-EE mine site for foraging during mining and continuing to use the SFM-EE mine site after the completion of habitat reclamation;
2. No mortality of caracaras resulting from vehicular traffic is expected;
3. The action will not substantially reduce the overall numbers, distribution, or reproduction of the caracara; and
4. Individually and cumulatively, the proposed action will have a minor or negligible effect on the species, with take requested for a single pair of caracara and their active nest site that will be temporarily disturbed.

4.0 Conservation Program – Measures to Minimize and Mitigate for Impacts

As part of the proposed action, an HCP is being proposed to minimize the potential take described in Section 3.0 and to ensure that this action does not reduce the potential for survival and recovery of the caracara as mandated by requirements of 50 CFR Part 17.32(b)(1)(iii).

4.1 Conservation Measures to Minimize Impacts

Conservation measures for the Action Area include avoidance and minimization, monitoring, land management (as set out in the BA/WHMP), and habitat reclamation. Mosaic has proposed the following protective measures to minimize impacts to caracaras:

4.1.1 Avoidance and Minimization

Mosaic will ensure no direct disturbance of active caracara nests (nests containing eggs or flightless young) occurs by maintaining a 300-meter (985 foot) protective buffer around active nest trees.

Mosaic will post a speed limit of no more than 35 miles per hour (mph) for all vehicular traffic within the mine site.

Mosaic will continue to implement and mandate a wildlife educational program for all on-site personnel on an annual basis. Contractors, lessees, and mine employees will be required to take annual training in wildlife avoidance and identification and will be briefed during onsite job risk analyses of the possible occurrence of caracaras. If a caracara is encountered, it will be avoided and allowed to leave the area on its own. Educational information on caracaras will be posted in locations where personnel have easy access on a regular basis.

4.1.2 Monitoring

Mosaic will continue monitoring for caracaras onsite with the purpose of understanding the effect of mining activities on territorial caracaras focusing on these objectives:

1. To determine the location(s) of active caracara nest(s) that could be adversely affected by mining activities so minimization procedures and/or mitigation may be implemented,
2. To determine the presence and use of the SFM-EE mine site by breeding and non-breeding caracaras, including the approximate boundaries of breeding territories, and
3. To determine the fate and productivity of any caracara nest found. The SFM-EE mine site will be included in Mosaic's ongoing caracara monitoring program.

4.1.3 Land Management

Mosaic has prepared and will implement the holistic BA/WHMP, which addresses the specific needs of those listed species known to or suspected to occur on-site (Appendix I). General pre-clearing surveys and species-specific surveys will be conducted prior to initiating construction and mining activities as required and/or recommended by FWC and/or USFWS. Existing and reclaimed caracara habitat will be managed according to the SFM-EE BA/WHMP.

Existing and reclaimed pasture areas will be managed as improved pasture to provide low-growing grass coverage for caracaras.

4.1.4 Habitat Reclamation

Mosaic will reclaim mined lands, providing potential caracara habitat. Mosaic will plan and implement a reclamation plan with the intent of creating an interconnected mosaic of habitats that enables movement of wildlife resources across the landscape. Based on the proposed post reclamation land cover (Post Reclamation Land Use Map), over 2,600 acres of post reclamation habitat is expected to provide suitable foraging habitat for caracaras once reclamation is complete. The reclamation plan will be reviewed and approved by the appropriate state and federal permitting and wildlife agencies prior to implementation.

4.2 Proposed Measures to Mitigate Impacts

4.2.1 Suggested Mitigation via Technical Assistance with USFWS

The Applicant will comply with the following minimization and mitigation details, which were communicated by USFWS during technical assistance to amend the original ST404 permit. Email February 20, 2024, from Al Begazo to Dr Raoul Boughton, Lead Ecologist, Mosaic.

> ‘‘Disturbing a significant portion of the primary zone is likely to result in nest abandonment by the pair and subsequent loss of productivity for an undetermined period. To minimize the impact of projects proposing impacts within the primary zone, the Service has drafted the following protection measures:
>
> 1. To protect nesting crested caracaras, habitat disturbance within 300 meters of a known nest must happen outside the nesting season. If clearing during nesting season is necessary, it can only occur after confirming the nest is abandoned or chicks have fledged. Monitoring is required to ensure nesting success before clearing the surrounding area and the nest tree itself.
>
> 2. If habitat disturbance happens within 300 meters of an active nest, the project proponent must restore an equal area of suitable habitat. This can be done by restoring native prairies with scattered cabbage palms or creating improved pastures with scattered palms. The restored land must be located on existing agricultural land owned by the project proponent and maintained in perpetuity to support Crested Caracaras. Before project implementation, the builder needs to contact relevant agencies for technical assistance and notify them of the restoration plan. After completion, the project proponent must report the final location and size of the restored habitat to the relevant agencies.
>
> The Service understands that the length of the caracara breeding season and scheduling of mining activities within the caracara primary zone are likely to overlap. We also understand that restoring caracara habitat prior to habitat disturbance may not be feasible. With that in mind, Service biologists have formulated an alternative to restoring habitat by the applicant prior to the initiation of the project. This alternative engages the Florida Fish and Wildlife Conservation Commission (FWC).
>
> The Service acknowledges that the caracara breeding season and mining activities within the primary zone may overlap and appreciates the difficulty of restoring habitat prior to disturbance. Therefore, Service biologists have proposed an alternative solution in lieu of pre-project restoration by the applicant. This alternative involves supporting the FWC’s ongoing statewide habitat restoration program.
>
> Since 2005, the Citrus Greening Disease has spread throughout Florida, killing countless trees, devastating orchards, reducing citrus production by 75%, and more than doubling production costs. As a result, some of the former citrus land has been made available to FWC’s water management and habitat restoration programs. The Service’s caracara mitigation policy dovetails with FWC’s plans.
>
> The estimated cost of restoring an acre of citrus grove to pasture with scattered cabbage palm trees and wetlands is approximately $550. Mining a significant portion of the primary zone is likely to result in the abandonment of the entire 70-acre primary zone. Therefore, restoring an equivalent area of caracara habitat would cost: 70 acres * $550/acre = $38,500.

The mitigation funds will be held by the Florida Fish & Wildlife Foundation and released specifically for the restoration of caracara habitat."

4.2.2 Proposed Mitigation

For mining actions that disturb a significant portion of the Primary Zone (i.e., 42.7 acres of the 70-acre Primary Zone associated with SFMEE Site 1), the Applicant will make a contribution to be held by the Florida Fish and Wildlife Foundation to support establishment of caracara habitat through citrus grove pasture restoration projects. The donation will be in the amount of $38,500 for the significant Primary Zone disturbance.

In addition, Mosaic will continue its practice of reclamation that includes the re-establishment of mature cabbage tree palms (in spaded groups of 3) in appropriate habitats to support rapid establishment of nesting structure for Crested Caracara. For each Primary Zone disturbed, the Applicant will plant three sets of at least three individual cabbage tree palms into the reclamation area of the post-disturbed SFMEE site 1.

5.0 Funding Assurance

Upon receiving of ITP from USFWS, the Applicant will make a $38,500 contribution to Crested Caracara habitat conservation fund, held by the Florida Fish and Wildlife Foundation, for the take of primary zone habitat of the SFM-EE Site 1 nest location. Confirmation of the contribution will be provided to the USFWS.

6.0 Alternatives

6.1 Proposed Action (Alternative 1) – Requested ITP

The SFM-EE mine site has already been permitted for the excavation and processing phosphate ore/matrix. Disturbance of caracara for infrastructure corridors and mining will occur within the HCP area if the ITP is issued. The proposed mitigation for the temporary take of nesting site and foraging habitat for the caracara, consisting of a contribution to the Fish and Wildlife Foundation of Florida caracara conservation fund, as well as rapid establishment of nesting structure through planting of established Cabbage palms in reclamation areas, will contribute to the long-term conservation, management, and recovery efforts for the caracara.

6.2 No Mining Areas (Alternative 2) – Avoid Caracara Nest Location

Based on the location of SFMEE Site 1 and this pair's previously documented nest sites, assessments were made by operations engineers whether the mine corridor and infrastructure could avoid the nest. It was determined that, due to the narrowing of land available to place the mine corridor, conservation easements to the south and public roads and more conservation easements to the North, it was impractical and increased environmental concerns of moving infrastructure raised. To minimize any impacts to the nesting pair, all activities have ceased and avoided the primary zone during the breeding season. Continued avoidance as mine

activities ramp up will not be possible and incidental take authorization within this primary zone has been requested. There are currently no other caracara nest sites or primary zone overlaps across the SFM-EE mine site, but if a nest and Primary Zone do occur during the life of mine, an assessment will be made to avoid the site and Primary Zone; if that is not feasible, Mosaic will limit disturbance to the non-breeding season and minimize area of Primary Zone disturbance. If a similar situation occurs as with the current nest site where avoidance cannot be implemented, Mosaic will seek additional incidental take authorization.

7.0 Changed and Unforeseen Circumstances

If unforeseen or changed circumstances arise, the Permittee and the USFWS shall meet within 30 working days following recognition of the circumstance. The USFWS and Permittee shall coordinate together and agree upon an appropriate and reasonable measures to address the circumstance, within the rule of appropriate law. Once an agreement has been met the Permittee shall implement appropriate and reasonable measures within 30 working days unless a longer period of time is agreed to by the USFWS.

7.1 Changed Circumstances

Changed circumstances are defined as changes in circumstances affecting a species or geographic area covered by the HCP that can reasonably be anticipated by the Applicant and the USFWS, and that can be planned for. The construction within the mine site, as permitted by ST404 permit# ST404_398010-003 and MMR permit # MMR_398010-002 has been initiated. Avoidance of an unforeseen Crested Caracara nest has been implemented while technical assistance and a request for Incidental Taken reviewed. A request for take was included in the ST404 Biological Assessment. The population of Crested

7.2 Unforeseen Circumstances

Unforeseen circumstances, defined as changes in circumstances affecting a species or geographic area covered by the HCP that could not reasonably have been anticipated by the Applicant and the USFWS at the time of the HCP's negotiation and development, and that result in a substantial adverse change in the status of the covered species. Ongoing annual monitoring will be able to assess the status of the Crested caracara, nests sites and territories form year to year over the duration of the permit. If any rapid or major change in the population is observed USFWS will be contacted for assistance and determination of next steps. Changes in the economy/market may delay the rate of mining timeframe and lengthen the duration of the permit past the 10-years, delaying temporary habitat loss reclamation timelines. In the case of an extended mine lifetime, an amendment to increase the duration of the incidental take permit would be requested, as necessary.

8.0 Reporting

Annual reports will be prepared providing a summary of Caracara activities, including the amount of take authorized, the actual impacts to occupied caracara habitat, and survey and monitoring results for the year. The report will be submitted to USFWS by January 31st of each calendar year.

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