

## Memorandum

To Jeff Bennett, Deputy Mayor, City of Indianapolis, Indiana  
Lori Miser, Director, Department of Public Works, City of Indianapolis, Indiana  
Michael Massonne, Contractor to the City of Indianapolis

CC Jim Garrard, AECOM  
Bill Slezak, AECOM

Subject Review and Assessment of the Indianapolis North Levee System, Rocky Ripple Area: Responses to Jan 20, 2017 Comments from Town of Rocky Ripple

From Michael Cannon, Director of Civil Works Planning

Date Feb. 14. 2017

1. Attached are the AECOM responses to the Comments provided by the Town of Rocky Ripple on January 20, 2017 to the AECOM December 2016 Draft Report: Review and Assessment of the Indianapolis North Levee System, Rocky Ripple Area.
2. I am also providing the Final Report: Review and Assessment of the Indianapolis North Levee System, Rocky Ripple Area, dated February 2017 that incorporates the comments received from the City of Indianapolis, Dr. Baranek, and the Rocky Ripple Town Council.
3. It has been our pleasure working with Mr. Massonne, Ms. Miser and other City Staff on this project. Please let me know if we can be of further assistance.



**AECOM Responses to Jan 20, 2017 Comments provided by the Town of Rocky Ripple to  
AECOM December 2016 Draft Report**

1. **Include Glossary of terms** – AECOM was advised by Mr. Massonne that Glossary need not be included in report.
  
2. **Alternative Plans evaluated**
  - i. “Rebuilding the existing levee” refers to the plan, as presented in the 2011 Christopher Burke study, which included estimated costs to repair the badly deteriorated existing earthen Rocky Ripple levee to provide greater reliability and to reduce the risk of levee failure.
  - ii. The \$10M difference in cost between the USACE Rocky Ripple Alternative from 2014 ROD (2016 PL) (~\$48M) and Alternative 1: USACE implemented 300-year protection (2.4 ft freeboard) (~\$38M) was created by replacing approximately 6000 LF of floodwall with earthen levee and by eliminating some features, such as the previously proposed sewer system.
  - iii. Based on prior comments the report was modified to replace all instances of “Independent” with “Stand-Alone”.
  - iv. A New Table 4 has been added to the most recent version that clarifies which of the alternatives would likely be FEMA certified.
  - v. The “properties without buildings” refer to both individual lots that do not have buildings on the lot, and individual lots where the portion of the lot required for construction and maintenance would not directly impact the primary buildings.
  - vi. The discussion of the “non-structural measures considered” and rationale for these measures not being economically viable is found on page 14 of the revised report. We can provide a table of individual buildings and a summary of results if they wish.
  - vii. “Opportunities for community development” has been added as a factor to be considered.

I believe this is the sentence: “Decisions regarding long-term plans to upgrade the Rocky Ripple Levee will require more detailed engineering design assessments, including collection of existing embankment and soils data. Factors to be considered include: community acceptability; opportunities for community development; environmental impacts, costs; design reliability safety, performance of the project and the residual risks.”
  
3. **Recommendations:** The Recommendations 4<sup>th</sup> bullet acknowledges that the funding is in place and design completed for the Westfield Alignment, which when construction is completed, would provide flood protection to over 2,000 buildings. It also recognizes that there does not appear to be any economically viable Closure for the Indianapolis North Flood Control Project that includes protection for the Rocky Ripple community that would be eligible for Federal funding based on the USACE criteria. The available federal funds can only be utilized for a project for which the annualized benefits exceed

the annualized costs. The recommendation to complete the Westfield alignment is based on the need to complete the closure of the Indianapolis North Flood Control Project in a timely manner. Given the uncertainties in the Federal budget process and the fact that these funds were not appropriated specifically for this project, it is likely that the current construction funds would be allocated to other projects if the completion of the Westfield closure were delayed and could put funding for the final completion of the project in jeopardy.

4. **Key Findings:** The revised report resolves any inconsistencies with regard to the number of homes that would be impacted by each of the alternatives. The # of homes that would be affected by each of the alternatives was determined based on counting the number of homes on the CAD drawing.
5. **Background:** AECOM was advised by Mr. Massonne that including the additional Background Information was not needed since it does not pertain to the development of the technical information in the report.
6. **Cost of Sewers:** The cost of sewers was NOT included in the costs of any of the Alternatives considered. It was only included in the 2013 USACE estimate.
7. **Loss of Benefits:** The calculations by which the \$715,000 annualized loss of benefits associated with a 4-year delay in the completion are found in Table A-8.
8. **Tax Assessment Data:** The tax assessment values were not used in the analysis. The value of structures was based on depreciated replacement values calculated using the size of the structure (square feet), construction cost for the type of structure based on RS Means (Square Foot Construction Cost Guide), and a percent depreciation based on the condition of the property (reference Institute for Water Resources Report 95-R-91). Costs for the value of land were based on vacant lot sales identified from online sources such as Zillow.
9. **Real Estate Considerations.** As noted above, the development of the depreciated replacement costs were based on the type and condition of the structures. The cost for the value of land was based on vacant lot sales identified from online sources such as Zillow. Costs for relocating a building were obtained from contractors in Indiana. Based on the need to relocate the structures prior to any revisions to the flood insurance zones, all of the relocated structures were assumed to be elevated on an extended foundation wall. The construction costs for constructing new foundations and utilities were taken from an analysis of typical structure elevations completed for the Atlantic Coast of NY, Fire Island Inlet to Montauk Point General Re-evaluation Study. Those costs were indexed to current prices at Indianapolis and adjusted to include costs for design, permitting, inspections and temporary housing if needed. A table summarizing the results by building can be provided if desired.

10. **Pros and Cons of Westfield Alignment:** As documented in the Final Environmental Impact Statement prepared by the USACE, there are negligible impacts to the Town of Rocky Ripple from the Indianapolis levee system already constructed and there would also be negligible impacts to the Town of Rocky Ripple upon completion of the Westfield alignment.
  
11. **Strategic Long Term Impacts:** The recommendation to complete the Westfield alignment is based on the need to complete the closure of the Indianapolis North Flood Control Project in a timely manner. Given the uncertainties in the Federal budget process and the fact that these funds were not appropriated specifically for this project, it is likely that the current construction funds would be allocated to other projects if the completion of the Westfield closure were delayed and could put funding for the final completion of the project in jeopardy.

Town of Rocky Ripple  
930 West 54<sup>th</sup> Street  
Indianapolis, IN 46208



20-Jan-2017

Mr. Jeff Bennett  
Deputy Mayor, City of Indianapolis  
Suite 2501, City-County Building  
200 E. Washington St.  
Indianapolis, IN 46204

Re: Town of Rocky Ripple Feedback on AECOM Draft Report

Dear Jeff,

As promised, listed below please find a summary of our comments and suggested additions/clarifications in the AECOM study results draft provided to us on 09-Dec-2016. We thank you for the opportunity to provide feedback. We also thank the City for conducting the study and continuing to work with us to provide flood protection for Rocky Ripple.

1. It would be helpful if a Glossary of terms (freeboard, T-Wall, I-Wall etc.) were added to the report, including a list of the acronyms used.
2. Alternative Plans Evaluated
  - i. Paragraph 1: please define what rebuilding the existing levee means (ie, earthen style?)
  - ii. Paragraph 2: Please address how the \$10 million between the two plans is saved.
  - iii. Paragraph 3. Alternative 2-3: Use of the term "standalone" should be changed to reflect "independent" project throughout the document. Would this project not tie into the Westfield alignment? What is meant by "independent" should be clarified.
  - iv. Table 1: Please add whether each option listed would be FEMA certified or not.
  - v. Paragraph 1 on page ii refers to purchasing of 60 properties without buildings would need to be obtained. Is this referring to purchasing lots connected to houses? Please clarify.
  - vi. The last sentence on page ii states "Non-structural measures such as raising, relocating or acquiring structures that are in the flood plan were also evaluated and determined not to be economically viable. We would like to see the rationale for this statement added.
  - vii. The fourth bullet point on page iv starting with "Decisions regarding long-term plans..." does not include long term strategic benefits associated with upgrading the Rocky Ripple levee. We would like to see this added under Factors to be Considered.
3. Under Recommendations, fourth bullet point states that Westfield Alignment should progress to schedule advertisement and construction award. We question why this would be done in light of the fact that this draft includes alternatives that would possibly preclude the need for this. We request that the Westfield Boulevard alignment not progress in this manner until it has been decided what will be done for the Rocky Ripple levee and appropriate funding for this has been committed for the project.

4. Under Key Findings on page 3 General Comment: the numbers of homes affected by the various alternatives mentioned do not appear to be consistent throughout the document (ie, what is stated in the summary does not match the quoted numbers in the introduction and details). We request that this be checked and verified. We would also like to know the specific houses affected by each of the alternatives.
5. Page 1- Under Background, please add that in 1996 Rocky Ripple requested not to be included in the only option offered by USACE at the time. This was due to the type of levee construction, not that Rocky Ripple was against flood protection measures. Please also add that in February 2004, the Rocky Ripple Town Board formally requested to be reinstated and has repeatedly requested inclusion since that time.
6. USACE documents Page 4 - Rocky Ripple is on the books to receive sewers, no matter which alignment is used. It shouldn't be included the cost analysis of a levee project. We request that this be reassessed without the costs associated with sewers.
7. Page 5, sixth bullet point states "To reconsider a USACE plan that includes protection of the Rocky Ripple community would result in a delay of at least 4 years in completing the project. This would leave those 2,000 structures vulnerable to flooding during that time. The loss of benefits would be approximately \$715,000 on an average annual basis." We would like for the specifics of how this was calculated to be included.
8. The use of tax assessment data to estimate costs for affected structures and land does not seem appropriate as they are not fair market value and are low.
9. On page 13, under Real Estate Considerations, we would like for more detail to be provided on the numbers that were used to assess the cost of relocation and what was used to determine depreciated structure value and land costs. If only two of 37 structures were deemed to be cost effective, please include additional detail as to why.
10. The draft contains only the pros for the Westfield alignment in several places within the document. However, the draft does not address the cons and cost analysis of choosing this option. We would like to an analysis of the projected impact that levee/flood wall construction already completed as part of the current Indianapolis North Levee System north of Rocky Ripple will have on Rocky Ripple and the area south of Rocky Ripple should major flood events such as those documented in the study occur. We would like to have this assessed in terms of water flow and velocity of the water and low land areas, both as the situation currently exists and for what is projected to occur if the Westfield Alignment floodwall and flood gates are put in place.
11. The cost analyses in the report do not include an assessment of strategic long term impacts associated with the various alternatives listed. As we have discussed with the City on several occasions, there are over 60 lots in Rocky Ripple that would be able to have houses built if sewers are installed into the neighborhood and a FEMA certified levee is put in place. This would provide a long term tax base and source of income for the City and Town of Rocky Ripple. There are 90 acres of Butler University property that could also be developed that should be considered. These opportunities should be factored into the long term costs of the various levee alternatives listed.

We thank you again for allowing us to review the draft and look forward to receiving the final document with our comments addressed.

Sincerely, *Mandy Redmond* on behalf of *20 Jan-2017*

Carla-Gaff Clark  
Town Councilors, Rocky Ripple

Jill Morris

Mandy Redmond