**MASTER MINING PLAN**
**RESOLUTION R-13-001**

A Resolution of the Board of County Commissioners of Manatee County, Florida, amending the Master Mining and Reclamation Plan of the Wingate Creek mine to authorize the following; amending Wingate's trucking schedule, area to be mined, mine plan, and reclamation schedules, to be consistent with DRI build-out date; revising the limits of mining and disturbance to include 557.0 acres of extraction and approving the elimination of the 200 ft. setback requirements for the Wingate Creek Mine/Wingate East (FKA Texaco Tract) common property line; allowing exchange of Wingate Extension* and Ft. Green Remnants* sand tailings and overburden with Wingate Creek Mine and Southeast Tract; approving beneficiate / process Wingate Extension* and Ft. Green Remnants* phosphate ore at the Wingate Plant; modifying the waste disposal plan to allow the mining of the Wingate initial clay settling area and to allow the use of conventional clay settling (FM-1 & FM-2) at the Southeast Tract and F-9 at Four Corners Mine for clay storage; updating New Wales as an approved trucking destination with no increase in trucking; granting an exception to recontour the south dam wall of the initial clay settling area into a sight berm within the existing 300 ft. setback from Winding Creek subdivision during mining and reclamation of the initial clay settling area; allowing the continued use of the approved Wingate Corridor; allowing the waiver of specific reclamation items in Ordinance 04-39, Reclamation Manual; amending the Environmental Monitoring Program; providing for an effective date; providing reclamation schedules and enforcement; providing for severability; extending the buildout date for mining until July 31, 2023, trucking until July 31, 2023, and reclamation until to December, 31, 2027.

The Wingate Creek Mine, consisting of ± 3,028 acres, is west of Duette Road, south of Duette Preserve, and east of Logue Road in Sections 6, 19, 20, 21, 28, 29, 30 and 31, Range 22 East, Township 34 South, approximately 2 miles north of SR 64.

**WHEREAS,** pursuant to the provisions of Chapter 2-20 of the Manatee County Code of Laws, the Manatee County Phosphate Mining Code 04-39 (Phosphate Mining Code), Mosaic Fertilizer, LLC, (Mosaic) FKA Cargill Fertilizer LLC., as successors in title to Nu-Gulf Industries, Inc. (NGI), has timely submitted to Manatee County, Florida, (County) an Application for amendment of the Master Mining Plan for the Wingate Creek Mine, together with certain supplemental and supporting documents and materials to conduct phosphate mining operations at said Wingate Creek Mine pursuant to Resolutions identified herein and upon the real property described and mapped in Exhibit 'A'; and

**WHEREAS,** pursuant to the Phosphate Mining Code, Mosaic has requested an amendment to: 1) extend the mine's buildout dates (i.e. trucking schedule, Development Order expiration dates, and reclamation dates); 2) Amend the mining area within the Wingate Creek Mine to authorize mining of 557 acres not previously

approved for mining extraction (i.e. revising the total approved mining at Wingate Creek Mine to 1,809 acres including the initial Wingate Clay Settling Area, prior 200 ft. setback area along the Wingate Creek Mine/ Wingate East (fka Texaco Tract) common property line, and other remnant areas) and approving the elimination of the 200 ft. setback requirement for the Wingate Creek Mine/Wingate East boundary; 3) update the Reclamation Plan as required by these amendments; 4) allow the exchange of Wingate Extension* and Ft. Green Remnants* sand tailings and overburden with Wingate Creek Mine and Southeast Tract; 5) beneficiate and process Wingate Extension* and Ft. Green Remnants* phosphate ore at the Wingate Plant; 6) modify the waste disposal plan to allow the utilization of the clay storage (FM-1 & FM-2) at the Southeast Tract and F-9 at Four Corners Mine; 7) allow the waiver of specific reclamation items in Ordinance 04-39, Reclamation Manual; 8) amend the Environmental Monitoring Plan; and 9) update New Wales as an approved trucking destination 10) grant an exception to recontour the south dam wall of the initial clay settling area into a sight berm within the existing 300 ft. setback from Winding Creek subdivision during mining and reclamation the initial clay settling area; and

**WHEREAS,** pursuant to the provisions of Chapter 2-20 of the Manatee County Code of Laws (Mining Code), Mosaic Fertilizer, LLC, (Mosaic) FKA Cargill Fertilizer, LLC, as successor in title to Wingate Creek Holdings, LLC is substituted as the Applicant for Wingate Creek Holdings, LLC; and

**WHEREAS**, Mosaic Fertilizer, LLC, has an approved Master Mining Plan for the Wingate Creek Mine; and

**WHEREAS**, the original Master Mining Plan for the Wingate Creek Mine in Manatee County was adopted on October 11, 1975. This Master Mining Plan was subsequently amended by Resolutions R-88-236 (approving a settlement agreement where under Manatee County acquired portions of the mine property lying within the Lake Manatee Watershed), R-91-250 (amending the Master Mine Plan to conform to the Amended DRI Development Order) and R-97-242 (amending the Master Mining Plan to conform to the Amended DRI Development Order), R-04-203 (transferring and amending the Master Mine Plan to Cargill Fertilizer, LLC. to conform to the Amended DRI Development Order), R-08-007 (recognizing the name change from Cargill Fertilizer, LLC to Mosaic Fertilizer, LLC and amending the Master Mining Plan to conform to the Amended DRI Development Order), and

**WHEREAS**, MOSAIC FERTILIZER, LLC currently owns and intends to operate and reclaim the Wingate Creek Mine; and

**WHEREAS**, on February 21, 2011, Manatee County received an application from MOSAIC FERTILIZER, LLC to transfer and amend the Master Mine Plan for the Wingate Creek Mine with the Manatee County Board of County Commissioners, pursuant to the provisions of Section 2-20 of the Manatee County Code of Laws; and

**WHEREAS**, notice of the public hearings was published on February 1, 2013, in a

newspaper of local circulation; and

**WHEREAS**, the Manatee County Planning Commission held a duly-noticed public hearing on the transfer, renewal and amendment to the Master Mining Plan on February 14, 2013, and has solicited, received and considered all testimony, reports, comments, evidence and recommendations from interested citizens, County agencies, and the applicant; and

**WHEREAS**, the Manatee County Planning Commission has filed a recommendation on this application; and

**WHEREAS**, the Board of County Commissioners of Manatee County, on February 19, 2013, held a duly-noticed public hearing on the Amendment to the Master Mining Plan and has solicited, received, and considered all testimony, reports, comments, evidence, and recommendations from interested citizens, County agencies and the applicant; and

**WHEREAS**, the Manatee County Board of County Commissioners has received and considered the review and report of the Manatee County Planning Commission; and

**WHEREAS**, the Board of County Commissioners of Manatee County finds that the application to amend the Master Mining Plan meets the standards for Master Mining Plan approval in Chapter 2-20 of the Manatee County Phosphate Mining Code including the vested portions of the mine as authorized under Section 2-20-4; the requirements of the Manatee County Land Development Code (Ordinance 90-01, as amended) and the Manatee County Comprehensive Plan (Ordinance 89-01, as amended).

**NOW THEREFORE, BE IT RESOLVED, by the Board of County Commissioners of Manatee County, Florida, that the Board approves the Master Mining Plan for the Wingate Creek Mine Amendment, subject to the conditions, limitations and restrictions set forth as follows:**

**A. AMENDMENT OF WINGATE CREEK MINE MASTER MINING PLAN.**

This Resolution establishes an amended Master Mining Plan Approval for the Wingate Creek Mine; however, all rights, privileges and approvals granted pursuant to Resolution R-08-007 authorizing a master mining plan for the Wingate Creek Mine remains in full force and effect unless specifically revised herein.

**B. FINDINGS.**

The Board of County Commissioners, after considering the testimony, evidence, documentation, and application for Master Mining Plan amendment approval, and all other matters presented to the Board at the public hearing hereby

makes the following findings of fact:

1. All "WHEREAS" clauses proceeding Section A of this Resolution are adopted as findings of fact.

2. The real property which is the subject of this application is titled the Wingate Creek Mine (approximately 3,028 acres) as described in Exhibit A of this Resolution.

3. The owner and Developer* of the Wingate Creek Mine* is Mosaic Fertilizer, LLC.

4. The authorized agent for the Developer* is Diana M. Jagiella, 13830 Circa Crossing Drive, Lithia, Florida 33547.

5. For purposes of this application, the Developer* is Mosaic Fertilizer, LLC.

9. The proposed amendments to the Wingate Creek Mine* are found to be consistent with the requirements of the Manatee County Comprehensive Plan, and the Manatee County Chapter 2-20 Phosphate Mining Code (Ordinance 04-39*), provided the Developer proceeds in accordance with the Conditions specified in this Resolution, the existing Operating Permit and all subsequent operating permits.

10. The proposed amendments to the Wingate Creek Mine* was found by the Tampa Bay Regional Planning Council (TBRPC) to be consistent with the State Comprehensive Plan and the Comprehensive Regional Policy Plan.

11. All mining operations shall be conducted in strict compliance with Wingate Creek Mine Development of Regional Impact (DRI) Development Order (Ordinance 13-01) as amended, Manatee County Phosphate Mining Code (Ordinance 04-39), the approved Master Mining and Reclamation Plan for the Wingate Creek Mine, the approved Operating Permit, and all applicable approvals and permits issued by a federal or Florida governmental agency or entity. Violation of any of the terms and conditions of said approvals or permits shall be deemed a violation of this Master Mining Plan.

**SECTION C. MASTER MINING PLAN CONDITIONS OF APPROVAL.**

1. Approval of Amended and Restated Master Mine Plan: The application to 1) extend the mine's buildout dates (i.e. trucking schedule, Development Order expiration dates, and reclamation dates); 2) Amend the mining area within the Wingate Creek Mine to authorize mining extraction activities of 557 acres not previously approved for extraction (i.e. revising the total approved mining at Wingate Creek Mine to 1,809 acres including the initial Wingate Clay Settling Area, prior 200 ft. setback along the Wingate / Wingate East (fka Texaco Tract) common property line, and other

remnant areas) and approving the elimination of the 200 ft. setback requirement for the Wingate Creek Mine/Wingate East boundary; 3) update the Reclamation Plan as required by these amendments; 4) allow the exchange of Wingate Extension* and Ft. Green Remnants* sand tailings and overburden with Wingate Creek Mine and Southeast Tract; 5) beneficiate and process Wingate Extension* and Ft. Green Remnants* phosphate ore at the Wingate Plant; 6) modify the waste disposal plan to allow the utilization of the clay storage (FM-1 & 2) at the Southeast Tract and F-9 at Four Corners Mine; 7) allow the waiver of specific reclamation items in Ordinance 04-39, Reclamation Manual; 8) amend the Environmental Monitoring Plan; 9) update New Wales as an approved trucking destination from Wingate; and 10) grant an exception to recontour the south dam wall of the initial clay settling area into a sight berm within the existing 300 ft. setback from Winding Creek subdivision during mining and reclamation the initial clay settling area;. Accordingly, the Master Mining Plan Resolutions (R-04-203 & R-08-007) for Wingate Creek Mine incorporated herein by reference are amended as follows:

A Section 2 of the approved Master Mining Plan is changed to recognize Diana Jagiella as the applicant agent of the Wingate Creek Mine.

B. Section 3 of the approved Master Mining Plan is changed to update the legal description to agree with Wingate Extension* / Wingate East (fka Texaco Tract) Boundary survey.

C. Section 4 of the approved Master Mining Plan is amended to increase the mining area within the Wingate Creek Mine and authorize mining extraction activities of 557 acres not previously approved for extraction (i.e. the initial Wingate Clay Settling Area, prior 200 ft. setback along the Wingate / Wingate East (fka Texaco Tract) common property line, and other remnant areas, to allow exchange of Wingate Extension* and Ft. Green Remnants residual clays, sand tailings and overburden with Wingate Creek Mine and Southeast Tract; and to allow the beneficiation of the Wingate Extension* and Ft. Green Remnants phosphate ore at the Wingate Plant.

D Section 5 of the approved Master Mining Plan is amended to update the mining and reclamation sequence and schedules.

E. Section 10 of the approved Master Mining Plan is amended to authorize modification of the waste disposal plan to allow the mining of the Wingate initial clay settling area and to allow the use of conventional clay settling (FM-1 & 2) at the SE Tract for clay storage and the use of F-9 at Four Corners Mine.

F. Section 12 of the approved Master Mining Plan is amended to add New Wales as an approved trucking destination from Wingate Mine [noting that no route change in Manatee County or increase in trucking is proposed from Wingate]. The transportation route shall expire on July 31, 2023.

G. Section 20 of the approved Master Mining Plan is amended to reflect updated Aerial Photographs.

H. Section 24 of the approved Master Mining Plan is amended to

update the reclamation plan to be consistent with the authorized Amended Development Order. All reclamation shall be completed by July 31, 2027.

I. Section 17 of the approved Master Mining Plan is amended to update the Water Balance.

J. Section 21 of the approved Master Mining Plan is amended to update the UMAM Wetland Analysis to include the isolated wetland to be mined and disturbed.

K. Section 22 of the approved Master Mining Plan is amended to update the Environmental Monitoring Program. The Environmental Monitoring Program is included herein as Exhibit "C".

L. Section 23 of the approved Master Mining Plan is amended to update the Cumulative Impact Analysis in accordance with the Phosphate Mining Code.

M. Section 25 of the approved Master Mining Plan is amended to update the Engineer's Certification.

As amended herein, the Master Mining Plan approved for the Wingate Creek Mine amends Resolution R-08-007. The approval granted pursuant to this Resolution authorizes Mosaic to apply for the transfer, new, or amendment of the Operating Permit for the Wingate Creek Mine to be considered for approval pursuant to Chapter 2-20 (The Manatee County Phosphate Mining Code 04-39), but does not entitle Mosaic to receive such approval.

2. Recompiled Master Mining Plan: A recompiled Master Mining Plan shall be submitted within three (3) months after the adoption of the Operating Permit Resolution, compiling any changes directed by the BOCC or other agencies including detailed maps, descriptions and other materials that are required by Section IV.A and Section V of the Manatee County Phosphate Mining Code (Ordinance 04-39) and submit two (2) copies of the said documentation to the Director, in accordance with paragraph 16 below.

3. Monitoring Program: The monitoring program for the Wingate Creek Mine shall incorporate by reference the monitoring program attached hereto as Exhibit 'C', Monitoring Program Requirements for the Wingate Creek Mine. Revisions to this program must be consistent with the Manatee County Phosphate Mining Code and must be approved in writing by the Director. Mosaic shall submit all report, text and data required by the monitoring plan to Manatee County in a mutually acceptable electronic format. Hard copies will be supplied to Manatee County upon written request by the County.

a. Within 180 days of the approval of Operating Permit, two additional surficial groundwater wells will be installed as depicted in Exhibit 'C'. These wells will have the same monitoring and reporting requirements as existing surficial groundwater wells.

4. Waste Clay Disposal: Developer shall provide an annual update on the existing capacity of clay settling areas FM-1, FM-2 (Southeast Tract Mine) and F-9 (Four Corners Mine) in dry clay tons and the waste clay production schedule for Wingate Creek beneficiation plant for the next annual reporting cycle. The waste clay capacity shall be expressly approved by the Director in writing.

a. No operating permit for the mining of the initial clay settling area will be issued unless and until the applicant has demonstrated that it has secured (through necessary approvals) sufficient uncommitted storage capacity for the clays generated by such mining.

5. Clay Settling Area Abandonment: Prior to the abandonment of the Initial Clay Settling Area (ISA) southern dam wall, Mosaic shall formulate a landscape berm design. The sight berm will be in the same location as the ISA southern dam wall, will be at least 10 ft. in height, and will assist in blocking the view of mining the ISA from Winding Creek subdivision. The berm is subject to and shall be landscaped with vegetation as described below: The design shall include 3 to 5 gallon wax myrtles planted on 10 ft. centers to provide a visual screen along the top of the berm. The berm side slopes and landscape buffer shall be planted in three rows spaced 20 ft. apart on 30 ft. centers with slash pines, live oaks, or other suitable canopy trees. Tree rows shall be planted in staggered pattern and will be a minimum of 3 in. caliper and a minimum of eight ft. in height.

a. The berm design and landscape plan shall be submitted for review and express written approval of the Director.

6. Reclamation Plan: Reclamation of the Amendment Areas shall be subject to Ordinance 04-39, Appendix E, with the exception of those areas previously disturbed by mining activities in which case the Reclamation Manual Guiding Principles Section II, Flora Sections a, g-j, o, and u and Fauna Sections a, b, and c and Section III, Management/Monitoring Guidelines 1 (except as required in Condition 7 below) will not apply. See Exhibit 'D' and Map H-8. All other reclamation shall be completed in accordance with Ordinance 81-22.

7. Site Maintenance: Manual or chemical treatment shall be implemented if the following species coverage exceeds ten (10) percent within 300 ft. of Duette Preserve and/or Wingate Creek Corridor- Level I and II species including: cogon grass, air potato, downy rose myrtle, Lygodium sp.

8. Dredge mining: The applicant has committed to maintaining a dredge mine operation at Wingate Creek Mine.

9. Lake Manatee River Watershed: No new mining extraction activities are proposed under this application within the historical Lake Manatee Watershed. Prior to the commencement of extraction activities in Area 2 and Area 3 (Map H-5), Mosaic shall have the watershed boundary staked in the field using available historical survey information.

10. Wingate Creek: Wingate Creek along with functionally-integrated wetlands (FLUCFCS Codes 617 and 630) and associated 30-foot wetland buffers (FLUCFCS Codes 434 and 310) shall be preserved at the completion of reclamation. Preservation of these habitats address wildlife corridors and connectivity between Duette Preserve and downstream preserved habitats as outlined in the goals, objectives, and policies of the Comprehensive Plan. Preservation may be established by conservation easement or title transfer.

11. Wetland Preservation: The 2.5 acre reclaimed Freshwater Marsh shall be protected in perpetuity through the establishment of a conservation easement. Wetland mitigation will be conducted in accordance with Wetland Resource Permit No. 0095520, UMAM sheets (Exhibit 'F'), and the standards in the Phosphate Mining Code, 04-39.

12. Technology: Revision or upgrades to the operation and/or facilities required by other agencies with regulatory authority or upgrades such as the addition of equipment or technology to improve efficiencies may be approved administratively if they do not constitute a significant amendment to the Master Mining Plan.

13. Notice: All notices, requests and annual reports provided for herein shall be in writing and shall be hand-delivered or sent through the U.S. Mail, addressed as follows:

To the County: Manatee County Natural Resources Department
202 6th Avenue East
Bradenton, Florida 34208
Attn: Director

To Mosaic: Mosaic Fertilizer, LLC.
13830 Circa Crossing Drive
Lithia, Florida 33547
Attn: Diana M. Jagiella
Director Mine Regulatory Affairs

OR addressed to either party at such other address or as such party shall hereafter furnish to the other party in writing. If any such notice, request or authorization is delivered by hand, it shall be deemed to have been received when so delivered. If any such notice, request or authorization is delivered through the U.S. Mail, it shall be sent by registered mail, postage paid and return receipt requested, and shall be deemed to have been delivered when deposited in the U.S. Mail.

14. Radiation: The Wingate Creek Mine* shall be in compliance with the radiation standards under Section 2-20-21 (12) of the Phosphate Mining Code where pre-mining background monitoring is available. For all other areas where mining and disturbance occurred prior to Ordinance 81-22 and background monitoring is not available in the mine, the weighted average soil concentration of radium for all such reclaimed lands, which are not reclaimed clay ponds, sand clay mix areas or are not reclaimed as lakes or wetlands, the top six ft. shall not exceed 8.8 pCi/gram.

15. Mining Schedule: Mining is to proceed according to this Master Mining Plan. It is expressly recognized that the mining blocks, rates and schedules provided in the application to amend the Master Mining Plan (and attached in Exhibit 'B') are estimates based upon the maximum rate anticipated. Accordingly, mining blocks and rates may vary depending upon market conditions and other permit requirements and schedules. However, reclamation and revegetation shall proceed immediately after mining extraction activities cease in each parcel and in no case shall exceed the schedules for reclamation outlined in Table 35-5 in Exhibit 'B'. Actual mining schedules and acreages will be documented in the annual reports submitted to the Director. Sand tailings balance and available waste clay storage shall also be documented in the annual reports submitted to the Director.

16. Severability: If any section, sentence, clause, phrase or word of this Resolution is for any reason held or declared to be unconstitutional, inoperative or void, such holding or validation shall not affect the remaining portions of this Resolution, and those remaining provisions shall be deemed to be valid as if such invalid parts had not been included herein.

17. Effective Date: This Resolution shall become effective upon its adoption by the Board of County Commissioners of Manatee County, Florida.

Attachments:

- Exhibit A - Property Description
- Exhibit B – Mining and Reclamation
  - Table 1 - Estimated Annual Production Schedule
  - Table 2 – Estimated Production Amendment Lands Only
  - Table 3 – Plant Mining (Acres) Summary
  - Table 5 – Conceptual Yearly Reclamation Schedule (acres)
  - Table 7 – Proposed Reclamation Land Use Changes from Wingate MMP Amendments
  - Table 35-5 Reclamation Schedule
  - Map A-1 - General Location Map
  - Map H-1 – Composite Mining Sequence
  - Map H-3 - Annual Mining Blocks (Revised Aug 2012)
  - Map H-5 – Proposed Additional Mining Areas (Revised Aug 2012)
  - Map H-6 - Clay Settling Locations
  - Map H-7 - Reclamation Schedule

- Map H-8 – Post Reclamation Land Uses, Ordinance 04-39 Areas
- Map F-1 - 2008 Approved Post Reclamation Land Use
- Map H-9 - Proposed Post Reclamation Land Use
- Map 5 - Pre-Mining Topography
- Map H-11 – Proposed Post Reclamation Topography
- Map 12 - Composite Pre-Mining Land Use & Topography Map
- H-14 - 200 Ft. Prior Setback Wetland Delineation
- Map H-15 – Wetland Mitigation
- Map 13 – Post Reclamation Wingate Creek Preservation
- Map J-2 - Transportation Map

- Exhibit C - Monitoring Program Requirements
- Exhibit D - Ordinance 04-39 Reclamation Manual Guiding Principles with Respect to Wingate Creek Mine Master Mining Plan Amendment Areas
- Exhibit E – Trucking Operation Requirements
- Exhibit F – Prior 200 Ft. Setback Wetland UMAM Summary

**ADOPTED,** with a quorum present and voting, this 19 day of February, 2013.

**BOARD OF COUNTY COMMISSIONERS OF MANATEE COUNTY, FLORIDA**

Larry Bustle, Chairman

**ATTEST: R.B. SHORE**
**Clerk of the Circuit Court**

**By:** _____
**Deputy Clerk**

BOARD OF COUNTY COMMISSIONERS SEAL MANATEE CO., FLA.

EXHIBIT A
PROPERTY DESCRIPTION

# Wingate Creek Mine – Legal Description

Revised 11/2010

## Legal Description Summary

| | |
|---|---|
| Parcel B | 1,221.93 Acres |
| Parcel C | 1,983.43 Acres |
| Parcel D | 4.50 Acres |
| Total | 3,209.86 Acres |
| **LESS** 101.00 Acres (Conveyed 2/14/95 to BB/Manatee) | 101.00 Acres |
| **LESS** 80.74 Acres (Conveyed 12/31/2003 to Manfull) | 80.74 Acres |
| Total Ownership 1/1/2004 | 3028.12 Acres |

## Parcel B

A portion of Section 31, Township 34 South, Range 22 East, Section 1, Township 35 South, Range 21 East, and Section 6, Township 35 South, Range 22 East, Manatee County, Florida, described as follows:

Begin at the Northeast corner of said Section 31; thence S03°06'04"W along the East line of Section 31 a distance of 5,597.16 feet to the Southeast corner of Section 31; thence S86°01'22"E a distance of 181.26 feet to the Northeast corner of said Section 6; thence S00°10'03"W along the East line of said Section 6 a distance of 4,313.41 feet to the North Right of Way of State Road 64; thence S 89°46'10" W along said North Right of Way a distance of 5,135.92 feet to a point on the easterly right of way line of State Road 39; thence northerly along said easterly right of way line the following eight courses; thence N00°22'04"E a distance of 547.65 feet to the PC of a curve to the left having a radius of 5829.58 feet; thence northerly along the arc of said curve, a distance of 1,199.10 feet through a central angle of 11°47'07" to the PT of said curve; thence N11°25'03"W a distance of 299.77 feet to the PC of a curve to the right having a radius of 5,629.58 feet; thence northerly along the arc of said curve, a distance of 1,157.96 feet through a central angle of 11°47'07" to the PT of said curve; thence N00°22'04"E 492.85 feet; thence N00°23'36"E a distance of 1,048.04 feet to a point on the South line of Section 31; thence N00°39'14"E a distance of 2,308.73 feet; thence N00°38'55"E 3,000.21 feet to the North line of Section 31; thence S88°58'59"E a distance of 5,483.21 feet to the Point of Beginning.

Subject to Pertinent easements, right of way and restrictions of record.
Containing 1,221.93 Acres, more or less.

**Parcel C**

A portion of Sections 19, 20, 21, 28, 29 and 30, Township 34 South, Range 22 East, Manatee County described as follows:

Begin at the Southeast corner of said Section 28; thence N89°11'57"W along the South line of Section 28 a distance of 5,281.63 feet to the Southeast corner of said Section 29; thence N88°43'36"W along the South line of Section 29 a distance of 2,712.00 feet to the Southwest corner of the Southeast quarter of Section 29; thence continue along said South line N88°44'14"W a distance of 2,712.91 feet to the Southwest corner of section 29; thence N00°27'08"W along said East line a distance of 2,641.36 feet; thence N89°00'35"W a distance of 2,415.37 feet; thence N01°01'08"E a distance of 1,,408.21 feet; thence N58°31'59"E a distance of 2,231.20 feet; thence N08°20'48"W a distance of 225.59 feet; thence N41°44'37"E a distance of 3,358.19 feet; N89°59'58"E a distance of 1,199.98 feet; thence S 00°00'31"W a distance of 517.58 feet; thence N89°59'45"E a distance of 7,809.05 feet to the East line of said Section 21; thence S00°17'13"W a distance of 2,415.01 feet to the Northeast corner of Section 28; thence S00°07'59"E along the East line of said Section 28 a distance of 2,622.74 feet to the Southeast corner of the Northeast quarter of Section 28; thence S 00°08'20" E along the East line of Section 28 a distance of 2,623.72 feet to the Point of Beginning.

Containing 1,983.43 Acres, more or less.

**Parcel D**

A portion of Section 30, Township 34 South, Range 22 East, Manatee County, Florida, described as follows:

Begin at the Southeast corner of said Section 30; thence N88°58'59"W along the South line Section 30 a distance of 520.05 feet; thence N34°36'53"E a distance of 904.88 feet to the East line of Section 30; thence S00°27'08"E along said East line a distance of 753.96 feet to the Point of Beginning.

Containing 4.50 Acres, more or less.

**LESS Description:** Nugulf 101 Acre parcel (revised)

From the northeast corner of Section 1, Township 35 South, Range 11 East, run N88°17'40"W Along the north line of said section 1, a distance of 102.34 feet to the east right of way line of State Road 39; thence S00°23'36"W. Along said east line a distance of 1,047.92 feet to the Point of Beginning; thence continuing southerly along said east right of way line the following five courses; thence S00°22'04"W a distance of 492.85 feet to the PC of a curve to the left having a radius of 5,629.58 feet: thence southerly on the arc of said curve to the left, a distance of 1,157.96 feet through a central angle of 11°47'07" to the PT; thence S11°25'03"E a distance of 299.77 feet to the PC of a curve to the right having a radius of 5829.58 feet; thence southerly along the arc of said curve to the right a distance of 1,199.10 feet through a central angle of 11°47'07" to the PT; thence S00°22'04"W a distance of 547.42 feet to the northerly right of way line of State Road 64; thence N89°45'53"E on said north right of way line, a distance of 1,836.35 feet; thence N00°22'21"E. A distance of 1,755.02 feet; thence N89°37'33"W a distance of 959.14 feet; thence N 34°58'21"W a distance of 1,348.55 feet; thence N00°22'05"E a distance of 800.00 feet; thence N 89°37'24"W a distance of 400.17 feet to the Point of Beginning.

Lying and being in Section 1, Township 35 South., Range 21 East and Section 6 Township 35 South, Range 22 East, Manatee County, Florida.

Subject to pertinent easements, right of way and restrictions of record.

Containing 101 acres, more or less.

**LESS Description:** Manfull 81-Acre parcel, purchased December 31, 2003

Commencing at the Northwest corner of Section 31, Township 34 South, Range 22 East, thence S88°58'59"E a distance of 100.25 feet to the Point of Beginning; also being a point on the easterly right of way line of State Road 39 (Logue Road); thence S88°58'59"E along the northerly line of said section 31, 1,300.00 feet; thence S01°01'03"W a distance of 700.01 feet; thence S88°59'25"E a distance of 329.91 feet; thence S01°59'70"W a distance of 700.03 feet; thence N88°59'02"W a distance of 330.09 feet; thence S01°00'34"W a distance of 700.00 feet; thence N88°58'59"W a distance of 650.00 feet; thence S01°00'38"W a distance of 900.31 feet; thence N88°58'06"W a distance of 630.82 feet; thence N00°38'55"E along said easterly right of way line of State Road 39 (Logue Road), a distance of 3,000.21 feet to the Point of Beginning.

Lying and being in Section 31, Township 34 South, Range 22 East.

Containing 80.74 acres, more or less.

EXHIBIT B
MINING AND RECLAMATION
TABLE OF CONTENTS

Table 1
Wingate Creek Mine
Estimated Annual Production Schedule

| Years | Acres Mined/Yr | Total Product Tons (000) | Average Production Per Year X 1000 (Tons & Cu Yds) | | | |
|---|---|---|---|---|---|---|
| | | | Tailings | Clay | Overburden | Matrix |
| Actual to date | 980 | | | | | |
| 2012-2023 | 130 | 1,500 | 5,500 | 1,000 | 5,800 | 5,600 |
| | | | | | | |
| Max/Year | 175 | 2,200 | 10,200 | 1,400 | 11,300 | 9,950 |
| | | | | | | |
| Sub-total | 1,252 | | | | | |
| Grand Total | 1,809 | | | | | |

Table 2
Wingate Creek Mine
Estimated Production Amendment Lands Only

| | Mined Acres | Total Product Tons (000) | Tailings Tons (000) | Clay Tons (000) | Overburden Yds (000) | Matrix Yds (000) |
|---|---|---|---|---|---|---|
| | | | | | | |
| Total | 557 | 6,300 | 20,200 | 5,200* | 36,900 | 25,400 |

* an additional 2,400,000 tons will be moved from Initial Clay Settling Area

Table 3
Wingate Creek Mine – Plant Mining (Acres) Summary

| Year | Wingate Creek Mine | Wingate Amendment | Wingate Extension | SE Tract | Ft. Green Reserves |
|---|---|---|---|---|---|
| 2012 | 81 | 4 | - | 52 | 82 |
| 2013 | 18 | 38 | - | 26 | 78 |
| 2014 | 4 | 8 | 58 | - | - |
| 2015 | 5 | 10 | 102 | - | - |
| 2016 | - | - | 168 | - | - |
| 2017 | 5 | 12 | 113 | - | - |
| 2018 | - | - | 145 | - | - |
| 2019 | - | 104 | 36 | - | - |
| 2020 | - | 120 | - | - | - |
| 2021 | - | 120 | - | - | - |
| 2022 | 14 | 110 | - | - | - |
| 2023 | 161 | 14 | - | - | - |
| Tract Totals | | 557 | 622 | 78 | 160 |

## TABLE 5

| Conceptual Yearly Reclamation Schedule* (acres) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Years** | **Annual Mined** | **Cumulative Mining** | **Total Disturbance** | **Total Dist / Mined** | **Annual Reclamation** | **Cumulative Reclamation** | **Net Disturbed Unreclaimed** |
| Prior to | 980 | 980 | 1,598 | 2,578 | 927 | 927 | 1,651 |
| 2012 | 85 | 1,065 | 1,513 | 2,578 | 69 | 996 | 1,582 |
| 2013 | 58 | 1,122 | 1,458 | 2,580 | 143 | 1,140 | 1,440 |
| 2014 | 12 | 1,134 | 1,449 | 2,582 | 76 | 1,215 | 1,367 |
| 2015 | 15 | 1,149 | 1,433 | 2,582 | 81 | 1,296 | 1,287 |
| 2016 | 0 | 1,149 | 1,436 | 2,585 | 71 | 1,366 | 1,219 |
| 2017 | 17 | 1,166 | 1,419 | 2,585 | 103 | 1,469 | 1,116 |
| 2018 | 0 | 1,166 | 1,426 | 2,592 | 80 | 1,549 | 1,043 |
| 2019 | 104 | 1,270 | 1,322 | 2,592 | 56 | 1,605 | 987 |
| 2020 | 120 | 1,390 | 1,202 | 2,592 | 78 | 1,683 | 909 |
| 2021 | 120 | 1,510 | 1,082 | 2,592 | 0 | 1,683 | 909 |
| 2022 | 124 | 1,634 | 958 | 2,592 | 15 | 1,698 | 894 |
| 2023 | 175 | 1,809 | 783 | 2,592 | 165 | 1,863 | 729 |
| 2024 | 0 | 1,809 | 783 | 2,592 | 511 | 2,374 | 218 |
| 2025 | 0 | 1,809 | 783 | 2,592 | 0 | 2,374 | 218 |
| 2026 | 0 | 1,809 | 783 | 2,592 | 0 | 2,374 | 218 |
| 2027 | 0 | 1,809 | 783 | 2,592 | 218 | 2,592 | 0 |
| | | | | | | | |
| **Total:** | | **1,809** | | **2,592** | | **2,592** | **0** |

* estimate timing based on Wingate's Mine Plan as depicted on Map H-3

## TABLE 7

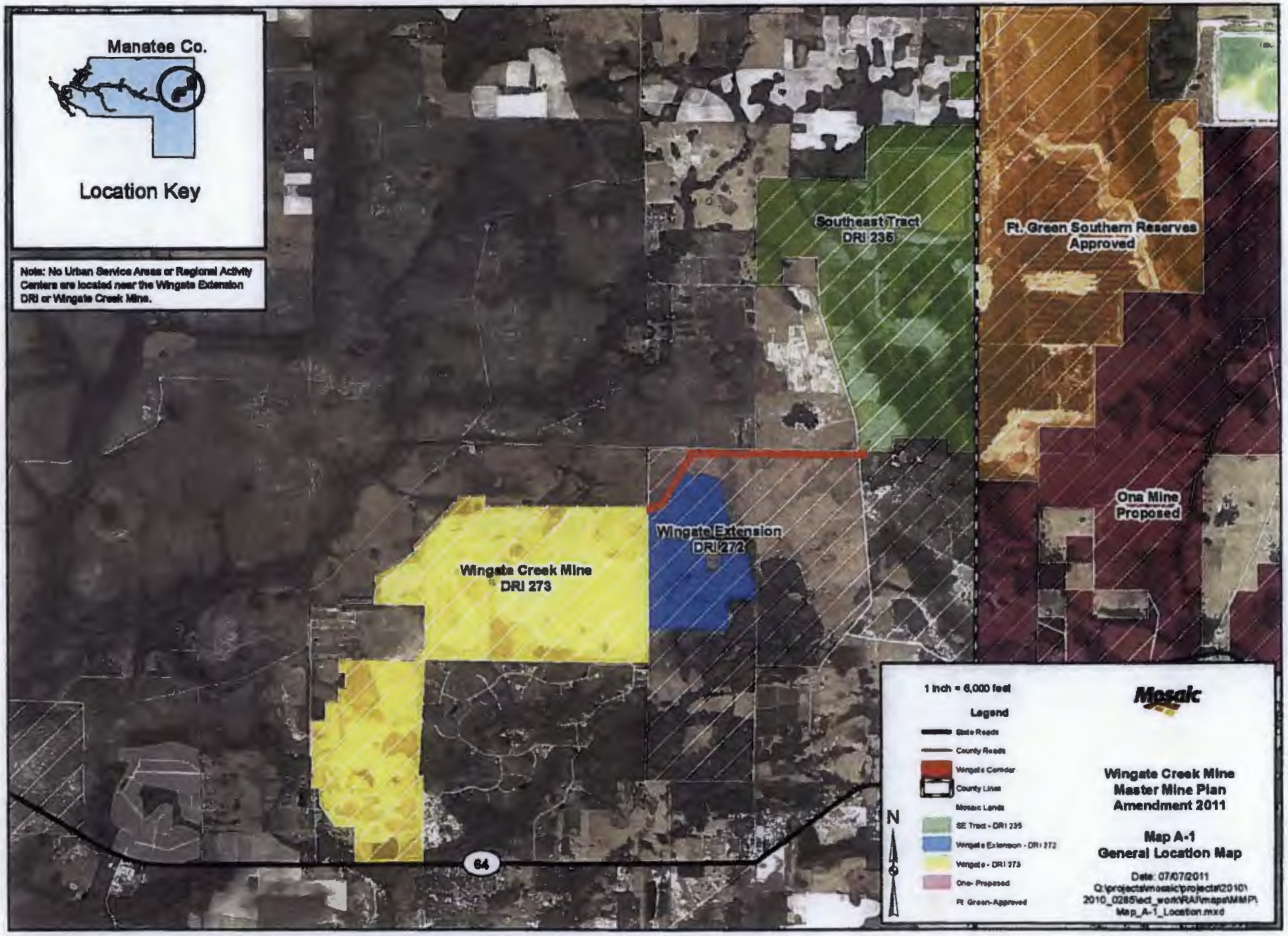
| Wingate Creek Mine - Master Mine Plan | | | | |
|---|---|---|---|---|
| **Proposed Reclamation Land Use Changes From Wingate MMP Amendments** | | | | |
| Post Reclamation Land Use | | Approved 2008 MMP | Proposed 2011 MMP | Difference Pro. - App. |
| FLUCFCS | Description | Acres | Acres | Acres |
| 210 | CROPLAND & PASTURELAND | 1,682 | 1,716 | 34 |
| 211 | IMPROVED PASTURES | 5 | 5 | 0 |
| 310 | HERBACEOUS (DRY PRAIRIE) | 165 | 161 | -4 |
| 320 | SHRUB AND BRUSHLAND | 357 | 356 | 0 |
| 410 | CONIFEROUS FOREST | 43 | 43 | 0 |
| 420 | HARDWOOD FOREST | 94 | 94 | 0 |
| 434 | MIXED FOREST | 202 | 214 | 13 |
| 510 / 512 | STREAMS AND WATERWAYS | 5 | 6 | 1 |
| 520 / 522 | LAKES (Low Water) | 194 | 138 | -56 |
| 617 | MIXED WETLAND HARDWOODS | 82 | 82 | 0 |
| 630 | WETLAND - MIXED FOREST | 37 | 38 | 1 |
| 640 / 641 | WETLAND - NON-FORESTED | 112 | 112 | 0 |
| 647 | SHRUBBY MARSH | 30 | 30 | 0 |
| 810 | TRANSPORTATION | 20 | 32 | 12 |
| **Grand Total** | | 3,028 | 3,028 | |

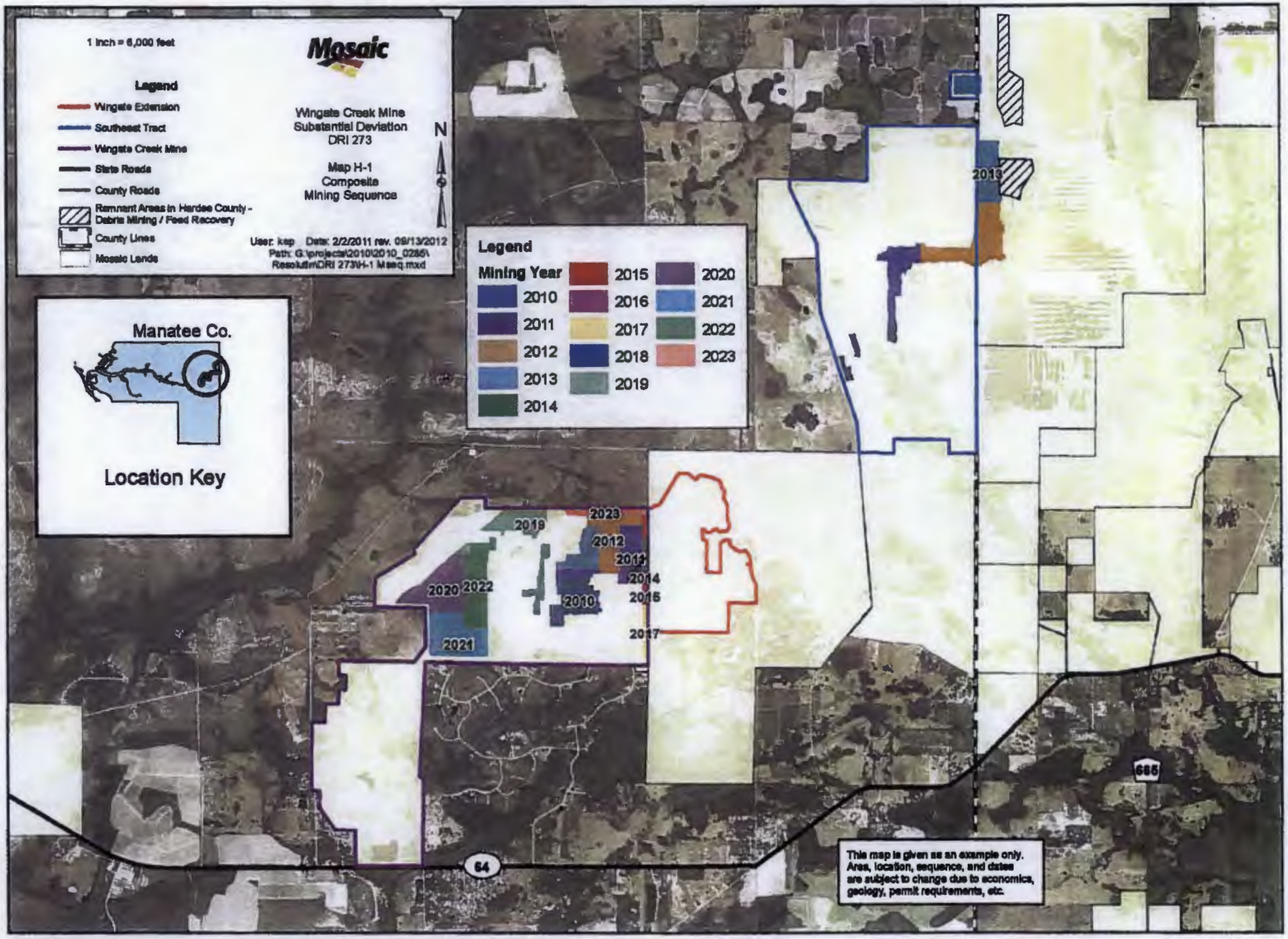
Note: Land Uses cover the whole mine less Program NGI-WC-CPD, which was released and deleted from the mine boundary by Manatee County in 2003/04, but is still within the FDEP Conceptual Plan Boundary

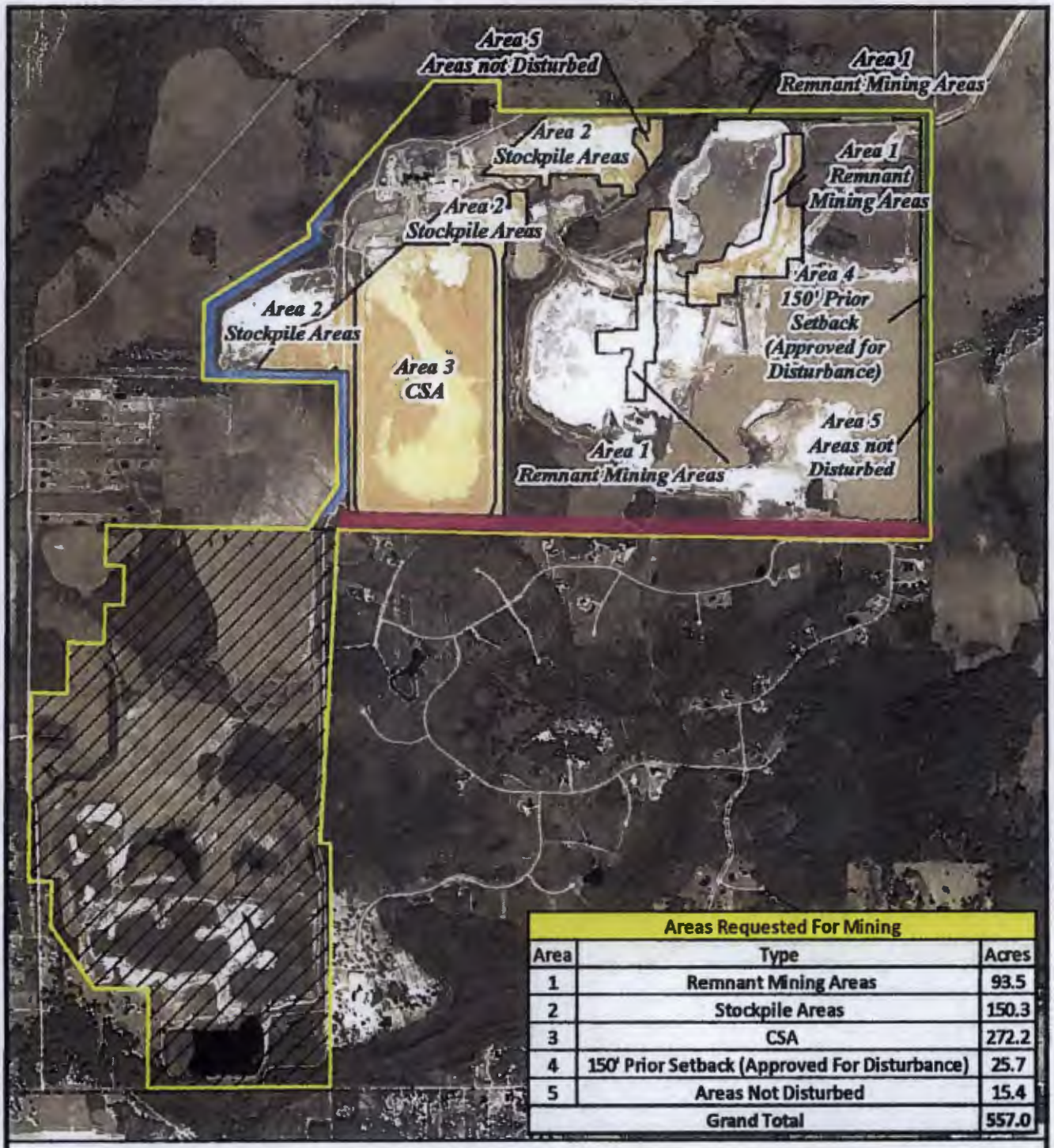
Table 35-5
Wingate Creek Mine
Reclamation Schedule

| Mining Method | Reclamation Activity | *Time - Years |
|---|---|---|
| Dragline Mining | 0. End of Mine Use | --- |
| | 1. Contour - Earthwork | 18 months |
| | 2. Re-Vegetation | 6 months |
| | 3. Establishment Period | 1 year |
| | **Total Time** | **3 years** |
| Dredge Mining | 0. End of Mine Use | --- |
| | 1. Contour – Earthwork | 30 – 42 months |
| | 2. Re-Vegetation | 6 months |
| | 3. Establishment Period | 1 year |
| | **Total Time** | **4 – 5 years** |

*Note – Times are based on completion of all mining activities within a program or logical reclamation unit area that allows for reclamation of a sub basin system rather than partial system.


Manatee Co.
Location Key
Note: No Urban Service Areas or Regional Activity Centers are located near the Wingate Extension DRI or Wingate Creek Mine.
Southeast Tract DRI 235
Ft. Green Southern Reserves Approved
Ona Mine Proposed
Wingate Extension DRI 272
Wingate Creek Mine DRI 273
64
1 inch = 6,000 feet
Legend
State Roads
County Roads
Wingate Corridor
County Lines
Mosaic Lands
SE Tract - DRI 235
Wingate Extension - DRI 272
Wingate - DRI 273
Ona- Proposed
Ft Green-Approved
N
Mosaic
Wingate Creek Mine
Master Mine Plan
Amendment 2011
Map A-1
General Location Map
Date: 07/07/2011
Q:\projects\mosaic\projects\2010\2010_0285\ect_work\RA\maps\MMP\Map_A-1_Location.mxd


1 inch = 6,000 feet
Mosaic
Legend
Wingate Extension
Southeast Tract
Wingate Creek Mine
State Roads
County Roads
Remnant Areas in Hardee County - Debris Mining / Feed Recovery
County Lines
Mosaic Lands
Wingate Creek Mine
Substantial Deviation
DRI 273
Map H-1
Composite
Mining Sequence
N
User: kep Date: 2/2/2011 rev. 09/13/2012
Path: G:\projects\2010\2010_0286\
Resolution\DRI 273\H-1 Mseq.mxd
Legend
Mining Year
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Manatee Co.
Location Key
2019
2023
2012
2011
2014
2015
2020
2022
2010
2021
2017
2013
64
665
This map is given as an example only. Area, location, sequence, and dates are subject to change due to economics, geology, permit requirements, etc.




| Areas Requested For Mining | | |
|---|---|---|
| Area | Type | Acres |
| 1 | Remnant Mining Areas | 93.5 |
| 2 | Stockpile Areas | 150.3 |
| 3 | CSA | 272.2 |
| 4 | 150' Prior Setback (Approved For Disturbance) | 25.7 |
| 5 | Areas Not Disturbed | 15.4 |
| | Grand Total | 557.0 |

**Legend**

- Project Boundary
- Reclamation Complete
- 50' Mining Setback (Exagerated for Graphic Purposes)
- 200' Mining Setback
- 300' Mining Setback
- Areas Requested For Mining

N W E S

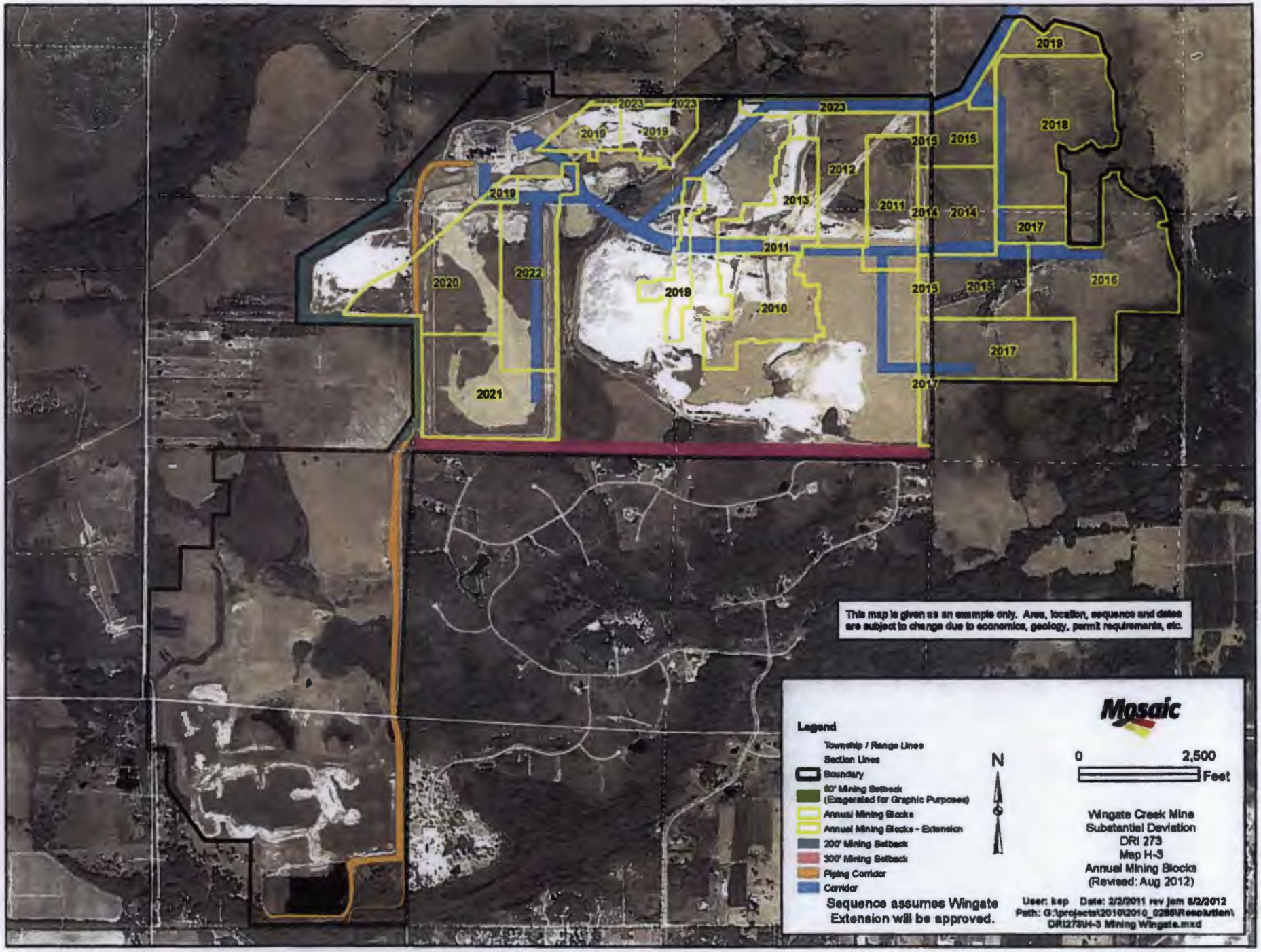
0 2,500 Feet

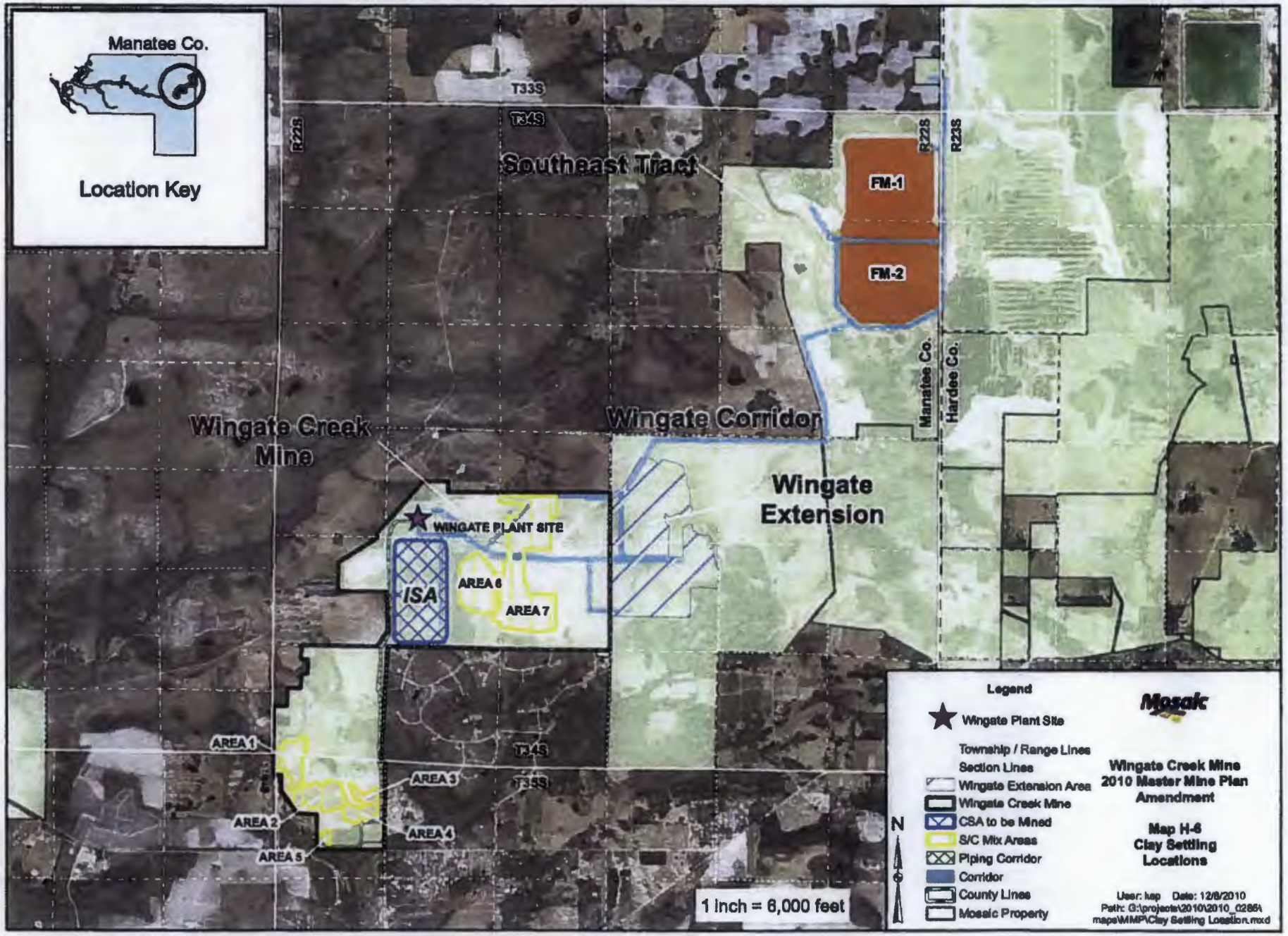
Mosaic

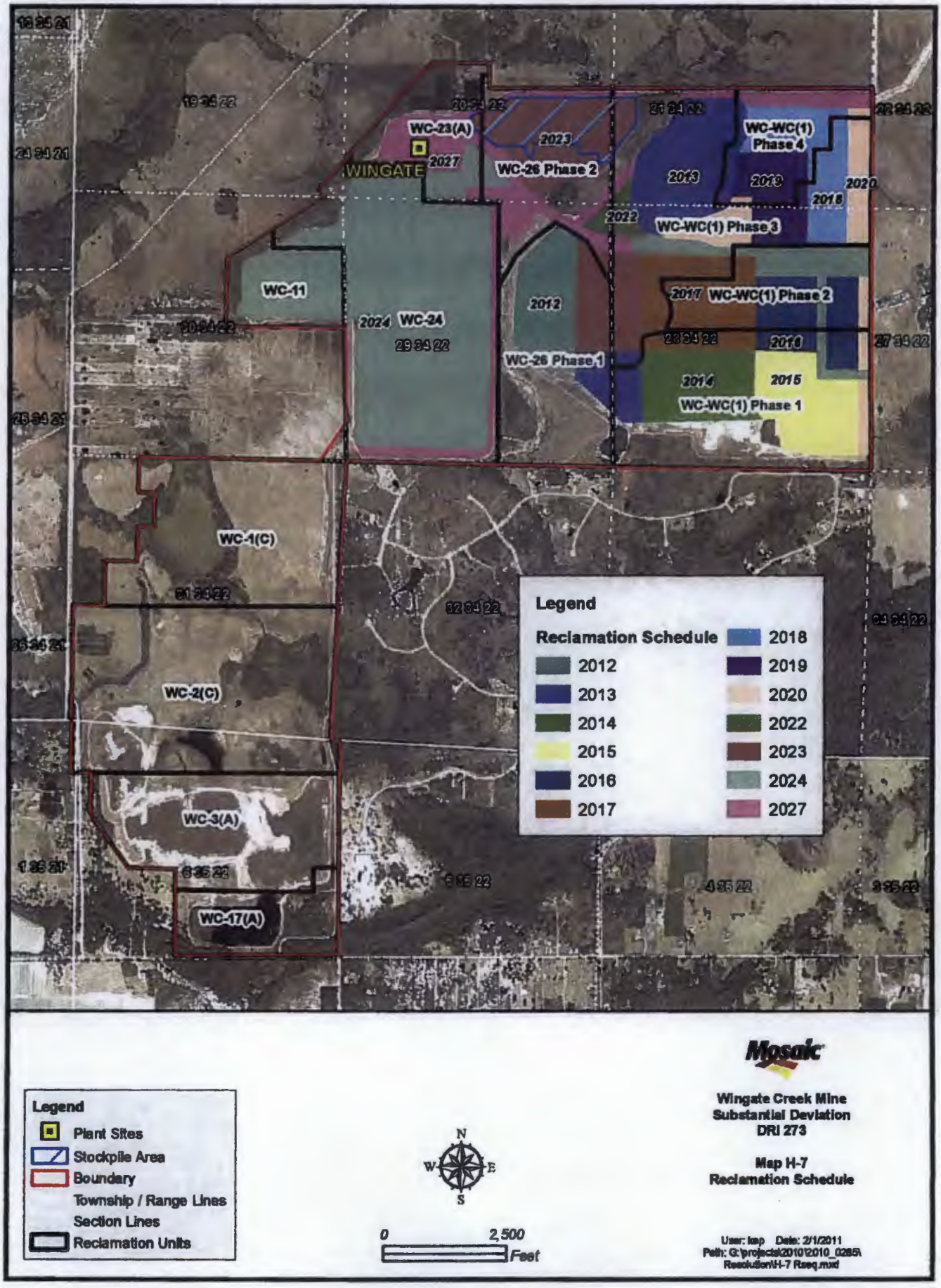
**Wingate Creek Mine**
**Substantial Deviation**
**DRI 273**

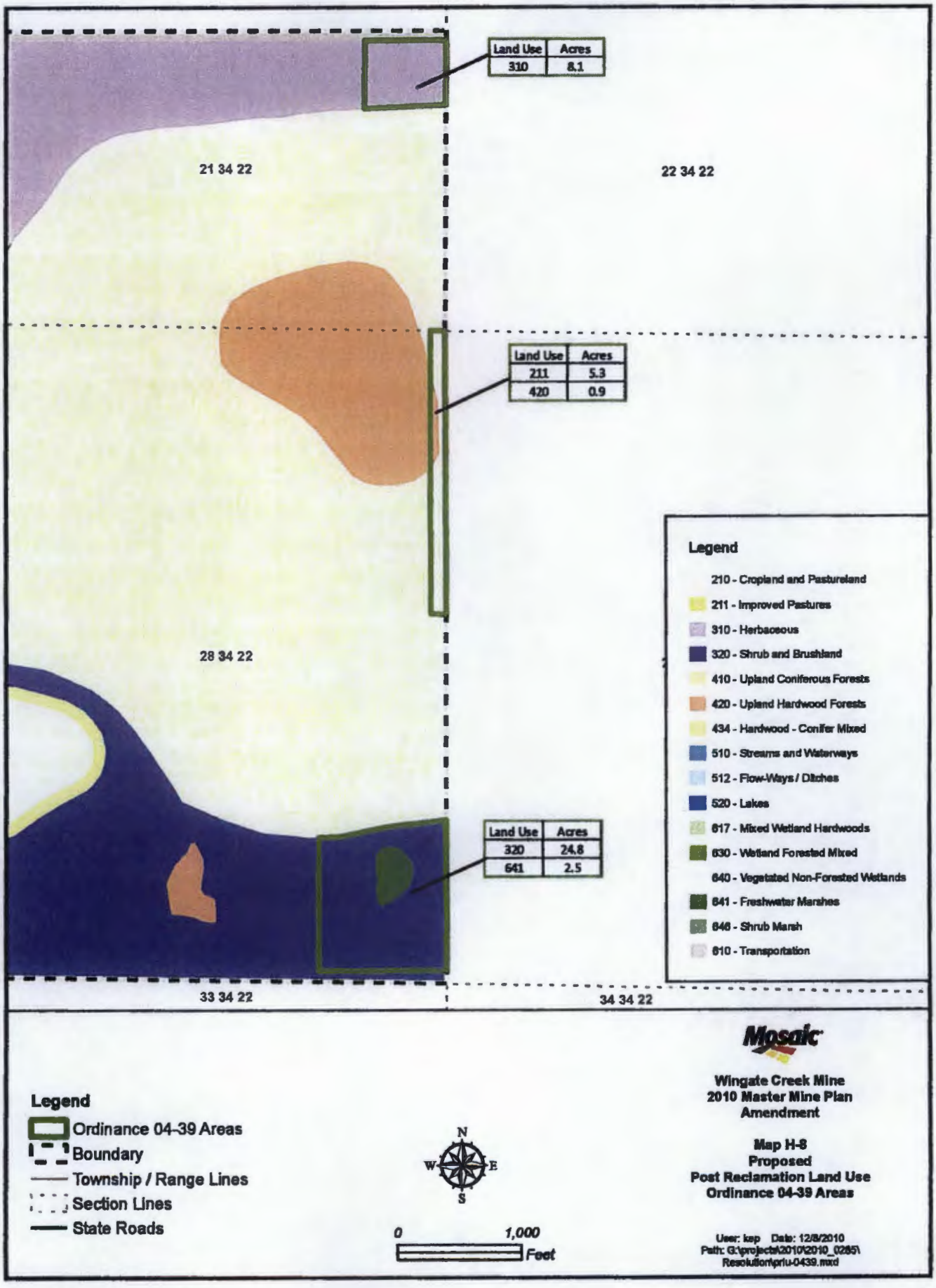
**Map H-5**
**Proposed Additional Mining Areas**
**(Revised: Aug 2012)**

User: kap Date: 8/1/2012 rev ymz 8/2/2012
Path: G:\projects\2010\2010_0285\Resolution\DRI 273\H-5 Mine Disturb.mxd


2019
2023
2023
2023
2019
2019
2018
2015
2015
2012
2019
2013
2011
2014
2014
2017
2011
2022
2020
2019
2010
2015
2015
2016
2017
2021
2017
This map is given as an example only. Area, location, sequence and dates are subject to change due to economics, geology, permit requirements, etc.
Legend
Township / Range Lines
Section Lines
Boundary
50' Mining Setback (Exagerated for Graphic Purposes)
Annual Mining Blocks
Annual Mining Blocks - Extension
200' Mining Setback
300' Mining Setback
Piping Corridor
Corridor
Sequence assumes Wingate Extension will be approved.
N
0
2,500
Feet
Wingate Creek Mine
Substantial Deviation
DRI 273
Map H-3
Annual Mining Blocks
(Revised: Aug 2012)
User: kep Date: 2/2/2011 rev jam 8/2/2012
Path: G:\projects\2010\2010_0286\Resolution\DRI273\H-3 Mining Wingate.mxd


Manatee Co.
Location Key
T33S
T34S
R22S
R23S
Southeast Tract
FM-1
FM-2
Manatee Co.
Hardee Co.
Wingate Creek Mine
Wingate Corridor
Wingate Extension
WINGATE PLANT SITE
ISA
AREA 6
AREA 7
AREA 1
AREA 2
AREA 3
AREA 4
AREA 5
1 inch = 6,000 feet
Legend
Wingate Plant Site
Township / Range Lines
Section Lines
Wingate Extension Area
Wingate Creek Mine
CSA to be Mined
S/C Mix Areas
Piping Corridor
Corridor
County Lines
Mosaic Property
N
Mosaic
Wingate Creek Mine
2010 Master Mine Plan
Amendment
Map H-6
Clay Settling
Locations
User: kap Date: 12/8/2010
Path: G:\projects\2010\2010_0285\
maps\MMP\Clay Settling Location.mxd


WC-23(A)
2027
WINGATE
2023
WC-26 Phase 2
WC-WC(1) Phase 4
2013
2019
2020
2018
2022
WC-WC(1) Phase 3
WC-11
2012
2017
WC-WC(1) Phase 2
2024
WC-24
2016
WC-26 Phase 1
2014
2015
WC-WC(1) Phase 1
WC-1(C)
WC-2(C)
WC-3(A)
WC-17(A)
Legend
Reclamation Schedule
2012
2013
2014
2015
2016
2017
2018
2019
2020
2022
2023
2024
2027
Legend
Plant Sites
Stockpile Area
Boundary
Township / Range Lines
Section Lines
Reclamation Units
N
W
E
S
0
2,500
Feet
Mosaic
Wingate Creek Mine
Substantial Deviation
DRI 273
Map H-7
Reclamation Schedule
User: kep Date: 2/1/2011
Path: G:\projects\2010\2010_0285\Reclution\H-7 Rseq.mxd


Land Use | Acres
310 | 8.1
21 34 22
22 34 22
Land Use | Acres
211 | 5.3
420 | 0.9
28 34 22
Land Use | Acres
320 | 24.8
641 | 2.5
33 34 22
34 34 22
Legend
210 - Cropland and Pastureland
211 - Improved Pastures
310 - Herbaceous
320 - Shrub and Brushland
410 - Upland Coniferous Forests
420 - Upland Hardwood Forests
434 - Hardwood - Conifer Mixed
510 - Streams and Waterways
512 - Flow-Ways / Ditches
520 - Lakes
617 - Mixed Wetland Hardwoods
630 - Wetland Forested Mixed
640 - Vegetated Non-Forested Wetlands
641 - Freshwater Marshes
646 - Shrub Marsh
810 - Transportation
Legend
Ordinance 04-39 Areas
Boundary
Township / Range Lines
Section Lines
State Roads
N
W
E
S
0
1,000
Feet
Mosaic
Wingate Creek Mine
2010 Master Mine Plan
Amendment
Map H-8
Proposed
Post Reclamation Land Use
Ordinance 04-39 Areas
User: kep Date: 12/8/2010
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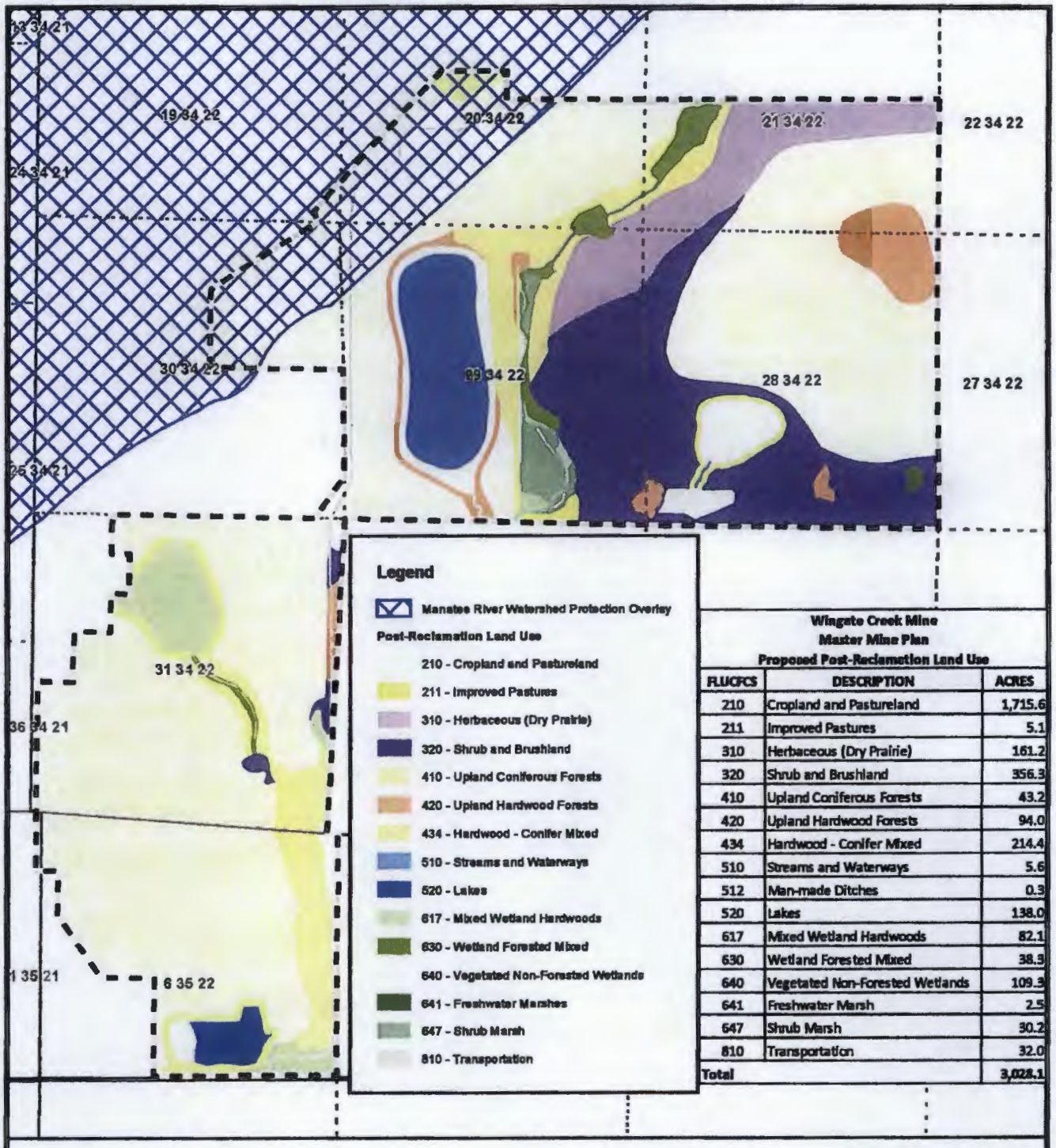
Resolution\prlu-0439.mxd




**Wingate Creek Mine**
**Master Mine Plan**
**Proposed Post-Reclamation Land Use**

| FLUCFCS | DESCRIPTION | ACRES |
|---|---|---|
| 210 | Cropland and Pastureland | 1,715.6 |
| 211 | Improved Pastures | 5.1 |
| 310 | Herbaceous (Dry Prairie) | 161.2 |
| 320 | Shrub and Brushland | 356.3 |
| 410 | Upland Coniferous Forests | 43.2 |
| 420 | Upland Hardwood Forests | 94.0 |
| 434 | Hardwood - Conifer Mixed | 214.4 |
| 510 | Streams and Waterways | 5.6 |
| 512 | Man-made Ditches | 0.3 |
| 520 | Lakes | 138.0 |
| 617 | Mixed Wetland Hardwoods | 82.1 |
| 630 | Wetland Forested Mixed | 38.3 |
| 640 | Vegetated Non-Forested Wetlands | 109.3 |
| 641 | Freshwater Marsh | 2.5 |
| 647 | Shrub Marsh | 30.2 |
| 810 | Transportation | 32.0 |
| Total | | 3,028.1 |

**Legend**
- Manatee River Watershed Protection Overlay
- Boundary
- Section Lines
- Township / Range Lines
- State Roads

N
W E
S

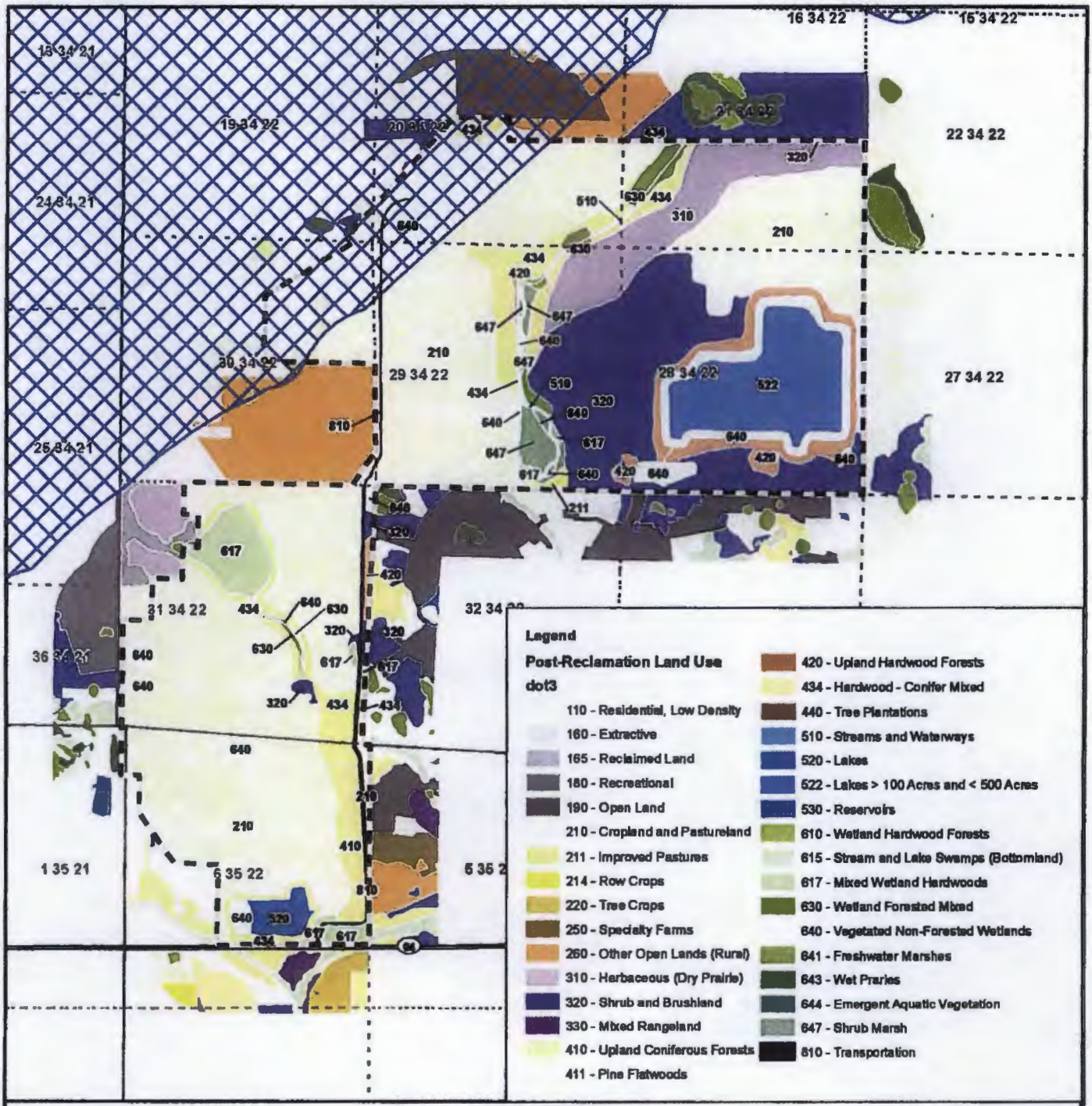
0 2,500 Feet

Mosaic

**Wingate Creek Mine**
**Master Mine Plan**
**Amendment 2011**

**Map H-9**
**Proposed**
**Post-Reclamation Land Use**

Date: 07/07/11
C:\projects\mosaic\projects\2010\2010_0285\ect_work\RAI\maps\MMP\Map_H-9_prlu proposed.mxd




Legend

- Manatee River Watershed Protection Overlay
- Boundary
- Township / Range Lines
- Section Lines
- State Roads

0 3,000 Feet

Source: SWFWMD, 2009; MOSAIC, 2011; ECT, 2011

**Wingate Creek Mine**
**Master Mine Plan**
**Approved Post-Reclamation Land Use**

| FLUCFCS | DESCRIPTION | ACRES |
|---|---|---|
| 210 | Cropland and Pastureland | 1,681.8 |
| 211 | Improved Pastures | 5.1 |
| 310 | Herbaceous (Dry Prairie) | 165.2 |
| 320 | Shrub and Brushland | 356.8 |
| 410 | Upland Coniferous Forests | 43.2 |
| 420 | Upland Hardwood Forests | 93.6 |
| 434 | Hardwood - Conifer Mixed | 201.6 |
| 510 | Streams and Waterways | 5.0 |
| 520 | Lakes | 23.8 |
| 522 | Lakes > 100 ac., but < 500 ac. | 170.2 |
| 617 | Mixed Wetland Hardwoods | 82.1 |
| 630 | Wetland Forested Mixed | 37.4 |
| 640 | Vegetated Non-Forested Wetlands | 112.1 |
| 647 | Shrub Marsh | 30.2 |
| 810 | Transportation | 20.2 |
| Total | | 3,028.1 |

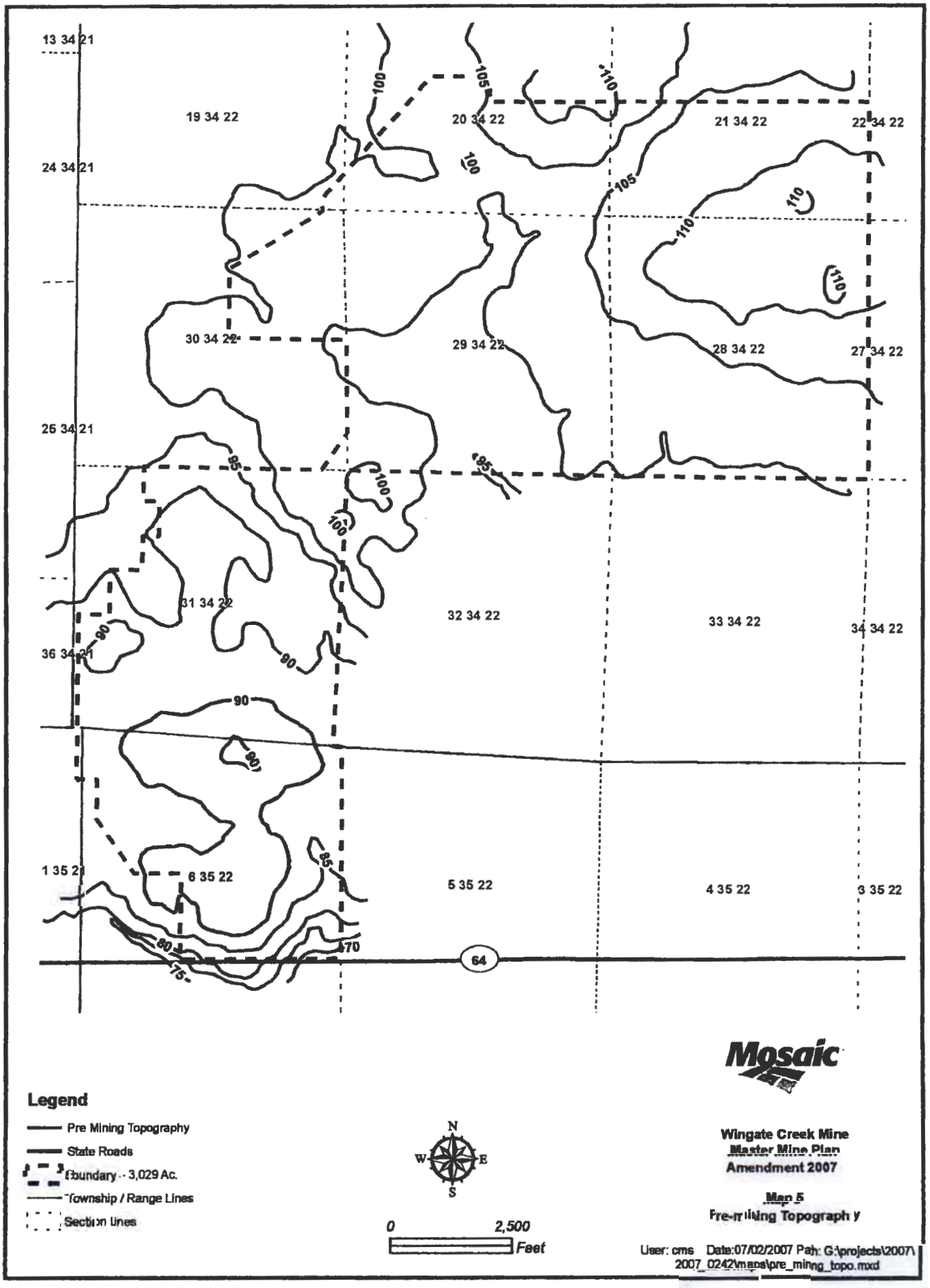
Mosaic

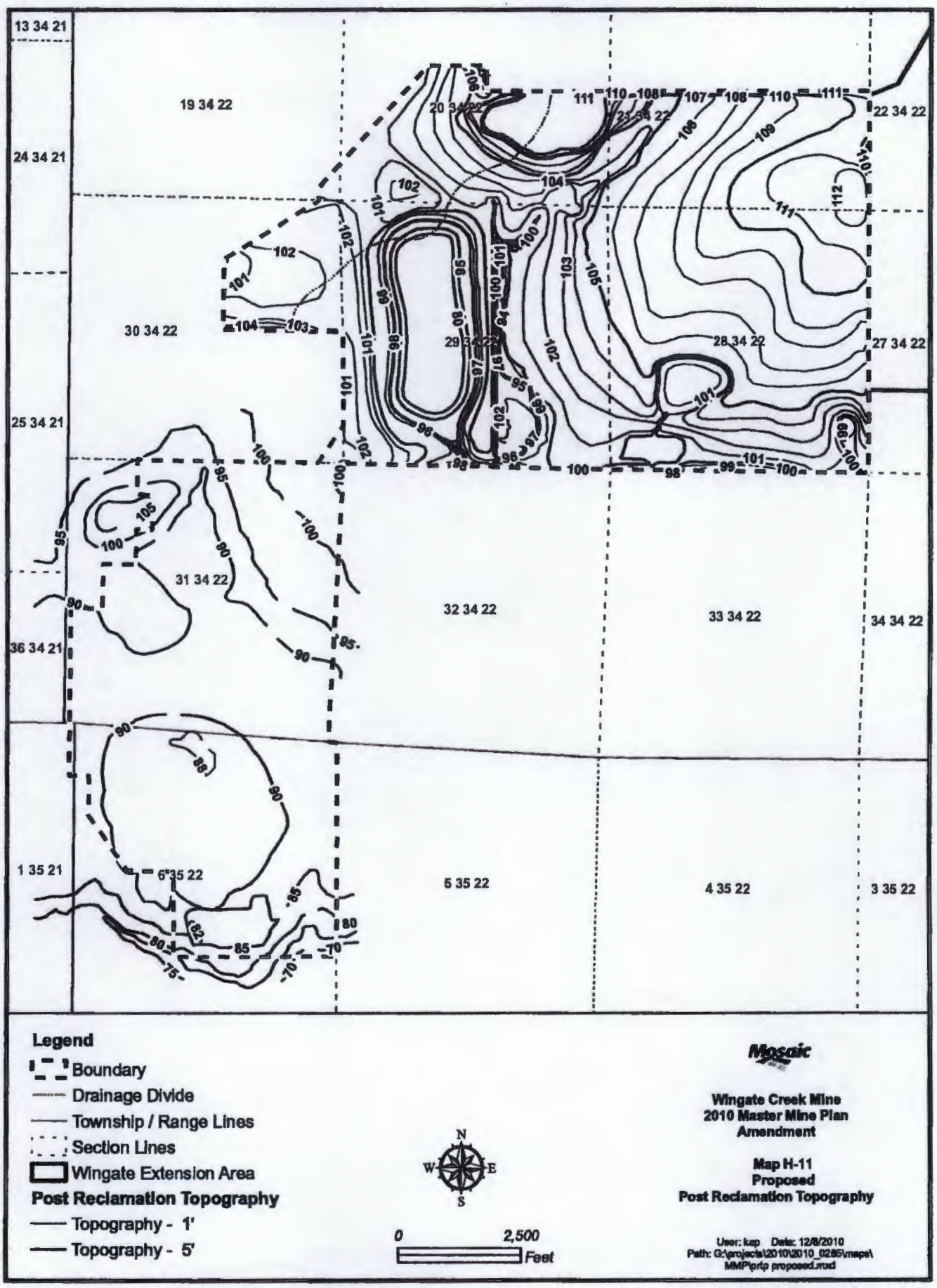
**Wingate Creek Mine**
**Master Mine Plan**
**Amendment 2011**

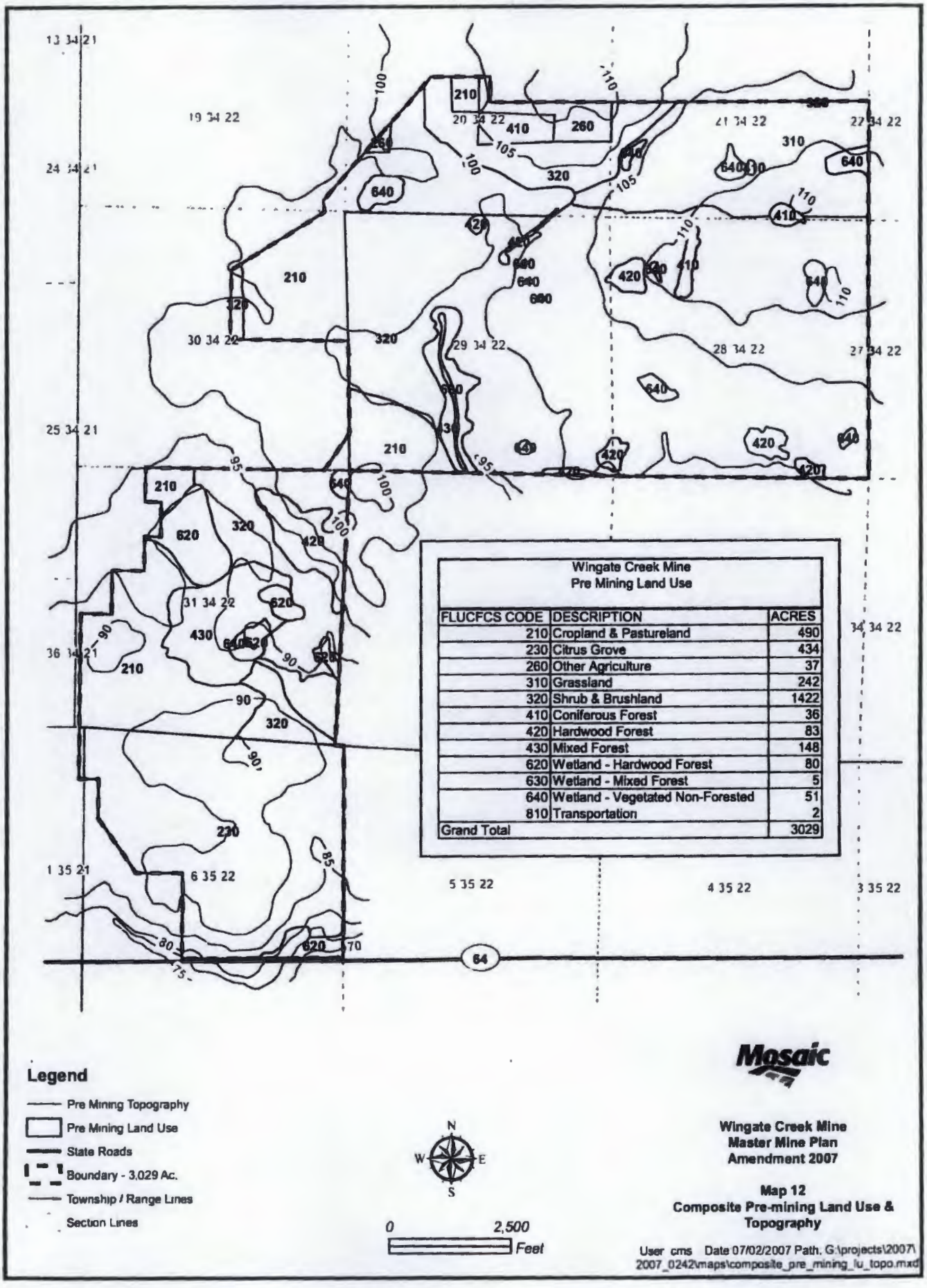
**Map F-1**
**2008 Approved**
**Post-Reclamation Land Use**
**(Vegetation Association Map)**

**(Revised)**

Date: 07/07/11
C:\projects\mosaic\projects\2010\2010_0285\ect_work\RAI\maps\MMP\Map_F-1_prlu.mxd

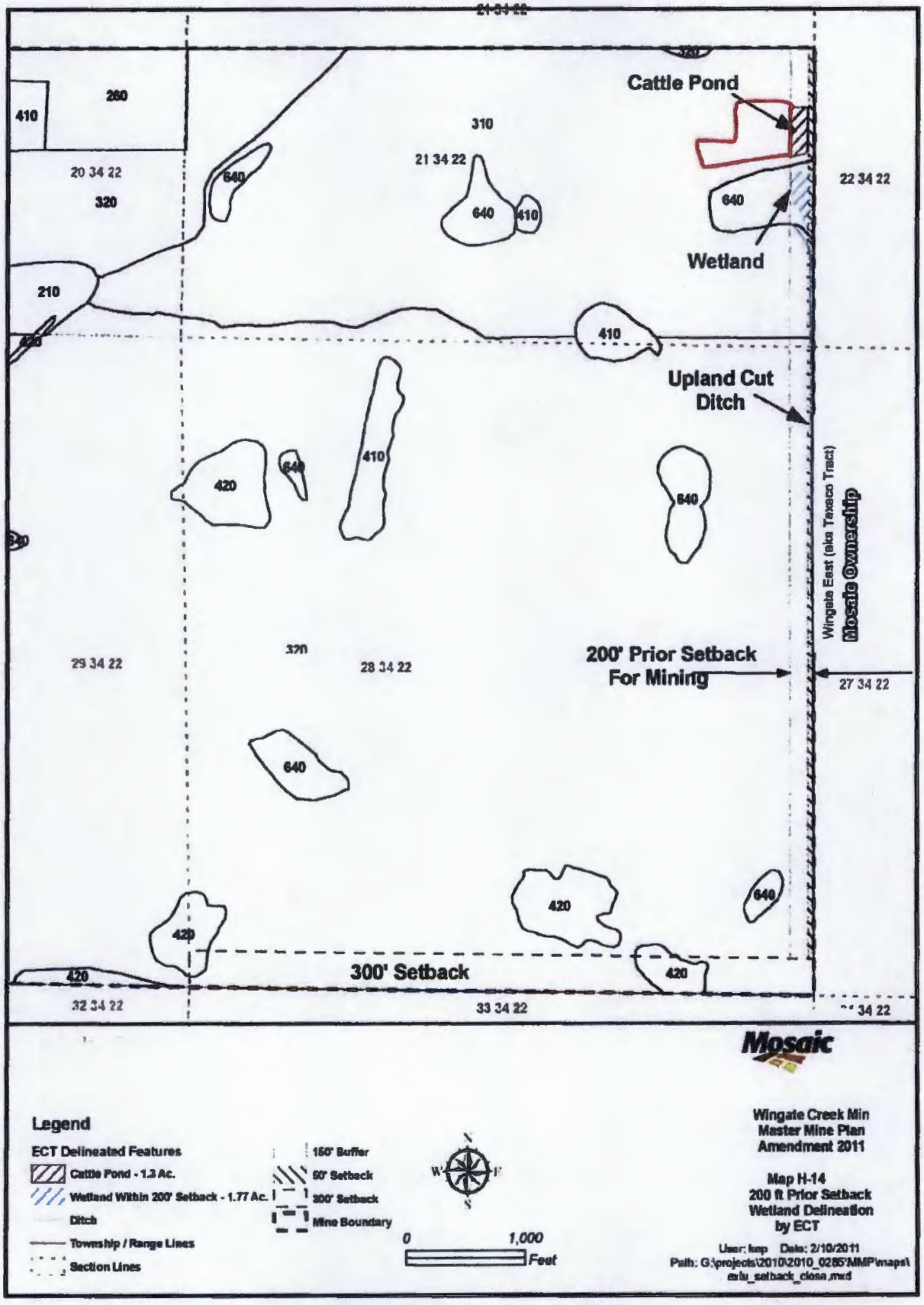

13 34 21
19 34 22
20 34 22
21 34 22
22 34 22
24 34 21
30 34 22
29 34 22
28 34 22
27 34 22
25 34 21
31 34 22
32 34 22
33 34 22
34 34 22
36 34 21
1 35 21
6 35 22
5 35 22
4 35 22
3 35 22
64
100
105
110
95
90
85
80
75
70
Legend
Pre Mining Topography
State Roads
Boundary - 3,029 Ac.
Township / Range Lines
Section Lines
N
W
E
S
0
2,500
Feet
Mosaic
Wingate Creek Mine
Master Mine Plan
Amendment 2007
Map 5
Pre-mining Topography
User: cms Date:07/02/2007 Path: G:\projects\2007\2007_0242\maps\pre_mining_topo.mxd


13 34 21
19 34 22
20 34 22
21 34 22
22 34 22
24 34 21
30 34 22
29 34 22
28 34 22
27 34 22
25 34 21
31 34 22
32 34 22
33 34 22
34 34 22
36 34 21
1 35 21
6 35 22
5 35 22
4 35 22
3 35 22
Legend
Boundary
Drainage Divide
Township / Range Lines
Section Lines
Wingate Extension Area
Post Reclamation Topography
Topography - 1'
Topography - 5'
N
W
E
S
0
2,500
Feet
Mosaic
Wingate Creek Mine
2010 Master Mine Plan
Amendment
Map H-11
Proposed
Post Reclamation Topography
User: kep Date: 12/8/2010
Path: G:\projects\2010\2010_0285\maps\
MMP\prop proposed.mxd


Wingate Creek Mine
Pre Mining Land Use

| FLUCFCS CODE | DESCRIPTION | ACRES |
|---|---|---|
| 210 | Cropland & Pastureland | 490 |
| 230 | Citrus Grove | 434 |
| 260 | Other Agriculture | 37 |
| 310 | Grassland | 242 |
| 320 | Shrub & Brushland | 1422 |
| 410 | Coniferous Forest | 36 |
| 420 | Hardwood Forest | 83 |
| 430 | Mixed Forest | 148 |
| 620 | Wetland - Hardwood Forest | 80 |
| 630 | Wetland - Mixed Forest | 5 |
| 640 | Wetland - Vegetated Non-Forested | 51 |
| 810 | Transportation | 2 |
| Grand Total | | 3029 |

Legend
Pre Mining Topography
Pre Mining Land Use
State Roads
Boundary - 3,029 Ac.
Township / Range Lines
Section Lines
N
W
E
S
0
2,500
Feet
Mosaic
Wingate Creek Mine
Master Mine Plan
Amendment 2007
Map 12
Composite Pre-mining Land Use & Topography
User cms Date 07/02/2007 Path. G:\projects\2007\2007_0242\maps\composite_pre_mining_lu_topo.mxd


Cattle Pond
Wetland
Upland Cut Ditch
200' Prior Setback For Mining
300' Setback
Wingate East (aka Texaco Tract)
Mosaic Ownership
20 34 22
21 34 22
22 34 22
29 34 22
28 34 22
27 34 22
32 34 22
33 34 22
260
410
320
310
640
420
210
Legend
ECT Delineated Features
Cattle Pond - 1.3 Ac.
Wetland Within 200' Setback - 1.77 Ac.
Ditch
Township / Range Lines
Section Lines
150' Buffer
50' Setback
300' Setback
Mine Boundary
N
W
E
S
0
1,000
Feet
Mosaic
Wingate Creek Min
Master Mine Plan
Amendment 2011
Map H-14
200 ft Prior Setback
Wetland Delineation
by ECT
User: kep Date: 2/10/2011
Path: G:\projects\2010\2010_0285\MMP\maps\
ankl_setback_close.mxd


**Legend**

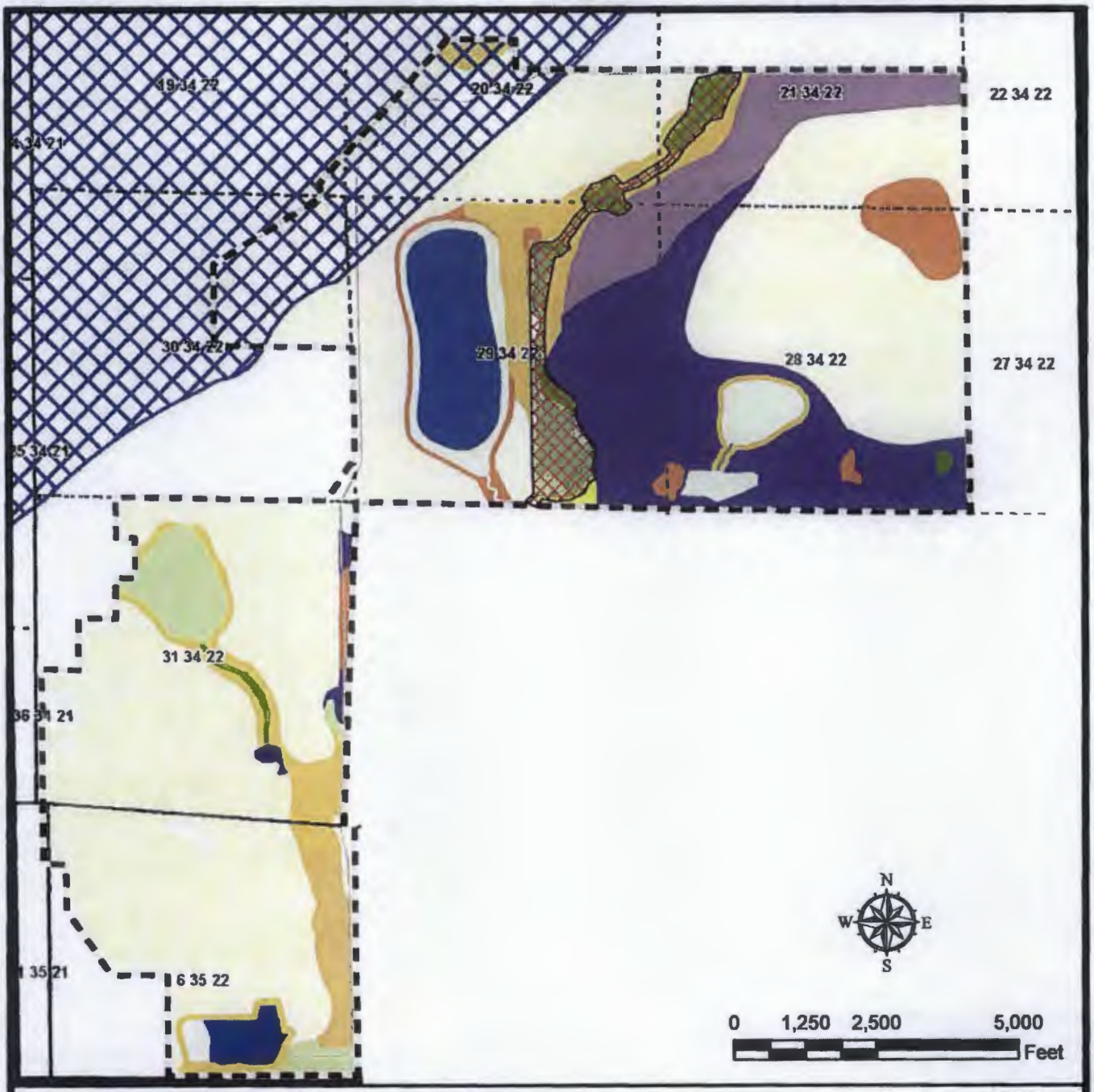
- Transect Location
- 150' Requested for Mining
- 50' Setback Req. for Mining
- 300' Mining Setback
- 50' Mining Setback
- Cattle Pond - 1.3 Ac.
- Total Wetland Impact- 1.8 Ac.
- 210 - Cropland and Pastureland
- 211 - Improved Pastures
- 310 - Herbaceous (Dry Prairie)
- 320 - Shrub and Brushland
- 410 - Upland Coniferous Forests
- 420 - Upland Hardwood Forests
- 434 - Hardwood - Conifer Mixed
- 510 - Streams and Waterways
- 520 - Lakes
- 617 - Mixed Wetland Hardwoods
- 630 - Wetland Forested Mixed
- 640 - Vegetated Non-Forested Wetlands
- 641 - Freshwater Marshes
- 647 - Shrub Marsh
- 810 - Transportation

Mosaic

**Wingate Creek Mine**
**Master Mine Plan**
**Amendment 2011**

**Map H-15**
**Post Reclamation Land Use**
**Wetland Mitigation**

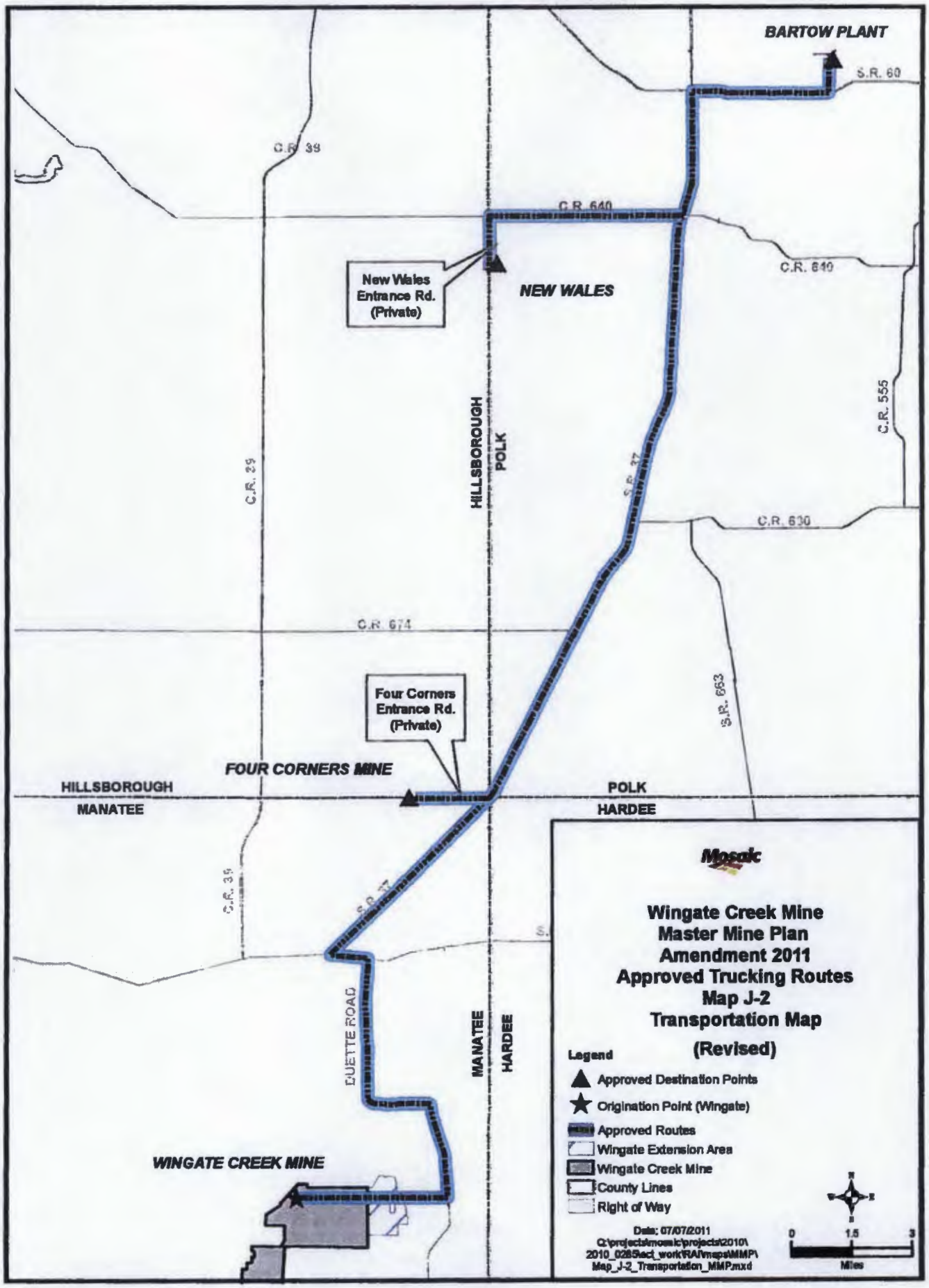
User: kap Date: 2/10/2011
Path: G:\projects\2010\2010_0285\MMP\maps\
prlu_wetmitigation.mxd




**Legend**

Recommended Conservation Easement

# Map 13 - Post Reclamation Wingate Creek Preservation


BARTOW PLANT
S.R. 60
C.R. 39
C.R. 640
C.R. 640
New Wales Entrance Rd. (Private)
NEW WALES
HILLSBOROUGH
POLK
C.R. 555
C.R. 39
C.R. 630
C.R. 674
Four Corners Entrance Rd. (Private)
S.R. 663
FOUR CORNERS MINE
HILLSBOROUGH
MANATEE
POLK
HARDEE
C.R. 39
QUETTE ROAD
MANATEE
HARDEE
WINGATE CREEK MINE
Mosaic
Wingate Creek Mine
Master Mine Plan
Amendment 2011
Approved Trucking Routes
Map J-2
Transportation Map
(Revised)
Legend
Approved Destination Points
Origination Point (Wingate)
Approved Routes
Wingate Extension Area
Wingate Creek Mine
County Lines
Right of Way
Date: 07/07/2011
C:\projects\mosaic\projects\2010\2010_0285\act_work\RAI\maps\MMP\Map_J-2_Transportation_MMP.mxd
0
1.5
3
Miles

# EXHIBIT C
# ENVIRONMENTAL MONITORING PROGRAM

(Revised 01/30/2013)
An environmental monitoring program to be developed by the applicant in accordance with section 2-20-33(c), which shall include baseline data for at least one year preceding application for master mining plan approval. The applicant shall develop the monitoring program in conjunction with the Natural Resources Department;

The original Master Mine Plan and Development of Regional Impact documents included the baseline data in order to develop the Environmental Monitoring Program for the Wingate Creek Mine. Several changes have occurred to the Environmental Monitoring Program since its original approval by Manatee County. They are reflected in the contents of the attached updated Environmental Monitoring Program and are identified below.

- As detailed in Section 14 the air monitoring program is no longer required and has been deleted from the Environmental Monitoring Program.

- A new section has been added to provide for the submission of all environmental monitoring data to Manatee County.

- Mosaic and Manatee County have agreed upon a groundwater monitoring program and it is included in the Environmental Monitoring Program.

- The allowance for the modification of the Environmental Monitoring Program has been changed to reflect the specific requirements of the Manatee County Code of Laws regarding this item.

- The water quality monitoring program will continue as approved in 2004 and will continue to include sampling parameters and frequencies based on results from historic monitoring and accepted monitoring plans from other mining concerns within Manatee County. The ground water monitoring program was modified in 2004 to include two additional shallow; ground water monitor wells (wells SGWMW – 4, & SGWMW –5) in the setback area adjacent to the south property boundary in Section 28, Township 34 South, Range 22 East as agreed to for Winding Creek development concerns. Additionally, three (3) intermediate monitoring wells were also added in 2004 to the program in Sections 20, 21 and 28, Township 34 South, Range 22 East. The groundwater monitoring plan has been revised with the Amended Master Mining Plan R-13-001 to included two additional shallow, ground water monitor wells (wells SGWMW-7 and SGWMW-8) in the setback area adjacent to the property boundary in Section 29 and 30, Township 34, Range 22 East. Within 180 days of the approval of the Operating Permit, the wells will be installed. These wells will have the same monitoring and reporting requirements as existing surficial groundwater wells.

- Piezometer monitoring was required in the early stages of mine life for a minimum period of 1 year. This monitoring has been completed and Manatee County in October 2003 agreed this monitoring was completed. Therefore the piezometer monitoring portion of the environmental monitoring program is no longer required.

- In 2009/2010 Annual Report review, Manatee County requested that additional surface water quality sampling points be added in reclamation areas that are effectively complete. Two reclamation sampling points were selected and approved by the County (i.e. referred to as Points A & B) in Section 31, Twp 34S, RG 22E. The surface water quality sampling procedures and parameters have been incorporated into Wingate Creek's Environmental Monitoring Program and are located in Section 4. Two additional surface water quality sampling points (Points C & D) were added to the Wingate Creek Reclamation Area as part of this Amended Master Mining Plan R-13-001. A new section (Section 4.0) was added to address the sampling of Points A – D.

# 1.0 SHALLOW GROUNDWATER

## 1.1 General

The Shallow Groundwater Monitoring Program (SGWMP) for the Wingate Creek Mine is intended to 1) establish initial conditions over a one (1) year period (this monitoring phase has been completed) and 2) monitor and evaluate groundwater quality and static water levels under operational conditions (ongoing). Monitoring wells 1, 2 & 3 described in the SGWMP were installed after the 1997 Master Mine Plan update. The initial sampling has been conducted for all required wells and operational sampling for the all the wells will continue through land reclamation of the Master Mine Plan area.

## 1.2 Initial Monitoring

### 1.2.1 Sampling Locations

The designated shallow groundwater monitoring well locations, SGWMW 1, 2, 3, 4, 5, 6, 7 & 8 for the shallow groundwater quality monitoring program are shown on the drawing included in this section. Although these sites are anticipated to remain through the life of mine, if mining or mining related activities require the relocation of these sites, the new sites must be approved six (6) months before the old sites are impacted so as to give time for a minimum of six (6) months background sampling of the new sites. The relocation wells, if required shall be approved by the Natural Resources Department. Each sampling location shall consist of a small diameter well, the bottom of which shall be above the phosphate matrix but completed within the surficial aquifer. Specific well designs must be approved by the Natural Resources Department, and the wells permitted with the appropriate federal, state or local government.

### 1.2.2 Initial Sample Parameters

In addition to static water level measurements, shallow ground-water quality initial monitoring (this monitoring phase completed) shall include the following thirty-two (32) parameters:

1. pH
2. Conductivity
3. Nitrogen-Total
4. Nitrogen-Ammonia
5. Nitrogen-Nitrate (NO3)
6. Nitrogen-Nitrite (NO2)
7. Sulfates as SO
8. Sulfite as H2SO4
9. Phosphorus-Total as P
10. Total organic Carbon (TOC)
11. Gross Alpha
12. Total Alkalinity as CaCO3
13. Calcium
14. Magnesium
15. Sodium
16. Potassium
17. Chloride
18. Fluoride
19. Arsenic
20. Barium
21. Cadmium
22. Chromium
23. Iron
24. Lead
25. Mercury
26. Selenium
27. Silver
28. Color
29. Grease & oil
30. Surfactants
31. Radium 226
32. Radium 228

1.2.3 Frequency/Duration

Initial sampling phase has been completed and was performed for a period of one year for SGWMW 1, 2, & 3 in 1998 and 1999. Initial sampling was performed for Wells SGWMW 4, 5, & 6 in 2004 to 2005 for a period of one year after installation. Shallow groundwater monitoring wells SGWMW 4, 5, & 6 were monitored monthly for parameters 1 through 11 for the first year and then quarterly thereafter. Parameters 12 through 30 were monitored on a quarterly basis for the first year. In addition, parameters 12 through 27 shall be analyzed for any sample that has conductivity in excess of 1275 umhos/cm. Parameters 31 and 32 will be analyzed for any sample where Gross Alpha exceeds 15 pCi/l. If parameter 29 exceeds 5 mg/liter, TRPH, EPA 602 and EPA 610 will be analyzed. Groundwater levels will be recorded when the wells are monitored.

SGWMW 7 & 8 will be installed in 2013. Initial sampling phase will be for a period of one year after installation. Sampling shall occur as described above.

1.2.4 Methods

All groundwater sampling methodology will follow the current DEP Standard Operating Procedures (SOPs) for groundwater sampling (i.e. FS2200 - Groundwater Sampling) per the DEP Quality Assurance Rule, 62-160, F.A.C. Further, all associated field activities, sample preparation and handling, and laboratory activities required by this program will follow the applicable Department of Environmental Protection SOPs as specified in the DEP Quality Assurance Rule, 62-160, F.A.C.

1.2.5 Quality Control Provisions

Upon reasonable notice, split samples will be obtained to allow for Manatee County to perform an independent analysis. All sampling procedures, field activities, and laboratory activities required by this program will follow the Department of Environmental Protection

Standard Operating Procedures as specified in the DEP Quality Assurance Rule, 62-160, F.A.C.

1.2.6 Schedule of Reporting
Results of shallow groundwater monitoring will be provided to Manatee County in the annual report at the prescribed monitoring program frequency.

1.3 Operational Monitoring

1.3.1 Sampling Locations: Operational sampling sites shall be the same as designated under baseline monitoring (1.1.1 above) and shown on the attached groundwater sampling location map included with this section.

1.3.2 Parameters: In addition to static water level measurements, shallow ground-water quality operational monitoring shall include the following eighteen (18) parameters:

1. pH
2. Conductivity
3. Nitrogen – Total
4. Nitrogen-Ammonia
5. Nitrogen-Nitrate/Nitrite (NOX)
6. Sulfates
7. Phosphorus- Total P
8. Total Organic Carbon
9. Total Alkalinity
10. Calcium
11. Magnesium
12. Sodium
13. Potassium
14. Chloride
15. Fluoride
16. Iron
17. Gross Alpha
18. Oil and Grease

Radium 226 & 228 will be analyzed for any sample in which Gross Alpha exceeds 15 pCi/l. If parameter 18 exceeds 5 mg/liter, TRPH, EPA 602 and EPA 610 will be analyzed.

1.3.3 Frequency/Duration
Shallow groundwater operational monitoring shall be conducted semi-annually in January and July for the parameters listed in 1.3.2.

1.3.4 Methods
Same as 1.2.4 above.

1.3.5 Quality Assurance/Control
Same as 1.2.5 above.

1.3.6 Schedule of Reporting
A report of semi-annual analyses shall be compiled and submitted to Manatee County annually in a mutually acceptable electronic format. The reports shall include semi-annual results. A comparison to applicable state-approved water quality standards, baseline conditions and previous operational phase data shall be provided.

Mosaic shall also immediately notify Manatee County (both verbally and in writing) of any significant deviations from determined historical ranges upon receipt of analyses.

## 2.0 INTERMEDIATE AQUIFER MONITOR WELLS

2.1 Sampling Locations: The 3 designated intermediate aquifer groundwater monitoring well locations, IMW 1, 2, & 3, for the groundwater quality monitoring program are shown on the drawing included in this section. Although these sites are anticipated to remain through the life of mine, if mining or mining related activities require the relocation of these sites, the new sites must be approved six (6) months before the old sites are impacted so as to give time for a minimum of six (6) months background sampling of the new sites. The new sites shall be approved by the Natural Resources Department. Each sampling location shall consist of a small diameter well, the bottom of which shall be in the intermediate aquifer as determined by a third party hydrologist, hydrogeologist or engineer. Specific well designs must be approved by the Natural Resources Department, and the wells permitted with the appropriate federal, state or local government. Initial groundwater sampling at the wells will begin within 60 days of operating permit approval.

2.2 Parameters: In addition to static water level measurements, intermediate ground-water quality monitoring shall include the following eighteen (18) parameters:

1. pH
2. Conductivity
3. Nitrogen – Total
4. Nitrogen-Ammonia
5. Nitrogen-Nitrate/Nitrite (NOX)
6. Sulfates
7. Phosphorus- Total P
8. Total Organic Carbon
9. Total Alkalinity
10. Calcium
11. Magnesium
12. Sodium
13. Potassium
14. Chloride
15. Fluoride
16. Iron
17. Gross Alpha
18. Oil and Grease

Radium 226 & 228 will be analyzed for any sample in which Gross Alpha exceeds 15 pCi/l. If parameter 18 exceeds 5 mg/liter, TRPH, EPA 602 and EPA 610 will be analyzed.

2.3 Frequency/Duration
Intermediate groundwater operational monitoring shall be conducted semi-annually in January and July for the parameters listed in 2.2.

2.4 Methods
Same as 1.2.4 above.

2.5 Quality Assurance/Control
Same as 1.2.5 above.

2.6 Schedule of Reporting
A report of semi-annual analyses shall be compiled and submitted to Manatee County annually in a mutually acceptable electronic format. The reports shall include semi-annual results. A comparison to applicable state-approved water quality standards, baseline conditions and previous operational phase data shall be provided. Mosaic shall also immediately notify Manatee County (both verbally and in writing) of any significant deviations from determined historical ranges upon receipt of analyses.

## 3.0 STREAM MONITORING

3.1 General
This section of the monitoring program was developed in consultation with the Manatee County Natural Resources Department to insure water quality of the stream systems located on the site. This section was modified to reflect historic sampling results from this program and to provide consistency with accepted programs required for other mining concerns in the county.

3.2 Station Locations
There are two stream water quality monitoring stations downstream of Wingate's approved NPDES outfalls. One station is located at the Myakka River and SR 64 and the other station is located just downstream of the confluence of Wingate Creek and the Myakka River as illustrated on the attached Stream Monitoring station Location Map. The upstream sampling point is at the State Road 64 crossing on the Myakka River is labeled as MR-1 and the monitoring station downstream of the confluence of Wingate Creek and the Myakka River is labeled MR-2. The FDEP NPDES permitting program will require sampling upstream and downstream of Wingate Creek Mine outfalls 001 and 002, during periods of discharge. Mosaic will provide the NPDES monthly discharge monitoring reports, which will include the upstream and downstream monitoring data, to the Manatee County Natural Resources Department on a monthly basis.

3.3 Parameters

1. pH
2. Temperature
3. Turbidity
4. Fluoride
5. Dissolved Oxygen
6. Conductivity
7. Phosphorus – Total P
8. Ortho Phosphate
9. Nitrogen - Ammonia
10. Nitrogen - Kjeldahl
11. Nitrogen - Nitrate/Nitrite (NOX)
12. Nitrogen - Total
13. Fixed Solids
14. Solids - TDS
15. Solids – Total Suspended Solids
16. Sulfates – SO4
17. Gross Alpha
18. Color
19. Chlorophyll a
20. Chloride
21. Silica
22. Sodium
23. Calcium
24. Potassium
25. Magnesium
26. Iron
27. Alkalinity
28. Oils & Greases

Radium 226 & 228 will be analyzed for any sample in which Gross Alpha exceeds 15 pCi/l. If parameter 28 exceeds 5 mg/liter, TRPH, EPA 602 and EPA 610 will be analyzed.

3.4 Methods

Grab samples will be obtained for analysis. Surface water sample collection shall be in accordance with current DEP SOPs for surface water sampling (i.e. FS2100 – Surface Water Sampling) per the DEP Quality Assurance Rule, 62-160, F.A.C. Further, all associated field activities, sample preparation and handling, and laboratory activities required by this program will follow the applicable Department of Environmental Protection SOPs as specified in the DEP Quality Assurance Rule, 62-160, F.A.C.

3.5 Quality Control Provisions

The sampling locations are outside the property limits of the Wingate Creek mine; therefore, Manatee County may inspect the sites without prior notice to Wingate Creek Mine operations. Upon reasonable notice, split samples will be obtained to allow for the County to perform an independent analysis.

3.6 Frequency/Duration

Samples will be collected on a monthly basis at the Myakka River sampling points for the first year of active mine operation following approval of this plan update. Sampling frequency will be reduced to quarterly after the first year of active mining, contingent on the approval of the Manatee County Natural Resources Department.

3.7 Schedule of Reporting

Results of stream monitoring will be provided to Manatee County on a yearly basis, unless otherwise requested.

## 4.0 WINGATE STREAM AND RECLAMATION SURFACE WATER QUALITY MONITORING

### 4.1 General

Two reclamation surface water quality sampling points (Points A & B) and two Wingate Stream surface water quality sampling points (Points C & D) have been added to the monitoring program. The reclamation surface water quality sampling points have been added in reclamation areas that are effectively complete. These two surface water quality sampling points were reviewed and approved by the County and referred to as Points A & B located in Section 31, Twp 34S, RG 22E.

### 4.2 Station Locations

The reclamation sampling Points A & B are located in Section 31, Twp 34S, RG 22E. Sampling Point A is located at the flow way of a large preserved / herbaceous marsh. Sampling point B is located in the same flow way, but further downstream. See attached map for the sampling locations.

The Wingate Stream surface water quality sampling points (Points C & D) are located in Sections 21 & 29, Twp 34S, RG 22E. Sampling Point C is located just south of Duette Preserve where the flow is channelized by the Wingate Entrance Road culverts. Sampling point D is located downstream in Section 29 within the Wingate Creek channel just before the stream exits the mine.

### 4.3 Parameters

Reclamation surface water quality parameters including the additional parameters requested by the County on 10/25/2010, consist of the following:

1. pH
2. Turbidity
3. Iron
4. Fluoride
5. Conductivity
6. Alkalinity
7. Oils & Greases
8. Gross Alpha
9. Phosphorus – Total P
10. Ortho Phosphate
11. Nitrogen - Ammonia
12. Nitrogen - Kjeldahl
13. Nitrogen - Nitrate/Nitrite (NOX)
14. Nitrogen – Total
15. Flow (cfs),
16. Temperature,
17. Dissolved oxygen, and
18. Chlorophyll A

Radium 226 & 228 will be analyzed for any sample in which Gross Alpha exceeds 15 pCi/l. If parameter No. 8 exceeds 5 mg/liter, TRPH, EPA 602 and EPA 610 will be analyzed.

### 4.4 Methods

Grab samples will be obtained for analysis. Surface water sample collection shall be in accordance with current DEP SOPs for surface water sampling (i.e. FS2100 – Surface Water Sampling) per the DEP Quality Assurance Rule, 62-

160, F.A.C. Further, all associated field activities, sample preparation and handling, and laboratory activities required by this program will follow the applicable Department of Environmental Protection SOPs as specified in the DEP Quality Assurance Rule, 62-160, F.A.C.

4.5 Quality Control Provisions

The sampling locations are within the property limits of the Wingate Creek mine; therefore, upon reasonable notice, split samples can be obtained to allow for the County to perform an independent analysis.

4.6 Frequency/Duration

Samples will be collected four times per year (two wet season & two dry season). Noting a reasonable effort will be made to collect samples four times per year, but this may not be possible every year, as water must be flowing / measurable to provide valid data. Typically it is expected that rainfall will need to be greater than 1 inch to have flow at these locations (Points A to D), so the Wingate Creek Plant rain gauge will be used to make this monitoring effort as efficient as possible. Monitoring at Points A & B sampling locations will begin in November 2010 and will be collected for three years, unless it's determined earlier that no further sampling is required. Wingate Stream Monitoring Points C & D sampling will begin in January 2012 and continue until all reclamation activities are completed, unless it's determined earlier that no further sampling is required.

4.7 Schedule of Reporting

Results of stream monitoring will be provided to Manatee County on a yearly basis in the annual report, unless otherwise requested.

## 5.0 RADIATION IN SOILS

The Florida Department of Health now administrates radiation monitoring. They are responsible for pre-mining and post-reclamation monitoring, sampling, analysis and reporting. Mosaic will supply Manatee County with the results of their efforts when release of reclaimed areas is requested pursuant to Phosphate Mining Code Chapter 2-20 and Wingate Creek MMP conditions of approval.

## 6.0 GENERAL REPORTING REQUIREMENTS

6.1 Recipients of Monitoring Reports

Results of all elements of the environmental monitoring program should be reported at the intervals indicated in each section to the following County offices:

- Two copies to the Manatee County, Natural Resources Department

- Mosaic will provide all information as required by Manatee County ordinances and statues. Mosaic will investigate the feasibility of providing stream monitoring data directly to Florida Storet.

### 6.2 Report Contents

Monitoring reports should present the following information where applicable, in a clear concise format.

- type of station
- station identification number
- name and affiliation of sample collector
- date and time of sample collection or measurement
- results of laboratory analysis or field measurement with units of measure indicated
- comments on any unusual conditions or circumstances in connection with the sample collection or analysis and notation of any deviations from the approved monitoring program procedures. Reports shall also note any variances from applicable standards. Any results, which fall outside of the control limits established by the laboratory performing the analysis, should also be reported.

## 7.0 MODIFICATION OF MONITORING PROGRAM

The Environmental Monitoring Program may be amended in accordance with the Manatee County Code of Laws, section 2-20-33(c) (4). The purpose of such modification is to add or delete sampling to reflect new developments in mining and sampling technology which may improve both sampling and environmental quality. This will allow for unnecessary stations and/or parameters to be eliminated, while additional ones may be added if they are proven to be required.

## 8.0 OTHER MONITORING PROGRAMS

All environmental monitoring information required by agencies other than Manatee County will be submitted to the County. This monitoring information shall be submitted in conjunction with its transmittal to the specific regulatory agency.


## Legend

**Surface Water Quality Sample Points**

- Reclamation Sample Points
- Wingate Stream Sample Points

**Groundwater Monitoring**

- Intermediate Aquifer Monitoring Wells (2004 MMRP)
- New Surficial Groundwater Quality Wells (2011)
- Shallow Ground Water Wells (1997 MMRP)
- Shallow Ground Water Wells (2004 MMRP)

- Township / Range Lines
- Section Lines
- Boundaries

Mosaic

**Wingate Creek Mine Monitoring Points**

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EXHIBIT D

Ordinance 04-39 Reclamation Manual Guiding Principles with Respect to Wingate Creek Mine Master Mining Plan Amendment Areas

# Ordinance 04-39
# Reclamation Manual Guiding Principles
# With Respect to Wingate Creek Mine Master Mining Plan Amendment

Stated below are the Guiding Principles found in the Manatee County Ordinance 04-39 Reclamation Manual. Mosaic's response to each principle with respect to the Wingate Creek Mine Master Mining Plan Amendment is provided in **bold font** following each principle. A response of "Guidance noted" represents Mosaic's acceptance of the principle.

## II. NATURAL PLANT COMMUNITIES

### A. FLORA AND FAUNA

The intent of this subsection is to provide guidance for the reclamation and/or the rehabilitation of valuable functions and benefits associated with agricultural land, natural plant communities and their assemblage of wildlife species. The following principles shall be used for the reclamation/rehabilitation of uplands and wetlands in order to create a productive landscape following the mining of phosphate matrix. These guidelines are based on the best-available, accessible information to date. As new technology is developed the applicant is encouraged to employ the new technology with concurrence from Manatee County. The guidelines presented here are to assist the staff of Manatee County, as well as the applicant, regarding general landform reclamation. The applicant shall develop a Management Plan that details how impacts to agricultural lands, plant communities and wildlife resources will be minimized, reclaimed, restored, and/or rehabilitated (as determined by federal, state, and local regulations). As much of the technology and techniques presented here may be relatively new, reasonable scientific judgment, as agreed by Manatee County and the applicant, shall preside.

**FLORA**

a. For those areas that were natural plant communities in the pre-mining condition, the rehabilitated areas shall be designed to represent the local native diversity and plant community types (structure and function) that existed prior to mining.

**98% of the areas proposed for mining in this application have already been disturbed as part of previous approvals. However, Mosaic agrees that rehabilitated areas should be designed to represent native diversity and plant community types that existed prior to mining on the areas that have yet to be disturbed. These areas were identified on Table 6 of the initial application.**

b. A priority consideration for landscape design shall be to provide optimal wildlife habitat. In order to provide sufficient core area of natural plant communities for interior species, 75 acres should be the minimal Rehabilitation Area (RA) size (Brown, Schaeffer and Brant 1990). The RA should not be isolated by intensive land uses in the final landscape. Low intensity land uses that may be acceptable include low-density housing, pine plantation, citrus, and other low-intensity agricultural activities (Hart 1995). Other land uses would be evaluated on a case-by-case basis.

**The Rehabilitation Areas at Wingate are larger than 75 acres.**

c. Different plant communities shall be integrated to form a functional landscape. As a result, spatial arrangement and areal extent of each plant community must consider the needs of target wildlife species. However, the relative percent of each native plant community that is to be rehabilitated should approximate the pre-development condition after considering all applicable local, state and federal compensatory requirements. Exceptions may be considered for additional acreage of 'rare' communities indigenous to Manatee County and as defined by the Florida Natural Areas Inventory. Other options may include the use of, at the discretion of the applicant and concurrence with Manatee County, aerials, soil surveys, or other reasonable sources to determine historic land use.

**Mosaic believes that the Conceptual Reclamation Plan provides a functional landscape comprised of different plant communities.**

d. Rehabilitation efforts shall be coordinated with existing conservation and habitat management plans of surrounding or adjacent properties.

**The Wingate Conceptual Reclamation Plan is coordinated with the surrounding adjacent properties.**

e. Reclamation plans shall use readily available information in order to design RAs that will benefit rare/listed plant communities, flora, and fauna.

**The proposed reclamation plan at Wingate was designed using readily available information.**

f. The various groups involved in reclamation/rehabilitation of previously mined lands should share information, to ensure that successes are repeated and failures are not.

**Mosaic is committed to evolving their reclamation practices based on lessons learned from past projects.**

g. Fire-dependent plant communities (donor site) that are to be a source of topsoil for a RA (recipient site), and would not result in a catastrophic fire,

should be burned between one year and three years prior to translocation of the donor soils to the recipient site so that a diverse, viable seed bank is encouraged. Fire-dependent plant communities consist of Dry Prairie, Shrub and Brushland, Mixed Rangeland, Pine Flatwoods and Wet Prairie.

**This condition does not apply to this project as the project site has already been disturbed and does not contain any suitable donor sites.**

h. Direct transfer of native topsoil from areas slated for mining to reclamation sites should be implemented when available to provide a native seed bank and source of plant propagules, provided nuisance species do not exceed 10 percent. For the purposes of this determination, nuisance species shall include those species listed as invasive by the FLEPPC (most recent available list), in addition to bahiagrass (*Paspalum notatum*) and bermudagrass (*Cynodon dactylon*). In the event that nuisance species exceed 10 percent in the original plant community, long-term stockpiling (> 1 year) may be a means of eliminating the nuisance species seed bank (verification by germination tests may be necessary). The topsoil may also provide correct sand particle size, soil compaction, and the necessary soil chemistry suitable for germination parameters. It may also provide an inoculum of microflora and microfauna for those plant species that are vesicular-arbuscular mycorrhizae (VAM) symbiots. Generally, if immediate topsoil application is available for the RA, additional herbaceous planting may not be necessary. However, it has been documented that some upland plant species will not be represented during germination of even direct transfer of topsoil and supplemental planting may be required (Jenkins 2003) which should tree spading/herbaceous plugs that will include the surrounding soil and microorganisms. Research indicates that soil disturbance, tillage, or vegetation free periods (fallow) may decrease VAM (Kabir 1999). However, research also indicates that VAM may rapidly increase during the restoration phase from natural colonization (Jenkins 2003). Alternate methods of site preparation may be evaluated by Manatee County as new techniques are developed and as the science of upland and wetland reclamation advances over time. Donor topsoil types should be used to reclaim the same vegetative assemblage. For example, if native scrub soil is obtained then it should be used to reclaim scrub habitat. All stockpiled soils shall be properly identified as to their originating donor plant community type (plans and field marked).

**This condition does not apply to this project as the project site has already been disturbed and does not contain any suitable donor sites.**

i. Upland communities shall generally receive complete coverage of the available topsoil inoculum, when available, after the initial mass grading of overburden and final grade of sand tailings. Studies indicate that it is preferable to evenly distribute the available topsoil throughout the target

reclamation plant community in lieu of incomplete coverage with a thicker profile (Rokich 2000) (Zhang 2001) (Bissett 2004). Reclaimed sites with topsoil had aboveground habitat most similar to unmined sites (Mushinsky and McCoy 1996) in terms of vegetative cover.

**This condition does not apply to this project as the project site has already been disturbed and does not contain any suitable donor sites.**

j. It is preferred that muck soils to be used for reclamation of wetlands be kept moist during the stockpiling to ensure that the soil physical/chemical properties are retained, such as water absorption capabilities. There may be conditions where this situation is not the preferred alternative such as a prevalence of nuisance specie(s) seed in the muck material or where seeds sources may be in close proximity to the stockpile.

**This condition does not apply to this project as the project site has already been disturbed and does not contain any suitable donor sites.**

k. For the reclamation of natural plant communities, the bio/chemical/physical characteristics shall approximate those characteristics found in the same type or better plant community as generally described in scientific literature such as Ecosystems of Florida, Myers and Ewel (1990) and by using the plant species tables included in this manual. Any modifications to plant species list provided by the selected reference method is subject to review and approval by Manatee County. Atypical representations of plant communities or portion thereof, as determined using reasonable scientific judgment, shall not be used in establishing a reference.

**Mosaic's reclamation plan must comply with the most current Conceptual Reclamation Plan permitted through the Florida Department of Environmental Protection per the Florida Statutes Rule 62C-16.**

l. Introduction of snags, woody deadfall, brush piles, etc. should be placed randomly throughout the rehabilitated sites in both uplands and wetlands. This should occur during the first two years to "jump start" the creation of habitat structure for plant and animal communities (Hart 1995) (United States Fish and Wildlife Service 1978) (Brown 1991).

**Guidance noted.**

m. Guidelines for arrangement and vegetation density should be modeled after the descriptions of habitat types found in scientific literature. Vegetation selection beneficial to listed wildlife species may be favored above vegetation not beneficial to listed wildlife species.

**Guidance noted.**

n. Lack of habitat structure appears to be the greatest difference between the simplified, reclaimed, mined land and the complex, unmined, natural plant communities in regards to supported wildlife species (Mushinsky and McCoy 1996). The largest factor contributing to this difference appears to be the lack of a developed shrub or mid-canopy layer. As a result, reclaimed/rehabilitated/restored forested communities/ecosystems shall consist of three foliage layers: ground cover, shrub, and canopy. Reclaimed/rehabilitated/restored shrubby communities shall consist of two foliage layers, ground cover vegetation and shrub. Reclaimed/rehabilitated/restored herbaceous communities must consist of a ground cover layer of vegetation. Each community may include a component of additional strata if it can be reasonably demonstrated to be beneficial to rare wildlife.

**Guidance noted.**

o. All existing listed plant species found on-site (refer to Chapter 5B-40.0055, Florida Administrative Code) should be re-established in the corresponding reclaimed/rehabilitated/restored plant community as a viable population by whatever means are most appropriate for the species, such as seeding, potted material, top soiling, or digging and replanting.

**This condition does not apply to this project as the project site has already been disturbed and does not contain any listed plant species.**

p. Except for cropland, pastureland, tree plantation areas, and slope stabilization, bahiagrass (*Paspalum notatum*) and Bermuda grass (*Cynodon dactylon*) shall not be planted or seeded. Rather, an annual grass or native grasses and forbs shall be seeded, especially when utilized for initial soil stabilization.

**Guidance noted.**

q. Florida is among the wettest regions of the United States, yet may suffer long periods of drought (Winsberg 1990). As a result, there are periods that supplemental irrigation may be necessary during initial plant establishment for both upland and wetland communities (Hawkins 1988). However, irrigation needs beyond the initial plant establishment (1-2 years) will preclude a designation of success and redesign may be necessary.

**Guidance noted.**

r. The use of operable water control features to regulate water depth may be advised (Miller 1988). Once water regimes are determined it is recommended that the features be made permanent.

**Guidance noted.**

s. Establishing the hydrologic regime of a RA is important even for upland plant communities. Evaluating plant communities with a narrow hydrologic regime for one growing season may be preferable prior to the planting of target plant species (Brown 1991). Unstable slopes may be sown with a temporary cover crop, annual grasses, or temporarily stabilized with other BOPs as agreed upon by the reviewing agencies and the applicant. However, benefits of fine-tuning the hydrology must be weighed against drawbacks of nuisance species invasion.

**Guidance noted.**

t. Where feasible, a RA should be located adjacent to desirable, existing habitat to facilitate the transfer of floral and faunal species (Miller 1988) (Brown 1991).

**Guidance noted.**

u. A portion of headwater wetlands and their hydrologic inputs should be preserved, where feasible, as they provide a 'bank' of diverse, water-dispersed seed to downstream areas.

**This condition does not apply to this project as the project site has already been disturbed and does not contain any headwater wetlands.**

v. Plant communities described as pyrogenic (ie. Dry Prairie, Shrub and Brushland, Mixed Rangeland, Pine Flatwoods, Wet Prairie) will require a prescribed burn management plan (PBMP). PBMPs should be tailored to minimize wetland edge breaks for prescribed burns for those wetland plant communities described as pyrogenic below (ie. Wet Prairie). Further, the overall design must address periodic burning in the context of future land uses, i.e. the design cannot be located in areas incompatible with prescribed burns such as areas that can be reasonably expected to be developed as residential. This requirement does not preclude demonstrated alternative methods that produce the same floral/faunal characteristics as periodic prescribed burns (mechanical or chemical).

**Guidance noted.**

w. The introduction of rare and late successional species (such as shade dependent plant species) should be encouraged throughout the project

monitoring period, especially listed floral/faunal species that would normally be 'taken' as part of any development process throughout central Florida.

**Guidance noted.**

x. The single-most important factor towards establishing sustainable landscapes is likely to be the preservation of existing, suitably located, high quality habitat combined with sufficient funds for perpetual management.

**Mosaic does not agree with the guidance stated above, but rather believes that a quality reclamation plan will establish a sustainable landscape.**

FAUNA

a. Plant communities should be designed to restore the local native faunal diversity and relative abundance that existed prior to mining. To assist in this effort, the applicant shall provide Manatee County with a table cross referencing any Florida Land Use, Cover and Forms Classification System (FLUCFCS) (FDOT 1999) as required by the Bureau of Mine Reclamation of the Florida Department of Environmental Protection (DEP) with the equivalent plant community types listed in this Manual.

**This condition does not apply to this project as the project site has already been disturbed.**

b. Areas adjacent to a mining unit or RA such as the 25-year floodplain that may serve wildlife habitat or those areas not scheduled for development within 5 years, should be pre-prepared (i.e., prescribed burns, nuisance species removal, planting of vegetation beneficial to the targeted wildlife, etc.) and subsequently managed as temporary wildlife refuges (through the course of mining reclamation including the monitoring period or permitted development, whichever comes first). The purpose is two fold: direct faunal mortality is reduced and species that may not occur locally, but occur in the mining unit, are provided some opportunity for temporary relocation. Ideally, these may serve to re-colonize reclaimed habitat areas post mining (Mushinsky and McCoy 1996, 2001). The concept of increasing the carrying capacity for target species as well as native biological diversity through the implementation of various management strategies is based on fundamental concepts of ecological land management land practiced on preservation areas throughout the region (Brooker Creek Preserve Management Plan, 1992; Cypress Lakes Preserve Management Plan, 1993; Balm-Boyette Management Plan, 1996).

**Prior to disturbing an area, Mosaic will survey the site for any listed species, and if needed, relocate those species to permitted recipient sites. Therefore managing temporary wildlife refuges onsite is not applicable.**

c. Direct wildlife mortality may be avoided by burning nondonor sites immediately prior to clearing. A directional burn towards any adjacent preservation area will also encourage some individuals towards the area that will not be mined. A burn removes cover and encourages some resident populations to locate in adjacent areas that still provide forage and cover. It also prepares the soils for use in rehabilitation efforts.

**This condition does not apply to this project as the project site has already been disturbed.**

d. Rehabilitated wildlife habitat should have the same or significantly similar structure as the impacted wildlife habitat (areal extent of wildlife habitat, distance to adjacent wildlife habitats, vegetative strata, soils, hydrology, cover, and water availability.

**Guidance noted.**

e. Habitat RAs should be located adjacent to or have wildlife corridors to unmined areas of the same habitat. For example, an area being restored as a pine flatwoods should be located adjacent or connected to a pine flatwoods.

**Guidance noted.**

## III. MANAGEMENT/MONITORING GUIDELINES, REPORTING, AND SUCCESS CRITERIA FOR REHABILITATION

### A. MANAGEMENT/MONITORING GUIDELINES

Rehabilitated areas are to re-create the measurable, key elements of a natural plant community, commonly referred to as a 'functional analog'. Each natural plant community and each RA will be monitored, evaluated, and released based upon the mutually agreed methods discussed below. The rehabilitated areas may not necessarily exactly duplicate the original plant community in order to be considered successful. However, it is the intent of this manual that the applicant manages each plant community/RA throughout the monitoring period to enhance the target habitat characteristics (community composition, structure, and function) using the best available technology and techniques to the greatest practicable extent. Compliance assurance with these guidelines and intent shall not be the sole responsibility of Manatee County. The following elements must be included in the overall management plan in order for the plant community/RA area to be evaluated for success:

1. Category 1 and 2 nuisance exotic species (as defined by the Exotic Pest Plant Council, most recent available list) abundance shall not exceed 10 percent aggregate at any time in any RA, or within any individual plant community.

material transporters or using a subcontractor unless strike or act of God requires less notice to be given.

Should Manatee County object to the selection of a particular firm or subcontractor, they shall provide written notice to Mosaic's at least 7 days prior to the proposed change. If such notice is issued by Manatee County to Mosaic, Mosaic shall not change to the new material transporter or subcontractor until the nature of the objection is reviewed by the Board of County Commissioners at a regularly scheduled meeting, at least 7 days prior to the proposed change.

Manatee County shall not issue a notice of objection without cause.

**WINGATE CREEK MINE**
**PRIOR 200 FT SETBACK AREA REQUESTED TO BE MINED**
**WETLAND UMAM SUMMARY**

Impact Wetlands

| | Wetl 1 | |
|---|---|---|
| Loc/Land | 6 | |
| Water | 3 | |
| Veg | 4 | |
| Sum: | 13 | |
| FLUCCS | 641 | |

Delta = Sum / 30

| | Wetl 1 | |
|---|---|---|
| ImpactDelt | 0.433 | 0 |

Functional Loss = Impact d

| | Wetl 1 | | All Wetl Total |
|---|---|---|---|
| Acres | 1.77 | | 1.77 |
| FL | 0.767 | | 0.77 |

Mitigation Wetlands

| Wetl No. | 1 | | |
|---|---|---|---|
| Loc/Land | 7 | | |
| Water | 5 | | |
| Veg | 7 | | |
| Sum: | 19 | | |
| FLUCCS | 641 | | |

| | 1 | | |
|---|---|---|---|
| Risk: | 1.25 | | |
| Mit Delta | 0.633 | | |

t-factor: defined as =1 for phosphate projects
Relative Functional Gain = Mit Delta/(t-factor*risk)

| FLUCCS | 641 | | | Total |
|---|---|---|---|---|
| Mit ID | 1 | | | All Mit. |
| RFG | 0.51 | | | |
| Mit ac | 2.5 | | | 2.5 |
| FG gain | 1.267 | | | 1.27 |

For mitigation to be sufficient, functional loss must equal functional gain, FL = F
Functional gain = Relative Functional Gain * Mitigation acres
FG = RFG * MitAcres

Total FL by land use

| | |
|---|---|
| 641 | 0.767 |
| 617 | 0 |
| 615 | 0 |
| 643 | 0 |
| 647 | 0 |
| | 0.767 |

**UMAN BALANCE RESULTS - SECTION**

| | UMAM BALANCE |
|---|---|
| FDEP Wetland Ac. Impact | 1.8 * |
| UMAM Score x ac impact | 0.8 |
| Average Score Impact | 0.43 |
| Reclamation - Mitigation Acres | 2.5 |
| UMAM Score X Ac Mitigation | 1.3 |
| Enhancement / Restoration Lift | 0.0 |
| Net UMAM Balance - excess units | 0.5 |
| Mitigation Ratio | 1.4 |

* Impacts do not include FLUCFCS 513, 514 or 534 areas

Notes:

This UMAM analysis has been update to include the entire prior 200 ft setback wetland (1.77 ac - 641 impacts). The 2008 Wingate MMP Amendment authorized 150 ft of the prior 200 ft Setback for disturbance which allowed impacting 1.17 acres of this 641 herb. marsh. The remaining 50 ft (wetland segment area) is now requested for mining / disturbance, which will impact 0.6 acres of this same herb marsh.

UMAM data sheet follow this analysis have been updated to reflect the total requested impacts and total compensation / mitigation (2.5 ac - 641) offered for no net functional loss.

Overall net UMAM Balance (net functional gain) of 0.5 units. Refer to the above UMAM analysis.

## PART I – Qualitative Description
## (See Section 62-345.400, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| Wingate Creek Mine | | Wetland 1 |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 641 | FDEP: 641<br>FNAI: Freshwater Marsh SCS: | Mitigation | 2.50 acres |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Myakka River / 6 | Class III | None |

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Isolated wetland

Assessment area description

Areas are freshwater marshes with sand cordgrass, alligator flag, arrowhead, pickerelweed, maidencane, and other native wetland species.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| Isolated Wetland closest tributary Winding Creek / Myakka River | |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| **BIOLOGICAL:**<br>Wading bird feeding; sandhill crane nesting; amphibian breeding; forage fish habitat; reptile feeding; rice rat nesting; and Florida round-tailed muskrat feeding and nesting.<br>**PHYSICAL/CHEMICAL:**<br>Water quality treatment; sediment/erosion control; recharge/discharge; detrital export; flood retention/detention. | No / Agriculture |

| Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) | Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) |
|---|---|
| Mammals: raccoon, opossum, marsh rabbit, deer; Birds: herons, egrets, bitterns, ibis, sandhill crane, rails, limpkin, gallinules, snipe, killdeer, Florida duck, red-winged blackbird, caracara, northern harrier, red-shouldered hawk, swallow-tailed kite; Amphibians: dwarf salamander, sirens, cricket frog, green tree frog, leopard frog, southern toad; Reptiles: mud snake, mud turtle, red-bellied turtle, chicken turtle, banded water snake, striped swamp snake, brown snake, water moccasin, ribbon snake. | Florida sandhill crane (T, nesting, foraging), wood stork (E, foraging, incidental), white ibis (SSC, foraging, incidental), tricolored heron (SSC, foraging, incidental), little blue heron (SSC, foraging, incidental), and snowy egret (SSC, foraging, incidental). |

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Additional relevant factors:

| Assessment conducted by: | Assessment date(s): |
|---|---|
| | 30-Nov-07 |