Southwestern Illinois Flood Prevention District Council

AGENDA

SOUTHWESTERN ILLINOIS FLOOD PREVENTION DISTRICT COUNCIL
BOARD OF DIRECTORS MEETING

December 21, 2011 7:30 a.m.

Metro-East Park and Recreation District Office
104 United Drive, Collinsville, Illinois 62234

1. Call to Order
   John Conrad, President

2. Approval of Minutes of November 16, 2011

3. Program Status Report and Budget Update
   Les Sterman, Chief Supervisor

4. Approval of Disbursements

5. Presentation of 60% Design and Cost Estimate
   Jay Martin, AMEC Environment & Infrastructure

6. Revised Project Cost Estimate
   Les Sterman, Chief Supervisor

7. Section 404 and Section 401 Permit Submissions to the State of Illinois and the U.S. Army Corps of Engineers

8. AMEC Task Order 7 – Consulting Services for Final Design

9. AMEC Task Order 6 – Consulting Services for USC Sec. 408 Project Review

10. Other Business

    Executive Session (if necessary)

11. Adjournment

Next Meeting: January 18, 2011

MINUTES

SOUTHWESTERN ILLINOIS FLOOD PREVENTION DISTRICT COUNCIL
BOARD OF DIRECTORS MEETING
November 16, 2011

The regular meeting of the Board of Directors was held at the Metro-East Park and Recreation District Office, 104 United Drive, Collinsville, Illinois at 7:30 a.m. on Wednesday November 16, 2011.

Members in Attendance
John Conrad, President (Chair, Monroe County Flood Prevention District)
James Pennekamp, Vice-President (Chair, Madison County Flood Prevention District)
Dan Maher, Secretary/Treasurer (Chair, St. Clair County Flood Prevention District)
Paul Bergkoetter, St. Clair County Flood Prevention District
Alvin Parks, Jr., St. Clair County Flood Prevention District
Ron Motil, Madison County Flood Prevention District
Bruce Brinkman, Monroe County Flood Prevention District
Ronald Polka, Monroe County Flood Prevention District

Members Absent
Tom Long, Madison County Flood Prevention District

Others in Attendance
Delbert Wittenauer, Monroe County Board Chair
Les Sterman, SW Illinois FPD Council
Kathy Andria, American Bottoms Conservancy
Gary Andruska, U.S. Army Corps of Engineers
Ron Auld, Volkert
Greg Bertoglio, U.S. Army Corps of Engineers
Doug Campion, Campion Group
Darryl Elbe, Hoelscher Engineering
Walter Greathouse, Metro-East Sanitary District
Scott Harding, SCI Engineering
Bill Hladick, AMEC Earth & Environmental
Pam Hobbs, Geotechnology
Mike Huber, KdG Engineering
Charles Juneau, Juneau Associates
Linda Lehr, Monroe County
Jay Martin, AMEC Earth & Environmental
Patrick McKeehan, Leadership Council Southwestern Illinois
Frank Miles, America's Central Port
Bruce Munholand, U.S. Army Corps of Engineers
Dick Murray, Morgan Keegan
Jack Norman
Jon Omvig, AMEC
Joe Parente, Madison County

Cas Sheppard, SMS Engineers

Call to order
President John Conrad called the meeting to order.

Approval of minutes of October 19, 2011
A motion was made by Paul Bergkoetter, seconded by Ron Motil, to approve the minutes of the October 19, 2011 meeting. The motion was approved by voice vote, all members voting aye.

Program Status Report and Budget Update
Mr. Conrad asked Mr. Sterman to provide a status report for the project.

Progress by AMEC and its subcontractors is on target to meet the important December 16 milestone for submittal of the 60% design documents. Work is also on schedule for the submissions to state and federal agencies to receive the required permits for construction. We have several proposals for wetland mitigation that will be used in the Sec. 404 permit application to the Corps of Engineers. With one major exception that will be discussed later overall progress on the project is going as planned.

We are still very concerned about the Section 408 permission process administered by the Corps. Yet another month has gone by and we still do not have a decision from the Corps of Engineers about the process that will be used to grant permission to alter the levee system under Sec. 408. While there is substantial agreement on the design proposal, I remain very troubled that the course of the review process, by the Corps' own admission, remains unsettled and uncertain. While the Corps insists that they will not delay our project schedule, that is simply not a credible assertion, in part because there are portions of the review process that are beyond the control of the District staff, and there is little evidence that Division and Headquarters offices share the same obligation to maintaining the project schedule.

While the project schedule is coming into sharper focus, the Corps review processes represent a substantial uncertainty. If the Corps' Division office concludes that the review requires approval by Headquarters, it will trigger additional internal and external reviews that will contribute to substantial delays to the project and increased costs to the Council.

At the November meeting our consultants will present a more detailed and specific schedule for concluding the design and executing the construction of the project. It will clearly show the project activities that we control as well as those that are beyond our control and are more unpredictable.

Mr. Sterman also updated the Board on a couple of other items that were not in the memo that was previously provided to the Board.

He discussed the ongoing Corps project to implement a solution to the uncontrolled underseepage problem in the vicinity of the Mel Price Lock and Dam. The Corps has previously determined that it was the construction of the lock and dam that created the problem and the agency has accepted the responsibility for implementing remedial measures. This problem was identified in 2009 and the Corps has been working on studies since that time to identify the fix.

Apparently, the first proposal by the District was rejected by Division and a second proposal, known as a Limited Reevaluation Report, is under development. What this means is that a project initially identified as an "emergency" by Corps staff will not be eligible for funding until federal fiscal year 2014 at the earliest.

The Corps has indicated that they will not certify to FEMA the section of the levee that they own along the Chain of Rocks Canal as well as the section alongside the Mel Price Lock and Dam, where they have responsibility for improvements. Generally, the Corps policy is only to certify entire systems, rather than individual segments of levees. We have not done any exploratory or inspection work on these levees since we logically assumed from the outset that the Corps would address these areas. Because of the Corps policy, we will have to pay our own consultants to certify these sections of levee; this was not an anticipated budgeted expense.

Similarly, the Section 408 process will likely cost us more money, especially if Division and Headquarters conclude that we must secure an external Safety Assurance Review. My conversations with other agencies leading levee improvements around the country suggest that it could cost as much as $500,000 to support these additional reviews. We continue to hold the opinion that additional review beyond the very thorough technical review by our own consultants and by the Corp staff, in essence a third review, is simply wasteful and redundant.

Next month we will consider the next work order from our consultants to complete the design of the project. We may also consider two work orders that we did not anticipate in the original scope, i.e. to certify the aforementioned segments of levee and to provide the additional work needed to meet the needs of the Section 408 review.

Dan Maher asked what would happen if we don't certify the two Corps sections of levee. Mr. Sterman responded that we would not be able to get the system accredited by FEMA if there are gaps in the certification. He explained that FEMA does not require any levee owner to certify an entire system, since many systems have multiple owners. Unfortunately, the Corps takes a different view. Gary Andruska noted that the District has attempted to get a waiver from this policy but was denied. Mr. Wittenauer noted that this policy makes little sense. Bruce Munholand suggested that waivers from any Corps policy are rarely granted.

Jay Martin explained the differences between the Corps design criteria and compliance with FEMA's standards. We will need to do additional work to determine whether the Corps is complying with FEMA standards. Mr. Maher noted his frustration that we need to expend money from our budget, which we did not anticipate, to do work that the Corps should obviously do itself.

Mr. Parks asked the representatives from the Corps who makes decisions about waivers. Mr. Munholand responded that Corps headquarters makes those decisions.

Mr. Maher made a motion to direct the Chief Supervisor to send a letter to the congressional delegation to appeal for a waiver to the Corps certification policy on our behalf. Mr. Pennekamp seconded the motion. Mr. Conrad called for a roll call vote. Mr. Maher called the roll and the following votes were made on the motion.

Mr. Polka - Aye
Mr. Brinkman – Aye
Mr. Bergkoetter - Aye
Mr. Conrad - Aye
Mr. Long – absent
Mr. Maher – Aye
Mr. Motil – Aye
Mr. Pennekamp – Aye
Mr. Parks – Ayes

The motion was approved unanimously with all eight members present voting aye.

Mr. Conrad noted the growing frustration of the Board and that the delays caused by the Corps could actually increase the potential for damage to the region in a flood event.

The transition to a new fiscal agent, LarsonAllen, is nearly complete. Under the terms of our three year agreement, Scheffel & Co. has started the audit for 2011.

Mr. Sterman then gave a report on the budget. This is the first statement prepared by our new fiscal agent, LarsonAllen, so the format is slightly different and it contains an accompanying statement that is a requirement for a public accounting firm.

Accrued expenditures for the current fiscal year are $606,544, while revenues amounted to $914,984, resulting in a surplus held by the bond Trustee. That surplus will be returned to the counties as required by the bond indenture. Mr. Pennekamp asked that we make sure that the surplus is being deposited back in the flood prevention district fund as required by law.

Growth in sales tax receipts has slowed in 2011, but August receipts reflect a 5.8% year over year growth, continuing a recent upward trend. For the first eight months of 2011 sales tax receipts are up by nearly 2.2%, which is slightly less than assumed in our financial plan, but the trend suggests that we may be close to projections by the end of the year.

Total disbursements for October 2011 were $841,115.51. The largest payments were to AMEC Earth & Environmental for pre-construction activities, preliminary design and program management. We also received the bond subsidy payments from the IRS and disbursed those funds to the Trustee as required by the indenture. Payment was also made to the East-West Gateway Council of Governments for administrative support and Council staffing, along with payments to our legal counsels for work on Council business.

Mr. Bergkoetter asked whether we have gotten a full accounting of our cost-share funding from the Corps. Mr. Munholand said that a general report was provided a couple of months ago. Mr. Sterman said that he would get an updated report from the Corps and provide it to the Board.

A motion was made by Mr. Parks, seconded by Bergkoetter, to approve the budget report and disbursements for June, 2011. At Mr. Conrad's request, Mr. Maher called the roll and the following votes were made on the motion:

Mr. Polka - Aye
Mr. Brinkman – Aye
Mr. Bergkoetter - Aye
Mr. Conrad - Aye
Mr. Long – absent
Mr. Maher – Aye
Mr. Motil – Aye
Mr. Pennekamp – Aye
Mr. Parks – Ayes

The motion was approved unanimously with eight members present voting aye.

Report on Design Feature Discussions with the Corps of Engineers
Presentation and Discussion of Project Schedule and Upcoming Milestones

Mr. Sterman described a series of meetings with the Corps staff to review in detail the various design features that we are proposing as part of the project. He asked Jay Martin to describe the outcome of those meetings.

Mr. Martin, of AMEC Environment and Infrastructure, illustrated his report with a PowerPoint presentation (attached). He provided a general update on the progress of the project and the discussions with the Corps.

He discussed the progress in submittal of permit applications and briefed the Board on the project schedule. The schedule was broken down into eight work packages. Risks to the schedule include the review process by the Corps, particularly once the process extends outside the District office of the Corps.

Mr. Martin said that the AMEC team is on track to meet the December 16 deadline for submittal of the 60% design documents. They are also on track to make the necessary permit submittals by December 16 as scheduled to the Corps and to the state of Illinois. On December 16 AMEC will provide a complete set of project plans and specifications to the Corps, as well as supporting calculation and analyses.

Mr. Maher asked what happens if we determine that the Corps owned levees (or those they are required to fix) cannot be certified, who pays to fix the federal levees? Mr. Sterman said that theoretically it is the Corps' responsibility, but Congress must first appropriate the money. So the job will likely fall to us, but we don't have the money.

Mr. Sterman summarized by saying that the project is currently on schedule and within budget, but we may soon bump into obstacles that are beyond our control that could cause delays and cost increases.

Other Business
There was no other business.

Adjournment
Motion made by Mr. Motil, seconded by Mr. Pennekamp to adjourn the meeting. The motion was approved unanimously by voice vote, all voting aye.

Respectfully submitted,

Dan Maher,
Secretary/Treasurer, Board of Directors

Progress Report
November 16, 2011
SW IL Levee System

By Jay Martin

Update on Activities

- Design Activities
- 404/401 Permits
- Schedule and Risks

Design Activities

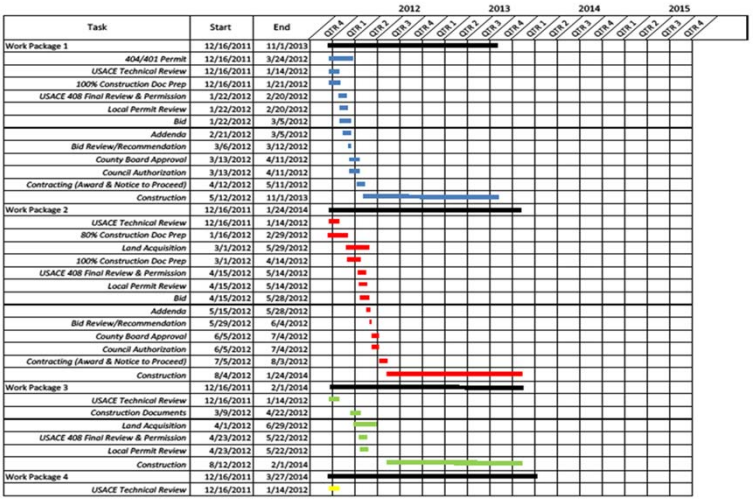
- Design and Construction Documents – On Track
  - Berms
  - Cut off walls
  - Interior drainage
    - Pump stations
    - Ditching
  - Seepage blankets/toe drains
  - Wetlands mitigation
  - Utility relocations
  - Temporary construction access roads
  - Limits of disturbance
  - Existing roadway relocation

Permits

- 404 – Draft in QC review
- 401 – Draft in QC review

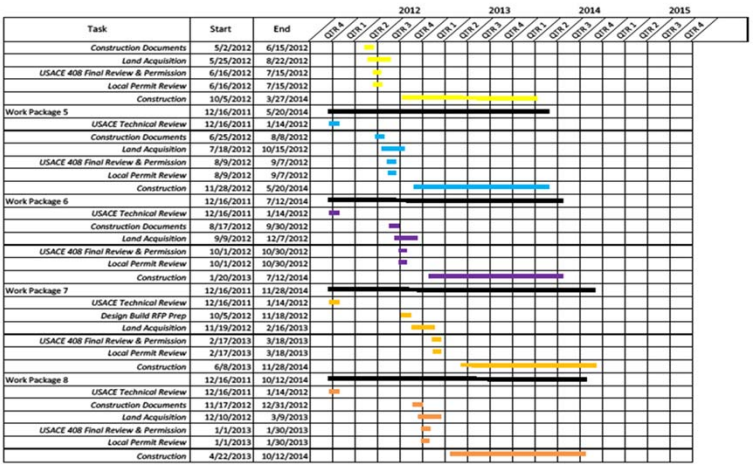
- Discussions continue with both the USACE and IEPA to tailor each application.

Schedule



Task	Start	End
Work Package 1	12/16/2011	11/1/2013
404/401 Permit	12/16/2011	3/24/2012
USACE Technical Review	12/16/2011	1/14/2012
100% Construction Doc Prep	12/16/2011	1/21/2012
USACE 408 Final Review & Permission	1/22/2012	2/20/2012
Local Permit Review	1/22/2012	2/20/2012
Bid	1/22/2012	3/5/2012
Addenda	2/21/2012	3/5/2012
Bid Review/Recommendation	3/6/2012	3/12/2012
County Board Approval	3/13/2012	4/11/2012
Council Authorization	3/13/2012	4/11/2012
Contracting (Award & Notice to Proceed)	4/12/2012	5/11/2012
Construction	5/12/2012	11/1/2013
Work Package 2	12/16/2011	1/24/2014
USACE Technical Review	12/16/2011	1/14/2012
80% Construction Doc Prep	1/16/2012	2/29/2012
Land Acquisition	3/1/2012	5/29/2012
100% Construction Doc Prep	3/1/2012	4/14/2012
USACE 408 Final Review & Permission	4/15/2012	5/14/2012
Local Permit Review	4/15/2012	5/14/2012
Bid	4/15/2012	5/28/2012
Addenda	5/15/2012	5/28/2012
Bid Review/Recommendation	5/29/2012	6/4/2012
County Board Approval	6/5/2012	7/4/2012
Council Authorization	6/5/2012	7/4/2012
Contracting (Award & Notice to Proceed)	7/5/2012	8/3/2012
Construction	8/4/2012	1/24/2014
Work Package 3	12/16/2011	2/1/2014
USACE Technical Review	12/16/2011	1/14/2012
Construction Documents	3/9/2012	4/22/2012
Land Acquisition	4/1/2012	6/29/2012
USACE 408 Final Review & Permission	4/23/2012	5/22/2012
Local Permit Review	4/23/2012	5/22/2012
Construction	8/12/2012	2/1/2014
Work Package 4	12/16/2011	3/27/2014
USACE Technical Review	12/16/2011	1/14/2012

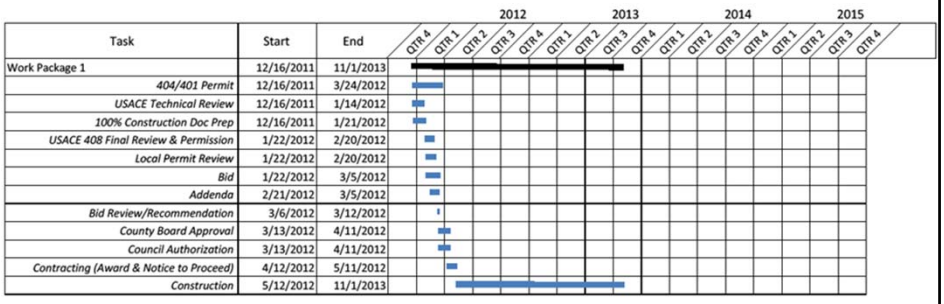
Schedule



Task	Start	End
Construction Documents	5/2/2012	6/15/2012
Land Acquisition	5/25/2012	8/22/2012
USACE 408 Final Review & Permission	6/16/2012	7/15/2012
Local Permit Review	6/16/2012	7/15/2012
Construction	10/5/2012	3/27/2014
Work Package 5	12/16/2011	5/20/2014
USACE Technical Review	12/16/2011	1/14/2012
Construction Documents	6/25/2012	8/8/2012
Land Acquisition	7/18/2012	10/15/2012
USACE 408 Final Review & Permission	8/9/2012	9/7/2012
Local Permit Review	8/9/2012	9/7/2012
Construction	11/28/2012	5/20/2014
Work Package 6	12/16/2011	7/12/2014
USACE Technical Review	12/16/2011	1/14/2012
Construction Documents	8/17/2012	9/30/2012
Land Acquisition	9/9/2012	12/7/2012
USACE 408 Final Review & Permission	10/1/2012	10/30/2012
Local Permit Review	10/1/2012	10/30/2012
Construction	1/20/2013	7/12/2014
Work Package 7	12/16/2011	11/28/2014
USACE Technical Review	12/16/2011	1/14/2012
Design Build RFP Prep	10/5/2012	11/18/2012
Land Acquisition	11/19/2012	2/16/2013
USACE 408 Final Review & Permission	2/17/2013	3/18/2013
Local Permit Review	2/17/2013	3/18/2013
Construction	6/8/2013	11/28/2014
Work Package 8	12/16/2011	10/12/2014
USACE Technical Review	12/16/2011	1/14/2012
Construction Documents	11/17/2012	12/31/2012
Land Acquisition	12/10/2012	3/9/2013
USACE 408 Final Review & Permission	1/1/2013	1/30/2013
Local Permit Review	1/1/2013	1/30/2013
Construction	4/22/2013	10/12/2014

Figure x
Project Schedule

Schedule



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Construction	5/12/2012	11/1/2013

Work Packages

- WP-1 - Gravity Drain Rehab & Gravel Filter Rehab (WR & MESD)
- WP-2 - Pump Stations (WR, MESD & PdP/FL)
- WP-3 - Relief Wells, Berm, Graded Filter & Toe Drain (WR)
- WP-4 - Clay Blanket, Graded Filter & Toe Drain (MESD)
- WP-5 - Relief Wells, Clay Blanket, Graded Filter & Toe Drain (MESD)
- WP-6 - Relief Wells & Berm (PdP/FL)
- WP-7 - Cutoff Walls (WR)
- WP-8 - Wetland Mitigation (offsite)

Major Risks

- 408 Process with the USACE
  1.) Recent meetings
    - Berms/RW/Clay caps – Last Wednesday
    - Cut off walls/Graded filters - Yesterday
    - Structural/H&H – This afternoon
  2.) Technical Review – calculations with 60%
  3.) Official submittal - Technical, plus other elements submitted at 100% (District doesn't have final say). Additional technical reviews maybe dictated by USACE
- 404, 401 Permitting
  - Dependent on Corps and IL review time
  - Public hearings?
- Mel Price and Chain of Rocks – FEMA certification

Questions?

Southwestern Illinois Flood Prevention District Council

Memo to: Board of Directors

From: Les Sterman

Subject: Program Status Report for December, 2011

Date: December 19, 2011

Design/Construction

AMEC submitted 60% design documents, including construction drawings, specifications, and cost estimates as scheduled on December 16. AMEC also provided this material, along with various supporting calculations and analyses, to the Corps of Engineers on the same date. Also at this time a joint application for the various environmental permits was submitted to the Corps, the Illinois Department of Natural Resources, the Illinois Environmental Protection Agency and the U.S. Environmental Protection Agency. This is a major milestone for the project, and it signifies that the project is progressing on schedule and within budget. A full report on the submission will be made at the Board meeting

Yet another month has gone by and we still do not have the "review plan" that will be used to grant permission to alter the levee system under Sec. 408, a document that was originally promised to be in our hands by August 17. The contents of the plan are less of a concern right now than the process by which the plan is being approved. By all accounts, this document has been at the Division office of the Corps for nearly two months. What this suggests is that any assertion made by the Corps that they will not delay our project schedule is simply not credible. Once the approval process leaves the District there is simply no way to predict the course or timing of that process. As I have been describing for most of the last year, the Corps review process is the biggest and most likely threat to the project schedule and budget.

I have continued to advise our congressional delegation of our serious concerns with the Corps review process and they remain supportive and have pledged to help should we reach an impasse or encounter substantial delays.

Earlier this month, we received a response from FEMA to our request to withdraw the AR zone application for the region. This application, originally made in 2007, would have provided for reduced flood insurance rates and more accommodating building codes in the event that the American Bottom was classified as a flood hazard area on new flood insurance rate maps. Area leaders were advised by FEMA at the time that new maps would be issued in 2008. Since that time, we learned that neither the Corps nor FEMA had information to support claims they made

in 2007 that the levees could not be certified to meet FEMA standards. Consequently, the admissions made in the AR zone application were not supported by the facts and we believed that it should no longer be on the record. FEMA's response to us was not on point at all, instead repeating FEMA policy that it is the responsibility of local levee owners to provide certification information. While true, that does not excuse the promulgation of false information by FEMA and the Corps. The letter also notes that FEMA has paused the mapping process pending the reevaluation of mapping methodology by the agency. While it notes that "FIRM revisions for communities with non-accredited levee systems are currently suspended" it suggests that when the maps are revised in the future the Zone AR designations will be removed. Such a statement is completely illogical since there are no Zone AR designations on the currently effective FIRMS, as confirmed by the federal judge in his ruling on our lawsuit. Perhaps this is simply a reprise of the "Potomac two-step" by FEMA that the federal judge severely criticized.

Administrative

Our continuing agreement with AMEC is structured with a Master Service Agreement that defines contractual terms and conditions, and a series of work orders that defines the scope of work for each assignment. This was done because it was not possible to determine at the outset all of the dimensions of the work prior to initial exploratory testing and analyses of the conditions of the levee system. With the completion of the 60% design by AMEC, work on the current design work order has been concluded. At the December meeting, I will present a proposed work order to allow AMEC to proceed to the 100% design.

I have also asked AMEC to prepare work orders that will reflect the previously unanticipated work to support the Corps Section 408 permission process and to undertake certification activities for two sections of levee (Chain of Rocks, which is owned by the Corps, and Mel Price Lock and Dam, which is the responsibility of the Corps to improve) that we had previously assumed would be the Corps' responsibility. These work orders represent added costs to the Council that have not been previously budgeted.

U.S. Department of Homeland Security
Region V
536 South Clark Street, Floor 6
Chicago, IL 60605

FEMA

DEC 05 2011

Mr. Les Sterman
Chief Supervisor, Southwest Illinois Flood Prevention District Council
104 United Drive
Collinsville, Illinois 62234

Dear Mr. Sterman:

Thank you for your letter dated September 21, 2011, to the Department of Homeland Security, Federal Emergency Management Agency (FEMA) Region V office, on behalf of the communities represented by the Southwestern Illinois Flood Prevention District (SWIFPD). For your records, please note that I am now the director of the Mitigation Division at our Region V office in Chicago. In the letter, you and other community officials withdrew SWIFPD's application for the designation of a flood control restoration zone (Zone AR) on the Flood Insurance Rate Maps (FIRMs) for Madison, Monroe, and St. Clair Counties, Illinois. The Zone AR designation currently depicted on the preliminary FIRM panels is designed to align the flood insurance and floodplain management elements of the National Flood Insurance Program (NFIP) with the fact that the levees are in the process of being restored to provide base (1-percent-annual-chance) flood protection.

In your letter, you stated that the reason you are withdrawing your request for the Zone AR designation is that neither the U.S. Army Corps of Engineers nor FEMA has presented documentation that the levees do not provide base flood protection. The Federal Government is under no such obligation and thus it is insufficient to rely solely on Federal documentation of locally owned and operated levee systems as the basis for determining their adequacy for flood protection. During the ongoing FEMA FIRM updates for the above-referenced counties, neither the levee owners nor the local communities have provided data or documentation to FEMA demonstrating the levees meet long-standing regulations, the Code of Federal Regulations (CFR) Title 44 - *Emergency Management and Assistance,* (44 CFR § 65.10), which states:

> For purposes of the National Flood Insurance Program (NFIP), FEMA will only recognize in its flood hazard and risk mapping effort those levee systems that meet and continue to meet, minimum design, operation, and maintenance standards that are consistent with the… information FEMA needs to recognize, on NFIP maps, that a levee system provides protection from the base flood. **This information must be supplied to FEMA by the community** or other party seeking recognition of such a levee system at the time a flood risk study or restudy is conducted… The FEMA review will be for the sole purpose of establishing appropriate risk zone determination for NFIP maps… (emphasis added.)

As you referenced in your letter, a new set of preliminary FIRMs may be issued due to FEMA's ongoing evaluation of the modeling and mapping used to assess the flooding risk landward of levee

systems that have not been demonstrated to meet regulatory criteria for accreditation. FIRM revisions for communities with non-accredited levee systems are currently suspended pending the resolution of the levee modeling issue. This pause in the active processing of mapping projects with levees will enable local communities, such as those that are a part of SWIFPD, to provide additional data that may be used to update future FIRMs. When a final determination has been made regarding FEMA's levee modeling and mapping, the FIRMs for Madison, Monroe, and St. Clair Counties will be revised to remove the Zone AR designation from those areas landward of affected levees. If at that time FEMA has been provided with the minimum regulatory data for accreditation of the levee systems, they will be depicted as accredited on the revised FIRM. Otherwise, the levee systems will be mapped as non-accredited.

It is an important and central goal of FEMA to work with its NFIP partner communities in developing accurate FIRMs and Flood Insurance Studies for the protection of lives and property. I commend SWIFPD and its constituent communities for their commitment to restore area levee systems. I encourage SWIFPD and its member communities to continue to work and coordinate with FEMA Region V for the safety and benefit of local residents.

Lastly, residents should understand the inherent risks that exist behind levees—risks to life and property that even the best flood-control system cannot completely eliminate. FEMA encourages people to understand their risks. The NFIP was created to reduce flood damages by identifying flood risks, encouraging sound community floodplain management practices, and providing flood insurance to lessen the financial impact of flooding. Through the NFIP, property owners in participating communities are able to purchase flood insurance. We hope that your community will encourage property owners to purchase flood insurance, regardless of levee status.

I hope this information is helpful to you in addressing the concerns of the citizens of Madison, Monroe, and St. Clair Counties. If you need additional information or assistance, please contact Suzanne Vermeer of the FEMA Region V Office by telephone at (312) 408-5245.

Sincerely,

Christine Stack

Christine Stack, Director
Mitigation Division
FEMA Region V

cc: Paul Osman, NFIP Coordinator, Illinois
Andrew Velasquez III, Regional Administrator, FEMA Region V
Luis Rodriguez, P.E., Chief, Engineering Management Branch, Federal Insurance and Mitigation Administration, FEMA

Southwestern Illinois Flood Prevention District Council

Memo to: Board of Directors

From: Les Sterman

Subject: Budget Report through November 30, 2011

Date: December 19, 2011

Attached is the budget report for November 2011 prepared by our fiscal agent, LarsonAllen. It includes an accounting of revenues and expenditures for the two months ending November 30 2011, as compared to our fiscal year budget for the year ending on September 30, 2012.

Accrued expenditures for the current fiscal year are $1,579,317, while revenues amounted to $1,865,810. Expenditures included a surplus held by the bond Trustee of $434,465 that was returned to the counties as required by the bond indenture. All costs remain well within budgeted amounts.

September sales tax receipts reflect a healthy 5.1% year over year growth, continuing a recent upward trend. For the first nine months of 2011 sales tax receipts are up by nearly 2.5%, which is slightly less than assumed in our financial plan, but the trend suggests that we may be close to projections by the end of the year.

SOUTHWESTERN ILLINOIS FLOOD PREVENTION DISTRICT COUNCIL

GENERAL FUND
STATEMENT OF REVENUES AND EXPENDITURES – BUDGET AND ACTUAL

TWO MONTHS ENDING NOVEMBER 2011 AND 2010

Board Members
Southwestern Illinois Flood Prevention District Council
Collinsville, Illinois

We have compiled the accompanying General Fund Statement of Revenues and Expenditures – Budget and Actual of Southwestern Illinois Flood Prevention District Council (the "Council") for the two months ended November 30 2011 and 2010. We have not audited or reviewed the accompanying financial statements and, accordingly, do not express an opinion or provide any assurance about whether the financial statements are in accordance with accounting principles generally accepted in the United States of America.

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America and for designing, implementing, and maintaining internal control relevant to the preparation and fair presentation of the financial statements.

Our responsibility is to conduct the compilation in accordance with Statement on Standards for Accounting and Review Services issued by the American Institute of Certified Public Accountants. The objective of a compilation is to assist management in presenting financial information in the form of financial statements without undertaking to obtain or provide assurance that there are no material modifications that should be made to the financial statements. During our compilation we did become aware of departures from accounting principles generally accepted in the United States of America that are described in the following paragraph.

Management has omitted the management discussion and analysis. Such missing information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context.

Management has not presented government-wide financial statements to display the financial position and changes in financial position of its governmental activity. Accounting principles generally accepted in the United States of America require the presentation of government-wide financial statements. The change in fund balance for the Council's governmental activity is not reasonably determinable.

Management has not presented a balance sheet for the general fund. Accounting principles generally accepted in the United States of America require the presentation of a balance sheet for each fund contained in the financial statements. The amounts that would be reported in a balance sheet of the general fund for the Council are not reasonably determinable.

Management has not presented a change in fund balance on the Statement of Revenues and Expenditures – Budget and Actual. Accounting principles generally accepted in the United States of America require the Statement of Revenues, Expenditures and Changes in Fund Balance include a presentation of changes in fund balance. The amounts that would be reported in government-wide financial statements for the Council's governmental activity is not reasonably determinable.

Management has also elected to omit substantially all of the disclosures required by generally accepted accounting principles. If the omitted disclosures were included with the financial statements, they might influence the user's conclusions about the Council's results of operations. Accordingly, these financial statements are not designed for those who are not informed about such matters.

The accompanying original and final budget amounts presented on the General Fund Statement of Revenues and Expenditures – Budget and Actual presented for the year ending September 30, 2012 and 2011, have not been compiled or examined by us, and, accordingly, we do not express an opinion or any other form of assurance on them.

We are not independent with respect to Southwestern Illinois Flood Prevention District Council.

LarsonAllen LLP

St. Louis, Missouri
December 15, 2011

SOUTHWESTERN ILLINOIS FLOOD PROTECTION DISTRICT COUNCIL
GENERAL FUND
STATEMENT OF REVENUES AND EXPENDITURES - BUDGET AND ACTUAL
TWO MONTHS ENDED NOVEMBER 30, 2011 (Actual)
FISCAL YEAR ENDING SEPTEMBER 30, 2012 (Budget)

	BUDGET			VARIANCE WITH FINAL BUDGET
	ORIGINAL	FINAL	ACTUAL	POSITIVE (NEGATIVE)
REVENUES				
Sales Tax Proceeds From Districts	$ 11,000,000	$ 11,000,000	$ 1,865,387	$ 9,134,613
Interest Income	878,365	878,365	423	877,942
Other Contributions	-	-	-	-
Total Revenues	11,878,365	11,878,365	1,865,810	10,012,555
EXPENDITURES				
Current				
Design and Construction				
Engineering Design & Construction Management	6,000,000	6,000,000	1,047,052	4,952,948
Construction	20,000,000	20,000,000	17,077	19,982,923
Construction and design by US ACE	1,100,000	1,100,000	-	1,100,000
Federal Cost-Share	-	-	-	-
Total Design and Construction	27,100,000	27,100,000	1,064,129	26,035,871
Professional Services				
Legal & Legislative Consulting	126,000	126,000	18,845	107,155
Construction Oversight	160,000	160,000	16,869	143,131
Impact Analysis/Research	1,000	1,000	-	1,000
Financial Advisor	20,000	20,000	941	19,059
Bond Underwriter/Conduit Issuer	93,529	93,529	-	93,529
Total Design and Construction	400,529	400,529	36,655	363,874
Refund of Surplus Funds to County FPD Accounts				
Madison County	-	-	205,380	(205,380)
Monroe County	-	-	20,133	(20,133)
St. Clair County	-	-	208,952	(208,952)
Total Refund of Surplus Funds to County	-	-	434,465	(434,465)
Debt Service				
Principal and Interest	6,197,300	6,197,300	-	6,197,300
Total Debt Service	6,197,300	6,197,300	-	5,328,370
Total Operating Expenses	33,697,829	33,697,829	1,535,249	31,293,650
General and Administrative Costs				
Salaries, Benefits	189,365	189,365	30,407	158,958
Advertising	2,500	2,500	-	2,500
Bank Service Charges	420	420	163	257
Conference Registration	700	700	-	700
Equipment and Software	2,300	2,300	-	2,300
Fiscal Agency Services	20,000	20,000	10,224	9,776
Furniture	300	300	-	300
Meeting Expenses	1,000	1,000	83	917
Miscellaneous Startup Expenses	-	-	-	-
Office Rental	-	-	-	-
Postage/Delivery	600	600	-	600
Printing/Photocopies	2,500	2,500	-	2,500
Professional Services	18,000	18,000	75	17,925
Publications/Subscriptions	200	200	-	200
Supplies	1,350	1,350	291	1,059
Telecommunications/Internet	3,500	3,500	591	2,909
Travel	12,500	12,500	1,244	11,256
Other Business Expenses	-	-	-	-
Insurance	3,000	3,000	990	2,010
Total General & Administrative Costs	258,235	258,235	44,068	214,167
Total Expenditures	33,956,064	33,956,064	1,579,317	31,507,817
EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	(22,077,699)	(22,077,699)	286,493	(21,791,206)
OTHER FINANCING SOURCES				
Proceeds From Borrowing	-	-	-	-
NET CHANGE IN FUND BALANCE	$ (22,077,699)	$ (22,077,699)	$ 286,493	$ (21,791,206)

SOUTHWESTERN ILLINOIS FLOOD PROTECTION DISTRICT COUNCIL
GENERAL FUND
STATEMENT OF REVENUES AND EXPENDITURES - BUDGET AND ACTUAL
TWO MONTHS ENDED NOVEMBER 30, 2010 (Actual)
FISCAL YEAR ENDING SEPTEMBER 30, 2011 (Budget)

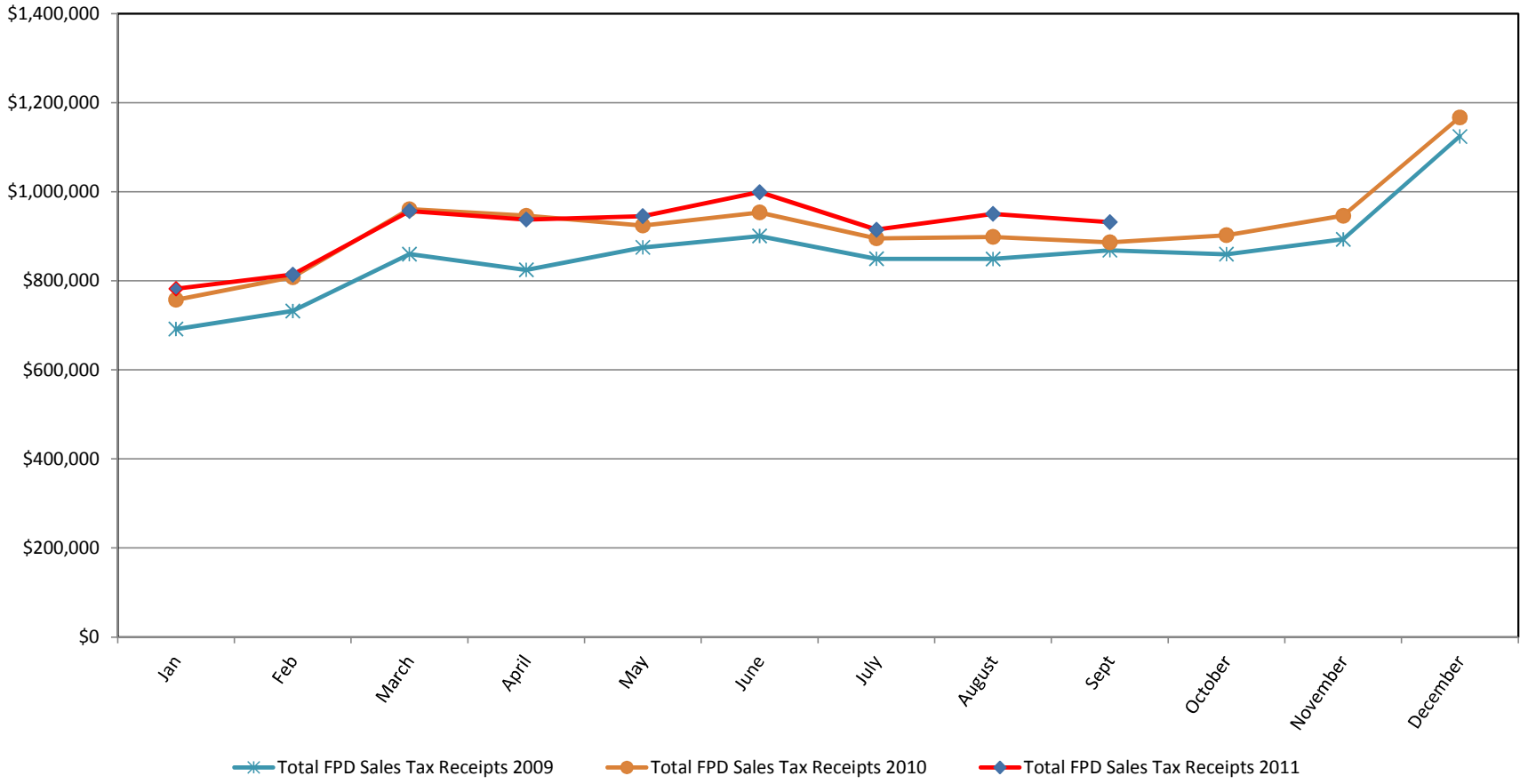
	BUDGET			VARIANCE WITH FINAL BUDGET
	ORIGINAL	FINAL	ACTUAL	POSITIVE (NEGATIVE)
REVENUES				
Sales Tax Proceeds From Districts	$ 10,510,886	$ 10,510,886	$ 1,733,592	$ 8,777,294
Interest Income	335,060	335,060	230	334,830
Other Contributions	-	-	-	-
Total Revenues	10,845,946	10,845,946	1,733,822	9,112,124
EXPENDITURES				
Current				
Design and Construction				
Engineering Design & Construction Management	6,598,265	6,598,265	-	6,598,265
Construction	50,000,000	50,000,000	-	50,000,000
Construction and design by US ACE	1,650,000	1,650,000	1,137,564	512,436
Federal Cost-Share	-	-	-	-
Total Design and Construction	58,248,265	58,248,265	1,137,564	57,110,701
Professional Services				
Legal & Legislative Consulting	126,000	126,000	41,878	84,122
Construction Oversight	140,833	140,833	-	140,833
Impact Analysis/Research	20,000	20,000	-	20,000
Financial Advisor	-	-	-	-
Bond Underwriter/Conduit Issuer	-	-	-	-
Total Design and Construction	286,833	286,833	41,878	244,955
Bond Issuance Costs	1,152,000	1,152,000	517,548	634,452
Reimbursement of Advance Funding	3,501,778	3,501,778	-	3,501,778
Debt Service				
Supplemental Bond Reserve Fund	5,731,238	5,731,238	-	5,731,238
Principal and Interest	4,987,151	4,987,151	-	4,987,151
Total Debt Service	10,718,389	10,718,389	-	10,718,389
Total Operating Expenses	73,907,265	73,907,265	1,696,990	72,210,275
General and Administrative Costs				
Salaries, Benefits	183,885	183,885	30,429	153,456
Advertising	2,500	2,500	-	2,500
Bank Service Charges	420	420	54	366
Conference Registration	700	700	-	700
Equipment and Software	3,800	3,800	-	3,800
Fiscal Agency Services (EWG)	16,500	16,500	2,515	13,985
Furniture	1,000	1,000	468	532
Meeting Expenses	400	400	-	400
Miscellaneous Startup Expenses	-	-	-	-
Office Rental	7,200	7,200	-	7,200
Postage/Delivery	500	500	35	465
Printing/Photocopies	1,350	1,350	-	1,350
Professional Services	12,500	12,500	-	12,500
Publications/Subscriptions	200	200	-	200
Supplies	1,260	1,260	621	639
Telecommunications/Internet	3,190	3,190	331	2,859
Travel	8,200	8,200	1,340	6,860
Other Business Expenses	1,750	1,750	61	1,689
Insurance	3,000	3,000	978	2,022
Total General & Administrative Costs	248,355	248,355	36,832	211,523
Total Expenditures	74,155,620	74,155,620	1,733,822	72,421,798
EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	(63,309,674)	(63,309,674)	-	(63,309,674)
OTHER FINANCING SOURCES				
Proceeds From Borrowing	84,268,762	84,268,762	-	84,268,762
NET CHANGE IN FUND BALANCE	$ 20,959,088	$ 20,959,088	$ -	$ 20,959,088

Flood Prevention District Sales Tax Trends

2009-2011

	Jan	Feb	March	April	May	June	July	August	Sept	October	November	December	Total	County Share
2009														
Madison	$321,968	$336,765	$397,425	$387,385	$414,350	$421,402	$399,616	$401,188	$400,090	$404,847	$405,930	$492,814	$4,783,780	46.319%
St. Clair	$337,979	$362,696	$424,556	$398,395	$419,126	$438,230	$411,968	$410,484	$429,852	$412,637	$446,806	$581,721	$5,074,450	49.134%
Monroe	$31,641	$32,903	$37,830	$38,757	$41,326	$40,847	$37,817	$37,497	$38,652	$42,270	$40,332	$49,755	$469,627	4.547%
Total Month	$691,588	$732,364	$859,811	$824,537	$874,802	$900,479	$849,401	$849,169	$868,594	$859,754	$893,068	$1,124,290	$10,327,857	
Cumulative Total	$691,588	$1,423,952	$2,283,763	$3,108,300	$3,983,102	$4,883,581	$5,732,982	$6,582,151	$7,450,745	$8,310,499	$9,203,567	$10,327,857		
2010														
Madison	$353,146	$374,416	$456,795	$462,697	$440,815	$452,308	$427,329	$433,047	$419,455	430,210	$442,904	$529,069	$5,222,191	47.272%
St. Clair	$367,458	$399,480	$464,089	$439,748	$439,139	$458,299	$421,447	$423,718	$424,971	$429,581	$457,927	587067	$5,312,924	48.094%
Monroe	$36,770	$34,324	$39,884	$43,769	$44,358	$43,102	$46,499	$41,816	$42,207	$42,746	$45,411	$51,004	$511,890	4.634%
Total Month	$757,374	$808,220	$960,768	$946,214	$924,312	$953,709	$895,275	$898,581	$886,633	$902,537	$946,242	$1,167,140	$11,047,005	
Cumulative Total	$757,374	$1,565,594	$2,526,362	$3,472,576	$4,396,888	$5,350,597	$6,245,872	$7,144,453	$8,031,086	$8,933,623	$9,879,865	$11,047,005		
% change/month	9.51%	10.36%	11.74%	14.8%	5.7%	5.9%	5.4%	5.8%	2.1%	5.0%	6.0%	3.8%		
% change/total	9.51%	9.95%	10.62%	11.72%	10.39%	9.56%	8.95%	8.54%	7.79%	7.50%	7.35%	6.96%	6.96%	
2011														
Madison	$380,021	$383,976	$460,129	$454,562	$466,904	$477,396	$436,637	$473,303	$448,256				$3,981,184	48.361%
St. Clair	$363,984	$395,231	$455,562	$437,820	$436,490	$475,972	$433,460	$433,777	$441,030				$3,873,326	47.051%
Monroe	$38,315	$34,759	$41,192	$44,975	$41,786	$45,836	$44,887	$43,323	$42,564				$377,637	4.587%
Total Month	$782,320	$813,966	$956,883	$937,357	$945,180	$999,204	$914,984	$950,403	$931,850				$8,232,147	
Cumulative Total	$782,320	$1,596,286	$2,553,169	$3,490,526	$4,435,706	$5,434,910	$6,349,894	$7,300,297	$8,232,147					
% change/month	3.29%	0.71%	-0.40%	-0.94%	2.26%	4.77%	2.20%	5.77%	5.10%					
% change/total	3.29%	1.96%	1.06%	0.52%	0.88%	1.58%	1.67%	2.18%	2.50%					

FPD Sales Tax Trends
Actual Receipts 2009-2011



Southwestern Illinois Flood Prevention District Council

Memo to: Board of Directors

From: Les Sterman

Subject: November, 2011 Disbursements

Date: December 19, 2011

Attached is a list of bank transactions for November, 2011. Total disbursements for the month were $26,506.19. The largest payment was to Campion Group for project management oversight.

Design costs are paid from funds held in the Construction Account by the bond Trustee. Legal and administrative costs are paid from the Administration Account held by the Trustee.

Recommendation:
Accept disbursement report.

SOUTHWESTERN ILLINOIS FLOOD PROTECTION DISTRICT COUNCIL
SUPPLEMENTARY SUPPORTING SCHEDULE
BANK TRANSACTIONS
NOVEMBER 2011

Beginning Bank Balance November 1						$ 123,701.34
		Date	Check No	Description	Amount	
Receipts						
		11/30/2011		Interest	39.90	
	Total Receipts					39.90
Disbursements						
	Sprague & Urban, Attorneys at Law	11/04/2011	1140	Legal Fees	75.00	
	Selective Insurance Co. of America	11/04/2011	1141	Insurance	990.00	
	Enhanced Business Online Setup	11/07/2011		Wire Transfer	50.00	
	Campion Group, LLC	11/10/2011	1142	Services	6,283.86	
	Bertco Enterprises Inc	11/18/2011	1146	Signature Stamp	23.73	
	Dorgan, McPike & Assoc, LTD	11/18/2011		Services	6,000.00	
	LarsonAllen LLP	11/18/2011	1148	Services	1,221.25	
	UMB Bank, NA	11/18/2011	1149	Services	940.50	
	Wisper ISP, Inc.	11/18/2011	1144	Internet Services	54.99	
	Campion Group, LLC	11/22/2011	1150	Services	10,617.72	
	Wisper ISP, Inc.	11/22/2011	1151	Internet Services	54.99	
	Bank Of Edwardsville	11/30/2011		November bank charges	16.12	
	Bank Of Edwardsville	11/17/2011	Auto W/D	AT & T paid with Mastercard	151.14	
	Bank Of Edwardsville	11/21/2011	Auto W/D	Walmart Supplies	26.89	
	Total Disbursements					(26,506.19)
Ending Bank Balance November 30, 2011						97,235.05

Southwestern Illinois Flood Prevention District Council

Memo to: Board of Directors

From: Les Sterman

Subject: Project Cost Estimate

Date: December 19, 2011

On December 16 AMEC submitted the 60% construction drawings, cost estimate and other related documentation. As the design matures, certain features are eliminated, others added and some are refined. Construction quantities have changed from preliminary estimates, unit costs have become more detailed, and construction conditions are better known. In general, the cost estimate becomes more reliable and more accurate as the design process advances. In July, 2011 the Board of Directors adopted a Project Implementation Plan that included a description of the basic design features of the project, an implementation schedule, a cost estimate and financial plan. The information now available as the design process progresses allows us to assess the accuracy of the Plan and our progress in following it.

The success of the project hinges on effectively managing time and money. Our goal since the outset of the project was to reach the desired outcome, i.e. a fully accredited levee system, with the money that can be leveraged with the local sales tax revenue and to do so within five years. The Project Implementation Plan is a roadmap for accomplishing that broad purpose. At each critical stage of the project it will be important to determine where we stand with respect to that roadmap.

Table 1 shows the effect of changes to the design on the project cost estimate. To summarize, the overall project cost estimate has been reduced by $10.26 million, or about 6.8%, as a result of continuing progress on the design and a concerted effort by AMEC to reduce costs. While this is certainly positive news, it should be qualified by a number of considerations and continuing cost concerns:

1. In order to reduce or eliminate certain high-cost features like cutoff walls, in some cases we have proposed "graded filters" to control underseepage. Rather than blocking underseepage, these features will allow it to occure in a controlled fashion. Doing so will result in greater accumulations of water on the land side of the levee system, most of which will need to be pumped out. The 60% design, therefore, includes a number of new pump stations that need to be designed and built, thereby adding some design and construction costs, partially offsetting the savings from avoiding more costly underseepage controls. Moreover, the additional pump stations will produce higher operating costs for the levee districts, something that we will need to address in our continuing financial planning.

2. We have been unable to get any significant relief from the onerous, costly, and, in our view unnecessary, Corps of Engineers review process. That review process could result in additional costs to us of nearly $700,000, a sum that has now been incorporated in the project estimate.

Perhaps even more significant is the schedule risk and uncertainty of the review process, which will have a budget impact that we cannot as yet estimate.

3. The Corps has now indicated that they will not certify either the Chain of Rocks levee, (that the agency owns and maintains), or the levee reach adjacent to the Mel Price Lock and Dam (where the design deficiency is a direct result of the construction of the new lock and dam in the 1990s), Although the Corps has sole responsibility for assuring that these levee reaches perform at the authorized (500-year) level of protection, their internal policy does not allow certification of any levee segment less than a full system. As a consequence, the FPD must incur the cost of the levee inspection, performance analysis, and preparation of certification documentation. The inspection cost is estimated to be $155,000 with the cost of additional borings and other required tests unknown at this point (a rough estimate based on our work on the remainder of the system suggests a cost of at least $500,000).

Figure 1 shows the construction schedule that was presented to the Board at the November meeting. This schedule is consistent with the 60% design and continues to meet the desired 2015 completion date for the project. Note that while the schedule shows completion of construction in early 2015, that date may be tempered by financial conditions that affect our ability to borrow additional funds to meet the demands of that aggressive schedule. Also, following the completion of construction, the remainder of 2015 will be devoted to developing and submitting the required certification documentation to FEMA.

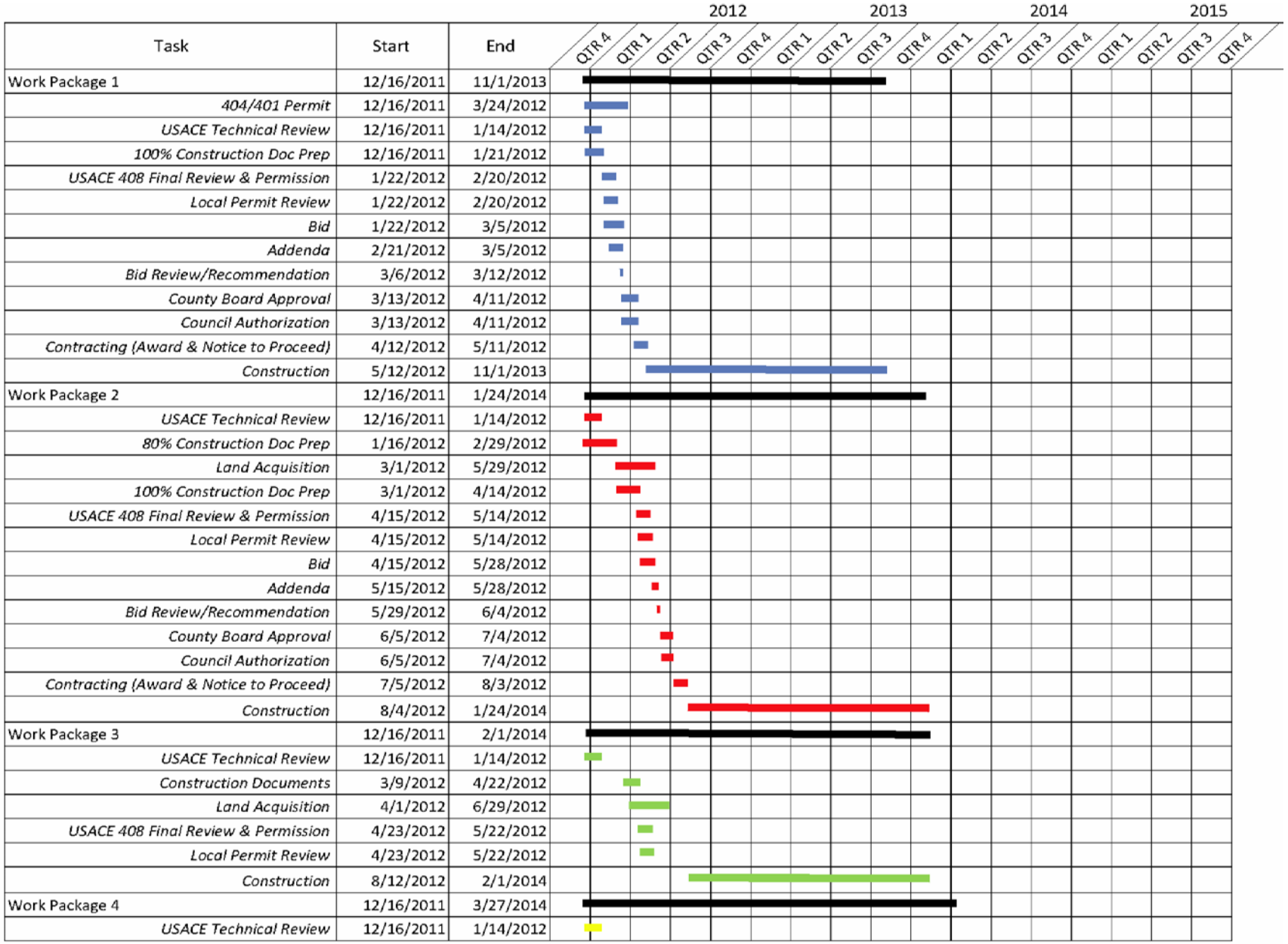
Except for external schedule risks that we cannot control, e.g. Corps of Engineers review or weather, *the project remains on schedule and within budget*. Since our intention is to maintain the Project Implementation Plan as a current and timely document, I am recommending that the Board of Directors amend the Plan to include the attached budget and project schedule.

Recommendation: Amend the Project Implementation Plan to include the revised project cost estimate and schedule resulting from the 60% design submission.

Table 1
Revised Project Cost Estimate
(12.21.2011)

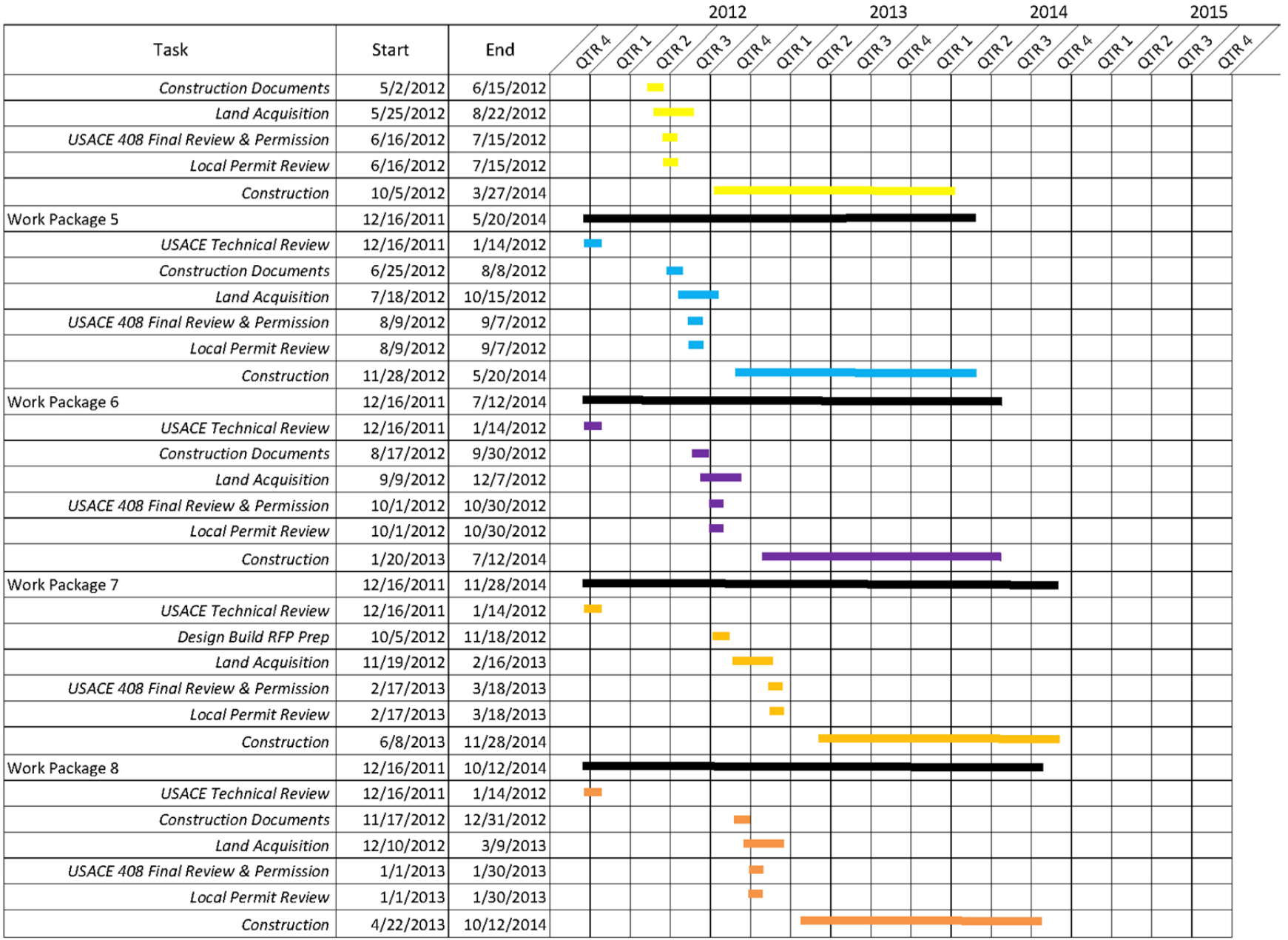
	7.2011 Estimate (30% Design)	*%*	*12.2011 Estimate (60% Design)*	*%*	*Change from 7.2011 Estimate*
Construction					
Wood River	$52,170,000	34.6%	$48,156,000	34.3%	($4,014,000.00)
MESD	$59,698,000	39.6%	$40,108,000	28.6%	($19,590,000.00)
PdP/FL	$17,612,000	11.7%	$28,916,000	20.6%	$11,304,000.00
COR/Mel Price		0.0%	$500,000	0.4%	$500,000.00
Construction Testing	$5,668,000	3.8%	$5,668,000	4.0%	$0.00
Subtotal-Construction	$135,148,000	89.7%	$123,348,000	87.9%	($11,800,000.00)
Professional Services					
Program Management	$2,200,000	1.5%	$2,200,000	1.6%	$0.00
Design	$7,799,000	5.2%	$8,501,374	6.1%	$702,373.88
Construction Management	$5,183,000	3.4%	$5,183,000	3.7%	$0.00
Corps Review Support		0.0%	$681,000	0.5%	$681,000.00
Certification	$325,000	0.2%	$480,000	0.3%	$155,000.00
Subtotal-Prof. Services	$15,507,000	10.3%	$17,045,374	12.1%	$1,538,373.88
Total Project Cost	**$150,655,000**		**$140,393,374**		**($10,261,626.12)**

Notes:
1. All construction costs are in year of expenditure dollars and include a contingency of approximately 20%, except for cutoff walls where contingency is 30%.
2. Design features included in the 60% phase resulted in reduced capital costs but increased certain design costs, particularly for additional pump stations.
3. Corps review support includes additional AMEC consulting fees ($181,000) and the cost ($500,000) of a potential independent external peer review (Safety Assurance Review).
4. Additional certification inspection, documentation and construction costs will be incurred by the FPD to develop needed documentation for levee reaches and improvements that are Corps responsibility.
5. Operations/Administration (Council staffing, project management oversight consultant and Corps of Engineers liaison) estimated at $3,186,000 during the period of construction is not included in this total, but is deducted from sales tax prior to payment of interest and principal on Series 2010 bonds .



Task	Start	End
Work Package 1	12/16/2011	11/1/2013
404/401 Permit	12/16/2011	3/24/2012
USACE Technical Review	12/16/2011	1/14/2012
100% Construction Doc Prep	12/16/2011	1/21/2012
USACE 408 Final Review & Permission	1/22/2012	2/20/2012
Local Permit Review	1/22/2012	2/20/2012
Bid	1/22/2012	3/5/2012
Addenda	2/21/2012	3/5/2012
Bid Review/Recommendation	3/6/2012	3/12/2012
County Board Approval	3/13/2012	4/11/2012
Council Authorization	3/13/2012	4/11/2012
Contracting (Award & Notice to Proceed)	4/12/2012	5/11/2012
Construction	5/12/2012	11/1/2013
Work Package 2	12/16/2011	1/24/2014
USACE Technical Review	12/16/2011	1/14/2012
80% Construction Doc Prep	1/16/2012	2/29/2012
Land Acquisition	3/1/2012	5/29/2012
100% Construction Doc Prep	3/1/2012	4/14/2012
USACE 408 Final Review & Permission	4/15/2012	5/14/2012
Local Permit Review	4/15/2012	5/14/2012
Bid	4/15/2012	5/28/2012
Addenda	5/15/2012	5/28/2012
Bid Review/Recommendation	5/29/2012	6/4/2012
County Board Approval	6/5/2012	7/4/2012
Council Authorization	6/5/2012	7/4/2012
Contracting (Award & Notice to Proceed)	7/5/2012	8/3/2012
Construction	8/4/2012	1/24/2014
Work Package 3	12/16/2011	2/1/2014
USACE Technical Review	12/16/2011	1/14/2012
Construction Documents	3/9/2012	4/22/2012
Land Acquisition	4/1/2012	6/29/2012
USACE 408 Final Review & Permission	4/23/2012	5/22/2012
Local Permit Review	4/23/2012	5/22/2012
Construction	8/12/2012	2/1/2014
Work Package 4	12/16/2011	3/27/2014
USACE Technical Review	12/16/2011	1/14/2012

Figure 1
Revised Construction Schedule
(12.21.2011)



Task	Start	End
Construction Documents	5/2/2012	6/15/2012
Land Acquisition	5/25/2012	8/22/2012
USACE 408 Final Review & Permission	6/16/2012	7/15/2012
Local Permit Review	6/16/2012	7/15/2012
Construction	10/5/2012	3/27/2014
Work Package 5	12/16/2011	5/20/2014
USACE Technical Review	12/16/2011	1/14/2012
Construction Documents	6/25/2012	8/8/2012
Land Acquisition	7/18/2012	10/15/2012
USACE 408 Final Review & Permission	8/9/2012	9/7/2012
Local Permit Review	8/9/2012	9/7/2012
Construction	11/28/2012	5/20/2014
Work Package 6	12/16/2011	7/12/2014
USACE Technical Review	12/16/2011	1/14/2012
Construction Documents	8/17/2012	9/30/2012
Land Acquisition	9/9/2012	12/7/2012
USACE 408 Final Review & Permission	10/1/2012	10/30/2012
Local Permit Review	10/1/2012	10/30/2012
Construction	1/20/2013	7/12/2014
Work Package 7	12/16/2011	11/28/2014
USACE Technical Review	12/16/2011	1/14/2012
Design Build RFP Prep	10/5/2012	11/18/2012
Land Acquisition	11/19/2012	2/16/2013
USACE 408 Final Review & Permission	2/17/2013	3/18/2013
Local Permit Review	2/17/2013	3/18/2013
Construction	6/8/2013	11/28/2014
Work Package 8	12/16/2011	10/12/2014
USACE Technical Review	12/16/2011	1/14/2012
Construction Documents	11/17/2012	12/31/2012
Land Acquisition	12/10/2012	3/9/2013
USACE 408 Final Review & Permission	1/1/2013	1/30/2013
Local Permit Review	1/1/2013	1/30/2013
Construction	4/22/2013	10/12/2014

Figure 1 (cont.)
Revised Construction Schedule
(12.21.2011)

Notes for Project Schedule:

WP-1 - Gravity Drain Rehab & Gravel Filter Rehab (WR & MESD)
WP-2 - Pump Stations (WR, MESD & PdP/FL)
WP-3 - Relief Wells, Berm, Graded Filter & Toe Drain (WR)
WP-4 - Clay Blanket, Graded Filter & Toe Drain (MESD)
WP-5 - Relief Wells, Clay Blanket, Graded Filter & Toe Drain (MESD)
WP-6 - Relief Wells & Berm (PdP/FL)
WP-7 - Cutoff Walls (WR)
WP-8 - Wetland Mitigation (offsite)

Southwestern Illinois Flood Prevention District Council

Memo to: Board of Directors

From: Les Sterman

Subject: Joint Application for Environmental Permits

Date: December 19, 2011

On December 16, AMEC submitted on our behalf a joint permit application to the Corps of Engineers, Illinois Department of Natural Resources, and the Illinois Environmental Protection Agency, for various environmental and other permits related to the project. These permits relate to impacts on wetlands, water quality, cultural resources and endangered species.

Attached is a portion of the information provided to the agencies in support of these permit requests.

Recommendation: Confirm the authorization of the Board for the Chief Supervisor to submit applications for permits to the Corps of Engineers, the Illinois Department of Natural Resources and the Illinois Environmental Protection Agency on behalf of the Council.

JOINT APPLICATION FORM

1. Application Number (to be assigned by Agency)	2. Date	3. For agency use only (Date Received)
	December 16, 2011 Month Day Year	

4. Name and address of applicant	5. Name, address, and title of authorized agent
Southwestern Illinois Flood Prevention District Council Representative: **Mr. Les Sterman** 104 United Drive Collinsville, IL 62234	AMEC Environment and Infrastructure Inc./Jon Omvig 15933 Clayton Rd. Suite 215 St Louis, MO 63011
Telephone no. during business hours include area code (618) 343-9120	Telephone no. during business hours include area code (636) 386-3800

6. Project Description and Remarks: Describe in detail the proposed activity, its purpose, and intended use. Also indicate the drainage area at the watershed to the downstream limit. Use attachments if needed.

Levee Improvements – Metro East Sanitary District (MESD)

See Attachment 2 – Project Information

7. Names, addresses, and telephone numbers of all adjoining and potentially affected property owners, including the owner of the subject property if different from applicant.

See Attachment 3 – Adjacent Property Owners

8. Location of activity

See Attachment 2 – Project Information

Name of waterway at location of the activity

Address:

Street, road, or other descriptive location

In or near city or town

County

Legal Description:

1/4 Sec Twp. Rge P.M.

UTM (Universal Transverse Mercator): If available

Zone North East

Name of Local Governing Community

State Zip Code

9. Date activity is proposed to commence April 2012 Estimated Time of Construction May 2014

10. Is any portion of the activity for which authorization is sought now complete? Yes No ☑ If answer is "Yes" give reasons in item 6.

Month and Year the activity was completed Indicate the existing work on drawings.

11. List all approvals or certifications required by other federal, interstate, state, or local agencies for any structures, construction, discharges, deposits, or other activities described in this application. If this form is being used for concurrent application to the Corps of Engineers, Illinois Department of Natural Resources, and Illinois Environmental Protection Agency, these agencies need not be listed.

Issuing Agency	Type of Approval	Identification No.	Date of Application	Date of Approval

12. Has any agency denied approval for the activity described herein or for any activity directly related to the activity described herein? Yes ☐ No ☑ (If "Yes", explain in item 6.)

13. Application is hereby made for authorizations of the activities described herein. I certify that I am familiar with information contained in the application, and that to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities.

Signature of Applicant or Authorized Agent

Mr. Les Sterman

Typed or Printed Name of Applicant or Authorized Agent

NCR FORM 426
08 AUG 02 ☐ CORPS OF ENGINEERS COPY ☐ IDNR/OWR COPY ☐ IEPA COPY ☐ APPLICANT'S COPY

PROJECT DESCRIPTION

LOCATION:

VICINITY MAP

LIST OF ADJACENT PROPERTY OWNERS

NO.	NAME	ADDRESS
1.	See Attachment 2	
2.		
3.		
4.		

PROJECT DESCRIPTION
See Attachment 3

LOCATION:
See Attachment 3

Conceptual Wetland and Stream Mitigation Plan for the Southwestern Illinois Levee Project

Prepared for:
Southwestern Illinois Flood Prevention District Council

Submitted to:
U.S. Army Corps of Engineers, St. Louis District

Prepared by:
AMEC Environment & Infrastructure
3199 Riverport Tech Center Drive
Maryland Heights, Missouri

AMEC Project No. 3250115518

December 9, 2011

Stephen R. Carty / for 12/9/2011

Stephen P. Stumne, M.S. **Date**
Principal Wetland Scientist
with permission

12.9.11

William J. Elzinga, M.S. **Date**
Senior Principal Scientist

IMPORTANT NOTICE

This report was prepared exclusively for the Southwestern Illinois Flood Prevention District Council by AMEC E&I, Inc. (AMEC). The quality of information, conclusions and estimates contained herein is consistent with the level of effort involved in AMEC's services and based on: i) information available at the time of preparation, ii) data supplied by outside sources and iii) the assumptions, conditions and qualifications set forth in this report. This report is intended to be used by only, subject to the terms and conditions of its contract with AMEC. Any other use of, or reliance on, this report by any third party is at that party's sole risk.

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ABBREVIATIONS AND ACRONYMS

CFR	Code of Federal Regulations
COR	Chain of Rocks
CWA	Clean Water Act
FEMA	Federal Emergency Management Agency
FL	Fish Lake Drainage and Levee District
FPD	Flood Prevention District
MESD	Metro-East Sanitary District
OHWM	ordinary high water mark
OW	open water
PDP	Prairie du Pont Drainage and Levee District
PEM	palustrine emergent wetlands
PEM-f	farmed wetlands
PFO	palustrine forested wetlands
SFHA	Special Flood Hazard Area
SIFPDC	Southwestern Illinois Flood Prevention District Council
USACE	U.S. Army Corps of Engineers
WR	Wood River Drainage and Levee District

1.0 INTRODUCTION

This Conceptual Wetland and Stream Mitigation Plan has been developed to initiate mitigation planning and support Clean Water Act (CWA) Section 404 permitting in association with the Southwestern Illinois Levee Project improvements. This conceptual plan is intended to be a precursor to the development of the final wetland mitigation plan required by the U.S. Army Corps of Engineers (USACE) under authority of 33 Code of Federal Regulations (CFR) 320.4(r) and 33 CFR 332. Specifically, the purpose of this conceptual mitigation plan is to:

- Provide support required for Section 404 permitting.
- Provide an internal tool guiding the approach and strategy for wetlands mitigation.
- Provide a framework for subsequent detailed mitigation planning.

The final wetlands mitigation plan will build upon this conceptual plan and will include details not provided herein. For USACE approval, the final wetlands mitigation plan will identify the specific wetland mitigation site, specific mitigation methods, specific objectives and performance standards, specific monitoring and reporting methods, maintenance and adaptive management plans, and the means to protect the site in perpetuity. Guidance for the content of the final mitigation plan is provided in 33 CFR 332.4(c) and includes the following key elements:

1. Objectives – A description of the resource type(s) and amount(s) that will be provided, the method of compensation (i.e. restoration, establishment, enhancement, and/or preservation), and the manner in which the resource functions of the compensatory mitigation project will address the needs of the watershed, ecoregion, physiographic province, or other geographic region of interest.

2. Site Selection – A description of the factors considered during the site selection process. This should include consideration of watershed needs, on-site alternatives where applicable, and the practicability of accomplishing ecologically self-sustaining aquatic resource restoration, establishment, enhancement, and/or preservation at the compensatory mitigation project site. Site selection requirements are provided in 33 CFR 332.3(d).

3. Site Protection Instrument – A description of the legal arrangements and instrument, including site ownership, that will be used to ensure the long-term protection of the compensatory mitigation project site. Site protection requirements are provided in 33 CFR 332.7(a).

4. Baseline Information – A description of the ecological characteristics of the proposed compensatory mitigation project site and, in the case of an application for a USACE Permit, the impact site. This may include
    - descriptions of historic and existing plant communities,
    - historic and existing hydrology,
    - soil conditions,
    - a map showing the locations of the impact and mitigation site(s) or the geographic coordinates for those sites, and
    - other site characteristics appropriate to the type of resource proposed as compensation.

    The baseline information should also include a delineation of waters of the United States on the proposed compensatory mitigation project site.

5. Determination of Credits – A description of the number of credits to be provided, including a brief explanation of the rationale for this determination. For permittee-responsible mitigation, this should include an explanation of how the compensatory mitigation project will provide the required compensation for unavoidable impacts to aquatic resources resulting from the permitted activity. Guidelines for the determination of credits are provided in 33 CFR 332.3(f).

6. Mitigation Work Plan – Detailed written specifications and work descriptions for the compensatory mitigation project, including, but not limited to
    - the geographic boundaries of the project;
    - construction methods, timing, and sequence;
    - source(s) of water, including connections to existing waters and uplands;
    - methods for establishing the desired plant community;
    - plans to control invasive plant species;
    - the proposed grading plan, including elevations and slopes of the substrate;
    - soil management; and
    - erosion control measures.

    For stream compensatory mitigation projects, the mitigation work plan may also include other relevant information, such as planform geometry, channel form (e.g., typical channel cross-sections), watershed size, design discharge, and riparian area plantings.

7. Maintenance Plan – A description and schedule of maintenance requirements to ensure the continued viability of the resource once initial construction is completed.

8. Performance Standards – Ecologically based standards that will be used to determine whether the compensatory mitigation project is achieving its objectives. Performance standard guidelines are provided in 33 CFR 332.5.

9. Monitoring Requirements – A description of parameters to be monitored in order to determine if the compensatory mitigation project is on track to meet performance standards and if adaptive management is needed. A schedule for monitoring and reporting on monitoring results to the USACE District Engineer must be included. Monitoring guidelines are provided in 33 CFR 332.6.

10. Long-Term Management Plan – A description of how the compensatory mitigation project will be managed after performance standards are achieved to ensure the long-term sustainability of the resource, including long-term financing mechanisms and the party responsible for long-term management. Long-term management guidelines are provided in 33 CFR 332.7(d).

11. Adaptive Management Plan – A management strategy to address unforeseen changes in site conditions or other components of the compensatory mitigation project, including the party or parties responsible for implementing adaptive management measures. This plan will guide decisions for revising compensatory mitigation plans and implementing measures to address both foreseeable and unforeseen circumstances that adversely affect compensatory mitigation success. Adaptive management guidelines are provided in 33 CFR 332.7(c).

12. Financial Assurances – A description of financial assurances that will be provided and how they are sufficient to ensure a high level of confidence that the compensatory mitigation project will be successfully completed, in accordance with its performance standards. Financial assurances guidelines are provided in 33 CFR 332.3(n).

This Conceptual Wetland and Stream Mitigation Plan is intended to support the permitting of levee improvements and thus provides an overview of impacts and mitigation proposed, identifies candidate mitigation sites, and identifies general aspects of the proposed activities intended to compensate for unavoidable adverse impacts. Certain aspects of the final plan will be developed subsequent to final mitigation site selection that include the identification of objectives, performance standards, detailed site investigations, grading plan details, site-specific erosion control measures, vegetation plan details, and other measures.

1.1 Project Description and Location

The Southwestern Illinois Flood Prevention District Council (SIFPDC) was formed in July 2009 by Madison, Monroe and St. Clair counties in direct response to the Federal Emergency Management Agency's (FEMA) announcement of its intention to de-accredit the 74-mile levee system protecting the St. Louis Metro East region. FEMA's decision would effectively designate substantial portions of the American Bottoms area of Southwestern Illinois as a Special Flood Hazard Area (SFHA) on new flood insurance rate maps, with devastating economic impact on the region. Recognizing the urgency of this situation, regional leaders successfully sought authorization from the Illinois General Assembly to impose a ¼ percent sales tax to pay for any necessary improvements to the levee system and created independent Flood Prevention Districts (FPDs) within each county with the authority to collect the tax.

The SIFPDC was formed by the three county FPDs as a joint venture to oversee the improvement of the Metro East levee systems so they can continue to protect the lives, property and the economic vitality of the St. Louis Metro East region.

The levee systems protecting the American Bottoms include five levee entities or levee districts that are combined into the following three units:

- Wood River Drainage and Levee District (WR)
- Metro-East Sanitary District (MESD) and Chain of Rocks (COR)
- Prairie du Pont Drainage and Levee District (PDP) and Fish Lake Drainage and Levee District (FL).

WR is made up of three standalone levees: Upper Wood River, East-West Fork of Wood River, and Lower Wood River. These three levees maintain protection independently from each other, and surrounding levees. The MESD and COR function as a single levee. The combined MESD/COR system is not dependent upon WR nor PDP/FL to maintain its protection. The PDP and FL levees are dependent upon each other and function as one continuous levee system. Figure 1-1 presents an overview of the levee system.

The SIFPDC proposes to implement improvements along all three levee systems in Madison, St. Clair, and Monroe counties in Illinois. The purpose of the improvements is to restore the level of protection such that the levee systems will be eligible for accreditation in accordance with 44 CFR 65.10 criteria.

The SIFPDC proposes to perform levee improvements on all three systems, but since they function independently of each other and have independent utility, three separate applications are being submitted for CWA Section 404/401 authorization. Thus, it is

anticipated that one permit will be issued for each of the three independent levee systems. Mitigation, however, may be implemented at a single site or at multiple locations within the American Bottoms. The purpose of this Plan is to provide for mitigation as may be required for each and all of the three levee systems.

1.2 Impact Avoidance and Minimization

As is required by the guidelines for Section 404(b)(1) of the CWA, activities proposed within "waters of the United States" that are not water dependent are required to demonstrate that they have considered all appropriate reasonable and prudent measures to avoid and minimize impacts to waters. Furthermore, compensatory mitigation should be considered only after avoidance and minimization measures have been fully evaluated and applied to the extent practicable.

Because of the floodplain position of the levee systems and the proximity of wetlands and streams that in some locations directly abut the levee, complete avoidance of all impacts to waters of the United States is not feasible. Measures have been taken, however, to avoid and minimize impacts to wetlands and streams to the extent practicable. Specifically, as detailed in the supporting documents of the permit applications for each levee, these measures include the following considerations:

- **Maximization of the Use of Relief Wells.** Relief wells have a very limited footprint or area of impact and have been selected as the preferred design tool in all cases where they provide an adequate solution to the site specific problem.
- **Construction Staging**. Access roads and lay-down areas will be sited to strategically avoid and/or minimize impacts to wetlands and streams.
- **Borrow Areas.** To avoid/minimize potential secondary impacts to waters of the United States, an effort will be made to site all borrow areas in non-wetland areas. All potential additional work areas that may be required during construction will be surveyed for wetlands to ensure wetlands are avoided.

2.0 SUMMARY OF UNAVOIDABLE WETLAND IMPACTS

2.1 Wetland Impacts

A total of 26.00 acres of jurisdictional wetlands will be impacted by the proposed levee improvements. These impacts, occurring within the Mississippi River floodplain, include 11.60 acres of farmed wetlands (PEM-f), 5.72 acres of palustrine emergent wetlands (PEM), 6.78 acres of palustrine forested wetlands (PFO), and 1.90 acres of open water (OW). A summary of wetland impacts is provided in Table 2-1. Wetlands that will be affected by construction of the proposed project are generally low-quality wetland systems due in part to disturbance caused by mowing/maintenance and prior cultivation. The largest single category of wetland impacts occurs within farmed wetlands that are regularly cultivated. Other non-farmed emergent wetlands impacted by the proposed project are typically located within drainage features and are regularly maintained by mowing and occasional ditch clean-out activities. Forested wetlands impacted by the proposed levee project include typical floodplain forest wetland communities consisting of eastern cottonwood (*Populus deltoides*), box elder (*Acer negundo*), and silver maple (*Acer saccharinum*). Wetland communities dominated by hard mast-producing trees are generally absent. Open water systems impacted by the proposed project generally lack hydrophytic vegetation.

Table 2-1. Summary of Wetland Impacts

Levee System	PEM-f	PEM	PFO	OW	Levee Impacts
WR (ac)	0.07	4.39	3.07	1.90	9.43
MESD/COR (ac)	0.00	0.50	3.71	0.0	4.21
PDP/FL (ac)	11.53	0.83	0.00	0.0	12.36
Total Impacts (ac)	**11.60**	**5.72**	**6.78**	**1.90**	**26.00**

Additional information regarding wetland impacts and descriptions is provided in the wetland reports generated for each permit application submittal. All wetlands were delineated in accordance with the *1987 Wetland Delineation Manual* (USACE, 1987) and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (USACE, 2010).

2.2 Stream Impacts

All stream impacts associated with the proposed levee project occur within the WR levee system in Madison County. Impacts at Indian Creek include rip rap armoring on one bank to stabilize approximately 780 linear feet of this stream. In this location, Indian Creek is a perennial stream with steep eroding banks and a width at ordinary

high water mark (OHWM) of approximately 30 feet. The other stream impacts are a result of graded filter improvements that will result in the deposition of aggregate (sand and gravel) in two unnamed streams for more than 800 linear feet. Graded filter improvements will maintain existing flow contours. Unnamed stream WLS-302a is an intermittent stream with steep incised banks and a width at OHWM of approximately 15 feet. Unnamed stream WRLS-100 is a small intermittent tributary of Wood River and has steep eroding banks and a width at OHWM of approximately 5 feet. Impacts are described in more detail in the wetland delineation report for the WR levee system.

Table 2-2. Summary of Stream Impacts

Stream Name	Flow Type	Width at OHWM (ft)	Length of Impact (ft)	Area of Impact (ac)
Indian Creek	Perennial	30	780	0.54
Unnamed (WLS-302a)	Intermittent	15	35	0.01
Unnamed (WRLS100)	Intermittent	5	782	0.09
Total Impacts			**1,597**	**0.64**

3.0 PROPOSED MITIGATION

3.1 Mitigation Commitments

The section provides a discussion of the mitigation commitments for both wetland and stream impacts associated with the project. Regulations governing wetland mitigation are provided in 33 CFR 332, Compensatory Mitigation for Losses of Aquatic Resources. Appropriate mitigation ratios are applied to account for the method of compensatory mitigation (e.g., preservation, restoration, creation), the likelihood of success, differences between the functions lost at the impact site and the functions expected to be produced by the compensatory mitigation project, temporal losses of aquatic resource functions, the difficulty of restoring or establishing the desired aquatic resource type and functions, and/or the distance between the affected aquatic resource and the compensation site.

3.1.1 Wetlands

The wetland mitigation ratios used for this project are consistent with ratios used for similar mitigation projects in southern Illinois. A 1:1 ratio is proposed for open water because these areas generally lack hydrophytic vegetation and are considered to be fairly low in quality, thus their functions can be replaced quickly. Relatively higher mitigation ratios are proposed for emergent and forested wetlands because they typically have higher functional values. The replacement ratios are greatest for forested wetlands due to the relatively longer time needed to develop mature forested wetland systems. The SIFPDC is proposing to create 47.69 acres of wetlands through permittee-responsible compensatory mitigation as outlined in Table 3-1.

Table 3-1. Summary of Wetland Mitigation Commitments

Wetland Type	Wetland Impact (ac)	Mitigation Ratio	Mitigation Commitment (ac)
PEM-f	11.60	1.5:1	17.40
PEM	5.72	2.0:1	11.44
PFO	6.78	2.5:1	16.95
OW	1.90	1:1	1.90
Total	**26.00**		**47.69**

3.1.2 Streams

Stream mitigation commitments are based on the *Illinois Stream Mitigation Guidance* (Version 1.0), a stream mitigation methodology for processing Section 404 CWA permit applications in the State of Illinois. In accordance with the guidance, adverse impact factors such as stream type (ephemeral, intermittent, or perennial), priority or importance of the impacted stream, existing condition or health of the impacted stream, duration of impact, activity type proposed, and length of stream impact are evaluated to determine the amount of stream mitigation credits required. Based on this methodology, 2,869 stream mitigation credits are required to mitigate for the stream impacts identified in Section 2.2. The worksheet identifying stream mitigation credits based on the *Illinois Stream Mitigation Guidance* is provided in Appendix A.

3.2 Mitigation Banking

Wetland mitigation banks offer mitigation credits for sale which may be used to compensate for wetland losses. Although a few wetland mitigation banks are currently being developed within the American Bottoms, no existing wetland mitigation banks are available with service areas that cover the impacts associated with the Southwestern Illinois Levee Project. Furthermore, the banks in development will not be authorized to release credits in time to be of service for this project. As such, the purchase of credits from a commercial mitigation bank is not proposed for this project.

3.3 Mitigation Site Selection

After all reasonable measures have been explored to avoid and minimize impacts to wetlands; compensatory mitigation may be achieved through wetland restoration and/or creation measures. Factors typically considered when selecting a site for wetland mitigation include existing land use (historic and current), hydrologic potential, proximity to other wetland sites, site topography, connectivity to adjacent natural habitats, site accessibility, and the presence of or potential to develop hydric soils. Based on these general considerations, the American Bottoms was examined to identify potential sites suitable for wetland mitigation. Six candidate mitigation sites are identified and are discussed below. A summary of candidate mitigation sites is listed in Table 3-2 and Table 3-3 presents a matrix of site selection suitability factors that will be used when detailed site characteristic information is available to make future decisions regarding site selection.

Regarding the public review and comment period, 33 CFR 332.4(b) states that the public notice “shall not include information that the district engineer and the permittee believe should be kept confidential for business purposes, such as the exact location of a proposed mitigation site that has not yet been secured”. It is hereby noted that the

SIFPDC is considering other candidate mitigation sites that cannot be specifically disclosed at this time due to confidentiality reasons.

Table 3-2. Summary of Candidate Mitigation Sites

Candidate Site	Key Mitigation Concepts	Issues
Judy's/Burdick Branch	Excavation to achieve overbank hydrology; stream restoration	Multiple parcels with different owners
Elm Slough	Plug agricultural drainages to restore hydrology and create wetlands; stream restoration	Two property owners
Brushy Lake	Excavation to achieve overbank hydrology; stream restoration	Previously initiated restoration under the EEP program
South McDonough Lake	Sufficient excavation required to utilize groundwater for hydrology source	Only 70± ac available for mitigation due to existing forested areas
Fountain Creek	Conversion of planned mitigation bank into individual permittee-responsible site	Potential for stream credits good; insufficient wetland credits
American Bottoms	Conversion of planned mitigation bank into individual permittee-responsible site	Located directly on Mississippi River

Table 3-3. Candidate Wetland Mitigation Site Suitability Matrix

Selection Criteria	Definition/Clarification
Land Use/Land Cover	
Land Use and Availability	Site should consist of undeveloped land uses and ideally support impacted natural communities (i.e. fallow field, cultivated field, pasture, scrub-shrub communities, etc.). Developed natural communities (forest land, wetlands, etc.) are less desirable as these areas provide reduced mitigation credits.
Plant Community	Provide a description of the existing vegetative community at the candidate site.
Ecological Community Contiguity	Contiguity with adjacent ecological communities is beneficial for natural recruitment of plant species and faunal migration and movement. Availability of adjacent/contiguous lands that can be used to buffer created/restored wetland. Linkage to adjacent aquatic ecosystems that may offer functional value with regard to aquatic ecosystem support (food chain, fish spawning and nursery habitat, etc.). Linkage to ecosystems that have the potential to support species of concern and other wetland and terrestrial wildlife is preferred.
Presence of Invasive/Noxious Species	Site should not support invasive/noxious species that will compete with proposed wetland community to be established or present a management concern. Alternatively, site may support noxious species which may be the subject of restoration objectives (eliminating invasive species and planting natives).
Topography/Soils/Geology	
Topography and Geology	Site should consist generally of level terrain (within area proposed for establishment as wetlands) and provide necessary wetland hydrology.
Soil Characteristics	Soils should typically be of fine grained materials with low permeabilities ranging between 10^{-5} to 10^{-7}. Higher perm factors may only be considered with appropriate soil amendments and engineering design to reduce permeability.
Hydrology	
Surface Water	If primary hydrology source is surface water runoff, site must be supported by overbank flooding, precipitation, and/or runoff from the immediate watershed.
Groundwater	Groundwater hydrology (if intended driver of wetland hydrology) should be demonstrated to affect the proposed base elevation of the constructed wetland. Note, in some locations, caution should be taken to consider potential "upheaval" and "liner" rupture/swelling from rapid groundwater elevation increases.
Engineering	
Management/ Maintenance	Consider potential challenges with respect to management/maintenance (e.g., debris, fouling of site, deer browsing, beaver damage, etc.).
Access	Proximity to roads for equipment transport
Maintenance	
Engineering Feasibility/Cost	Consideration should be given to difficulty of engineering design (grading, water control, etc.) and overall cost for construction.
Ownership	
Land Ownership	Lands currently held in title by project proponent are most desirable. Secondarily, lands held by public ownership interested in ecosystem restoration.

3.3.1 Judy's/Burdick Branch

This candidate site is located in Madison County southeast of the junction of I-255 and Route 162, at the confluence of Judy's Branch, Burdick Branch, and Cahokia Canal (Figure 3-1). This site was previously identified as a potential ecosystem restoration site in accordance with the USACE St. Louis District's East St. Louis and Vicinity Interior Flood Control and Ecosystem Restoration Project (USACE, 2011), but the projects were never implemented due to a lack of funds. As such, siting mitigation at Judy's/Burdick Branch could potentially satisfy mitigation commitments for the levee project and provide needed flood control in the American Bottoms as previously identified by the USACE. Much of this candidate site lies at the southern end of historic Rattan's Prairie, a 15,000-acre wet prairie once located in the northeast part of the American Bottoms.

The site is currently in agriculture and Judy's Branch, Burdick Branch, and Cahokia Canal are all deeply incised, channelized streams with steep eroding banks. The soils are generally silts and clays with a large portion of the candidate site west of Cahokia Canal mapped as Darwin Silty Clay, 0 to 2 percent Slopes, a mapped hydric soil. Potential exists to create emergent wetlands, forested wetlands, wet prairie buffers, and to restore stream channels. Key mitigation concepts may include:

- Proposed restoration activities would incorporate the preliminary restoration candidate site developed by the USACE (East St. Louis and Vicinity Interior Flood Control and Ecosystem Restoration Project), as appropriate.
- Modification of the existing levees to direct pulsing floodwaters into the mitigation site and to protect adjacent properties from flood events delivered by Judy's and Burdick Branches combined.
- Stream mitigation that may include a new meandering channel and/or riparian corridor plantings.
- Excavation to create at least 1.90 acres of open water features that can be used to trap sediment coming into the site from the upland drainage systems.
- Excavation to create 28.88 acres of emergent wetland – deep and/or shallow marsh communities.
- Excavation to create 16.95 acres of forested wetlands.
- Creation of wet prairie buffer communities – this buffer area may provide suitable habitat for the threatened decurrent false aster (*Boltonia decurrens*).
- Excavated clay may be suitable for levee improvements.

Judy's/Burdick Branch is large enough to provide all the mitigation credits needed for the levee project. This candidate site would require the acquisition of private property prior to implementation of mitigation.

3.3.2 Elm Slough

This candidate site is located northeast of Horseshoe Lake in Madison County east of Route 111, south of Route 162, and west of I-255 (see Figure 3-1). The Elm Slough candidate site is located within an old meander scar of the Mississippi River and forest was the predominant pre-settlement vegetative community. This site was previously identified as a potential ecosystem restoration site in accordance with the USACE East St. Louis and Vicinity Interior Flood Control and Ecosystem Restoration Project (USACE, 2011) but the projects were never implemented due to a lack of funds. As such, siting mitigation at Elm Slough could potentially satisfy mitigation commitments for the levee project and provide needed flood control in the American Bottoms as previously identified by the USACE.

The site is primarily in agriculture. Groundwater is shallow and the soils are generally clays and silts with a large portion of the candidate site mapped as Darwin Silty Clay, 0 to 2 percent Slopes, a mapped hydric soil. Most of the cultivated fields have a series of ditches that convey water westward toward Horseshoe Lake. Potential exists to create emergent wetlands, forested wetlands, wet prairie buffers, and create/restore stream systems. Key mitigation concepts may include:

- Proposed restoration activities would incorporate the preliminary restoration candidate site developed by the USACE (East St. Louis and Vicinity Interior Flood Control and Ecosystem Restoration Project), as appropriate.
- Excavation, as necessary, to provide groundwater hydrology to the mitigation site. Excavation could be minimized due to shallow groundwater levels.
- Stream mitigation that may consolidate several drainage features into a single meandering channel with riparian corridor plantings.
- Excavation to create at least 1.90 acres of open water features.
- Excavation to create 28.88 acres of emergent wetland – deep and/or shallow marsh communities. The need for excavation here may be minimized due to the apparent shallow groundwater and may be augmented by plugging on-site agricultural drainage ditches.
- Creation of 16.95 acres of forested wetlands.
- Creation of wet prairie buffer communities – this buffer area may provide suitable habitat for the threatened decurrent false aster (*Boltonia decurrens*).
- Excavated clay may be suitable for levee improvements.

Elm Slough is large enough to provide all the mitigation credits needed for the levee project. This candidate site would require the acquisition of private property prior to implementation of mitigation.

3.3.3 Brushy Lake

The Brushy Lake candidate site is located immediately south of Horseshoe Lake Road in Madison County at the confluence of Schoolhouse Branch and Cahokia Canal and is bounded by Cahokia Canal on the west and I-255 on the east (see Figure 3-1). Cahokia Creek flowed through this area in pre-settlement times when forest was the predominant vegetative cover type. This site was previously identified as a potential ecosystem restoration site in accordance with the USACE St. Louis District's East St. Louis and Vicinity Interior Flood Control and Ecosystem Restoration Project (USACE, 2011) but the projects were never implemented due to a lack of funds. As such, siting mitigation at Brushy Lake could potentially satisfy mitigation commitments for the levee project and provide needed flood control in the American Bottoms as previously identified by the USACE.

The site is currently in agriculture and Schoolhouse Branch and Cahokia Canal are both deeply incised, channelized streams with steep eroding banks. Soils are generally silt loams and the site lacks mapped hydric soils. Potential exists to create emergent and forested wetlands and restore stream channels in concert with ongoing adjacent restoration and preservation activities. Key mitigation concepts include:

- Proposed restoration activities would incorporate the preliminary restoration candidate site developed by the USACE (East St. Louis and Vicinity Interior Flood Control and Ecosystem Restoration Project), as appropriate.
- Modification of the existing levees to direct pulsing floodwaters into the mitigation site and to protect adjacent properties from flood events delivered by Schoolhouse Creek and Cahokia Canal, as needed.
- Stream mitigation to include a new meandering channel and/or riparian corridor plantings.
- Extensive excavation to create at least 1.90 acres of open water features that can be used to trap sediment coming into the site from Schoolhouse Branch and/or Cahokia Canal.
- Extensive excavation to create 28.88 acres of emergent wetland – deep and/or shallow marsh communities.
- Excavation to create 16.95 acres of forested wetlands.
- Creation of wet prairie buffer communities – this buffer area may provide suitable habitat for the threatened decurrent false aster (*Boltonia decurrens*).

Brushy Lake is large enough to provide all the mitigation credits needed for the levee project. This candidate site would require the acquisition of private property prior to implementation of mitigation.

3.3.4 South McDonough Lake

The South McDonough Lake site is located immediately south of McDonough Lake in Madison County between I-255 and Illinois Route 157 (see Figure 3-1). Much of this candidate site is located within an old meander scar of the Mississippi River. Although this site was not included in the East St. Louis and Vicinity Interior Flood Control and Ecosystem Restoration Project, siting mitigation at South McDonough Lake could still potentially satisfy most of the mitigation commitments for the levee project and provide needed flood control in the American Bottoms as previously identified by the USACE.

The site is currently in agriculture and surface water conveyance systems are lacking. A large portion of this site is mapped as Darwin Silty Clay, 0 to 2 percent Slopes, a mapped hydric soil. Potential exists to create emergent wetlands, forested wetlands, and wet prairie buffers. Key mitigation concepts may include:

- Excavation to provide groundwater hydrology to the mitigation site.
- Extensive excavation to create at least 1.90 acres of open water features.
- Extensive excavation to create 28.88 acres of emergent wetland – deep and/or shallow marsh communities.
- Excavation to create 16.95 acres of forested wetlands.
- Creation of wet prairie buffer communities – this buffer area may provide suitable habitat for the threatened decurrent false aster (*Boltonia decurrens*).
- Excavated clay may be suitable for levee improvements.

South McDonough Lake is large enough to provide all the wetland mitigation credits needed for the levee project but is not a suitable site for generation of stream mitigation credits. This candidate site would require the acquisition of private property prior to implementation of mitigation.

3.3.5 Fountain Creek

The Fountain Creek candidate mitigation site is located in the American Bottoms near Bluff Road and HH Road in unincorporated Monroe County (Figure 3-2). This site is currently being developed as a mitigation bank in accordance with the Banking Instrument for the Fountain Creek Mitigation Bank. This bank will not have credits released in time to be purchased for the levee improvement project. As such, this site would be converted from a mitigation bank to a permittee-responsible mitigation site. This site is capable of generating 32 emergent wetland credits and can generate more than enough stream credits for the levee project. The required amount of forested wetland credits, however, could not be generated at Fountain Creek.

The site is currently cultivated and ditched to provide drainage for agricultural production. The soils consist of silts and clays and hydric soils are known to exist on portions of the site. Potential exists for emergent wetland creation and stream restoration. Proposed mitigation activities would follow the Banking Instrument for the Fountain Creek Mitigation Bank.

3.3.6 American Bottoms

The American Bottoms candidate mitigation site is located in unincorporated Monroe County on the left descending bank of the Mississippi River just above the Osborne Side Channel (see Figure 3-2). This site is currently being developed as the American Bottoms Mitigation Bank, but the bank will not have credits released in time to be purchased for the levee improvement project. As such, this site would be converted from a mitigation bank to a permittee-responsible mitigation site. This site is capable of generating all of the wetland credits needed for the levee project. Stream credits, however, cannot be generated at this site.

The site consists of prior converted wetland on the unprotected side of the levee. Because the site is located on the Mississippi River, it is subject to seasonal flooding cycles and associated scour and deposition that could create challenges for post-construction maintenance and monitoring. Potential exists for the creation of emergent and forested wetland systems as well as open water features. Proposed mitigation activities would follow the Banking Instrument for the American Bottoms Mitigation Bank.

4.0 CONCEPTUAL MITIGATION PLAN

This conceptual plan will require further data collection and refinement (e.g., finished base elevations, channel morphology, etc.) subsequent to detailed pre-design site investigations. Final site selection and design (specifications and plans) of the mitigation site will be developed at a later stage and will be coordinated with the USACE St. Louis District. Because of the need for additional planning and design activities following permit issuance (including site selection and acquisition), it is anticipated that the start of mitigation construction will be within 180 days of permit issuance or concurrent with the start of levee construction activities that impact waters of the United States (whichever is longer). Additionally, it is anticipated that mitigation construction may continue for the duration of the levee improvement schedule in order to support appropriate phasing of the overall project (e.g., timing associated with impacts to waters of the United States, need for borrow to support levee construction, etc.).

4.1 Pre-Design Investigation

Existing information and data collected during the pre-design investigation will be utilized to assist in the development of the design specifications for the selected site, which will be presented in the final mitigation plan. It is anticipated that site selection will be finalized prior to initiating subsequent pre-design tasks. Pre-design investigation may include:

- Task 1-Site Survey – Although U.S. Geological Survey topographic mapping is available for the candidate sites, additional detailed topographic survey (1-foot contours) will be required for the selected site to more accurately develop a grading plan and determine the local watershed and hydrology for mitigation design.

- Task 2-Hydrologic Investigation – A critical factor controlling wetland character and, consequently, the success or failure of a wetland mitigation project is hydrology. An improper hydroperiod (i.e., the length of time a site is saturated or inundated) may result in the formation of either a non-wetland or a wetland of a different type. The objective of this investigation will be to collect and analyze the necessary data (stream stage data, groundwater, etc.) that can be used to develop the construction plans and specifications that will result in the desired hydroperiod. Depending on the site selected, existing hydrologic studies may be available for use in project planning (i.e., East St. Louis and Vicinity Interior Flood Control and Ecosystem Restoration Project sites). Shallow piezometers may need to be installed and monitored for a short period during pre-design and may also be evaluated during the post-construction monitoring phase of the project. Hydrologic

information will be compared to survey data at the selected site to evaluate the potential connection of the site with an adjacent stream if surface water is to be the primary driver. If groundwater is to be the primary hydrology source then groundwater elevations will be compared to site topography to evaluate earthwork needs.

- Task 3 – Soils and Geotechnical Analysis – A limited number of shallow soil borings (typically less than 10 feet) may be taken concurrent with piezometer installation (Task 2). Results of these borings will provide information on the texture and water holding capacity of the soils at the desired depth of the proposed wetland. Additional soil sampling and geotechnical analyses may be performed, as deemed necessary, to evaluate soil engineering factors needed for design as well as risk factors (i.e., potential contamination) that could potentially be present at the site.

- Task 4 – Natural Heritage Review – Consultation with the Illinois Department of Natural Resources and/or U.S. Fish and Wildlife Service may be necessary to identify listed threatened or endangered species at the proposed mitigation site.

- Task 5 – Cultural Resources Review – Consultation with the State Historic Preservation Office may be necessary to identify any culturally significant resources at the proposed mitigation site.

4.2 Wetland Mitigation Concepts

Several options exist for compensatory wetland mitigation. Once mitigation site selection has been finalized, wetland mitigation will be achieved through a series of methods as outlined below. Methods will be tailored to the selected site. Thus, any of the methods listed below may be appropriate, but will depend ultimately on site selection and the needs of that site.

Control of Invasive Plant Species

Common reed (*Phragmites australis*) and reed canary grass (*Phalaris arundinacea*) are common invaders of disturbed areas such as roadside ditches and disturbed floodplain and riparian corridors. If invasive species are present at the selected mitigation site, then control methods including appropriate seasonal herbicide application may become an important element in the final mitigation plan. Control of invasive species allows for the establishment of desirable native wetland vegetation.

Hydrology Restoration

Various measures may be used to provide for or restore hydrology at a given candidate wetland mitigation site to provide a proper wetland hydroperiod. For example, in some locations, alterations to existing levees along drainages may be

needed to allow flow into the selected mitigation site and to protect adjacent property from flood waters. At other locations the disruption of agricultural drain tiles or plugging of ditches may be the most effective means by which to restore hydrology. Finally, at some sites, more extensive grading may be required to connect upland areas with surface water or groundwater sources.

Planting of Desirable Native Vegetation

Seeding, installation of vegetative plugs, and the planting of potted trees and/or shrubs will be used to hasten the establishment of desired native hydrophytic vegetation. Seeding and/or installation of vegetative plugs may also be used to provide adequate erosion control in select erosion-prone locations.

Two methods of vegetation establishment may be used for creation sites: live plantings and seed application. The actual establishment method will vary depending on the species, vegetative form of the species, commercial availability of the plant, cost, and time of year when planting.

Lists of potential plant species to be considered for establishment in the emergent wetland zone, the forested wetland zone, and native buffer zones are presented in Tables 4-1, 4-2, and 4-3, respectively. These tables represent species that could be used in the creation of new wetlands, in the restoration of former wetlands, or in the enhancement of existing wetlands. These lists are not intended for use as blueprints in determining the species composition of the mitigation site. Species may be added or deleted from this list as determined by such factors as local occurrence, likelihood of voluntary colonization of the site, commercial availability, and coordination with agencies. A planting plan will be prepared during final design that will finalize and detail the species selected for planting, their form (i.e., seed, rhizome, seedling, etc.), planting methodology, seeding rates, plant spacing, and timing.

Planning elements that will be addressed in detail in the final wetland mitigation plan will include the following:

- Grading plan that will identify any excavation requirements, grading plan details, and methods to establish the necessary hydroperiod.
- Planting plan that will identify the plant species, plant material types, and the methods to be used to establish the desired native vegetative communities.
- Monitoring plan to determine that project goals and permit conditions are being met.
- Contingency plan to address corrective measures to be performed in the event that failure of the mitigation site is identified during monitoring activities.

Table 4-1. List of Potential Plant Species for the Emergent Wetland Zone

Scientific Name	Common Name	Indicator Status	C*
Alisma subcordatum	Common water plantain	OBL	5
Asclepias incarnata	Swamp milkweed	OBL	5
Bidens polylepis	Bur marigold	FACW	1
Boltonia asteroides	False aster	FACW	5
Carex frankii	Frank's sedge	OBL	5
Carex hystricina	Porcupine sedge	OBL	7
Carex shortiana	Short's sedge	FACW+	4
Carex vulpinoidea	Fox sedge	OBL	4
Iris virginica	Southern blue flag iris	OBL	6
Juncus effuses	Common rush	OBL	5
Leersia oryzoides	Rice cut grass	OBL	4
Pontederia cordata	Pickerel weed	OBL	7
Sagittaria latifolia	Arrowhead	OBL	4
Schoenoplectus fluviatilis	River bulrush	OBL	7
Schoenoplectus validus	Softstem bullrush	OBL	5
Scirpus atrovirens	Dark green rush	OBL	4
Scirpus cyperinus	Wool grass	OBL	7

Note: Number, spacing and seed application rate to be determined during final design.
** Coefficient of Conservatism (C) obtained from The Nature Conservancy (TNC), 2000.*

Table 4-2. List of Potential Plant Species for the Future Forested Wetland Zone

Scientific Name	Common Name	Indicator Status	C*
Acer saccharinum	Silver maple	FACW	1
Betula nigra	River birch	FACW	3
Carya illinoensis	Pecan	FACW	6
Cephalanthus occidentalis	Button bush	OBL	3
Cornus obliqua	Swamp dogwood	OBL	5
Forestiera acuminata	Swamp privet	OBL	6
Fraxinus pennsylvanica	Green ash	FACW	2
Platanus occidentalis	Sycamore	FACW	3
Quercus bicolor	Swamp white oak	FACW+	7
Quercus lyrata	Overcup oak	OBL	8
Quercus palustris	Pin oak	FACW	4
Salix nigra	Black willow	OBL	2
Taxodium distichum	Bald cypress	OBL	8

Note: Number, spacing and seed application rate to be determined during final design.
** Coefficient of Conservatism (C) obtained from TNC, 2000.*

Table 4-3. List of Potential Plant Species for Wet Prairie Buffer Zones

Scientific Name	Common Name	Wetland Indicator Status	C*
Andropogon gerardii	*Big bluestem*	*FAC-*	*5*
Bidens polylepis	*Bur marigold*	*FACW*	*1*
Boltonia asteroides	False aster	FACW	5
Desmanthus illinoensis	*Illinois bundle flower*	*FAC-*	*3*
Elymus canadensis	*Canada wild rye*	*FAC-*	*5*
Elymus virginicus	*Virginia wild rye*	*FACW-*	*4*
Helianthus grosseserratus	*Sawtooth sunflower*	*FACW-*	*4*
Panicum virgatum	*Switch grass*	*FAC+*	*4*
Rudbeckia laciniata	Wild golden glow	FACW+	3
Rudbeckia subtomentosa	*Sweet black-eyed Susan*	*FACW*	*5*
Silphium terebinthinaceum	*Prairie doc*	*FAC-*	*5*
Sorghastrum nutans	*Indian grass*	*FACU+*	*5*
Spartina pectinata	*Prairie cord grass*	*FACW+*	*5*
Symphyotrichum novae-angliae	*New England aster*	*FACW*	*4*
Vernonia fasciculata	*Common ironweed*	*FACW*	*6*

Note: Number, spacing and seed application rate to be determined during final design.
** Coefficient of Conservatism (C) obtained from TNC, 2000.*
May also be used to seed forested wetlands and riparian zones

4.3 Stream Mitigation Concepts

Because a specific mitigation site has not yet been selected, the following list of mitigation components should be considered as potential mitigation elements to be applied in the final stream mitigation plan. Specific mitigation components will be used to develop the necessary stream mitigation credits (potentially at more than one site) to compensate for stream impacts. Therefore, not all of the following components will necessarily be utilized in the final plan.

Channel Restoration – Many streams in the American Bottoms have undergone some channel modification (straightening) in an effort to increase conveyance to maximize development potential and floodplain agricultural use. Selected locations as described in Section 3.3 have been identified as potential stream mitigation sites where work to reestablish stream meanders may be feasible.

Riparian Zone Restoration/Creation – In order to maximize the amount of cultivated land, many farmers plant row crops as close to adjacent streams as possible, thus leaving very little, if any, riparian corridor. Partial stream mitigation credits can be developed by improving/restoring riparian zones through planting a variety of native

vegetation. These activities will effectively decrease erosion and sediment input, and increase filter functions and wildlife usage, among other functions.

Trees and shrubs that may be utilized in the restoration of a stream's riparian zone are listed in Table 4-4. Native grasses and forbs, similar to those listed in Table 4-3, may be seeded into the riparian zone after installation of the woody plant material. These lists are not intended for use as blueprints in determining the species composition of the mitigation site. Species may be added or deleted from this list as determined by such factors as local occurrence, likelihood of voluntary colonization of the site, commercial availability, and coordination with agencies.

Table 4-4. List of Potential Plant Species for Riparian Zone Restoration

Scientific Name	Common Name	Wetland Indicator Status	C*
Alnus serrulata	Smooth alder	OBL	6
Betula nigra	River birch	FACW	3
Carya illinoensis	Pecan	FACW	6
Cephalanthus occidentalis	Button bush	OBL	3
Cornus racemosa	Gray dogwood	FACW-	3
Forestiera acuminata	Swamp privet	OBL	6
Fraxinus pennsylvanica	Green ash	FACW	2
Lindera benzoin	Spice bush	FACW-	5
Quercus palustris	Pin oak	FACW	4
Salix nigra	Black willow	OBL	2

Note: Number, spacing and seed application rate to be determined during final design.
** Coefficient of Conservatism (C) obtained from TNC, 2000.*

Stream Bank Stabilization – Many of the streams at the candidate mitigation sites have been subject to bank erosion and failure. Such areas can be stabilized to provide soil conservation and improve water quality within the stream system. Appropriate native vegetation should be incorporated with bioengineering principles in final bank stabilization plans.

In-Stream Restoration – Stream channels of candidate mitigation sites are typically incised, straightened channels. Such channels may be restored by reestablishing stream bed and gradient, natural meander patterns, and pool-riffle-run sequences. Restoration of these fluvial geomorphologic features could provide additional stream habitat, wildlife functions, and flooding of adjacent wetland areas.

4.4 Monitoring and Contingency Plan

A monitoring and adaptive management plan will be developed in order to assure the proper construction and function of restored wetlands. The final mitigation plan will be developed following consultation with the USACE and other appropriate regulatory agencies. The monitoring plan would ensure that project goals and permit conditions are being met. As prescribed in the final plan, monitoring may include:

- Wetland determination
- Plant community monitoring
- Hydrologic monitoring
- Photographic monitoring from a specified location to provide a temporal record of the site's development
- Direct sightings and indirect signs (i.e., tracks, nests, etc.) of wildlife use of the area
- Inspections for erosion, sedimentation, herbivory, etc.

Monitoring would be implemented upon completion of mitigation construction and is anticipated to continue annually for 5 years following construction or until monitoring objectives are achieved. An annual report will be prepared to document the condition of the mitigation site.

In addition, vegetative cover will be mapped and quantified for each wetland plant community type on an annual basis. The entire site will also be visually inspected to identify areas of significant bare ground and monitor the potential establishment of noxious or invasive species.

An adaptive management plan will be initiated in the event of the failure of the mitigation site to meet the goals and objectives of the project. Erosion control measures may be implemented as needed. The SIFPDC understands their commitment to ensure that the mitigation site is functioning as stated in the goals and objectives of the mitigation plan.

4.5 Financial Assurance

Financial assurances will be provided during the final design phase and may include performance bonds, corporate surety bonds, letters of credit, or similar means of assurance. This financial assurance will insure that the approved wetland mitigation, monitoring and contingency plans are properly implemented and that the various wetland types meet their intended functions.

5.0 References

The Nature Conservancy (TNC). 2000. *Missouri Flora*. Printed October 2000.

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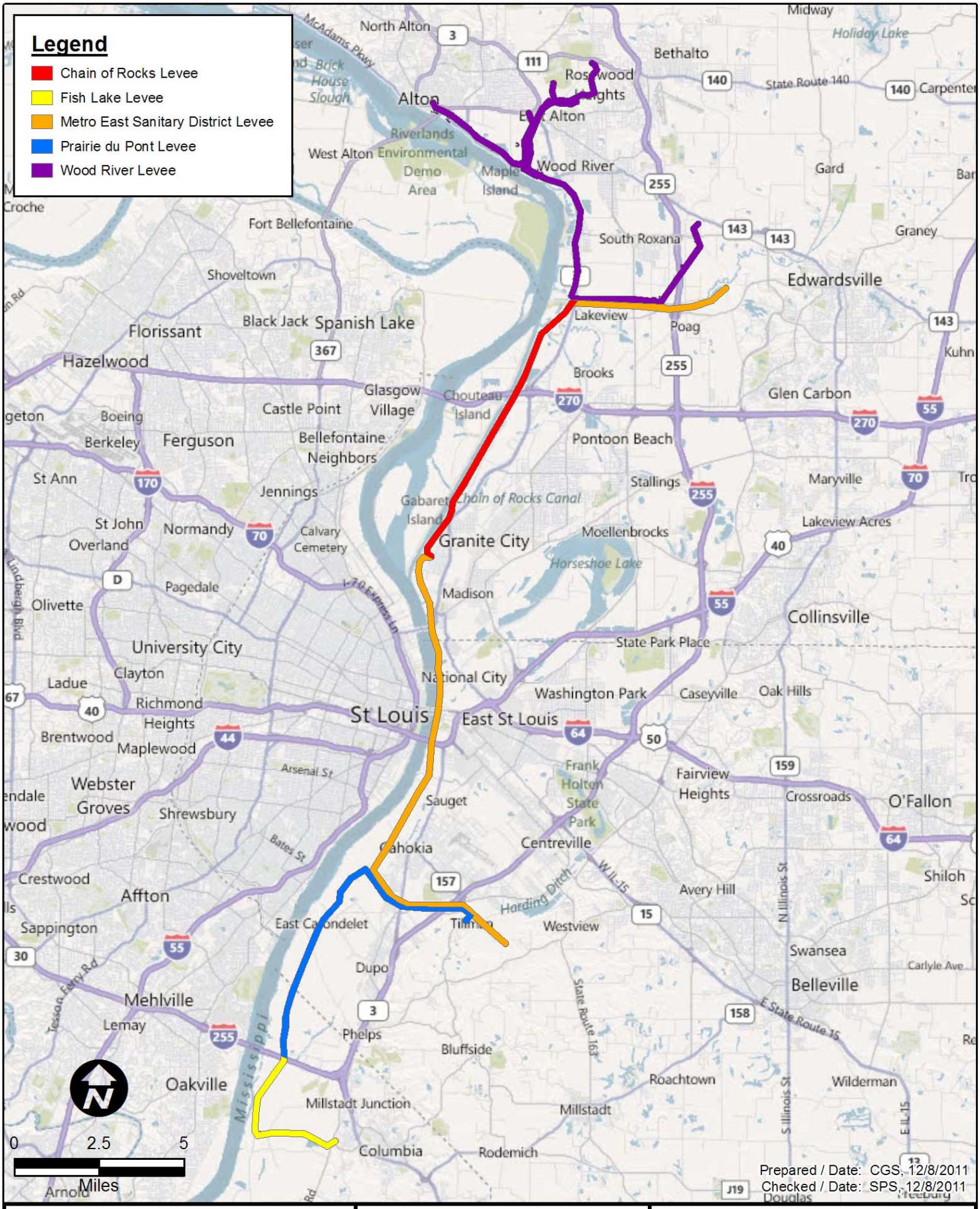
U.S. Army Corps of Engineers (USACE), 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0). August 2010.

U.S. Army Corps of Engineers (USACE) St. Louis District, 2011. *East St. Louis and Vicinity Interior Flood Control and Ecosystem Restoration Project*. Available online at http://www.mvs.usace.army.mil/pm/E_St_Louis/factsheet.htm. Accessed November 17, 2011.

Figures



SIFPDC Conceptual Mitigation Plan

amec

Figure 1-1
Levee System Overview

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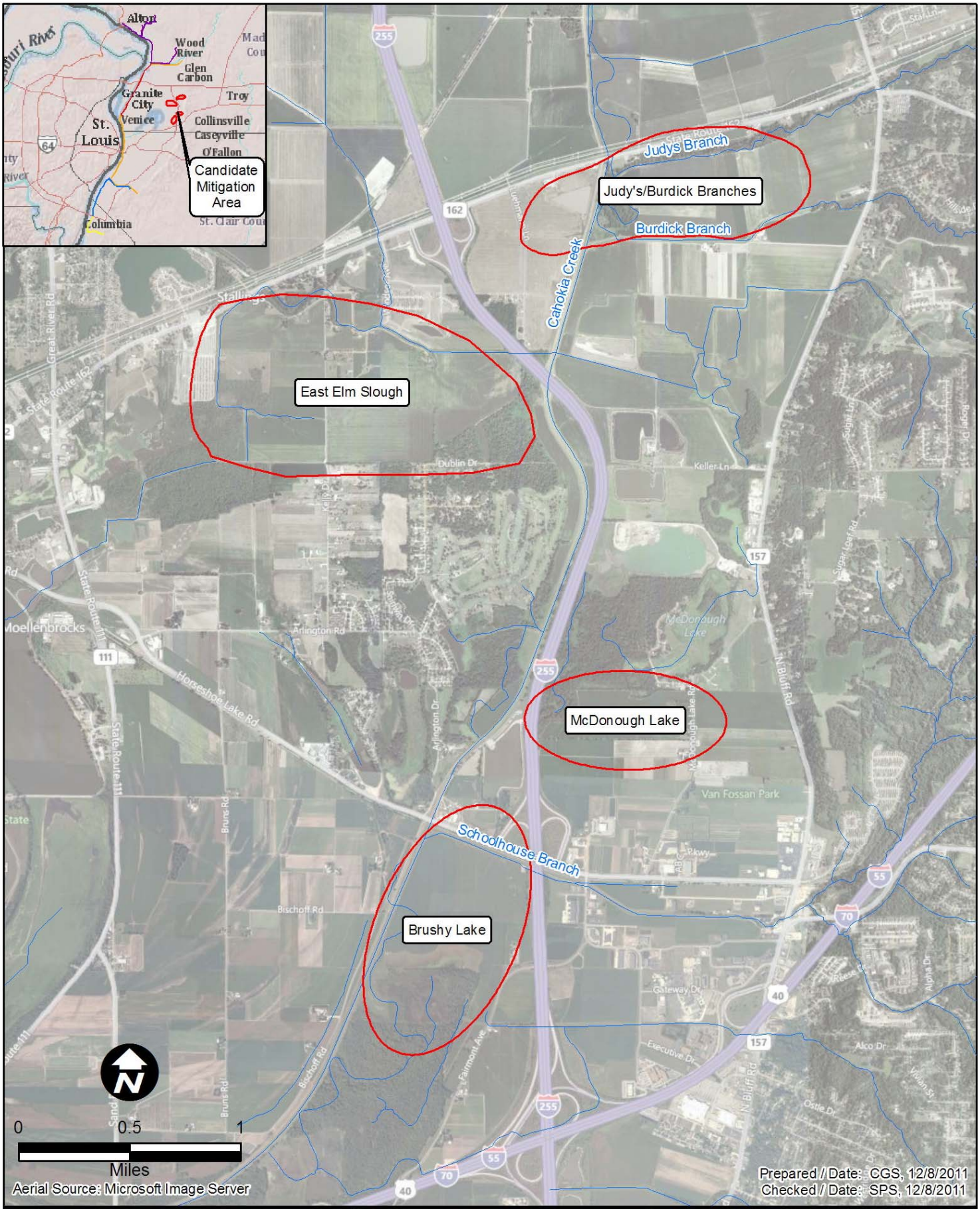

SIFPDC Conceptual Mitigation Plan

amec

Figure 3-1
Candidate Mitigation Sites in Madison County, Illinois

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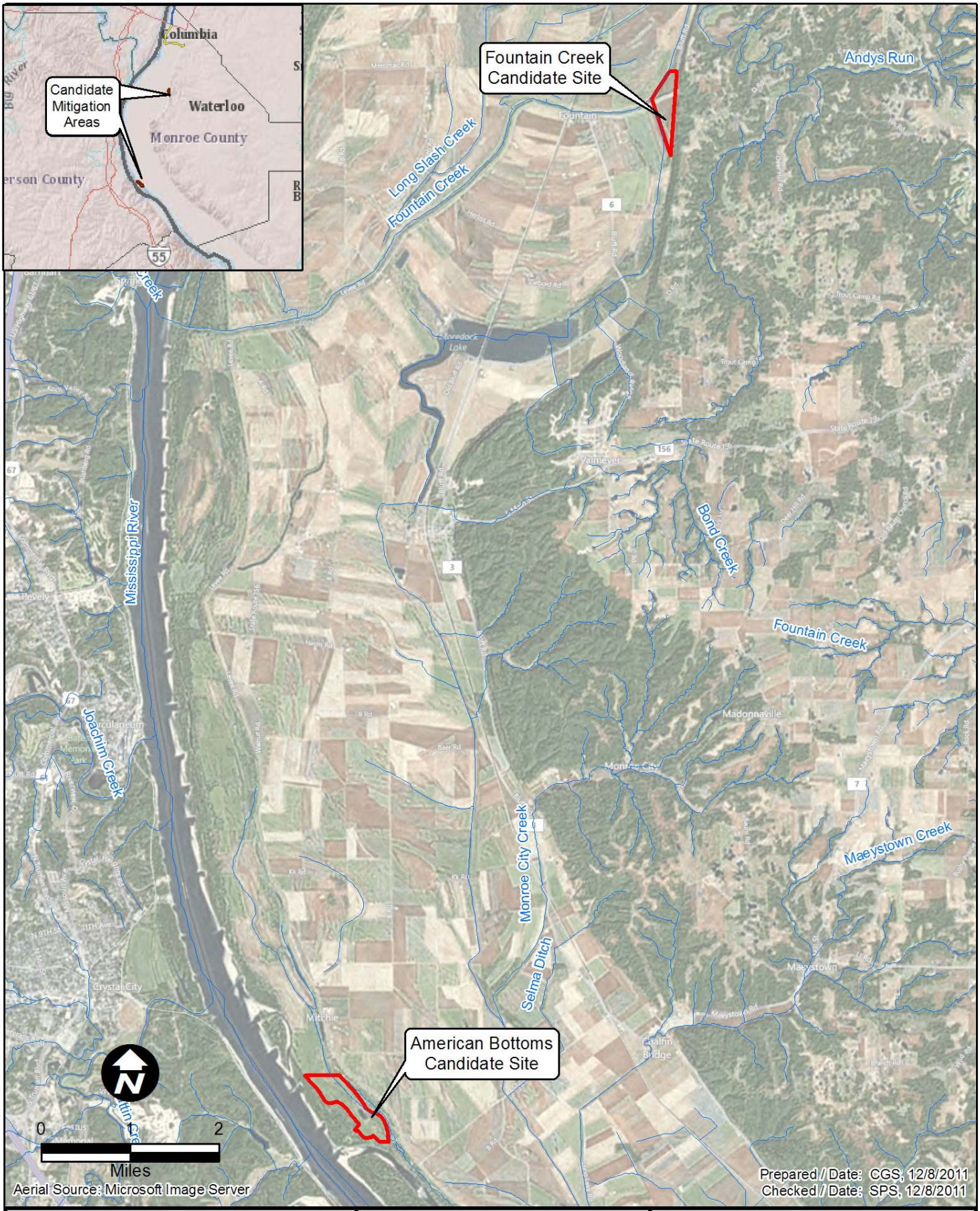

SIFPDC Conceptual Mitigation Plan

amec

Figure 3-2
Candidate Mitigation Sites in Monroe County, Illinois

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Appendix A
Stream Mitigation Worksheet

Illinois Stream Mitigation Method

Project Name: Southwestern Illinois Levee Improvements (100-yr) Date:12/7/11

ORM Number:

Adverse Impact Worksheet

Factor	Stream Reach 1	Stream Reach 2	Stream Reach 3	Stream Reach 4	Stream Reach 5
Stream Type Impacted	0.8	0.4	0.1		
Priority	0.4	0.1	0.1		
Existing Condition	0.2	0.2	0.2		
Duration	0.3	0.05	0.05		
Activity	0.5	0.5	0.5		
Cumulative Impact	0.234	0.0105	0.2346	0	0
Sum of Factors = **(m)**	2.434	1.2605	1.1846	0	0
Linear Feet of Stream Impacted in Reach = **(lf)**	780	35	782		
(m) x (lf)	1898.52	44.1175	926.3572	0	0

Total Mitigation Credits Required = 2868.9947

Southwestern Illinois Flood Prevention District Council

Memo to: Board of Directors

From: Les Sterman

Subject: AMEC Work Order 7 – Consulting Services for 100% Design

Date: December 19, 2011

On Friday, December 16 AMEC submitted 60% design documents, including construction drawings, specifications, and cost estimates as scheduled. Also at this time a joint application for the various environmental permits was submitted to the Corps, the Illinois Department of Natural Resources, the Illinois Environmental Protection Agency and the U.S. Environmental Protection Agency. With this submission, AMEC has completed the scope of work on our currently effective work order that concludes on December 16. AMEC also confirms that they have exhausted their entire fee for this work as provided in our agreement.

Our continuing agreement with AMEC is structured with a Master Service Agreement that defines contractual terms and conditions, and a series of work orders that define the scope of work for each assignment. This was done because it was not possible to determine at the time that the project began all of the dimensions of the work prior to initial exploratory testing and analyses of the conditions of the levee system.

I have worked with AMEC to develop a scope of work and associated fee to complete design work on the project. This work is described in the attached Work Order #7. Total cost for this work order will be $3,453,000. Work representing a minimum of 27% of the design fees for this work order will be done by local subcontractors.

Table 1 summarizes the amounts currently committed and invoiced on each of the currently active work orders and three proposed work orders. In addition to the proposed work order #7, which is the subject of this memo, there are two additional work orders that are pending, Work Order #5 for additional certification analysis and documentation for the Chain of Rocks and Mel Price levee reaches, and Work Order #6 for additional work to support the Section 408 Review. Both of these work orders reflect activities that were not anticipated in the project budget adopted in July, 2011.

Table 2 shows current contractual commitments as a portion of the overall status of the project budget. Existing and proposed expenditures are within budget, except for the design category and a new budget category for Corps design review. There are several reasons that proposed design and review expenditures exceed the July, 2011 budget:

1. Additional costs for Section 408 review. These include added costs for consultants to prepare materials for the Corps of Engineers technical review, attend additional meetings, respond to comments, etc. Because the extent of the effort required is still somewhat unpredictable given the Corps' inability to confirm a specific review process, the amount of this work order may be subject to revision in the future. Note that this proposed work order does not currently include costs for the external Safety Assurance Review, should it be required. Those costs would involve additional consulting services to provide supporting materials and participate in the review, as well the cost of the external review itself, which is unknown at this time but could be as much as $500,000 based on the experience on other similar projects.

2. Additional costs for inspection and certification documentation for the Chain of Rocks and Mel Price levee reaches.

3. Adjustments in the design budget resulting from changes in proposed project features. In particular, the increased use of graded filters to replace higher cost underseepage controls such as cutoff walls results in the need for additional pump stations. The additional design costs of these pump stations are offset by very substantial savings in construction costs.

Additional costs not included in the July, 2011 budget for consulting fees include $181,000 for the Section 408 review and $953,000 for additional pump station design. In the absence of these items, total consulting fees for design would remain about $253,000 under budget. With the addition of these items, however, costs will exceed the design budget by $702,374, in combination with additional fees for the Corps design review of $181,000 for a total of $883,374 in additional costs. However, as noted above, design costs are offset more than tenfold by savings in construction costs, so overall project costs remain well under the July, 2011 adopted budget.

AMEC and its subcontractors continue to perform at a high level, meeting all of our expectations for timeliness and quality of work products and effective control of design costs. In addition, they continue to respond to our continuing scheduling and budgetary concerns.

Recommendation: Authorize the Chief Supervisor to execute Work Order #7 for Final Design with AMEC Earth and Infrastructure to include 100% complete construction documents and associated design services in support of the design, construction and certification of levee systems operated by the Wood River, Metro-East Sanitary District, Prairie DuPont and Fish Lake levee districts. The cost of Work Order #7 will not exceed $3,453,000 and will be effective beginning on December 16, 2011 and ending on November 29, 2013. A minimum of 27% of the costs will be incurred by local subcontractors with the remainder by AMEC.

Table 1
Status of Current and Proposed AMEC Work Orders

	Contract Amt.	***Invoiced***	***Unexpended Balance***
Active			
Work Order 1 Program Mgmt.	$1,469,600	$608,574	$861,026
Work Order 2 30% Design	$3,220,494	$2,449,374	$771,120
Work Order 3 Prelim. Const.	$5,688,333	$4,134,862	$1,553,471
Work Order 4 60% Design	$2,599,000	$2,345,850	$253,150
Subtotal	$12,977,427	$9,538,660	$3,438,767
Proposed			
Work Order 5 COR/MP Cert.	$155,000	$0	$155,000
Work Order 6 408 Review	$181,000	$0	$181,000
Work Order 7 Final Design	$3,453,000	$0	$3,453,000
Subtotal	$3,789,000	$0	$3,789,000
TOTAL	**$16,766,427**	**$9,538,660**	**$7,227,767**

Table 2

Budget Analysis of Current and Proposed Contractual Commitments

	Budgeted Amounts	*Committed Amount*				*Total Committed by Contract*	*Proposed*			*Subtotal Committed/ Proposed*	*Balance*
		WO 1	*WO 2*	*WO 3*	*WO 4*		*WO 5*	*WO 6*	*WO 7*		
Program Mgmt.	$2,200,000	$1,469,600				$1,469,600				$1,469,600	$730,400
Design	$7,799,000		$2,449,374		$2,599,000	$5,048,374			$3,453,000	$8,501,374	-$702,374
Corps Review								$181,000		$181,000	-$181,000
Construction	$135,168,000		.	$5,688,333		$5,688,333				$5,688,333	$129,479,667
Const. Mgmt.	$5,183,000					$0				$0	$5,183,000
Certification	$325,000					$0	$155,000			$155,000	$170,000
Total	$150,675,000	$1,469,600	$2,449,374	$5,688,333	$2,599,000	$12,206,307	$155,000	$181,000	$3,453,000	$15,995,307	$134,679,693

Notes:
WO 1 – Project Management
WO 2 – Preliminary (30%) Design
WO 3 – Preliminary Construction
WO 4 – 60% Design
WO 5 – COR/Mel Price Certification (Proposed)
WO 6 – Section 408 Support (Proposed)
WO 7 – Final Design (Proposed)

Summary does not include costs for Safety Assurance Review if required by Corps of Engineers, or the costs of additional subsurface testing and analysis for COR/Mel Price levee reaches if required. Certification costs shown in proposed WO 5 are in addition to amount included in July, 2011 budget.

I have also asked AMEC to prepare work orders that will reflect the previously unanticipated work to support the Corps Section 408 permission process and to undertake certification activities for two sections of levee (Chain of Rocks, which is owned by the Corps, and Mel Price Lock and Dam, which is the responsibility of the Corps to improve) that we had previously assumed would be the Corps' responsibility. These work orders represent added costs to the Council that have not been previously budgeted.

WORK ORDER NO: MSA01-WO07

FINAL DESIGN SERVICES

Issued Pursuant to Master Services Agreement Effective **August 15, 2010**,
By and Between
AMEC Earth & Environmental, Inc. (AMEC)
and
Southwestern Illinois Flood Prevention District Council (CLIENT)

CLIENT Office:	**104 United Drive**	AMEC Project No:	**563170001**
	Collinsville, IL 62234		
CLIENT Contact:	**Les Sterman**	Work Order Type: (Check One)	
AMEC Office:	**15933 Clayton Road**	Time and Materials (rates attached)	**X**
	Suite 215	Fixed Price	
	Ballwin, MO 63011		
AMEC Contact:	**Jon Omvig**	CLIENT Reference No:	**n/a**

1. SCOPE OF WORK: **See Attachment A (incorporated herein by reference)**

2. LOCATION/CLIENT FACILITY INVOLVED: **Wood River Drainage and Levee District, Metro - East Sanitary District, Prairie du Pont Drainage and Levee District and Fish Lake Drainage and Levee District**

3. PERIOD OF PERFORMANCE: **December 17, 2011 through November 29, 2013**

4. AUTHORIZED FUNDING: **$3,453,000.00**

5. SPECIAL PROVISIONS: **n/a**

Southwestern Illinois Flood Prevention District Council		**AMEC Environment & Infrastructure, Inc.**	
By:		By:	
Name:	**Les Sterman**	Name:	**Jim Shepard**
Title:	**Chief Supervisor of Construction and the Works**	Title:	**Sr. Vice President**
Date:		Date:	
Address:	**104 United Drive**	Address:	**15933 Clayton Road, Suite 215**
	Collinsville, IL 62234		**Ballwin, MO 63011**

Attachment A
Scope of Work

WORK ORDER NO: MSA01-WO07
PRELIMINARY DESIGN SERVICES

AMEC Project No: 56317001

Services to be provided by AMEC under this Work Order include 100% complete Construction Documents and associated Design Services in support of the design, construction and certification of the levee systems. This phase of services is required to advance the proposed design solutions included in AMEC's design services proposal and to advance the previously developed 60% complete design solution to a 100% complete Construction Document. Services to be provided by AMEC under this Work Order include:

1. CULTURAL RESOURCES SURVEYS

1.1. Project Planning

- Update Phase I work plan to include the 60% design
- Assess the potential effects of the proposed 100% design upon cultural resources

1.2. Consult and coordinate with regulatory agencies as required by section 106 of NHPA, to include:

- Consult with USACE – St. Louis District and the Illinois Historic Preservation Agency (IHPA) on review and approval of technical report

1.3. : Complete a Phase I cultural resources investigation and geoarchaeological assessment of potential buried archaeological deposits, to include:

- Artifact analysis and curation of records, photos, field notes and artifacts
- Report (process, documentation & maps)

Outstanding fieldwork
Since the construction design has not been completed, temporary workspaces, borrow locations, etc., have not been identified. Therefore, Phase I cultural resources investigation of these areas will be put on hold until the need and location(s) has been determined. At that time, a review of the temporary workspaces and/or borrow pits will be initiated to determine if a Phase I survey is required.

Deliverables
Final results of the Phase I archaeological and architectural survey will be in the form a report describing the Phase I survey in its entirety, including the geomorphology results, with accompanying maps. Recommendations for management of any cultural resources encountered will be provided.

Assumptions
The methodologies and costs associated with this SOW of work are contingent upon the following critical assumptions:

- Costs associated with the Phase I survey of those areas identified as temporary workspaces, borrow locations, access roads, etc., will be submitted separately as another task order, after the locations have been determined.

2. NATURAL RESOURCES SURVEYS

2.1. Agency Meetings

We anticipate participating in a maximum of 4 agency meetings with the either the USACE and/or IEPA.

2.2. Additional Field Surveys

Additional field surveys may be required if new construction areas are identified during the planning process. As access roads, staging areas, borrow sites, and a wetland mitigation site have not been identified or fully defined, it is anticipated that additional field surveys for wetlands and/or threatened and endangered species habitat may be required.

2.3. Permit Application Addendums and/or Modifications

As the levee design continues to develop from 60% design to 100% design, we anticipate minor changes in design could warrant permit modifications. Modifications to permanent impacts will require modifications to the permit application.

2.4. Public Meetings

Given the nature of the project, the USACE and/or the IEPA will likely conduct public meetings in support of the 404/401 permit applications. We anticipate attending in a maximum of 4 public meetings in support of this project.

2.5. Mitigation Plan

2.5.1. AMEC is continuing to evaluate various mitigation sites and opportunities. Once a site is selected a detailed mitigation design will be required for the mitigation plan. Depending on the selected site, field investigations will be required to determine existing soil and hydrologic conditions of the site. Mitigation design may require hydrologic modeling or other assessment techniques to ensure a successful design.

- Prepare land-based topographic surveys to locate limits of wetlands, physical features, ground elevations and improvements to supplement aerial photos and Lidar survey data.
- Prepare boundary surveys for those properties that will require fee simple ROW acquisition, to include:
- Obtain a title commitment (in anticipation of the purchase of title insurance)
- Prepare a property boundary survey meeting the minimum standards of an “Urban Class Boundary Survey” or ALTA/ASCM land title survey
- Prepare strip map surveys for those properties that will require an easement for ROW acquisition, to include:
- Obtain an informational title commitment (no title insurance)
- Prepare a property boundary survey meeting the minimum standards of an “Urban Class Boundary Survey” or ALTA/ASCM land title survey

3. HAZARDOUS MATERIALS

3.1. Review design iterations as they become available, relative to previous environmental reviews, focusing on changes from previous designs, e.g., new or different locations for cut-off/slurry walls, relief wells, or blanket/toe drains. The environmental review will be based on available information (e.g., environmental regulatory database report) used in previous evaluations, comparing established restricted zones to design changes to determine if they need to be revised, removed, or additional zones established.

3.2. Permitting/Treatment – Continue interaction, if necessary, with IEPA to understand permitting or treatment required for the following:

- Flood Discharge through proposed relief structures;
- Proposed relief well development activities;
- Construction-related dewatering activities.

3.3. Complete permits or other actions, as required.

3.4. Review Contractor environmental protection, waste management, storm water pollution protection, erosion control, etc. plans, protocols, permit applications, NOIs and/or procedures as they relate to hazardous materials. Review Contractor recommended transport & disposal firms/facilities and determine alternatives if necessary.

3.5. Review final specifications, drawing notes, sample data from borrow areas and waste characterization, or other information as requested.

3.6. If needed, develop an environmental testing/screening protocol for fill to be used in seepage berms.

3.7. Deliverables:

- Summary report on design iteration and other environmental reviews.
- Review comments on AMEC or Contractor deliverables.
- Hazmat protocols developed, if required.

Limitations

This Scope of Services does not include media sampling, such as Phase II assessments (intrusive testing to evaluate suspected contamination) and/or delineation of the horizontal and vertical extent of known contamination in soil and/or groundwater. Preparing designs and specifications for mitigation or remediation of contaminated areas is excluded from this scope. Conclusions drawn from the results of this effort should recognize the limitations of the methods utilized.

4. HYDROLOGIC AND HYDRAULIC ENGINEERING

4.1 Prepare H&H modeling for interior Drainage impacts associated with design improvements for submittal to IDNR and FEMA.

- Update freeboard report
- Recalculate velocity grids based on updated hydraulics
- Create DFIRM maps

5. GEOTECHNICAL DESIGN

5.1. Design Cutoff Walls: The shallow and deep cutoff walls in Wood River will require design. This scope item assumes AMEC will design the walls, and includes the following:

5.2. Preparing plans and specifications;

5.3. Attending meetings with the client, USACE, prospective contractors, and levee district personnel;

5.4. Conduct a geotechnical exploration for each new pump station, and provide underseepage analyses related to new conveyance ditches and pump station forebays, as follows:

5.5. Provide allowable bearing capacity for structural designer, and estimate settlement under computed loads

5.6. Prepare a report of geotechnical exploration and recommendations for each pump station

5.7. Conduct 2-D modeling for each pump station, consisting of a SEEP/W model for the proposed forebay, to estimate gradients; prepare recommendations for controlling excess gradients

5.8. Conduct 2-D modeling for proposed conveyance ditches. Conveyance of relief well flow to new pump stations is expected to require cutting landside toe ditches. These ditches alter the existing topography and represent locations where excessive gradients may develop. The modeling will result in estimations of the gradients and recommendation to control underseepage, if necessary.

5.9. Review drilling and laboratory test results and make revisions, if appropriate, to filter/trench solutions and design details

5.10. Piezometer Installation: A combination of new and existing piezometers will be required to monitor the AMEC design solutions. These piezometers provide data that confirms the design and serves as an indicator of potential problems or maintenance needs. The 60% plans require about 88 new piezometers and 10 retrofitted piezometers. The piezometers should be installed in the immediate future, where feasible, in order to obtain flood season data at critical areas. The data will be used to refine the designs in certain locations, and will generally serve as a baseline.

5.11. Additional Value Engineering LWR Elbow: Conduct additional value engineering to evaluate replacing the deep cutoff wall with graded filter, trench drain, or combination thereof. Specifically, conduct the following:

- 3-D modeling to confirm flow and gradients
- Update seepage analysis as necessary to prepare detailed designs
- Develop details and specifications for drainage trench or graded filter

5.12. Additional Value Engineering and Design Optimization: There are several areas where the existing 60% design solutions could potentially be revised and/or eliminated if additional subsurface information and/or modeling were conducted. These areas include:

- UWR 121-129: If additional borings demonstrated there was no connection between the shallow sand layer and the river, the trench drain might not be needed. Work includes shallow borings and SEEP/W modeling to evaluate this possibility.
- UWR 129-134: Check for presence of a seepage blanket in the bottom of the Alton Pump Station forebay. If present and in good condition, part or all of the graded filter could be eliminated.
- UWR 216-223: Check for presence of blanket in ditch. If blanket is present part or all of the graded filter could be eliminated.
- LWR 132-152: Specifically, conduct the following: review new borings to better define landside stratigraphy and confirm existence and/or thickness of blanket; update seepage analyses as necessary; determine landside ponding elevation necessary for protection; further define details of trench design.
- LWR 584-592 and 608-614: conduct 2-D modeling to evaluation whether seepage berm and fill can be eliminated.
- MESD trench drains: evaluate combined system of relief wells and drains to assess whether drains can be installed shallower.
- MESD: review and revise underseepage solution after relief well tests are conducted at 1479-1499
- MESD: review and revise underseepage solutions after additional borings are performed to better define stratigraphy along filters/drains.

5.13. Prepare Operation and Maintenance Plans: Levee certification will eventually require that O&M plans be prepared for the FEMA base flood solutions. Preliminary O&M plans should be prepared prior to 100% design since permit approval may in some cases include consideration of maintenance and monitoring requirements.

5.14. Submittals for 100% Design and QA Review: AMEC will prepare a 100% geotechnical design report containing pertinent narratives, calculation packages, electronic files and Quality Control/Quality Assurance documents. During the 100% design phase and prior to submittal of design documents AMEC will conduct QA Reviews as required by the PMP, and provide documentation of comments and resolutions.

5.15. Certification Report: A geotechnical narrative will be prepared for each levee certification report, summarizing the exploration and analyses conducted, results of analyses, and solutions proposed and implemented.

6. LAND SURVEYS

6.1. Prepare land-based topographic surveys to locate physical features, ground elevations and improvements to supplement aerial photos and Lidar survey data.

6.2. Prepare strip map surveys for those properties that will require an easement or fee simple ROW acquisition, to include:

- Obtain an informational title commitment (no title insurance)
- Prepare a strip map survey meeting the minimum standards of an “Urban Class Boundary Survey” or ALTA/ASCM land title survey

6.3. Prepare ROW acquisitions documents, to include:

- Recordable exhibit (permanent easements and temporary construction easements)
- Legal descriptions
- Permanent easement language
- TCE language
- Calculate area to be acquired

7. CONSTRUCTION DOCUMENT PREPARATION SERVICES

7.1. Programming Services

7.1.1. Based on construction work packages developed as part of the 60% complete design phase, coordinate with stakeholders to develop a project delivery plan, to include:

- Identify work packages to be bundled as bid packages and the total number of bid packages
- Schedule for design and construction of bid packages

7.2. 100% Complete Civil Design

7.2.1. Prepare a 100% complete design for civil components, to include:

- Design computations
- Design documentation

7.3. 100% Complete Construction Document Preparation

7.3.1. Prepare 100% complete construction drawings for each bid package, to include:

- topographic information
- site demolition
- repair/improvement layout
- grading
- temporary erosion control information
- utility relocation information
- general notes
- cover sheet
- plan sheets
- profile and cross section sheets
- site details

7.3.2. Prepare 100% complete project specifications for each bid package, to include:

- frontend section
- technical sections

7.3.3. Prepare a 100% complete construction cost estimate for each bid package, to include:

- Unit cost and pricing research
- Obtain preliminary pricing quotes
- Quantity take-offs
- Detailed construction cost estimate

7.4. Utility Coordination

7.4.1. Submit sealed construction drawings and required documentation for each bid package to affected utility companies for verification of public utility conflicts.

7.4.2. Coordinate with affected utility companies for utility relocations.

7.4.3. Obtain estimated cost for utility company relocated facilities.

7.5. Permitting

7.5.1. Submit sealed construction documents and required documentation for each bid package to the following local regulatory agencies:

- Counties, Cities, Villages, Townships, etc.
- IDNR
- IDOT

7.5.2. Coordinate with regulatory agencies, revised plans as required and pursue approvals.

7.5.3. Obtain estimated cost for utility company relocated facilities.

8. BID PHASE SERVICES

8.1. Provide bid procurement services for each bid package, to include:

- Advertisement
- Pre-Bid Meeting
- Respond to question regarding the clarity or intent of the contract documents.
- Prepare and issue addenda.
- Receive and open bids in public forum

8.1.1. Coordinate with construction management team to review bids and recommend contractor selection for each bid package.

Southwestern Illinois Flood Prevention District Council

Memo to: Board of Directors

From: Les Sterman

Subject: AMEC Task Order 6 – Consulting Services for Section 408 Project Review

Date: December 19, 2011

As we have previously discussed, the Corps has imposed on our project an extensive review process under the authority allegedly provided to them by 33 USC Section 408. We continue to strongly believe that these requirements are excessive, unnecessary and wasteful of both time and money. Further, these requirements are imposed not by federal statute or rule, but by Corps internal guidance. However, despite all of the efforts by the Council and by our congressional delegation to appeal to the Corps to do a more sensible review, we have not yet gotten significant relief. In order to keep the project moving, we are continuing to cooperate with the Corps in implementing their review process and we need to be prepared for the increasingly likely outcome that we will be subjected to an extended and costly review process.

The review process imposes added costs in the form of extensive additional documentation that must be prepared and submitted, attending meetings with the Corps review teams, formally responding to Corps comments and questions on the design, and developing a series of individual permit application packages.

At my direction, AMEC has been incurring additional costs already to respond to the Section 408 review process. These costs were not anticipated in our design budget or in the existing design work orders with AMEC. Given the likely course of events I have asked AMEC to develop a separate work order for the Corps Section 408 review, both to provide them with the resources to engage the Corps in the review process and to allow us to separately account for the cost of the review. The attached proposed Work Order #6 responds to that request.

Because the extent of the effort required is still somewhat unpredictable, given the Corps' inability to confirm a specific review process, the amount of this work order may be subject to revision in the future. Note that this proposed work order does not currently include costs for the external Safety Assurance Review, should it be required. Those costs would involve additional consulting services to provide supporting materials to the review panel and to participate in the review, as well the cost of the external review itself, which is unknown at this time but could be as much as $500,000 based on the experience on other similar projects around the country.

I am making the following recommendation reluctantly, and only because it seems that we have little choice but to comply with the Corps' self-imposed requirements. There should be little doubt, however, that the funds expended on this redundant review process would have otherwise been spent on levee improvements that would actually reduce risk to the public.

Recommendation: Authorize the Chief Supervisor to execute Work Order #6 – USACE 408 Reviews with AMEC Environment & Infrastructure. The cost of the providing the services described in the work order will not exceed $181,000 and cover a period between December 1, 2011 and March 30, 2013.

WORK ORDER NO: MSA01-WO06

USACE 408 Review

Issued Pursuant to Master Services Agreement Effective **August 18, 2010**,
By and Between
AMEC Earth & Environmental, Inc. (AMEC)
and
Southwestern Illinois Flood Prevention District Council (CLIENT)

CLIENT Office:	**104 United Drive**	AMEC Project No:	**563170001**
	Collinsville, IL 62234		
CLIENT Contact:	**Les Sterman**	Work Order Type: (Check One)	
AMEC Office:	**15933 Clayton Road**	Time and Materials (rates attached)	**X**
	Suite 215	Fixed Price	
	Ballwin, MO 63011		
AMEC Contact:	**Jon Omvig**	CLIENT Reference No:	**n/a**

1. SCOPE OF WORK: **See Attachment A (incorporated herein by reference)**

2. LOCATION/CLIENT FACILITY INVOLVED: **Wood River Drainage and Levee District, Metro - East Sanitary District, Prairie du Pont Drainage and Levee District and Fish Lake Drainage and Levee District**

3. PERIOD OF PERFORMANCE: **December 1, 2011 through March 30, 2013**

4. AUTHORIZED FUNDING: **$181,000.00**

5. SPECIAL PROVISIONS: **n/a**

Southwestern Illinois Flood Prevention District Council		**AMEC Earth & Environmental, Inc.**	
By:		By:	
Name:	**Les Sterman**	Name:	**Jim Shepard**
Title:	**Chief Supervisor of Construction and the Works**	Title:	**Senior Vice President**
Date:		Date:	
Address:	**104 United Drive**	Address:	**15933 Clayton Road, Suite 215**
	Collinsville, IL 62234		**Ballwin, MO 63011**

Attachment A
Scope of Work

WORK ORDER NO: MSA01-WO06
USACE 408 Reviews

AMEC Project No: 56317001

Services to be provided by AMEC under this Work Order include meeting preparation, meeting attendance, permit application, response to Corps comments, and consolidation of technical data and technical analysis. The Scope of Services for this task order covers those activities not initially identified or anticipated in the proposal for levee design services.

Prior to completion of services included in Work Order MSA01-WO06, AMEC will solicit the concurrence of the Chief of the Works before proceeding to any additional investigations and analysis. Services to be provided by AMEC under this Work Order include:

1. **MEETING PREPARATION AND ATTENDANCE**
   - 1.1. In order to identify Corps submittal requirements for the 408 process, prepare summaries of design criteria for design solutions and present at meetings with USACE.
   - 1.2. Prepare meeting summaries, and compile additional info for submittal to USACE as a follow up to meetings
2. **DATA COLLECTION AND CONSOLIDATION FOR 60% SUBMITTAL**
   - 2.1. Once USACE determines 408 submittal requirements, format existing data and design information into a format appropriate for review by USACE.
3. **408 ENVIRONMENTAL ASSESSMENT SUPPORT**
   - 3.1. Collect additional information and provide to USACE for inclusion in the Environmental Assessment they will prepare as part of the 408 process. This excludes data/analysis that is part of the 404 submittal package.
4. **RESPOND TO USACE 60 % COMMENTS AT INFORMAL MEETING WITH THE CORPS**
   - 4.1. Have Discipline Leads for each levee attend an informal review meeting with USACE prior to entering frmal comments into Dr. Checks to ensure that review is centered on 408 review rather than conformance with USACE Design Criteria.
5. **RESPOND TO USACE 60 % COMMENTS USING Dr. Checks REVIEW**
   - 5.1. Compile list of reviewers, with appropriate contact information and provide to USACE for inclusion in Dr. Checks, register and load access for Dr. Checks.
   - 5.2. Review USACE comments and provide response in Dr. Checks.
6. **TECHNICAL ANALYSIS AND ADEQUACY OF DESIGN**
   - 6.1. Meet with Corps to determine submittal requirements for documentation of adequacy of design
   - 6.2. Analyze for PDPFL whether the proposed berms provide as great a safety factor as the existing relief wells
   - 6.3. Prepare additional slope stability analyses for cutoff walls (more than the one section that is done to date), including calculations and adequate subsurface information that can be provided to COE.
   - 6.4. Analyze the gravel size specified on the filter details, with regard to erosion.
   - 6.5. Review constructability issues (biopolymer slurry)

6.6. Provide flow analyses for 100% free draining trench/filter, 50% clogged and 100% clogged scenarios, and translate results into O&M program.

6.7. Provide flow analyses for 100% free draining trench/filter, 50% clogged and 100% clogged scenarios, and translate results into O&M program.

6.8. Model Conroy-proposed trench design with flow piped upward through risers

7. PERMIT APPLICATION

7.1. Complete eight Bid Packages, and upon determination of Permit Application format and submittal requirements, prepare individual permit applications for each bid package.

8. REAL ESTATE ANALYSIS

8.1. Provide surveys made during final design, showing limits of construction, property ownership, and fee simple acquisition or easements.

9. RISK ANALYSIS

9.1. Prepare short narrative describing the fact that the proposed improvements are reducing flood risks.

10. RESPONSE TO USACE COMMENTS

10.1. Upon USACE completion of initial Technical Review, prepare response to USACE comments. This response may be in the form of formal written documentation, or may be accomplished during informal meetings with the USACE.

10.2. Upon completion of USACE 408 application review, respond to comments using DRChecks.

10.3. In response to USACE request for additional analysis or documentation, conduct additional analysis.