

**Subject: Information in support of the APAC Southeast Inc.'s (APAC's) Lake Belt applications**

The purpose of this document is three-fold:

1. Provide detailed drawings of each section of land and summarize the land cover expected at the end of each phase of mining included in the current applications. **Table 1** provides the land cover summary by quarry. A full set of permit drawings is enclosed. A separate table that summarizes the information by section is included with the drawings.
2. Document the mitigation requirements contained in permits issued prior to the Lake Belt permits that were issued in 2002. This information is shown in **Table 2**.
3. Calculate the breakdown of both the pre-2002 and post-2002 mitigation obligations and describe how each will be accommodated in the mining plans covered by these applications. This information is shown in **Table 3**.

**1. Post mining land cover.**

**Table 1** summarizes the expected final land cover for this quarry based on the applications now under review. The data are derived from the enclosed permit sketches and summarized by individual lake.

<b>Table 1. Breakdown of permit area by mining phase and final cover type, APAC Southeast.</b>										
<b>APAC</b>	<b>Quarry Lakes</b>			<b>Gross Footprint Acreage<sup>1</sup></b>			<b>Finished Land Cover Acreage</b>			
	<b>2002 Lake Area</b>	<b>2009 Lake Area</b>	<b>At full Build-out</b>	<b>Phase 1</b>	<b>Phase 2</b>	<b>Total Permit</b>	<b>Littoral Areas</b>	<b>Deep Cut Lake Area</b>	<b>Easements (note 2)</b>	
16-53-39	0	0	401	194	216	410	17.4	401	7	
23/24-53-39	355	535	664	67		67	42	664	6	
<b>Total</b>	<b>355</b>	<b>535</b>	<b>1065</b>	<b>261</b>	<b>216</b>	<b>477</b>	<b>59.4</b>	<b>1065</b>	<b>13</b>	
1500' setback area							<b>182</b>	acres		
<p>Note 1: The permit areas include the areas of lake and littoral construction at the end of each phase, as well as the County road/canal/utility easements surrounding the littoral area. This is mining footprint from 2009 forward.</p> <p>Note 2: An average 50-foot width was assumed for the County road/canal/utility easement along all section and half-section lines.</p>										



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**2. Pre-2002 Permits**

In 2002 the Corps of Engineers issued new permits that followed the mitigation framework developed through the Lake Belt Planning process as adopted by the State of Florida in 1999. These new permits did not remove the mitigation requirements contained in the prior permits. This section summarizes the mitigation obligations in the permits that were in effect prior to the Lake Belt permits issued in 2002.

**Table 2. Pre-2002 Analysis Permit review and calculation of mitigation required by those permits and required littoral area based on the Lake Belt Plan.**

APAC	Pre-2002 Permits		Carryover from pre-2002 permits					New Permits	
	Impacted Area	Littoral Area <sup>1</sup>	2002 Lake and Filled	% Impacts by 2002	Required Littoral Area	Littoral Area Built	Littoral Area Needed	Permitted Impacts	Required Littoral Area <sup>2</sup>
Section 16								425	35
Section 23 (1991-903)	263	93.0	263	100%	93.0	0.0	93.0	145	30
Section 24 (1990-4493)	304	27	246	81%	22	0.0	22	58	
<b>Total</b>	<b>567</b>	<b>120</b>	<b>509</b>		<b>115</b>	<b>0</b>	<b>115</b>	<b>628</b>	<b>65</b>

Note 1. Section 23 - no specific acreages in most recent permit - littoral estimate based on 150' width and Section 22 difference. Section 24 - no specific acreages in permit - littoral estimate based on 2 lakes with 58' littoral width.

Note 2. Area based on Lake Belt Plan formula (8.029% of lake area must be littoral shelf).

The information in this table indicates that **115** acres of littoral area mitigation are needed to mitigate for the mining prior to 2002, while the finished quarries under the Lake Belt guidelines of 100 foot littoral width would require **65** acres of littoral area, for a littoral shelf requirement of **180** acres. For lakes that were permitted prior to 2002 and will be completed under the new permits, the required littoral area consists of the prorated amount due from the work prior to 2002 and the portion of the littoral area calculated for the new permits. The applicant is proposing to create **59** acres of onsite littoral area. The allocation of the proposed littoral shelf construction that is onsite versus that which is constructed within the 1,500-foot Exclusion Area is shown in **Table 3**. Since insufficient littoral shelves are being constructed within the mining area to offset the littoral shelf requirements, some of the mitigation for mining will be accomplished by aggregating the mitigation and dedicating a portion of the 1,500-foot exclusion area to that requirement. This littoral distribution is also shown in **Table 3**. No credit will be given to post 2002 Lake Belt mining for mitigation performed to offset pre-2002 impacts.



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### 3. Allocation of Littoral Area and Other Mitigation

The APAC application includes two existing quarries that have been active since well before 2002 and one proposed new quarry where excavation has not yet begun. Permits issued before 2002 contain a wide range of mitigation requirements and the two APAC permits from prior to 2002 are good examples of that. One requires mitigation based on a 150 foot littoral shelf and the other, for an adjacent lake, has mitigation based on a 58 foot littoral shelf. The mitigation required for impacts before 2002 have been estimated based on the conditions in each permit and the percentage of the permitted impact that had occurred by that date. The remainder of the mitigation necessary to cover the expanded mining in the application has been calculated based on Lake Belt guidelines with a 50 foot littoral shelf and an additional equivalent amount to be located in a mining exclusion zone just east of the Dade/Broward levee. **Table 3** summarizes the steps in the calculations and shows the final mitigation acreage for the APAC Southeast mining described the permit application.

<b>Table 3.</b> This table summarizes the accounting of littoral areas for the pre-2002 permits and post-2002 permits. Littoral required by the pre-2002 permits is not available to offset impacts of the mining that has taken place since May 2002.	
Description	Acres
Littoral Area Required by pre-2002 permits (from Table 2 above).	120
Littoral area owed based on impacts by 2002 (from Table 2 above).	<b>115</b>
Pre-2002 permit littoral constructed (from Table 2 above).	0
Pre-2002 littoral requirement remaining	<b>115</b>
Final Littoral Area in this permit (50 foot width) (from Table 1 above)	<b>59</b>
Littoral Area expected with Lake Belt Plan (100 foot width)	<b>65</b>
Increase in Lake area from 2002 to the proposed end of mining (1,065 – 355)	710
Total mitigation required - pre-2002 mitigation (115) plus new mining littoral area (65)	<b>180</b>
Littoral area of the 59 acres required to satisfy pre-2002 (not creditable to post-2002 mining)	<b>59</b>
Littoral area creditable to post-2002 authorization	0
Littoral area from pre-2002 assigned to 1500 foot area. Subtract the final total littoral area (59) from the pre-2002 littoral requirement (115).	<b>56</b>
Acres of required littoral construction conducted in the 1,500-foot Exclusion Area	<b>65</b>
Acres of final littoral area credited to post 2002 impacts	126

The final littoral area that will be constructed around the APAC quarry lakes will cover **59** acres. This is not sufficient to provide the total mitigation needed for the pre-2002 impacts (**115** acres) and for the post-2002 impacts, including the new mining shown in this application (**65** acres). Therefore **56** acres of the pre-2002 mitigation and all **65** acres of the post 2002 mitigation will be located in a dedicated portion of the 1500 foot mining exclusion area shown on the permit drawings. Only the **126** acres of post-2002 mining mitigation, all of which will be located in the 1500 foot exclusion area, will be credited to offset mining that has occurred, and will occur after 2002.



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