

B.9 Floodplain Coordination

From: [Jon Brunot](#)
To: [Shadix, Steve](#)
Subject: FW: North Hamilton Crossing Bridge Hydraulic Coordination
Date: Thursday, February 22, 2024 11:43:35 AM

FYI

Jon Brunot, PE

Director of Transportation – Cincinnati

Burgess & Niple, Inc.

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Cincinnati, OH 45202

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From: Blake Stephens

Sent: Thursday, February 22, 2024 9:34 AM

To: bpuskas

Cc: Jon Brunot ; Brad Stiffler

Subject: North Hamilton Crossing Bridge Hydraulic Coordination

Good Morning Barry,

Burgess & Niple is working as a subconsultant to Stantec on the City of Hamilton - North Hamilton Crossing project. A goal of the project is to design a new bridge over the Great Miami River (FEMA Flood Zone AE) in Hamilton, Ohio.

Please send any flood zone regulations MCD has for the Great Miami River if they differ from FEMA regulations as well as any questions you may have about the project.

Blake Stephens, P.E.

Director of Bridge Design - Cincinnati

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North Hamilton Crossing Meeting Notes

Meeting: North Hamilton Crossing – Meeting with MCD
Date: Tuesday, June 25, 2024

Attendees:

Dan Corey	Butler County TID
Allen Messer	City of Hamilton
Dan Snyder	City of Hamilton
Don O'Connor	MCD
Barry Puskas	MCD
Jon Brunot	Burgess & Niple
Brad Stiffler	Burgess & Niple

Discussion Items:

- The purpose of the meeting was to inform the design team of MCD's hydraulic analysis/design requirements.
- Barry stated that the MCD Official Plan Flood (OPF) discharge is 200,000 cfs, both above and below the low head dam and confluence with Two Mile Creek and the Miami Erie Canal.
- Barry stated a no-rise condition is required for the OPF discharge.
- Barry stated that sediment transport is an additional concern for MCD, particularly at the South Crossing location.
- MCD wants B&N to do a sediment transport model for the South Crossing. MCD might have a 2D model to share as the starting point of the sediment transport analysis.
- B&N asked about limitations of mitigation efforts such as bank excavation. Barry stated that sediment transport could be a limiting factor.
- Barry stated that MCD has bathymetry data that they can share with B&N for use in hydraulic modeling. Barry will send the data after he finishes processing it (approx. 2 weeks).
- Barry said to use ODOT criteria to establish Temporary Access Fill (TAF) elevations.
- For the TAF, in addition to ODOT criteria, B&N should check the 100-year discharge with the TAF in place and report the change in freeboard.
- Barry stated that the TAF should maintain flow in the middle of the channel, as opposed to the edges.
- B&N should check water surface elevations with gage data for calibration of their models. It was acknowledged that the models should already be calibrated since they came from FEMA and are recent (FEMA models received are the basis of the FIS and Flood Maps dated 10/19/2018).
- Barry stated that he will send out MCD's documents for hydraulic analysis requirements. Those documents were received shortly after the meeting.

From: [Barry Puskas](#)
To: [Allen Messer](#); [Brad Stiffler](#); [Don O'Connor](#)
Cc: [dan.snyder@hamilton-oh.gov](#); [danc@bctid.org](#); [Shadix, Steve](#); [Jon Brunot](#)
Subject: Re: FW: North Hamilton Crossing - MCD meeting notes
Date: Wednesday, September 18, 2024 2:29:40 PM
Attachments: [image001.png](#)
[image003.png](#)
[image.png](#)
[Outlook-A logo wit.png](#)
[BMI Sediment Results 215566-434481-MCD - Sand Testing Report.pdf](#)
[DepthELEV20240613.tif](#)
[DepthELEV20240613.tfw](#)
[Fact Sheet T01 Technical Requirement - Hydraulic Analysis - Model - BP.pdf](#)
[Fact Sheet T02 Technical Requirement - Hydraulic Analysis - Erosion Drift - BP.pdf](#)

You don't often get email from bpuskas@mcdwater.org. [Learn why this is important](#)

Allen,

I apologize for the delay in my response. There were a few issues processing the bathymetry data and delays with the lab work.

Please find the attached information as follows:

1. River bed sediment gradation of MCD samples collected in 2024.
 - a. BMI Sediment Results 215566-434481-MCD - Sand Testing Report.pdf
2. MCD bathymetry between low dams as raster TIF filed call "DepthELEV20240613.tif" and world file (.tfw) for geo-referencing.
 - a. This format was prepared for Hec-RAS importing
3. Fact Sheet T01 Technical Requirement - Hydraulic Analysis - Model - BP.pdf
4. Fact Sheet T02 Technical Requirement - Hydraulic Analysis - Erosion_Drift - BP.pdf

July 18 questions (gray) and answers (green).

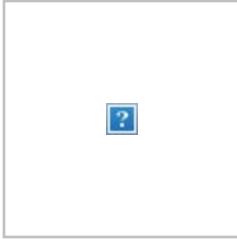
1. In using the 1-D HEC-RAS model, I just want to confirm that use of the HEC-RAS Hydraulic Design computations for Sediment Transport Capacity (sample image shown below) is what you're looking for?
 - The MCD-USACE effort is performing a 2D sediment transport model for the feasibility of low dam(s) modification(s) scenarios. The bridge projects that I have reviewed in the past have focused on bridge pier scour analysis using ODOT or FHWA methods. Any impacts to the MCD flood protection system should focus on items addressed in Fact Sheets T01 and T02 Technical Requirement - Hydraulic Analysis, see attachments.



2. What is the acceptance criteria? What change(s) from existing conditions would trigger the need for additional action, such as embankment armoring?
 - Typically, new construction or temporary cofferdams that could affect high velocities, shear stress, or scour resistance, see more details in the attached MCD Fact Sheet T02 Technical Requirement - Hydraulic Analysis.
3. Gradation of materials is an input in the analysis. The NHX project has not performed any soil borings yet since multiple crossing locations are still being considered. Does MCD have any gradation information that we can use in the analysis? If available, separate data can be entered for the left overbank, main channel, and right overbank.
 - Yes, the laboratory report of sediment samples collected in 2024 is attached for your use.

Contact me if you have further questions about this information and we could still plan to hold a meeting if desired.

Barry



Barry Puskas, PE, GISP

Chief of Technical and Engineering Services

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From: Allen Messer <allen.messer@hamilton-oh.gov>

Sent: Tuesday, September 17, 2024 3:36 PM

To: Brad Stiffler <Brad.Stiffler@burgessniple.com>; Don O'Connor <doconnor@mcdwater.org>

Cc: Barry Puskas <bpuskas@mcdwater.org>; dan.snyder@hamilton-oh.gov <dan.snyder@hamilton-oh.gov>; danc@bctid.org <danc@bctid.org>; Shadix, Steve <Steve.Shadix@stantec.com>; Jon Brunot <Jon.Brunot@burgessniple.com>

Subject: Re: FW: North Hamilton Crossing - MCD meeting notes

Barry and Don,

Please see the below questions regarding the analysis for the river crossing on North Hamilton Crossing. Let us know if it would be worth scheduling a meeting to talk through it. Because of the scour critical designation for Black Street Bridge, we are expediting the decision regarding the river crossing.

Thanks,

Allen

Allen Messer, P.E.
Director of Engineering
City of Hamilton
345 High St. Hamilton, OH 45011
Telephone (513) 785-7286

On Wed, Sep 4, 2024 at 4:35 PM Brad Stiffler <Brad.Stiffler@burgessniple.com> wrote:

Barry,

Can you provide an update on the status of processing the bathymetric data for the Great Miami River in Hamilton (see data request below on 7/10)? Do you have an updated estimate on when you will be able to send that data? As a reminder, could you please also respond to my questions below (on 7/18) when you send over the bathymetric data?

Thanks,

Brad Stiffler, PE
Bridge Engineer

Burgess & Niple, Inc.

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330 Rush Alley | Suite 700
Columbus, OH 43215
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From: Brad Stiffler

Sent: Friday, August 9, 2024 4:57 PM

To: Barry Puskas <bpuskas@mcdwater.org>

Cc: Jon Brunot <Jon.Brunot@burgessniple.com>

Subject: FW: North Hamilton Crossing - MCD meeting notes

Hi Barry,

I just wanted to check in on status of processing the bathymetric data for the Great Miami River in Hamilton (see data request below). Do you have an updated estimate on when you will be able to send that data? Also, just as a reminder, could you please also respond to my questions below when you send over the bathymetric data?

Thanks and have a good weekend,

Brad Stiffler, PE
Bridge Engineer

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From: Brad Stiffler

Sent: Thursday, July 18, 2024 8:20 AM

To: Barry Puskas <bpuskas@mcdwater.org>

Cc: Allen Messer <allen.messer@hamilton-oh.gov>; dan.snyder@hamilton-oh.gov;
danc@bctid.org; Don O'Connor <doconnor@mcdwater.org>; Shadix, Steve
<Steve.Shadix@stantec.com>; Jon Brunot <Jon.Brunot@burgessniple.com>

Subject: RE: North Hamilton Crossing - MCD meeting notes

Barry,

Thanks for your responses below. I have a few follow-up questions.

1. In using the 1-D HEC-RAS model, I just want to confirm that use of the HEC-RAS Hydraulic Design computations for Sediment Transport Capacity (sample image shown below) is what you're looking for?



2. What is the acceptance criteria? What change(s) from existing conditions would trigger the need for additional action, such as embankment armoring?
3. Gradation of materials is an input in the analysis. The NHX project has not performed any soil borings yet since multiple crossing locations are still being considered. Does MCD have any gradation information that we can use in the analysis? If available, separate data can be entered for the left overbank, main channel, and right overbank.

Thanks,

Brad Stiffler, PE
Bridge Engineer

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From: Barry Puskas <bpuskas@mcdwater.org>
Sent: Friday, July 12, 2024 4:50 PM
To: Brad Stiffler <Brad.Stiffler@burgessniple.com>
Cc: Allen Messer <allen.messer@hamilton-oh.gov>; dan.snyder@hamilton-oh.gov;
danc@bctid.org; Don O'Connor <doconnor@mcdwater.org>; Shadix, Steve
<Steve.Shadix@stantec.com>; Jon Brunot <Jon.Brunot@burgessniple.com>
Subject: RE: North Hamilton Crossing - MCD meeting notes

Brad,

Thanks for the questions and here are my replies below.

Item 1 – MCD is still processing the bathymetric data for the GMR and needs to have the data validated before supplying the information. This data should be completed by the end of July.

Item 2 – The modeling can be 1D model for sediment transport analysis and/or other ODOT or FHWA requirements per funding requirements. MCD-USACE will have a 2D sediment transport model later this year, but I'm not sure if this fits with your project timeline. In addition, the MCD-USACE will be focusing on other alternatives, flow rates, or other elements that could be different from your project needs. MCD-Hamilton will be informed as these projects progress and can review the information for any data/models that can be used across both projects.

Let me know if you have any questions and I will supply the bathymetry data when available.

Barry



Barry Puskas, PE, GISP
Chief of Technical and Engineering Services

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From: Brad Stiffler <Brad.Stiffler@burgessniple.com>

Sent: Wednesday, July 10, 2024 8:12 AM

To: Barry Puskas <bpuskas@mcdwater.org>

Cc: Allen Messer <allen.messer@hamilton-oh.gov>; dan.snyder@hamilton-oh.gov; danc@bctid.org; Don O'Connor <doconnor@mcdwater.org>; Shadix, Steve <Steve.Shadix@stantec.com>; Jon Brunot <Jon.Brunot@burgessniple.com>

Subject: FW: North Hamilton Crossing - MCD meeting notes

Good morning Barry,

I wanted to follow up regarding 2 items from our meeting a couple of weeks ago.

1. You mentioned that you have bathymetric data you can share for our use in hydraulic modeling. What is the status of processing that data and when do you anticipate sending it to us?
2. The HEC-RAS model we received from FEMA is a 1-D model. We were planning to use that model, supplemented with your additional survey data, to perform the analyses of existing and proposed conditions. Is it acceptable to also use the 1-D model for sediment transport analysis, or do you require use of a 2-D model?

Thanks,

Brad Stiffler, PE
Bridge Engineer

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From: Brad Stiffler

Sent: Wednesday, June 26, 2024 1:18 PM

To: Allen Messer <allen.messer@hamilton-oh.gov>; dan.snyder@hamilton-oh.gov; danc@bctid.org; doconnor@mcdwater.org; bpuskas@mcdwater.org; Jon Brunot <Jon.Brunot@burgessniple.com>

Cc: Shadix, Steve <Steve.Shadix@stantec.com>

Subject: North Hamilton Crossing - MCD meeting notes

All,

Attached are the meeting minutes from our meeting yesterday with MCD.

Let me know if you have any questions or comments.

Thanks,

Brad Stiffler, PE
Bridge Engineer

Burgess & Niple, Inc.

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