Agenda Item #: 5A-6

PALM BEACH COUNTY
BOARD OF COUNTY COMMISSIONERS

AGENDA ITEM SUMMARY

Meeting Date:	**February 6, 2007**	**[ ]**	**Consent**	**[X]**	**Regular**
		[ ]	**Ordinance**	**[ ]**	**Public Hearing**

Department: **Administration, Environmental Resources Management, Panning, Zoning, and Building**

Submitted By: **Administration**

Submitted For: **Administration, Environmental Resources Management Planning, Zoning and Building**

I. EXECUTIVE BRIEF

Motion and Title: **Staff recommends motion to approve:** the phased approach as listed in the attached Everglades Agricultural Area (EAA) Study Proposal.

Summary: On November 13, 2006 the Palm Beach County Board of County Commissioners (BCC) directed staff to develop a plan with options of the impacts of mining within the EAA. The attached EAA Study Proposal develops a phased approach for studying the potential impacts associated with large scale mining within the EAA. The recommended Phase 1 and 1A study does not require additional funding. District 6 (MJ)

Background and Policy Issues: On November 13, 2006 the Palm Beach County Board of County Commissioners (BCC) directed staff to develop a plan with options of the impacts of mining within the Everglades Agricultural Area (EAA). Staff was further directed to bring back to the Board a length of time and cost to conduct this study. The scientific basis and reasoning behind the options is explained in the attached proposal.

There were several concerns raised at the July 19, 2006 Comprehensive Plan Amendment Hearing, at the EAA Stakeholders meeting conducted on November 2, 2006, and at the Comprehensive Plan Amendment public meeting held on November 13, 2006. The answers to these concerns (technical issues) can be incorporated within the study and are listed below: **(Continued on Page 3)**

Attachments:

1. EAA Study Proposal

Recommended by: Ken Todd — **Department Director** — 1/29/07 — **Date**

Approved By: _____ — **County Administrator** — 1/24/07 — **Date**

II. FISCAL IMPACT ANALYSIS

A. Five Year Summary of Fiscal Impact:

Fiscal Years	20____	20____	20____	20____	20 ____
Capital Expenditures					
Operating Costs					
External Revenues					
Program Income (County)					
In-Kind Match (County)					
NET FISCAL IMPACT					
No. ADDITIONAL FTE POSITIONS (Cumulative)					

Is Item Included In Current Budget? Yes _____ No
Budget Account No.: Fund _____ Department_____ Unit
Object _____ Reporting Category

B. Recommended Sources of Funds/Summary of Fiscal Impact:

C. Departmental Fiscal Review:

III. REVIEW COMMENTS

A. OFMB Fiscal and/or Contract Dev. and Control Comments:

no fiscal impact - future fiscal impact dependent on option chosen

Elizabeth Bloese 1/29/07
OFMB

N/A
Contract Dev. and Control

B. Legal Sufficiency:

PM 1-30-07

N/A
Assistant County Attorney

C. Other Department Review:

_____
Department Director

REVISED 9/03
ADM FORM 01
(THIS SUMMARY IS NOT TO BE USED AS A BASIS FOR PAYMENT.)

Background and Policy Issues (Cont'd):

Issues Raised

1. What are the environmental damages and costs associated with mining?
2. What are the economic costs associated with limiting mining?
3. What are the impacts of blasting associated with mining?
4. What are the groundwater contamination/water quality issues associated with mining?
5. Should there be long term monitoring of mines for water quality purposes?
6. What areas of the EAA may be beneficial for existing CERP projects or other future restoration projects? Evaluate interference between mining and these projects.
7. How should the mining areas be reclaimed?
8. Should there be additional criteria used for future mining operations?

A group of technical representatives from the various agencies and stakeholders have met several times with staff in an attempt to address and clarify the above issues. This group discussed the best way to address the above issues in both a timely and cost effective manner per the directive of the BCC. The group felt that providing both the BCC and the public an explanation of the permitting process and a brief explanation of the geology and topography of the EAA would help both the BCC and the public better understand the issues. The group then discussed several options with staff that would provide the BCC different levels study to consider, each with a different associated cost and study time. These options are incorporated within the attached proposal.

EAA Study Proposal

On November 13, 2006 the Palm Beach County Board of County Commissioners (BCC) directed Staff to develop a plan with options of the impacts of mining within the Everglades Agricultural Area (EAA). Staff has gathered input from various agencies and stakeholders to develop a plan that would evaluate the potential impacts associated with large scale mining in the EAA. Staff was further directed to bring back to the Board a length of time and cost to conduct this study. This proposal develops a phased approach to accomplish this objective.

There were several concerns raised at the EAA Stakeholders meeting conducted on November 2, 2006 and at the Comprehensive Plan Amendment public meetings held on July 19 and November 13, 2006. The concerns (technical issues) are listed below:

Issues Raised

1. What are the environmental damages and costs associated with mining?
2. What are the economic costs associated with limiting mining?
3. What are the impacts of blasting associated with mining?
4. What are the groundwater contamination /water quality issues associated with mining?
5. Should there be long term monitoring of mines for water quality purposes?
6. What areas of the EAA may be beneficial for existing CERP projects or other future restoration projects? Evaluate interference between mining and these projects.
7. How should the mining areas be reclaimed?
8. Should there be additional criteria used for future mining operations?

Before a methodology is selected it is helpful to understand the amount of review that is given to a mining project and some of the intricacies involved in a groundwater modeling effort. A group of technical representatives from the various agencies and stakeholders have met several times with staff in an attempt to address and clarify the above issues. This group discussed the best way to address the above issues in both a timely and cost effective manner per the directive of the BCC. The group felt that providing both the Commission and the public an explanation of the permitting process and a brief explanation of the geology and topography of the EAA would assist in understanding the issues. The group then discussed several options with staff that would provide the Commission different levels of study to consider, each with a different associated cost and study time.

Per recently adopted mining regulations, permitted mining operations are unaffected by this study; and can continue to mine or initiate mining. Potential new mining can continue to apply to the other agencies to receive permits for mining. However, County approval of these new mines may be delayed by the time required to complete this mining study or any new requirements arising from this mining study or both. If the mining operation is undertaken by or on behalf of the SFWMD, State or Federal Agencies, applications for mining operations can proceed.

It should be understood that when a miner proposes to mine a particular area, there are numerous agencies involved in the review of the various permit applications that address specific criteria to ensure the protection of surrounding surface waters and groundwater. Additionally, the reviewing agencies, including Palm Beach County, complete an environmental and traffic analysis to ensure that if there are impacts to the surrounding area, they are mitigated. This is important to know, because any study that the County conducts should address only those areas of concern that are not currently covered by an application review of all the other Agencies, as duplication is both unnecessarily time consuming and costly. Listed below is the list of Agencies involved in the mining project review and the issues they address:

Permits Required:

- State of Florida Environmental Resource Permit (ERP) Florida Department of Environmental Protection – Bureau of Mine Reclamation
  - Addresses onsite and offsite effects on water quality (ground and surface waters) in regards to avoided wetlands– hydrogeologic analysis
  - Addresses onsite and offsite effects on water quantity (ground and surface waters) - hydrogeologic analysis
  - Addresses/ensures stormwater management system meets water management district requirements – stormwater engineering analysis
  - Addresses onsite and offsite impacts to wetlands and other surface waters, including wetland mitigation and financial assurances for wetland mitigation
  - Addresses safe and appropriate reclamation, including but not limited to post mining site clean up, contouring and stabilization of uplands and littoral zones
  - Addresses impacts to State protected wetland dependant wildlife species and federally protected plant species
  - Addresses potential impacts to historical and/or archaeological resources from activities conducted in wetlands or other surface waters
  - Solicits input from other agencies related to same, including but not limited to Florida Fish and Wildlife Conservation Commission, Department of Community Affairs, and Department of State Division of Historical Resources
  - Requires boundary survey, legal description, and a reclamation plan

- State of Florida Division of State Fire Marshal Construction Mining Permit (for blasting)
  - Sets ground vibration and airblast limits for the use of explosives at commercial limestone and sand mines producing construction aggregates, sand, cement, and road base

- South Florida Water Management District Water Use Permit
  - Addresses consumptive uses of water related to pumping, recirculation and/or discharge of water associated with the mine operation
  - Addresses onsite and offsite effects on water quantity (ground and surface waters) From activities conducted in wetlands or other surface waters

- State of Florida Industrial Wastewater (IWG)
  - Addresses water quality for water recirculated onsite and not discharged (IWWG)

- State of Florida Air General Permit
  - Addresses permanent and portable crusher equipment for State Visible Emissions standards

- State of Florida Department of Environmental Protection Stationary Storage Tank Registration

- State of Florida NPDES Stormwater Permit
  - addresses water quality for stormwater discharged into waters of the United States

- Department of Community Affairs
  - DRI review of mining more than 100 acres per year

- United States Army Corps of Engineers Statement of No Jurisdiction or Individual Permit, as applicable
  - Addresses federal jurisdiction over site for impacts to Waters of the US, or wetlands connected to or adjacent to Waters of the US
  - Addresses impacts/potential impacts to federally protected wildlife species
  - Solicits input from other federal agencies including but not limited to U.S. Environmental Protection Agency and U.S. Fish & Wildlife Service
  - Requires issuance of State ERP for Federal Water Quality Certification under Section 404(b) and a finding of consistency with Florida's Coastal Zone Management Program, as required by Section307 of the Coastal Management Act

- Type IIIB Excavation Authorization from Palm Beach County – Conditional Use Permit, Mining/Excavation Permit/Site Plans
  - Land use analysis/concurrency
  - Traffic analysis-haul routes and road impacts
  - Operation Plans – hours of operation, project maintenance and monitoring reports
  - Particulate Erosion Control and water quality and depth regulations
  - Economic Impact and Employment Analysis
  - Setbacks, buffers from adjacent land uses and landscape plan
  - Emergency Contingency Plan, in case of onsite spills or contamination
  - Wetland impacts
  - Mining Site plan specifics (acres mined per year, mechanics of excavation/processing, mine progression plans, Archeological Certificate to dig)
  - Reclamation plans (final water body side sloping, revegetation/vegetation removal plans)
  - Construction plans for office/support structures and roads/driveways etc.
  - Project survey and legal description
  - Fuel and Chemical Storage Report, Well field identification and protection

Existing EAA Geology/Topography:

The EAA covers approximately 500,000 acres (over 700 square miles). Permeabilities of the transmissive sediment layers within the EAA are generally several magnitudes lower than those in Eastern Palm Beach County due to the absence of the Biscayne/Turnpike Aquifer. Even with the generally lower overall transmissivity (ability to move water) there is considerable spatial variation in permeability in the EAA. The lower overall transmissivity requires a more extensive network of canals and ditches to provide drainage. In addition, the water levels in the EAA while usually only maintained slightly below ground surface are several feet below the water levels maintained in the surrounding areas (Conservation Areas to the south and east, ranch lands to the west and Lake Okeechobee to the north). This is typical for the entire EAA area and requires pump stations like the S-5A in order to lift the water out the EAA to provide drainage. The lower transmissivity and water levels make the hydrogeology and resulting interactions completely different than those of the Miami-Dade County Lake Belt Area.

What this means from a hydraulic standpoint is the flow gradient tends to be from the perimeter of EAA toward the middle of the EAA. Only if the entire EAA were flooded to a substantial depth would there be enough head differential to cause both surface water and ground water to move in an outward direction. This is precisely the reason why a gravity based flow-way within the EAA to move water from Lake Okeechobee to the southern Everglades will not function very well. The movement of water out of the EAA must be accomplished by pumping.

The geology of the EAA, as stated earlier, is heterogeneous meaning that it varies substantially throughout the EAA. However, all sediment borings (soil borings are very shallow holes penetrating only the soil horizons) done to date do not show rock formations with great porosity as would be found in Miami-Dade County. This tighter geological formation and more importantly large water elevation difference tend to severely restrict water flow out of the EAA. The CERP projects have included Stormwater Treatment Areas (STA's) and Reservoirs to treat agricultural runoff from the EAA. The SFWMD is looking into the possibility of adding STA's or reservoirs for future CERP expansion. Their staff has said that a mining operation will not stop the ability of the Corps of Engineers and District from sending more water south if it is warranted in the future. Any mined area will be able to be incorporated within their plans.

The hydrogeologic units encountered underlying the EAA are composed of the Surficial Aquifer System (SAS) and are underlain by the Intermediate Confining Unit/ Intermediate Aquifer System (ICU/IAS) comprised of the relatively impermeable sequence of clays, silts and limestones of the Hawthorn Group. This confining unit separates the SAS from the Floridan Aquifer System (FAS). In Palm Beach County, the confining unit varies in thickness from over 500 feet to 700 feet effectively restricting vertical movement of water between the confined FAS and SAS. The County's western water supply for the Cities of Belle Glade and Pahokee are being developed in the Floridan Aquifer System.

Recommended Study

Staff recommends a phased approach to providing decisional information to the BCC in a timely manner, while providing flexibility to subsequent phases (if additional information collection or analysis is deemed warranted). The phases and options are described below.

Phase 1 (six months): Characterization of the issues, review of existing permitting requirements, development of briefing packages, identification of data needs, and recommendations if necessary for new permitting requirements or coordination. This phase will develop a briefing package which describes the hydrogeology, drainage, and mining resources of the EAA to provide the BCC with sufficient background for decision making. This package will provide a list of identified issues/concerns, an explanation of those issues/concerns, and a description of how those issues/concerns have been addressed by the existing permitting process including a list of the responsible agency or agencies. Finally, this package will address the interference mining may have on the CERP projects. Staff will also provide recommendations on whether applicants should be required to provide summary information to Palm Beach County to facilitate the staff review.

Within this phase, this process takes advantage of the previously established procedures in place by all of the governing Agencies that are involved in the approval process of a mining operation. The current permitting process (previously discussed) requires the existing landowners that have applied for a mining permit to accomplish all the analyses discussed in the Background section of this report in order to obtain approval to mine on that particular site. The Agencies involved are the SFWMD, FDEP-Bureau of Mine Reclamation, FDEP-Industrial Wastewater Program, State of Florida -Division of State Fire Marshal, Palm Beach County ERM, PZB, and County Engineer's Office, and the US Army Corps of Engineers. This approach only requires having the Regulatory Agencies, including the County, provide staff time to review in detail the regulatory process to address the concerns raised. It does not require funding by the County. It also does not cause any time delays for any applicants waiting for the study to be completed, while placing the full burden of demonstrating no adverse impacts to the area from mining squarely on their shoulders.

Phase 1A (concurrent with Phase 1): Identification of proposed permitting requirements or coordination requirements which can be done with existing data. If gaps in the current permitting process are identified then staff will develop new draft permitting requirements. Staff will also evaluate whether it is warranted to develop requirements for more proactive communication of the information required by the existing permitting process to Palm Beach County's planning department. Finally, recommendations for new permitting/coordination requirements will be developed.

If it is determined that sufficient information does not exist to adequately determine the impacts of mining through this phase, staff will return to the BCC for direction concerning possible commencement of Phase 2.

Alternative Studies

Phase 2 (two to three years): Collection of required data and modeling. Due to the large size of the EAA and the considerable spatial variation in geology, it will most likely preclude the ability of individual applicants to collect the data required to characterize this region sufficiently for use in the permitting process. Therefore, if it is decided that additional hydrogeological data is necessary on a large scale basis, the additional data will need to be collected independently by an Agency. At a minimum, performing one sediment boring per square mile and one well and pump test for every ten square miles would be required to provide sufficient data to analyze water movement from a regional perspective. That would mean that approximately 700 borings and 70 well and pump tests would have to be conducted within the total area of the EAA. The approximate cost associated with this data collection, as a part of this study phase, is about five million dollars. It would take one to two years to accomplish the well drilling and data collection.

In addition to the data collection in this option, the County would contract with the United States Geological Survey (USGS) to conduct an in depth groundwater transport analysis that could answer the question of whether or not mining in the EAA posed a threat of contamination to eastern County wellfields or the environment. There currently are no public wellfields within the EAA. The study area for this option would be the entire EAA utilizing mining operations at known mined areas and selected future mined areas throughout the entire EAA. Completing a transport analysis of contaminants would require two things to be accomplished. First, there are model input data points that would need to be developed. Some of the parameters needed for these data points are soil layer characterization, the hydraulic gradient for an area, and coefficient of transmissibility for the various geological formations. Because the geology in the EAA is heterogeneous and not homogenous, many sediment borings would be needed in order to collect the large number of data points required to conduct a meaningful transport analysis. It is estimated that such an endeavor would take one to two years and cost approximately Five Million dollars. Secondly, the USGS would have to develop a groundwater transport model that would be able to model the movement of the groundwater in the entire EAA given the hydraulic gradients. Such a model does not currently exist. It is anticipated that the model development and analysis would cost approximately $250,000 and take about one year after the data collection.

There are three other study components that would also need to be conducted. These areas are outside the expertise of the USGS and would therefore have to be completed by another consultant that would be selected through the RFP process. Those areas of study are: (1) the environmental impacts of mining in the EAA, (2) the economic impacts of mining in the EAA, and (3) the traffic impacts that would realized due to mining in the EAA. It is estimated that the study costs for these three items is $175,000 and would take approximately six months running concurrently with the USGS study effort.

The total cost of Phase 2 would be between five and five and a half million dollars and would take two to three years to accomplish. There are alternative study approaches that could be utilized to accomplish this study instead of Phase 2 if it is deemed necessary to obtain additional data and do additional modeling.

Phase 3 (six months): Development of new permitting requirements based on the collected information. Staff will develop new draft permitting requirements based on the newly collected data. Staff will also evaluate whether it is warranted to develop requirements for more proactive communication of the information required by the existing permitting process to Palm Beach County's planning department. If warranted, staff will make recommendations for development of new permitting/coordination requirements.