



**ENGINEERING OPERATIONS COMMITTEE  
MEETING MINUTES  
APRIL 6, 2017 – 9:00 A.M.  
MULTI-MODAL CONFERENCE ROOM**

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Present:	M. Van Port Fleet M. Bott	R. Ranck C. Rogers	S. Bower T. Marshall	K. Schuster (FHWA)	M. Sweeney
Absent:	J. Gutting	B. Wieferrich	H. Zweng	M. Geib	K. Avery
Guests:	B. Krom R. McDonald	M. Eacker S. Datta	J. Schenkel E. Tamlyn	J. Ranger K. Kopper	M. Dubay

OLD BUSINESS

1. Approval of the March 9, 2017 Meeting Minutes – M. Van Port Fleet

*ACTION: Approved*

NEW BUSINESS

1. Contractor Manager General Contractor (CMGC) – S. Datta, M. Dubay

Description: I-75 Drainage Tunnel Replacement, M-102 to 12 Mile Road, Metro Region  
Job Number: 133186  
Control Section: 63174  
Project Cost: \$156,500,000. (Total Project Cost)  
Letting Date: 2020 (Tentative)

Approval is requested to utilize a Construction Manager/General Contractor (CMGC) procurement method for the referenced project. A CMGC approach will leverage contractor expertise on project related items such as maintaining traffic options, staging alternatives and production schedules.

Construction of the drainage tunnel is part of the I-75 Mega Project. The tunnel is estimated to be approximately 12' wide and up to 60' deep. This will require specific coordination with the Contractor to determine available resources and equipment. Work will require very deep excavations of pits and tunnel boring operations are expected

The Innovative Contracting Committee (ICC) has approved the use of the CMGC contracting method for this project.

*ACTION: EOC directs the Metro Region to investigate multiple contracting approaches including CMGC, Public Private Partnership options and Design-Build-Finance options. The results of the region investigation will be presented at a future meeting.*

2. Contractor Manager General Contractor (CMGC) – M. Dubay, R. Ranck

Description: Bascule Bridge Replacement, M-84/M-13 over Saginaw River, Bay Region  
Job Number: 128908  
Control Section: 09032  
Project Cost: \$46,574,096.  
Letting Date: December 2019

Approval is requested to utilize a Construction Manager/General Contractor (CMGC) procurement method for the referenced project. A CMGC approach will leverage contractor expertise on project related items such as maintaining traffic options, staging alternatives and production schedules. The unique nature of bascule bridge replacement also requires early contractor expertise.

The bridge study is underway and ABC options are being evaluated to help expedite construction due to concerns from local business due to the detour route. Due to the complexity of the project and expedited schedule, a CMGC contracting method is being proposed.

The Innovative Contracting Committee (ICC) has approved the use of the CMGC contracting method for this project.

*ACTION: Approved*

3. Contractor Manager General Contractor (CMGC) – M. Dubay

Description: Landscape Planting/Maintenance, I-696, Dequindre to I-94, Metro Region  
Job Number: TBD  
Control Section: 50061, 50062  
Project Cost: \$4,400,000.  
Letting Date: Fall 2017

The CMGC contracting method is being requested to allow for the Contractor's input on various maintenance and planting activities. Partnering with the Contractor during the design phase will allow MDOT to develop commercially reasonable performance requirements and appropriate deduction amounts. This will aide in obtaining a reasonable cost contract while achieving the desired results on an annual basis.

The contract scope will include weed removal, herbicide treatment, planting in barren areas, replanting, fertilization, mulching, tree pruning and cutting, litter pickup and other associated items. A CMGC approach will leverage contractor knowledge and that of a horticulturist. The contract will include performance measures that define payment triggers and amounts.

The Innovative Contracting Committee (ICC) has approved the use of the CMGC contracting method for this project.

*ACTION: EOC grants approval contingent upon the project letting being delayed to 2018.*

4. Fixed Price Variable Scope (FPVS) – M. Dubay

Description: Reflective Sign Supports, Metro Region  
Job Number: 132599  
Control Section: 84927  
Project Cost: \$1,066,700.  
Letting Date: March 2022

This project scopes includes installing reflective sign post panels (aka lollipop) to existing Do Not Enter, Wrong Way, and chevron signs throughout the Metro Region. The existing sign locations are based on incomplete inventory information which results in project scoping and budgeting which may be inaccurate. A FPVS Type 1 contracting approach will allow the contractor to bid a quantity of work that can be completed for a fixed budget amount as defined by the scope of work.

The Innovative Contracting Committee recommends approval of the use of the FPVS procurement method.

*ACTION: Approved*

5. Fixed Price Variable Scope (FPVS) – M. Dubay

Description: Retrofit Freeway Rumble Strips, Metro Region  
Job Number: 132615  
Control Section: 84927  
Project Cost: \$2,599,690.  
Letting Date: March 2022

The project scope includes retrofitting rumble strips to address “gap” areas on the freeway system. Locations have been identified and are included in the estimate. The gap areas have been approximated. A FPVS Type 1 contracting approach will allow the contractor to bid a quantity of work that can be completed for a fixed budget amount as defined by the scope of work.

The Innovative Contracting Committee recommends approval of the use of the FPVS procurement method.

*ACTION: Approved*

6. Fixed Price Variable Scope (FPVS) – M. Dubay, K. Kopper

Description: Aesthetic Treatments, Commerce Township, Metro Region

Job Number: 120415  
Control Section: 63192  
Project Cost: \$500,000. (Township Funding)  
Letting Date: September 2017

The project scope includes aesthetic improvements along M-5 just north of Maple Road in Commerce Township. The new Michigan Airlines Trail crosses M-5 at this location and the township is funding up to \$500,000 of aesthetic treatments to the bridge that will carry the trail over M-5.

The use of the Fixed Price/Variable Scope (FPVS), Type 2 contracting method will cap the expenditure at the township budget. The goal of using FPVS is to maximize the amount of work that can be completed using a fixed dollar amount. A Type 2 contracting method is proposed where the contractor will provide bids for the work. The contractor that can complete the most work will be the selected bidder. Prices are also included with Type 2 projects in the event contractors can complete the same amount of work.

The Innovative Contracting Committee recommends approval of the use of the FPVS procurement method.

*ACTION: EOC grants preliminary approval. The Innovative Contracting Unit is directed to address further details with the Region to ensure that project budgets are not exceeded. EOC will address a final approval request at a future meeting.*

#### 7. Fixed Price Variable Scope (FPVS) – M. Dubay

Description: Delineator Replacement, Grand Region  
Job Number: 200032  
Control Section: 84923  
Project Cost: \$186,000.  
Letting Date: July 2017

Delineator upgrades are included on all future freeway projects that include mainline work. In 2016, approximately 100 miles of delineator upgrades (JN 129234A) were completed within the Region. This project will continue these upgrades resulting in all freeway delineators being upgraded within three years excluding those funded in other five year plan projects.

The Region has identified 174 miles of delineator replacement needs on the freeway system in the Region. Preliminary estimates indicate that the available budget can address approximately 116 miles of the 174 miles. The goal of the FPVS project will be to maximize the amount of work that can be completed using a fixed dollar amount. A Type 1 contracting method is proposed where the contractor bids the units of work that can be completed for a given fixed price.

The Innovative Contracting Committee recommends approval of the use of the FPVS procurement method.

*ACTION: Approved*

8. Pavement Selection – B. Krom

Route/Location: I-75 Business Spur, I-75 to North/10<sup>th</sup> Avenue, Chippewa County  
 Job Number: 110907, 124407, 120028  
 Control Section: 17032  
 Letting Date: February 2018

Department policy requires that Life Cycle Cost Analysis (LCCA) be used to determine the lowest cost pavement design alternative following the procedures outlined in the MDOT Pavement Design and Selection Manual. Final pavement selection requires approval by the Engineering Operations Committee.

Alternative #1: Reconstruct with Hot Mix Asphalt Pavement

1.5"	HMA, 5E1, Top Course
2"	HMA, 4E1, Leveling Course
3"	HMA, 3E1, Base Course
6"	Aggregate Base
18"	Sand Subbase
6" dia.	Subbase Underdrain System
30.5"	Total Section Thickness

Present Value Initial Construction Cost	\$185,369/lane-mile
Present Value Initial User Cost	\$15,685/lane-mile
Present Value Maintenance Cost	\$136,395/lane-mile

Equivalent Uniform Annual Cost (EUAC)      \$11,488/lane-mile

Alternative #2: Reconstruct with Jointed Plain Concrete Pavement

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

Present Value Initial Construction Cost	\$364,584/lane-mile
Present Value Initial User Cost	\$21,410/lane-mile
Present Value Maintenance Cost	\$139,372/lane-mile

Equivalent Uniform Annual Cost (EUAC)      \$17,417/lane-mile

Pavement designs are based on the 1993 AASHTO "Guide for Design of Pavement Structures" and the AASHTO pavement design software, DARWin Version 3.1, 2004.

The Equivalent Uniform Annual Cost calculation is based on the pavement selection process as approved by the EOC on June 3, 1999. Construction costs are derived from historical

averages on similar projects while user costs are calculated using the MDOT Construction Congestion Cost model.

*ACTION: EOC approves the selection of Alternative #1, Reconstruct with Hot Mix Asphalt Pavement, which has the lowest life cycle cost.*

9. Road Diet (M-25) Sanilac County, Bay Region – E. Tamlin

Route/Location: M-25, Village of Port Sanilac

Job Number: 119008

Control Section: 74072, 74073

Letting Date: January 2018

The project includes converting M-25, within the village limits, from four lanes to three lanes and adding bike lanes. Converting this stretch of road to three lanes will improve safety for motorists, allow safer access to driveways and improve safety for bicyclists.

The project meets the criteria required on the Road Diet Checklist. A public meeting was held and the village passed a resolution of support.

*ACTION: For Information Only. No Action Required.*

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Steven Bower, Secretary  
Engineering Operations Committee

RA:SB

cc: EOC Members	M. DeLong	D. DeGraaf (MCA)
Meeting Guests	D. Jones	J. Becsey (APAM)
K. Steudle	W. Tansil	D. Needham (MAA)
L. Mester	C. Libiran	Monica Ackerson Ware (MRPA)
D. Wresinski	R. Jorgenson (FHWA)	
Region Engineers	R. Brenke (ACEC Michigan)	
Assoc. Region Engineers	G. Bukoski (MITA)	
TSC Managers		