

QUESTION 16

FLOODPLAINS

PREAMBLE - SYNOPSIS OF THE RESTORATION EXISTING CONDITIONS ANALYSIS AND 100-YEAR FLOOD STUDY

This existing conditions analysis will provide valuable information germane to designing the future stormwater management facilities to serve the project, including: the development of allowable discharge rates; boundary conditions and tailwater relationships vital to the design of the proposed stormwater ponds; and most importantly, the horizontal limits of 100-year flood plains that may be impacted by filling and construction activities associated with the proposed development.

The title of this report is intended to emphasize the importance of determining 100-year flood elevations for the project. The predicted 100-year base flood elevations (BFE's) and associated special flood hazard areas (SFHA's) will ultimately be submitted to the Federal Emergency Management Agency (FEMA) as part of a Letter of Map Revision (LOMR) requesting official revisions to the Flood Insurance Rate Maps (FIRM's).

This detailed drainage analysis is also intended to address many of the drainage issues and concerns raised by various federal, state and city agencies involved in the DRI application review process.

The proposed Restoration Stormwater and Floodplain Management Plan will incorporate an intricate system of retention ponds, detention ponds, stormwater reuse systems, wetland rehydration systems and floodplain attenuation areas. Restoration's on site wetlands, restoration areas and other depressional areas will benefit from an improved hydroperiod that more closely resembles the natural condition that existed before the silviculture operations, where water is released to the downstream drainage system more slowly than what presently occurs. Berms constructed between or around wetland strands would provide for an improved hydroperiod, while the additional inundation (depth) and attenuation (volume) can be designed to regulate discharge such that downstream flood elevations are actually reduced (i.e., improvement above and beyond the status quo). This concept is consistent with modern practices and land stewardship philosophies.

Due to the size of the study, copies of the complete report with exhibits have been forwarded under separate cover to the respective government jurisdictions.

EAST CENTRAL FLORIDA REGIONAL PLANNING COUNCIL (LETTER DATED JANUARY 17, 2008)

21. Provide a table showing the amount and type of development will be in the floodplain. How many feet above the floodplain must the building pad be in order to develop?

After development of the project and its attendant stormwater/floodplain management system there will be no development in the floodplain. Based upon the results of the *Restoration Existing Conditions Analysis and 100-year Flood Study*, approximately 900 acres of the currently proposed development including roadways, stormwater facilities, residential lots, industrial, office and commercial parcels fall within an area of floodplain with the floodplain elevations (and impacts) varying throughout the site. Management and mitigation of any floodplain impacts (currently estimated at approximately 600 ac-ft) will be accommodated and managed on-site via the project's stormwater and floodplain management and stormwater reuse systems as will be permitted by the City of Edgewater, the St. Johns River Water Management District and, ultimately, FEMA. We understand that development of the project will not be permitted with impacts to off-site properties.

At project completion residential buildings will be a minimum of one (1) foot above the calculated 100-year floodplain elevations.

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (LETTER DATED JANUARY 14, 2008)

The District understands that a regional flood study is under way (page 1.6-1). Please note that final determination of flood zones is important for the applicant to meet environmental resource permitting rules determining compensatory storage relative to flood zone impacts.

A copy of the report entitled *Restoration Existing Conditions Analysis and 100-year Flood Study* with accompanying attachments is being provided under separate cover to select agencies interested in the required flood study. A synopsis of the report is included in the preamble to this section. Additional details related to the proposed stormwater and floodplain management systems will be provided to the District complying with current Environmental Resource Permitting Criteria as the project moves forward.

CITY OF EDGEWATER (LETTER DATED JANUARY 11, 2008)

Provide regional flood plain study when available.

A copy of the report entitled *Restoration Existing Conditions Analysis and 100-year Flood Study* with accompanying attachments is being provided under separate cover to select agencies interested in the required flood study.

CITY OF NEW SMYRNA BEACH (LETTER DATED JANUARY 17, 2008)

Comment 13: Perform a regional flood study prior to the determination by the ECFRPC that the Restoration DRI ADA is sufficient.

As a result of the ADA responses from the agencies, notably the City of New Smyrna Beach, the Applicant has chosen to delete the 1,515± acres located in the City of New Smyrna Beach from the Restoration DRI, and no response will be provided.

VOLUSIA COUNTY GROWTH AND RESOURCE MANAGEMENT (LETTER DATED JANUARY 15, 2008)

Question 16 B., Floodplains, D. 16-2, Repeat Comment: The response to this question of the ADA should be considered insufficient until updated information concerning floodplain extents are addressed and submitted as part of the next sufficiency response. The actual floodplain extent is of paramount importance to ensuring the property will be used in a manner that does not create on-site and/or off-site flooding.

Further, as indicated in our previous sufficiency review comments, the appropriate basin assessments and relevant data and analysis should be provided to address potential on-site and off-site impacts. The assessments should take into account the comments of the Frank Marshall, PhD, P.E., previously provided to the applicant. The information provided by Frank Marshall indicates that the Restoration DRI property serves as a large reservoir that attenuates downstream flooding.

A copy of the report entitled *Restoration Existing Conditions Analysis and 100-year Flood Study* with accompanying attachments is being provided under separate cover to select agencies interested in the required flood study, a summary of which is outlined in the preamble above.

The proposed development plan will require some impacts to the currently mapped floodplain, which is common for most projects of this scale in this part of the State and within Volusia County. Based on the proposed project's master stormwater and floodplain management plan as well as the utilization of treated stormwater for all non-potable water uses, the project will be able to be developed with no off-site impacts. The work that Dr. Marshall previously completed was incorporated into the recently completed flood study. Due to the preservation of significant conservation areas and thereby the necessity and ability to stage and utilize stormwater to assist in the restoration efforts, on-site storage and attenuation will ensure the post-development systems mimic (or reduce) discharges off-site. Further details and refinement of the master stormwater management system will be provided as final design and permitting initiatives continue when the currently proposed master plan (Map H) is approved with this DRI/ADA and will be permitted through all jurisdictional and regulatory agencies.

Pre-application Conference Items 1 - 5, Volusia County Comment Letter Dated October 4, 2006: The applicant has previously been made aware that agreement on the assumptions and methodologies had not been reached, pursuant to State Statute (Section 380.06(7)(a)), prior to preparing the Application for Development Approval (ADA) for the following items. These issues were previously raised by County staff during the pre-application conference charrette and the response by the County in writing to the Pre-application Conference Summary.

3. Preparation of detailed floodplain data with a focus on avoiding impacts to pre-development floodplain areas;

Update: The applicant has indicated that this study is currently underway but not completed at this time. The ADA should be considered insufficient for the reasons stated in our responses to date.

A copy of the report entitled *Restoration Existing Conditions Analysis and 100-year Flood Study* with accompanying attachments is being provided under separate cover to select agencies interested in the required flood study.