



**ENGINEERING OPERATIONS COMMITTEE
MEETING MINUTES
MARCH 6, 2014 – 9:00 A.M.
MULTI-MODAL CONFERENCE ROOM**

Present: G. Johnson R. Van PortFliet S. Bower
P. Ajegba M. Geib B. Wieferich
M. Bott K. Schuster M. Chynoweth
T. Burch (FHWA) M. Van Port Fleet

Absent: B. O'Brien J. Forster (FHWA)

Guests: C. Youngs R. Beckon H. Owen
T. Kratofil S. Montes T. Kline
L. Swanson

OLD BUSINESS

1. Approval of the February 6th, Meeting Minutes – G. Johnson

ACTION: The February 6, 2014 meeting minutes were approved as written.

2. Re-Examination of the 1994 and Subsequent Sewer and Culvert Installations of Various Pipe Types, Sizes and Depths – M. VanPortFleet/B. Wieferich

The final report was initially submitted to EOC for approval in September 2012. EOC directed that copies of the draft report be supplied to the pipe industry for comment. Subsequent to industry review, additional historical pipe video became available. The updated report reflects this new information.

ACTION: Brad Wieferich will refer the report recommendations to the Joint Pipe Operating Committee (JPOC) for further consideration. EOC accepts the report and authorizes the release of the report.

NEW BUSINESS

1. Design-Build Contracting on I-75/University Drive Interchange Project - T. Kratofil/C. Youngs

Recently structural issues caused University Drive over I-75 to be closed. The severely poor condition of the bridge necessitates that a complete replacement of the bridge be considered. Funding is available in 2014 utilizing existing region funds, local funds and supplemental funds resulting from the Roads Risk and Reserve fund. The use of a DB contracting approach will allow for the bridge replacement and resulting interchange issues to be addressed at an expedited rate. This interchange is the major gateway to the City of Auburn Hills and Chrysler World Headquarters. The region proposes to replace the bridge and reconfigure the interchange with a Diverging Diamond Interchange (DDI) design. The project is expected to use a 2 step process to shortlist teams and then advertise the final Request for Proposals.

Control Section: 63172
Job Number: 123143
Project Cost: \$12-14 Million
Letting Date: September 2014

ACTION: A Design-Build contracting approach is approved. Preliminary approval is granted for the use of a DDI configuration. Metro Region will further investigate pros and cons of a DDI configuration versus other geometric alternatives. Specific action items include,

- *Develop an overall maintenance agreement with the City of Auburn Hills and investigate winter maintenance strategies for a DDI.*
- *Investigate the need for a backup power supply for the signal control on University Drive.*
- *Region will develop cost comparisons for various comparative alternates including a Single Point Urban Interchange, Roundabout and conventional Cloverleaf design.*
- *The Region will work with FHWA about scheduling a Peer Exchange addressing the DDI alternative. DDI is considered an Every Day Counts initiative.*

Metro Region will submit the final DDI approval request to EOC in April or May after further information has been obtained.

2. Design-Build (DB) contracting on a Superior Region Environmental Sensor Station (ESS) project – C. Youngs

The Superior Region has funding in 2015 for an ESS project. The schedule for the project is expedited, and the use of DB will allow a detailed investigation of potential sites to occur in 2014, and for the work to be completed before the winter of 2015. A documented benefit of DB is expedited construction.

MDOT's ITS section supports the use of DB on this project.

Control Section: 84911
Job Number: 107426
Project Cost: \$1,700,000
Letting Date: Sept. 2014

ACTION: Approved

3. Special Provisions for Railroad Insurance – C. Youngs

All Department special provisions require review and approval by the Specifications Engineer and subject matter experts prior to being included in contract documents. EOC has approved exceptions for special provisions concerning maintaining traffic, maintaining waterways, Intelligent Transportation Systems, municipal water and municipal sanitary systems.

Special provisions, concerning work within railroad right-of-way, must meet specific content and formatting requirements to conform to railroad company standards. Typically, formatting requirements do not meet MDOT special provision standards.

EOC is requested to approve a revised approval process for special provisions for railroad insurance that assigns review and approval authority to the Office of Rail. Project Managers will coordinate

with Office of Rail staff to ensure that all necessary contract documents, related to railroad insurance, will be incorporated in MDOT projects where railroad right-of-way is impacted.

ACTION: Approved.

4. Fixed Price-Variable Scope (FPVS) on a crush and shape local agency project in Newaygo County – C. Youngs

The Newaygo County Road Commission (NCRC) requested to use FPVS on a crush and shape project in 2014. The project is on Cypress Ave. from 2,300' south of 136th St. to north of 120th Street. The project will follow the procedures developed for an MDOT crush and shape project (JN 106863) let in January 2014. This project will be the first local agency FPVS project.

This project will require an individual approval by the FHWA through their SEP-14 approval process.

Project Cost: \$1,106,000

Letting Date: May or June, 2014

Job Number: 112895A & 112896A

ACTION: Approved.

5. Permitting Off Road Vehicles (ORV) - R. Beckon

Guidelines and procedures are being established to address recent legislation (September 2013 amendment to Public Act 451) that allows limited ORV use within MDOT owned trunkline right-of-way (ROW).

An MDOT team is charged with developing procedures to address safety, operational, and permitting issues by April 1, 2014. The proposed permitting process requires that any proposed ORV connector using trunkline ROW must be reviewed by the applicable local governmental unit to ensure the proposal is context sensitive. The process also requires that any additional maintenance needs, caused by ORV activities, will be the responsibility of the permit applicant. Signing requirements and minimum shoulder widths will also be addressed by the guidelines. The preferred approved location for permitted ORV operation will be off the roadbed near the ROW line.

EOC preliminary approval is requested.

ACTION: Approved. Rob Beckon will submit the final guidelines to EOC for approval at a future meeting.

6. I-69 EB Reconstruction: CS 77023/77024 JN 80912 & 110441 – B. Krom

Department Policy requires that a Life Cycle Cost Analysis (LCCA) be used to determine the most cost effective pavement design. This was the first official LCCA to implement the change from 7 days to 3 days of cure time for the concrete option. APAM made several comments on the LCCA which were addressed.

Pavement selection was determined using the procedures outlined in the MDOT Pavement Design and Selection Manual. Department Policy requires that the pavement alternate with the lowest EUAC be selected. Final pavement selection requires approval by the Engineering Operations Committee.

The reconstruction alternatives being considered are a Hot Mix Asphalt Pavement (HMA Alt #1) and a Jointed Plain Concrete Pavement (JPCP Alt #2). The pavement designs being considered are as follows:

Alternative #1a: Reconstruct Mainline with Hot Mix Asphalt Pavement

1.5"	HMA, GGSP, Top Course (mainline & inside shoulder)
3.75"	HMA, 3E30, Leveling Course (mainline & inside shoulder)
4.5"	HMA, 2E30, Base Course (mainline & inside shoulder)
1.5"	HMA, 5E3, Top Course (outside shoulder)
3.75"	HMA, 3E3, Leveling Course (outside shoulder)
4.5"	HMA, 2E3, Base Course (outside shoulder)
16"	Open Graded Drainage Course
	Geotextile Separator
8"	Sand Subbase
6" dia.	Open-Graded Underdrain System
33.75"	Total Section Thickness

Alternative #1b: Reconstruct Ramps with Hot Mix Asphalt Pavement

1.5"	HMA, 5E3, Top Course
2"	HMA, 4E3, Leveling Course
3"	HMA, 3E3, Base Course
16"	Open Graded Drainage Course
	Geotextile Separator
8"	Sand Subbase
6" dia.	Open-Graded Underdrain System
30.5"	Total Section Thickness

Present Value Initial Construction Cost	\$601,690/lane-mile
Present Value Initial User Cost	\$41,556/lane-mile
Present Value Maintenance Cost	\$123,183/lane-mile

Equivalent Uniform Annual Cost (EUAC) \$27,821/lane-mile

Alternative #2a: Reconstruct Mainline with Jointed Plain Concrete Pavement

10"	Non-Reinforced Concrete Pavement, P1 Modified, w/ 14' joint spacing
16"	Open Graded Drainage Course (mainline) Geotextile Separator
6" dia.	Open-Graded Underdrain System
26"	Total Thickness

Alternative #2b: Reconstruct Ramps with Jointed Plain Concrete Pavement

8"	Non-Reinforced Concrete Pavement, P1 Modified, w/ 12' joint spacing
16"	Open Graded Drainage Course (mainline)
	Geotextile Separator
6" dia.	Open-Graded Underdrain System
24"	Total Thickness

Present Value Initial Construction Cost	\$468,248/lane-mile
Present Value Initial User Cost	\$38,281/lane-mile

Present Value Maintenance Cost \$125,491/lane-mile

Equivalent Uniform Annual Cost (EUAC) \$22,382/lane-mile

The pavement designs for both alternatives are based on the 1993 AASHTO "Guide for Design of Pavement Structures" and use the AASHTO pavement software DARWin Version 3.1, 2004. The Equivalent Uniform Annual Cost calculation is based on the revised pavement selection process as approved by the EOC on June 3, 1999.

The estimated construction costs are based on historical averages from similar projects. User costs are calculated using MDOT's Construction Congestion Cost model, which was developed by the University of Michigan.

Conclusion

Pavement selection was determined using the procedures outlined in the MDOT Pavement Design and Selection Manual. Department policy requires that the pavement alternative with the lowest EUAC, Alternative #2: Reconstruct with Jointed Plain Concrete Pavement, be selected. Final pavement selection requires approval by the Engineering Operations Committee.

ACTION: Approved.

7. National Pollutant Discharge Elimination System (NPDES) - K. Schuster

The National Pollutant Discharge Elimination System is a Federal program administered by the EPA and delegated to the Michigan Department of Environmental (MDEQ) in Michigan. MDOT is intending on submitting a request to MDEQ for a new Municipal Separate Storm Sewer System (MS4) permit, part of NPDES, by the April 1, 2014 deadline. Permit issuance can occur, following an eighteen month review and comment period, in September 2015.

EOC is requested to approve both the continued development of the Storm Water Management Plan and application submittal by the April 1, 2014 deadline.

ACTION: Approved.

Steven Bower, Secretary
Engineering Operations Committee

cc: K. Steudle
 L. Mester
 EOC Members
 Region Engineers
 TSC Managers
 Assoc. Region Engineers
 D. Parker
 M. DeLong

 D. Jackson
 W. Tansil
 D. Wresinski
 C. Libiran
 R. Lippert
 B. Shreck
 T. Phillips
 J. Murner (MRPA)

 R. Jorgenson (FHWA)
 R. Brenke (ACEC)
 G. Bukoski (MITA)
 D. DeGraaf (MCA)
 D. Hollingsworth (MCA)
 J. Becsey (APAM)
 M. Newman (MAA)