



CITY of NOVI CITY COUNCIL

Agenda Item **E**
December 15, 2008

SUBJECT: Approval of an engineering contract amendment to Orchard Hiltz and McCliment, Inc. for additional engineering services associated with the Bishop and Taft Regional Stormwater Detention Basin Improvements in the amount of \$26,781.19 for additional tasks required as conditions of the DEQ permit.

SUBMITTING DEPARTMENT: Engineering *R7*

CITY MANAGER APPROVAL: *[Signature]*

EXPENDITURE REQUIRED	\$22,693.69 (Taft Basin) \$ 3,787.50 (Bishop Basin) \$26,781.19 Total
AMOUNT BUDGETED	\$173,000 (Taft Basin) \$162,145 (Bishop Basin)
APPROPRIATION REQUIRED	\$26,782
LINE ITEM NUMBER	210-211.00-865.132

BACKGROUND INFORMATION:

The City of Novi was awarded a federal grant through the Rouge River National Wet Weather Demonstration Project for improving the Taft and Bishop Regional Detention Basins. The purpose of the project is to provide attenuation of flow during storm events, especially storms with durations and frequencies that occur with a relatively high frequency. A permit from the Michigan Department of Environmental Quality (MDEQ) was required because both project sites are located within regulated wetlands, watercourses and floodplain areas. The embankment downstream of the Taft Basin is considered a regulated dam and was also permitted as such through MDEQ.

During the permitting process, the dam safety engineer for MDEQ identified a number of safety issues relating to the Taft Basin dam and required that the project include reinforcement of the dam structure to provide overtopping protection. The additional design tasks included in the enclosed December 3, 2008 letter from Orchard Hiltz & McCliment (OHM), our consultant for this project, are related to the dam safety requirements. The extra fees associated with the dam safety improvements total \$14,156.19

Additionally, a number of post-construction monitoring tasks were also added as conditions of the permit. Those additional tasks are identified in the attached letter from OHM and in the attached MDEQ permit. It is important to note that several tasks involve monitoring for as long as ten years following construction completion. The first two years are being requested at this time, with the remaining monitoring tasks (years 3 through 10) being awarded competitively every two years in two year increments. The total fees associated with the post-construction tasks are \$8,837.50 for Taft Basin and \$3,787.50 for Bishop Basin, for a total of \$12,625.00.

The project is nearing substantial completion, with the plantings to be installed in spring 2009.

RECOMMENDED ACTION: Approval of an engineering contract amendment to Orchard Hiltz and McCliment, Inc. for additional engineering services associated with the Bishop and Taft Regional Stormwater Detention Basin Improvements in the amount of \$26,781.19 for additional tasks required as conditions of the DEQ permit.

	1	2	Y	N
Mayor Landry				
Mayor Pro Tem Capello				
Council Member Crawford				
Council Member Gatt				

	1	2	Y	N
Council Member Margolis				
Council Member Mutch				
Council Member Staudt				

December 3, 2008

City of Novi Engineering Division
Attn: Mr. Brian Coburn, P.E.
45175 West Ten Mile Road
Novi, MI 48375



Re: Taft and Bishop Regional Detention Basin Improvements

Dear Mr. Coburn:

As we informed you in our May 14, 2008 e-mail, the effort associated with the design/construction of the Taft basin dam safety issues was outside the scope of our December 20, 2007 proposal for the above referenced project. At that time, we stated that we would attempt to fit the work into the current budget. Now that the design is complete, we evaluated and compared our effort/cost to our budget. Our estimates indicate that we will have exceeded our design budget by \$14,156.19 once the extra engineering work required to address the MDEQ's dam safety issues with the Taft Basin is completed. Specific additional tasks along with the associated fee for each are outlined below.

Task	Task Description	Status	Cost
Topographic Survey	Remobilize & provide additional topographic survey in the area of the downstream dam embankment	completed	\$1,631.86
Alternative Analysis	Evaluate overtopping width to determine most cost-effective alternative for protection (driveway cut vs. protect total width of overtopping)	completed	\$2,754.93
Hydraulic Analysis	Perform hydraulics for overtopping (velocity, shear stress & flow depths)	completed	\$1,619.88
Protection Design	Complete design including plan and details for overtopping protection	completed	\$3,124.56
MDEQ Certification	Additional observation, as-builts, coordination with MDEQ and certification	Not yet initiated	\$5,024.96
Total			\$14,156.19

As part of the MDEQ's permit for this work, they are requiring installation of stream monitoring devices and additional monitoring items that were not anticipated as part of our December 20, 2007 proposal. It should be noted that the MDEQ is requiring a 10 year monitoring period. We have included the efforts and costs for the first two of the ten years. Outlined below are the additional efforts required to complete the monitoring along with the costs required to complete this work.

Task	Task Description	Status	Cost
As-built Records	Create monument cross sections for Taft in-stream improvements. Monitor locations for 2 years.	Not yet initiated	\$1,550
Fauna Monitoring	Perform investigation of wildlife and document on a bi-annual basis for 2 years for both Taft and Bishop basins.	Not yet initiated	\$575
Wetland Monitoring	Perform field inspection for water clarity and develop vegetation sampling photograph documentation at transects on a bi-annual basis for 2 years.	Not yet initiated	\$1,450
Stream Monitoring	Install 4 bank pins and 1 scour chain downstream of the Taft and Bishop basins. Evaluate downstream reaches (both basins) using BEHI, NBS and Pfankuch methods annually for 2 years.	Not yet initiated	\$3,100
Monitoring Report	Include the above information in the monitoring report and submit to the MDEQ in December 2008 (background report), December 2009 (first year monitoring report)	Not yet initiated	\$2,450
Phragmites Chemical Eradication	For a period of four years after the 1 year M & G Bond period, chemically treat Phragmites at the Taft Basin. Services will extend as needed through fall 2013 (includes MDEQ annual permit, herbicide application, and cutting).	Not yet initiated	\$3,500
Total			\$12,625

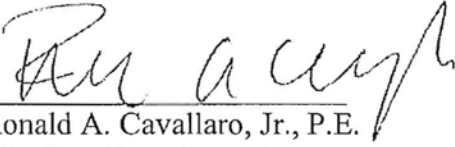
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Taft and Bishop Extras
December 3, 2008

Also as you are aware, OHM paid the MDEQ's permit fees to expedite the permitting process. Those fees total \$850. This brings the total for additional services to \$27,631.19.

If you need any additional information to process our request for additional service fees, please do not hesitate to contact us.

Very truly yours,

ORCHARD, HILTZ & McCLIMENT, INC.


Ronald A. Cavallaro, Jr., P.E.
Vice President Operations

C: Vyto Kaunelis, OHM
File

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY PERMIT

ISSUED TO:

City of Novi
Attn: Rob Hayes PE
45175 W. Ten Mile Road
Novi, MI 48375

Permit No.	08-63-0010-P
Issued	August 25, 2008
Extended	
Revised	
Expires	August 25, 2010

This permit is being issued by the Michigan Department of Environmental Quality (MDEQ) under the provisions of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) and specifically:

- | | |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Part 301 Inland Lakes and Streams | <input checked="" type="checkbox"/> Part 315 Dam Safety |
| <input type="checkbox"/> Part 325 Great Lakes Submerged Lands | <input type="checkbox"/> Part 323 Shorelands Protection and Management |
| <input checked="" type="checkbox"/> Part 303 Wetlands Protection | <input type="checkbox"/> Part 353 Sand Dune Protection and Management |
| <input checked="" type="checkbox"/> Part 31 Floodplain/Water Resources Protection | |

Permission is hereby granted, based on permittee assurance of adherence to State requirements and permit conditions to:

Permitted Activity:

Taft Basin

Modify the outlet structure of the Taft Basin and restore the original stream passing through the basin and create wetlands. Applicant proposes to cut 6,807 cubic yards and fill 963 cubic yards for the creation of wetlands and stream restoration. The outlet structure will be modified to increase attenuation of bankful events without increasing the 100 base flood elevation. **Armor the downstream embankment with 1,200 cubic yards of rock to provide overtopping protection.** The site is located within the 100-year floodplain of the Walled Lake Branch of the Middle Rouge River. The 100-year BFE is 918.35 NAVD 88.

This was added during field review at the pre-app stage. Not in original scope.

Bishop Basin

Modify the outlet structure to attenuate bankful flow events (1.5 to 2 year), dredge the basin, and create wetlands. The outlet structure will be modified to increase attenuation of bankful events without increasing the 100 base flood elevation. The site is located within the 100-year floodplain of Bishop Creek. The 100-year BFE is 872.92 NAVD 88.

Water Course Affected: Middle Rouge River/Bishop Creek

Property Location: Oakland County, City of Novi, Sections 15 and 24
Subdivision, Lot Town/Range 1N, 8E Property Tax No.

Authority granted by this permit is subject to the following limitations:

- Initiation of any work on the permitted project confirms the permittee's acceptance and agreement to comply with all terms and conditions of this permit.
- The permittee in exercising the authority granted by this permit shall not cause unlawful pollution as defined by Part 31, Floodplain/Water Resources Protection of the NREPA.
- This permit shall be kept at the site of the work and available for inspection at all times during the duration of the project or until its date of expiration.
- All work shall be completed in accordance with the plans and the specifications submitted with the application and/or plans and specifications attached hereto.
- No attempt shall be made by the permittee to forbid the full and free use by the public of public waters at or adjacent to the structure or work approved herein.
- It is made a requirement of this permit that the permittee give notice to public utilities in accordance with Act 53 of the Public Act of 1974 and comply with each of the requirements of that act.
- This permit does not convey property rights in either real estate or material, nor does it authorize any injury to private property or invasion of public or private rights, nor does it waive the necessity of seeking federal assent, all local permits or complying with other state statutes.

- H. This permit does not prejudice or limit the right of a riparian owner or other person to institute proceedings in any circuit court of this state when necessary to protect his rights.
- I. Permittee shall notify the MDEQ within one week after the completion of the activity authorized by this permit, by completing and forwarding the attached, preaddressed post card to the office addressed thereon.
- J. This permit shall not be assigned or transferred without the written approval of the MDEQ.
- K. Failure to comply with conditions of this permit may subject the permittee to revocation of permit and criminal and/or civil action as cited by the specific State Act, Federal Act and/or Rule under which this permit is granted.
- L. Work to be done under authority of this permit is further subject to the following special instructions and specifications:

Dam Safety Conditions

1. All dam repair shall be in accordance with the plans and specifications prepared by Mr. Timothy Kuhns, P.E. of OHM, received July 11, 2008, and titled "City of Novi Bishop and Taft Regional Stormwater Detention Basin Improvements".
2. All dam repair activity must be conducted under the knowledge and supervision of a licensed professional engineer.
3. Any modification or revision to the approved repair plans and/or specifications must be approved, in writing, by the Land and Water Management Division, Michigan Department of Environmental Quality.
4. The permittee shall furnish notification of the start of construction to the Land and Water Management Division, Michigan Department of Environmental Quality, 5 days prior to commencement of construction. Contact Mr. Paul Wessel, Dam Safety Program, at 517-335-6748.
5. The permittee shall furnish a written statement from a licensed professional engineer certifying that he or she has supervised the repair of the dam and that it was altered in accordance with the plans and specifications approved by the Land and Water Management Division, Michigan Department of Environmental Quality.
6. Final approval of the dam repair will not be granted until a site inspection by the Michigan Department of Environmental Quality has confirmed that the dam has been altered in accordance with the approved plans and specifications.

Floodplain Conditions

7. This permit authorizes the cut of 6,807 cubic yards and fill of 963 cubic yards for the creation of wetlands and restoration of the stream for the Taft Basin. The 100-year base flood elevation is 918.35 NAVD 88.
8. This permit authorizes the cut of 4,200 cubic yards with the 100-year floodplain of Bishop Creek at the Bishop Basin. The 100-year base flood elevation is 872.92 NAVD 88 for Bishop Creek.
9. Authority granted by this permit does not waive permit requirements under Part 91, Soil Erosion and Sedimentation, Natural Resources and Environmental Protection Act 1994, PA 451, as amended (NREPA), or the need to acquire applicable permits from the County Drain Commissioner.
10. Prior to initiating construction authorized by this permit, the permittee is required to provide a copy of the permit to the contractor(s) for his/her review. The contractor is required to provide a copy of the permit to any and all subcontractors doing work authorized by this permit.
11. The property owner, contractor(s), and any agent, in obtaining this permit, are held responsible to insure project is constructed in accordance with all drawings and specifications contained in this permit.

Stream Restoration Conditions

12. The permittee is required to submit as-built construction drawings within 60 days of completing the project.

13. A plan view that includes topographic information (at 1 foot contour intervals), roads, property lines, directional arrows, scale, and the exact size and boundaries of existing wetlands, streams, locations of proposed in-stream structures and channel meanders, locations of any proposed stream bank stabilization areas and the bankfull flow elevation, as well as the proposed 10-, 50-, and 100-year floodplain elevations.
 - a. Typical cross-sections.
 - b. Diameter of all proposed boulders, cobble or other substrate material
 - c. A vegetative establishment plan which includes a plan view, methods, species list with scientific and common names, and source of any plant or seed stock.
 - d. Restored stream bank dimension, pattern and profile.
 - e. Outlet structure modifications, including cross sectional area.
14. All cross vanes and j-hooks shall be aligned in such a manner that sediment transport through the stream channel will not be impeded.
15. The permittee shall monitor the relocated stream, for a minimum of 10 years, every other year. A monitoring report, which compiles and summarizes all data collected during the monitoring period, shall be submitted biannually by the permittee. Monitoring reports shall cover the period of January 1 through December 31 and be submitted to the MDEQ prior to January 31 of the following year. The stream restoration information may be submitted in the same report as the mitigation wetland monitoring information (if a wetland mitigation report is required).
16. The permittee shall conduct the following activities and provide the information collected in the monitoring reports:
 - a. A set of as-built plans depicting the entire relocation area must be submitted within 60 days of relocation completion.
 - b. On an annual basis for a period of 10 years every other year following completion of construction, maintenance shall be completed to ensure the in-stream structures are operating properly. A record shall be submitted with as-built plans to show the originally approved, correct layout for the boulders. For each structure, a monument cross section shall be created for reference.
 - c. A description of vegetation community structure and a measure of vegetation diversity.
 - d. Document any sightings or evidence of wading birds, songbirds, waterfowl, amphibians, reptiles, and other animal use (lodges, nests, tracks, scat, etc.) within the wetland noted during monitoring. Note the number, type, date, and hour of the sightings and evidence.
 - e. Inspect the site, during all monitoring visits and inspections, for oil, grease, man-made debris, and all other contaminants and report findings. Rate (e.g., poor, fair, good, excellent) and describe the water clarity in the mitigation wetland.
 - f. Provide bi-annual photographic documentation of the development of the mitigation wetland during vegetation sampling from permanent photo stations located within the mitigation wetland. At a minimum, photo stations shall be located at both ends of each transect. Photos must be labeled with the location, date photographed, and direction.

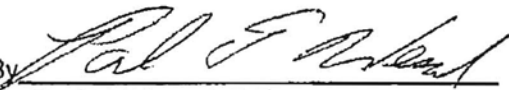
17. The reach downstream of each basin shall be evaluated for a distance of 2 meander lengths using BEHI, NBS, and Pfankuch or equivalent approved method. Four banks within each reach must be evaluated using BEHI and NBS. In two of these banks, 48-inch bank pins will be installed (one in the upper bank, one in the lower bank). The entire distance (2 meander lengths) must be evaluated using Pfankuch or equivalent approved method. One scour chain must be installed in the first riffle downstream of the outlet.

Other Conditions

18. The road crossing the Taft Basin shall remain open to vehicular access for the properties located both to the north and south of the Taft Basin.
19. The wetland enhancement area shall be planted using only vegetation native to Michigan.
20. Following the excavation of *Phragmites australis* and the replanting of the wetland area with native vegetation, followup chemical treatments shall be implemented for a minimum of 5 years to prevent the recolonization of *Phragmites*.
21. Prior to the initiation of any permitted construction activities, a siltation barrier shall be constructed immediately downstream of the construction site. The siltation barrier shall be maintained in good working order throughout the duration of the project. Upon project completion, any accumulated materials shall be removed and disposed of at an upland (non-wetland, non-floodplain) site. The siltation barrier shall then be removed in its entirety and the area restored to its original configuration and cover.
22. If the project, or any portion, is stopped and lies uncompleted for any length of time other than that encountered in a normal work week, every precaution shall be taken to protect the uncompleted work from erosion, including the placement of temporary sandbag riprap or other acceptable temporary protection.
23. No work shall be done in the stream during periods of above-normal flows except as necessary to prevent erosion.
24. Project shall be constructed in accordance with the Administrative Rules of Part 301 of PA 451 of 1994, as amended, being Rules 281.823 and 281.824.
25. All raw areas resulting from the permitted construction activity shall be promptly and effectively stabilized with native vegetation in sufficient quantity and manner so as to prevent erosion and any potential siltation to surface waters or wetlands.
26. Permittee is cautioned against commencing work in unacquired right of ways or easements. This permit does not convey any interest in property or property rights in either real estate or material. Permittee is responsible for acquiring all necessary easements or right of ways before commencing any work.
27. Unless specifically stated under the "Permitted Activity" of this permit, construction pads, haul roads, temporary structures, or other structural appurtenances to be placed on or over bottomlands and/or wetlands are not authorized by this permit and shall not be constructed unless authorized by separate permit or permit revision granted in accordance with applicable law.
28. In issuing this permit, the Michigan Department of Environmental Quality has relied on the information and data which permittee has provided in connection with the permit application. If, subsequent to the issuance of this permit, such information and data prove to be false, incomplete, or inaccurate, the MDEQ may modify, revoke, or suspend the permit, in whole or in part, in accordance with the new information.
29. Permittee is cautioned that grade changes resulting in increased runoff onto adjacent property is subject to civil damage litigation.

30. The permittee shall indemnify and hold harmless the State of Michigan and its departments, agencies, officials, employees, agents, and representatives for any and all claims or causes of action arising from acts or omissions of the permittee, or employees, agents, or representatives of the permittee, undertaken in connection with this permit. This permit shall not be construed as an indemnity by the State of Michigan for the benefit of the permittee or any other person.
31. This permit may be transferred or assigned to a party other than the original permittee with written approval of the MDEQ. The proposed transferee must request transfer of the permit and agree to all conditions of the permit in writing. The original permittee must also submit written notification to the MDEQ requesting that the permit be transferred to the proposed transferee. Correspondence relating to the transfer must be submitted to the office from which the permit was issued.
32. This permit does not preclude the need for approvals or permits from other federal, state, county, or municipal authorities as may be required by law.
33. This permit is limited to authorizing the construction as specified above and carries with it no assurances or implications that any associated wetland area can be developed or serviced by the structures authorized by this permit.
34. Non-compliance with these terms and conditions, and/or the initiation of other regulated activities not specifically authorized by this permit, shall be cause for the modification, suspension, or revocation of this permit, in whole or in part. Further, the Michigan Department of Environmental Quality may initiate criminal and/or civil proceedings as may be deemed necessary to correct project deficiencies, protect natural resource values, and secure compliance with statutes.
35. The property owner, contractor, and/or any agent, in obtaining this permit, are held responsible to ensure the project is constructed in accordance with all plans and specifications contained in this permit.
36. Should this permit result in an unreasonable encroachment, interference with adjacent riparians or the public trust, permittee agrees, in exercising the authority granted herein, to make adjustments in the project as ordered by the Michigan Department of Environmental Quality.

Steven E. Chester, Director
Department of Environmental Quality

By 
Paul T. Wessel, P.E.
Land and Water Management Division

cc: Oakland County Drain Commission
Oakland County Public Health
City of Novi Clerk
Mr. Patrick Durack, MDEQ, LWMD

COST ALLOCATION FOR OHM ADDITIONAL FEES

<u>Task</u>	<u>Permit Section</u>	<u>Total Cost</u>	<u>Taft</u>	<u>Bishop</u>
DESIGN TASKS				
Topographic Survey	Permitted Activity	\$ 1,631.86	\$ 1,631.86	\$ -
Alternative Analysis	Permitted Activity	\$ 2,754.93	\$ 2,754.93	\$ -
Hydraulic Analysis	Permitted Activity	\$ 1,619.88	\$ 1,619.88	\$ -
Protection Design	Permitted Activity	\$ 3,124.56	\$ 3,124.56	\$ -
MDEQ Certification	Permitted Activity	\$ 5,024.96	\$ 5,024.96	\$ -
TOTAL DESIGN TASKS		\$ 14,156.19	\$ 14,156.19	\$ -
POST-CONSTRUCTION TASKS				
As-Built Records	16a.	\$ 1,550.00	\$ 1,550.00	\$ -
Fauna Monitoring	16d.	\$ 575.00	\$ 287.50	\$ 287.50
Wetland Monitoring	16c. 16 e. 16f.	\$ 1,450.00	\$ 725.00	\$ 725.00
Stream Monitoring	16b., 17	\$ 3,100.00	\$ 1,550.00	\$ 1,550.00
Monitoring Report	15	\$ 2,450.00	\$ 1,225.00	\$ 1,225.00
Phragmites Chemical Eradication	20	\$ 3,500.00	\$ 3,500.00	\$ -
		\$ 12,625.00	\$ 8,837.50	\$ 3,787.50
TOTAL		\$ 26,781.19	\$ 22,993.69	\$ 3,787.50

City of Novi, MI



MDEQ
CMI Grant Application

Regional Basin Retrofit
for Water Quality
Improvements

Exhibit 1: Site
Location Map



Legend

- Detention Basin Location
- Streams
- ▨ Open Water
- ▤ Natural Wetlands
- ▭ Municipal Boundary



OHM
Engineering Advisors

