



CITY of NOVI CITY COUNCIL

Agenda Item 1
June 27, 2016

SUBJECT: Adoption of Resolution of Participation for a Federal Surface Transportation Program grant for the Novi Road (12 Mile to 13 Mile) Rehabilitation Project, approval of a cost share agreement with the Michigan Department of Transportation (with an estimated allocation of \$689,300 to be paid by Federal grant funds and \$1,032,900 to be paid by the City of Novi), and approval of City Fund allocations.

SUBMITTING DEPARTMENT: Department of Public Services, Engineering Division *BTC RJA*

CITY MANAGER APPROVAL: *KAA*

EXPENDITURE REQUIRED	\$ 406,930 (Major Street Fund) \$ 625,970 (Drain Fund) \$1,032,900 TOTAL
AMOUNT BUDGETED	\$ 495,572 (Major Street Fund) \$ 625,970 (Drain Fund) \$1,105,542 TOTAL
LINE ITEM NUMBER	202-202.00-865.161 (Major Street Fund) 210-211.00-865.161 (Drain Fund)

BACKGROUND INFORMATION:

The City of Novi has been awarded \$689,300 in Federal funding through the Surface Transportation Program for the rehabilitation of Novi Road. The attached map shows the location of the project, which consists of the rehabilitation of Novi Road between 12 Mile Road and 13 Mile Road which will include a depressed median to accommodate storm water and other improvements to the existing curbs and sidewalk ramps. The construction budget is \$1,722,200, of which \$689,300 is Federally funded and \$1,032,900 is to be funded by the City of Novi.

As a Federally funded project, the Michigan Department of Transportation (MDOT) is responsible for administering the construction of the project on Novi's behalf, thus requiring the cost participation agreement.

The City Attorney has reviewed the attached local cost share agreement and finds that it is sufficient for the purpose of assigning estimated project costs between the City and MDOT (see Beth Saarela's letter, attached).

MDOT opened bids for the project on June 3, 2016. It is anticipated that MDOT would award the project within two weeks of City Council approval of the agreement with construction to begin in early to mid-July 2016. A previous Council agenda item related to this project included a different allocation of funds between the Major Street Fund and the Drain Fund.

RECOMMENDED ACTION: Adoption of Resolution of Participation for a Federal Surface Transportation Program grant for the Novi Road (12 Mile to 13 Mile) Rehabilitation Project, approval of a cost share agreement with the Michigan Department of Transportation (with an estimated allocation of \$689,300 to be paid by Federal grant funds and \$1,032,900 to be paid by the City of Novi), and approval of City fund allocations, subject to the following:

- a. City allocation to be \$406,930 from Major Street Fund and \$625,970 from Drain Fund.
- b. Confirmation of current design for the depth of swale as not to exceed 9 inches from road surface at its lowest point.
- c. City Administration to explore the feasibility of planting small ornamental trees in the swale as a future improvement.

	1	2	Y	N
Mayor Gatt				
Mayor Pro Tem Staudt				
Council Member Burke				
Council Member Casey				

	1	2	Y	N
Council Member Markham				
Council Member Mutch				
Council Member Wrobel				

MEMORANDUM



TO: PETE AUGER, CITY MANAGER
FROM: ROB HAYES, DIRECTOR OF PUBLIC SERVICES/CITY ENGINEER *RHA*
BRIAN COBURN, ENGINEERING SENIOR MANAGER *BTC*
SUBJECT: NOVI ROAD RECONSTRUCTION
DATE: JUNE 8, 2016

A cost participation agreement with the Michigan Department of Transportation (MDOT) for the rehabilitation of Novi Road between 12 Mile and 13 Mile Roads was presented to City Council for consideration on June 6. The motion to approve the agreement failed with some of the City Councilmembers expressing concerns with the proposed design of the road using a depressed median. The \$1.7 million project was made possible using \$689,300 in federal funds and \$700,000 from the drain fund, which limited the funding from Major Street Fund to just \$332,900. This limited impact on the Major Street Fund allowed the City to budget the reconstruction of both Karim Boulevard and Crescent Boulevard this construction season.

This memo provides additional information on the proposed uncurbed depressed median design and the benefits to be derived from the constructed project in terms of safety, environmental protection, aesthetics and cost-effectiveness.

Background

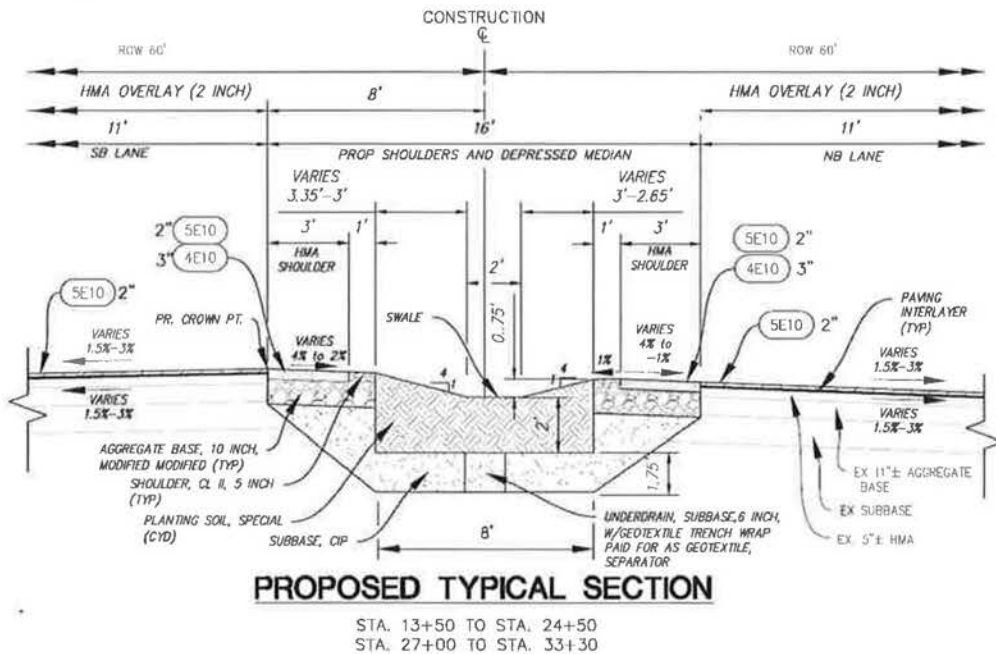
The grant application and original budget that were prepared for Novi Road in 2013 was based on a simple repaving project to repair and repave the existing five lane section. Following the budget discussions in April 2015, staff developed several alternatives for the reconstruction of Novi Road that would reduce the amount of pavement and improve the aesthetics of the road. The attached August 12, 2015 memo and report evaluated five alternatives using various criteria gleaned from the discussions by City Council. At that time staff recommended the construction of a depressed, planted median island. The design engineering for this project was awarded in September 2015, and a subsequent memo was prepared and placed in the December 3, 2015 administrative packet to address the additional feedback that was received from some City Councilmembers individually. December's memo further evaluated the alternatives and continued to recommend the 4-lane cross-section with a depressed, planted median.

Project Design Features and Safety Compliance

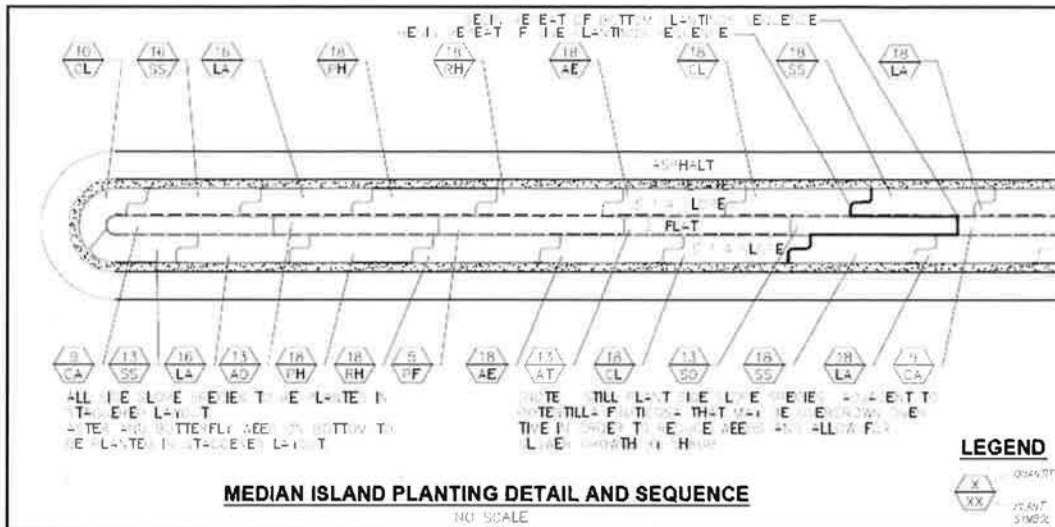
The final design engineering of the project commenced in January 2016 in order to meet the August 2016 MDOT deadline for bidding and awarding this project prior to the end of the federal fiscal year on September 30, 2016. As a federally funded project, MDOT is required to review and approve the design, prepare the project for bidding, and administer the award of the contract as well as all contractor payments. The project was let for bid in May and bids were opened on June 3, 2016. Federally funded projects must be designed in compliance with American Association of State Highway and Transportation Officials (AASHTO) design guidelines. **Please note that the final**

design of the project as a 4-lane cross-section with a depressed, uncurbed, planted median meets all federal roadway design guidelines for safety; otherwise MDOT would not have authorized the project for bidding. To date, the City has spent \$92,000 to complete the design of this project. The final design plans are attached to this memo for your reference.

There were several comments during the June 6, 2016 City Council meeting regarding the safety and aesthetics of the final design and several references to the construction of a ditch in the center of Novi Road. The proposed cross-section, as shown below, incorporates concepts from low-impact design to utilize a **9-inch (0.75 feet) deep swale** and plantings as bioretention to carry and treat storm water prior to discharge through an underdrain into the storm sewer. The 4-foot wide shoulders adjacent to the depressed median are a safety requirement of AASHTO to maximize safety in lieu of constructing curbs in the median.



The final design also includes numerous plantings within the depressed median as shown below and on the next page. The plantings as proposed are primarily perennial wildflowers, grasses, and some shrubs.



Plant List

Symbol	Scientific name	Common name	Plant type	Spacing (o.c.)
SIDE SLOPES				
AE	<i>Aster ericoides</i>	Heath aster	Perennial wildflower	18"
CL	<i>Coreopsis lanceolata</i>	Sand coreopsis	Perennial wildflower	18"
LA	<i>Liatis aspera</i>	Rough blazing star	Perennial wildflower	18"
PH	<i>Penstemon hirsutus</i>	Hairy beardtongue	Perennial wildflower	18"
RH	<i>Rudbeckia hirta</i>	Black-eyed Susan	Perennial wildflower	18"
SS	<i>Schizachyrium scoparium</i>	Little bluestem grass	Perennial grass	18"
BOTTOM				
AO	<i>Aster oolentangiensis</i>	Sky blue aster	Perennial wildflower	18"
AT	<i>Asclepias tuberosa</i>	Butterfly milkweed	Perennial wildflower	18"
CA	<i>Ceanothus americanus</i>	New Jersey Tea	Shrub	24"
PF	<i>Potentilla fruticosa</i>	Shrubby cinquefoil	Shrub	48"
SO	<i>Solidago speciosa</i>	Showy goldenrod	Perennial wildflower	18"

Proposed Project Revisions Based on Feedback

There was discussion at the June 6 meeting regarding the addition of street trees to the depressed median to provide additional aesthetic enhancements. We have discussed the addition of street trees with Rick Meader, City Landscape Architect, and he has indicated that there are several species of trees that would thrive in the depressed median to enhance the landscape of the corridor. Since the project was already bid by MDOT, we would construct the plan as bid and then utilize the planting contract next spring to enhance the median with street trees. The City will also have the ability post-construction to provide landscape enhancements at a minimal cost to the City next spring should there be concern about the aesthetics.

Next Steps

If staff receives direction to redesign this project, the following should be taken into consideration:

- The City will lose the \$689,300 in federal funding for this project due to funding obligation-related time restrictions.
- Approximately \$50,000 in additional funds will be required for design engineering.
- The project may not get constructed this year, depending on funding availability and the schedule for completing additional design work.

- If the drainage function of the median is removed, we cannot recommend the use of drain funds except for catch basin repairs (a minimal cost).
- The estimated cost of a project with a curbed median would be \$2,300,000 and would require the cancellation/delay of Karim Reconstruction and Crescent Boulevard in order to self-fund the Novi Road project. It is possible to justify the use of some drain funds for a depressed median with curbs; however the federal funding would still be lost due to additional time for redesigning and re-bidding.

On the other hand, if the proposed design were to be implemented, it would provide a practical alternative to the existing paved center turn lane that would be:

- Safe: the concept of an uncurbed, depressed center median meets AASHTO and MDOT safety requirements;
- Environmentally-friendly: storm water laden with pollutants and sediment would be treated via bioretention in the swale instead of entering the City's collection system untreated;
- Aesthetically pleasing: the depressed median would be planted with wildflowers, grasses and shrubs, and would also be planted with trees as part of a future planting contract; and,
- Cost-effective:
 - \$689,300 in available federal funds would be leveraged.
 - Because the swale would collect and treat storm water, its cost (along with other drainage-related components of the project) would be covered by the Drain Fund.

To summarize, staff has been diligent in listening to feedback on the design and balancing that feedback with the available funding to provide a cross-section that meets all federal design requirements, minimizes the impact to the Major Street Fund, leverages federal grant funds, provides an environmentally positive impact using low impact development concepts, and will be aesthetically pleasing. We look forward to award of the project as designed so that construction can begin in July using federal funds.

cc: Victor Cardenas, Assistant City Manager
 Carl Johnson, Finance Director
 Adam Wayne, P.E., Civil Engineer

CITY OF NOVI
COUNTY OF OAKLAND, MICHIGAN

RESOLUTION OF PARTICIPATION

NOVI ROAD REHABILITATION
12 MILE ROAD TO 13 MILE ROAD
CITY OF NOVI

Minutes of a Meeting of the City Council of the City of Novi, County of Oakland, Michigan, held in the City Hall of said City on June 27, 2016, at 7 o'clock P.M. Prevailing Eastern Time.

PRESENT: Councilmembers _____

ABSENT: Councilmembers _____

The following preamble and Resolution were offered by Councilmember _____ and supported by Councilmember _____.

WHEREAS ; the City of Novi was awarded a \$689,300 grant under the Federal Surface Transportation Program to rehabilitate Novi Road between 12 Mile Road and 13 Mile Road within the City of Novi; and,

WHEREAS ; the Michigan Department of Transportation administers all projects that receive federal funds on behalf of the local agency; and,

WHEREAS ; the City of Novi's cost participation amount is estimated to be \$1,032,900 of the estimated \$1,722,200 estimated construction cost; and,

WHEREAS ; the Mayor and City Clerk are authorized to execute the local cost participation contract between MDOT and the City of Novi.

NOW THEREFORE, IT IS THEREFORE RESOLVED that the Mayor and Council of the City of Novi support and authorize participation in the Novi Road (12 Mile Road to 13 Mile Road) Rehabilitation Project within the City of Novi.

AYES:

NAYS:

RESOLUTION DECLARED ADOPTED.

Cortney Hanson, City Clerk

CERTIFICATION

I hereby certify that the foregoing is a true and complete copy of a resolution adopted by the City Council of the City of Novi, County of Oakland, and State of Michigan, at a regular meeting held this _____ day of _____, 2016, and that public notice of said meeting was given pursuant to and in full compliance with Act No. 267, Public Acts of Michigan, 1976, and that the minutes of said meeting have been kept and made available to the public as required by said Act.

Cortney Hanson, City Clerk
City of Novi

Novi Road Reconstruction

Location Map



Map Author: Coburn
 Date: 5/31/16
 Project:
 Version #:
 Amended By:
 Date:
 Department:

MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 192 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.



City of Novi
 Engineering Division
 Department of Public Services
 26300 Lee BeGole Drive
 Novi, MI 48375
 cityofnovi.org





JOHNSON ROSATI SCHULTZ JOPPICH PC

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Phone: 248.489.4100 | Fax: 248.489.1726

Elizabeth Kudla Saarela
esaarela@jrsjlaw.com

www.johnsonrosati.com

May 31, 2016

Brian Coburn, Engineering Manager
CITY OF NOVI
Department of Public Services
Field Services Complex
26300 Lee BeGole Drive
Novi, MI 48375

Re: ***Novi Road Resurfacing from 12 Mile to 13 Mile – MDOT Contract No. 15-5263***

Dear Mr. Coburn:

We have received and reviewed the proposed contract between the City and MDOT for the resurfacing of Novi Mile Road, including median and drainage improvements from 12 Mile Road to 13 Mile Road. A portion of the project will be funded by contributions from the federal government (approximately \$689,300.00) and the City of Novi (approximately \$1,032,900.00).

The contract is MDOT's standard format. The primary purpose of the contract is to set forth the assignment of the estimated project costs, and to provide the City with terms of payment to be made to the State. The federal government is not a party to the contract. The Contract contains detailed requirements for accounting, billing and auditing procedures required by MDOT for compliance with the FHWA.

The City will be responsible for 100% of the costs attributable to plan design, construction engineering, materials testing and inspection services required for the project. MDOT will bid, award and administer the project. After the receipt of bids, the City may only reject the amount bid prior to award of the contract if the bids exceed the estimated project cost by more than 10%. Therefore, the City should be prepared to pay up to an amount that is 10% more than is estimated in this Contract document.

It should also be noted that the City is required to report any known hazardous substances that are present on the site. If any hazardous substances are discovered during the project, the City may be responsible for the cost of remediation if no other responsible party is found and/or FHWA funding is not available for remediation.

Brian Coburn, Engineering Manager
February 3, 2016
Page 2

In the event that the City is required to "subcontract," with any utility companies, railroad companies, or other entities for work related to the project but not subject to reimbursement under this Contract, copies of all plans, approvals and agreements relating to the subcontract must be forwarded to MDOT for approval prior to initiating the work.

It should be noted that new provision has been added pertaining to the liability of the parties under the contract. Although the Contract states that there is no indemnification between the parties and each party is responsible for each its own actions, MDOT has added language prohibiting the City from taking **any action or conduct, directly or indirectly, that results in any claims or judgments against MDOT under the Contract.** Although MDOT contracts with the contractors on the project, it is our understanding the City manages or participates in the project in the field. As a result, if there is any injury or damage occurring during the project, the City could end up essentially indemnifying MDOT for certain claims filed against MDOT. It is unclear why this new provision has been added. However, the Contractor's insurance may provide some coverage for these types of claims.

The contract is not for the purpose of (1) setting forth project specifications and requirement, or (2) designating specific contractors, which will be done pursuant to separate contract with MDOT.

The contract provided is sufficient for the purpose of assigning estimated project costs between the parties.

If you have any questions regarding the above, please do not hesitate to contact me.

Very truly yours,

JOHNSON, ROSATI, SCHULTZ & JOPPICH, P.C.



Elizabeth Kudla Saarela

EKS

Enclosure

C: Maryanne Cornelius, Clerk (w/Enclosure)
Rob Hayes, DPS Director (w/Enclosure)
Thomas R. Schultz, Esquire (w/Enclosure)

STP

DA

Control Section	STU 63459
Job Number	130423A
Project	STP 1663(042)
Federal Item No.	HK 1007
CFDA No.	20.205 (Highway Research Planning & Construction)
Contract No.	16-5263

PART I

THIS CONTRACT, consisting of PART I and PART II (Standard Agreement Provisions), is made and entered into this date of _____, by and between the MICHIGAN DEPARTMENT OF TRANSPORTATION, hereinafter referred to as the "DEPARTMENT"; and the CITY OF NOVI, a Michigan municipal corporation, hereinafter referred to as the "REQUESTING PARTY"; for the purpose of fixing the rights and obligations of the parties in agreeing to the following improvements, in the City of Novi, Michigan, hereinafter referred to as the "PROJECT" and estimated in detail on EXHIBIT "I", dated April 14, 2016, attached hereto and made a part hereof:

PART A – FEDERAL PARTICIPATION

Hot mix asphalt cold milling and resurfacing work along Novi Road from 12 Mile Road northerly to 13 Mile Road; including existing center left turn lane removal, uncurbed median installation, aggregate base, drainage improvement, paving interlayer, concrete curb and gutter, sidewalk ramp, and guardrail upgrade work; and all together with necessary related work.

PART B – NO FEDERAL PARTICIPATION

Audiovisual taping and irrigation work within the limits as described in PART A; and all together with necessary related work.

WITNESSETH:

WHEREAS, pursuant to Federal law, monies have been provided for the performance of certain improvements on public roads; and

WHEREAS, the reference "FHWA" in PART I and PART II refers to the United States Department of Transportation, Federal Highway Administration; and

WHEREAS, the PROJECT, or portions of the PROJECT, at the request of the REQUESTING PARTY, are being programmed with the FHWA, for implementation with the use of Federal Funds under the following Federal program(s) or funding:

SURFACE TRANSPORTATION PROGRAM

WHEREAS, the parties hereto have reached an understanding with each other regarding the performance of the PROJECT work and desire to set forth this understanding in the form of a written contract.

NOW, THEREFORE, in consideration of the premises and of the mutual undertakings of the parties and in conformity with applicable law, it is agreed:

1. The parties hereto shall undertake and complete the PROJECT in accordance with the terms of this contract.

2. The term "PROJECT COST", as herein used, is hereby defined as the cost of the physical construction necessary for the completion of the PROJECT, including any other costs incurred by the DEPARTMENT as a result of this contract, except construction engineering and inspection.

No charges will be made by the DEPARTMENT to the PROJECT for any inspection work or construction engineering.

The costs incurred by the REQUESTING PARTY for preliminary engineering, construction engineering, construction materials testing, inspection, and right-of-way are excluded from the PROJECT COST as defined by this contract.

3. The DEPARTMENT is authorized by the REQUESTING PARTY to administer on behalf of the REQUESTING PARTY all phases of the PROJECT, including advertising and awarding the construction contract for the PROJECT or portions of the PROJECT. Such administration shall be in accordance with PART II, Section II of this contract.

Any items of the PROJECT COST incurred by the DEPARTMENT may be charged to the PROJECT.

4. The REQUESTING PARTY, at no cost to the PROJECT or to the DEPARTMENT, shall:

- A. Design or cause to be designed the plans for the PROJECT.
- B. Appoint a project engineer who shall be in responsible charge of the PROJECT and ensure that the plans and specifications are followed.
- C. Perform or cause to be performed the construction engineering, construction materials testing, and inspection services necessary for the completion of the PROJECT.

The REQUESTING PARTY will furnish the DEPARTMENT proposed timing sequences for trunkline signals that, if any, are being made part of the improvement. No timing adjustments shall be made by the REQUESTING PARTY at any trunkline intersection, without prior issuances by the DEPARTMENT of Standard Traffic Signal Timing Permits.

5. The PROJECT COST shall be met in accordance with the following:

PART A

Federal Surface Transportation Funds shall be applied to the eligible items of the PART A portion of the PROJECT COST up to the lesser of: (1) \$689,300, or (2) an amount such that 81.85 percent, the normal Federal participation ratio for such funds, for the PART A portion of the PROJECT is not exceeded at the time of the award of the construction contract. The balance of the PART A portion of the PROJECT COST, after deduction of Federal Funds, shall be charged to and paid by the REQUESTING PARTY in the manner and at the times hereinafter set forth.

PART B

The PART B portion of the PROJECT COST is not eligible for Federal participation and shall be charged to and paid 100 percent by the REQUESTING PARTY in the manner and at the times hereinafter set forth.

Any items of PROJECT COST not reimbursed by Federal Funds will be the sole responsibility of the REQUESTING PARTY.

6. No working capital deposit will be required for this PROJECT.

In order to fulfill the obligations assumed by the REQUESTING PARTY under the provisions of this contract, the REQUESTING PARTY shall make prompt payments of its share of the PROJECT COST upon receipt of progress billings from the DEPARTMENT as herein provided. All payments will be made within 30 days of receipt of billings from the DEPARTMENT. Billings to the REQUESTING PARTY will be based upon an effective billing rate and the REQUESTING PARTY'S share of the actual costs incurred less Federal Funds earned as the PROJECT progresses. The initial effective billing rate for the federal funding for the PART A portion of the PROJECT is calculated by using the federal funding for the PART A portion of the PROJECT set at the time of the award of the construction contract, as described in Section 5, and dividing by the total costs of the PART A portion of the PROJECT eligible for federal funding and authorized at the time of the award of the construction contract.

The effective billing rate for the federal funding of the PART A portion of the PROJECT is determined by the current funding authorization for the PART A portion of the PROJECT and may change as the PROJECT progresses and funding authorizations are increased or decreased.

7. Upon completion of construction of the PROJECT, the REQUESTING PARTY will promptly cause to be enacted and enforced such ordinances or regulations as may be necessary to prohibit parking in the roadway right-of-way throughout the limits of the PROJECT.

8. The performance of the entire PROJECT under this contract, whether Federally funded or not, will be subject to the provisions and requirements of PART II that are applicable to a Federally funded project.

In the event of any discrepancies between PART I and PART II of this contract, the provisions of PART I shall prevail.

Buy America Requirements (23 CFR 635.410) shall apply to the PROJECT and will be adhered to, as applicable, by the parties hereto.

9. The REQUESTING PARTY certifies that a) it is a person under the Natural Resources and Environmental Protection Act, MCL 324.20101 et seq., as amended, (NREPA) and is not aware of and has no reason to believe that the property is a facility as defined in the NREPA; b) the REQUESTING PARTY further certifies that it has completed the tasks required by MCL 324.20126 (3)(h); c) it conducted a visual inspection of property within the existing right of way on which construction is to be performed to determine if any hazardous substances were present; and at sites on which historically were located businesses that involved hazardous substances, it performed a reasonable investigation to determine whether hazardous substances exist. This reasonable investigation should include, at a minimum, contact with local, state and federal environmental agencies to determine if the site has been identified as, or potentially as, a site containing hazardous substances; d) it did not cause or contribute to the release or threat of release of any hazardous substance found within the PROJECT limits.

The REQUESTING PARTY also certifies that, in addition to reporting the presence of any hazardous substances to the Department of Environmental Quality, it has advised the DEPARTMENT of the presence of any and all hazardous substances which the REQUESTING PARTY found within the PROJECT limits, as a result of performing the investigation and visual inspection required herein. The REQUESTING PARTY also certifies that it has been unable to identify any entity who may be liable for the cost of remediation. As a result, the REQUESTING PARTY has included all estimated costs of remediation of such hazardous substances in its estimated cost of construction of the PROJECT.

10. If, subsequent to execution of this contract, previously unknown hazardous substances are discovered within the PROJECT limits, which require environmental remediation pursuant to either state or federal law, the REQUESTING PARTY, in addition to reporting that fact to the Department of Environmental Quality, shall immediately notify the DEPARTMENT, both orally and in writing of such discovery. The DEPARTMENT shall consult with the REQUESTING PARTY to determine if it is willing to pay for the cost of remediation and, with the FHWA, to determine the eligibility, for reimbursement, of the remediation costs. The REQUESTING PARTY shall be charged for and shall pay all costs associated with such remediation, including all delay costs of the contractor for the PROJECT, in the event that

remediation and delay costs are not deemed eligible by the FHWA. If the REQUESTING PARTY refuses to participate in the cost of remediation, the DEPARTMENT shall terminate the PROJECT. The parties agree that any costs or damages that the DEPARTMENT incurs as a result of such termination shall be considered a PROJECT COST.

11. If federal and/or state funds administered by the DEPARTMENT are used to pay the cost of remediating any hazardous substances discovered after the execution of this contract and if there is a reasonable likelihood of recovery, the REQUESTING PARTY, in cooperation with the Department of Environmental Quality and the DEPARTMENT, shall make a diligent effort to recover such costs from all other possible entities. If recovery is made, the DEPARTMENT shall be reimbursed from such recovery for the proportionate share of the amount paid by the FHWA and/or the DEPARTMENT and the DEPARTMENT shall credit such sums to the appropriate funding source.

12. The DEPARTMENT'S sole reason for entering into this contract is to enable the REQUESTING PARTY to obtain and use funds provided by the Federal Highway Administration pursuant to Title 23 of the United States Code.

Any and all approvals of, reviews of, and recommendations regarding contracts, agreements, permits, plans, specifications, or documents, of any nature, or any inspections of work by the DEPARTMENT or its agents pursuant to the terms of this contract are done to assist the REQUESTING PARTY in meeting program guidelines in order to qualify for available funds. Such approvals, reviews, inspections and recommendations by the DEPARTMENT or its agents shall not relieve the REQUESTING PARTY and the local agencies, as applicable, of their ultimate control and shall not be construed as a warranty of their propriety or that the DEPARTMENT or its agents is assuming any liability, control or jurisdiction.

The providing of recommendations or advice by the DEPARTMENT or its agents does not relieve the REQUESTING PARTY and the local agencies, as applicable of their exclusive jurisdiction of the highway and responsibility under MCL 691.1402 et seq., as amended.

When providing approvals, reviews and recommendations under this contract, the DEPARTMENT or its agents is performing a governmental function, as that term is defined in MCL 691.1401 et seq., as amended, which is incidental to the completion of the PROJECT.

13. The DEPARTMENT, by executing this contract, and rendering services pursuant to this contract, has not and does not assume jurisdiction of the highway, described as the PROJECT for purposes of MCL 691.1402 et seq., as amended. Exclusive jurisdiction of such highway for the purposes of MCL 691.1402 et seq., as amended, rests with the REQUESTING PARTY and other local agencies having respective jurisdiction.

14. The REQUESTING PARTY shall approve all of the plans and specifications to be used on the PROJECT and shall be deemed to have approved all changes to the plans and specifications when put into effect. It is agreed that ultimate responsibility and control over the PROJECT rests with the REQUESTING PARTY and local agencies, as applicable.

15. The REQUESTING PARTY agrees that the costs reported to the DEPARTMENT for this contract will represent only those items that are properly chargeable in accordance with this contract. The REQUESTING PARTY also certifies that it has read the contract terms and has made itself aware of the applicable laws, regulations, and terms of this contract that apply to the reporting of costs incurred under the terms of this contract.

16. Each party to this contract will remain responsive for any and all claims arising out of its own acts and/or omissions during the performance of the contract, as provided by this contract or by law. In addition, this is not intended to increase or decrease either party's liability for or immunity from tort claims. This contract is also not intended to nor will it be interpreted as giving either party a right of indemnification, either by contract or by law, for claims arising out of the performance of this contract.

The DEPARTMENT shall not be subject to any obligations or liabilities by contractors of the REQUESTING PARTY or their subcontractors or any other person not a party to this contract without its specific consent and notwithstanding its concurrence in or approval of the award of any contract or subcontract or the solicitation thereof.

It is expressly understood and agreed that the REQUESTING PARTY shall take no action or conduct which arises either directly or indirectly out of its obligations, responsibilities, and duties under this contract, which results in claims being asserted against or judgments being imposed against the State of Michigan, the DEPARTMENT, and/or the Michigan State Transportation Commission.

In the event that the same occurs, for the purpose of this contract it will be considered as a breach of this contract thereby giving the State of Michigan, the DEPARTMENT, and/or the Michigan State Transportation Commission a right to seek and obtain any necessary relief or remedy, including but not by way of limitation, a judgment for money damages.

17. The parties shall promptly provide comprehensive assistance and cooperation in defending and resolving any claims brought against the DEPARTMENT by the contractor, vendors or suppliers as a result of the DEPARTMENT'S award of the construction contract for the PROJECT. Costs incurred by the DEPARTMENT in defending or resolving such claims shall be considered PROJECT COSTS.

18. The DEPARTMENT shall require the contractor who is awarded the contract for the construction of the PROJECT to provide insurance in the amounts specified and in accordance with the DEPARTMENT'S current Standard Specifications for Construction and to:

- A. Maintain bodily injury and property damage insurance for the duration of the PROJECT.

- B. Provide owner's protective liability insurance naming as insureds the State of Michigan, the Michigan State Transportation Commission, the DEPARTMENT and its officials, agents and employees, the REQUESTING PARTY and any other county, county road commission, or municipality in whose jurisdiction the PROJECT is located, and their employees, for the duration of the PROJECT and to provide, upon request, copies of certificates of insurance to the insureds. It is understood that the DEPARTMENT does not assume jurisdiction of the highway described as the PROJECT as a result of being named as an insured on the owner's protective liability insurance policy.

- C. Comply with the requirements of notice of cancellation and reduction of insurance set forth in the current standard specifications for construction and to provide, upon request, copies of notices and reports prepared to those insured.

19. This contract shall become binding on the parties hereto and of full force and effect upon the signing thereof by the duly authorized officials for the parties hereto and upon the adoption of the necessary resolutions approving said contract and authorizing the signatures thereto of the respective officials of the REQUESTING PARTY, a certified copy of which resolution shall be attached to this contract.

IN WITNESS WHEREOF, the parties hereto have caused this contract to be executed the day and year first above written.

CITY OF NOVI

MICHIGAN DEPARTMENT
OF TRANSPORTATION

By _____
Title:

By _____
Department Director MDOT

By _____
Title:

RDS
5/5/16



APPROVED BY

Administrator
Real Estate

5/16/16
Date

April 14, 2016

EXHIBIT I

CONTROL SECTION STU 63459
JOB NUMBER 130423A
PROJECT STP 1663(042)

ESTIMATED COST

CONTRACTED WORK

	<u>PART A</u>	<u>PART B</u>	<u>TOTAL</u>
Estimated Cost	\$1,716,300	\$5,900	\$1,722,200

COST PARTICIPATION

GRAND TOTAL ESTIMATED COST	\$1,716,300	\$5,900	\$1,722,200
Less Federal Funds*	<u>\$ 689,300</u>	<u>\$ -0-</u>	<u>\$ 689,300</u>
BALANCE (REQUESTING PARTY'S SHARE)	\$1,027,000	\$5,900	\$1,032,900

*Federal Funds for the PROJECT are limited to an amount as described in Section 5.

NO DEPOSIT

DOT

TYPE B
BUREAU OF HIGHWAYS
03-15-93

PART II

STANDARD AGREEMENT PROVISIONS

SECTION I COMPLIANCE WITH REGULATIONS AND DIRECTIVES

SECTION II PROJECT ADMINISTRATION AND SUPERVISION

SECTION III ACCOUNTING AND BILLING

SECTION IV MAINTENANCE AND OPERATION

SECTION V SPECIAL PROGRAM AND PROJECT CONDITIONS

SECTION I

COMPLIANCE WITH REGULATIONS AND DIRECTIVES

- A. To qualify for eligible cost, all work shall be documented in accordance with the requirements and procedures of the DEPARTMENT.
- B. All work on projects for which reimbursement with Federal funds is requested shall be performed in accordance with the requirements and guidelines set forth in the following Directives of the Federal-Aid Policy Guide (FAPG) of the FHWA, as applicable, and as referenced in pertinent sections of Title 23 and Title 49 of the Code of Federal Regulations (CFR), and all supplements and amendments thereto.
 - 1. Engineering
 - a. FAPG (6012.1): Preliminary Engineering
 - b. FAPG (23 CFR 172): Administration of Engineering and Design Related Service Contracts
 - c. FAPG (23 CFR 635A): Contract Procedures
 - d. FAPG (49 CFR 18.22): Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments—Allowable Costs
 - 2. Construction
 - a. FAPG (23 CFR 140E): Administrative Settlement Costs-Contract Claims
 - b. FAPG (23 CFR 140B): Construction Engineering Costs
 - c. FAPG (23 CFR 17): Recordkeeping and Retention Requirements for Federal-Aid Highway Records of State Highway Agencies
 - d. FAPG (23 CFR 635A): Contract Procedures
 - e. FAPG (23 CFR 635B): Force Account Construction
 - f. FAPG (23 CFR 645A): Utility Relocations, Adjustments and Reimbursement

- g. FAPG (23 CFR 645B): Accommodation of Utilities (PPM 30-4.1)
 - h. FAPG (23 CFR 655F): Traffic Control Devices on Federal-Aid and other Streets and Highways
 - i. FAPG (49 CFR 18.22): Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments--Allowable Costs
3. Modification Or Construction Of Railroad Facilities
- a. FAPG (23 CFR 140I): Reimbursement for Railroad Work
 - b. FAPG (23 CFR 646B): Railroad Highway Projects
- C. In conformance with FAPG (23 CFR 630C) Project Agreements, the political subdivisions party to this contract, on those Federally funded projects which exceed a total cost of \$100,000.00 stipulate the following with respect to their specific jurisdictions:
- 1. That any facility to be utilized in performance under or to benefit from this contract is not listed on the Environmental Protection Agency (EPA) List of Violating Facilities issued pursuant to the requirements of the Federal Clean Air Act, as amended, and the Federal Water Pollution Control Act, as amended.
 - 2. That they each agree to comply with all of the requirements of Section 114 of the Federal Clean Air Act and Section 308 of the Federal Water Pollution Control Act, and all regulations and guidelines issued thereunder.
 - 3. That as a condition of Federal aid pursuant to this contract they shall notify the DEPARTMENT of the receipt of any advice indicating that a facility to be utilized in performance under or to benefit from this contract is under consideration to be listed on the EPA List of Violating Facilities.
- D. Ensure that the PROJECT is constructed in accordance with and incorporates all committed environmental impact mitigation measures listed in approved environmental documents unless modified or deleted by approval of the FHWA.
- E. All the requirements, guidelines, conditions and restrictions noted in all other pertinent Directives and Instructional Memoranda of the FHWA will apply to this contract and will be adhered to, as applicable, by the parties hereto.

SECTION II

PROJECT ADMINISTRATION AND SUPERVISION

- A. The DEPARTMENT shall provide such administrative guidance as it determines is required by the PROJECT in order to facilitate the obtaining of available federal and/or state funds.
- B. The DEPARTMENT will advertise and award all contracted portions of the PROJECT work. Prior to advertising of the PROJECT for receipt of bids, the REQUESTING PARTY may delete any portion or all of the PROJECT work. After receipt of bids for the PROJECT, the REQUESTING PARTY shall have the right to reject the amount bid for the PROJECT prior to the award of the contract for the PROJECT only if such amount exceeds by ten percent (10%) the final engineer's estimate therefor. If such rejection of the bids is not received in writing within two (2) weeks after letting, the DEPARTMENT will assume concurrence. The DEPARTMENT may, upon request, readvertise the PROJECT. Should the REQUESTING PARTY so request in writing within the aforesaid two (2) week period after letting, the PROJECT will be cancelled and the DEPARTMENT will refund the unused balance of the deposit less all costs incurred by the DEPARTMENT.
- C. The DEPARTMENT will perform such inspection services on PROJECT work performed by the REQUESTING PARTY with its own forces as is required to ensure compliance with the approved plans & specifications.
- D. On those projects funded with Federal monies, the DEPARTMENT shall as may be required secure from the FHWA approval of plans and specifications, and such cost estimates for FHWA participation in the PROJECT COST.
- E. All work in connection with the PROJECT shall be performed in conformance with the Michigan Department of Transportation Standard Specifications for Construction, and the supplemental specifications, Special Provisions and plans pertaining to the PROJECT and all materials furnished and used in the construction of the PROJECT shall conform to the aforesaid specifications. No extra work shall be performed nor changes in plans and specifications made until said work or changes are approved by the project engineer and authorized by the DEPARTMENT.

- F. Should it be necessary or desirable that portions of the work covered by this contract be accomplished by a consulting firm, a railway company, or governmental agency, firm, person, or corporation, under a subcontract with the REQUESTING PARTY at PROJECT expense, such subcontracted arrangements will be covered by formal written agreement between the REQUESTING PARTY and that party.

This formal written agreement shall: include a reference to the specific prime contract to which it pertains; include provisions which clearly set forth the maximum reimbursable and the basis of payment; provide for the maintenance of accounting records in accordance with generally accepted accounting principles, which clearly document the actual cost of the services provided; provide that costs eligible for reimbursement shall be in accordance with clearly defined cost criteria such as 49 CFR Part 18, 48 CFR Part 31, 23 CFR Part 140, OMB Circular A-87, etc. as applicable; provide for access to the department or its representatives to inspect and audit all data and records related to the agreement for a minimum of three years after the department's final payment to the local unit.

All such agreements will be submitted for approval by the DEPARTMENT and, if applicable, by the FHWA prior to execution thereof, except for agreements for amounts less than \$100,000 for preliminary engineering and testing services executed under and in accordance with the provisions of the "Small Purchase Procedures" FAPG (23 CFR 172), which do not require prior approval of the DEPARTMENT or the FHWA.

Any such approval by the DEPARTMENT shall in no way be construed as a warranty of the subcontractor's qualifications, financial integrity, or ability to perform the work being subcontracted.

- G. The REQUESTING PARTY, at no cost to the PROJECT or the DEPARTMENT, shall make such arrangements with railway companies, utilities, etc., as may be necessary for the performance of work required for the PROJECT but for which Federal or other reimbursement will not be requested.
- H. The REQUESTING PARTY, at no cost to the PROJECT, or the DEPARTMENT, shall secure, as necessary, all agreements and approvals of the PROJECT with railway companies, the Railroad Safety & Tariffs Division of the DEPARTMENT and other concerned governmental agencies other than the FHWA, and will forward same to the DEPARTMENT for such reviews and approvals as may be required.
- I. No PROJECT work for which reimbursement will be requested by the REQUESTING PARTY is to be subcontracted or performed until the DEPARTMENT gives written notification that such work may commence.

- J. The REQUESTING PARTY shall be responsible for the payment of all costs and expenses incurred in the performance of the work it agrees to undertake and perform.
- K. The REQUESTING PARTY shall pay directly to the party performing the work all billings for the services performed on the PROJECT which are authorized by or through the REQUESTING PARTY.
- L. The REQUESTING PARTY shall submit to the DEPARTMENT all paid billings for which reimbursement is desired in accordance with DEPARTMENT procedures.
- M. All work by a consulting firm will be performed in compliance with the applicable provisions of 1980 PA 299, Subsection 2001, MCL 339.2001; MSA 18.425(2001), as well as in accordance with the provisions of all previously cited Directives of the FHWA.
- N. The project engineer shall be subject to such administrative guidance as may be deemed necessary to ensure compliance with program requirement and, in those instances where a consultant firm is retained to provide engineering and inspection services, the personnel performing those services shall be subject to the same conditions.
- O. The DEPARTMENT, in administering the PROJECT in accordance with applicable Federal and State requirements and regulations, neither assumes nor becomes liable for any obligations undertaken or arising between the REQUESTING PARTY and any other party with respect to the PROJECT.
- P. In the event it is determined by the DEPARTMENT that there will be either insufficient Federal funds or insufficient time to properly administer such funds for the entire PROJECT or portions thereof, the DEPARTMENT, prior to advertising or issuing authorization for work performance, may cancel the PROJECT, or any portion thereof, and upon written notice to the parties this contract shall be void and of no effect with respect to that cancelled portion of the PROJECT. Any PROJECT deposits previously made by the parties on the cancelled portions of the PROJECT will be promptly refunded.
- Q. Those projects funded with Federal monies will be subject to inspection at all times by the DEPARTMENT and the FHWA.

SECTION III

ACCOUNTING AND BILLING

A. Procedures for billing for work undertaken by the REQUESTING PARTY:

1. The REQUESTING PARTY shall establish and maintain accurate records, in accordance with generally accepted accounting principles, of all expenses incurred for which payment is sought or made under this contract, said records to be hereinafter referred to as the "RECORDS". Separate accounts shall be established and maintained for all costs incurred under this contract.

The REQUESTING PARTY shall maintain the RECORDS for at least three (3) years from the date of final payment of Federal Aid made by the DEPARTMENT under this contract. In the event of a dispute with regard to the allowable expenses or any other issue under this contract, the REQUESTING PARTY shall thereafter continue to maintain the RECORDS at least until that dispute has been finally decided and the time for all available challenges or appeals of that decision has expired.

The DEPARTMENT, or its representative, may inspect, copy, or audit the RECORDS at any reasonable time after giving reasonable notice.

If any part of the work is subcontracted, the REQUESTING PARTY shall assure compliance with the above for all subcontracted work.

In the event that an audit performed by or on behalf of the DEPARTMENT indicates an adjustment to the costs reported under this contract, or questions the allowability of an item of expense, the DEPARTMENT shall promptly submit to the REQUESTING PARTY, a Notice of Audit Results and a copy of the audit report which may supplement or modify any tentative findings verbally communicated to the REQUESTING PARTY at the completion of an audit.

Within sixty (60) days after the date of the Notice of Audit Results, the REQUESTING PARTY shall: (a) respond in writing to the responsible Bureau or the DEPARTMENT indicating whether or not it concurs with the audit report, (b) clearly explain the nature and basis for any disagreement as to a disallowed item of expense and, (c) submit to the DEPARTMENT a written explanation as to any questioned or no opinion expressed item of expense, hereinafter referred to as the "RESPONSE". The RESPONSE shall be clearly stated and provide any supporting documentation necessary to resolve any disagreement or questioned or no opinion expressed item of expense. Where the documentation is voluminous, the REQUESTING PARTY may supply appropriate excerpts and make alternate

arrangements to conveniently and reasonably make that documentation available for review by the DEPARTMENT. The RESPONSE shall refer to and apply the language of the contract. The REQUESTING PARTY agrees that failure to submit a RESPONSE within the sixty (60) day period constitutes agreement with any disallowance of an item of expense and authorizes the DEPARTMENT to finally disallow any items of questioned or no opinion expressed cost.

The DEPARTMENT shall make its decision with regard to any Notice of Audit Results and RESPONSE within one hundred twenty (120) days after the date of the Notice of Audit Results. If the DEPARTMENT determines that an overpayment has been made to the REQUESTING PARTY, the REQUESTING PARTY shall repay that amount to the DEPARTMENT or reach agreement with the DEPARTMENT on a repayment schedule within thirty (30) days after the date of an invoice from the DEPARTMENT. If the REQUESTING PARTY fails to repay the overpayment or reach agreement with the DEPARTMENT on a repayment schedule within the thirty (30) day period, the REQUESTING PARTY agrees that the DEPARTMENT shall deduct all or a portion of the overpayment from any funds then or thereafter payable by the DEPARTMENT to the REQUESTING PARTY under this contract or any other agreement, or payable to the REQUESTING PARTY under the terms of 1951 PA 51, as applicable. Interest will be assessed on any partial payments or repayment schedules based on the unpaid balance at the end of each month until the balance is paid in full. The assessment of interest will begin thirty (30) days from the date of the invoice. The rate of interest will be based on the Michigan Department of Treasury common cash funds interest earnings. The rate of interest will be reviewed annually by the DEPARTMENT and adjusted as necessary based on the Michigan Department of Treasury common cash funds interest earnings. The REQUESTING PARTY expressly consents to this withholding or offsetting of funds under those circumstances, reserving the right to file a lawsuit in the Court of Claims to contest the DEPARTMENT'S decision only as to any item of expense the disallowance of which was disputed by the REQUESTING PARTY in a timely filed RESPONSE.

The REQUESTING PARTY shall comply with the Single Audit Act of 1984, as amended, including, but not limited to, the Single Audit Amendments of 1996 (31 USC 7501-7507).

The REQUESTING PARTY shall adhere to the following requirements associated with audits of accounts and records:

- a. Agencies expending a total of \$500,000 or more in federal funds, from one or more funding sources in its fiscal year, shall comply with the requirements of the federal Office of Management and Budget (OMB) Circular A-133, as revised or amended.

The agency shall submit two copies of:

- The Reporting Package
- The Data Collection Form
- The management letter to the agency, if one issued by the audit firm

The OMB Circular A-133 audit must be submitted to the address below in accordance with the time frame established in the circular, as revised or amended.

b. Agencies expending less than \$500,000 in federal funds must submit a letter to the Department advising that a circular audit was not required. The letter shall indicate the applicable fiscal year, the amount of federal funds spent, the name(s) of the Department federal programs, and the CFDA grant number(s). This information must also be submitted to the address below.

c. Address: Michigan Department of Education
Accounting Service Center
Hannah Building
608 Allegan Street
Lansing, MI 48909

d. Agencies must also comply with applicable State laws and regulations relative to audit requirements.

e. Agencies shall not charge audit costs to Department's federal programs which are not in accordance with the OMB Circular A-133 requirements.

f. All agencies are subject to the federally required monitoring activities, which may include limited scope reviews and other on-site monitoring.

2. Agreed Unit Prices Work - All billings for work undertaken by the REQUESTING PARTY on an agreed unit price basis will be submitted in accordance with the Michigan Department of Transportation Standard Specifications for Construction and pertinent FAPG Directives and Guidelines of the FHWA.
3. Force Account Work and Subcontracted Work - All billings submitted to the DEPARTMENT for Federal reimbursement for items of work performed on a force account basis or by any subcontract with a consulting firm, railway company, governmental agency or other party, under the terms of this contract, shall be prepared in accordance with the provisions of the pertinent FHPM Directives and the procedures of the DEPARTMENT. Progress billings may be submitted monthly during the time work is being performed provided, however, that no bill of a lesser amount than \$1,000.00 shall be submitted unless it is a final

or end of fiscal year billing. All billings shall be labeled either "Progress Bill Number _____", or "Final Billing".

4. Final billing under this contract shall be submitted in a timely manner but not later than six months after completion of the work. Billings for work submitted later than six months after completion of the work will not be paid.
5. Upon receipt of billings for reimbursement for work undertaken by the REQUESTING PARTY on projects funded with Federal monies, the DEPARTMENT will act as billing agent for the REQUESTING PARTY, consolidating said billings with those for its own force account work and presenting these consolidated billings to the FHWA for payment. Upon receipt of reimbursement from the FHWA, the DEPARTMENT will promptly forward to the REQUESTING PARTY its share of said reimbursement.
6. Upon receipt of billings for reimbursement for work undertaken by the REQUESTING PARTY on projects funded with non-Federal monies, the DEPARTMENT will promptly forward to the REQUESTING PARTY reimbursement of eligible costs.

B. Payment of Contracted and DEPARTMENT Costs:

1. As work on the PROJECT commences, the initial payments for contracted work and/or costs incurred by the DEPARTMENT will be made from the working capital deposit. Receipt of progress payments of Federal funds, and where applicable, State Critical Bridge funds, will be used to replenish the working capital deposit. The REQUESTING PARTY shall make prompt payments of its share of the contracted and/or DEPARTMENT incurred portion of the PROJECT COST upon receipt of progress billings from the DEPARTMENT. Progress billings will be based upon the REQUESTING PARTY'S share of the actual costs incurred as work on the PROJECT progresses and will be submitted, as required, until it is determined by the DEPARTMENT that there is sufficient available working capital to meet the remaining anticipated PROJECT COSTS. All progress payments will be made within thirty (30) days of receipt of billings. No monthly billing of a lesser amount than \$1,000.00 will be made unless it is a final or end of fiscal year billing. Should the DEPARTMENT determine that the available working capital exceeds the remaining anticipated PROJECT COSTS, the DEPARTMENT may reimburse the REQUESTING PARTY such excess. Upon completion of the PROJECT, payment of all PROJECT COSTS, receipt of all applicable monies from the FHWA, and completion of necessary audits, the REQUESTING PARTY will be reimbursed the balance of its deposit.

2. In the event that the bid, plus contingencies, for the contracted, and/or the DEPARTMENT incurred portion of the PROJECT work exceeds the estimated cost therefor as established by this contract, the REQUESTING PARTY may be advised and billed for the additional amount of its share.

C. General Conditions:

1. The DEPARTMENT, in accordance with its procedures in existence and covering the time period involved, shall make payment for interest earned on the balance of working capital deposits for all projects on account with the DEPARTMENT. The REQUESTING PARTY in accordance with DEPARTMENT procedures in existence and covering the time period involved, shall make payment for interest owed on any deficit balance of working capital deposits for all projects on account with the DEPARTMENT. This payment or billing is processed on an annual basis corresponding to the State of Michigan fiscal year. Upon receipt of billing for interest incurred, the REQUESTING PARTY promises and shall promptly pay the DEPARTMENT said amount.
2. Pursuant to the authority granted by law, the REQUESTING PARTY hereby irrevocably pledges a sufficient amount of funds received by it from the Michigan Transportation Fund to meet its obligations as specified in PART I and PART II. If the REQUESTING PARTY shall fail to make any of its required payments when due, as specified herein, the DEPARTMENT shall immediately notify the REQUESTING PARTY and the State Treasurer of the State of Michigan or such other state officer or agency having charge and control over disbursement of the Michigan Transportation Fund, pursuant to law, of the fact of such default and the amount thereof, and, if such default is not cured by payment within ten (10) days, said State Treasurer or other state officer or agency is then authorized and directed to withhold from the first of such monies thereafter allocated by law to the REQUESTING PARTY from the Michigan Transportation Fund sufficient monies to remove the default, and to credit the REQUESTING PARTY with payment thereof, and to notify the REQUESTING PARTY in writing of such fact.
3. Upon completion of all work under this contract and final audit by the DEPARTMENT or the FHWA, the REQUESTING PARTY promises to promptly repay the DEPARTMENT for any disallowed items of costs previously disbursed by the DEPARTMENT. The REQUESTING PARTY pledges its future receipts from the Michigan Transportation Fund for repayment of all disallowed items and, upon failure to make repayment for any disallowed items within ninety (90) days of demand made by the DEPARTMENT, the DEPARTMENT is hereby authorized to withhold an equal amount from the REQUESTING PARTY'S share of any future distribution of Michigan Transportation Funds in settlement of said claim.

4. The DEPARTMENT shall maintain and keep accurate records and accounts relative to the cost of the PROJECT and upon completion of the PROJECT, payment of all items of PROJECT COST, receipt of all Federal Aid, if any, and completion of final audit by the DEPARTMENT and if applicable, by the FHWA, shall make final accounting to the REQUESTING PARTY. The final PROJECT accounting will not include interest earned or charged on working capital deposited for the PROJECT which will be accounted for separately at the close of the State of Michigan fiscal year and as set forth in Section C(1).
5. The costs of engineering and other services performed on those projects involving specific program funds and one hundred percent (100%) local funds will be apportioned to the respective portions of that project in the same ratio as the actual direct construction costs unless otherwise specified in PART I.

SECTION IV

MAINTENANCE AND OPERATION

A. Upon completion of construction of each part of the PROJECT, at no cost to the DEPARTMENT or the PROJECT, each of the parties hereto, within their respective jurisdictions, will make the following provisions for the maintenance and operation of the completed PROJECT:

1. All Projects:

Properly maintain and operate each part of the project, making ample provisions each year for the performance of such maintenance work as may be required, except as qualified in paragraph 2b of this section.

2. Projects Financed in Part with Federal Monies:

a. Sign and mark each part of the PROJECT, in accordance with the current Michigan Manual of Uniform Traffic control Devices, and will not install, or permit to be installed, any signs, signals or markings not in conformance with the standards approved by the FHWA, pursuant to 23 USC 109(d).

b. Remove, prior to completion of the PROJECT, all encroachments from the roadway right-of-way within the limits of each part of the PROJECT.

With respect to new or existing utility installations within the right-of-way of Federal Aid projects and pursuant to FAPG (23 CFR 645B): Occupancy of non-limited access right-of-way may be allowed based on consideration for traffic safety and necessary preservation of roadside space and aesthetic quality. Longitudinal occupancy of non-limited access right-of-way by private lines will require a finding of significant economic hardship, the unavailability of practicable alternatives or other extenuating circumstances.

c. Cause to be enacted, maintained and enforced, ordinances and regulations for proper traffic operations in accordance with the plans of the PROJECT.

d. Make no changes to ordinances or regulations enacted, or traffic controls installed in conjunction with the PROJECT work without prior review by the DEPARTMENT and approval of the FHWA, if required.

- B. On projects for the removal of roadside obstacles, the parties, upon completion of construction of each part of the PROJECT, at no cost to the PROJECT or the DEPARTMENT, will, within their respective jurisdictions, take such action as is necessary to assure that the roadway right-of-way, cleared as the PROJECT, will be maintained free of such obstacles.
- C. On projects for the construction of bikeways, the parties will enact no ordinances or regulations prohibiting the use of bicycles on the facility hereinbefore described as the PROJECT, and will amend any existing restrictive ordinances in this regard so as to allow use of this facility by bicycles. No motorized vehicles shall be permitted on such bikeways or walkways constructed as the PROJECT except those for maintenance purposes.
- D. Failure of the parties hereto to fulfill their respective responsibilities as outlined herein may disqualify that party from future Federal-aid participation in projects on roads or streets for which it has maintenance responsibility. Federal Aid may be withheld until such time as deficiencies in regulations have been corrected, and the improvements constructed as the PROJECT are brought to a satisfactory condition of maintenance.

SECTION V

SPECIAL PROGRAM AND PROJECT CONDITIONS

- A. Those projects for which the REQUESTING PARTY has been reimbursed with Federal monies for the acquisition of right-of-way must be under construction by the close of the twentieth (20th) fiscal year following the fiscal year in which the FHWA and the DEPARTMENT projects agreement covering that work is executed, or the REQUESTING PARTY may be required to repay to the DEPARTMENT, for forwarding to the FHWA, all monies distributed as the FHWA'S contribution to that right-of-way.
- B. Those projects for which the REQUESTING PARTY has been reimbursed with Federal monies for the performance of preliminary engineering must be under construction by the close of the tenth (10th) fiscal year following the fiscal year in which the FHWA and the DEPARTMENT projects agreement covering that work is executed, or the REQUESTING PARTY may be required to repay to the DEPARTMENT, for forwarding to the FHWA, all monies distributed as the FHWA'S contribution to that preliminary engineering.
- C. On those projects funded with Federal monies, the REQUESTING PARTY, at no cost to the PROJECT or the DEPARTMENT, will provide such accident information as is available and such other information as may be required under the program in order to make the proper assessment of the safety benefits derived from the work performed as the PROJECT. The REQUESTING PARTY will cooperate with the DEPARTMENT in the development of reports and such analysis as may be required and will, when requested by the DEPARTMENT, forward to the DEPARTMENT, in such form as is necessary, the required information.
- D. In connection with the performance of PROJECT work under this contract the parties hereto (hereinafter in Appendix "A" referred to as the "contractor") agree to comply with the State of Michigan provisions for "Prohibition of Discrimination in State Contracts", as set forth in Appendix A, attached hereto and made a part hereof. The parties further covenant that they will comply with the Civil Rights Acts of 1964, being P.L. 88-352, 78 Stat. 241, as amended, being Title 42 U.S.C. Sections 1971, 1975a-1975d, and 2000a-2000h-6 and the Regulations of the United States Department of Transportation (49 C.F.R. Part 21) issued pursuant to said Act, including Appendix "B", attached hereto and made a part hereof, and will require similar covenants on the part of any contractor or subcontractor employed in the performance of this contract.
- E. The parties will carry out the applicable requirements of the DEPARTMENT'S Disadvantaged Business Enterprise (DBE) program and 49 CFR, Part 26, including, but not limited to, those requirements set forth in Appendix C.

APPENDIX A
PROHIBITION OF DISCRIMINATION IN STATE CONTRACTS

In connection with the performance of work under this contract; the contractor agrees as follows:

1. In accordance with Public Act 453 of 1976 (Elliott-Larsen Civil Rights Act), the contractor shall not discriminate against an employee or applicant for employment with respect to hire, tenure, treatment, terms, conditions, or privileges of employment or a matter directly or indirectly related to employment because of race, color, religion, national origin, age, sex, height, weight, or marital status. A breach of this covenant will be regarded as a material breach of this contract. Further, in accordance with Public Act 220 of 1976 (Persons with Disabilities Civil Rights Act), as amended by Public Act 478 of 1980, the contractor shall not discriminate against any employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment or a matter directly or indirectly related to employment because of a disability that is unrelated to the individual's ability to perform the duties of a particular job or position. A breach of the above covenants will be regarded as a material breach of this contract.
2. The contractor hereby agrees that any and all subcontracts to this contract, whereby a portion of the work set forth in this contract is to be performed, shall contain a covenant the same as hereinabove set forth in Section 1 of this Appendix.
3. The contractor will take affirmative action to ensure that applicants for employment and employees are treated without regard to their race, color, religion, national origin, age, sex, height, weight, marital status, or any disability that is unrelated to the individual's ability to perform the duties of a particular job or position. Such action shall include, but not be limited to, the following: employment; treatment; upgrading; demotion or transfer; recruitment; advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.
4. The contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, age, sex, height, weight, marital status, or disability that is unrelated to the individual's ability to perform the duties of a particular job or position.
5. The contractor or its collective bargaining representative shall send to each labor union or representative of workers with which the contractor has a collective bargaining agreement or other contract or understanding a notice advising such labor union or workers' representative of the contractor's commitments under this Appendix.
6. The contractor shall comply with all relevant published rules, regulations, directives, and orders of the Michigan Civil Rights Commission that may be in effect prior to the taking of bids for any individual state project.

7. The contractor shall furnish and file compliance reports within such time and upon such forms as provided by the Michigan Civil Rights Commission; said forms may also elicit information as to the practices, policies, program, and employment statistics of each subcontractor, as well as the contractor itself, and said contractor shall permit access to the contractor's books, records, and accounts by the Michigan Civil Rights Commission and/or its agent for the purposes of investigation to ascertain compliance under this contract and relevant rules, regulations, and orders of the Michigan Civil Rights Commission.
8. In the event that the Michigan Civil Rights Commission finds, after a hearing held pursuant to its rules, that a contractor has not complied with the contractual obligations under this contract, the Michigan Civil Rights Commission may, as a part of its order based upon such findings, certify said findings to the State Administrative Board of the State of Michigan, which State Administrative Board may order the cancellation of the contract found to have been violated and/or declare the contractor ineligible for future contracts with the state and its political and civil subdivisions, departments, and officers, including the governing boards of institutions of higher education, until the contractor complies with said order of the Michigan Civil Rights Commission. Notice of said declaration of future ineligibility may be given to any or all of the persons with whom the contractor is declared ineligible to contract as a contracting party in future contracts. In any case before the Michigan Civil Rights Commission in which cancellation of an existing contract is a possibility, the contracting agency shall be notified of such possible remedy and shall be given the option by the Michigan Civil Rights Commission to participate in such proceedings.
9. The contractor shall include or incorporate by reference, the provisions of the foregoing paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Michigan Civil Rights Commission; all subcontracts and purchase orders will also state that said provisions will be binding upon each subcontractor or supplier.

Revised June 2011

**APPENDIX B
TITLE VI ASSURANCE**

During the performance of this contract, the contractor, for itself, its assignees, and its successors in interest (hereinafter referred to as the "contractor"), agrees as follows:

1. **Compliance with Regulations:** For all federally assisted programs, the contractor shall comply with the nondiscrimination regulations set forth in 49 CFR Part 21, as may be amended from time to time (hereinafter referred to as the Regulations). Such Regulations are incorporated herein by reference and made a part of this contract.
2. **Nondiscrimination:** The contractor, with regard to the work performed under the contract, shall not discriminate on the grounds of race, color, sex, or national origin in the selection, retention, and treatment of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices, when the contractor covers a program set forth in Appendix B of the Regulations.
3. **Solicitation for Subcontracts, Including Procurements of Materials and Equipment:** All solicitations made by the contractor, either by competitive bidding or by negotiation for subcontract work, including procurement of materials or leases of equipment, must include a notification to each potential subcontractor or supplier of the contractor's obligations under the contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and facilities as may be determined to be pertinent by the Department or the United States Department of Transportation (USDOT) in order to ascertain compliance with such Regulations or directives. If required information concerning the contractor is in the exclusive possession of another who fails or refuses to furnish the required information, the contractor shall certify to the Department or the USDOT, as appropriate, and shall set forth the efforts that it made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the Department shall impose such contract sanctions as it or the USDOT may determine to be appropriate, including, but not limited to, the following:
 - a. Withholding payments to the contractor until the contractor complies; and/or
 - b. Canceling, terminating, or suspending the contract, in whole or in part.

6. **Incorporation of Provisions:** The contractor shall include the provisions of Sections (1) through (6) in every subcontract, including procurement of material and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the Department or the USDOT may direct as a means of enforcing such provisions, including sanctions for non-compliance, provided, however, that in the event a contractor becomes involved in or is threatened with litigation from a subcontractor or supplier as a result of such direction, the contractor may request the Department to enter into such litigation to protect the interests of the state. In addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

Revised June 2011

APPENDIX C

TO BE INCLUDED IN ALL FINANCIAL ASSISTANCE AGREEMENTS WITH LOCAL AGENCIES

Assurance that Recipients and Contractors Must Make (Excerpts from US DOT Regulation 49 CFR 26.13)

- A. Each financial assistance agreement signed with a DOT operating administration (or a primary recipient) must include the following assurance:

The recipient shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any US DOT-assisted contract or in the administration of its DBE program or the requirements of 49 CFR Part 26. The recipient shall take all necessary and reasonable steps under 49 CFR Part 26 to ensure nondiscrimination in the award and administration of US DOT-assisted contracts. The recipient's DBE program, as required by 49 CFR Part 26 and as approved by US DOT, is incorporated by reference in this agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the recipient of its failure to carry out its approved program, the department may impose sanctions as provided for under Part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. 3801 et seq.).

- B. Each contract MDOT signs with a contractor (and each subcontract the prime contractor signs with a subcontractor) must include the following assurance:

The contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of US DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.



MEMORANDUM

TO: ROB HAYES, DIRECTOR OF PUBLIC SERVICES/CITY ENGINEER
FROM: BRIAN COBURN, ENGINEERING SENIOR MANAGER *BTC*
SUBJECT: NOVI ROAD (12 -13 MILE) REHABILITATION UPDATE
DATE: DECEMBER 2, 2015

Background

The rehabilitation of Novi Road between 12 Mile and 13 Mile Roads was discussed by City Council most recently on September 14, 2015 when the project's engineering design award was approved. Since that time, Engineering staff has continued to evaluate the alternatives (presented in our attached August 12, 2015 memo and July 13, 2015 report) based on the most recent discussion by City Council, along with subsequent feedback we have received from some City Councilmembers individually. There are some on City Council who wanted us to explore a 4-lane boulevard with a raised landscaped boulevard island and bioretention, which would be similar to the design depicted in this photograph of a portion of Plainfield Avenue NE in Grand Rapids:



Novi Road's existing cross-section between 12 Mile and 13 Mile consists of five lanes (two lanes each northbound and southbound; one center left turn lane) and is generally crowned at the center lane with drainage directed to the curb and gutter system at each edge of the roadway. Given these existing conditions, a significant amount of added work would need to be completed in order to construct the preferred alternative, which in essence would re-direct surface drainage to the middle of the road for treatment and conveyance. This additional work would include:

- Removing most or all pavement;
- Removing the road's base material (i.e., varying amounts of removal from centerline to the road's edge);

- Re-grading of remaining base and sub-base material;
- Placement of geogrid and geotextile to strengthen the section due to removal of base material;
- Constructing the raised median island; and,
- Repaving the entire cross-section.

Because implementing this alternative would essentially change the nature of the project from a simple rehabilitation to a complete and very expensive reconstruction job, it is not an economically feasible alternative. Therefore, an estimate of the cost of the preferred alternative has not been prepared, but would be in the neighborhood of two times the cost of the recommended alternative.

Feasible Alternatives

If staff were to proceed with the design of a raised and landscaped median island without water quality treatment features (i.e., a boulevard section, which is Alternative 1 presented in the August 12 memo), funding it would be a challenge. On the other hand, you may recall that the alternative recommended by staff in the August memo (Alternative 2) would provide storm water treatment for a portion of road run-off in a depressed median, which could justifiably be funded by the Drain Fund because it would meet the criteria in Section 9.1(e) of the City Charter regarding the Drain Fund's use: *"For acquiring, constructing, improving, and maintaining drain, stormwater, and flood control systems in the City of Novi."* Because the only storm water captured by the boulevard islands would be the precipitation that falls directly on them, the raised Alternative 1's median island/boulevard concept would not provide any of the above-mentioned Drain Fund functions, and therefore this alternative would have to be funded primarily by either the Major Street Fund or Municipal Street Fund.

One suggestion to minimize the construction cost of the median boulevard option is to provide an intermittent boulevard and longer gaps of a paved left turn lane between the boulevard islands. We have preliminarily reviewed the cost estimate for this option (a hybrid of the Alternative 0's existing 5-lane road and Alternative 1 in the memo). The project cost for this hybrid alternative would be in the neighborhood of \$1,750,000. The current budget for the project is \$1,031,175, of which \$551,440 is federal grant funding.

In order to receive the grant funding and construct the project next year, the design must be completed and ready for obligation by January 2016. (Obligation occurs when final design plans have been approved for construction by Michigan Department of Transportation and the project is ready to bid.) As you will recall, the grant funding was received in 2012 for a simple rehabilitation project that included mill, repair and overlay of the existing 5-lane cross-section without any aesthetic improvements and minor improvements to the existing curbs. Even with the grant funding, an additional \$718,825 in road funding would be required for construction of this hybrid option.

The fund balance in both road funds is near or below the 10% threshold that has been established by City Council. The decrease in available fund balance for the Municipal Street Fund is a result of the increased budget allocations being proposed on the first quarter budget amendment to increase the budget on several road and pathway projects that are nearing construction, as discussed in our July 23, 2015 memo regarding higher than expected construction bid prices this year.

Staff must start designing the project this month to have final plans completed by January 2016 to meet the strict MDOT deadlines in order to use the \$551,440 in grant funding that is available. Delays in the design of the project could result in forfeiture of federal funding.

Summary

This table summarizes the economically feasible alternatives available (alternatives in bold are discussed in this memo):

Alternative	Description	Total Estimated Project Cost (w/ Engineering & Contingency)	Variance from Budget	Funding Source for Variance Amount
0	No changes to existing cross-section (5 lanes). Mill, repair and overlay 5 lanes.	\$1,304,614	\$273,439	Major/Municipal Street Fund
1	Remove existing center turn lane where unnecessary and replace with a curbed/raised median island (4 Lanes). Mill, repair and overlay 4 lanes.	\$2,307,690	\$1,276,515	Major/Municipal Street Fund
2	Remove existing center turn lane where unnecessary, replace with a depressed median island for collection/treatment of a portion of road run-off (4 lanes). Mill, repair and overlay 4 lanes.	\$1,789,994	\$758,819	Drain Fund
3	Remove outside lanes, add a bike lane each direction (3 Lanes)	\$2,473,664	\$1,446,989	Major/Municipal Street Fund
4	Alternative 1, plus stripe existing outside lanes as bike lanes (2 Lanes)	\$2,319,933	\$1,293,258	Major/Municipal Street Fund
5	Remove outside lanes and keep center turn lane, add off-street 8' pathways to each side (3 lanes)	\$3,025,985	\$1,999,310	Major/Municipal Street Fund
Hybrid of Alternatives 0 and 1	Intermittent boulevard with longer gaps of a paved left turn lane between the boulevard islands. Mill, repair and overlay 4-5 lanes.	\$1,750,000	\$718,825	Major/Municipal Street Fund

If Council's desire is to select the intermittent raised boulevard island concept (the hybrid alternative), one way that funding could be provided for this project is to delay either the Karim Boulevard Reconstruction project (\$961,000 budgeted) or the Crescent Boulevard Reconstruction project (\$1,488,650 budgeted) until FY16-17. Given that both projects have been on the CIP for many years and the projects are long overdue, staff is not recommending this as an option.

Instead, staff recommends proceeding with Alternate 0 - the original rehabilitation design of the 5-lane section as originally proposed and funded. The design of the project can be completed quickly to remain on schedule for the grant funding. The design life for Alternative 0 is approximately 10-15 years. The ultimate cross-section of Novi Road will be reviewed as part of the Thoroughfare Master Plan, could be implemented in the future and potentially funded with additional grant funds.

cc: Carl Johnson, Chief Financial Officer
 Matt Wiktorowski, Field Operations Senior Manager
 DPS Engineering Division Staff

MEMORANDUM



TO: ROB HAYES, DIRECTOR OF PUBLIC SERVICES/CITY ENGINEER
FROM: BRIAN COBURN, ENGINEERING SENIOR MANAGER *BTC*
SUBJECT: NOVI ROAD (12 -13 MILE) CONSTRUCTION ALTERNATIVES
DATE: AUGUST 5, 2015

The rehabilitation of Novi Road between 12 Mile and 13 Mile Roads was discussed by City Council at the Special Budget Meeting on April 15, 2015. Specifically, there was a request for staff to develop alternatives for the reconstruction of Novi Road that would reduce the amount of pavement and improve the aesthetics of the road. Staff was successful in obtaining a \$551,440 federal grant to repair and repave the existing road, and worked with the consultant, Spalding DeDecker, to prepare the attached report providing various designs along with cost estimates. Each alternative includes milling the remaining pavement, making repairs, and overlaying the road with asphalt. The alternatives are summarized in the table below, but are explained in more detail in the attached report.

Alternative	Description	Estimated Construction Cost	Total Project Cost (w/ Engineering & Contingency)	Variance from Budget
0	No changes to existing cross-section (5 lanes)	\$1,118,400	\$1,304,614	\$277,939
1	Remove existing center turn lane where it is not necessary and replace with a curbed median island (4 Lanes)	\$1,998,000	\$2,307,690	\$1,281,015
2	Remove existing center turn lane where it is not necessary and replace with a depressed median island for storm water/bioswale (4 lanes)	\$1,534,500	\$1,789,994	\$763,319
3	Remove outside lanes, add a bike lane each direction (3 Lanes)	\$2,141,700	\$2,473,664	\$1,446,989
4	Alternative 1, plus stripe existing outside lanes as bike lanes (2 Lanes)	\$2,008,600	\$2,319,933	\$1,293,258
5	Remove outside lanes and keep center turn lane, add off-street 8' pathways to each side (3 lanes)	\$2,619,900	\$3,025,985	\$1,999,310

Alternative 0 refers to the existing budgeted project to mill, repair and replace the existing pavement. Since the construction cost estimate was first developed in 2013 for the grant application, the condition of Novi Road has continued to deteriorate resulting in a higher construction cost for that project. Additionally, as we shared recently with Council, construction bid prices have escalated, which means that additional funds will be needed for the original project. Unfortunately, the federal grant is capped and additional costs would be the City's responsibility.

The following matrix evaluates the alternatives using various criteria that were gleaned from the discussion at the City Council Budget meeting, or are underlying themes in the City Council goals.

Criterion	Alternatives					
	0	1	2	3	4	5
Improves non-motorized travel				X	X	X
Provides a median/improves aesthetics		X	X			
Provides location for additional planting (median or in behind curb)		X	X	X	X	X
Improves traffic safety		X	X		X	
Provides in situ storm water treatment (improves sustainability)			X			

Alternative 2 meets almost all of the criteria in the matrix and happens to be the lowest cost alternative when compared to the status quo Alternative 0. In this alternative, the center left turn lane would be replaced with a depressed median that would be used as a bioswale to treat storm water and provide an opportunity for plantings that are commonly placed in a bioswale. The majority of the existing curbs on Novi Road are in good condition; therefore, the existing curb would remain. This alternative does not provide the opportunity to construct an on-street bike lane if the existing curb remains in place. Staff considered using a narrower median to provide bike lanes adjacent to the existing curbs; however, the 12 foot median width is required to provide the left turn lane pockets at intersections, otherwise the bike lane would be inconsistent and would be dropped at intersections.

Additional funds would be required to construct any of the alternatives being considered. If Alternative 2 is selected, staff recommends deferring the construction of Karim Blvd until FY16-17 in order to free-up \$1,000,000 in Major Street funding and fully fund this project and others that have seen construction cost increases (such as Crescent Boulevard reconstruction, which has its design engineering award on the August 10, 2015 agenda). Karim Boulevard could be designed this fiscal year (engineering award is also being presented on the August 10, 2015 agenda) and then construction could commence in late 2016 or early 2017 (i.e., its funding would be an FY16/17 appropriation).

We look forward to additional feedback on the attached report and direction on how to proceed with the design of this section of Novi Road.

cc: Carl Johnson, Chief Financial Officer
 Matt Wiktorowski, Field Operations Senior Manager
 DPS Engineering Division Staff

TECHNICAL MEMO

DATE: July 13, 2014

TO: Mr. Brian Coburn, PE
City of Novi

FROM: Ed Strada, PE

RE: Novi Road, 12 Mile Road to 13 Mile Road
NV15-006

This technical memo summarizes five roadway options for Novi Road between 12 Mile Road and 13 Mile Road. Although federal aid had been secured for a rehabilitation project, the City is considering the following reconstruction alternatives in order to optimize the operation of the roadway.

Novi Road from 12 Mile Road to 13 Mile Road is a 5 lane HMA roadway with curb and gutter. The originally funded rehabilitation project included a 2" mill and HMA overlay with interlayer fabric, spot curb replacement, ADA ramp improvements, and permanent pavement markings. The original project did not include any geometric changes. The cost estimate for the originally funded project has been updated using current pricing and is now \$1,118,366.12. A detailed cost breakdown is included in Appendix B for your reference.

Considered changes to the road geometry include options such as constructing a raised median, constructing a depressed median, narrowing the overall pavement cross section, adding bicycle lanes, and adding a non-motorized pathway. The current posted speed of 45 MPH is assumed to be maintained for each alternative.

These changes have been considered in order to add traffic calming measures, reduce head on crashes, address drainage, and provide safer routes for bicyclists.

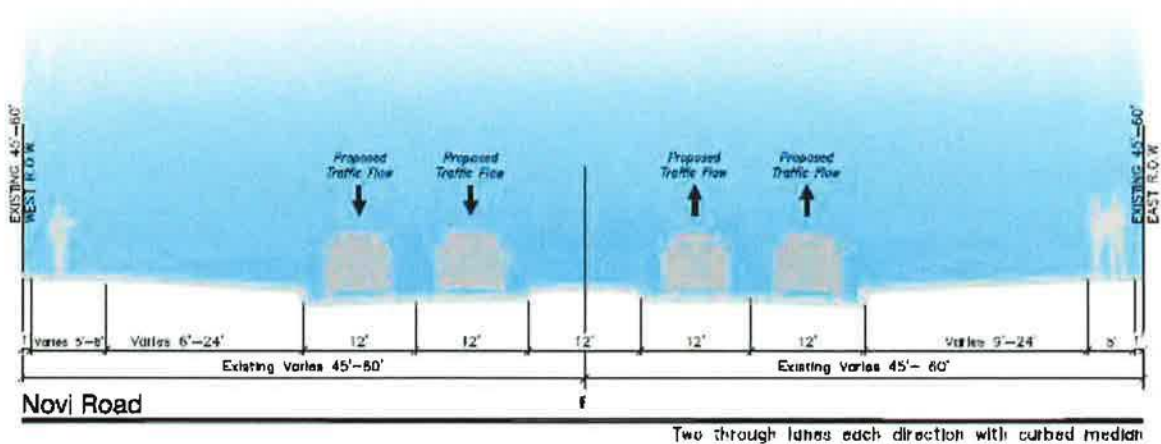
The following items are included in this Memo to describe each alternative in detail:

- Narrative of the Features and Feasibility (within this text)
- Illustrative Cross-Section (within this text)
- Plan View Drawing (Appendix A)
- Construction Cost Estimate (Appendix B)

ALTERNATIVE 1:

Proposed Treatment: Maintain outside curbs and change the cross-section to a curbed four lane section, remove center turn lane where not necessary and replace with a raised center median with left turn lanes at intersections. Mill the remaining HMA roadway 2", place interlayer and overlay with 2" of HMA.

Geometric Design: The proposed section consists of two 12 foot through lanes in each direction with a curbed concrete center median. The existing intersection geometry at Old Novi Road and 13 Mile Road will be retained, providing left turn lanes with a minimum 100 foot storage. All ramps will be upgraded to meet current ADA standards.



Drainage: The existing drainage will be maintained. The center islands will be drained via underdrains connected to the nearest outlets.

Safety: The center median will help achieve traffic calming, better channelization and a reduction in left turn head on crashes.

Multimodal usage: No improvements for multimodal usage are proposed. The existing pathway will be maintained and sidewalk ramps will be upgraded to meet current ADA standards.

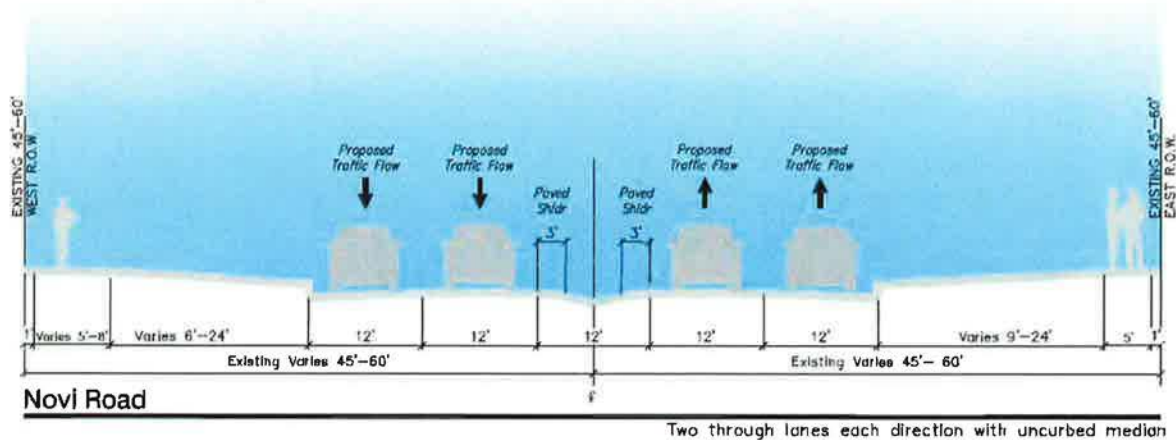
Estimated Construction Cost: \$1,997,592.19

Feasibility: This is a relatively simple alternative to change the operation of the roadway. The proposed median can be placed within the existing roadway and the existing intersections can operate as they currently do. Drainage patterns will remain the same and there is an opportunity to landscape the medians rather than pave the medians.

ALTERNATIVE 2:

Proposed Treatment: Maintain outside curbs and change the cross-section to a curbed four lane section, remove center turn lane where not necessary and replace with an uncurbed median shoulder and a depressed median to collect and treat storm water. Mill the remaining HMA roadway 2", place interlayer and overlay with 2" of HMA.

Geometric Design: The proposed section consists of two 12 foot through lanes in each direction with a paved shoulder and a depressed median. The existing intersection geometry at Old Novi Road and 13 Mile Road will be retained, providing left turn lanes with a minimum 100 foot storage. All ramps will be upgraded to meet current ADA standards.



Drainage: The existing outside drainage will be maintained. The center median will be depressed to collect and treat storm water.

Safety: The center median will help achieve traffic calming, better channelization and a reduction in left turn head on crashes. In winter, snowfall may obscure the depressed median creating a hazard for motorists. Delineators can be added to help motorists identify where the median is.

Multimodal usage: No improvements for multimodal usage are proposed. The existing pathway will be maintained and sidewalk ramps will be upgraded to meet current ADA standards.

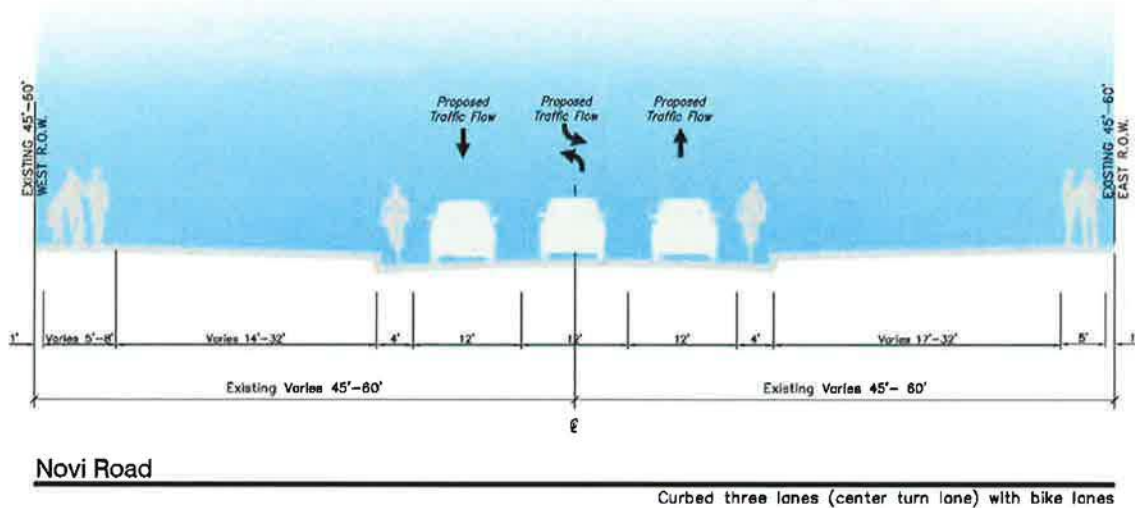
Estimated Construction Cost: \$1,534,498.09

Feasibility: This alternative is similar to Alternative 1 and provides a basic change to the current operations. The use of a depressed center median to collect storm water provides a green alternative for storm water treatment and reduces the load on the existing drainage system. A geotechnical investigation will be necessary to identify the underlying soils and determine if they are suitable to drain the storm water in the median.

ALTERNATIVE 3:

Proposed Treatment: Remove the outside curbs and change the cross-section to a curbed three lane section with a 4-foot wide bike lanes at the curb. Mill the remaining HMA roadway 2", place interlayer and overlay with 2" of HMA.

Geometric Design Standards: The proposed section consists of one 12' through lane in each direction with a 12 foot center turn lane and a 4 foot bike lane on each side. The Intersection at Old Novi Rd will have a left turn lane and right turn lane with a minimum 100 foot storage. Existing intersection geometry will be maintained at 13 Mile Road. All ramps will be upgraded to meet current ADA standards.



Drainage: New curb line and drainage structures will be constructed to direct and collect storm water.

Safety: Narrower cross-section and bike lane will result in traffic calming. Bike lane will also provide safe access for bicyclists.

Multimodal usage: This option is considered a Complete Street, providing safe access to all users including pedestrians, bicyclists and motorists. The existing pathway will be maintained and upgraded to meet current ADA standards.

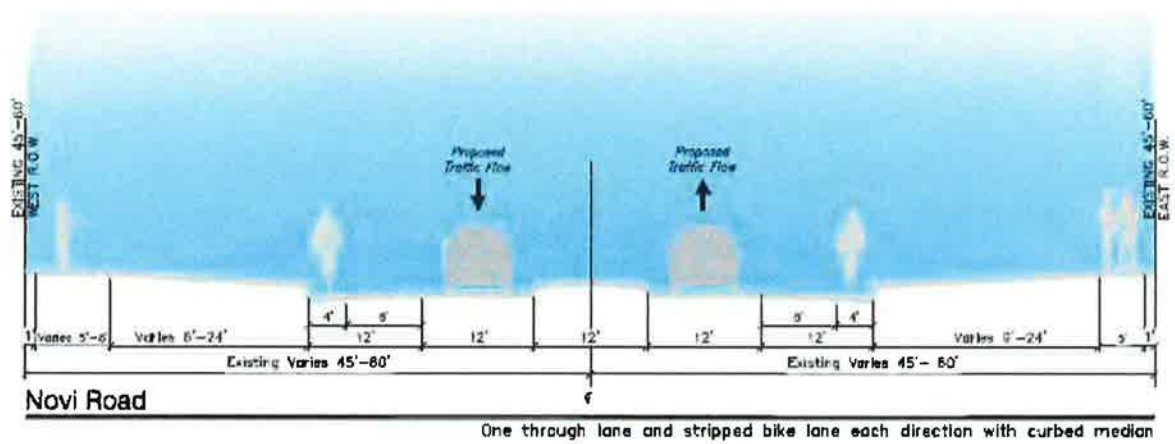
Estimated Construction Cost: \$2,141,688.94

Feasibility: This alternative provides a more dramatic change to the roadway operations. The curb lines will be brought in 8' on each side and the number of lanes will be reduced from 5 to 3. The existing drainage system will also need to be reconstructed due to the new configuration.

ALTERNATIVE 4:

Proposed Treatment: Maintain the existing outside curbs and change the cross-section to a curbed four lane section, stripe a bike lane in the outside lanes, remove center turn lane where not necessary and replace with a raised center median with left turn lanes at intersections. Mill the remaining HMA roadway 2", place interlayer and overlay with 2" of HMA.

Geometric Design: The proposed cross-section consists of one 12 foot through lane in each direction with a curbed center median and a 4 foot striped bike lane with an 8 foot buffer on each side. The intersection at Old Novi Road will have a left turn lane and a right turn lane with a minimum 100 foot storage. The existing intersection geometry will be maintained at 13 Mile Road. All ramps will be upgraded to meet current ADA standards.



Drainage: The existing drainage will be maintained. Center islands will be drained via underdrains connected to the nearest outlet.

Safety: The center median will help achieve traffic calming, better channelization and reduction in left-turn head on crashes. A bike lane will also provide safe access for bicyclists.

Multimodal usage: This option is considered a Complete Street, providing safe access to all users including pedestrians, bicyclists and motorists. The existing pathway will be maintained and upgraded to meet current ADA standards.

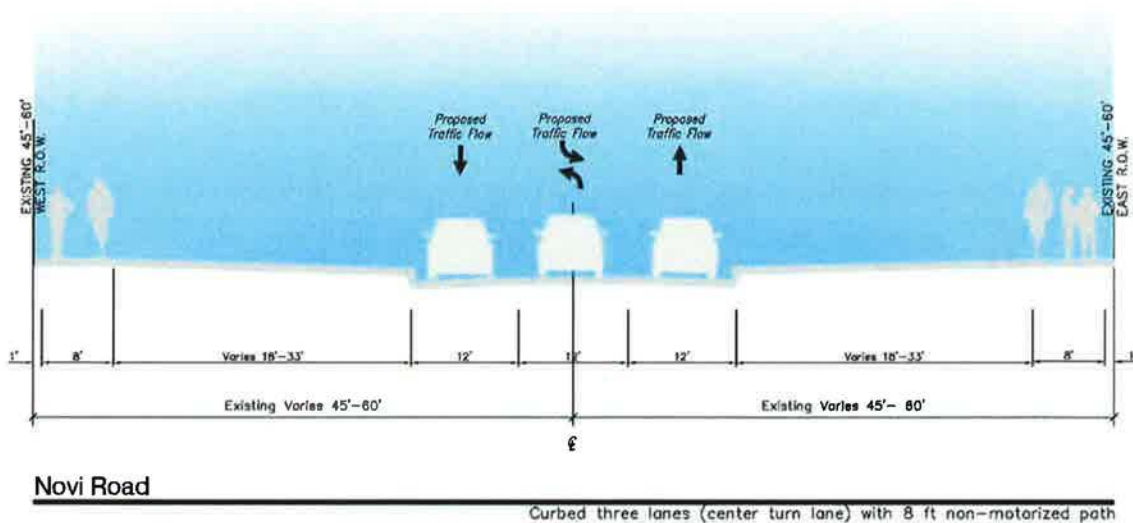
Estimated Construction Cost: \$2,008,617.19

Feasibility: As with Alternative 1, this alternative allows for the placement of the proposed median within the existing roadway, however travel lanes are reduced to 2 thru lanes with left turns allowed at specific locations. Converting the outside lane to a bike lane without reducing the pavement section leaves an 8' gap between the thru lane and the bike lane. Having wide areas of pavement that are not being used is not ideal but this area can be striped to discourage vehicles and bicycles from entering that area.

ALTERNATIVE 5:

Proposed Treatment: Remove outside curbs and change the cross section to a curbed three-lane section, with 8-ft wide non-motorized pathways. Mill the remaining HMA roadway 2", place interlayer and overlay with 2" of HMA.

Geometric Design Standards- The proposed section consists of one 12 foot through lane in each direction with a 12 foot center turn lane and 8 foot wide non-motorized paths on each side of the roadway. The intersection at Old Novi Road will have a left turn lane and a right turn lane with a minimum 100 foot storage. The existing intersection geometry will be maintained at 13 Mile Road. All ramps will be upgraded to meet current ADA standards.



Drainage: New curb line and drainage structures will be constructed to direct and collect storm water.

Safety: A narrower cross-section will provide traffic calming. A non-motorized path will provide safe access for pedestrians and bicyclists.

Multimodal usage: This option is considered a Complete Street, providing safe access to all users including pedestrians, bicyclists and motorists.

Estimated Construction Cost: \$2,619,938.00

Feasibility: This alternative reduces the number of lanes from 5 to 3 as in Alternative 3 but it removes the bicycle lanes from the roadway and widens the existing sidewalk on both sides of the road to 8' to accommodate both bicycles and pedestrians. The curb will be brought in 12' from its existing location and the existing drainage system will need to be reconstructed.

SUMMARY TABLE:

Alternative	# of Proposed Lanes	Median Treatment	Non-Motorized Treatment	Cost Estimate
1	4	Raised Concrete	None	\$1,997,592.19
2	4	Depressed for storm water treatment	None	\$1,534,498.09
3	3	Center left turn lane	Bike Lanes	\$2,141,688.94
4	2	Raised Concrete	Bike Lanes	\$2,008,617.19
5	3	Center left turn lane	Pathway	\$2,619,938.00