



# Florida Department of Environmental Protection

Bureau of Mine Reclamation  
2051 East Paul Dirac Drive  
Tallahassee, Florida 32310-3760

Charlie Crist  
Governor

Jeff Kottkamp  
Lt. Governor

Michael W. Sole  
Secretary

November 19, 2008

Albert Townsend  
Tarmac America  
455 Fairway Drive  
Deerfield Beach, Florida 33441

Dear Mr. Townsend:

Re: Tarmac America, Inc. - Titan King Road Mine  
File No. 0244771-002, Levy County

We have reviewed the information that you submitted on October 20, 2008, for a modification of a water resource permit, pursuant to Part IV, Chapter 373, Florida Statutes. A request for additional information identifying the remaining items necessary to complete and clarify your application is enclosed.

If a complete response to this request is not on file by 90 calendar days from the date of this letter, your application may be denied without prejudice unless a written request for a specified period of additional time is submitted. If such a request is approved, your application may remain in active status up to 90 additional days. Should you desire to pursue your project after it has been denied without prejudice, a new application must be submitted. In this case, you will be required to submit any applicable processing fees, and current policies, standards and criteria affecting your project will apply. If you substantially revise your project after submitting the initial joint application, please contact us as soon as possible.

We appreciate your cooperation. If you have any questions, please contact me at the address below, or at (850) 488-8217 or via email at [David.Adams@dep.state.fl.us](mailto:David.Adams@dep.state.fl.us).

Sincerely,

David Adams  
Environmental Specialist

cc: USACOE, Jacksonville  
DEP, Northeast District Office, SLERP, Attn: Jim Maher  
DEP, Northeast District Office, Industrial Wastewater Program, Attn Melissa Long  
Southwest Florida Water Management District, Permitting  
Southwest Florida Water Management District, Policy and Planning Office  
Levy County, Development Dept., 622 E. Hathaway Ave., Bronson, FL 32621  
Biological Research Associates, Inc., 3905 Crescent Park Drive, Riverview, FL 33578, Attn: Mclane Evans

Enclosure: Request for Additional Information

**REQUEST FOR ADDITIONAL INFORMATION  
ENVIRONMENTAL RESOURCE PERMIT APPLICATION**

Re: Tarmac America – Titan King Road Mine  
File No. 0244771-002, Levy County

November 19, 2008

Albert Townsend  
Tarmac America  
455 Fairway Drive  
Deerfield Beach, Florida 33441

Dear Mr. Townsend:

The following questions relate to the completeness of your permit application. They are being asked in accordance with Chapter 40D-4 Florida Administrative Code (F.A.C.) and the Basis of Review (B.O.R.) for ERP Applications for the Southwest Florida Water Management District. When responding to this request for additional information (RAI), please clearly include at the top of the submittal, or on a separate cover page attached to the submittal the following:

**"THIS INFORMATION IS SUBMITTED IN PARTIAL FULFILLMENT TO THE  
REQUEST FOR ADDITIONAL INFORMATION FOR FILE NO.: 0244771-001  
DATED November 19, 2008."**

1. A notice of application was sent to the Division of Historic Resources (DHS), Department of State. The letter from DHS in the application did not address the report of the archeological and historic survey of the mining area. DHS comments concerning this area are required. Please provide to DHS information necessary for an evaluation the mining area. Please provide a final archaeological report to us and DHS for the wetland mitigation area. DHS comments concerning this area are required.
2. A notice of application was sent to the Division of Recreation and Parks. DRP comments concerning this project area are required. Please provide to DRP information necessary for an evaluation the project.

**Section A, Part 3**

- B. This item states that the entity to receive the permit is Albert Townsend, Director, Tarmac America. Please clarify whether the permittee for the permit, if issued, will be to Mr. Townsend or Tarmac America, LLC.

**Section A, Part 4**

- A. This item states that the project name is, “Titan King Road Mine.” At many locations in the application the project name is “Tarmac King Road Mine.” Please resolve this conflict. All plan sheets need to consistently provide the correct project name.
- B. This item states that this is a multi-phase project. Projects that are to be developed in phases will normally require the submission of a master plan of the applicant's contiguous land holdings. This would include an application for a conceptual permit for the total project with applications for individual permits for each phase. Please review Section 2.1, BOR, and clarify this item.
- C. This item states that the total project area is 9,378 acres. Page 4 of the Environmental Narrative states that the total project area is only 9,300 acres. Please resolve this conflict. Check all calculations and be consistent on all plans, tables, and reports when reporting acreage.
- D. This item states that the total area served by the system will be 9,378 acres. This item should provide the acreage contributing flows to the surface water containment system which must contain the design storm. When compared with the plans, it appears that this acreage may include areas that will not contribute flows to the containment system for the mine. Please clarify this item.
- H. This item requires the cubic yards of dredging from wetlands and other surface waters to the expected depth of mining. The application seems to report the cubic yards of mining, including mining in uplands. Please provide the cubic yards of dredging in wetlands and other surface waters.

This item reports that 2,657 acres will be mined. The sum of the blocks shown in Figure 16, Proposed Mining and Reclamation Plan, is 2,726 acres of extraction. Please resolve this conflict. The proposed acres of extraction must be consistent throughout the application. The proposed acres to be disturbed by mining operations (extraction area and other mining related construction) must be consistent throughout the application.

#### **Section A, Part 5**

1. The townships, ranges, and sections reported for this part were compared with Figure 3, STR Map and page 4 of the Environmental Narrative. There are two section 36's in T15S-T15E, shown in this part. The figure shows mining operations and wetland mitigation areas in four townships, but only two are listed for this part. Please resolve all conflicts within the application where STR's are reported.

2. The Tax Parcel Identification Number was blank. Please provide this information for the total project area.

### **Section A, Part 6**

1. What is the estimated project life until the completion of all wetland mitigation and reclamation?

### **Section A, Part 8**

The typed name, date and title of the applicant were not provided. The person authorizing access to the property was not signed. Please replace this page with a page completed in all appropriate areas.

### **Section E, Part I**

- B. Map 2, Aerial Photograph, is at a scale of 1 inch equals 3,000 feet. This item requires aerials at a scale of 1 inch equals 400 feet. Please provide recent aerials, legible for photointerpretation with a scale of 1 inch equals 400 feet, or more detailed, with project boundaries.

### **Section E, Part II**

The application proposes extraction to the depth of 100 feet NGVD. The application also states that the sulfate concentration at this depth is 500 mg/L which is above the groundwater maximum contamination level of 250 mg/L, (Table 6, Chapter 62-550, F.A.C.). The application also estimates that the sulfate concentration in the plant pond and tailings ponds will be between 300 and 700 mg/L. The Department has concerns that the project has the potential to degrade groundwater quality in the upper layers outside of the project area.

- The application reports that the sulfate concentrations in the shallow test pit is between 85 and 100 mg/l. How deep is the test pit. What is the estimated sulfate concentrations for the proposed extraction areas?
- Figure 19, Groundwater Monitoring Plan, does not provide for any compliance monitoring wells between the extraction areas and the property line. Please provide compliance monitoring wells downgradient from each extraction area, plant pond and tailings pond. Each well should be no 100 feet from the proposed maximum extent of the extraction area or the property line, whichever is less.
- Provide background monitoring wells to characterize groundwater received from offsite.
- The monitoring plan appears to be for the first 10 year of mining. Please provide a revised monitoring plan for the duration of the extraction activities.

- Please provide in the groundwater monitoring plan a description of actions to be taken if water samples at monitoring wells approach the maximum contamination level for any groundwater quality parameter.
  - Please reconsider the proposed maximum depth of extraction.
- A. A notice of application was provided to the Florida Fish and Wildlife Conservation Commission. Please provide the Commission information necessary to evaluate the proposed project. The application must address comments received from the Commission.
- C. Page 4 of the Environmental Narrative identifies a 4,500-acre mitigation area. Page 2 of the mitigation plan identifies a 4,526-acre mitigation area. Please resolve this conflict. The acreage of the mitigation area must be consistent in all parts of the application.

Page 12 of the Environmental Narrative states that all 45.9 acres of streams and waterways will be preserved. A notice of application was provided to the Division of State Lands (DSL). The Bureau must have a determination as to the location of state sovereign submerged lands (SSL), if any, within the project area. SSL can not be included within the acreage to be preserved. Please provide to the DSL information necessary to locate the streams and waterways within the mining area and mitigation area for a title determination.

Department staff will schedule a site inspection to focus on existing wetland conditions and the UMAM scores for the existing conditions.

Figure 6, UMAM Habitat Condition, states that certain areas will be preserved within the mining area. Other areas of the application do not address conservation easements or fee simple preservation within the mining area. Avoiding areas is not preservation. Please resolve this conflict.

Please revise Figure 6, UMAM Habitat Condition of the mining area to address the following:

- Provide at a suitable scale on suitable size page(s) to show the required information.
- For each wetland area, provide the assessment area name/number used on the UMAM score sheets.
- Using different shades to differentiate between upland and avoided areas, herbaceous wetlands, forested wetlands and other surface waters.

Please revise Figure 7, Existing UMAM Habitat Condition, for the mitigation area and Figure 8, Proposed UMAM Habitat Condition to address the following:

- Provide at a suitable scale on suitable size page(s) to show the required information.

- For each wetland area, provide the assessment area name/number used on the UMAM score sheets.
- Using shading to differentiate between upland and avoided areas, herbaceous wetlands, forested wetlands and other surface waters.

Please provide revised UMAM tables that address the following:

- Important factors in the UMAM assessment are the multiplier factors of risk and timing. The project proposes expansion of adverse impact to wetlands and other surface waters in 36 blocks over 100 years. There is a potential for completing much of the wetland mitigation during the early phases of the project for impacts that will occur during the later phases. Please identify in a table the lift and loss scores based on the expected Mine Year(s) of occurrence. Mine Year 1 is the first mine year when the permittee has all necessary permits to dredge/fill.
- Appropriateness of the wetland mitigation is a requirement. For example, enhancements to herbaceous wetlands will not offset the loss of forested wetland functions. Please provide tables that compare the lift and loss scores based on the FLUCCS type to Level 3.
- Please consider the following tables as examples.

Impact Acres by Habitat and Phase			Phase 1, Mine Year 1		Phase 2, Mine Year 5		Phase 3, Mine Year 10		Final	
Wetland	FLUCCS	Delta	Acres	FL	Acres	FL	Acres	FL	Acres	FL
6	621	(0.57)	1.0	(0.57)					1.0	(0.57)
8	621	(0.53)			0.3	(0.16)			0.3	(0.16)
8	621	(0.37)			1.7	(0.63)			1.7	(0.63)
9	621	(0.33)	4.60	(1.52)					4.6	(1.52)
10	621	(0.33)					1.0	(0.33)	1.0	(0.33)
11	621	(0.57)					8.1	(4.62)	8.1	(4.62)
11	621	(0.57)					3.6	(2.05)	3.6	(2.05)
11	621	(0.47)					0.7	(0.33)	0.7	(0.33)
11	621	(0.47)					2.4	(1.13)	2.4	(1.13)
12	621	(0.60)					5.5	(3.30)	5.5	(3.30)
<b>Cypress Swamp</b>	<b>621</b>		<b>5.6</b>	<b>(2.09)</b>	<b>2.0</b>	<b>(0.79)</b>	<b>21.3</b>	<b>(11.76)</b>	<b>28.9</b>	<b>(14.63)</b>
6	641	(0.57)	0.5	(0.29)					0.5	(0.29)
<b>Freshwater Marsh</b>	<b>641</b>		<b>0.5</b>	<b>(0.29)</b>					<b>0.5</b>	<b>(0.29)</b>
16	511/742	(0.07)	28.8	(2.02)					28.8	(2.02)
<b>Agri Ditch/Borrow Areas</b>	<b>511/742</b>		<b>28.8</b>	<b>(2.02)</b>					<b>28.8</b>	<b>(2.02)</b>

Wetland Mitigation by FLUCCS				Phase 1, Mine Year 1		Phase 2, Mine Year 5		Phase 3, Mine Year 10		Final Total	
Wetland	FLUCCS	Mitigation	RFG	Acres	FGC	Acres	FGC	Acres	FGC	Acres	FGC
17	620	Restore	0.17					12.7	2.16	12.7	2.16
18	620	Restore	0.17					6.8	1.16	6.8	1.16
18	620	Creation	0.15					1.3	0.20	1.3	0.20
19	620	Restore	0.15					3.8	0.57	3.8	0.57
20	620	Restore	0.17					13.1	2.23	13.1	2.23
<b>Wetland Coniferous Forest</b>								<b>37.7</b>	<b>6.31</b>	<b>37.7</b>	<b>6.31</b>
1	621	Enhance	0.05	2.7	0.14					2.7	0.14
2	621	Enhance	0.05	0.1	0.01					0.1	0.01
4	621	Enhance	0.10	3.4	0.34					3.4	0.34
5	621	Enhance	0.15	3.0	0.45					3.0	0.45
7	621	Enhance	0.25	0.2	0.05					0.2	0.05
15	621	Enhance	0.16	4.4	0.70					4.4	0.70
15	621	Enhance	0.20	2.5	0.50					2.5	0.50
<b>Cypress</b>				<b>16.3</b>	<b>2.18</b>					<b>16.3</b>	<b>2.18</b>
13	624	Enhance	0.05	9.3	0.47					9.3	0.47
14	624	Enhance	0.04	2.2	0.09					2.2	0.09
<b>Cypress-Pine-Cabbage Palm</b>				<b>11.5</b>	<b>0.55</b>					<b>11.5</b>	<b>0.55</b>
3	625	Enhance	0.08	1.5	0.12					1.5	0.12
14	625	Enhance	0.12	2.4	0.29					2.4	0.29
<b>Hydric Pine Flatwoods</b>				<b>3.9</b>	<b>0.41</b>					<b>3.9</b>	<b>0.41</b>
17	640	Restore	0.43					1.8	0.77	1.8	0.77
20	640	Restore	0.43					1.5	0.65	1.5	0.65
<b>Vegetated Nonforested Wetland</b>								<b>3.3</b>	<b>1.42</b>	<b>3.3</b>	<b>1.42</b>
3	641	Enhance	0.12	0.6	0.07					0.6	0.07
<b>Freshwater Marsh</b>				<b>0.6</b>	<b>0.07</b>					<b>0.6</b>	<b>0.07</b>

Please provide the estimated wetland mitigation costs based on the requirements of Sections 3.3.7 through 3.3.7.9, BOR. This will be the cost expected if a third party had to complete the mitigation. Include complete costs from mobilization through construction to maintenance and monitoring until release criteria are achieved.

Part of the wetland mitigation includes the removal or modification of existing structures to “improve” hydrology within wetlands. The application does not provide sufficient information describing the scope of the existing hydrologic problems within the mitigation area and the expected scope of improvement from the proposed construction.

- Describe and show the extent of the area where surface waters flows will be improved above existing conditions for each structure or group of structures.
- Confirm whether the hydrologic improvements will alter surface water flows or levels on land not controlled by the applicant.
- Identify each location on plans where there will be placement of low water crossings, replacement of culverts, partial ditch plug filling in roadside ditches, road segment removals and other construction to restore surface water flows. Provide complete engineering plans for structures to be installed.

- Provide for monitoring of water levels in the mitigation area prior to construction and after construction in a manner that can verify whether the construction actually improved hydrology.

Nuisance species removal is proposed for part of the mitigation. Based on the description of existing site conditions, it is not clear that nuisance or exotic species are currently a significant problem. Removal of nuisance or exotic species will not provide substantial functional lift where they are not a currently a problem. Besides routine control of nuisance and exotic species in mitigation areas, please describe the location and extent of areas where nuisance or exotic species are or may become a problem.

Please identify on the mitigation plans the general location of the three known archeological sites that will be avoided. Identify on mitigation plans any other locations where the DHS recommends avoidance.

The mitigation plan includes preservation of the mitigation area. Enclosed is the Applicant's Conservation Easement (CE) Package which describes the information required for a CE and the CE process. Please provide the information requested in the Applicant's CE Package.

- D. The applicant also submitted several applications for a formal wetland jurisdictional determination. Issuance of the determination is required. Please provide delineation staff with information necessary for issuance of the determination.

**Section E., Part III**

The text on Figure 3, STR Map, is too small to be easily read and reproduced. Please revise all plans such that the text and drawings can be easily read and reproduced on a black and white copier. This could include providing larger plan sheet(s) for the 11-by-17-inch reduced versions.

- B. The project consists of two distinct project areas with different activities. It would be helpful to report existing land cover for each area separately to understand the proposed habitat changes in each area. Please revise the table of land cover, acres and percentages, to distinguish between these two areas. For example:

FLUC CS Code	Land Cover Type	Mining Area		Mitigation Area		Total Project	
		Acres	Percenta ge	Acre s	Percenta ge	Acre s	Percen tage

Please revise Figure 5, FLUCFCS Map of existing conditions to address the following:

- Provide at an appropriate scale on suitable size page(s) to show the required information.



- Colored plans with so many similar shades are difficult to reproduce in shades of grey. Draw each area and provide its FLUCCS code. Color or shading may be used to differentiate between similar major categories such as uplands, herbaceous wetlands, forested wetlands and other surface waters.
- Show the land cover within 100 feet of the project boundary such that offsite nearby avoided wetlands can be located.

Page 9 of the Environmental Narrative states that there are a total of 6,995.9 acres of wetlands in the project area. The table on page 6 reports only 6,950.0 acres of FLUCCS 600 type areas. The 45.9 acres of streams are reported as a FLUCCS 500 type area which would be other surface waters. Please resolve this conflict and make appropriate corrections in all text and plans.

- D. The application provided Figure 6, FEMA Floodplain Map. Please address the following:
- Please provide a FEMA Floodplain Map for the entire wetland mitigation area.
  - Mining operations must be conducted within a stormwater system that can contain the design storm. The mining area is in a location that is subject to storm surge. Please describe how the containment structure will interact with a storm surge and the potential for increased flooding on adjacent property.
- F. The project consists of two distinct project areas with different activities. It would be helpful to report proposed land cover for each area separately to understand the proposed habitat changes in each area. Please revise the table of land cover, acres and percentages, to distinguish between these two areas. For example:

FLUC CS Code	Land Cover Type	Mining Area		Mitigation Area		Total Project	
		Acres	Percenta ge	Acre s	Percenta ge	Acre s	Percen tage

The application did not include a figure showing the post mitigation and reclamation land cover for the mining and mitigation areas. Please provide a post mitigation and reclamation FLUCCS map to address the following:

- Provide at an appropriate scale on suitable size page(s) to show the required information.
- Colored plans with similar shades are difficult to reproduce in shades of grey. Draw each area and provide its FLUCCS code. Color or shading may be used to differentiate between similar major categories such as uplands, herbaceous wetlands, forested wetlands, and other surface waters.
- Show the land cover within 100 feet of the project boundary such that offsite nearby avoided wetlands can be located.

- K. The application did not provide engineering plans for all water control structures to be constructed or removed within the mining and mitigation areas. Please provide complete engineering plans for the proposed construction. This includes:
- detailed plans of containment berms, ditches, swales, lake shorelines, culvert and other crossings, discharge structures, etc.
  - plan, elevation and cross section details, as appropriate.
  - normal and design storm water levels, structure elevations and side slopes.
  - sediment and turbidity controls that will be used until disturb surfaces are vegetated and stabilized.
  - upland buffer areas adjacent to avoided wetlands.
  - the location of proposed impervious areas.
  - the location of individual structures on project wide plans.
  - reclaimed lakes will have the capacity to hold a 25-year, 24-hour storm.
  - design for the mining areas will meet the reclamation standards of rule 62C-36.008, F.A.C.

Show on plans that equipment maintenance areas, and petroleum and hazardous material storage areas will be located in a separate surface water containment system with the containment capacity that meets the requirements of section 5.2, BOR, such that stormwater does not run directly to mine pits.

It is recommended that containment berms be constructed of clean fill, devoid of materials or vegetation that could allow water to be piped through the structure. Earthen material should be placed in lifts no greater in depth than 1 foot and compacted until the density meets or exceeds a 95 percent Modified Proctor test. A minimum of 3 feet of freeboard should be provided above the expected high water level within the containment system. Tops of containment berms should provide a 5 to 10-foot top width and should be sloped downward at 1 to 2 percent toward the interior of the containment system. Interior and exterior sides of berms should be sloped no steeper than 3 horizontal to 1 vertical.

- N. The figures for the mining area were compared with the cadastral layer for Levy County. The plans do not show construction of an access road between the mining area and the public right of way. All construction required to complete the proposed project must be included in the application. All information required by Section E, of the application, must be provided for the access road. Please provide information required by Section E if there will be construction in this area. If necessary, include the acreage of this area in appropriate tables and text.

- P. Please provide detail plans showing how avoided wetlands will be protected from sediment and turbidity severed from wetlands areas that will be dredged or filled. Describe turbidity monitoring where wetlands will be cut.

It appears in the plans that filling in wetlands and other construction will occur immediately adjacent to the property lines. There does not appear to be setbacks from the property line where there will be sediment and turbidity control measures, and construction of containment berms. Please clarify this proposed design by identifying setbacks from property lines and what activities may occur within setbacks.

**Section E., Part VI**

- D. How will potable water be provided during mining and reclamation?

How will waste water be handled during mining and reclamation?

**The following comments are from the Bureau's Technical support Section:**

**Section A; Part 4.D:**

1.) The response for this part indicated the total area served by the stormwater management system is 9.378 acres. Appendix II (Stormwater Calculations) of Appendix E (9-08 Ardaman Report) indicated a total area of 218 acres is served by the stormwater management system. Paragraph 1 in the Stormwater Analysis section of Appendix E verified a total area of 218 acres for the plant site runoff. However, Paragraph 2 in the Stormwater Analysis section of Appendix E indicated all runoff from active mining areas and waste disposal areas will be directed back to active minepits. Please provide stormwater management calculations for all active mining areas and/or waste disposal areas not located within the plant site area for the minesite. Please revise the response for this part, to reflect the total area being served by the stormwater management system for the minesite, as based upon the above-requested stormwater calculations.

**Section A; Part 4.F:**

2.) The response for this part indicated a stormwater impoundment volume of 122 acre-feet for the minesite. Appendix II (Stormwater Calculations) of Appendix E (9-08 Ardaman Report) indicated a total area of 218 acres (plant site area) is served by the stormwater management system and has an impoundment volume of 122 acre-feet. However, Paragraph 2 in the Stormwater Analysis section of Appendix E indicated all runoff from active mining areas and waste disposal areas will be directed back to active minepits. Please provide stormwater management calculations for all active mining areas and/or waste disposal areas not located within the plant site area for the minesite. Please revise the response for this part to reflect the

impoundment volume provided by the stormwater management system for the minesite, as based upon the above-requested stormwater calculations.

**Section A; Part 5:**

3.) The response for this part does not reflect the Sections, Townships and Ranges noted by Section 2.1 (Location) in the Environmental Narrative. For Township 16S and Range 16E, please add Sections 19 and 21. For Township 15S and Range 15E, please change the first Section 36 to Section 35. Please add Township 16S and Range 15E, which includes Sections 1, 2, 12 and 13. Please add Township 15S and Range 16e, which includes Section 31. Please revise the response for this part, accordingly.

**Section A; Part 7.C:**

4.) No reference was provided in regard to a plan view drawing of adjacent property owner's names and adjoining property lines. Please provide a reference to the plan view drawing OR provide a plan view drawing, as required by this part.

**Section C; Part 4:**

5.) The referenced Figure 8 (Mine Site Plan) must be reproducible in black & white and all features readily discernable on the copy. Please provide a revised version of Figure 8 and other affected ERP drawings.

**Section C; Part 6:**

6.) The response referenced Appendix H (Mitigation Plan). However, the Mitigation Plan is located in Appendix I. Please revise the response for this part to reference Appendix I, accordingly.

**Section E:**

7.) Section E of the ERP Application form was not provided. Therefore, the submitted ERP Application is substantially incomplete. Section E and its referenced responses for applicable parts or subparts of Section E must be provided for the proposed project site. Due to the substantial hydrologic, hydrogeologic or geotechnical information usually referenced in Section E, further technical review of said information in regard to meeting the minimum ERP requirements cannot be substantially performed until a completed Section E of the ERP Application form has been submitted to the Department.

Request for Additional Information  
File No. 0244771-002  
Tarmac America – Titan King Road Mine  
November 19, 2008  
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**Engineering Comment:** Please provide a completed Section E of Form 62-343.900(1) addressing all the requested information; provide brief statements on the form, as applicable. References should be made to accompanying plans, figures, drawings, reports and attachments, and indicate “Not Applicable,” as appropriate.

**Attached are comments from:**

- 1.) The Department’s Bureau of Recreation and Parks,**
- 2.) The Florida Geologic Survey and**
- 3.) Department of Agriculture & Consumer Services Division of Aquaculture, Shellfish Environmental Assessment Section.**
- 4.) The Department’s Coastal and Aquatic Managed Areas staff.**

**Please respond to comments that are pertinent to your Environmental Resource Permit Application.**

**Division of Recreation and Parks District 2 Request for Additional Information  
Titan King Road Mine (Levy County, Florida)  
Joint Environmental Resource Permit Application**

Staff of the Bureau of Parks District 2 has reviewed available information concerning the proposed 9,378± acre Titan King Road (TKR) Mine project in Levy County, Florida. The proposed mining activity would be located just east of Waccasassa Bay Preserve State Park, actually within one to one and a half miles of the preserve's east boundary.

The Joint Environmental Resource Permit application (subsequently referred to as Joint ERP), submitted to the Department of Environmental Protection (DEP) Bureau of Mining and Minerals Regulation (BMR) on 10/20/08, has numerous inadequacies that prevent an evaluation of the magnitude and extent of direct, indirect and cumulative impacts of the proposed mining project on any adjacent state managed properties. Listed below are major concerns we have regarding this incomplete application and the reasons why we would like to request additional information.

Official "Jurisdictional Determinations" and Extent of Project Area

- Evaluations of the magnitude and extent of direct, indirect and cumulative impacts of the proposed project cannot be made until DEP Division of Water Resource Management (WRM) and the Army Corps of Engineers (ACOE) have completed their formal jurisdictional determinations.
  - "Section 4.0 Wetlands" on numbered page 9 of the joint application states, "All wetlands and surface waters on the site have been delineated and field verified as part of a formal wetland determination (Nos. 276629-001, 2766288-001, 276624-001, 244771-001, 276630-001)." However, based on our documented recent correspondence with primary contacts from ACOE (Ed Sarfert) and DEP (Rick Cantrell), we understand that both entities have not completed their jurisdictional determination. Ed Sarfert is also the primary reviewer for projects the Environmental Impact statement (EIS). Submittal of the Joint ERP prior to the completion of formal jurisdictional determinations by DEP and the Corps makes this application incomplete and prevents a meaningful determination of the direct, indirect and cumulative impacts of the proposed project.
  - Our documented correspondence with DEP's WRM (Rick Cantrell) also indicated that the complexity of wetland issues associated with this proposed site may create the need for a "phased" formal determination of the landward extent of wetlands and other surface water.

- Application acreage discrepancies - On page 1 of the Joint ERP Application, Part 4 identifies the area owned as **9,378 ±** acres and the area of “work in, on, or over wetlands or other surface waters” as **± 2,373** acres. However, in Section 4.0 Wetlands on numbered page 9 of the Joint ERP Environmental Narrative section it states, “There are a total of **6995.9** acres of wetlands (75% of the property) and 19.3 acres of other surface waters (0.1% of the property) on the approximately **9,277** acre project site.” These obvious discrepancies in estimated wetland acreages must be addressed in the application.
- Silviculture activities in wetlands - Table 1 on numbered page 6 of the joint application states there are 1,597.4 acres of “Hydric Coniferous Plantation >8 yrs” (6291) and 1,973.4 acres of “Hydric Coniferous Plantation <8 yrs” (6292).
  - These extensive silviculture activities in wetlands, support the need for a comprehensive wetland determination by ACOE (described in the ACOE Wetlands Delineation Manual dated January 1987), for comparison with DEP formal jurisdictional determination.
- Critical information omitted - Item 5 on the page titled “SECTION C” of the Joint ERP states, “Specify the acreage of wetlands or other surface waters, if any that are proposed to be filled, excavated or otherwise disturbed by the proposed activity.”
  - The applicant’s response indicated that **±600** acres would be filled and **±1,733** acres would be excavated. Obviously, the acres of wetlands and other surface waters proposed to be filled or excavated cannot be accurately determined until the formal jurisdictional determinations by ACOE / DEP have been completed, reviewed, issued and the challenge period expires.
  - The applicant also failed to indicate how many acres would be subjected to “other impacts”. In order for this application to be complete, a determination must be made of how many acres would be subject to “other impacts” if the proposed mine is permitted. This determination also requires finalized jurisdictional determinations.
- Part 7 of the Joint ERP requires that the file number for all permits “pending, issued or denied,” be provided in the joint application. Despite this requirement, the ACOE application number (including the EIS) for this proposed mine project is not listed. In addition, the pending Water Use Permit (WUP) from SWFWMD for this proposed mine project is not listed.

- The Environmental Impact Statement being conducted by the ACOE should provide essential information for determining the extent of “other impacts” that would occur from the proposed project.
  - In our correspondence with the ACOE (Ed Sarfert) they indicated that the earliest anticipated date for the Draft EIS is April 2009. The Joint ERP, therefore, should be deemed incomplete until the information from the EIS is provided to all reviewers.
- Permit for “aquifer” removal – The first page of the Joint ERP for this proposed mine states that the total volume of material to be dredged for the proposed mine project is  $\pm 428,662,667$  yd<sup>3</sup> (Part 4: Appendix H.). This volume was based on a 2,657-acre mine pit with a depth of 100 feet and 43,560 ft<sup>2</sup> per acre. The first sentence in the “Project Description” section (page 4 of the Joint ERP) identifies the project as a “Limestone Mine.” The limestone proposed for mining is the aquifer. Therefore, the applicant has proposed a project to remove  $\pm 428,662,667$  yd<sup>3</sup> of the aquifer system in this area.
  - We understand the applicant recently hired a professional hydrologist, Dr. Todd Kincaid. His expertise is groundwater modeling in karst (limestone) aquifers using dye-tracing techniques and he has conducted karst research for DEP. In this sense, we are pleased to know that the applicant has already begun to address the need for additional hydrologic data. We request that the applicant have Dr. Kincaid determine the magnitude and extent of impact to both the surficial and regional aquifers from the volumetric removal of  $\pm 428,662,667$  yd<sup>3</sup> of the aquifer rock in both the SWFWMD and Suwannee River Water Management District (SRWMD) areas of regulatory responsibility.

### Regional Hydrology

- We believe the proposed mining project would affect the regional environment especially the hydrogeology critical for maintaining that environment. Because of the manner in which water management district boundaries are drawn, hydrological matters relating to this proposed mining activity come under the purview of Southwest Florida Water Management District (SWFWMD). However, management of the groundwater basin (Northern West-Central Florida) and surface water watersheds (Waccasassa/Withlacoochee) are the responsibility of both the SRWMD and SWFWMD. Therefore, we support and encourage both water management districts to evaluate the compliance of this proposed mining project with the laws, rules and regulations governing each district. Because of the regional impacts of the proposed mining project on the environment and the hydrogeology is critical for maintaining that environment, we also request that this the Withlacoochee Regional Planning Council (WRPC) be asked to



evaluate the proposed TKR mine as a Development of Regional Impact (DRI). The evaluation of the proposed TKR mine also should include the combined (cumulative) regional impacts from the proposed nuclear facility in Levy County. The EIS being conducted by the ACOE is the best means of evaluating the combined (cumulative) regional impacts from the proposed TKR mine and the proposed nuclear facility in southern Levy County.

- We believe that it is in the best interest of the BMR to actively seek multiple agency review at local, regional, state and federal levels of the combined impacts of the proposed TKR mine Joint ERP application and the proposed nuclear facility, in order to efficiently assess potential direct, indirect and cumulative impacts to all regional state-managed properties. We also believe that the EIS conducted by the ACOE is the best means of evaluating the combined (cumulative) regional impacts from the proposed TKR mine and the proposed nuclear facility in Levy County.
- Since the applicant has provided no formal assessment of regional direct, indirect, and cumulative impacts, we recommend the proposed TKR mine Joint ERP application be deemed incomplete until the ACOE / EIS has been completed and that information is available for agency review. The information provided in that EIS may result in additional questions regarding the environmental risk relative to the natural resources on all state managed properties in this environmentally sensitive region.
- Additional hydrological/karst data are critical to determine the extent and magnitude of water quantity and water quality from proposed: a) mining and removing  $+428,662,667 \text{ yd}^3$  of the shallow aquifer b) WUP withdrawals and c) other cumulative impacts to the aquifer system, (i.e., proposed water use for the proposed nuclear plant adjacent to the site and other regional existing mines). Examples of adjacent ecosystems that rely on the natural water quality and water quantity conditions include, but are not limited to those with Outstanding Florida Water (OFW) designation, public lands with associated waterbodies assigned a Minimum Flow and Level (MFL), state managed Shellfish Harvesting Areas (SHA) and other public managed properties such as:
  - Levy Blue Spring (MFL) and associated wetlands and uplands
  - Waccasassa River (OFW and MFL) and associated wetlands and uplands
  - Waccasassa Bay (SHA) and associated wetlands and uplands
  - Gulf Hammock
  - Big Bend Seagrasses Aquatic Preserve (SHA)
  - Waccasassa Bay Preserve State Park

- Goethe State Forest
  - Big King Spring and associated wetlands and uplands
  - Little King Spring and associated wetlands and uplands
  - Turtle Creek and associated wetlands and uplands
  - Thousand Mile Creek and associated wetlands and uplands
  - Spring Run Creek and associated wetlands and uplands
  - Smith Creek and associated wetlands and uplands
  - Demory Creek and associated wetlands and uplands
  - Tomes Creek and associated wetlands and uplands
  - Ten Mile Creek and associated wetlands and uplands
  - Withlacoochee Bay (SHA) and associated wetlands and uplands
- We recommend that a professional hydrologist propose a hydrologic approach to document the existing water quality and quantity conditions in all of the ecosystems and public areas listed above. We also request that a complete summary of the water quality and quantity impacts documented from completed or on-going mining in Florida be used in any analysis of potential impacts from the proposed TKR mine. Existing data may be available from multiple agencies, including the water management districts. The proposed approach also should include a component for modeled predictions of the magnitude and extent of potential changes in the existing water quality and quantity conditions. Water quality parameters that are required in both ground and surface waters critical to ecosystem maintenance include, but are not limited to:
- pH
  - chloride
  - sulfate
  - specific conductivity
  - turbidity
- We understand that the Florida Department of Community Affairs (DCA) has been asked to determine if this project is a DRI. Given the potential hydrologic and associated environmental impacts of this proposed large-scale mining operation (affect alone and then combined with the proposed nuclear facility) we believe water management issues encompass the authority of two different water management districts (SRWMD and SWFWMD), three county governments (Citrus, Levy, and Gilchrist), and numerous adjacent state managed ecosystems (see examples above). For this reason, we recommend involvement of the WRPC, in addition to the other multiple stakeholders during the remainder of the Joint ERP process for the proposed TKR mine.
- Managing resources on a watershed scale certainly presents an inherently complex set of challenges for water managers. We believe it would be useful for the applicant and BMR

to reference other comparable mining/hydrology issues recently experienced in Florida. For example, the documented hydrological and ecological impacts caused by mining in the Peace River watershed (within the SWFWMD) could be used as a model during the review of the TKR Mine Joint ERP due to similarities in potential land use impacts (some of which have already occurred and are currently being mitigated). The ecological and public water supply impacts that occurred in a 5,100 square mile, eight-county area of the Peace River watershed resulted in aquifer level declines throughout the groundwater basin. A lesson learned from the Peace River experience is that, if significant losses of wetlands and streams and additional cumulative impacts occur because of questionable permitting, then legislative action that is costly to the State of Florida may follow (i.e. Implementation of Southern Water Use Caution Area and associated policies). We recommend that the BMR carefully consider the Peace River Cumulative Impact Study (see Peace River Basin Resource Management Plan, Florida Department of Environmental Protection, March 2007) during the TKR mine Joint ERP process.

- In addition, any known water quality or quantity information from existing mines within the region (e.g., CEMEX Mine in northern Citrus County) or water management district data that could be used to understand potential direct, indirect, and cumulative impacts of the proposed TKR mine should be used by the applicant and by BMR during the Joint ERP review process.
- In November 2006, the SRWMD set an MFL (Chapter 373.042(1), F.S.) for the Waccasassa River, Estuary and Levy Blue Spring, the latter being a significant source for the river. In addition, the Waccasassa River and tributaries are an OFW (Chapter 62-302.700[9][i][34], F.A.C.). This designation is defined as waters of the state with “exceptional recreational or ecological significance” (Chapter 62-302.700[3], F.A.C.). Due to the significant connection between ground and surface water and the site location of the proposed TKR Mine within the Waccasassa watershed, we believe that the applicant should be required to determine a sound hydrologic approach to understand how the proposed mining project will affect discharge patterns, sheet flow and the Waccasassa River MFL.
- Inasmuch as mining authorities consider the primary objective in the mine reclamation program to be ‘restoration of function’, State of Florida policy dictates that “restoration shall be designed to reflect the biological structure and hydrology of the wetland community that was disturbed, but shall not require total replication of the previous wetland vegetation” (Chapter 62C-16.0051, F.S./ Reclamation and Restoration Standards). Water quality and quantity in the southern Waccasassa and northern Withlacoochee drainage basins and their associated estuary systems should be the central focus of the Joint ERP in determining the degree to which ecological function will be

altered as a result of locating the proposed TKR mine in close proximity to significant natural resources within this ecologically sensitive region.

- We believe the degree to which ecological function will be altered on and surrounding the proposed mine site, alone or combined with other actions (e.g., the proposed nuclear plant), cannot be determined by the level of information typically generated by the water management districts or DEP during the permit-application review process. Therefore, we request that the water management districts and DEP initiate a collaborative study with the United States Geological Survey (USGS) to identify hydrologic changes that have occurred in the tri-county area where the proposed mining (and nuclear facility) would be located. A similar study has been requested by Indian River County to evaluate hydrological changes that have occurred in that county since the study performed by USGS in 1988. (See <http://pubs.er.usgs.gov/usgspubs/wri/wri884073> ) Dr. Louis C. Murray, a hydrologist with the USGS office in Orlando, Florida advised Indian River County that such a survey would provide local water resource managers with a more current and detailed hydrologic picture of conditions at the county level. By documenting current hydrologic and water quality information, the municipalities and regulatory agencies would have the required information to determine compliance of the proposed projects with governing laws, rules and regulations. Dr. Murray has informed Indian River County that a similar hydrological study performed recently in Polk County was completed as a 50% cost-share project with the USGS, with the remaining 50% provided by the water management districts and Polk County. A link to the Polk County study via the USGS' website can be found at <http://pubs.usgs.gov/sir/2006/5320/>.

### Local Hydrology

- According to Levy County soils data for the proposed mine area, the dominant natural community that would be permanently altered at the TKR mine site is hydric hammock, even though a majority of this area has been mapped as agricultural plantation. It should be obvious to all concerned that any mining activity and subsequent reclamation in the proposed TKR mine site would simply be a natural community replacement from hydric hammock to artificially constructed uplands and open-water mine pits. It would be unrealistic to expect a return of the TKR mined landscape to pre-mining conditions, given that current BMR policy does not require natural community replication, the science of restoration ecology is in its infancy and the restoration process itself is very costly. In fact, State of Florida mining permit applications filed by some Florida mining companies (i.e. PCS mines in Hamilton County) have explicitly stated that the reclamation program is not designated to replicate “pre-mining conditions”. For this reason, we believe that the ecological functioning of this unique natural community within the TKR mined area

will inevitably change, and the applicant should be required to determine the direct, indirect and cumulative impact of that change.

- A professional hydrologic model of mining impacts, both with and without the proposed nuclear facility, also should predict and evaluate the impacts from both lateral saltwater intrusion from the coast and vertical intrusion from upward flow of water from lower zones in the aquifer system with significantly different chemical composition (e.g., pH, sulfite, and chloride) than the natural surficial aquifer.
- A professional hydrologic model of mining impacts, both with and without the proposed nuclear facility, also should predict the impacts from altered surface/sheetflow. Taxpayers currently are paying approximately \$20 billion in an attempt to re-establish sheetflow in the Everglades.
- One of the four primary “stressors” discussed in the 2007 Peace River Cumulative Impact Study specifically evaluated and analyzed the impacts of limestone mining on the local hydrology and natural resources of the Peace River Basin. The dewatering of mining/beneficiation areas within this basin became a very serious local hydrological problem related to decreased groundwater levels. One current proposal, which has evolved from this dewatering issue, is to use groundwater modeling to design and construct surficial aquifer recharge wells and ditches to regulate and theoretically maintain a desired hydrological condition within non-mined adjacent natural communities. Major hurdles that the proposed TKR mine in the Waccasassa/Withlacoochee basin would have to resolve are consequences of dewatering within this region of the Floridan aquifer, as well as any subsequent changes that may affect the recently mandated Waccasassa River MFL. A professional hydrologic analysis and model(s) should address potential adverse hydrologic and environmental impacts of constructing surficial aquifer recharge wells and ditches to regulate and theoretically maintain a desired hydrological condition within non-mined natural communities on and surrounding the proposed mine.
  - Indian River County recently sponsored a workshop to address mining impacts and subsequently issued a temporary moratorium on additional mining in that county. County officials are currently seeking a strong hydrologic approach in a collaborative study by USGS to begin deciphering these impacts. A result of one study addressed at the workshop was published by USGS in 2000 (*Swancar, Amy, Lee, T.M., O’Hare, T.M., 2000. Hydrogeologic setting, water budget, and preliminary analysis of ground-water exchange at Lake Starr, a seepage lake in Polk County, Florida, Water-Resources Investigations Report 00-4030, p. 65*). That study documented that large body of water resulted in large losses of water to

evaporation, ultimately dewatering the aquifer. . In the light of the report, the impact on the aquifer of the open-mine pits that will be left after the mining appears to be an important and unanswered part of the application and should be addressed before the application is considered complete.

- We strongly believe that according to the accepted definition of “dewatering” that the TKR mining activities will dewater both on-site and surrounding areas, even if groundwater pumping is not proposed. (*Bacchus, S.T., 2006, Nonmechanical dewatering of the regional Floridan aquifer system, in Harmon, R.S., and Wicks, C., eds., Perspectives on Karst geomorphology, hydrology, and geochemistry—A tribute volume to Derek C. Ford and William B. White: Geological Society of America Special Paper 404, p. 219-234*). In addition, mining activity studies have suggested hydroperiod responses can be altered within adjacent natural communities (*Curtis, T.G. 1989, Estimating unsteady water behavior using boundary integral approximations, in Moore, J.E., Zaporozec, A.A, Csallany, S.C., and Varney, T.C., eds. Recent advances in groundwater hydrology: Smyrna Georgia, American Institute of Hydrology, p 298-310*). Again, we feel this concern needs to be addressed in the application.
  - We believe the applicant should document the net groundwater flow in the basin surrounding the TKR mine in order to determine any impacts/changes within the water budget of this region including when precipitation is negative over long periods (i.e., annual dry seasons and periods of below average rainfall).
  - Included in that analysis, we would like to see an estimation of the aquifer dewatering from increased evaporative loss. In addition, we would like to see an estimate of the magnitude and extent of the permanent alteration in the surficial aquifer hydroperiod from the volumetric removal of the aquifer structure (matrix) and other hydrologic alterations from the proposed mining activities.
  - Since impoundment of water (a practice used by the phosphate mining industry and most other mining projects) represents another means of altering natural hydroperiod, it is of great importance that the Joint ERP review process quantifies the magnitude and extent of the alterations associated with the proposed mining project. If there are anticipated changes in the hydroperiod of the surficial aquifer throughout the entire period of this land use operation, the effect of these changes in the natural communities, especially on state-managed land, should be identified and alternatives discussed.

- Given the predicted lack of post-mining restoration of the mined area to its original natural communities, an immediate question is what would be the magnitude and extent of impacts on areas down gradient from the mine? The Gulf Coast region from the St. Marks River south to the Homosassa River contains the state's largest remaining stretch of hydric hammock, with Waccasassa Bay Preserve itself protecting 7,000 acres. What would prevent the degradation of the high quality hydric hammock that persists within Waccasassa Bay Preserve? For example, alteration of groundwater levels of only a couple of inches during the dry seasons could dramatically alter the preserve's hydric hammock. The magnitude and extent of mining impacts on local ground and surface water resources need to focus on the likelihood that significant changes may take place in the high quality hydric hammock within the adjacent Waccasassa Bay Preserve.
  - The Waccasassa Bay area is considered a low energy coastline, but because of the flat terrain, storm surges from hurricanes and other major storms often extend inland, and would likely reach the TKR mine property (*Titus, J.G., and Richman, C., 2001, Maps of lands vulnerable to sea level rise: modeled elevations along the US Atlantic and Gulf coasts: Climate Research, v. 18, no. 3, p. 205-228*). All possible effects of storm surge related to mining impoundments should be evaluated and viable mitigation measures described for the inevitable storm surges.
  - The potential impacts, magnitude and extent of lateral saltwater intrusion from the coast to the adjacent state managed natural communities that would result from the proposed mining, singly and combined with the proposed nuclear facility in Levy County need to be determined.
  - The potential impacts, magnitude and extent of vertical movement of ground water with different chemical characteristics (e.g., pH, chloride, sulfate, specific conductivity) on state managed natural communities that would result from the proposed mining (including proposed blasting) also need to be determined.
- Numerous spring-fed streams, including Spring Run, Thousand Mile Creek, and Turtle Creek, originate either within the proposed Tarmac mine site or just outside it. These streams flow directly through Waccasassa Bay Preserve State Park and into the southern reach (Low's Bay) of the Big Bend Seagrasses Aquatic Preserve. This estuarine system, constituting the largest aquatic preserve in Florida, is one of the most pristine natural areas in the state. Estuaries are highly dynamic ecosystems lying between freshwater and saline water systems. Numerous organisms within this highly productive brackish community depend directly on freshwater pulses emanating from the adjacent coastal wetland communities. The tidal creeks and embayment's serve as essential filters during

the breakdown of detrital material. The Waccasassa Bay region supports an important commercial shellfish industry and a thriving sport fishing business. The applicant should be required to determine all water quality or quantity changes that the proposed TKR mining activities would have on these spring-fed stream systems. Possible hydrologic connections between the proposed mine site and these stream systems should be identified and evaluated. Any proposed mine activities that may adversely affect these streams should not be permitted.

- Dr. Kincaid, the applicant's new karst consultant, has used dye-tracer studies in north Florida to identify karst flow paths for ground water. We believe that a similar approach is needed to identify the most probably areas of direct, indirect and cumulative impacts on these unique spring systems.
- We also need to know the potential impacts associated with a subsequent decrease in water supply resulting from the proposed TKR mining activities to: 1) the spring-fed streams, 2) natural sheet flow in the area, and 3) the timing and chemical characteristics of that water supply. By disrupting the natural sheet flow process that normally would occur in the hydric hammock, detrimental changes in the timing, volume and duration of discharges into an estuarine system are expected. In addition, this may exacerbate the already observed negative effects of steadily rising sea levels in the Waccasassa Bay area. Conversely, we recommend that the applicant be required to determine the potential impacts of their mining activities when a more rapid flow of surface or ground water to Waccasassa Bay occurs. The predicted result would be a short-circuiting of the gradual sheet flow and groundwater flow that normally would occur in the hydric hammock, with devastating impacts on the adjacent estuary. Detailed hydrologic studies, integral to the draft EIS, are paramount to determine whether the proposed TKR mine would significantly alter the natural hydrologic regime that has functioned so well for thousands years in the Waccasassa Bay region. This information is critical for a complete understanding of the magnitude and extent of direct, indirect and cumulative impacts, but may be better suited for determination by the proposed USGS hydrologic evaluation.

#### Listed Species

- The proposed TKR Mine could negatively affect a number of threatened or endangered animal and plant species found in the southern Gulf Coast region. It is imperative that the potential impacts of the mine on state or federally listed species found within the adjacent public lands be addressed during the permit review process. In the Big Bend estuarine system, three state or federally listed marine turtle species (green, Atlantic Ridley, and loggerhead) and the Florida manatee use the highly productive neritic resources of the region. Green turtles are herbivores at all stages of their life history, but those individuals



that forage on a diet of seagrasses in the Waccasassa Bay estuary are a critically important “teen-age” cohort. Both loggerhead and Atlantic Ridley marine turtles forage on many of the shellfish within those same waters.

- Within the ephemerally flooded high salt marsh, the federally endangered Florida salt marsh vole is known from only two sites in the Waccasassa Bay region of Levy County (one on public land, the other on private). Currently no populations are known from Waccasassa Bay Preserve State Park. Biologists in the United States Fish and Wildlife Service (USFWS), however, suggest that this park holds the best chance of harboring additional populations. The ACOE has strict standards associated with any dredge and fill activities in salt marsh habitats pursuant to the Clean Water Act.
- The eastern indigo snake is another federally listed species found in Waccasassa Bay Preserve State Park, specifically within upland communities such as pine flatwoods and the drier portions of hydric hammock. Research in Florida suggests that this species requires a large home range (~ 4.8 ha), and therefore it is not surprising to find this animal in multiple natural community types. Indigo snakes also commonly occur on cutover private timberlands just to the east of Waccasassa Bay Preserve. Consultants for the proposed TKR mine site have confirmed sightings of this species on the property.
  - We believe that the applicant must work closely with state and federal officials to develop a management plan that might include incidental take of this listed species.
- Thriving populations of certain state-listed plant species, including corkwood and Florida pinkroot, occur in Waccasassa Bay Preserve State Park. Many of the listed species continue to persist in the preserve despite occupying narrow ecological niches, however even a slight, long-term increase or decrease in groundwater levels could cause their eventual disappearance.
  - We believe that the applicant must work closely with state and federal officials to develop a management plan that might include incidental take of these listed species.

### Recreation

- Recreation is a primary driving force in the economics of this region of Gulf Coastal Florida. The recreational experience in the Waccasassa Bay area is unique, with highly scenic vistas and remote, peaceful spots for fishing or nature-enjoyment seemingly

around every bend and up every tidal creek. We are very concerned that noise carried west from the TKR mine site could dramatically diminish the outdoor experience so avidly sought by canoeists, anglers, and other low-impact recreationists. We recommend BMR require that the applicant develop an environmental risk and cost/benefit analysis relative to allowing this type of land use change in close proximity to a state-owned wilderness area.

### Mitigation Area

- Any professional hydrologic analysis and modeling of the magnitude and extent of impacts from the proposed mining activities should include the proposed “Conservation” area offered as “mitigation” for the proposed mining activities.
- The applicant should determine and report, in a detailed plan, exactly what land management activities would be allowed on the “Conservation Easement” proposed as mitigation for the mine.
- The applicant should also describe in detail the measures that would be employed to restore the natural hydrology and ecology of the proposed mitigation property. This analysis should include a estimated budget and cost of restoration.
- We will need a more detailed mitigation plan associated with the proposed mitigation area for the project.

### Potential Coastal Zone Management Act (CZMA) inconsistencies

- All additional information referenced above is required to ensure that none of the direct, indirect and cumulative impacts of the proposed project will result in any inconsistency with, or otherwise violate the CZMA, riparian rights and other provisions of compliance of the Florida Statutes, under our Division of Recreation and Parks authority according to Chapter 258.
  - 258.037 Policy of division.--It shall be the policy of the Division of Recreation and Parks: To promote the state park system for the use, enjoyment, and benefit of the people of Florida and visitors; to acquire typical portions of the original domain of the state which will be accessible to all of the people, and of such character as to emblemize the state's natural values; conserve these natural values for all time; administer the development, use and maintenance of these lands and render such public service in so doing, in such a manner as to enable the people of Florida and visitors to enjoy these values without depleting them; to contribute materially to the development of a strong mental, moral, and physical fiber in the

people; to provide for perpetual preservation of historic sites and memorials of statewide significance and interpretation of their history to the people; to contribute to the tourist appeal of Florida.

- 258.041 Cooperation of division with counties, etc.--The Division of Recreation and Parks may cooperate with counties in county and state park work, and in this connection county commissioners may acquire, by gift, devise, or purchase from general funds, from individuals, corporations, the United States Government, or any of its departments or agencies, any lands, which are suitable for public parks or for the preservation of natural beauty or places of historic association, and operate the same as public parks. Said county commissioners may also convey any such lands so acquired to the Board of Trustees of the Internal Improvement Trust Fund or the division, provided such lands are acceptable by said board of trustees or division.

Given the vulnerable nature and pristine quality of Waccasassa Bay Preserve State Park and Big Bend Seagrasses Aquatic Preserve, the BMR should exercise due diligence when reviewing the Joint ERP for the proposed TKR mine and carefully review all possible factors that might negatively affect the lands and operations within the two state preserves.

**FGS would like to obtain the following data:**

1. Waterlevel data for the deep monitoring wells MW-7, 8, 9 and 10, their construction and metals data.
2. Complete data set for the continuous recorders in the three monitoring wells.
3. figure identifying the wells by name, number, whatever used in generation of the potentiometric maps and their construction including screened interval.
4. Soluble metals analysis from the rock cores.
5. Ground elevation and core description from the boring Howard Hayes (need date) observed discharging sulfur rich water and a list and location of any additional boring that the driller observed flowing and when.
6. A through explanation of how the ground water gradient across the parcel is going to be maintained during and post mining and how flow in the tributaries to Smith Creek are maintained and its anticipated quality.
7. Is Smith Creek or tribs tidal on the west side of the parcel?

**DACS SEAS Comments –**

**Re:** Tarmac King Road Limestone Mine Environmental Impact Statement Comments

The proposed project consists of the construction and active use of a limerock mine to provide road and construction material. The location of the proposed project is shown on the attached figures of shellfish harvest area classifications (Figure 1A and 1B). The basis for the following comments by the Shellfish Environmental Assessment Section is solely on shellfish water classifications. The Florida Fish and Wildlife Conservation Commission should be contacted to address any potential impacts to shellfish resource and propagation.

The daily activities of the mining operation should not directly affect the waters of Withlacoochee Bay Shellfish Harvesting Area (SHA) under normal conditions. However, due to the proposed mine site being located adjacent to the coastal marsh, there is the potential for indirect impacts to the shellfish growing waters. Indirect impacts to the shellfish harvesting areas may be conveyed through groundwater or stormwater runoff. The entire proposed mine site is located within the 100 year floodplain (Figure 3). In addition, the proposed mine site is within the storm surge zone for Levy County, with the western extent of the site being within the Tropical Storm surge category (Figure 2). There are also numerous tidal creeks meandering through the coastal marsh adjacent to the site. The greatest potential impact to shellfish waters would occur during flood events caused by both heavy rainfall and during coastal flood events. There is a potential for pollutants to enter the coastal tidal creeks and eventually the shellfish harvesting waters both through surface waters and through sheet flow (groundwater). However, it is not known to what extent if any it will have on the management of the Waccasassa Bay and Withlacoochee Bay Shellfish Harvesting Areas. In the near term, reclassification of the shellfish harvesting areas does not appear necessary to prohibit shellfish harvesting if the mine is built as proposed. However, if the proposed mine negatively impacts either of the two SHAs by degrading water quality, reclassification of the affected SHA(s) would be required.

Thank you for the opportunity to comment. Please call me at the contact info provided at top of page 1 if you need additional information.

Michael A. Kuhman  
Environmental Specialist II

cc: David Heil  
Chris Brooks  
Mark DeHaven

Figure 1A: #34 Withlacoochee Bay Shellfish Harvesting Area and proposed mine site location

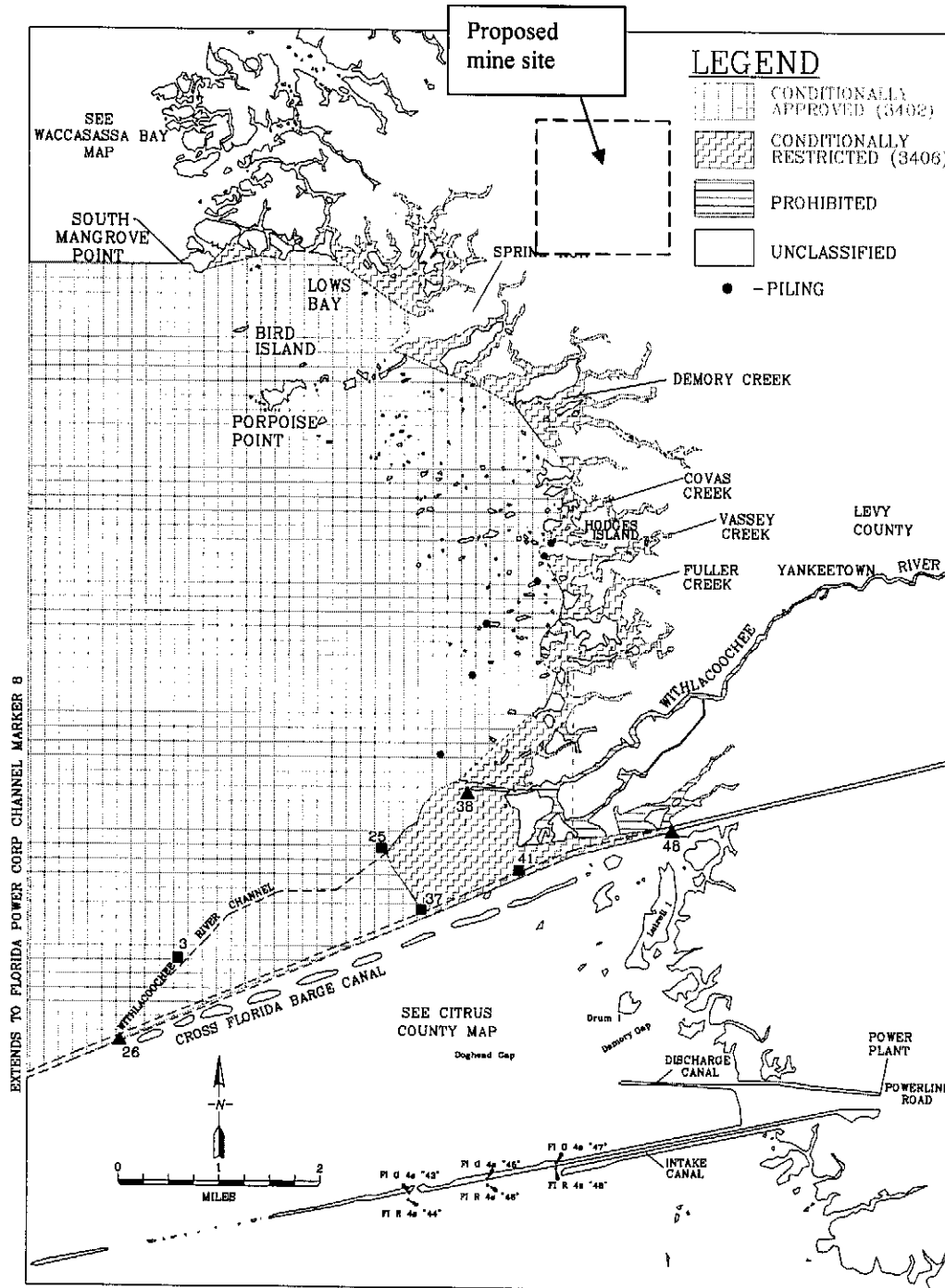


Figure 1B: #32 Waccasassa Bay Shellfish Harvesting Area and proposed mine site location

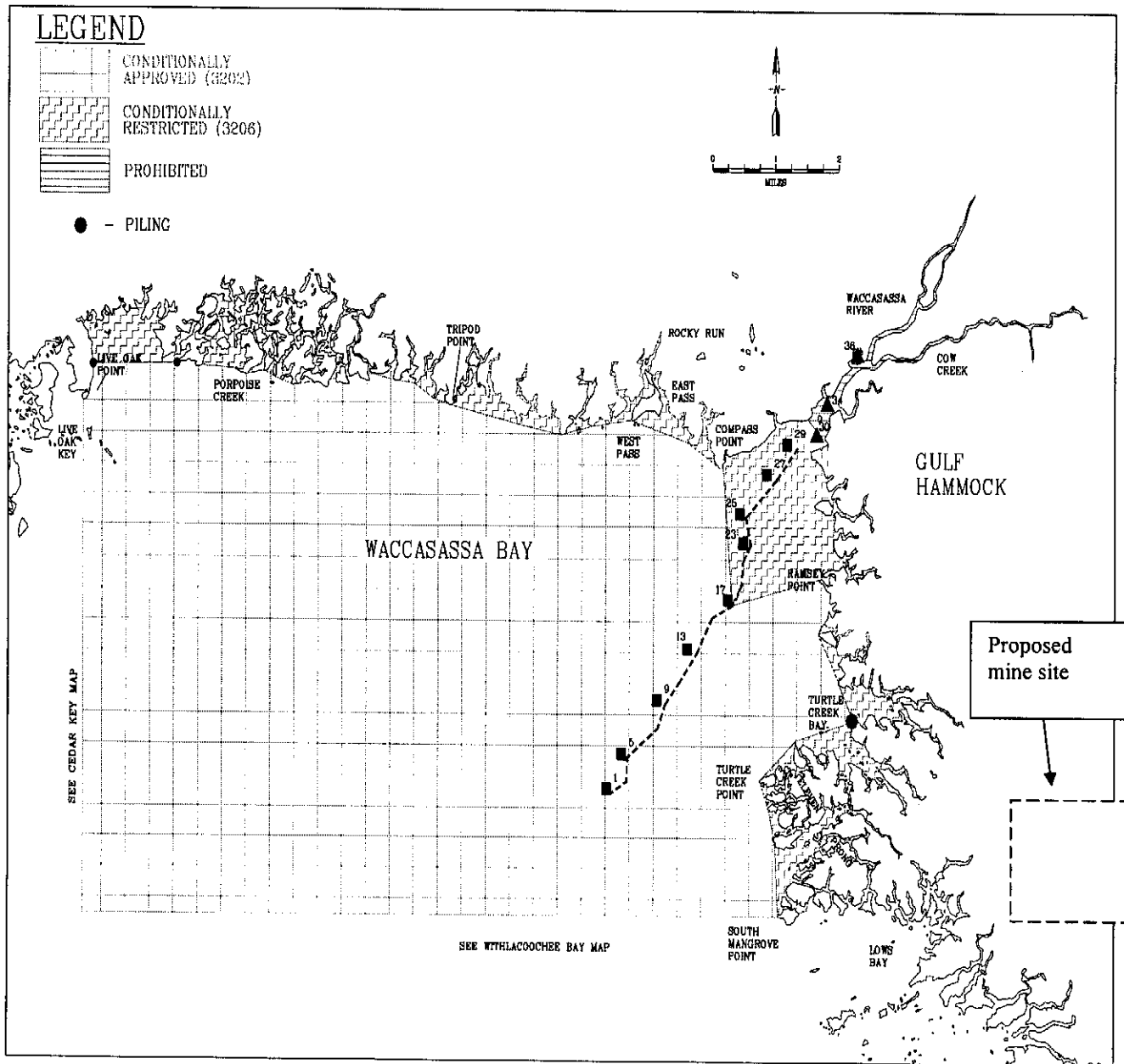


Figure 2. Storm Surge Zones for Levy County

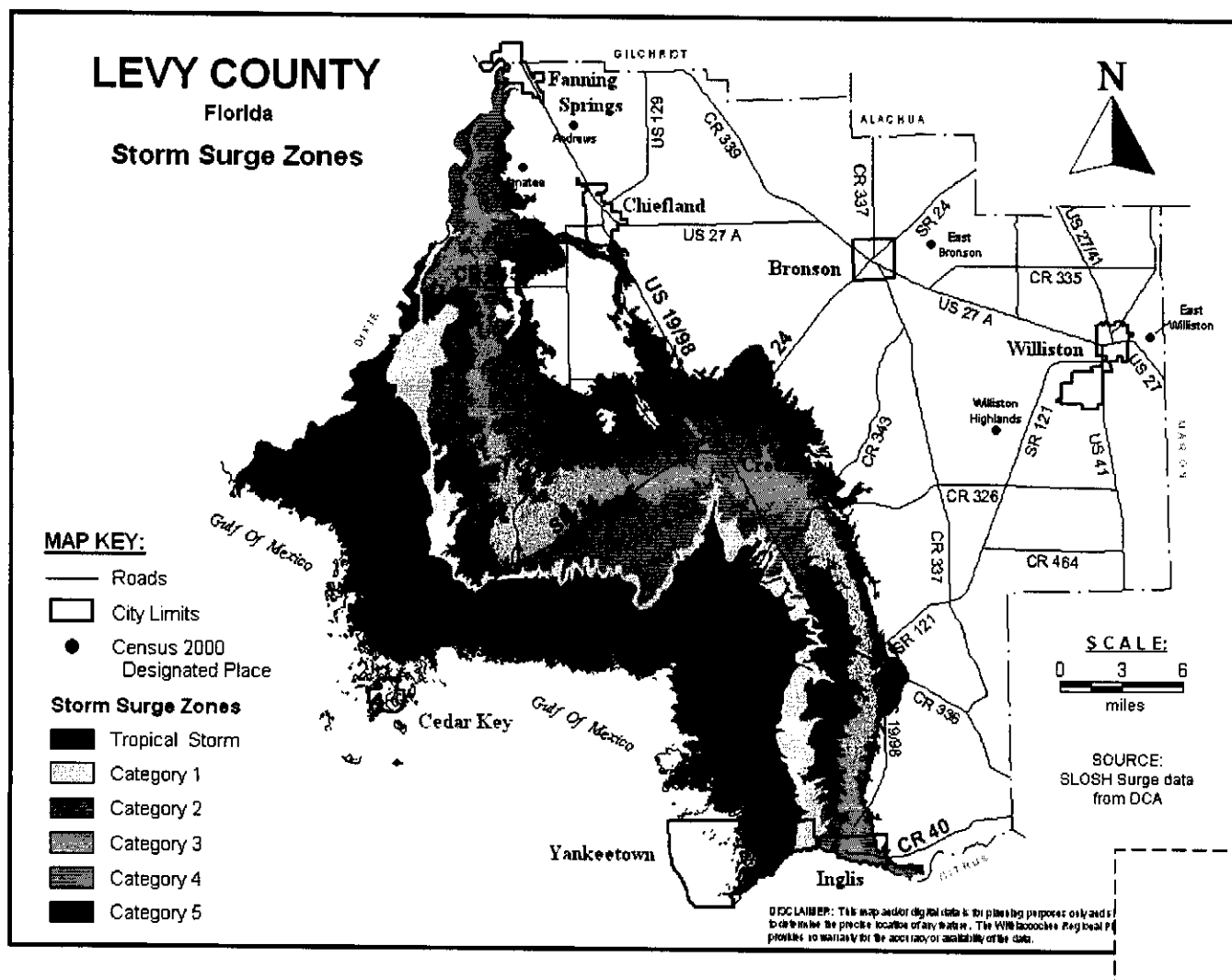
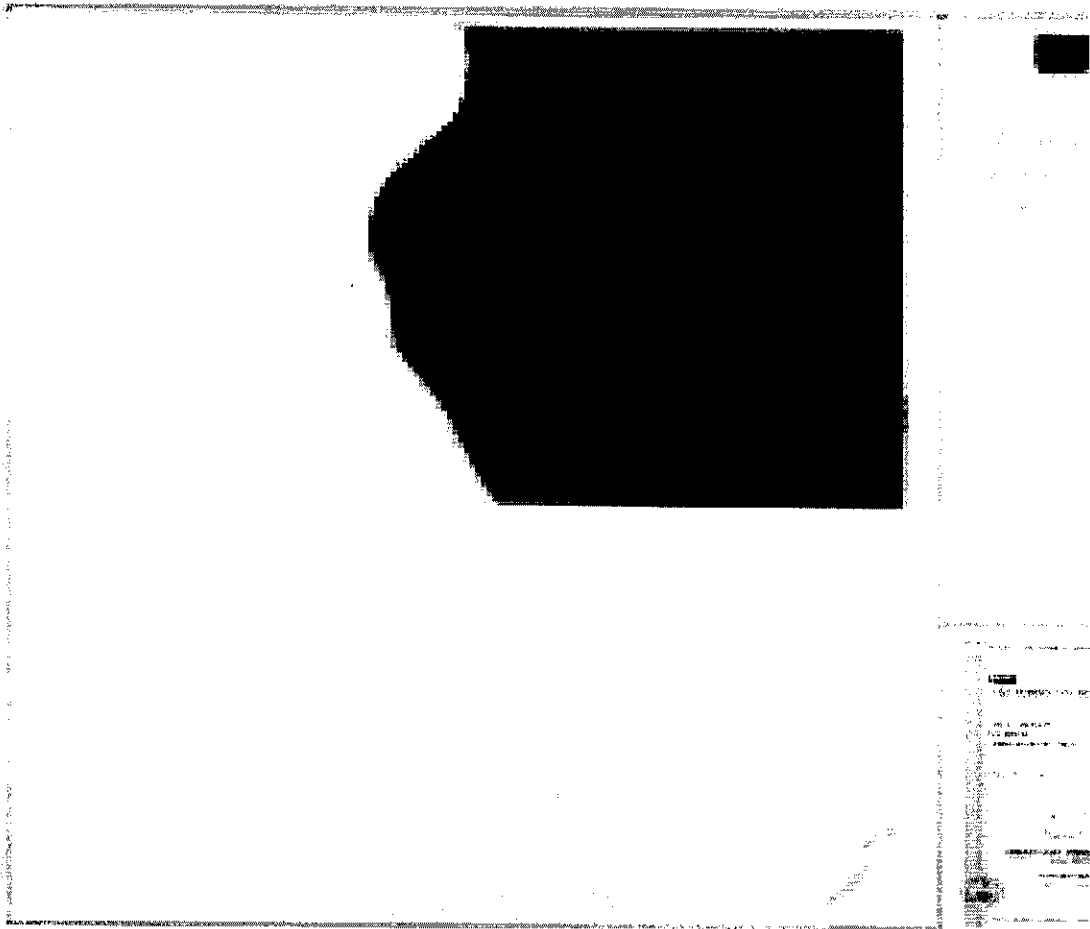




Figure 3. Proposed mine site and the 100 year floodplain.



**Creator** United States. Federal Emergency Management Agency.

**Title** FIRM, flood insurance rate map, Levy County, Florida (unincorporated areas), Panel 600 of 650. [Electronic resource] / Federal Emergency Management Agency.

**Contributor** National Flood Insurance Program (U.S.)

**Publisher** Federal Emergency Management Agency

**Publication Date** 1984

**Note** At head of title: National Flood Insurance Program.

**Note** "Community-panel numbers 120145 0600."

**Note** "Effective date: March 1, 1984."

**Note** Panel title.

**Note** Electronic reproduction. [Florida] : State University System of Florida, PALMM Project, 2004. Mode of access: World Wide Web. System requirements: Internet connectivity; Web browser software; Adobe Acrobat Reader to view and print PDF files. Electronically reproduced by the University of Florida from materials held in the Map and Image Library, University of Florida.

**Note** FIRM map, Panel 600 of 650, Levy County, Florida (unincorporated areas)

Request for Additional Information

File No. 0244771-002

Tarmac America – Titan King Road Mine

November 19, 2008

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**Subject** Floodplains--Florida--Levy County--Maps.

**Subject** Insurance, Flood--Florida--Levy County--Maps.

**Subject** Levy County (Fla.)--Maps.

**Subject** Levy--12075

**URL** <http://purl.fcla.edu/fcla/ic/UF00020306>

**Collection** Publication of Archival, Library & Museum Materials

Copy and paste to browser the link (right) to better view the map. [http://image11.fcla.edu/cgi/i/image/image-idx?c=map;q1=UF00020306;rgn1=map\\_all;sid=b0729706933ea7d7c11feb6c07f0f;size=20;type=boolean;view=thumbfull;a=61](http://image11.fcla.edu/cgi/i/image/image-idx?c=map;q1=UF00020306;rgn1=map_all;sid=b0729706933ea7d7c11feb6c07f0f;size=20;type=boolean;view=thumbfull;a=61)



# Florida Department of Environmental Protection

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November 18, 2008

David Adams  
Environmental Specialist III  
Bureau of Mining & Minerals Management  
2051 East Dirac Dr., MS 715  
Tallahassee, Florida 32310

Re: Tarmac King Rd. Limestone Mine

Mr. David Adams,

St. Martins Marsh and Big Bend Seagrasses Aquatic Preserve staff has reviewed information for the Tarmac King Rd. Limestone Mine submitted by Tarmac America on October 27, 2008.

Chapter 258.36 Legislative intent states, "It is the intent of the Legislature that the state-owned submerged lands in areas which have exceptional biological, aesthetic, and scientific value, as hereinafter described, be set aside forever as aquatic preserves or sanctuaries for the benefit of future generations."

18-20.001(1), F.A.C., states, "All sovereignty lands within a preserve shall be managed primarily for the maintenance of essentially natural conditions, the propagation of fish and wildlife, and public recreation..."

According to 62-302.700(9) (f) 4, F.A.C. and 62-302.700(9) (f) 38, F.A.C., both Aquatic Preserves are Outstanding Florida Waters and ambient water quality conditions must be maintained.

Chapter 258.395 Big Bend Seagrasses Aquatic Preserve describes the boundaries of Big Bend Seagrasses Aquatic Preserve. The following described area in Wakulla, Jefferson, Taylor, Dixie, and Levy Counties is hereby designated by the Legislature for inclusion in the aquatic preserve system under the Florida Aquatic Preserve Act of 1975. Such area, to be known as the Big Bend Seagrasses Aquatic Preserve, shall be included in the aquatic preserve system and shall include all the sovereignty submerged lands lying within the following described boundaries: Begin where the northerly mean high water

line of Withlacoochee River meets the mean high water line of the Gulf of Mexico, Township 17 South, Range 15 East, Levy County: Thence from the said point of beginning proceed northwesterly along the mean high water line of the coast and its navigable tributaries to the intersection of the westerly mean high water line of St. Marks River with the mean high water line of the Gulf of Mexico, in Township 4 South, Range 1 East, Wakulla County; thence proceed south three marine leagues into the Gulf of Mexico; thence proceed southeasterly along a line three marine leagues from and parallel to the line of mean high water previously described to an intersection with a line projected west from the point of beginning; thence proceed east to the point of beginning.

Please provide the Mean High Water Line (MHWL) and Ordinary High Water Line (OHWL) on an aerial map showing the proposed project site, preservation area, and appropriate legends. These lines need meet DEP survey standards and be submitted for approval. It seems that the applicant has included sovereign submerged lands and areas within Big Bend Seagrasses Aquatic Preserve's boundary.

The applicant has not acknowledged the presence of Big Bend Seagrasses Aquatic Preserve or addressed any potential impacts to the Preserve. Please provide appropriate documentation and demonstrate that the "terracing" method of mining will prevent degradation of ambient water quality within the Preserve. Engineering has not been provided by the applicant.

Changes in hydrology caused by mining may impact percolation rates, runoff response, and ultimately recharge rates. Loss of vegetation and the associated evapotranspiration may have an impact to the quantity of water reaching the Aquatic Preserve.

The proposed mine may decrease the quality and quantity of freshwater entering the estuary within the Aquatic Preserve. Altering of the natural salinity regime has the potential to impact resources and water quality within the Aquatic Preserve. This may result in altering of existing natural communities and biota which inhabit these areas.

USGS has identified many estuarine tidal marsh coastal seeps in this area of Florida. Please identify the presence or absence of seeps within and adjacent to the proposed project site that may be impacted by mining activities. Impacts to conduit systems have the potential to alter the natural salinity regime in the Aquatic Preserve. Please demonstrate reasonable assurance that there will be no impacts to conduits connected to the Aquatic Preserve.

The Aquatic Preserve staff encourages the applicant to conduct and administer a geotechnical plan of study for karst features in order to provide assurance that no adverse water quality impacts will occur to Big Bend Seagrasses Aquatic Preserve. This study will identify lineament/karstic features, presence and persistence of solutional

cavities and/or karstic features in limestones underlying the proposed mine site, establish the connectivity or persistence of conduit groundwater flow, provide a geotechnical summary. The karstic nature of this area of Florida and the mapped seepage data provide by USGS demonstrate a need for a detailed geotechnical study to be conducted. This action can provide a level of reasonable assurance and demonstrate that no significant harm will occur to resources in the Aquatic Preserve.

The proposed project is located in a Coastal High Hazard Zone. Please provide reasonable assurance that the Aquatic Preserve will not be subjected to significant adverse impacts during these events. Please take into account 100 year storm events to demonstrate reasonable assurance. Flushing of sediments and pollutants during these events has the potential to alter natural existing benthic habitats, bathymetry, and water quality of the Aquatic Preserve.

A sediment evaluation should be conducted in the adjacent coastal waters, tidal marshes, and other natural areas to provide baseline ambient conditions and demonstrate that the proposed project has not caused significant adverse impacts to Big Bend Seagrasses Aquatic Preserve. Without documentation and collection of baseline ambient data by the applicant, further evaluation of effects of mining practices cannot be determined.

Additional water quality monitoring should be conducted in the adjacent coastal estuarine waters to provide baseline data which may demonstrate that the proposed project has not caused significant adverse impacts to Big Bend Seagrasses Aquatic Preserve.

The proposed project has the potential to impact shellfish harvesting areas. There are significant shellfish resources in the adjacent coastal estuarine waters in close proximity to the proposed project site.

Levy County Class II Coastal Waters and Tidal Creeks - Within the county excluding:

- a) The mouth of the Suwanne River, and its passes;
- b) Alligator Pass to a line connecting the seawardmost points of the islands connecting Alligator Pass with the Gulf;
- c) Cedar Key area - from SR 24 bridge at the northernmost point of Rye Key, southwestward to the northernmost point of Gomez Key, then southward to the westernmost point of Seahorse Key, then along the southern shoreline of Seahorse Key to its easternmost point, then northeastward to the southernmost point of Atsena Otie Key, then northward along the eastern shoreline of Atsena Otie Key to its northeasternmost point, then northward to the southernmost point of Dog Island, northwestward to the westernmost point of Scale Key, northwestward to the boundary marker piling, then northward to the point of beginning;
- d) the mouth of the Withlacoochee River.

The comments provided herein are not the final position of the Department and may be subject to revision pursuant to additional information and further review. Please keep me informed as to the progress and status of this application. If you have any further questions please do not hesitate to contact St. Martins Marsh & Big Bend Seagrasses Aquatic Preserve at 352-563-0450.

Sincerely,

A handwritten signature in black ink that reads "Melissa J. Charbonneau". The signature is written in a cursive style with a horizontal line at the end.

Melissa J. Charbonneau  
Environmental Specialist III, Big Bend Seagrasses Aquatic Preserve