

**CITY OF MEMPHIS DIRECTOR OF PUBLIC WORKS
MISSISSIPPI RIVER COMMISSION TESTIMONY
(APRIL 12th, 2015)**

Good morning Commissioners, my name is Robert Knecht, I'm the Director of Public Works for the City of Memphis as well as an Ex-officio member of the Memphis and Shelby County Port Commission. On behalf of Mayor James Strickland and our 635,000 citizens I'd like to welcome you to the City of Memphis. Memphis has had a long and close working partnership with the Memphis District, U.S. Army Corps of Engineers (USACE) in the construction of flood control and protection civil works.

We have flood control structures that date back to the late 1950s which include approximately 17,089 feet of flood wall 5.5 miles of levee, twenty seven enclosures, and seven pumping stations along the Memphis-Wolf River Backwater Levee System. These flood control structures protect some of the City's most cherished assets such as the flagship facility for Bass Pro Shops at the Pyramid, KTG's tissue mill, Buckman International Laboratories, and of course the world recognized St. Jude's Children's Hospital.

*These flood control works performed well during the record flood of 2011 as well as our recent 2016 winter flood with no major problems other than normal seepage in certain areas; however, some minor differential settlement had been noted since 1970. Although the City has fully maintained the system that is under our responsibility, the observed settlement indicates foundation concerns. During the Corps of Engineer's 2013 inspection the Flood Wall System was rated **unacceptable** system wide, due primarily to settlement. The report noted that the flood wall has settled 8 to 18 inches between the Auction Avenue and the I-40 Bridges. The maximum settlement allowed is two (2) inches in accordance with the "built to design" criteria. While this poses no immediate danger to life or property, the City in consultation with the Memphis Engineer District is taking steps to address the deficiencies noted in the report to bring the structures back to their original design specifications.*

The authorization for this project did not include Federal maintenance, so the City is responsible for funding the correction that is ultimately determined. This project is, however, covered under Public Law 84-99 (PL) which provides federal funding if there are issues during or from a particular flood event or other natural disaster. We have used this Public Law at the Port of Memphis for the Levee System in Pidgeon Industrial Park.

These are the City's action steps taken to date:

- 1) *A communication plan was developed to address media and public concerns and questions prior to the formal notification by the Corps of the appropriate public and congressional representatives. In addition, we met with organizations that rely on the*

floodwall's protection to provide them an understanding of the findings and actions that would be taken.

- 2) To ensure the system remains eligible for future PL 84-99 funds, the City submitted a **System Wide Improvement Framework (SWIF) Letter of Intent** that demonstrates an understanding of the problem and a plan to correct the deficiency. The **SWIF** was approved by the U.S. Army Corps of Engineers Headquarters (USACE) on April 1st, 2015.*
- 3) The City of Memphis has requested that this initial request be granted for 2 years to allow adequate time to develop a successful SWIF Plan.*
- 4) In the meantime, the City has been working diligently over the past year to prioritize and address the deficiencies noted in Corps Inspection Report.*
- 5) The City looks forward to working with the Memphis District throughout the upcoming Risk Assessment and to continue to take actions to reduce the risk for the system. This project is receiving the highest priority of emphasis by the City of Memphis.*

One additional item that I would like to briefly mention is the City's focus on our natural resources. The Memphis Metro-region's very identity, economy, and cultural history have been and continue to be shaped by water. Last spring the City created a Blue Stream Task Force of now over seventy community civic and industry leaders including subject matter experts to collaborate on the development of both short and long range water resource strategies that protect, sustain and promote the Memphis-metro region's water resources. The purpose of the Task Force Initiative is to establish a coordination platform to identify needs and opportunities, implement an action plan for governing, informing, and promoting regional water resources as well as developing strategies to mitigate extreme weather variances.

Although we are looking at all water resources including surface, storm and grey water, we have made a concerted effort to focus on our Memphis Sand Aquifer or Sparta Sand Aquifer to our neighbors in Arkansas and Mississippi. Tremendous strides have already been made in terms of collaboration across all spectrums and significant progress is being made in terms of research and understanding the system and its value to our economy and quality of life. We are especially appreciative for the tremendous technical support we have received from the U.S. Army Corps of Engineers in this effort as well as other Federal and State agencies. We would like to respectfully request that the Corps make "groundwater" a major mission emphasis.

In closing, thank you for the opportunity to present these matters before the Mississippi River Commission; the Memphis Engineer District is a valued friend and part of the fabric of our great community. We are particularly appreciative of the outstanding assistance and support provided by Colonel Jeff Anderson and his staff.

With
City of Memphis
Statement

INTEROFFICE MEMORANDUM

TO: MAYOR A C WHARTON, JR.
FROM: TED FOX
SUBJECT: CITY OF MEMPHIS FLOOD WALL
DATE: NOVEMBER 16, 2016
CC: ROBERT KNECHT

Attached is a **U.S. ARMY CORPS OF ENGINEERS' Fact Sheet with map sheet and presentation concerning the Memphis Wolf River Backwater Levee System (Memphis Flood Wall)** that provides a status on the correction of the deficiency **Background Information** on the impetus of the action is below.

BACKGROUND:

- 1) The Corps carries out annual inspections of Levees and Flood Walls under the Levee Safety Program. A more detailed inspection is made every five (5) years. In 2008 the City of Memphis received a **marginal satisfactory**. In the 2013 inspection the Flood Wall System was rated **unacceptable** system wide for settlement. The system was constructed in the 50s and 60s and performed well during the record flood of 2011 with no major problems other than normal seepage in certain areas. The system was built with federal funds and turned over to the City for maintenance responsibilities. Structurally the system is considered sound.
- 2) For Natural Disasters the system is covered under Public Law 84-99 (PL) which provides federal funding at one hundred (100) percent if **there are issues during or from a particular flood event or other natural disaster** as long as the system remains in the program and receives **acceptable ratings**. We have used this PL at the Port for the Levee System in Pidgeon Industrial Park.
- 3) The **unacceptable system rating** was based on the amount of settlement noted throughout the system. The highest settlement was in the vicinity of the I 40 bridge of eighteen (18) inches for approximately one and a half miles (1 ½). The maximum settlement allowed is two (2) inches in accordance with the "built to design" criteria. Portions of the system ranged at about nine (9) inches but not consistently throughout the entire length.
- 4) When a system receives an unacceptable rating the Corps' protocol is to notify: a) levee/flood wall sponsor, the City in this case, b) Congressional members, and c) FEMA. This is normally done by oral communication first followed by a formal letter.
- 5) The Flood Wall is not in the Mississippi River and Tributaries program and therefore is not eligible for Federal funding for construction of the fix **unless the Corps determines that there was an original design deficiency, then it can be 100% federally funded for the construction to correct the deficiency**. However, if no design deficiency is found and the Corps determines there is a Federal Interest (their Initial Appraisal Report (IPR)