



MEMORANDUM

*To: Mayor + City
Council*

*Final Scoping
Study
NW Ring
Road*

To: Clay Pearson, City Manager
Pam Antil, Assistant City Manager *POA*

From: Rob Hayes, P.E., City Engineer *RH*

Re: **Ring Road Scoping Study Report**

Date: June 25, 2007

I am pleased to transmit the final Scoping Study report for the Northwest Quadrant of Novi Road and Grand River Avenue Ring Road. The proposed ring road will extend west from the western terminus of existing Fonda Drive (just west of Novi Road) and south to Grand River Avenue. The project will include a four lane boulevard extension of Fonda Drive, a bridge over the Middle Rouge River, a new signal at the Grand River Avenue intersection, and pathways on both sides of the new road. The project will also include an industrial spur road to serve the Comau Pico and General Filters properties located west of the proposed ring road.

The study report documents existing engineering and utility data, provides soils information, identifies and quantifies floodplain and wetland impacts, presents a review of existing and projected traffic conditions, and provides a preliminary design update with cost estimates for the project.

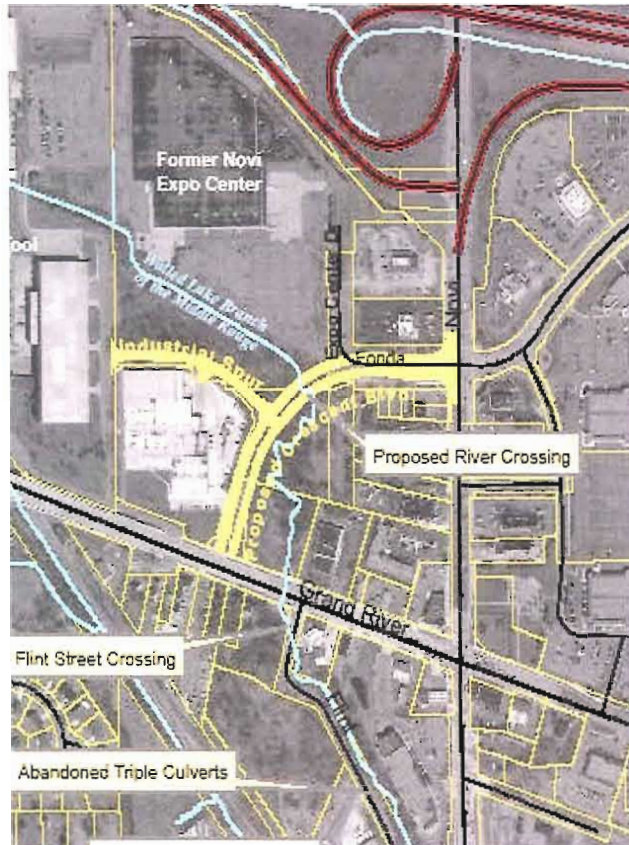
You may recall that conceptual engineering was completed by JCK & Associates in the late 1990s and the project was to have been funded by an Economic Development Fund Category A grant, but the grant was rescinded by the state in 1999 because the City had not acquired all of the necessary rights-of-way to construct the project. The City has now acquired all rights-of-way and in December 2006 City Council awarded an engineering contract to Anderson Eckstein & Westrick to conduct the scoping study.

We are looking forward to giving a presentation highlighting the report's findings at the upcoming July 2nd City Council meeting. In the meantime, please let me know if you have any questions or need any further information in regards to the Ring Road Scoping Study report.

cc: Brian Coburn, P.E., Civil Engineer
Steve Rumble, Community Development Director



Anderson, Eckstein and Westrick, Inc.



SCOPING STUDY FOR NORTHWEST QUADRANT NOVI ROAD AND GRAND RIVER AVENUE RING ROAD

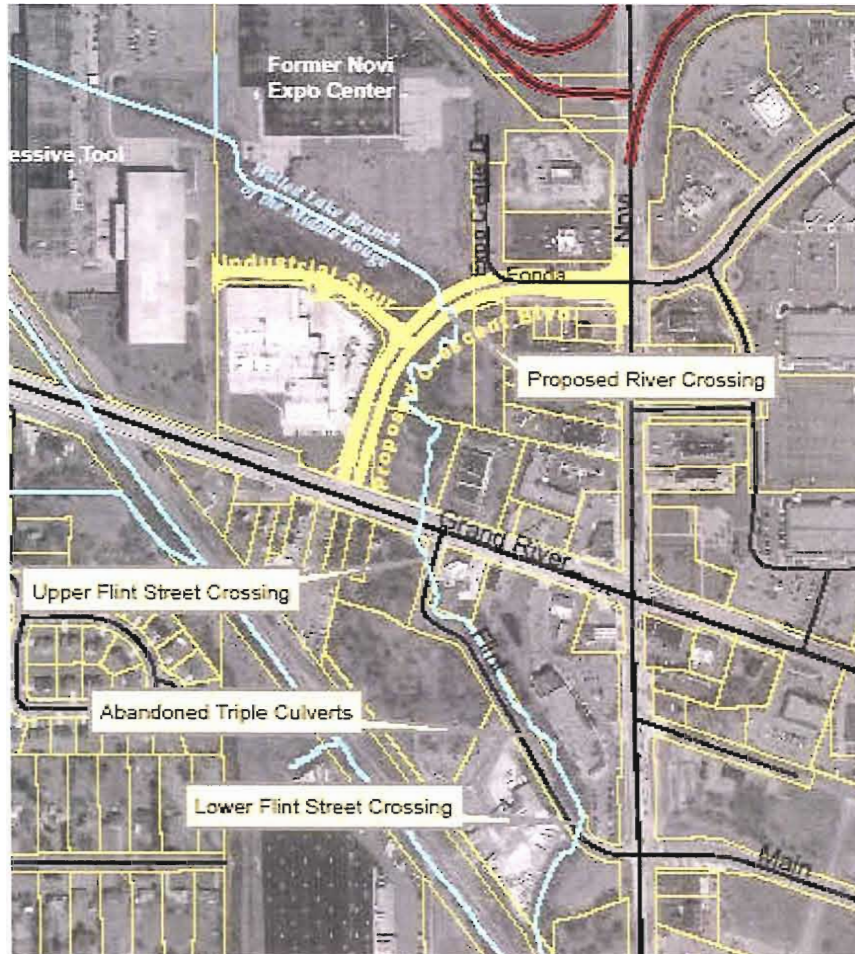


Background

- Transportation Economic Development Funding Category A grant received in 1990's to construct a new road (Crescent Boulevard) connecting Novi Road to Grand River Avenue.
- Preliminary design plans prepared by JCK & Associates.
- Delays caused by right-of-way acquisition resulted in losing the grant 1999.
- All necessary right-of-way and easements have been acquired.



Project Location & Overview



- Located in NW Quadrant of Grand River & Novi Road
- Proposed Crescent Blvd. and Industrial Spur
- Proposed road crosses the Walled Lake Branch of the Middle Rouge River
- Project downstream improvements include removal of abandoned triple culverts and replacement of lower Flint Street crossing





Site Environmental Considerations

■ **FLOODPLAIN**

The lower Flint Street crossing increases the floodplain approximately 8 feet.

To decrease the lower Flint Street floodplain, it should be replaced with a single box culvert.

Triple culverts are failing and should be removed to reduce floodplain elevation.

The proposed Crescent Blvd. bridge should be sized to create no upstream floodplain impact (at least 24 foot span x 8 foot rise).

■ **WETLANDS**

The MDEQ permit allowed for 1.38 acres of fill in the regulated wetlands in consideration for 2.32 acres of offsite mitigation.

Permitted acreages will need to be recalculated during final design.

■ **WALLED LAKE BRANCH OF THE MIDDLE ROUGE RIVER**

Redirection of approximately 200 lineal feet of the stream to:

- Provide pretreatment area for stormwater discharge from the roadway
- Minimize soil loss, soil erosion and negative impacts on stream
- Provide floodway conveyance capacity





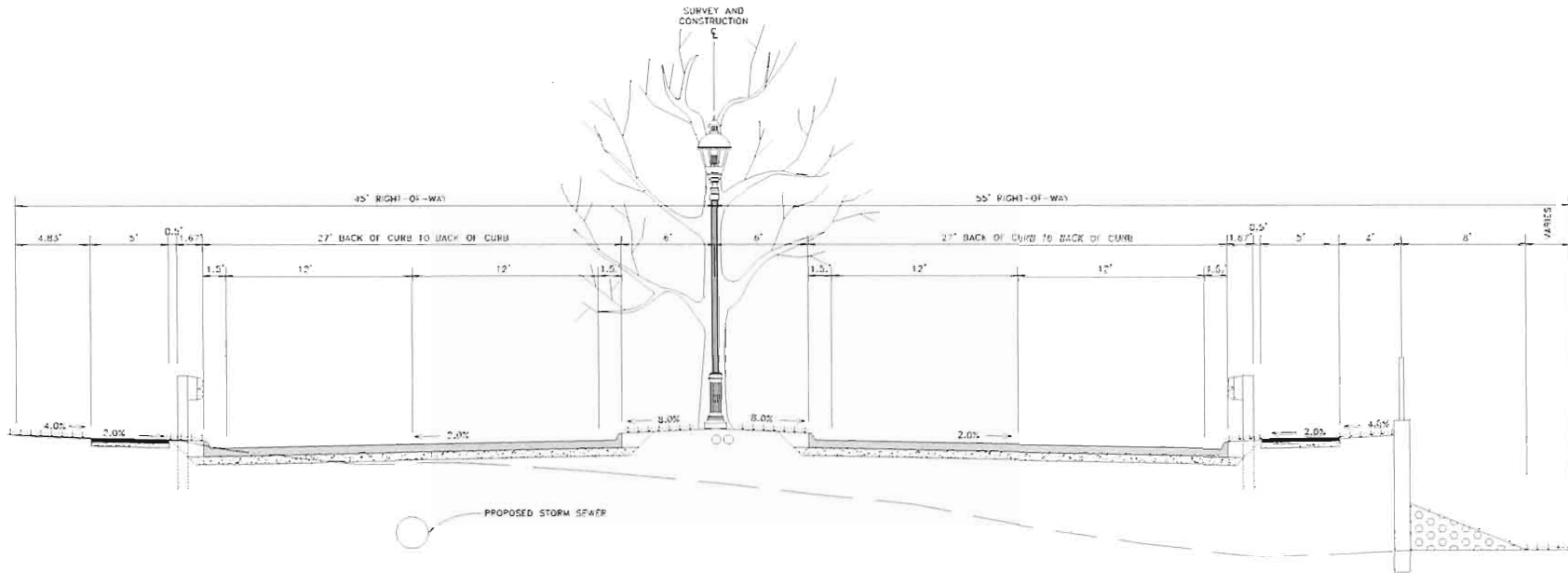
Original Road Design Features

- Four lane boulevard with 5 foot wide sidewalks on both sides and a 10 foot wide center median.
- Industrial spur road extending to the west from Crescent Blvd.
- Bridge structure with 20' span, 7' rise at Walled Lake Branch of the Middle Rouge River crossing
- Retaining walls - north side of Industrial Spur and portions of Crescent Blvd.
- Wetland impacts resulting in offsite mitigation
- Downstream improvements of the lower river crossing at Flint Street
- Elimination of triple culverts on the Walled Lake Branch of the Middle Rouge River behind the City Center Plaza
- A traffic signal at the new intersection of Crescent Blvd and Grand River Avenue.



Proposed Road Design Features

- Four lane boulevard 5 foot wide sidewalks on both sides and a 12 foot wide center median

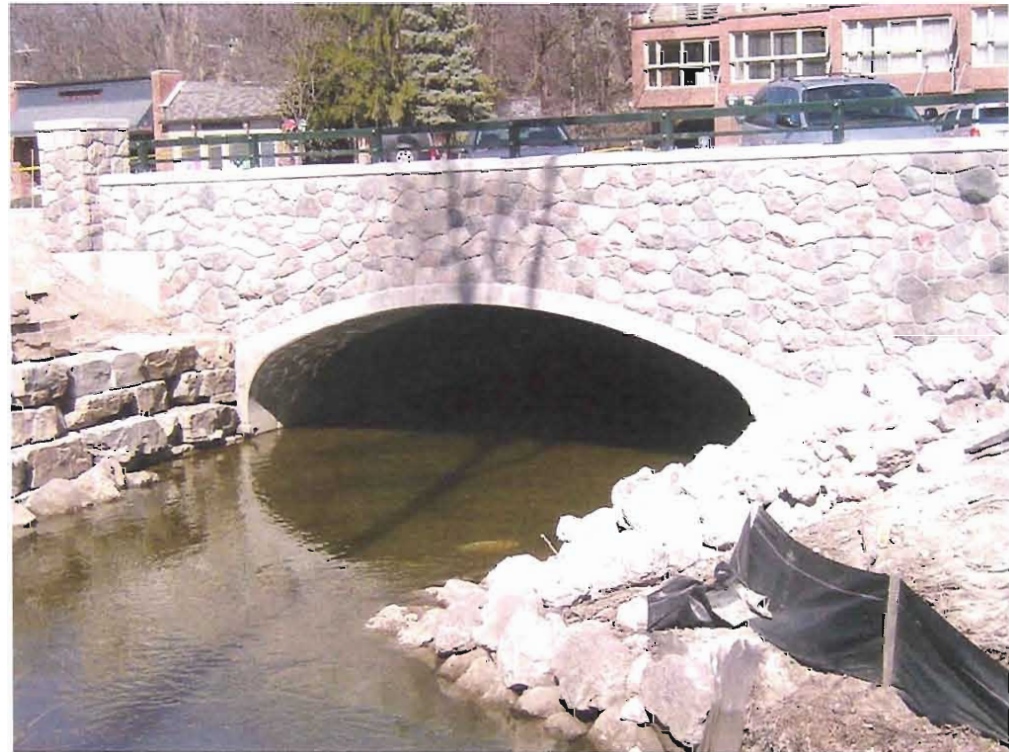


CRESCENT BLVD. CROSS SECTION



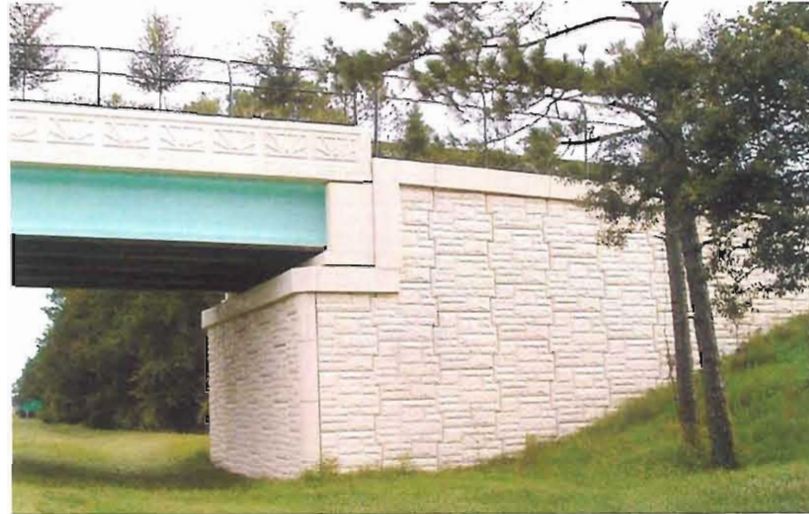
Proposed Road Design Features

- Mill and resurface existing Fonda Drive.
- Decorative mast arm traffic signal at Fonda Drive & Novi Road.
- Industrial Spur extending to Progressive Tool service drive.
- Precast bridge structure (24' span; 8' rise) at the river crossing. Several decorative options are presented in the report.



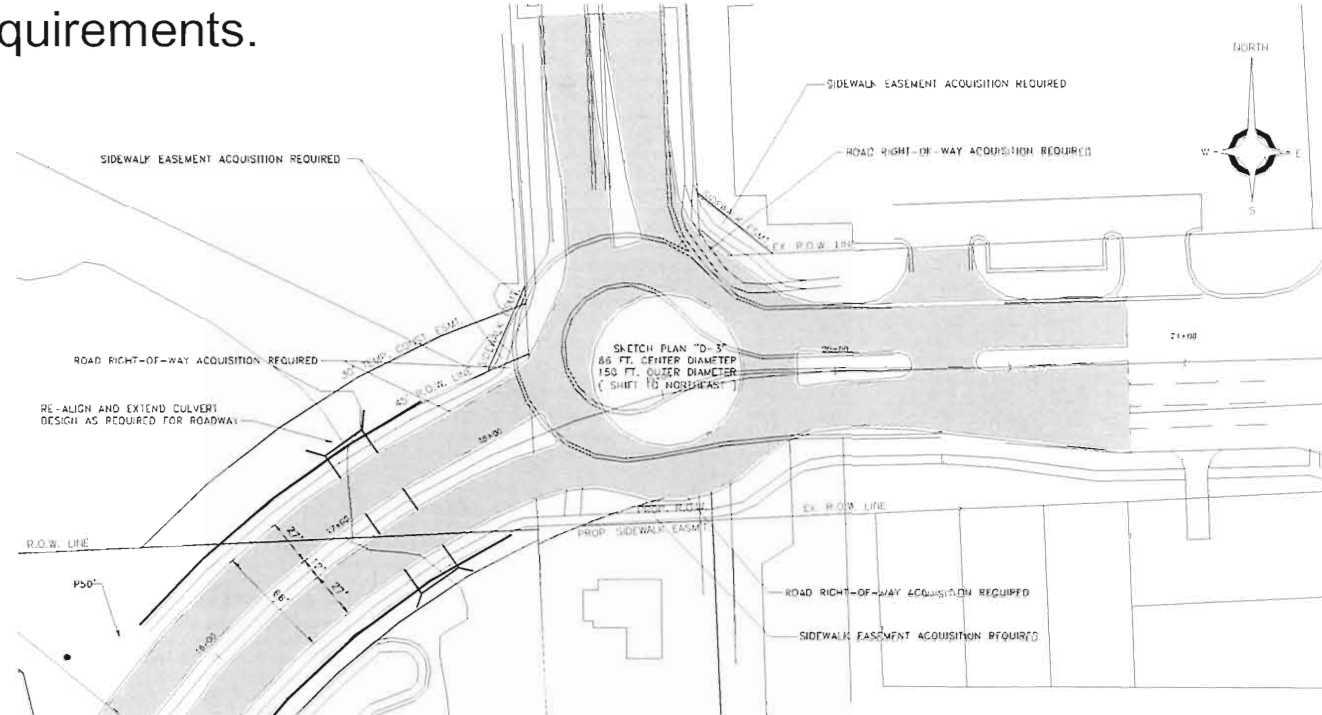
Proposed Road Design Features

- Retaining wall along the proposed road.- Several decorative options are presented in the report.
- Wetland impacts resulting in review of offsite mitigation
- Downstream improvements of the lower Flint Street crossing
- Elimination of triple culverts
- Decorative mast arm style traffic signal at Crescent Blvd and Grand River Avenue

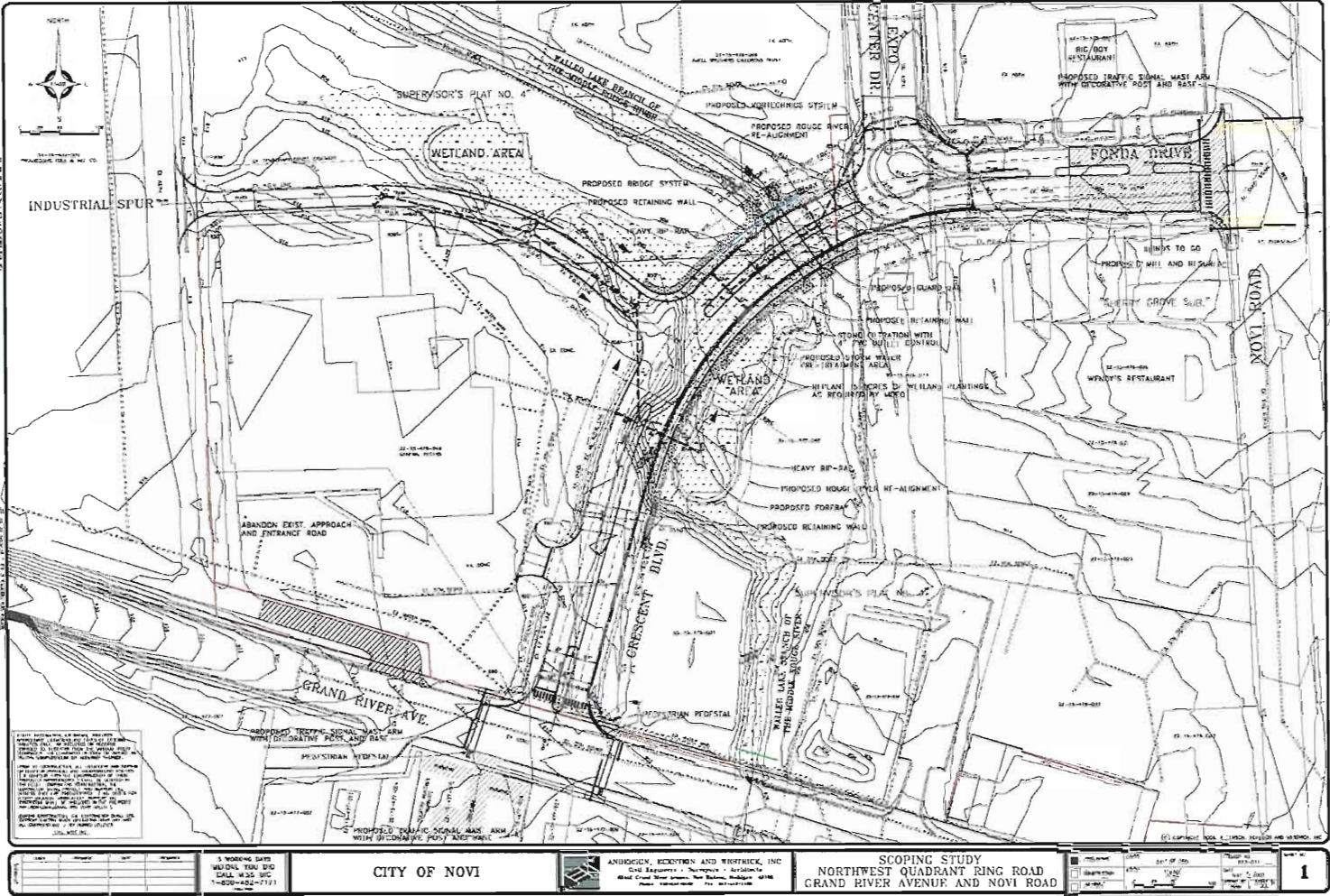


Proposed Road Design Features

- Three options for roundabouts were provided, but not recommended due to additional ROW requirements.



Proposed Road Design Features





Traffic Benefits & Considerations

- Crescent Boulevard construction will provide immediate benefit.
- Turning movements reduced from EB Grand River to NB Novi Road and from SB Novi Road to WB Grand River.
- Project will improve the levels of service at:
 - Novi Road & Fonda
 - Novi Road & Grand River
 - Grand River & Flint St and businesses between Crescent Blvd and Novi Rd.
- Potential Benefits of the Crescent Boulevard extension include:
 - Decreased congestion especially at Novi Rd & Grand River.
 - Positive economic benefit due to improved traffic circulation.
 - Reduced traffic enforcement issues due to decrease in driver frustration.
 - Decreased congestion and driver frustration should reduce crashes.
 - Improved air quality due to reduction in vehicular delay.





Traffic Benefits & Considerations

- As property development occurs, traffic impact studies recommended to allow for mitigation measures or adjustments in response to traffic increases.
- Items for further study with development:
 - Consider dual left turn lane from Grand River onto Crescent Boulevard.
 - Study aligning Flint Street with proposed Crescent Boulevard at Grand River Avenue.
 - Attention to signal timing to ensure optimal operation.





Cost Estimates

- Original construction cost estimate (1999) was \$1.7 million.
 - Estimated cost to range from \$3.75 million to \$4.22 million.
 - Items not included in the 1999 cost estimate:
 - Design engineering, contingencies, construction staking, construction administration, & construction observation.
 - Wetlands flagging, updated hydraulics modeling, downstream topographical survey, permit fees.
- Resurfacing Fonda Drive from Expo Center Drive to Novi Road.
Redirecting 200 feet of Walled Lake Branch of the Middle Rouge River.
Wetland plantings.
Stormwater pre-treatment facilities.
Electrical conduit and irrigation system in Crescent Blvd. median.
Reconstruct Fonda Drive & Novi Road traffic signal.
Reconstruct Fonda Drive & Novi Road intersection.





Cost Estimates

- The following items have been modified since the 1999 estimate was prepared:
 - Crescent Boulevard & Novi Road signal changed from span wire to decorative mast arm.
 - Crescent Boulevard crossing increased from 20' x 7' to 24' x 8' bridge structure.
 - Lower Flint Street crossing included twin 48" diameter culverts; now 6 foot by 14 foot box culvert.
 - Original estimate prepared in 1999. Material, labor, and total construction costs have increased over time.





Next Steps

- Detailed topographical survey of the project site & downstream.
- Engineering plan design of entire project.
- Updated hydraulic modeling.
 - Floodplain and floodway impacts
 - Final sizing of the Lower Flint St. and Crescent Blvd crossings.
 - 200 feet of proposed stream redirection.
- Updated wetlands flagging
- Traffic signal design for proposed traffic signals
- Study of the potential realignment of Flint Street and Grand River Avenue.
- Research options for potential funding sources and apply for funding.

