



September 6, 2016

Ms. Sonja Reichertz – Planning & Community Development Coordinator
Plan Commission & Common Council
City of Monona
5211 Schluter Road **VIA EMAIL**
Monona, WI 53716

Re: Request for Removal of Lands from Floodplain & City Floodplain Map Amendment
Madison Metropolitan Sewerage District Pump Station 18, Monona, WI

Dear Sonja, Plan Commission & Common Council:

As you are aware, Madison Metropolitan Sewerage District (MMSD) constructed Pumping Station No. 18 (PS 18) on the south side of East Broadway adjacent to the UW Yahara Clinic and Whitehorse properties. Construction of the pumping station was completed in spring of 2015. Prior to construction of the pumping station, portions of the parcel were located in the floodplain of an unnamed tributary to Lake Waubesa. In order to remove these portions of the parcel from the floodplain, fill was placed on the MMSD PS 18 parcel.

MMSD's consultant (AECOM) completed hydraulic analysis of the fill to determine its effect on the base flood elevation and floodplain. This analysis indicated that the fill did not change the base flood elevation. However, the analysis indicated that the floodway would be change from what is currently shown on FEMA's Flood Insurance Rate Map (FIRM) 55025C0437G for the City of Monona. As shown in the attached Figure E-1 provided by AECOM, the floodway on the MMSD property, the two Whitehorse properties on the east side of the tributary, and the WDNR property to the south of the MMSD property have changed as result of the placed fill.

Placement of the fill and its effects on the floodway were approved by the Federal Emergency Management Agency (FEMA) and Wisconsin Department of Natural Resources. FEMA issued a Conditional Letter of Map Revision (CLOMR) on April 12, 2015 to approve the proposed placement of the fill, and a Letter of Map Revision (LOMR) on August 15, 2016 based on an as-built survey of the placed fill. The LOMR revised FEMA's Flood Insurance Rate Map (FIRM) 55025C0437G for the City of Monona. FEMA's FIRMS are the City's official Floodplain Maps.

City Official Floodplain Map Amendment Process:

Due to the request for removal of lands from the floodplain, and change to the floodway, the City's floodplain zoning district boundaries, as shown on the City's Official Floodplain Maps (FEMA FIRM 55025C0437G), need to be amended as required by FEMA, the WDNR, and Sections 13-2-1(e)(2) and 13-2-1(e)(5) of the City of Monona Code of Ordinances.

The following requirements from Sections 13-2-1, 13-2-5(d), and procedures for amendments from Section 13-2-10 of the city's ordinances are as follows:

1. Submittal of an aerial photograph or plan showing the general floodplain district limits, stream channel, legal description of property, fill limits and elevations. (Figures E-1 & E-2 provided by AECOM, MMSD's Engineer)
2. Information required by WDNR to evaluate the effects of the proposed fill upon flood height and flood flows, BFE and to determine floodway boundaries. (Information contained in "Letter of Map Revision Request" dated March 2016 and provided by AECOM, MMSD's Engineer).
3. WDNR and FEMA approval of changes to the floodway and removal of lands from the floodplain. (WDNR approval letter issued June 15, 2016 and FEMA LOMR issued August 10, 2016)
4. Verification that the fill has been placed at least two feet above the BFE and the fill is contiguous to land outside the floodplain. (Certified As-Built conditions Figure E-1 stamped 5/25/16 by Carla Fischer, PE of AECOM, MMSD's Engineer).
5. Referral of the amendment request to the Plan Commission for a public hearing (Class II Notification = two publications required) and a recommendation to the Common Council.

Schedule:

As coordinated with Sonja, the amendment schedule is proposed as follows:

- | | |
|--|---------------|
| 1. City Submits Public Notice & Amendment Resolution Text to WDNR: | Sep. 9 |
| 2. WDNR Reviews Public Notice & Amendment Resolution Text: | Sep. 12 to 14 |
| 3. Submit Public Hearing Notice to Newspaper: | Sep. 16 |
| 4. Two Publications in Monona Herald Independent: | Sep. 22 & 29 |
| 5. City Planning Commission Meeting & Public Hearing: | Oct. 10 |
| 6. City Council Meeting 1 st Reading: | Oct. 17 |
| 7. City Council Meeting 2 nd Reading: | Nov. 7 |

The documents referenced above are attached for your use. As discussed, with Sonja, I will be available to attend the plan commission meeting and city council meetings to answer any questions regarding our review, and the FEMA and City Floodplain Map Amendment processes.

If you have any questions, please contact me at our Madison office.

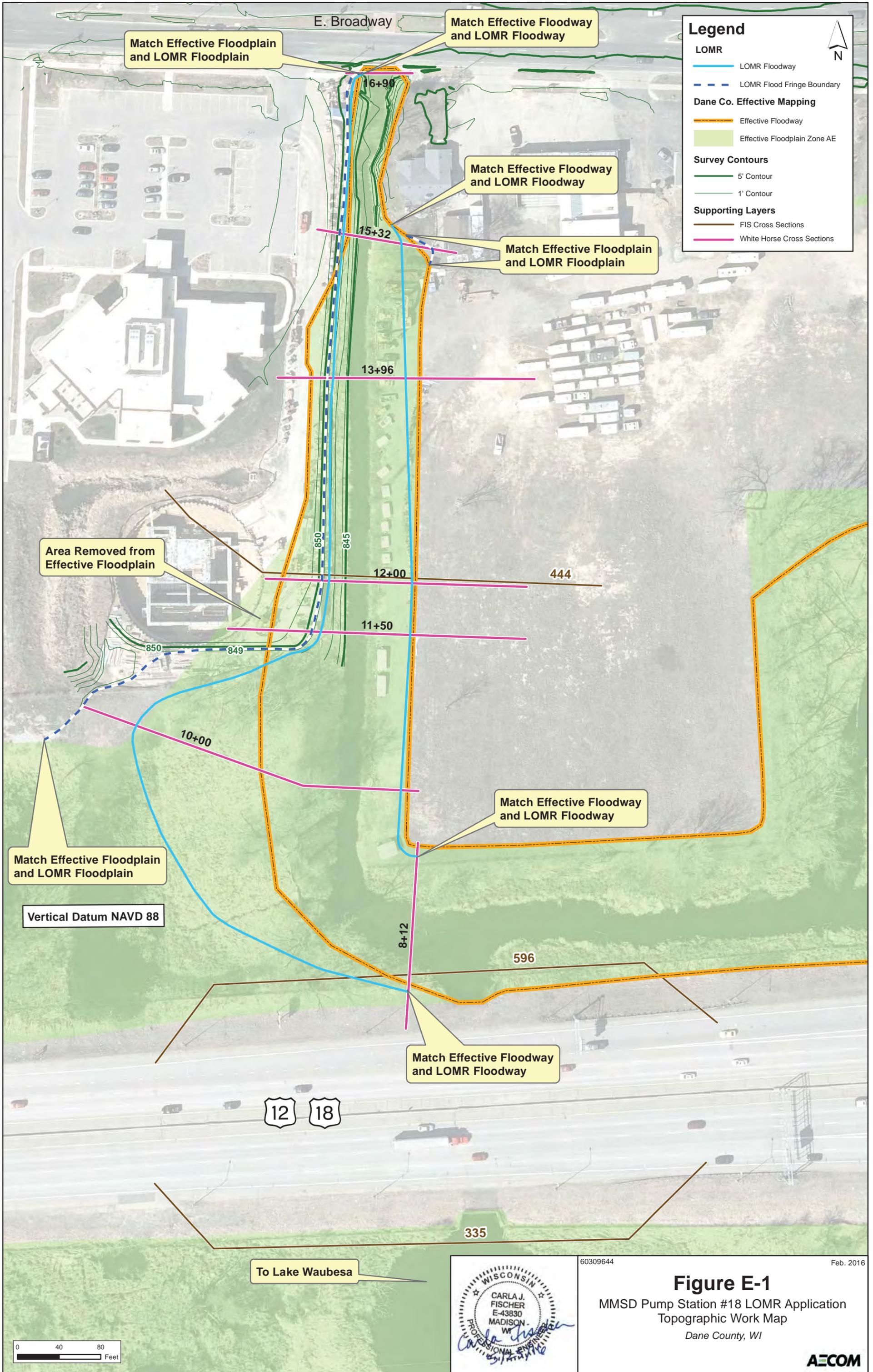
Sincerely,
VIERBICHER ASSOCIATES, INC.



Darrin R. Pope, PE

DRP/drp

Enclosures



Match Effective Floodplain and LOMR Floodplain

Match Effective Floodway and LOMR Floodway

Legend

LOMR

- LOMR Floodway
- LOMR Flood Fringe Boundary

Dane Co. Effective Mapping

- Effective Floodway
- Effective Floodplain Zone AE

Survey Contours

- 5' Contour
- 1' Contour

Supporting Layers

- FIS Cross Sections
- White Horse Cross Sections

Match Effective Floodway and LOMR Floodway

Match Effective Floodplain and LOMR Floodplain

Area Removed from Effective Floodplain

Match Effective Floodway and LOMR Floodway

Match Effective Floodplain and LOMR Floodplain

Vertical Datum NAVD 88

Match Effective Floodway and LOMR Floodway

To Lake Waubesa



60309644 Feb. 2016

Figure E-1
 MMSD Pump Station #18 LOMR Application
 Topographic Work Map
 Dane County, WI

AECOM

Figure E-2

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

The projection used in the preparation of this map was Universal Transverse Mercator (UTM) zone 18. The horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA NNGS12
National Geodetic Survey
SSMC-3, #6202
1215 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was provided by Dane County Land Information Office and Fly Dane Partnership. The aerial photography was acquired in the spring of 2005 to create a 1" 200' scale digital orthophotos with 1-foot ground resolution and resampled to a 1-meter ground resolution.

Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables for multiple streams in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unreviewed streams may differ from what is shown on previous maps.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

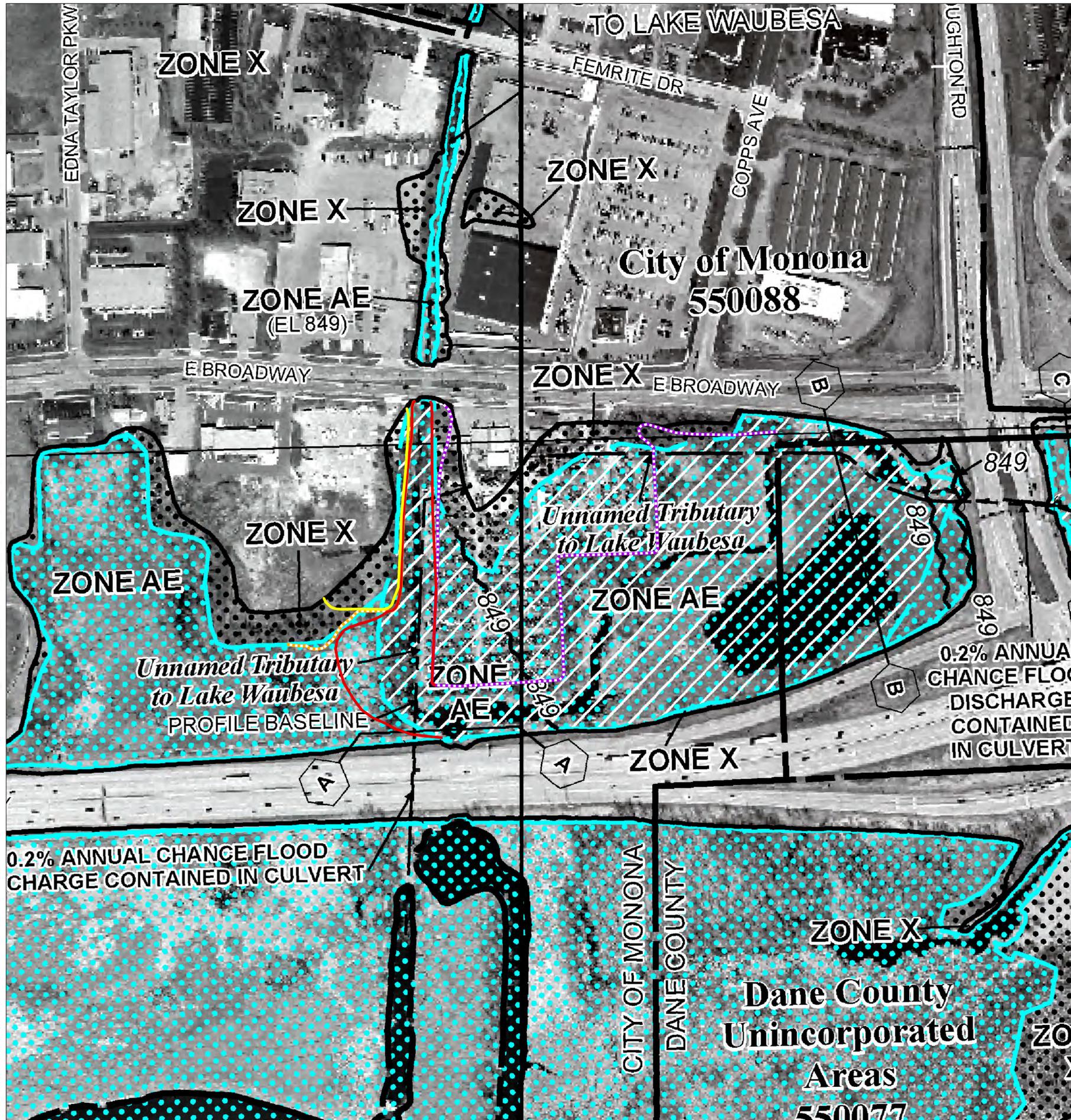
Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the FEMA Map Service Center at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at <http://www.nsc.fema.gov>.

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov>.

Legend

-  LOMR Zone X
-  LOMR Floodway
-  LOMR Flood Fringe
-  Whitehorse CLOMR Flood Fringe



LEGEND

-  SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD
-  The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, AV, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.
-  ZONE A
No Base Flood Elevations determined.
-  ZONE AE
Base Flood Elevations determined.
-  ZONE AH
Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
-  ZONE AO
Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined; For areas of alluvial fan flooding, velocities also determined.
-  ZONE AR
Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently determined. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
-  ZONE ARB
Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
-  ZONE V
Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
-  ZONE VE
Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.
-  FLOODWAY AREAS IN ZONE AE
-  OTHER FLOOD AREAS
-  ZONE X
Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
-  OTHER AREAS
-  ZONE X
Areas determined to be outside the 0.2% annual chance floodplain.
-  ZONE D
Areas in which flood hazards are undetermined, but possible.
-  COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
-  OTHERWISE PROTECTED AREAS (OPAs)
-  CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
-  1% Annual Chance Floodplain Boundary
-  0.2% Annual Chance Floodplain Boundary
-  Floodway boundary
-  Zone boundary
-  Zone D boundary
-  CBRS and OPA boundary
-  Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, Flood depths or flood velocities.
-  Base Flood Elevation line and value; elevation in feet
-  Base Flood Elevation value where uniform within zone; elevation in feet
-  Referenced to the North American Vertical Datum of 1988
-  Cross section line
-  Transect line
-  Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
-  5000-foot ticks: Wisconsin State Plane South Zone (FIPS Zone 4803), Lambert Conformal Conic projection
-  1000-meter Universal Transverse Mercator grid values, zone 18N
-  Bench mark (see explanation in Notes to Users section of this FIRM panel)
-  River Mile
-  MAP REPOSITORIES
Refer to Map Repository list on Map Index
-  EFFECTIVE DATE OF COUNTY-WIDE FLOOD INSURANCE RATE MAP
June 17, 2009
-  EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
January 2, 2009 - to update corporate limits, to change Base Flood Elevations and Special Flood Hazard Areas, to update map format, to add roads and road names, to reflect updated topographic information, and to incorporate previously issued letters of Map Revision.
-  For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for the jurisdiction.
-  To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6622.

PANEL 0437G

FIRM
FLOOD INSURANCE RATE MAP

DANE COUNTY,
WISCONSIN
AND INCORPORATED AREAS

PANEL 437 OF 850
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DANE COUNTY	550077	3437	3
MADISON CITY OF	550063	3437	3
MCPHARLAND VILLAGE OF	550066	3437	3
MONONA CITY OF	550068	3437	3

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
55025C0437G
MAP REVISED
JANUARY 02, 2009
Federal Emergency Management Agency



Prepared for:
MMSD
Madison, Wisconsin

Prepared by:
AECOM
Middleton, Wisconsin
60309644
March 2016

Letter of Map Revision Request
Madison Metropolitan Sewerage District
Pumping Station 18
Monona, WI; Dane County, WI

FEMA Case No. 12-05-1016R



Prepared for:
MMSD
Madison, Wisconsin

Prepared by:
AECOM
Middleton, Wisconsin
60309644
March 2016

Letter of Map Revision Request Madison Metropolitan Sewerage District Pumping Station 18 Monona, WI; Dane County, WI

FEMA Case No. 12-05-1016R

Prepared by:

Carla Fischer, PE
Prepared By

Theran Jacobson, P.E.
Reviewed By

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- Appendix D Hydraulic Results
- Appendix E Post-Project Floodplain Maps
- Appendix F Digital Data
- Appendix G FEMA CLOMR Approval Letter

1.0 Introduction

Madison Metropolitan Sewerage District (MMSD) is preparing this Letter of Map Revision (LOMR) request to complete the CLOMR (case number 12-05-1016R) approved by FEMA on April 12, 2012. FEMA's approval letter is included in Appendix G. The project, located in the City of Monona, Wisconsin, involved grading and filling along an unnamed tributary to Lake Waubesa. The grading and filling was required to prepare an area outside of the floodplain for the construction of new sanitary sewer Pumping Station 18. Construction of Pumping Station 18 was started in the fall of 2013 and completed in the spring of 2015, with as-built survey completed in August 2015.

Appendix references A through F throughout this report indicate LOMR replacement information based upon as-built conditions. Appendix G is a new appendix.

1.1 Project Location

See attached Figure 1 Project Location Map in Appendix A, which is unchanged from what was submitted for the CLOMR.

1.2 Summary of Completed Work

This project consisted of construction of a pumping station to improve sanitary sewer conveyance to the MMSD's Nine Springs Waste Water Treatment Plant (WWTP).

Fill was placed in the property owned by MMSD, west of the unnamed tributary to Lake Waubesa, to prepare an area outside of the floodplain for the construction of new sanitary sewer Pumping Station 18.

See attached Figure 2 LOMR Application HEC-RAS Cross Sections in Appendix A showing locations of cross sections used in the HEC-RAS model. The plan sheet located Appendix B shows the post-project conditions.

1.3 MT-2 Forms

The MT-2 Forms included with this report include the following:

- Overview & Concurrence form
- Riverine Hydrology & Hydraulics form

These forms are located in Appendix C.

2.0 Effective Model

See CLOMR. No changes for LOMR.

3.0 Effective Conditions

3.1 Hydrologic Model

See CLOMR. No changes for LOMR.

3.2 Hydraulic Model

See CLOMR. No changes for LOMR.

3.2.1 Duplicate Effective Hydraulic Model

See CLOMR. No changes for LOMR.

3.2.2 Duplicate Effective Hydraulic Model Results

See CLOMR. No changes for LOMR.

3.2.3 Corrected Effective Hydraulic Model

See CLOMR. No changes for LOMR.

3.2.4 Corrected Effective Hydraulic Model Results

See CLOMR. No changes for LOMR.

4.0 Post-Project (As-Built) Conditions

4.1 Hydrologic Changes

See CLOMR. No changes for LOMR.

4.2 Hydraulic Changes

The Corrected Effective hydraulic data, which represent Pre-Project conditions, was used as the baseline for the Post-Project (As-Built) hydraulic data.

The LOMR for the Whitehorse property, Case No. 12-05-5696P effective March 15, 2013, was reviewed to determine if changes had been made since the Whitehorse CLOMR was submitted. It was determined that no changes to the cross sections had been made from the Whitehorse CLOMR submittal; however, the reach lengths in the Whitehorse LOMR model had been adjusted at Sta. 16+90 and 15+32 to better reflect actual conditions. The MMSD Pumping Station 18 CLOMR submittal had identified downstream reach lengths in the Whitehorse CLOMR model as incorrect and had adjusted cross section downstream reach lengths to reflect survey locations. Therefore, no reach lengths were changed from what had been submitted in the MMSD Pumping Station CLOMR.

4.2.1 Cross Section Modifications

Cross Sections throughout the project corridor were modified from the Corrected Effective (Pre-Project) conditions as outlined below.

- Cross sections 15+32, 13+96, 12+00, and 11+50 were modified to reflect the as-built survey of the fill on the MMSD site, which impacted the west side of the channel.

4.2.2 Post-Project Hydraulic Model Updates

The updates to the geometry include the work performed for the MMSD Pumping Station 18 project reflected in the the project site's post-construction topographic survey from August 31, 2015. Changes to the geometry included side slope grading to facilitate construction of sanitary sewer interceptor, force main, and driveway for access to the pumping station. The Post-Project geometry file includes the project area and all reaches upstream and downstream affected by the proposed improvements, as required by FEMA and the WDNR. Figure 2 in Appendix A shows the cross section locations.

The tie-in location at the upstream end of the reach is at cross section 16+90 and the Post-Project WSEL is equal to (less than 0.01-ft change) the Pre-Project floodplain elevation at the tie-in location.

The tie-in location at the south end of the reach is at cross section 8+12 and the Post-Project WSEL is equal to the Pre-Project floodplain elevation at the tie-in location.

LOMR modeling results show a slightly greater decrease in the Post-Project floodplain elevations than the CLOMR results.

4.3 Floodway Boundaries

The floodway boundaries for the Corrected Effective geometry file were based upon the ineffective flow limits or the floodplain limits. The Post-Project floodway boundaries were updated in the project corridor to reflect the grading and filling performed. Figure E-1 in Appendix E displays the Post-project floodway and floodfringe overlaid on the project site's post-construction topographic survey from August 31, 2015. The Post-Project floodway boundaries overlaid on the Flood Insurance Rate Map (FIRM) are also included in Appendix E.

4.4 Post-Project Hydraulic Results

The comparison between the Post-Project Model and Corrected Effective Model resulted in slight changes to the 100-year floodplain elevations at several cross sections. These changes include:

- Cross Section 16+90: The water surface elevation (WSEL) decreased 0.003 feet.
- Cross Section 15+32: The water surface elevation (WSEL) increased 0.004 feet.
- Cross Section 13+96: The water surface elevation (WSEL) decreased 0.001 feet.
- Cross Section 12+00: The water surface elevation (WSEL) increased 0.001 feet.
- Cross Section 11+50: The water surface elevation (WSEL) decreased 0.001 feet.

See Table D-3 in Appendix D.

5.0 Digital Data

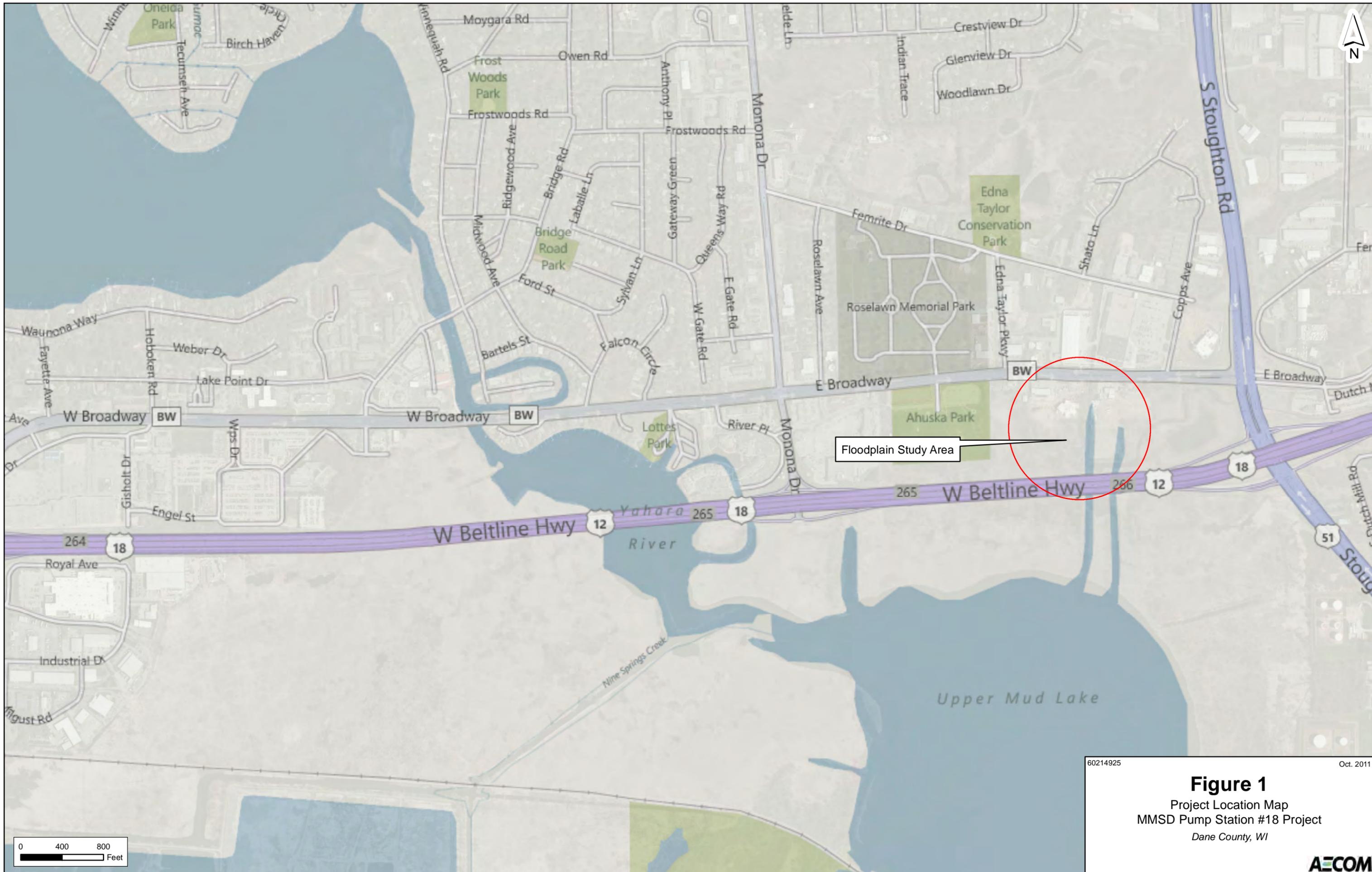
Appendix F includes reference to digital data, which is included as a .zip file. The following data is included:

- The HEC-RAS version 4.1.0 model, which includes plans for Duplicate Effective, Corrected Effective, and Post-Project conditions.
- GIS shapefiles, including the Post-Project floodway and floodfringe for the 1% recurrence interval and the flooding extents of the Post-Project 0.2% recurrence interval.
- Post-project survey CAD file, which includes updated survey data on the west side of the channel where grading was modified from existing conditions.

Appendix A

Project Maps

- Figure 1 – Project Location Map
- Figure 2 – HEC-RAS Cross Sections



60214925 Oct. 2011

Figure 1
 Project Location Map
 MMSD Pump Station #18 Project
 Dane County, WI



Legend

Cross sections

- LOMR
- FIS

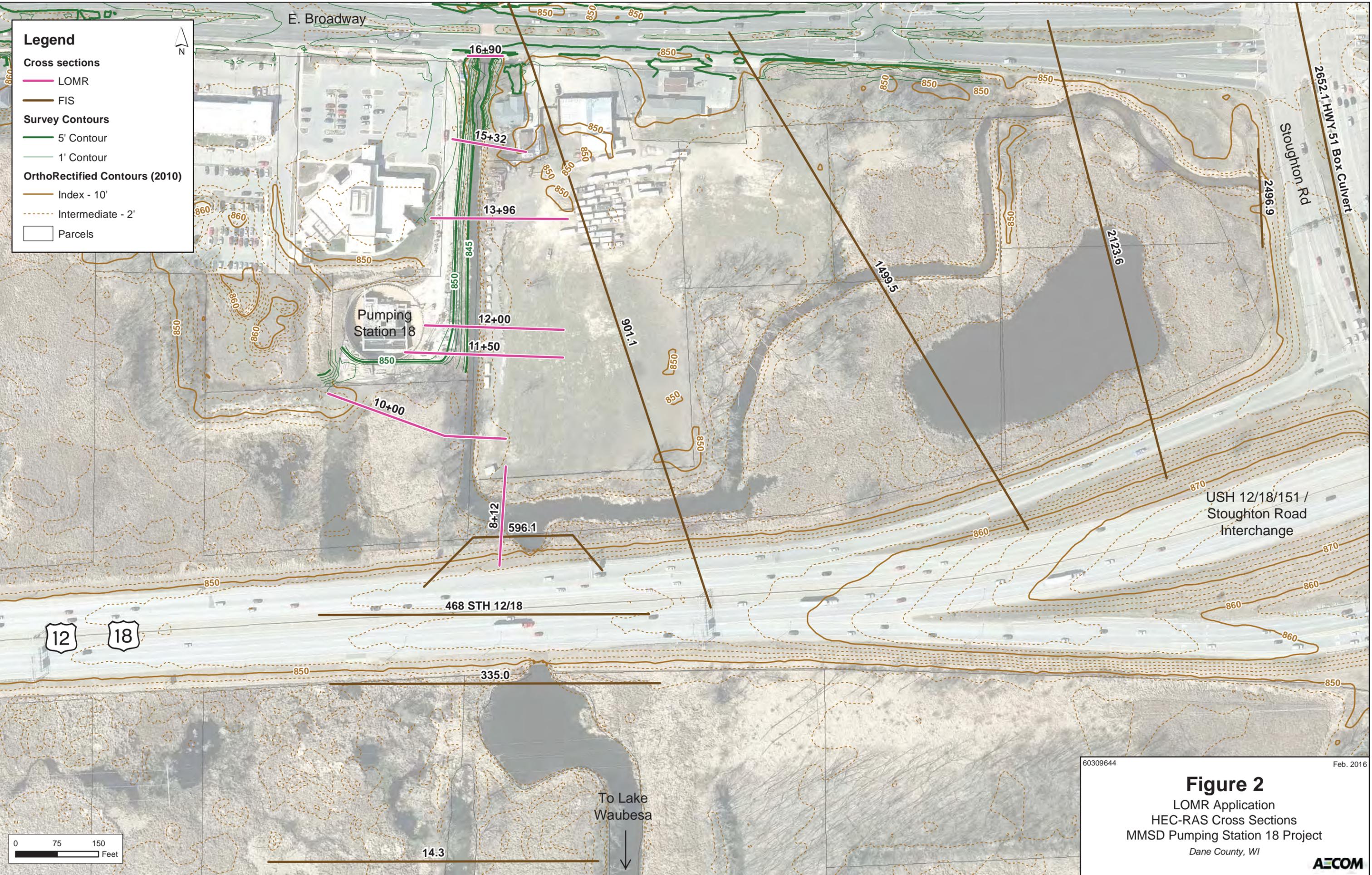
Survey Contours

- 5' Contour
- 1' Contour

OrthoRectified Contours (2010)

- Index - 10'
- Intermediate - 2'

Parcels



60309644 Feb. 2016

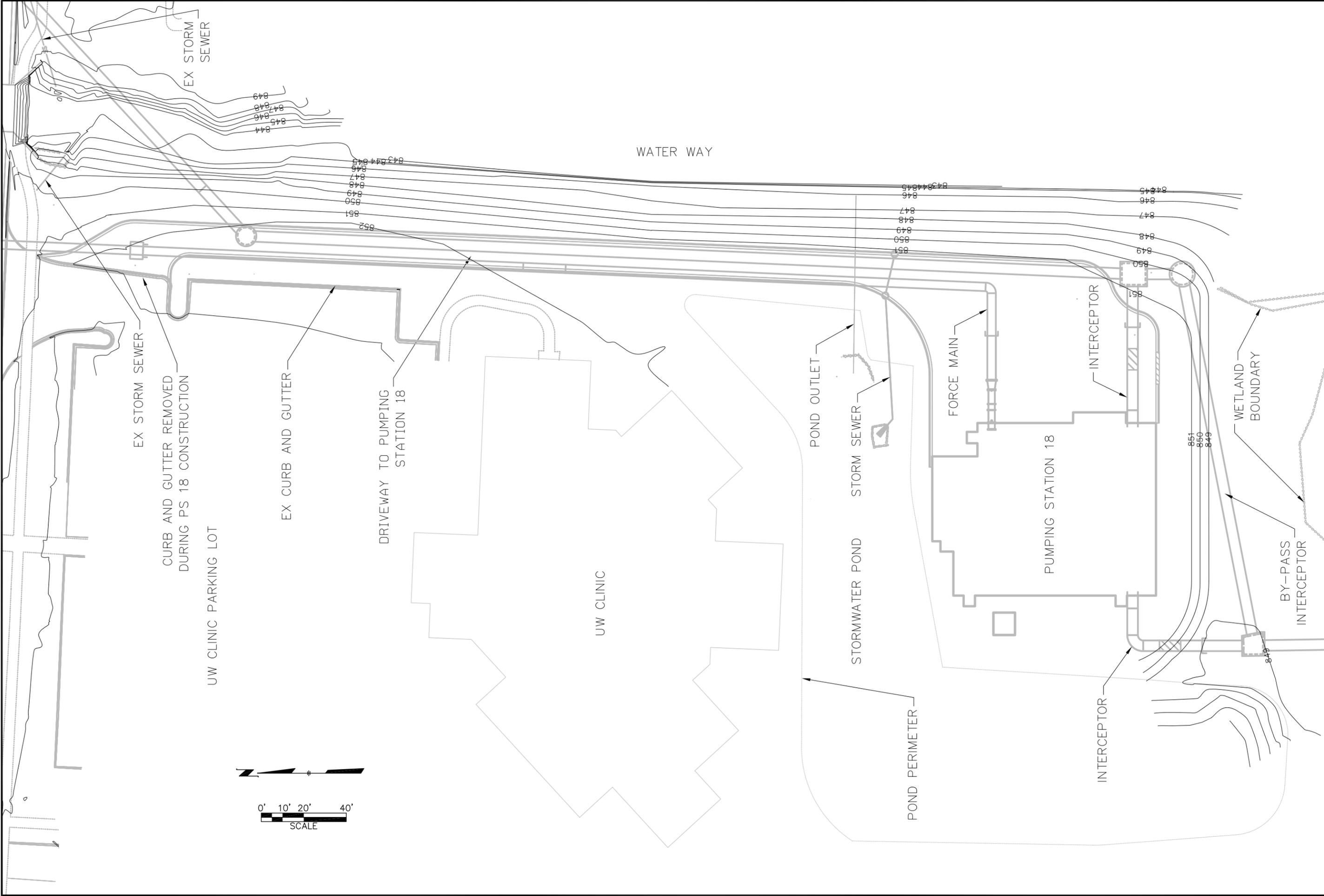
Figure 2
 LOMR Application
 HEC-RAS Cross Sections
 MMSD Pumping Station 18 Project
 Dane County, WI

AECOM

Appendix B

Project Plan

- Post-Project Site Plan



Appendix C

MT-2 Forms

- Overview & Concurrence Form
- Riverine Hydrology & Hydraulics Form

DEPARTMENT OF HOMELAND SECURITY
 FEDERAL EMERGENCY MANAGEMENT AGENCY
OVERVIEW AND CONCURRENCE FORM

OMB NO. 1660-0016
 Expires May 31, 2017

C. REVIEW FEE	
Has the review fee for the appropriate request category been included?	<input checked="" type="checkbox"/> Yes, Fee Amount: \$ <u>8000</u> <input type="checkbox"/> No, Attach Explanation
Please see the DHS-FEMA website at http://fema.gov/plan/prevent/fhm/fm_fees.shtm for Fee Amounts and Exemptions.	

D. SIGNATURE		
All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States code, Section 1001.		
Name Bruce Borelli, Director of Engineering	Company Madison Metropolitan Sewerage District	
Mailing Address 1610 Moorland Road Madison, WI 53719-3398	Daytime Telephone No. 608-222-1201	FAX No. 608-222-2703
	EMAIL ADDRESS bruceb@madsewer.com	
Signature Of Requester (Required) <i>B. Borelli</i>		Date 03-24-2016

As the community official responsible for floodplain management, I hereby acknowledge that we have received and reviewed this Letter of of Map Revision (LOMR) or conditional LOMR request. Based upon the community's review, we find the completed or proposed project meets or is designed to meet all of the community floodplain management requirements, including the requirement that no fill be placed in the regulatory floodway, and that all necessary Federal, State, and local permits have been, or in the case of a conditional a LOMR, will be obtained. In addition, we have determined that the land and any existing or proposed structures to be removed from the SFHA are or will be reasonably safe from flooding as defined in 44 CFR 65.2(c), and that we have available upon request by DHS-FEMA, all analyses and documentation used to make this determination.

Community Official's Name and Title Sonja Reichertz, City Planner and Economic Development Director	Date	
Mailing Address 5211 Schluter Road Monona, WI 53716	Daytime Telephone No. 608-222-2525	FAX No. N/A
	EMAIL ADDRESS sreichertz@ci.monona.wi.us	
Community Official's signature (required) <i>Sonja Reichertz</i>		Date 4-5-2016

CERTIFICATION BY REGISTRATION PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR
 This certification is to be signed and sealed by a licensed land surveyor, registered professional engineer, or architect authorized by law to certify elevation information data, hydrologic and hydraulic analysis, and any other supporting information as per NFIP regulations paragraph 65.2(b) and as described in the MT-2 Forms Instructions. All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Certifier's Name Carla Fischer, PE	License No. E-43830 (WI)	Expiration Date 07/31/2016
Company Name AECOM	Telephone No. 608-828-8128	Fax No. 608-836-9767
Signature Fischer, Carla	<small>Digitally signed by Fischer, Carla DN: dc=com, dc=aecomnet, dc=wi, ou=AECOMUsers, ou=USMSwest, ou=USMSN1, cn=Fischer, Carla Date: 2016.03.24 10:13:17 -0500</small>	Date 3/24/2016

Ensure the forms that are appropriate to your revision request are included in your submittal.

Form name and (Number)	Required if....
<input checked="" type="checkbox"/> Riverine Hydrology & Hydraulics Form (Form 2)	New or revised discharges or water-surface elevations
<input type="checkbox"/> Riverine Structures Form (Form 3)	Channel is modified, addition/revision of bridge/culverts, addition/revision of levee/floodwall, addition/revision of dam
<input type="checkbox"/> Coastal Analysis Form (Form 4)	New or revised coastal elevations
<input type="checkbox"/> Coastal Structures Form (Form 5)	Addition/revision of coastal structure
<input type="checkbox"/> Alluvial Fan Flooding Form (Form 6)	Flood control measures on alluvial fans

Seal (optional)

DEPARTMENT OF HOMELAND SECURITY
 FEDERAL EMERGENCY MANAGEMENT AGENCY
RIVERINE HYDROLOGY & HYDRAULICS FORM

OMB NO. 1660-0016
 Expires May 31, 2017

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 3.5 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless a valid OMB control number appears in the upper right corner of this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 500 C Street, SW, Washington, DC, 20472, Paperwork Reduction Project (1660-0016). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

PRIVACY ACT STATEMENT

AUTHORITY: The National Flood Insurance Act of 1968, Public Law 90-448, as amended by the Flood Disaster Protection Act of 1973, Public Law 93-234.

PRINCIPAL PURPOSE(S): This information is being collected for the purpose of determining an applicant's eligibility to request changes to National Flood Insurance Program (NFIP) Flood Insurance Rate Maps (FIRM).

ROUTINE USE(S): The information on this form may be disclosed as generally permitted under 5 U.S.C § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/FEMA/NFIP/LOMA-1 National Flood Insurance Program (NFIP); Letter of Map Amendment (LOMA) February 15, 2006, 71 FR 7990.

DISCLOSURE: The disclosure of information on this form is voluntary; however, failure to provide the information requested may delay or prevent FEMA from processing a determination regarding a requested change to a (NFIP) Flood Insurance Rate Maps (FIRM).

Flooding Source: Unnamed Tributary to Lake Waubesa

Note: Fill out one form for each flooding source studied.

A. HYDROLOGY

1. Reason for New Hydrologic Analysis (check all that apply)

- Not revised (skip to section 2)
 No existing analysis
 Improved data
 Alternative methodology
 Proposed Conditions (CLOMR)
 Changed physical condition of watershed

2. Comparison of Representative 1%-Annual-Chance Discharges

Location	Drainage Area (Sq. Mi.)	FIS (cfs)	Revised (cfs)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

3. Methodology for New Hydrologic Analysis (check all that apply)

- Statistical Analysis of Gage Records
 Precipitation/runoff Model _____ (TR-20, HEC-1, HEC-HMS, etc.)
 Regional Regression Equations
 Other (please attach description)

Please enclose all relevant models in digital format, maps, computations (including computation of parameters), and documentation to support the new analysis. The document, "Numerical Models Accepted by FEMA for NFIP Usage" lists the models accepted by FEMA. This document can be found at: http://www.fema.gov/mit/tsd/en_modl.htm.

4. Review/Approval of Analysis.

If your community requires a regional, state, or federal agency to review the hydrologic analysis, please attach evidence of approval/review.

5. Impacts of Sediment Transport on Hydrology

Was sediment transport considered? Yes No

If Yes, fill out Section F (Sediment Transport) of Form 3. If No, attach your explanation for why sediment transport was not considered.

DEPARTMENT OF HOMELAND SECURITY
 FEDERAL EMERGENCY MANAGEMENT AGENCY
RIVERINE HYDROLOGY & HYDRAULICS FORM

OMB NO. 1660-0016
 Expires May 31, 2017

B. HYDRAULICS

1. Reach to be Revised

Water-Surface Elevations (ft.)

	Description	Cross Section	Effective	Proposed/Revised
Downstream Limit	<u>Mouth of drainage ditch</u>	<u>8+12</u>	<u>849.260</u>	<u>849.260</u>
Upstream Limit	<u>DS of E. Broadway struct.</u>	<u>16+90</u>	<u>849.293</u>	<u>849.301</u>

2. Hydraulic Method Used

Hydraulic Analysis HEC-RAS 4.1.0 HEC-2, HEC-RAS, Other (Attach description)

3. Pre-Submittal Review of Hydraulic Models

FEMA has developed two review programs, CHECK-2 and CHECK-RAS to aid in the review of HEC-2 and HEC-RAS hydraulic models, respectively. These review programs verify that the hydraulic estimates and assumptions in the model data are in accordance with NFIP requirements, and that the data are comparable with the assumptions and limitations of HEC-2/HEC-RAS. CHECK-2 and CHECK-RAS identify areas of potential error or concern. These tools do not replace engineering judgement. CHECK-2 and CHECK-RAS can be downloaded from http://www.fema.gov/mit/tsd/frm_soft.htm. We recommend that you review your HEC-2 and HEC-RAS models with CHECK-2 and CHECK-RAS. If you disagree with a message, please attach an explanation of why the message is not valid in this case. Review of your submittal and resolution of valid modeling discrepancies will result in reduced review time.

HEC-2/HEC-RAS models reviewed with CHECK-2/CHECK-RAS? Yes No

4. Models Submitted

Duplicate Effective Model*	Natural File Name <u>MMSD_FloodStudy.prj</u>	Floodway File Name <u>Effective, *.p06</u>
Corrective Effective Model*	Natural File Name <u>MMSD_FloodStudy.prj</u>	Floodway File Name <u>Corr. Eff., *.p04</u>
Existing or Pre-Project Conditions Model	Natural File Name <u>MMSD_FloodStudy.prj</u>	Floodway File Name <u>Pre-Proj., *.p05</u>
Revised or Post-Project Conditions Model	Natural File Name <u>MMSD_FloodStudy.prj</u>	Floodway File Name <u>Post-Proj., *.p01</u>
Other - (attach description)	Natural File Name _____	Floodway File Name _____

*Not required for revisions to approximate 1%-annual-chance floodplains (Zone A) - for details, refer to the corresponding section of the instructions.

The document "Numerical Models Accepted by FEMA for NFIP Usage" list the models accepted by FEMA. This document can be found at: http://www.fema.gov/mit/tsd/en_modl.htm.

C. MAPPING REQUIREMENTS

A certified topographic map must be submitted showing the following information (where applicable): the boundaries of the effective, existing, and proposed conditions 1%-annual-chance floodplain (for approximate Zone A revisions) or the boundaries of the 1%-and 0.2%-annual-chance floodplains and regulatory floodway (for detailed Zone AE, AO, and AH revisions); location and alignment of all cross sections with stationing control indicated; stream, road, and other alignments (e.g. dams, levees, etc.); current community easements and boundaries; boundaries of the requester's property; certification of a registered professional engineer registered in the subject State; location and description of reference marks; and the referenced vertical datum (NGVD, NAVD, etc.).

Note that the boundaries of the existing or proposed conditions floodplains and regulatory floodway to be shown on the revised FIRM and/or FBFM must tie-in with the effective floodplain and regulatory floodway boundaries. Please attach **a copy of the effective FIRM and/or FBFM**, annotated to show the boundaries of the revised 1%-and 0.2%-annual-chance floodplains and regulatory floodway that tie-in with the boundaries of the effective 1%-and 0.2%-annual-chance floodplain and regulatory floodway at the upstream and downstream limits of the area on revision.

D. COMMON REGULATORY REQUIREMENTS

1. For LOMR/CLOMR Requests, do Base Flood Elevations (BFEs) Increase? Yes No

For LOMR/CLOMR requests, if either of the following is true, please submit evidence of compliance with Section 65.12 of the NFIP regulations:

* The proposed project encroaches upon a regulatory floodway and would result in increases above 0.00 foot compared to pre-project conditions.

* The proposed project encroaches upon a SFHA with BFEs established and would result in increases above 1.00 foot.

2. Does the request involve the placement of proposed placement of fill? Yes No

DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY
RIVERINE HYDROLOGY & HYDRAULICS FORM

OMB NO. 1660-0016
Expires May 31, 2017

If Yes, the community must acknowledge that the area to be removed from the special flood hazard area, to include any structures or proposed structures, meets (will meet) all of the standards of the local floodplain ordinances, and is (will be) reasonably safe from flooding in accordance with NFIP regulation 44 CFR 65.2(c). Please see the MT-2 instructions for more information.

3. For LOMR requests, is the regulatory floodway being revised? Yes No

If Yes, attach evidence of regulatory floodway revised notification. As per paragraph 65.7(b)(1) of the NFIP regulations, notification is required for requests involving revisions to the regulatory floodway. (Not required for revisions to approximate 1%-annual-chance floodplains (studied Zone A designation) unless a regulatory floodway is being added. Elements and examples of regulatory floodway revision notification can be found in the MT-2 Form 2 instructions.)

4. For LOMR requests, does this request require property owner notification and acceptance of BFE increase? Yes No

If Yes, please attach proof of property owner notification and acceptance (if available). Elements of and examples of property owner notification can be found in the MT-2 form 2 instructions.

Appendix D

Hydraulic Results

- Table D-1 – Dup.Eff. vs. Corr. Eff. WSE (reference CLOMR)
- Table D-2 – Corr. Eff. vs. Prop. WSE (reference CLOMR)
- Table D-3 – Eff. vs. Corr. Eff. vs. Pre-Proj. vs. Post-
Proj. WSE

Table D-3
MMSD Pumping Station 18
LOMR Request

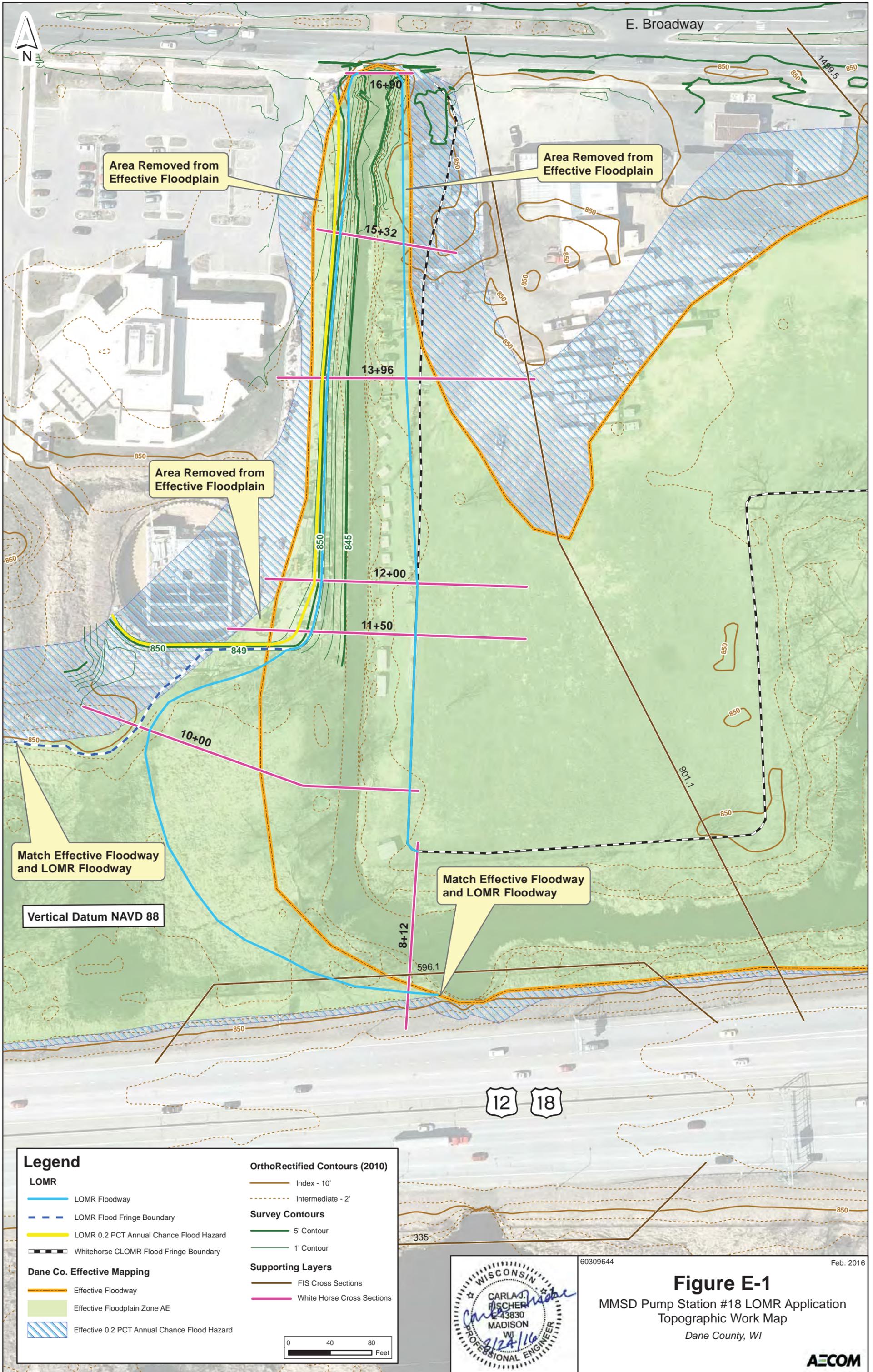
River Station	100-yr Water Surface Elev (ft)					
	Effective	Corrected Effective	Pre-Project (CLOMR)	Post-Project (As-Built) (LOMR)	CLOMR - Corr. Eff.	LOMR - Corr. Eff.
16+90	849.293	849.304	849.309	849.301	0.005	-0.003
15+32	849.279	849.276	849.281	849.280	0.005	0.004
13.+96	849.274	849.273	849.274	849.272	0.001	-0.001
12+00	849.264	849.264	849.264	849.265	0.000	0.001
11+50	N/A	849.264	849.263	849.263	-0.001	-0.001
10+00	849.261	849.263	849.263	849.263	0.000	0.000
8+12 *	849.260	849.260	849.260	849.260	0.000	0.000

* 9+68.3 6 in Effective model, renamed during CLOMR to more accurately reflect XS location

Appendix E

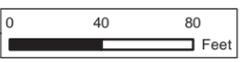
Post-Project Floodplain Maps

- Figure E-1 – Topographic Work Map
- Post-Project FIRM



Legend

- | | | | |
|-----------------------------------|--|---------------------------------------|----------------------------|
| LOMR | | OrthoRectified Contours (2010) | |
| | LOMR Floodway | | Index - 10' |
| | LOMR Flood Fringe Boundary | | Intermediate - 2' |
| | LOMR 0.2 PCT Annual Chance Flood Hazard | Survey Contours | |
| | Whitehorse CLOMR Flood Fringe Boundary | | 5' Contour |
| Dane Co. Effective Mapping | | | 1' Contour |
| | Effective Floodway | Supporting Layers | |
| | Effective Floodplain Zone AE | | FIS Cross Sections |
| | Effective 0.2 PCT Annual Chance Flood Hazard | | White Horse Cross Sections |



60309644 Feb. 2016

Figure E-1
 MMSD Pump Station #18 LOMR Application
 Topographic Work Map
 Dane County, WI



NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

The projection used in the preparation of this map was Universal Transverse Mercator (UTM) zone 18. The horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA NNGS12
National Geodetic Survey
SSMC-3, #6202
1215 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was provided by Dane County Land Information Office and Fly Dane Partnership. The aerial photography was acquired in the spring of 2005 to create a 1" 200' scale digital orthophotos with 1-foot ground resolution and resampled to a 1-meter ground resolution.

Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables for multiple streams in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unreviewed streams may differ from what is shown on previous maps.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

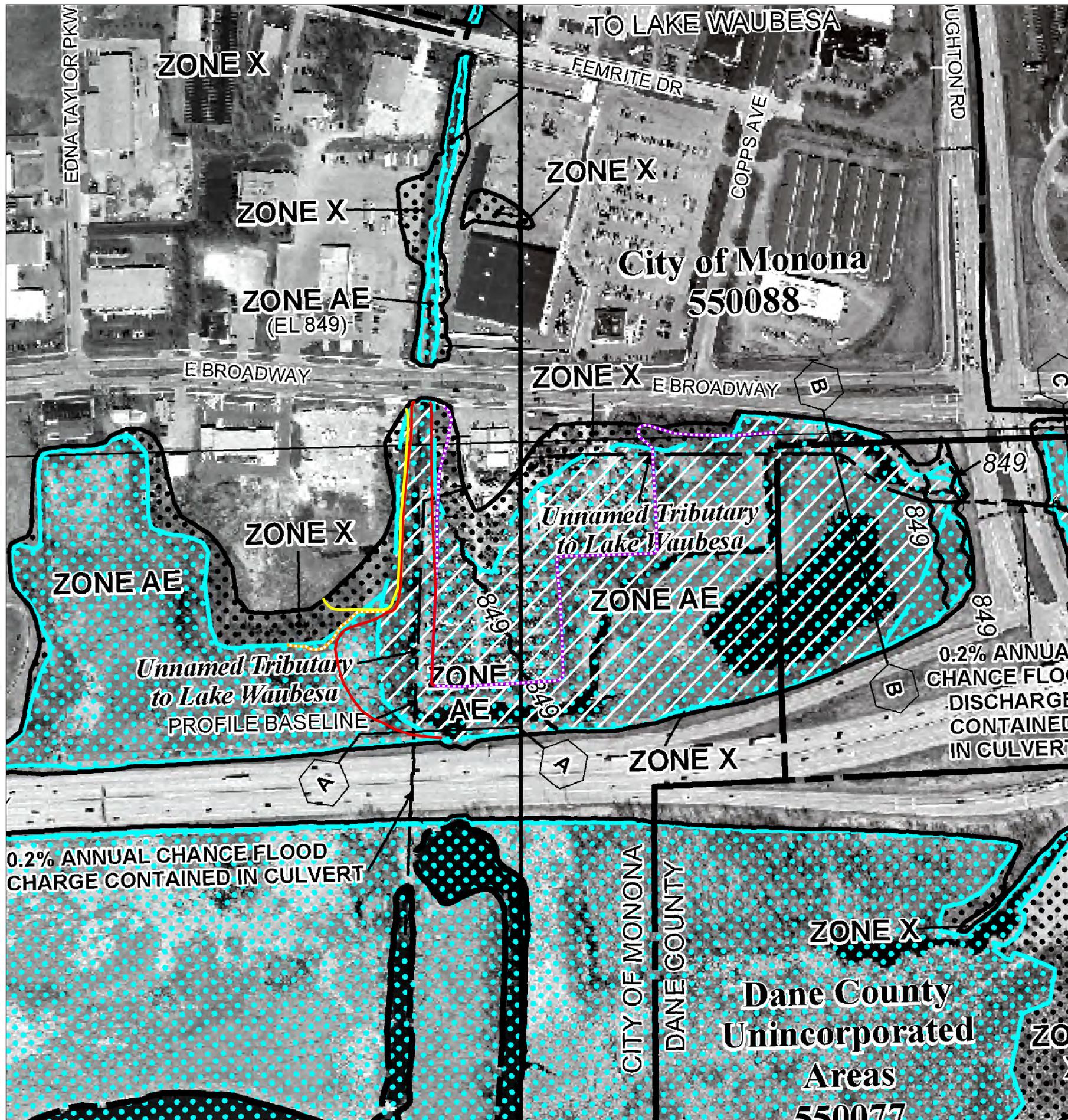
Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the FEMA Map Service Center at 1-800-358-9618 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at <http://www.nsc.fema.gov>.

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov>.

Legend

-  LOMR Zone X
-  LOMR Floodway
-  LOMR Flood Fringe
-  Whitehorse CLOMR Flood Fringe



LEGEND

-  SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD
-  The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, AV, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.
-  ZONE A
No Base Flood Elevations determined.
-  ZONE AE
Base Flood Elevations determined.
-  ZONE AH
Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
-  ZONE AO
Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined; For areas of alluvial fan flooding, velocities also determined.
-  ZONE AR
Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently determined. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
-  ZONE ARB
Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
-  ZONE V
Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
-  ZONE VE
Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.
-  FLOODWAY AREAS IN ZONE AE
-  OTHER FLOOD AREAS
-  ZONE X
Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
-  OTHER AREAS
-  ZONE X
Areas determined to be outside the 0.2% annual chance floodplain.
-  ZONE D
Areas in which flood hazards are undetermined, but possible.
-  COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
-  OTHERWISE PROTECTED AREAS (OPAs)
-  CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
-  1% Annual Chance Floodplain Boundary
-  0.2% Annual Chance Floodplain Boundary
-  Floodway boundary
-  Zone boundary
-  CBRS and OPA boundary
-  Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, Flood depths or flood velocities.
-  Base Flood Elevation line and value; elevation in feet
-  Base Flood Elevation value where uniform within zone; elevation in feet

Referenced to the North American Vertical Datum of 1988

 Cross section line

 Transect line

48° 02' 08", 93° 02' 12"
3100000 FT
1983 (NAD 83) Western Hemisphere
5000-foot ticks: Wisconsin State Plane South Zone (FIPS Zone 4803), Lambert Conformal Conic projection
1000-meter Universal Transverse Mercator grid values, zone 18N
DMS10 X
* M1.0
Bench mark (see explanation in Notes to Users section of this FIRM panel)

River Mile
MAP REPOSITORIES
Refer to Map Repository list on Map Index

EFFECTIVE DATE OF COUNTY-WIDE FLOOD INSURANCE RATE MAP
June 17, 2009

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
January 2, 2009 - to update corporate limits, to change Base Flood Elevations and Special Flood Hazard Areas, to update map format, to add roads and road names, to reflect updated topographic information, and to incorporate previously issued letters of Map Revision.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6622.



 0 50 100 200 300 Feet

PANEL 0437G

FIRM
FLOOD INSURANCE RATE MAP

DANE COUNTY, WISCONSIN AND INCORPORATED AREAS

PANEL 437 OF 850
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DANE COUNTY	550077	3437	3
MADISON CITY OF	550063	3437	3
MCPHARLAND VILLAGE OF	550066	3437	3
MONONA CITY OF	550068	3437	3

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER
55025C0437G
MAP REVISED
JANUARY 02, 2009
Federal Emergency Management Agency

Appendix F

Digital Data

- HEC-RAS
- GIS Shapefiles
- CAD file of survey

Included in attached 12-05-1016R_LOMR.zip file

Appendix G

FEMA CLOMR Approval Letter



Federal Emergency Management Agency

Washington, D.C. 20472

APR 12 2012

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Robert Miller
Mayor, City of Monona
5211 Schluter Rd.
Monona, WI 53716

IN REPLY REFER TO:

Case No.: 12-05-1016R
Community Name: City of Monona, WI
Community No.: 550088

Dear Mayor Miller:

We are providing our comments with the enclosed Conditional Letter of Map Revision (CLOMR) on a proposed project within your community that, if constructed as proposed, could revise the effective Flood Insurance Rate Map, for your community.

If you have any questions regarding the floodplain management regulations for your community, the National Flood Insurance Program (NFIP) in general, or technical questions regarding this CLOMR, please contact the Director, Mitigation Division of the Federal Emergency Management Agency (FEMA) Regional Office in Chicago, IL, at (312) 408-5245, or the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP). Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Sincerely,

David N. Bascom, CFM
Program Specialist
Engineering Management Branch
Federal Insurance and Mitigation Administration

For: Luis Rodriguez, P.E., Chief
Engineering Management Branch
Federal Insurance and Mitigation Administration

List of Enclosures:

Conditional Letter of Map Revision Comment Document

cc: Mr. Bruce Borelli
Director of Engineering
Madison Metropolitan Sewerage District
1610 Moorland Road
Madison, WI 53719

Mr. Paul Kachelmeien
Planning and Community Development Coordinator
City of Monona
5211 Schluter Road
Monona, WI 53716

Ms. Kelly S. Mattfield, P.E.
Project Manager
AECOM
1350 Deming Way Suite 100
Middleton, WI 53562

Mr. Gary Heinrichs
Wisconsin Department of Natural Resources
P.O. Box 7921
Madison, WI 53707



Federal Emergency Management Agency

Washington, D.C. 20472

CONDITIONAL LETTER OF MAP REVISION COMMENT DOCUMENT

COMMUNITY INFORMATION		PROPOSED PROJECT DESCRIPTION	BASIS OF CONDITIONAL REQUEST
COMMUNITY	City of Monona Dane County Wisconsin	FILL	HYDROLOGIC ANALYSIS HYDRAULIC ANALYSIS FLOODWAY
	COMMUNITY NO.: 550088		
IDENTIFIER	MMSD Pump Station 18	APPROXIMATE LATITUDE & LONGITUDE: 43.047, -89.314 SOURCE: USGS QUADRANGLE DATUM: NAD 83	
AFFECTED MAP PANELS			
TYPE: FIRM*	NO.: 55025C0437G	DATE: January 02, 2009	* FIRM - Flood Insurance Rate Map ** FBFM - Flood Boundary and Floodway Map *** FHBM - Flood Hazard Boundary Map

FLOODING SOURCE(S) AND REACH DESCRIPTION

See Page 2 for Additional Flooding Sources

Tributary A to Unnamed Tributary to Lake Waubesa – From just downstream of E Broadway Street to Confluence with Unnamed Tributary to Lake Waubesa

PROPOSED PROJECT DESCRIPTION

Flooding Source	Proposed Project	Location of Proposed Project
Tributary A to Unnamed Tributary to Lake Waubesa	Fill Placement	Just South of E. Broadway Street

SUMMARY OF IMPACTS TO FLOOD HAZARD DATA

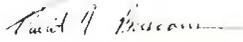
Flooding Source	Effective Flooding	Proposed Flooding	Increases	Decreases
Tributary A to Unnamed Tributary to Lake Waubesa	Zone AE	Zone AE	None	Yes
	BFEs	BFEs	Yes	None
	Floodway	Floodway	Yes	Yes
	Zone X (shaded)	Zone X (shaded)	Yes	None

* BFEs - Base (1-percent-annual-chance) Flood Elevations

COMMENT

This document provides the Federal Emergency Management Agency's (FEMA's) comment regarding a request for a CLOMR for the project described above. This document is not a final determination; it only provides our comment on the proposed project in relation to the flood hazard information shown on the effective National Flood Insurance Program (NFIP) map. We reviewed the submitted data and the data used to prepare the effective flood hazard information for your community and determined that the proposed project meets the minimum floodplain management criteria of the NFIP. Your community is responsible for approving all floodplain development and for ensuring that all permits required by Federal or State/Commonwealth law have been received. State/Commonwealth, county, and community officials, based on their knowledge of local conditions and in the interest of safety, may set higher standards for construction in the Special Flood Hazard Area (SFHA), the area subject to inundation by the base flood. If the State/Commonwealth, county, or community has adopted more restrictive or comprehensive floodplain management criteria, these criteria take precedence over the minimum NFIP criteria.

This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 7390 Coca Cola Drive, Suite 204, Hanover, MD 21076. Additional information about the NFIP is available on the FEMA website at <http://www.fema.gov/nfip>.


David N. Bascom, CFM, Program Specialist
Engineering Management Branch
Federal Insurance and Mitigation



Federal Emergency Management Agency
Washington, D.C. 20472

**CONDITIONAL LETTER OF MAP REVISION
COMMENT DOCUMENT (CONTINUED)**

COMMUNITY INFORMATION

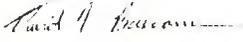
To determine the changes in flood hazards that will be caused by the proposed project, we compared the hydraulic modeling reflecting the proposed project (referred to as the proposed conditions model) to the hydraulic modeling used to prepare the Flood Insurance Study (FIS) (referred to as the effective model). If the effective model does not provide enough detail to evaluate the effects of the proposed project, an existing conditions model must be developed to provide this detail. This existing conditions model is then compared to the effective model and the proposed conditions model to differentiate the increases or decreases in flood hazards caused by more detailed modeling from the increases or decreases in flood hazards that will be caused by the proposed project.

The table below shows the changes in the BFEs:

BFE Comparison Table

Flooding Source:		BFE Change (feet)	Location of maximum change
Existing vs. Effective	Maximum increase	0.0	
	Maximum decrease	0.0	
Proposed vs. Existing	Maximum increase	0.0	
	Maximum decrease	0.0	
Proposed vs. Effective	Maximum increase	0.0	
	Maximum decrease	0.0	

This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 7390 Coca Cola Drive, Suite 204, Hanover, MD 21076. Additional information about the NFIP is available on the FEMA website at <http://www.fema.gov/nfip>.


 David N. Bascom, CFM, Program Specialist
 Engineering Management Branch
 Federal Insurance and Mitigation



Federal Emergency Management Agency

Washington, D.C. 20472

CONDITIONAL LETTER OF MAP REVISION COMMENT DOCUMENT (CONTINUED)

COMMUNITY INFORMATION (CONTINUED)

DATA REQUIRED FOR FOLLOW-UP LOMR

Upon completion of the project, your community must submit the data listed below and request that we make a final determination on revising the effective FIRM, and FIS report. If the project is built as proposed and the data below are received, a revision to the FIRM, and FIS report would be warranted.

- Form 1, entitled "Overview & Concurrence Form". Detailed application and certification forms must be used for requesting final revisions to the maps. Therefore, when the map revision request for the area covered by this letter is submitted, Form 1 must be included. If as-built conditions differ from the proposed plans, please submit new forms, which may be accessed at http://www.fema.gov/plan/prevent/fhm/dl_mt-2.shtm, or annotated copies of the previously submitted forms showing the revised information.
- Hydraulic analyses, for as-built conditions, of the base flood; and the regulatory floodway, together with a topographic work map showing the revised floodplain and floodway boundaries. Please ensure that the revised information ties in with the current effective information at the downstream and upstream ends of the revised reach.
- An annotated copy of the FIRM, at the scale of the effective FIRM, that shows the revised floodplain and floodway boundary delineations shown on the submitted work map and how they tie into the floodplain and floodway boundary delineations shown on the current effective FIRM at the downstream and upstream ends of the revised reach
- As-built plans, certified by a registered professional engineer, of all proposed project elements
- A copy of the public notice distributed by your community, stating its intent to revise the regulatory floodway, or a signed statement by your community that it has notified all affected property owners and affected adjacent jurisdictions
- Documentation of the individual legal notices sent to property owners who will be affected by any widening/shifting of the base floodplain and/or any BFE increases along Tributary A to Unnamed Tributary to lake Waubesa
- Evidence that your community has, prior to approval of the proposed encroachment, adopted floodplain management ordinances that incorporate the increased BFEs and revised floodway boundary delineations to reflect the post-project conditions, as stated in Paragraph 65.12(b)

This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 7390 Coca Cola Drive, Suite 204, Hanover, MD 21076. Additional Information about the NFIP is available on the FEMA website at <http://www.fema.gov/nfip>.


David N. Bascom, CFM, Program Specialist
Engineering Management Branch
Federal Insurance and Mitigation



Federal Emergency Management Agency

Washington, D.C. 20472

CONDITIONAL LETTER OF MAP REVISION COMMENT DOCUMENT (CONTINUED)

COMMUNITY INFORMATION (CONTINUED)

• A letter stating that your community will adopt and enforce the modified regulatory floodway, OR, if the State/Commonwealth has jurisdiction over either the regulatory floodway or its adoption by your community, a copy of your community's letter to the appropriate State/Commonwealth agency notifying it of the modification to the regulatory floodway and a copy of the letter from that agency stating its approval of the modification

• FEMA's fee schedule for reviewing and processing requests for conditional and final modifications to published flood information and maps may be accessed at http://www.fema.gov/plan/prevent/flm/firm_fees.shtm. The fee at the time of the map revision submittal must be received before we can begin processing the request. Payment of this fee can be made through a check or money order, made payable in U.S. funds to the National Flood Insurance Program, or by credit card (Visa or MasterCard only). Please forward the payment, along with the revision application, to the following address:

LOMC Clearinghouse
7390 Coca Cola Drive, Suite 204
Hanover, Maryland 21076

After receiving appropriate documentation to show that the project has been completed, FEMA will initiate a revision to the FIRM, and FIS report. Because the flood hazard information (i.e., base flood elevations, base flood depths, SFHAs, zone designations, and/or regulatory floodways) will change as a result of the project, a 90-day appeal period will be initiated for the revision, during which community officials and interested persons may appeal the revised flood hazard information based on scientific or technical data.

This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 7390 Coca Cola Drive, Suite 204, Hanover, MD 21076. Additional information about the NFIP is available on the FEMA website at <http://www.fema.gov/nfip>.


David N. Bascom, CFM, Program Specialist
Engineering Management Branch
Federal Insurance and Mitigation



Federal Emergency Management Agency
Washington, D.C. 20472

**CONDITIONAL LETTER OF MAP REVISION
COMMENT DOCUMENT (CONTINUED)**

COMMUNITY INFORMATION (CONTINUED)

COMMUNITY REMINDERS

We have designated a Consultation Coordination Officer (CCO) to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:

Ms. Christine Stack
Director, Mitigation Division
Federal Emergency Management Agency, Region 5
536 South Clark Street, Sixth Floor
Chicago, IL 60605
(312) 408-5245

This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 7390 Coca Cola Drive, Suite 204, Hanover, MD 21076. Additional information about the NFIP is available on the FEMA website at <http://www.fema.gov/nfip>.

A handwritten signature in cursive script, appearing to read "David N. Bascom".

David N. Bascom, CFM, Program Specialist
Engineering Management Branch
Federal Insurance and Mitigation



June 15, 2016

Ms. Sonja Reichertz
City of Monona
5211 Schluter Road
Monona, WI 53716-2598

Subject: Floodplain Study Review - MMSD Pump Station 18 LOMR Submittal, City of Monona,
Unnamed Tributary to Lake Waubesa

Dear Ms. Reichertz:

As per your request, we have completed our technical review of the floodplain study performed for the Unnamed Tributary to Lake Waubesa in the City of Monona. The study was prepared for construction of MMSD Pump Station #18. The project has received a CLOMR previously and the purpose of this submittal is to include the as-built information for the final LOMR submittal. The final study was completed by AECOM and submitted under the professional seal of Carla Fischer, P.E. The study meets the Standards of NR 116, Wisconsin Administrative Code and is hereby approved.

Prior to adoption and rezoning of the mapped floodplain, the study must receive a Letter of Map Revision (LOMR) from FEMA. Upon receipt of the final LOMR approval, the study must be adopted into the City of Monona's floodplain zoning ordinance. Please pay particular attention to the Class 2 notice requirements for public hearings. The second publication must at least one week before the hearing. A certified copy of the approved ordinance amendment adopting the study along with evidence of a Class 2 public hearing notice must be sent to the Department for final administrative review and approval.

If you have any questions relative to the FEMA requirements, the FEMA Region 5 contact for Wisconsin is John Devine. John can be reached at (312) 408-5567 or by email at john.devine@fema.dhs.gov. This approval only relates to the Standards of NR 116 and does not relieve the applicant of other necessary Federal, State or Local requirements. If you have any questions relative to this review and approval, please feel free to contact me.

Sincerely,



Robert R. Davis, P.E.
Water Management Engineer
Southern District
Robert.Davis@Wisconsin.gov
608-275-3316

cc: Carla Fischer, P.E. - AECOM (via e-mail)



Federal Emergency Management Agency

Washington, D.C. 20472

August 10, 2016

RECEIVED

AUG 15 2016

AECOM
MADISON, WI

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Bob Miller
Mayor, City of Monona
5211 Schluter Road
Monona, WI 53716

IN REPLY REFER TO:

Case No.: 16-05-3951P
Follows Conditional
Case No.: 12-05-1016R
Community Name: City of Monona, WI
Community No.: 550088
Effective Date of
This Revision: **December 30, 2016**

Dear Mayor Miller:

The Flood Insurance Study Report and Flood Insurance Rate Map for your community have been revised by this Letter of Map Revision (LOMR). Please use the enclosed annotated map panel revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals issued in your community.

Additional documents are enclosed which provide information regarding this LOMR. Please see the List of Enclosures below to determine which documents are included. Other attachments specific to this request may be included as referenced in the Determination Document. If you have any questions regarding floodplain management regulations for your community or the National Flood Insurance Program (NFIP) in general, please contact the Consultation Coordination Officer for your community. If you have any technical questions regarding this LOMR, please contact the Director, Mitigation Division of the Department of Homeland Security's Federal Emergency Management Agency (FEMA) in Chicago, Illinois, at (312) 408-5500, or the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP). Additional information about the NFIP is available on our website at <http://www.fema.gov/business/nfip>.

Sincerely,

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

List of Enclosures:

Letter of Map Revision Determination Document
Annotated Flood Insurance Rate Map
Annotated Flood Insurance Study Report

cc: Ms. Sonja Reichertz
City Planner and Economic Development Director, Monona

Ms. Michelle Staff
Wisconsin Department of Natural Resources

Ms. Carla Fischer, P.E.
Project Manager, AECOM

Mr. Bruce Borelli
Director of Engineer, MMSD

Follows Conditional Case No.: 12-05-1016R



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	City of Monona Dane County Wisconsin	FILL	FLOODWAY HYDRAULIC ANALYSIS NEW TOPOGRAPHIC DATA
	COMMUNITY NO.: 550088		
IDENTIFIER	Madison Metropolitan Sewerage District- Pumping Station 18	APPROXIMATE LATITUDE & LONGITUDE: 43.047, -89.314 SOURCE: Other DATUM: NAD 83	
ANNOTATED MAPPING ENCLOSURES		ANNOTATED STUDY ENCLOSURES	
TYPE: FIRM* NO.: 55025C0437G DATE: January 2, 2009		DATE OF EFFECTIVE FLOOD INSURANCE STUDY: June 16, 2016 PROFILE: 149P (NEW) FLOODWAY DATA TABLE: 24	

Enclosures reflect changes to flooding sources affected by this revision.

* FIRM - Flood Insurance Rate Map

FLOODING SOURCE & REVISED REACH

West Unnamed Tributary to Lake Waubesa - From confluence with Unnamed Tributary to Lake Waubesa to approximately 900 feet upstream of confluence with Unnamed Tributary to Lake Waubesa

SUMMARY OF REVISIONS

Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
West Unnamed Tributary to Lake Waubesa	Zone AE	Zone AE	YES	YES
	Zone X (shaded)	Zone X (shaded)	NONE	YES
	Floodway	Floodway	YES	YES

DETERMINATION

This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4605. Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Patrick "Rick" F. Sacbbit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration



Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

COMMUNITY INFORMATION

APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION

We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the FIS report and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.

We provide the floodway designation to your community as a tool to regulate floodplain development. Therefore, the floodway revision we have described in this letter, while acceptable to us, must also be acceptable to your community and adopted by appropriate community action, as specified in Paragraph 60.3(d) of the NFIP regulations.

COMMUNITY REMINDERS

We based this determination on the 1-percent-annual-chance flood discharges computed in the FIS for your community without considering subsequent changes in watershed characteristics that could increase flood discharges. Future development of projects upstream could cause increased flood discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on flood discharges subsequent to the publication of the FIS report for your community and could, therefore, establish greater flood hazards in this area.

Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State/Commonwealth law have been obtained. State/Commonwealth or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State/Commonwealth or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.

This revision has met our criteria for removing an area from the 1-percent-annual-chance floodplain to reflect the placement of fill. However, we encourage you to require that the lowest adjacent grade and lowest floor (including basement) of any structure placed within the subject area be elevated to or above the Base (1-percent-annual-chance) Flood Elevation.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4605. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

A handwritten signature in black ink, appearing to read "Rick F. Sacbbit".

Patrick "Rick" F. Sacbbit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration



Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

We have designated a Consultation Coordination Officer (CCO) to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:

Ms. Christine Stack
Director, Mitigation Division
Federal Emergency Management Agency, Region V
536 South Clark Street, Sixth Floor
Chicago, IL 60605
(312) 408-5500

STATUS OF THE COMMUNITY NFIP MAPS

We will not physically revise and republish the FIRM and FIS report for your community to reflect the modifications made by this LOMR at this time. When changes to the previously cited FIRM panel and FIS report warrant physical revision and republication in the future, we will incorporate the modifications made by this LOMR at that time.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4605. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

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Patrick "Rick" F. Sacibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration



Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

PUBLIC NOTIFICATION OF REVISION

A notice of changes will be published in the *Federal Register*. This information also will be published in your local newspaper on or about the dates listed below, and through FEMA's Flood Hazard Mapping website at https://www.floodmaps.fema.gov/fhm/bfe_status/bfe_main.asp

LOCAL NEWSPAPER

Name: *The Herald-Independent*

Dates: August 25, 2016 and September 1, 2016

Within 90 days of the second publication in the local newspaper, any interested party may request that we reconsider this determination. Any request for reconsideration must be based on scientific or technical data. Therefore, this letter will be effective only after the 90-day appeal period has elapsed and we have resolved any appeals that we receive during this appeal period. Until this LOMR is effective, the revised flood hazard determination presented in this LOMR may be changed.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4605. Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

A handwritten signature in black ink, appearing to read "Rick F. Sacbbit".

Patrick "Rick" F. Sacbbit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD88)	WITHOUT FLOODWAY (FEET NAVD88)	WITH FLOODWAY (FEET NAVD88)	INCREASE (FEET)
WEST UNNAMED TRIBUTARY TO LAKE WAUBESA								
A	437	79	268	0.5	849.3 ²	845.7	845.7	0.0
REVISED DATA								

¹ FEET ABOVE CONFLUENCE WITH UNNAMED TRIBUTARY TO LAKE WAUBESA

² BACKWATER EFFECTS FROM UNNAMED TRIBUTARY TO LAKE WAUBESA

REVISED TO REFLECT LOMR EFFECTIVE: DECEMBER 30, 2016

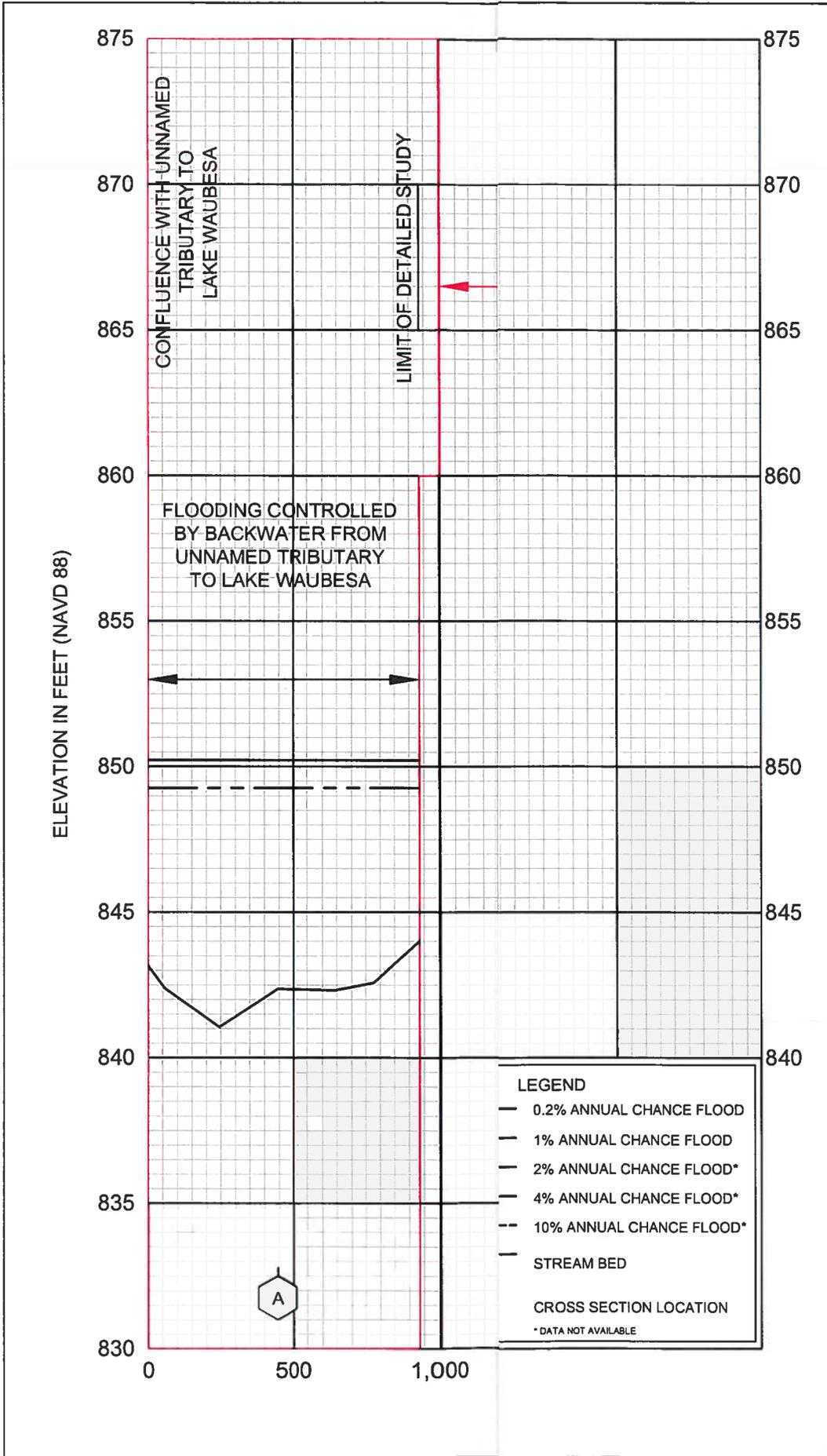
FEDERAL EMERGENCY MANAGEMENT AGENCY

DANE COUNTY, WI
AND INCORPORATED AREAS

FLOODWAY DATA

WEST UNNAMED TRIBUTARY TO LAKE WAUBESA

TABLE 24



FLOOD PROFILES

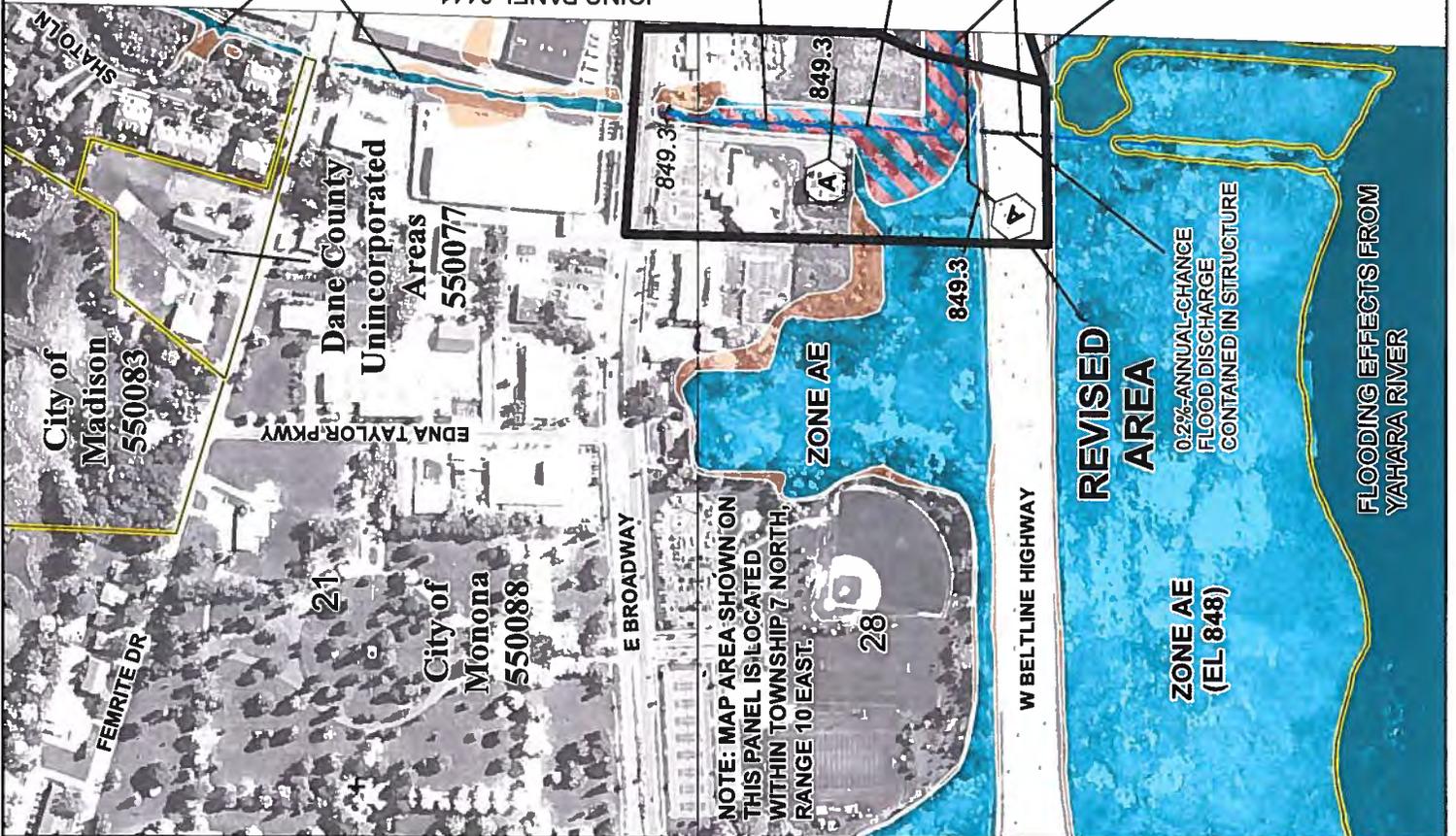
WEST UNNAMED TRIBUTARY TO LAKE WAUBESA

FEDERAL EMERGENCY MANAGEMENT AGENCY

DANE COUNTY, WI

AND INCORPORATED AREAS

REVISED TO REFLECT LOMR EFFECTIVE:



**ZONE AE
(EL 849)**

JOINS PANEL 0441

*West Unnamed
Tributary to
Lake Waubesa*

**Profile
Baseline**

*Unnamed Tributary to
Lake Waubesa*

**AREA REVISED BY
LOMR DATED
MARCH 15, 2013**

**REVISIED
AREA**

0.2%-ANNUAL-CHANGE
FLOOD DISCHARGE
CONTAINED IN STRUCTURE

FLOODING EFFECTS FROM
YAHARA RIVER

**NOTE: MAP AREA SHOWN ON
THIS PANEL IS LOCATED
WITHIN TOWNSHIP 7 NORTH,
RANGE 10 EAST.**

**Dane County
Unincorporated
Areas
550077**

**City of
Madison
550083**

**City of
Monona
550088**

21

28

EDNA TAYLOR PKWY

E BROADWAY

W BELTLINE HIGHWAY

Map Projection:
NAD 1983 UTM Zone 18N;
Western Hemisphere, Vertical Datum: MVD 88



SCALE

	SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A1, V, A99 With BFE or Depth Zone AE, AO, AH, VE, AR
			Regulatory Floodway
			0.2% Annual Chance Flood Hazard, Areas of 1% Annual Chance Flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
			Future Conditions 1% Annual Chance Flood Hazard Zone X
	OTHER AREAS OF FLOOD HAZARD		Area with Reduced Flood Risk due to Levee See Notes. Zone X

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP
DANE COUNTY, WISCONSIN
AND INCORPORATED AREAS

PANEL 437 of 850

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
DANE COUNTY	550077	0437	G
MADISON, CITY OF	550083	0437	G
MCFARLAND, VILLAGE OF	550086	0437	G
MONONA, CITY OF	550088	0437	G

**REVISIED TO REFLECT
LOMR EFFECTIVE:
DECEMBER 30, 2016**

VERSION NUMBER
1.1.1.0

MAP NUMBER
55025C0437G

EFFECTIVE DATE
JANUARY 2, 2009