CITY COUNCIL MEETING AGENDA

Bennett Recreation Center – 7:00 P.M.
925 W. Grand River - Howell, MI 48843

Visit the City of Howell website at www.cityofhowell.org

Monday, March 9, 2015

COUNCIL - MANAGER GOVERNMENT

Council members and other officials normally in attendance:

1. Dennis L. Perkins *City Attorney*
2. Nick Proctor *Council Member*
3. Jeffrey Hansen *Council Member*
4. Doug Heins *Council Member*
5. Shea Charles *City Manager*
6. Al Schlittler, *Mayor Pro Tem*
7. Jane Cartwright *City Clerk*
8. Scott Niblock *Council Member*
9. Steven L. Manor *Council Member*

SEATING:
Above list arranged according to seating order; left to right.

1. Regular Meeting Called to Order
2. Pledge of Allegiance (all stand)
3. Approve Minutes, Regular Meeting held February 23, 2015
4. Citizens' Comments (items not on agenda)
5. Reports by Council Members Serving on Commissions
6. Council Correspondence:
   A. Request to Waive Park Fees, Howell High School Class of 2015
7. Discussion – Appointment of Mayor (action postponed 2/23/2015)
8. Discussion/Approval – Local Governing Body Resolution No. 15-02, Charitable Gaming License, Livingston County Concert Band
9. Discussion/Approval – Extension of Moratorium, Medical Marijuana Dispensaries
10. Discussion – City Hall Vibration & Measurement Study (action postponed 2/23/15)
11. Discussion/Approval –Engineering Service Agreement
12. Discussion/Approval – 2015 Management Agreement for Howell City Park
13. Discussion/Approval – Agreement for Auditing Services
14. Discussion – Bennett Center Parking Lot Design
15. Approve payment of bills ending 03/09/2015 in the amount of $714,177.45 and payroll to cover the period which ended 03/07/2015
16. City Manager's Report:
    A. Road Funding Proposal
    B. Status of HRC Contract
17. Old Business

Visitors are cordially invited to attend all meetings of the Council.
If you wish to address the Council, you will be recognized by the Mayor.
Please refer to the printed guidelines on the back of the agenda.

18. New Business

19. Adjournment

Public Comment Guidelines

Members of the public are permitted to address a meeting of Council upon recognition by the Mayor. Each person shall begin by stating their name and address and shall be permitted to speak once on each agenda item for three (3) minutes. Agenda item 4 allows for Citizens' Comments on any non-agenda item. Where the Agenda provides Public Hearing comment, each person addressing the Council shall be limited to five (5) minutes regarding the specific agenda Public Hearing item. The Mayor may allow additional time at his/her discretion.

All remarks shall be addressed to the Council as a body, and not to any member. No person, other than members of the Council and the person having the floor, shall be permitted to enter into any discussion, either directly or through the members of the Council. No questions shall be asked the Council Members, except through the Mayor. Any person making personal, impertinent or slanderous remarks, or who shall become boisterous, while addressing the Council, may be requested to leave the lectern.

Interested parties, or their authorized representatives, may address the Council by written communication in regard to any matter concerning the City's business or over which the Council has control at anytime by direct mail or by addressing the City Clerk, and copies will be distributed to Council Members.

Regular Meeting of the Howell City Council
Monday February 23, 2015
Bennett Recreation Center
925 W. Grand River
Howell, Michigan 48843
517-546-3502

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1. The regular meeting of the Howell City Council was called to order by Mayor Pro-Tem Al Schlittler at 7:00 p.m.

Council Members Present: Jeff Hansen, Doug Heins, Scott Niblock, Nick Proctor, & Mayor Pro-Tem Al Schlittler.

Council Member Absent: Steve Manor.

Also Present: City Manager Shea Charles, City Attorney Dennis Perkins and City Clerk Jane Cartwright.

Others in Attendance: Police Chief George Basar, Finance Director/Treasurer Catherine Stanislawski, DPS Director Erv Suida, Community Development Director Tim Schmitt, IT Director Mike Pitera, DDA Director Cathleen Edgerly, Kevin Pybus, Jan Lobur, Michael Mulvahill, Michelle Schlittler, Ann Heins, Ryan Boote, Bill & Judy Boote, Steve MacDermaid, Jack Pearce.

2. **PLEDGE OF ALLEGIANCE**

3. **APPROVED MINUTES:**

MOTION by Proctor, SUPPORT by Hansen, "To approve the minutes of the regular City Council meeting held February 9, 2015." MOTION CARRIED (5-0).

MOTION by Heins, SUPPORT by Proctor, "To approve the minutes of the executive session held February 9, 2015." MOTION CARRIED (5-0).

4. **CITIZENS' COMMENTS**

- None.

5. **REPORTS – COUNCIL MEMBERS SERVING ON COMMISSIONS**

- Member Proctor reported on the February 18, 2015 Planning Commission meeting. Extended the site plan for Regal Auto Salvage and approved a lot split on Fowler Street adjacent to St. Joseph Catholic Church. Also discussed the mixed use ordinance amendment for the Kroger complex to allow for drive through restaurants, and the proposed medical marijuana ordinance.

- Member Niblock reported on the February 18, 2015 Howell Area Fire Authority meeting. Discussed the possibility of having to replace the engine housed in the Cohoctah sub-station.
- Member Hansen reported on the February 17, 2015 Howell Area Parks & Recreation Authority meeting. Approved budget items; other topics of discussion included a possible new recreation facility built by Genoa Township, and the prior agreement transferring the Melon Festival from the DDA to the Recreation Authority.

6. COUNCIL CORRESPONDENCE

- Letter of Resignation – Mayor Phillip Campbell. MOTION by Proctor, SUPPORT by Hansen, "To accept the resignation of Phillip Campbell from the office of Mayor with reluctance and regret." MOTION CARRIED (5-0). Member Niblock stated the City was well served by Mayor Campbell noting he brought a level of energy to the office. City Manager Charles stated pursuant to City Charter, the Council has 30 days to fill the Mayor's position. In 2000 when there was a vacancy in the Mayor's office, the City Council appointed the Mayor Pro-Tem; other options include appointing another Council member or someone from the public. MOTION by Heins, SUPPORT by Hansen, "To appoint Dr. Allen Schlittler as Mayor." Member Proctor indicated that Council member Manor who is on vacation has requested that Council postpone the decision until the next meeting to allow him to participate in the decision. Discussion followed on the unexpected resignation and time limitations for filling the vacancy as well as a potential City Council member vacancy. MOTION by Niblock, SUPPORT by Proctor, "To postpone the appointment of Mayor until the March 9, 2015 meeting." Member Heins stated the importance of moving forward noting he was not asked to postpone the decision and this was the second meeting Member Manor has been on vacation. MOTION CARRIED (4-1). Member Heins opposed.

7. APPROVED – CIVIC EVENT APPLICATION, RIDE TO REMEMBER, MAY 16, 2015

MOTION by Proctor, SUPPORT by Hansen, "To approve the civic event application submitted by Rolling Thunder Chapter 5 for the Ride to Remember scheduled for May 16, 2015 contingent upon receipt of certificate of insurance." MOTION CARRIED (5-0).

8. APPROVED – REQUEST TO PURCHASE MERS SERVICE CREDIT:

A. Linda Small. MOTION by Proctor, SUPPORT by Niblock, "To approve the request of Linda Small to purchase one year of additional MERS service credit at a cost of $17,320 with the total cost of the additional service credit paid by the employee." MOTION CARRIED (5-0).

B. Jeffrey Freestone. MOTION by Proctor, SUPPORT by Niblock, "To approve the request of Jeffrey Freestone to purchase five months of additional MERS service credit at a cost of $4,297 with the total cost of the additional service credit paid by the employee." MOTION CARRIED (5-0).

9. CITY HALL VIBRATION & MEASUREMENT STUDY

MOTION by Proctor, SUPPORT by Heins, "To postpone action on soliciting engineering proposals for City Hall repairs until the March 9, 2015 meeting." MOTION CARRIED (5-0).

10. APPROVED – PAYMENT OF BILLS

MOTION by Heins, SUPPORT by Hansen, "To approve payment of bills ending February 23, 2015 in the amount of $472,414.47 and payroll to cover the period which ended February 21, 2015." MOTION CARRIED (5-0).

11. CITY MANAGER'S REPORT

- The Planning Commission recommended that City Council extend the moratorium on Medical Marijuana dispensaries until the end of the year. This topic will be scheduled on the March 9, 2015 agenda.
- A drop in style meeting with the business owners regarding Parking Lot #4 and the Alley has been scheduled for March 5, 2015 at the Howell Chamber.
- Will be providing information from MML on the May 5, 2015 road funding proposal and the fiscal impacts for the City.

12. OLD BUSINESS:

- Member Proctor requested an update on the HR Director's education. City Clerk/HR Director Cartwright reviewed recent progress as well as classes scheduled to renew the Certified Human Resources Specialist certification.
- Member Heins questioned the expiration of the HRC contract for general engineering services. City Manager Charles stated that all current projects are based on separate professional services agreements approved by City Council. Member Heins requested the City Attorney review the expired agreement and the City's current relationship with HRC.
- Member Hansen questioned when the Council Chambers was expected to be completed. DPS Director Suida indicated the reconstruction was expected to be finished by the end of March.

13. NEW BUSINESS

- MOTION by Hansen, SUPPORT by Niblock, "To excuse member Steve Manor from the February 23, 2015 meeting due to vacation." MOTION CARRIED (5-0).

14. ADJOURN

MOTION by Heins, SUPPORT by Hansen, "To adjourn the regular meeting of the City Council at 7:22 p.m. MOTION CARRIED (5-0).

_____
Allen R. Schlitter, D.C., Mayor Pro-Tem

_____
Jane Cartwright, City Clerk

NOTES

CITY OF HOWELL
MEMORANDUM

TO: MAYOR & CITY COUNCIL

FROM: SHEA CHARLES, CITY MANAGER

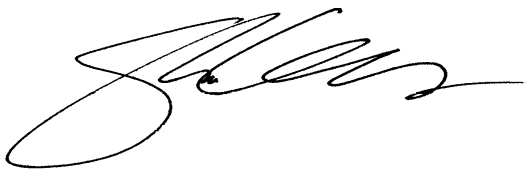
DATE: MARCH 5, 2015

RE: CLASS OF 2015 HOWELL HIGH SCHOOL PARK REQUEST

Please find attached a park fee waiver request from Howell High School Class of 2015 for their end of the year picnic. Staff is supportive of the request and recommends approval.

ACTION REQUESTED:

A motion to approve the request to waive park fees from Howell High School Class of 2015 for their end of the year picnic scheduled for May 20, 2015.



Shea Charles

**"At Howell Public Schools,
we commit all our energy and resources in support of our students while they're with us, so that they will shine in the world when they leave us."**

To Whom It May Concern:

I am writing this letter on behalf of the Class of 2015 at Howell High School. Each year the graduating seniors look forward to celebrating with their classmates after their final day at HHS. This celebration usually takes place at the city park at Thompson Lake.

We are asking City Council to waive the fee associated with renting this space so that we can use the limited funds that we have to create a great picnic for our graduating class. We would like to have the picnic on Wednesday, May 20th at 10:30am.

We look forward to hearing back from you about this highly anticipated event!

Respectfully,

Andrea Brady
Class of 2015 Advisor

CITY OF HOWELL
MEMORANDUM

TO: MAYOR & CITY COUNCIL

FROM: JANE CARTWRIGHT, CITY CLERK

DATE: MARCH 4, 2015

RE: APPOINTMENT OF MAYOR

At the February 23, 2015 meeting, Council accepted the resignation of Mayor Phillip Campbell and postponed action on the appointment to fill the vacancy of his current term which expires November 2015. As you know this appointment must be made within 30 days from the date Council accepted the resignation or March 25, 2015.

If the office of Mayor is filled from the current membership, Council must also move forward with the appointment of a new Council member to serve for the balance of their current term within 30 days of the new vacancy.

Our records indicate that the last Mayor to resign was in 2000. At that time, City Council appointed the Mayor Pro Tem to fill the vacancy and then advertised for candidates to fill the vacant City Council seat. As we move forward with this process, staff has prepared a list of potential methods that may be used to accomplish an appointment where multiple candidates express interest in filling a vacancy:

- "Filling Blank" method. Under this method a City Council member would make the following motion: "I move to appoint "blank" to fill the vacant seat." This motion would require a second. Once each member has an opportunity to offer one name for consideration, the Chair opens the floor for discussion on the suggested candidates. If more than one name is proposed, the Chair would call for a vote on each name, in the order that they were offered, until one name receives a majority vote. Each City Council member would only be allowed to vote for one name. If no name receives a majority vote, the Chair would then go back to the top of the list and start over, repeating the procedure until there is a majority vote. The name that receives the majority vote is inserted in the blank to complete the original motion. The floor is again opened for discussion prior to voting on the original motion.

- Nomination method. This procedure is very similar to the filling blank method. The Chair would open the floor for nominations from the list of candidates. When all nominations have been received, the Chair would declare the nominations closed. After nominations have been closed, a majority vote is required to reopen them. The candidates are voted on in the order of which they were nominated. As soon as one of the nominees receives a majority vote, no further votes are taken on the remaining nominees.

- Appointment by motion. After being recognized by the Chair, any member can move to appoint one of the candidates to the position. A second would be required and discussion would follow. If the motion is defeated (which includes a tie vote), members could offer subsequent motions.

Whichever method is used, it is important to note that all votes must be publically disclosed.

REVIEWED & APPROVED FOR SUBMISSION:

Shea Charles, City Manager

CITY OF HOWELL
MEMORANDUM

TO: MAYOR & CITY COUNCIL

FROM: JANE CARTWRIGHT, CITY CLERK

DATE: MARCH 4, 2015

RE: CHARITABLE GAMING LICENSE, LIVINGSTON COUNTY CONCERT BAND

LCCB is in the process of obtaining a Charitable Gaming License to raffle off donated items for the 150th anniversary of the end of the Civil War. In order to obtain a Charitable Gaming License, organizations must submit a resolution from the local governmental body stating that they are a recognized non-profit organization in the community.

Attached is the standard resolution which contains the language required by the Michigan Charitable Gaming Division along with their request, information on their event, and Articles of Incorporation.

ACTION REQUESTED:

A motion to adopt Resolution No. 15-02, Local Governing Body Resolution for Charitable Gaming License, recognizing Livingston County Concert Band as a nonprofit organization operating in the City of Howell.

REVIEWED & APPROVED FOR SUBMISSION:

Shea Charles, City Manager

MICHIGAN LOTTERY
Charitable Gaming Division
Box 30023, Lansing, MI 48909
OVERNIGHT DELIVERY:
101 E. Hillsdale, Lansing MI 48933
(517) 335-5780
www.michigan.gov/cg

Resolution No. 15-02

LOCAL GOVERNING BODY RESOLUTION FOR CHARITABLE GAMING LICENSES
[Required by MCL.432.103(K)(ii)]

At a Regular (regular or special) meeting of the Howell City Council (Twp, City or Village Council/Board)

called to order by Mayor Pro-Tem Schlittler on March 9, 2015 (date) at 7:00 p.m. (time/am or pm)

the following resolution was offered:

Moved by _____ and supported by _____

That the request from Livingston County Concert Band (Name of Organization) in City of Howell, (City)

County of Livingston, (County Name) asking that they be recognized as a nonprofit

Organization operating in the community for the purpose of obtaining charitable gaming

licenses, be considered for approval. (approval/disapproval)

Approval	***Disapproval***
Yeas: _____	Yeas: _____
Nays: _____	Nays: _____
Absent: _____	Absent: _____

I hereby certify that the foregoing is a true and complete copy of a resolution offered and adopted by

the City Council (Twp, City or Village Council/Board) at a regular (regular or special) meeting

held on March 9, 2015. (date)

SIGNED: _____ (Township, City or Village Clerk)

Jane Cartwright, Howell City Clerk (Printed Name and Title)

LCCB
LIVINGSTON COUNTY CONCERT BAND

P.O. Box 774
Howell, MI 48844

March 4, 2015

Shea Charles, Howell City Manager &
Howell City Council Members
611 East Grand River
Howell, MI 48843

Dear Mr. Charles and City Council Members:

As you may or may not know, the Livingston County Concert Band has been serving Livingston County since the mid-1970's. As a Non-Profit organization, our mission has always been to provide a place for community musicians to practice their art through performance. We welcome musicians of all ages, backgrounds and skill levels with the hopes of promoting lifelong participation and appreciation for personal enrichment. We also sponsor a scholarship program for Livingston County high school band members who seek to grow as musicians through attending band camps, private lessons or international tours.

We are planning a big event to recognize the 150th anniversary of the end of the Civil War. The event will take place on Saturday, May 2, 2015 at Parker Middle School. It will begin with a period appropriate dinner, catered by Crystal Gardens at 5:00pm. During dinner, actors portraying President and Mrs. Lincoln will be speaking about the time period and the war. When the actors are not speaking, a string quartet will perform. There will be several period-appropriate kiosks for history buffs to enjoy as well. The dinner will be $35 per person, and $30 for seniors and students. At 7:00, the Livingston County Concert Band will perform a free concert of Civil War Era music. There will be a guest soloist, as well as a moving narration by the actor portraying President Lincoln.

So far, we have received several larger donations from places like Crystal Gardens, Bordine's, Hartland Insurance Agency, First National Bank and Meijer. We are anticipating many smaller donations as well, and we plan to host a raffle for these items. In order to host a raffle, we need to become officially licensed through the state of Michigan. As part of that process, we are required to have a Local Governing Body Resolution Form filled out. Please find that form attached, as well as a description of our event, our Articles of Incorporation, proof of our Non-Profit status from the Department of Licensing and Regulatory Affairs as well as our 990-N E-file receipt to the IRS. I have also included our latest copy of our by-laws for your reference.

Thanks for your consideration.

Sincerely,

Scott Richardson
Vice President

The Livingston County Concert Band is a 501(c)(3) organization.
Our Federal Tax I.D. is #38-2173253.

Livingston County Concert Band

Presents

CIVIL WAR

SESQUICENTENNIAL EVENT

SATURDAY, MAY 2, 2015

Parker Middle School Commons
400 Wright Road
Howell, Michigan

Doors Open @ 4:30 PM

Civil War Exhibits
Open 4:30 – 8:00 PM

Dinner Tickets
$35 Adults
$30 Children (12 and under)
$30 Seniors (60 and over)

Order online @ www.lccbmusic.org or visit Brighton or Howell Chamber of Commerce Office

Raffle prizes donated by area businesses

The Livingston County Concert Band presents a commemoration event of the 150th Anniversary of the end of the Civil War with a patriotic-themed concert and an authentic dinner hosted by President and Mrs. Lincoln.

Dinner, 5 p.m. - Tickets required

President and Mrs. Lincoln will be your hosts for a pre-concert dinner. Enjoy stories of life in the White House, and the Civil War, as you have an authentic White House meal including Chicken Fricassee, Roast Beef and Molasses Whipped Sweet Potatoes. Dinner music will be provided by the Huron Valley String Quartet.

LCCB Concert, 7 p.m. - Free

Enjoy a free band concert played by the Livingston County Concert Band, directed by Dale Marzewski. Hear a selection of patriotic and Civil War themed music, as well as a special narration by Fred Priebe, acting as President Lincoln, of Aaron Copland's moving composition, "A Lincoln Portrait".

Civil War Exhibits, 4:30 – 8 p.m. - Free

Stroll through Civil War Era kiosks to see artifacts and demonstrations of the period. Also, check out our raffle!

For more information: www.lccbmusic.org/civil-war-event
Questions? Email livingstoncountyconcertband@gmail.com

Livingston County Concert Band

Presents

CIVIL WAR
SESQUICENTENNIAL EVENT

PARKER MIDDLE SCHOOL, HOWELL | SATURDAY, MAY 2, 2015

Doors Open 4:30 PM | 5 PM Dinner | 7 PM Free Concert

Dinner Tickets

$35 Adults

$30 Children (12 and under)

$30 Seniors (60 and over)

Order online @ lccbmusic.org
Or visit the Brighton or Howell Chamber of Commerce Offices

An evening of dinner, music and history to commemorate the ending of the Civil War!

Dinner Sponsors

Crystal Gardens & the town host

Hartland Insurance Agency, Inc.
Hartland · Highland · Hamburg · Flushing

Brigade Sponsors

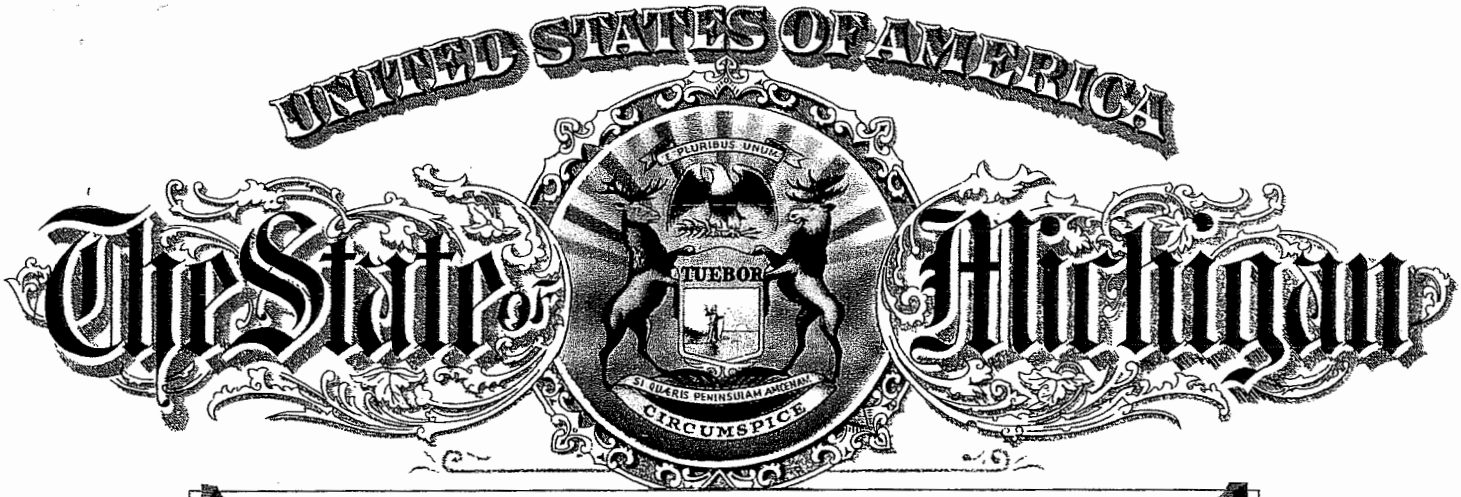
1st National Bank
The power of local banking

bordine's

meijer

Media Sponsor

Greater Brighton Area Chamber of Commerce



Michigan Department of Commerce

Lansing, Michigan

To All To Whom These Presents Shall Come:

I, Richard K. Helmbrecht, Director, Michigan Department of Commerce, Do Hereby Certify That Articles of Incorporation of

LIVINGSTON COUNTY CONCERT BAND

were duly filed in this office on the 25th *day of* November, *19*75, *in conformity with Act 284, Public Acts of 1972, as amended, and Act 327, Public Acts of 1931, as amended.*

In testimony whereof, I have hereunto set my hand and affixed the Seal of the Department, in the City of Lansing, this 25th *day of* November, *19* 75.

Richard K. Helmbrecht

Director

C & S—102

TRUE COPY
MICHIGAN DEPARTMENT
OF COMMERCE

(Non-Profit Domestic Corporations)

ARTICLES OF INCORPORATION

These Articles of Incorporation are signed by the incorporators for the purpose of forming a non-profit corporation pursuant to the provisions of Act 327, Public Acts of 1931, as amended, and Act 284, Public Acts of 1972, as amended, as follows:

ARTICLE I.

The name of the corporation is Livingston County Concert Band

ARTICLE II.

The purpose or purposes for which the corporation is organized are as follows:

1. To provide a media for qualified musicians of all ages to exhibit their earned talent as a performing group, thereby providing incentive to the young people of the community because of the lifetime value of this musical talent, and to people beyond school ages for the therapeutic value that musical performance can provide.
2. To provide the county with its own musical organization, which in addition to being useful on many occasions, will develop a wholesome community pride and establish cultural dignity.
3. To place emphasis on the importance of music to the county, thereby having an indirect positive influence on the character and the degree of this culture being offered at all educational levels.

ARTICLE III.

Said corporation is organized upon a non-stock basis.
(Stock-share or non-stock)

(a)

(If upon a stock-share basis fill in the following)

The total number of shares of stock which the corporation shall have authority to issue is _____ of the par value of $_____ per share.

A statement of all or any of the designations and the powers, preferences and rights, and the qualifications, limitations or restrictions thereof is as follows: _____

(b)

(If upon a non-stock basis strike out paragraph (a) above and fill in the following)

The amount of assets which said corporation possesses is:

*Real Property: None

*Personal Property: Music $1439.50; File Cabinet $145.00; French Horn $250.00; Cash $97.00

*(Give description and value. If none, insert "none")

Said corporation is to be financed under the following general plan:

Voluntary Donations

ARTICLE IV.

The address of the initial registered office is

511 Highlander Way (No. and Street) Howell (Town or City), Michigan 48843 (Zip Code)

The mailing address of the initial registered office is (need not be completed unless different from the above address):

N/A (No. and Street) (Town or City), Michigan (Zip Code)

The name of the initial resident agent at the registered office is

Leroy E. Lane

ARTICLE V.

The names and addresses of the incorporators are as follows:

Names	Residence or Business Address
Thomas F. Higby, President	726 Devonshire, Fowlerville, Michigan
Thomas M. Quinn, Vice President	1346 Alstott, Howell, Michigan
Edwin S. Woodworth, Treasurer	433 Caledonia, Howell, Michigan
Marcia L. Bohnsack, Secretary	6520 E. Highland, Howell, Michigan
Leroy E. Lane	621 W. Grand River, Howell, Michigan

ARTICLE VI.

The names and addresses of the first board of directors (or trustees) are as follows:

NAMES	RESIDENCE OR BUSINESS ADDRESS
Same as Article V	

ARTICLE VII.

(Here insert any desired additional provisions authorized by the Acts)

IN WITNESS WHEREOF, the undersigned, the incorporators of the above named corporation, have hereunto signed these Articles of Incorporation on this 21st day of October, 19 75

Thomas F. Higby	Thomas F. Higby
Thomas M. Quinn	Thomas M. Quinn
Marcia L. Bohnsack	Marcia L. Bohnsack
Edwin S. Woodworth	Edwin S. Woodworth
Leroy E. Lane	Leroy E. Lane

(See Instructions on Reverse Side)

(Please do not write in spaces below — for Department use)

MICHIGAN DEPARTMENT OF COMMERCE — CORPORATION AND SECURITIES BUREAU	
Date Received	
NOV 2 5 1975	FILED NOV 25 1975 Richard H. Fenbert DIRECTOR Michigan Department of Commerce

C & S—102

INFORMATION AND INSTRUCTIONS

Articles of Incorporation—Non-Profit Corporations (Excluding Ecclesiastical Corporations)

1. Article II should state, in general terms, the specific purpose or object for which the corporation is organized.

2. Article V—At leost three incorporators are required. Article VI—At least three directors (or trustees) are required. The addresses should include a street number and name (or other designation), in addition to the name of the city and state.

3. The duration of the corporation should be stated in the Articles **only if the duration is not perpetual.**

4. The Articles must be signed in ink by each incorporator. The names of the incorporators as set out in Article V should correspond with the signatures.

5. An effective date, not later than 90 days subsequent to the date of filing, may be stated in the Articles of Incorporation.

6. One original copy of the Articles is required. A true copy will be prepared by the Corporation and Securities Bureau and returned to the person submitting the Articles for filing.

7. FEES: $10.00 filing plus $10.00 franchise; total $20.00. Checks or money orders should be made payable to the State of Michigan.

8. Mail Articles of Incorporation and fees to:

   Michigan Department of Commerce
   Corporation and Securities Bureau
   Corporation Division
   P. O. Drawer C
   Lansing, Michigan 48904

CITY OF HOWELL
MEMORANDUM

TO: MAYOR & CITY COUNCIL

FROM: TIMOTHY R. SCHMITT, COMMUNITY DEVELOPMENT DIRECTOR

DATE: MARCH 4, 2015

RE: ORDINANCE AMENDMENTS RELATED TO MEDICAL MARIJUANA

At Council's January 26, 2015 meeting, staff brought forward the Medical Marijuana moratorium for discussion regarding extending its time frame. At the time, the moratorium was nearing expiration and the State legislature had not taken action to clarify the regulations during the 2014 lame duck session. At that meeting, City Council extended the moratorium until the end of March. Staff then prepared a memorandum for the February 9th meeting discussing the City's options for regulating the new industry. The Council discussed the matter at length and referred the matter to the Planning Commission for further review.

The Planning Commission reviewed the existing ordinance and the options for regulation at their February 18th meeting. A copy of the draft minutes are attached for the Council's review. After much discussion, the Planning Commission made the following motion.

> *MOTION by Proctor, SUPPORTED by Britten, "To recommend to City Council to continue the moratorium on Medical Marijuana until December 31, 2015 at which time the ordinance should be reconsidered given any further state guidance on a regulatory framework. The ordinance should come before the Planning Commission in October/November of 2014 for re-evaluation." MOTION CARRIED UNANIMOUSLY.*

The Commission made no recommendation on the proposed ordinance to regulate Medical Marijuana, Ordinance #14-017, which they last reviewed in August of 2014. At this time, staff would recommend extending the moratorium on medical marijuana related facilities in the City, in accordance with the Planning Commission recommendation.

ACTION REQUESTED:

A motion to extend the moratorium on medical marijuana facilities to December 31, 2015.

REVIEWED & APPROVED FOR SUBMISSION:

Shea Charles, City Manager

City of Howell
Planning Commission
February 18, 2015
611 E. Grand River Avenue
Howell, MI 48843

The regular meeting of the Planning Commission was called to order by Chairman Streng at 7:00 p.m.

PRESENT: City Manager Shea Charles, Paul Streng, Jeanette Ambrose, Robert Spaulding, Nick Proctor, Stewart Howe, Erin Britten, Mayor Phillip Campbell, Police Chief George Basar, City Attorney Dennis Perkins, Dick Carlisle of Carlisle Wortman Associates, Community Development Director Tim Schmitt, and Recording Secretary Deanna Robson.

ABSENT: Maryanne Vukonich.

GUESTS: Tony Kisiel, Vern and Jane Brockway.

APPROVAL OF December 17, 2014 MINUTES
MOTION by Proctor, SUPPORTED by Spaulding, "To approve the December 17, 2014 minutes as presented." MOTION CARRIED UNANIMOUSLY.

CALL TO THE PUBLIC
None.

STAFF REPORT
Chairman Streng introduced Timothy Schmitt, Community Development Director, and recognized him for his past work/educational experience and professional accomplishments.

Mr. Schmitt reviewed the staff report and provided the Commission with updates regarding the Kroger Fuel Project, Livingston County Jail, Taco Bell, Thai Summit, National Sewer CIPP, Gallery Park and the Master Plan. He also stated that the Thai Summit project will be moving forward and a modification is expected for Gallery Park.

Mayor Campbell updated the Planning Commission on the February 9, 2015 City Council meeting and stated that Council denied the sidewalk waiver request for the Livingston County Jail. The City should expect a sidewalk to be installed in the summer.

NEW BUSINESS
#15-001 – Regal Auto Salvage Site Plan Extension
Timothy Schmitt, Community Development Director, introduced the agenda item regarding Regal Auto Salvage and stated that the Planning Commission had previously approved their site plan. He updated the Commission that some work has been completed over the last year; delays previously occurred due to the unexpected passing of the company's engineer; and Regal requested an extension in November. They have recently provided a detailed timeline for completing the project.

On November 19, 2014, the City of Howell received a letter from Paul Bohn, the attorney representing Regal Auto Parts, requesting a one year extension of the site plan that was due to expire the next day. The Regal Auto Parts auto salvage operation was expanded illegally in December, 2012 and the City sent the owner of the property a violation letter for the expansion. The plans for addressing the violations and expanding the auto salvage business were approved in 2013. There were a number of items to be addressed at that time and the applicant's attorney has provided an up to date status of the major items in

their letter, dated January 13, 2015. The applicant has nearly addressed all of the major visually related issues, but major site related issues remain. They have committed to addressing them within the next nine months. If they are not finalized, Staff will be forced to consider enforcement action that would result in the expansion being ceased and the operation reverting back to the main site only.

Commissioner Spaulding inquired if the site plan could be revoked if timelines are not met. Mr. Schmitt confirmed and stated that Staff recommends conditional approval based upon timelines outlined in the letter from Regal's attorney.

MOTION by Campbell, SUPPORTED by Spaulding, "To conditionally extend the site plan and special land use for 945 Lucy Road, parcel id number 4717-06-300-004, subject to the applicant immediately addressing all outdoor storage issues that can be addressed in the short term and the applicant addressing all other site plan and special land use conditions prior to October 31, 2015, based on the applicant's attorney letter of January 13, 2015." MOTION CARRIED UNANIMOUSLY.

#15-002 – Geroux Lot Split Request, vacant Fowler Street property

Community Development Director Schmitt stated that the applicants, Lloyd and Janice Geroux, are requesting to split an existing lot, located to the rear of 409 Fowler Street. The property is currently vacant and the proposed split would create two new lots. The property has access to a platted Right-of-Way and that the applicants are proposing to split the property in two pieces and sell one piece to St. Joseph Catholic Church. The division of Lot 13 is currently proposed to provide 38.6 feet to the church, leaving 27.4 feet with the remainder parcel. This adds up to 66 feet in total. The original plat, however, indicates that Lot 13, along with lots 11, 12, 14, 15, and 16, are all 63 feet in width. The applicant will need to modify the dimensions proposed for the church and remainder parcel prior to final approval or further clarify the situation with City Staff. If this split is approved, the applicant will sell the easternmost created lot to the Church. Staff would then expect to see a lot combination application from the Church, combining the new lot with their existing lot. This would be done administratively and not brought to the Planning Commission for their review.

Commissioner Ambrose inquired if the property will have to be rezoned before it is combined. Mr. Schmitt responded that the property and lot are already zoned residential, consistent with their use.

MOTION by Proctor, SUPPORTED by Howe, "To conditionally approve the land division application (#15-002) for the vacant property on Fowler Street, parcel id number 4717-36-302-034, subject to the applicant correcting and/or clarifying the amount of property being split and amount of property remaining after the division of Lot 13." MOTION CARRIED UNANIMOUSLY.

OLD BUSINESS

MXD amendment discussion

Community Development Director Schmitt provided background from the November 19, 2014 Planning Commission meeting where City Manager Charles supplied information regarding a request from Tony Kisiel, developer of Crossroads Town Center. Mr. Kisiel had contacted Staff expressing a desire to rezone the center from MXD, Mixed Use District, to B-2, General Business District, to open up the development opportunities on the site. Mr. Charles and Dick Carlisle, of Carlisle Wortman Associates, met with Mr. Kisiel to discuss the request and the MXD zoning in general. Mr. Kisiel pointed out three main areas of concern he had with the current MXD zoning, which was prompting his desire to rezone the property:

1. Prohibition on fueling stations in the MXD district (item has been addressed)
2. Limited signage in the district, specifically not permitting pole signs in the district
3. No ability to have fast food restaurants with drive throughs

At the November meeting, the Planning Commission discussed the matter and the Commission asked Staff to compile information regarding the zoning and the potential business opportunities that are being missed as a result of the current zoning, as well as "to work with Mr. Kisiel to compile information and specific examples of potential business developments for future discussion with the Commission." Staff met with Mr. Kisiel on January 14, 2015 to discuss the situation. Mr. Kisiel reiterated the points he raised regarding the changes he wanted to see to the ordinance.

The MXD zoning district was created to respond to the goals and objectives set forth in the Northeast Area/M-59 Target Plan. It provides broad flexibility in uses intended to be pedestrian oriented in nature, creating a neighborhood feel with modern amenities and design. Vehicular dominated uses and strip center type developments are discouraged. Over the years, the City has modified some regulations, notably the complete prohibition on fueling stations, to provide some flexibility, while still maintaining the overall structure of the district.

Adding drive through restaurants as a permitted use (the request of the applicant) or even as a special land use similar to the fueling station approach, would be a fundamental shift from the intent of the district. Drive throughs are intended to be ancillary uses only in this district, not as a primary use. Mr. Schmitt asked for direction if the Commission would like changes to the zoning language.

Dick Carlisle of Carlisle Wortman Associates advised the Commission that the issues raised by Mr. Kisiel are not new, and that some past issues have been addressed and changes have been made. He cautioned the Planning Commission to put their decisions into broad context. Mr. Carlisle reminded the Commission that the MXD was originally created for cohesiveness with the City and to extend the pattern of high quality mixed use developments – and that many others have made investments in the area reliant on the Town Commons MXD plan.

Chairman Streng noted that a public hearing is required for any zoning changes.

Commissioner Ambrose asked Mr. Carlisle if the deed restrictions within the development had been resolved. Mr. Carlisle confirmed that they were resolved and that they had been imposed by Kroger. Mr. Kisiel agreed.

Chairman Streng asked Mr. Kisiel what he would like from the Planning Commission. Mr. Kisiel stated that he would like to see flexibility in the development, which he referred to as a mini regional center. He advised the Commission that he believes that more flexibility is better for the City and for future development. Mr. Kisiel read (out loud) his correspondence dated February 18, 2015 that he sent to City Manager Charles and which was also distributed to the commissioners prior to the meeting per his request.

Mayor Campbell asked Mr. Kisiel if he was asking for the development to be rezoned to B-2 or an amendment to MXD. Mr. Kisiel did not give a definite answer and responded that he is open to either option.

Commissioner Proctor inquired if the requested change could be accomplished through a Special Land Use, instead of amending current zoning. Mr. Schmitt responded that Mr. Kisiel would need to request rezoning to B-2 or amend the MXD because drive throughs are not allowed currently in the MXD. Discussion followed regarding variances, Special Land Uses, amending the MXD, and exploring mechanisms to develop a proposal. Mr. Schmitt stated that Mr. Kisiel has three options: 1. Request a Use Variance from the Board of Zoning Appeals; 2. Request an amendment to the MXD; or 3. Request that

the development be rezoned to B-2. Mr. Carlisle also noted that any amendments would need to go before the joint committee due to the Act 7 agreement with Howell Township. City Manager Charles stated that the property was transferred to the City through Act 7, and the agreement states that any site plans or changes to zoning districts must go through the joint planning committee (as they have since the property was transferred).

Discussion continued regarding rezoning to B-2 and amendments to the MXD. Mr. Carlisle cautioned that if the MXD is amended, it will be amended for the entire area – and the majority of the site has already been successfully developed in compliance with the current ordinance requirements. Mr. Kisiel disagreed and stated that the MXD has been amended several times due to development and that more changes are needed. Discussion followed regarding which specific properties are zoned MXD. Mr. Carlisle advised the Commission to examine this request in the context of the overall plan, and not in the context of a specific request. Commissioner Ambrose noted that building structures could be affected if the property was rezoned to B-2. Mr. Kisiel responded that his potential developers want to continue the quality and scale of the project. Mayor Campbell stated that he supports allowing driving throughs and proposed rezoning to B-2. He asserted that the Planning Commission should not be bound by the direction and vision originally agreed to for the property, and further stated that Crossroads Town Center is the only commercial property in the City with MXD zoning. Mayor Campbell recommended that the property be rezoned to B-2 as part of the Master Plan. Chairman Streng commented that the Commission should hear from the people that they work for – the people in the City – to ensure that they are serving those who live in the surrounding areas, and not just those who are passing through. He also expressed concern about future owners of the property and the preservation of the initial vision. Commissioner Spaulding conveyed his concern that rezoning to B-2 may result in a loss of aesthetic consistency within the development. Commissioner Proctor noted that he would not support changing the whole development to B-2, but may support flexibility in the MXD to develop a single parcel for a fast food drive through. Mr. Kisiel responded that he is requesting that the City allow restaurants with drive throughs and inquired as to the path of least resistance. City Manager Charles stated that the MXD currently allows for some restaurants with drive throughs and clarified with Mr. Kisiel that he is seeking for a change to allow drive through dominated restaurants such as fast food establishments.

Chairman Streng stated that it is not the role of the Planning Commission to initiate requests, and he directed Mr. Kisiel to work with Staff, compile his request, and come back to the Planning Commission with a proposal. He advised Mr. Kisiel that he himself must make the decision regarding what he is specifically requesting, and that Staff and the Planning Commission cannot make that decision.

Ordinance #14-017 – Medical Marijuana Regulations

Community Development Director Schmitt presented information regarding Medical Marijuana regulations in the State of Michigan. Initiated Law 1, adopted by the voters of Michigan in November 2008 and allowing for the use of Medical Marijuana in the State, was vaguely written and contained virtually no information about how to implement regulations for this new industry. This led to a multitude of court cases and very little action from the State legislature to try and figure out how to apply the provisions of the law. Since March of 2014, the City has had a moratorium on all marijuana related businesses. Staff prepared an ordinance, Proposed Ordinance 14-017, that was brought forward to the Planning Commission in July 2014 to establish regulations for the growing, processing, and sale of medical marijuana in the City of Howell. An initial public hearing was held by the Planning Commission at their August 13, 2014 meeting. The matter was tabled at that time to await progress from the State legislature. Since then two bills that were introduced were not acted upon in the lame duck session. At this time, there is little to no clarity in the regulatory landscape regarding Medical Marijuana at the State level. Staff brought the matter back to the City Council at the February 9, 2015 meeting, seeking guidance on how Council would like to proceed.

Given the lack of action from the State legislature, cities and townships are left to address Medical Marijuana uses on their own. At this time, the City of Howell is the only municipality in Livingston County that is considering permitting these types of uses. There are essentially four courses of action that can be taken at this point: 1. Take no action; 2. Prohibit all medical marijuana related businesses; 3. Prohibit provisioning centers, but allow home occupations; and 4. Regulate provisioning centers, grow operations, and other related businesses.

Chairman Streng introduced City of Howell Police Chief George Basar. Chief Basar stated that current case law indicates that Medical Marijuana dispensaries and provisioning centers are not allowed, but municipalities can allow them through ordinances. Although most law enforcement officials are not opposed to people getting the medicine that they need, they are forced to voice their opposition due to the number of holes in the current law. Law enforcement is placed in the position of trying to separate out how to allow Medical Marijuana for those who legitimately need it as opposed to people who are using it for recreational use. Chief Basar noted that he is currently on a committee with a variety of organizations to work with sponsors and others to create a regulatory framework. He recommended that the City continue the moratorium on Medical Marijuana until the end of the year to see what decisions are made by the State legislature and to learn the operational impacts of the recent court cases. Chief Basar also noted the challenges of ensuring the safety and correct dosages in Medical Marijuana edibles. He stated that the requirements for safety centers are different than those for provisioning centers, and clarity is needed regarding patients growing marijuana at home for their personal use being able to sell overages to provisioning centers. Chief Basar also explained that current law may state how many plants can be grown in each type of facility, but the law does not state how large each plant can be. Discussion followed about inspecting properties that house grow operations, and the potential for mold and strong odors therein that also affect surrounding properties.

City Attorney Dennis Perkins stated that his recommendation would be to continue the moratorium due to concerns about enforcing a law which provides very little guidance from the State. At this point allowing provisioning centers could result in unintended consequences, such as mandatory zoning changes and establishment of future no-conforming uses.

City Manager Charles commented that the issue has come up again because the original language was deemed unconstitutional under case law. City Council spoke about the issue at the February 9, 2015 meeting and received many different opinions from Council members and the public (those who voiced support for Medical Marijuana regulations reside outside of the City). Mayor Campbell noted that Council discussed the issue and heard from many people, and that City Council needs a recommendation from the Planning Commission. Commissioner Proctor stated that his position is and will be to support medicinal marijuana, but he would not support legalization for recreational use. Further, he would support a moratorium and would prohibit all Medical Marijuana related businesses. In the interim, he would recommend prohibiting all Medical Marijuana related businesses until firm regulatory guidance is provided by the State.

Commissioner Ambrose inquired if a Medical Marijuana card holder could obtain the product and take it home to use. Chief Basar confirmed that someone who has been issued a Medical Marijuana card could grow their own product, or obtain the product from a caregiver or a provisioning center.

Chairman Streng asked if the City would need an ordinance to institute a ban on Medical Marijuana related businesses. Attorney Perkins responded that an ordinance is not necessarily required because a moratorium is legally defensible.

MOTION by Proctor, SUPPORTED by Britten, "To recommend to City Council to continue the moratorium on Medical Marijuana until December 31, 2015 at which time the ordinance should be reconsidered given any further state guidance on a regulatory framework. The ordinance should come before the Planning Commission in October/November of 2014 for re-evaluation." MOTION CARRIED UNANIMOUSLY.

MOTION by Spaulding, SUPPORTED by Britten, "To excuse Commissioner Vukonich from the February 18, 2015 Planning Commission meeting." MOTION CARRIED UNANIMOUSLY.

MOTION by Proctor, SUPPORTED by Spaulding, "To adjourn the meeting at 9:25 p.m." MOTION CARRIED UNANIMOUSLY.

_____

Deanna Robson, Recording Secretary

CITY OF HOWELL
MEMORANDUM

TO: MAYOR & CITY COUNCIL

FROM: SHEA CHARLES, CITY MANAGER

DATE: MARCH 5, 2015

RE: CITY HALL – EAST WALL

Pursuant to City Council's request HRC has prepared the attached additional information regarding City Hall's east wall. Nancy Faught and Structural Engineer Fred Schreiber will be in attendance to address any City Council questions.

Shea Charles
City Manager

Memorandum

To: Shea Charles

From: Jon Booth

Date: February 19, 2015

Subject: City Hall – East Wall Evaluation HRC Job No. 20140750.22

In preparation for our attendance at the February 23, 2015 Council meeting, you had asked us to provide additional information on this topic.

The first item you requested was a more detail plan/exhibit of our findings at City Hall. Attached is an updated exhibit that includes 2 new details. The top detail on the left shows how much the existing east wall of City Hall is out of plumb at the top (roughly 1"). The lower detail at the left shows the existing wall in cross section and illustrates that if the wall continues to move outwards, it will become unstable due to gravity.

You indicated that Council member's raised questions at the last meeting that required additional clarification. They are:

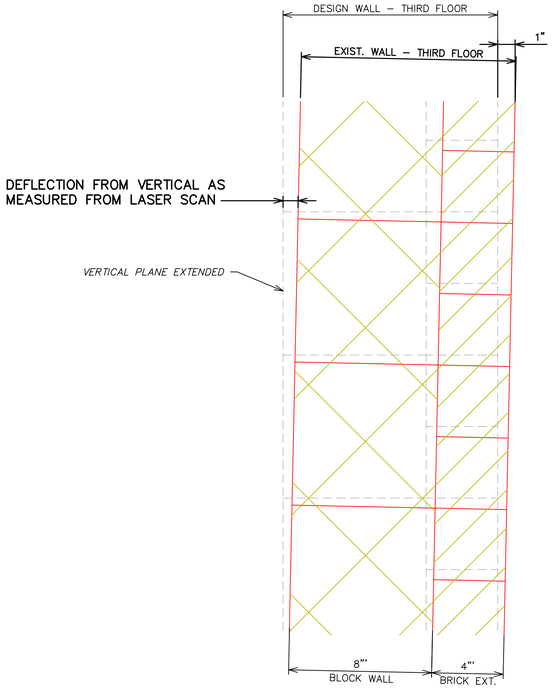
- *How fast is the wall moving?* Unfortunately, we cannot answer that question at this time. Since we have only taken one set of measurements, we do not have a second set of data to compare our findings against. If the City desires, we could scan the wall again in the future and use that data to determine how much the wall has moved over a given period of time.

- *Is the west wall moving similar to the east wall?* From our measurements, we can confirm it is not. We believe this is due to several factors, such as: the single story building at the ground floor (Police Department) is helping to support the west wall, there are more 90º corners on the west wall to help stiffen it (the longest straight section of wall the west side of the building is 18' between 2-90º corners, while the longest straight section of wall on the east side of the building is 64' between 2-90º corners), and the west wall is the typical windward side of City Hall (in this area, the prevailing winds come out of the west) and we believe it's the "vacuum" action on the downwind side of the building that is applying stress to the wall causing it to move outwards.

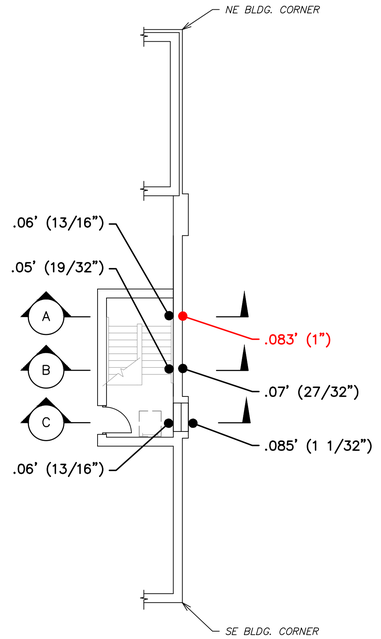
- *Why is the situation urgent now?* If the wall becomes more than 1.31" out of plumb, gravity will start to have an effect on the wall's stability. From our measurements, we know that the wall has already moved roughly 1" out of plumb. Therefore, there is only 0.31" (5/16") of factor of safety remaining.

Nancy Faught and Fred Schreiber (head of our Structural Department) will be in attendance at the Council meeting on the 23rd to elaborate further on the above information and to answer additional questions Council may have.

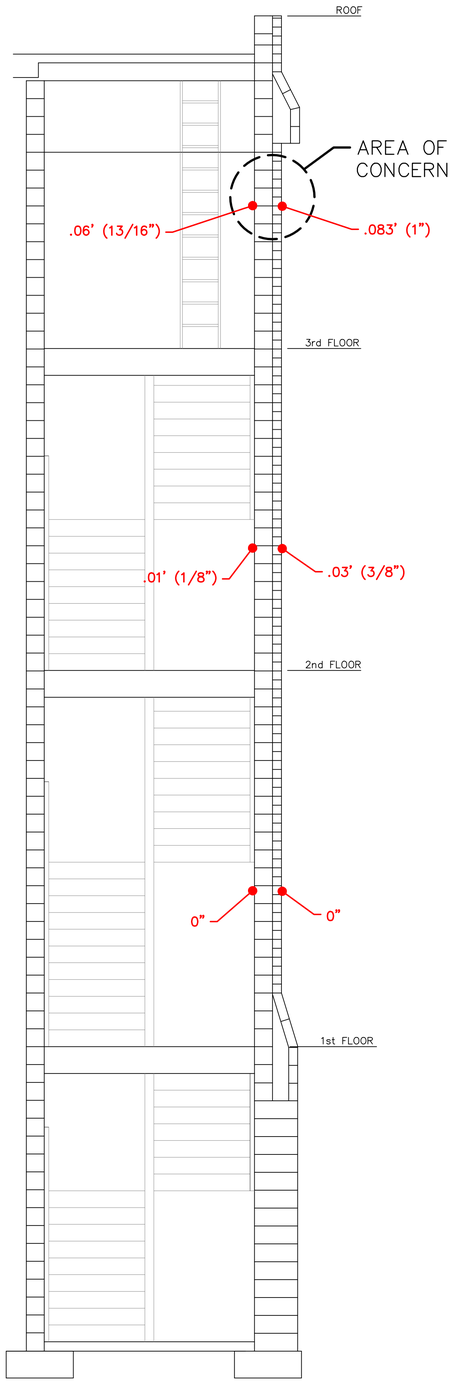
Cc: HRC: N. Faught, T. LaCross, F. Schreiber, M. Darga



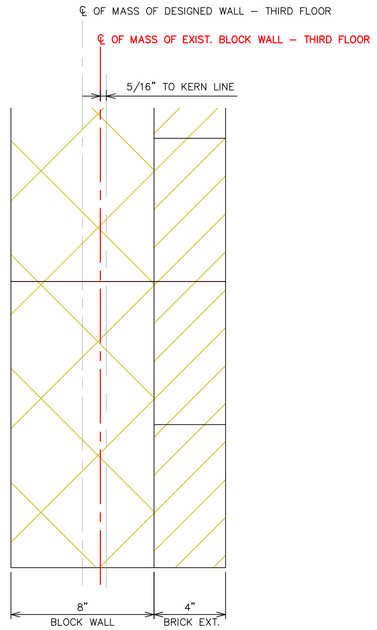
EAST EXTERIOR WALL ELEVATION AT THIRD FLOOR
NOT TO SCALE



EAST EXTERIOR WALL PLAN AT THIRD FLOOR
SCALE: 1/8"=1'-0"



TYPICAL EAST WALL SECTION
SCALE: 3/8"=1'-0"



WALL EQUILIBRIUM PLAN DETAIL AT THIRD FLOOR
NOT TO SCALE

HRC
100 YEARS
CONSULTING ENGINEERS SINCE 1915
555 HULET DRIVE
BLOOMFIELD HILLS, MICH.
P.O. BOX 824
48303 - 0824
PHONE: (248) 454-6300
FAX (1st. Floor): (248) 454-6312
FAX (2nd. Floor): (248) 338-2592
WEB SITE: http: / / www.hrc-engr.com

DATE	ADDITIONS AND/OR REVISIONS
2–17–15	REPORT
1–28–15	DRAFT

DESIGNED	
DRAWN	MTM
CHECKED	TDL
APPROVED	NF

LASER SCAN PERFORMED:
EAST STAIRWELL: OCT. 2014

CITY OF
HOWELL
DEPARTMENT OF PUBLIC SERVICE

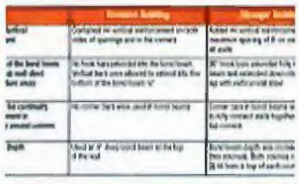
SCAN ANALYSIS STAIRCASE BLOCK WALL CRACKING

EXHIBIT PLAN AND SECTION

HRC JOB NO.	SCALE
20140750	AS NOTED
DATE: JANUARY 2015	SHEET NO. FIG. S4 OF

Lateral Bracing at Top of Wall Provides Critical Connection

A high-wind test of commercial masonry | Photo courtesy of Insurance Institute for Business & Home Safety



Best Practice

Research confirms resiliency of structural masonry in major wind events

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Author(s): Don Beers, PE, GC

Masonry can be the best wall system available for resisting high winds and preventing damage to structures. The weight and stability of the concrete masonry unit (CMU) or structural brick combined with the grouted rebar connections throughout the wall give masonry a unique ability to stand up to high wind pressures, even pressures far in excess of the calculated design loads. For masonry, and any other type of wall, one of the essential requirements for resistance to horizontal wind load is support by a roof or elevated floor at the top of the wall (referred to as diaphragm action). Walls with lateral support at the top and the bottom are called simply supported as opposed to cantilevered walls, which have no horizontal support at the top.

The tall, unsupported cantilevered wall acts as a lever creating torque (high bending forces at the bottom) which tries to push the wall over, or if the connection to the foundation
is strong enough, tries to overturn the foundation. This torque at the base is referred to by engineers as an overturning moment. The moment being simply a rotational force. This moment action has to be resisted by a large foundation with enough weight to resist the overturning and creates excessive bending moment in the lower area of the wall. The bending moment in a cantilevered wall is four times the bending moment in a wall of equivalent height braced (*simply supported*) at the top for horizontal (*lateral*) wind loads.

Structural engineers and builders understand

- masonry walls taller than 4' or 5' must be designed as cantilevers or be supported at both the top and bottom.
- cantilevered walls taller than 8' usually require special oversized foundations and additional vertical reinforcement at the base of the wall.
- walls above 15' in height are not usually cantilevered because of very large foundation and heavy reinforcement necessary to handle the overturning and bending moment.

IBHS Testing Gives Graphic Illustration of the Impact of Side Wall Connection

The Insurance Institute for Business & Home Safety (IBHS) is dedicated to research and training as related to the evaluation of residential and commercial construction materials and systems. Research performed at their test center is used to justify revisions to building codes and

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practices toward more resiliency in the built environment and a reduction of the cost to the public in both lives and property lost as a result of natural disasters.

In an effort to compare and contrast performance of typical commercial strip mall-type construction with that of construction using best practices, IBHS tested two 30' x 20', single-story structures side by side in their wind tunnel facility in Chester County, South Carolina. Associations affiliated with the building envelope (including walls, roof and doors) were consulted.

Best Practice vs Common Practice

Because of their experience with masonry structures in high wind, both in theory and practice, IBHS approached the Masonry Association of Florida and the National Concrete Masonry Association (NCMA) for help in designing masonry walls for the two side-by- side commercial buildings. One of the buildings (called Common) was to contain the most common practices of masonry construction, many of which include doing things as they have always been done. The second building (called Stronger) was to be built according to best practices and current design code requirements. The assembled design team agreed on four key differences in the two wall designs (**see chart 1**).

The virtual lack of continuity of the wall vertical reinforcement into the bond beam and poor connection to the roof in the common building was the primary failure area. Indeed, the Common building failed in the wind test in the exact mode I have seen played out in wind storms across Florida. The vertical reinforcement in the wall of the Common building lacked adequate connection to the bond beam. Consequently, the net roof up-lift of approximately 45 to 50 psf pulled the bond beam away from the top of the wall leaving no horizontal support for the wall. It had little capacity since it was not designed to act as a cantilevered wall and thus had little means to resist the approximately 35 psf of wall net wind pressure.

The top wind gust during the test was 136 mph, or the equivalent of a 97 mph one-minute sustained wind speed. All wind speeds are referenced to standard open country conditions at an elevation of 10m (33') (Exposure C in wind code terms).

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Results indicate that **proper reinforcement and detailing significantly reduce structural damage, which in turn, protects occupants and property**. This is especially important to the insurance

industry as their research indicates that one in four businesses that close during a disaster does not repair their facilities and reopen. This can have disastrous repercussions on the economy, as small businesses are vital, occupying 30-50% of all commercial space and accounting for 54% of all sales in the US, according to the Small Business Administration.

Portions of the test can be seen at disastersafety.org/high_winds/commercial-high-wind-test-resources/. Of all the masonry building designs I have ever been involved with, this is the only one that was built to be blown down!

Most Vulnerable Structures

Churches, gymnasiums, box retail stores, warehouses and other structures with walls above 10' in height and a single span roof system are at increased risk from high winds. Where cast-in-place floors and roofs lock in the exterior walls, the problem is much less likely. However, every exterior wall must be properly connected into the structure at the top and bottom for best performance.

After Hurricane Andrew made landfall in Florida in 1992, we observed some classic failures due to lack of connection. Large doors are vulnerable in high winds. If the large door fails on the windward side, increased pressure develops inside the building and may blow out the side wall, particularly with a lack of connection between the wall and pre-stressed roof. This type of collapse would likely completely demolish the interior of the structure.

We encountered a church structure exposed to winds in the Category 2 hurricane range (96-100 mph sustained wind speeds). The collapsed wall was connected to the roof structure with a cut nail every 48", which was obviously provided during – and for –construction, not for lateral support.

Pictured is an endwall of a warehouse structure. While the wall was very well reinforced, there was no tie in between the vertical wall reinforcement and the bond beam (sound familiar?)

Best Practices

Both the IBC and the MSJC call for lateral support at the top of the wall. Section 1.7.4.1 of TMS 402-08 states, "Walls, columns and pilasters shall be designed to resist loads, moments and shears applied at the intersections with horizontal members". The location and number of

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these structural elements are obviously left up to the designer, but their presence is essential, as we have seen, to the wind load resistance of the structure.

Communication

Early and regular collaboration and communication between members of the design team, construction team and inspectors can reinforce the importance of proper connection to structural elements to prevent lateral connections from being overlooked.

Detailing

Designers often have a floor or roof near the top of the wall to act as lateral support (diaphragms). Without one, solutions are not immediately obvious. For some large open structures with tall walls, I have gone to the extent of creating horizontal trusses spanning between the bearing walls. In other cases, long tall walls may require regular vertical pilasters spanning between the foundation and roof diaphragm with the wall spanning horizontally between these members.
Another common oversight happens when the engineer of record assumes that the wall to roof connection is being detailed by roof supplier. Again, this can be resolved by early and open communication between parties.

The Big Picture

Bearing wall connections to the roof are generally not where the issue arises, because there has to be some type of connection to hold the roof in place. Not so for the non-bearing walls. Special brackets or odd connectors attaching the roof and top of the endwall (non-bearing) may be ignored simply as a cost-saving effort without clear understanding of how critically important to the survival of the structure the connectors are. The IBHS study showed, however, that while a building may perform acceptably under normal conditions without those connections, the time and cost of rebuilding after a storm or earthquake is exponentially more expensive than the original savings were worth. And you run the risk of human injury or loss of life as a result. Acting on the big picture, for the long term, is always better than a short-term savings.

Checks and Balances

Without some foreknowledge by the inspector on the importance of proper roof-to-wall detailing, he may miss checking for this when work is in progress. After construction, the connection areas may not be obvious or be hidden from view, especially if 20' or 30' off the ground,

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so verifying their placement may be difficult after the fact. Again, early communication and planning can help ensure not only that the work is being executed properly, but that it will be inspected for accuracy and verified.

Is Residential Exempt?

Unbraced gable endwalls in smaller, single-family homes fair no better than their commercial counterparts. A standard failure mode is wind on the leading edge of the roof pries up decking, trusses progressively collapse into the structure, and the endwall, with no lateral bracing, collapses into the structure also. It is instructive to note that during the development of the Florida wind codes, the arguments over the proper bracing of the gable end were the most contentious and animated. Subsequent wind storms have ended the argument. Bracing of the gable endwall is essential! The solution is either adequate bracing of the gable endwall back into the roof structure or balloon framing where the endwall spans from the foundation all the way up to the underside of the roof decking (roof diaphragm including proper connection).

The Answer

Masonry design has made incredible advances in both design codes and computerization. Real-life failures are often from a simple omission. Not providing lateral support at the top of all walls is an easy-to-understand and easily correctable mistake, not only in masonry construction but in all construction types. Sadly, it is also the most common and unnecessary masonry failure mode I have seen from Florida hurricanes and tornados.

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Bloomfield Hills, MI 48302-0360
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Bloomfield Hills, MI 48303-0824
PHONE: 248.454.6300
FAX: 248.454.6312
WEBSITE: www.hrc-engr.com
EMAIL: info@hrc-engr.com

February 9, 2015

City of Howell
611 E. Grand River
Howell, Michigan 48843

Attn: Shea Charles, City Manager

Re: City Hall Walls
Design and Construction Estimates HRC Job No. 20140750

Dear Mr. Charles:

Hubbell, Roth & Clark, Inc. (HRC) has recently completed an evaluation of the east and west walls at City Hall. The evaluation was performed to investigate visible cracks in the stairwells.

Per our letter of January 28, 2015 it is believed that the east wall has moved outward while the west wall has shown little movement. HRC utilized the existing building design plans as part of the investigation. Our review of these plans revealed that there was no connection detailed to connect the walls to the floor and roof construction. This is typically how exterior walls are supported to resist lateral wind loads applied to them. This condition was confirmed in our initial site visit. Additionally, according to the original wall section drawings, the wall construction is a "mass" type assembly, with no air space between the brick veneer and concrete masonry unit backup.

The City has requested us to provide a design and construction cost estimate to mitigate movement of the east wall. Further investigation would need to be completed prior to finalizing the scope of work and this would involve a full day of work on site. This investigation could be completed for approximately $2,000.

At this time we believe the construction work is likely to involve:

- Connecting the east wall to the existing second floor construction, third floor construction and roof deck with continuous steel supports. As the wall is a "mass" type, these supports would need to be secured all the way through the wall to the outside of the face of the brick. This solution would require that an architectural element be installed over the exterior mounting locations for aesthetic purposes.
- Another option is complete reconstruction of the east wall, which offers a more aesthetically pleasing outcome (no change in appearance) as well as eliminating the root cause of the issue instead of just resolving its effects.

For the design and construction estimate we are providing a range of costs. The estimated ranges are:
Engineering Design (both Options) - $17,000 to $25,000
Option 1 Construction – $130,000 to $180,000
Option 2 Construction – $275,000 to $330,000

Based on our review of site conditions and our understanding of the issues, we recommend that construction remedies should be undertaken as soon as weather permits and that in the interim the wall should be temporarily shored to prop the wall

or the area at the east side of the building should be cordoned off.to prevent personal injury should a portion of the wall collapse..

If you have any questions or require any additional information, please contact the undersigned.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.

Nancy M.D. Faught, P.E.
Vice President

NMF/nmf
pc: HRC; A. Melchior, F. Schreiber, J. Booth, File

CITY OF HOWELL
MEMORANDUM

TO: MAYOR & CITY COUNCIL

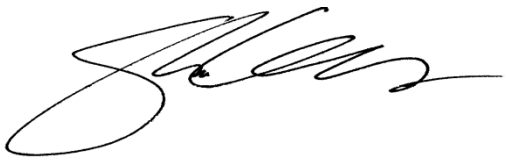
FROM: SHEA CHARLES, CITY MANAGER

DATE: FEBRUARY 5, 2015

RE: CITY HALL REPORTS

HRC has completed their City Hall vibration study and building measurement projects (reports attached). The vibration study shows that while the building is experiencing vibrations from large vehicles, it is not causing structural issues. The laser measurement confirms that the end walls are moving. HRC's review of the architectural plans shows the end walls were not tied to the building.

HRC is preparing a preliminary cost estimate to address the wall issue. They note the wall issue poses no danger at this time but does need to be addressed in the foreseeable future. Once we have the preliminary repair estimates staff will solicit design quotes and look to incorporate in the 2015-2016 budget cycle.



Shea Charles
City Manager

HRC 100 YEARS
CONSULTING ENGINEERS SINCE 1915

PRINCIPALS

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Thomas E. Biehl

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Peter T. Roth

Keith D. McCormack

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Robert F. DeFrain

Marshall J. Grazioli

Thomas D. LaCross

James F. Burton

Jane M. Graham

Donna M. Martin

Charles E. Hart

February 03, 2015

City of Howell
611 E. Grand River
Howell, Michigan 48843

Attn: Shea Charles, City Manager

Re: Vibration Monitoring Study
City Offices HRC Job No. 20130632

Dear Mr. Charles:

In accordance with our proposal, HRC performed vibration monitoring and corresponding traffic counts in an attempt to correlate the movement of trucks on Grand River Avenue and the vibrations being felt by staff on the second and third floors. HRC contracted to have vibration monitoring equipment installed. HRC provided traffic counters to establish truck traffic timing.

The monitoring period was from October 10 through 17th, 2014. The purpose of the one week study was to determine if there is a correlation of truck traffic to vibrations being felt and if so the magnitude of the vibrations.

The vibration monitoring was performed by G2 Consulting, Inc., Troy, Michigan, for HRC. A sensor was placed in the basement at the column line D-1 and another directly above on the third floor same column position. See Figures A and B for position of vibration sensors, respectively. The purpose for the two sensors in a vertical alignment is to measure the amplification of a vibration that is transmitted from the foundation up into the third floor. The date and time was recorded with each vibration measurement.

Concurrently HRC installed a traffic counter on the Westbound Grand River Ave. to document vehicle class, measure speed, and record the date/ time of the event. HRC also installed a traffic counter on the Eastbound Grand River Ave. lane to record similar information.

Eastbound traffic has a posted speed of 35Mph starting at Fowler St. and proceeding easterly past the site. The Westbound traffic has a posted speed of 35Mph just East of Elm Street. The speed does not change to 25Mph until West of Fowler St. No sign was evident indicating a speed reduction was going to occur. The posted speeds on Grand River Avenue are indicated on Figure C attached.

The classification of vehicles as measured by FHWA (Federal Highway Administration) is attached as Figure D. Trucks for the purpose of this study are those vehicles in Class 8 through 13, Heavy Trucks. A composite average and maximum speed in each lane direction was determined for the study period on the range of data collected for Class 8 through 13 vehicles.

The Westbound average speed of the heavy truck traffic was calculated as 31 mph with a maximum recorded of 38 mph. The Eastbound average speed of heavy truck traffic was calculated as 31 mph with a maximum recorded of 39 mph.

The effects of traffic related vibrations on buildings has been studied by many entities and a standard practice has been established by AASHTO (American Association of State Highway and Transportation Officials). The Evaluation of Transportation-Related Earthborne Vibrations, AASHTO Designation: R 8-96(2009) has been published. A copy is included as Exhibit One.

There is a distinct difference between what a structure can withstand in vibration terms versus the human perception. The Figure 1 of page R 8-2 within Exhibit One shows the safe vibration limit recommendation for a residential structure. The Figure 2 of page R 8-3 within Exhibit One shows the same vibration limits when plotted with the human perception.

As is evident in the graphs the human perception is much lower than a potential impact on a structure. The Figure X2.1 on page R-8-11 within Exhibit One provides the comparison between US and European vibration guidelines based upon structure type. Line 1 of this graph provides the general commercial acceptable levels.

The data collected by the vibration monitors is summarized in two event reports. The data from the basement sensor is provided in Exhibit Two, as nine (9) recordable events. Each event is logged and graphed relative to the benchmark established in AASHTO Designation: R 8-96(2009), Exhibit One.

The data from the third floor sensor is provided in Exhibit Three, as 23 recordable events. Each event is logged and graphed relative to the benchmark established in AASHTO Designation: R 8-96(2009), Exhibit One.

The vibration recorded events do correspond to heavy truck traffic. There were over 600 heavy trucks that traveled on Grand River Ave. during the study period. Only 23 vibration events were considered to be recordable on the third floor by G2 Consulting, none of them exceeded the values associated with the detrimental effect on the building. They are however considered to be perceivable by humans, building occupants, depending on your distance from the source of the vibration. Approximately 4% of the heavy truck traffic on Grand River Ave. is providing vibrations perceptible to humans.

Upon walking through the three floors of the building and the basement there does not appear to be drywall cracks or surface feature damage evident from the vibrations the building is experiencing. This is supported by the data collected as part of this study. We also want to point out the vibrations into the building appear to be independent of the stairwell exterior wall cracking. The stairwells were covered by a separate report issued by HRC on January 28, 2015.

Upon your review of the enclosed information, if you have any questions please do not hesitate to contact me. If you would like I can stop by, at your earliest convenience, and discuss our findings.

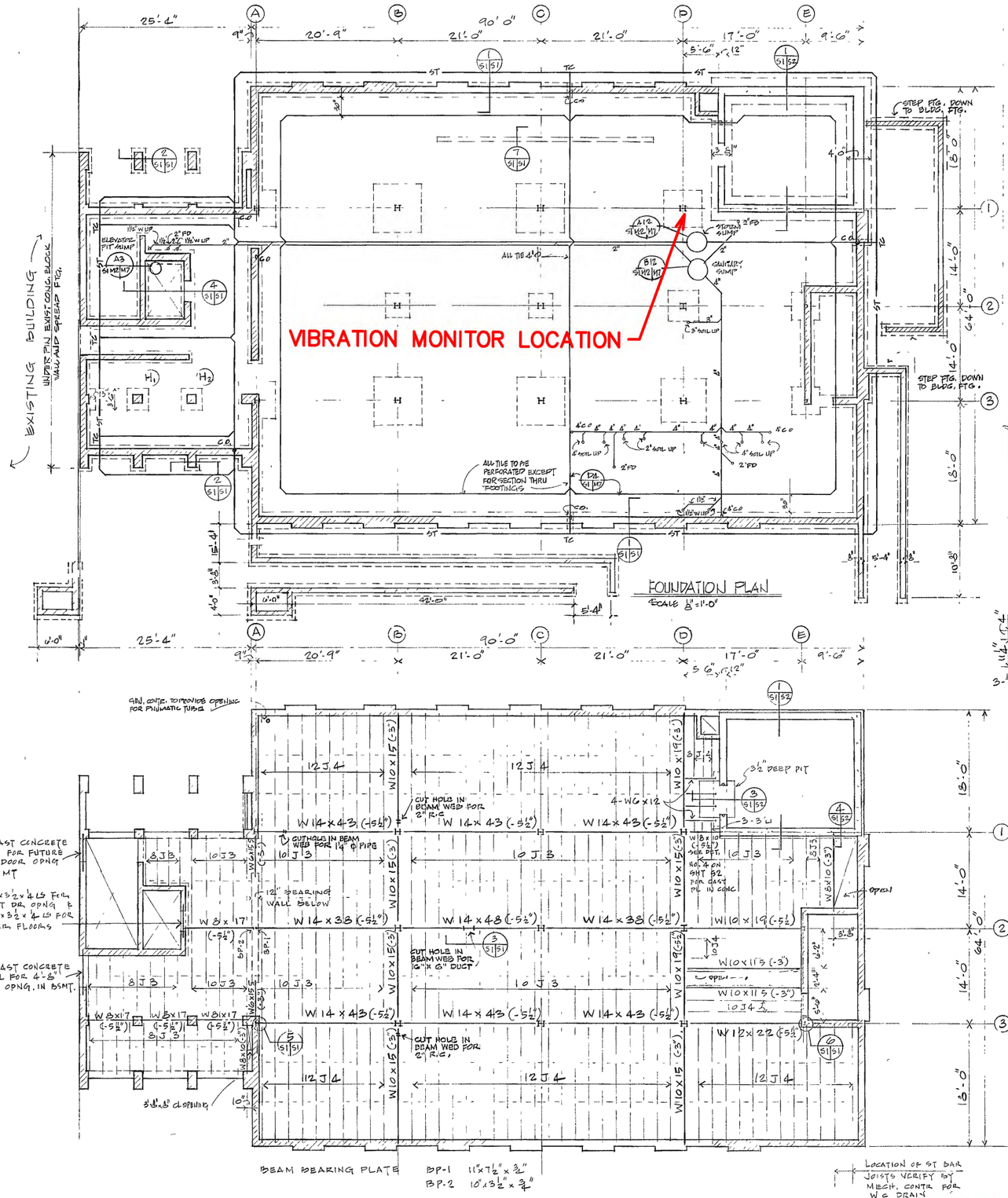
Very truly yours,
HUBBELL, ROTH & CLARK, INC.

Thomas D. LaCross, P.E.
Sr. Associate – Special Projects

Attachment: Figure A Vibrations Sensor location Basement, D-1, one page
Figure B Vibration Sensor location Third Floor, D-1, one page
Figure C Speed Limit Sign Location Map, one page
Figure D FHWA Vehicle Classification, one page
Exhibit One: AASHTO Designation: R 8-96(2009), 14 pages
Exhibit Two: Basement Sensor Recordable Vibration Events, 9 pages
Exhibit Three: Third Floor Sensor Recordable Vibration Events, 23 pages

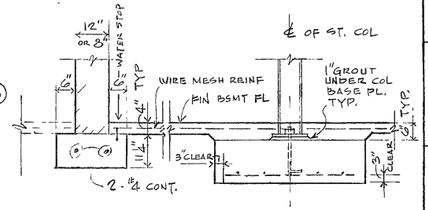
pc: HRC; Nancy Faught, P.E.

DUNN 19 1253 1-75 59041+

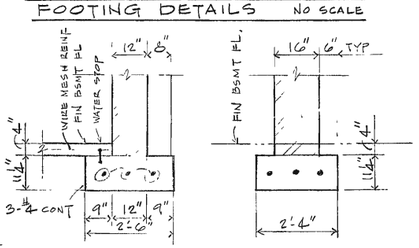


General Notes:

1. Foundation design based on allowable soil bearing of 4000 P.S.F. and all footings shall be over solid bearing.
2. Temporary bracing must be provided to resist all lateral forces until floor and roof decking are in place.
3. Bridging shall be provided for all floor joists.
4. The structural steel plans are intended to show the size of major steel members only. Miscellaneous steel to be furnished as shown on the architectural drawings.
5. Steel beams which are supported on masonry to have 7-1/2 minimum bearing length. Bearing to be on solid masonry units, three courses minimum with a one inch thick layer of grout between masonry and steel beam. Beams to be grouted or bricked tight into wall pockets.
6. Extend steel bar joists' bottom chords to supporting masonry walls and steel beams to facilitate ceiling installation and connect bottom chords to supporting columns or beams
7. Provide 3 x 3 x 5/16 steel angle welded to column to support structural bar joist, typical.
8. Steel angle fastened to masonry wall, use 5/8 inch diameter e.p. bolts at 2'-0" on center.
9. Top of steel floor beams (5-1/2") shown are below finish floor line unless otherwise noted
10. See notes on sheet S-3.
11. Lightweight concrete for 3 inch topping over structural bar joints and 2 inch topping over precast concrete panels.
12. First Floor Load L.L. + D.L. = 140 P.S.F.
    Second & Third Floor Load L.L. + D.L. = 120 P.S.F

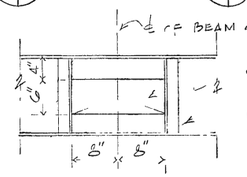


TYPICAL WALL AND COLUMN FOOTING DETAILS NO SCALE



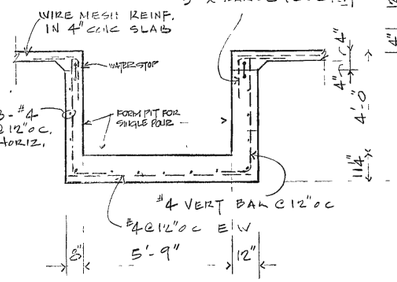
1 S1|S1 SCALE 1/2"=1'-0"

2 S1|S1 SCALE 1/2"=1'-0"

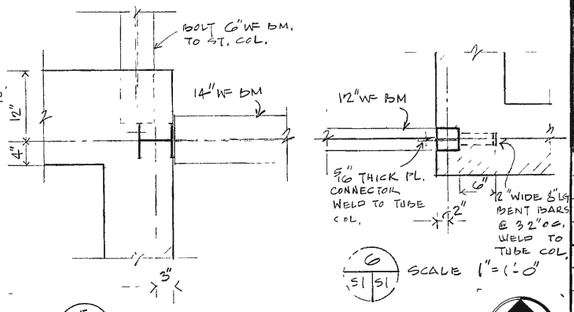


CUT 16"x 6" HOLE IN THE WEB OF 14 WF ST BM WELD 4 - 2x2x1/4 ST LS TO THE WEB TWO ON EA. SIDE

3 S1|S1 SCALE 1"=1'-0"

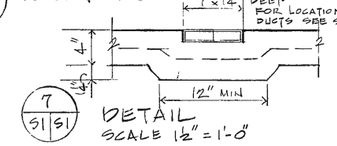


4 S1|S1 SCALE 3/8"=1'-0" ELEVATION PIT



6 S1|S1 SCALE 1"=1'-0"

5 S1|S1 SCALE 1"=1'-0"



7 S1|S1 DETAIL SCALE 1/2"=1'-0"

NORTH

DETAIL SYMBOL

DETAIL NUMBER | LOCATION SHEET | DETAIL SHEET

COLUMN AND FOOTING SCHEDULE

COL. NO	A_1 A_3	B_1 B_3 C_1 C_3	B_2 B_3	D_1	D_2	D_3	E_2 E_3	H_1, H_2
T.O. ST. BM. & JOISTS	5" TYP ADD 2" COL CAP	5" TYP ADD 2" COL CAP		ST BM 5" ADD 2" COL CAP	1"	5" ADD 2" COL CAP	ST BM 5" ADD 3" COL CAP	1" E2
FIN 3rd FL. 12'-1"	x 20	x 24						
FIN 2ND FL 12'-0"	W6	W8		W8 x 24	W8 x 24	W8 x 24	4x4 x 5/16 TUBE	
FIN 1ST FL 14'-0"	W 6x25 BASE PL. TYP	W 8x48		W 8x31	W 8x24	W 8x35	4x4 x 5/16 TUBE	
FIN. BSMT FL 11'-0"	5" TO BOT OF W 6x25	W 8x48	W 6x20	W 8x31	W 8x24	W 8x35	4x4 x 5/16 TUBE	16" x 16" BRICK PIER
COLUMN BASE	11x11x7/8	14x14x1	10x10x5/8	11x11x7/8	10x10x3/4	13x13x1/8	10x10x7/8	
ANCHOR BOLTS	2-3/4"ϕ	2-7/8"ϕ	2-3/4"ϕ	2-3/4"ϕ	2-3/4"ϕ	2-7/8"ϕ	4-3/4"ϕ	
CONCRETE FOOTING SIZE AND REINF	6'-0"x6'-0"x16" 6-#7 EA WAY	7'-0"x7'-0"x19" 8-#7 EA WAY	3'-6"x3'-6"x11 1/2" 4-#5 EA WAY	5'-0"x5'-0"x15" 7-#6 EA WAY	4'-6"x4'-6"x12" 5-#6 EA. WAY	6'-6"x6'-6"x18" 7-#7 EA. WAY	4'-0"x4'-0"x11 1/2" 6-#4 EA. WAY	3'-0"x3'-0"x11 1/2" 4-#5 EA WAY
REMARKS							2"x2"x5/16 ANCHOR BARS @ 32 1/2" C WELD TO TUBE COL @ BUCKL JOINTS SEE DET 6 ON THIS SHT	

FIGURE A
HRC 20130632

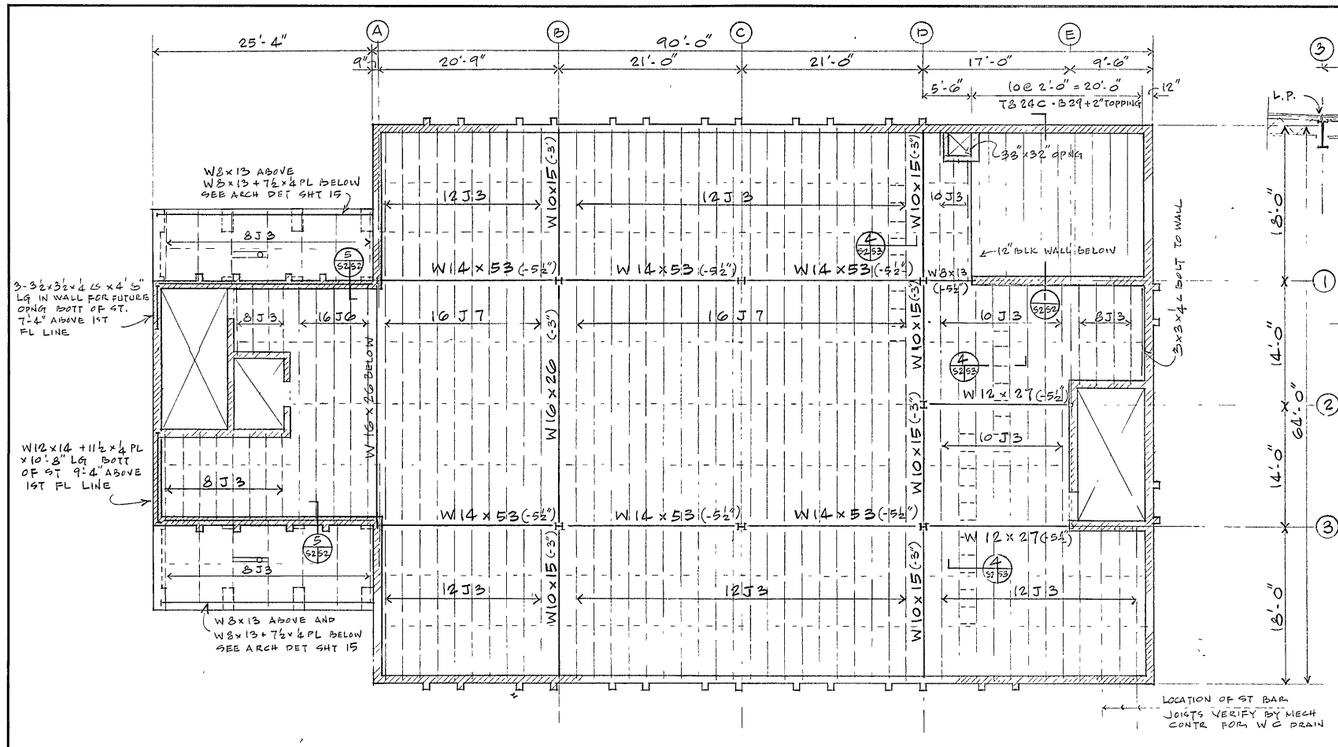
FIRST FEDERAL SAVINGS AND LOAN ASSOC. OF LIVINGSTON COUNTY
HOWELL, MICHIGAN

DANIELS AND ZERMACK
ARCHITECTURE
ENGINEERING
ANN ARBOR
MICHIGAN

REVISION
JOB 76 07
DATE 18 MAR 77
DRAWN KW
CHECKED EZ
SHEET 20 OF 37

S 1

DUNN 19 1253 I-75 55941+



SECOND FLOOR FRAMING PLAN SCALE ⅛" = 1'-0"

THIRD FLOOR FRAMING PLAN SCALE ⅛" = 1'-0"

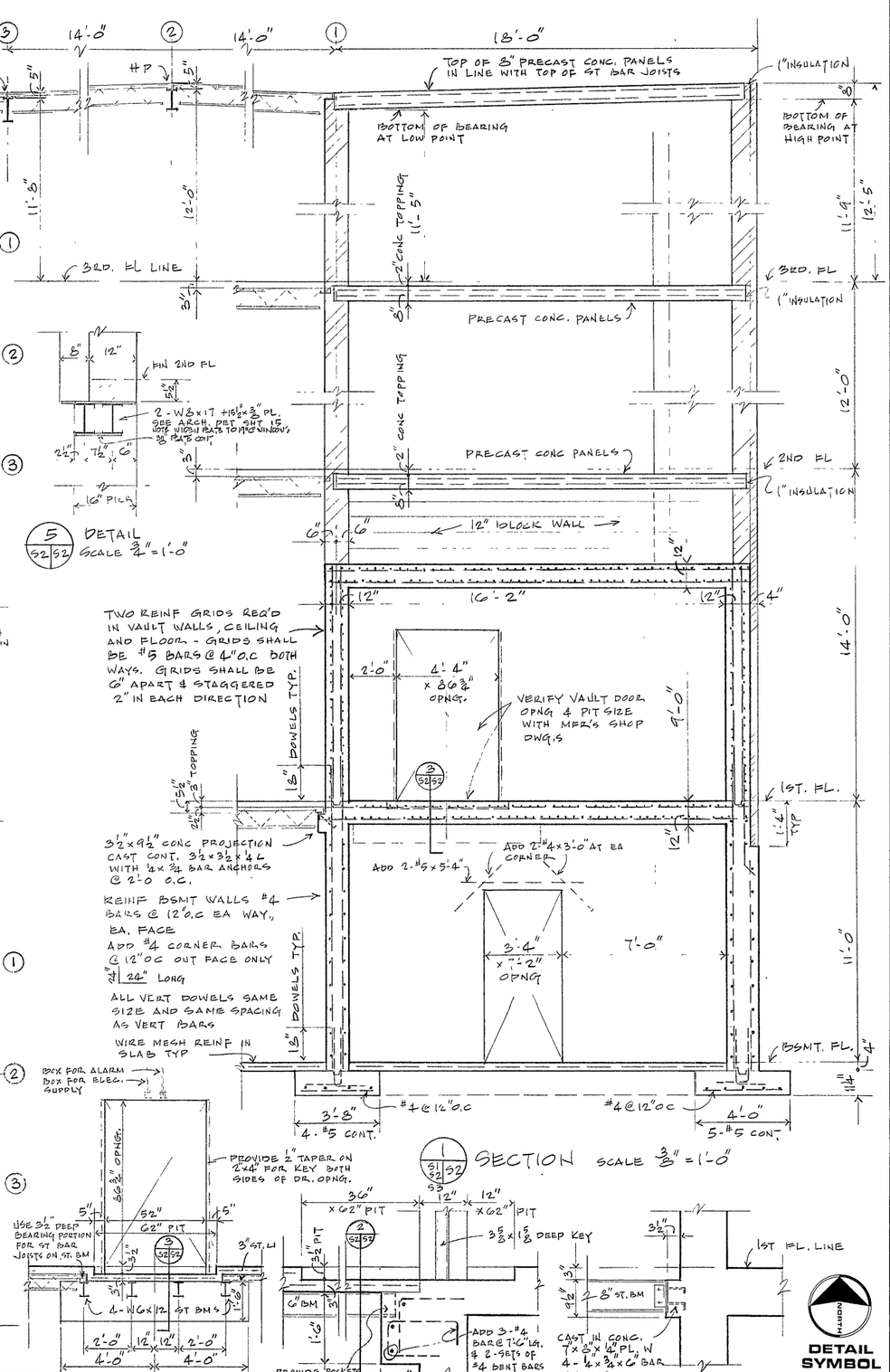


FIGURE B
HRC 20130632

FIRST FEDERAL SAVINGS and LOAN ASSOC. of HOWELL, MICHIGAN
LIVINGSTON COUNTY

DANIELS AND ZERMACK
ARCHITECTURE
ENGINEERING
ANN ARBOR
MICHIGAN

REVISION

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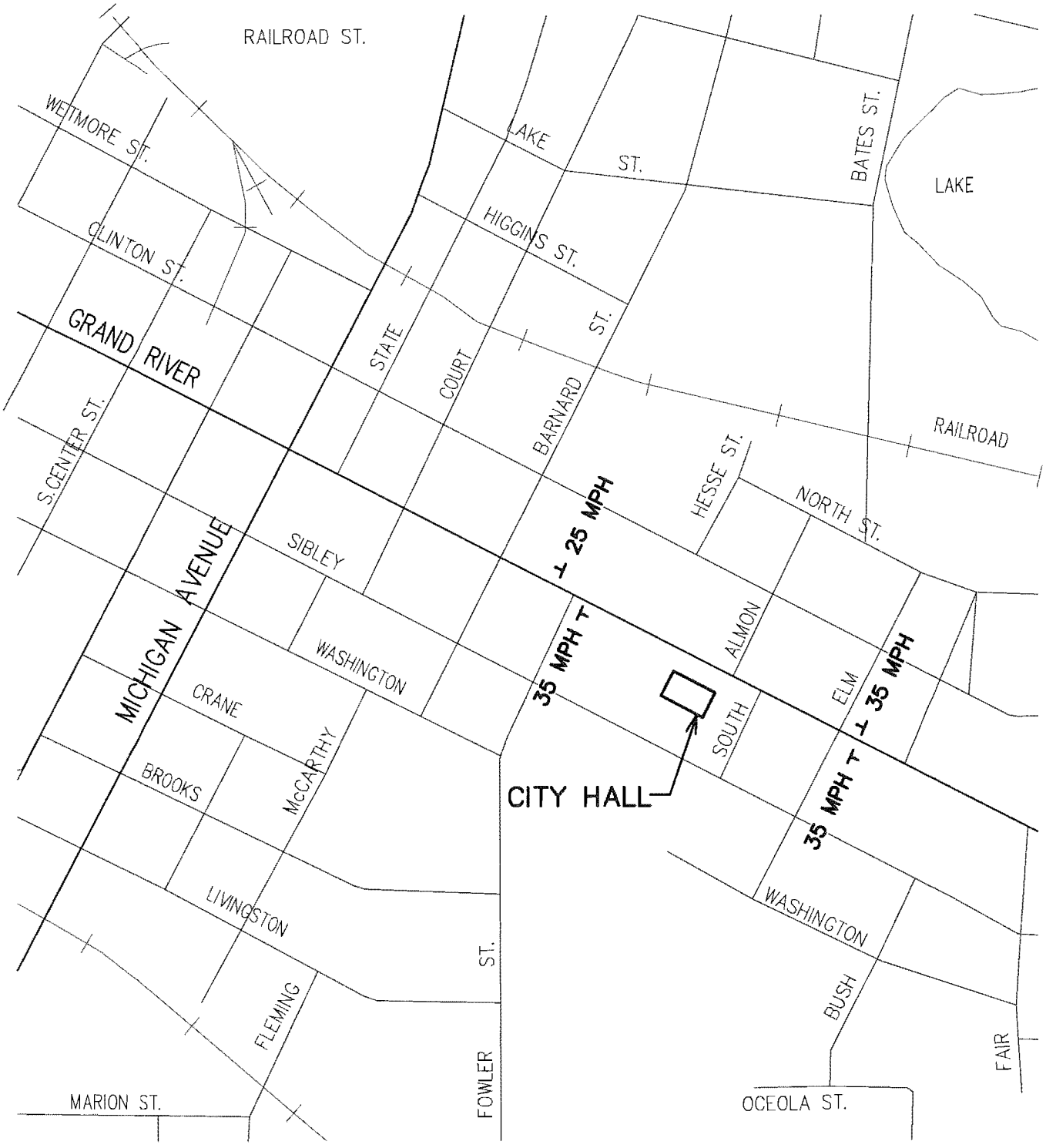
2S

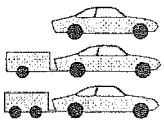
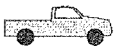
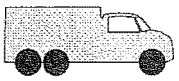
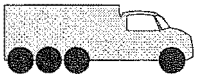
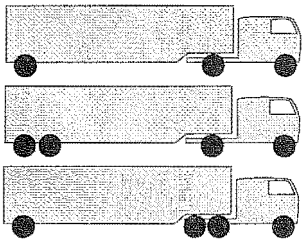
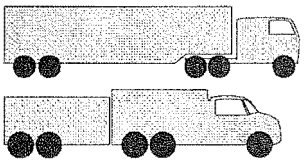
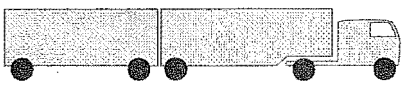
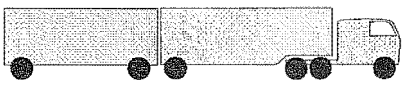


CITY OF HOWELL
LIVINGSTON COUNTY, MICHIGAN

JOB NO. 20130632	HUBBELL, ROTH & CLARK, INC.	FIGURE
DATE 1-27-15	CONSULTING ENGINEERS 555 HULET DRIVE, BLOOMFIELD HILLS, MICH. P.O. BOX 824 48303-0824	C

Figure 1

FHWA VEHICLE CLASSIFICATION

CLASS GROUP		DESCRIPTION	NO. OF AXLES
1		MOTORCYCLES	2
2		ALL CARS CARS CARS W/ 1-AXLE TRAILER CARS W/ 2-AXLE TRAILER	2 3 4
3		PICK-UPS & VANS 1 & 2 AXLE TRAILERS	2, 3, & 4
4		BUSES	2 & 3
5		2-AXLE, SINGLE UNIT	2
6		3-AXLE, SINGLE UNIT	3
7		4-AXLE, SINGLE UNIT	4
8		2-AXLE, TRACTOR, 1-AXLE TRAILER (2&1) 2-AXLE, TRACTOR, 2-AXLE TRAILER (2&2) 3-AXLE, TRACTOR, 1-AXLE TRAILER (3&1)	3 4 4
9		3-AXLE, TRACTOR, 2-AXLE TRAILER (3&2) 3-AXLE, TRUCK W/ 2-AXLE TRAILER	5 5
10		TRACTOR W/ SINGLE TRAILER	6 & 7
11		5-AXLE MULTI-TRAILER	5
12		6-AXLE MULTI-TRAILER	6
13	ANY 7 OR MORE AXLE		7 or more
14	NOT USED		
15	UNKNOWN VEHICLE TYPE		

HEAVY TRUCKS

Standard Practice for

Evaluation of Transportation-Related Earthborne Vibrations

AASHTO Designation: R 8-96 (2009)[1]

AASHTO
THE VOICE OF TRANSPORTATION

American Association of State Highway and Transportation Officials
444 North Capitol Street N.W., Suite 249
Washington, D.C. 20001

Standard Practice for

Evaluation of Transportation-Related Earthborne Vibrations

AASHTO Designation: R 8-96 (2009)[1]

AASHTO
THE VOICE OF TRANSPORTATION

1. SCOPE

1.1. This standard practice is to provide guidance for the assessment of potential or alleged structural damage due to earthborne vibrations related to transportation facility construction, maintenance, or operation.

2. INTRODUCTION

2.1. The construction, maintenance, and operation of transportation facilities generate vibrations, which are transmitted through the air and earth and are subsequently received or "sensed" by structures or inhabitants. Only earthborne vibrations are addressed in this standard practice (see Section X2.8, Appendix X2).

2.2. Currently accepted practice in monitoring earthborne vibrations considers two parameters—earth particle velocity and wave frequency—determined at the site of concern (Siskind et al., 1980; see Figure 1). Sensing instruments are usually set out on the ground adjacent to the subject structure. For determination of safe vibration control limits, special concerns may dictate placement of sensors directly on specific parts of a structure such as the foundation, a supporting column, or a wall.

2.3. Much of the data concerning structural damage have been determined from blasting activities. Blasting is a commonly used construction-related procedure that produces vibrations characterized by a wide frequency range and potentially high intensities but of very short duration.

Transportation-related activities, such as vehicular or rail traffic, may be the source of repetitive, cyclical vibrations of much lower intensity than those caused by blasting. There may be concern in this regard because of potential for fatigue of structural components. Documentation of specific damage due to such transportation-related vibrations is scarce (Whiffin and Leonard, 1971; Ames et al., 1976).

2.4. People "sense" or respond to a much broader range of vibration frequencies and intensities than do structures. Intrusive vibration levels can annoy humans at much lower intensities than levels considered critical for structures (see Figure 2). Such sensitivity causes concern for structural damage potential even at the extremely low levels of vibration that are a recognized nuisance to people. Various threshold limits have been recommended in standards aimed at minimizing damage to various structures. Recommended safe vibration limits are based upon the appearance of "threshold cracks" or cosmetic cracking. Such cracks appear at lower vibration levels than do architectural or minor damage. The applicability of specific limitations is often the subject of litigation requiring expert witness opinion.

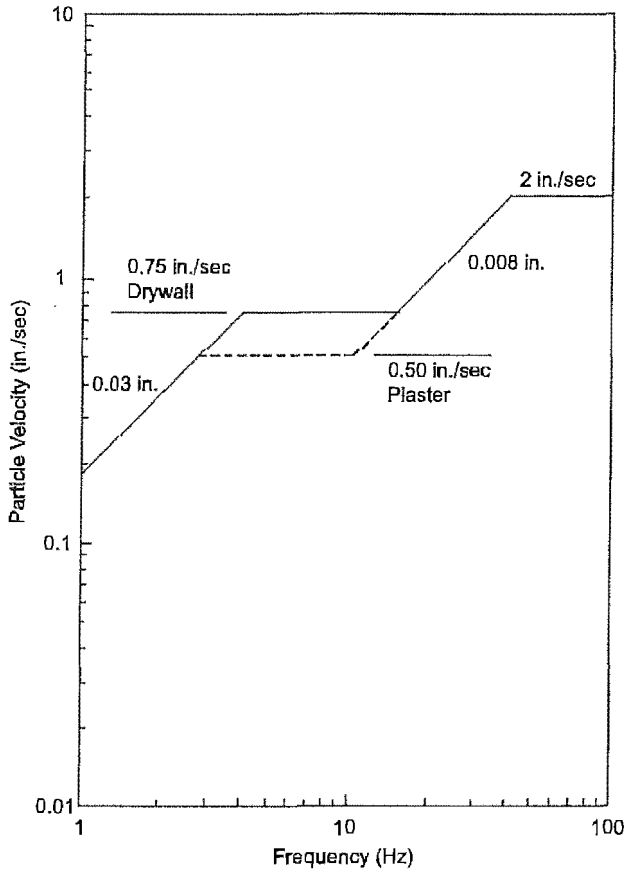


Figure 1—Safe Vibration Limit Recommendations for Residential Structures (USBM RI 8507)

2.5. Concerns of anticipated or perceived damage can be related to structures or their contents. Practically all buildings contain fine cracks or imperfections that are not noticed until concern is stimulated by perception of abnormal vibrations. Evaluation of the potential effects of transportation-related earthborne vibrations requires documentation of the background or pre-existing condition of the structure or component of concern. Such an evaluation should also include a determination of the intrusive vibration characteristics (amplitudes and frequencies) at the point of interest. Dowding (1992) reviews the various methods for determining ground vibration frequencies. Analysis of the results may necessitate modification at the vibration source or mitigation of effects at the location of concern.

3. PROCEDURE

3.1. A survey of the site should be made by personnel capable of locating, evaluating, and documenting significant or apparent evidence of distress. Such surveys preferably should be made before the onset of any objectionable vibration-producing activity. The scope of the inspection should be appropriate for both the subject of concern and the intensity of the vibrations. Photographic or video documentation of the inspection is recommended. Any procedures requiring intrusion on property should be specifically permitted by the property owner, preferably in writing. Specialists in vibration monitoring are often contracted for survey services.

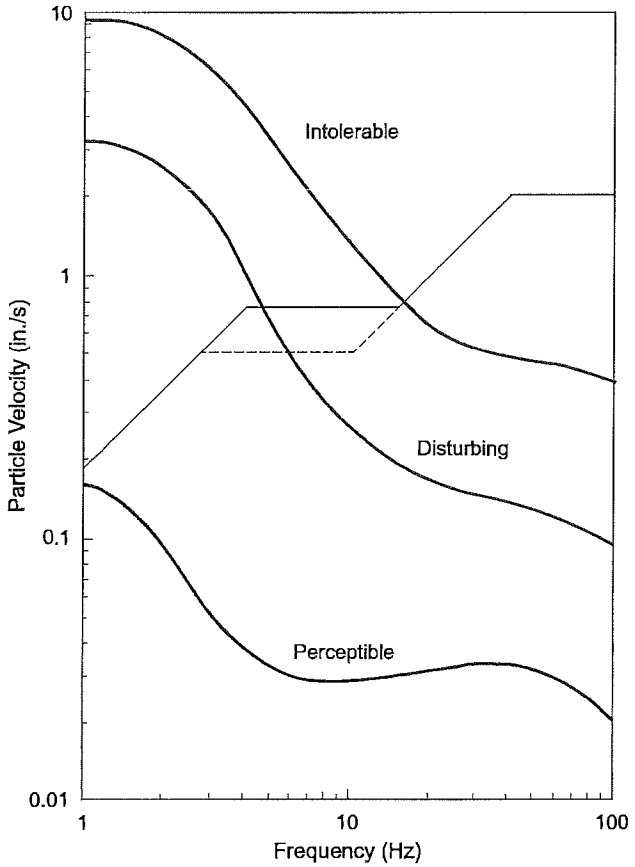


Figure 2—Safe Vibration Limit (USBM RI 8507) and Human Perception (Rathbone)

3.2. All vibrations arriving at the monitoring location within the selected sensitivity range of the seismograph are recorded. For comparison purposes, it is often useful to obtain recordings of the normal or background vibrations at the site when the specific objectionable source is not present. The sensitivity range of the instrument should be selected so that recording is initiated below the intensity of the objectionable vibrations and extends above the highest expected intensity. It may be necessary to estimate or predetermine the expected intensity level to be sensed in order to select the appropriate instrument range setting to be used during monitoring. It is necessary to determine the time when the vibration source is active. Specific activities of the vibration source, such as driving of piles, as opposed to extraction, vibratory compaction, or pavement-breaking activities, should be indexed in time for proper correlation with the arrivals on the vibration records. Because the determination of frequency is important, instruments that provide a time-history or waveform of each velocity component for a vibration event are preferred.

3.3. A field calibration procedure should be conducted before the start of monitoring and recording. The incoming ground vibrations should be measured on the ground at foundation level, as close to the structure as possible, to be consistent with studies providing safe vibration limits (Siskind and Stagg, 1985). The transducer is positioned with the longitudinal axis (indicated by an arrow) toward the vibration source or parallel to the structure. Transducers must be adequately coupled with the ground or the structural component being monitored (see Section X1.5, Appendix X1). Instrument manufacturers provide appropriate instructions and recommendations for special installations. Some published threshold criteria are based on specific monitoring procedures. Consistent procedures in the placement and location of transducers during monitoring are recommended for comparison of results.

3.4. Records of the incoming vibrations are typically displayed in a waveform plot or strip chart plot. The peak particle velocities in longitudinal, transverse, and vertical planes are shown along with the respective dominant or principal frequencies. The highest recorded particle velocity among the three planes is indexed to its time of occurrence within the recorded interval. This velocity is reported as the peak particle velocity for a particular event.

3.5. The recorded peak particle velocity is compared with criteria appropriate for the subject of concern. Many currently used digital instruments produce a record that displays the particle velocities and associated zero-crossing frequencies, or arrivals plotted against a base of the U.S. Bureau of Mines (USBM) RI 8507 curve, which is a commonly accepted criterion for threshold cracking concerns in the United States (see Figure X2.1). Other criteria may be applicable in special circumstances (see Appendix X2).

3.6. In the event of a complaint, a site visit should be made as soon as possible to assess the situation and to compile necessary documentation. A report document should include all relevant data, such as the basis for the investigation, time and date of the survey, persons involved, and a description of the property. It should also include a description of the instrumentation; a description and log of the monitoring procedure; the monitoring results; and the conclusions reached based on comparison with applicable criteria, standards, or expert recommendation.

3.7. The following information should be obtained when complaints of intrusive vibrations are received:

3.7.1. Time and date of the complaint;

3.7.2. Name, address, and phone number of the complainant;

3.7.3. The alleged damage or complaint, or both;

3.7.4. The time and date on which the damage occurred;

3.7.5. The type and location of the alleged damaging or intrusive vibration source;

3.7.6. A photograph or sketch of the physical problem;

3.7.7. Any actions that are demanded; and

3.7.8. Reference to any previous complaints by the complainant or in the vicinity.

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APPENDIXES

(Nonmandatory Information)

X1. GENERAL INFORMATION

X1.1. *Threshold*:

X1.1.1. The point at which a physiological or psychological effect is initiated.

X1.2. *Threshold Cracking*:

X1.2.1. The manifestation of cosmetic damage; the formation of the most superficial interior cracking, which occurs in all homes because of various environmental factors and household activities. Safe vibration limits are set to avoid these types of cracks.

X1.3. *Architectural or Minor Damage*:

X1.3.1. Nonstructural damage that does not affect the strength or function of a structure, such as cracked plaster or wallboard, cracked or broken windows, or hairline cracks in masonry walls.

X1.4. *Major Damage*:

X1.4.1. Damage resulting in serious weakening of a structure; for example, substantial settlements or shifting of foundations, distortion or weakening of the superstructure, large cracks in foundation or bearing walls, or walls out of plumb.

X1.5. *Transducers*:

X1.5.1. Velocity-sensing transducers (geophones) with response capability in three mutually perpendicular axes or components: one vertical and two horizontal (radial and transverse). The frequency response of the transducer should be linear from at least 4 Hz to more than 200 Hz. Sensitivity should range from less than 0.02 in./s to more than 5.0 in./s.

X1.5.2. Accelerometers are sometimes used as transducers in specialized applications. Such applications include low-frequency studies, structure response analyses, and high-frequency or close-in work (Oriard, 1980; Stagg and Engler, 1980). Accelerometers measure acceleration, the rate at which particle velocity changes, in terms of g, the acceleration of gravity. The recorded signal can be electronically integrated to produce a record of particle velocity.

X1.5.3. It is extremely important that transducers are adequately coupled to monitoring surfaces (Stagg and Engler, 1980; Siskind and Stagg, 1985). Sandbags are not always sufficient (Duvall, 1961; Robertson, 1993). In general, surface placement techniques are adequate only for low-frequency,

low-amplitude levels (less than 1.0 in./s at less than 20 Hz) and acceleration levels of less than 0.2 g (Stagg and Engler, 1980). A study by Blair (1987) suggests a lower acceleration value of 0.1 g. The preferred emplacement method of the USBM is to bury transducers in soils and to firmly anchor (such as by gluing or bolting) transducers to hard surfaces.

X1.6. *Limiting Velocity*:

X1.6.1. Maximum vibration levels not to be exceeded to prevent threshold cracking or damage.

X1.7. *Peak Particle Velocity (PPV)*:

X1.7.1. The maximum recorded particle velocity from any one of the three axes of movement (vertical [V_v], horizontal [V_h], and transverse [V_t]) for a recorded vibration event.

X1.8. *Resultant or Vector Sum*:

X1.8.1. See Peak True Vector Sum.

X1.9. *True Vector Sum (V)*:

X1.9.1. The resultant of vectorially adding the three components of velocity at the same instant of time.

$$\bar{V} = \sqrt{V_v^2 + V_h^2 + V_t^2} \qquad (X1.1)$$

X1.9.2. *Peak True Vector Sum*:

X1.9.2.1. The highest true vector sum value of the three components of velocity during the record interval.

X1.10. *Peak Pseudo Vector Sum*:

X1.10.1. The resultant of vectorially adding the maximum velocity from each of the three traces regardless of the time at which they occurred on the record. This practice, although sometimes used, is not appropriate.

X1.11. *Dominant or Principal Frequency*:

X1.11.1. The frequency associated with the peak particle velocity. It may be found by zero crossing, Fourier frequency, or response spectrum techniques as described by Dowding (1992).

X1.12. *Natural or Resonant Frequency*:

X1.12.1. A structure will continue to oscillate when the source of excitation is discontinued. This motion by the structure is called free vibration. The number of times per second a structure vibrates during free vibration is the natural frequency of the structure. The amplitude of vibration will be the greatest when the frequency of the incoming ground vibration is the same as the natural frequency of the structure. Natural frequencies of residential structures were calculated by Dowding et al. (1981). For whole structures, they ranged from 3 to 11 Hz, and for individual walls, they ranged from 12 to 20 Hz.

X1.13. *Time-History*:

X1.13.1. The waveform plot, as in velocity versus time (velocity time-history) or acceleration versus time (acceleration time-history), of a vibration event.

X1.14. *Background Vibrations*:

X1.14.1. Vibrations normally present prior to the onset of any activity generating vibrations of special interest.

X1.15. *Site Inspection or Survey*:

X1.15.1. The systematic documentation of the existing condition of a structure or site. The extent or content of the inspection depends on the site. Dowding (1985) gives an example of such an investigation form.

X1.16. *Liquefaction*:

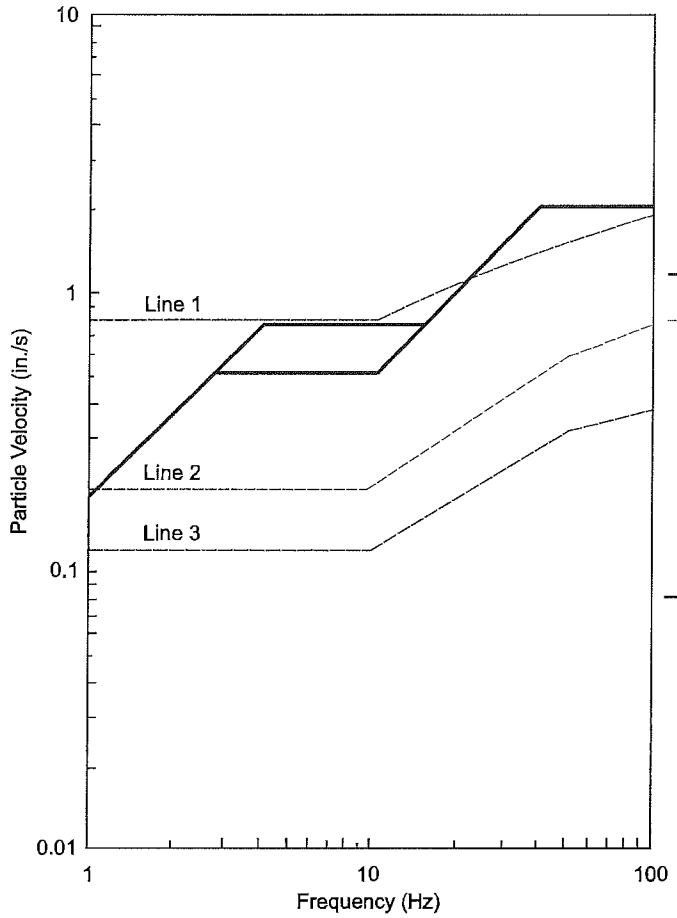
X1.16.1. A condition in which a cohesionless soil will lose its strength and undergo large deformations because of the buildup and maintenance of high pore pressures that are equal or close to the confining pressure in the soil (after Seed, 1979). The pore pressure buildup may be due to static stresses, but more commonly it is due to cyclic stress applications. For more information, the reader is referred to, among others: Seed, 1979; Seed et al., 1983; Tokimatsu and Seed, 1987; Kramer and Seed, 1988; Rollins and Seed, 1990; and Fiegel and Kutter, 1994.

X2. CRITERIA FOR LIMITING VIBRATIONS

X2.1. *Threshold for Earthborne Vibrations*:

X2.1.1. At the present, there is no universally accepted standard for limiting earthborne vibrations. Various approaches are being implemented to address specific concerns. In the United States, the USBM RI 8507 threshold recommendations are most commonly referenced. The German guidelines DIN 4150 (see Figure X2.1) and the British Standard BS 7385 (see Figure X2.2) are examples of criteria used in other countries as a basis for evaluation of potential damage. Note that the basis for the guideline levels of DIN 4150 are unknown; however, they are considered safe and very conservative (Dowding 1992; Siskind 1994). Special interest groups, such as historical preservation societies as one example, issue threshold guidelines for concerns within their jurisdiction. The basis for the guidelines should be established in any particular application.

Exhibit One



(Adapted from DIN 4150)

Line	Type of Structure
1	Buildings used for commercial purposes, industrial buildings, and buildings of similar design
2	Dwelling and buildings of similar design and/or use
3	Structures that, because of their particular sensitivity to vibration, do not correspond to those listed in lines 1 and 2, and are of great intrinsic value (e.g., buildings that are under a preservation order)

Figure X2.1—Vibration Guidelines—USBM RI 8507 (Solid Line) Compared to DIN 4150 (Dashed Line)

X2.2. *Peak Particle Velocity and Frequency*:

X2.2.1. The current USBM threshold recommendations and the other aforementioned criteria recognize the relationship of peak particle velocity and frequency. The USBM recommendations are the result of tests on essentially residential structures. Recommendations include a caution that threshold damage may occur at displacements greater than 0.030 in. at frequencies below 4 Hz and 0.008 in. at frequencies between 12 and 40 Hz (see Figure 1).

X2.3. *Peak True Vector Sum Particle Velocity*:

X2.3.1. The threshold recommendations of the USBM for assessing damage potential are based on the maximum particle velocity without preference to any of the three components. Some instruments provide a value known as the true vector sum or resultant. This value is sometimes used to express the maximum intensity of a vibration event. The peak true vector sum is a conservative estimate of the peak particle velocity, as it is always greater than the maximum particle velocity from any one of the three components.

X2.3.2. There is no frequency associated with the true vector sum. Therefore, the true vector sum or the resultant cannot be used in conjunction with the USBM RI 8507 curve. The use of the true vector sum is limited to a few regulations requiring compliance with a specified peak particle velocity limit without regard to frequency. Most of these regulations are historically linked to two USBM

publications: RI 5968, published in 1962, and Bulletin 656, published in 1971 (Siskind, 1991). Both publications advocated the use of particle velocity as the best descriptor of ground vibration damage. RI 5968 was the first to recommend a maximum single component amplitude of 2.0 in./s, without regard to frequency, as a safe particle velocity criterion.

X2.4. *Peak Particle Velocity for Underground Structures*:

X2.4.1. Threshold cracking recommendations are developed for specific categories of structures. USBM 8507 is based on residential structures. The application of such criteria to markedly different types of structures, such as foundation walls, buried pipelines, and other underground structures is common and inaccurate. Whereas aboveground structures have freedom to respond to ground motion, buried structures are restrained in their response.

X2.4.2. Recent studies have demonstrated that the vibration amplitude at ground level is much greater than that actually measured on a buried pipeline (Linehan et al., 1992; Siskind and Stagg, 1993). It can be shown that a ground-strain criterion is analytically more appropriate for buried structures than a criterion based on velocity. Hence, the use of strain and resulting stresses to develop criteria for buried structures is advocated (Dowding and Corser, 1981; Esparza, Westine, and Wenzel, 1981). A buried steel pipeline can sustain allowable strains at vibration levels of 5.0 in./s to 45.0 in./s. (Westine et al., 1978; Linehan et al., 1992; Siskind and Stagg, 1993). At least one major utility has established a criterion of a peak particle velocity of 4.0 in./s over its buried optical fiber cables.

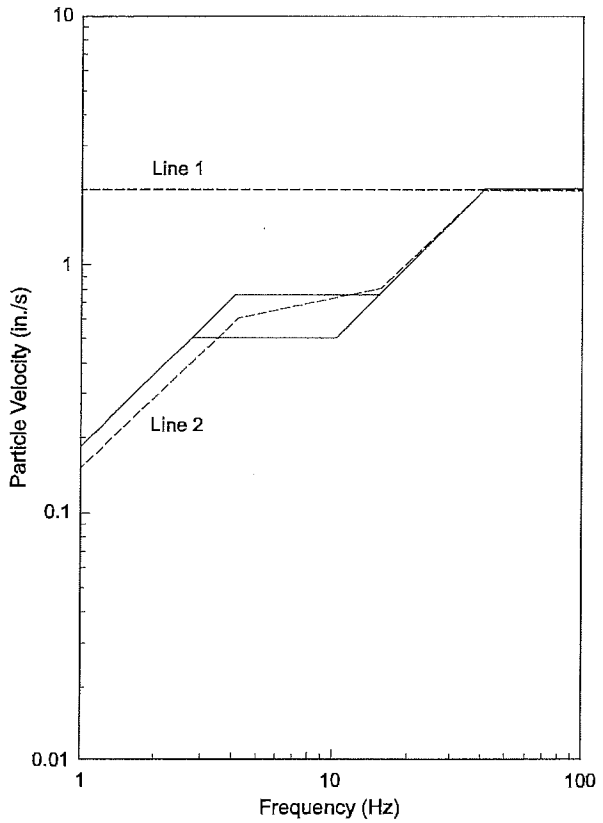
X2.4.3. A tunnel with a shotcrete liner can experience a particle velocity of 36.0 in./s before the appearance of threshold cracking (Hendron, 1977). A restrained monolithic concrete block can experience a particle velocity of 10.0 in./s before cracking (Crawford and Ward, 1965; Oriard, 1987). Prediction equations for stresses and strains in buried pipelines are presented in Esparza (1981, 1991) and Dowding (1985).

X2.5. *Cumulative Effect of Repeated Ground Vibration*:

X2.5.1. There is considerable concern about the cumulative effect of repeated ground vibration or fatigue on a structure. Documentation in the literature is limited. For example, most large metropolitan areas have many residential structures in close proximity to subway systems. Over the years, such structures have been exposed to numerous cycles of low-level vibrations without any apparent attributable damage. Comprehensive studies were conducted by the USBM (Stagg et al., 1984). Tests in a residential structure subjected to repeated, mechanically induced vibration levels equal to 0.5 in./s on the ground outside produced threshold cracking after 56,000 cycles.

X2.6. *Continuous Ground Vibrations*:

X2.6.1. The vibration levels that can be tolerated from a transient or short duration event, such as a blast, are higher than the levels from a steady-state or continuous vibration source, such as a vibratory compactor (Wiss, 1981). Guidance on human response to vibrations of various durations is provided by ANSI S3.29-1983 and the British Standard BS 6472:1992. Because of their longer duration, incoming continuous ground vibrations with dominant frequencies close to the natural frequency of a structure are more likely to be amplified because of structural resonance (Crum and Siskind, 1993). With regard to threshold cracking, Wiss (1967) stated, common practice for continuous vibrations is to reduce the allowable transient level of 2.0 in./s by as much as 80 percent.



(Adapted from BS 7385)

Line	Type of Building
1	Reinforced or framed structures; industrial and heavy commercial buildings
2	Unreinforced or light framed structures; residential or light commercial type buildings

Figure X2.2—Vibration Guidelines—USBM RI 8507 (Solid Line) Compared to BS 7385 (Dashed Line)

X2.7. *Soil Liquefaction*:

X2.7.1. Building damage due to the potential liquefaction of certain soils or the permanent displacement of the ground as a result of vibrations is another area of concern. Saturated, loose, and uniformly or poorly graded sands and silts are sensitive to cyclic vibrations such as might be produced by vibratory pile driving (Clough and Chameau, 1980; Wiss, 1981), vibratory compaction (Tynan, 1973), or vibrating tampers conducting a seismic reflection survey (Hryciw et al., 1990). In some cases, these materials may liquify as a result of a single impact (Tschebotarioff, 1973; Tynan, 1973) or densify as due to an explosion (Dowding, 1994). These activities can produce noticeable settlement even at low vibration levels (0.1 to 0.7 in./s) that are known not to produce threshold cracking (Dowding, 1994; Kim et al., 1994; Leathers, 1994; Leznicki et al., 1994). In such cases, the limiting criteria may be dictated by the soil conditions.

X2.8. *Airborne Vibrations*:

X2.8.1. Only earthborne vibrations are addressed in this standard practice. However, airborne vibrations can also produce noticeable structural responses. For information on airborne vibrations, the reader is referred to, among others, Siskind et al., 1980(1); Stachura et al., 1981 and 1984.

[1] An earlier version of this standard, R 8-81 (1990), was deleted by the Subcommittee on Materials in 1993 and did not appear in the 17th Edition. R 8-96 (2009) is a major revision of this standard practice.

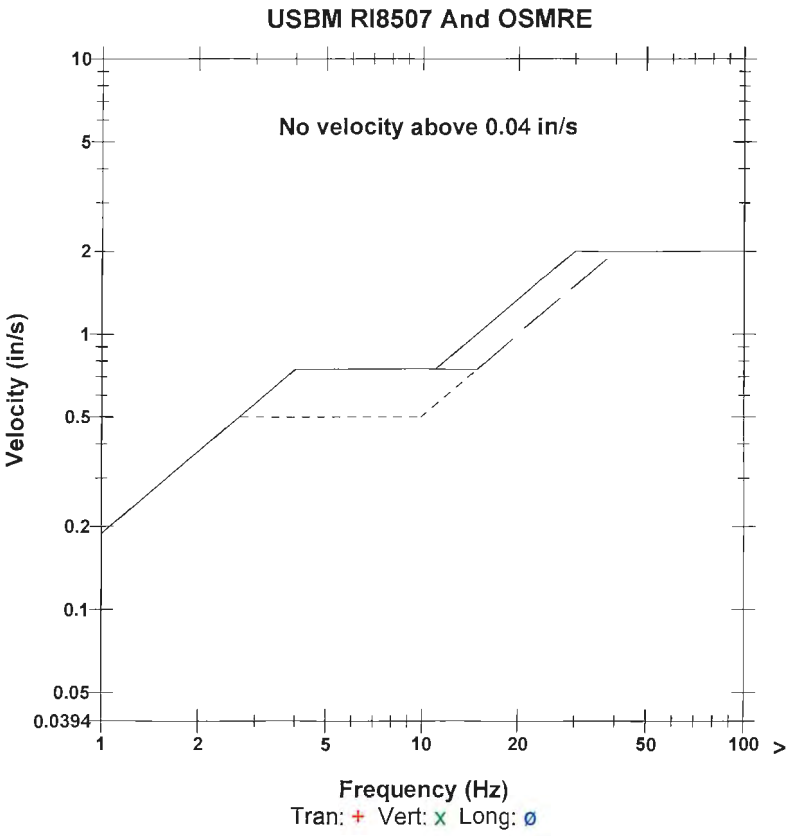
City of Howell Offices | Basement Vibration Sensor | HRC Job No. 20130632

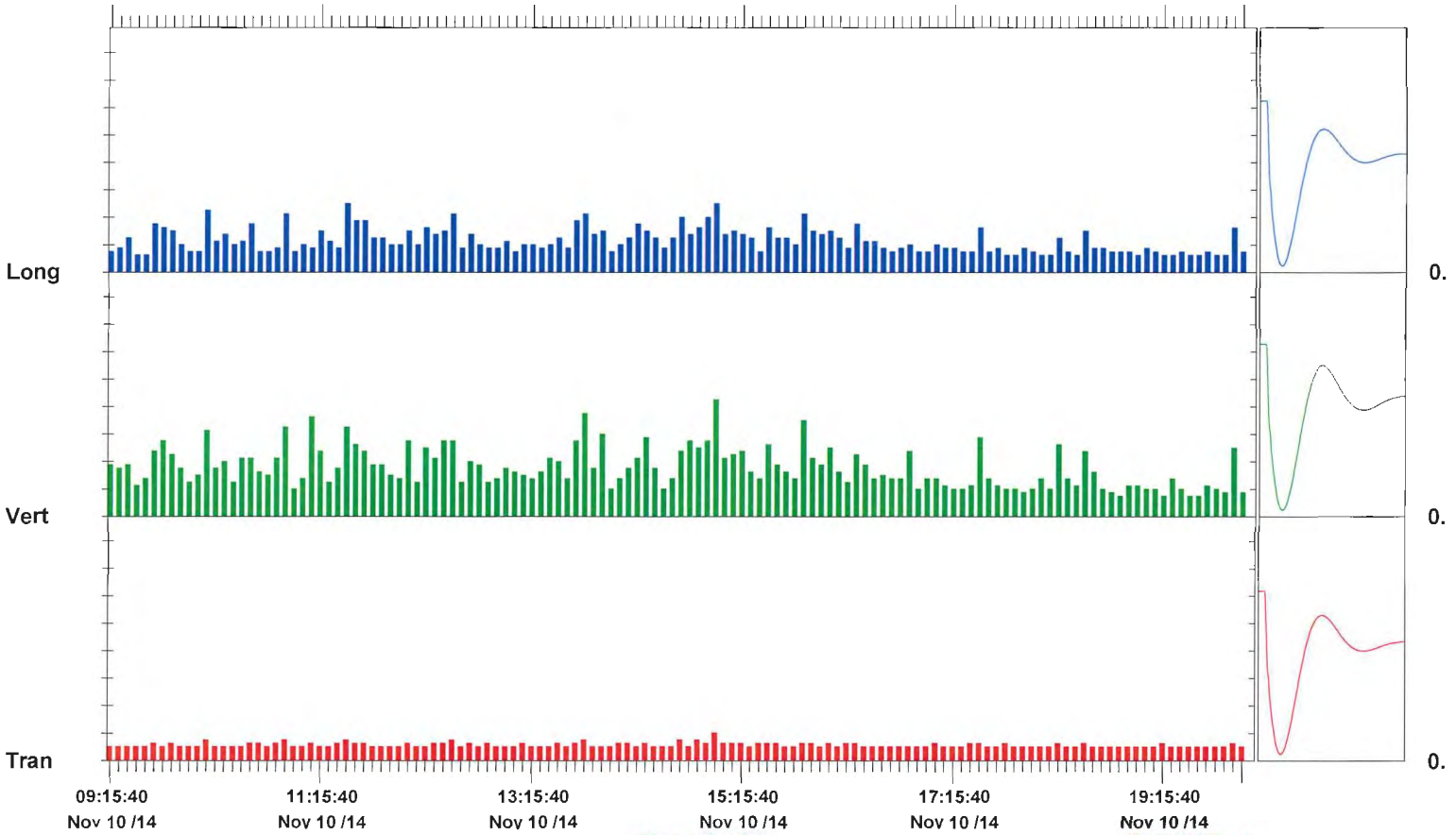
Histogram Start Time	09:10:40 November 10, 2014	**Serial Number**	BA14561 V 10.72-8.17 BlastMate III
Histogram Finish Time	20:00:00 November 10, 2014	**Battery Level**	6.8 Volts
Number of Intervals	649.00 at 1 minute	**Unit Calibration**	April 24, 2014 by Instantel
Range	Geo:1.250 in/s	**File Name**	P561FKZ5.HS0
Sample Rate	1024sps		
Job Number:	1		

Notes
G2 Project No. 140370
Project Name: Howell City Hall Vibration
Location: Howell-MI
Client:

	Tran	Vert	Long	
PPV	0.005	0.021	0.012	in/s
ZC Freq	13	12	10	Hz
Date	Nov 10 /14	Nov 10 /14	Nov 10 /14	
Time	14:57:40	14:57:40	11:26:40	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.5	7.4	Hz
Overswing Ratio	3.9	3.2	4.1	

Peak Vector Sum 0.021 in/s on November 10, 2014 at 14:57:40





Time Scale: 5 minutes /div **Amplitude Scale:** Geo: 0.005 in/s/div Sensor Check

City of Howell Offices | Basement Vibration Sensor | HRC Job No. 20130632

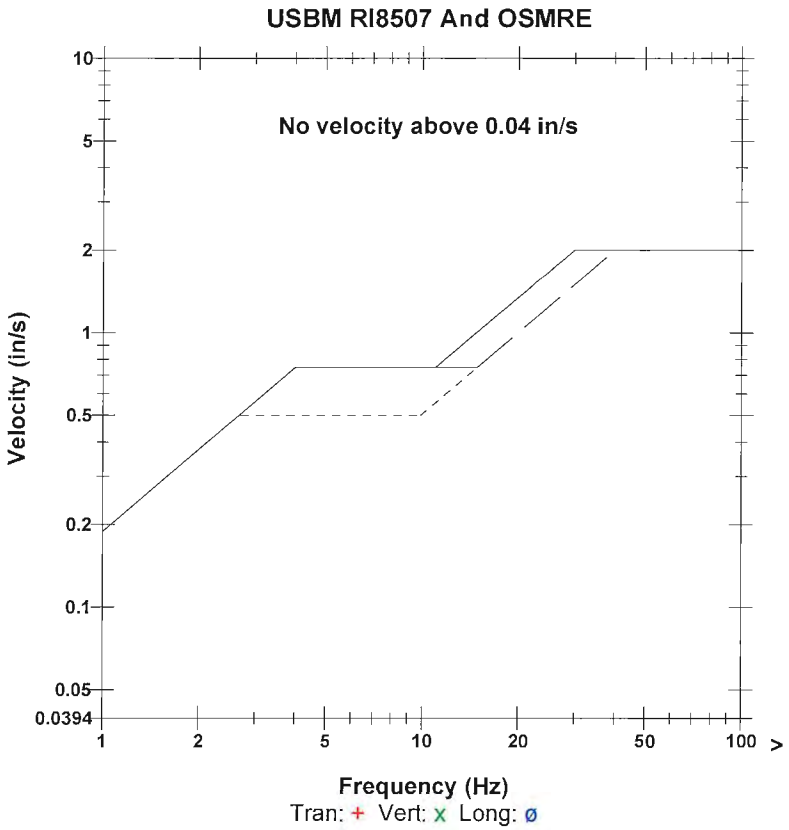
Histogram Start Time	06:00:13 November 11, 2014	**Serial Number**	BA14561 V 10.72-8.17 BlastMate III
Histogram Finish Time	20:00:00 November 11, 2014	**Battery Level**	6.8 Volts
Number of Intervals	839.00 at 1 minute	**Unit Calibration**	April 24, 2014 by Instantel
Range	Geo:1.250 in/s	**File Name**	P561FL0R.CD0
Sample Rate	1024sps		
Job Number:	1		

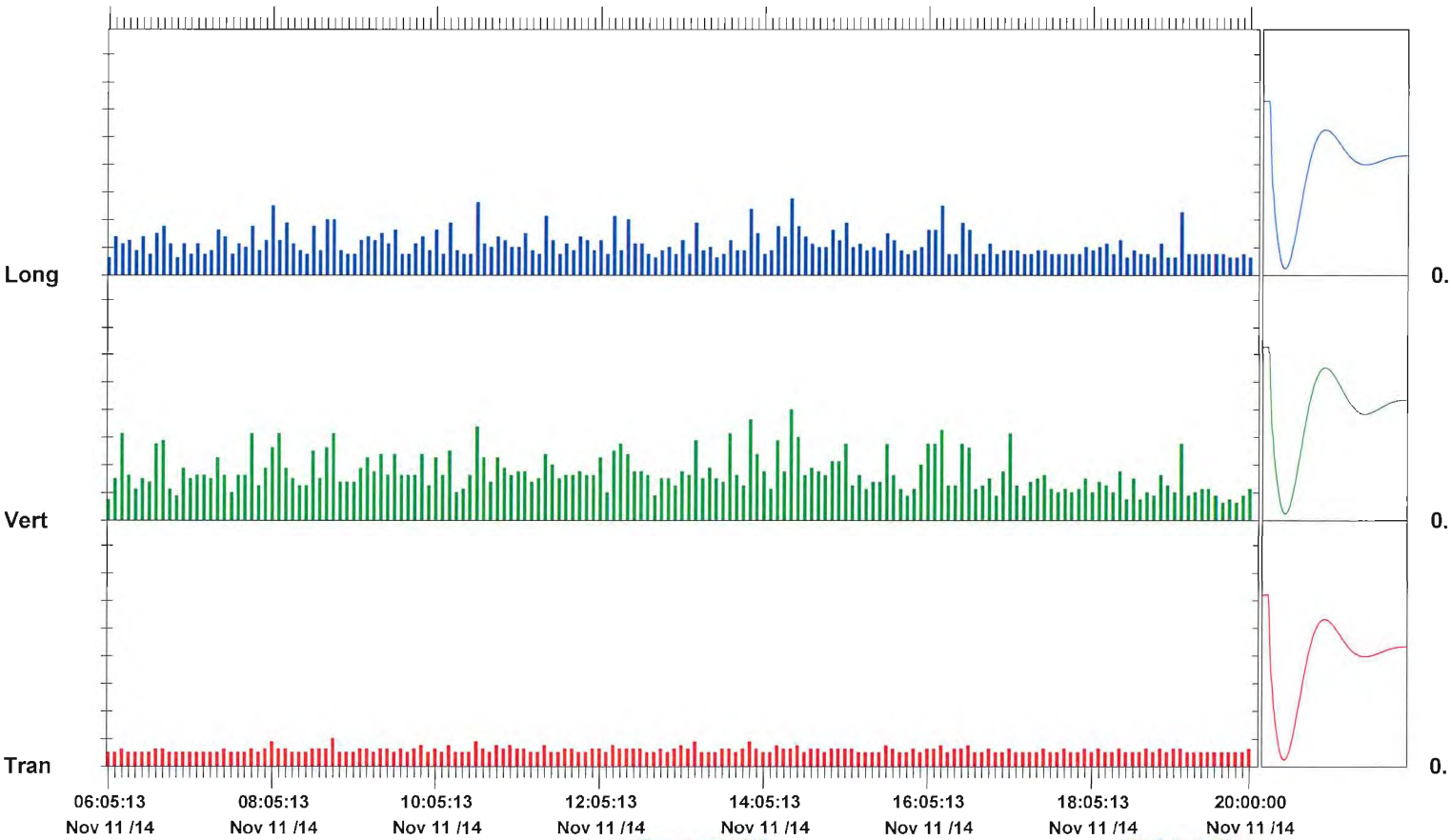
Notes

G2 Project No.	140370
Project Name:	Howell City Hall Vibration
Location:	Howell-MI
Client:	

	Tran	Vert	Long	
PPV	0.005	0.020	0.014	in/s
ZC Freq	14	11	12	Hz
Date	Nov 11 /14	Nov 11 /14	Nov 11 /14	
Time	08:50:13	14:25:13	14:25:13	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.4	Hz
Overswing Ratio	3.8	3.2	4.0	

Peak Vector Sum 0.020 in/s on November 11, 2014 at 14:25:13





Time Scale: 5 minutes /div **Amplitude Scale:** Geo: 0.005 in/s/div Sensor Check

City of Howell Offices | Basement Vibration Sensor | HRC Job No. 20130632

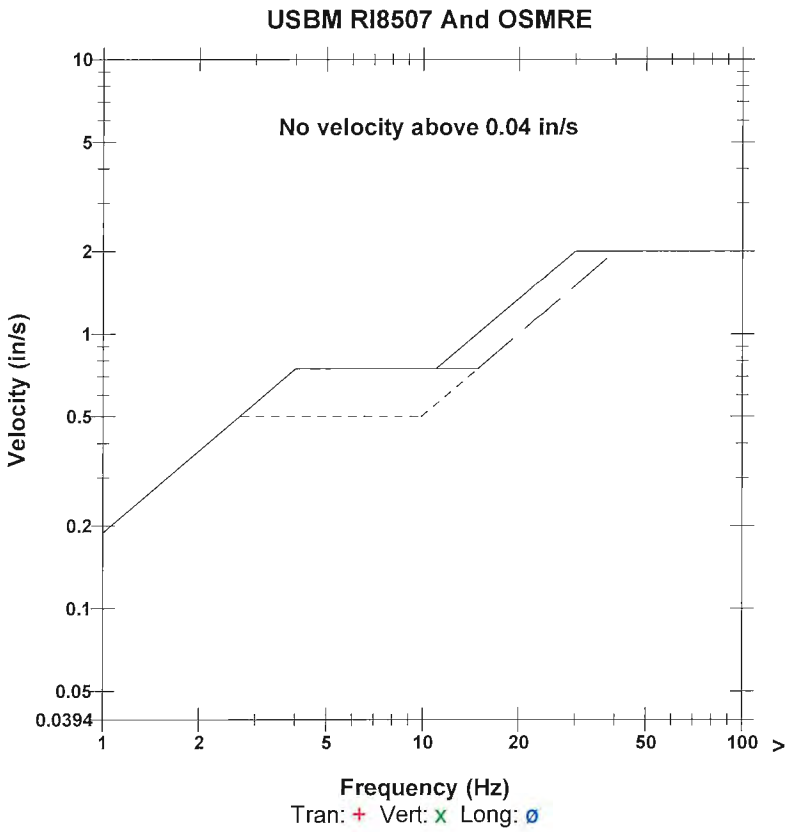
Histogram Start Time	06:00:13 November 12, 2014	**Serial Number**	BA14561 V 10.72-8.17 BlastMate III
Histogram Finish Time	20:00:00 November 12, 2014	**Battery Level**	6.8 Volts
Number of Intervals	839.00 at 1 minute	**Unit Calibration**	April 24, 2014 by Instantel
Range	Geo:1.250 in/s	**File Name**	P561FL2M.0D0
Sample Rate	1024sps		
Job Number:	1		

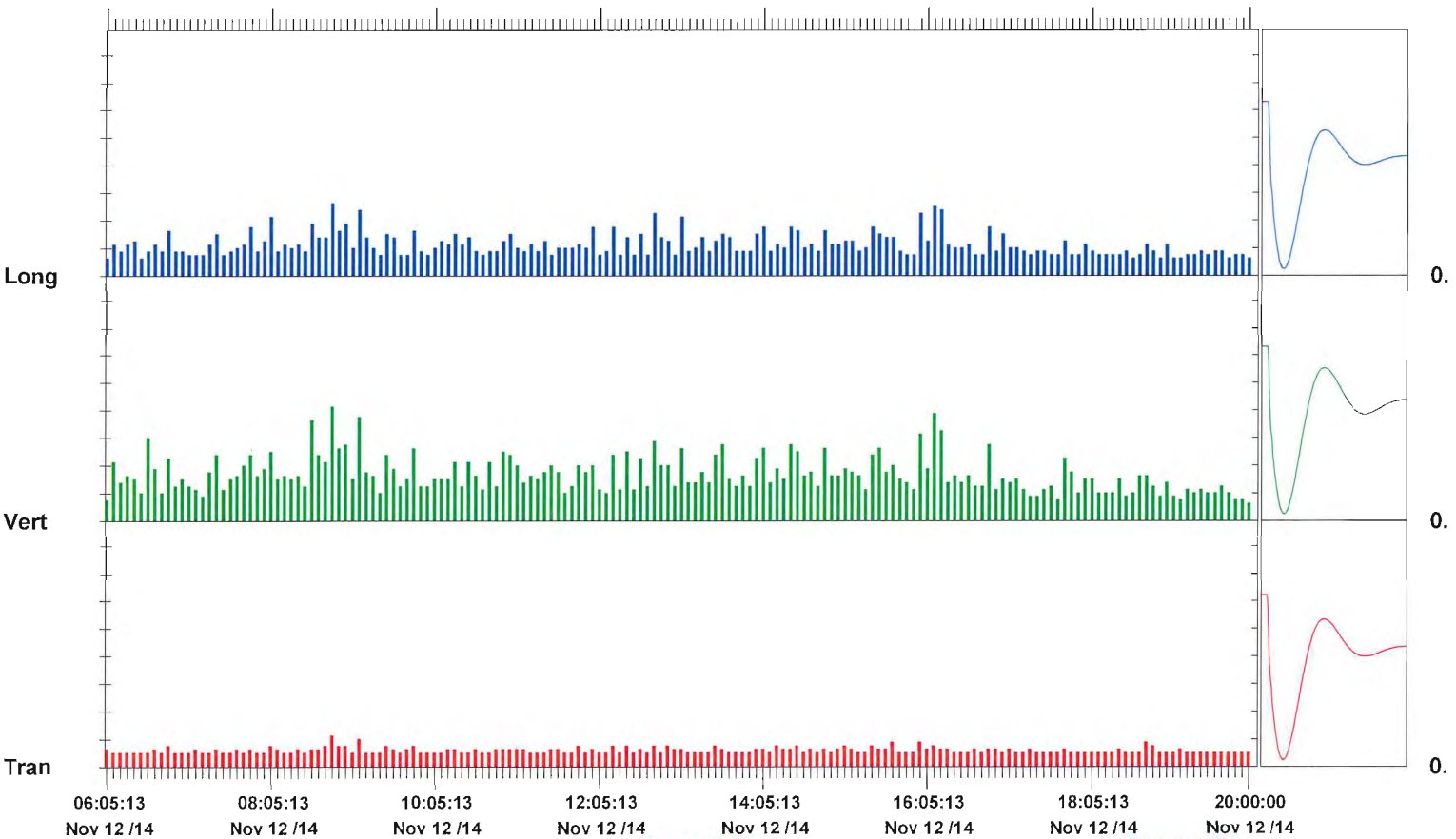
Notes

G2 Project No. 140370
Project Name: Howell City Hall Vibration
Location: Howell-MI
Client:

	Tran	Vert	Long	
PPV	0.006	0.021	0.013	in/s
ZC Freq	13	11	10	Hz
Date	Nov 12 /14	Nov 12 /14	Nov 12 /14	
Time	08:49:13	08:49:13	08:49:13	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.5	Hz
Overswing Ratio	3.8	3.2	4.0	

Peak Vector Sum 0.021 in/s on November 12, 2014 at 08:49:13





Time Scale: 5 minutes /div **Amplitude Scale:** Geo: 0.005 in/s/div Sensor Check

City of Howell Offices | Basement Vibration Sensor | HRC Job No. 20130632

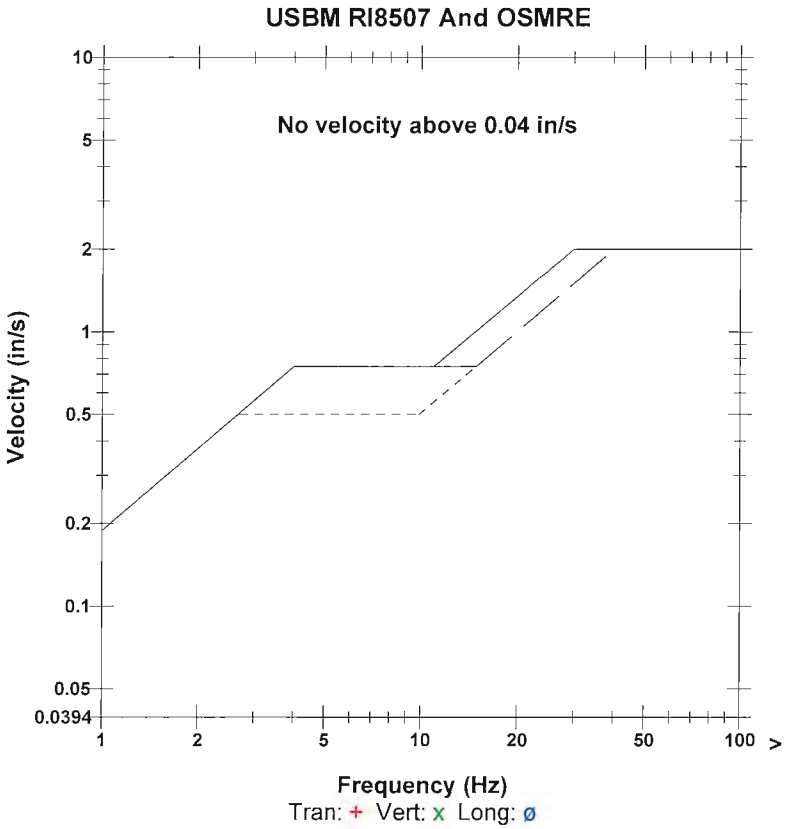
Histogram Start Time	06:00:13 November 13, 2014	**Serial Number**	BA14561 V 10.72-8.17 BlastMate III
Histogram Finish Time	09:51:17 November 13, 2014	**Battery Level**	6.8 Volts
Number of Intervals	231.00 at 1 minute	**Unit Calibration**	April 24, 2014 by Instantel
Range	Geo:1.250 in/s	**File Name**	P561FL4G.OD0
Sample Rate	1024sps		
Job Number:	1		

Notes

G2 Project No. 140370
Project Name: Howell City Hall Vibration
Location: Howell-MI
Client:

	Tran	Vert	Long	
PPV	0.012	0.019	0.012	in/s
ZC Freq	>100	12	10	Hz
Date	Nov 13 /14	Nov 13 /14	Nov 13 /14	
Time	09:50:13	08:52:13	08:15:13	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.6	7.5	Hz
Overswing Ratio	3.8	3.2	4.0	

Peak Vector Sum 0.019 in/s on November 13, 2014 at 08:52:13



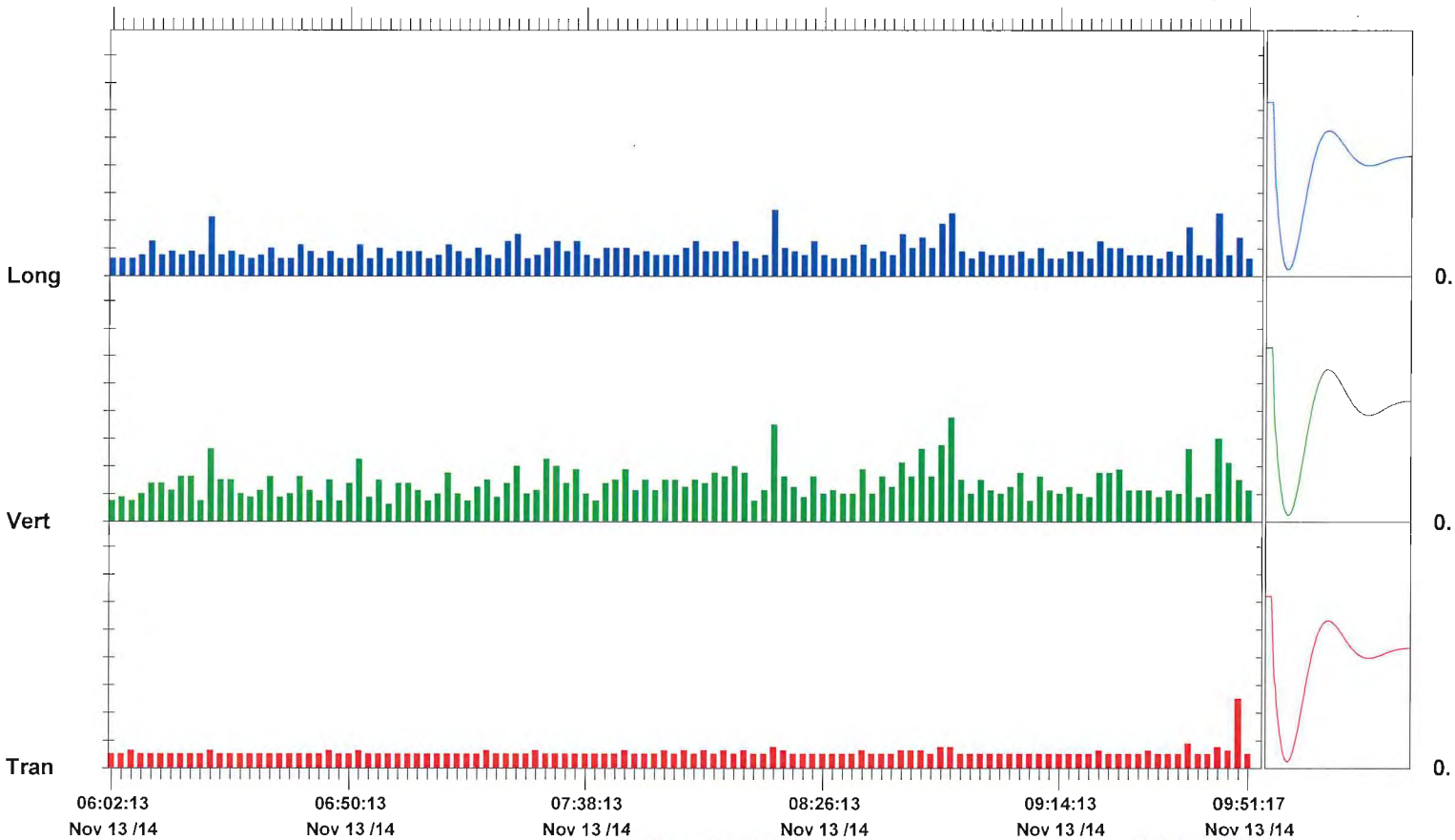


Exhibit Two

Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.005 in/s/div

Sensor Check

City of Howell Offices | Basement Vibration Sensor | HRC Job No. 20130632

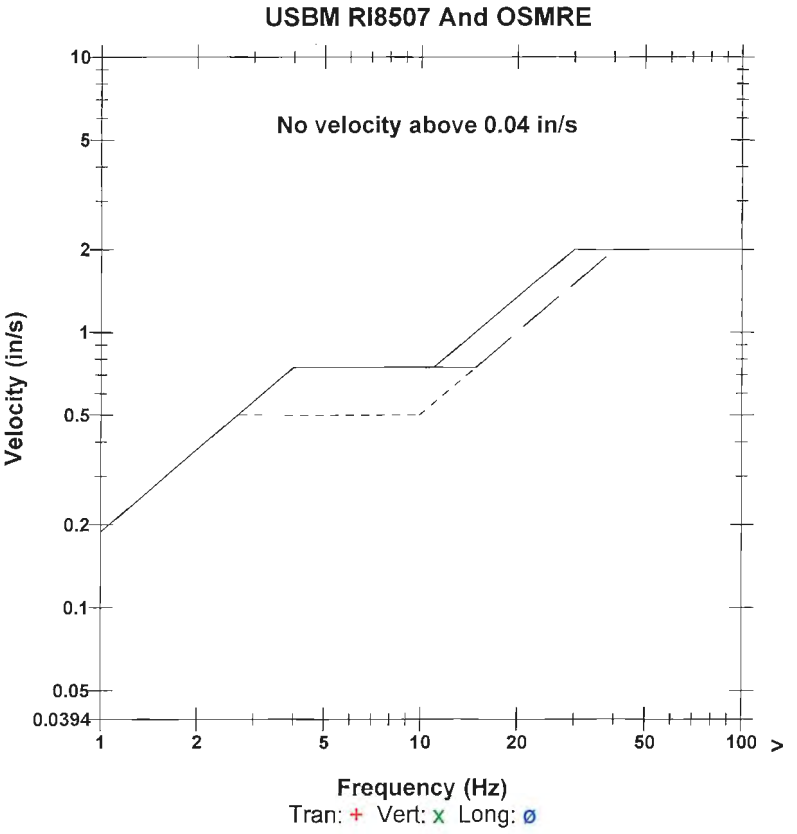
Histogram Start Time	09:54:44 November 13, 2014	**Serial Number**	BA14561 V 10.72-8.17 BlastMate III
Histogram Finish Time	20:00:00 November 13, 2014	**Battery Level**	6.8 Volts
Number of Intervals	605.00 at 1 minute	**Unit Calibration**	April 24, 2014 by Instantel
Range	Geo:1.250 in/s	**File Name**	P561FL4R.J80
Sample Rate	1024sps		
Job Number:	1		

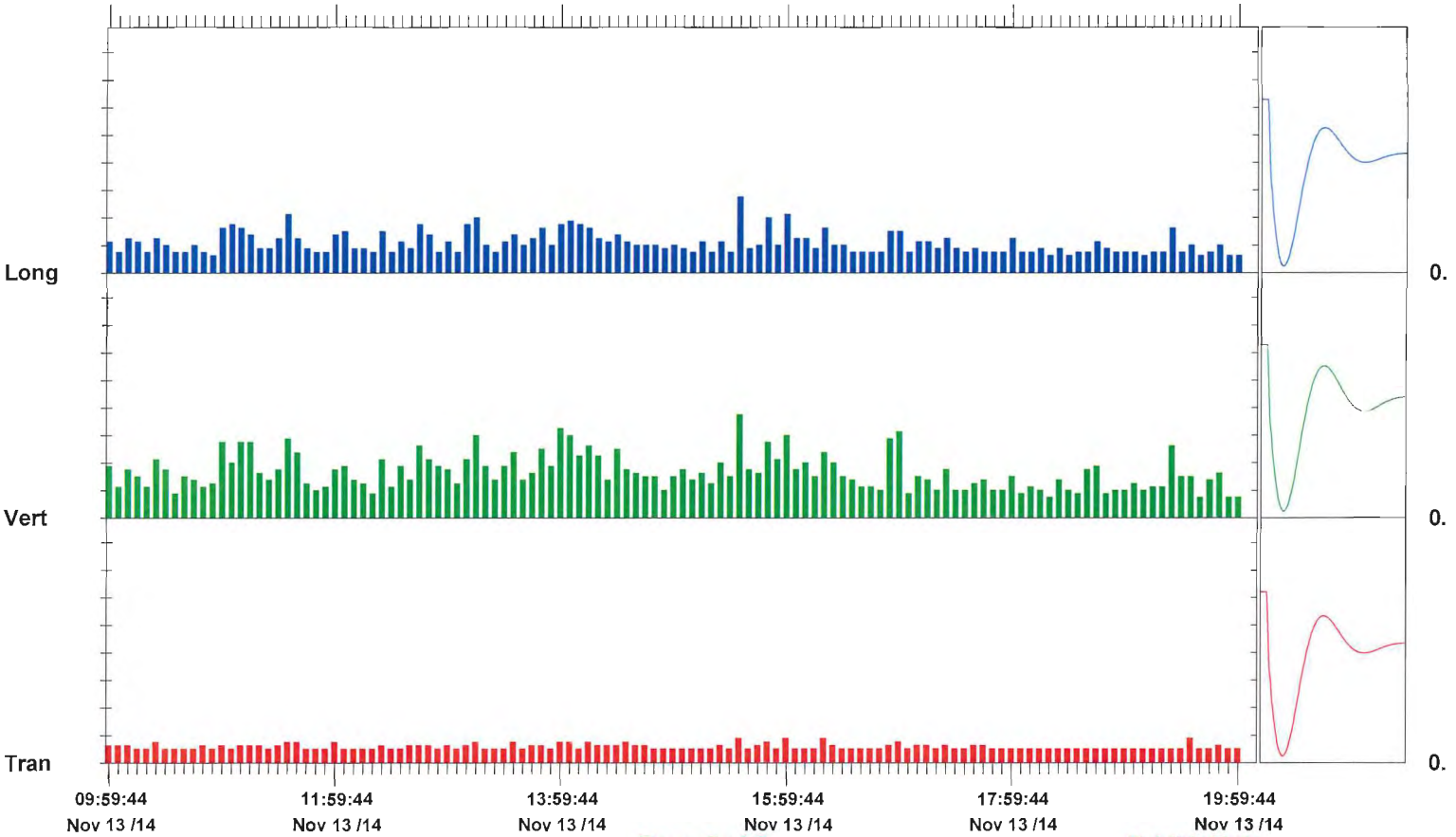
Notes

G2 Project No. 140370
Project Name: Howell City Hall Vibration
Location: Howell-MI
Client:

	Tran	Vert	Long	
PPV	0.004	0.019	0.014	in/s
ZC Freq	11	9.5	10	Hz
Date	Nov 13 /14	Nov 13 /14	Nov 13 /14	
Time	15:34:44	15:34:44	15:34:44	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.5	7.4	Hz
Overswing Ratio	3.8	3.2	4.0	

Peak Vector Sum 0.019 in/s on November 13, 2014 at 15:34:44





Time Scale: 5 minutes /div **Amplitude Scale:** Geo: 0.005 in/s/div

Sensor Check

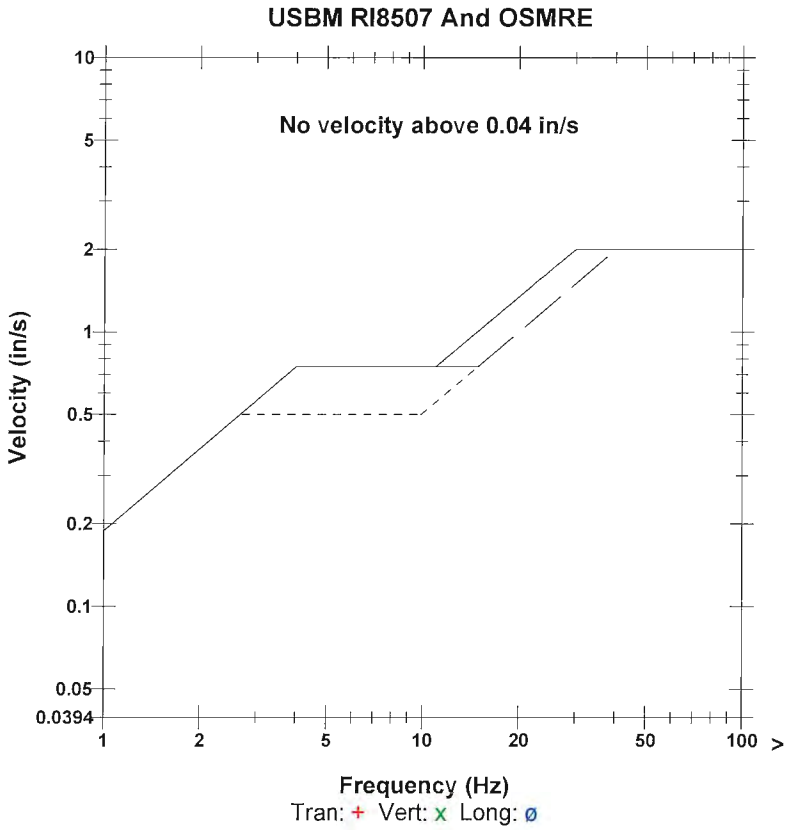
City of Howell Offices | Basement Vibration Sensor | HRC Job No. 20130632

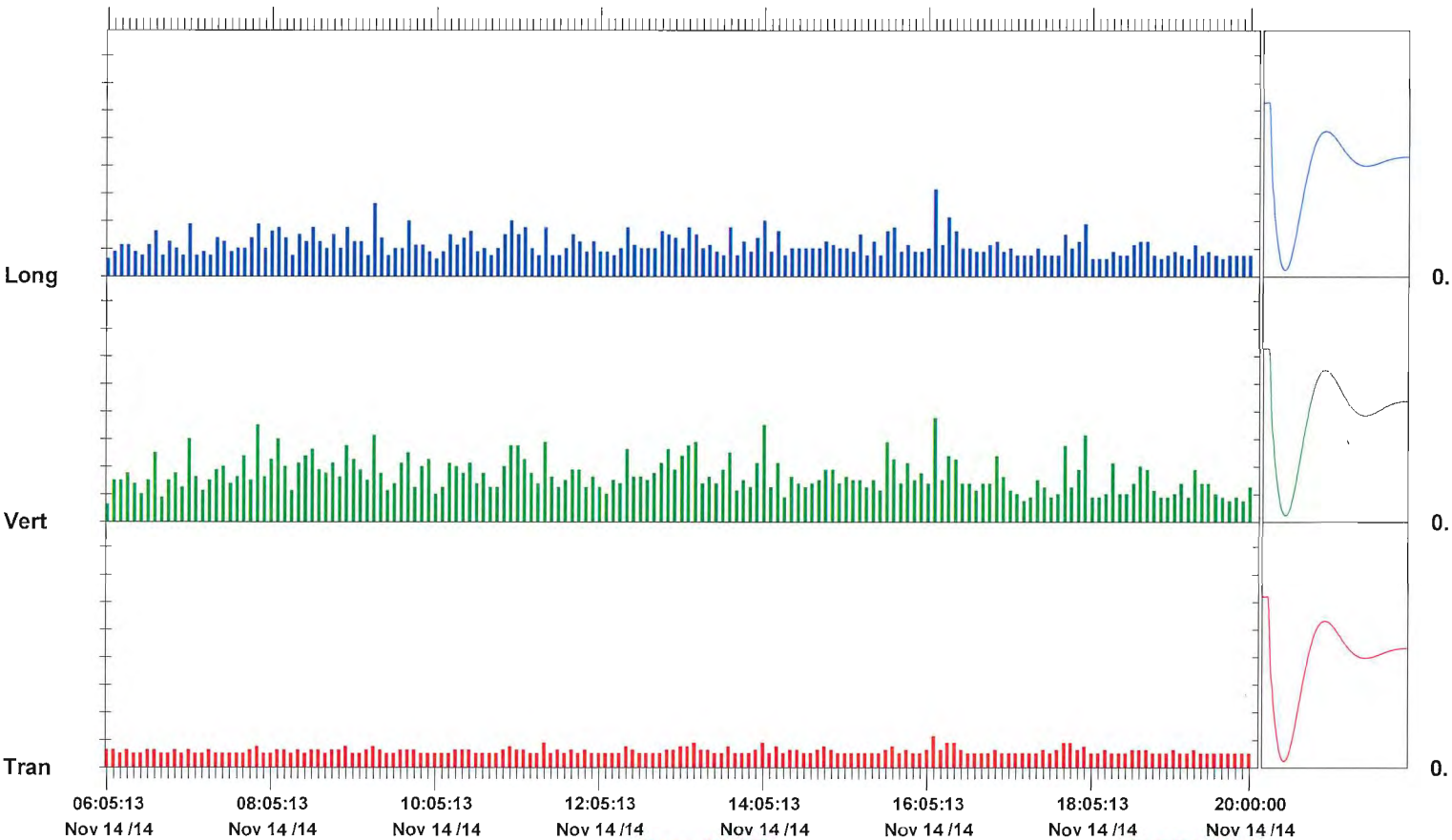
Histogram Start Time	06:00:13 November 14, 2014	**Serial Number**	BA14561 V 10.72-8.17 BlastMate III
Histogram Finish Time	20:00:00 November 14, 2014	**Battery Level**	6.8 Volts
Number of Intervals	839.00 at 1 minute	**Unit Calibration**	April 24, 2014 by Instantel
Range	Geo:1.250 in/s	**File Name**	P561FL6B.CD0
Sample Rate	1024sps		
Job Number:	1		

Notes
G2 Project No. 140370
Project Name: Howell City Hall Vibration
Location: Howell-MI
Client:

	Tran	Vert	Long	
PPV	0.006	0.019	0.016	in/s
ZC Freq	10	10	9.7	Hz
Date	Nov 14 /14	Nov 14 /14	Nov 14 /14	
Time	16:07:13	16:07:13	16:07:13	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.4	Hz
Overswing Ratio	3.8	3.2	4.0	

Peak Vector Sum 0.020 in/s on November 14, 2014 at 16:07:13





Time Scale: 5 minutes /div **Amplitude Scale:** Geo: 0.005 in/s/div

Sensor Check

Histogram Start Time	06:00:13 November 15, 2014
Histogram Finish Time	20:00:00 November 15, 2014
Number of Intervals	839.00 at 1 minute
Range	Geo:1.250 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA14561 V 10.72-8.17 BlastMate III
Battery Level	6.8 Volts
Unit Calibration	April 24, 2014 by Instantel
File Name	P561FL86.0D0

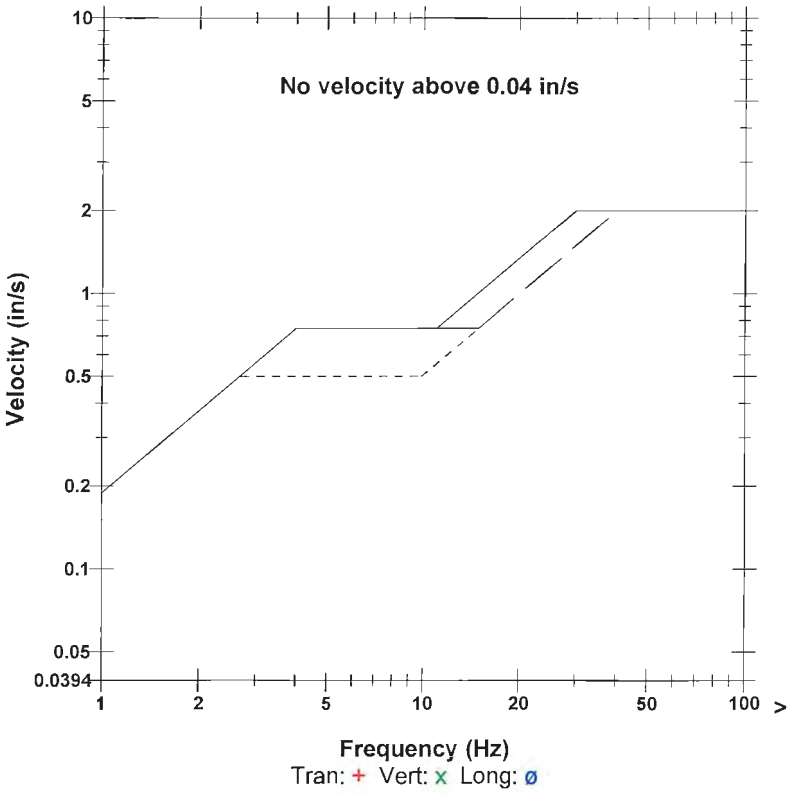
Notes

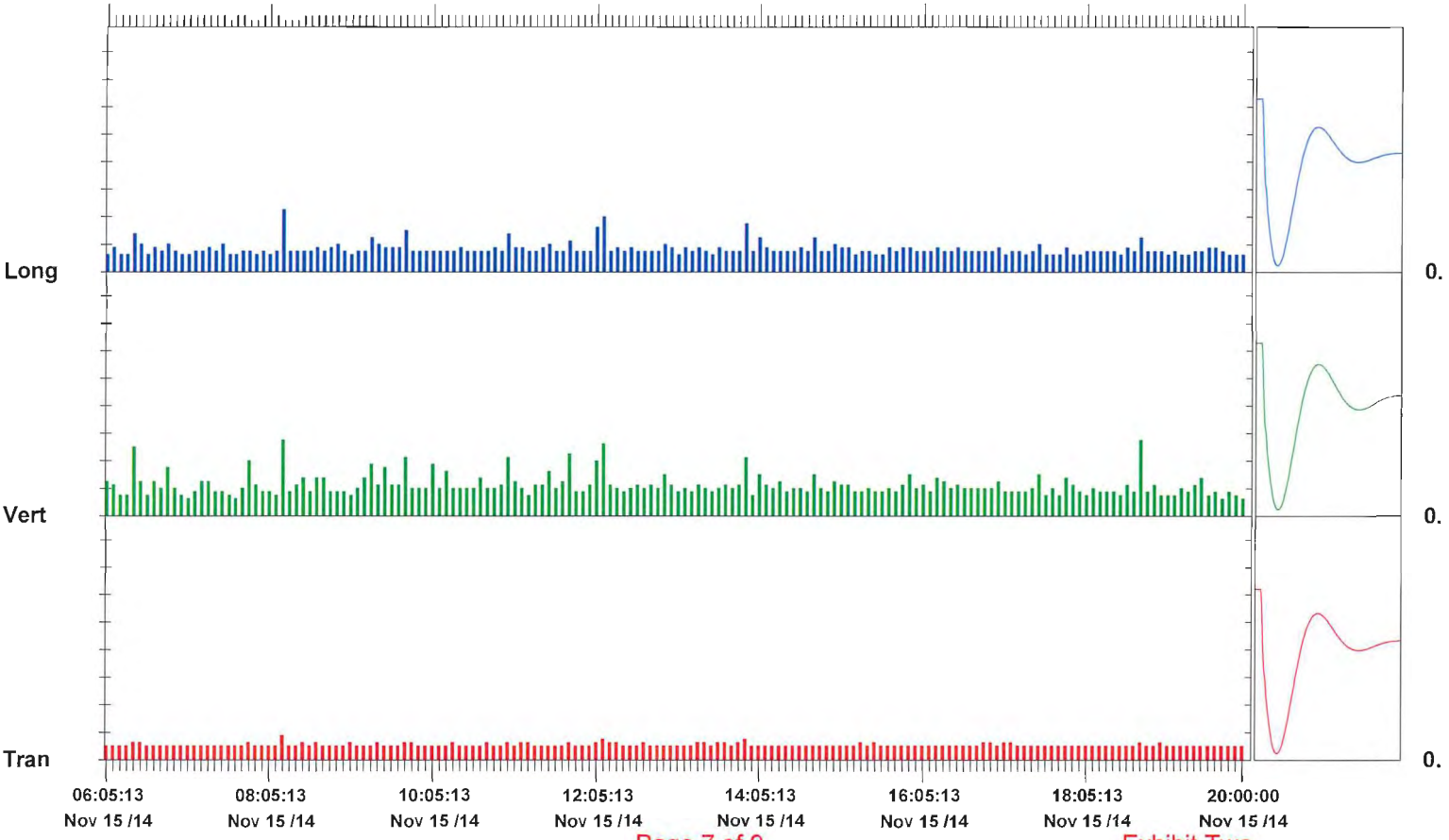
G2 Project No. 140370
Project Name: Howell City Hall Vibration
Location: Howell-MI
Client:

	Tran	Vert	Long	
PPV	0.004	0.014	0.011	in/s
ZC Freq	12	9.5	9.7	Hz
Date	Nov 15 /14	Nov 15 /14	Nov 15 /14	
Time	08:13:13	08:13:13	08:13:13	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.6	7.5	Hz
Overswing Ratio	3.8	3.2	4.0	

Peak Vector Sum 0.015 in/s on November 15, 2014 at 08:13:13

USBM RI8507 And OSMRE





Time Scale: 5 minutes /div **Amplitude Scale:** Geo: 0.005 in/s/div

Sensor Check

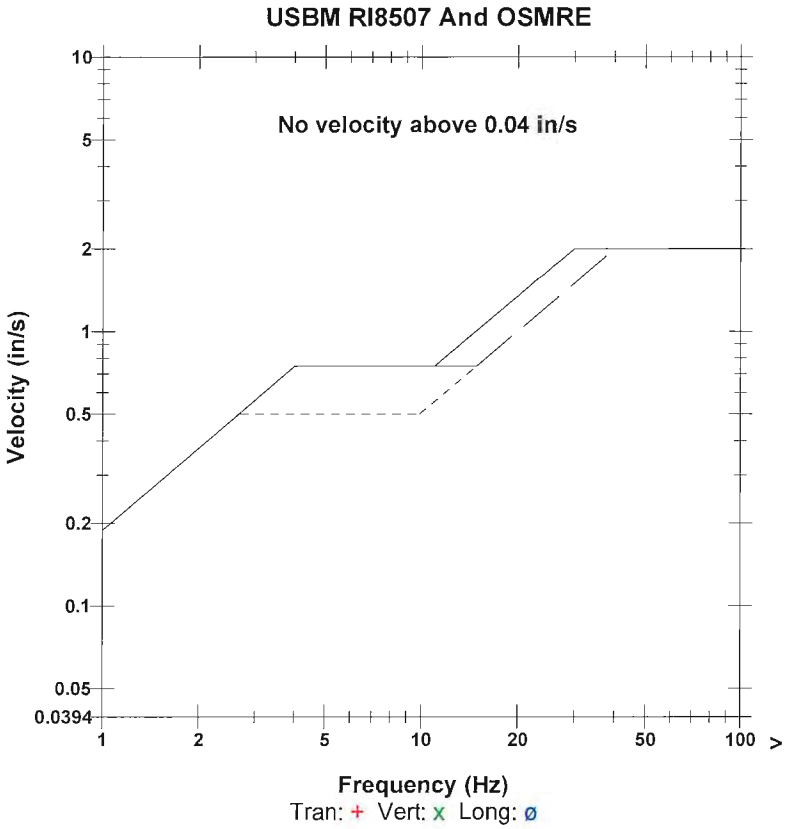
City of Howell Offices | Basement Vibration Sensor | HRC Job No. 20130632

Histogram Start Time	06:00:13 November 16, 2014	**Serial Number**	BA14561 V 10.72-8.17 BlastMate III
Histogram Finish Time	20:00:00 November 16, 2014	**Battery Level**	6.8 Volts
Number of Intervals	839.00 at 1 minute	**Unit Calibration**	April 24, 2014 by Instantel
Range	Geo:1.250 in/s	**File Name**	P561FLA0.OD0
Sample Rate	1024sps		
Job Number:	1		

Notes
G2 Project No. 140370
Project Name: Howell City Hall Vibration
Location: Howell-MI
Client:

	Tran	Vert	Long	
PPV	0.003	0.009	0.007	in/s
ZC Freq	>100	13	10	Hz
Date	Nov 16 /14	Nov 16 /14	Nov 16 /14	
Time	06:51:13	15:28:13	14:50:13	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.5	Hz
Overswing Ratio	3.8	3.2	3.9	

Peak Vector Sum 0.010 in/s on November 16, 2014 at 15:28:13



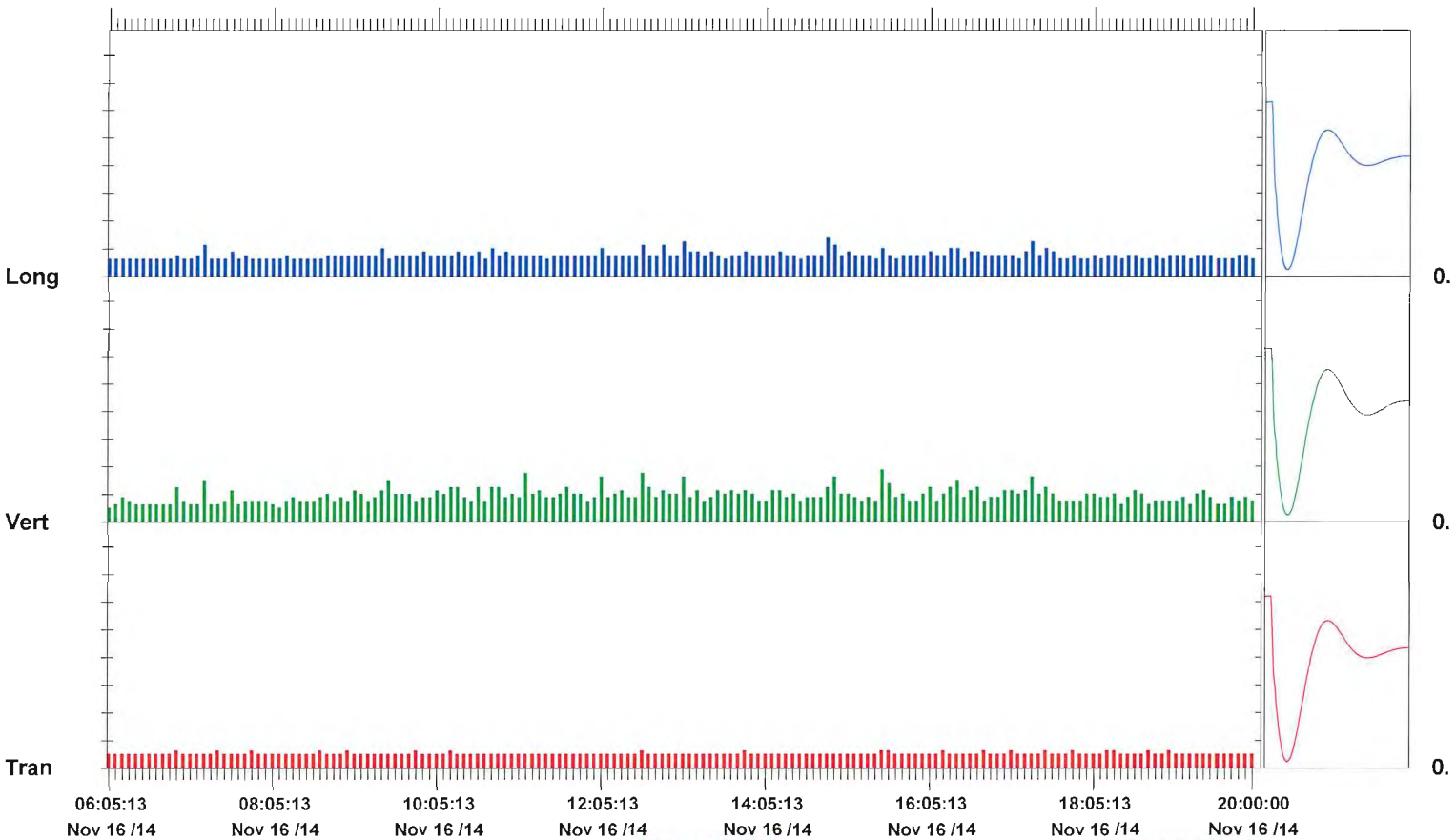


Exhibit Two

Time Scale: 5 minutes /div **Amplitude Scale:** Geo: 0.005 in/s/div

Sensor Check

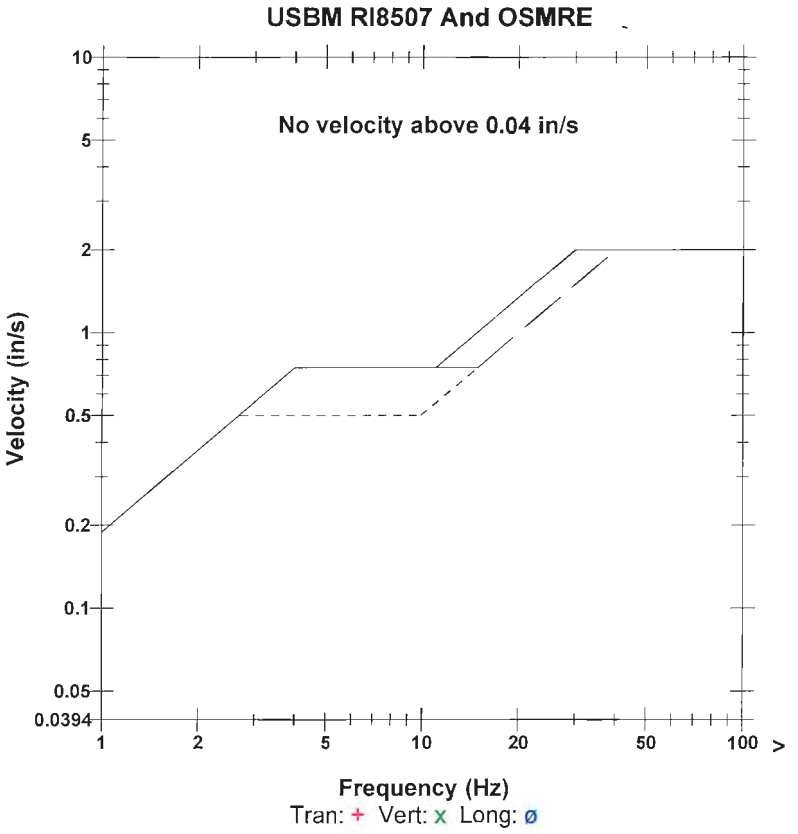
City of Howell Offices | Basement Vibration Sensor | HRC Job No. 20130632

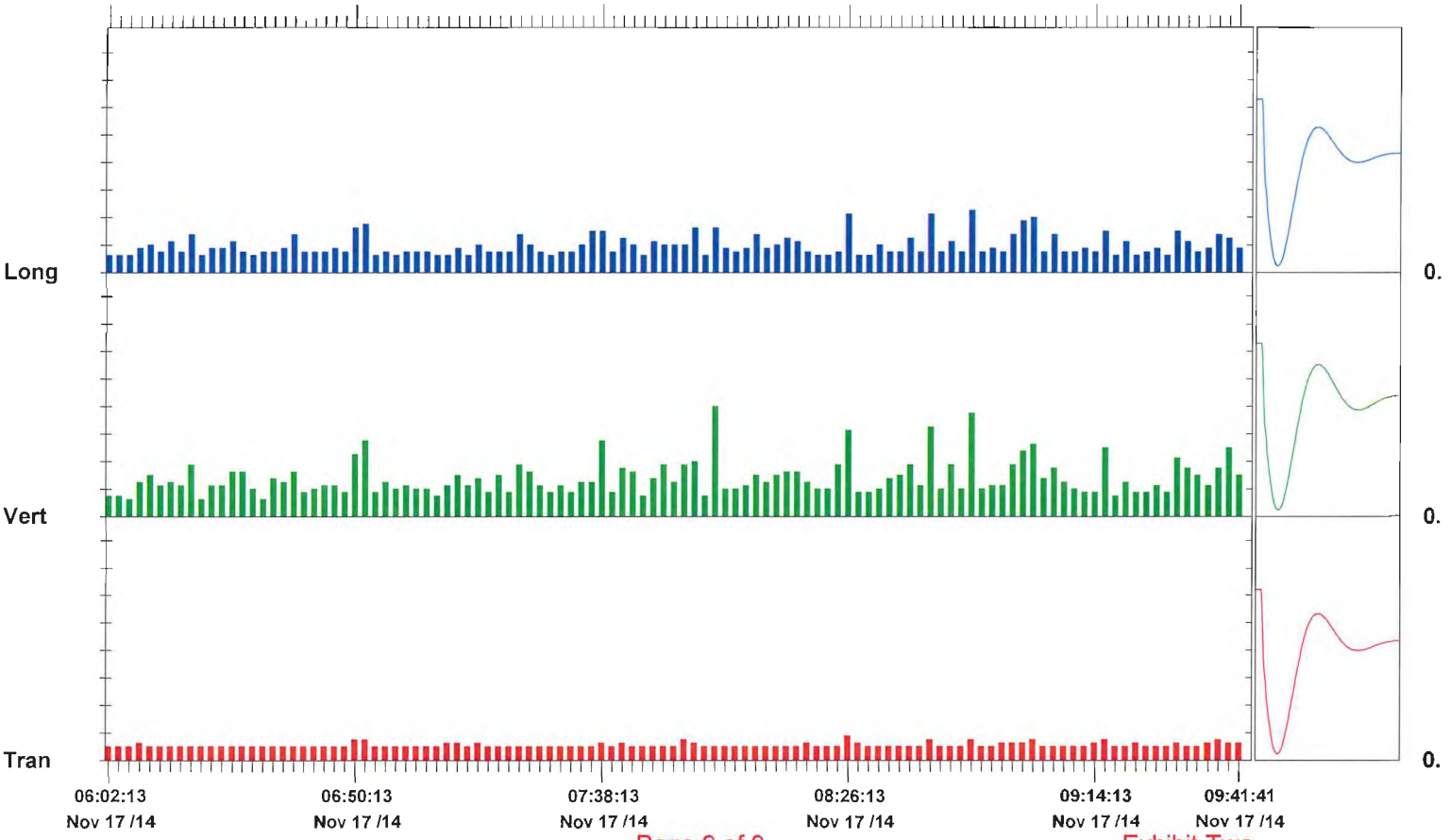
Histogram Start Time	06:00:13 November 17, 2014	**Serial Number**	BA14561 V 10.72-8.17 BlastMate III
Histogram Finish Time	09:41:41 November 17, 2014	**Battery Level**	6.8 Volts
Number of Intervals	221.00 at 1 minute	**Unit Calibration**	April 24, 2014 by Instantel
Range	Geo:1.250 in/s	**File Name**	P561FLBV.CD0
Sample Rate	1024sps		
Job Number:	1		

Notes
G2 Project No. 140370
Project Name: Howell City Hall Vibration
Location: Howell-MI
Client:

	Tran	Vert	Long	
PPV	0.004	0.020	0.011	in/s
ZC Freq	13	13	10	Hz
Date	Nov 17 /14	Nov 17 /14	Nov 17 /14	
Time	08:26:13	08:00:13	08:50:13	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.5	Hz
Overswing Ratio	3.8	3.2	4.0	

Peak Vector Sum 0.020 in/s on November 17, 2014 at 08:00:13





Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.005 in/s/div

Sensor Check

Instantel

Event Report

City of Howell Offices | Third Floor Vibration Sensor | HRC Job No. 20130632

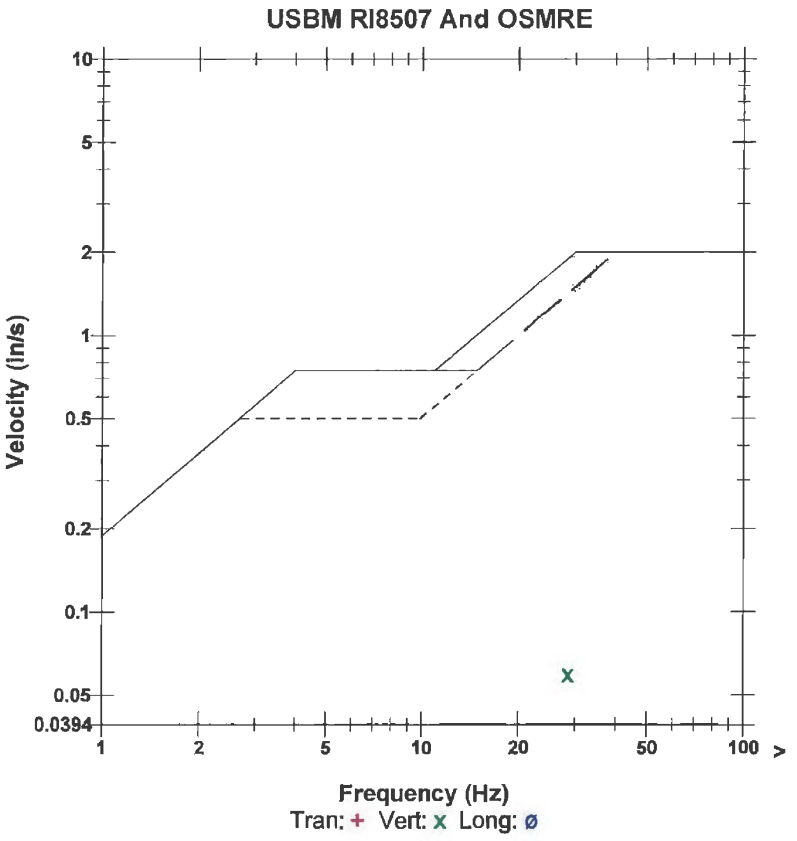
Histogram Start Time	09:29:35 November 10, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	19:45:00 November 10, 2014	**Battery Level**	6.8 Volts
Number of Intervals	616.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FKZ6.DB0
Sample Rate	1024sps		

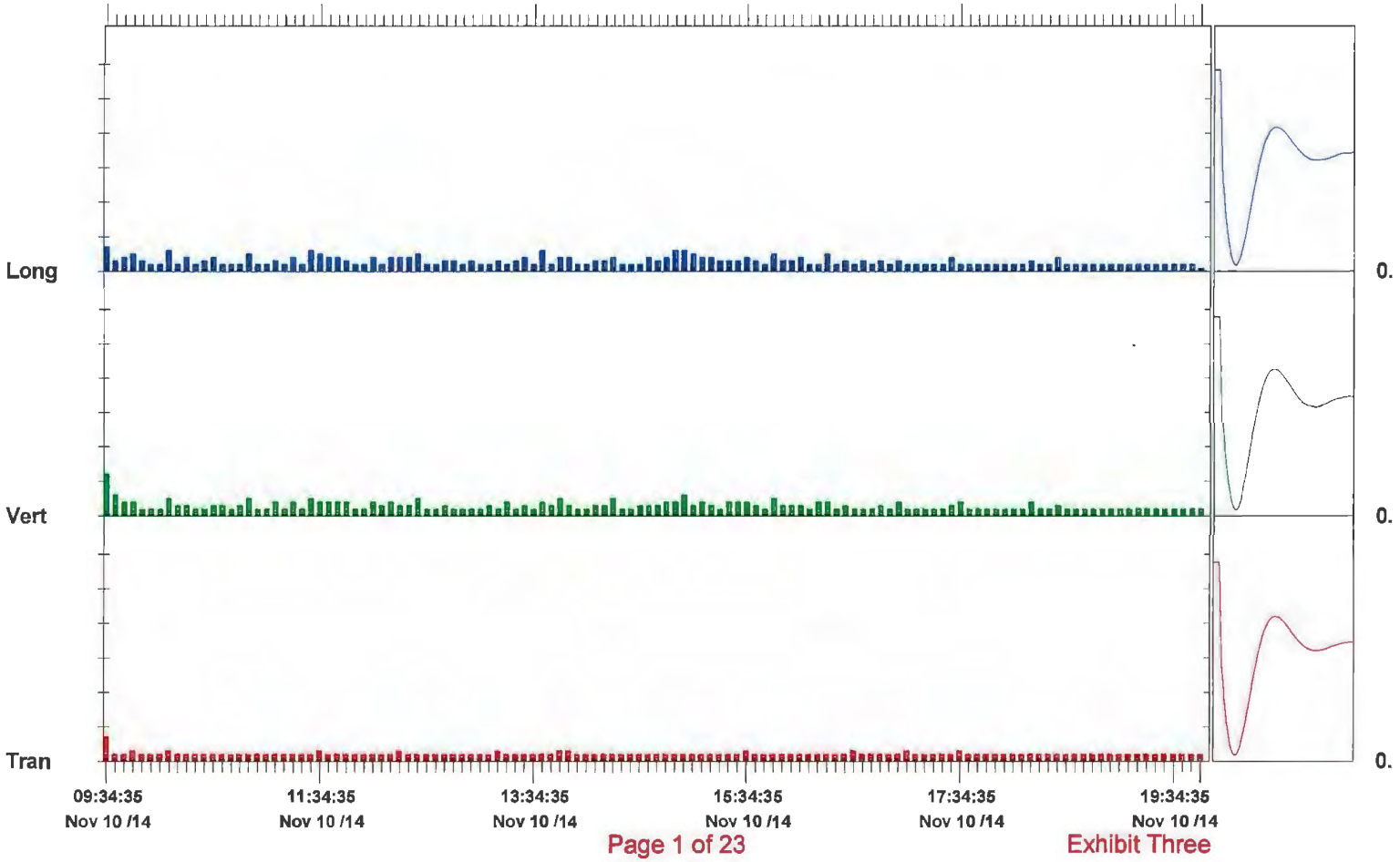
Notes

Project Name:	Howell City Hall Vibration Study
Project Number:	143070
City/State	Howell, MI

	Tran	Vert	Long	
PPV	0.035	0.060	0.035	in/s
ZC Freq	32	28	37	Hz
Date	Nov 10 /14	Nov 10 /14	Nov 10 /14	
Time	09:30:35	09:30:35	09:30:35	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.4	7.2	Hz
Overswing Ratio	4.0	3.7	4.2	

Peak Vector Sum 0.062 in/s on November 10, 2014 at 09:30:35





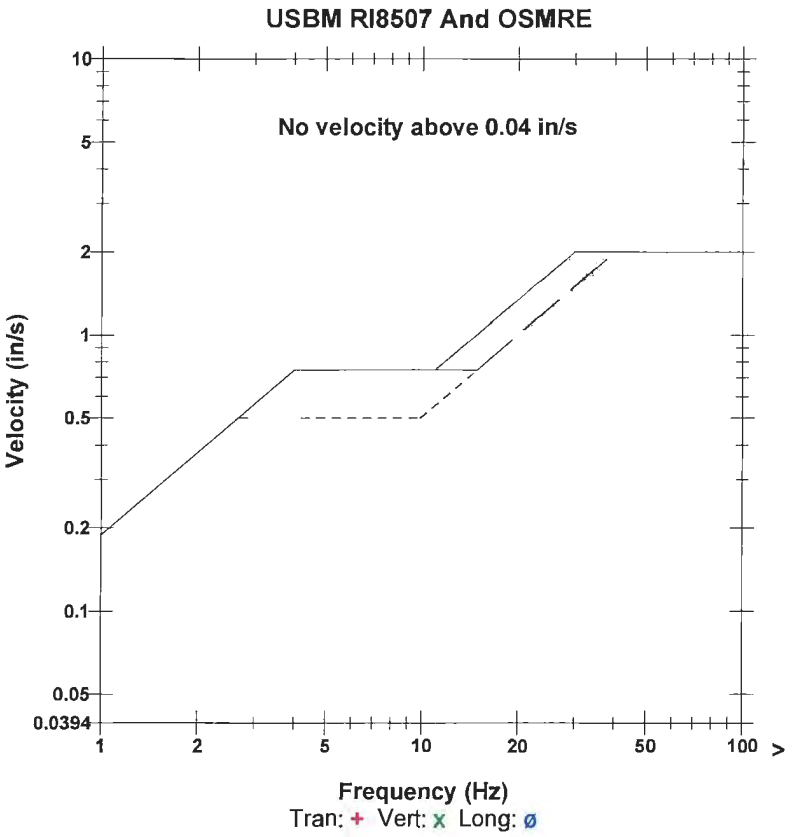
Time Scale: 5 minutes /div **Amplitude Scale:** Geo: 0.050 in/s/div Sensor Check

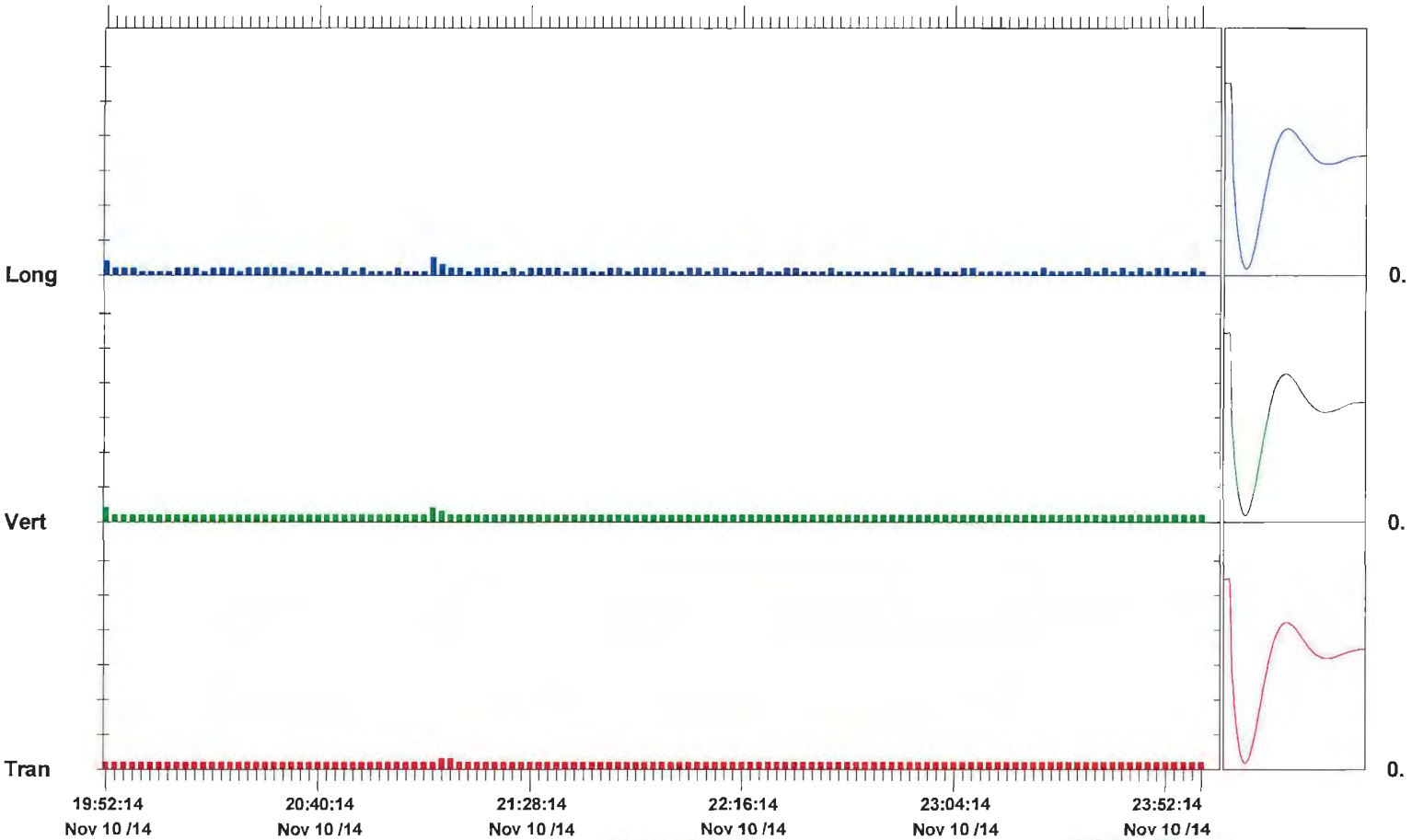
Histogram Start Time	19:50:14 November 10, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	23:59:28 November 10, 2014	**Battery Level**	6.8 Volts
Number of Intervals	249.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FKZZ.3Q0
Sample Rate	1024sps		

Notes
Project Name: Howell City Hall Vibration Study
Project Number: 143070
City/State Howell, MI

	Tran	Vert	Long	
PPV	0.015	0.020	0.025	in/s
ZC Freq	9.0	13	13	Hz
Date	Nov 10 /14	Nov 10 /14	Nov 10 /14	
Time	21:08:14	19:52:14	21:05:14	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.2	Hz
Overswing Ratio	3.9	3.7	4.0	

Peak Vector Sum 0.029 in/s on November 10, 2014 at 21:05:14





Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.050 in/s/div Sensor Check

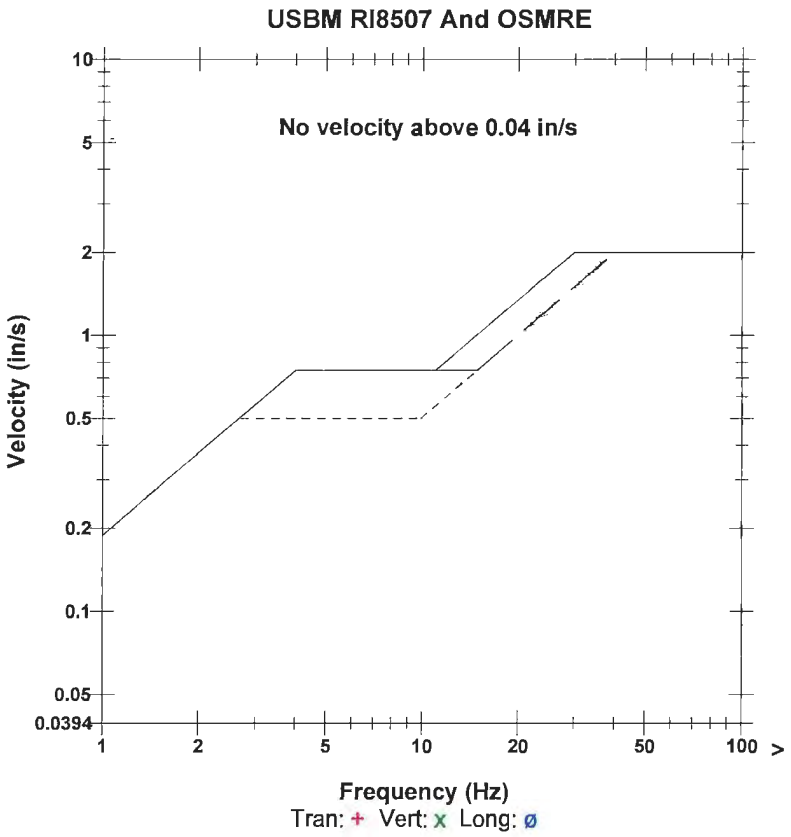
City of Howell Offices | Third Floor Vibration Sensor | HRC Job No. 20130632

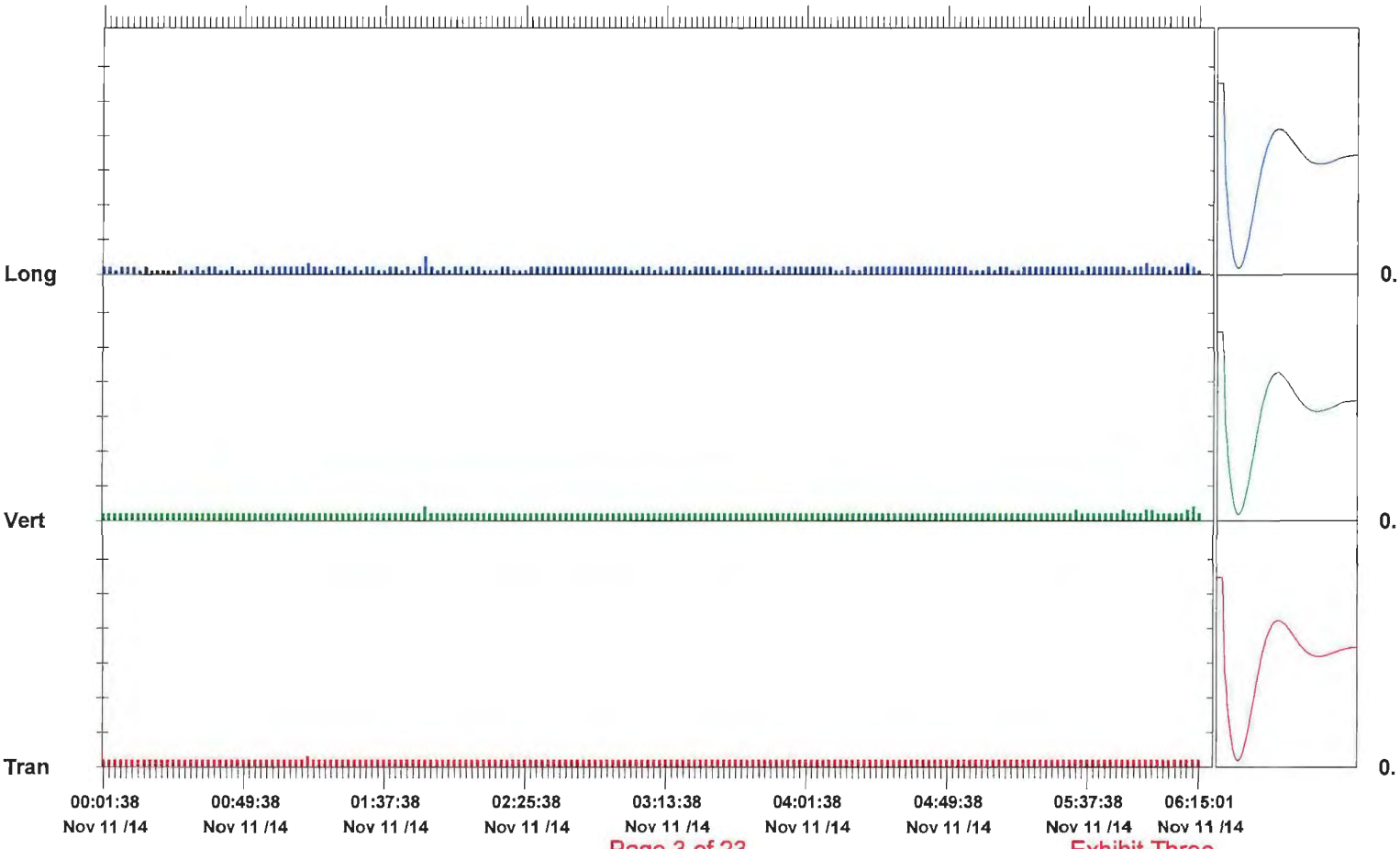
Histogram Start Time	23:59:38 November 10, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	06:15:01 November 11, 2014	**Battery Level**	6.8 Volts
Number of Intervals	376.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FL0A.NE0
Sample Rate	1024sps		

Notes
Project Name: Howell City Hall Vibration Study
Project Number: 143070
City/State Howell, MI

	Tran	Vert	Long	
PPV	0.015	0.020	0.025	in/s
ZC Freq	12	16	14	Hz
Date	Nov 11 /14	Nov 11 /14	Nov 11 /14	
Time	01:11:38	01:50:38	01:50:38	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.2	Hz
Overswing Ratio	3.9	3.7	4.0	

Peak Vector Sum 0.027 in/s on November 11, 2014 at 01:50:38





Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.050 in/s/div Sensor Check

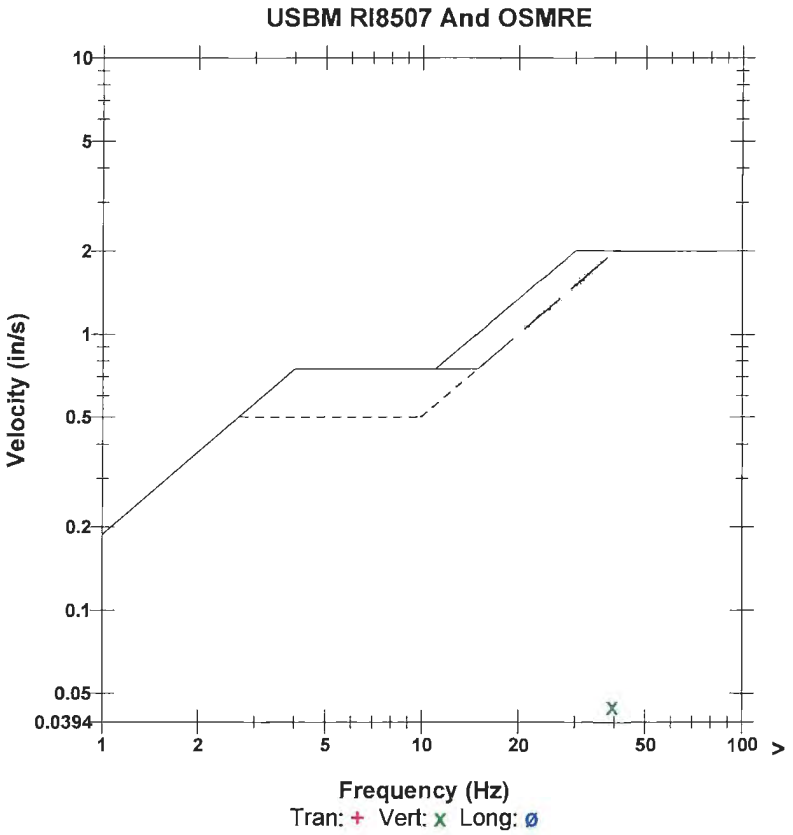
City of Howell Offices | Third Floor Vibration Sensor | HRC Job No. 20130632

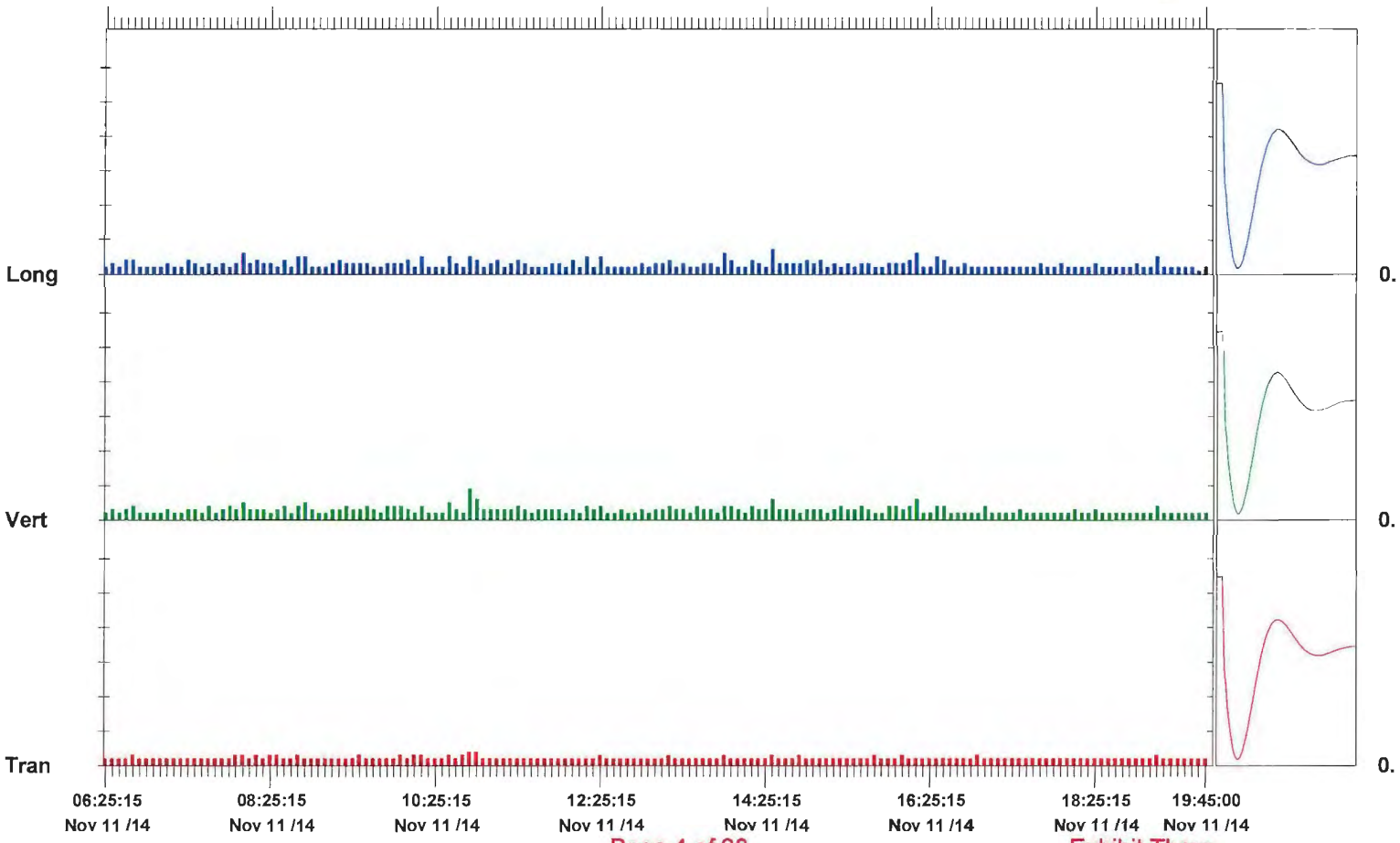
Histogram Start Time	06:20:15 November 11, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	19:45:00 November 11, 2014	**Battery Level**	6.8 Volts
Number of Intervals	805.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FL0S.9R0
Sample Rate	1024sps		

Notes
Project Name: Howell City Hall Vibration Study
Project Number: 143070
City/State Howell, MI

	Tran	Vert	Long	
PPV	0.020	0.045	0.035	in/s
ZC Freq	51	39	12	Hz
Date	Nov 11 /14	Nov 11 /14	Nov 11 /14	
Time	10:50:15	10:50:15	14:26:15	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.2	Hz
Overswing Ratio	3.9	3.7	4.0	

Peak Vector Sum 0.046 in/s on November 11, 2014 at 10:50:15





Time Scale: 5 minutes /div **Amplitude Scale:** Geo: 0.050 in/s/div Sensor Check

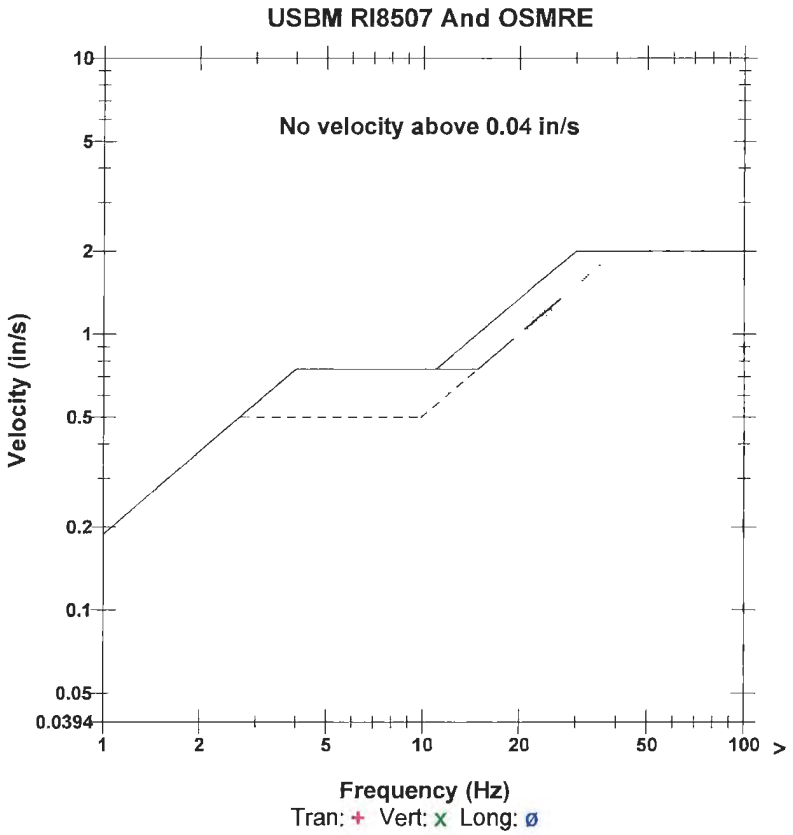
Histogram Start Time	19:50:14 November 11, 2014
Histogram Finish Time	23:59:28 November 11, 2014
Number of Intervals	249.00 at 1 minute
Range	Geo:10.000 in/s
Sample Rate	1024sps
Serial Number	BE11242 V 10.72-8.17 MiniMate Plus
Battery Level	6.8 Volts
Unit Calibration	July 16, 2014 by Instantel
File Name	M242FL1T.RQ0

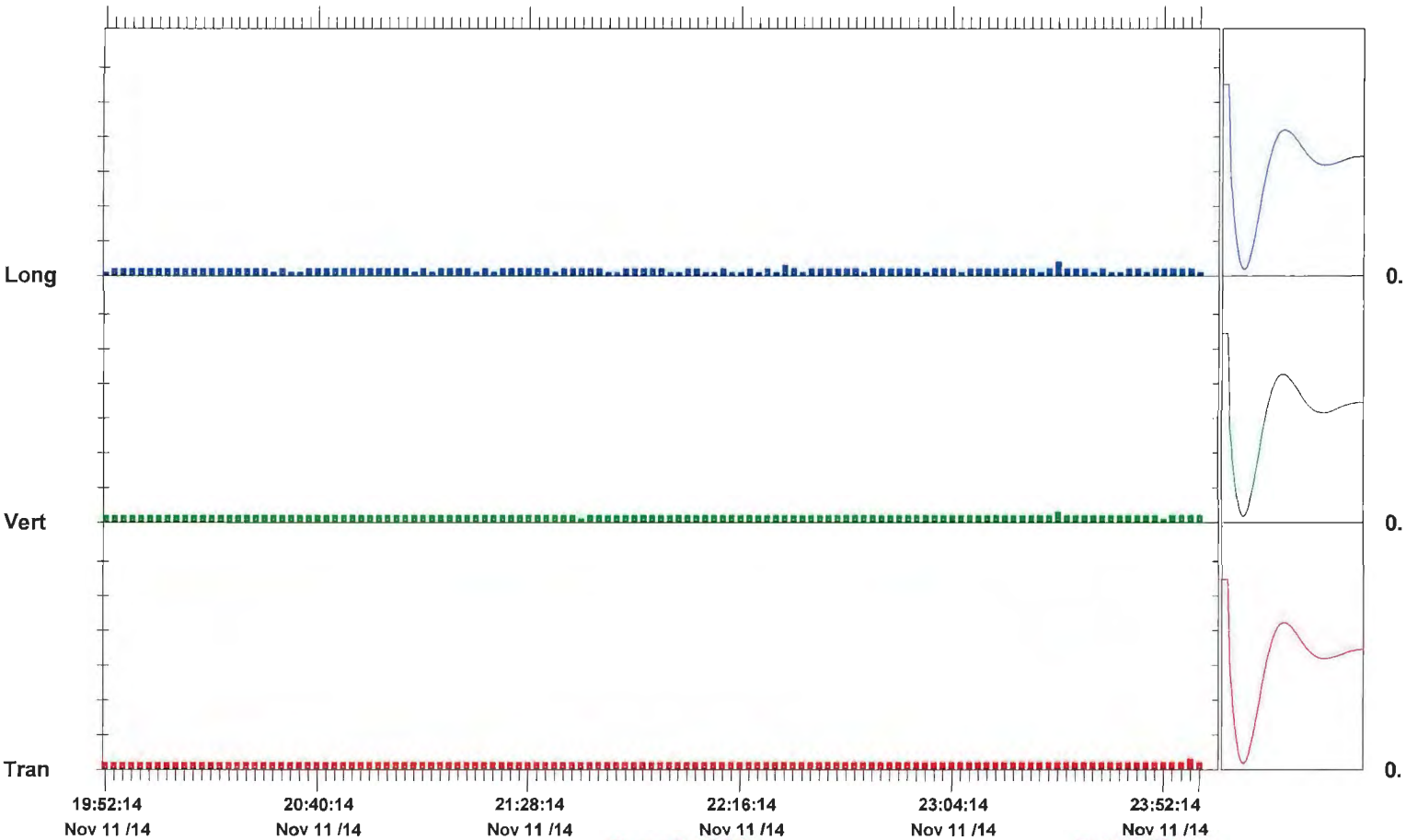
Notes

Project Name: Howell City Hall Vibration Study
Project Number: 143070
City/State Howell, MI

	Tran	Vert	Long	
PPV	0.015	0.015	0.020	in/s
ZC Freq	73	19	18	Hz
Date	Nov 11 /14	Nov 11 /14	Nov 11 /14	
Time	23:57:14	23:28:14	23:28:14	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.2	Hz
Overswing Ratio	3.9	3.7	4.0	

Peak Vector Sum 0.023 in/s on November 11, 2014 at 23:28:14





Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.050 in/s/div Sensor Check

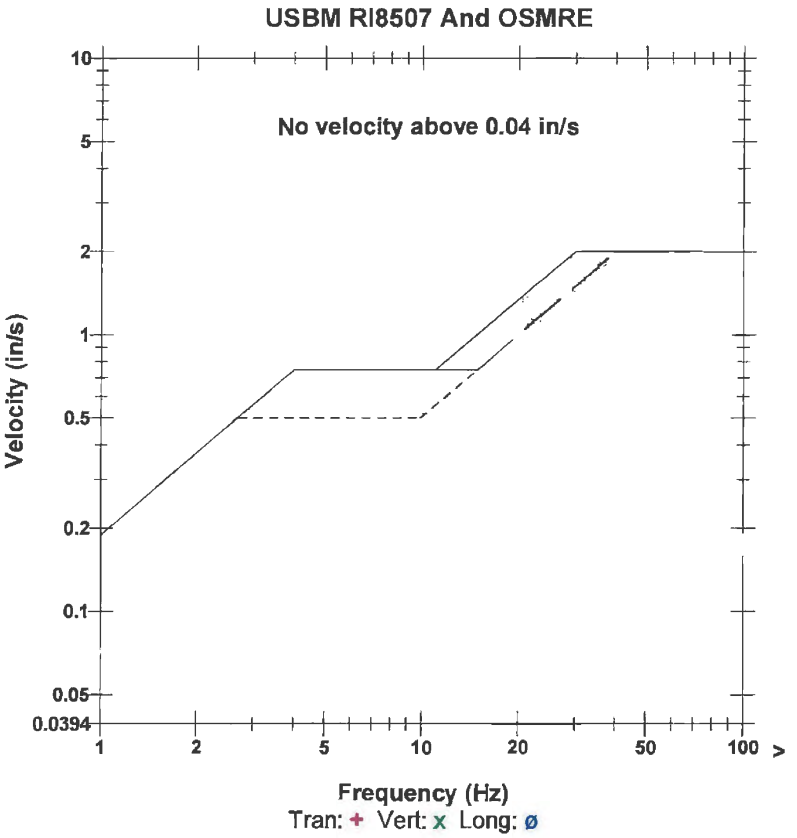
City of Howell Offices | Third Floor Vibration Sensor | HRC Job No. 20130632

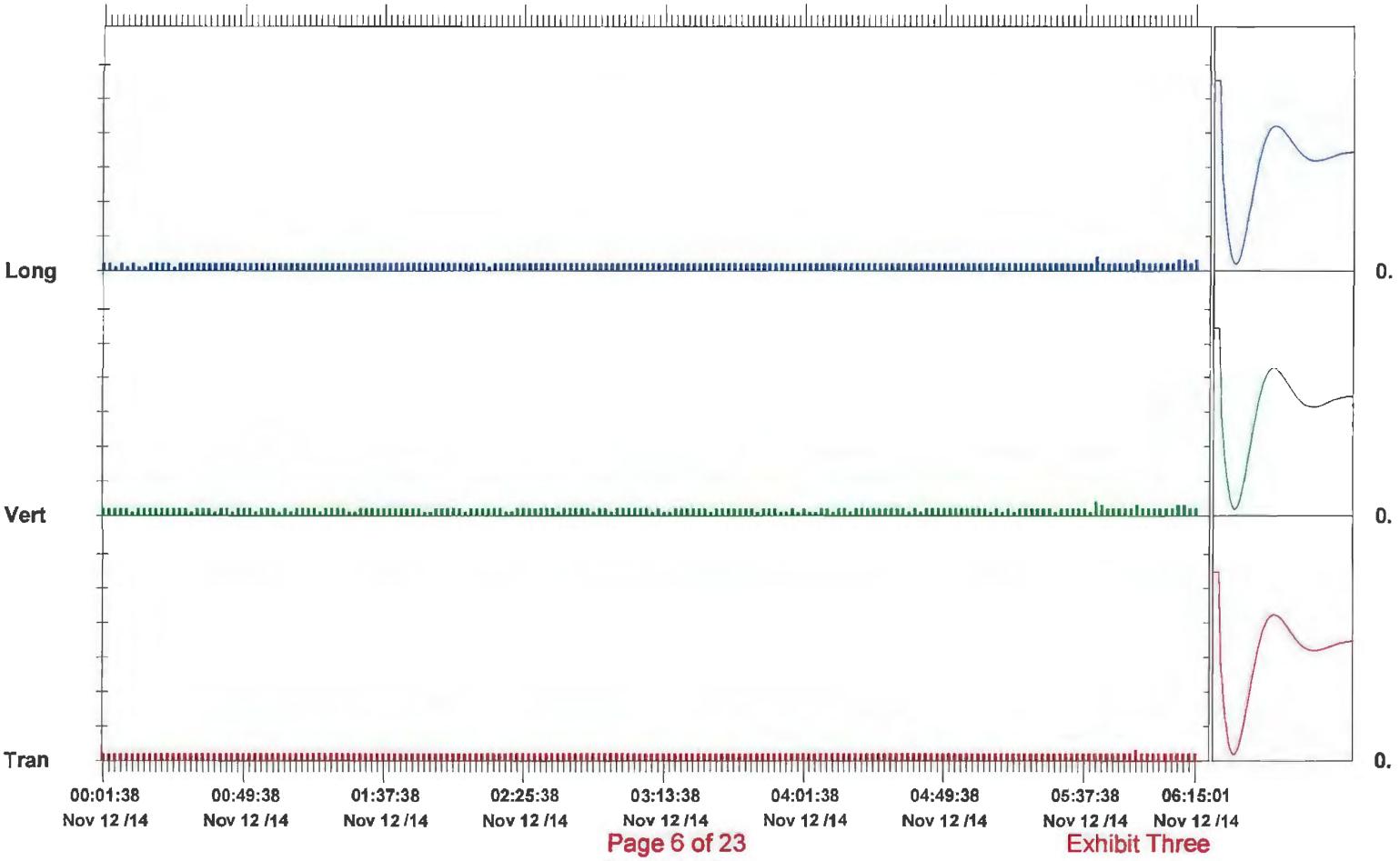
Histogram Start Time	23:59:38 November 11, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	06:15:01 November 12, 2014	**Battery Level**	6.8 Volts
Number of Intervals	376.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FL25.BE0
Sample Rate	1024sps		

Notes
Project Name: Howell City Hall Vibration Study
Project Number: 143070
City/State Howell, MI

	Tran	Vert	Long	
PPV	0.015	0.020	0.020	in/s
ZC Freq	43	17	15	Hz
Date	Nov 12 /14	Nov 12 /14	Nov 12 /14	
Time	05:54:38	05:41:38	05:41:38	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.2	Hz
Overswing Ratio	3.9	3.7	4.0	

Peak Vector Sum 0.027 in/s on November 12, 2014 at 05:41:38





Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.050 in/s/div Sensor Check

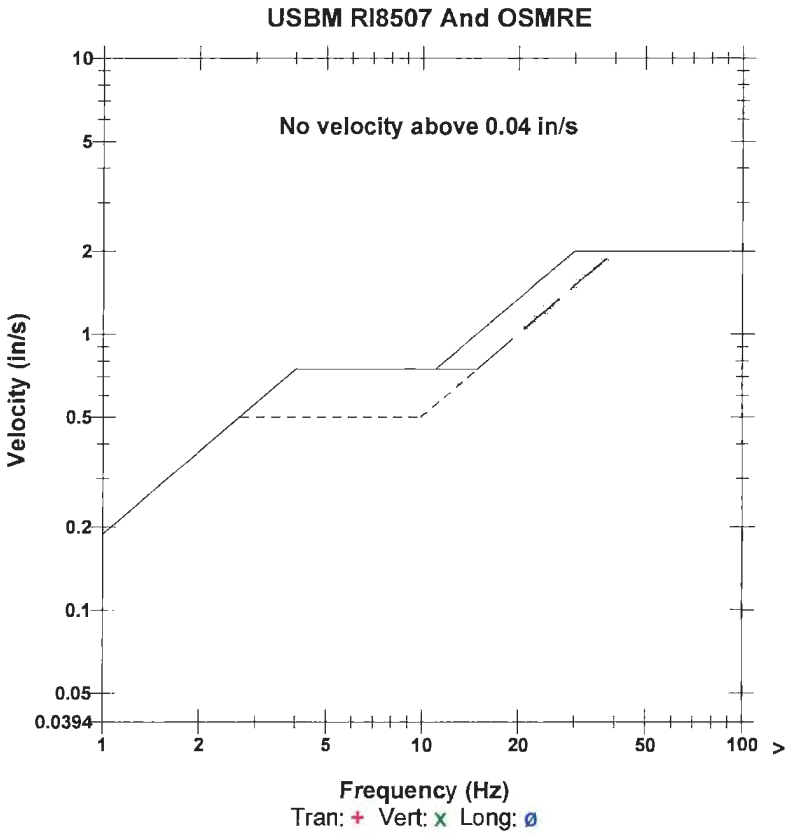
City of Howell Offices | Third Floor Vibration Sensor | HRC Job No. 20130632

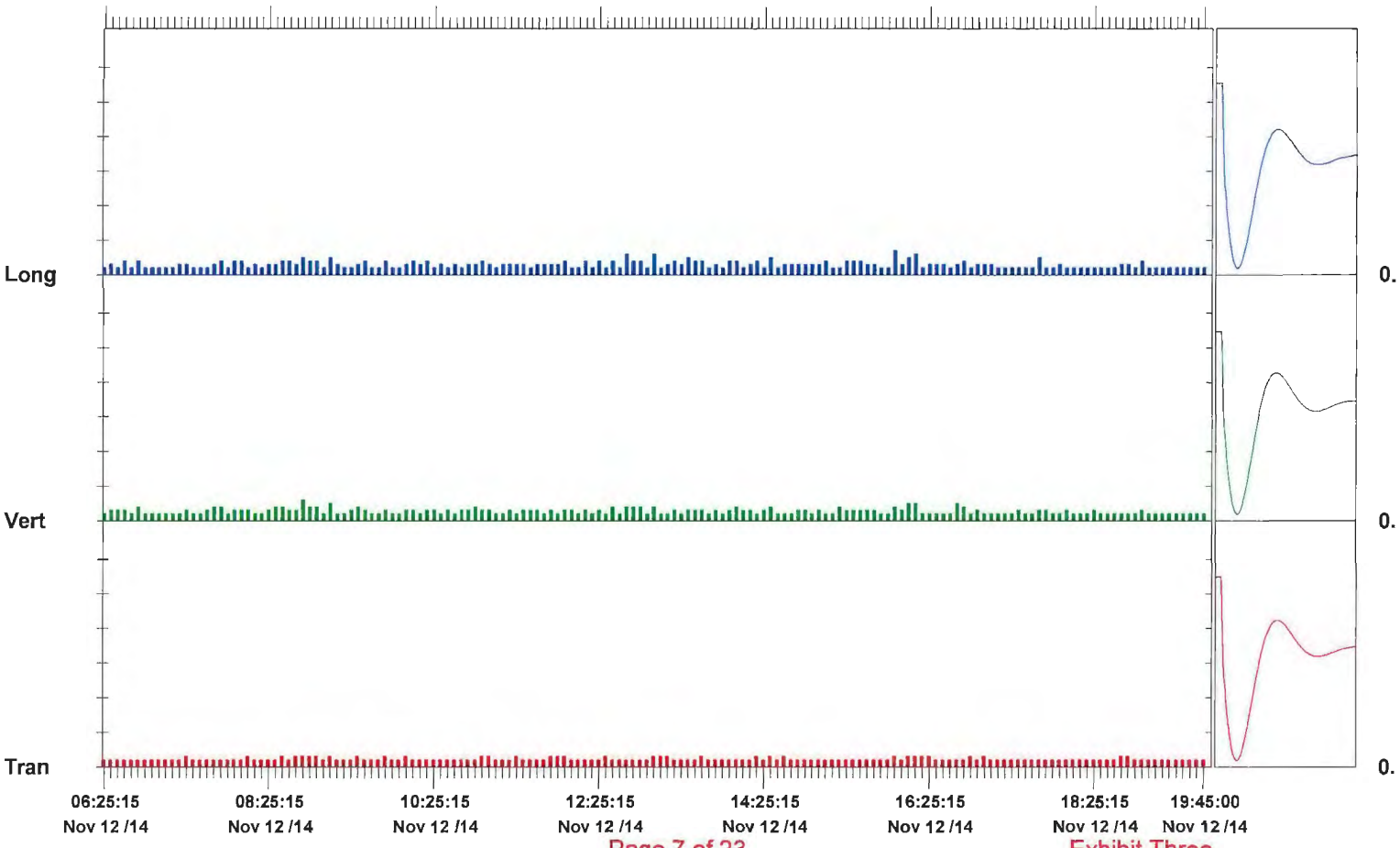
Histogram Start Time	06:20:15 November 12, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	19:45:00 November 12, 2014	**Battery Level**	6.8 Volts
Number of Intervals	805.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FL2M.XR0
Sample Rate	1024sps		

Notes
Project Name: Howell City Hall Vibration Study
Project Number: 143070
City/State Howell, MI

	Tran	Vert	Long	
PPV	0.015	0.030	0.035	in/s
ZC Freq	17	12	13	Hz
Date	Nov 12 /14	Nov 12 /14	Nov 12 /14	
Time	07:25:15	08:49:15	16:00:15	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.2	Hz
Overswing Ratio	3.9	3.7	4.0	

Peak Vector Sum 0.039 in/s on November 12, 2014 at 16:00:15





Time Scale: 5 minutes /div **Amplitude Scale:** Geo: 0.050 in/s/div Sensor Check

City of Howell Offices | Third Floor Vibration Sensor | HRC Job No. 20130632

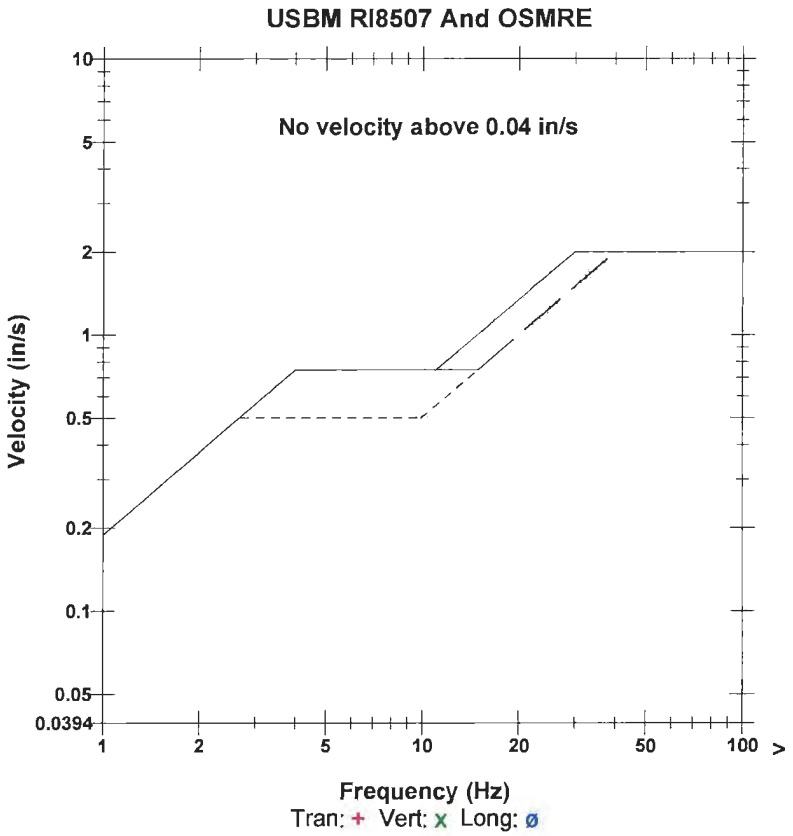
Histogram Start Time	19:50:14 November 12, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	23:59:28 November 12, 2014	**Battery Level**	6.8 Volts
Number of Intervals	249.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FL3O.FQ0
Sample Rate	1024sps		

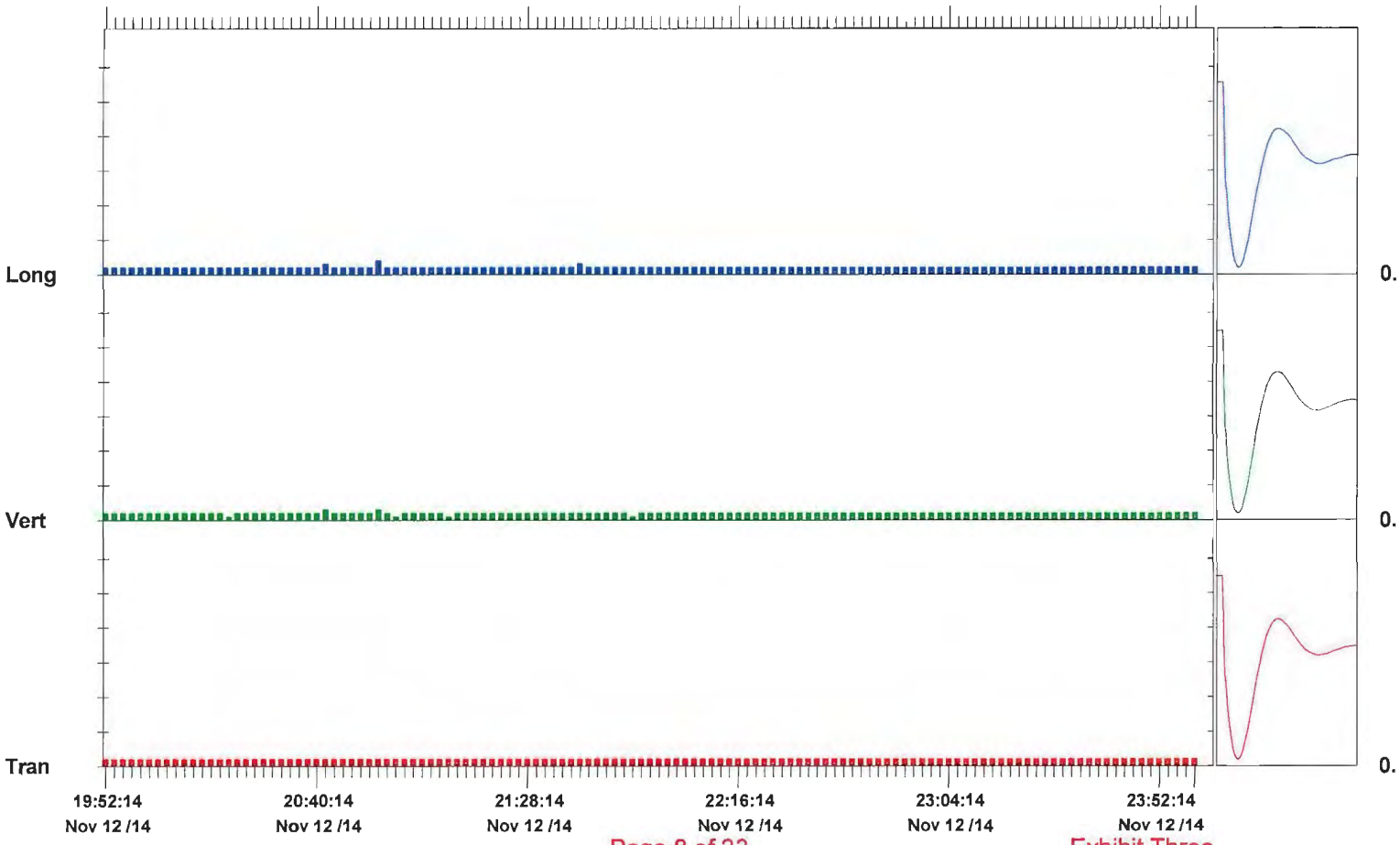
Notes

Project Name: Howell City Hall Vibration Study
Project Number: 143070
City/State Howell, MI

	Tran	Vert	Long	
PPV	0.010	0.015	0.020	in/s
ZC Freq	>100	18	21	Hz
Date	Nov 12 /14	Nov 12 /14	Nov 12 /14	
Time	19:51:14	20:42:14	20:53:14	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.2	Hz
Overswing Ratio	3.9	3.7	4.0	

Peak Vector Sum 0.023 in/s on November 12, 2014 at 20:42:14





Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.050 in/s/div

Sensor Check

Instantel

City of Howell Offices | Third Floor Vibration Sensor | HRC Job No. 20130632

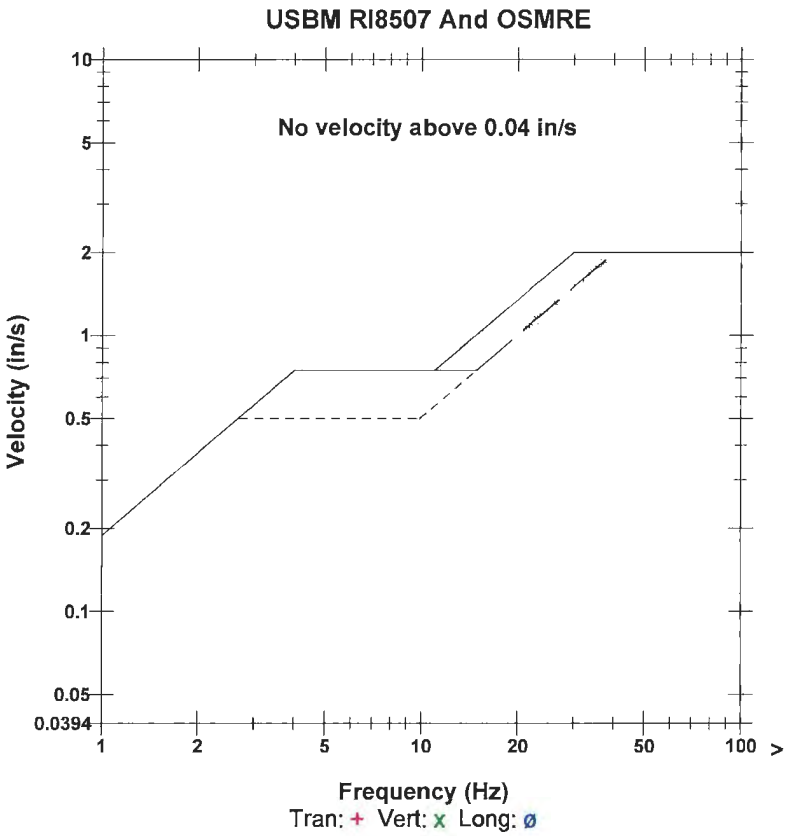
Histogram Start Time	23:59:38 November 12, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	06:15:01 November 13, 2014	**Battery Level**	6.8 Volts
Number of Intervals	376.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FL3Z.ZE0
Sample Rate	1024sps		

Notes

Project Name: Howell City Hall Vibration Study
Project Number: 143070
City/State Howell, MI

	Tran	Vert	Long	
PPV	0.015	0.020	0.020	in/s
ZC Freq	9.8	20	26	Hz
Date	Nov 13 /14	Nov 13 /14	Nov 13 /14	
Time	02:21:38	01:21:38	01:21:38	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.2	Hz
Overswing Ratio	3.9	3.7	4.0	

Peak Vector Sum 0.021 in/s on November 13, 2014 at 01:21:38



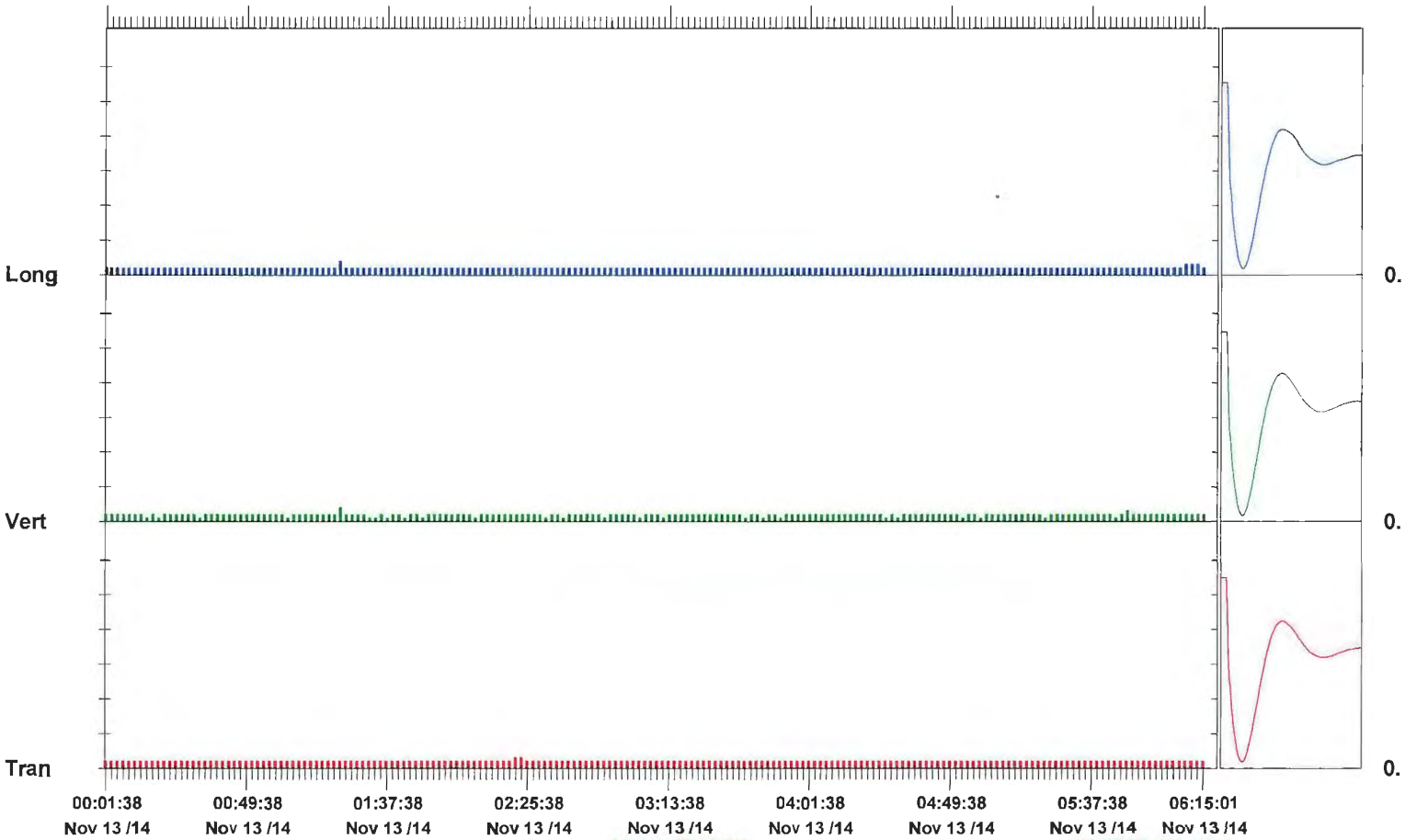


Exhibit Three

Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.050 in/s/div

Sensor Check

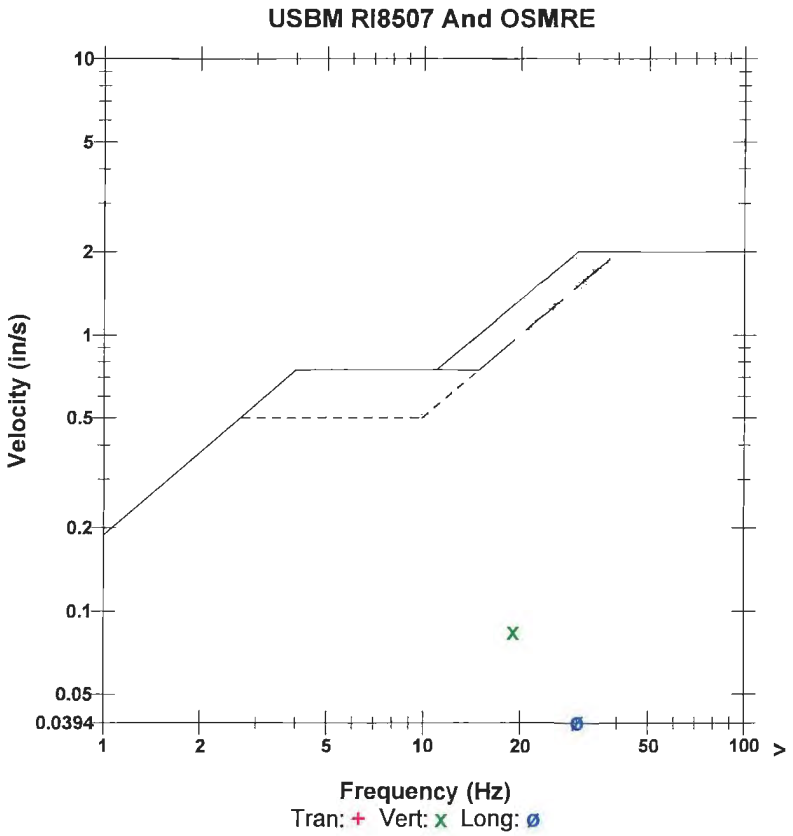
City of Howell Offices | Third Floor Vibration Sensor | HRC Job No. 20130632

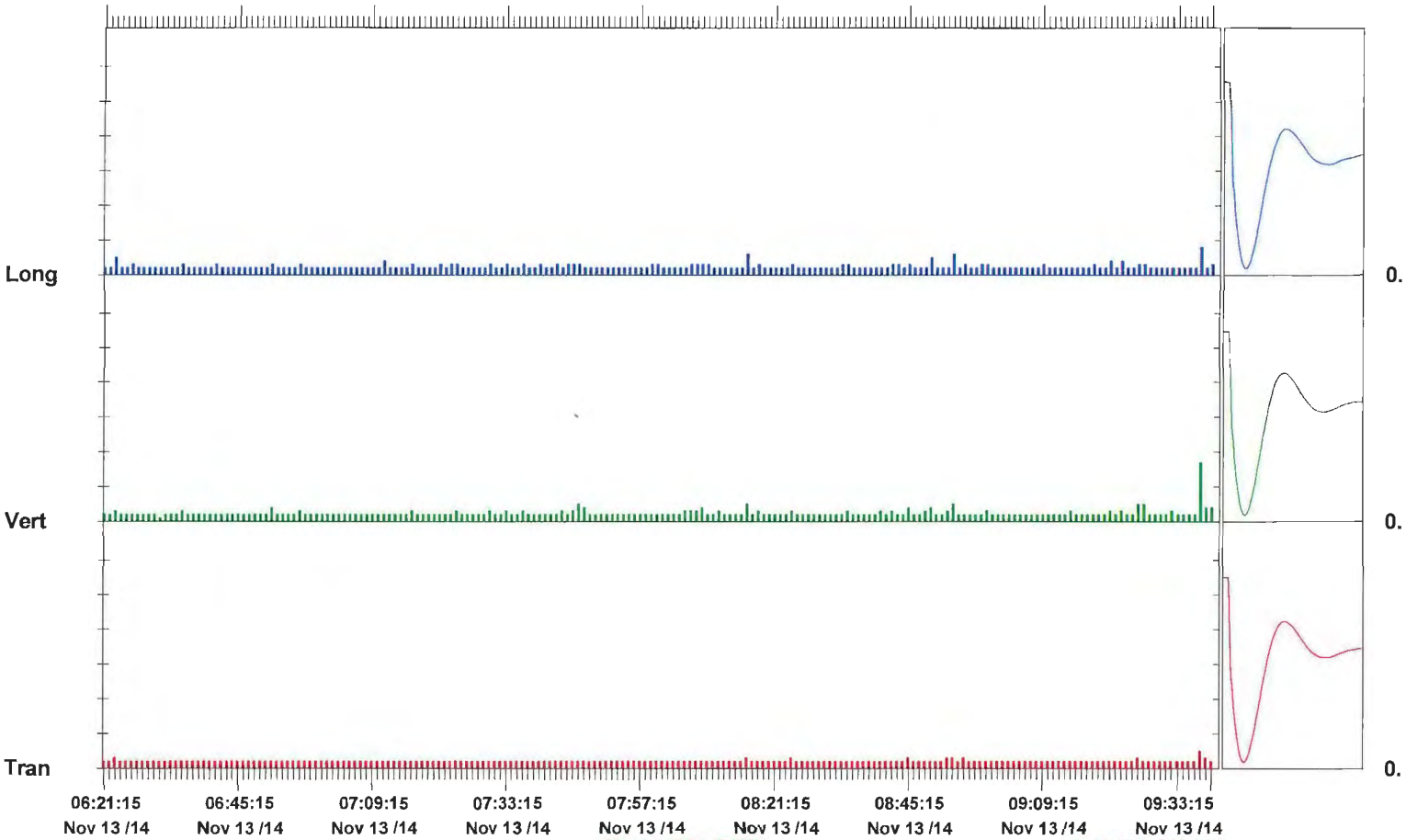
Histogram Start Time	06:20:15 November 13, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	09:40:15 November 13, 2014	**Battery Level**	6.8 Volts
Number of Intervals	199.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FL4H.LR0
Sample Rate	1024sps		

Notes
Project Name: Howell City Hall Vibration Study
Project Number: 143070
City/State Howell, MI

	Tran	Vert	Long	
PPV	0.025	0.085	0.040	in/s
ZC Freq	51	19	30	Hz
Date	Nov 13 /14	Nov 13 /14	Nov 13 /14	
Time	09:37:15	09:37:15	09:37:15	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.2	Hz
Overswing Ratio	3.9	3.7	3.9	

Peak Vector Sum 0.088 in/s on November 13, 2014 at 09:37:15





Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.050 in/s/div Sensor Check

City of Howell Offices | Third Floor Vibration Sensor | HRC Job No. 20130632

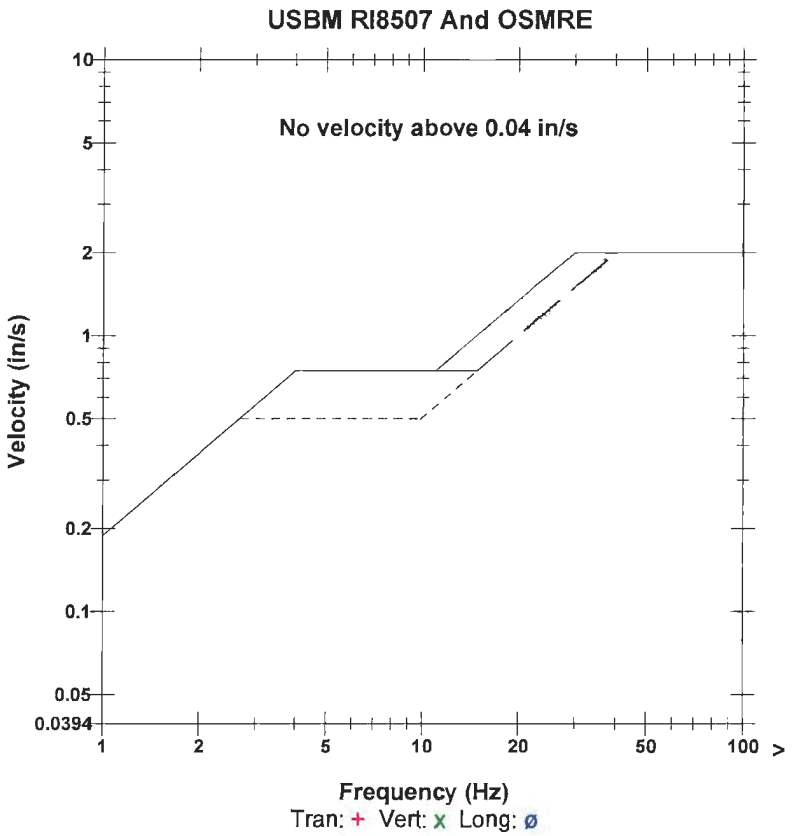
Histogram Start Time	09:46:27 November 13, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	19:45:00 November 13, 2014	**Battery Level**	6.8 Volts
Number of Intervals	599.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FL4R.5F0
Sample Rate	1024sps		

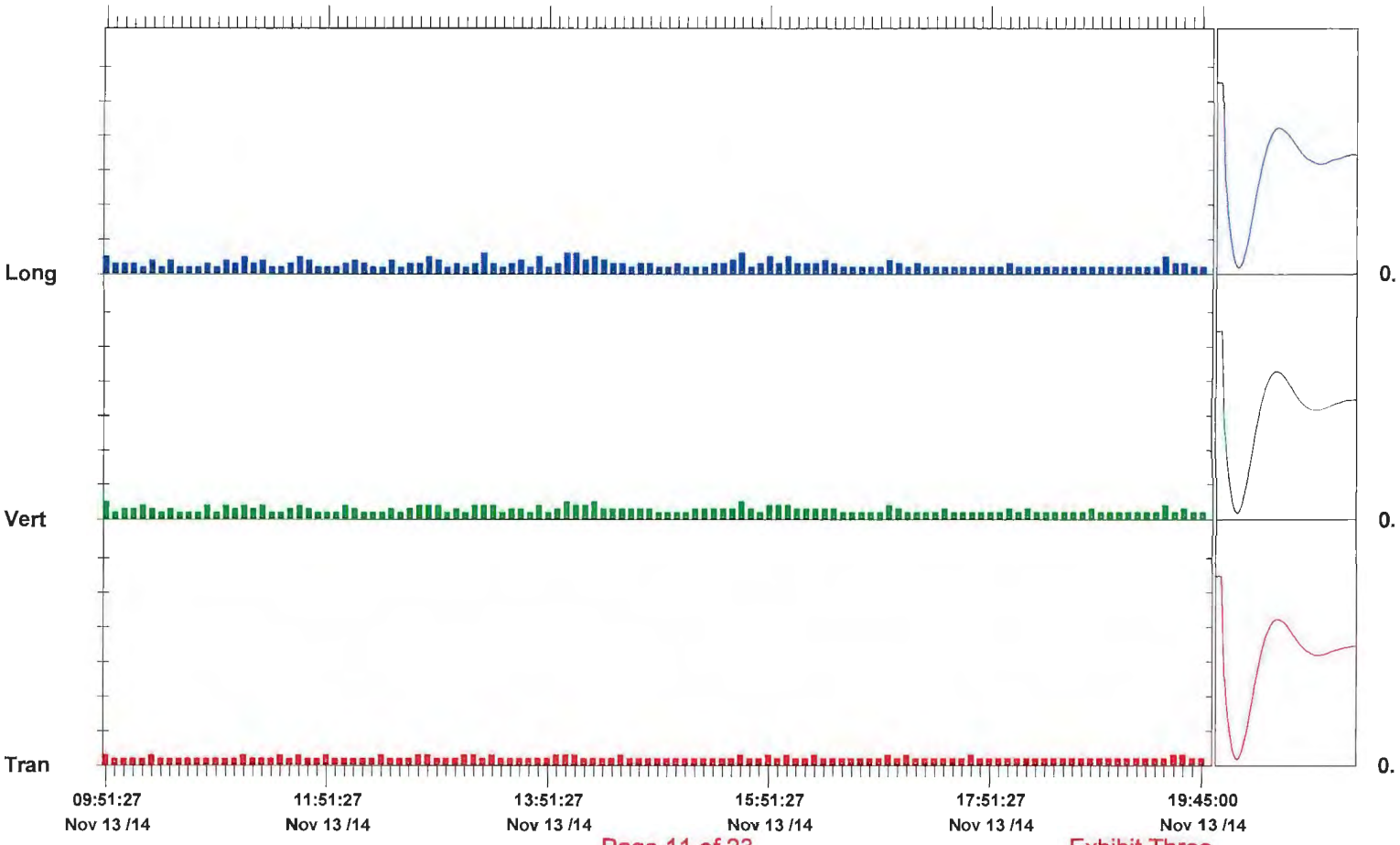
Notes

Project Name: Howell City Hall Vibration Study
Project Number: 143070
City/State Howell, MI

	Tran	Vert	Long	
PPV	0.015	0.025	0.030	in/s
ZC Freq	26	12	15	Hz
Date	Nov 13 /14	Nov 13 /14	Nov 13 /14	
Time	09:47:27	09:47:27	13:12:27	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.2	Hz
Overswing Ratio	3.9	3.6	4.0	

Peak Vector Sum 0.035 in/s on November 13, 2014 at 15:35:27





Time Scale: 5 minutes /div **Amplitude Scale:** Geo: 0.050 in/s/div Sensor Check

City of Howell Offices | Third Floor Vibration Sensor | HRC Job No. 20130632

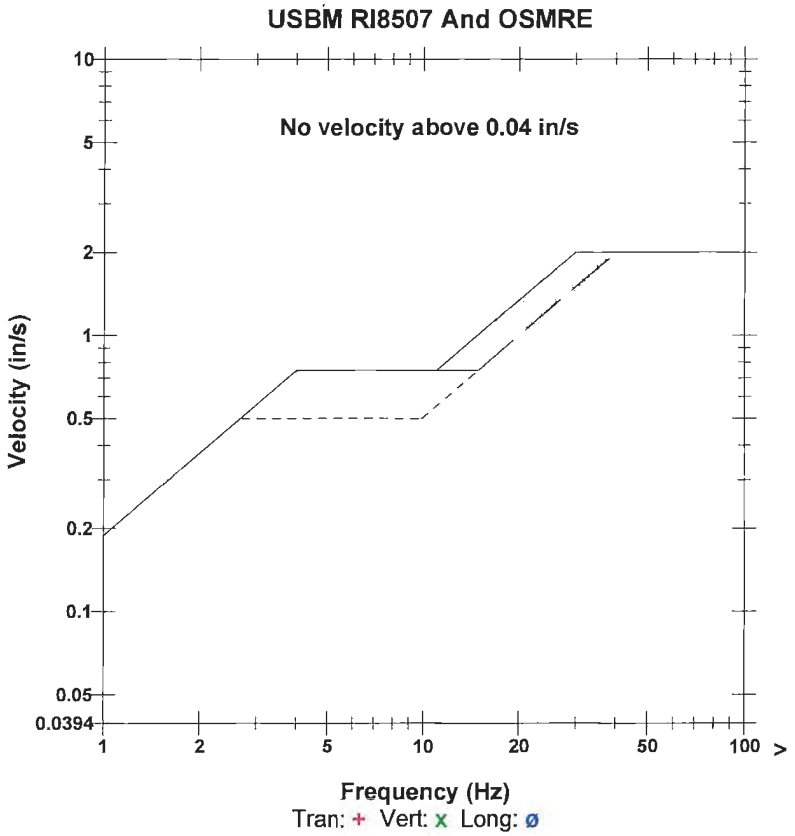
Histogram Start Time	19:50:14 November 13, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	23:59:28 November 13, 2014	**Battery Level**	6.8 Volts
Number of Intervals	249.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FL5J.3Q0
Sample Rate	1024sps		

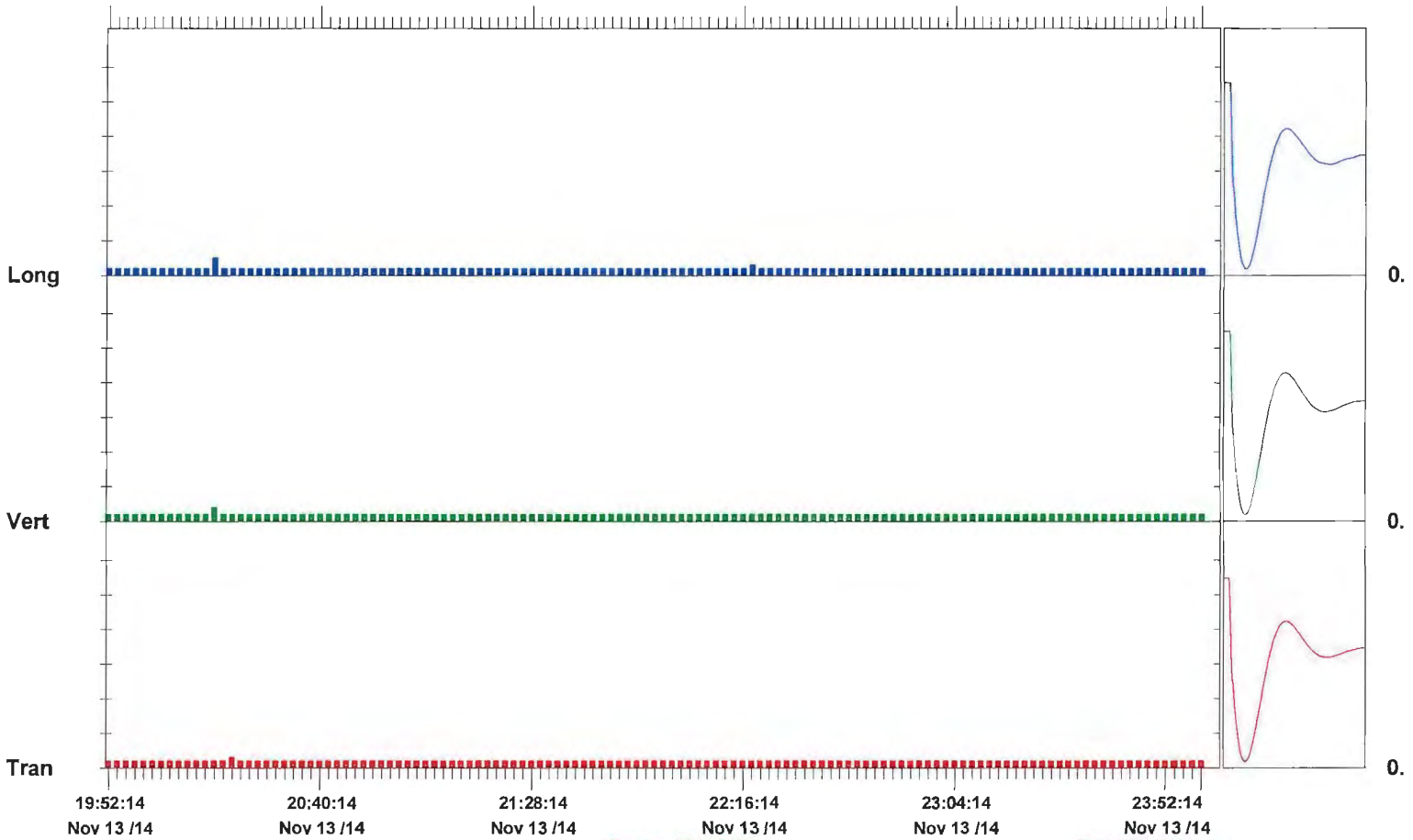
Notes

Project Name: Howell City Hall Vibration Study
Project Number: 143070
City/State Howell, MI

	Tran	Vert	Long	
PPV	0.015	0.020	0.025	in/s
ZC Freq	>100	16	15	Hz
Date	Nov 13 /14	Nov 13 /14	Nov 13 /14	
Time	20:20:14	20:15:14	20:15:14	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.2	Hz
Overswing Ratio	3.9	3.7	4.0	

Peak Vector Sum 0.030 in/s on November 13, 2014 at 20:15:14





Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.050 in/s/div

Sensor Check

Instantel

City of Howell Offices | Third Floor Vibration Sensor | HRC Job No. 20130632

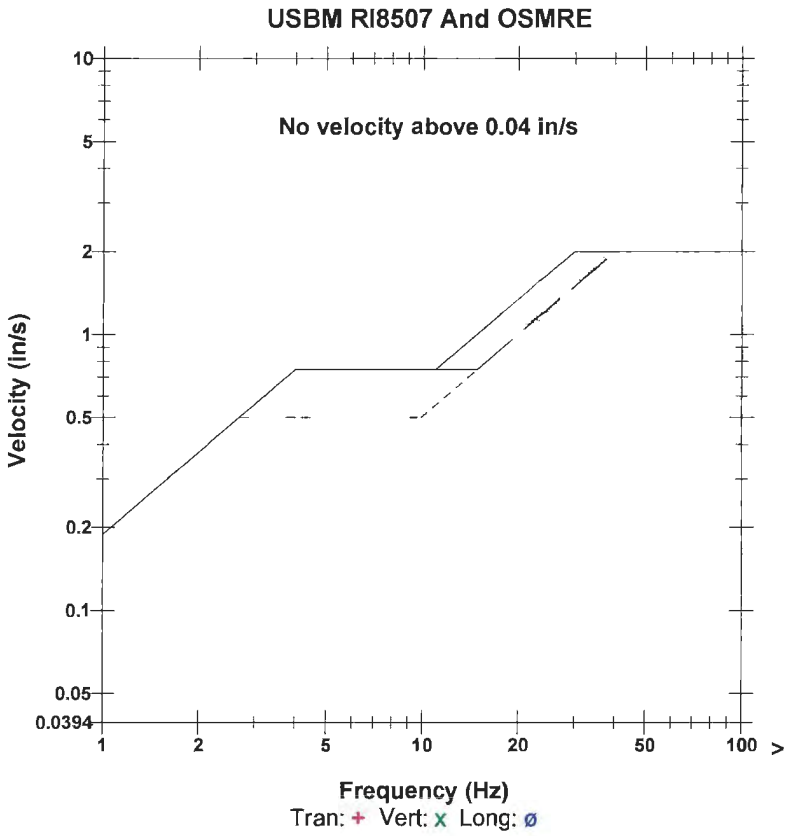
Histogram Start Time	23:59:38 November 13, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	06:15:01 November 14, 2014	**Battery Level**	6.8 Volts
Number of Intervals	376.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FL5U.NE0
Sample Rate	1024sps		

Notes

Project Name: Howell City Hall Vibration Study
Project Number: 143070
City/State Howell, MI

	Tran	Vert	Long	
PPV	0.015	0.025	0.035	in/s
ZC Freq	21	12	16	Hz
Date	Nov 14 /14	Nov 14 /14	Nov 14 /14	
Time	05:22:38	05:22:38	05:22:38	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.2	Hz
Overswing Ratio	3.9	3.7	4.0	

Peak Vector Sum 0.040 in/s on November 14, 2014 at 05:22:38



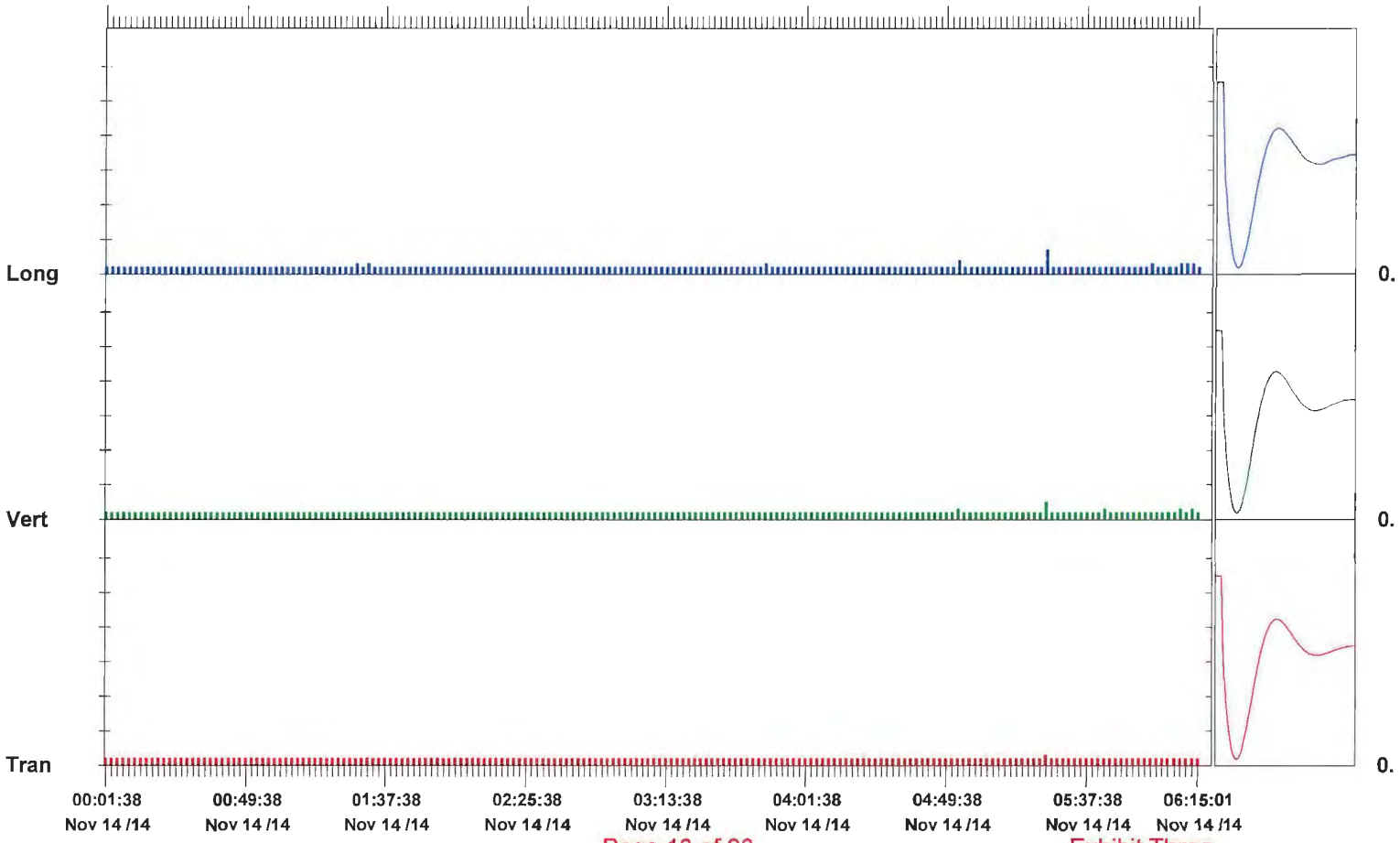


Exhibit Three

Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.050 in/s/div

Sensor Check

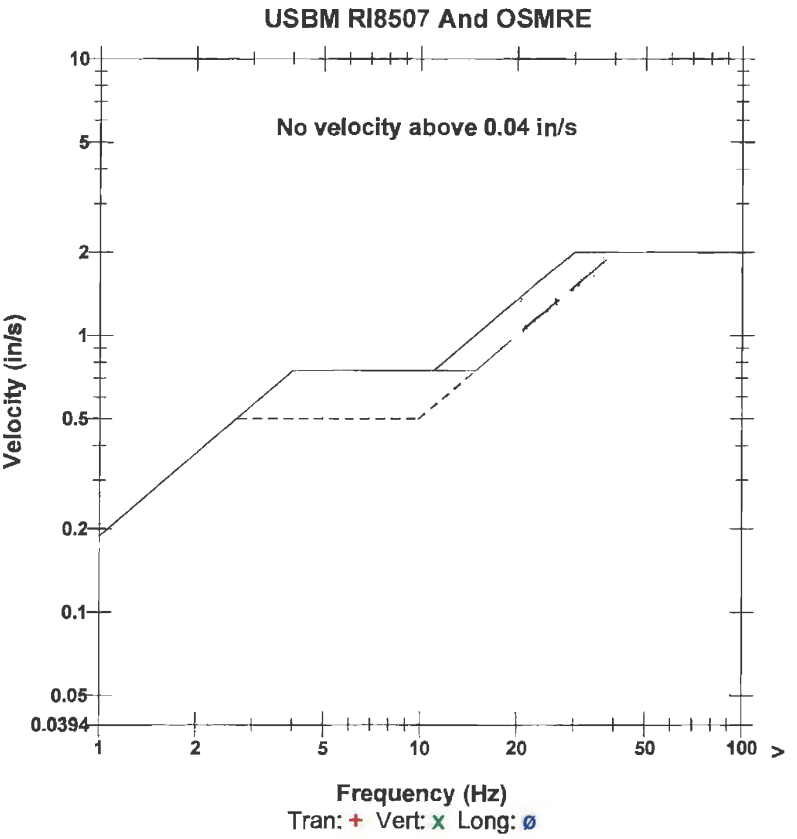
City of Howell Offices | Third Floor Vibration Sensor | HRC Job No. 20130632

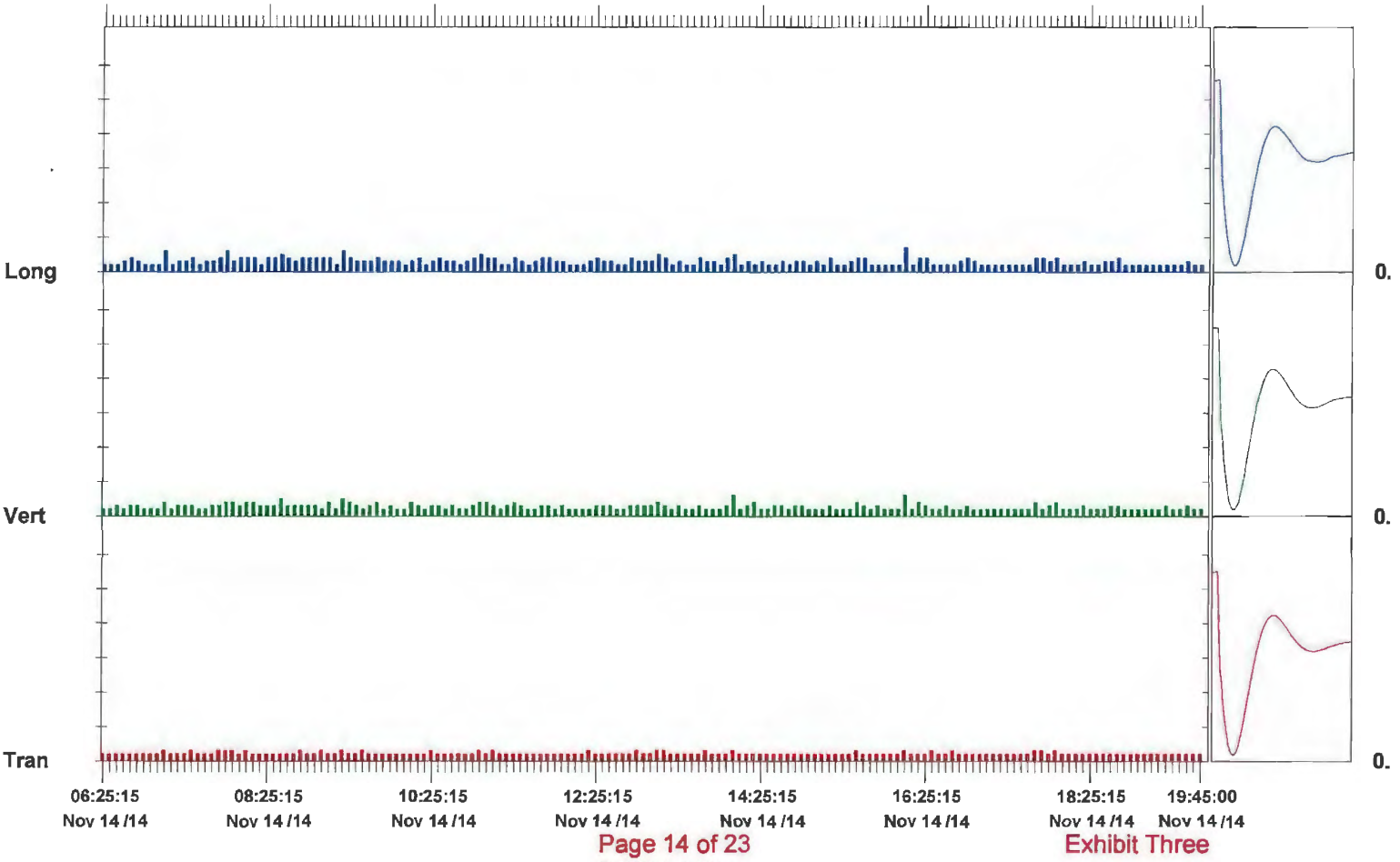
Histogram Start Time	06:20:15 November 14, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	19:45:00 November 14, 2014	**Battery Level**	6.8 Volts
Number of Intervals	805.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FL6C.9R0
Sample Rate	1024sps		

Notes
Project Name: Howell City Hall Vibration Study
Project Number: 143070
City/State Howell, MI

	Tran	Vert	Long	
PPV	0.015	0.030	0.035	in/s
ZC Freq	26	12	12	Hz
Date	Nov 14 /14	Nov 14 /14	Nov 14 /14	
Time	07:06:15	14:03:15	16:07:15	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.2	Hz
Overswing Ratio	3.9	3.7	3.9	

Peak Vector Sum 0.037 in/s on November 14, 2014 at 14:03:15





Time Scale: 5 minutes /div **Amplitude Scale:** Geo: 0.050 in/s/div Sensor Check

City of Howell Offices | Third Floor Vibration Sensor | HRC Job No. 20130632

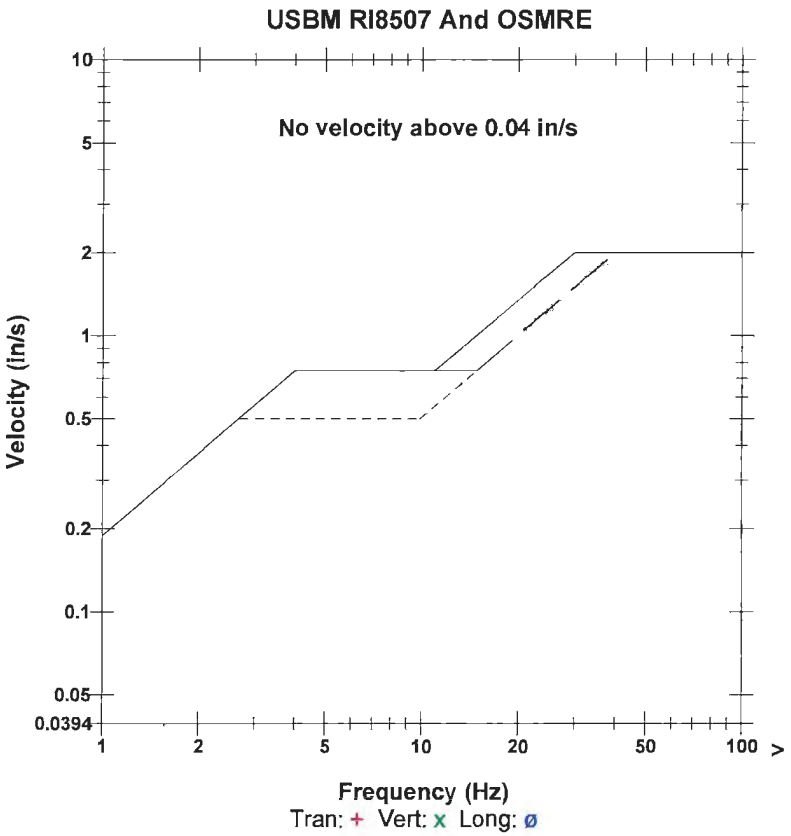
Histogram Start Time	19:50:14 November 14, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	23:59:28 November 14, 2014	**Battery Level**	6.8 Volts
Number of Intervals	249.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FL7D.RQ0
Sample Rate	1024sps		

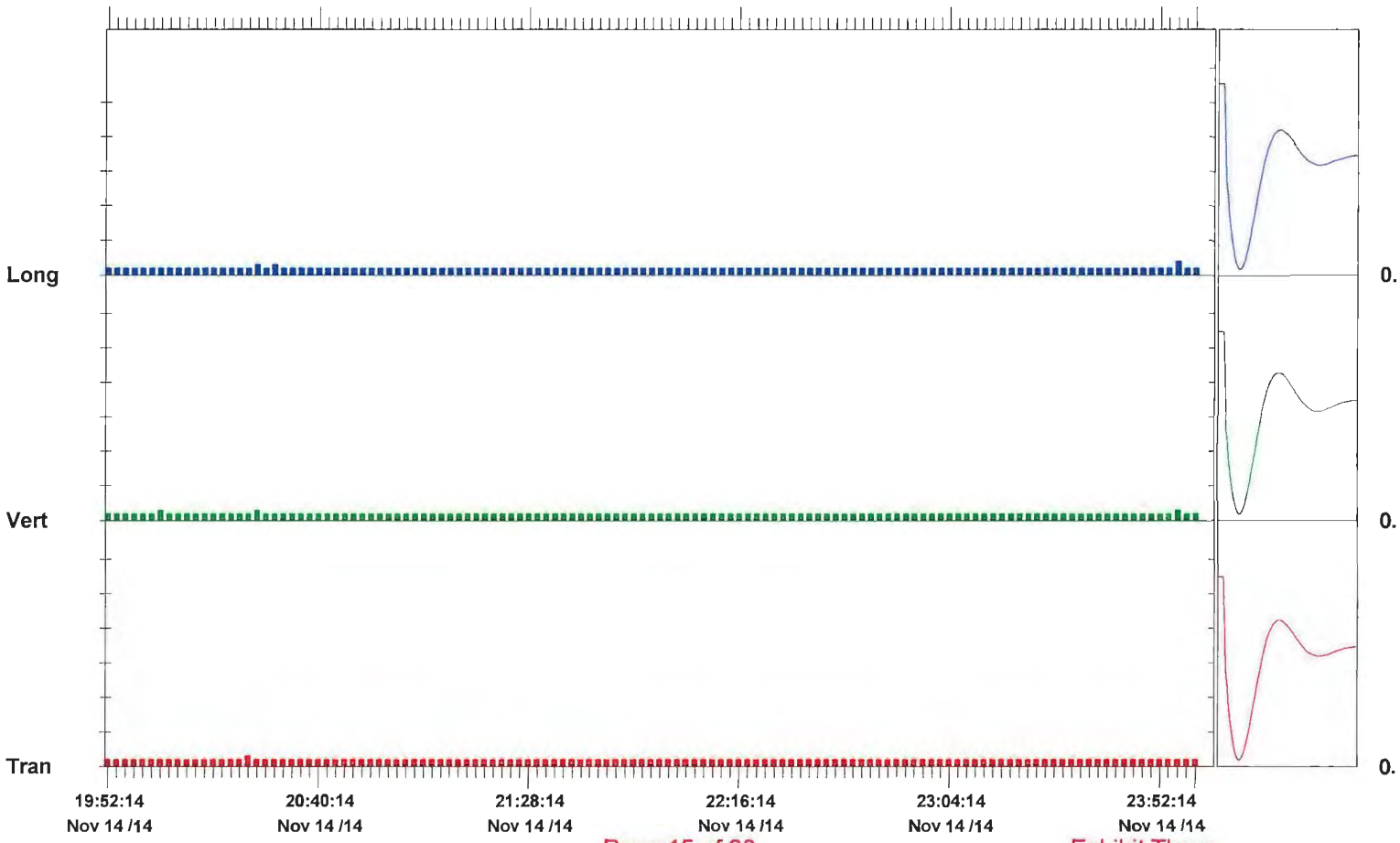
Notes

Project Name: Howell City Hall Vibration Study
Project Number: 143070
City/State Howell, MI

	Tran	Vert	Long	
PPV	0.015	0.015	0.020	in/s
ZC Freq	85	27	18	Hz
Date	Nov 14 /14	Nov 14 /14	Nov 14 /14	
Time	20:24:14	20:04:14	23:56:14	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.2	Hz
Overswing Ratio	3.9	3.7	4.0	

Peak Vector Sum 0.024 in/s on November 14, 2014 at 23:56:14





Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.050 in/s/div Sensor Check

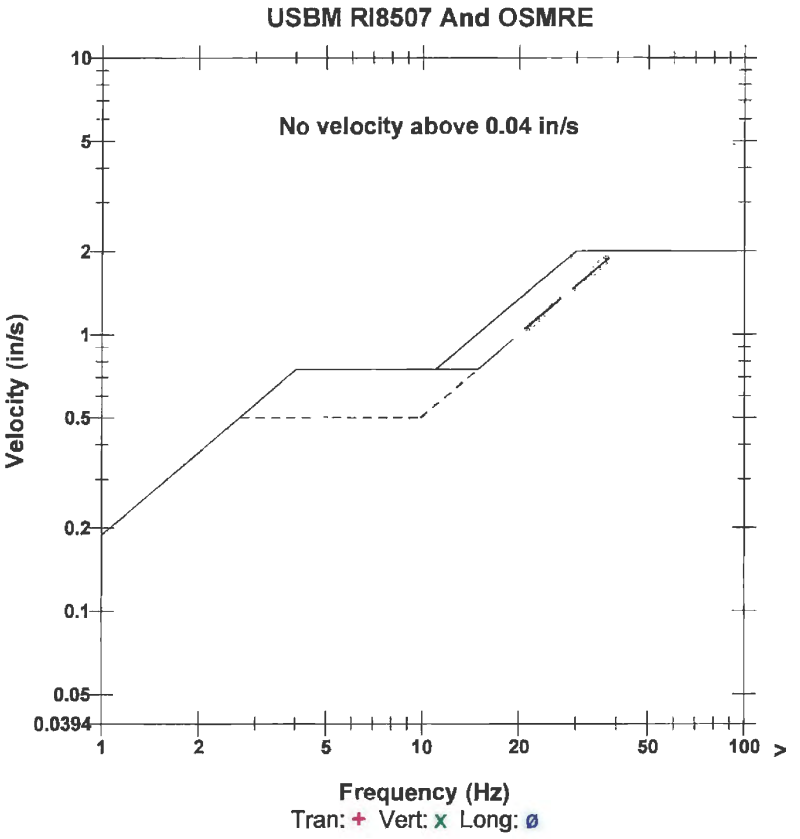
City of Howell Offices | Third Floor Vibration Sensor | HRC Job No. 20130632

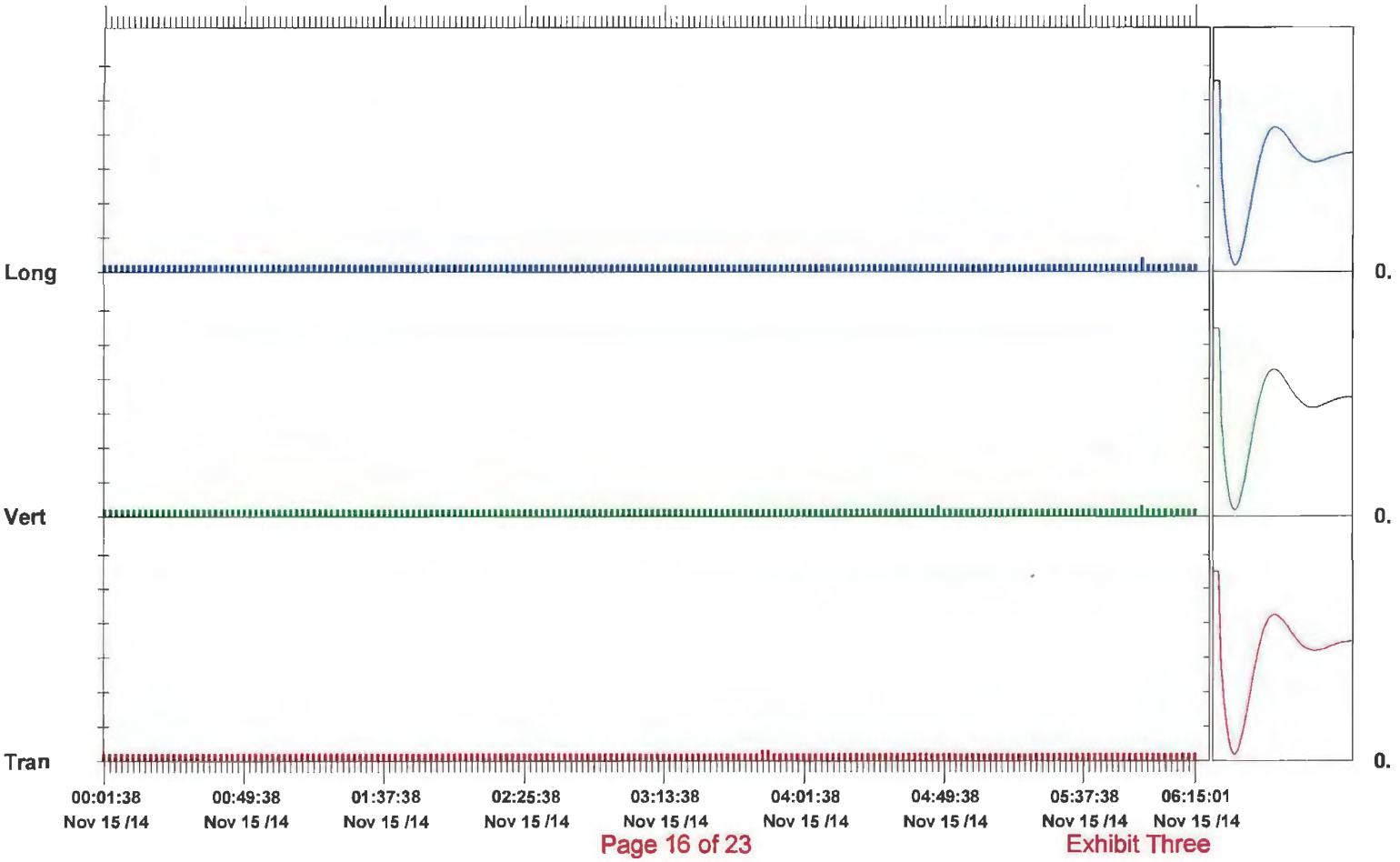
Histogram Start Time	23:59:38 November 14, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	06:15:01 November 15, 2014	**Battery Level**	6.8 Volts
Number of Intervals	376.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FL7P.BE0
Sample Rate	1024sps		

Notes
Project Name: Howell City Hall Vibration Study
Project Number: 143070
City/State Howell, MI

	Tran	Vert	Long	
PPV	0.015	0.015	0.020	in/s
ZC Freq	39	28	18	Hz
Date	Nov 15 /14	Nov 15 /14	Nov 15 /14	
Time	03:47:38	04:46:38	05:57:38	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.2	Hz
Overswing Ratio	3.9	3.7	4.0	

Peak Vector Sum 0.022 in/s on November 15, 2014 at 05:57:38





Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.050 in/s/div Sensor Check

City of Howell Offices | Third Floor Vibration Sensor | HRC Job No. 20130632

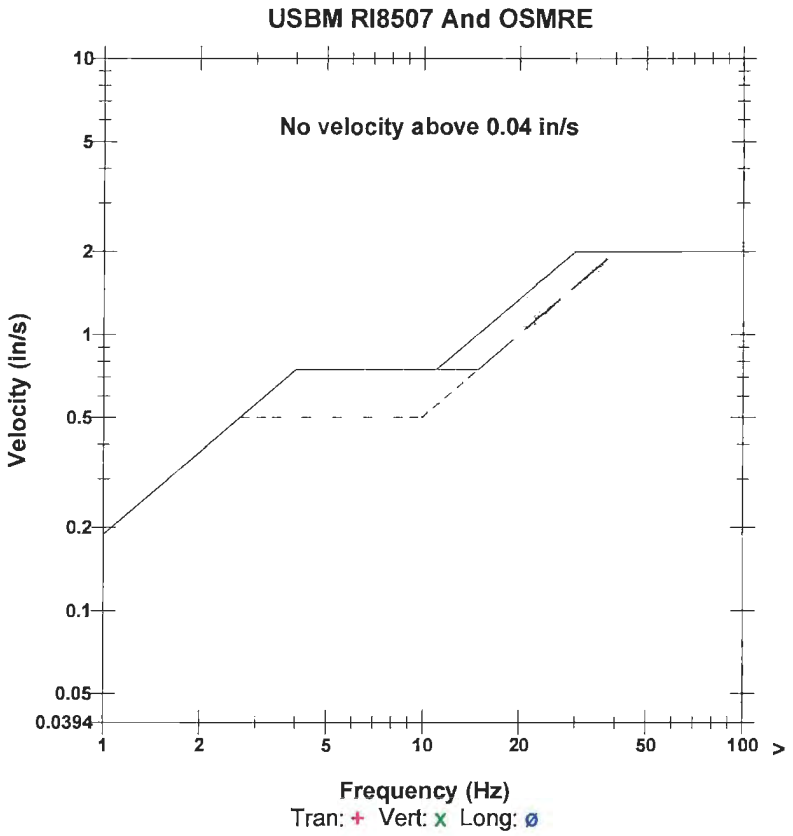
Histogram Start Time	06:20:15 November 15, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	19:45:00 November 15, 2014	**Battery Level**	6.8 Volts
Number of Intervals	805.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FL86.XR0
Sample Rate	1024sps		

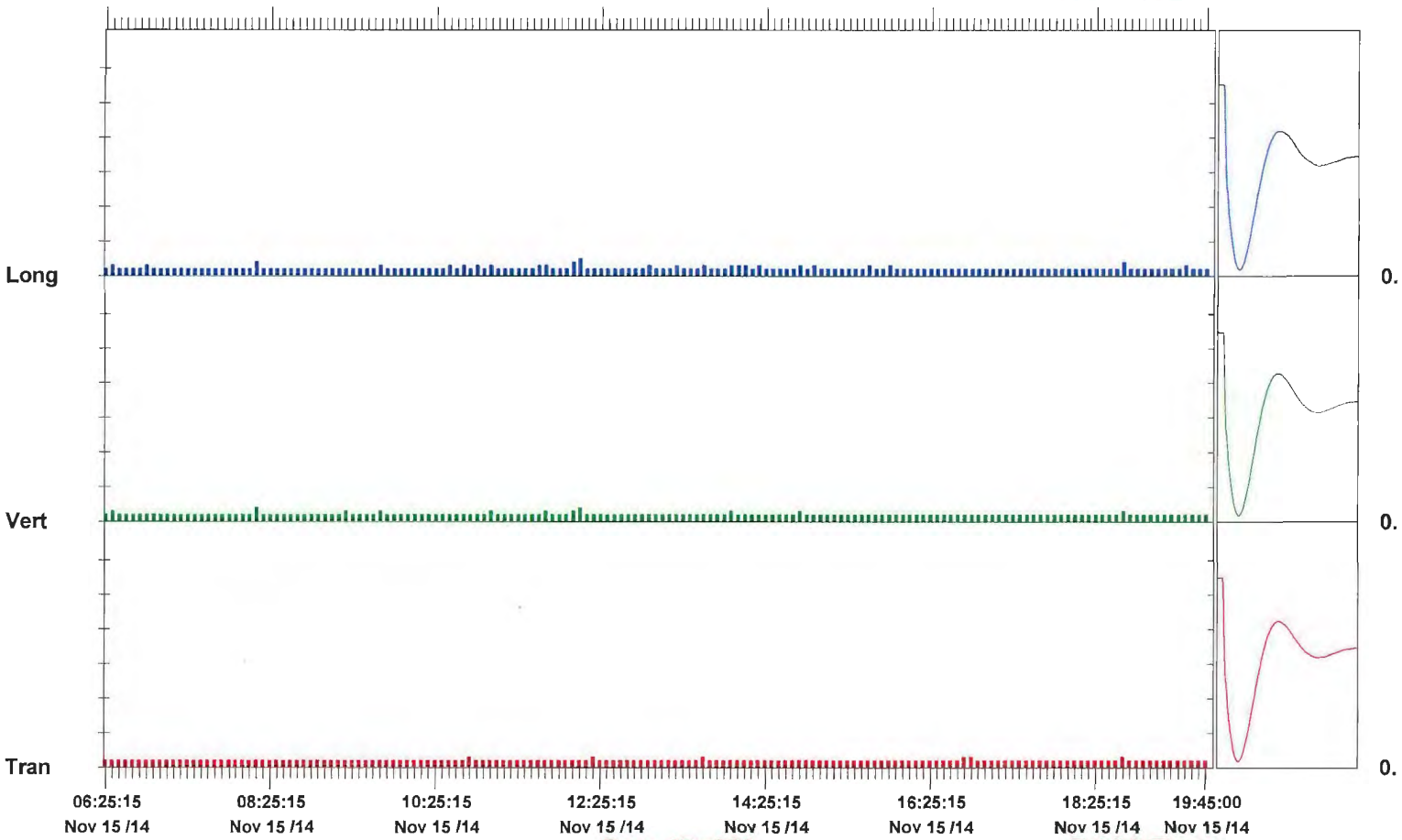
Notes

Project Name: Howell City Hall Vibration Study
Project Number: 143070
City/State Howell, MI

	Tran	Vert	Long	
PPV	0.015	0.020	0.025	in/s
ZC Freq	64	14	12	Hz
Date	Nov 15 /14	Nov 15 /14	Nov 15 /14	
Time	10:46:15	08:14:15	12:08:15	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.2	Hz
Overswing Ratio	3.9	3.7	4.1	

Peak Vector Sum 0.031 in/s on November 15, 2014 at 12:08:15





Time Scale: 5 minutes /div **Amplitude Scale:** Geo: 0.050 in/s/div Sensor Check

City of Howell Offices | Third Floor Vibration Sensor | HRC Job No. 20130632

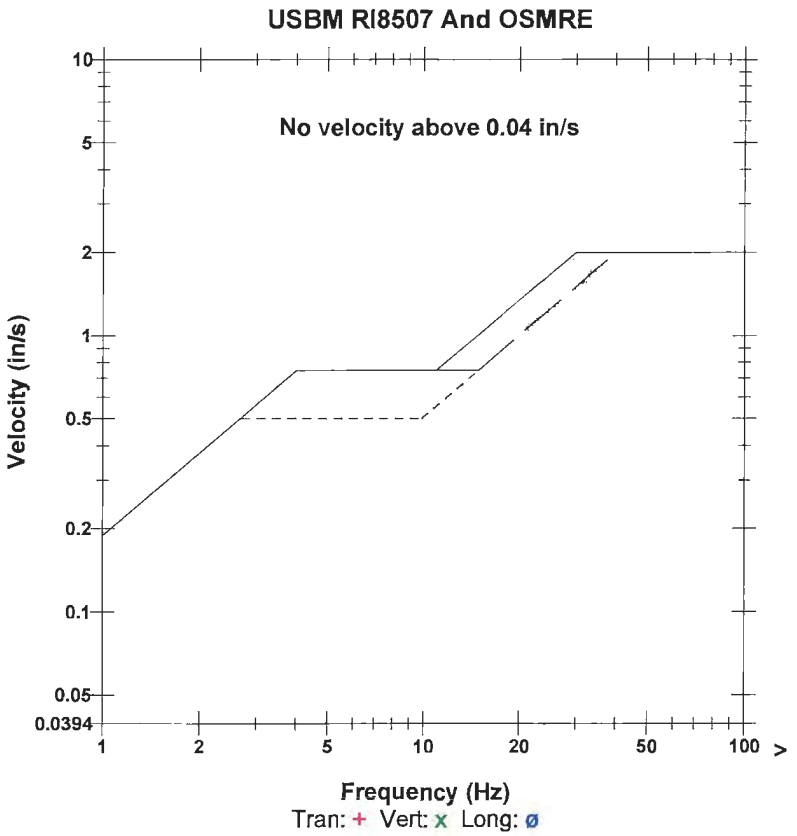
Histogram Start Time	19:50:14 November 15, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	23:59:28 November 15, 2014	**Battery Level**	6.8 Volts
Number of Intervals	249.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FL98.FQ0
Sample Rate	1024sps		

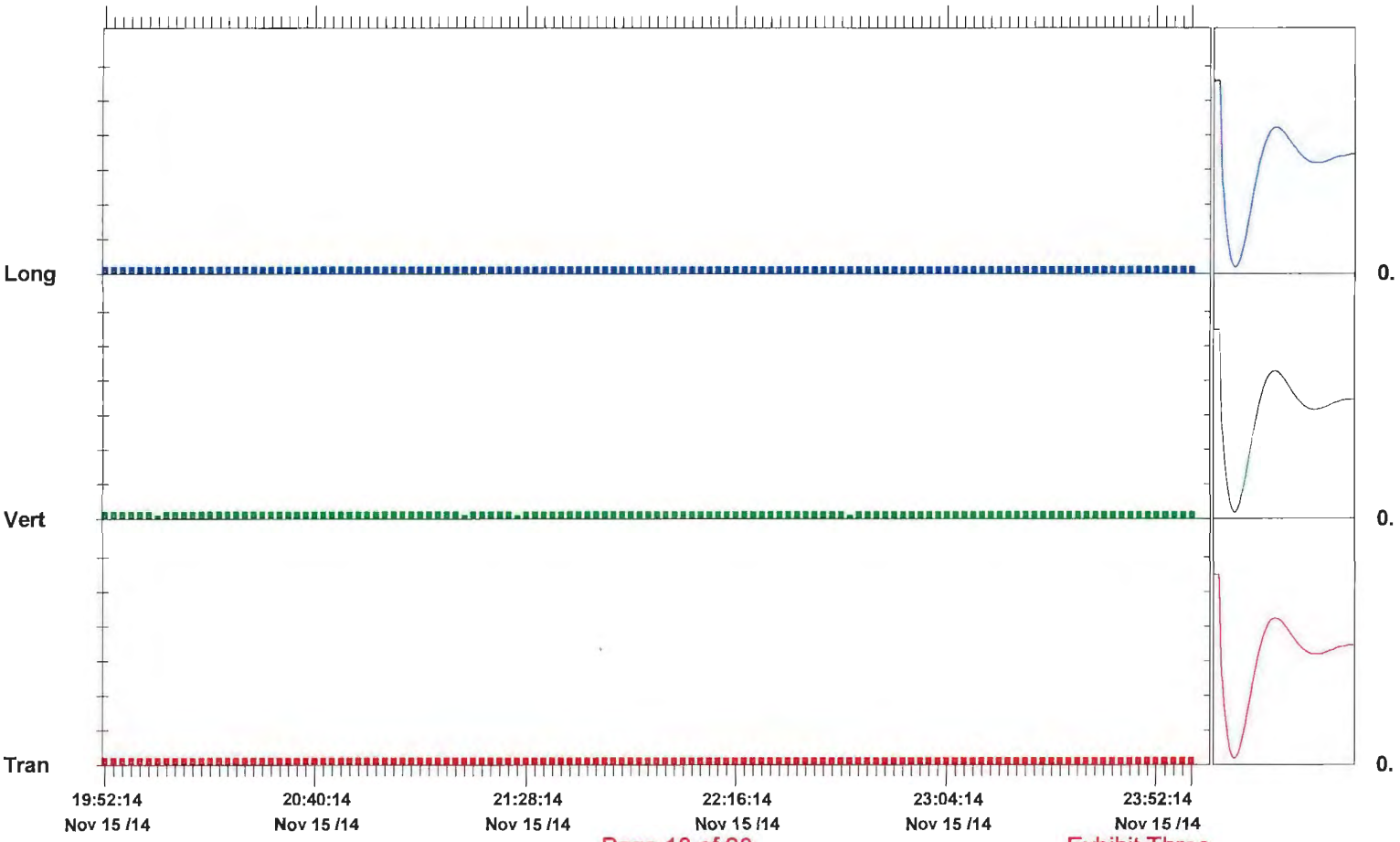
Notes

Project Name: Howell City Hall Vibration Study
Project Number: 143070
City/State Howell, MI

	Tran	Vert	Long	
PPV	0.010	0.010	0.010	in/s
ZC Freq	>100	>100	>100	Hz
Date	Nov 15 /14	Nov 15 /14	Nov 15 /14	
Time	19:51:14	19:51:14	19:51:14	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.2	Hz
Overswing Ratio	3.9	3.7	3.9	

Peak Vector Sum 0.017 in/s on November 15, 2014 at 21:19:14





Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.050 in/s/div

Sensor Check

City of Howell Offices | Third Floor Vibration Sensor | HRC Job No. 20130632

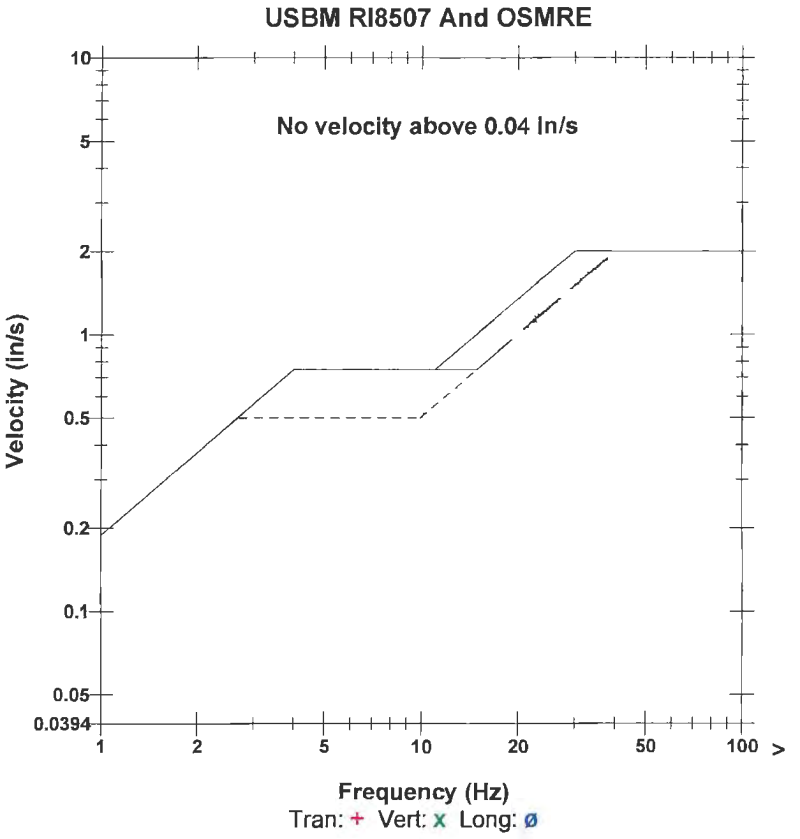
Histogram Start Time	23:59:38 November 15, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	06:15:01 November 16, 2014	**Battery Level**	6.8 Volts
Number of Intervals	376.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FL9J.ZE0
Sample Rate	1024sps		

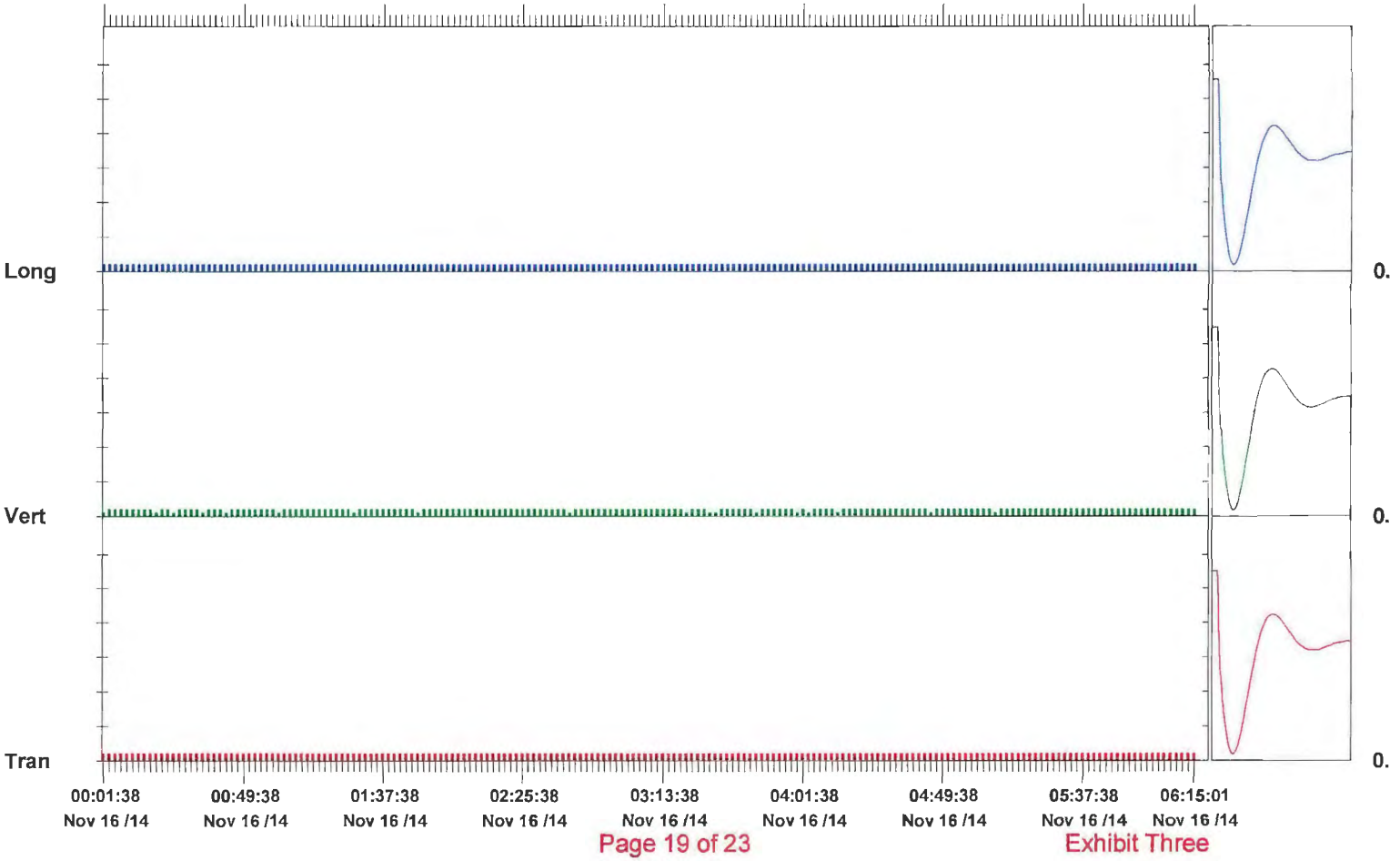
Notes

Project Name: Howell City Hall Vibration Study
Project Number: 143070
City/State Howell, MI

	Tran	Vert	Long	
PPV	0.010	0.010	0.010	in/s
ZC Freq	>100	>100	>100	Hz
Date	Nov 16 /14	Nov 16 /14	Nov 16 /14	
Time	00:00:38	00:03:38	00:00:38	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.2	Hz
Overswing Ratio	3.9	3.7	3.9	

Peak Vector Sum 0.017 in/s on November 16, 2014 at 03:55:38





Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.050 in/s/div Sensor Check

Instantel

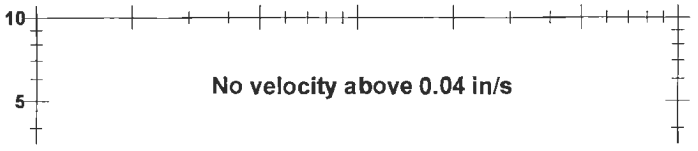
City of Howell Offices | Third Floor Vibration Sensor | HRC Job No. 20130632

Histogram Start Time	06:20:15 November 16, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	19:45:00 November 16, 2014	**Battery Level**	6.8 Volts
Number of Intervals	805.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FLA1.LR0
Sample Rate	1024sps		

Notes

Project Name:	Howell City Hall Vibration Study
Project Number:	143070
City/State	Howell, MI

USBM RI8507 And OSMRE



City of Howell Offices | Third Floor Vibration Sensor | HRC Job No. 20130632

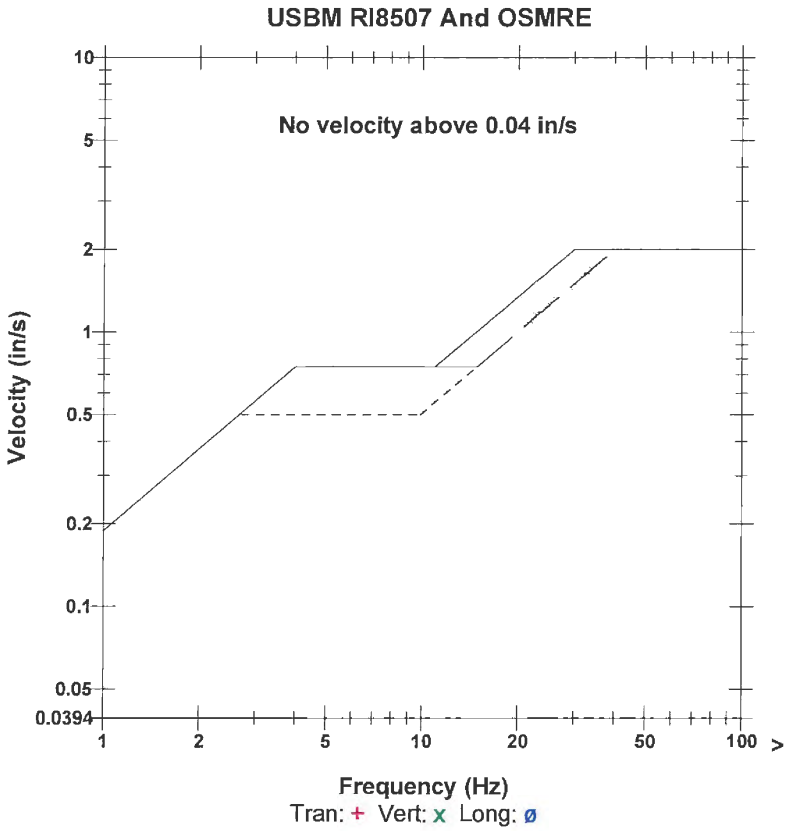
Histogram Start Time	19:50:14 November 16, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	23:59:28 November 16, 2014	**Battery Level**	6.8 Volts
Number of Intervals	249.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FLB3.3Q0
Sample Rate	1024sps		

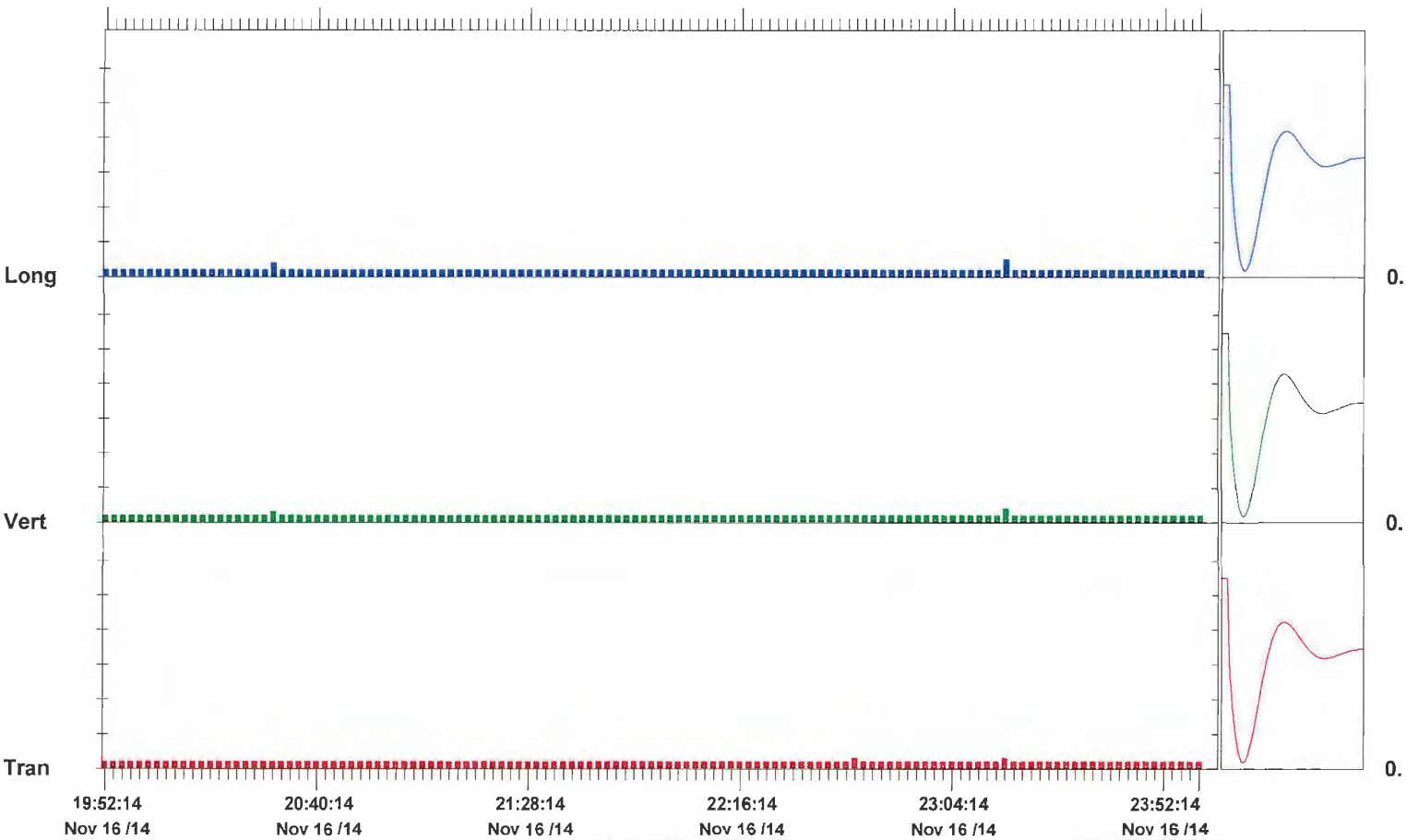
Notes

Project Name: Howell City Hall Vibration Study
Project Number: 143070
City/State Howell, MI

	Tran	Vert	Long	
PPV	0.015	0.020	0.025	in/s
ZC Freq	10	13	13	Hz
Date	Nov 16 /14	Nov 16 /14	Nov 16 /14	
Time	22:42:14	23:16:14	23:16:14	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.4	7.2	Hz
Overswing Ratio	3.9	3.6	4.0	

Peak Vector Sum 0.031 in/s on November 16, 2014 at 23:16:14





Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.050 in/s/div Sensor Check

City of Howell Offices | Third Floor Vibration Sensor | HRC Job No. 20130632

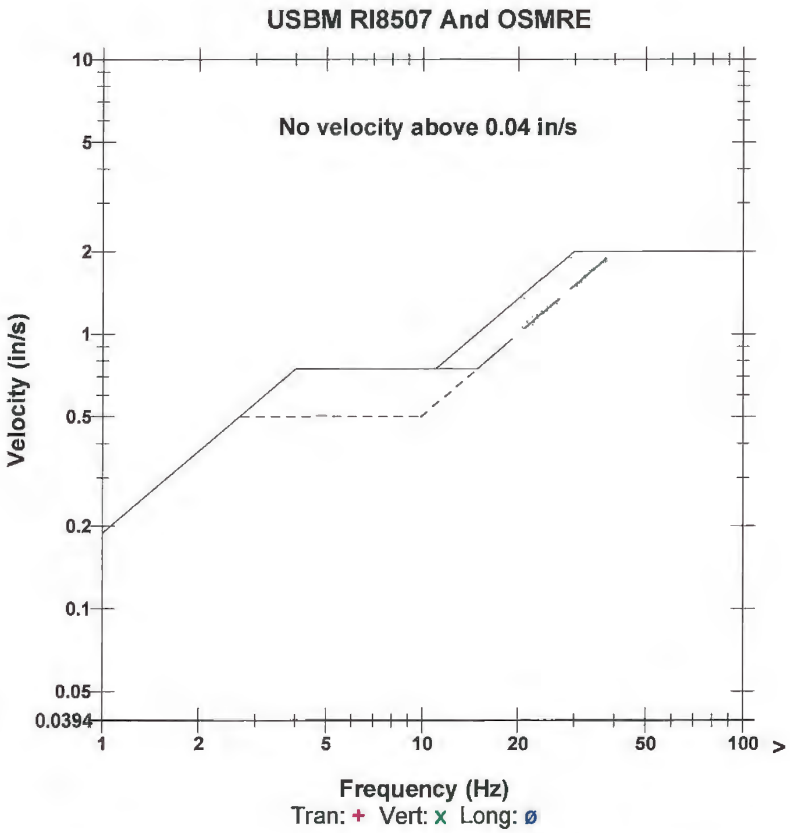
Histogram Start Time	23:59:38 November 16, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	06:15:01 November 17, 2014	**Battery Level**	6.8 Volts
Number of Intervals	376.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FLBE.NE0
Sample Rate	1024sps		

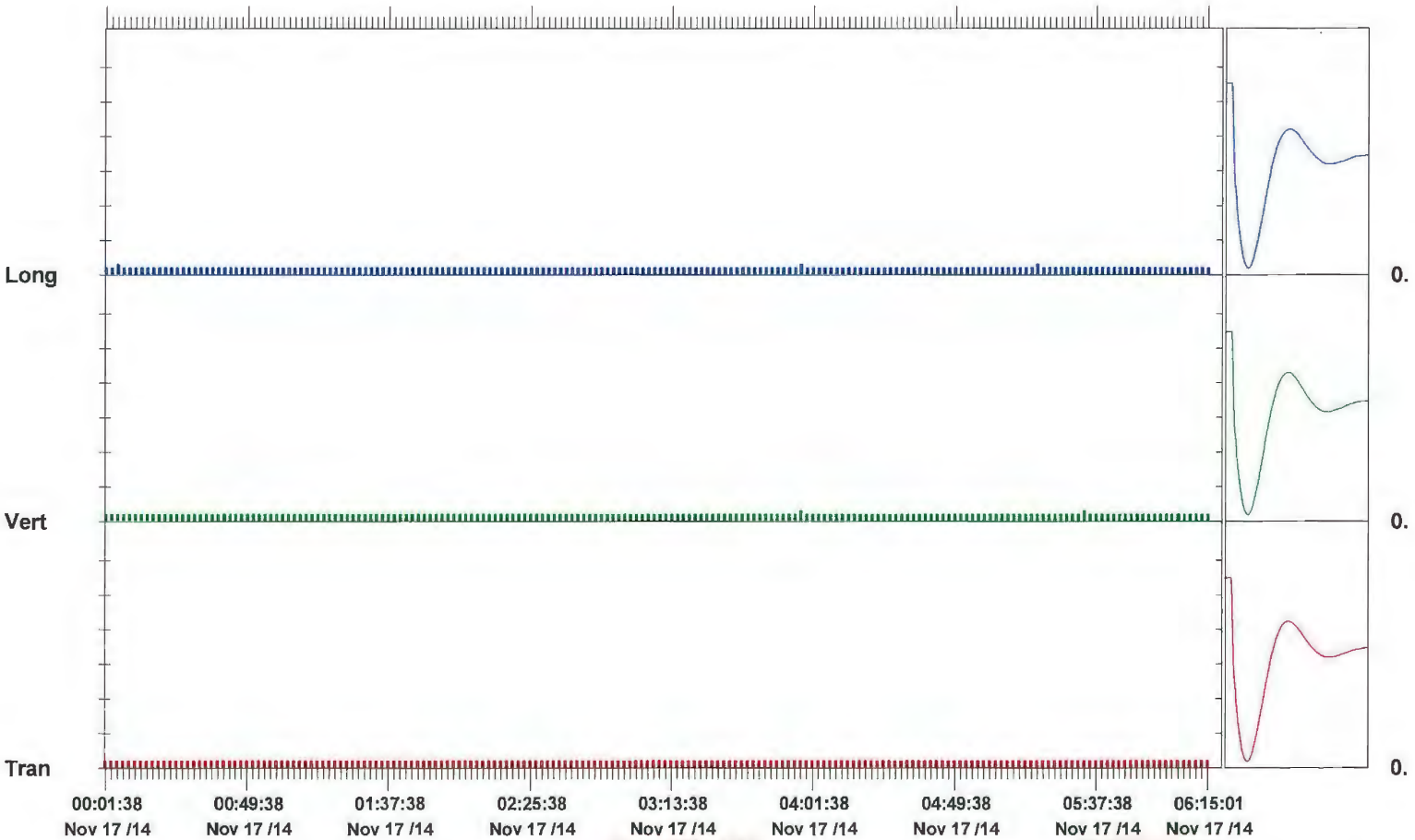
Notes

Project Name: Howell City Hall Vibration Study
Project Number: 143070
City/State Howell, MI

	Tran	Vert	Long	
PPV	0.010	0.015	0.015	in/s
ZC Freq	>100	34	26	Hz
Date	Nov 17 /14	Nov 17 /14	Nov 17 /14	
Time	00:00:38	03:56:38	00:04:38	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.4	7.2	Hz
Overswing Ratio	3.9	3.6	4.0	

Peak Vector Sum 0.019 in/s on November 17, 2014 at 03:56:38





Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.050 in/s/div Sensor Check

City of Howell Offices | Third Floor Vibration Sensor | HRC Job No. 20130632

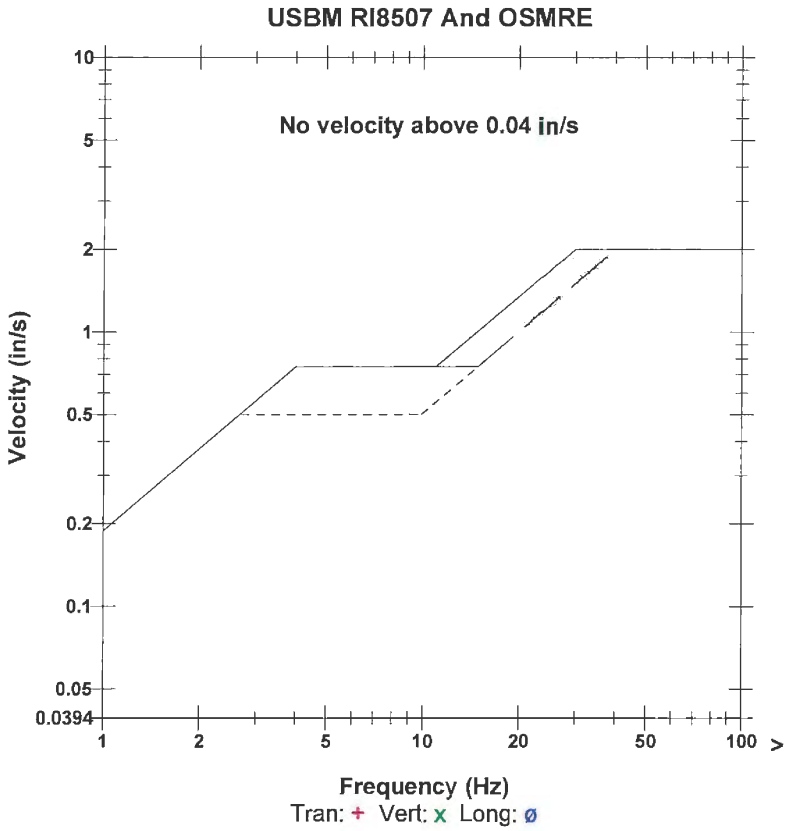
Histogram Start Time	06:20:15 November 17, 2014	**Serial Number**	BE11242 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	09:38:10 November 17, 2014	**Battery Level**	6.8 Volts
Number of Intervals	197.00 at 1 minute	**Unit Calibration**	July 16, 2014 by Instantel
Range	Geo:10.000 in/s	**File Name**	M242FLBW.9R0
Sample Rate	1024sps		

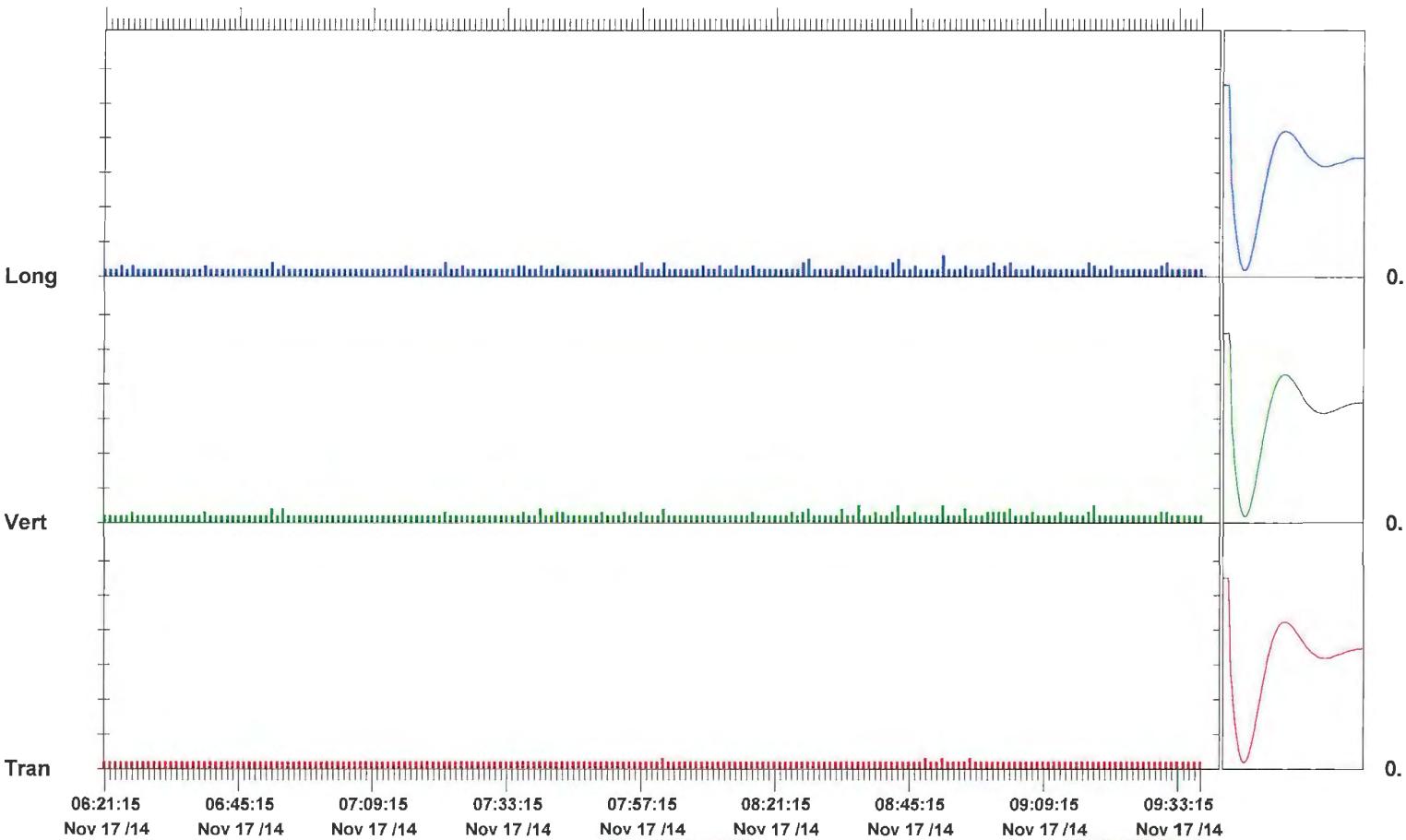
Notes

Project Name: Howell City Hall Vibration Study
Project Number: 143070
City/State Howell, MI

	Tran	Vert	Long	
PPV	0.015	0.025	0.030	in/s
ZC Freq	23	32	15	Hz
Date	Nov 17 /14	Nov 17 /14	Nov 17 /14	
Time	08:01:15	08:36:15	08:51:15	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.2	Hz
Overswing Ratio	3.9	3.7	4.0	

Peak Vector Sum 0.032 in/s on November 17, 2014 at 08:51:15





Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.050 in/s/div Sensor Check

HRC 100 YEARS
CONSULTING ENGINEERS SINCE 1915

PRINCIPALS

George E. Hubbell
Thomas E. Biehl
Walter H. Alix
Peter T. Roth
Keith D. McCormack
Nancy M. D. Faught
Daniel W. Mitchell
Jesse B. VanDeCreek
Roland N. Alix

SENIOR ASSOCIATES

Gary J. Tressel
Kenneth A. Melchior
Randal L. Ford
William R. Davis
Dennis J. Benoit

ASSOCIATES

Jonathan E. Booth
Michael C. MacDonald
Marvin A. Olane
Robert F. DeFrain
Marshall J. Grazioli
Thomas D. LaCross
James F. Burton
Jane M. Graham
Donna M. Martin
Charles E. Hart

January 28, 2015

City of Howell
611 E. Grand River
Howell, Michigan 48843

Attn: Shea Charles, City Manager

Re: Laser Scan for Stairwell Wall
Crack Monitoring City Offices HRC Job No. 20140750

Dear Mr. Charles:

In accordance with our proposal, HRC performed laser scanning of the East and West stairwells. The purpose of the scan is to verify wall movement has occurred and how much has it moved. The laser scanning performed provides a benchmark for the current conditions.

The laser scan performed by HRC was started on the East side of the building using known survey control points. The exterior of the building was scanned. The control was then surveyed into the stairwell. Control was then used to scan into the basement of the stairwell and up to the third floor by traversing using laser targets. The crew was supervised onsite by one of our Professional Surveyors. This process was repeated for the West stairwell.

The scanned images were then brought into the office and combined together to reconstruct each stairwell and the exterior of the building in 3D. The final product also includes photographic documentation that links the laser scan and the photograph together. An electronic copy of the TruView file will be delivered under separate cover for review with you.

The scan of the East stairwell has revealed the third floor exterior brick wall has migrated easterly an average of one inch at this level. The base of the wall remains plumb.

The East stairwell masonry block, for this exterior wall, has migrated easterly an average of 5/8 inch. The base of the block wall remains plumb.

We also reviewed the three other interior walls of the stairwell. They appear to be as constructed, within construction tolerance, except where tearing may be occurring in the high corner.

Included herein is Figure S4 which documents our measurements taken. Each measurement is taken from a projection of the lower level masonry units extended vertically through the floors. We identify the area of concern with a detail. The East exterior wall is migrating outward starting from second floor.

We subsequently reviewed the building construction plans to find details of this stair well framing. We have included Figures S1, S2, and S3 for the three floor levels. Indicated on the figures are three alpha designations “A, B, C”. They are defined as follows:

- Bubble "A": No evidence of structural steel framing connection to masonry block in design plans.
- Bubble "B": No evidence of stairway block connection detail to masonry exterior wall in design plans.
- Bubble "C": Callout in design plans for floor joist connection to masonry exterior wall.

As verified in the field, the floor joists are constructed parallel to the exterior East wall. There appears to be no connection specified to be made to hold the masonry block wall or brick exterior to the joists at the roof level. There is a connection specified on floors 2 and 3 North of the stairwell only. No connection is specified South of the stairwell. This has not been field verified to the existence or absence of the connections. See Figures S1, S2 and S3 for the coded locations.

The scan of the West stairwell has revealed the exterior block wall is still within construction tolerance. The masonry block wall is exhibiting stress at the third floor 90 degree corner associated with the outside wall. Cracks are also evident in some mortar joints. Under the window there is a vertical crack but this does not appear to be relevant to wall rotation. The base of the wall remains plumb.

We also reviewed the three other interior walls of the stairwell. They appear to be as constructed, within construction tolerance, except where tearing may be occurring in the high corner.

As verified in the field the floor joists are constructed parallel to the exterior West wall. There appears to be no connection specified to be made to hold the masonry block wall or brick exterior to the joists at the roof level. There also appears to be no connection specified on floors 2 and 3 to the masonry block. This has not been field verified to the existence or absence of connections. See Figures S1, S2 and S3 for the coded locations.

Upon your review of the enclosed information, if you have any questions please do not hesitate to contact me. I would like to stop by, at your earliest convenience, and provide the TruView file. I will also show you how to review the information contained therein.

Very truly yours,
HUBBELL, ROTH & CLARK, INC.

Thomas D. LaCross, P.E.
Sr. Associate – Special Projects

Attachment: Figures S1, S2, and S3 Building Floor Framing Plans
Figure S4 Laser Scan Plan and Section East Stairwell

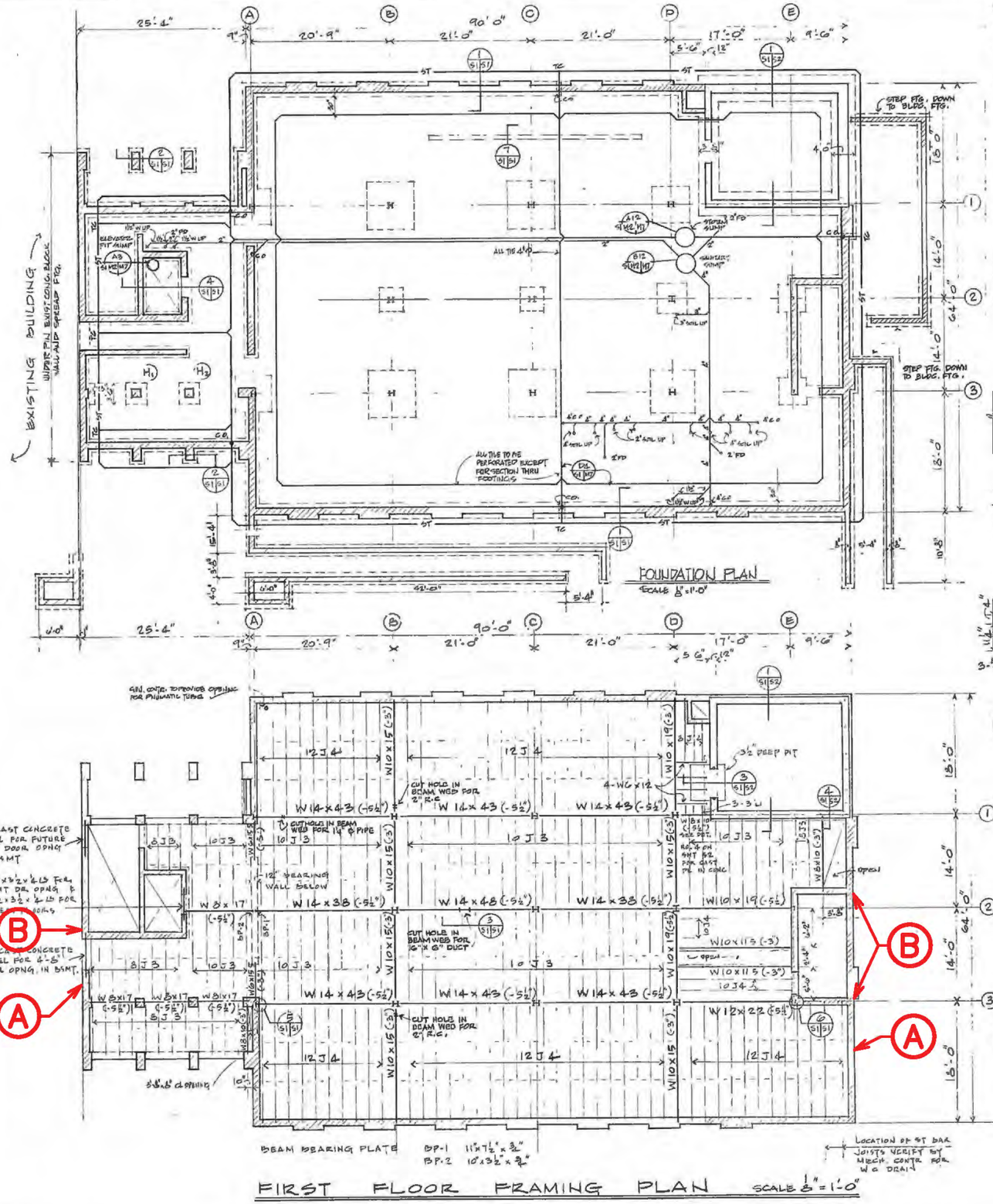
pc: HRC; Nancy Faught, P.E.

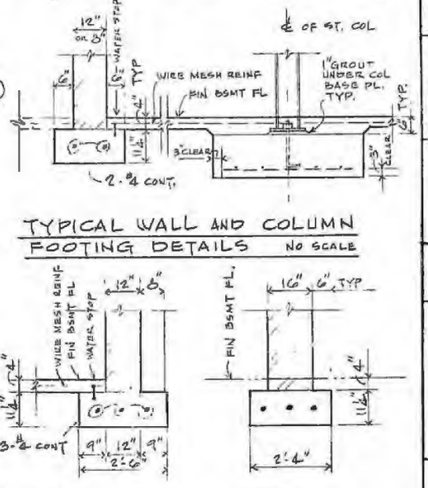
General Notes:

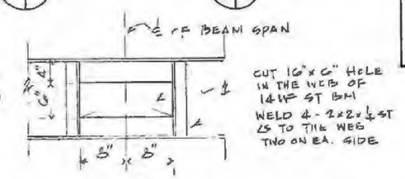
1. Foundation design based on allowable soil bearing of 4000 P.S.F. and all footings shall be over solid bearing.
2. Temporary bracing must be provided to resist all lateral forces until floor and roof decking are in place.
3. Bridging shall be provided for all floor joists.
4. The structural steel plans are intended to show the size of major steel members only. Miscellaneous steel to be furnished as shown on the architectural drawings.
5. Steel beams which are supported on masonry to have 7-1/2 minimum bearing length. Bearing to be on solid masonry units, three courses minimum with a one inch thick layer of grout between masonry and steel beam. Beams to be grouted or bricked tight into wall pockets.
6. Extend steel bar joists' bottom chords to supporting masonry walls and steel beams to facilitate ceiling installation and connect bottom chords to supporting column or beams.
7. Provide 3 x 3 x 5/16 steel angle welded to column to support structural bar joist, typical.
8. Steel angle fastened to masonry wall, use 5/8 inch diameter exp. bolts at 2'-0" on center.
9. Top of steel floor beams (5-1/2") shown are below finish floor line unless otherwise noted
10. See notes on sheet S-3.
11. Lightweight concrete for 3 inch topping over structural bar joists and 2 inch topping over precast concrete panels.
12. First Floor Load L.L. + D.L. = 140 P.S.F.
    Second & Third Floor Load, L.L. + D.L. = 120 P.S.F.

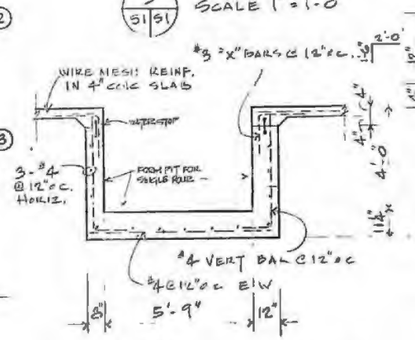
COLUMN AND FOOTING SCHEDULE

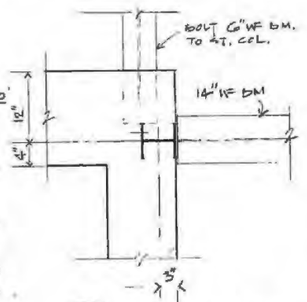
COL. NO	A_1 A_3	B_1 C_1 C_3	B_2 B_3	D_1	D_2	D_3	E_2 E_3	H_1 H_2
L.P. TOP OF ST. BAR JOISTS	3" TYP ADD 1" COL CAP	5" TYP ADD 1" COL CAP		5" ADD 3" COL CAP		5" ADD 2" COL CAP		
FIN 3rd FL. 12'-1"	W6 x 20	W8 x 24		W8 x 24	W8 x 24	W8 x 24	5" SQ TUBE	
FIN 2ND FL 12'-0"	16" TYP							
FIN 1ST FL 14'-0"	BASE PL. TYP W6x25	W8x48		W8x31	W8x24	W8x35	4x4 x 5 TUBE	
FIN. BSMT FL 11'-0"	5" TO BOTT OF W		W6x20					16" x 16" BRICK PIER
COLUMN BASE	11x11x⅞	14x14x1¼	10x10x⅝	11x11x⅞	10x10x¾	13x13x1⅛	10x10x⅞	
ANCHOR BOLTS	2-¾"ø	2-1"ø	2-¾"ø	2-¾"ø	2-¾"ø	2-1"ø	4-¾"ø	
CONCRETE FOOTING SIZE AND REINF	6'-0"x6'-0"x16" 6-#7 EA WAY	7'-0"x7'-0"x19" 8-#7 EA WAY	3'-6"x3'-6"x11½" 4-#5 EA WAY	5'-0"x5'-6"x15" 7-#6 EA WAY	4'-6"x4'-6"x12" 5-#6 EA. WAY	6'-6"x6'-6"x18" 7-#7 EA. WAY	4'-0"x4'-0"x11½" 6-#4 EA. WAY	3'-0"x3'-0"x11½" 4-#5 EA WAY
REMARKS							2-¾"ø ANCHOR BARS @ 32"o.c. WELD TO TUBE COL @ BLOCK JOINTS SEE DET 6 ON THIS SHT	

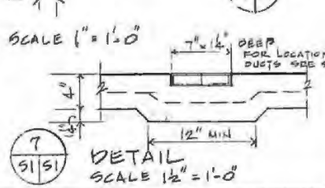












DETAIL SYMBOL
DETAIL NUMBER
LOCATION SHEET
DETAIL SHEET

FIRST FEDERAL SAVINGS AND LOAN ASSOC. of LIVINGSTON COUNTY
HOWELL, MICHIGAN

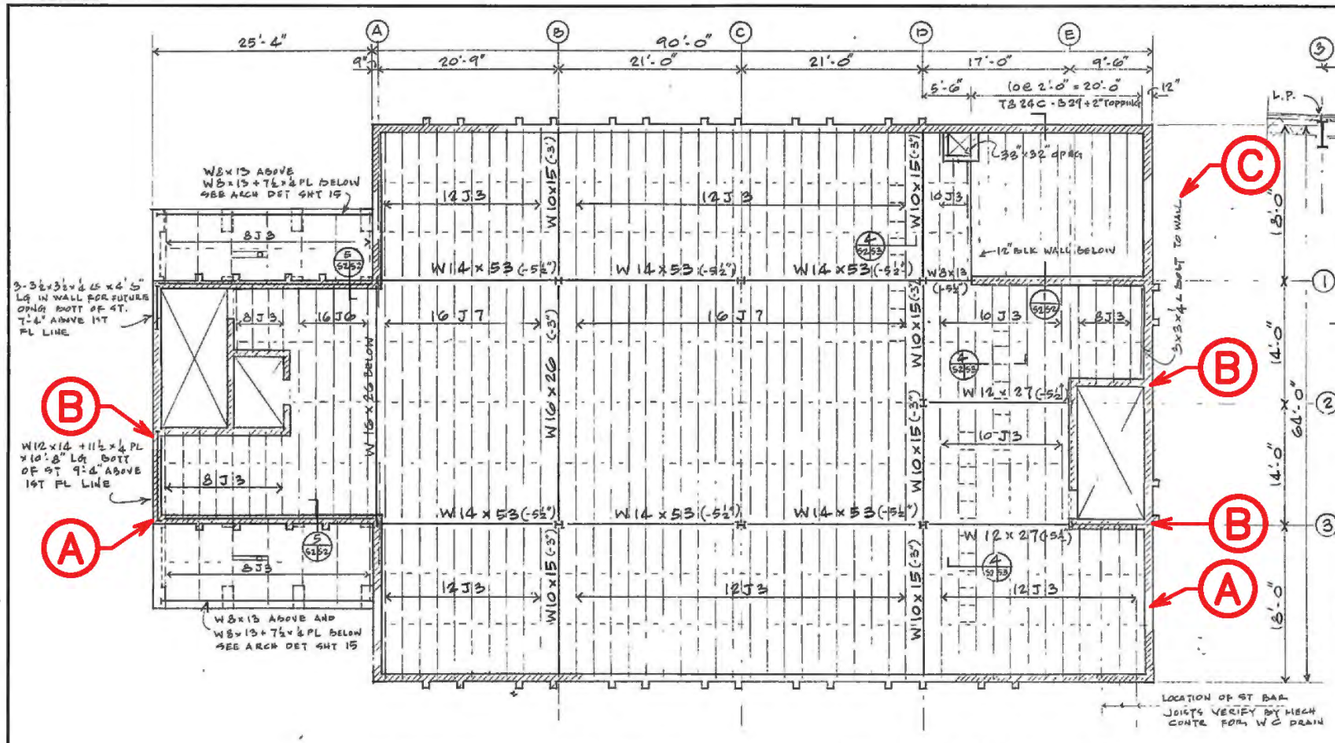
ANN ARBOR MICHIGAN

DANIELS AND ZERMACK
ARCHITECTURE ENGINEERING

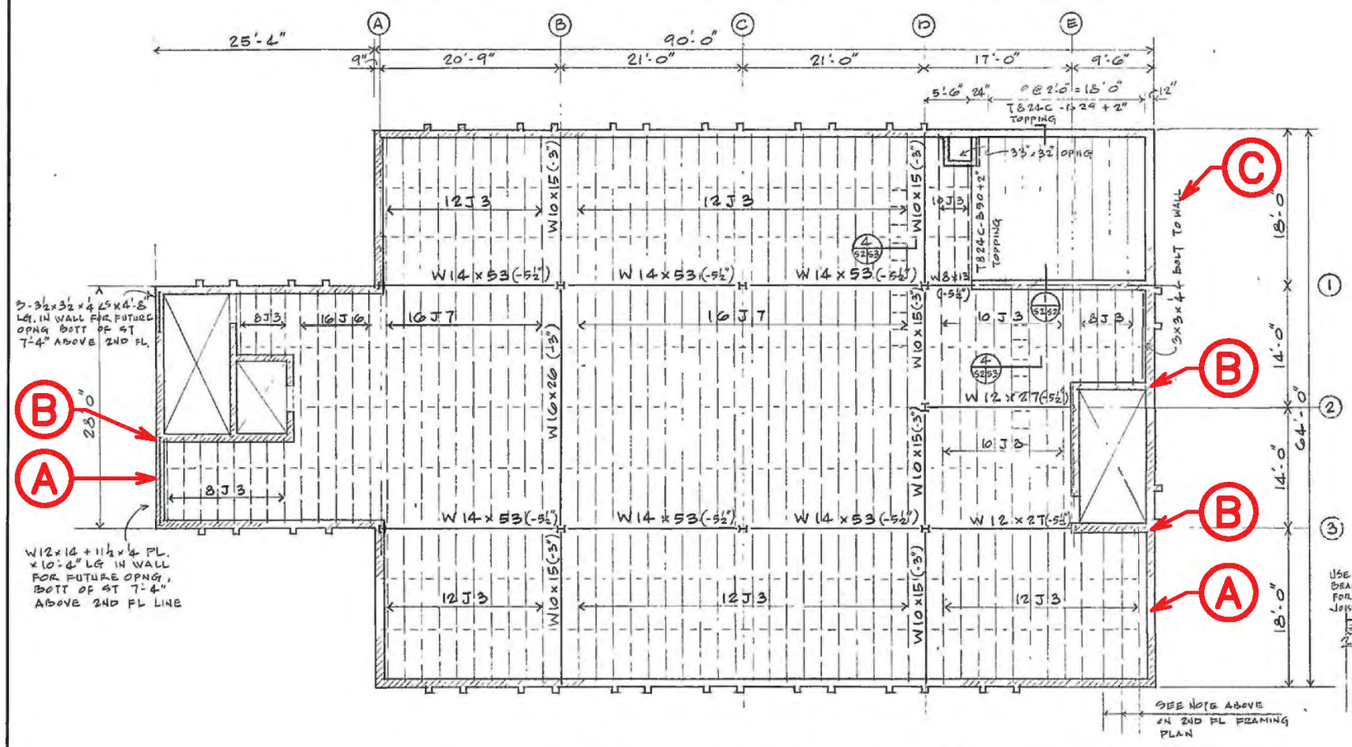
REVISION

JOB 76 07
DATE 18 MAR 77
DRAWN KW
CHECKED PB
SHEET 20 OF 37

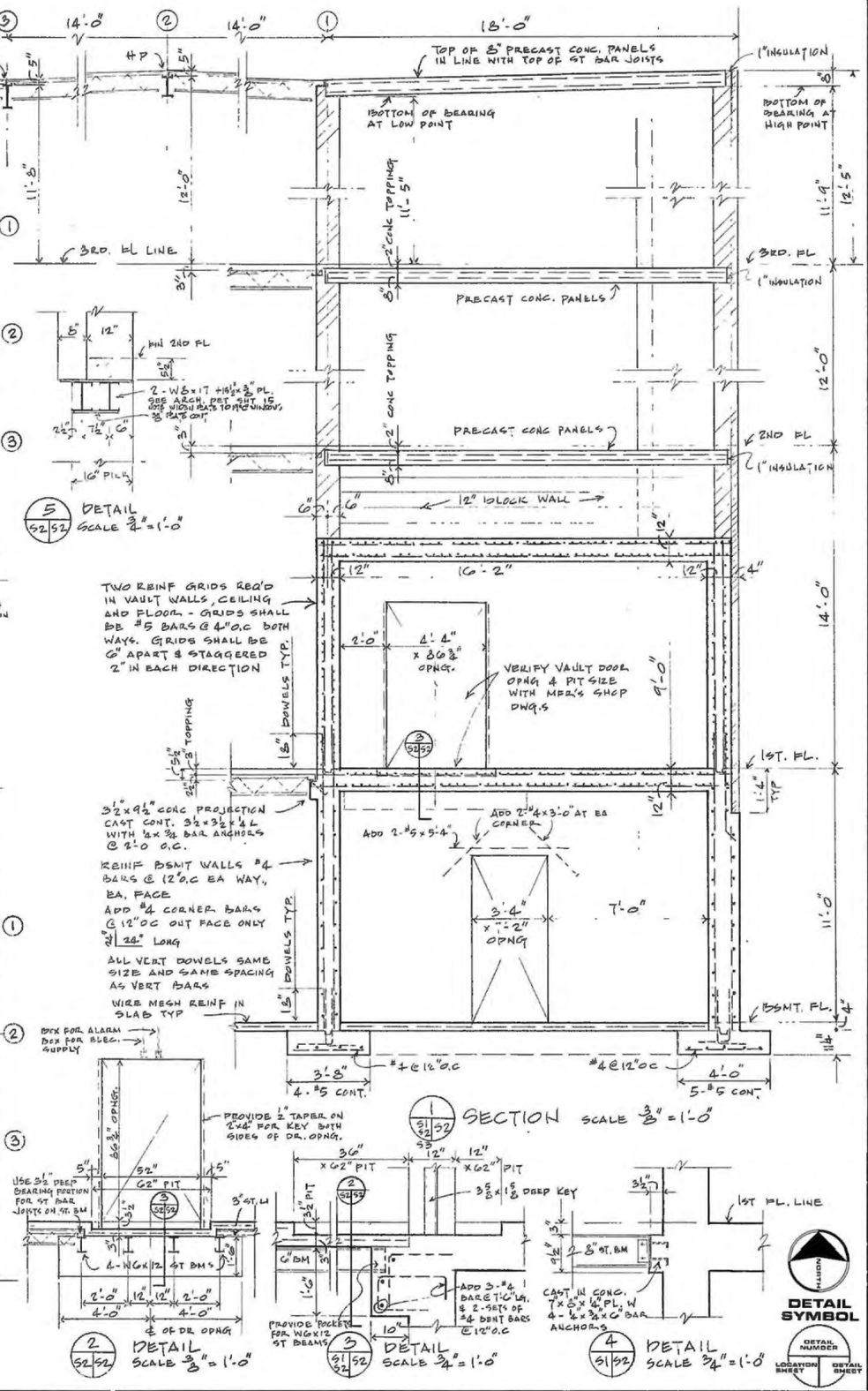
S 1



SECOND FLOOR FRAMING PLAN SCALE ⅛" = 1'-0"



THIRD FLOOR FRAMING PLAN SCALE ⅛" = 1'-0"



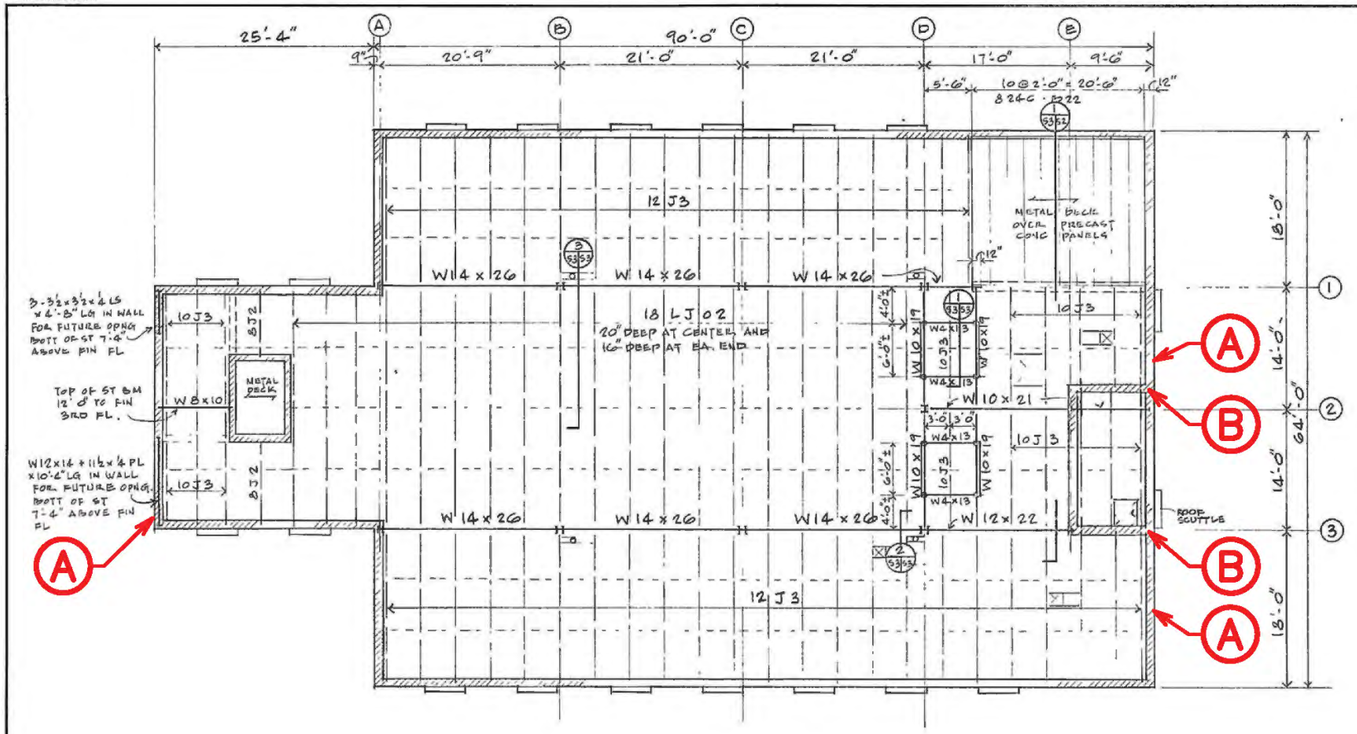
FIRST FEDERAL SAVINGS and LOAN ASSOC. of HOWELL, MICHIGAN

DANIELS AND ZERMACK
ARCHITECTURE
ENGINEERING
ANN ARBOR
MICHIGAN

REVISION

JOB 76-07
DATE 18 MAR 77
DRAWN RW
CHECKED RZ
SHEET 21 OF 31

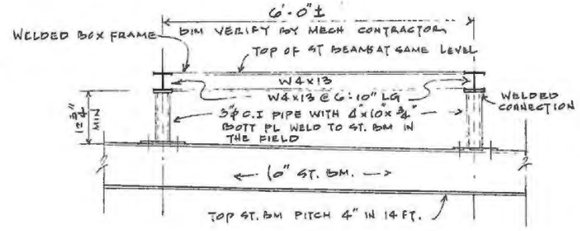
S2



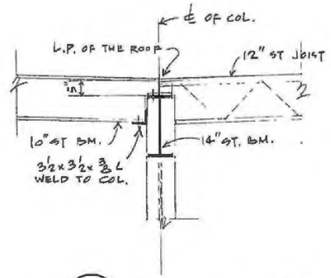
ROOF FRAMING PLAN

SCALE ⅛" = 1'-0"

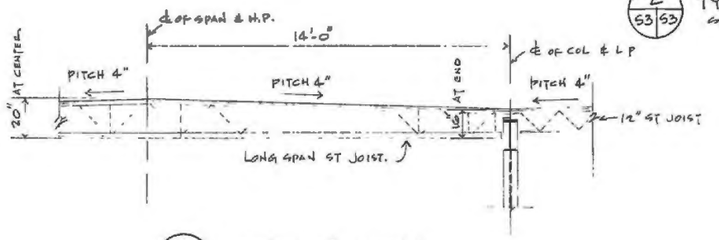
NOTES.
1. ROOF LOAD L.L + D.L = 525 #/
2. ALL ROOF STEEL BAR JOISTS TO HAVE 5" HIGH END SUPT.
3. PROVIDE WELD 3x5x¼ LS FRAME TO ALL ROOF OPENINGS FOR MECH. WORK THRU ROOF FOR LOCATION SEE SHT 19 AND SIZE OF OPENINGS VERIFY BY MECH. CONTRACTOR.
4. ROOF ST BAR JOISTS @ 4'-0" O.C TYP



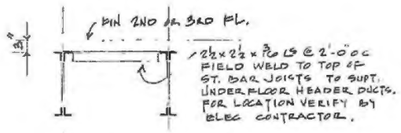
1 / S3 | S3 TYPICAL DETAIL
SCALE ¾" = 1'-0"
SEE DET C2B ON SHT. M7



2 / S3 | S3 TYPICAL DETAIL
SCALE ¾" = 1'-0"



3 / S3 | S3 TYPICAL DETAIL
SCALE ⅜" = 1'-0"



4 / S2 | S3 TYPICAL DETAIL
SCALE ¾" = 1'-0"

Rose Street Pl
J. Longerman
1-893-7877

DETAIL SYMBOL
DETAIL NUMBER
LOCATION SHEET
DETAIL SHEET

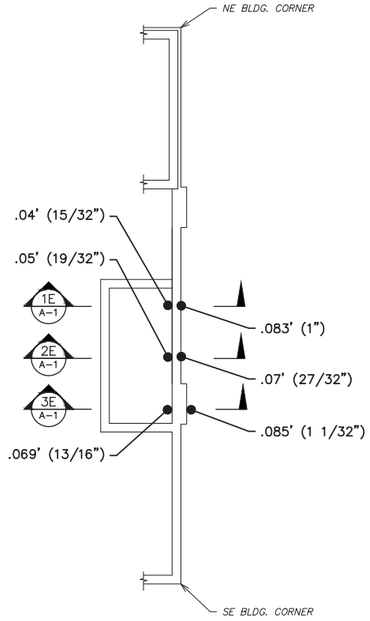
FIRST FEDERAL SAVINGS and LOAN ASSOC. of LIVINGSTON COUNTY
HOWELL, MICHIGAN

DANIELS AND ZERMACK
ANN ARBOR MICHIGAN
ARCHITECTURE
ENGINEERING

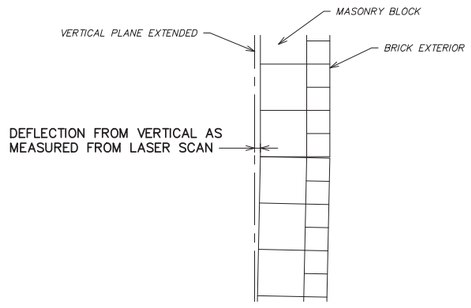
REVISION

JOB 76-09
DATE 18 MAR 77
DRAWN RW
CHECKED BJ
SHEET 22 OF 37

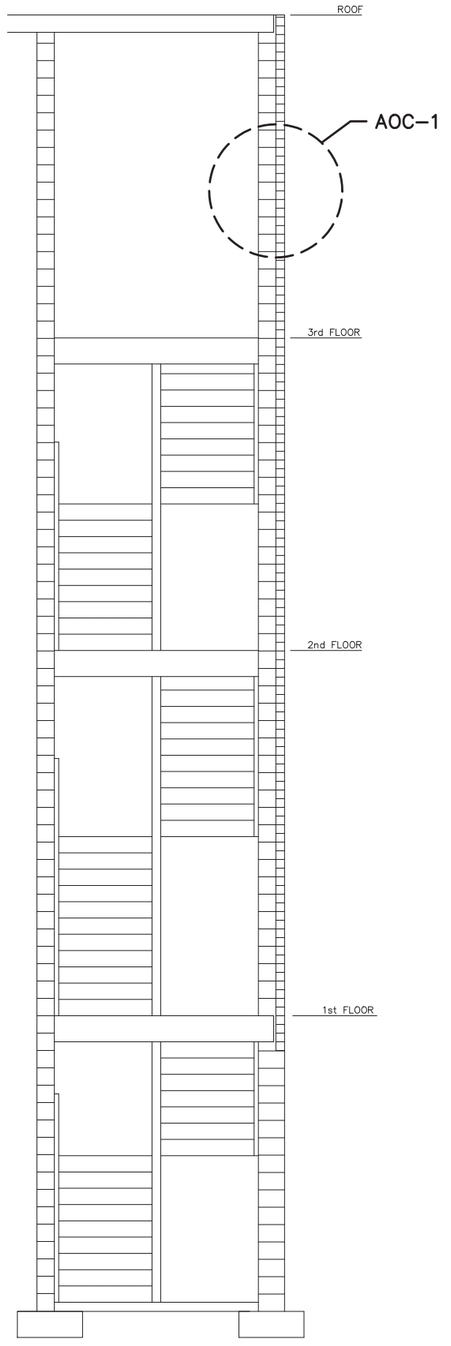
S 3



EAST WALL PLAN
SCALE: 1/8"=1'-0"



AOC – EXTERIOR WALL
SCALE: 1"=1'-0"



TYPICAL EAST WALL SECTION
SCALE: 3/8"=1'-0"

AOC = AREA OF CONCERN

Howell MICHIGAN "Everyday is an Event!"

HRC 100 YEARS
CONSULTING ENGINEERS SINCE 1915
555 HULET DRIVE
BLOOMFIELD HILLS, MICH.
P.O. BOX 824
48303 - 0824
PHONE: (248) 454-6300
FAX (1st. Floor): (248) 454-6312
FAX (2nd. Floor): (248) 338-2592
WEB SITE: http:// www.hrc-engr.com

DATE	ADDITIONS AND/OR REVISIONS
1-28-15	DRAFT

DESIGNED	-
DRAWN	MTM
CHECKED	TDL
APPROVED	NF

LASER SCAN PERFORMED:
EAST STAIRWELL: OCT. 2014

CITY OF
HOWELL
DEPARTMENT OF PUBLIC SERVICE

SCAN ANALYSIS STAIRCASE BLOCK WALL CRACKING

EXHIBIT PLAN AND SECTION

HRC JOB NO. 20140750	SCALE AS NOTED
DATE JANUARY 2015	SHEET NO. FIG. S4 OF

CITY OF HOWELL
MEMORANDUM

TO: MAYOR & CITY COUNCIL

FROM: ERV SUIDA, DPS DIRECTOR

DATE: MARCH 3, 2015

RE: ENGINEERING SERVICE AGREEMENT

On January 29, 2015, Staff developed a Request for Qualification (RFQ) and invited six engineering firms to submit proposals for a 5 year Engineering Service Agreement. Three proposals where received at the Clerk's office on February 17, 2015. The firms that submitted were; the Spicer Group, Fleis and Vandenbrink (F&V) and Hubbell Roth and Clark (HRC). I have included these proposals with the packet.

Copies of each proposal where dispersed to the review committee along with evaluation forms for their independent review of each proposal. The Committee was rating each firm on the following six categories; firms experience, professional agreement structure, rates and fees, team makeup, cost and time savings and approach to general engineering. The review committee met on March 3rd to compare and discuss the individual ratings for each firm and decide if additional review or interviews would be necessary. The review team consisted of the City Manager, the DPW Superintendent, the Community Development Director and Public Service Director.

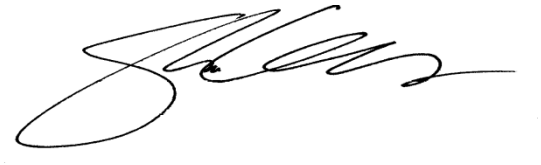
Based on the results of the individual reviews it was clearly and unanimously determined that the City should continue its relationship with HRC for providing general engineering services. While all the firms invited have adequate levels of expertise and experience, HRC provided the clearest proposal, a high level of expertise and experience, a favorable agreement and competitive rates. Additionally, HRC operates a full time office in Downtown Howell making them extremely accessible. HRC also has 11 years of service with the City making them intimately familiar with our systems and processes.

For these reasons the committee feels that additional interviews and evaluations are unnecessary and will provide no further benefit to the decision. We are comfortable making the recommendation to Council to continue the relationship with HRC and enter a 5 year agreement with HRC for General Engineering Services.

ACTION REQUESTED:

A motion authorizing Staff to enter a 5 year Engineering Service Agreement with HRC as outlined in their submitted proposal and agreement to be made effective March 16, 2015.

REVIEWED & APPROVED FOR SUBMISSION:



Shea Charles, City Manager

Clarification of Engineering Services

The RFQ for engineering services will be based on an as needed basis determined by the City over a 5 year period. The following types of services may be requested during the terms of the agreement:

- Plan review for private and public developments
- Structural evaluations
- Feasibility studies, estimates and conceptual designs
- Water and Wastewater process evaluations
- Grant submittals
- Permit assistance
- Utility mapping
- GIS assistance
- Civil Design
- MDOT project compliance
- Construction Engineering/ project management/ project Inspection and Testing
- Small road and Utility projects
- Basic engineering consultation

Larger projects may be subject to separate RFQ's and will be based on complexity and at the discretion of the City Manager.

Request for Qualifications

General Engineering Services Agreement

City of Howell

I. Objective

The City of Howell, wishes to obtain a Consultant for a 5 year General Engineering Service Agreement for miscellaneous projects on an as needed basis as determined by the City.

It is the intention of the City of Howell to recommend award to a single Consultant. Negotiations will be undertaken with the Consultants, whose qualifications and professional service agreement, as well as other factors show them to be qualified, responsible and able to perform the scope of services. The City reserves the right to accept and reject any and all firms.

The City does not intend to award a contract solely because of any response made to this request, nor otherwise pay for the information solicited or obtained preparing this Request for Qualifications (RFQ).

The City of Howell is not liable for any costs incurred by Consultants before issuance of a contract.

II. Instructions to Interested Firms

Please include the main office to be used for consultant /owner interactions and a list of those individuals and their role in providing Engineering Services. The Howell City Council will approve the final contract.

Packets should be prepared simply and economically, providing a brief description and history of the consulting firm. Your response should also include an example of the professional service agreement and a fee schedule that describes all rates, multipliers, billables and all other expenses related to this contract.

The Consultant to whom the work is awarded will be required to have a State of Michigan registered Professional Engineer. The Consultant will perform the work under the direction of the City of Howell, City Manager, Howell, Michigan, 48848, (517) 546-3502 or designate.

The City may request, from potential Consultants, additional information or interpretation of items contained within their submittal during the review process.

III. Selection Process

Each response to this RFQ will be evaluated on the following, at a minimum:

1. Experience
2. Structure of the Professional Services Agreement
3. Fees and rates
4. Team make-up

IV. Review/Interview

Each Consultant should include a brief narrative of the following:

1. Describe the Benefits expected for entering into a General Engineering Service Agreement with your firm.
2. Description of the Firms approach to a General Engineering Agreement.
3. Any cost, time savings measures you can propose.

VI. Submittal Requirements

Include as part of your submittal a brief statement concerning recent experience of the Person(s) acting as contacts.

Fee / Rate Schedule

Sub-consultants: provide the name, address, and assigned staff for each proposed sub-consultant, if any.

Deliver four (4) copies in a sealed envelope with your Firms name and the words "Engineering Services" clearly marked on the envelope to the office of City Manager, 611 E. Grand River Ave., Howell MI, 48843 on or before February 17, 2015.

Engineering Services RFQ Evaluation Form

Reviewer:_____

*ratings are on a scale between 1 and 5, 1 being the lowest score and 5 being the highest. Times the weight by your rating for the score then add all totals up at the bottom.

Firms Name:_____

	CATEGORY	RATING	X	WEIGHT	=	TOTAL
A.	Firms experience in General Engineering Services (in house services -vs- subs, other communities and how long, etc.)	_____	X	5		_____
B.	Professional Service agreement structure (does it provide security to the City, easy to understand, clear and direct)	_____	X	2		_____
C.	Rates and Fees (competitive rates and minimal fees)	_____	X	4		_____
D.	Team Makeup (individual qualifications of those on the Team, location and availability of team members)	_____	X	5		_____
E.	Benefits and cost/time savings	_____	X	4		_____
F.	Firms approach to General Engineering	_____	X	2		_____

GRAND TOTAL: _____

STRONGER. SAFER. SMARTER. *SPICER.*

QUALIFICATIONS TO PROVIDE
General Engineering Consultant Services to the City of Howell

Prepared By:

Spicer group

February 17, 2015

TABLE OF CONTENTS

COMPANY OVERVIEW

WHO ARE WE?

Spicer Group, Inc. has been providing architecture, engineering, surveying, grant writing and community planning solutions for clients across the state since 1944—over 70 years. We are incorporated and licensed to operate in the State of Michigan. We have fully-staffed and modernly-equipped surveying, water resources, utility engineering, electrical engineering, structural engineering, information management, community planning and construction management departments. We have more than 150 employees and two main offices—one in Saginaw and another in St. Johns. We have additional offices conveniently located in Dundee, Grand Rapids, Benton Harbor, Holt, and Manistee.

REPUTATION

Spicer Group has an extensive experience portfolio from nearly 70 years of service almost exclusively to local municipalities like the City of Howell. Over 75% of our work is for repeat clients, and our reputation for quality, service, communication, and going the extra mile for our clients is excellent. The key to our success has been hiring staff who understand issues our clients are facing and how to help them immediately.

We bring the City of Howell a team of people who, like you, put the public first, have integrity, a strong work ethic, and an understanding of how public infrastructure is built. The benefit to the City is teammates who work closely with you to take care of residents and business owners during construction. Our team brings these assets during the study, design, and construction phases of a project, and we encourage you to ask our references how these skills have been a benefit in other communities.

Our team is highly qualified, brings great value to the City of Howell, and most importantly, we believe we are trusted and relied on by many different government agencies throughout the state. Please call our references and ask about our pro-active contractor, cost management practices, and the benefits we provide by having field staff who are all certified in materials testing. Most agencies have found this usually saves $20,000 to $30,000 on a million dollar project, along with improving project quality management due to only one firm having both responsibilities. It is our policy to stay in contact with clients on a weekly basis to keep you informed on the Contractor's progress vs. schedule, and our progress vs. budget, so there are no surprises in the project cost.

Oscoda's new pedestrian pier that was designed by Spicer Group.

COMPANY OVERVIEW

PAST WORK EXPERIENCE

Spicer Group is primarily an Engineering, Planning, Surveying and Architectural consulting firm servicing municipal and governmental agencies. On the following pages, you will see that our services and example projects are a great fit for the City's needs, and our references can describe how we have provided services very similar to what you are looking for.

As noted, a high volume of Spicer's field services is in Southeast Michigan, meaning several qualified staff are always nearby, and no travel time would be charged to the City.

SPICER GROUP GENERAL ENGINEERING APPROACH

Spicer's approach to providing general engineering services to our client communities is rooted in our core values:

- Commitment to Growth
- Team Environment
- Excellence in Service & Solutions
- Integrity
- Great Client Relationships

These values are integrated into our daily work and who we are as a company. Further, it is our belief that a consultant should do more than just complete projects – the best consultant truly has the community's interest at heart and is always looking for ways to improve the quality of life. Spicer is very proactive seeking funding for projects, recommending alternate solutions that are more cost effective without sacrificing quality, and using technology to allow the community's staff to be more efficient and productive in their jobs.

It is our responsibility to know the needs and requirements of our client communities without being asked. We regularly attend City Council meetings in order to become better educated with the community and the direction being set by their leadership. And we do this at no additional cost to the City. It's just one example of our commitment to growing the City of Howell.

COMPANY OVERVIEW

The following is a brief overview of our professional capabilities to demonstrate that we are qualified to address all of Howell's surveying and engineering needs. Spicer Group is committed to providing high-quality solutions that will be tailored to the unique needs of Howell, and it is our understanding the City may require assistance with these items at any time. We are prepared to respond in an efficient manner. We dedicate the time and expertise of our proposed team members, and we guarantee they will provide you with the quality assistance you expect if they are called upon.

Engineering and Design

A core strength of Spicer Group is our long history of assisting clients with their sanitary collection/treatment, and drinking water distribution/treatment needs. Our clients respect us for our knowledge of sanitary and drinking water infrastructures and the issues that are associated with them including ever-changing regulations, community growth and development, systems expansion and aging equipment. Spicer Group has designed the original drinking water distribution, sanitary collection and treatment systems for dozens of communities throughout Michigan.

We have designed countless water main and sanitary sewer extensions, pump stations and wastewater treatment facility expansions. In addition, our well-qualified staff also provides consultation to clients regarding their current and future drinking water distribution, wastewater treatment and collection needs. We are trusted for our ability to evaluate the current status of a system and recommend actions that need to be addressed immediately, in the near future, or in the long term to fulfill each client's unique needs.

Another core strength regarding civil engineering solutions is our strong team of roadway, bridge and pavement design professionals. This team is made up of specialized MDOT-prequalified engineers and drafters that are not only experienced in performing detailed designs for roads, highways, and bridges, but also in identifying effective solutions for traffic and safety issues. Working with the client, they can determine the current and future transportation, traffic and utility needs in order to provide solutions best suited for the project's success.

Our knowledgeable design engineers provide flexible and innovative solutions for governmental, municipal, industrial, and commercial clients. It is important to note that we have in-house engineers who are prequalified through MDOT to provide bridge inspections, and have done so for municipalities and road commissions across Michigan.

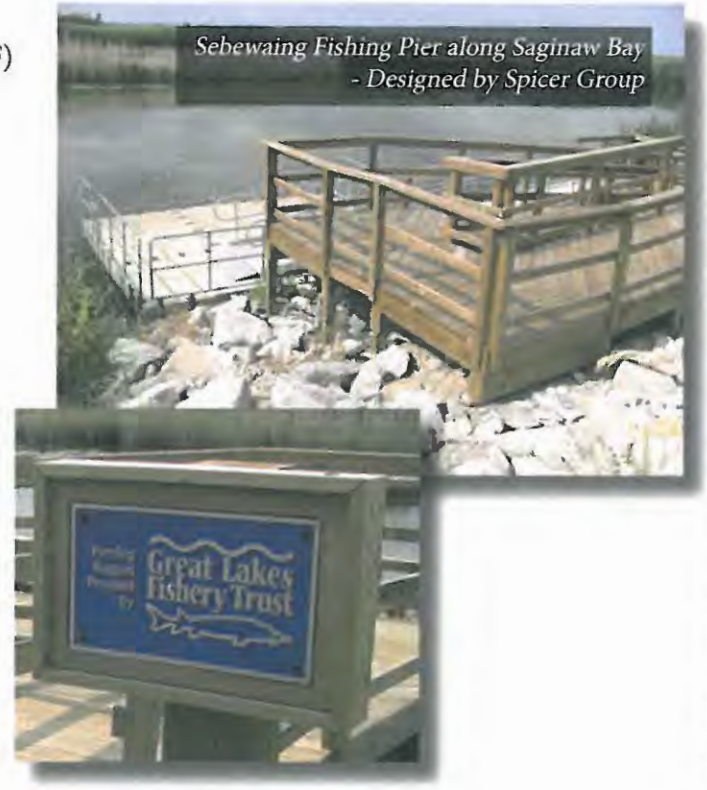
We normally provide bid assistance on the projects we design. We will prepare the advertisement, make reproductions for bidders, suppliers and subcontractors, hold a pre-bid meeting and issue minutes, prepare and issue addenda as necessary, open bids with you, prepare a bid tabulation, review contractor's qualifications and make a recommendation. Some communities prefer to use a prequalification process, which we have done several times before for communities including the City of Belleville and Ypsilanti Township. This allows the community to receive bids only from the contractors considered most qualified.

Grant Writing

Spicer Group understands that with today's economic climate, municipalities sometimes cannot afford to pay for a project entirely on their own. For this reason, we have focused efforts to identify grant funding opportunities and capture as many funds as possible to make these ambitions a reality.

Proof of our work in attaining grant funding for our clients is evident in the nearly $20 million that we have helped communities acquire in recent years. These grant funds have helped our clients implement all types of projects including new recreation projects, new streetscapes, new recreation pathways, new parks, new water and sanitary sewer systems and new park land.
The following is a partial list of funding sources that we regularly pursue for funding opportunities:

- MDEQ Stormwater Quality Initiative Funds
- MDNR Natural Resources Trust Fund (MNRTF)
- MDNR Land and Water Conservation Fund (LWCF)
- MDEQ Coastal Management Program
- MDEQ State Revolving Fund
- Michigan State Waterways Program
- MDOT TEA-21 Grants
- Michigan Inland Fisheries
- MDOT Local Bridge Program
- Able to Play—Kellogg Foundation
- Michigan Council for Arts and Cultural Affairs
- EPA Section 319 Funds
- FEMA Hazard Mitigation Program Funds
- MDEQ Clean Michigan Initiative (CMI) Funds
- MDOT Safe Routes to School
- USDA Rural Development Funds
- Michigan Water Pollution Control Revolving Fund (SRF)
- Michigan Economic Development Corporation (EDC)



Sebewaing Fishing Pier along Saginaw Bay - Designed by Spicer Group

COMPANY OVERVIEW

Site Plan Reviews

Spicer Group serves as the general engineer for a number of municipalities in Michigan. As part of this role, Spicer Group reviews plans for new developments, roads, and public utility extensions. Plans are reviewed to ensure that they meet all necessary municipal requirements of water, sanitary sewer, storm sewer and zoning ordinances.

$21-million seawall reconstruction along the Saginaw River in Bay City.

Prior to water main, sanitary sewer, storm sewer, and pavement construction of private developments, Spicer Group provides reviews to verify compliance with local municipal construction standards. Spicer Group verifies that plans comply with fire department requirements, that an MDEQ permit is issued, and that if easements are necessary, they are prepared, recorded, and submitted to the municipality for inclusion in their files.

Storm Water

Spicer Group is one of the premier firms in Michigan providing solutions to storm water issues. We are highly regarded by drain commissioners and municipalities for our highly-trained staff and extensive knowledge of Michigan's Drain Code. We work closely with several municipalities in addressing their storm water concerns including permitting, NPDES Phase II and collection concerns. In addition to designing solutions for storm water systems, Spicer Group has successfully assisted municipal, county, educational institutions, and other clients navigate through the regulatory requirements of the National Pollutant Discharge Elimination System Phase II storm water regulations.

Spicer Group has aided these same clients in attaining compliance through the implementation of the required public education plans, public participation plans, illicit discharge elimination plans, watershed management plans and storm water pollution prevention initiatives.

Construction and Inspection Services/Material Testing

Construction and inspection services generally include layout staking, on-site observation, coordination with the contractor, material testing including density, concrete, bituminous as applicable, coordination with homeowners as applicable, soil erosion inspections, progress meetings, as-built documentation, and coordination with permitting agencies. In the event that subaqueous investigations, investigations

of contaminated soils, or other geotechnical investigations are required, we understand that we will be required to obtain these services as necessary. As-built record drawings are provided to the client at the completion of the project both in mylar and electronic formats for your records. One benefit that our clients appreciate is that our inspectors and many surveyors are all certified by MDOT for materials testing. This saves communities 2% to 3% of construction costs, and avoids having an additional geotechnical inspector on site for most projects.


Saginaw's First Merrit Pavilion - Designed by Spicer Group

As the City's Engineer, we would serve as your representative, acting as your agent while providing all administration on a project. During construction, we will attend the preconstruction meeting, progress meetings, prepare and distribute minutes, answer contractor, subcontractor and supplier questions, respond to requests for information, prepare progress reports for the City and for your council meetings. We will update the progress of any project on the City's Web site if requested, review shop drawings, review progress payments, process change orders, prepare bulletins as necessary and coordinate all aspects of the project on behalf of the City. Our construction inspectors are very experienced with using FieldManager and will use this program when needed.

Inspectors also keep track of the plan changes made in the field during construction. The inspectors' field plan data are used to develop as-constructed plans. Spicer Group schedules and facilitates preconstruction meetings on all projects and holds periodic project status meetings during construction.

Professional Survey Services

Spicer Group currently has 13 experienced state-licensed survey crews that fulfill a variety of special survey services for clients across Michigan. They provide these services for local, county and state governmental agencies as well as private, institutional, industrial and commercial clients. What makes our crews unique is they understand that the last thing a client wants to worry about is whether or not the survey professionals they hired are performing up-to-par or not.

Whether staking sanitary sewer locations on a construction site or gathering cross section data of a river for a new bridge, our crews focus on efficiency, accuracy and quality. From innovative technology like laser scanning and hydrographic surveying to boundary surveys and topographic mapping our award-winning survey crews are diverse and well rounded and prepared to collect, record and deliver data that is quality, on-time and very accurate.

COMPANY OVERVIEW

Specific services include:

- Boundary, Topographic, and Utility Surveys
- Property Surveys, Plat/Site Layouts for Commercial, Industrial and Residential Clients
- Construction Staking
- Geographic Information System (GIS)/ Global Positioning System (GPS) Capabilities
- Wetland and Flood Plain Survey
- Bridge Alignment Surveys
- Condominium Development
- County Remonumentation
- ALTA/ACSM Surveys
- Infrastructure Inventory
- Aerial Photo Control
- Subdivision Layout/Platting
- Topographic Mapping for Road/Utility Projects

Specialized Services

Spicer Group is also proud to offer other in-house services including GIS, structural and electrical engineering, architectural services and landscape design services. Spicer Group will develop your GIS and train your staff to effectively use it. Large or small, we can develop and expand a system that will be useful to your community. We have certified architects and landscape architects on staff who provide important solutions to many different types of projects including streetscapes, community beautifications, park improvements and façade design.

We have experienced structural engineers on staff who are available to provide solutions to complicated structural situations regarding bridges, buildings, roads, infrastructure and elevated equipment. Our electrical engineers provide valuable expertise to many different types of applications—from the programming of pump station controls to street lighting and from the electrical design for buildings to identifying cost-cutting measures for energy consumption.

Quality Control/Quality Assurance Procedures

We embrace a wide variety of published project management tools to assure a high degree of quality in the work we perform. We use published Project Management Standards and software such as Microsoft Project and Microsoft Outlook for scheduling, Vision accounting software for effective billing, an Intranet for more efficient internal communication, project Web sites for communication and interaction

with the community/stakeholders, and ongoing training regarding our quality work standards and expertise.

Our quality control begins by selecting the project team based on the project-specific experience and knowledge of each member involved. Each team member is personally responsible for performing quality work. To help them accomplish this, we provide the necessary training for the tasks assigned, up-to-date reference material, calibrated testing equipment, and appropriate guidelines and checklists. Quality assurance is ensured by our project managers who perform daily internal reviews of all tasks completed related to any particular project.

During actual project implementation efforts, such as construction, project managers make routine site visits and identify special concerns and/or other contract-related issues that are then immediately discussed with the client. Site visits by our project managers also help ensure that both their team is performing their duties and the actual project is progressing to the expectations of the client.

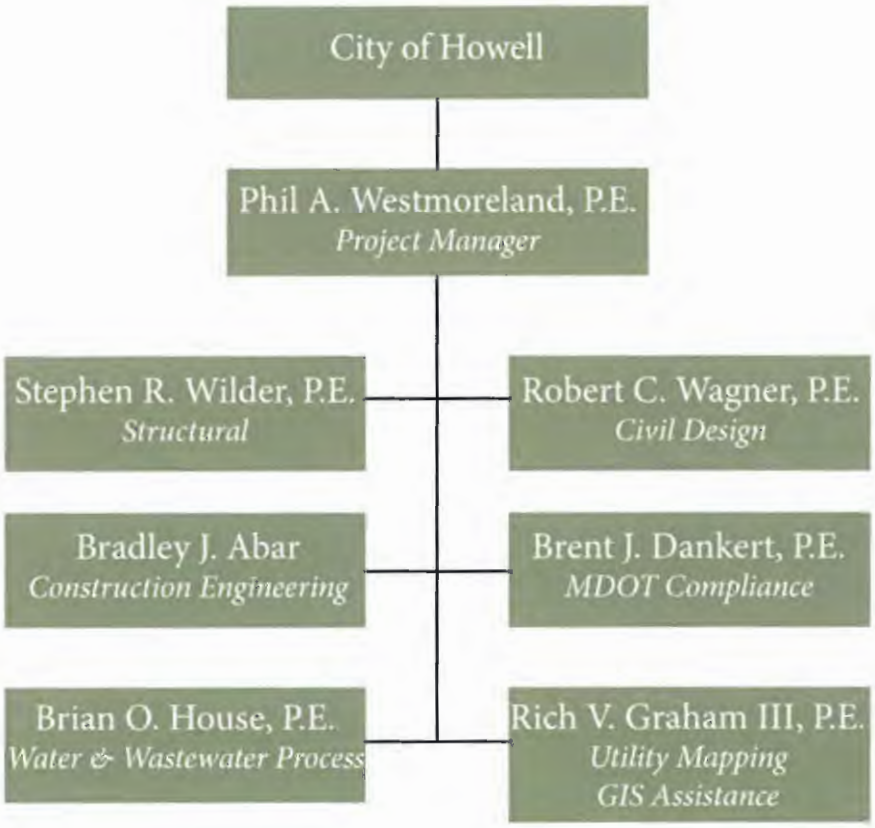
Experience with State and Local Agencies

Spicer Group is well known throughout the state and in the area for cost-effective, quality governmental consulting work. We are pre-qualified, certified, and perform "As-Needed" services for more than 20 agencies or communities.

MANAGEMENT/PROJECT STAFF

Proposed Project Team

We have included the following organization chart to identify which of our experienced team members would be working with the City of Howell. Phil A. Westmoreland, P.E., would serve as the contact person and Project Manager for Spicer Group with the City of Howell. Mr. Westmoreland is a Senior Associate and Senior Project Manager at Spicer Group, focusing primarily on municipal-type projects. He has extensive experience managing several projects at once. Mr. Westmoreland has been involved in numerous public improvement projects, including water distribution, wastewater collection, road reconstruction and pavement maintenance, and storm water management. Resumes for each of these professionals are available at the end of this proposal.



EXPERIENCE/REFERENCES

CITY OF SAGINAW

Spicer Group began operations in 1944 in the City of Saginaw and our main office of operations is still located in the City. We have established a deep-rooted professional relationship with Saginaw and have provided a vast spectrum of services for them. In particular, we have designed many miles of street improvements including curb and gutter, have provided the designs for major improvements to water main and sanitary sewer infrastructure, and also assisted with the design and construction of major waterfront improvements along the Saginaw River.

Contact: Beth London, City Engineer, 989-759-1413

Genesee Street Reconstruction

Spicer Group provided the design of this ½ mile complete roadway reconstruction and streetscape project in Downtown Saginaw. Roadway reconstruction included parking improvements, curb and gutter, the replacement of 3,300 feet of 12-inch water main and over 2,500 feet of combined sewer ranging in sizes 24-inch to 60-inch. Streetscape elements included decorative lighting and sidewalks.

Gratiot Road Water Main

Spicer Group designed the installation of two miles of new 20-inch water main along Gratiot Road (M-46). Nearly 3,200 feet of that water main was installed beneath the Tittabawassee River using horizontal directional drilling. This increased the system's reliability by providing a redundant water source and increasing available capacity to the major pumping station located in Thomas Township.

Gratiot Road Pump Station

This is one of the main booster pump stations in the City of Saginaw's Water System to serve the surrounding communities. Spicer Group designed upgrades for the station to serve expanding industry in outlying areas. The capacity of the station was increased from 3 mgd to 9 mgd by adding three new booster pumps and three new re-pumps, adding a secondary electrical service and onsite generator and yard piping.

EXPERIENCE/REFERENCES

CITY OF FRANKENMUTH

The City of Frankenmuth is a very popular tourist destination with many unique attractions. For over 50 years, Spicer Group has assisted Frankenmuth with all types of civil engineering assistance including the improvements of roads, replacing and extending water main and sanitary sewer services, and improved wastewater treatment efforts. Additionally, Spicer Group has been highly involved with the design of new recreation facilities and improvements to existing ones including the new and very popular ADA-accessible canoe launch along the Cass River.

Contact: Randy Braeutigam, DPW Superintendent, (989) 652-3443

West Genesee Street Reconstruction

Spicer Group provided preliminary and final design services for this mile-long roadway rehabilitation project which included storm sewer and curb and gutter improvements. During construction, Spicer Group provided construction staking, general oversight of the entire project, monitored progress and quality and prepared progress payments for approval by the City.

Genesee Street Water Main Replacement

Frankenmuth hired Spicer Group to provide designs and preliminary costs for the replacement of over 3,000 feet of 12-inch PVC water main so it could be bid and completed before the start of the next phase which was the roadway project. Spicer Group completed preliminary and final designs and provided construction inspection services.

Frankenmuth Veterans Memorial Park

Spicer Group designed 1500 feet of two-lane roadway through Memorial Park. Improvements included crushing and shaping the existing HMA pavement, and installing parking bays and curb and gutter along both sides of the road. Drainage improvements included catch basins and storm sewer that were designed to outlet at lower lying areas, eventually discharging to a natural waterway in the park.

EXPERIENCE/REFERENCES

THOMAS TOWNSHIP

Thomas Township has experienced major growth over the last 20 years thanks to heavy investment from technology and auto-based companies like General Motors and Hemlock Semiconductor. In particular, Hemlock Semiconductor Corporation recently finished up a multi-phased $1 billion expansion which created the need for major improvements and capacity expansions to the Township's key infrastructure components—roads, wastewater collection, drinking water. Spicer Group has been assisting the Township with these growth efforts including the installation of dozens of miles of new water main and sanitary sewer, major rehabilitation to roadways including the addition of curb and gutter and drainage improvements, and expansion and improvements to recreation facilities.

Contact:, Rick Hopper, DPW Director, (989) 781-6438

M-46 Sanitary Sewer Installation

Spicer Group was responsible for providing all survey, design, construction inspection and construction administration tasks for this project which helped pave the way for a $1 billion expansion at Hemlock Semiconductor Corporation. Phase I included the installation of a 2.5-mile-long section of 10-inch PVC force main, and Phase II included the installation of 10,500-foot section of 10-inch PVC force main.

Thomas Township Pump Station #1

Spicer Group designed and administered construction of an entirely new Pump Station #1 which plays a critical role in conveying Thomas Township's wastewater flows across the Tittabawassee River via a 20-inch force main to Saginaw Township's Wastewater Treatment Plant. The 4 new seven-foot tall, 100hp pumps have the capacity to pump over 4,500 gallons of sewage per minute.

State Street Improvements

Spicer Group provided the design, survey and construction engineering of one half mile roadway improvements. Improvements included full depth reconstruction and pavement removal, and resurfacing the roadway. A right turn lane was added at Miller Road, and curb and gutter was installed along both sides of the road. The project also included ditch grading, drainage structures, and approximately 2000' of storm sewer.

EXPERIENCE/REFERENCES

SAGINAW CHARTER TOWNSHIP

Similar to Thomas Township, Saginaw Township has grown significantly over the last 60 years and Spicer Group has played a major role in providing quality engineering services to help them keep up with growth demands. Every year, the Township routinely extends new water mains and sanitary sewer or replaces old ones, increases storm water capacity, and new recreation facilities—and Spicer Group provides the engineering to facilitate these efforts. In fact, Spicer Group recently provided the engineering and construction administration for an $11-million upgrade to the Township's wastewater treatment plant which increased the facilities treatment capacity for expected future growth.

Contact:, Rob Gross, Manager, (989) 791-9868

Saginaw Township WWTP Improvements

Spicer Group served as the prime engineer in designing and overseeing $11 million worth of improvements at the plant. Improvements included the construction of three new primary clarifiers—two that are 66 feet in diameter and one that is 120 feet in diameter. The updates increased the plants capacity to 6.5 mgd during average daily dry weather flows and 19.5 mgd during peak wet weather events.

Brockway Road Water Main and Road Improvements

Spicer Group provided the design, survey and construction engineering services related to the replacement of a half mile section of Brockway Road. The road was widened by six feet along both sides and a left turn lane was added along the entire length of the project. Storm drainage was improved and a new half-mile section of 12-inch water main was installed prior to construction of the roadway improvements.

Allendale Neighborhood Drainage Improvements

To help eliminate flooding problems, Spicer Group designed the placement of over 825 feet of 24 inch diameter reinforced concrete pipe (RCP), 560 feet of 18 inch diameter RCP, 1,375 feet of 15 inch diameter RCP and 7,685 feet of 12 inch diameter RCP, linked by over 135 drainage structures. Each street had storm sewer placed on each side of the roadway and the catchbasins were placed in the swaled lawn areas.

EXPERIENCE/REFERENCES

CITY OF HARBOR BEACH

Spicer Group has been assisting Harbor Beach with many different types of projects over the last several years. In fact, our survey department was instrumental in assisting with the transfer of ownership of the historic Harbor Beach Lighthouse from the U.S. Coast Guard to the City for preservation purposes. We have also been assisting the City with major improvements to their water treatment plant, replacement of many sections of water mains and upgrades to waterfront recreation amenities.

Contact: Ron Wruble, Manager, (989) 479-3363

Harbor Beach Lighthouse Preservation

Spicer Group was responsible for conducting a boundary survey of the Harbor Beach Lighthouse to help facilitate the transfer of ownership of the lighthouse from the United States Coast Guard (USCG) to the City of Harbor Beach. The City of Harbor Beach, with help from the Harbor Beach Lighthouse Preservation Association was granted ownership by the Michigan Department of Natural Resources.

Harbor Beach Water Treatment Plant Improvements

Spicer Group completed improvement designs for the water treatment plant which included replacing the existing process controls system, improving the chlorine gas disinfection system, replacing influent, backwash and high-service pumps, and adding additional filter media. Lightning protection was added, and improvements were made to the plant's security system and two new backwash ponds were constructed.

Harbor Beach Water Main Improvements

Spicer Group has been responsible for designing replacements of several sections of the City's distribution system that have been subject to regular breaks over the last 10 years. Many of the water mains are undersized and deteriorating due to age and material composition. Approximately 1,700 feet of water main was recently replaced. Spicer Group provided survey and construction inspection services for these projects.

BILLING RATES

SPICER GROUP, INC.

STANDARD HOURLY RATES

Effective January 2015

Administrative Assistant	$62.00
Project Assistant	$76.00
Construction Services Technician	$93.00
Construction Manager	$124.00
Senior Construction Manager	$175.00
Survey Technician	$70.00
Crew Chief	$103.00
Staff Surveyor I	$116.00
Staff Surveyor II	$129.00
Staff Surveyor III	$134.00
Survey Project Manager	$136.00
Project Surveyor I	$144.00
Project Surveyor II	$165.00
Senior Project Surveyor	$175.00
Designer I	$99.00
Designer II	$105.00
Designer III	$115.00
Senior Designer	$120.00
Technician I	$62.00
Technician II	$77.00
Technician III	$84.00
Technician IV	$91.00
Technician V	$97.00
Technician VI	$105.00
Project Architect I	$129.00
Project Architect II	$139.00
Landscape Architect	$118.00
Planner	$103.00
Project Planner I	$121.00
Project Planner II	$131.00
Senior Project Planner	$175.00
Design Engineer I	$103.00
Design Engineer II	$108.00
Design Engineer III	$112.00
Project Engineer I	$121.00
Project Engineer II	$126.00
Project Engineer III	$131.00
Project Manager I	$136.00
Project Manager II	$144.00
Project Manager III	$150.00
Project Manager IV	$160.00
Senior Project Manager I	$165.00
Senior Project Manager II	$175.00
Senior Project Manager III	$195.00

Overtime rates for hourly workers will be charged at 1-1 2 times the above rates.

Mileage and printing (except for Bid Documents) are not charged separately and are part of the standard hourly rate

RE: Enter Project Description
Enter Project Location

RE: Enter Project Description
Enter Project Location
Letter Agreement for Professional Services

Dear :

This document contains Spicer Group's proposal to you for Study and Report for Name of Project.

Background

Insert a 4-6 line paragraph briefly reviewing the history of project. Discuss the situation that caused us to become involved with reasons for why we will do the work and close by listing the benefits that our client will receive with completed project.

Scope of Basic Professional Services

Spicer's proposed services follow. They are phased to reflect the orderly and reasonable progress of the project and unless otherwise directed by you, we will only proceed from one phase to the next with your concurrence and approval. This proposal will remain valid for number days.

1. During the first phase we will
Examples: Meet, assist, evaluate, review, gather, recommend, develop, forecast, determine, etc.

List the tasks under each phase either by bullets or small letter. Start each task with a verb.

The phases are listed in chronological order, the same ones that are listed in the first paragraph.

List out the tasks in each phase in logical order, condensed as needed so our client can read thru our scope and completely understand why we are doing the work as presented. This is the most important part of our work. Our scope must be complete. See Procedure No. 19 for checklist.

2. During the second phase, we will:

Etc. Etc. Etc.

Subconsultants

To help us efficiently process the work, we will be using the following project subconsultants during applicable phases in the project;

Examples

1. Soils and Materials Engineers, Inc. - soil borings & geotechnical report
2. Crescent Consulting - grant administration
3. Peerless Environmental - site assessment

*****Delete the above paragraph if no subs are used*****

Services Not Included

For a clearer understanding of our work scope, the following is not included in our Scope of Basic Professional Services.

List out efforts that the client might normally think or believe we're doing or that may be needed that is not addressed in the scope or in additional services. An example would be easement acquisition or providing a highly detailed cost estimate, etc. The purpose is to eliminate vague or grey scope areas and clarify for the client as much as possible what we will and will not be doing.

Additional Services

Additional services related to this project will be furnished by us after you authorize the work. For convenience, we are including an authorization form. Our fee for the additional services will be determined at the time they are agreed to and rendered.

Fee Schedule

Our proposed fee schedule follows. We will submit monthly invoices to you for our basic professional services, any additional authorized services and any reimbursable expenses. Unless other payment arrangements are made, we will include any of our project subconsultants costs on our invoice including a 10% fee to cover taxes, administration and insurance's. If the fee is a lump sum, the amount will be based on the proportion of work actually completed during the billing period.

1. Phase :(Choose One)

   A lump sum in the amount of $_____

Standard hourly rates with the total amount estimated to be $_____
Standard hourly rates with the total amount not to exceed $_____
A percentage in the amount of ____% applied to the as-built construction cost.
If the project is not built, the fee will be based on our construction estimate.

2. Phase:

etc. etc. etc.

We have calculated these fees based on our understanding of what you want us to do and what you have told us. Should we approach the amount of the fee for any reason before we are finished with the work, if the scope changes or our understanding was incorrect, we will notify you and discuss with you the option of adjusting the amount of the fee or adjusting the scope of services.

In addition to the additional services form, attached to this letter is a copy of our general conditions for our services which are part of this agreement. Any changes to this agreement must be agreed to by both of us in writing.

If this proposal meets with your approval, please acknowledge this approval with an authorized signature below and return the enclosed copy to us. Upon receipt we will start the project promptly and would expect to be completed within about **insert time frame (days, months, or specific date)**.
We deeply appreciate your confidence in Spicer, and we look forward to working with you and for you on your project.

document10

Insert Closing Block Here - (Insert / AutoText / AutoText / Choose appropriate Letter Agreement Closing Block)

Above proposal accepted and approved by Owner.

OWNER

By:_____
Authorized Signature

Date:_____

Cc: SGI File

CR 43033

PROFESSIONAL SERVICE CONTRACT
COUNTY OF WASHTENAW AND SPICER GROUP

AGREEMENT is made this _____ day of _____, 20__, by the COUNTY OF WASHTENAW, a municipal corporation, with offices located in the County Administration Building, 220 North Main Street, Ann Arbor, Michigan ("County") and Spicer Group, located at 309 Main Street, Belleville, MI 48111 ("Consultant").

In consideration of the promises below, the parties mutually agree as follows:

ARTICLE I - SCOPE OF SERVICES

The Consultant will provide engineering services to lay out the Northfield Earhart Road Drain Drainage District, providing services as outlined in the attached proposal dated November 18, 2011 including items 1 through 24 in the base proposal and optional tasks 1 through 9. Optional tasks to be performed upon review and approval of the Washtenaw County Water Resources Commissioner (WCWRC).

ARTICLE II - COMPENSATION

Upon completion of the above services, submission and approval of invoices, and project financing, the District will pay the Consultant on a cost plus basis, not to exceed an amount of seven thousand five hundred sixty-five dollars ($7,565.00) to complete items 1-24 in the base proposal and not to exceed an amount of five thousand five hundred ninety-two dollars ($5,592.00) to complete optional tasks 1 through 9 if instructed to do so by the WCWRC. Total amount of the contract shall not exceed thirteen thousand one hundred fifty-seven dollars ($13,157.00).

If payments are delayed until project financing is in place, interest will be accrued at a rate not to exceed one percent per month on unpaid balances.

ARTICLE III - REPORTING OF CONSULTANT

Section 1 - The Consultant is to report to the Water Resources Commissioner and will cooperate and confer with him/her as necessary to insure satisfactory work progress.

Section 2 - All reports, estimates, memoranda and documents submitted by the Consultant must be dated and bear the Consultant's name.

Section 3 - All reports made in connection with these services are subject to review and final approval by the County Administrator.

Section 4 - The County may review and inspect the Consultant's activities during the term of this contract.

Section 5 - When applicable, the Consultant will submit a final, written report to the County Administrator.

Section 6 - After reasonable notice to the Consultant, the County may review any of the Consultant's internal records, reports, or insurance policies.

ARTICLE IV - TERM

This contract begins on the date of this agreement and ends on December 31, 2012.

ARTICLE V- PERSONNEL

Section 1 - The Consultant will provide the required services and will not subcontract or assign the services without the County's written approval.

Section 2 - The Consultant will not hire any County employee for any of the required services without the County's written approval.

Section 3 - The parties agree that the Consultant is neither an employee nor an agent of the County for any purpose.

Section 4 - The parties agree that all work done under this contract shall be completed in the United States and that none of the work will be partially or fully completed by either an offshore subcontractor or offshore business interest either owned or affiliated with the contractor. For purposes of this contract, the term, "offshore" refers to any area outside the contiguous United States, Alaska or Hawaii.

ARTICLE VI - INDEMNIFICATION AGREEMENT

The Consultant will protect, defend and indemnify Washtenaw County, its officers, agents, servants, volunteers and employees from any and all liabilities, claims, liens, fines, demands and costs, including legal fees, of whatsoever kind and nature which may result in injury or death to any persons, including the Consultant's own employees, and for loss or damage to any property, including property owned or in the care, custody or control of Washtenaw County in connection with or in any way incident to or arising out of the occupancy, use, service, operations, performance or non-performance of work in connection with this contract resulting in whole or in part from negligent acts or omissions of Consultant, any sub-Consultant, or any employee, agent or representative of the Consultant or any sub-Consultant.

ARTICLE VII- INSURANCE REQUIREMENTS

The Consultant will maintain at its own expense during the term of this Contract, the following insurance:

1. Workers' Compensation Insurance with Michigan statutory limits and Employers Liability Insurance with a minimum limit of $100,000 each accident for any employee.

2. Commercial General Liability Insurance with a combined single limit of $1,000,000 each occurrence for bodily injury and property damage. The County shall be added as "additional insured" on general liability policy with respect to the services provided under this contract.

3. Automobile Liability Insurance covering all owned, hired and nonowned vehicles with Personal Protection Insurance and Property Protection Insurance to comply with the provisions of the Michigan No Fault Insurance Law, including residual liability insurance with a minimum combined single limit of $1,000,000 each accident for bodily injury and property damage.

4. Professional Liability coverage with a minimum limit of $1,000,000 each occurrence. The County shall be added as "additional insured" on Professional liability policy with respect to the services provided under this contract. The additional insured provision does not apply to contracts with Architects, Architectural firms, Engineers or Engineering firms.

Insurance companies, named insureds and policy forms may be subject to the approval of the Washtenaw County Administrator, if requested by the County Administrator. Such approval shall not be unreasonably withheld. Insurance policies shall not contain endorsements or policy conditions. which reduce coverage provided to Washtenaw County. Consultant shall be responsible to Washtenaw County or insurance companies insuring Washtenaw County for all costs resulting from both financially unsound insurance companies selected by Consultant and their inadequate insurance coverage. Consultant shall furnish the Washtenaw County Administrator with satisfactory certificates of insurance or a certified copy of the policy, if requested by the County Administrator.

No payments will be made to the Consultant until the current certificates of insurance have been received and approved by the Administrator. If the insurance as evidenced by the certificates furnished by the Consultant expires or is canceled during the term of the contract, services and related payments will be suspended. Consultant shall furnish the County Administrator's Office with certification of insurance evidencing such coverage and

endorsements at least ten (10) working days prior to commencement of services under this contract. Certificates shall be addressed to the Washtenaw County Water Resources Commissioner, P. O. Box 8645, Ann Arbor, MI, 48107, and shall provide for 30 day written notice to the Certificate holder of cancellation of coverage.

ARTICLE VIII - COMPLIANCE WITH LAWS AND REGULATIONS

The Consultant will comply with all federal, state and local regulations, including but not limited to all applicable OSHA/MIOSHA requirements and the Americans with Disabilities Act.

ARTICLE IX - INTEREST OF CONSULTANT AND COUNTY

The Consultant promises that it has no interest which would conflict with the performance of services required by this contract. The Consultant also promises that, in the performance of this contract, no officer, agent, employee of the County of Washtenaw, or member of its governing bodies, may participate in any decision relating to this contract which affects his/her personal interest or the interest of any corporation, partnership or association in which he/she is directly or indirectly interested or has any personal or pecuniary interest. However, this paragraph does not apply if there has been compliance with the provisions of Section 3 of Act No. 317 of the Public Acts of 1968 and/or Section 30 of Act No. 156 of Public Acts of 1851, as amended by Act No. 51 of the Public Acts of 1978, whichever is applicable.

ARTICLE X - REPORTING OF ILLICIT DISCHARGES AND ILLEGAL CONNECTIONS TO COUNTY DRAINS

If, in the course of performing work and duties contained in the SCOPE OF SERVICES, the Consultant observes or suspects illicit connections or illegal discharges to Washtenaw County Drains, the Consultant shall note locations and report observed or suspected illicit connections or illegal discharges to the Washtenaw County Water Resources Commissioner. Indications of illicit connections or illegal discharges shall include but are not limited to pipes discharging sanitary sewage or substances other than storm water or ground water to a County Drain, unusual odors in a drain, and/or evidence of polluting substances in a drain. It shall not be the obligation of the Consultant to investigate the source, nor to identify the pollutant beyond what may be ascertained from a visual inspection.

ARTICLE XI - CONTINGENT FEES

The Consultant promises that it has not employed or retained any company or person, other than bona fide employees working solely for the Consultant, to solicit or secure this contract, and that it has not paid or agreed to pay any company or person, other than bona fide employees working solely for the Consultant, any fee, commission, percentage, brokerage fee, gifts or any other consideration contingent upon or resulting from the award or making of this contract. For breach of this promise, the County may cancel this contract without liability or, at its discretion, deduct the full amount of the fee, commission, percentage, brokerage fee, gift or contingent fee from the compensation due the Consultant.

ARTICLE XII - EQUAL EMPLOYMENT OPPORTUNITY

The Consultant will not discriminate against any employee or applicant for employment because of race, creed, color, sex, sexual orientation, national origin, physical handicap, age, height, weight, marital status, veteran status, religion and political belief (except as it relates to a bona fide occupational qualification reasonably necessary to the normal operation of the business).

The Consultant will take affirmative action to eliminate discrimination based on sex, race, or a handicap in the hiring of applicant and the treatment of employees. Affirmative action will include, but not be limited to: Employment; upgrading, demotion or transfer; recruitment advertisement; layoff or termination; rates of pay or other forms of compensation; selection for training, including apprenticeship.

The Consultant agrees to post notices containing this policy against discrimination in conspicuous places available to applicants for employment and employees. All solicitations or advertisements for employees, placed by or on the behalf of the Consultant, will state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex, sexual orientation, national origin, physical handicap, age, height, weight, marital status, veteran status, religion and political belief.

ARTICLE XIII - LIVING WAGE

The parties understand that the County has enacted a Living Wage Ordinance that requires covered vendors who execute a service or professional service contract with the County to pay their employees under that contract, a minimum of either $11.05 per hour with benefits or $ 12.96 per hour without benefits. Contractor agrees to comply with this Ordinance in paying its employees. Contractor understands and agrees that an adjustment of the living wage amounts, based upon the Health and Human Services poverty guidelines, will be made on or around April 30, 2012 and annually thereafter which amount shall be automatically incorporated into this contract. County agrees to give Contractor thirty (30) days written notice of such change. Contractor agrees to post a notice containing the County's Living Wage requirements at a location at its place of business accessed by its employees.

ARTICLE XIV - ASSIGNS AND SUCCESSORS

This contract is binding on the County and the Consultant, their successors and assigns. Neither the County nor the Consultant will assign or transfer its interest in this contract without the written consent of the other.

ARTICLE XV - TERMINATION OF CONTRACT

Section 1 - Termination without cause. Either party may terminate the contract by giving thirty (30) days written notice to the other party.

ARTICLE XVI - EQUAL ACCESS

The Consultant shall provide the services set forth in paragraph I without discrimination on the basis of race, color, religion, national origin, sex, sexual orientation, marital status, physical handicap, or age.

ARTICLE XVII - OWNERSHIP OF DOCUMENTS AND PUBLICATION

All documents developed as a result of this contract will be freely available to the public. None may be copyrighted by the Consultant. During the performance of the services, the Consultant will be responsible for any loss of or damage to the documents while they are in its possession and must restore the loss or damage at its expense. Any use of the information and results of this contract by the Consultant must reference the project sponsorship by the County. Any publication of the information or results must be co-authored by the County.

ARTICLE XVIII - PAYROLL TAXES

The Consultant is responsible for all applicable state and federal social security benefits and unemployment taxes and agrees to indemnify and protect the County against such liability

ARTICLE XIX- PRACTICE AND ETHICS

The parties will conform to the code of ethics of their respective national professional associations.

ARTICLE XX - CHANGES IN SCOPE OR SCHEDULE OR SERVICES

Changes mutually agreed upon by the County and the Consultant, will be incorporated into this contract by written amendments signed by both parties.

ARTICLE XXI - CHOICE OF LAW AND FORUM

This contract is to be interpreted by the laws of Michigan. The parties agree that all unresolved disputes arising out of this contract will be submitted to non-binding mediation under the rules of the American Arbitration Association. All disputes not resolved by mediation will be submitted to binding arbitration under the rules of the American Arbitration Association.

ARTICLE XXII - EXTENT OF CONTRACT

This contract represents the entire agreement between the parties and supersedes all prior representations, negotiations or agreements whether written or oral.

ARTICLE XXIII – ELECTRONIC SIGNATURES

All parties to this contract agree that either electronic or handwritten signatures are acceptable to execute this agreement.

ATTESTED TO:

By: Lawrence Kestenbaum 2/3/2012 1:46:07 PM
Lawrence Kestenbaum (DATE)
County Clerk/Register

WASHTENAW COUNTY

By: Verna J. McDaniel 2/3/2012 11:53:12 AM
Verna J. McDaniel (DATE)
VERNA J. MCDANIEL
COUNTY ADMINISTRATOR

APPROVED AS TO CONTENT:

By: Janis A. Bobrin 2/2/2012 5:07:16 PM
Janis A. Bobrin (DATE)
JANIS A. BOBRIN
WATER RESOURCES COMMISSIONER

SPICER GROUP:

BY: Evan Pratt
Evan Pratt, P.E. (DATE)
Senior Project Manager

APPROVED AS TO FORM:

By: Curtis N. Hedger 2/1/2012 2:50:57 PM
Curtis N. Hedger (DATE)
Office of Corporation Counsel
CURTIS N. HEDGER
CORPORATION COUNSEL

This document has been reviewed and approved for signature: SM

November 18, 2011

Mr. Scott Miller, P.E.
Project Manager
Office of the Washtenaw County Water Resources Commissioner
705 North Zeeb Road
Ann Arbor, MI 48107-8645

ORIGINAL

RE: RFP for Northfield Earhart Road Drain Consultant Services

Dear Mr. Miller:

We are excited about your invitation to submit a proposal for the Northfield Earhart Road Drain project and the opportunity to assist the Washtenaw County Water Resources Commissioner (WCWRC). This type of project is an exact fit with Spicer Group's expertise and experience with Chapter 3 and 4 drainage work.

You will find that our proposal shows a strong value proposition for the WCWRC in these ways:

- **Spicer brings trust and value as the most experienced firm in the state for this type of work.**
- **Through repetition, our experts have developed cost-effective methods for this type of project.**
- **We offer you a base scope for the most economical solution.**
- **We have LiDAR coverage for this area if additional analysis and topo are needed during design.**

We average over 50 projects per year that have a similar scope of work including redistricting, hydrologic and hydraulic analysis, easement acquisition, public meetings, and minor or major construction. We are confident that our thorough and professional team has the experience you need to develop creative, cost-effective, and timely solutions that satisfy you and the project stakeholders.

We would appreciate the opportunity to serve you on this important project. Please contact me at (734) 277-5359 with any questions about our proposal.

Sincerely,

SPICER GROUP, Inc.

Evan N. Pratt, PE
Senior Associate

Table of Contents

I, Donald Scherzer, acknowledge that I am authorized to bind Spicer Group to the provisions of this proposal and guarantee that this proposal will remain valid for 90 days.

Donald Scherzer, President

HEADQUARTERS
Ronald B. Hansen, P.E., P.S., *Principal*
230 S. Washington Ave.
Saginaw, MI 48607
(989) 928-8021

KEY BRANCH OFFICE
Evan N. Pratt, P.E., *Senior Project Manager*
309 Main Street
Belleville, MI 48111
(734) 277-5359

FIRM PROFILE

Knowledge of Drain Code: Local, State, and Federal Regulations

Since 1944, Spicer Group has worked with a number of Drain Commissioners throughout the State of Michigan. A large majority of these clients, who represent 40 Michigan counties, have depended on Spicer for repeated service. Our team of water resources professionals has extensive experience with design and administration of drain code projects and compliance with local, state, and federal requirements and standards.

Our staff is widely recognized across Michigan as water resources experts by Water Resources Commissioners and Drain Commissioners, as well as the: Michigan Department of Environmental Quality (MDEQ); Michigan Department of Agriculture (MDA); Michigan Department of Transportation (MDOT); United States Army Corp. of Engineers (USACE); county road commissions; and numerous cities, townships and villages. Our clients also recognize our work ethic and dedication to produce quality products on time and within budget.

Spicer Group's team has more combined work experience with the Michigan Drain Code than any other consulting firm in Michigan, and our staff members understand the technical and administrative requirements of petitioned drain projects. In addition, their networking activity with other highly qualified professionals including financial advisors, bond attorneys, drain law attorneys, environmental experts and regulatory officials provides a solid base for technical and administrative recommendations.

The team also understands the legal frame work and process of administering petitioned drain projects, as well as the importance of accurate assessment districts; notifications for bid lettings and day of review; easements; route and course; condensed drainage district descriptions; and potential permitting requirements. We are confident that our references will confirm that we have successfully completed this type of work while maintaining the projected budgets.

Work Plan

It is our understanding that landowners have asked the Washtenaw County Water Resource Commissioner to lay out and designate a drainage district in compliance with Chapter 3 of the Michigan Drain Code. Spicer Group has completed many similar projects, and we have outlined a few of these in the Similar Project Experience Section.

We understand there is an existing tile that services the Wild Meadow Circle area and the landowners believe the existing tile has been damaged or is otherwise not functioning at an adequate level. The landowners would like to repair the tile to reduce the level and duration of flooding and standing water.

It is our understanding that there is a desire to minimize the scope of the project, and we believe it is feasible and appropriate to take the lowest cost approach of replacing the broken tile and other minor repairs to restore the historic conveyance from the east side of Earhart Road to the existing intermittent watercourse that begins behind the home located at 6673 Wild Meadow Circle. Therefore, we are providing a base proposal to address the Chapter 3 project requirements with this limited project scope to simply restore the historic condition because we believe it will provide relief to the petitioners at great value. The added benefit of this approach is to balance the need for local relief with a reasonable assurance that Horseshoe Lake is experiencing no further impact than the historic condition.

For your convenience, we have also included additional optional tasks in case there is a desire for more analysis, either as part of the initial scope of work or for future work to be folded into design during the Chapter 4 process. We would only recommend the additional work if you and/or the landowners feel there is a need to analyze costs for a greater level of service than the historic condition or if there is a desire to quantify the areas of historic flooding.

Base Proposal:

1. Meet with your office to review the project and review existing documentation and service requests. We will obtain parcel maps, aerial photography, and list of local residents to talk to about the project.

2. We will contact the Washtenaw County Road Commission to obtain their input and any existing documentation and plans.

3. We will contact local residents to obtain their input.

4. Existing plans, documentation, contour maps and aerial photographs will be reviewed.

5. Available wetland inventory maps will be obtained and reviewed.

6. A summary of findings from the above-identified tasks will be completed.

7. An engineer will complete a field investigation of the identified potential route and course of the proposed drain. Based on field investigation and review of maps and existing documentation, a preliminary route and course of the drain will be identified.

8. An engineer will complete a field review to delineate the drainage district boundary for the proposed drain. County parcel maps, aerial photographs, contour maps, and existing utility plans will be used in the field to assist in delineating the drainage district boundary.

9. The drainage district boundary will be drawn (overlaid on existing base maps provided by county) and a legal description of the boundary will be written. This information will be provided to the county in paper and digital format.

10. Upon completing the field review, we will meet with your office to review our findings and discuss alternatives and options for drainage improvements.

11. A map of the drain route will be provided to the wetland specialist (Streamside Ecological) who will complete a field review and delineate existing regulated wetlands located along the drain route. Boundaries of regulated wetlands will be surveyed within 75-feet of the proposed drain centerline.

12. A route survey of the drain using GPS will be completed. Topographical features within 50-feet on each side of the preliminary drain centerline will be collected. Centerline elevations will be obtained at 200-foot intervals. We have estimated to survey the drain route from the water course downstream of existing tile to Earhart Road.

13. Existing topography will be drafted onto 100-scale plan and profile drawings.

14. A preliminary location map will be sent to utility companies and governmental agencies requesting any information on existing infrastructure in the area.

15. The location of existing infrastructure, as provided to us or as collected during the survey, will be drafted onto drawings.

16. Proposed flow line grades will be drafted into plans.

17. Properties that would be impacted by the project and those who would be required to grant easements to the drainage district will be identified.

18. A review of permits required to implement the project will be completed.

19. We will meet with your office to review the initial findings and cost estimates and obtain input and direction on the scope of the project.

Tasks 1-19 Deliverables:

- Summary of Resident Input
- Preliminary Route Map with wetland delineation and proposed easements
- Drainage District Boundary Map
- Summary of Meeting with WCWRC

20. A preliminary design with cost estimates and a letter report will be prepared and provided based on the above described analysis and input from your office.

21. We will attend one design review meeting with Northfield Township and other stakeholders that your office may wish to invite.

22. A PowerPoint presentation and maps will be prepared for a public presentation.

23. We will attend the public presentation and present the project estimate and recommended alternative.

24. Update work scope and fee for additional professional services at your request.

Tasks 20-24 Deliverables:

- 2 Easement documents
- Preliminary Design (plan and profile)
- Preliminary cost estimate
- Letter Report
- PowerPoint Presentation and maps for public meeting
- Draft letter agreement for Chapter 4 design or other additional services

As noted in our Work Plan description, we offer the following tasks in case there is a need for more analysis, particularly upstream of Earhart Road.

Optional tasks:

1. Hydrologic calculations will be completed for the 10-year design storm for purpose of developing a hydrograph for the drain outlet. Hydrology calculations will be completed using the MDEQ modified SCS method.

2. Initial hydraulic calculations will be completed using SWMM. Ground contours will be reviewed and the natural storage capacity from the bowl area will be determined and input into the model. The hydrograph will be put into the model. Three scenarios of proposed tile sizes will be input into the model. The estimated water level and dewatering time and downstream discharges for various tiles sizes will be determined.

3. A planning-level estimate of construction cost for the three scenarios will be prepared along with a summary of the level of service.

4. Delineate and survey the boundary of wetlands at one potential storm water detention site.

Items 5-8 expand on tasks already in the base scope. Additional costs reflect only the additional effort required over and above the base scope.

5. Perform additional survey for approximately one total mile of drainage course as-needed to perform hydraulic calculations.

6. Properties that would be impacted by the project and those who would be required to grant easements to the drainage district will be identified.

7. A review of permits required to implement the project will be completed.

8. We will meet with your office to review the initial findings and cost estimates and obtain input and direction on the scope of the project.

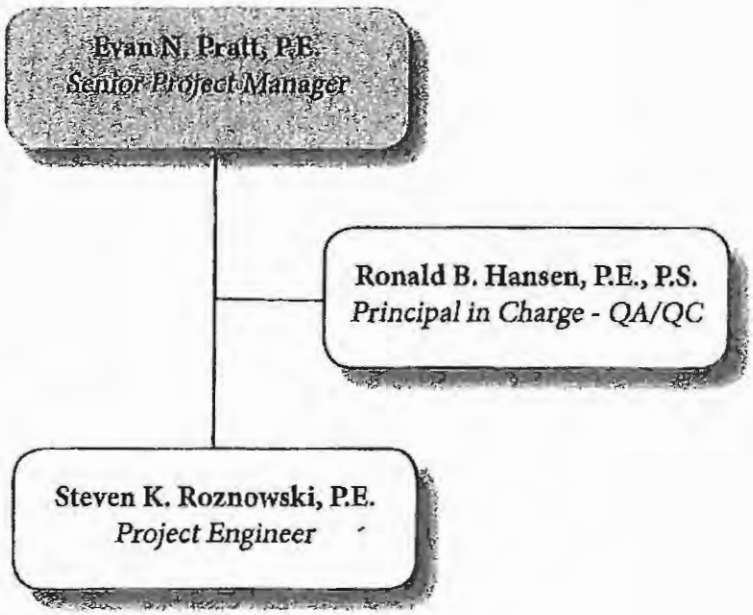
9. A preliminary design with cost estimates and a letter report will be prepared and provided based on the above described analysis and input from your office.

Optional Tasks Additional Deliverables:

- LiDAR coverage for entire Drainage District
- Plan and profile of additional survey data for approximately 1 mile of drainage course
- Results of SWMM analysis for 3 different pipe size alternatives, including maps showing natural storage capacity
- Wetland delineation for one natural storage area
- Planning level cost estimates and L-O.S. summary for all 3 alternatives
- Preliminary design (plan & profile) of preferred alternative
- Final letter report

Project Team

The following organization chart details our proposed project team for this project along with each staff member's hourly rate. Resumes for Mr. Pratt, Mr. Hansen and Mr. Roznowski are located on the following pages.



Project Team Hourly Rates

Ronald B. Hansen, Principal in Charge	$155
Evan N. Pratt, Senior Project Manager	$135
Steven K. Roznowski, Project Engineer	$100

Ronald B. Hansen, P.E., P.S.

Principal/Project Manager

Mr. Hansen has been with Spicer Group since 1993. He is a senior project manager in the Water Resources Service Department and is responsible for overseeing infrastructure improvement projects. He is also the lead technical consultant for flood control studies. Mr. Hansen regularly coordinates with County Drain Commissioners, County Road Commissions, municipalities, Lake Associations and Improvement Boards, and the Michigan Departments of Environmental Quality, Transportation and Agriculture. He is responsible for ensuring that procedural requirements and design standards are met. He assists with project administration and management, project funding, survey, design, mapping, construction, floodplain, wetland, and inland lake and streams permits, easement preparations, special assessment districts, hydraulic modeling, constructability reviews, and scope negotiations. Mr. Hansen frequently organizes, attends, and makes presentations at public meetings.

RELATED EXPERIENCE

Horner Drain Improvements – *Principal in Charge*
Wayne County, April 2011-August 2011
Principal in Charge for the drainage study which resulted in a recommendation to clean and construct existing drains to provide adequate drainage for Willow Run Airport and the proposed Yankee Air Museum campus. Also reviewed and updated drainage district boundary, completed layouts of drain route, analyzed five alternatives, coordinated with local agencies and utilities, and prepared the drainage report. Two alternatives recommended use of existing low areas to detain design storm events, based on topographic, hydraulic, and hydrologic analysis.

Sexton-Kilfoil Drain – *Principal in Charge*
Wayne County, Summer 2011-Present
Principal in Charge responsible for overseeing design improvements to the drain. Improvements include the development of a drainage district map with existing Wayne County GIS layers, field verification of the drainage district boundary, easement acquisition, assistance with addition of lands to the drainage district and delineation of drainage district boundary of tributary drains.

Lakeside Drain – *Principal in Charge*
Monroe County, 2006-Present
Principal in Charge responsible for overseeing improvements to this Chapter 8 Drain project including the review and updating of the drainage district boundary, complete layouts of the drain route, analysis of alternatives and coordination of permits with MDOT, MDEQ and local utilities. Also led the team with presenting findings at a Board of Determination meeting.

Textile Drain – *Principal in Charge*
Washtenaw County, 2005-2007
Principal in Charge on this Chapter 3 drain project responsible for overseeing the establishment and delineation of a drainage district boundary, complete layout of the drain route, alternative analysis, wetland review and coordination with MDOT and local government and utility companies. established and delineated a drainage district

Experience:

19 years

Registration:

Professional Engineer, State of Michigan, 1997, License # 43307

Professional Surveyor State of Michigan, 2007 License # 54052

Professional Engineer, State of Ohio, 2007, License # 72850

Certification:

Storm Water Operator
- Construction Sites
- Industrial Sites

Soil Erosion & Sediment Control Certification # 07-0394

Education:

Bachelor of Science in Surveying, Michigan Technological University, Houghton, MI 2005

Bachelor of Science in Civil Engineering, Michigan Technological University, Houghton, MI, 1993

Graduate Courses in Hydrology and Ice and Snow Engineering

Undergraduate Studies in Water Resources, Structural, Water and Wastewater, and Survey

Professional Experience:

Spicer Group, Inc., Saginaw, MI, Since 1993

Saginaw Office
230 South Washington Avenue
Saginaw, Michigan 48607-1286
www.spicergroup.com

Phone: (989) 754-4717
Toll Free: (800) 833-0062
Fax: (989) 754-4440
ronh@spicergroup.com

Mizner Drain – *Principal In Charge*
City of Taylor, Wayne County, 2008-2010
Principal in Charge responsible for overseeing $1.5 million in drainage and street improvements including the installation of large-diameter structures ranging in size from 48-inch pipes to 5-foot by 11-foot culverts. This project was a drainage system retro-fit to an older neighborhood, and extensive research, mapping and coordination of existing utilities was performed to layout and design that minimized conflicts with existing utilities.

Lakeside Landing Drain – *Principal In Charge*
Genesee County, Fall 2009-Present
Principal in Charge responsible for overseeing all work tasks related to this Chapter 3 drain. Tasks included establishing/delineating a drainage district boundary, analyzing alternatives, completing a layout of the route of drain, reviewing wetlands, coordinating with MDOT, and local government and utilities, and presenting findings at a Board of Determination meeting.

Ecorse Creek Flood Study – *Project Manager*
Wayne County, 2006-2008
Project Manager responsible for the development of the Ecorse Creek flood control study. The project included analysis of alternatives and cost estimating to address the longstanding flooding problems in Wayne County's Downriver Area, with worst flooding in the cites of Dearborn Heights and Allen Park. Responsible for directing a multidisciplined team and reporting to policy and technical committees which included members from the nine Downriver cities impacted, Wayne County and the U.S. Army Corps of Engineers. An alternative totaling $240 million was identified as the best solution and stakeholders are still evaluating further efforts to implement the recommended improvements. Tasks completed in the development of this alternative included a 19-mile-long survey control network, hydraulic surveys, hydrological and hydraulic modeling, flood mapping, environmental reviews, preliminary design, special assessment roll development, and cost estimating of open channel, bridge, enclosures, environmental contamination, property acquisition, and utility relocations.

Summary of Improvement Projects throughout Michigan – *Principal In Charge*
The $2.5 million Cook and Gladding Drain project in the City of Flat Rock included the boring of a 48-inch pipe under a railroad and installation of 7-foot-wide pipe under a major highway. The Wildwood Lake Dam reconstruction in Cheboygan included the lining of 320 feet of 42-inch pipe. The $2.5 million Gilkey Creek improvement in City of Burton included the design of a 100 acre-foot storm water detention facility. The Surrey Lake Dredging project in Clare included the design of a 55,000 cubic yard dredge disposal facility.

Professional Affiliations:

Michigan Stormwater-Floodplain Association

American Society of Civil Engineers

Michigan Association of County Drain Commissioners (MACDC) Associate Member

Michigan Society of Professional Engineers

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ronh@spicergroup.com

Evan N. Pratt, P.E.

Senior Associate/Senior Project Manager

Mr. Pratt has been the primary point of contact and Project Manager for numerous communities and agencies in Oakland and Washtenaw Counties for over 21 years including dozens of water resources projects. Several of these projects included drainage district delineation, re-districting, hydraulic and hydrological analysis, easement acquisition, and evaluation of design alternatives. In particular, Mr. Pratt has been project manager and lead engineer on 100+ water resource projects and studies of all sizes, including a wide range of flooding problems, drainage studies, redistricting, and stormwater system analyses, computer models, and field investigations, many of which have been funded by grants obtained with his assistance. Mr. Pratt prepared the official wetlands map for the City of Auburn Hills as required by state law and for 12 years was his firm's primary contact for MDEQ coordination and permitting. He has made determinations on more than 120 sites in nine jurisdictions.

RELATED PROJECT EXPERIENECE:

Horner Drain Improvements -- *Project Engineer*
Wayne County, April 2011-August 2011
Project Engineer responsible for the drainage study which resulted in a recommendation to clean and construct existing drains to provide adequate drainage for Willow Run Airport and the proposed Yankee Air Museum campus. Also reviewed and updated drainage district boundary, completed layouts of drain route, reviewed five alternatives, and coordinated with local agencies and utility companies. Based on topographic, hydraulic, and hydrologic analysis, two alternatives recommended use of existing low areas to detain design storm events.

Sexton-Kilfoil Drain – *Project Engineer*
Wayne County, Summer 2011-Present
Project Engineer working with Wayne County on improvements to the drain including development of drainage district map with existing Wayne County GIS layers, field verification of the drainage district boundary, easement acquisition, assistance with addition of lands to the drainage district, and delineation of drainage district boundary of tributary drains.

Harmony Drain Improvements – *Project Manager*
City of Auburn Hills, MI
Project Manager responsible for the design and construction of this drainage improvement project that required complex computer modeling due to the 20-plus detention basins that occupied the 200+ acre drainage district within Orion Township and the City of Auburn Hills. Facilitated public meetings that also included residents of the nearby Village of Lake Angelus, as Lake Angelus was the ultimate body of water receiving flow. Similar elements included field investigation, district boundary delineation, re-districting due to three overlapping districts, hydrologic/hydraulic analysis, easement document preparation and acquisition, storage, outlet controls, preparation of alternative design concepts and cost estimates, design and construction services.

Education
Bachelors of Science in Civil Engineering,

Massachusetts Institute of Technology, 1987

Professional Registration
- Professional Engineer, State of Michigan, 1992, License #6201037779
- Professional Engineer in CA, HI, OH, and TN
- Wetland Professional-In-Training, Society of Wetland Scientists, 1996

Experience
24 years experience

Presentations
- 8 presentations on environmentally sensitive Stormwater management to multiple state organizations
- Numerous presentations on stormwater regulations

Professional Affiliations
- Ann Arbor Planning Commission, 2003-Present, Vice-Chair/Chair, 2005-08
- Huron River Watershed Council (HRWC), 2000-11
- Michigan Association of County Drain Commissioners
- Michigan Association of Planning, 2003-11
- Society of Wetlands Scientists, 1992-04

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Fax: (989) 754-4440
evanp@spicergroup.com

Maplehurst Drain and Wetland Improvements – ***Project Manager***
City of Auburn Hills, MI
Project Manager responsible for this drainage improvement project that includes a five-acre emergent wetland for storm water detention and wetland preservation. Facilitated multiple public meetings and met with individual residents on site to ensure appropriate aesthetic needs were included in the conceptual design. The design utilized the existing undersized 30-inch pipe and added a parallel overflow pipe to alleviate residential flooding. Similar elements included field investigation, residential flooding relief, district boundary delineation, hydrologic/hydraulic analysis, storage, easement document preparation and acquisition, outlet controls, preparation of alternative design concepts and cost estimates design and construction services.

Vinewood Drain and Wetland Improvements – ***Project Manager***
City of Auburn Hills, MI
Project Manager responsible for this drainage improvement project that includes an eight-acre pond and emergent wetland for storm water quality and management. Acquired easements, facilitated multiple public meetings and met with individual residents on site to ensure appropriate aesthetic needs were included in the conceptual design. Similar elements included field investigation, residential flooding relief, district boundary delineation, re-districting due to three overlapping districts, hydrologic/hydraulic analysis, storage, easement document preparation and acquisition, outlet controls, preparation of alternative design concepts and cost estimates of design and construction services.

Cogswell Road Area Drainage Study – ***Principal in Charge***
City of Romulus, MI
Principal in Charge for a drainage study of approximately one square mile area with a history of flooding and poor drainage. Field investigation, district boundary delineation, hydrologic and hydraulic analysis were required. Recommendation was centered on low-impact infiltration swales.

Reid and Branch Drainage District Study – ***QA/QC***
Orion Township, MI
QA/QC reviewer for this study which involved identifying existing drainage problems within the Reid and Branch Drainage District. Similar elements included field investigation, district boundary delineation, hydrologic and hydraulic analysis, and recommended design. Analysis of the existing condition of the district was performed using the hydrologic modeling software. Based on model results, options for new regional detention and expansion of existing facilities were presented.

Oak Park/Washtenaw Heights Storm Sewer Rehabilitation – ***Principal in Charge***
Pittsfield Township, MI
Principal in Charge for the study, alternative analysis, design, bidding and construction engineering services for this project to rehabilitate a vitrified clay pipe storm sewer system built in the 1920's. Selected for the project based on pipebursting experience, as the Washtenaw County Water Resources Commissioner had not used this technique before. New drainage structures were required plus testing, analysis, and removal of illicit sanitary sewer connections, and a road paving program.

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evanp@spicergroup.com

Steven K. Roznowski, EIT

Design Engineer

Mr. Roznowski has received a Bachelor of Science in Civil Engineering from Michigan Technological University and a Master of Science in Civil Engineering from Colorado State University. As a Design Engineer in the Water Resources Services Group, he has primarily focused on the design of drainage improvement projects. He is proficient with hydrologic and hydraulic computer modeling software, including HEC-RAS, EPA SWMM, FlowMaster, CulvertMaster, and the Rational Method. Mr. Roznowski's responsibilities include engineering design, public interaction, computer modeling, technical calculations and writing, project inspections, site inspections, permit acquisition, and coordination with regulatory agencies, utility companies, and contractors.

EXPERIENCE AND QUALIFICATIONS

Horner Drain Improvements – *Project Engineer*
Wayne County, MI April 2011-August 2011
Project Engineer responsible for the drainage study which resulted in a recommendation to clean and construct existing drains to provide adequate drainage for Willow Run Airport and the proposed Yankee Air Museum campus. Also reviewed and updated drainage district boundary, completed layouts of drain route, analyzed five alternatives, coordinated with local agencies and utilities and prepared the drainage report. Two alternatives recommended use of existing low areas to detain design storm events, based on topographic, hydraulic, and hydrologic analysis.

Lakeside Drain Improvements – *Project Engineer*
Monroe County, MI 2006-Present
Project Engineer for Chapter 8 Drain project which included a diversion and new pump station, which Spicer Group reviewed and updated drainage district boundary, completed layouts of drain route, analyzed alternatives and coordinated permits with MDOT, MDEQ and local utilities.

Sexton-Kilfoil Drain Improvements – *Project Engineer*
Wayne County, MI Spring 2004-Present
Project Engineer responsible for working with the Wayne County Drain Commissioner on improvements to this drain, including the development of drainage district map with existing Wayne County GIS layers, field verification of the drainage district boundary, easement acquisition, assistance with addition of lands to the drainage district, delineation of drainage district boundary of tributary drains, along with other administrative tasks.

OTHER PROJECT EXPERIENCE

- **Gilkey Creek Preliminary Design, Genesee County Drain Commissioner:** Design of storm water detention using EPA SWMM and design of crossing improvements using CulvertMaster and HEC-RAS.
- **Bay County Drain Buffer Strip Study, Bay County Drain Commissioner:** Hydrology and hydraulic analysis in conjunction with USDA RUSLE2 program to model sediment transport through vegetative filter strips.

Experience:

1 years

Registration:

Engineer In Training
State of Michigan 2008

Education:

Master of Science
Civil Engineering
Colorado State University
Fort Collins, CO 2010

Bachelor of Science
Civil Engineering
Michigan Technological University
Houghton, MI 2008

Certifications:

MDEQ Storm Water Operator – Industrial Sites

Professional Experience:

Spicer Group, Inc.,
Saginaw, MI
Since 2010

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stever@spicergroup.com

Communication

Spicer Group would utilize many forms of communication while working on the Wild Meadow Chapter 3 Drain project, including telephone, e-mail and face-to-face meetings when necessary. We have included cell phone numbers for both Principal in Charge, Ron Hansen and Senior Project Manager, Evan Pratt, making them readily available at any time. Our team also has experience running public forums and meetings to get public input if the need should arise.

Similar Project Experience

The Spicer Group team has a proven track record of successfully assisting Water Resources Commissioners and Drain Commissioners with all aspects of drain related projects. Our team has completed hundreds of storm water management projects for municipalities, county, and state agencies across Michigan. Our team has received numerous awards on local, state and national levels for excellence in engineering, public involvement and education, and water quality enhancements.

Spicer Group's Water Resources Service Area is made up of a team of highly trained and experienced professionals. We have, and continue to produce high quality watershed design solutions throughout the State of Michigan, many of which have earned State and National recognition. Spicer Group has over 35 full-time water resources staff working on over 120 water resources projects throughout Michigan at any given time. We attribute our repeat business to our dedication, work ethic, and history of completing quality projects on time while maintaining set budgets.

Spicer Group's team has helped several clients and organizations develop goals, policies, rules, regulations, and overall watershed management plans. Spicer Group works with the Michigan Association of County Drain Commissioners, Michigan Department of Environmental Quality, Michigan Department of Agriculture, Federal Emergency Management Association, the Environmental Protection Agency, and City and County officials on a normal basis to maintain a high level of quality and ensure all regulations are met and maintained.

The following project descriptions give detailed summaries of projects that are similar in scope. The team members who worked on the following projects are also members who are proposed to work on this project.

Textile Drain – Washtenaw County

The Textile Drain was a Chapter 3 drain project for Washtenaw County that had a goal of reducing chronic flooding along Textile Road between Michigan Avenue and Carpenter Road in Pittsfield Township. The proposed drain would have been approximately 3,300 feet long and encompass a drainage district of 410 acres.

Spicer Group established/delineated a drainage district boundary, completed a layout of the drain route, analyzed alternatives, reviewed wetlands, coordinated with MDOT, local government and utilities and presented finding at a Board of Determination.

Client Contacts: Dennis Wojcik, P.E., Chief Deputy Water Resources Commissioner, Washtenaw County Water Resources Commissioner
(734) 994-2525

Gary Elling, P.E., Deputy of Engineering Services, Washtenaw County Water Resources Commissioner
(734) 222-6881
705 North Zeeb Road
P.O. Box 8645
Ann Arbor, MI 48107-8645
Engineering Cost: $94,407.50
Construction Cost: Not constructed
Dates: Summer 2005-Fall 2007

Lakeside Drain – Monroe County

This was a Chapter 8 Drain project that included a diversion and new pump station. Spicer Group reviewed and updated drainage district boundary, completed layouts of drain route, analyzed alternatives, coordinated permits with MDOT, MDEQ, and local utilities, as well as secured easements. Spicer Group presented findings at the BOD, and provided the field investigation, evaluation of existing conditions, preliminary and final design, construction staking and construction administration, inspection, grant application CZM grant, pump station and drain improvement plans for the project.

Flooding near the Lakeside Drain in Monroe County before drain improvements were made.

Client Contact: Dan Stefanski, Monroe County Drain Commissioner
(734) 240-3110
1005 S. Raisinville Road
Monroe, MI 48161-9754
Engineering Cost: $320,000
Construction Cost: $1,450,000
Dates: 2006-Present

Mizner Drain – Wayne County

The Mizner Drain was a Chapter 8 drain project which included approximately a 3.5-mile-long drain composed of both open drainage channels and storm sewers. It is under the jurisdiction of the Wayne County Drain Commissioner (WCDC) and serves a 772-acre watershed in the Cities of Taylor and Romulus. The Mizner Drain is located in a highly urbanized area. It passes through several large apartment complexes in Taylor and also passes through the Detroit Metropolitan Airport in Romulus. High sediment levels in the drain were leading to stagnant water and mosquito infestations, which prompted residents to petition the WCDC to have the drain improved. Spicer Group provided full engineering and administrative support, which included updating the drainage district, field investigation, construction administration and holding public meetings.

Client Contact: Kerreen Conley, Wayne County Deputy Drain Commissioner, (313) 224-7679
400 Monroe, Suite 400
Detroit, MI 48226
Engineering Cost: $200,000
Final Cost: $1,385,000
Dates: October 2006-Present

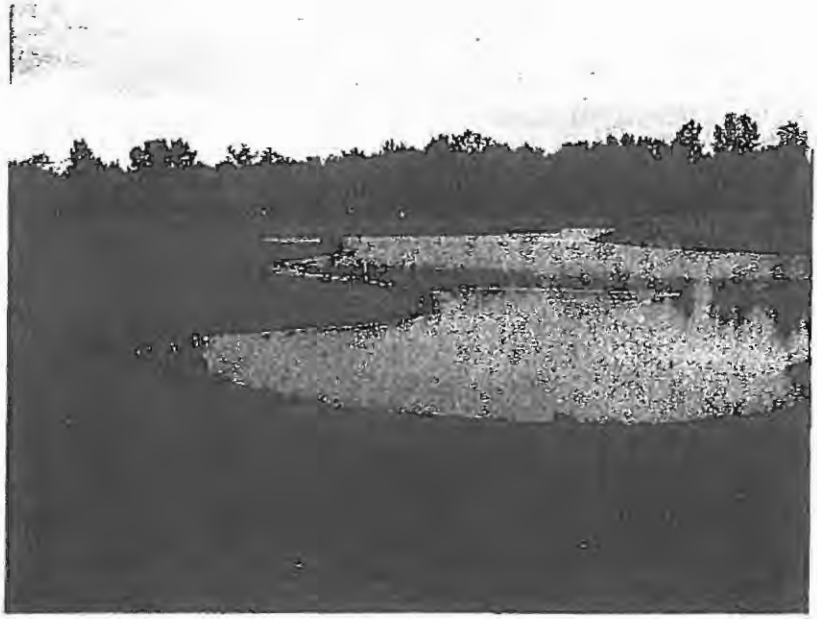
Mizner Drain

Swiss Gardens Drain – Monroe County

Residents living within the 323-acre watershed of the Swiss Gardens Drain in southeastern Monroe County were originally plagued by repetitive flooding problems including flooded basements, flooded roads and sanitary sewer overflows. Residents petitioned to develop a solution to the flooding problems for the 1.3-mile-long tiled drain. Spicer Group completed a preliminary study, permitting, easement acquisition, engineering design, plan preparation, assessment roll preparation and construction administration.

The team agreed that the most cost-efficient method was to divert the upper half of the Swiss Gardens Drain south across the Ohio state line into Halfway Creek in Toledo. Because the proposed solution would divert flows to an upstream location on the Halfway Creek from the current outfall location, a 6.1-acre-foot storm water detention pond on a local golf course was also incorporated into the design. This design alternative was least costly for construction yet complicated to administer due to the required coordination and permitting with many different agencies and residents.

Client Contact: Dan Stefanski, Monroe County Drain Commissioner
(734) 240-3110
1005 S. Raisinville Road
Monroe, MI 48161-9754
Engineering Cost: $320,000
Final Cost: $1,400,000
Dates: October 2007-2010



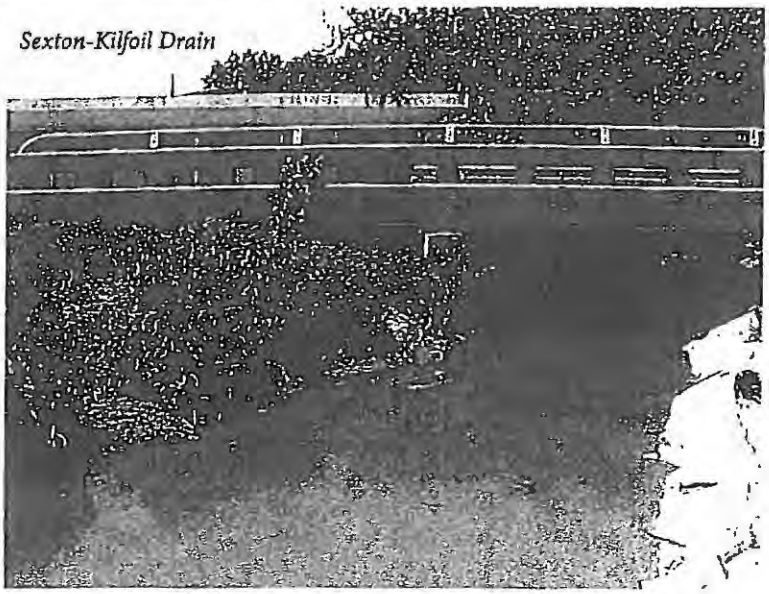
The Swiss Garden drain project included the construction of a 6.1-acre-foot storm water detention pond on a nearby golf course.

Lakeside Landing Drain – Genesee County

The Lakeside Landing was a Chapter 3 drain in Genesee County in which Spicer Group assisted in establishing and delineating a drainage district boundary, completing a layout of the route of drain, analyzed alternatives, reviewed wetlands, and coordinated with MDOT and local government and utilities.

Client Contact: Sue Kubic, P.E., Senior Engineer, Genesee County Drain Commissioner's Office, (810) 732-1590
G-4608 Beecher Road
Flint, MI 48532
Engineering Cost: $21,478.75
Construction Cost: N/A, not yet constructed
Dates: October 2009-Present

Sexton-Kilfoil Drain – Wayne County


Sexton-Kilfoil Drain

Spicer Group is currently working with the Wayne County Drain Commissioner on drain improvements to this Chapter 8 drain, including development of drainage district map with existing Wayne County GIS layers, field verification of the drainage district boundary, easement acquisition, assistance with addition of lands to the drainage district, delineation of drainage district boundary of tributary drains, along with other administrative tasks.

Client Contact: Kerreen Conley, Wayne County Deputy Drain Commissioner,
(313) 224-7679
400 Monroe, Suite 400
Detroit, MI 48226
Engineering Cost: N/A
Final Cost: N/A

Horner Drain – Wayne County

The Horner Drain project was a drainage study which involved cleaning and constructing new drains to provide adequate drainage for Willow Run Airport and Yankee Air Museum. Spicer Group reviewed and updated the drainage district boundary, completed layouts of the drain route, analyzed alternatives and coordinated with local agencies and prepared a drainage report outlining various alternatives. The design, if implemented, will include a natural stream flood drain storage area, a drain division, and drainage maintenance to the existing County drain. In order to reduce flooding at the downstream end of the system, a wide, shallow open channel was designed. Due to the low bearing capacity of poor soil conditions, a standard culvert could not be used for a crossing. Instead, rock fords were designed to accommodate crossings by farm equipment while maintaining positive flow in the stream.

Client Contact: Dennis Norton, President, Michigan Aerospace Foundation
(734) 971-2750
P.O. Box 8282
Ann Arbor, MI 48107-8282
Bryan Wagoner, P.E., Environmental Administrator for the Detroit Metro Willow Run
(734) 247-3686
L.C. Smith Terminal, Mezzanine
Detroit, MI 48242
Engineering Cost: $30,118.02
Construction Cost: Pending Alternative Selection
Dates: April - August 2011


Horner Drain

Northfield Earhart Drain/Wild Meadow Circle
Proposed Project Schedule
Winter 2011 - 2012

*Start Date	End Date	Task Nos.	Project Phase	December	January	February
5-Dec	12-Dec	1-6.	Meet w/WCWRC, Gather Information, Summarize Findings			
12-Dec	19-Dec	7-8.	Field Investigation, Field Review, and Route Survey			
20-Dec	22-Dec	9	Prepare District Boundary Map, Preliminary Route Map			
22-Dec	22-Dec	10	Progress Meeting with WCWRC: review findings, alternatives			
3-Jan	16-Jan	11-17.	Preliminary Design showing easement(s), including topo and wetland surveys			
12-Jan	16-Jan	14, 18.	Permit review and Utility coordination			
18-Jan	18-Jan	19	Progress Meeting with WCWRC: review initial recommendations and cost			
19-Jan	31-Jan	20-24.	Update design and estimates, prepare and attend public meetings & B.O.D.			
			**Optional Tasks (See Below)			

*Timing of Project assumes authorization to proceed by 12/2. If authorization is later, assume a shift by the same number of business days for each task.
** Optional tasks could be performed at any time after starting Preliminary Design, and would add 3 weeks to the schedule.

Professional Engineering Services
for
Wild Meadow Circle Ch. 3 Drain Study
Summary of Estimated Hours and Cost
11/11/11

Task Description	*Principal* Ron Hansen $155	*Sr. Project Manager* Evan Pratt $135	*Project Engineer* Steve Roznowski $100	*Project Surveyor* Roger Mahoney $127	*Technician IV* TBD $84	*Survey Tech* Survey Tech $86	*Project Assistant* TBD $68	Streamside Ecological	*Total*
BASE PROPOSAL									
Review Available Information		1	1	0.5			1		3.5
Meet with WCWRC		2	2						4
Field Investigation and Review		2	5			2	0.5		9.5
Route Survey, Prepare Preliminary Route Map(s)	0.5	1	5	1		3			10.5
Prepare District Boundary Map and Legal Description		1	2	1					4
Meet with WCWRC re: Alternatives for drainage improvements	0.5	2	4						6.5
Wetland Delineation								$500	n/a
Prepare Preliminary Cost Estimate(s)	0.5	1	4						5.5
Easement evaluation			1	0.5					1.5
Meet with WCWRC re: preliminary findings, next steps		2	2						4
Prepare letter report with preliminary design and cost estimate	1	1	5				1		8
Meeting with Northfield Township and WCWRC		1							1
Public Meeting and Preparation		2	3				2		7
									0
Chapter 3 Total Hours	2.5	16	34	3	0	5	4.5		65
Chapter 3 Study Fee	$388	$2,160	$3,400	$381	$0	$430	$306	$500	$7,565
Percent Involvement	3.8%	24.6%	52.3%	4.6%	0.0%	7.7%	6.9%		
								SGI Hourly	$108.68
OPTIONAL TASKS									
Hydrologic and Hydraulic Analyses	2		6		6				14
Wetland Delineation of Potential Detention Area			1					$600	n/a
LIDAR Processing and Additional Topographic Survey			2	1		12			15
Prepare 3 Cost Estimates		1	4		6				11
Additional Easement Review		0.5	2	0.5			1		4
Prepare Report	0.5	1	4				1		6.5
Optional Tasks, Total Hours	2.5	2.5	19	1.5	12	12	2		51.5
Optional Tasks Fee	$388	$338	$1,900	$191	$1,008	$1,032	$136	$600	$5,592

Professional Engineering Services
for
Wild Meadow Circle Ch. 3 Drain Study
Summary of Estimated Hours and Cost
11/11/11

Task Description	*Principal* Ron Hansen $155	*Sr. Project Manager* Evan Pratt $135	*Project Engineer* Steve Roznowski $100	*Project Surveyor* Roger Mahoney $127	*Technician IV* TBD $81	*Survey Tech* Survey Tech $86	*Project Assistant* TBD $68	Streamside Ecological	*Total*
BASE PROPOSAL									
Review Available Information		1	1	0.5			1		3.5
Meet with WCWRC		2	2						4
Field Investigation and Review		2	5			2	0.5		9.5
Route Survey, Prepare Preliminary Route Map(s)	0.5	1	5	1		3			10.5
Prepare District Boundary Map and Legal Description		1	2	1					4
Meet with WCWRC re: Alternatives for drainage improvements	0.5	2	4						6.5
Wetland Delineation								$500	n/a
Prepare Preliminary Cost Estimate(s)	0.5	1	4						5.5
Easement evaluation			1	0.5					1.5
Meet with WCWRC re: preliminary findings, next steps		2	2						4
Prepare letter report with preliminary design and cost estimate	1	1	5				1		8
Meeting with Northfield Township and WCWRC		1							1
Public Meeting and Preparation		2	3				2		7
									0
Chapter 3 Total Hours	2.5	16	34	3	0	5	4.5		65
Chapter 3 Study Fee	$388	$2,160	$3,400	$381	$0	$430	$306	$500	$7,565
Percent Involvement	3.8%	24.6%	52.3%	4.6%	0.0%	7.7%	6.9%		
								SGI Hourly	$108.68
OPTIONAL TASKS									
Hydrologic and Hydraulic Analyses	2		6		6				14
Wetland Delineation of Potential Detention Area			1					$600	n/a
LIDAR Processing and Additional Topographic Survey			2	1		12			15
Prepare 3 Cost Estimates		1	4		6				11
Additional Easement Review		0.5	2	0.5			1		4
Prepare Report	0.5	1	4				1		6.5
Optional Tasks, Total Hours	2.5	2.5	19	1.5	12	12	2		51.5
Optional Tasks Fee	$388	$338	$1,900	$191	$1,008	$1,032	$136	$600	$5,592

Philip A. Westmoreland, P.E.

Senior Associate/Senior Project Manager

Mr. Westmoreland is a Senior Associate and Senior Project Manager at Spicer Group focusing primarily on municipal type projects. He is a team leader and has extensive experience managing several staff at one time. Mr. Westmoreland has been heavily involved in numerous public improvement projects each year including water distribution, wastewater collection, road reconstruction and pavement maintenance, and storm water management, as well as a large footing drain disconnection program. He is proficient in AutoCAD, MS Project, graphic design software, civil design software, and a variety of word processing and spreadsheet software.

Mr. Westmoreland serves as the primary client contact for all levels of municipal government and has worked extensively with cities, villages, and townships as well as road agencies and drain commissioners. He represents Spicer Group at all manner of public functions, including council, board and planning commission meetings, social and business gatherings.

RELATED EXPERIENCE

Bedford Township SAW Grant

Project Manager for the development of Bedford Township's Asset Management Plan and GIS database. The project involves creating a new GIS system for the complete sanitary system, condition assessments of all structures, WWTP equipment, pump stations, and a selected portion of the pipe network. The system includes approximately 3000 manholes and hundreds of miles of sanitary sewer ranging from 36 to 8 inch diameter. The GIS database was developed using GPS information gathered through Mobile Mapping technology. An Asset Management Plan and Capital Improvement plan is being developed that will assist the Township in rate setting so that future projects have adequate funding.

South County Water Geographic Information System (GIS)

Project Manager for the development of a GIS for the South County Water System (SCWS) in Monroe County. SWCS provides potable water distribution services to all or part of the following communities: Bedford Township, Erie Township, LaSalle Township, and the City of Luna Pier. The GIS system includes approximately 315 miles of water main, ranging in size from 6-inch to 24-inch, four elevated water storage tanks, and two ground level storage tanks with pumping stations. GPS information was gathered for all surface features using Mobile Mapping technology, and record plans were used to input water main information. The GIS was developed to allow SCWS staff to have the information readily available while working in the field using I-Pads and similar handheld electronic devices.

2013 Street Reconstruction Projects, City of Saline

Project Manager for the repaving of several local streets in the City of Saline. The project included milling and repaving of the HMA pavement, along with replacement of portions of the curb and gutter, sidewalk, ADA ramps, signage, and pavement markings. A geotextile separator was used between the existing HMA base and the new material to retard reflective cracking. The project was prepared in a log-style format to reduce the cost of the design.

Experience:
19 years

Education:
Bachelors in Civil Engineering from Michigan Technological University

Registration:

Professional Engineer, State of Michigan, 2000
License Number: 046775

Professional Development

Water Environment Federation, Private Property Programs, Presenter, 2007

Water Environment Federation, CS 2006; Infrastructure Stewardship, Presenter, 2006

ACEC National Conference, Boston, 2003

ACEC Michigan Winter Conference, 2001 - 2003

ACEC/LTU Management Training Program, 2002

Project Manager's Bootcamp, PSMJ, 2002

LeaderEase Program, 2001

Facilitation Skills Training, 2000

U.S. Army Corps of Engineers Wetland Training course, 1999

Pavement Design Seminar - Michigan State University, 1998

Softdesk Civil/Hydrology Training, 1998

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philaw@spicergroup.com

Philip A. Westmoreland, P.E.(continued) Senior Associate/Senior Project Manager

Transportation Asset Management Plan, Village of Dundee
Project Manager for the preparation of a 6 year asset management plan for the Village's transportation system. The project was a comprehensive pavement management plan that included field evaluation of the condition of all Village streets, setting priorities for maintenance and rehabilitation treatments, and planning expenditures for the life of the program. All of the Village's streets were addressed in the 6 year program, and the groundwork was laid for a sustainable, low cost program to maximize the lifespan of their roads.

Civic Center Parking Lot Reconstructon, City of Southfield, MI
Project Manager responsible for the design of the reconstruction of the main parking lot at the City of Southfield Civic Center. The project involved reconfiguring the existing lot to improve traffic circulation and reduce vehicle/pedestrian conflicts within the lot. The majority of the pass-through traffic, especially police and emergency vehicles, was re-routed outside the confines of the parking area. The project also included paving half of the lot with porous asphalt pavement and constructing a bioswale for stormwater treatment.

Auburn Hills Stormwater Retrofits, City of Auburn Hills, MI
Client representative responsible for the design and implementation of this stormwater quality improvement project. The City wanted to install a variety of stormwater Best Management Practice (BMP) technologies at several of their facilities. Bioswales, rain gardens, filter strips, rain barrels, detention basins, and other BMPs were constructed to improve runoff quality and quantity within the Clinton River Watershed. The project included the writing a Project Plan to secure project financing through the State of Michigan Clean Water Revolving Fund (SRF).

Peavy Road Sanitary Replacement, Marion Township, MI
Account manager responsible for the replacement of the existing 10" ductile iron sanitary force main. The early deterioration of the existing sewer was linked to the cathodic protection system installed for the nearby gas main. In order to limit the potential for future sanitary force main breaks, this existing main was replaced with a 10" HDPE (High Density Polyethylene) pipe. The HDPE will not be affected by the electrical currents produced by the cathodic protection system.

Auburn Hills Storage Tank & Pressure Redistrieting, City of Auburn Hills
The storage tank was required to improve the water distribution system and its reliability, especially during summer months. The tank increased the pressure in the northern sections of the city and provided storage capacity within the system in case of emergency. In addition to designing the structure, the project also includes the analysis of the existing pressure districts and recommendations to better serve the utility customers supply needs.

Liverpool Water Main – Phase I - IV, Pipe Bursting, City of Auburn Hills, MI
Account manager responsible for the design and construction of 8-inch water main replacement by pipe bursting method in the Bloomfield Orchards subdivision. These projects were several phases of a multi-year project, totaling over four miles of water main replacement.

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Brent J. Dankert, P.E.

Mr. Dankert has worked at Spicer Group for the past 13 years in a wide range of areas. He has played a versatile role in providing planning, design, permitting, survey, construction administration, and inspection services to the client. He is certified in Troxler Nuclear Testing, MDOT Density Technology, MDOT Bituminous Paving, MDOT Paving and Inspection, Pavement Markings and Inspection, First Aid, CPR, and is a Concrete Field Testing Tech I, Michigan Certified Aggregate Technician, MDOT Field Manager, MDEQ Storm Water Construction Operator, Part 91 Soil Erosion Sedimentation Control, MDEQ Storm Water Operator, MDOT Office Technician, and Prevailing Wage Training.

RELATED EXPERIENCE

South Center Street Improvements – Project Manager/Office Technician
City of Northville, MI 2013
Responsible for managing the full time inspection and testing services for .25 miles of road rehabilitation which included concrete pavement repairs, profile cold milling, HMA paving, sidewalk/curb and gutter repairs, electrical wiring, light pole foundations, permanent signage, permanent pavement markings, and traffic control.

1-96 Latson Road Interchange – Office Technician
Brighton, MI 2013
Responsible for assisting the MDOT Brighton TSC with managing the project and maintaining project files. Also responsible for generating pay estimates and contract modifications, document review, material certification, approval and documentation. Provided complete concrete quality assurance oversight and reviewed/approved all mix designs.

Bay City TSC As-Needed Inspection and Testing – *Inspector and Material Tester*
Bay County, 2005-2014
Responsible for the construction inspection and testing for various projects throughout the Bay Region. Projects included HMA pavement, concrete pavement, bridge construction, storm sewer, concrete testing, density testing, and aggregate testing.

Brighton TSC As-Needed Inspection and Testing – *Office Technician*
Brighton, MI 2012-2013
Assisted the Brighton TSC with certified payroll review and follow-up, interim project reviews for both local and non-local projects, assisted with the close out of multiple projects, performed and assisted with the typical office technician duties, assisted with basic management of projects, provided meeting minutes at various meetings, e-Construction liaison.

Old US-223 (US-223 to Ohio State Line) – Project Manager/Office Technician
Brighton, MI 2013
The project involved 5.75 miles of road rehabilitation, which included overband crack sealing, UltraThin HMA paving, CL 2 shoulders, permanent pavement markings, and centerline corrugations.

Experience:

13 years

Registration:
Professional Engineer
State of Michigan, 2008
License #55916

Education:

Bachelor of Science in Civil Engineering,
Michigan Technological University,
Houghton, MI
2004

Certifications:

- MDOT Density Certification
- MDOT Aggregate Certification
- MDOT Bituminous Paving Operations
- MDOT Concrete Paving Inspection
- ACI Concrete Certification Level I
- MDOT Certified Office Tech
- MDEQ Storm Water Operator
- MDEQ Industrial Storm Water Operator
- Part 91 Certified Construction Sites
Troxler Nuclear Gage
First Aid and CPR

Professional Experience:

Spicer Group, Inc.,
Saginaw, MI
Since 2001

Professional Organizations:

International Experience:

International Senior Design Program,
Michigan Technological University.
Santa Cruz, Bolivia.
2003 and 2004

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Brent J. Dankert, P.E.

Wadsworth Road Gera to Block Road – *Office Technician, Inspector*
Saginaw County Road Commission, 2011
Office Technician and Inspector for full construction engineering project in Saginaw County. Project included 1 mile of road rehabilitation, trenching, aggregate base, wedging, HMA paving, two shoulders, storm sewer, super elevation correction, railroad track correction, and permanent signage.

State Street River to Miller Road – *Office Technician*
Saginaw County Road Commission, 2011
Office Technician for full construction engineering project in Saginaw County. Project included 0.5 miles of road reconstruction, HMA paving, curb and gutter, storm sewer, ditching, and permanent signage.

Geddes Road Reconstruction – *Inspector, Material Tester*
Saginaw County Road Commission, 2009
Inspector and Material Tester for reconstruction project in Saginaw County. Work included 4 miles of road widening and reconstruction, crush and shape, drainage improvements including storm sewer, drainage structure installation, ditching and culverts, curb and gutter, safety improvements, and slop restoration.

Hopper Street from M-81 to Gilford Road – *Inspector, Material Tester*
City of Caro, 2010
Inspector and Material Tester for as-needed inspection and testing project in the City of Caro. Project included 0.94 miles of hot mix asphalt cold milling, overlay, ADA ramps, structure adjustments, and pavement markings.

Brian O. House, P.E.

Mr. House specializes in civil and environmental design and construction services of water and wastewater treatment projects. He focuses his talents on process, hydraulic, and site design engineering. Mr. House also has extensive experience with preparing contract documents, cost estimating, construction liaison responsibilities for wastewater treatment facilities, sanitary pump stations, pressure sewer systems, sanitary sewer systems, storm sewer systems, water treatment facilities, well fields, and water distribution systems. He is proficient with a wide range of engineering software including AutoCAD, WaterCAD, and HEC-RAS.

RELATED EXPERIENCE

WWTP Improvements – ***Design Engineer/Construction Liason***
Boyne City, MI 2007
Responsible for assisting with the design and construction engineering for demolishing the existing lakeside treatment plant, construction of a new WWTP, and upgrades to the existing aerated lagoon treatment site. A new pumping station was constructed at the lakeside site, the existing WWTP was demolished, and the remainder of the site was turned into a City park. A new aeration system was installed in the lagoons. A new headworks was installed and the new plant following the lagoon system consisted of chemical feed, clarification, pressure filtration, and ultraviolet disinfection.

WWTP Improvements – ***Design Engineer***
City of Charlotte, MI 2002
Responsible for assisting with the design of plant treatment and capacity improvements. Improvements included: expansion of raw sewage pumping, screening, and equalization, primary clarifiers, final clarifiers, pressure filtration, and sludge storage. New oxidation towers were built to replace rotating biological contactors for secondary treatment.

WWTP Improvements – ***Design Engineer/Construction Liason***
City of Eaton Rapids, MI 2006
Responsible for assisting with the design and construction engineering for modifications to the WWTP. Pland improvements included a new headworks building with raw sewage pumping, comminution, screening, grit removal, and sampling. Other improvements incorporated anaerobic selector addition to the activated sludge process, secondary pumping, construction of a new equalization tank, new sludge thickening equipment, a new final clarifier, conversion from chlorine feed to ultraviolet disinfection, and new chemical storage and feed systems.

Water System Upgrades – ***Lead Design Engineer/Construction Liason***
City of Cadillac, MI 2012
Lead the design and construction engineering services for a new well field. The project included construction of three new wells, well houses, and transmission mains to a centralized service building. The service building houses chemical feed facilities, gas addition, office space for water department personnel, and standby power for the all of the field facilities. The project also included replacement of the water system SCADA.

Pump Station Modifications – ***Lead Design Engineer/Construction Liason***

Years of Experience:

21 Years

Registration:

Professional Engineer
State of Michigan

Certified Storm Water Operator State of Michigan

Education:

Bachelor of Science in Environmental Engineering
Michigan Technological University
Houghton, MI, 1996

Professional Experience:

Spicer Group, Inc., 2013

C2AE
1999-2013

Surveying
1991-1999

Professional Affiliations:

American Water Works Association

Society of Environmental Engineers

National Society of Professional Engineers

American Society of Civil Engineers

Water Environment Federation

MWEA

South Central Michigan Water Association

chlorine
well

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Brian O. House, P.E. (continued)

Delhi Charter Township, Holt, MI 2013
Lead the design effort and construction engineering for upgrades to Lift Station D, one of Delhi Townships' primary sanitary sewer pumping stations. Lift station improvements increasing the capacity for wet well storage, improving access to the wet well, doubling capacity of the station to 3.9 MGD by adding pumps, and wet well odor control facilities. project also included the addition of a parallel 16-inch diameter force main and force main control facilities.

WWTP Improvements – ***Design Engineer/Construciton Liason***
SCCMUA Dewitt, MI 2006
Responsible for assisting with design and construction engineering for biosolids handling improvements to the SCCMUA Clean Water Facility. The project included abandonment existing digestion system and construction of two mesophilic digesters, a digester building sludge pumping, boiler heat exchangers, gas mixing and recovery equipment, underground sludge storage tanks, supernatant piping and various site improvements.

Water System Upgrades – ***Design Engineer***
Delta Charter Township, MI 2007
Assisted with the design and construction engineering of a water booster pump station. project consisted of a new building to house pumps and piping to supply 15.1 MDG of Delta Township utilizing two operation modes. Mode one supplies water from an underground storage tank. Mode two boosts water from a 30-inch diameter Board of and Light transmission main. The station was equipped with a back-up power generator water recirculation system for the Delta Township Snow Road elevated storage tank.

WWTP Improvements – ***Design Engineer/Construction Liason***
City of West Branch, MI 2011
Responsible for assisting with design and construction engineering for a complete renovation of the wwtp. Along with upgrades to virtually all of the plant systems, facility improvements included a new preliminary treatment facility with grit removal and screening. Influent pumping was refurbished. A new equalization basin was constructed. secondary treatment process was replaced with biological trickling filters. A new secondary clarifier was added. Tertiary filtration was installed. Ultraviolet disinfection constructed. Digestion system improvements were made and a new biosolids storage tank constructed.

WWTP Improvements – ***Lead Design Engineer/Construction Liason***
Rogers City, MI 2013
Lead the design efforts and construction engineering for upgrades to the municipal wastewater treatment facilities. Improvements included revisions to influent screening, pumping, conversion of pre-aeration tanks to anaerobic selectors, replacement of ultraviolet disinfection equipment, renovation of anaerobic digesters, new gas handling equipment, construction of a new biosolids storage tank, miscellaneous structural repairs, heat, light and architectural upgrades, and electrical and control upgrades.

Water System Upgrades – ***Lead Design Engineer/Construction Liason***
City of Williamston, MI 2001

Brian O. House, P.E. (continued)

Lead the design effort and construction engineering for water supply improvements. The project included abandonment of two existing supply wells, construction of a new water supply well, well house renovation and pump replacement for three existing wells, replacement of all well field watermain, and construction of new water treatment facility. treatment facility included iron removal pressure filters, ion exchange water softeners, underground brine storage, and gas chlorine disinfection facilities.

Sewer System Improvements – ***Design Engineer/Construction Liason***
Higgins Lake Utilities Authority, Lyon and Beaver Creek Twps, MI 2009
Assisted with the design and construction engineering for a pressure sewer system and treatment lagoons for the Camp Curnalia (American Legion) area at the northwest corner Higgins Lake. A pressure sewer system, including individual grinder stations for 405 residences was constructed to bring wastewater to a new central pump station. The pump supplies water to a combination of aerated and storage lagoon system for seasonal discharge utilizing spray irrigation to cropland.

WWTP Improvements – ***Design Engineer/Construction Liason***
City of St. Johns, MI 2009
Responsible for assisting with design and construction engineering for the plant improvements. Wwtp improvements included replacement and relocation of the comminution and screening equipment, replacement of the raw sewage pumps, construction of a building to house new grit removal facilities, construction of new clarifiers and sludge pumping building, converting equalization from a pumped, in-line operation to a gravity feed. SCADA expansion and heat recovery systems were also implemented.

Pump Station Modifications – ***Design Engineer***
Michigan DTMB, Unionville, MI 2010
Assisted in the design of a new pump station to replace two existing stations that flood approximately 640 acres with 500 million gallons of water for waterfowl management purposes. The new pump station pumps at a rate of 21.3 MGD into the area in the fall. spring, the flow is reversed and the area is drained for farming.

Richard V. Graham III, P.E.

Design Engineer

Mr. Graham is a Design Engineer at Spicer Group focusing primarily on water resource and Geographic Information System (GIS) type projects. He has received a Bachelor of Science in Civil Engineering and Masters of Science in Civil Engineering from Lawrence Technological University. As a Design Engineer in the Water Resources Services Group, he has primarily focused on the design of drainage improvement projects and GIS asset management projects. He is proficient with hydrologic and hydraulic computer modeling software, including HEC-RAS, EPA SWMM, FlowMaster, CulvertMaster, and the Rational Method. Mr. Graham acts as a core team member in GIS data management, processing, and implantation. His responsibilities include engineering design, public interaction, computer modeling, technical calculations and writing, project inspections, site inspections, permit acquisition, GIS, and coordination with regulatory agencies, utility companies, and contractors.

Experience:
6 years

Education:
Bachelors in Civil Engineering from Lawrence Technological University

Masters of Civil Engineering from Lawrence Technological University

Registration:

Professional Engineer, State of Michigan, 2015
License Number: 62039

Certifications:

MDEQ Storm Water Operator - Construction Cert. #C-16887

MDEQ Certified SESC Part 91 Comprehensive Cert. #01191

RELATED EXPERIENCE

Energy Transfer's Rover Pipe Line: ***West Virginia, Ohio, Michigan, Ongoing***
Spicer Group created a GIS system that was able to be used in the Field in order Agricultural Agents to collect necessary spatial data regarding the parcels that the pipeline was crossing such as tile locations, underground utilities, waterways, wells, land use, easements, etc. The GIS data will be used as a platform for the restoration plans for each traversed parcel. Richard currently has a key role in managing and creating the custom GIS web applications and GIS data used for this project.

Wayne County Drain Commissioners Office – Section 197 Work: ***Wayne County, Ongoing***
Had critical role in using GIS to manage historical and current drainage district boundaries, parcel data, Lidar data, storm sewer data, and county drain centerlines. Led the effort in creating notification and assessment role by using GIS. Further conducted field reviews to determine the current watershed boundaries of County Drains.

Karegnondi Water Authority Pipe Line: ***2013***
This project was an 85-mile long pipeline running through St. Clair, Sanilac, Lapeer and Genesee Counties in Michigan.
Team member in the preparation and successful submittal of a MDEQ Part 301 and Part 31 environmental permit for 67 miles of water main from Lake St. Clair through Sanilac, St. Clair, Lapeer, and Genesee Counties. Worked as the lead on preparing and managing GIS data. Created GIS maps of each impacted/MDEQ regulated wetland and stream crossing. Implemented a mobile GIS system to be used in field delineation of impacted wetlands. Prepared wetland calculations quantifying impacted wetland volumes based upon typical excavation cross-section plans.

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Upper Malletts Storm Water Convenience Study: ***Ann Arbor, 2013***
The project entailed taking a preexisting hydrologic SWMM model of the City of Ann Arbor, MI and using it to determine the best suitable location and effectiveness of new storm water detention basins to alleviate flooding in the Upper Malletts Creek Watershed. Richards's role in the project included designing the detention basins, calibrating the storm water model, and creating GIS flood maps of the existing and proposed conditions.

Dow Storm Sewer Modeling Study: ***Midland, 2013***
Redesigning an existing storm water system at the Dow Chemical Plant in Midland, MI in order to increase the system's capacity to prevent flooding. Lead engineer in identifying and designing potential solutions.

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Stephen R. Wilder, P.E.

Structural Engineer

Mr. Wilder's work at Spicer is focused on structural analysis as well as bridge, roadway and structure design. He is also relied upon to provide in-depth structural inspections on many different types of structures including bridges, and concrete, wood, steel, and masonry buildings. Mr. Wilder is also responsible for providing a significant amount of construction inspection on various types of projects including bridge, MDOT-related highway, and building construction.

RELATED EXPERIENCE

Tanger Outlet Center Roof Collapse – *Project Manager*
West Branch, MI 2014
Performed emergency inspection of partial collapse of steel-frame strip mall structure. Worked closely with demolition contractor, owner, and building department to ensure safe demolition of collapsed area and affected adjacent store. Developed design of temporary support and end wall to allow stores to reopen in a timely manner.

Genesee & Washington Demolition – *Project Manager*
City of Saginaw, MI 2013 – Present
Worked with developer, government agencies, and demolition contractor to provide demolition plans and specifications for two brick structures in poor condition. Inspected adjacent occupied structures to ensure safety of public. Once cracks were found in previously inaccessible portion of adjacent structure during demolition, worked with all parties to engineer shoring for façade of remaining structure.

Frankenmuth Brewery Expansion – *Structural Engineer*
City of Frankenmuth, MI 2013-2014
Responsible for structural design of two-level building expansion onto existing patio. Design had to accommodate unknown existing subgrade conditions and support architectural details such as sliding wall panels.

115 W Allegan Structural Repairs – *Project Manager*
City of Lansing, MI 2013
Performed emergency inspection and structural analysis of collapsed brick parapet on ten-story building in Lansing. Design included controlled demolition of remaining parapet, installation of new EIFS parapet, and repairs to building.

First Merit Event Park Pavilion – *Structural Engineer*
City of Saginaw, MI 2012-2013
Responsible for structural design of 70'x130' outdoor entertainment pavilion. Design utilized finite element analysis for steel truss frame and reused existing foundation geometry. Design and installation time constraints were met as well.

Gary Road Bridge Design – *Project Manager*
Saginaw County, MI 2013 – Present
Responsible for assisting with the design of a new 140-foot long by 33-foot wide bridge for the Saginaw County Road Commission. The design includes new prestressed concrete I-beams, superstructure, piers and abutments.

Years of Experience:

7 years

Registration:

Professional Engineer, State of Michigan, 2011

Certification:

Fundamentals of Engineering, State of Michigan, 2006

National Highway Institute (NHI) Safety Inspection of In Service Bridges, Oct. 2007
Refresher 2012

Education:

Bachelor of Science in Civil Engineering, Michigan Technological University
Houghton, MI, 2006

Professional Experience:

Spicer Group, Inc.
Saginaw, Design Engineer since 2007

Rowe Inc, Lapeer office, May to Aug 2004

Michigan Department of Transportation, Davison Transportation Center, May to Aug. 2003

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stephenw@spicergroup.com

MDOT MDNR Bridge Inspections and Load Ratings – *Project Engineer*
Various Locations, MI 2013 – Present
Assisted with conducting in-depth inspections for 22 bridges located on MDNR property throughout the State of Michigan. Load ratings were required for 14 of these bridges, which included using 3D modeling and AASHTOWare Bridge Rating software.

Dixie Highway Bridge – *Project Engineer*
Saginaw County, MI 2011
Responsible for assisting with the design of a new 265-foot, 3-span bridge over the Cass River for the Saginaw County Road Commission. The project included new prestressed concrete I-beams, superstructure, piers and abutments. Also provided construction inspection.

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stephenw@spicergroup.com

Robert C. Wagner, P.E.

Mr. Wagner is a Project Manager at Spicer Group focusing primarily on municipal type projects. He has extensive experience on all phases of projects from planning and initiation to final closure. Through his professional career he has been involved with major projects that have included roadway design, parking lot design and utility/drainage improvements for municipal, residential, commercial, retail, office, industrial sites and senior housing projects. He was responsible as a municipal engineer for preparing plans, specifications, contract documents, budgets, schedules, requests for proposals and resolutions for roadway, utility and parking rehabilitation projects.

Years of Experience:

22 years

Registration:
Professional Engineer, State of Michigan, 1996
License Number 042699

NCEES Number 38021

Education:
Master of Science from Wayne State University

Bachelor of Science from Michigan State University

Professional Experience:

Spicer Group, Inc.

Professional Engineering Associates, Inc

Zeimet-Wozniak Associates, Inc.

City of Ann Arbor Engineering Division

Soil and Materials Engineers, Inc.

EXPERIENCE AND QUALIFICATIONS

Tyler Pond Trestle Replacement, Ypsilanti, MI
This project involves the relocation of 475 feet of 36-inch sanitary force main and the relocation of 375 feet of 24-inch gravity sanitary sewer across Tyler Pond for the Ypsilanti County Utility Authority (YCUA). Two 250 feet long timber trestles will be demolished and the sewers will be buried in a new pond crossing with the installation of a 30 feet by 30 feet by 11 feet Con-Span Arch System. The $1,000,000 project includes a Hydraulic Study, coordination with a Dam Impoundment Drawdown Project and permitting by the MDEQ.

South County Water System – Water Reliability Study, Monroe, MI
Prepared a draft Water Reliability Study for the South County Water System in order to meet requirements of the Safe Drinking Water Act 399 of 1976.

Crystal Wood Phase 2, Marion Township, MI
Coordinated the Pre-Construction Meeting and the Inspections for a 50 Unit Subdivision in Marion Township, Michigan. This project involves the construction of over 200 feet of sanitary sewer main and the installation of leads for each lot. Boring of the existing streets was required for ten of the leads. Groundwater dewatering was required for sanitary sewer installation.

Howell Township Dangerous Building Report, Howell Township, MI
Prepared a report recommending the demolition of an unsafe building in correlation with the Township's Dangerous Buildings Ordinance.

City of Livonia 2010 Sidewalk Inspection Program
Managed a daily inspector for a six month duration, $600,000 sidewalk replacement project for the City of Livonia. This project included the replacement of sidewalk ramps to meet compliance with the Americans with Disabilities Act (ADA). Daily reports recorded the contractor's efforts and pay items. Served as owner's representative dealing with traffic control, residents and business owners.

South Hill Road Water Main Project, Milford Township, MI
This project involved the design of over 1,000 lineal feet of 16-inch water main and was performed as part of a special assessment district for Milford Township.

Robert C. Wagner (continued)

Chalmers Drive, Ann Arbor, MI
As part of the Chalmers Place private development project, the public street was paved with a new vertical alignment. Innovative storm water design included a bio-swale and a dry well. A challenging Grading Plan was developed to transition the crowned road to the existing one. Non-standard ramps were replaced with new City standard ramps along with a sidewalk that complied with the American with Disabilities Act.

Chalmers Drive Water Main, Ann Arbor, MI
Prior to construction of Chalmers Drive, the City of Ann Arbor determined that the existing water main was aged and leaking. The water main was designed under contract with the City of Ann Arbor and included water service disconnections, reconnections, hydrants, valves, bends and the abandonment of the existing water main. The water main plan and profile was designed per Public Services Department Specifications.

Cherry Tree Lane Water Main, Ann Arbor, MI
This project included a special assessment district and acquisition of easements. Coordinated neighborhood meetings and met with individual property owners to provide information and obtain easements necessary for the project.

Ridge Road Water Main, Northville Township, MI
This project involved the design of a mile of water main from Six Mile to Seven Mile Road. Alternative water main installation including vertical directional drilling a section of HDPE water main to adequately cross a stream.

Gateway Golf Course, Romulus, MI
This water main project included alternative installation of horizontal directional drilling to minimize disruption of the golf course.

Pomona 30" Raw Water Main Project, Ann Arbor, MI
Served as the construction engineer for the installation of one mile of water main down a City street. Provided oversight to ensure the contractor installed the water main per plans and that disruption to neighborhood residents was kept to a minimum. This project included the boring and jacking of water main.

Bradley J. Abar

Design/Construction Engineer

Brad Abar is a Design Engineer/Construction Engineer in the municipal department at Spicer Group. He has experience in multiple disciplines of civil engineering fields, such as geotechnical, construction management, and environment/water resources. He is proficient in ArcGIS, AutoCAD, Micro Station, HEC-RAS, MS Office, along with various civil engineering software as well as field engineering experience on many municipal projects. Brad also has over 6 years of experience in construction management on many influential construction projects performed across the country.

Experience:
12 years

Education:
Bachelors in Civil Engineering from Michigan Technological University

Professional Development

U.S. Army Corp. of Engineers Construction Quality Management

Nassco PACP, MACP, and LACP Certification

OSHA 10 Certified

Confined Space (Entrance/Attendant);

Confined Space (Rescue)

SESC Certified Operator

RELATED EXPERIENCE

Bedford Township SAW Geographic Information System (GIS) – Monroe County Drain Commissioner, Monroe, MI
Design Engineer in charge of the field development of Bedford Township GIS database, including inspection of all sanitary structures in accordance with MACP criteria and inspection of all sewer televising records according to PACP guidelines. Field data collection also included obtaining GPS coordinates for all structures to verify the locations that were developed using Mobile Mapping technology. The inspections were recorded using IPads in the field, and the information was uploaded to the ArcGIS online database.

Lewis Avenue Pump Station Repairs – South County Water System, Temperance, MI.
Design Engineer in charge of various repairs on Lewis Avenue Pump Station including a new roof, new overflow and outlet pipes, new hatches, and gutter system. Work on the project included detailed design, bidding, and construction administration.

Previous Experience – Construction Management

Niles WWTP, Niles, MI, $83,500, The dry well area of the existing screen and grit building at the Niles wastewater treatment plant (WWTP) has experienced some loss of ground below the 2 foot thick structural concrete slab due to failure of an abandoned subfloor drain pipe system below the concrete slab, which is located approximately 25 feet below grade. To date no movement of the existing structure has been measured. Filling of the subfloor drain pipes with grout and void grouting underneath the concrete slab will be performed within the dry well area to fill any voids created by the breached subfloor drain pipe system. The proposal is based on grouting up the subfloor drain pipe system through the sump pit and grouting through eleven new grout points through the concrete slab within the dry well area. A total of 20 cubic yards of grout has been estimated for the subfloor drain pipes and grout points. The dry well area is approximately 20 feet below the static water table and will require mechanical packers at each grout point to eliminate the backflow of water from the static water head within the dry well area. In addition stand pipes will need to be installed at adjacent points to relieve excess pore water pressure within the soil while void grouting at a slow pump rate (1 cubic feet per minute).

Dundee Office
125 Helle Blvd
Dundee, Michigan 48131
www.spicergroup.com

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Office Phone: (734) 823-3308
Fax: (989) 754-4440
brada@spicergroup.com

Bradley J. Abar (continued)

Oakwood CSO, Detroit MI, $2,572,252, Project consists of rock grouting 20 feet into bedrock to stop artesian flow from the excavation area of the pump station. 275 holes to be grouted using cementious and acrylamide grouts. After pump station was excavated 166 tiedown anchors were installed and locked down to 350 kips.

MDOT Riverside Dr, Battle Creek, MI, $250,000, Emergency retrofit of northern end of eastbound piers at I-94 overpass at Riverside Drive in Battle Creek, Michigan. Project also includes a set-up of automated Cyclops instrument and rental for approximately 2 months to monitor structure movement. Excavating, coring and installing 16 production micropiles and 1 non-production test. All micropiles will be installed from Riverside Drive through the existing pier footings, which are on spread foundations.

Woodlawn Pump Station, Ft Campbell, KY, $547,000.00, Work consisted of 57 auger cast tangent piles, 24 inch diameter, 50 to 58 feet in length, full length reinforcement and 4 auger cast piles, 24 inch diameter, 50 feet in length, full length reinforcement.

Baldwin Interchange, Grandville, MI, $3,166,302, Project consisted of the installation of 181 – 135 Ton and 252 – 90 Ton Low Mobility Grout Micropiles for new bridge foundations and 52,000 sqft of vibro-compaction to a maximum of 15 feet deep to densify a "swamp" backfill. Scope of work includes 6 verification test piles to 250% of the design load, 8 proof test piles, and confirmation testing for vibro-compaction work. The work was split between the 2008 and 2009 construction seasons. The Low Mobility Grout is specified due to the potential of voids in the shale and gypsum bedrock formation.

Baldwin St, Grandville MI, $661,740, Installation of 119 Low Mobility Grout Micropiles (typical Grand Rapids pile) in accordance with the plans & specs, 90 ton design load, two verification test piles to 250% the design load and one proof test pile will be completed for the project. Two new structures running parallel over Rush Creek in Grandville, Michigan will be constructed in preparation for interchange reconstruction next year. The Low Mobility Grout is specified due to the potential of voids in the shale and gypsum bedrock foundation.

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brada@spicergroup.com

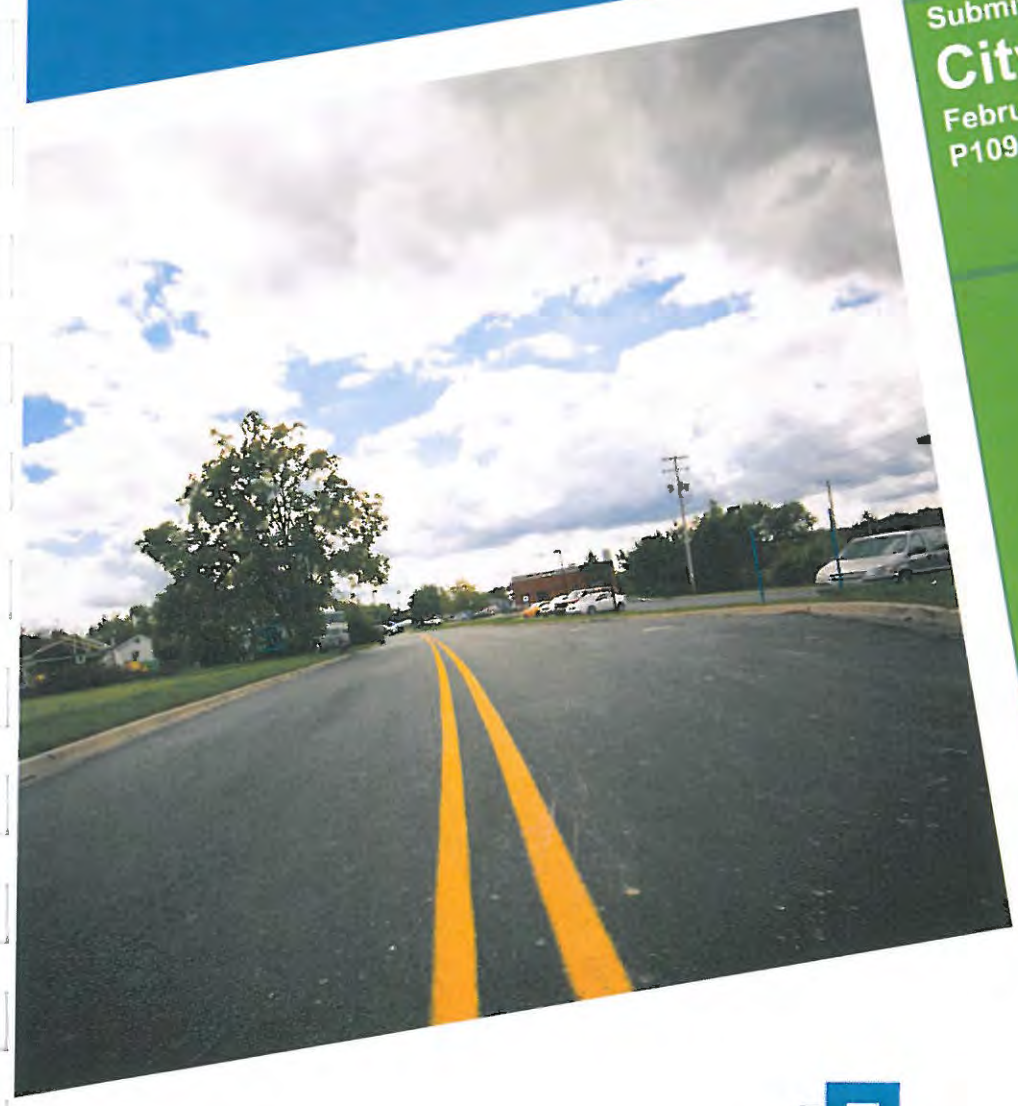
5 Year General Engineering Agreement

Submitted to

City of Howell

February 17, 2015

P10911



FLEIS&VANDENBRINK

DESIGN. BUILD. OPERATE.

FLEIS&VANDENBRINK

DESIGN. BUILD. OPERATE.

February 17, 2015

Shea Charles, City Manager
City of Howell
611 E. Grand River Ave.
Howell, MI 48843

RE: Request for Qualifications for Five Year General Engineering Agreement

Dear Mr. Charles:

Over the past couple of years, Fleis & VandenBrink (F&V) has appreciated the opportunity to meet some of your City staff, allowing us to develop a solid understanding of Howell, your needs, and your community goals. Our goal is to be a valued extension of your staff, working together to provide quality and efficient municipal services.

F&V will bring value to Howell through:

Experience: F&V specializes in aiding small to medium sized communities like Howell. We understand historic character of communities, the pressure to grow, and the need to remain a welcoming home. You will be supported by our staff who has aided in conceptual development, grant funding, design, and construction of all types of municipal infrastructure projects. As noted within this proposal, F&V will support you in the areas you have requested. A couple highlights include:

- Grant Funding: F&V has assisted our client communities in obtaining over $400 million in grants and low-interest loans. We actively pursue grant funding on your behalf, including sending you Urgent Alerts when funding sources become available. Our staff is available to provide assistance and guidance to support your efforts in writing grants.
- Water & Wastewater Process Evaluations: F&V provides expertise in maintaining and managing your facilities. In addition to completing dozens of facility feasibility and evaluation reports for Rural Development, SRF, and DWRF funding, we have the ability to utilize staff from our sister company, F&V Operations & Resource Management. This combination offers you both design and operations expertise. Our value is not only in the engineering of your facilities, but also in the review of daily maintenance and operations, and in maximizing the long-term infrastructure life-cycle costs. An excellent example of this is the work we are currently completing with the Village of Dexter. In this community, staff from both of our companies are working together with the Village to provide quality and efficient services.
- Utility Mapping & GIS: Within the MDEQ's current SAW program, we are assisting over 50 communities with their asset management plans. Through the life of this program, we will assist nearly 100 communities with their plans. You will benefit from the expertise, templates, and technology we have developed to complete these plans.

Structure of Professional Services: F&V believes in providing you with the best value. This not only means providing professional staff at hourly rates that are on par with the industry, but also understanding your needs up front and then delivering quality throughout construction. Our standard practice is to review individual projects with you or your staff, and develop an appropriate budget and timeline to complete the project successfully.

9475 Holly Road, Suite 201
Grand Blanc, MI 48439
P: 810.743.9120
F: 810.743.1797
www.fveng.com

Fees & Rates: F&V's fees and rates are on par with the industry. We excel in service and quality. We serve every community like it's our own and each client like you're our only client. We pride ourselves on straight-forward communication, timely and accurate consulting advice, quality construction documents and have an excellent track record with minimal change orders during construction. This is demonstrated in the fact that the final construction costs for our projects, on average, end up within 1% of the construction bid pricing.

Team Make-up: F&V offers the City a complete range of municipal engineering services from one, local source. As a firm, F&V provides you with over 150 diverse professionals, including over 50 staff with professional licenses, covering nearly all engineering and architectural services.

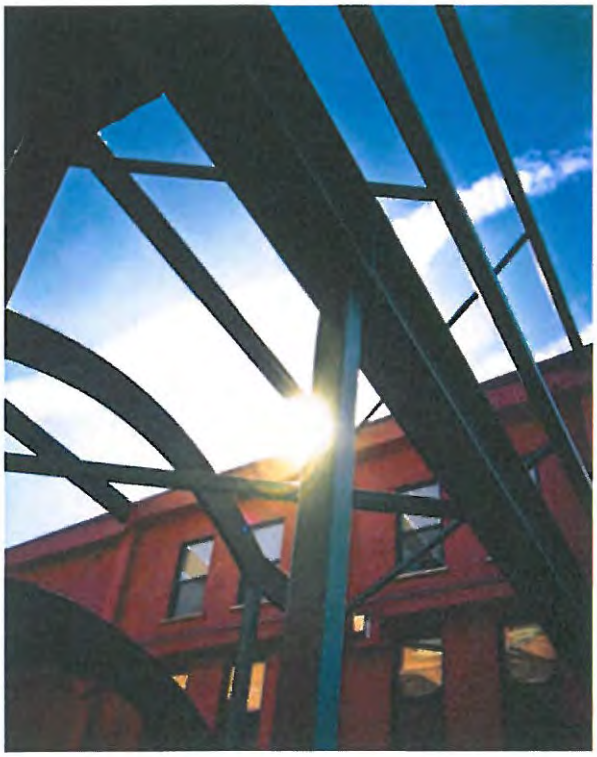
We will provide you with an experienced team – a team that currently acts as Engineer of Record for communities such as the City of Grand Blanc, Argentine Township, and the Beecher Metropolitan District. As the Engineer of Record for nearly 40 Michigan communities, we pride ourselves in being your trusted advisor in areas such as structural, environmental, and civil engineering.

We are excited about the opportunity to work with you and provide you with a fresh approach and value. We look forward to joining your staff as your engineering consultant. Please let us know if you have any questions or need additional information at this time.

Sincerely,

FLEIS & VANDENBRINK

Geric Rose, PE, PS



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CORPORATE PROFILE

Building strong relationships is what we are all about. Clients throughout the Midwest have an established history with Fleis & VandenBrink (F&V). Since 1993, we have provided solutions for multiple project needs including civil and environmental engineering and we currently serve as Engineer of Record for nearly 40 cities, towns, villages and utility authorities. F&V is also the "preferred engineer" for another seven municipalities.

We can take a project through planning and zoning, preliminary design, mapping / platting and ultimately to the final design stage where the project is ready for bid and construction. We provide construction support through plan clarification, contractor and field surveyor coordination and as-needed plan revision.

With offices throughout Michigan, including offices in nearby Grand Blanc and Farmington Hills, F&V provides you with local service and top-notch structural, environmental and civil engineering, and more. A local project team will provide consist staffing and responsive, proactive communication to the City.

Our simple goal of making things better has resulted in quality growth and responsive service with over 90% of our business coming from repeat customers.

AWARDS

We are proud of our affiliations in our industry and within the last year, F&V has been recognized by our peers with the following awards:

- American Council of Engineering Companies – MI Eminent Conceptor (First Place) award for Engineering Excellence: *West Bay County Wastewater Treatment Plant Improvements.*
- American Council of Engineering Companies – MI Eminent Conceptor (First Place) award for Surveying Excellence: *Kalamazoo River Bank Stabilization – "Beating the Bluff."*
- The SE Michigan Branch of the American Society of Civil Engineers recognized our shoreline restoration project in Marysville with the "James L. Bliskey Quality of Life Project of the Year."
- Asphalt Pavement Association of Michigan / MDOT - Award of Excellence: Genesee County Road Commission, Richfield Road.

The company has also been recognized with the following awards within the past five years:

- The Zweig White Letter, which recognizes annual growth by architectural and engineering companies, named F&V a national "Hot Firm."
- American Council of Engineering Companies – MI "Firm of the Year."
- For four straight years, F&V was named a "101 Best & Brightest Companies to Work For."

LOCAL OFFICE:

Grand Blanc
9475 Holly Road, Suite 201
Grand Blanc, MI 48439
P: 810.743.9120
F: 810.743.1797

CORPORATE:

Grand Rapids
2960 Lucerne Drive, SE
Grand Rapids, MI 49546
P: 616.977.1000
F: 616.977.1005

www.fveng.com

MICHIGAN OFFICES:

Farmington Hills
27725 Stansbury Boulevard, Suite 150
Farmington Hills, MI 48334
P: 248.536.0080
F: 248.536.0079

Kalamazoo
4798 Campus Drive
Kalamazoo, MI 49008
P: 269.385.0011
F: 269.382.6972

Midland
2125 Ridgewood Drive, Suite 101
Midland, MI 48642
P: 989.837.3280
F: 989.837.3290

Muskegon
316 Morris Avenue, Suite 230
Muskegon, MI 49440
P: 231.726.1000
F: 231.726.2200

Traverse City
603 Bay Street, First Floor
Traverse City, MI 49684
P: 231.932.8600
F: 231.932.8700

INDIANA OFFICES:

Fort Wayne
5331 South Bend Drive
Fort Wayne, IN 46804
P: 260.435.1414
F: 260.435.1384

Indianapolis
140 Washington Pointe Drive, Suite C
Indianapolis, IN 46229
P: 317.843.0022
F: 317.843.0405

UNDERSTANDING OF PROJECT REQUIREMENTS

Howell is looking for a qualified professional engineering firm that brings value to the community.

F&V delivers value throughout the wide variety of services we provide. These include:

- **Plan Review for private & public developments:** F&V acts as your advocate and works to protect community values, design standards, and conformance to Master Plans. We will coordinate with your staff as we review improvements to City owned infrastructure such as streets, drainage, sewer and water systems, as well as a development's impact on traffic, pedestrians and adjacent land owners.
- **Structural Evaluations:** F&V has structural experts with the credentials needed to evaluate your City-owned buildings. Our staff, including structural engineers and architects, is available to evaluate your structures and provide solid, creative, and financially responsible guidance. We have recently completed several evaluation and demolition / renovation projects which have incorporated Brownfield funding to aid in project financing.
- **Feasibility studies, estimates & conceptual design:** F&V provides grounded and constructible solutions. You will be supported by creative professionals who strive to enhance the welcoming, family-oriented nature of Howell. Studies, estimates, and concepts are developed to reflect what is actually needed and desired by the community. They need to be honest and factual so that projects can move forward successfully.
- **Water & Wastewater process evaluations:** These evaluations need to be completed with energy efficiency in mind as well as maximizing the life cycle of the City's long term investments and minimizing long term O&M costs. F&V, and our sister company F&V Operations, is available to work with City staff to evaluate and resolve areas of need.
- **Grant assistance:** F&V supports the City's efforts to aggressively seek grants and loans. Quite often, these funds are the drivers for needed infrastructure improvement projects. Our grant application assistance is can help strengthen the submittals and maximize the use of the City's available funds.
- **Permit assistance:** F&V provides expertise with municipal permitting and maintains relationships with most agencies within the State. We will work with City staff to identify needed permits as well as track and expedite their approvals so that projects commence on schedule.
- **Utility mapping & GIS assistance:** Assistance with mapping and retrieving relevant utility data is important. F&V's staff will be available to assist the City with templates, technical assistance and guidance in these areas.
- **MDOT project compliance:** The City needs professional guidance to assure that all of the appropriate Michigan Department of Transportation design requirements and processes are adhered to.
- **Construction engineering /Project Management/ Inspection & Administration:** The City requires qualified Observers and Engineers for Observation, Materials Testing, and Project Management.
- **General Consultation (Civil design / Road & Utility projects):** F&V will work with City staff on all projects to be your advocate. We understand that upcoming projects may include Further research revealed that the likely projects in the upcoming years, in addition to the above, include improvements at both the water and wastewater treatment plants and lift station upgrades. Storm water related engineering services under this agreement will primarily pertain to street drainage and plan submittal storm water management review.

EXPERIENCE & QUALIFICATIONS

F&V strives to be a comprehensive resource to the municipalities we serve. Our broad range of expertise combined with vast municipal experience provides the tools our clients need to solve the technical and economic problems their communities face. Our goal is to be recognized as an extension of the municipality's staff capable of prompt response wherever needed. Since 1993, F&V staff has worked with over 250 cities, villages, counties, and townships on a wide variety of projects including roads, bridges, water, waste water, architectural, environmental, electrical, treatment facilities, and recreation.

Municipal services are the cornerstone of our firm. We understand that close working relationships and constant communication are essential at all levels with our municipal government and public entity clients. We recognize the importance of project funding, budgets and schedule and are trained to assist our clients with these as well as all the technical aspects of projects.

In our proposal we have highlighted several of our services and areas of expertise that we provide our municipal clients. While we offer many other service categories, we feel that these best represent the types of services anticipated under the City's General Engineering Agreement.

In addition to the above, we have also selected several of our communities in which we have a long and successful history to showcase the type of services and projects that we have completed. In each of these communities, F&V has displayed our ability to provide quality work, control budgets, and meet time schedules and deadlines for a wide variety of engineering assignments. In these communities, as well as many others, F&V provides professional engineering services on a continuous basis, and often assists with a project from the initial conceptual planning and funding phase through construction completion and project closeout.

THE F&V ADVANTAGE

F&V has a staff of over 150 professionals with a vast amount of experience. As your consultant, we look forward to providing you with a complete package of professional services. You will benefit from:

OUR MULTI-DISCIPLINED EXPERTISE UNDER ONE ROOF

Our full service approach creates the level of trust and peace of mind that our clients expect because we provide many distinguishing services beyond typical design and construction, including:

- ✓ Architecture
- ✓ Brownfield
- ✓ Contract Operations and Resource Management
- ✓ Design / Build
- ✓ Environmental
- ✓ GIS & 3D laser scanning
- ✓ Mechanical & Electrical Design
- ✓ Process Design

Our Process Design and Contract Operations & Resource Management groups can assist you with all your water and wastewater treatment needs, from general consultation and plant maintenance to upgrades, optimization, facility improvements, and even provide plant operators when needed.

Few sub-consultants: We typically use very few sub-consultants. With all this expertise and resources wrapped into one firm, the City of Howell will be able to utilize F&V for all your engineering needs, rather than having to outsource specialized services.

OUR APPROACH TO A GENERAL ENGINEERING AGREEMENT

Our approach to a general engineering agreement is to be a comprehensive resource to the City. We strive to be recognized as an extension of the City's staff and pride ourselves on straight-forward communication, timely and accurate consulting advice, and quality design services. With municipal engineering as our core, many of our municipal clients have remained with us for decades. We will work just as hard on your behalf as we have done for others in the past.

We understand that constant communication, responsiveness and attention to detail are essential at all levels.

COST AND TIME SAVING MEASURES THAT YOU CAN REALIZE

Grants: One of the best cost saving measures is to stretch your local dollars with grants. Grants and loans are something that we are very good at. F&V is proud to have assisted our client communities in receiving over $400 million in grants and low-interest loans. Since 2010, we aided our clients in receiving nearly $150 million in such funding. In 2014 alone, F&V's clients were awarded $24.5 million in grants and loans. We are constantly on alert on your behalf reviewing grant and low-interest loan programs that may help fund your future projects.

Cost Control: Control of project overruns is another cost and time measure you will realize with F&V. We have been extremely successful in providing our clients with high quality projects completed on schedule and on budget. We have excellent construction results – our record shows less than 1% change between as-bid costs and final construction costs. We are proud of this fact and feel it represents good quality plans and good communication with our clients and contractors.

Understanding Your Project: Prior to beginning assignments, F&V sits down with our clients to identify the project needs, goals, and objectives. We then assemble and provide our scope of services and related professional fees to our client. A second meeting is then often held to review the scope of services and fees and make adjustments as necessary to achieve the desired project goals and budget. In the event that the scope changes, our work plan is modified and our revised fees are negotiated with our client prior to commencement of work. Whether working on a lump sum or at an hourly not-to-exceed basis, you will always know what you are paying for, without the unexpected "extras" along the way.

PROJECT TEAM

PRIMARY CONTACT

F&V has nearly 150 individuals employed with our firm. **Geric Rose, PE, PS** will be responsible for managing and supervising projects and relationships with the City staff. As a licensed Professional Engineer and Professional Surveyor, he provides leadership in both our engineering and surveying departments. He has nearly 20 years of municipal engineering experience and is responsible for existing Engineer of Record assignments in the City of Grand Blanc, Argentine Township and the City of Owosso. On the following pages Geric has detailed recent work completed as EoR.

At F&V, we have found that providing a single point-of-contact, along with an alternate Principal-in-Charge, provides the best service to our municipal clients. Having a professional at arm's reach who is easily accessible and always available to the City is something that we strive towards. Along with serving as the City's primary contact, Geric will also be directly involved with many of the City's municipal engineering services including plan reviews, road design, sanitary and water main design, preliminary engineering, and construction engineering to name a few.

Geric will be supported by our entire staff of over 150 team members, including approximately 50 licensed professionals.

PRIMARY TEAM MEMBERS

On the following pages we have provided an organization chart identifying the key members of our project team and, in the appendix, resumes highlighting their experience and expertise. These individuals are the department heads and senior project managers that will assist Geric in providing specialized services to the City such as water and wastewater treatment, environmental, mechanical, electrical, GIS, grant writing, and operations and maintenance.

SUB-CONSULTANTS

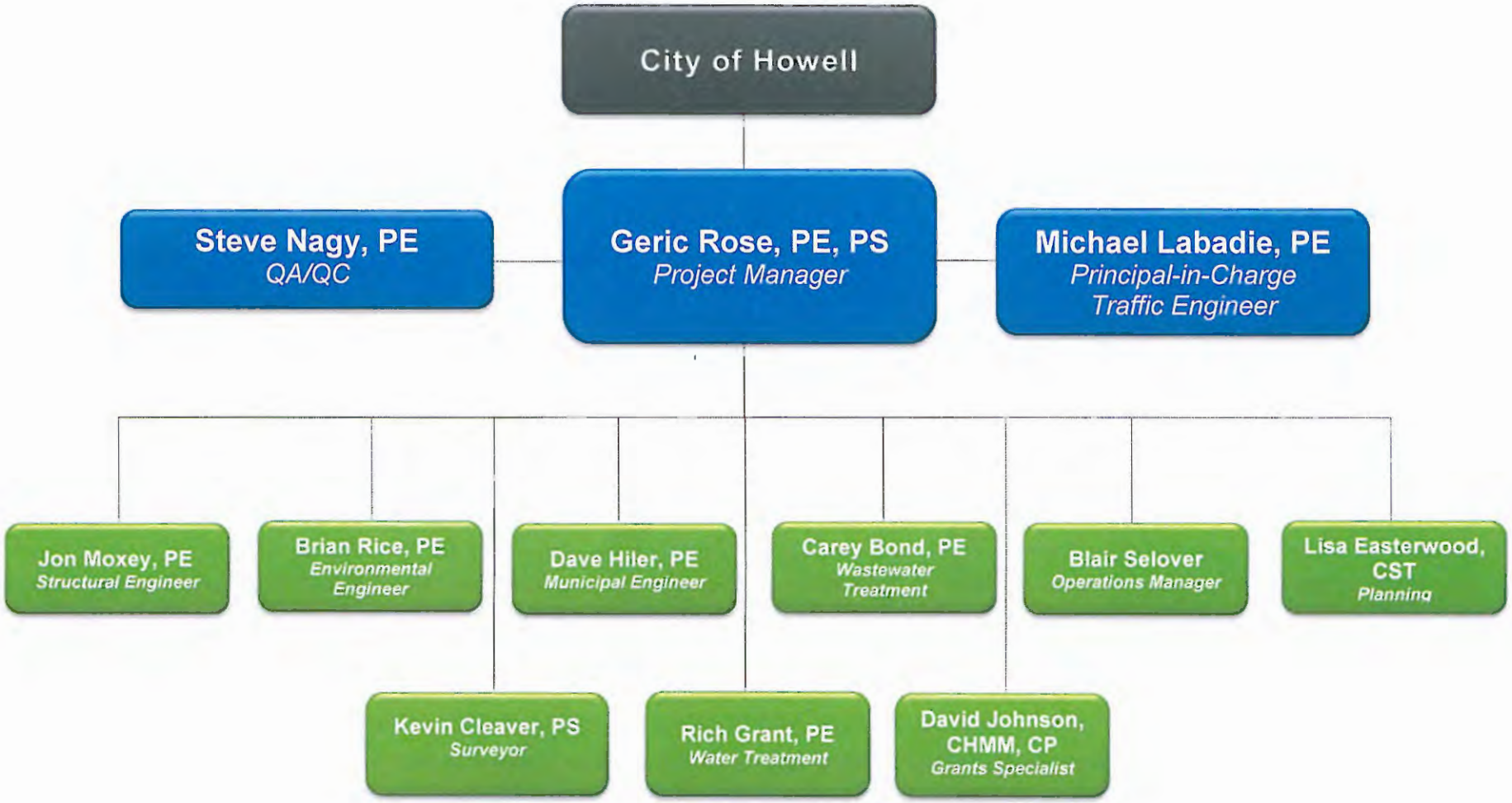
Since F&V provides such a diverse range of services, we typically use very few sub-consultants. Geotechnical investigation, laboratory materials testing, and wetland delineation are the only anticipated sub-consultants at this time.

When outside services are necessary, F&V will first consult with the City and assist with obtaining quotes for the performance of the required work. This approach has been effective in the past and provides flexibility in managing our sub-consultants.

Based on the City's geographic location, anticipated sub-consultants to assist us in serving the City may likely include the following:

- Professional Service Industries (PSI) –
  Geotechnical Investigation; Materials testing; Wetland Delineation
  3120 Sovereign Drive, Suite C
  Lansing, Michigan 48911
  Steve Brenneman
- Soils & Materials Engineers (SME) –
  Geotechnical Investigation; Materials testing.
  13019 Pauline Drive
  Shelby Township, Michigan 48315
  Laurel Johnson, P.E.
- Construction Testing Services –
  Materials testing.
  3245 Card Drive
  Burton, Michigan 48529
  Jack Geerlings, P.E.
- Cardo JFNEW –
  Wetland delineation.
  11181 Marwill Avenue
  West Olive, Michigan 49460
  Joe vanWahlde PWS

ORGANIZATIONAL CHART



CITY OF GRAND BLANC

F&V, through its merger with Gould Engineering, Inc., has served as City Engineer for the City of Grand Blanc continuously since 1936. Over these nearly 80 years, F&V and the City have developed a relationship that has built the community.

F&V has had a hand in the development or redevelopment of nearly their entire public infrastructure, including road ways, water towers, water treatment, lift stations, booster stations, parks, multi-use trails, streetscapes, and bridges, as well as a significant portion of the residential developments within the city. The City administration and DPW department know that they can contact us at any time, day or night, and we will be there to assist them with their needs. We have assisted the City in receiving and administering tens of millions of dollars in grant and loan funds, as well as millions of dollars in TIP funding for all their major streets.

Understanding the City's needs and goals and providing top notch services has been a key factor in our longevity in this community. We consider ourselves a part of the City staff as well as members of the community. We continuously attend city council and DPW committee meetings to keep abreast of what is happening in the City and offer early proactive assistance in the planning of their projects.

Projects in the City of Grand Blanc have involved working with all levels of local and State governments, including the County Drain Commissioner, Road Commission, FEMA, MDEQ, MDNR, and MDOT.

Over the past eight decades, F&V has completed surveying services in nearly every area of the City. Beginning long ago with boundary and topographic surveying for the design of most of the City's residential developments, to the present preliminary design and construction engineering services that we provide every year. Our surveyors have also been instrumental in completing FEMA Flood Elevation Certificates for the citizens of Grand Blanc, saving the residents thousands of dollars each year in insurance premiums.

Services for the City of Grand Blanc have included:

Design engineering of:
- New, rehabilitated, and reconstructed streets funded by local, state, and federal funds
- Sidewalks
- Recreational facilities, including multi-use pathways, trails, and park improvements
- Storm drainage improvements
- Water and sanitary sewer improvements

Construction engineering

Construction staking

Construction Observation

Bridge Inspection

Survey, including:
- Right-of-way
- Property surveys
- Legal descriptions
- Flood plain modeling
- Topographic Surveying

Review of development site plans to determine appropriate:
- Pavement design
- Utility design
- Storm water management
- Traffic flow
- Compliance with City policy and ordinances

Direct involvement with:
- Genesee County Metropolitan Planning Commission
- Michigan Department of Transportation
- Michigan Department of Environmental Quality
- Michigan State Historic Preservation Office
- Local industrial, commercial and institutional owners and investors
- Michigan Office of the Great Seal, Boundary Commission

Assistance to various departments in updating and developing standards for the completion of projects by developers, contractors, utility companies and other engineering firms

Assistance in reviewing permits and construction plans that affect the City's rights-of-way and property

Preparing applications and project plans for state and federal loan and grant opportunities such as:
- State Revolving Fund
- Drinking Water Revolving Fund
- Safe Routes to Schools
- Safety Fund
- FEMA Hazard Mitigation
- Congestion Mitigation and Air Quality

Some of the projects include:
- Saginaw Street Rehabilitation
- Davis Street Rehabilitation
- Grand Blanc Road Streetscape
- Jewett Trail Multi-Use Pathway
- Rust Park Expansion and Non-Motorized Pathway
- Perry Road Rehabilitation
- Bella Vista Drive Reconstruction
- Union Street Vacation and Reconstruction
- DWRF Project Plan for Water System Improvements
- SRF Sump Pump Disconnect
- Perry Road Sidewalk Improvements
- Saginaw Street, Perry Road, & Bush Street Intersection Improvements
- Genesee Road Bridge
- Genesee Road Pedestrian Bridge
- Downtown DDA Parking Lot Improvement Planning
- Perry Road Pedestrian Bridge
- Non-Motorized Transportation Master Plan
- ATMS Saginaw Street Corridor Traffic Signal Modernization
- Reid Road Sanitary Sewer Extension
- Farmers Market Conceptual Planning
- City Corporate Boundary Limits Relocations

ARGENTINE TOWNSHIP

F&V serves as the Engineer of Record for Argentine Township. Over the years F&V has assisted the Township with parks and recreation, surveying, grant administration, and building evaluation and improvement projects.

Services completed for the Township have included:

Planning:
- 5-year Parks and Recreation Plan.
- Silver Lake Road shared use path conceptual engineering.

Engineering:
- Road improvements funded by local, state and federal funds.
- Shared Use Paths.
- Site Improvements.
- Canoe/Kayak Launches

Architecture:
- Building Renovations
- ADA accessibility improvements.
- Building Evaluations.

Survey including:
- Right-of-way.
- Property surveys.
- Legal descriptions.

Direct experience with:
- Michigan Department of Environmental Quality.
- Genesee County Planning Commission.
- CDBG Funding.

PROFESSIONAL FEES AND RATES

OUR APPROACH

During our long tenure of engineer-of-record with our municipal clients, we have established fee structure methods that have worked very well over the course of many years. We feel that these methods may also be beneficial to the City of Howell based on the type of engineering services anticipated for your community.

For the smaller engineering projects, commonly those less than $3,000 to $5,000, compensation at an hourly rate works well. These are your frequent consulting type services where the exact scope or the amount of time that will be required may be unknown. Such services could include grant application writing, ordinance writing assistance, budget projections, plan reviews, technical guidance and advice, response to emergency issues, and general surveying.

For the larger infrastructure improvement projects, a preferred method that has been successful amongst our municipal clients is to meet with the City once a specific project is known to understand the issues, goals, concerns, and the projected budget for the particular project. Following this initial meeting, we will prepare a work approach and a detailed fee proposal based on the agreed upon scope of services required for the project. If this fee is not acceptable to the City, then we work together to modify the scope of work, schedule, and budget. This approach creates an atmosphere of trust where the City and F&V can develop a detailed scope together, avoid miscommunication, and establish a mutually agreed upon project budget. Additional services required or requested outside of our original scope of work are always brought to your attention prior to commencing the work. As an extension of the City's staff, we feel it is important to maintain project budgets and keep you informed of changes and decisions as they occur. With F&V, there are no surprise "additional services" invoices presented upon project completion.

We are always happy to provide you with budgets on individual tasks or projects as they arise to assist you with your planning process. As shown on the graph included in this section, our fees for average complexity to very complex municipal engineer assignments have been completed below the average that other firms have charged for similar projects.

As your engineering consultant, we have the staff and resources to quickly and effectively respond to the City. We don't expect a monthly retainer to be on guard and on call for you. We don't charge by the phone call, and we encourage our municipal clients to contact us at any time. We are constantly reviewing grant and loan programs, free of charge, which could assist you in improving or expanding your infrastructure. While we believe that utilizing the hourly rate and lump sum method described above may best serve the City, we are always open to other compensation methods that you prefer.

OUR TYPICAL FEES AND RATES

As project scopes and budgets are developed, the appropriate staff will be included using the rates in the table below. We will utilize a mix of younger and more experienced staff to provide you with the lowest effective billing rate to efficiently and professionally accomplish your projects.

For our professional services without a definitive scope of work, we typically bill our municipal clients on an hourly fee schedule. Our hourly fees proposed for the first year of our agreement with the City of Howell are presented on the following pages. We would be pleased to submit our hourly rates to you annually over the term of our contract.

Classification	Rate
Sr. Project Manager, Sr. Planner, Principal-In-Charge	$148 - $183
Project Manager, Sr. Engineer, Sr. Architect, Sr. Geologist	$104 - $148
Project Engineer, Professional Surveyor, Sr. Landscape Architect, Architect	$104 - $130
Engineer, Engineer EIT, Geologist, Landscape Architect, Sr. Technician	$77 - $104
Survey Crew Chief, Sr. CAD Technician	$91 - $104
Technician, CAD Technician, Survey Technician	$77 - $92
Project Assistant, Field Assistant	$51 - $77

Rates are typically adjusted annually in April.

F&V does not include expenses such as equipment costs, vehicles, and mileage in our hourly billing rates as other consultants may do. We prefer to itemize these expenses separately, which we believe provides the best value to our clients. Typical unit rates used in establishing project budgets are as follows.

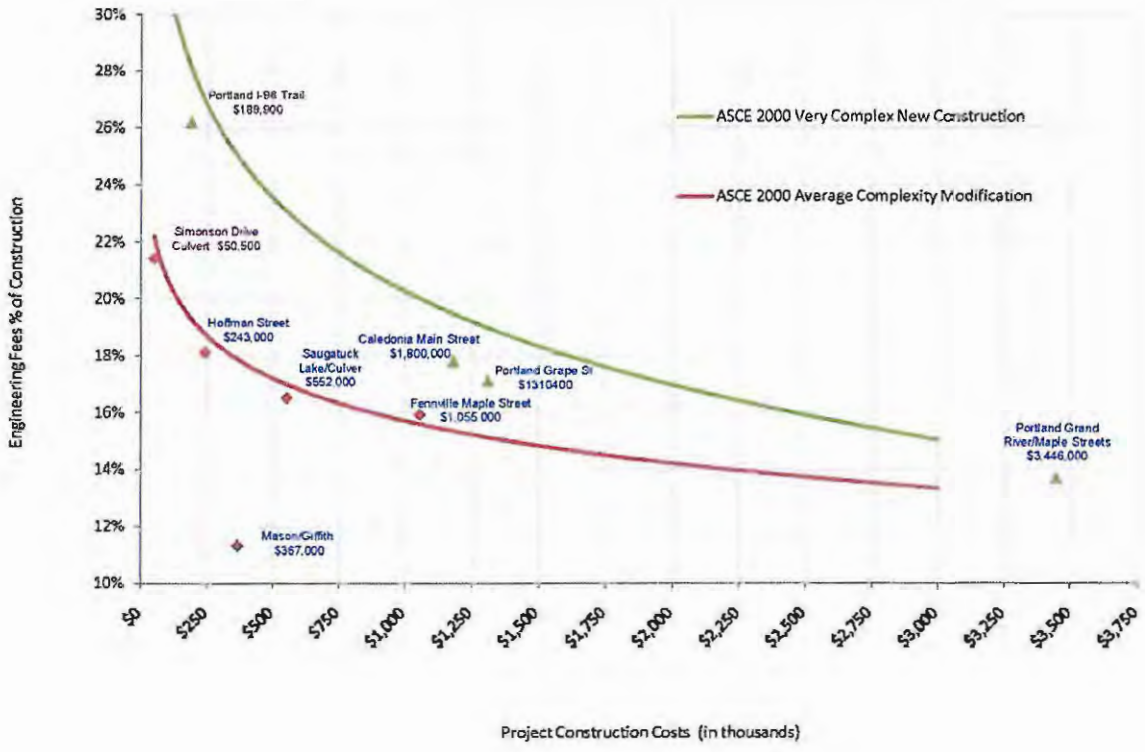
Classification	Rate
Survey & Construction Observation Equipment	
Survey Total Station	$30 per day
Leica Global Positioning System (GPS)	$300 per day
Robotic Survey System	$175 per day
Troxler (Nuclear Density)	$60 per day
Concrete Testing	$35 per day
Vehicles	
Trucks (light duty)	$15 per day + IRS mileage rate
Construction Observation / Survey	$20 per day + IRS mileage
Trucks (4x4)	$25 per day + IRS mileage rate
Construction Observation / Survey	
Autos & Vans	$10 per day + IRS mileage rate

F&V Fees for an Engineer-of-Record Assignment

In today's economy, communities ask more questions about fees charged by engineering firms. Fleis & VandenBrink (F&V) prides itself on the repeat business volume from our clients. We feel part of the process of getting repeat work is treating your clients fairly and the fees you charge are reasonable compared to the complexity of the projects completed. When you are named as a client's Engineer of Record, a high level of confidence and trust is needed by the client that the fees charged are reasonable.

Below is a graph comparing actual fees that we charged compared to the average fees charged for similar projects as published by the American Society of Civil Engineers. The graph shows the projects completed for three of our Engineer-of-Record clients over a 10-year period. All but one of the F&V projects shown are modifications to existing facilities. All but one of these projects were funded with state and/or federal grant funds with some having multiple funding sources making them more complex. The projects can be considered average complexity to very complex.

As shown on the graph, F&V provided excellent value in the cost of services provided. The fact that F&V is so successful in helping our clients acquire grants and low-interest loans also increases the value we can bring to our projects.



MUNICIPAL SERVICES

THE F&V TEAM

Fleis & VandenBrink's municipal services staff strives to be a comprehensive technical resource to the municipalities we serve. Our broad range of expertise combined with vast municipal experience provides the tools our clients need to solve the technical problems their communities deal with. Our goal is to be recognized as an extension of the municipality's staff capable of prompt response wherever needed.

We recognize the importance of project funding, budgets and schedule and are trained to assist our clients with these as well as the technical aspects of projects.

AREAS OF EXPERTISE

Our staff has expertise in nearly all areas of municipal engineering services from planning through construction. These include:

Transportation:

- New Facility Planning & Study
- Road & Street Design
- Street Inventory & Management Plans
- Roadway Rehabilitation
- Traffic Studies
- Access Management
- DOT Bridge Inspection
- Bridge Design & Construction
- Pedestrian Facility Planning, Design & Construction
- DOT Funded Design & Construction
- Funding Assistance

Engineer of Record:

- Capital Improvements Planning
- GIS Applications
- Site Plan Review
- Construction Observation & Testing of Private Development Infrastructure
- Master Planning
- Grant Guidance, Applications & Administration
- Stormwater Management

Environmental:

- Pollution Prevention
- Brownfield Redevelopment
- Baseline Environmental, Phase I & II Environmental Services
- Underground Storage Tanks

Water:
- Water Supply, Distribution, Design & Construction
- Water Towers
- Water System Master Plans/ Reliability Studies
- Rate Studies
- New System Feasibility Studies
- Grant & Loan Assistance
- Permitting

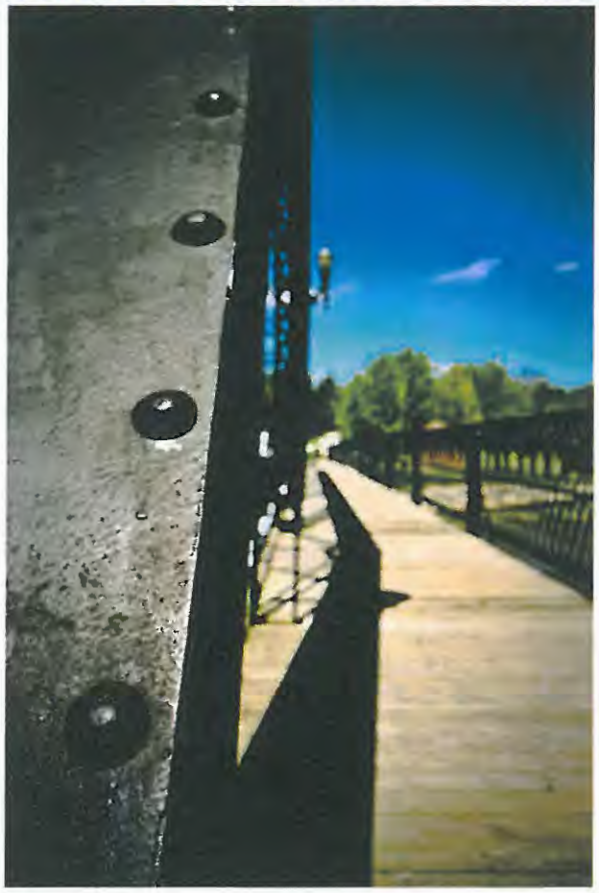
Wastewater:
- Sewer Feasibility Studies for unserved Areas
- Existing System Sanitary Sewer Evaluation Studies
- Inflow & Filtration Studies
- Grant & Loan Assistance
- Rate Studies
- Rehabilitation of Existing Systems
- New System Design & Construction Engineering
- Permitting & Discharge Permit Compliance

Landscape Architecture:
- Park Master Planning
- Park Design & Development
- Non-Motorized Trails & Bridges
- Downtown Streetscape Planning & Design
- Grant & Loan Assistance

Public Facilities:
- Municipal Office Buildings
- Treatment Plants
- Fire Barns
- Storage Facilities
- DPW Garages
- Design Build & Construction Management Services for all of the Above
- LEED Certification Assistance

Other:
- Dam Permitting & Repairs
- Landfill Permitting, Design & Closure
- Stormwater Compliance
- Emergency Management Plans

GRANTS & FINANCING ASSISTANCE



With most of our clients being small- to medium-sized communities, F&V is asked to actively pursue grant funding opportunities on their behalf. It's good for our clients; it's good for the firm. Our staff is very active in most programs that have significant funding and are in constant contact with Grant and Loan Agencies. Over the last 15 years, we have assisted our clients with grants and low-interest loan financing projects totaling in excess of $350-million.

Recently, F&V dedicated itself to assisting communities with the MDEQ Stormwater, Asset Management and Wastewater (SAW) program. As a result, we assisted 96 Michigan communities in submitting applications requesting nearly $66 million in funding.

F&V has worked with almost all the significant state and federal grant programs that are utilized by communities.

These include:

Economic Development Authority (EDA)

FEMA/Michigan Hazard Mitigation Program

Homeland Security Grant Program (HSGP)

Local Tax Increment Financing (TIFA)

MDEQ

- Abandoned Well Management Program (AWM)
- Clean Michigan Initiative (CMI)
  - Emerging Issues Grants
  - Failing Septic System
  - Waterfront Redevelopment Grants
- Drinking Water Revolving Fund Program (DWRF)
- Great Lakes Fisheries Trust Fund Grants
- Pollution Prevention Grants
- Stormwater, Asset Management, and Wastewater (SAW) Program
- State Revolving Fund (SRF), S2 Grant, Green Project Reserve
- Temporary Refined Petroleum Fund Grants
- Wellhead Protection Program (WHPP)

MDOT

- Category "A", "D", "STP" Funds
- Transportation Alternative Program (TAP)
- ISTEA
- Safe Routes to Schools
- Safety
- State Infrastructure Bank (SIB)

MDNR

- Land Acquisition (MNRTF)
- Passport
- Recreational Funds (MNRTF & LWCF)
- Waterways Grant

MEDC

- Community Development Block Grant (CDBG)
- Façade Improvements

MSHDA

- Cool Cities
- Upper Level Rehabilitation

Rural Development (RD, formerly FmHA)

USEPA

- Brownfield Grant Program

WATER TREATMENT SERVICES

THE F&V TEAM

Fleis & VandenBrink Engineering's Process Engineering staff of chemical and environmental engineers has expertise in design, construction and operation of water treatment systems. We provide clients with full-service engineering, typically taking projects from concept/planning through commissioning.

Our staff works frequently with grant and loan programs available for municipal water system construction. We can assist you in the financing and application for loans and grants.

AREAS OF EXPERTISE

Services:

- Treatment Plant Design
- Grant and Loan Assistance
- Water System Security
- Environmental Management Systems (EMS)
- Sustainable Infrastructure
- Source Water Protection
- Asset Management
- Energy and Water Efficiency

Treatment Technologies:

- Iron Removal
- Arsenic Removal
- Membrane Filtration
- Softening
- Direct Filtration
- Conventional Filtration
- Package Water Treatment

WASTEWATER TREATMENT SERVICES

THE F&V TEAM

Fleis & VandenBrink Engineering's wastewater treatment staff includes expertise in design, operation, maintenance, financing and construction of wastewater treatment systems. We provide clients with full-service engineering, and typically take projects from concept / planning through commissioning.

Regulations and compliance issues can be complicated. F&V assists each client in developing an approach that will both solve the problems provide strong advocacy in working with the regulatory agencies. Our staff works frequently with almost all grant and loan programs that are available for certain wastewater treatment systems construction.

AREAS OF EXPERTISE

Services

- Capital Improvements Planning
- Facility and System Review
- Industrial Pretreatment Plans
- Maximum Allowable Headworks Loading
- Project Plans
- Rate Studies
- Hydraulic Profile Evaluations
- Energy Management
- Land Application
- Nutrient Management
- Wastewater Collection Design
- Biogas Re-Use
- Anaerobic and Aerobic Digestion
- Biosolids Management
- Discharge Permits
- Intermunicipal & Industrial Contract Negotiations
- Septage Receiving Plans & Business Plans

Treatment Technologies

- Biological Treatment (Numerous)
- Physical/Chemical Treatment
- Air Flotation
- De-emulsification
- Sedimentation
- Filtration
- Solids Dewatering
- Disinfection

PROCESS ENGINEERING SERVICES

THE F&V TEAM

Fleis & VandenBrink's process engineering staff specialization ranges from chemical, biological and physical process improvements to production quality, waste treatment and water treatment. We are dedicated to finding cost-effective solutions to your problem.

Each member of the Process Facilities team has extensive education and experience working in specialty areas including manufacturing, chemical processes, biochemical, reclamation and energy. Almost as important as process engineering, is the knowledge and experience in working with regulatory agencies, codes and regulations.

In the ever-increasing competitive world, you can trust our team to be on top of the current technologies and pending regulations.

AREAS OF EXPERTISE

- Wastewater Treatment
- Water Conservation and Reuse
- Green Energy and Processes
- Permits Consultation, Agency Negotiations
- Industrial Pretreatment
- Stormwater Management, Treatment
- Sustainable Systems
- Biological Degradation
- Soil and Groundwater Remediation
- Waste Minimization
- Expert Witness Testimony

OPERATIONS & RESOURCE MANAGEMENT SERVICES

THE F&V OPERATIONS TEAM

F&V Operations & Resource Management assists municipal clients providing water and wastewater utility operation services, as well as DPW operations. Working with the owner, we provide expert advice relating to collection, distribution, maintenance and asset management for public and private systems.

Our staff is involved in all facets of the operations, reporting and construction of treatment systems such as process control plant/site evaluations, energy conservation and process upgrades. We are experienced in the operation of various systems including wetlands, attached growth, activated sludge, lagoons, biosolids, groundwater, drinking and surface water supply.

AREAS OF EXPERTISE:

Our staff is experienced in a variety of municipal water - wastewater operations processes and the management of those processes such as:

- Water softening - lime and reverse osmosis
- Sludge dewatering - vacuum filters, plate and frame presses, centrifuges, incineration, lime stabilization, aerobic and anaerobic digestion
- Chemical treatment - phosphate control, ammonia control, volatile organics removal, metals precipitation and cyanide destruction
- Disinfection - Ultra violet and chlorination
- Primary wastewater treatment
- Filtration - sand, membrane, carbon systems and groundwater disposal.
- Industrial pretreatment - user surveys, head works loading, user permitting, inspection training and total program management
- Cross connection programs
- Corrosion control – phosphating and pH adjustment
- System metering- radio and touch pad meter installation and reading services
- Pump Station operation, maintenance and troubleshooting.
- Preventive maintenance programs
- SCADA, PLC and electrical systems operations and control
- Venerability assessments
- Financial rate and reserve assessments
- Certification examination readiness
- Operator safety - confined space awareness, electrical safety, lock out - tag out, hazcom, chemical hygiene
- Lagoons – facultative and aerobic lagoons as well as constructed and natural wetland treatment systems
- Activated sludge process control - sequencing batch reactors, conventional, extended aeration, oxidation ditches, activated carbon and membrane biological reactors
- Attached growth - trickling filters and rotating biological contactors
- Laboratory operations - for drinking water and NPDES requirements, process control and quality assurance & quality control
- Start-up Services and troubleshooting
- Compliance services

FVop

ENVIRONMENTAL SERVICES

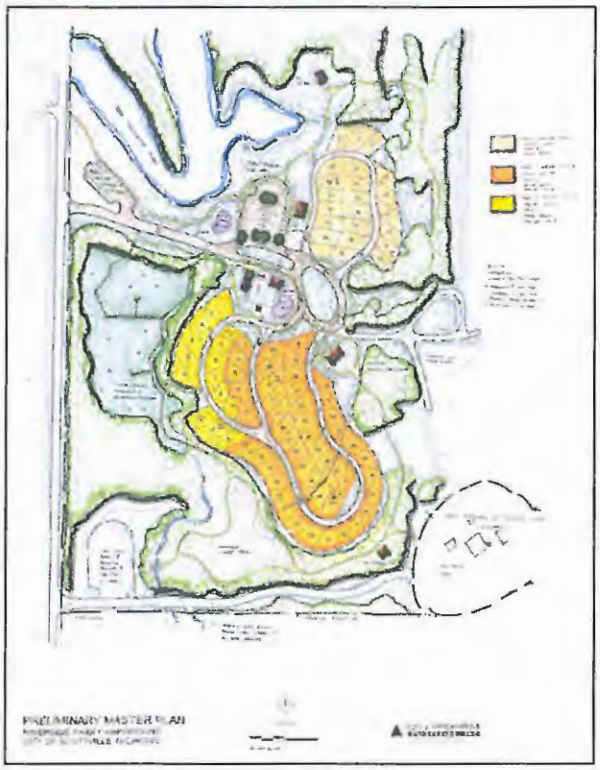
THE F&V TEAM

Our multi-disciplinary team of experienced and dedicated environmental professionals prides itself on providing technologically sound, cost-effective solutions to a variety of environmental and engineering problems. Our diverse professionals include engineers, geologists, environmental scientists and technicians. We provide responsive, consistent service while delivering a quality product that is complete, on time and within budget.

AREAS OF EXPERTISE

- Phase I and II Environmental Site Assessments
- Brownfield Redevelopment
- Hydrogeological Studies
- Alternative Energy Evaluation and Implementation
- Remediation System Design
- Water Supply
- Staff Training/Public Education
- UST/AST Compliance
- Demolition and Urban Clearing
- Wellhead Protection Programs
- Grants and Loans
- Community Forums
- Energy and Process Evaluations
- Wastewater/Stormwater Treatment
- Resource Protection
- Water Conservation and Reuse
- Permits Consultation, Agency Negotiations
- Industrial Pretreatment
- Biological Degradation
- Soil and Groundwater Remediation
- Waste Minimization
- Expert Witness Testimony

PLANNING SERVICES



THE F&V TEAM

The professionals at Fleis & VandenBrink have demonstrated capabilities in Brownfield Redevelopment, land use and zoning issues of a complex nature. Our expertise includes commercial development, industrial development, multi-family housing, single-family residential, airports, industrial park development, recreation facility development, agricultural development, as well as ecological environmental protection. It is our responsibility to provide assistance to you on complex social, economic and physical problems in the local decision-making process of planning. To accomplish this, we have people specialized and trained in various areas of planning, i.e., land use planning, environmental planning, commercial / industrial planning, recreation planning and zoning.

In addition to this, for the last several years we have consistently written successful grant applications for a wide variety of planning programs in neighborhood planning, revitalization, historic revitalization, recreation facilities, housing and land use.

AREAS OF EXPERTISE

Economic Development Planning

- Data Analysis
- Land Use Studies
- Market Analysis
- Grant Applications
- Economic Studies
- Utility Analysis
- Transportation and Parking Studies

Comprehensive Planning & Zoning Ordinances

- Tax Increment Financing
- Brownfield Plans
- Population Studies
- Community Facility Plans
- Capital Improvement Plans
- Grant Implementation Schedules

Parks & Recreation

- Site Planning
- Comprehensive Master Plans & Updates
- Trail System Design & Engineering
- Camping Facilities
- Prairie Design & Restoration
- Community Building & Restroom Facility Design
- Renovations & ADA Accessibility

Downtown Planning

- Site Inventory and Analysis
- Master Site Plans
- Streetscape Design
- Public Space Design
- Grant Applications & Administration
- Market & Economic Studies
- Drainage and Storm Sewer Systems
- Streets & Roads
- Structural Inspection
- Construction Inspection
- Construction Administration
- Comprehensive/Master Plans
- Zoning and subdivision Control Ordinances
- Land Use Plans and Surveys
- Transportation

STRUCTURAL DESIGN SERVICES

THE F&V TEAM

Structural engineering is the art and science of designing buildings, bridges, towers and other structures so they can safely resist the forces they are subject to.

Fleis & VandenBrink emphasizes cooperative problem solving with our clients, realizing there is more than one right answer to problems. Coming up with the best solution for each client is part of the art and challenge. The real art is blending safety, efficiency, aesthetics, future use considerations and economics to achieve an optimum balance.

Our services include inspection and analysis of existing facilities, design and construction of new structures and expert witness testimony if needed. We can provide these services as a supplement to a full range of other engineering disciplines or on a stand-alone basis.

AREAS OF EXPERTISE

- Inspection and Analysis of Existing Buildings
- Design and Construction of New Structures
- Expert Witness Testimony

CONSTRUCTION SERVICES

F&V CONSTRUCTION

F&V Construction (FVC) is tailored to the planning, design and construction of development projects. As a Designer-led firm, we provide single-source responsibility to meet project schedule and budget.

Through our affiliation with Fleis & VandenBrink, we have design professionals, construction management and environmental capabilities under one roof. This means our full-service team is ready for any type of construction project.

Typically, an engineer designs a project for an owner, collects bids and recommends a general contractor. At this point the owner assumes responsibility for the financing and construction of the project.

In a Design/Build scenario (sometimes referred to as a "turnkey" process), the design firm assumes all obligations and responsibilities associated with the project, handling everything from concept design to building completion. This provides single-source responsibility for the owner – there is no finger-pointing between the designer, the contractor or the sub-contractors about who is doing what. The owner is provided with a price early in the process, for both design and construction services. The construction contract can also be drafted to provide a guaranteed maximum price if desired.

FVC can provide various financing options including lease-back and bridge loans.

AREAS OF EXPERTISE

- Design/Build
- Construction Management
- Turnkey Construction
- Partnering
- Financing

DEMOLITION MANAGEMENT SERVICES

THE F&V TEAM

We have a team of highly experienced staff ready to provide you with the professional advice and engineering skills you need to see your demolition project reach your desired conclusion.

We assist clients with the precise planning that is critical to successful demolition projects. Over the course of 20 years, F&V has developed a process that provides exceptional value to the client and is effective in cost control, minimizing change orders, and conducting the work in a safe and efficient manner.

This process is designed to minimize Owner risk and liability throughout the demolition process and includes comprehensive building inspections, detailed project specifications and on-site inspection during the project.

Demolition management services Include:

- Hazardous Materials Assessments
- Biddable Specifications/Project Manual
- Contractor Bid Management
- Inspection and Oversight
- Civil and Structural Engineering
- Surveying
- Environmental
- Site Planning

We have managed demolition projects for municipal, industrial, educational and private sector clients. Project size and complexity have ranged from corner gasoline filling stations to large industrial complexes.

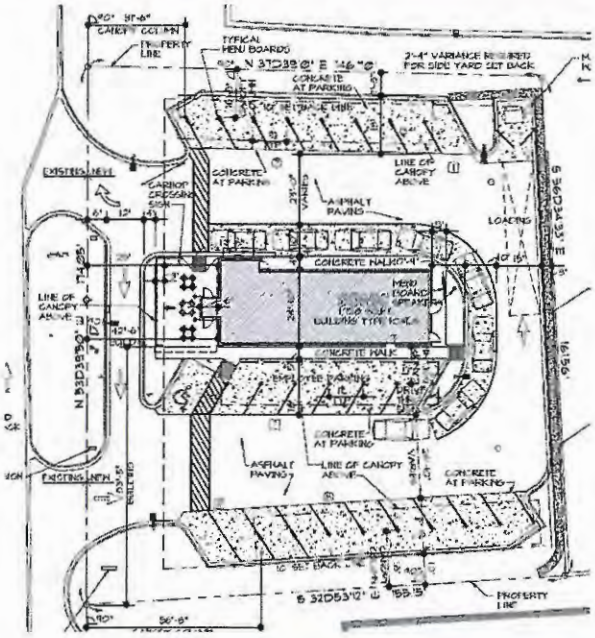
PERMIT EXPERIENCE

ASSISTANCE FOR VARIOUS AGENCY PERMITS:

F&V, and its staff, has assisted our clients complete permit applications and related documentation for numerous local, State and Federal permits. We have developed professional relationships with staff at many of the reviewing agencies which assists our clients in expediting permit review. Some examples of projects and permits we have completed include:

Key Permits
Act 399 - Permit Application for Water Supply Systems
Building
DOT Right-of-Way
Drive Permit
Electrical
Joint Permit - Dam Safety (repairs/construction) Permit (Part 315 of NREPA)
Joint Permit - Floodplain Permit (Part 31 of NREPA)
Joint Permit - Great Lakes Submerged Lands Permit (Part 325 of NREPA)
Joint Permit - Inland Lakes & Streams Permit (Part 301 of NREPA)
Joint Permit - Sand (Critical) Dunes Protection & Management Permit (Part 353 of NREPA)
Joint Permit - Shorelands Protection & Management Permit - High Risk Erosion (Part 323 of NREPA)
Joint Permit - Wetlands Protection Permits (Part 303 0f NREPA)
NPDES
Part 22 - Groundwater Discharge Authorization Permit
Part 307 - Dam Inspection Report
Part 41 - Permit Application for Wastewater Systems
Railroad
Road Commission
Soil Erosion Control

TRAFFIC ENGINEERING



THE F&V TEAM

Traffic Engineering is the phase of Transportation Engineering which addresses the planning, design, and operation of highways, road networks, control systems, abutting lands, and their relationship with other modes of transportation. Our communities rely on such engineering to provide for the safe, economical, and reliable movement of people and goods – which is the backbone of our nation's commerce.

F&V's professional staff is experienced in providing traffic engineering services to both public and private sector clients. Our technical analyses are intended to minimize capital investment and maximize system operations. We pay strong attention to detail in the quality of our engineering, and act as advocates to serve our clients' needs. With the diversity of services offered by F&V, we are able to seamlessly integrate the recommendations of our traffic engineers into our civil design process.

Solving complex traffic problems requires specialized education, years of experience, and an understanding of the best tools available. F&V's traffic engineers have advanced degrees, as well as over 35 years of transportation engineering experience. We utilize the latest traffic modeling and simulation technology to assist our clients in meeting their objectives.

AREAS OF EXPERTISE

- Traffic Impact Studies
- Parking Occupancy & Shared Parking
- Loading & Queing Analysis
- Highway & Intersection Capacity
- Complex Intersection Geometrics & Design
- Traffic Signal Optimization
- Network Modeling & Simulation
- Traffic Signal Warrants & Design
- Corridor & Downtown Street Planning
- Access Management
- School Traffic Operations
- Special Event Traffic Management
- Traffic Calming

MDOT PREQUALIFICATIONS

Fleis & VandenBrink is pre-qualified with the State of Michigan Department of Transportation (MDOT) in the following classifications.

- Aggregate Testing
- Bituminous Pavement Inspection
- Bridge Construction Engineering
- Bridge Safety Inspection
- Complex Signal Operations
- Construction Staking
- Density Inspection and Testing Services
- Engineering Assistance
- Hydraulics
- Hydraulic Surveys
- Landscape Architecture
- Maintaining Traffic Plans and Provisions
- Municipal Utilities
- Pavement Marking Plans
- Portland Cement Concrete Inspection & Testing
- Right-of-Way Survey
- Road Construction Engineering
- Road Design Surveys
- Roads & Streets
- Roadway Rehabilitation and Rural Freeways
- Short and Medium Span Bridge Design
- Simple Traffic Signal Operations
- Site Investigation
- Structure Surveys
- Technical Assistance
- Traffic and Safety Inspection Services
- Traffic Capacity Analysis & Geometric Studies

BEECHER METROPOLITAN DISTRICT

F&V staff has assisted the Beecher Metropolitan District (BMD) for the past 40+ years on a variety of water and wastewater projects. Services have included planning, design engineering, and construction engineering. Projects have ranged from watermain replacement to the iron removal plants to sanitary sewer pump station projects.

Over the past several years, F&V has been active in Beecher assisting with DWRF and SRF projects.

The SRF project began with F&V assisting Beecher in preparing a S2 grant application thru the DEQ, which was awarded to the District. To date Beecher has received $980,000 in S2 grant funding.

Components of the S2 grant included:

- A flow monitoring study to identify dry and wet weather data, identify and prioritize areas within the sewer system which have excessive I&I
- Performing a structural review of some of the District's mainline sewer pipe system through televising and rating the pipe structure and performing a hydrogen sulfide study on these pipes
- A SSES report
- Preparation of the Project Plan including:
  - Project Background
  - Analysis of Alternatives
  - Selected Alternative
  - Evaluation of Environmental Impacts
  - Mitigation
  - Public Participation

The project plan will allow the BMD to apply for a MDEQ SRF loan which will allow the District to address I&I issues experienced in the District and identified in the plan.

Future F&V services to be provided include:

- Survey
- Design engineering of wastewater system improvements
- Preparation of bidding documents and specifications
- Project quantities
- Cost opinions
- Permit applications
- Property/easement acquisition assistance
- Construction staking
- Construction observation
- Contract administration
- Punch list preparation
- Verification of final contract quantities
- As built drawings

F&V has assisted Beecher with two DWRF projects, which began by preparing a water reliability study.

Components of the water reliability study include:
- Modeling system hydraulics
- Determining available system pressures and fire flows
- Evaluating well and tank capacity
- Identifying system improvements
  - Distribution system
  - Source
  - Storage
  - Operations

Preparation of the Project Plan including:
- Project Background
- Analysis of Alternatives
- Selected Alternative
- Evaluation of Environmental Impacts
- Mitigation
- Public Participation

Additional F&V services provided:
- Survey
- Design engineering of water system improvements
- Preparation of bidding documents and specifications
- Project quantities
- Cost opinions
- Permit applications
- Property/easement acquisition assistance

F&V construction services provided include:
- Construction staking
- Construction observation
- Contract administration
- Punch list preparation
- Verification of final contract quantities
- As built drawings

2013 DWRF Project

The proposed improvements to the BMD water system include: the replacement of approximately 11,500 feet of 4-8 inch watermain, eliminating a dead end watermain by looping with two existing watermain sections, overhauling two well pumps and cleaning the wells, replacing the filter media at two iron removal plants, removing and replacing the wet interior coating system for the 0.5 million gallon storage tank and installing a SCADA system to monitor and control the water system.

The DWRF loan amount needed for these improvements was projected to be approximately $2.25-million. The BMD project was also identified to be available for an additional subsidy in the form of principal forgiveness in the amount of approximately $1.53-million.

2014 DWRF Project

The proposed improvements to the BMD water system include: the replacement of approximately 7,500 feet of 6 inch watermain, eliminating a dead end watermain by looping with two existing watermain sections, overhauling a well pump and cleaning the well, installation of tank mixers, and the installation of 1,800± remote read water meters.

The DWRF loan amount needed for these improvements was projected to be approximately $2.2-million. The BMD project was also identified to be available for an additional subsidy in the form of principal forgiveness in the amount of approximately $500-thousand.

Other Beecher projects include:
- Well #7
- Cass Avenue Watermain
- Sanitary Sewer System Analysis
- Iron/Oder Removal Water Plants
- Holtslander Avenue Sanitary Sewer
- Harry Street Watermain

HAMPTON CHARTER TOWNSHIP

Our expertise has helped the Township with updating its existing infrastructure, streets, park system, pedestrian trails along the Saginaw Bay shoreline, and streetscapes projects

With our assistance, the Township has received and administered over $18-million in grant and low interest loan funding.

Understanding the Township's current needs and future goals, as well as funding availability, has been a key factor in this success.

F&V has served as the Engineer of Record for Hampton Charter Township since 2008. In this time, we have worked together as a team to complete the largest infrastructure project ever undertaken within the Township.

Our relationship with the Township Board, its office staff and Department of Public Works is such that they are comfortable calling us at any time day or night to discuss a potential problem.

Specific projects for the Township have included:

Design engineering of:
- New / Reconstructed streets funded by local, state and federal funds.
- Sidewalks.
- Stormwater drainage, studies and sewer improvements.
- Water and sanitary sewer studies, improvements and construction.

Construction engineering.

Construction staking.

Construction Observation.

Survey including:
- Right-of-way.
- Property surveys.
- Legal descriptions.

Review of development site plans to determine appropriate:
- Street construction design quality.
- Utility/storm water design.
- Detention capacity.
- Traffic flow.
- Compliance with community policy and ordinances.

Direct experience with:
- Michigan Department of Transportation,
- Federal Highway Administration,
- Michigan Department of Environmental Quality,
- Local industrial, commercial and institutional projects.

Assisted various departments in updating and developing standards for the completion of projects by developers, contractors, utility companies and other engineering firms.

Assisted Township personnel in reviewing permits and construction plans that affect the Township's right-of-way and property.

Provided assistance with local, state and/or federal grant opportunities.

Provided general assistance to township administrative and elected officials.

Provided environmental reviews.

Some of the key projects include:
- Pre-project coordination with multiple levels of government and agencies which resulted in:
  - Detailed project budget updates to the Township Board for project financing throughout the project duration.
  - An innovative approach to construct the force main (directional drilling vs. conventional open cut construction) which saved the project $4-million that was used for additional local collection system improvements not originally anticipated
- Design engineering services for:
  - New pump stations (900 gpm; 5,500 gpm), river crossing (1,500 lineal feet of 24-inch main) and forcemain (6 miles of 12 – 30-inch; directionally drilled through major urban areas) to convey the wastewater to the County.
  - Needed improvements at the County WWTP for less than continued existing service costs.
- Professional surveying services for these projects including:
  - Easement preparation.
  - Project route mapping (air photo control, horizontal and vertical control for construction, supplemental mapping of critical areas, and verification of the aerial and hydrographic maps of the Saginaw River so that the directional drilling could be designed under the river).
  - Right-of-way determination.
  - Construction layout for the two pump stations, force main bore pits and check points for the drillers. (Each pump station was over 40 feet deep).
  - Use of multiple survey platforms and technologies, from traditional leveling to verify vertical control, to robotic total stations, Global Navigation Satellite Systems (GNSS/GPS) and echo sounding equipment as well as integrating Michigan State Plane Coordinate Systems and the Public Land Survey System Section Corners into the mapping effort.

CITY OF MUSKEGON

F&V has worked with the City of Muskegon and the Downtown Muskegon Development Corporation (DMDC) since 2003. In this time, we have worked together as a team to complete the largest downtown infrastructure projects ever undertaken within the City.

Our relationship with the City of Muskegon Engineering Staff and the DMDC is such that they are comfortable calling us at any time day or night to discuss a potential problem.

With our assistance, the City has received and administered over $2.8-million in grant funding over this time.

Understanding the City's current needs and future goals, as well as funding availability, has been a key factor in this success.

Our expertise has helped the City with updating its existing infrastructure, streets, public gathering spaces, and streetscapes projects.

Specific projects for the City have included:

Design engineering of:

- Western Avenue Streetscape re-establishing historic City street grid
- Shoreline Drive Reconstruction
- Sherman Avenue Whitetopping
- Public gathering spaces such as 3rd Street Commons and Alcoa Celebration Square including a public splash park
- High Speed Cross Lake Ferry Facility
- Reconstructed streets funded by local, state and federal funds
- Urban Compact Roundabout Design
- Rain garden area for storm water pre-treatment
- Placement and base design for community art features
- Stormwater drainage, studies and sewer improvements
- Water and sanitary sewer studies, improvements and construction.

Construction engineering.

Construction staking.

Construction Observation.

Survey including:

- Right-of-way.
- Property surveys.
- Legal descriptions.

Direct experience with:

- Local Non-profit organizations such as the DMDC, Alcoa Foundation, Johnson Foundation and Community Foundation for Muskegon County
- Michigan Department of Transportation,
- Michigan Economic Development Corporation,
- Federal Highway Administration,

- Michigan Department of Environmental Quality,
- Michigan State Historic Preservation Office,
- Local industrial, commercial and institutional projects.

Contractors and utility companies.

Provided assistance with local, state and/or federal grant opportunities.

Provided general assistance to city administrative and elected officials.

Some of the key projects include:
Pre-project coordination with multiple levels of government and agencies which resulted in:

- Detailed project budget updates to the City Engineering and DMDC staff for project financing throughout the various project durations.
- Shoreline Drive (BR-31) Reconstruction and Lakefront Development Projects which included railroad relocation, construction of 3,000 lft of new track and two crossings, new traffic signals, major sanitary, water, storm, gas, electric and roadway relocations and reconstruct as well as construction of wetland mitigation site and overcoming numerous environmental problems from past lakeshore industries.
- Removal of antiquated urban mall and development of Western Avenue Streetscape. First, Second, Jefferson and Market Streets were rededicated in a grid similar to the original street layout for downtown Muskegon. The streetscape and lighting was designed to bring lasting beauty to the downtown. Important in the design will be the density of the development and the reservation of sufficient open space. The plan followed closely the product of Imagine Muskegon, a planning charette involving more than 260 local residents and community leaders.
- The Cross Lake Ferry project involved facilitation of the City, funding agencies, ferry owners and the developers. F&V was involved from conception of the initiative and advised the prospective developers on site selection options, natural resources and wetland impacts for each site and development planning alternatives. A site was vetted and selected by the team, after which we conducted site plan approvals, design and construction administration. It was designed and built within a challenging 3 month period at the clients request to coincide with Alcoa National Corporate Leaders visit to Muskegon in late June of 2011. Square offers not only the dancing water of the children's fountain but room to roam, to relax, to socialize and people watch.
- F&V completed the survey and testing for the shoreline and habitat restoration along Muskegon Lake. This project was funded through the EPA's Great Lakes Restoration Initiative and we assisted JFNew on the restoration work.
- The Chamber Square Rain Garden in Downtown Muskegon is a functional urban green space. It is situated between the end of a 38,000 square foot, three-story office building and a 6,000 square paved

plaza with benches and raised performance stage. The rain garden was conceived as a landscape feature separating the ground level office windows from the active plaza space.

- F&V provided engineering services for design and construction of the Edison Landing Redevelopment Project that included a round-about and roadway for the 34-acre site on the Muskegon Lake Shoreline. Durability and long-term maintenance of the road were critical concerns of the City during design.
- Williams Street storm sewer outfall.
- Sherman Avenue whitetopping.

Professional surveying services for projects including:

- Easement preparation.
- Condominium documents and surveys for DMDC
- Right-of-way determination.
- Construction layout
- Use of multiple survey platforms and technologies, from traditional leveling to verify vertical control, to robotic total stations, Global Navigation Satellite Systems (GNSS/GPS) and echo sounding equipment as well as integrating Michigan State Plane Coordinate Systems and the Public Land Survey System Section Corners into the mapping effort.

CITY OF STURGIS

F&V has been assisting Sturgis with their engineering needs since 1995. A wide variety of projects have been completed over this time including many improvements to municipal infrastructure. F&V's staff works with the City's staff and is considered a trusted advisor on the community's projects.

Some of the key projects include:

- $11 million design and construction engineering project to upgrade a 3.7 MGD lift station and forcemain; seven miles of large diameter trunk sewer; and improvements to the treatment plant.
- $2.35 million design and construction engineering project to rehab the digester and construct a 2.5 mile, 30-inch sewer outfall pipe.
- Salt storage facility for the Department of Public Services.
- Professional surveying assistance including right-of-way determination, easement preparation, researching deeds, topographic survey and construction staking.
- Design and construction engineering for numerous miles of sewer replacement, forcemain replacement, road replacement, storm sewer, and railroad crossings.
- Landfill clean-up including the protection of near-by residential wells.
- Consultation, planning, design and construction observation for the expansion of the City's industrial park.
- Assistance with the environmental clean-up of a contaminated gasoline service station.

F&V has been instrumental in assisting the City to obtain a number of grant and low-interest loans. Funding, totaling millions of dollars, has come from sources such as:

- State Revolving Fund
- S-2
- MDOT Transportation Funds

Permit assistance was provided on a number of projects and included:

- MDEQ Part 41 Construction Permits.
- MDOT Trunkline permits.
- Soil Erosion & Sedimentation Control Permits.
- MDEQ Stormwater Notice of Coverage Permits.
- Railroad Permits.
- NPDES Construction Dewatering Discharge Permits.

Specific project tasks for the City have included:
Design engineering of:

- New / Reconstructed streets funded by local, state and federal funds.
- Local street improvements and planning assistance
- Sidewalks.
- Stormwater drainage, studies and sewer improvements.
- Water and sanitary sewer studies, improvements and construction.

Construction engineering.

Construction staking.

Construction Observation.

Survey including:

- Right-of-way.
- Property surveys.
- Legal descriptions.

Direct experience with:

- Michigan Department of Transportation,
- Federal Highway Administration,
- Michigan Department of Environmental Quality,
- Michigan State Historic Preservation Office,
- Local industrial, commercial and institutional projects.

Assisted City personnel in reviewing permits and construction plans that affect the City's right-of-way and property.

Provided assistance with local, state and/or federal grant opportunities.

Provided general assistance to city administrative and elected officials.

Provided environmental reviews.

Process design engineering for waste water treatment.

Some of our specific street experience with the City includes:

- Broadus and Lafayette Street improvements
- E. South Street improvements
- N. Centreville Road improvements
- Various local street improvements in 2013, 2011, 2010, 2008, 2003 and 2001

CITY OF PORTLAND

Services for the City of Portland have included:

Design Engineering of:
- New, rehabilitated, and reconstructed streets funded by local, state, and federal funds
- Sidewalks
- Recreational facilities, including multi-use pathways, trails, boardwalk and park improvements
- Storm drainage improvements
- Water and sanitary sewer improvements
- Bridge design and construction
- Traffic studies
- Hydroelectric dam inspection, repairs, design and construction
- Environmental testing, sampling, studies and clean-up
- Utility and tax mapping
- Building renovations

Construction engineering

Construction staking

Construction Observation

Bridge Inspection

Survey including:
- Right-of-way
- Property surveys
- Legal descriptions
- Flood plain modeling
- Topographic Surveying

Review of development site plans to determine appropriate:
- Pavement design
- Utility design
- Storm water management
- Traffic flow
- Compliance with City policy and ordinances

Direct involvement with:
- City of Portland Planning Commission
- City of Portland DDA
- Michigan Department of Transportation
- Michigan Department of Environmental Quality
- Michigan State Historic Preservation Office
- Local industrial, commercial and institutional owners and investors
- Michigan Office of the Great Seal, Boundary Commission

Assistance to various departments in updating and developing standards for the completion of projects by developers, contractors, utility companies and other engineering firms

Assistance in reviewing permits and construction plans that affect the City's rights-of-way and property.

Preparing applications and project plans for state and federal loan and grant opportunities such as:

- Drinking Water Revolving Fund
- Safety Fund
- FEMA Hazard Mitigation
- MDNR Trust Fund
- MDOT Transportation Enhancement
- MSHDA
- MDOT D Funds

Some of the projects include:

- Grand River Avenue Reconstruction
- City Hall 2nd Floor Renovations
- Utility Extension to MDOT Rest Area
- Grape and Detroit Street Reconstruction
- Kent Street Mill and Fill
- DWRF New Well
- I-96 Pedestrian Trail
- Water System Master Plan and Reliability Study 1994, 1999, 2002, 2007
- Maple Street Reconstruction and Streetscape
- E. Grand River Boardwalk
- Downtown Façade Project
- Rowe Avenue Extension
- Charlotte Highway Reconstruction
- Hydro Dam Repairs 2006, 2012
- Donna and Bethel Drives Reconstruction
- Vulnerability Assessment
- Canal Street Reconstruction
- Ionia Road Watermain
- FEMA Power Line Relocations
- Academy Street Reconstruction
- East Bridge Street Reconstruction
- Bridge Inspections 2006, 2008, 2010, 2012
- Cherry Hill Watermain Loop
- Kent Street Bridge Relocation
- Bogue Flats Park and Trail Improvements
- Wellhead Protection Program
- EDA Waterfront Redevelopment
- Water and Sewer Rate Studies
- Pleasant Street Reconstruction
- West Grand River Reconstruction
- Grand River Access Management Plan
- City Development Standards Update
- Water, Sewer and Electric Base Mapping

CITY OF BIG RAPIDS

Services for the City of Big Rapids have included:

Design engineering of:
- New, rehabilitated, and reconstructed streets funded by local, state, and federal funds
- Sidewalks
- Recreational facilities, including multi-use pathways, trails, and park improvements
- Storm drainage improvements
- Water and sanitary sewer improvements
- Wastewater treatment plant improvements

Bridge Inspection

Survey including:
- Right-of-way
- Property surveys
- Legal descriptions
- Flood plain modeling
- Topographic Surveying

Direct involvement with:
- Michigan Department of Transportation
- Michigan Department of Environmental Quality
- Michigan State Historic Preservation Office
- Local industrial, commercial and institutional owners and investors
- Michigan Office of the Great Seal, Boundary Commission

Preparing applications and project plans for state and federal loan and grant opportunities such as:
- State Revolving Fund
- Economic Development Administration

Some of the projects include:
- S2 Grant Application and Project Plan
- Bridge Inspections
- Baldwin Street Bridge Design
- Industrial Park Infrastructure Project Design
- WWTP O & M Manual
- WWTP Facilities Master Plan
- Water Treatment Plant Feasibility Study
- Airport Recreation Feasibility Study
- MH 204 Relocation Project
- Northend Park Erosion Control on Muskegon River
- Mitchell Creek Retaining Wall

Experience Summary

Geric is involved with the study, planning, design, and construction of municipal, county, and private engineering and surveying projects. As a licensed Professional Engineer and Professional Surveyor in the State of Michigan, he provides leadership in both our engineering and surveying departments. Having experience in both design and construction, he is typically involved in a project from the initial planning/programming phase through construction completion and project closeout. Geric specializes in completing hydrology and hydraulic calculations and analysis for various drain improvement projects and culvert replacements. He is very experienced with the Michigan Department of Environmental Quality permitting process.

Geric regularly assists communities with their day-to-day engineering needs including planning, design, and implementation of municipal projects. He is instrumental in completing engineering assignments including utility master planning, roadway and utility design, cost estimation, project bidding, construction engineering, grant writing and funding assistance, capital budgeting assistance, plan reviews, and meeting attendance. Geric has a professional reputation of providing high quality services and has demonstrated his ability to work cooperatively with councils, boards, city and township managers, public works directors, and citizens.

He also is involved with various survey operations such as records research, rights-of-way preparation, road vacation and abandonment, remonumentation, project management, land planning and platting, and quality assurance/quality control. He often assists municipalities and county agencies with easement preparation and processing for infrastructure improvement projects. Having completed and processed many condominium plans and subdivision plats, he is very experienced with the Michigan Land Division and Condominium Act.

Geric's experience and licensing as both an engineer and a surveyor provides the knowledge and support that is key for a successful project.

Project Experience

Road Experience

Union Street Reconstruction - Grand Blanc
Project Design Engineer for roadway reconstruction and expansion project to eliminate redundant railroad crossings.

Irish Road Rehabilitation - Genesee County Road Commission
Project Design Engineer for a one mile long, two lane MDOT Local Agency road rehabilitation project consisting of HMA base crushing and shaping. Project included geometric improvements of lane drop transition taper and sign replacement to meet current MMUTCD requirements

Linden Road Reconstruction - Genesee County Road Commission
Project Design Engineer for a one mile long, five lane MDOT Local Agency concrete road rehabilitation and reconstruction project consisting of roadway geometrics and intersection turn lane improvements. Project included sign replacements to meet current MMUTCD requirements.

Saginaw Street Rehabilitation - Grand Blanc
Project Design and Construction Engineer for a one mile long, five lane MDOT Local Agency road rehabilitation project of the major thoroughfare in the City of Grand Blanc. With daily traffic in excess of 30,000 vehicles, this project was constructed at night in an effort to lessen the impact on the business owners and residents.

GERIC ROSE, PE, PS
PROJECT MANAGER

Education

BS Survey-Engineering
Ferris State University, 1997

Registrations

Professional Engineer
- Michigan (No. 6201055609)

Professional Surveyor
- Michigan (No. 4001047972)

Professional Affiliations

- Advisory committee member for Lake Fenton High School Engineering Academy's initiative with "Project Lead the Way"

Certifications/Training

- Concrete Paving Inspection
- Designing Pedestrian Facilities for Accessibility
- Implementing Low Impact Development in Michigan
- Michigan Bridge Construction & Rehabilitation Field Inspection Workshop 2008
- Bridge Geotechnical Considerations & Designing for Scour

Local Street Improvements - Grand Blanc
Project Engineer for the yearly road improvement projects. Responsibilities include pavement evaluation, plan preparation, specifications, and cost opinions.

Storm Drainage Experience

White Branch of Perry Drain - Grand Blanc
Project Engineer for completion of storm sewer design and MDEQ permit application for drainage improvements.

Drainage Study, Beecher Metropolitan District - Genesee County
Project Engineer for preliminary drainage study of entire community drainage area. Project included evaluation and analysis of existing drainage system, improvement alternatives and recommendations, and preliminary cost estimate.

Bush-Perry Drainage Study - Genesee County Drain Commissioner
Project Engineer for preliminary drainage study completed on the Bush and Perry Drains for consideration of drainage improvements to contributing drainage systems. Project included management and QA/QC of surveying procedures to obtain drain cross-sections and culvert data on over three miles of open drain.

Layman Drain Improvement - Grand Blanc
Project Engineer for completion of water surface profiling and analysis to determine effects of adding additional storm water runoff into the Layman Drain for FEMA-LOMR application.

Non-Motorized Transportation Experience

Flint River Trail, Genesee County Parks and Recreation
Project Engineer responsible for preliminary engineering services for 1.4 miles of shared use HMA pathway and pedestrian bridge.

Genesee Valley Trail - Genesee County Road Commission
Project Engineer responsible for construction engineering services for 2.7 miles of multi-use HMA pathway.

Safe Routes to School - Grand Blanc
Project Manager responsible for design and construction administration services for a sidewalk improvement project along Perry Road.

Flint River Trail - Kettering Extension, Genesee County Metropolitan Planning Commission
Project Surveyor responsible for preparation of temporary construction permits and permanent easements for HMA pathway project.

Jewett Trail Multi-Use Pathway - Grand Blanc
Project Surveyor responsible for preparation of temporary construction permits and permanent easements for HMA pathway project.

Rust Park Expansion - Grand Blanc
Project Engineer for HMA pathway design and MDEQ permitting for park expansion within a floodplain area.

Water System Experience

DWRF Water System Improvement Project - Beecher Metropolitan District, Genesee County
Project Engineer for 12,000 feet of watermain replacement.

Baldwin Road Water Main - Genesee County Drain Commissioner
Project Engineer for the design of water main extension project in two adjacent townships. Design included implementing horizontal directional drilling construction techniques to minimize impacts to natural resources and the design of a bidirectional metering station.

Culvert Replacement Experience

Culvert Replacement Program - Genesee County Road Commission
Design Engineer for the replacement of five short span mini bridges with concrete box culverts that ranged in size from 7 foot span x 7 foot rise to 19 foot span x 9 foot rise. Work included hydraulic analysis and design of culverts, MDEQ permitting, preparation of contractor plans and specifications.

Lippincott Boulevard over Big Swamp Drain - Genesee County Road Commission
Project Engineer for culvert improvement project to remove four existing metal pipes and replace with a single concrete box culvert with wing walls, reconstruct roadway, and add guardrails.

Experience Summary

Michael has over 35 years of experience in the field of Transportation Engineering. Michael has directed many traffic and transportation engineering projects, including intersection operations studies, corridor studies, citywide traffic studies, signal system studies, roadway design projects, development impact studies, environmental impact statements, and traffic safety projects.

Michael has served as Transportation Engineering Manager responsible for all traffic engineering and transportation planning work, including planning, design, and implementation of traffic operation improvements for communities and private developments. Michael has provided professional transportation engineering services for projects such as the Comerica Park and Ford Field master plans, redesign of the Detroit Renaissance Center, conceptual plans for the City Casinos, and traffic management for the Michigan International Speedway.

Additionally, he served as Rural District Transportation Engineer for the Road Commission for Oakland County and Adjunct Faculty in the Construction Engineering Department at Lawrence Technological University. Michael has completed a variety of transportation and parking engineering projects in and for numerous Michigan communities, including the City of Detroit, City of Birmingham, and Bloomfield Township.

Major Areas of Expertise

- Complex Intersection Capacity and Operations
- Corridor & Downtown Street Planning
- Public Approval Processes
- Large Event Traffic Management
- Shared Parking Studies
- Traffic Impact Studies
- Transportation & Community Connections
- Transportation Engineering & Planning

Project Experience

Orchard Lake & Maple Street Improvements – West Bloomfield
Project Manager for design services of intersection improvements. Work included topographic survey, horizontal and vertical road alignment, utility coordination, pavement cores and soil boring services, evaluation of road cross sections, surfacing and drainage needs.

Martin Parkway Study – Commerce Township
Project Manager responsible for traffic study of an undeveloped property that had a large trip making potential and associated traffic impacts on the roadway network. The Township wanted to quantify these impacts and develop a roadway network plan that will adequately accommodate the increased traffic potential.

As-Needed Traffic & Transportation Services - Birmingham
Responsible for providing the City with as-needed traffic and transportation engineering consulting services. Responsibilities include collaboration with City Engineering, Planning, and Police staff, direction and review of traffic analyses, communication and presentation of study results and recommendations, and coordination with the Road Commission for Oakland County and MDOT. Project examples include city-wide traffic operations evaluation, corridor traffic signal optimizations, traffic control studies, lane reduction studies, parking evaluations, evaluating pedestrian accommodations, traffic signal warrant analysis, and development impact studies. Several traffic analyses were completed for an area of the City including Old Woodward Avenue, Woodward Avenue, and Maple Road which included traffic signal optimization, roadway reconstruction, and evaluation of proposed development impacts. Participates in public meetings and provides

MICHAEL LABADIE, PE

TRAFFIC ENGINEER

Education

MS Civil Engineering
Wayne State University, 1978

BS Civil Engineering
Wayne State University, 1975

Registrations

Registered Engineer
- Michigan (No. 6201026598)

Professional Affiliations

- Institute of Transportation Engineers

Certifications / Trainings

- National Highway Institute FHWA Road Safety Audits

recommendations to the City based on the results of these analyses, in order to maintain acceptable traffic operations for City residents, businesses, and visitors.

As-Needed Traffic Services - Bloomfield Charter Township
Provides traffic operations analyses, site plan and impact study reviews, presentations to the Planning Commission and the Township Board of Trustees, Township Ordinance reviews, neighborhood meetings, and representation at meetings with other agencies including the Road Commission for Oakland County and MDOT. Recently participated in traffic and parking analyses for several mixed-use office/retail/restaurant developments including the corner of Woodward Avenue (M-1) and Big Beaver Road, Telegraph Road (US-24) and Square Lake Road, and Telegraph Road (US-24) and Maple Road.

Traffic Services - Michigan International Speedway - Brooklyn
Have provided traffic control and management consulting for MIS for several years, and recommendations have resulted in significant improvements to traffic operations related to race weekends at the Speedway. With nearly 200,000 patrons and miles of impacted roadways, traffic volumes previously would queue for miles, spilling back into local communities and onto I-94 prior to his involvement. Developed plans in coordination with MDOT and local agencies to improve the road infrastructure and efficiently manage traffic flows in and out of these large events, which are still carried out to date.

Redford HS Redevelopment - Detroit
Completed the Traffic Impact Study for the redevelopment of the former Redford High School with retail land use, which is proposed to include Meijer. The study evaluated the potential impacts of the project on the adjacent road network and determined appropriate site access and traffic control. Mr. Labadie led the development team meetings with MDOT and developed the mitigation measures which ultimately lead to project approval.

Parking Engineering Studies - Troy
Directed a number of parking studies in the City of Troy based on the Urban Land Institute (ULI) methodology for the sharing of parking spaces based on seasonal, daily, and hourly variations in land use parking demands. These projects have involved parking demand forecasts and evaluation of parking supply for various commercial developments. All of these studies were approved by the City and resulted in more efficient land use and reduction in pavement for sites where previous standards had resulted in the over-design of parking supply. Project examples include the PNC Center, Troy Sports Center, Troy Marketplace, and Troy Place.

Firekeepers Casino Hotel and Events Center - Battle Creek
Provided traffic engineering and project management for the site plan design and Traffic Impact Study for a new hotel and event center at the existing Firekeepers Casino. The project site is located adjacent to the I-94 interchange with M-311 and has access via the I-94 Business Loop, also known as M-96. Traffic impacts on the adjacent road network and intersections were evaluated and recommendations were developed to mitigate project impacts. Led the development of study recommendations for presentation to Firekeepers and MDOT.

Bloomfield Park Mixed Use Development - Bloomfield Township
Acted on behalf of the Township in review of the Traffic Impact Study for the proposed mixed use development on Telegraph Road (US-24) north of Square Lake Road (I-75BL). Met frequently with staff from the Township, City of Pontiac, and the MDOT to provide recommendations for development impact mitigation strategies. Directed the project traffic analysis and coordinated efforts with other consulting firms to provide the involved jurisdictions with an acceptable traffic impact analysis and resulting mitigation. Reviewed the development Parking Study and provided recommendations related to site parking supply versus demand as well as site layout and internal circulation.

Northpointe Town Center - Blackman Township
The objective of this project was to evaluate the impacts of the proposed commercial development on the adjacent road network including the I-94 interchange with Airport Road and the US-127 interchange with Springport Road. Was responsible for the management of project tasks and QA/QC of the proposed development impact study, which included roundabout evaluation. Developed and recommended traffic control and geometric modifications in order to minimize the impact of the proposed development on the roadway network as compared to the existing traffic conditions. The study was conducted in coordination with MDOT and Blackman Township, MI.

Corridor Modernization Study for Caniff Street - Hamtramck
The objective of this project was to modernize the Caniff Street corridor between I-75 and Buffalo Street. Led the traffic engineering aspect of the study, which focused on the improvement of traffic signal operations and corridor progression in order to reduce vehicle delays and emissions. Pedestrian crossings were also of particular consideration due to the proximity of several schools along the corridor. Directed the network modeling and analysis and the development of optimized corridor progression plans.

Experience Summary

Through his over 40 years of experience, Steve has an extensive knowledge of construction and design. These are important components in producing a quality project, on time and on budget, for our clients. He is very familiar with county, state, and federal road design and construction standards.

He is also well known to officials in charge at these various agencies. Steve has coordinated and planned road design projects with local and county agencies for many years. This work includes the creation of concepts and alternatives for determining feasibility and application for state and federal funding programs. In many cases, Steve is a key component in communicating intricate design aspects of a project to the public, both in planning and construction phases. Steve also handles all of the administrative responsibilities for a project, which include consultant / agency contracts, permitting requirements for a project, provisions for liability and insurance, value engineering, processing and managing consultant / agency contracts, quality control and assurance measures, and ensuring that the results of consultation and design are meeting or exceeding agency expectations.

Steve has an extensive background in coordinating with various public and private utilities for crossing permits, including high pressure underground gas main, high voltage cross-country power transmission lines, MDOT highways and various railroads. Many of his projects have included MDEQ permits for river/creek crossings, wetlands, floodplains and floodways.

Major Areas of Expertise

- Michigan Department of Transportation local agency funded road projects
- Design and construction engineering of municipal project including road, bridge, watermain, sanitary sewer and streetscape projects
- Federal and state grant application assistance, preparation and administration for municipal infrastructure projects
- Analysis of existing water, sanitary sewer and storm water systems

Project Experience

Project Manager or Engineering-in-Charge providing leadership and communication between the design team and owner for projects including:

Municipal Sewer & Water Projects:

KWA Water Supply System, *Genesee County* Drain Commissioner's Office - Water and Waste Services
Beecher-S2 (3 grants), Beecher Metropolitan District
Beecher-DWRF Project Plan #7376-01, Beecher Metropolitan District
Beecher-DWRF Project Plan #7389-01, Beecher Metropolitan District
Beecher-DWRF # 7376-01 Construction Plans, Beecher Metropolitan District
Beecher-DWRF # 7389-01 Construction Plans, Beecher Metropolitan District
Northeast Extension Sewer Contracts 3, 4, and 5, Genesee County Drain Commissioner's Office - Water and Waste Services/CTE
Baldwin Road Water Main, Genesee County Drain Commissioner's Office - Water and Waste Services
City of Grand Blanc-S2, City of Grand Blanc
City of Grand Blanc-SSES, City of Grand Blanc
Camp Copneconic Sanitary Sewer, Genesee County Drain Commissioner's Office - Water and Waste Services

Vassar Road Booster Station and Ground Level Storage Tank, Genesee County Drain Commissioner's Office - Water and Waste Services
Vienna Road Watermain, Genesee County Drain Commissioner's Office - Water and Waste Services

Municipal Storm Drainage Projects:

Perry Drain, Genesee County Drain Commissioner's Office - Storm Water Management
Myers Drain Extension, Genesee County Drain Commissioner's Office - Storm Water Management
Beecher Metropolitan Area Drain Study, Genesee County Drain Commissioner's Office - Storm Water Management
LaFave Gardens Storm Sewer, City of Grand Blanc
Via Catherina Storm Sewer, City of Grand Blanc

Road Improvement Projects:

Multiple road improvement projects for the Genesee County Road Commission including:

- Irish Road
- Linden Road
- Richfield Road
- Thompson Road Culvert
- Culvert Replacement Project
- Whitehead Drive
- Clio Road
- Island View
- Reid Road / Dort Highway
- McCandlish Road and South Saginaw Intersection

Multiple road improvement projects for the City of Grand Blanc including:

- Davis Street Design
- ATMS Project for Saginaw Road Corridor
- Saginaw Street, from Grand Blanc Road to North of Center Road
- Perry Road
- Grand Blanc Road Streetscape

Michigan Department of Environmental Quality Work - Wetlands and Permitting Projects:

Black Mountain Snowmobile Trail, Department of Management and Budget

Landscape / Streetscape Projects:

Rust Park Drainage Design and Expansion Project, City of Grand Blanc
Buell Lake Park improvements, Genesee County Parks and Recreation Commission

Other Projects:

Shoreline Restoration - Marysville

Experience Summary

In 15 years, Jon has been involved in a wide variety of projects including the design of bridges, roads, wastewater collection systems, drainage systems, water distribution systems, parking facilities, streetscapes and trails. He is an NHI-certified bridge inspector and has 10 years of experience in bridge inspection, scoping, design and construction engineering. He has also been involved in dam inspection and analysis and construction engineering on a number of civil construction projects. He has worked on a number of municipal utility studies and capital improvements planning projects.

With his master's degree in structural engineering, Jon has been involved in the structural design of wastewater treatment facilities, public facilities and other miscellaneous structures as well as various structural inspections and evaluations. He is also the primary contact with our firm for Engineer of Record assignments in the City of Potterville, the Villages of Sand Lake and Constantine and Boston Township.

While at F&V, Jon has received additional training in various aspects of construction inspection, and soil erosion control training for Phases 1, 2, & 3. Jon received his professional engineering license in 2004.

Major Areas of Expertise

- Qualified Team Leader for bridge Inspection and scoping.
- Project Manager and Project Engineer for MDOT funded bridge and road projects.
- Project Manager for design and construction engineering of municipal projects including road, bridge, water main, sanitary sewer, storm sewer, streetscape and trail projects.
- Structural design of miscellaneous building structures.
- Federal and State Grant application assistance, preparation and administration for municipal infrastructure projects.
- Water and wastewater feasibility studies and user charge systems.
- Analysis of existing water, sanitary sewer and storm water systems.
- Capital improvements planning.
- Structural design of municipal and commercial facilities.
- Plan review for commercial development.

Certifications/Training

- 2010 / INDOT Qualified Team Leader
- 2009 / FHWA-NHI 130078 / Fracture Critical Inspection Techniques for Steel Bridges
- 2008 / FHWA-NHI 130053 / Bridge Inspection Refresher Training
- 2007 / NHI 135047 / Stream Stability & Scour at Highway Bridges
- 2006 / MDEQ Soil Erosion
- 2005 / NHI 130055 / Safety Inspection of In-Service Bridges
- 2002 / MDOT Density Certified
- 2002 / MDOT Bituminous Paving Certified
- 2002 / ACI/MCA Concrete Testing
- 2001 / Troxler Certified

Project Experience

Various Projects

Project Engineer for the design/rehabilitation of bridge projects currently underway, including:

- Big Rapids – Baldwin Street over the Little Muskegon River
- Lyons – Bridge Street over the Muskegon River
- Mecosta County – 5 Mile over the Little Muskegon River
- Newaygo County – Croton Drive over the Little Muskegon River

JON MOXEY, PE

STRUCTURAL ENGINEER

Education

BS Civil Engineering
Calvin College, 1999

MS Structural Engineering
University of Michigan, 2001

MBA Business Administration
Cornerstone University, 2007

Registrations

Professional Engineer

- Michigan (No. 51462)
- Indiana (No. PE11011621)

Professional Affiliations

- American Society of Civil Engineers
- American Concrete Institute

190th Street over the Little Muskegon River - Mecosta County Road Commission
Project Engineer for the design of an 84-foot span box beam bridge to replace a historic two-span concrete-through-girder bridge that was severely deteriorated and functionally obsolete.

20 Mile Road over the N. Branch of the Chippewa River - Mecosta County Road Commission
Project Engineer for the design engineering services for superstructure replacement, scour protection, approach reconstruction and related work. Assisted with permit applications, utility coordination and other related services.

M-68 Pedestrian Bridge - Tuscarora Township
Provided QA/QC and Assistant Design for the design and construction engineering services for approximately 0.5 miles of shared-use path construction, including a 100-foot span prefabricated steel truss pedestrian bridge parallel to M-68.

Blue Star Highway over the Kalamazoo River - Douglas/Saugatuck
Project Engineer providing design and construction engineering services on this seven-span structure located between Saugatuck and Douglas. The structure was severely deteriorated to the point of load restrictions. The rehabilitation project included pier improvements, steel piling channel protection devices, structural steel repairs, joint replacement, lighting enhancements, approach reconstruction, utility coordination and related work.

190th Avenue over the Hersey River - Osceola County Road Commission
Project Engineer for the design of a single span precast concrete three-sided arch structure. This project was funded through the MDOT Local Bridge Program

200th Avenue over the Rose Lake Outlet - Osceola County Road Commission
Project Engineer for the design of a single span skewed precast concrete three-sided arch structure. This project was funded through the MDOT Local Bridge Program.

Findlay Bridge and Trail - Hudson
Project Engineer for the design and construction engineering of this 50-foot pedestrian bridge that spans the Garrison Drain. The bridge was named in memory of longtime Hudson resident Jim Findlay and was designed to reflect Findlay's interest in the Hudson-area railroads. The Findlay Trail follows the former railroad bed along M-34 on the City's east side. The bridge was built from weathered steel and concrete formed to resemble the cut fieldstone used to build the former depot in town. The trail runs 3,900 feet from South Maple Grove Avenue to South Munson Highway.

Cayuga Street over the Intermediate River - Bellaire
Project Engineer providing design and construction engineering services for preventative maintenance improvements to Cayuga Street Bridge over the Intermediate River. The project involved joint and railing improvements, beam and substructure patching, drainage improvements and related work.

Washington Street over Fish Creek - Hubbardston
Project Engineer for design and construction engineering services for preventative maintenance improvements to the Washington Street Bridge over Fish Creek. The project involved joint replacement, railing improvements, approach reconstruction and related work.

Green Avenue over the White River - Newaygo County Road Commission
Project Engineer for a two-span spread box beam super structure replacement. The project was funded with MDOT Local Bridge Program Funds.

Main Street Bridge Improvements - Mattawan
Project Engineer for the design and construction engineering of preventative maintenance improvements to the Main Street Bridge over the Amtrak Railroad. Improvements included replacement of joints and wearing surface, railing improvements, approach work and related work.

Elevated Pedestrian Walk - Portland
Assistant Project Engineer for the construction of an elevated pedestrian walk along the Grand River. The project included construction of 12 hammer head piers founded on 48-inch diameter concrete caissons, a precast double tee beam deck with associated railing and concrete approach work.

Old M-45 - Ottawa County
Inspector for this MDOT administered CPM project involving 1.9 miles of hot mix asphalt cold milling and resurfacing. The project included close monitoring of pay items and quantities as well as field adjustment in work items to meet construction budgets. The project was inspected following Perient Within Limits (PWL) procedures and F&V performed HMA sampling, core location determination and took possession of the cores for testing. The project included close monitoring of pay items and quantities as well as field adjustment in work items to meet construction budgets.

Experience Summary

Brian has over 25 years of experience being involved in diverse public and private projects including brownfield redevelopment, environmental due diligence including Phase I and Phase II environmental site assessments, site investigations, pollution cleanup assessments, Michigan Baseline Environmental Assessments and Due Care Compliance under Part 201 of Michigan's Environmental Code, underground storage tank management and cleanups under Part 211 and Part 213, and environmental release response and reporting of environmental cleanups under Part 201. Projects often have included environmental soil and groundwater contamination investigations, contaminant area delineation, remediation and regulatory compliance. Brian has also written and administered various sources of financial assistance for brownfield projects.

Major Areas of Expertise

- IS/ID & EER Contract Coordination and Project Management
- Environmental Due Diligence (Phase I and II ESAs, BEAs)
- Environmental Site Investigations
- Brownfield Redevelopment Programs
- Moderating/presenting various community information forums
- Emergency Management Planning
- Procurement and administration of grants
- Soil and groundwater quality assessments
- Hydrogeological Studies
- Computer modeling including groundwater flow and contaminant fate and transport
- Soil and Groundwater Remediation
- Local and regional groundwater supply investigations and development
- Development of municipal Wellhead Protection Programs
- Homeland Security Threat, Risk and Vulnerability Assessments
- PIPP, SPCC and Storm Water Pollution Prevention Plans
- Demolition Management

Selected Project Experience

Community Wellhead Protection Programs

Provided Project Management responsible for all aspects of community Wellhead Protection Programs including public presentations, development of groundwater protection ordinances, regional groundwater flow modeling, aquifer pump test design implementation and analysis, monitoring well design and installation, wellhead protection area delineations using the computer model MODFLOW, MDEQ negotiations, evaluation of land use risks, contaminant source inventories and development of a written wellhead protection. Representative clients include:

- Reed City
- Pentwater
- Charleston Township
- Kalamazoo Lake Sewer & Water Authority
- Ada Township
- Allegan
- Andrews University
- Gun Plain Township
- Grant
- Portland
- Harbor Springs
- Colon
- Little Traverse Township
- Northport

BRIAN RICE, PE

ENVIRONMENTAL ENGINEER

Education

BS Mechanical Engineering Western Michigan University, 1989

Graduate Studies, Public Health, University of Michigan, 1992

Registrations

Professional Engineer

- Michigan (No. 6201041028)

Professional Affiliations

- West Michigan Air Waste Management Association (Board - Past Board Chair)
- American Water Works Association
- Michigan Association of Environmental Professionals
- Michigan Water Environment Association (Groundwater Committee)
- National Groundwater Association (Source Water Protection Committee)
- Michigan Emergency Managers Association
- Michigan Petroleum

Water Resource Management

Groundwater Use Conflict Resolution, Portland
Project Manager responsible for evaluation of groundwater use in a fast-growing area of Portland. After analysis of data, developed strategies to practically address loss of water in several residential wells in compliance with Michigan's Groundwater Use Conflict regulations.

Local Water Availability Study, Allendale Charter Township
Project Manager responsible for evaluation of regional data and collection of current field data to confirm sustainability of local aquifer to support current wells and future growth.

Emerging Issues Monitoring - Ann Arbor
Project Manager responsible for implementing a program to characterize water quality at various points in the Ann Arbor's water system including raw water quality. Specific evaluation included contaminants not currently regulated under state or federal law. Work included coordination of sampling activities, development of quality assurance plans, interpretation of data, and presentation of results.

Brownfield Development/Environmental Due Diligence

Principal in Charge, Project Manager or Environmental Professional responsible for or assisted with numerous due diligence projects for various land use types.

Representative sites include:
- Reed City – Vacant hotel
- Plainwell – Heavy industrial site
- Portland – Industrial site
- Walker – Active oil production field
- Grand Rapids – Former auto dealership and repair service garage
- Muskegon – Warehouse facility

Principal in Charge, Project Manager or Environmental Professional responsible for or assisted with the completion of numerous due diligence projects in Michigan, Indiana and Colorado.
- Caledonia – Former country club, Category S
- Oceana County – Former land waste application site, Category D
- Grandville – Former lumber yard and railway, Limited Category D
- Caledonia – Former County Road Commission Garage, Limited Category N
- Wyoming – Former gasoline service station, Category S
- Grand Rapids – Former automotive repair facility, Category N
- Sawyer – Former commercial greenhouse, Category N
- Galesburg – Former gasoline service station, Category D

Soil & Groundwater Site Investigation Studies & Remediation

Rick's Refill - EER State of Michigan Department of Management and Budget, Cannonsburg
Principal in Charge for contaminated soil excavation design and specification, site supervision and reporting for a former gasoline station.

Donald Johnson - EER State of Michigan Department of Management and Budget, Cheboygan
Principal in Charge for remedial investigations, feasibility analysis, corrective actions, environmental compliance, site supervision, contaminated groundwater delineation, NAPL evaluation, monitor well installation and reporting at a former UST system.

Reed City
Project Manager responsible for providing guidance to the City and private parties in redeveloping various brownfield properties in the City. Included managing EPA grant reporting and developing site specific plans.

Demolition Management

Former Osceola Inn, Reed City
Principal in Charge of developing the funding, schedule and coordination of multiple stakeholders as part of the demolition of a three-story former hotel with local historical significance in a downtown location. This project involved three public and private funding sources and considerable concern from tenants and owners of adjoining and connected structures. Efforts included moderating several project and funding meetings with stakeholders and the general public. Technical services included environmental due diligence, UST removal, structural assessments, hazardous materials surveys, asbestos abatement and demolition specifications, demolition management, reporting, surveying and site planning.

Experience Summary

Kevin is in our Survey Department out of the Grand Blanc office. His responsibilities include coordinating and delivering the necessary survey required tasks to our engineering staff and clients. Kevin's experience runs from very small survey needs of the local land owner to complex and complicated property court cases, control network public land survey remonumentation, right-of-way and easement surveys.

He also assists in the position of senior crew leader and works on all phases of land development, municipal, industrial and construction surveying projects. He has extensive experience in electronic data collection, layout procedures and field applications of Global Positioning System (GPS) survey work. In the office environment, his experience includes surveying calculations, land development design and the processing of subdivision plats and condominium projects. He has provided expert witness services for attorneys in case development and also for private individuals, land developers, government agencies, and the US Justice Department.

Kevin has been on the Curriculum Advisory Development Committee and taught land and construction surveying at both Baker College and Mott Community College located in Flint.

Major Areas of Expertise

- Aerial survey coordination
- ALTA / ACSM land title surveys
- Boundary and Topographic survey
- FEMA flood records research
- Floodway / Floodplain permit assistance
- GIS survey
- Hydrographic / Hydraulic surveys
- Large control network survey (horizontal and vertical)
- Private / Public Utility easements
- Private / Public Utility research and relocation coordination
- Property record description
- Reviewing and interpreting property base control (parcel) maps
- State Remonumentation Section Corner filings with Register of Deeds and State Land Office
- Stream & river crossing permit assistance
- Survey historical data / right-of-way research

Certifications/Training

- Business Management
- Confined Space Entry
- Contact Review
- Debt Collection
- Due Diligence
- Excavation Safety
- FEMA Flood Insurance Mapping
- Flood Development
- GIS Mapping and Analysis Systems
- GPS Utilization and Height
- Liability of Contracts
- Modelization
- Reenactment Evidence
- Riparian Rights
- Situation Ethics for Surveyors
- SURPAC
- Surveying with GPS
- Surveyor as Expert Witness

KEVIN CLEAVER, PS

PROFESSIONAL SURVEYOR

Education

AS Survey-Drafting
Mott Community College, 1976

BS Land Surveying
Ferris State University, 1978

Registrations

Professional Surveyor

- Michigan (No. 4001029242)

Professional Affiliations

- Currently Vice-President, Former Director, MI Society of Professional Surveyors, Saginaw Valley Chapter
- MI Intergovernmental Trade Network

Project Experience

Survey Projects

Shoreline Restoration - Marysville
Senior Surveyor and Crew Leader to provide construction layout for the proposed waterway restoration project. F&V performed topographic survey and coordinated vegetative survey with Cardno/JFNew, as well as conducted a geotechnical survey to assess the existing soils and assess their respective stability both landward and riverward of the existing seawall, facilitate meetings with stakeholders to discuss the design alternatives, coordinate with Cardno/JFNew on bioengineering solutions and habitat restoration measures and focus on the structural and civil engineering components that together provided a multi-use pathway with passive and active amenities that will encourage public use. The project was awarded the "2014 James L. Bliskey Quality of Life Project of the Year" award by the Southeast Michigan Branch of the American Society of Civil Engineers.

Boundary Dispute at Mill Site - Argentine Township, Genesee County
Project Manager and Crew Leader to research historical records and re-establish the early 1900s boundary lines of the Wolcott Mill property also assist Township attorney with client's court case.

Flint Lot Survey - Genesee County Land Bank
Project Manager and Crew Leader to re-establish, field stake, and prepare drawings of three sites next to the existing Indian Burial Ground on West Second Avenue.

Genesee County Remonumentation
Project Manager and Crew Leader from 1998 to present in the re-establishment and setting the original locations of the government corner according to PA 345.

Environmental Study - Almont Elementary, Almont
Project Manager to field locate and prepare legal descriptions for a contaminated site at Almont Elementary.

DWRF Project - Beecher Metropolitan District, Genesee County
Senior Surveyor and Crew Leader to establish horizontal and vertical control to connect seven project sites for future connection, coordinate the field and office work, and also provide field topo for 12,000 LF of watermain design.

Watermain Easement - Grand Blanc Township, Genesee County
Senior Surveyor and Crew Leader to establish the existing location of 2,600 LF of watermain across Genesee Hills Golf and Country Club and assist the Township attorney by preparing the necessary easement descriptions and exhibit drawings for recording.

ARTP Hydraulic Profile - Genesee County Drain Commissioner
Project Manager and Crew Leader to establish the hydraulic grade line and field measurements for profile through the treatment plant.

GIS Base Map Project - Grand Blanc Township, Genesee County
Surveyor in Charge of establishing the horizontal and vertical ground control for a 6x6 mile aerial mapping project using Static and RTK survey methods tied into the local NGS stations including the re-establishment and location 42 government corner for the establishment of the property base within the township.

Recreational Projects

Survey - Black Mountain Snowmobile Trail, Onaway
Senior Surveyor to establish state plane coordinate with GPS survey method and provide a topographic survey across wetland to prepare design plans for a snowmobile and mitigation site.

Cobblestone Park - Davison Township, Genesee County
Surveyor in Charge of establishing the horizontal and vertical ground control for a 126 acre aerial mapping project using Static and RTK GPS survey method also tied into the local state plane coordinate system as required by township ordinance.

Condominium Master Deed Projects

Waters Edge, Grand Blanc Township, Genesee County
Project Manager, Survey Manager, and Crew Leader for the development of the exhibit 'B' documents to the master deed of a 49 site condominium replat.

Boundary Survey - Great Lakes Tech Center, Flint
Project Manager and Crew Leader to prepare a condominium conversion for a medical complex.

Experience Summary

Dave's experience comes from working with many local, county and state agencies on various municipal and private projects. His projects have required the coordination and collaboration with many permitting authorities such as road commissions, drain commissions, MDOT, MDEQ, and MDNR, as well as Federal agencies. He has managed his projects in this area to a high degree of success with limited or no delays and with limited or no additional construction budget add-ons.

He has experience in calculating flood profiles, and in processing wetland and floodplain permits through the Michigan Department of Environmental Quality (MDEQ). He has also worked closely with the Genesee County Drain Commissioner's Office, Genesee County Road Commission, and local city and township governments to design and obtain approvals and permits for projects.

Major Areas of Expertise

- Analysis of existing water, sanitary sewer and storm sewer systems
- Hydrology and hydraulics engineering of drainage systems including culverts, small bridges, small streams, county drains, and storm sewer systems
- Michigan Department of Environmental Quality permitting for culverts, small bridges, wetland, wetland mitigation, floodplains, and compensating cut in floodplains
- Project Engineer for design of municipal road projects including Michigan Department of Transportation local agency projects through the Genesee County Road Commission and local municipalities
- Project Engineer for design of municipal projects including watermain, sanitary sewer, and storm sewer projects

Project Experience

Municipal Water and Sewer Projects

Ballenger Highway Bridge Replacement Project – Genesee County Road Commission
Project Engineer for a MDOT local agency bridge replacement project that included a super elevated road design over the bridge, preparation of construction drawings for the road replacement work and performing existing and proposed FEMA regulated floodplain and bridge hydraulic modeling for the project and MDEQ permit bridge hydraulic report.

Trail Pathway – Flint River Trail – Mott Lake Extension - South, Genesee County Road Commission and Genesee County Parks and Recreation
Project Engineer for a MDOT local agency trail pathway project that included pathway design, preparation of construction drawings for the 7,445 foot long trail pathway, preparation of MDEQ permit application and performing existing hydrology and proposed hydraulic calculations for two new culverts within two county drains with drainage areas of 853 acre and 596 acres.

Drain Cleanout Project – Feller Drain, Genesee County Drain Commissioner - Surface Water Management Division
Project Engineer for a drain cleanout project for the Feller Drain #1201 where the existing drainage course is proposed to be widened to 10' and 12' bottom widths along with placing five sets of twin elliptical culverts to handle the runoff from a 1348 acre drainage area.

Drainage Study – Wheelock & Watkins Drain, Genesee County Drain Commissioner - Surface Water Management Division
Project Engineer for preliminary drainage report for the Wheelock & Watkins Drain #0297 where the existing storm sewer system was evaluated and storm sewer improvement alternatives proposed to handle the runoff from a 142 acre drainage area.

DAVID HILER, PE
MUNICIPAL ENGINEER

Education

BS Civil Engineering and Engineering Administration
Michigan Technological University, 1992

Registrations

Professional Engineer
- Michigan (No. 6201043895)

Certifications/Training

- Flow Monitoring
- Scour Analysis
- MERL 4.3
- Concrete Roundabouts
- Implementing Low Impact Development
- Design Pedestrian Facilities

DWRF Project Plan - Beecher Metropolitan District, Genesee County
Project Engineer for the preparation of a State of Michigan Drinking Water Revolving Fund project plan to obtain a loan for various water system improvements to the district's wells, iron removal plants, water storage tank, and water distribution system including preparation of project plan report.

S2 Grant Project - Beecher Metropolitan District, Genesee County
Project Engineer for the preparation of the application to obtain an S2 Grant from the MDEQ to perform an inflow and infiltration study of the district's sanitary sewer system and structural analysis of parts of the district's sanitary sewer system.

Water Reliability Study - Beecher Metropolitan District, Genesee County
Project Engineer for a study of the reliability of the Beecher Metropolitan District's water system including hydraulic analysis of the water system and preparation of study report.

Water Reliability Study – City of Grand Blanc, Genesee County
Project Engineer for a study of the reliability of the water system including hydraulic analysis of the water system and preparation of study report.

SSES Study and Project Plan – City of Grand Blanc, Genesee County
Project Engineer for evaluating an existing sanitary sewer pump station and its upstream sanitary sewer system for sources of Inflow and Infiltration including preparation of Project Plan submitted to the State of Michigan to obtain SRF and SWQIF loans to disconnect footing drains connected to the sanitary sewer system.

S2 Grant Project – City of Grand Blanc, Genesee County
Project Engineer for an Inflow and Infiltration study of parts of the sanitary sewer system.

Rust Park Watermain Improvements – City of Grand Blanc, Genesee County
Design Engineer, Project Coordinator, and Reviewer for the preparation of construction plans for watermain improvements.

Oak Road Sanitary Sewer Extension - Davison Township, Genesee County
Design Engineer, Project Coordinator, and Reviewer for the preparation of construction plans, specifications and contract documents for a sanitary sewer pump station and sanitary sewer main to serve Cobblestone Park, a single family residential subdivision project.

Water and Waste Services - Camp Copneconic Sanitary Sewer, Genesee County Drain Commissioner – Water and Waste Services Division
Design Engineer and Project Reviewer for the preparation of construction plans for a 27" sanitary sewer constructed to serve Mundy Twp., Fenton Twp., and YMCA Camp Copneconic, a facility providing activities for youth, families, and organizations located in southern Genesee County.

Experience Summary

Carey's experiences in consulting engineering have included serving a variety of clients, such as municipalities, solid waste landfills, metal finishers, large equipment manufacturers, electroplaters, automobile manufacturer suppliers, pulp and paper manufacturers, electrical power companies, mobile home parks, chemical manufacturers, food processors and other commercial enterprises.

His responsibilities have included project planning for funding, process and facility design, industrial and municipal water and wastewater treatment studies, bench scale laboratory work, design, construction plans and specifications, contract development, construction engineering, quality assurance compliance inspection, site construction management, treatment plant start-up, training and operation. He has significant experience with specifying and quality assurance inspection verification of flexible membrane liner installation and testing.

Major Areas of Expertise

- Biological Wastewater Systems
- Biosolids Land Application Program
- Discharge Permitting / Negotiations
- Industrial Pretreatment Compliance, Negotiations & Programs
- Land Application Biosolids Programs
- NPDES and Groundwater Permitting
- Physical/Chemical Wastewater Treatment
- Treatment System Operator Training
- Wastewater Treatment

Project Experience

Biological Wastewater Systems

Wastewater Treatment Facility, Bloomingdale
Serving as project manager for upgrades and improvements at the Bloomingdale wastewater treatment facility. Lead the design team for plant improvements and new mechanical plant design, including site layout, piping and grading, transfer structures and lagoon rehabilitation.

Wastewater Treatment Plant Improvements, Allendale
Carey has served as project manager for the wastewater treatment plant expansion project. This project has consisted of doubling the plant capacity to 1.6 mgd utilizing rotating biological contractors and replacing the undersized rectangular secondary clarifiers with circular clarifiers without adding a pump station. Work included an additional aerobic sludge digestion tank, a sludge and scum pumping station, relocating and supplementing blowers for sludge digestion and new sodium hypochlorite, sodium bisulfate, alum, and polymer feed equipment.

Wastewater Treatment Plant Improvements, Kalamazoo Lake Sewer & Water Authority
Project Manager responsible for design of wastewater treatment plant improvements. Improvements included: site layout, piping and grading, specifications of drawings, contractual documents, and overseeing the design team. Assisted in construction management.

Wastewater Treatment Facility, Northport
Project Manager responsible for design of a new 0.132 mgd treatment facility. Design features included influent screening and flow control, aerobic and anoxic treatment using mixed bed bio-film reactors (MBBR), dissolved air flotation, continuous backwashing polishing filters, biosolids storage and thickening, chemical storage and feed for phosphorus removal and rapid infiltration basins for treated effluent discharge.

CAREY G. BOND, PE
PROJECT ENGINEER

Education

BS Civil Engineering
Michigan Technological University, 1992

Registrations

Professional Engineer
- Michigan (No. 6201042575)

Professional Affiliations

- American Society of Civil Engineers
- Water Environment Federation
- Michigan Water Environment Association

Certifications/Training

- Certified Nuclear Density Gauge User
- Certified Wastewater Treatment Operator, B-1b, Michigan
- Certified Industrial & Construction Site Storm Water Operator, Michigan
- Hazwoper 40-Hour Certification
- Hazwoper Annual Refresher Training

Wastewater Treatment Facility Improvements, Shelby
Project Manager responsible for improvements to a 0.23 mgd treatment facility. Design features included upgrading lagoons to multi-cell aerated lagoon facility including provisions for year-round treatment and discharge using new rapid infiltration basins. Additional storage for treated wastewater added for increased operator flexibility during winter months. Other improvements include chemical storage and feed for phosphorus control, effluent flow control and flow metering. Design tailored to cost-effectively reuse existing lagoons.

Wastewater Treatment Plant Improvements, Stockbridge
Project Design and Construction Manager for improvements to a 0.175 mgd aerated lagoon treatment facility. Design features included aeration improvements; nutrient removal/control features added, chemical feed systems, rehabilitation of effluent pump station, spray irrigation improvements, reconstruction and lining of polishing lagoon and construction of 3-mile effluent force main. Construction manager responsibilities included procurement of equipment, contract administration (10 total), project scheduling and coordination.

Wastewater Treatment Plant Improvements, Newaygo
Project Manager responsible for preparation of plans and specifications for various improvements related to nutrient removal improvements and year-round discharge aspects. Design features included aerated cell improvements, chemical feed, irrigation pump station, screening, spray irrigation and effluent underdrains.

Biosolids Storage Improvements, Plainwell
Project Design and Construction Manager for 0.55 MG below ground concrete biosolids storage facility. Design features included decant and thickening station as well as design for vertical expansion of tank in future due to land space constraints. Construction manager responsibilities included procurement of equipment, contract administration (13 total), project scheduling and coordination.

Wastewater Treatment Plant Improvements, Plainwell
Design and Construction Engineer responsible for preparation of plans and specifications for improvements to the wastewater treatment plant. This included: headworks, primary and secondary clarifiers, primary and secondary sludge pumping buildings and anaerobic digesters.

Industrial Wastewater Pretreatment Plant, Vermeer, Pella, IA
Project Engineer and Site Construction Manager responsible for preparation of plans and specifications for construction of 0.2 mgd physical/chemical wastewater pretreatment plant. Design features included segregation and equalization of various wastestreams, oil separation, batch make-up, pH adjustment, solids separation, effluent monitoring and solids dewatering. Construction manager responsibilities included procurement of equipment, contract administration (12 total), project scheduling and coordination.

Lagoon Design, Centreville
Design and Construction Engineer responsible for preparation of plans and specifications for reconstruction of the two existing facultative lagoons and construction of an additional lagoon.

Discharge Permitting / Negotiations

NPDES Application, Stockbridge
Project Manager responsible for preparation of NPDES application for treated wastewater discharge.

NPDES Application, Newaygo
Design Engineer responsible for preparation of NPDES application for modifications of an existing permit to discharge treated wastewater effluent.

Part 22 Groundwater Application, Stockbridge
Design Engineer responsible for preparation of Part 22 Application for treated wastewater discharge. Project included hydrogeological investigation, irrigation management plan, pilot-scale demonstration of spray irrigation improvement for mounding determination and negotiations for significant improvements in permit conditions.

Part 22 Groundwater Application, White Cloud/Sherman Township Sewer Authority
Design Engineer responsible for preparation of Part 22 Application for treated wastewater discharge. Project included hydrogeological investigation, irrigation management plan, deed restrictions and groundwater venting demonstration.

Part 22 Groundwater Application, SW Barry County Sewer and Water Authority, Delton
Design Engineer responsible for preparation of Part 22 Application for treated wastewater discharge. Project included hydrogeological investigation, irrigation management plan, deed restrictions and groundwater venting demonstration.

Experience Summary

Part of Dave's responsibilities with F&V is brainstorming funding alternatives to fund client's projects and exploring for new funding opportunities. He has a wide knowledge of the consulting engineering field and the critical role project funding plays in kick starting projects. Through the years, Dave has developed professional relationships with various funding sources at the Michigan Department of Transportation, Michigan Department of Natural Resources and Environment, Michigan Economic Development Corporation, US Department of Agriculture and US Department of Commerce.

Dave's knowledge has helped F&V secure grants and low-interest loans, totaling over $400 million for our clients.

Related Grant & Loan Knowledge

Economic Development Authority (EDA)

FEMA/Michigan Hazard Mitigation Program

Homeland Security Grant Program (HSGP)

MDEQ

- Abandoned Well Management Program (AWM)
- Clean Michigan Initiative (CMI)
  - Emerging Issues Grants
  - Failing Septic System
  - Waterfront Redevelopment Grants
- Drinking Water Revolving Fund Program (DWRF)
- Land Acquisition (MNRTF)
- Pollution Prevention Grants
- Recreational Funds (MNRTF & LWCF)
- State Revolving Fund (SRF)
- Temporary Refined Petroleum Fund Grants
- Wellhead Protection Program (WHPP)

MDOT

- Category "A", "D", "STP" Funds
- Enhancement Grant (TEDF)
- ISTEA
- Safe Routes to Schools
- Safety
- State Infrastructure Bank (SIB)
- TEA-21

MEDC

- Community Development Block Grant (CDBG)
- Façade Improvements

MSHDA

- Cool Cities
- Upper Level Rehabilitation

Rural Development (RD, formerly FmHA)

USEPA

- Brownfield Grant Program

DAVID JOHNSON, CHMM, CP

GRANTS & LOANS SPECIALIST ASSOCIATE

Education

BA Ferris State University, 1987

AAS West Shore Community College, 1985

Certifications/Training

- Certified Hazardous Materials Manager (CHMM)
- Certified Professional

Experience Summary

Blair has over 30 years' experience in the operation of a diverse mix of remediation and water treatment systems. Mr. Selover is the Area Manager for F&V Operations and Resource Management. Blair is responsible for technical leadership, project management, and business development. He is currently responsible for management of over 15 water and wastewater treatment and transmission systems, and groundwater remediation facilities. He also provides treatment facility start-up services training, technical and engineering assistance.

Major Areas of Expertise

- Water, wastewater and industrial process control and operations
- Soil and groundwater remediation systems

Project Experience

WWTP - Marine City
Operations manager for a 2.0 MGD WWTP, two lift stations and the associated transmission system for Marine City and Cottrellville Township full contract operations.

WWTP - Elba Township
Project Manager for lagoon wastewater treatment facility serving Elba Township and its associated force main wastewater collection system.

WWTP - Petoskey
Project Manager for technical and management assistance for this 2.0 million gallon per day wastewater treatment plant serving the City of Petoskey.

WWTP - Richmond
Project Manager for complete contract operation and maintenance of this 2.0 million gallon per day oxidation ditch facility.

WWTP - Pinnacle Foods Incorporated, Imlay City
Project Manager for operations assistance project of a 2.0 million gallon industrial wastewater treatment facility.

WWTP - Clean Tech Incorporated, Dundee
Project Manager for complete contract operation of 160,000 gallon per day industrial sequencing batch reactor facility.

WWTP - Penda Industries Incorporate, Lapeer
Project Manager for complete contract operations and maintenance of an industrial wastewater natural wetland treatment system with UV disinfection.

WWTP - Hartland Consolidated School System, Hartland
Project Manager for contract operations of natural wetland wastewater treatment system. System was connected to city sewer.

WWTP - Old Club, Harsens Island
Project Manager for operation and maintenance of residential Package Activated Sludge Wastewater Treatment Plant.

WWTP - Hastings
Project Manager for operator training and assistance of a 1.9 MGD wastewater treatment plant and collections system.

WWTP - Wacker Chemical Corporation, Adrian
Project manager for Operator Training, operations, and maintenance assistance of the 0.1 MGD Chemical Wastewater Treatment Systems.

HOWARD BLAIR SELOVER, III

OPERATIONS MANAGER

Education

AS Civil Technology
Lansing Community College, 1980

Professional Affiliations

- Water Environment Federation
- Water Works Association
- Rural Water Association

Certifications/Training

- Michigan Municipal Class F-2, S-1 Waterworks System Operator
- Michigan Class A, B, C, D and L Municipal Wastewater Operator's License
- Michigan Class A-1b, A-1d, A-1g, A-2b, A-2d, B-2a, B-2c, B-3b, C-1b, C-1c, C-2a, C-2b, C-2d, C-2f, C-3a, C-3b

Professional Awards

- Nominated Operator of the Year, Michigan Rural Water Association, 1993
- MWEA State Champion Operations Challenge Teams, 2001 and 2002
- MWEA-Willard F. Shepard Award Winner 2009

FVop

WWTP - Spiegelberg Landfill Remediation Site, Hamburg
Project Manager for operation and maintenance of this Superfund cleanup site. Processes include granular activated carbon treatment, air stripping, and filtration.

WWTP - Port Huron Hospital, Yale
Project Manager for operation and maintenance of multiple cell wetland treatment system.

WWTP - St Clair County, Avoca
Project Manager for operation and maintenance of residential Package Activated Sludge Wastewater Treatment Plant.

MUNICIPAL WATER

Drinking Water, Dexter
Operator-in-Charge of D-2, S-2 drinking water treatment and distribution system. Iron removal, fluoridation and phosphate treatment.

Drinking Water, Water Treatment Plant, Marine City
Operations manager for a 2.0 MGD surface water filtration facility and the associated distribution systems for Marine City and Cottrelville Township.

TRAINING AND START-UP SERVICES

Industrial Pretreatment Assistance Project - Flint Water Pollution Control, Flint
Developed and conducted City of Flint Industrial Waste Survey. This included development of the City's database of over 5,500 commercial/non-domestic users. Trained City personnel in industrial pollution compliance, inspection, and data base operations. Updated the City's database of hazardous industrial chemicals. Authored Best Management Practice reports on silver, gluteraldhyde, oil and grease, and trichloroethylene. Conducted industrial billing audits and rate comparison studies.

Natural Wetland Treatment System - Durakon Industries, Lapeer
Supervised startup, operation, and compliance for Durakon Industries natural wetland treatment system. This was the first use in Michigan of a natural wetland system for industrial wastewater treatment. The treatment systems also employees facultative lagoons chemical flocculation and sand filtration. Durakon staff was also trained in day-to-day operations, monitoring and certification preparation for the treatment system.

Marathon Petroleum LLC - Ashland, KY
Supervised start up and staff training of a membrane biological reactor with oil removal, metals filtration, and sludge disposal. Including nutrient balancing, chemical addition and biological process control.

Pinnacle Foods Incorporated - Imlay City
Operations and maintenance Training for Activated Sludge, Aerated Lagoon, Chemical Clarification, Filtration & Disinfection System. Staff attained complete levels of NPDES required certification.

Wacker Chemical Corporation - Adrian
Providing Operations and Maintenance Training and Assistance for Activated Sludge, Chemical Clarification, Dissolved Air Floatation, Disinfection and Impoundment operations including Certification Training.

WWTP - Hastings
Supervised staff training of a 2.0 million gallon per day activated sludge facility, including laboratory methods and QAQC, Plant process optimization, certification training, IPP training and preventive maintenance and reporting computerization.

WASTEWATER TREATMENT/DISPOSAL

Point Moullie Lead Reclamation Project - State of Michigan Department of Natural Resources, Point Moullie State Game Area, Rockwood
Project Site Supervisor of the clean-up and lead reclamation of the Point Moullie State game area shooting range. Supervised the 2.2 million-dollar lead reclamation of over 12 acres contaminated soil and over 2 million gallons of contaminated water.

Delhi Township Department of Public Services - Delhi Township POTW, Holt
Superintendent of Operations. Supervised personnel, directed operations, maintained State and Federal compliance. Budget development and control, capital improvement projects development and supervision. Supervised 45 million dollar expansion of the POTW. Delhi Township POTW plant operator and plant chemist prior to being promoted to Superintendent of Operations.

Experience Summary

Lisa has nearly 25 years of experience in site planning and design. Her early career duties included various types of land surveys, mapping, and residential land development projects. Now, Lisa is responsible for managing and coordinating new site development projects of all types including the conceptual layout, design, and processing of site plans for approvals. She is accustomed to working with zoning ordinances and regulatory guidelines, as well as projects that incorporate environmentally sustainable and low impact development methods. She is involved in the coordination and permitting process of each of her projects through various local and state agencies including the Michigan Department of Environmental Quality (MDEQ).

Lisa is involved in the design of our streetscape and landscape enhancement projects as well as recreational planning and grant writing and the public facilitation needed to accomplish such projects. She is skilled in various computer design and presentation programs that allow her to creatively prepare large scale master plans down to site-specific designs for our municipal, recreational, and private development clients.

Her knowledge and experience, along with her creative ideas and ability to meet client goals and timelines, have earned her many positive accolades from numerous clients.

Major Areas of Expertise

- Grant writing and administration
- Obtaining permits through local and state agencies
- Parks & Recreation projects
- Site planning and design
- Streetscapes
- Sustainable and low-impact construction methods

Project Experience

Parks & Recreation Projects

Park and Recreation Planning - Marathon Township
Project manager responsible for preparing the township's first Park and Recreation Master Plan including facilitation of public meetings, surveys, and preparing a conceptual plan for a new park along the southern links trailway. This also included preparing a MNR Trust Fund land acquisition grant application.

Fred Meijer CIS Trailway Study - Owosso and Owosso Township
Completed a trailway feasibility study of various routes to connect the existing Clinton Ionia Shiawassee (CIS) trail, ending in Owosso Township to the James Minor Riverwalk in the downtown. The study included analysis of various route options, appropriate facility types at various locations, cost opinions and steps toward implementation.

YMCA's Camp Copneconic Health and Wellness Center - Grand Blanc
Project Manager responsible for site layout, design, and site plan processing for a 12,000 square foot state of the art health and wellness center that allows children with special medical needs, such as diabetes, cancer, or Crohn's disease, to experience camp in a fun and safe environment.

Park and Recreation Planning - Burton
Project manager responsible for preparing the city's Park and Recreation Master Plan including facilitation of public meetings, research, surveys, and preparing two conceptual park plans for a new regional park and for improvements to existing Kelly Lake Park. Responsibilities also included preparing an MNR Trust Fund grant application in which the city was awarded in 2013.

LISA EASTERWOOD, CST

SITE PLANNING, PARKS & RECREATION

Education

Computer-aided Design & Drafting, Phoenix College, 1989

Professional Affiliations

- American Society of Landscape Architects
- Michigan Association of Planning
- National Society of Professional Surveyors - CST
- Flint River Watershed Coalition
- Miss Dig System, Inc.
- Grand Blanc Chamber of Commerce
- Advisor to Grand Blanc Township's Historic District Commission

Certifications/Training

- SEMCOG – Low Impact Development Facilities Management
- AASHTO Bike Facility Design
- Designing Pedestrian Facilities for Accessibility
- Certified Survey Technician
- Michigan Zoning Enabling Act training – MSU Land Policy Institute
- Effective Grant Writing – Learning Designs, Inc.

Perry Road Pathway - Grand Blanc Township
Project manager and designer for this non-motorized, multi-use pathway of which a portion runs in front of the Historic Perry McGrath home. The design had to consider extreme grades and minimizing impacts to the home and preserving several historic maple trees located within the pathway route.

Silver Lake Road Multi-Use Pathway - Argentine Township
Completed planning and preliminary engineering plans for this 2.0± mile, 10' wide multi-use pathway that falls within three communities, two county-owned facilities, and the Linden Community School Campus.

Eaton County Park Feasibility Study - Eaton County
Completed research and cost analysis of proposed park amenities and development of cost opinions for the feasibility of developing a 200+ acre recreational facility to include camping, ball fields, pathways, beach, and boat launch.

Argentine Township and Linden Community Schools Parks and Recreation Master Plan - Genesee County
Project planner responsible for research and preparing this master plan including implementation of public survey, facilitating public workshops and planning meetings and developing the community's recreational capital improvement plan.

Phase II of YMCA – Camp Copneconic, Oakland County
Master planning for 240± acre multi phased private camp expansion project. Project included conceptual design, site planning and processing for first phase of this project which implements low impact design techniques such as vegetative buffers, bio swales and rain gardens.

Flint River Trail - Genesee County Metropolitan Planning Commission
Completed planning and preliminary engineering plans for 5.0± miles of 10' wide multi-use pathway from downtown Flint, through Flint Township, along the Flint River. This project included an elevated boardwalks, bridges, and designing around several historic properties.

Placid Waters - Allendale Charter Township
Completed conceptual planning, prepared site plan and presentation materials to gain municipal approval of this privately owned and operated water ski lake community which includes six water ski lakes, residential units, club house, pathway system, and other recreational amenities.

Rust Park Expansion Project - Grand Blanc
Project planner and designer of an expansion to the existing Rust Park facility. Amenities of this passive park include a paved pathway with Thread Creek overlook and community gardens.

Master Planning, Studies, and Streetscapes

Fred Meijer CIS Trailway Study - Owosso and Owosso Township, Shiawassee County
Completed a trailway feasibility study of various routes to connect the existing Clinton Ionia Shiawassee (CIS) trail, ending in Owosso Township to the James Minor Riverwalk in downtown Owosso. The study included analysis of various route options, appropriate facility types at various locations, cost opinions and steps toward implementation.

Eaton County Park Feasibility Study - Eaton County
Completed research and cost analysis of proposed park amenities and development of cost opinions for the feasibility of developing a 200+ acre recreational facility to include camping, ball fields, pathways, beach, and boat launch.

Phase II of YMCA – Camp Copneconic, Oakland County
Master planning for 240± acre multi phased private camp expansion project. Project included conceptual design, site planning and processing for first phase of this project which implements low impact design techniques such as vegetative buffers, bio swales and rain gardens.

Grand Boulevard Redevelopment Schemes - Grand Blanc
Completed conceptual planning and renderings of various redevelopment schemes for this retail corridor located in the downtown. This information was used for marketing several City-owned and private properties to developers to re-invent the City core as a traditional mixed-use center.

Grand Blanc Road Streetscape - Grand Blanc
Completed conceptual planning and landscape design of this streetscape and towns center area in the downtown.

Historic Oak School Feasibility Study - Genesee County Metropolitan Planning Commission
Completed records research and evaluation of existing site features and prepared conceptual plans for the feasibly study to rehabilitate this 1850s two-story brick structure into residential units for the Genesee County Land Bank authority.

Experience Summary

Mr. Grant leads our process design group and has over 25 years of experience in consulting engineering. He has served a variety of clients, including municipalities, electroplaters, foundries, tanneries, mechanical equipment manufacturers, oil refineries, bulk storage facilities, chemical and pharmaceutical manufacturers, food processors, solid and hazardous waste landfills and other commercial enterprises.

Waste minimization and wastewater treatment system design have been a focus of Mr. Grant's professional experience. Design work typically requires compliance with local, state and federal regulations. Special consideration is given to the volume and quality of process residues generated. His designs have emphasized waste minimization and limiting waste disposal liability and include such treatment technologies as biological, physical chemical, air flotation, de-emulsification, sedimentation, filtration and solids dewatering.

His responsibilities have included process and facility design, construction management, chemical and biological process pilot studies, technical writing, facility audits, environmental site assessment, preparation of environmental compliance plans and permit applications, as well as, coordination of sampling and laboratory analytical work. Projects include manufacturing process consultation, water and wastewater treatment, water conservation and reuse, site investigations, biological degradation, soil and groundwater remediation, stormwater management, waste minimization, environmental site assessments and underground storage tank site management.

Major Areas of Expertise

- Biological Wastewater Systems
- Physical/Chemical Wastewater Treatment
- Regulatory Analysis & Consulting – NPDES Permits, Negotiations
- Regulatory Analysis & Consulting - Groundwater Permits and Negotiations
- Brownfield Redevelopment
- Environmental Site Assessments Waste Characterization
- PCB and Hazardous Waste Site Remediation Projects
- Review, Analysis and Comment Regarding Proposed Regulations
- Water Treatment, Distribution, Reuse
- Corrective Action at Storage Tank Site

Certifications/Training

- OSHA 40-Hour Certification for Hazardous Waste Site Operation
- Certified UST Professional MI (No. 350)

Project Experience

Wastewater Treatment and Equalization Facilities - West Bay County WWTP
Technical team leader for their WWTP expansion from a hydraulic capacity of 10MBG to 18MGD, 50MG storm flow equalization basin, new high-rate anaerobic digester facility and numerous facility-wide improvements. Project was designer-led, open book construction management, completed under the $10-million budget.

Wastewater Treatment Facilities - Northport
Project Manager responsible for data collection, evaluation, environmental conditions assessment, coordination of modeling efforts, permitting, PCR-DNA evaluation of surface water impact, hydrologic and hydrogeological assessments. Project Technical Manager responsible for the process development, process modeling, validation and design of biological treatment processes including carbonaceous BOD removal, nitrification and de-nitrification. Facilities included multiple effluent polishing steps for low effluent nutrient concentrations. Project financing included $1-million S2 grant and 1.625% subsidized loan from SRF.

RICH GRANT, PE
PROCESS DESIGN GROUP MANAGER
PRINCIPAL

Education

BS Civil Engineering
Michigan Technological University, 1984

Registrations

Professional Engineer
- Michigan (No. 6201034461)

Professional Affiliations

- Water Environment Federation
- Air & Waste Management Association
- American Water Works Association

Patent

- Grant, Richard P., Pressure Extraction Process for Removing Soil and Groundwater Contaminants. United States Patent Office. November 1996

Regulatory Analysis & Consulting - NPDES Permits, Negotiations

NPDES Application - Newaygo
Project Manager responsible for conceptual development of twin-limits NPDES permit to cover two outfalls with beneficial limits to accommodate a future year-round discharge at increased flows. The result, an increase in plant capacity at very low cost for expansion.

Regulatory Analysis & Consulting - Groundwater Permits and Negotiations

Onsite Wastewater Disposal Suitability Assessment at the Long Lake Area - Southwest Barry County Sewer and Water Authority
Project Technical Manager responsible for assessment of environmental data, protection requirements and suitability of onsite disposal operations using available data from Barry County Health Department.

Biosolids, Land Application

Biosolids Management - Centreville
Project Manager responsible for novel biosolids management approach that reduced project costs by over $250,000.

Environmental Negotiations, Conflict Resolution

Stormwater Utility Improvements Project, DavenportOne, Chamber of Commerce and Industrial Clientele
Project Manager responsible for development of Alternate Position, Straw Man Estimate and various presentations to the City of Davenport elected officials and staff.

Brownfields

West MI Commercial Entity
Project Manager responsible for Baseline Environmental Assessment work as required for sale of former gas station site.

Environmental Site Assessments

Servant Associates, Grand Rapids
Project Manager for numerous Phase I Environmental Site Assessments including an industrial park adjacent to a MI Type II landfill.

Stormwater Permit Application

TRW, Incorporated, Portland
Project Manager responsible for sampling, flow monitoring and development of stormwater permit application.

Waste Characterization

"Midnight Dumping" Site - Grandville
Project Manager responsible for the estimation of extent of soil contamination, coordination of sampling and laboratory work for waste characterization, completion of treatability evaluations and the development of disposal alternatives.

PCB and Hazardous Waste Site Remediation Projects

Production Plated Plastics Trust - Richland
Design Engineer and Project Manager responsible for development of F001 sludge consolidation, removal and dewatering methods, development of specifications and plans for competitive bidding and overseeing the remediation.

Review, Analysis and Comment Regarding Proposed Regulations

Heavy Manufacturing Coalition, Case CNH Global, New Holland, Modine Manufacturing, John Deere and Company, Caterpillar, Steelcase
Project Manager, moderator and technical leader for successful research and comments to modify the proposed Metal Products and Machinery federal regulations.

Water Treatment, Distribution, Reuse

Water Treatment & Distribution System Improvements Study and Design - Sparta
Technical Manager for feasibility study and design to identify and remedy the source of water contaminants in the distribution system. Coordinated successful DWRF application for $3.3 million subsidized (2.5%) loan. Substantial water quality improvements documented with completion of project.

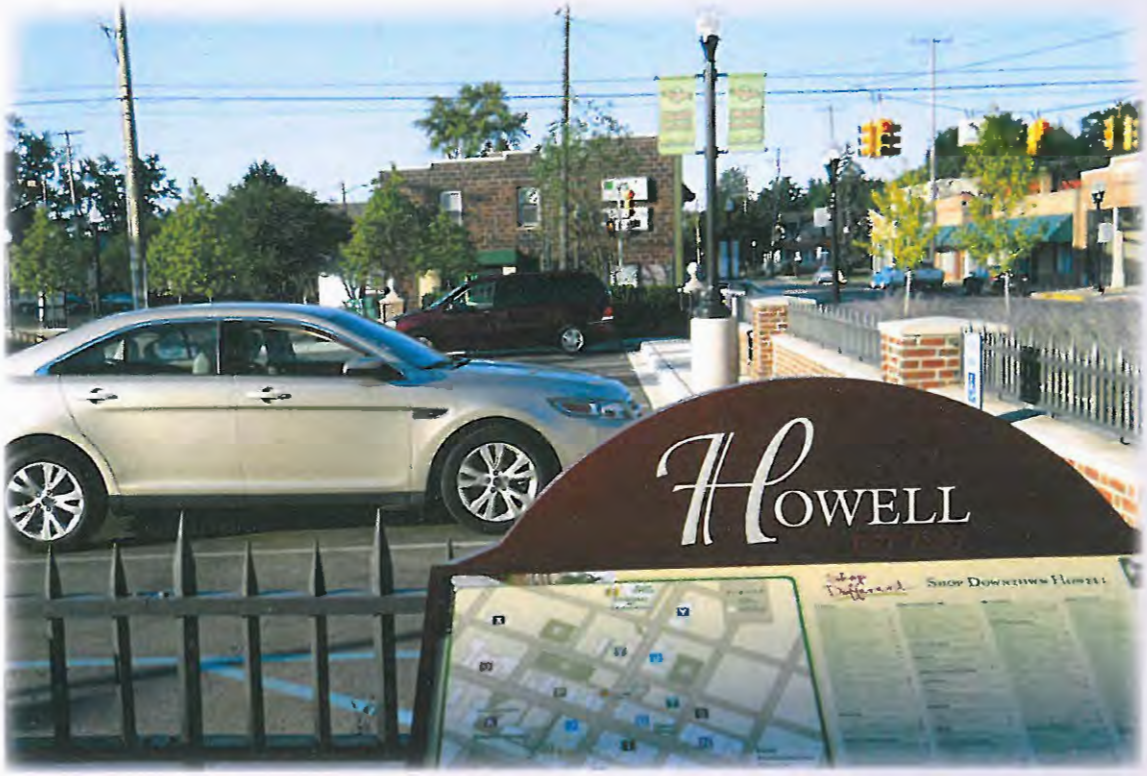
Hazardous Waste Management Facilities Delisting Petition

General Aluminum, Charlotte
Project Manager responsible for collection and characterization of F019 delisting petition waste stream, preparation of de-listing petition, advocacy at U.S. EPA and meetings with client's attorneys.

Corrective Action at Storage Tank Sites

C.A. Murphy Oil Company, Jonesville
Project Manager responsible for site characterization, contaminant fate and transport modeling, demonstration of natural attenuation, preparation of RBCA reports, advocacy with regulators and meetings with client's attorneys.

Proposal for
General Engineering Services
City of Howell



CITY OF HOWELL

HRC 100 YEARS
CONSULTING ENGINEERS SINCE 1915

HRC 100 YEARS
CONSULTING ENGINEERS SINCE 1915

PRINCIPALS
George E. Hubbell
Thomas E. Biehl
Walter H. Alix
Keith D. McCormack
Nancy M.D. Faught
Daniel W. Mitchell
Jesse B. VanDeCreek
Roland N. Alix

SENIOR ASSOCIATES
Gary J. Tressel
Kenneth A. Melchior
Randal L. Ford
William R. Davis
Dennis J. Benoit
Robert F. DeFrain
Thomas D. LaCross

ASSOCIATES
Jonathan E. Booth
Michael C. MacDonald
Marvin A. Olane
Marshall J. Grazioli
James F. Burton
Donna M. Martin
Charles E. Hart
Colleen L. Hill-Stramsak
Bradley W. Shepler
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EMAIL: info@hrc-engr.com

February 17, 2015

City of Howell
611 E. Grand River
Howell, Michigan 48843
Office of City Manager

Attn: Shea Charles, City Manager

Re: Response to Request for Qualifications
General Engineering Services Agreement
City of Howell

HRC Job No. 20150070

Dear Mr. Charles:

We are pleased to provide our response to the Request for Qualifications (RFQ) to the City of Howell. Hubbell, Roth & Clark, Inc. (HRC) is a collaborative consulting firm dedicated to safeguarding the health, safety and welfare of the public through our professional engineering services. For the past 100 years, the HRC family of employees, clients and colleagues are proud to have worked together to engineer an infrastructure that today touches the lives of virtually every Michigander. Our second century begins in 2015, as the need to create highly dynamic infrastructure systems for the future is imminent. We are committed to bringing our resources and experience to projects, along with confidence, certainty and a clear conscience.

HRC is uniquely qualified to provide services to the City in that we are intimately familiar, and experienced, not only with the City of Howell, but also with the demands and knowledge necessary for the type projects identified in the RFQ. HRC will utilize this experience, along with our Project Management process, to ensure the City and their stakeholders are provided with an infrastructure that meets their expectations.

We have assembled a team of highly qualified, passionate and experienced personnel to meet the demands of this as-needed contract for the City. This as-needed contract will require a resolute commitment to meet the objectives of the City. HRC has a proven track record of meeting your demands under even the most expedited conditions. Our staff prides itself in delivering quality service in any given situation.

Thank you for this opportunity to provide high quality engineering services to the City of Howell. If you have any questions or require any additional information, please contact me directly at (248) 454-6390.

HUBBELL, ROTH & CLARK, INC.

Nancy M.D. Faught, P.E.
Principal/Vice President

Jonathan Booth, P.E.
Associate

Enclosure

pc: HRC; File

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1 Company History

HISTORY

Hubbell, Roth & Clark, Inc. (HRC) was founded in 1915 in Detroit, Michigan by Clarence W. Hubbell. Since then, we have grown to become one of the state's leading consulting engineering firms with recognized expertise in municipal and industrial engineering. We currently employ 150 people, with over 50 registered professional engineers, architects and land surveyors.

GENERAL EXPERIENCE AND SPECIFIC CAPABILITIES

HRC has represented over 60 Michigan Counties, Cities, Villages and Townships, and we are currently providing engineering services to approximately 30 Michigan governmental agencies. The majority of HRC's projects have been performed in the State of Michigan. However, many projects have been completed throughout the United States, Canada, and Mexico.

HRC is a multi-disciplined consulting engineering firm with capabilities to provide full-service engineering in the following areas:

- Site/Civil Engineering
- Sanitary Sewer Systems
- Wastewater Treatment Plants
- Structural Engineering
- Process Engineering
- Easement/Right-of-Way Services
- Surveying
- Environmental Engineering
- Combined Sewer Overflow Retention & Treatment
- Water Transmission & Treatment
- Asset Management
- Road & Bridge Design
- Hydraulic/Hydrological Modeling
- Instrumentation & Control
- GIS
- Industrial Facilities Design
- Traffic Engineering
- Architectural Services
- Wetlands/Watershed Management
- Electrical Engineering
- Construction Services/Material Testing
- Landscape Architecture

CORPORATE OFFICERS

HRC is organized as an S-Corporation in the State of Michigan. There are eight (8) principals of the firm, all of whom are licensed to practice in the State of Michigan. Additionally, HRC has seventeen (17) associates representing HRC. The corporation title, primary activity and experience of each of the officers are listed as follows:

Officers	Title	Primary Activity
George E. Hubbell, PE	President	*Civil – Municipal/Process*
Thomas E. Biehl, PE	Executive Vice President	*Civil – Municipal*
Walter H. Alix, PE, PS	Vice President/Secretary	*Civil – Municipal*
Keith D. McCormack, PE	Vice President	*Civil – Municipal/Process*
Nancy Faught, PE	Vice President	*Civil – Municipal/Transportation*
Daniel W. Mitchell, PE	Vice President	*Civil – Municipal*
Jesse VanDeCreek, PE	Vice President	*Civil – Municipal*
Roland N. Alix, PE	Vice President	*Civil – Municipal*

OFFICES

HRC has offices located in Bloomfield Hills, Howell, Detroit, Delhi and Grand Rapids, Michigan. The complete addresses of these business locations are as follows:

Bloomfield Hills
P.O. Box 824
Bloomfield Hills, MI 48303-0824
(248) 454-6300

Howell
105 West Grand River Avenue
Howell, MI 48843
(517) 552-9199

Detroit
535 Griswold Street
Buhl Building, Suite 1680
Detroit, MI 48226-3698
(313) 965-3330

Delhi
2101 Aurelius Road, Suite 2A
Holt, MI 48842
(517) 694-7760

Grand Rapids
301 Broadway NW, Suite 215
Grand Rapids, MI 49504
(616) 454-4286

ACHIEVEMENTS

HRC is proud of its many engineering achievements and has received numerous awards from the American Council of Engineering Companies (ACEC), American Society of Civil Engineers (ASCE), American Public Works Association (APWA), and other professional organizations for innovative and cost-effective projects. A notable example is the selection by the ASCE/Michigan of the HRC designed 1967-85 Upgrade of the Detroit Wastewater Treatment Plant as one of Michigan's Top Ten Civil Engineering Projects of the 20th Century.

HRC's most recent awards were garnered for the **Wayne County Airport Authority Airport East Service Drive Reconstruction and Relocation of Airport West Service Drive & Runway 4R/22L Service Road Project at Detroit Metropolitan Airport** which earned the American Public Works Association Michigan Chapter *2013 Project of the Year in the Transportation Less than $5 Million Category*; and the Michigan Concrete Association *2013 Michigan Award of Excellence*.

The **Wayne County North Huron Valley/Rouge Valley Sewage Disposal System Short Term Corrective Action Plan** earned the American Council of Engineering Companies/Michigan *2013 Merit Award*; the American Public Works Association/Michigan *2012 Project of the Year Award in the Environment $15 - $25 Million Category*, and the American Public Works Association/Michigan Chapter/Detroit Metro Branch *2012 Project of the Year in the Environment $5-$25 Million Category.*

The **South Huron Valley Utility Authority Wastewater Treatment Plant Sludge Storage Tank Repairs Project** garnered the American Public Works Association Michigan Chapter *2012 Project of the Year Award in the Structures Less Than $5 Million Category* and the American Public Works Association Downriver Branch *2012 Project of the Year in the Structures Less Than $5 Million Category.*

The **Paint Creek Dam Removal and Stream Restoration Project** earned the American Council of Engineering Companies/Michigan *2013 Merit Award*, the American Public Works Association *2012 Project of the Year Award in the Environment Less Than $5 Million Category*, and the American Society of Civil Engineers Michigan Section Southeastern Branch *2013 Quality of Life Award.*

The Oakland County Water Resources Commissioner **Combined Sewer Tunnel Survey and Inspection Project** earned the American Public Works Association/Michigan Chapter *2009 Project of the Year Award in the Structures Less than $500,000 Category.*

The **City of Ann Arbor West Stadium Boulevard Complete Streets Project** earned the American Public Works Association/Michigan Chapter *2010 Project of the Year Award in the Transportation $5-10 Million Category.*

The **University of Michigan Central Campus Transit Center** earned the American Public Works Association/Michigan Chapter *2010 Project of the Year Award in the Intergovernmental Less Than $5 Million Category* and the American Society of Civil Engineers/Southeastern Michigan Branch *2010 Outstanding Civil Engineering Project of the Year Award.*

The **Delhi Township Publicly Owned Treatment Works Digestion System** garnered the *2010 ACEC/Michigan Engineering Honorable Award* and the American Public Works Association/Michigan Chapter 2010 *Project of the Year* Award in the Environment $10-25 Million Category, the Oakland County Water Resources Commissioner Combined Sewer Tunnel Survey and Inspection Project earned the American Public Works Association/Michigan Chapter *2009 Project of the Year Award in the Structures Less than $500,000 Category*

The **City of Livonia Water Capital Improvement Program**, earned the American Public Works Association/Michigan Chapter *2009 Project of the Year Award in the Environment $2-$10 Million Category.*

The **City of South Lyon Wastewater Treatment Plant Improvements Project** earned the prestigious ACEC/M *Honorable Conceptor Award*, the American Public Works Association/Michigan Chapter *2006 Project of the Year Award in the Environment $10 Million to $100 Million Category*, and the ASCE Southeast Michigan Branch *Outstanding Civil Engineering Project of the Year Award.*

HRC was selected as the **ACEC of Michigan 2014 Large Firm of the Year**, and has been recognized as a **Top Work Place** by the *Detroit Free Press*. HRC is a **Top 50 Trenchless Technology Design Firm**, and an **Engineering News-Record (ENR) Top 500 Design Firm.**

2 Experience

MUNICIPAL ENGINEERING EXPERIENCE

HRC has been providing general consulting engineering services to Cities, Villages, Townships and Counties throughout Michigan for 100 years. Many of our municipal clients utilize HRC for all of their engineering needs, and in many cases, our relationships span 20 years or even much longer. We feel this speaks to the continuing commitment of professionalism HRC strives to achieve for each of our clients.

HRC offers a wide range of civil engineering services including: general municipal engineering, site plan review, structural evaluations, feasibility studies/master plans, water/wastewater process evaluation & design, grant preparation & submittals, permitting assistance, GIS/utility mapping, general civil design, MDOT design/bid-letting/project administration/project compliance, construction contract administration, field observation, construction materials testing, general consulting engineering, transportation engineering, sanitary & storm sewer collection systems, storm water/Phase II management, streetscapes & lighting and parks/recreational facilities design. In addition, we are able to provide other in-house services in support of these types of projects including electrical, structural, architectural, surveying, landscape architecture and environmental specialties. This enables HRC to be the sole source of professional engineering services you engage in the vast majority of projects that may be undertaken whether it is for planning, design and/or construction.

While HRC has designed many large and complex public works and industrial projects, the firm's principal interest remains, as it has for the last 100 years, to provide high quality engineering consulting services to local municipalities. Our success can be attributed in large part to the structure of our relationship with clients, which always includes assigning key staff to work with the City's staff. This includes the Principal-in-Charge, an Associate and a Project Engineer. HRC has a practice of assigning and then retaining individuals to a specific municipal account which has led to many years of reliable and productive service.

HRC prides itself as being a full-facet municipal engineering firm. This means that all of the municipal engineering services the City of Howell may typically need from its consultant, HRC can provide with in-house staff. The only exception to this would be hydro-geological studies and the collection of soil borings. Because both of these services are very highly specialized in their applications, HRC will solicit

quotes from local qualified firms for this type of work. HRC will work with City staff to find the most qualified and cost-effective firms to supply these services when needed.

The following matrix summarizes some of the services engineering services HRC provides to some of our municipal clients. HRC provides the same high quality level of service regardless if our client is a small Village with a population of 3,000, or a large City of over 130,000 people.

HRC MUNICIPAL PROJECT EXPERIENCE MATRIX

Community	Population (2014 est.)	Years of Service	Plan Reviews	Road Design	Annual Road Program	Sewer Collection System Design	Water Distribution System Design	Wastewater Treatment Plant Design	Water Treatment Plant Design	Observation of Private Development Utilities	Observation of Municipal Design Projects	Construction Testing Services	Master Planning	GIS Services	MDOT Design, Contract Admin, Compliance	Special Studies	DWRF & SRF Projects	Grant / Funding Assistance (i.e CDBG, Tri-Party, SAW, etc.)	Develop Engineering Design Standards	Special Assessment Districts (SADs)	HRC is currently the Municipal Engineer
Grosse Pointe Shores	3,018	54+	√	√	√	√	√	♦	♦		√	√	√	√	√	√		√			√
Village of Lake Orion	3,204	48+	√	√		√	√	♦	♦		√	√		√	√	√		√	√		√
Village of Franklin	3,287	25+	√	√	√			♦				√			√	√		√			√
Village of Romeo	3,855	46+	√	√		√		√	♦	√	√	√		√		√		√		√	√
City of Bloomfield Hills	4,151	48+	√	√	√	√	√	♦	♦	√	√	√	√	√	√	√	√	√	√	√	√
Holly Township	5,221	22+	√							√	√		√			√			√		√
Grosse Pointe Farms	9,624	48+	√	√	√	√	√	♦	√		√	√	√	√	√	√	√	√			√
City of Howell	9,863	11	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√
Milford Township	10,011	58+	√	√		√	√	√		√	√	√	√			√		√	√	√	√
Village of Beverly Hills	10,505	23+		√	√	√	√	♦	♦	√	√	√	√	√		√	√	√	√	√	√
City of South Lyon	12,339	18+	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√
Brandon Township	13,801	25+	√	√		√				√	√	√	√			√		√	√		√
Springfield Township	14,204	12+	√								√	√				√			√	√	√
Hartland Township	14,762	8	√	√	√		√	♦	♦	√	√	√	√	√		√		√	√	√	√
City of Wixom	14,837	18+	√	√	√	√	√	√	♦	√	√	√	√	√	√	√	√	√	√	√	√
City of Berkley	15,065	10	√	√	√	√		♦	♦		√	√		√	√	√		√		√	√
Highland Township	19,211	9+	√			√	√	√	♦	√	√	√	√			√		√	√	√	√
City of Ferndale	19,568	14					√	√	√		√	√				√	√				√
Genoa Township	19,962	4	√	√		√		√	√		√		√			√					
City of Birmingham	21,805	21+		√		√	√	♦	♦				√	√	√	√	√	√			√
Independence Township	36,662	32+	√			√	√	♦	√	√	√	√	√	√	√	√	√	√	√	√	√
Bloomfield Township	42,860	56	√		√	√	√	♦	♦	√	√	√	√	√	√	√	√	√	√	√	√
West Bloomfield Township	66,633	43+		√		√	√	♦	♦	√	√	√	√			√				√	√
City of Southfield	73,554	52	√	√	√	√	√	♦	♦	√	√		√	√	√	√	√	√	√		√
City of Farmington Hills	81,798	38+	√					♦	♦				√		√	√				√	√
City of Troy	83,270	50		√	√	√	√	♦	♦	√	√		√	√	√	√		√			√
City of Livonia	95,788	33		√		√		♦	♦		√		√		√			√			
City of Sterling Heights	131,377	43+		√	√	√	√	♦	♦		√		√	√	√	√					√
City of Warren	134,424	13		√		√	√	♦	♦		√		√		√	√					√

♦ Utility Service provided by Others

3 Professional Agreement

SAMPLE PROFESSIONAL SERVICES AGREEMENT

Included in Appendix A is a sample contract HRC has been utilizing successfully with the City of Howell since 2008. It has been modified to reflect the terms and timeframes noted in the current RFQ. If selected as the City's Engineering Consultant, HRC will work with the City to modify this contract, if necessary, that is amenable to both parties.

HRC proposed hourly rates for 2015 are included in the attached agreement.

HRC does not charge hourly fees for survey, GPS, computer or other specialized equipment (except for sanitary sewer flow meters). HRC does not charge extra for mileage, phone calls, faxes, emails or reproduction services. However, for plans and specifications reproduced for bidding and made available at HRCs Bloomfield Hills office, there is a reasonable fee associated with contractor purchase of the bid documents to 1) help defer reproduction costs and 2) reduce the frequency at which contractors pick up available bidding documents even if they are not interested in submitting a bid for the project.

For a typical municipal design project, prior to HRC commencing work on an assignment, we will provide the City a detailed project specific proposal that will contain a defined scope of work for the requested engineering services. This would include a not-to-exceed budget amount agreed to by the City. Most other assignments will be completed on an hourly rate basis in accordance with the proposed hourly rate schedule.

4 HRC Team

HRC PRIMARY TEAM

HRC has an experienced team of highly qualified professionals, technicians and support staff to continue servicing the City of Howell's consulting engineering needs. HRC proposes to service the City of Howell account by the full-time staff based in our office in downtown Howell at 105 West Grand River Ave. The following primary team members will be assigned to the City's account. Resumes for the primary team members are on the pages that follow.

Nancy Faught, P.E., Principal / Vice President, will serve as **Principal-In-Charge** for the City's account. Mrs. Faught will be responsible for the overall direction of HRC's project team in addition to providing technical expertise. Should any questions, concerns or comments arise, Mrs. Faught will be available to see that those interests are addressed expeditiously. Mrs. Faught has over 26 years of professional experience and currently serves as Principal-in-Charge for a number of communities, including the Cities of Wixom and Howell. Mrs. Faught is very familiar with roadway design at all levels of complexity and has overseen design and administration of a multitude of municipal infrastructure projects.

Jonathan Booth, P.E., Associate will serve as the **Project Manager** for HRC on the City of Howell account. He has been with HRC since 1989. Mr. Booth will be the direct day-to-day contact for the City and will coordinate and manage all the project team activities. Currently he serves in this capacity for the Cities of Howell, Linden & Wixom, in addition to the Townships of Milford, West Bloomfield & Hartland. Mr. Booth has been working on the City of Howell account for HRC since 2001. He has extensive background knowledge and experience with the City's roadway network, waste water treatment plant, water treatment plant, sanitary sewer collection system and the water distribution system. Mr. Booth has detailed experience in project cost estimating, project scheduling, preparation of plans & specifications, contract administration and funding procurement/administration.

Michael P. Darga, P.E. and will serve as **Project Engineer** for the City of Howell. He has more than 15 years of experience in reviewing site plans, construction plans, easement documents, maintenance agreements and record drawings for compliance with City standards. He will also coordinate pre-construction meetings, schedule construction inspection services and record drawing reviews. Mr. Darga has designed plans and prepared contract specifications for all facets of infrastructure improvements,

including: sanitary sewers, sanitary pump stations, water main, storm sewer, road paving, parking lot reconstruction, storm water quality, detention/retention facilities and site layout. He has also administered the contracts for the aforementioned projects which included: hosting public information meetings, preparation of contract documents, administering project progress meetings, preparing payment certification, addressing resident's construction concerns and project close-out responsibilities.

Following the resumes of the primary team members in this section is a matrix that illustrates the depth and diversity of experience of select HRC employees. While HRC has a plethora of municipal experience, the staff members shown in the matrix were selected because they are the most likely to interface with the City of Howell on a regular basis, and/or the have worked on past projects with the City.

HRC 100 YEARS
CONSULTING ENGINEERS SINCE 1915

Nancy Faught, P.E.

Vice President
Principal-in-Charge

Education
B.S., Civil Engineering
Michigan State University 1987

Professional Registration/ Certification
Professional Engineer, Michigan
No. 37690

Affiliations
American Society of Civil Engineers

American Public Works Association

Transportation Research Board

Ms. Faught joined Hubbell, Roth & Clark, Inc. in 1988 and represents HRC as a Vice President with her work concentrated in managing various municipal accounts and transportation and multi-discipline projects.

She has served as Project Manager or QA/QC Leader for the design of various projects covering complete reconstruction of roads, including utilizing and revising master storm plans, sanitary sewers and water systems. Ms. Faught is highly qualified and experienced in the management of diverse and large scale projects. This specialty has resulted in highly satisfied owners due to the fact that she concentrates on meeting the owner's technical, financial, and scheduling goals while keeping them involved and apprised of the progress.

In her current role she has overall responsibility for coordination and project management of several municipal, county and governmental clients. Ms. Faught also leads HRC's Project Management Development program which is responsible for the training, mentoring and continuing education of HRC's project managers.

Professional Experience

Ms. Faught has served as Project Manager for the following recent projects:

- *City of Howell's Multi Year Road & Infrastructure Improvement Projects*
- *Ann Arbor's Geddes Avenue Sanitary System and Road Improvement*
- *Wayne County Airport – Infrastructure, Road and Bridge Projects (2011-Current)*
- *City of East Lansing's Kalamazoo Street Sanitary Interceptor and Road Construction*
- *MDOT's Dixie Highway (US 24) Rehabilitation*

Ms Faught represents HRC as Principal-In-Charge for the Cities of Howell, Wixom, Ann Arbor, and East Lansing, the Detroit Metropolitan and Willow Run Airports, Michigan State University and the University of Michigan, the Road Commission for Oakland County and Michigan Department of Transportation.

CONSULTING ENGINEERS SINCE 1915

Education
M.S., Administration
Central Michigan University 1999

B.S., Civil Engineering
Valparaiso University 1989

Professional Registration/ Certification
Professional Engineer, Michigan
No. 39116

Affiliations
American Society of Civil Engineers

Jonathan Booth, P.E.

Associate
Project Manager

Mr. Booth has been with HRC since 1989 and is presently assigned as HRC's Primary Engineer for the Cities of Howell, Linden and Wixom, and the Townships of Milford, Hartland and West Bloomfield. Mr. Booth has extensive experience in water distribution and water system analysis using computer modeling programs. He has also been an integral part of the successful approval of an $18.5M water bond issue in the City of Wixom. Mr. Booth also has experience in sewer evaluation and rehabilitation programs for Bloomfield Township and the City of Howell. His experience also includes a major sewer separation project in the Village of Grosse Pointe Shores. He has also been involved with the development of cost estimates, preparation of plans and specifications, construction and administration of water, sewer and roadway Special Assessment Districts (S.A.D.) in West Bloomfield, Hartland & Milford Townships.

Professional Experience

City of Howell
Mr. Booth is the primary contact for the day-to-day general engineering activities in the City of Howell. He assists the City in the completion of plan reviews and coordinates providing observation services personnel that report to City DPW staff. He is the primary contact with the City for the DWRF and SAW issues with the MDEQ. Mr. Booth was intimately involved with the production of the City's Water Master Plan Update and the wastewater treatment plant's Capital Improvement Plan (CIP). He continues to assist the City with implementing, and determining viable funding sources for the improvements identified in the CIP.

City of Linden
Mr. Booth is the primary contact for HRC to the City. He provides assistance with all facets of engineering in the City, including: plan reviews, construction observation services, development of Engineering Design Standards, development of a Road Master Plan, water distribution system, sanitary sewer pump stations and municipal design projects. Mr. Booth is the primary project coordinator for the City's $1.0M SAW grant. He provides initial conceptual project scoping and works with the City through design engineering, construction engineering and project close out.

City of Wixom
Mr. Booth is the main point of contact between the City and HRC. He is responsible for ensuring that plan reviews meet all relevant City standards. He also monitors the progress of the construction on private development projects and issues final inspection letters and as-built review letters when appropriate. For City administered water main and paving improvement projects, Mr. Booth is involved in all aspects, from initial project scoping, cost estimating, developing project scheduling through the preparation of plans and specifications, permit acquisition, contract administration, field operations, preparation of pay estimates and the submission of any state Drinking Water Revolving Fund (DWRF) or local (Oakland County Community Block Grant Funds) paperwork to agencies through which funding may have been secured. Mr. Booth also attends City Council,

Planning Commission, and various other City meetings as required.

Milford Township
Mr. Booth is in charge of overseeing the preparation of plan reviews for the Township, including residential developments, industrial developments and private roads. As part of the plan review process, the wetland impacts are reviewed to determine if a local and/or state permit is required. Coordination is also accomplished with the Oakland County Water Resources Commissioner's (OCWRC) offices along with the Road Commission for Oakland County (RCOC). Mr. Booth also assists the Township with any special projects including rezoning/land use issues and RCOC Tri-Party funded projects. He was also very instrumental with the conceptualizing, planning, funding, development, design, construction, and acceptance of the $4M interceptor sewer in the southeast quadrant of the Township.

Hartland Township
Mr. Booth is responsible for overseeing all of the engineering services HRC provides to the Township. This includes site plan reviews, construction plan reviews, submitting plans for required permits, coordination with other public agencies (LCDC, LCRC, MDNR, MDEQ, etc.) and overseeing construction observation services. Mr. Booth provides assistance to the Township during the early planning stages of private development projects. He also oversees special engineering studies for Hartland as well as the development of plans and specifications for Township initiated construction projects.

West Bloomfield Township
Develops preliminary scope of work and cost estimates to assist the Township in preparation of Special Assessment Districts (SAD). He has worked with the Township to develop the plans, specifications and the oversight of the construction activities of several SADs. He has also prepared plans & specifications for the sewer installation, and administered its construction including: tracking quantities, preparing contractor pay estimates, developing punch lists, and completing project closeout tasks.

Water Master Plan Update and Reliability Study
City of Howell
Mr. Booth coordinated and managed all aspects of the Master Plan update and Reliability Study production. He worked extremely close with City DPW and water plant personnel to develop the Plan. He monitored and helped to ensure the project budget & delivery schedule were maintained. With input from the City staff, he identified the prioritization of the nearly $30M of desired system improvements. Mr. Booth coordinated the presentation of the findings, along with exhibits and conceptual cost estimates, to the City Administration.

Water System Improvements
City of Wixom
Assisted the City in the planning, funding, design and administration of nearly $20M of water system improvements. These improvements

included: a 1.5M gallon elevated storage facility, booster/pressure regulating station, over 110,000 lineal feet of watermain and the installation of a telemetry system to provide central control of the overall water system components. Also, HRC assisted the City in securing a low interest loan from the Michigan Department of Environmental Quality's Drinking Water Revolving Fund program.

Water Master Plan and Reliability Study
Hartland Township
Mr. Booth supervised the development of the Township-wide Water Master Plan and Reliability Study. He also coordinated the review and analysis of water system needs for current demands, in addition to 5 year, 10 year and 20 year future projections. He worked with Township DPW staff to adjust scope of project as work progressed and new system issues were found. Identified improvements needed to the supply wells and the water treatment facility. Mr. Booth assisted in the development of conceptual cost estimates and prioritization of the +$40M of the needed system improvements.

Inflow/Infiltration Study
City of Howell
Studied the City's sanitary sewer collection system to determine the location of inflow/infiltration (I/I). Prepared a study to determine if it was cost-effective to remove it. The project involved dividing the City into drainage districts, metering flow in the sewers of each district, determining areas of high I/I, smoke testing identified areas and preparing cost estimates to repair the deficiencies found.

Southeast Milford Interceptor Sewer
Milford Township
Prepared background engineering studies to develop service area, cost estimates and schedules to service the southeastern four sections of the Township with sanitary sewer service. Worked with the Township elected officials, Bond Council, and Financial Advisors to develop and implement local funding to construct the sanitary sewer improvements. Prepared plans and specifications for construction of over 20,000 lineal feet of gravity sewer and force main. Also administered the design of a sanitary pump station and meter chamber.

Sanitary Sewer Pump Station Improvement Project
City of Fenton
Conducted an evaluation and conditional assessment of all seven sanitary sewer pump stations within the City of Fenton. Assisted the City in securing a low interest loan thru the MDEQ's Sanitary Revolving Fund (SRF) program for the rebuilding, replacement and/or upgrading of all the stations. Improvements included a combination of new wet wells, valve chambers, collection system piping, on site backup generators and Supervisory Control and Data Acquisition (SCADA) equipment.

Annual Road Maintenance Program
City of Wixom

HRC 100 YEARS
CONSULTING ENGINEERS SINCE 1915

Jonathan Booth, P.E.

Associate
Project Manager

Annually works with the City Administration and DPW in developing a road rehabilitation and maintenance program for the entire entire street network within the City. Supervised the development of the Master Plan that identifies and prioritizes the annual location of the roadway work. Provided assistance in securing sufficient funding avenues to rehabilitate $800K to $1M of roadways annually. Helps to forecast future years' construction projects, as well as oversee the design and contract management the current year's paving work.

Engineering Design Standards & Detail Sheets
City of Howell / City of Wixom / City of Linden / City of Fenton / Milford Township / Highland Township / Hartland Township
Updated or created new technical specifications identifying the requirements of the municipality's sanitary sewer, storm sewer, water distribution, detention/retention and paving infrastructure. Generated standard construction details sheets for the same infrastructure components, which are to be attached the approved construction plan sets so contractors out in the field understand the municipality's material/installation requirements. Created standardized utility easement forms and maintenance agreements for use by developers for public and private utilities.

HRC 100 YEARS
CONSULTING ENGINEERS SINCE 1915

Michael Darga, P.E.
Senior Project Engineer

Education
MBA, Management
Cleary University, 2010

B.S., Bio-Systems Engineering
Michigan State University, 1998

Professional Registration/ Certification
Professional Engineer, Michigan
No. 51113

Affiliations
American Water Works Association

Mr. Darga has been with Hubbell, Roth & Clark, Inc. (HRC) since 1998. He has experience with site and construction plan reviews along with design and administration of municipal road and public utility projects. Various designs include road reconstruction, water main, storm sewer and sanitary sewer, along with project management and administration such as preparing pay estimates, responding to resident's comments and complaints, and working with contractors to correct engineering conflicts in the field.

Mr. Darga has worked with several clients to evaluate and determine the effectiveness of crack sealing maintenance programs and other corrective action plans providing pavement longevity and to reduce life cycle repair costs.

Also responsible for preparing applications, organizing plans and specifications, and construction administration in accordance with the requirements of various funding sources such as: American Recovery & Reinvestment Act, Michigan Department of Transportation Local Agency Programs, Drinking Water Revolving Fund, State Revolving Fund, Community Development Block Grants.

Professional Experience

Plan Reviews
City of Howell / City of Wixom / Milford Township / Highland Township / Hartland Township
Responsible for reviewing municipal site, engineering and as-built plans for conformity to engineering standards and to communicate comments with developers and their engineers to expedite the review process.

Multi-Year Infrastructure Improvement Program
City of Howell
Design of the reconstruction of several residential streets in the first phase of a city-wide, multi-year program. Project included the complete removal and replacement of HMA roads, design of an extensive swale/storm sewer drainage system and coordination with water and sanitary sewer replacement. The plans and specifications were prepared with constant input from the City administration and residents with an accelerated bidding and construction schedule.

Clinton Street Reconstruction
City of Howell
Design of 2,100 feet of water main to replace an existing undersized water main within residential and commercial areas. Project required coordination with major reconstruction of a City road. Plans and specifications were prepared in compliance with MDOT standards to receive federal and state funding.

Water System Interconnection
Highland Township
Design of over 7,100 feet of 16" horizontal directionally drilled water main to connect two existing water systems. This interconnection greatly

improved the overall capacity and water quality in the Township and eliminated arsenic levels at well houses that were able to be taken off line.

Silver Parkway
City of Fenton
Prepared plans and specifications for road improvements to a heavily traveled 1.16 mile long, 4-lane boulevard, accessed by commercial properties. The project included installation of under drain and removal & replacement of the driveway approaches with concrete. The existing poor condition of the roadway surface required a large amount of base repairs prior to resurfacing the roadway. The construction cost of the project was fully funded by the American Recovery and Reinvestment Act.

Southeast Milford Interceptor Sewer (SEMIS)
Milford Township / City of Wixom
Project included the design and construction administration for over 18,000 feet of 10" to 21" diameter sanitary sewer to service residential and industrial areas, including over 4,000 feet of directionally drilled gravity sewer and force main.

South Milford Road Sanitary Sewer & Water Main Extension
Highland Township
Design of an initial sanitary sewer district providing service to the commercial and future multi-use downtown area of the Township. Project included 3.5 miles of gravity sewer, over 5 miles of force main, a low pressure grinder pump system to service a lakefront area, road reconstruction and five pump stations. Many areas of the project were directionally drilled to protect large trees and maintain the old town charm of the community. 11,000 feet of 16" & 12" water main were extended to supply water and fire protection to the commercial area and provide safe drinking water to an area with known groundwater contamination.

Road Maintenance Program
City of Wixom
Responsible for the design and contract administration of various road improvement projects as part of the City's Yearly Road Maintenance Program. Projects typically consisted of several miles of residential mill and overlays, base crushing and shaping and complete reconstruction. Communication with residents was an important aspect of the construction process that included informational meetings, project flyers and a project web site. Projects also include upgrading existing sidewalks to meet relevant Americans with Disability Act (ADA) requirements to ensure sidewalk ramps are accessible and improve safety.

Safety Path Program
City of Wixom
Prepared cost estimates and exhibits used by the City for development of an annual safety path program and for public informational meetings. The program was well received by voters as the City was successful in passing a 15 year millage. Communication and input from residents was vital during the design, easement negotiations and construction stages each year.

CONSULTING ENGINEERS SINCE 1915

Michael Darga, P.E.
Senior Project Engineer

Water Main Improvements, Segment 1
City of South Lyon
Provided contract administration for a City wide water main replacement project which included 25,000 feet of horizontal directional drilled HDPE water main and installation of an additional low service pump and electrical controls at the water treatment plant.

STAFF EXPERIENCE MATRIX

HRC Staff Member	Plan Reviews	Road Design	Annual Road Program	Sewer Collection System Design	Water Distribution System Design	Wastewater Treatment Plant Design	Water Treatment Plant Design	Observation of Private Development Utilities	Observation of Municipal Design Projects	Construction Testing Services	Master Planning	GIS Services	MDOT Design, Contract Admin, Compliance	Special Studies	DWRF & SRF Projects	Grant / Funding Assistance (i.e. CDBG, Tri-Party, SAW, etc.)	Develop Engineering Design Standards	Special Assessment Districts (SADs)
Primary Howell Team																		
Nancy Faught, P.E.		√	√						√		√		√	√		√		
Jon Booth, P.E.	√	√	√	√	√			√	√		√		√	√	√	√	√	√
Mike Darga, P.E.	√	√	√	√	√			√	√		√		√	√	√	√	√	√
HRC Office Staff																		
Trevor Wagenmaker, P.E.				√	√	√	√				√			√	√	√		
Charles Hart, P.E.	√	√	√	√	√					√	√		√	√		√		
Colleen Hill-Stramsak, P.E., P.T.O.E.		√	√								√		√	√		√		
Jamie Burton, P.E.											√		√	√	√	√	√	
Beata Lamparski, P.T.P.			√								√		√	√		√		
Fred Schreiber, P.E.	√					√	√			√				√				
Jim Miller, G.I.S.P.											√	√		√				
Brian Davies, P.E.	√	√	√	√	√				√				√	√	√	√		
Andy Malczewski	√	√	√	√	√								√	√	√	√		
Tom LaCross, P.E.	√	√		√	√	√	√				√		√	√		√		
HRC Field Staff																		
Marshall Grazioli, P.E.	√	√	√					√	√	√			√	√				
Bob DeFrain, P.E.		√	√					√	√	√			√	√				
Roger Crouse		√						√	√	√			√					
Jeff Pratt								√	√	√			√					
Scott Roth, P.S.								√	√	√		√			√			

5 Benefits and Cost Savings

BENEFITS OF A GENERAL ENGINEERING SERVICES AGREEMENT

The City of Howell can expect a host of benefits of working with HRC on future engineering tasks. Benefits can be in many forms and are not limited to only technical expertise. HRC believes the following are just some of the benefits.

- Staff that is diverse in experience.
  The benefit to City is a more cost effective product while not jeopardizing quality.
- Highly productive Project Management Process.
  This process is designed to deliver projects that are not only high in quality but on time and on budget.
- Final costs for HRC's projects are typically less than 1% above the bid amount. This is well below the industry average of 4-8%.
  HRC's construction estimates are a trustworthy document that the City can use for forecasting and budgeting.
- Constantly look for ways to improve processes.
  Financial, scheduling and technical opportunities are always being explored to provide the City with the highest level of service.
- Understand that we are not flawless and we take ownership of errors.
  HRC will stand by our product and the City will always get the best engineering at a fair price.
- Provide solutions to our clients, and not just identification of problems.
  This often overlooked quality limits cost and scheduling overruns.
- Provide mentoring to our younger staff so that they can assist on projects.
  This benefits the City by providing a more cost efficient experience for both current and future projects.
- Believe that we have a personal stake in every project.
  HRC always work as part of a Team with our clients and approach assignments as an extension of your staff.

APPROACH TO GENERAL ENGINEERING SERVICES AGREEMENT

HRC's approach to the administration of general engineering services is a simple and time-tested approach, which is rooted in HRC's project management philosophy. It has been proven to deliver quality and successful projects while limiting change orders and project cost overruns. HRC's approach is based on the following key principles:

- Outstanding Communication between all Team members
- Experienced, knowledgeable and professional personnel
- Generating and maintaining critical project documents in an organized and detailed manner

Throughout HRC's 100 years in business, we have demonstrated these principles consistently for numerous municipal clients, including the City of Howell, for which HRC has successfully performed general engineering services for more than a decade.

COST AND TIME SAVINGS MEASURES

Being cost efficient continues to be an ongoing priority to both our clients and HRC. Over the last decade of working with Howell, HRC has always looked for ways to reduce the project costs (both engineering and construction) while still providing a high quality end product to the residents of the City. From our past experience, we believe we can summarize our benefits to the City of Howell down to 3 top cost and time saving measures. They are:

1. **HRC has an office in downtown Howell, at 105 West Grand River Avenue, that is staffed full-time.** This means HRC can respond immediately to any engineering needs the City may have. Also, the City's day-to-day HRC contact, Jon Booth, lives in Hartland Township, less than 10 minutes away from Howell. In the past, this has proven to be a valuable resource for the City on after hour emergencies on projects.

2. **HRC staff has been working with the City of Howell since 2001 on general engineering issues.** This means that there is no "learning curve" to go through for either City staff or HRC employees. HRC is familiar with the City, all of its infrastructure components, its staff and culture. There will be no wasted time getting up to speed on how the City operates.

3. **HRC has field personnel that are cross-trained in observation and construction testing services.** We successfully utilized this practice on the City's Multi-Year Road program to provide the City with the benefits of full-time observation and full-time construction testing

services, while only paying for one staff person. HRC will continue to implement this practice on future municipal construction projects.

Appendix A

Sample Professional Service Agreement

CONTRACT

FOR

PROFESSIONAL ENGINEERING SERVICES

CITY OF HOWELL

LIVINGSTON COUNTY, MICHIGAN

BETWEEN

THE CITY OF HOWELL

LIVINGSTON COUNTY, MICHIGAN

AND

HUBBELL, ROTH & CLARK, INC.
Consulting Engineers
of
Howell, Michigan 48843

This Contract, entered into this _____ day of _____, 2015 by the City of Howell, Livingston County, Michigan, hereinafter called the "City" and Hubbell, Roth & Clark, Inc., Consulting Engineers (A Michigan Corporation), 105 West Grand River Avenue, Howell, Michigan 48843, hereinafter call the "Engineer."

WITNESSETH, that in consideration of the mutual covenants and agreements herein contained, the parties hereto do mutually agree as follows:

ARTICLE I – SCOPE OF SERVICES

The Engineer shall perform the services hereafter as may be assigned by the City during the contract duration. The Engineer expressly understands and agrees that it is not, by virtue of this contract, provided or guaranteed any work or assignments whatsoever and the Engineer shall have no right or expectation of any work or services hereunder unless expressly requested and assigned by the City hereunder.

A. Preliminary, Design, Construction Administration and Construction Observation

The basic engineering services to be provided by the ENGINEER are as follows:

1. Preliminary Phase
2. Design Phase
3. Construction Administration
4. Construction Observation

1. Preliminary Phase

a. Conferences with the City to review its wishes and requirements; inspection of the sites; review of available material assembled by the City; and discussions of scheduling;

b. Public participation process, including meetings, public participation and analysis of information, where necessary;

c. Preparation of preliminary engineering studies, designs and configurations. These will be submitted for review and approval by the City Council and other required approving agencies;

d. Preparation of preliminary cost estimates of the project;

e. Planning for and obtaining the necessary field information for design. This information may include field surveys, photogrammetry, traffic studies, soil investigation or other special studies.

2. Design Phase
(This Phase will commence upon completion of the Preliminary Phase.)

a. Detailed conferences with the City and other approval or regulatory authorities;

b. Furnishing engineering data, where necessary, for application for regulatory permits required by Local, State, or Federal authorities;

c. Preparation of detailed contract documents;

d. Furnishing the City sufficient number of copies of drawings and specifications, for review by the City and approving authorities;

e. Preparation of final detailed drawings, specifications, contract documents and estimates including changes or re-design required following preliminary and final review by the City and approving authorities;

f. Assistance to the City in securing bids, tabulation and analysis of bid results, and furnishing recommendations on award of construction contracts;

g. Assistance in the preparation of formal contract documents for the award of construction contracts;

h. Continuation of the public participation process.

3. Construction Administration

a. Consultation and advice to the City during construction;

b. Preparation of change orders required to resolve actual field conditions encountered;

c. Checking detailed shop drawings submitted by contractors for compliance with design concept;

d. Making periodic visits to the site to observe the work in progress;

e. Observing initial operation of the project, or of performance tests required by specifications;

f. Making a final inspection with a representative of the City;

g. Providing the City with one (1) complete hard copy sets of "as-built" plans and one (1) complete set of "as-built" plans in digital format compatible with the City's computer technology.

4. Construction Observation

a. Technical observation of the construction by a full time resident project engineer or technician and supporting staff as required, and providing appropriate reports to the City.

B. Other Services

1. Construction layout;
2. The preparation of special reports, studies or master plans;
3. Assistance on easement and right-of-way acquisition;
4. Materials testing during construction;
5. Miscellaneous other services as may be required.

ARTICLE II – PAYMENT FOR ENGINEERING SERVICES

1. The fee for the services and work outlined in Article I – Scope of Services, are deemed to be services which are not otherwise considered to be a definitive scope of work. For such services, the City shall be billed by the Engineer on an hourly fee schedule, in accordance with the attached hourly rate schedule, with an additional mark-up multiplier of 2.8%, which

mark-up will cover unemployment and payroll taxes, contributions for social security, retirement benefits, medical and life insurance benefits, overhead, readiness to serve and profit. The hourly fee shall be initially established from the fee schedule provided to the City by the Engineer for calendar year 2015, which the City acknowledges receipt of same. At the beginning of each calendar year, these fees may be raised from the preceding year, by use of the Metro Detroit/Ann Arbor Consumer Price Index percentage, or 5%, whichever is lower and by approval of the City Council.

2. When the Engineer's hourly fee schedule is to be used for services and work performed by it, a project budget, including total estimated hours, shall be submitted to the City for its review and approval prior to the commencement of work on any phase of a project.

3. In instances where there is a defined scope of work, the Engineer will render a proposal to the City where the Engineer will be required to provide an amount certain for such work, based upon the fee schedule and multiplier, which said sum will not be exceeded by the Engineer.

4. The City, upon recommendation of the Engineer, may hire outside firms for any services to be performed on projects under this agreement. The Engineer shall deliver to the City all invoices received by it for work/services performed by the outside firm.

5. Any work done by the Engineer outside the scope of services presented in this contract, unless expressly authorized by the City in writing, or any extra work done without written authorization by the City, shall be considered unauthorized work done at the sole expense of the Engineer and no payment will be made by the City for such work nor will the City be liable to the Engineer for any payment for such work.

6. Payment by the City will be made monthly to the Engineer.

ARTICLE III – DOCUMENTS

Original documents, drawings, design and survey notes represent the product of training, experience and professional skill. They belong to and remaining the property of the Engineer who produced them, until such time as the Engineer shall be fully compensated as required herein. Upon payment of compensation, all such original documents, drawings, design and survey notes shall become the property of the City and shall be promptly delivered to the City upon the City's request thereof.

ARTICLE IV – DURATION OF CONTRACT

The parties agree that the duration of this contract is five (5) years.

ARTICLE V – ADDITIONAL CONDITIONS

1. INDEMNITY

The Engineer agrees to indemnify and hold the City, its agents and employees, harmless from any and all liabilities, obligations, damages, penalties, claims, costs, charges and expenses (including reasonable fees and expenses of attorneys, expert witness and other consultants) which may be imposed upon, incurred by or inserted against the City, its agents or employees, arising from the services rendered by the Engineer to the extent that such liabilities, obligations, damages, penalties, claims, costs, charges and expenses are caused by, or result from, or are in connection with, any negligent act, error or omission of the Engineer, or anyone directly or indirectly employed by it, or anyone for whose acts any of them may be liable, arising from the performance of the work. This indemnity provision shall survive the expiration or termination of this Agreement.

2. DEFAULT AND TERMINATION

In the event that the Engineer shall fail to fulfill in a timely and proper manner its obligations under this Contract; violate any of the covenants, agreements or stipulations of this Contract; cease conducting business in the normal course by reason of the insolvency, bankruptcy or any similar proceedings whether voluntary or involuntary, filed under any present or future bankruptcy or other applicable law; or admits in writing of its inability to fulfill the obligations of this Contractor its debts generally as they become due, and any such failure shall continue for an excess of 30 days after receipt of written notice of the default or of such failure as of such a nature that the same cannot be cured within said 30 day period and the Engineer shall fail to cure such failure within said 30 day cure period, then the Engineer shall be deemed in default hereunder.

3. AMENDMENTS

The parties in this Contract may, from time to time, consider it in their best interest to change, modify or extend a term, condition of covenant of this Contract or require changes in the scope of the services to be performed by the Engineer. Any such change, addition, deletion, extension or modification, including any increase or decrease in the amount of the Engineer's compensation, which are mutually agreed upon by and between the City and the Engineer shall be incorporated in written amendments (herein called "Amendments") to this Contract. Such Amendments shall not invalidate this Contract, nor relieve or release the Engineer of any of its obligations under this Contract unless expressly stated therein.

No Amendment to this Contract shall be effective and binding upon the parties hereto, unless it expressly makes reference to this Contract, is in writing and is signed and acknowledged by duly authorized representative of both parties.

4. CONFLICT OF INTEREST

The Engineer hereby agrees that it does not now have and that it will not have, during its performance hereof, any direct or indirect proprietary, or other interest in any patent, system, method, plan or design of construction or in any building procedure, which if used, involve

the payment of royalties, fees, or commissions that will be recommended or used in the drawings, specifications or other documents in the work product, nor in any manufacture or fabrication of any materials to be recommended or specified for the use by the work product.

The Engineer hereby agrees that it will not and has not, employed any person to solicit or secure this Contract upon any agreement or arrangement for payment of a commission, percentage, brokerage, or contingency fee, either directly or indirectly and that if this warrant is breached, the City at its election may terminate this Contract without penalty, liability or obligation, or may at its election, deduct for any amounts owed to the Engineer hereunder the amount of such commissions, percentage, brokerage or contingent fee.

5. CONFIDENTIAL INFORMATION

In order that the Engineer may effectively fulfill its covenant and obligations under this Contract to the City, it may be necessary or desirable to disclose confidential and proprietary information to the Engineer pertaining to the City's past, present and future activities. Since it is difficult to separate confidential and proprietary information from that which is not, the Engineer shall instruct its employees, consultants and subcontractors to regard all information gained by such person, as a result of services rendered hereunder, as information which is confidential and proprietary to the City and not to be disclosed to any organization or individual without the prior written consent of the City.

6. COMPLIANCE WITH APPLICABLE LAWS

The Engineer shall comply with all applicable laws, ordinances, regulations and professional codes and codes of the Federal, State and Local governments during the term of this Contract. However, if any applicable law, ordinance, regulation or code changes during this Contract that substantially alters the obligation of the Engineer, the Engineer shall be compensated for additional obligations. The Engineer shall likewise save the City harmless with respect to any damages arising from any violation of the same by it.

Should the payment for the services described hereunder be contingent upon the receipt of grant funds from any governmental agency, the Engineer hereby agrees to comply with all applicable rules and regulations of the granting authority.

7. FAIR EMPLOYMENT PRACTICES

In accordance with the Civil Rights Act of 1964 (P.L. 880352, 78 Stat 252) and Act No. 251 P.A. of Michigan 1955, as emended, the Engineer agrees that it will not discriminate against any person, employee, consultant, or applicant for employment to be employed in the performance of this Construct with respect to his/her hire, tenure, terms, conditions or privileges of employment or any matter directly or indirectly related to employment because of his/her age, color, sex, religion, handicap, or national ancestry.

Breach of the covenants of this section may be regarded as a material breach of this Contract.

8. INSURANCE

The Engineer shall maintain workers' compensation and liability insurance meeting the following requirements:

(a) Workers' compensation insurance for Employees which meets Michigan's statutory requirements and Employers' liability insurance with minimum limits of $100,000 each accident:

(b) Professional liability (error and omission) insurance with minimum limits of $1,000,000 each occurrence, and

(c) Comprehensive general liability insurance with minimum limits as follows:

	Each Occurrence	Aggregate
Bodily Injury:	$50,000	$500,000
Property Damage:	$100,000	$100,000
Property Damage:	$100,000	$100,000
Personal Injury:	$500,000	

Based upon the complexity of the project and the agreement of the parties, the comprehensive general liability insurance limits set out in this Paragraph may be changed to the following alternatives: (i) $600,00 [or greater] each occurrence and aggregate BI and PD combined and $500,000 aggregate personal injury; or (ii) $1,000,000 [or greater] each occurrence and aggregate bodily injury, property damage, and personal injury combined; or (iii) combination general liability and excess liability limits not lower than the lesser of the foregoing.

(d) Said policies shall name the Engineer as the insured and the City of Howell as an additional primary insured except on workers' compensation and professional liability insurance and shall be accompanied by a commitment from the insurer that such policies shall not be cancelled or reduced without at least twenty (20) days prior notice to the City.

WITNESS

CITY OF HOWELL, A Michigan Municipal Corporation

_____

By: _____
PHILLIP CAMPBELL, its Mayor

By: _____
JANE CARTWRIGHT, its Clerk

HUBBELL, ROTH & CLARK, INC.

_____

By: _____
NANCY M.D. FAUGHT, Vice President

Hubbell, Roth & Clark, Inc.

2015 Hourly Rate Schedule

City of Howell

Category	Maximum Base Hourly Rate	Maximum Billable Hourly Rate
Principal	57.00	159.60
Senior Associate/Managing Engineer	57.00	159.60
Associate/Managing Engineer	50.60	141.68
Department Manager	49.70	139.16
Senior Project Manager	48.00	134.40
Senior Project Engineer/Architect	55.00	154.00
Project Engineer/Architect	41.00	114.80
Staff Engineer/Architect	33.50	93.80
Graduate Engineer/Architect I/II	36.80	103.04
Transportation Specialist	40.00	112.00
GIS Specialist	28.40	79.52
Right of Way Specialist	42.80	119.84
Senior Staff Environmental Analyst	26.80	75.04
Senior Designer	42.50	119.00
Designer	41.50	116.20
Senior Cadd Technician	32.80	91.84
Survey Office Supervisor	39.30	110.04
Registered Surveyor	31.50	88.20
Graduate Surveyor	29.00	81.20
Senior Survey - Office Technician	30.20	84.56
Survey - Party Chief	34.60	96.88
Survey - Instrument Person	25.50	71.40
Survey - Instrument Operator	23.50	65.80
Survey - Survey Assistant	21.00	58.80
Field - Supervisors	34.90	97.72
Field - Project Representatives	39.70	111.16
Construction - Office Technician	20.50	57.40
Senior Construction Observer	32.00	89.60
Construction Observer I/II	23.00	64.40
Construction Engineer	43.70	122.36
Testing Engineer	28.70	80.36
Testing Operations Manager	26.10	73.08
Supervisor Field Testing	27.90	78.12
Testing Technician	28.70	80.36
Administrative Support*	34.40	96.32

Billable rates for Hubbell, Roth & Clark, Inc. include Unemployment and Payroll taxes, contributions for Social Security, Retirement benefits, Medical and Life insurance benefits, normal printing cost, telephones, fax, computer time, mileage, other overhead costs and profit.

***This Category includes Computer, Reproduction and Administrative Staff.**

HRC 100 YEARS
CONSULTING ENGINEERS SINCE 1915

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES

INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

February 21, 2015

Mr. Evin J. Suida
Public Service Director
City of Howell
611 E. Grand River
Howell, Michigan 48843

RE: Response to Request for Qualifications
5 year Storm Water Phase II Engineering

Dear Mr. Suida:

Thank you for including our firm on your list of consultants for the above-referenced project. At this time, we must decline to submit our qualifications for services required on this project. We would appreciate it, however, if you would keep DLZ Michigan, Inc. on your list for future consulting projects.

We wish you success on your project and would welcome the opportunity to work with you in the future.

Very truly yours,

DLZ MICHIGAN, INC.

Vicki L. Briggs, CPA
Vice President

VLB/cag

V:\Opportunities\Lansing\2015_dormant\{LN15010931} City of Howell - Engineering Services for Storm Water Phase II Services\No Bid Response .docx

Erv Suida - RE: clarification of engineering proposal

From: "Durkee, Daniel" <dedurkee@FTCH.com>
To: Erv Suida <ESuida@cityofhowell.org>
Date: 2/9/2015 11:51 AM
Subject: RE: clarification of engineering proposal
Cc: "Chick, Jeff" <jjchick@FTCH.com>, "Potter, David L." <dpotter@ftch.com>,...

Good morning Erv,

I wanted to let you know that we are unfortunately not able to respond to your RFP's for General Engineering or Storm Water Phase II services. We have a number of ongoing SAW grants in the works and want to be respectful of commitments we have made over the next few months. We of course remain very interested in providing professional services to the City of Howell on specific projects where we can offer valuable expertise, including public works and parking facilities.

Thanks again, we appreciate the invitation.

Dan

Daniel Durkee, AIA, LEED AP • Vice President/Senior Architect • 616-575-3824 • www.ftch.com
Fishbeck, Thompson, Carr & Huber, Inc. • Engineers, Scientists, Architects, Constructors

From: Erv Suida [ESuida@cityofhowell.org]
Sent: Friday, February 06, 2015 9:23 AM
To: Durkee, Daniel
Subject: clarification of engineering proposal

Attached is a brief summary description of types of services currently utilized under our General Engineering Agreement. I hope this helps your firm in understanding and developing a complete proposal.

Any questions please feel free to call or email.

Sincerely

Ervin J Suida,DPS Director

City of Howell
150 Marion St.
Howell, Mi 48843
Phone #517-546-7510
Email: esuida@cityofhowell.org

Erv Suida - RE: Clarification on Engineering Proposal

From: Jack Wheatley <JWheatley@rowepsc.com>
To: Erv Suida <ESuida@cityofhowell.org>
Date: 2/6/2015 12:50 PM
Subject: RE: Clarification on Engineering Proposal
Cc: Leanne Panduren <LPanduren@rowepsc.com>

Erv – Thank you very much for considering ROWE for your General Engineering Services. At this time we have decided to not submit a proposal, but we would like to remain on your RFP/ RFQ list for future consideration.

Thanks again and good luck with your selection. Have a great weekend.

Jack Wheatley, P.E.
ROWE PROFESSIONAL SERVICES COMPANY
(810) 869-5121

From: Erv Suida [ESuida@cityofhowell.org]
Sent: Friday, February 06, 2015 10:24 AM
To: Jack Wheatley
Cc: Leanne Panduren
Subject: RE: Clarification on Engineering Proposal

Not on your end, I didn't attach it :) How about now.

Ervin J Suida,DPS Director

City of Howell
150 Marion St.
Howell, Mi 48843
Phone #517-546-7510
Email: esuida@cityofhowell.org

Website: www.cityofhowell.org

>>> Jack Wheatley <JWheatley@rowepsc.com> 2/6/2015 9:47 AM >>>
Thanks Erv. I didn't get the attachment for some reason. Not sure if it's at our end or not. Could you please resend it?

Thanks again,
Jack Wheatley, P.E.
ROWE PROFESSIONAL SERVICES COMPANY
(810) 869-5121

From: Erv Suida [mailto:ESuida@cityofhowell.org]
Sent: Friday, February 06, 2015 9:24 AM
To: Jack Wheatley
Subject: Clarification on Engineering Proposal

Attached is a brief summary description of types of services currently utilized under our General Engineering Agreement. I hope this helps your firm in understanding and developing a complete proposal.

Any questions please feel free to call or email.

Sincerely

Ervin J Suida,DPS Director
City of Howell
150 Marion St.
Howell, Mi 48843
Phone #517-546-7510
Email: esuida@cityofhowell.org
Website: www.cityofhowell.org

925 W. Grand River Ave.
Howell, Michigan 48843
517.546.0693
517.546.6018 Fax
www.howellrecreation.org

"Communities coming together to enrich lives by promoting active and healthy lifestyles"

DATE: March 9, 2015
TO: Howell City Council
FROM: Paul Rogers – Executive Director
SUBJECT: **MANAGEMENT AGREEMENT FOR HOWELL CITY PARK**

The Howell Area Parks & Recreation Authority would like to propose the continuation of the management contract with the City of Howell to manage and hire the staff for the Howell City Park Beach and Boat Launch for the summer of 2015.

The attached Letter of Understanding is essentially the same from last year except for changes in the year and payment schedule.

DATES THAT A DAILY OR SEASONAL STICKER REQUIRED

Howell City Park Entry: Friday prior to Memorial Day through Labor Day

Boat Launch Entry: May 1, 2015 through September 30, 2015

DATES THAT A PERMIT FOR RENTAL WILL BE REQUIRED

Pavilion Rentals: May 1, 2015 through September 30, 2015

Howell City Park Fee Collection

HAPRA is recommending that we not change the fee collection system at Howell City Park. HAPRA would again hire seasonal staff to work both the entrance booth and at the concession stand during peak hours each day and to collect fees from each vehicle that enters without a seasonal pass. The current daily fee is $10/vehicle and HAPRA recommends that this not be changed. All proceeds to be deposited with the City of Howell. Groups wishing to be exempt from paying the daily entry fee must get City Council approval in advance. As in the past, the seasonal pass and daily entry fees would be required between the Friday prior to Memorial Day through Labor Day.

Boat Launch Fee Collection

All daily stickers and seasonal passes are available for purchase at the Bennett Recreation Center during regular business hours and from the Friday prior to Memorial Day through Labor Day at the Howell City Park Guard Booth. The current daily fee to launch a boat is $20/vehicle and HAPRA recommends that this not be changed. All proceeds to be deposited with the City of Howell. Groups wishing to be exempt from paying the daily entry fee must get City Council approval in advance.

A seasonal or daily pass will be required to park at the facility and those not possessing either will be ticketed. (Duties will be assigned to the Howell Parks & Recreation Beach Supervisor to check the site throughout the day and regularly call the Howell City Police to enforce the parking ordinance by issuing tickets for those not in compliance.) The current fine schedule for those vehicles parked at the Boat Launch without a daily or seasonal park sticker are $30 if paid within 48 hours, increasing to $60 after 48 hours, and if not paid within 10 days the fine will be increased to $80.

Pavilion Rental Policy and Fee Schedule

The Howell Area Parks & Recreation Authority will continue to schedule and administer the pavilion rentals at Howell City Park utilizing the system software (Active.com) that is already in place within the Recreation Authority. All pavilion rental fees collected will be deposited in the City of Howell's accounts.

The Howell Area Parks & Recreation Authority recommends continuing to rent pavilions during 4 hour increments, 3 times each day to capture additional revenues and to accommodate additional groups wishing to use the park. If parties wish to extend their use of the pavilions, they would be charged for another 4 or 8 hour increment:

Morning – 8 am – 11:00 am
Mid-Day – 11:30 am – 3:30 pm
Evening – 4 pm – 8 pm

HAPRA also recommends the continuation of accommodating all guests who will be attending parties and events at the pavilions FREE entry into the park through their rental agreement. This creates good will for those wishing to schedule events at the pavilions and will increase rentals at the pavilions throughout the season. Renters would be given a special dated and timed pass (only available at Bennett Recreation Center) that they Xerox and give to each of their guests. HAPRA recommends continuing the current rental fees of:

$150 for large pavilion for weekend, $100 for large pavilion for weekday

$100 for small pavilion for weekend, $75 for small pavilion for weekday

Groups wishing to be exempt from paying the pavilion rental fee must get City Council approval in advance.

Purchase and Distribution of Seasonal Stickers

The Howell Area Parks & Recreation Authority recommends continuing to recognize the contributions of Oceola Township, Marion Township, Genoa Township and the City of Howell to the Recreation Authority by offering 2 free annual passes to each resident of these municipalities. HAPRA also recommends keeping annual sticker prices the same – 2 free for City of Howell, Genoa Township, Marion Township and Oceola Township ($20 for additional stickers), and $40 for non-residents (there is no discount for additional stickers). The City of Howell will continue to purchase 5 distinctly shaped and colored stickers each year to accommodate the sticker distribution. To reduce overhead, the Authority is recommending that annual passes only be available for purchase or pickup at the Bennett Recreation Center reducing overhead of initial mailing and daily maintenance of address/resident books by the gate staff, city staff and township staff.

Howell City Park Pass Policy

We recommend that the attached park pass policy used in 2014 continue as it worked very well and made issues for our staff easy to rectify.

Letter of Understanding – Management of Park and Boat Launch

The Howell Area Parks & Recreation Authority would like to propose that the City of Howell again contract with us during the summer of 2015 to hire the staff and arrange for the supervision and work that needs to be accomplished at the Howell City Park Guard Booth, Beach Front and the Boat Launch. We will continue to also add family friendly programming to the Howell City Park during the summer months. HAPRA believes that the continued partnership between the City of Howell and the Howell Area Parks & Recreation Authority for operation of the beach and boat launch is in line with the City Council's goal of supporting recreation and creates an environment conducive to other joint projects and events, as well as positive public relations and marketing opportunities.

Attached is a Letter of Understanding outlining the proposed services and associated fees for the period of May 1, 2015 through September 30, 2015.

ACTION REQUESTED: A motion to approve the Letter of Understanding between the City of Howell & Howell Area Parks & Recreation Authority to operate the City Park Guard Booth, Beach Front & Boat Launch for the summer of 2015 for a management fee of $35,000

2015 PARK PASS POLICY

Business Property Tax Payers:

1 Pass per address - $ 20 for each additional

Verification is property tax bill with valid driver's license

Residential Property Tax Payers:

2 Passes per address $20 for each additional

Verification is property tax bill with valid driver's license

If rental property owner picks up passes - Residents cannot

Residential Renters:

2 Passes per address - $ 20 for each additional

Verification is State of Michigan issued ID – Driver's License

If rental property owner picks up passes - Residents cannot

Non-Residents:	0 Passes per address - $ 40 for each
Commercial Renters:	0 Passes per address
Water/Sewer Customers:	0 Passes per address
Daily Park Entry:	$ 10 per vehicle
Daily Boat Launch:	$ 20 per vehicle

City Park Operating Hours	Friday of Memorial Day-Labor Day
Boat Launch Operating Hours	May 1 – October 31
Pavilion Rentals	May 1 – September 31

LETTER OF UNDERSTANDING
CITY OF HOWELL & HOWELL AREA RECREATION AUTHORITY
OPERATION OF HOWELL CITY PARK GUARD BOOTH
BEACH FRONT & BOAT LAUNCH
May 1, 2015 – September 30, 2015

Staffing

HAPRA proposes hiring a part-time seasonal staff with a full-time supervisor at the Howell City Park for the summer of 2015. The responsibilities of the staff would include collecting daily fees and monitoring stickers at the entrance gate at Howell City Park, depositing fees with the City of Howell that are collected, operating and cleaning the restroom and concession facilities at the beach, cleaning up the goose droppings on the grass surrounding the beach area, providing weekly water testing, working in collaboration with the Fire Department to set up and remove the buoys and rope lines, enforcing parking ordinances, and other duties that are assigned for a smooth and efficient operation this coming summer. All staff would undergo customer service training, and have their CPR/First Aid Certificates updated for their summer assignments.

Seasonal Passes

The Recreation Authority will only sell or distribute seasonal passes at the Bennett Recreation Center during normal office hours (M-Th 9 a.m. – 7 p.m., Fri. 9 a.m. – 5 p.m. and Sat. 9 a.m. – 1 p.m.). City of Howell, Genoa Township, Marion Township and Oceola Township residents will receive 2 free passes ($20 for additional pass), and all others will be charged $40/pass.

Pavilion Rentals

The Recreation Authority will provide pavilion rental reservation system utilizing the system software (Active.com) that is already in place. All pavilion rental fees collected will be deposited in the City of Howell's accounts. We have estimated that it would require 6 hours a week to process reservations for a 5 month period (May – September).

Park Entrance Guard Booth

HAPRA proposes that the park entrance guard booth be staffed daily (weekdays and weekends) during the following hours beginning the Friday prior to Memorial Day and continuing through Labor Day from 10 a.m. – 7 p.m. Staff would be required to arrive 1/4 hour before the booth opens to the public and stay 1/2 hour after it closes to account for funds and close down the area. All park entrance fees collected will be deposited in the City of Howell's accounts. In the event of inclement weather, the Park Supervisor will have the authority to close the park and send staff home.

Concession Stand/Beach Area

HAPRA proposes that the concession stand at the beach be staffed daily (weekdays and weekends) during the following hours beginning the Friday prior to Memorial Day and continuing through Labor Day from 10 a.m. – 7 p.m. Staff would be required to arrive ½ hour before the area opens and stay ½ hour after it closes for cleaning and general maintenance. The Recreation Authority would purchase all concession supplies and keep the revenue generated from these sales.

Boat Launch Entrance

HAPRA proposes no staffing at the Boat Launch. Daily and Seasonal passes will be available at the Bennett Recreation Center during normal hours of operation. A supervisor or other staff member will be assigned to record all parking violations at this site and make sure that a valid seasonal or daily pass is readily displayed in all vehicles. They will be authorized to

contact Howell City Police to enforce the ordinance. The boat launch area will be overseen and controlled by recreation staff from May 1 – September 30.

City of Howell Expenses
The City of Howell will pay the full costs of the following:

A. Seasonal Stickers
B. Daily Passes
C. Weekly Water Testing
D. All maintenance and cleaning supplies (Including toilet paper)
E. Beach Staff t-shirts
F. Daily sand raking and grass mowing at beach area
G. Cleaning and maintenance of the restroom facility at the front of the park
H. Electricity, telephone, water and trash collection
I. General grounds maintenance for the park, sand area of the beach, roads and parking lots at Howell City Park and Boat Launch areas.
J. Signage
K. Building improvements to the concession stand, restroom facilities, park booth, pavilions, etc. and placement and removal of park booth at start and end of season.
L. Contractual Services with Goose Works to control the Canadian Geese population

Management Fee
The Howell Area Parks & Recreation Authority would provide the staffing services outlined in this proposal for a management fee of $35,000.

Payable on or before May 1, 2015

Effective Date
This Letter of Understanding shall be in effect from May 1, 2015 through September 30, 2015 upon approval of the Howell City Council and Howell Area Parks & Recreation Authority Board.

CITY OF HOWELL

BY:_____

Its: Mayor

BY:_____

Jane Cartwright

Its: Clerk

Approved by Howell City Council

Date:_____

HOWELL AREA PARKS & RECREATION AUTHORITY

BY:_____

Todd Smith

Its: Chairman

BY:_____

Paul F. Rogers

Its: Executive Director

Approved by Howell Area Parks & Recreation Authority

Date:_____

CITY OF HOWELL
MEMORANDUM

TO: MAYOR & CITY COUNCIL

FROM: CATHERINE M STANISLAWSKI, TREASURER/FINANCE DIRECTOR

DATE: MARCH 5, 2015

RE: AUDIT PROPOSALS

The City received five responses to its request for auditing services. Attached is a synopsis of the proposals received.

The proposals were evaluated by a review committee consisting of the City Clerk, Deputy Treasurer and Finance Dir/Treasurer. The firms were ranked based on their qualifications, experience and references. The review committee also took into consideration if the firms addressed any future factors that may affect the financial reporting of the City. Beginning with the upcoming June 2015 fiscal year, the City will be required to significantly revise the current accounting and reporting of our defined benefit plan. This will require additional effort on the part of the Finance staff and audit firm.

As the attached scoring results indicate, Rehmann Robson scored the highest of the firms reviewed. We have just completed a five year contract with Rehmann and found the firm to be very professional and knowledgeable. The current fees proposed are $1,250 higher than their 2010 contract.

Based upon the review by the Audit Committee, the level of service required by the City and the fees proposed, we are recommending that the City Council enter a five year agreement for auditing services with the firm of Rehmann Robson.

ACTION REQUESTED:

Motion to enter a five year agreement for auditing services with the firm of Rehmann Robson from Jackson, Michigan.

REVIEWED AND APPROVED FOR SUBMISSION:

Shea Charles, City Manager

BID TABULATION - CITY OF HOWELL
2015 AUDIT PROPOSALS
17-Feb-15

	Plante & Moran	Rehmann Robson	Stewart Beauvais	Abraham Gaffney	Bethiaume & Co
Qualifications (0-35)	35	35	28	34	12
Prior Experience (0-30)	28	29	21	27	17
References (0-25)	25	25	20	20	20
Technical Score	88	89	69	81	49
Fee (0-10)	2	6	5	8	10
Total	90	95	74	89	59

Name	**2015**	**2016**	**2017**	**2018**	**2019**	**Totals**
3 YEAR PROPOSAL						
Plante Moran (3 year)	$42,000	$43,000	$44,000			$129,000
Rehmann Robson (3 year)	$34,500	$35,250	$36,000			$105,750
Stewart Beauvais & Whipple (3 year)	$35,500	$36,500	$37,500			$109,500
Abraham & Gaffney, P.C.(3 year)	$29,800	$30,300	$30,800			$90,900
Berthiaume & Company	$26,000	$26,500	$27,000			$79,500
5 YEAR PROPOSAL						
Plante Moran (5 year)	$40,000	$41,000	$42,000	$43,000	$44,000	$210,000
Rehmann Robson (5 year)	$32,750	$33,500	$34,250	$35,000	$35,750	$171,250
Stewart Beauvais & Whipple (5 year)	$34,250	$34,750	$35,250	$35,750	$36,250	$176,250
Abraham & Gaffney, P.C.(5 year)	$29,800	$30,300	$30,800	$31,300	$31,800	$154,000
Berthiaume & Company	$26,000	$26,500	$27,000	$27,500	$28,000	$135,000

BIDS OPENED BY CATHERINE STANISLAWSKI, JANE CARTWRIGHT & CORLEEN KRUZEL

CITY OF HOWELL
MEMORANDUM

TO: MAYOR & CITY COUNCIL

FROM: ERVIN J. SUIDA

DATE: MARCH 5, 2015

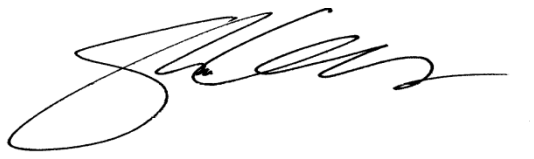
RE: BENNETT LOT DESIGN

During the January Work Session, Council expressed interest in reviewing the Bennett parking lot plans. The included plans are in the final review stage and available for any comments and changes Council may request. The current plans and engineering estimate of $115,000 is based on a basic crush and shape design, minor ADA sidewalk improvements, entrance approach improvements and a wooden dumpster screen with a concrete pad. Staff is in the process of completing their review and will incorporate any additional Council comments or changes.

Once all the review comments and recommendations are made to the engineers, the plans will be updated and finalized for bidding. Per the Council direction this project will be bid with a start date of after July 1, 2015.

In order to continue to move this project forward staff is seeking direction on the following; approval and/or modifications to the proposed Bennett Lot design and incorporating the Maple Street curb and mini circle removal project into the bid document.

REVIEWED AND APPROVED FOR SUBMISSION:



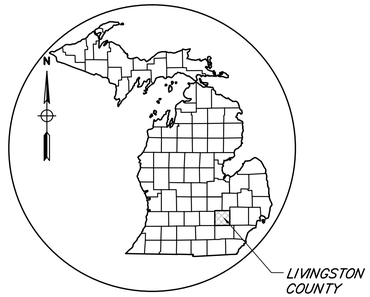
Shea Charles, City Manager

Opinion of Probable Cost
Bennett Recreation Center Parking Lot
City of Howell
Livingston County, MI
March 2, 2015

Item No.	Estimated Quantity	Unit	Description	Unit Price	Amount
1.	300	Sq. Yd.	Pavement Removal	$5.00	$1,500.00
2.	3250	Sq. Yd.	HMA Base Crushing and Shaping	$3.00	$9,750.00
3.	235	Lin. Ft	Curb, Conc. Det F2	$23.00	$5,405.00
4.	150	Sq. Yd.	Agg. Base, 9-inch, 21AA	$20.00	$3,000.00
5.	730	Ton	HMA, 5E3	$95.00	$69,350.00
6.	190	Sq. Yd.	Conc Pavt, Nonreinf, 8-inch	$35.00	$6,650.00
7.	1	Lump Sum	Pavement Markings	$2,000.00	$2,000.00
8.	1550	Sq. Ft.	Sidewalk, Conc., 4-inch	$4.00	$6,200.00
9.	1	Lump Sum	Dumpster Enclosure	$1,000.00	$1,000.00
10.	1	Lump Sum	Traffic Control, Modified	$1,000.00	$1,000.00
11.	1	Lump Sum	Sediment and Erosion Control	$1,500.00	$1,500.00
12.	29	Each	Bumper Blocks	$35.00	$1,015.00
13.	1	Lump Sum	Site Restoration	$2,000.00	$2,000.00
Sub-Total - Construction Cost					$110,370.00
Contingencies					$4,630.00
Total Cost					**$115,000.00**

BENNETT RECREATION CENTER
PARKING LOT REPLACEMENT PROJECT
□□□ WEST GRAND RIVER AVEN□E
CITY OF HOWELL □MICHIGAN

ERVIN J. S□IDA□DEPARTMENT OF P□BLIC SERVICES



AREA MAP

NOT TO SCALE

PLAN INDEX

FILE NO.	DESCRIPTION	NO.
D-5121-01	COVER SHEET	C1.1
D-5121-02	EXISTING CONDITIONS AND DEMOLITION PLAN	2
D-5121-03	SITE\GRADING PLAN	3
D-5121-04	STANDARD DETAILS	4

GENERAL NOTES

EXISTING UTILITIES
CONTRACTOR SHALL CALL "MISS DIG" (1-800-482-7171 OR 811) A MINIMUM OF 3 WORKING DAYS PRIOR TO CONSTRUCTION.

THE EXISTING UTILITIES ON THESE DRAWINGS HAVE BEEN SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND SHALL NOTIFY THE ENGINEER AS TO WHERE POSSIBLE CONFLICT EXISTS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING UTILITIES DURING THE CONSTRUCTION OF THIS PROJECT.

PAVEMENT MARKINGS AND SIGNS
ALL PERMANENT PAVEMENT MARKINGS, SHAPES, AND DIMENSIONS SHALL CONFORM WITH MDOT PAVEMENT MARKING TYPICALS.

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES
APPROPRIATE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO EARTH-DISTURBING ACTIVITIES.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT SOIL EROSION AND SEDIMENTATION CONTROL MEASURES ARE IN PLACE AND MAINTAINED UNTIL THE CONTRACT HAS BEEN COMPLETED AND ACCEPTED. MEASURES SHALL ONLY BE PAID FOR ONCE.

PROPERTY OWNERS
PROPERTY OWNERS' NAMES, WHERE SHOWN, ARE FOR INFORMATION ONLY, AND THEIR ACCURACY IS NOT GUARANTEED.

SAWCUTS
PAYMENT FOR SAWCUTS REQUIRED TO REMOVE MISCELLANEOUS ITEMS, PAVEMENT AND/OR CURB AND GUTTER SHALL BE INCLUDED IN THOSE REMOVAL ITEMS.

ALL DISTURBED LAWN AREA SHALL BE TOP SOILED, MULCHED, AND SEEDED.

PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED BY THE APPROPRIATE MUNICIPALITIES. CONSTRUCTION PROCEDURES SHALL CONFORM TO THE REQUIREMENTS THE APPROPRIATE MUNICIPALITIES. DRIVES AND APPROACHES SHALL BE CONSTRUCTED ACCORDING TO REQUIREMENTS OF THE APPROPRIATE GOVERNING AUTHORITY.

PROJECT SCHEDULE
WORK SHALL COMMENCE AFTER JULY 1, 2015 AND ALL WORK INCLUDING RESTORATION SHALL BE COMPLETED BY AUGUST 30, 2015.

ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO BEGINNING CONSTRUCTION

SYMBOL LEGEND

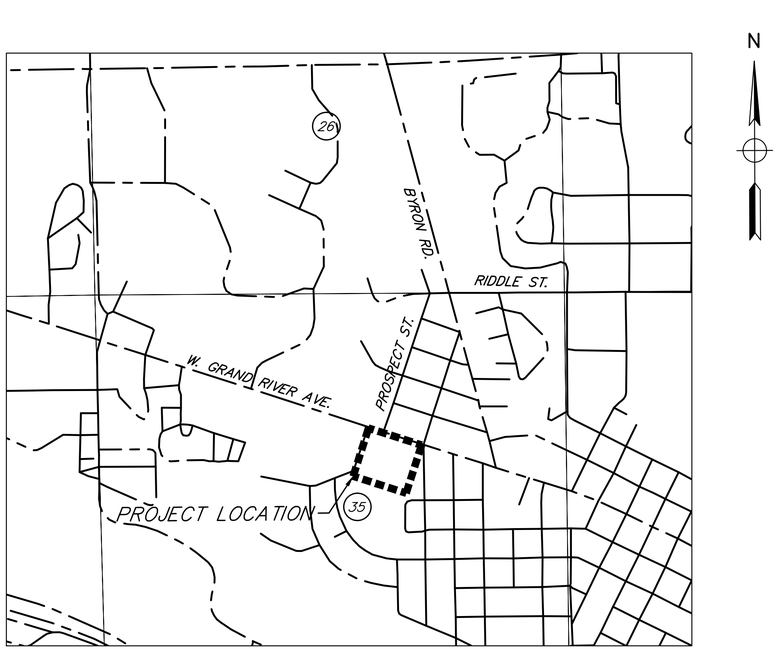
- MANHOLE
- PROPOSED MANHOLE
- CATCHBASIN
- CURB CATCHBASIN
- PROPOSED CATCHBASIN
- FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- GAS VALVE
- WATER VALVE
- PROPOSED WATER VALVE
- TELEPHONE PEDESTAL
- POWER POLE
- TELEPHONE POLE
- POWER AND TELEPHONE POLE
- LIGHT POLE
- GUY ANCHOR AND POLE
- MAIL BOX
- SIGN
- CABLE TV PEDESTAL
- TRANSFORMER
- ELECTRICAL PEDESTAL
- BARRIER FREE PARKING
- FENCE
- SPRINKLER
- RAILROAD SIGNAL
- ANTENNA
- SATELLITE DISH
- AIR CONDITIONING UNIT
- SOIL BORING
- FOUND SURVEY CORNER
- SET 3/4" IRON PIPE
- BREAK IN LINE
- STUMP
- WETLANDS
- PINE
- BUSH
- TREE

ABBREVIATIONS

BIT = BITUMINOUS
BM = BENCH MARK
CB = CATCHBASIN
CF = CUBIC FEET
CL = CENTERLINE
CMP = CORRUGATED METAL PIPE
CSP = CORRUGATED STEEL PIPE
CONC = CONCRETE
DIP = DUCTILE IRON PIPE
ELEC = ELECTRIC
ELEV = ELEVATION
ESM'T = EASEMENT
EX OR EXIST = EXISTING
FF = FINISH FLOOR
FS = FINISH SURFACE
FG = FINISH GRADE
G = GUTTER
HYD = HYDRANT
INV = INVERT
MH = MANHOLE
MIN = MINIMUM
NFL = NOT FIELD LOCATED
NTS = NOT TO SCALE
PROP = PROPOSED
PVC = POLYVINYL CHLORIDE
RCP = REINFORCED CONCRETE PIPE
ROW = RIGHT OF WAY
SAN = SANITARY
SB = SOIL BORING
STA = STATION
STM = STORM
SWR = SEWER
TC = TOP OF CURB
TELE = TELEPHONE
TRW = TOP OF RETAINING WALL
TW = TOP OF WALK
WM = WATER MAIN

LINE TYPE LEGEND

- EXISTING PROJECT DRAIN
- EXISTING DRAINS (OTHER)
- EXISTING DRAINAGE DISTRICT LINE
- PROPOSED DRAINAGE DISTRICT LINE
- PROPOSED SUB-DRAINAGE DISTRICT LINE
- PROPOSED SILT FENCE
- EXISTING ROAD
- EXISTING WATER MAIN
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING TELEPHONE CABLE
- EXISTING GAS MAIN
- EXISTING ELECTRIC
- PROPOSED UTILITY
- EXISTING CURB & GUTTER
- PROPOSED CURB & GUTTER



CITY OF HOWELL
SECTION 35, T.03N.-R.04E.
LIVINGSTON COUNTY, MICHIGAN

BY	MARK	REVISIONS	DATE

THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.

BENNETT RECREATION CENTER
CITY OF HOWELL
LIVINGSTON COUNTY, MICHIGAN

COVER SHEET
PARKING LOT REPLACEMENT PROJECT

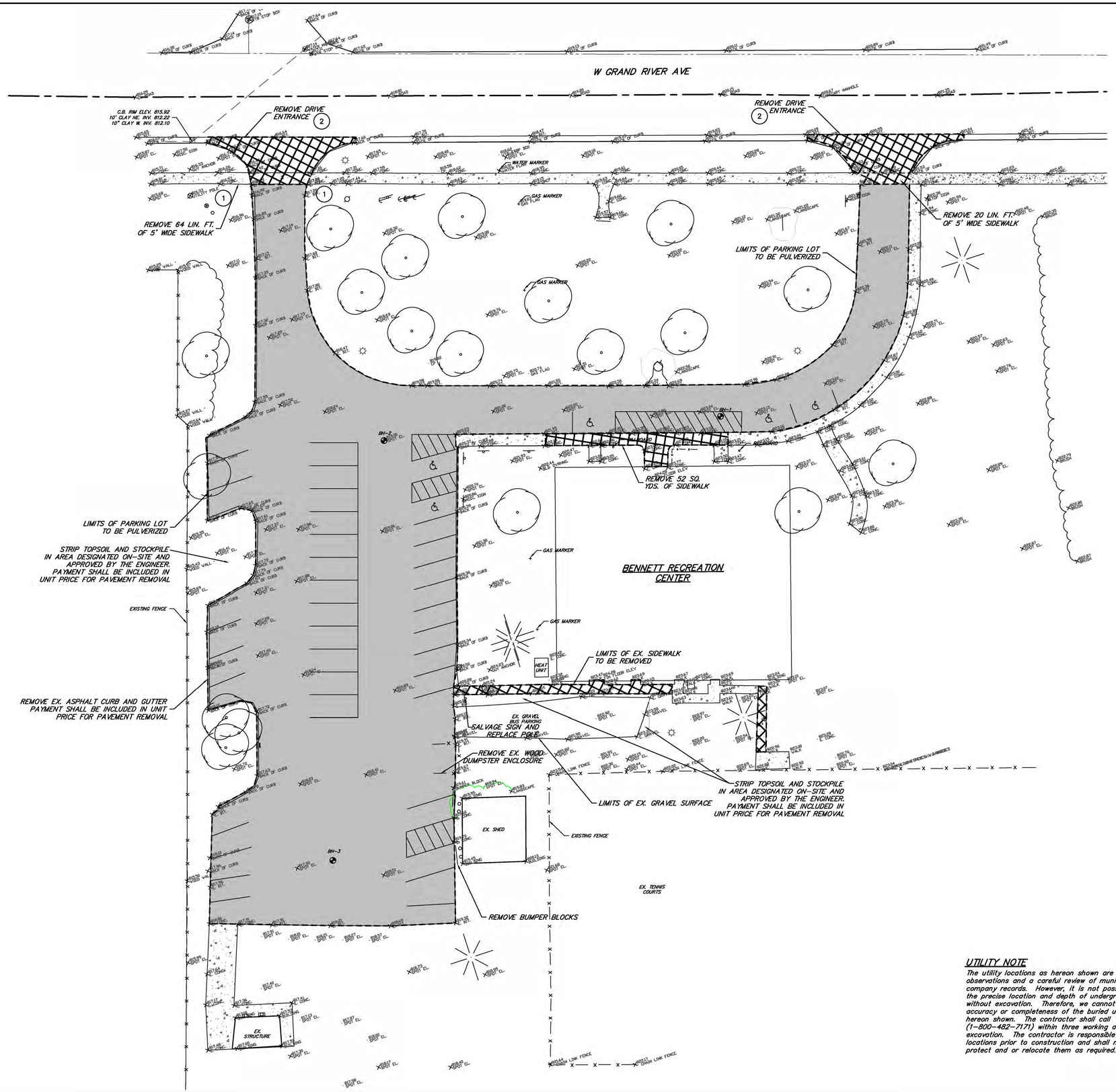
DUNDEE OFFICE
125 Helle Blvd., Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: JTH CH. BY: RCW
DR. BY: JTH APP. BY: PAW
PROJECT NO. 121978SG2014

STDS.
SHEET 1 OF 4
C 1.1

DATE MARCH, 2015
SCALE NOT TO SCALE
FILE NO. D-5121-01

PLOTTING SCALE: RET: F.B. PG. ACAD FILE:



N

0 5 10 20 40
SCALE: 1" = 20'

QUANTITIES THIS SHEET		
ITEM	UNIT	QTY.
HMA BASE CRUSHING AND SHAPING	SYD	3250
PAVEMENT REMOVAL	SYD	300
SUBGRADE UNDERCUTTING	CYD	100

LEGEND

PAVEMENT REMOVAL

HMA BASE CRUSH AND PULVERIZE

DEMOLITION NOTES

1. CLEAR AREAS REQUIRED FOR ACCESS TO SITE AND EXECUTION OF WORK.
2. REMOVE NOTED PAVING, CURBS, AND SIDEWALKS.
3. REMOVE ALL CLEARED ITEMS FROM SITE AND PROPERLY DISPOSE OF.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR SEEDING ALL DISTURBED AREAS.
6. ALL PULVERIZED MATERIAL TO BE RETAINED ON-SITE AS AGGREGATE BASE MATERIAL UNLESS OTHERWISE DIRECTED BY THE ENGINEER. RELOCATING MATERIAL AROUND THE SITE OR REGRADING PULVERIZED MATERIAL SHALL BE INCLUDED IN THE COST OF HMA BASE CRUSHING AND SHAPING.

DEMOLITION ITEMS

(1) SAWCUT AND REMOVE CONCRETE WALK TO NEAREST JOINT.

(2) SAWCUT AND REMOVE CONCRETE SURFACE.

(3) REMOVE AND RELOCATE SIGNS, SEE SITE PLAN FOR PROPOSED LOCATION.

UTILITY NOTE

The utility locations as hereon shown are based on field observations and a careful review of municipal and utility company records. However, it is not possible to determine the precise location and depth of underground utilities without excavation. Therefore, we cannot guarantee the accuracy or completeness of the buried utility information hereon shown. The contractor shall call "MISS DIG" (1-800-482-7171) within three working days prior to any excavation. The contractor is responsible for verifying these utility locations prior to construction and shall make every effort to protect and or relocate them as required.

FOR UTILITIES CONTACT

WATER AND SEWER
City of Howell
Ervin J. Suida, DPS Director
150 Marion St.
Howell, MI 48843

TELEPHONE SERVICE
517-546-7570

BY	MARK	REVISIONS	DATE

THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.

BENNETT RECREATION CENTER
CITY OF HOWELL
LIVINGSTON COUNTY, MICHIGAN

EXISTING CONDITIONS AND DEMO PLAN

DUNDEE OFFICE
125 Helle Blvd., Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: JTH	CH. BY: RCW	PROJECT NO.	
DR. BY: JTH	APP. BY: PAW	121978SG2014	
STDS.		SHEET 2 OF 4	C
DATE MARCH, 2015		FILE NO.	2.1
SCALE 1" = 20'		D-5121-02	

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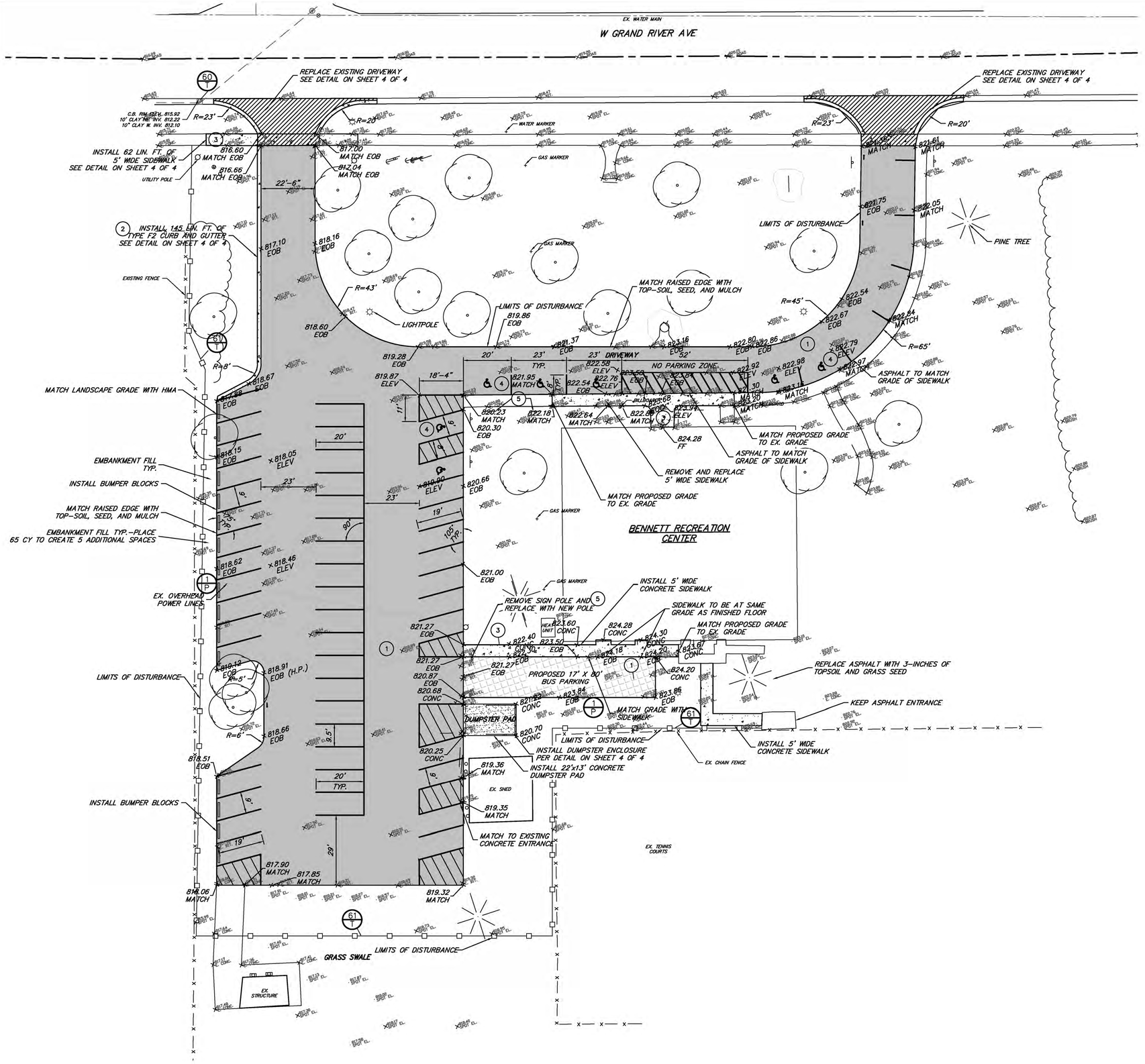


QUANTITIES THIS SHEET		
ITEM	UNIT	QTY.
CURB AND GUTTER, F2	LF	235
21AA CRUSHED AGG BASE	CU YD	100
HMA PAVEMENT	TONS	750
CONCRETE PAVEMENT, 8 INCH	SY	190
CONCRETE PAVEMENT, 4 INCH	SF	1550
PAVEMENT MARKINGS	LS	1
DUMPSTER ENCLOSURE	LS	1
TRAFFIC CONTROL	LS	1
SOIL EROSOIN AND SEDIMENTATION	LS	1
BUMPER BLOCKS	EACH	29
SIGN WITH POST	EACH	3

CONCRETE PEDESTRIAN SIDEWALK

CONCRETE DRIVEWAY AND SIDEWALK

CONCRETE DUMPSTER PAD

HMA BASE CRUSH AND SHAPE AND OVERLAY

BUS PARKING

PARCEL DATA:

925 WEST GRAND RIVER AVE.

CONSTRUCTION ITEMS:

1. HMA PAVEMENT.
2. CONCRETE CURB AND GUTTER.
3. 4" THICK CONCRETE SIDEWALK
4. STRIPED BARRIER FREE PARKING.
5. SIGN.

GRADING LEGEND:

EOB=EDGE OF BITUMINOUS

T/C=TOP OF CURB

FF=FINISH FLOOR

CONC=CONCRETE

×41.15 PROPOSED GRADE
EOB

BY	MARK	REVISIONS	DATE

BENNETT RECREATION CENTER
CITY OF HOWELL
LIVINGSTON COUNTY, MICHIGAN

SITE/GRADING PLAN

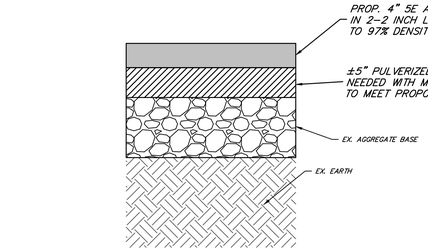
Spicer group ©2015
DUNDEE OFFICE
125 Helle Blvd., Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: JTH CH. BY: RCW
DR. BY: JTH APP. BY: PAW
PROJECT NO. 121978SG2014

STDS.
SHEET 3 OF 4
C 3.1

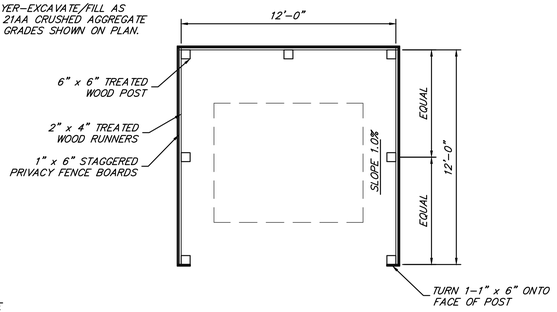
DATE MARCH, 2015
SCALE 1" = 20'
FILE NO. D-5121-03

PLOTTING SCALE: RET. PG. F.B. ACAD FILE:



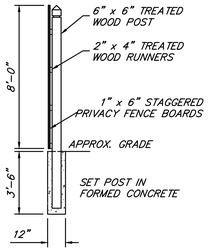
PROPOSED ASPHALT PULVERIZE AND OVERLAY TYPICAL CROSS SECTION

NOT TO SCALE



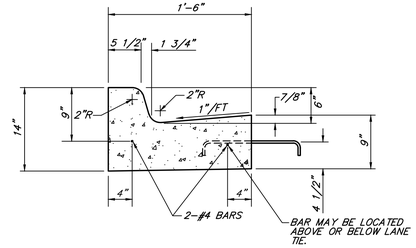
DUMPSTER ENCLOSURE PLAN

NOT TO SCALE



DUMPSTER POST DETAIL

NOT TO SCALE



CONCRETE CURB AND GUTTER MDOT DETAIL F2

NOT TO SCALE

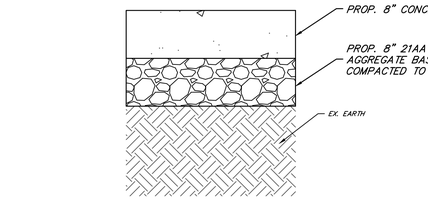
EROSION CONTROL MEASURES

KEY	SESC MEASURE	SYMBOL	WHERE USED
1	SEEDING		When bare soil is exposed, temporarily or permanently, to erosive forces from wind and or water on flat areas, mild slopes, grassed waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and spoil piles.
2	M□LCH		On flat areas, mild slopes, grassed waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and spoil piles when areas are subject to raindrop impact, and erosive forces from wind or water.
60	STORM DRAIN INLET PROTECTION		Around the entrance to a newly constructed catch basin or an inlet that will capture runoff from an earth change activity.
61	SILT FENCE		As a temporary measure used to capture sediment from sheet flow. May also divert small volumes of sheet flow to protected outlets.

SYMBOLOGY FOR INSERTION INTO CONSTRUCTION DRAWINGS:

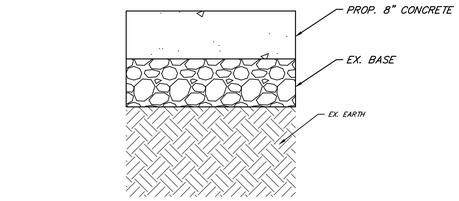
(P) = PERMANENT MEASURE

(T) = TEMPORARY MEASURE



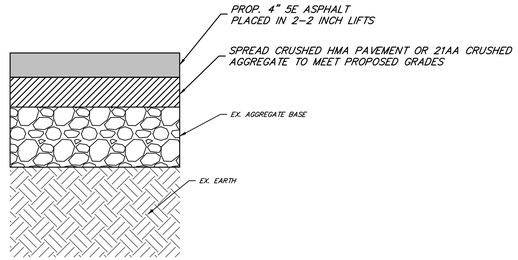
DUMPSTER PAD TYPICAL CROSS SECTION

NOT TO SCALE



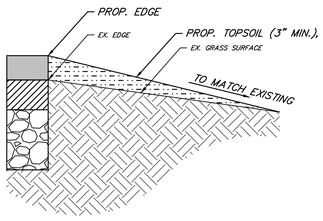
DRIVEWAY APPROACH TYPICAL CROSS SECTION

NOT TO SCALE



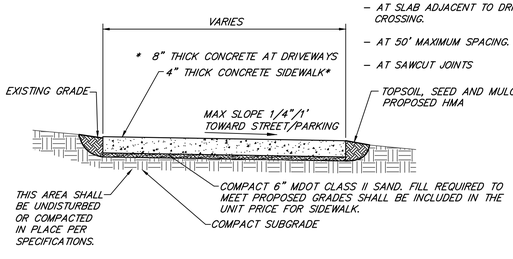
PROPOSED ASPHALT FOR BUS PARKING TYPICAL CROSS SECTION

NOT TO SCALE



RAISED EDGE TYPICAL CROSS SECTION

NOT TO SCALE

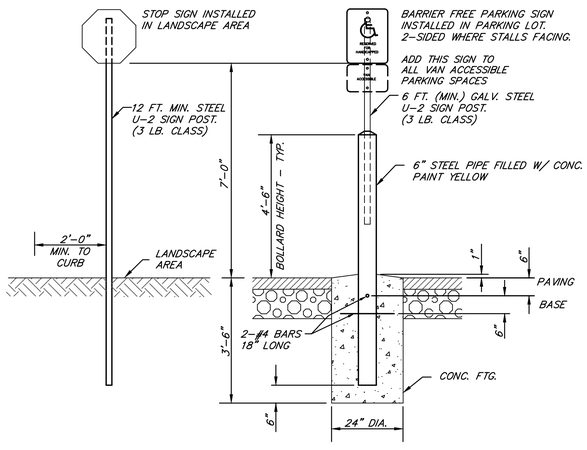


CONCRETE SIDEWALK SITE

NOT TO SCALE

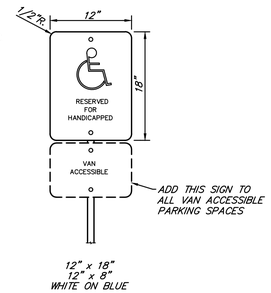
SIDEWALK CONSTRUCTION NOTES:

PROVIDE EXPANSION JOINTS:
- AROUND STRUCTURES LOCATED WITHIN THE SIDEWALK.
- AT SLAB ADJACENT TO DRIVEWAY CROSSING.
- AT 50' MAXIMUM SPACING.
- AT SAWCUT JOINTS



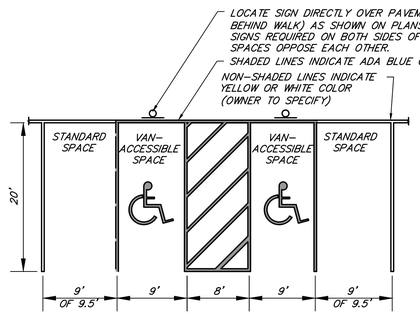
SIGN POST DETAILS

NOT TO SCALE



SIGN FACE DETAILS

NOT TO SCALE

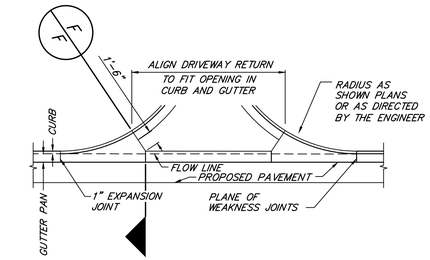


VAN ACCESSIBLE SPACES SHALL BE ADJACENT TO 8' WIDE NO-PARKING AREAS AND SHALL INCLUDE AN ADDITIONAL SIGN READING "VAN ACCESSIBLE". SEE SIGN DETAILS.

LINES SHALL BE 4" WIDE, WATERBORNE-TYPE PAINTED STRIPES. MATERIALS SHALL BE AS APPROVED BY MDOT.

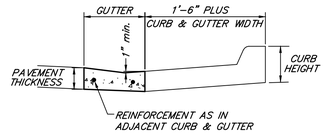
PARKING SPACES DETAIL

NOT TO SCALE



CONCRETE DRIVEWAY OPENING – DETAIL M

NOT TO SCALE



F/F SECTION

NOT TO SCALE

CONSTRUCTION NOTES

1. REMOVE AND REPLACE CONCRETE SIDEWALK AS SHOWN ON THE PLANS.
2. RAISE ASPHALT TO MATCH THE SIDEWALK CURB AS SHOWN ON PROPOSED CONDITIONS.
3. CRUSHED SHAPE PARKING LOT AND DRIVEWAYS TO TOP OF SUB-BASE.
4. REPLACE EXISTING ASPHALT WITH 4" 5E HMA.
5. REUSE BASE COURSE OF AGGREGATE. ADDITIONAL 21AA MAY BE REQUIRED TO ENSURE PROPER DRAINAGE SURFACE AND TO MEET PROPOSED GRADES.
6. TOPSOIL AND FILL WILL BE REQUIRED TO MATCH THE LANDSCAPE WITH NEW PARKING LOT GRADE.
7. REPLACE EXISTING PAVEMENT MARKERS WITH PROPOSED PAVEMENT MARKERS.
8. KEEP ALL SIGNS UNLESS REMOVAL IS NEEDED. ANY DAMAGED SIGNS WILL BE REPLACED AND PAID FOR BY CONTRACTOR.

BY	MARK	REVISIONS	DATE

BENNETT RECREATION CENTER
CITY OF HOWELL
LIVINGSTON COUNTY, MICHIGAN

DETAILS

DUNDEE OFFICE
125 Helle Blvd., Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: JTH	CH. BY: RCW	PROJECT NO.	121978SG2014
DR. BY: JTH	APP. BY: PAW		
STDS.		SHEET 4 OF 4	C
DATE MARCH, 2015		FILE NO. D-5121-04	4.1
SCALE AS SHOWN			

ACAD FILE:
PG:
F.B.
RET.
PLOTTING SCALE:

CITY OF HOWELL

3/10/2015

Name	Amount	Description
TOTAL	**$ -**	
BALANCE FORWARD	**$ 714,177.45**	
TOTAL	**$ 714,177.45**	*******
PAYROLL 2-21-2015	**$ 147,872.96**	**included*****

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
AMER WATER	A W W A	02/11/2015	0001049176	GEN	CHLORINE STANDARDS	
66734	PO BOX 972997	03/10/2015		N		299.00
02/11/2015	DALLAS TX, 75397-2997	/ /	0.0000	N		0.00
		03/10/2015		N		299.00
Open						

GL NUMBER	DESCRIPTION	AMOUNT
591-564-957.000	EDUCATION / TRAINING	299.00

VENDOR TOTAL: 299.00

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
ASCAP	ASCAP	02/20/2015	500637635	GEN	LICENSE FEE 2015	
66703	21678 NETWORK PLACE	03/10/2015		N		335.83
02/20/2015	CHICAGO IL, 60673-1216	/ /	0.0000	N		0.00
		03/10/2015		N		335.83
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-248-840.000	DUES & MEMBERSHIPS	335.83

VENDOR TOTAL: 335.83

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
PERF/BONDS	B5 CONTRACTOR SERVICES LLC	02/19/2015	PB14-182	GEN	BONKER'S FROZEN YOGURT	
66609	3510 BROPHY RD	03/10/2015		N		300.00
02/19/2015	HOWELL MI, 48855	/ /	0.0000	Y		0.00
		02/19/2015		N		300.00
PD CK# 81473 02/19/2015						

GL NUMBER	DESCRIPTION	AMOUNT
101-000-283.000	DEV ESCROW	300.00

VENDOR TOTAL: 300.00

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
BASIC	BASIC	02/11/2015	84621	GEN	HRA ANNUAL PLAN ADMIN	
66735	9246 PORTAGE INDUSTRIAL DR	03/10/2015		N		864.00
02/11/2015	PORTAGE MI, 49024	/ /	0.0000	N		0.00
		03/10/2015		N		864.00
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-270-801.000	PROFESSIONAL SERVICES	864.00

VENDOR TOTAL: 864.00

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
HERO QUEST	BLR-BUSINESS & LEGAL RESOURCES	02/13/2015	16482523	GEN	EMPLOYER STATE LAW ALERT POSTER	
66741	P.O. BOX 5094	03/10/2015		N		437.00
02/13/2015	BRENTWOOD TN, 37024-5094	/ /	0.0000	N		0.00
		03/10/2015		N		437.00
Open						

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
GL NUMBER	DESCRIPTION			AMOUNT		
101-301-900.007	SUBSCRIPTIONS & PUBLICATIONS			437.00		
					VENDOR TOTAL:	437.00
BOB MAXEY	BOB MAXEY FORD OF HOWELL	02/20/2015	106661	GEN	BRAKE REPAIR TRUCK #34	
66657	2798 E GRAND RIVER	03/10/2015		N		1,384.21
02/20/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		03/10/2015		N		1,384.21
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
640-441-930.006	REPAIR & MAINT. VEHICLES			1,384.21		
BOB MAXEY	BOB MAXEY FORD OF HOWELL	02/01/2015	106832	GEN	TRUCK #10 REPAIR	
66658	2798 E GRAND RIVER	03/10/2015		N		1,291.82
02/01/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		03/10/2015		N		1,291.82
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
640-441-930.006	REPAIR & MAINT. VEHICLES			1,291.82		
BOB MAXEY	BOB MAXEY FORD OF HOWELL	02/24/2015	107381	GEN	TURN SIGNALS REPAIRED	
66709	2798 E GRAND RIVER	03/10/2015		N		268.48
02/24/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		03/10/2015		N		268.48
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
640-441-930.006	REPAIR & MAINT. VEHICLES			268.48		
					VENDOR TOTAL:	2,944.51
BOBCAT OF	BOBCAT OF LANSING	02/10/2015	WO2882	GEN	REPAIRS	
66659	3237 WEST MILLER RD	03/10/2015		N		257.02
02/10/2015	LANSING MI, 48911-4431	/ /	0.0000	N		0.00
		03/10/2015		N		257.02
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
640-441-930.006	REPAIR & MAINT. VEHICLES			257.02		
					VENDOR TOTAL:	257.02
BODMAN LLP	BODMAN PLC	02/16/2015	537327	GEN	PROFESSIONAL FEES	
66710	6TH FLOOR AT FORD FIELD	03/10/2015		N		1,454.80
	1901 ST ANTOINE ST					

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
02/16/2015	DETROIT MI, 48226	/ /	0.0000	N		0.00
		03/10/2015		N		1,454.80

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-270-801.000	PROFESSIONAL SERVICES	1,454.80

VENDOR TOTAL: 1,454.80

CARLISLE	CARLISLE/WORTMAN ASSOCIATES INC	02/09/2015	2134531	GEN	BUILDING ADMIN FOR JAN 2015	
66642	605 S MAIN ST	03/10/2015		N		3,000.00
	SUITE 1					
02/09/2015	ANN ARBOR MI, 48104	/ /	0.0000	N		0.00
		03/10/2015		N		3,000.00

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-371-801.000	PROFESSIONAL SERVICES	3,000.00

CARLISLE	CARLISLE/WORTMAN ASSOCIATES INC	02/09/2015	2134532	GEN	BLDG INSPECTIONS	
66641	605 S MAIN ST	03/10/2015		N		1,540.00
	SUITE 1					
02/09/2015	ANN ARBOR MI, 48104	/ /	0.0000	N		0.00
		03/10/2015		N		1,540.00

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-371-801.000	PROFESSIONAL SERVICES	1,540.00

CARLISLE	CARLISLE/WORTMAN ASSOCIATES INC	02/09/2015	2134533	GEN	MEETING 1-6-2015	
66643	605 S MAIN ST	03/10/2015		N		112.50
	SUITE 1					
02/09/2015	ANN ARBOR MI, 48104	/ /	0.0000	N		0.00
		03/10/2015		N		112.50

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-371-801.000	PROFESSIONAL SERVICES	112.50

CARLISLE	CARLISLE/WORTMAN ASSOCIATES INC	02/09/2015	2134672	GEN	2014 MASTER PLAN REVISION 1-28 & 1-3	
66644	605 S MAIN ST	03/10/2015		N		150.00
	SUITE 1					
02/09/2015	ANN ARBOR MI, 48104	/ /	0.0000	N		0.00
		03/10/2015		N		150.00

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-722-967.000	PROJECT COSTS	150.00

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
CARLISLE	CARLISLE/WORTMAN ASSOCIATES INC	02/11/2015	2134673	GEN	PLANNING CONSULTATION FOR JAN 2015	
66645	605 S MAIN ST	03/10/2015		N		1,865.00
	SUITE 1					
02/11/2015	ANN ARBOR MI, 48104	/ /	0.0000	N		0.00
		03/10/2015		N		1,865.00
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
101-722-801.000	PROFESSIONAL SERVICES			1,865.00		
CARLISLE	CARLISLE/WORTMAN ASSOCIATES INC	02/11/2015	2134674	GEN	REGAL SITE PLAN	
66782	605 S MAIN ST	03/10/2015		N		360.00
	SUITE 1					
02/11/2015	ANN ARBOR MI, 48104	/ /	0.0000	N		0.00
		03/10/2015		N		360.00
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
101-000-283.000	DEV ESCROW			360.00		
CARLISLE	CARLISLE/WORTMAN ASSOCIATES INC	02/01/2015	2134675	GEN	ZONING ADMIN JAN 2015	
66781	605 S MAIN ST	03/10/2015		N		900.00
	SUITE 1					
02/11/2015	ANN ARBOR MI, 48104	/ /	0.0000	N		0.00
		03/10/2015		N		900.00
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
101-722-801.000	PROFESSIONAL SERVICES			900.00		
					VENDOR TOTAL:	7,927.50
CARTWRIGH	CARTWRIGHT, JANE	02/03/2015	02042015	GEN	FMLA/ADA/WORKERSCOMP SEMINAR	
66780		03/10/2015		N		42.84
02/03/2015	,	/ /	0.0000	N		0.00
		03/10/2015		N		42.84
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
101-215-860.000	CONFERENCE /TRANSPORTATION			42.84		
					VENDOR TOTAL:	42.84
CONVENIENC	CD OKEMOS 10, LLC	02/17/2015	15522	GEN	KEROSENE	
66671		03/10/2015		N		99.69
	P.O. BOX 708					
02/17/2015	HOWELL MI, 48844	/ /	0.0000	N		0.00
		03/10/2015		N		99.69
Open						

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount

GL NUMBER | DESCRIPTION | AMOUNT
640-441-775.000 | MAINTENANCE SUPPLIES | 99.69

VENDOR TOTAL: 99.69

CERT DOC	CERTIFIED DOCUMENT DESTRUCTION	02/17/2015	76407	GEN	SHREDDING	
66736	300 W CHESTNUT ST	03/10/2015		N		49.27
02/17/2015	WAUSEON OH, 43567	/ /	0.0000	N		0.00
		03/10/2015		N		49.27

Open

GL NUMBER | DESCRIPTION | AMOUNT
101-215-930.010 | RECORDS MAINTENANCE | 49.27

VENDOR TOTAL: 49.27

CHAMPION	CHAMPION CHEVROLET, INC	02/12/2015	CVS175277	GEN	REPAIRS POLICE CAR	
66660	5000 E GRAND RIVER	03/10/2015		N		381.32
02/12/2015	HOWELL MI, 48843-9101	/ /	0.0000	N		0.00
		03/10/2015		N		381.32

Open

GL NUMBER | DESCRIPTION | AMOUNT
640-441-930.006 | REPAIR & MAINT. VEHICLES | 381.32

VENDOR TOTAL: 381.32

HOWELLCITY	CITY OF HOWELL	02/12/2015	2015TAX	GEN	MARION ST TAX 2015	
66611	611 E GRAND RIVER	03/10/2015		N		92.70
02/12/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		02/19/2015		N		92.70

PD CK# 81475 02/19/2015

GL NUMBER | DESCRIPTION | AMOUNT
298-283-918.000 | PROPERTY TAX PAYMENTS | 92.70

VENDOR TOTAL: 92.70

COMCAST	COMCAST CABLE	02/11/2015	09588/3/2015	GEN	CITY HALL INTERNET	
66708	P O BOX 7500	03/10/2015		N		147.85
02/11/2015	SOUTHEASTERN PA, 19398-7500	/ /	0.0000	Y		0.00
		02/24/2015		N		147.85

PD CK# 81493 03/02/2015

GL NUMBER | DESCRIPTION | AMOUNT
101-228-850.008 | COMMUNICATIONS - INTERNET | 147.85

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
					VENDOR TOTAL:	147.85
CONTINENTA 66790 02/28/2015	CONTINENTAL LINEN SERVICES 4200 MANCHESTER KALAMAZOO MI, 49001	02/28/2015 03/10/2015 / / 03/10/2015	20627/2/2015 0.0000	GEN N N N	UNIFORMS	 44.07 0.00 44.07
Open						
GL NUMBER 641-441-741.002	DESCRIPTION UNIFORMS/CLEANING/ RENTAL				AMOUNT 44.07	
CONTINENTA 66792 02/28/2015	CONTINENTAL LINEN SERVICES 4200 MANCHESTER KALAMAZOO MI, 49001	02/28/2015 03/10/2015 / / 03/10/2015	20630/2/2015 0.0000	GEN N N N	FLOOR MATS LOBBY	 44.06 0.00 44.06
Open						
GL NUMBER 101-265-804.005	DESCRIPTION CONTRACT SERV - MAT CLEANING				AMOUNT 44.06	
CONTINENTA 66793 02/28/2015	CONTINENTAL LINEN SERVICES 4200 MANCHESTER KALAMAZOO MI, 49001	02/28/2015 03/10/2015 / / 03/10/2015	20631/2/2015 0.0000	GEN N N N	UNIFORMS	 335.10 0.00 335.10
Open						
GL NUMBER 640-441-741.002 641-441-741.002 591-564-775.000	DESCRIPTION UNIFORMS/CLEANING/ RENTAL UNIFORMS/CLEANING/ RENTAL MAINTENANCE SUPPLIES				AMOUNT 30.00 250.10 55.00 335.10	
CONTINENTA 66789 02/28/2015	CONTINENTAL LINEN SERVICES 4200 MANCHESTER KALAMAZOO MI, 49001	02/28/2015 03/10/2015 / / 03/10/2015	20632/2/2015 0.0000	GEN N N N	UNIFORMS	 81.68 0.00 81.68
Open						
GL NUMBER 591-564-741.002	DESCRIPTION UNIFORMS/CLEANING/ RENTAL				AMOUNT 81.68	
CONTINENTA 66791 02/28/2015	CONTINENTAL LINEN SERVICES 4200 MANCHESTER KALAMAZOO MI, 49001	02/28/2015 03/10/2015 / / 03/10/2015	28427/2/2015 0.0000	GEN N N N	FLOOR MATS -POLICE DEPT LOCKER ROOMS	 17.60 0.00 17.60
Open						
GL NUMBER 101-265-804.005	DESCRIPTION CONTRACT SERV - MAT CLEANING				AMOUNT 17.60	

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
					VENDOR TOTAL:	522.51
CORRIGAN	CORRIGAN OIL COMPANY	02/10/2015	6025934	GEN	OIL	
66661	775 N SECOND ST	03/10/2015		N		1,328.25
02/10/2015	BRIGHTON MI, 48116	/ /	0.0000	N		0.00
		03/10/2015		N		1,328.25
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
640-441-751.001	VEHICLE OIL & VARIOUS SUPPLIES				1,328.25	
CORRIGAN	CORRIGAN OIL COMPANY	02/17/2015	6029179-IN	GEN	FUEL	
66677	775 N SECOND ST	03/10/2015		N		3,946.87
02/17/2015	BRIGHTON MI, 48116	/ /	0.0000	N		0.00
		03/10/2015		N		3,946.87
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
640-441-751.000	GASOLINE & DIESEL FUEL				3,946.87	
					VENDOR TOTAL:	5,275.12
D&G EQUIP	D & G EQUIPMENT INC	02/17/2015	272845	GEN	NUTS & BOLTS FOR 1445 BLOWER	
66680	2 INDUSTRIAL PARK DR	03/10/2015		N		18.66
02/17/2015	WILLIAMSTON MI, 48895	/ /	0.0000	N		0.00
		03/10/2015		N		18.66
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
101-751-740.019	OPER SUPP/SMALL EQUIPMENT				18.66	
					VENDOR TOTAL:	18.66
D&K TRUCK	D & K TRUCK COMPANY	02/06/2015	627578	GEN	DASH PANEL	
66662	319 E NORTH ST	03/10/2015		N		110.60
02/06/2015	LANSING MI, 48906	/ /	0.0000	N		0.00
		03/10/2015		N		110.60
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
640-441-775.000	MAINTENANCE SUPPLIES				110.60	
					VENDOR TOTAL:	110.60
DAWDA MANN	DAWDA MANN MULCAHY & SADLER PLC	02/01/2015	237263	GEN	DIAMOND CHROME SITE	
66711	39533 WOODWARD AVE SUITE 200	03/10/2015		N		245.00
02/01/2015	BLOOMFIELD HILLS MI, 48304-2815	/ /	0.0000	N		0.00

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
		03/10/2015		N		245.00

Open

GL NUMBER	DESCRIPTION	AMOUNT
202-538-801.000	PROFESSIONAL SERVICES	245.00

VENDOR TOTAL: 245.00

DEWOLF & A	DEWOLF & ASSOCIATES	02/27/2015	867	GEN	SUPERVISION FTO - FOGO	
66771	P.O. BOX 793	03/10/2015		N		595.00
02/27/2015	BLOOMFIELD HILLS MI, 48303	/ /	0.0000	N		0.00
		03/10/2015		N		595.00

Open

GL NUMBER	DESCRIPTION	AMOUNT
274-301-957.000	EDUCATION / TRAINING	595.00

VENDOR TOTAL: 595.00

DEZURIK	DEZURIK WATER CONTROLS	02/17/2015	RPI/61002970	GEN	SWING CHECK VALVE FOR WELL #6	
66737	8619 SOLUTIONS CENTER P.O. BOX 1450	03/10/2015		N		2,400.00
02/17/2015	CHICAGO IL, 60677-8006	/ /	0.0000	Y		0.00
		03/10/2015		N		2,400.00

Open

GL NUMBER	DESCRIPTION	AMOUNT
591-564-930.008	REPAIR & MAINT - PUMP STATION	2,400.00

VENDOR TOTAL: 2,400.00

DORNBOS SI	DORNBOS SIGN & SAFETY INC.	01/29/2015	INV19096	GEN	SIGNS	
66794	619 W HARRIS	03/10/2015		N		175.08
01/29/2015	CHARLOTTE MI, 48813	/ /	0.0000	N		0.00
		03/10/2015		N		175.08

Open

GL NUMBER	DESCRIPTION	AMOUNT
202-474-775.000	MAINTENANCE SUPPLIES	87.54
203-474-775.000	MAINTENANCE SUPPLIES	87.54
		175.08

DORNBOS SI	DORNBOS SIGN & SAFETY INC.	02/06/2015	INV19169	GEN	SIGNS	
66663	619 W HARRIS	03/10/2015		N		446.75
02/06/2015	CHARLOTTE MI, 48813	/ /	0.0000	N		0.00
		03/10/2015		N		446.75

Open

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount

GL NUMBER	DESCRIPTION	AMOUNT
202-474-775.000	MAINTENANCE SUPPLIES	150.00
203-474-775.000	MAINTENANCE SUPPLIES	150.00
101-747-740.000	OPERATING SUPPLIES	146.75
		446.75

VENDOR TOTAL: 621.83

DET EDIS	DTE	02/17/2015	6970299	GEN	STREET LIGHTS, HOLIDAY LIGHTING & SI	
66679		03/10/2015		N		29,924.24
	P.O. BOX 630795					
02/17/2015	CINCINNATI OH, 45263-0795	/ /	0.0000	Y		0.00
		02/24/2015		N		29,924.24

PD CK# 81488 03/02/2015

GL NUMBER	DESCRIPTION	AMOUNT
101-448-920.000	UTILITIES - ELECTRICITY	29,791.01
202-474-920.010	ELEC/TRAFFIC SIGNAL ENERGY	101.92
101-751-920.000	UTILITIES - ELECTRICITY	31.31
		29,924.24

DET EDIS	DTE	01/29/2015	6971246	GEN	1191 PINCKNEY RD - WWTP	
66606		03/10/2015		N		7,062.72
	P.O. BOX 630795					
01/29/2015	CINCINNATI OH, 45263-0795	/ /	0.0000	Y		0.00
		02/19/2015		N		7,062.72

PD CK# 81477 02/19/2015

GL NUMBER	DESCRIPTION	AMOUNT
590-564-920.000	UTILITIES - ELECTRICITY	7,062.72

VENDOR TOTAL: 36,986.96

DET EDISON	DTE ENERGY	01/29/2015	3/4/2015	GEN	CITY UTILITIES	
66605	P O BOX 740786	03/10/2015		N		1,610.36
01/29/2015	CINCINNATI OH, 45274-0786	/ /	0.0000	N		0.00
		02/19/2015		N		1,610.36

PD CK# 81478 02/19/2015

GL NUMBER	DESCRIPTION	AMOUNT
590-536-920.004	601 WEST ST LIFT STA	154.84
590-536-920.004	1420 W GRAND RIVER AVE LIFT STA(HS)	447.07
101-276-920.000	920 ROOSEVELT - CEMETERY BLDG	187.69
591-564-920.005	601 HENRY ST WELL	500.46
101-751-920.007	UTILITIES / ELEC / BARNARD	39.04
591-564-920.005	416 THOMPSON WELL	94.39
590-536-920.004	425 AUBREY ST LIFT STATION	70.56
590-536-920.004	1502 MCPHERSON PARK LIFT STATION	116.31

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
					1,610.36	
DET EDISON	DTE ENERGY	02/17/2015	5295506-2-2015	GEN	CITY UTILITIES	
66678	P O BOX 740786	03/10/2015		N		68.76
02/17/2015	CINCINNATI OH, 45274-0786	/ /	0.0000	N		0.00
		02/24/2015		N		68.76
PD CK# 81489 03/02/2015						
GL NUMBER	DESCRIPTION				AMOUNT	
590-536-920.004	1158 LAKESIDE - LIFT STATION (AROUND 7TH				68.76	
DET EDISON	DTE ENERGY	02/20/2015	MARCH 2015	GEN	CITY UTILITIES	
66704	P O BOX 740786	03/10/2015		N		6,908.52
02/20/2015	CINCINNATI OH, 45274-0786	/ /	0.0000	N		0.00
		02/24/2015		N		6,908.52
PD CK# 81489 03/02/2015						
GL NUMBER	DESCRIPTION				AMOUNT	
591-564-920.005	3255 NORTON RD WELL #5				1,613.22	
591-564-920.005	3147 NORTON RD WELL # 6				1,856.19	
591-564-920.005	3175 NORTON RD WELL #8				1,657.52	
591-564-920.005	3145 NORTON RD WELL #4				1,781.59	
					6,908.52	
					VENDOR TOTAL:	8,587.64
ECONO PRIN	ECONO PRINT INC	02/23/2015	55146	GEN	PRINTING AND SUPPLIES ASSESSMENT NOT	
66738	10312 DEXTER- PINCKNEY RD.	03/10/2015		N		1,947.03
02/23/2015	PINCKNEY MI, 48169	/ /	0.0000	N		0.00
		03/10/2015		N		1,947.03
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
101-191-900.004	PRINTING BUDGET				1,947.03	
					VENDOR TOTAL:	1,947.03
ENVIRONMEN	ENVIRONMENTAL RESOURCE ASSOCIATES	02/09/2015	744411	GEN	WATER TESTING	
66664	DEPT CH 19753	03/10/2015		N		1,079.72
02/09/2015	PALATINE IL, 60055-9753	/ /	0.0000	N		0.00
		03/10/2015		N		1,079.72
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
591-564-801.000	PROFESSIONAL SERVICES				1,079.72	
					VENDOR TOTAL:	1,079.72

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
EQ-THE ENV	EQ-THE ENVIRONMENTAL QUALITY COMPAN	02/01/2015	128803	GEN	ACID SPILL DUMPSTER	
66712	P.O. BOX 673974	03/10/2015		N		543.86
02/01/2015	DETROIT MI, 48267-3974	/ /	0.0000	N		0.00
		03/10/2015		N		543.86
Open						

GL NUMBER	DESCRIPTION	AMOUNT
591-564-804.000	CONTRACTUAL SERVICES	543.86

VENDOR TOTAL: 543.86

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
FERRELLGAS	FERRELLGAS	02/17/2015	1086235554	GEN	PROPANE GRAVE THAWER	
66682	P.O. BOX 173940	03/10/2015		N		55.46
02/17/2015	DENVER CO, 80217-3940	/ /	0.0000	N		0.00
		03/10/2015		N		55.46
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-276-740.000	OPERATING SUPPLIES	55.46

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
FERRELLGAS	FERRELLGAS	02/17/2015	1086425616	GEN	PROPANE FOR GRAVETHAWER	
66681	P.O. BOX 173940	03/10/2015		N		73.50
02/17/2015	DENVER CO, 80217-3940	/ /	0.0000	N		0.00
		03/10/2015		N		73.50
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-276-740.000	OPERATING SUPPLIES	73.50

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
FERRELLGAS	FERRELLGAS	02/20/2015	1086451305	GEN	PROPANE FOR GRAVE THAWER	
66713	P.O. BOX 173940	03/10/2015		N		106.41
02/20/2015	DENVER CO, 80217-3940	/ /	0.0000	N		0.00
		03/10/2015		N		106.41
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-276-740.000	OPERATING SUPPLIES	106.41

VENDOR TOTAL: 235.37

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
FIRST IMPR	FIRST IMPRESSION PRINT & MARKETING	02/09/2015	60801	GEN	PRECINCT MAPS	
66665	2020 E GRAND RIVER AVE	03/10/2015		N		40.00
02/09/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		03/10/2015		N		40.00
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-262-727.000	OFFICE SUPPLIES	40.00

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
					VENDOR TOTAL:	40.00
FISHER, DA	FISHER, DAVID	02/20/2015	2-20-2015	GEN	TRAINING	
66655	203 ISBELL	03/10/2015		N		133.47
02/20/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		03/10/2015		N		133.47
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
101-247-712.002	BOARD OF REVIEW WAGES			133.47		
					VENDOR TOTAL:	133.47
FLATTERY	FLATTERY, WILLIAM	02/20/2015	2-23-2015	GEN	TRAINING	
66654	241 VICTORIA PARK CT	03/10/2015		N		133.47
02/20/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		03/10/2015		N		133.47
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
101-247-712.002	BOARD OF REVIEW WAGES			133.47		
					VENDOR TOTAL:	133.47
FOWL COM S	FOWLERVILLE COMMUNITY SCHOOLS	02/12/2015	1415-19	GEN	DTE POLE RENTAL FEE	
66610	7677 SHARPE RD SUITE A P.O. BOX 769	03/10/2015		N		248.74
02/12/2015	FOWLERVILLE MI, 48836	/ /	0.0000	N		0.00
		03/10/2015		N		248.74
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
101-228-822.001	NETWORK SUPPORT			248.74		
					VENDOR TOTAL:	248.74
GOCH, M	GOCH, MARCEL	02/24/2015	0224-2015	GEN	LUNCH FOR WORKERS ON FROZEN LINES	
66683		03/10/2015		N		37.03
02/24/2015	,	/ /	0.0000	N		0.00
		03/10/2015		N		37.03
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
591-536-775.000	MAINTENANCE SUPPLIES			37.03		
					VENDOR TOTAL:	37.03
GRAINGER	GRAINGER	02/11/2015	9664143923	GEN	HIP WADERS	
66714	DEPT 825552573	03/10/2015		N		78.84

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
02/11/2015	PALATINE IL, 60038-0001	/ /	0.0000	N		0.00
		03/10/2015		N		78.84

Open

GL NUMBER	DESCRIPTION	AMOUNT
590-564-740.000	OPERATING SUPPLIES	78.84

VENDOR TOTAL: 78.84

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
GRUNDYS AC	GRUNDY'S ACE HARDWARE	02/10/2015	78229	GEN	PAINT BRUSH	
66716	1250 E GRAND RIVER	03/10/2015		N		2.99
02/10/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		03/10/2015		N		2.99

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-276-775.000	MAINTENANCE SUPPLIES	2.99

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
GRUNDYS AC	GRUNDY'S ACE HARDWARE	02/12/2015	78239	GEN	AUTO SOAP	
66717	1250 E GRAND RIVER	03/10/2015		N		5.39
02/12/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		03/10/2015		N		5.39

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-276-775.000	MAINTENANCE SUPPLIES	5.39

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
GRUNDYS AC	GRUNDY'S ACE HARDWARE	02/24/2015	78261	GEN	BULBS FOR COURT ST BRIDGE	
66684	1250 E GRAND RIVER	03/10/2015		N		8.08
02/24/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		03/10/2015		N		8.08

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-443-775.000	MAINTENANCE SUPPLIES	8.08

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
GRUNDYS AC	GRUNDY'S ACE HARDWARE	02/19/2015	78273	GEN	LIGHTERS	
66715	1250 E GRAND RIVER	03/10/2015		N		2.96
02/19/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		03/10/2015		N		2.96

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-276-740.000	OPERATING SUPPLIES	2.96

VENDOR TOTAL: 19.42

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
HACH CO	HACH COMPANY	02/12/2015	9240074	GEN	LAB SUPPLIES	
66739	2207 COLLECTIONS CENTER DR	03/10/2015		N		1,076.13

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
02/12/2015	CHICAGO IL, 60693	/ /	0.0000	N		0.00
		03/10/2015		N		1,076.13
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
591-564-775.003	LABORATORY SUPPLIES				1,076.13	
					VENDOR TOTAL:	1,076.13
HOW GUN	HOWELL GUN CLUB	02/12/2015	2015	GEN	RANGE FEES 16 ASSOCIATE / AND CHIEF	
66718	3210 JEWELL RD	03/10/2015		N		1,150.00
	P.O. BOX 53					
02/12/2015	HOWELL MI, 48844	/ /	0.0000	Y		0.00
		03/10/2015		N		1,150.00
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
101-301-887.001	GUN RANGE				1,150.00	
					VENDOR TOTAL:	1,150.00
HOW HARDW	HOWELL HARDWARE	01/28/2015	73843	GEN	SHELVING BRACKET	
66607	1076 S MICHIGAN AVE	03/10/2015		N		25.83
01/28/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		02/24/2015		N		25.83
PD CK# 81480 02/19/2015						
GL NUMBER	DESCRIPTION				AMOUNT	
591-536-775.000	MAINTENANCE SUPPLIES				25.83	
					VENDOR TOTAL:	25.83
HOW SOFT	HOWELL SOFT CLOTH CAR WASH	02/22/2015	FEB 2015	GEN	PROPANE	
66719	1009 S PINCKNEY RD	03/10/2015		N		126.89
02/20/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		03/10/2015		N		126.89
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
591-536-775.000	MAINTENANCE SUPPLIES				126.89	
HOW SOFT	HOWELL SOFT CLOTH CAR WASH	02/23/2015	FEB 2015 DETAIL	GEN	DETAILING 2 CARS	
66720	1009 S PINCKNEY RD	03/10/2015		N		80.00
02/18/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		03/10/2015		N		80.00
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
640-441-775.000	MAINTENANCE SUPPLIES				80.00	

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
					VENDOR TOTAL:	206.89
HUBBELL 66743 02/25/2015	HUBBELL ROTH & CLARK P O BOX 824 BLOOMFIELD HILLS MI, 48303-0824	02/25/2015 03/10/2015 / / 03/10/2015	0134554 0.0000 	GEN N N N	RAW WATER MAIN REHAB EVAL	1,260.00 0.00 1,260.00
Open						
GL NUMBER 591-536-801.004	DESCRIPTION ENGINEERING SERVICES				AMOUNT 1,260.00	
HUBBELL 66721 02/25/2015	HUBBELL ROTH & CLARK P O BOX 824 BLOOMFIELD HILLS MI, 48303-0824	02/25/2015 03/10/2015 / / 03/10/2015	0134556 0.0000 	GEN N N N	STRUCTURAL INVESTIGATION	1,292.06 0.00 1,292.06
Open						
GL NUMBER 101-447-801.004	DESCRIPTION ENGINEERING SERVICES				AMOUNT 1,292.06	
HUBBELL 66722 02/25/2015	HUBBELL ROTH & CLARK P O BOX 824 BLOOMFIELD HILLS MI, 48303-0824	02/25/2015 03/10/2015 / / 03/10/2015	0134557 0.0000 	GEN N N N	STRUCTURAL INVESTIGATION	2,310.40 0.00 2,310.40
Open						
GL NUMBER 101-447-801.004	DESCRIPTION ENGINEERING SERVICES				AMOUNT 2,310.40	
HUBBELL 66742 02/25/2015	HUBBELL ROTH & CLARK P O BOX 824 BLOOMFIELD HILLS MI, 48303-0824	02/25/2015 03/10/2015 / / 03/10/2015	0134558 0.0000 	GEN N N N	LAVE VIEW CEMETERY BLDG EVAL	520.82 0.00 520.82
Open						
GL NUMBER 101-276-931.000	DESCRIPTION BUILDING MAINTENANCE				AMOUNT 520.82	
HUBBELL 66795 02/25/2015	HUBBELL ROTH & CLARK P O BOX 824 BLOOMFIELD HILLS MI, 48303-0824	02/25/2015 03/10/2015 / / 03/10/2015	134552 0.0000 	GEN N N N	DESIGN STANDARDS & DETAILS	2,870.85 0.00 2,870.85
Open						
GL NUMBER 590-536-801.004 591-536-801.004 202-538-801.004	DESCRIPTION ENGINEERING SERVICES ENGINEERING SERVICES ENGINEERING SERVICES				AMOUNT 717.71 717.71 717.71	

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
203-538-801.004	ENGINEERING SERVICES			717.72		
				2,870.85		
HUBBELL	HUBBELL ROTH & CLARK	02/25/2015	134553	GEN	WWTP DESIGN AND SPEC'S	
66746	P O BOX 824	03/10/2015		N		2,701.66
02/25/2015	BLOOMFIELD HILLS MI, 48303-0824	/ /	0.0000	N		0.00
		03/10/2015		N		2,701.66
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
590-564-801.004	ENGINEERING SERVICES			2,701.66		
HUBBELL	HUBBELL ROTH & CLARK	02/25/2015	134555	GEN	HMY III CE & BIDDING ASSIST	
66747	P O BOX 824	03/10/2015		N		780.50
02/25/2015	BLOOMFIELD HILLS MI, 48303-0824	/ /	0.0000	N		0.00
		03/10/2015		N		780.50
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
202-463-967.015	STREET ASSET MANAGEMENT			780.50		
HUBBELL	HUBBELL ROTH & CLARK	02/25/2015	134559	GEN	PARKING LOT #4 DESIGN	
66744	P O BOX 824	03/10/2015		N		557.93
02/25/2015	BLOOMFIELD HILLS MI, 48303-0824	/ /	0.0000	N		0.00
		03/10/2015		N		557.93
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
101-447-801.004	ENGINEERING SERVICES			557.93		
					VENDOR TOTAL:	12,294.22
KNAPHEIDE	KNAPHEIDE TRUCK EQUIPMENT	02/17/2015	FR16435	GEN	BELLY BLADE ON #36	
66748	1200 S AVERILL	03/10/2015		N		5,541.56
02/17/2015	FLINT MI, 48503	/ /	0.0000	N		0.00
		03/10/2015		N		5,541.56
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
640-441-930.006	REPAIR & MAINT. VEHICLES			5,541.56		
					VENDOR TOTAL:	5,541.56
KROGER	KROGER-COLUMBUS CUSTOMER CHARGES	02/17/2015	02-17-15	GEN	CLEANING SUPPLIES AND MAINT SUPPLIES	
66666	MICHIGAN CUSTOMER CHARGES	03/10/2015		N		71.79
	3444 SOLUTIONS CENTER					
02/17/2015	CHICAGO IL, 60677-3004	/ /	0.0000	N		0.00
		03/10/2015		N		71.79
Open						

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount

GL NUMBER	DESCRIPTION	AMOUNT
590-564-740.000	OPERATING SUPPLIES	8.97
591-564-775.000	MAINTENANCE SUPPLIES	33.82
641-441-775.000	MAINTENANCE SUPPLIES	29.00
		71.79

VENDOR TOTAL: 71.79

LINDHOUT	LINDHOUT ASSOCIATES	02/17/2015	1493.0215	GEN	BARNARD ASSESSMENT	
66667	10465 CITATION DR.	03/10/2015		N		1,761.00
02/17/2015	BRIGHTON MI, 48116	/ /	0.0000	N		0.00
		03/10/2015		N		1,761.00

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-751-931.003	BLDG MAINTENANCE - BARNARD	1,761.00

VENDOR TOTAL: 1,761.00

LIV CONSER	LIVINGSTON CONSERVATION DISTRICT	03/02/2015	2015SPRING	GEN	TREES	
66723	P.O. BOX 916	03/10/2015		N		205.00
03/02/2015	FOWLERVILLE MI, 48836	/ /	0.0000	Y		0.00
		03/10/2015		N		205.00

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-747-880.004	ARBOR DAY CELEBRATION	205.00

VENDOR TOTAL: 205.00

LIV CO IT	LIVINGSTON COUNTY INFORMATION TECH	02/27/2015	1864	GEN	FIBER CONNECTION	
66740	304 E GRAND RIVER , SUITE 101	03/10/2015		N		3,000.00
02/27/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		03/10/2015		N		3,000.00

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-228-822.001	NETWORK SUPPORT	1,500.00
101-000-677.014	IT SHARED SERVICES - BRIGHTON	1,500.00
		3,000.00

LIV CO IT	LIVINGSTON COUNTY INFORMATION TECH	02/24/2015	1865	GEN	OSSI CONNECTIVITY JAN & FEB 2015	
66773	304 E GRAND RIVER , SUITE 101	03/10/2015		N		850.00
02/24/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		03/10/2015		N		850.00

Open

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
GL NUMBER	DESCRIPTION			AMOUNT		
101-301-804.000	CONTRACTUAL SERVICES			850.00		
					VENDOR TOTAL:	3,850.00
LIV CNTY R	LIVINGSTON COUNTY ROAD COMMISSION	02/24/2015	FEB2015	GEN	COLD PATCH	
66724	3535 GRAND OAKS DR.	03/10/2015		N		502.49
02/24/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		03/10/2015		N		502.49
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
101-286-775.000	MAINTENANCE SUPPLIES			92.72		
202-463-775.000	MAINTENANCE SUPPLIES			158.52		
203-463-775.000	MAINTENANCE SUPPLIES			251.25		
				502.49		
					VENDOR TOTAL:	502.49
LOWES HOME	LOWE'S HOME CENTERS INC	02/01/2015	0080668	GEN	CREDIT RETURNS	
66777	P O BOX 530954	03/10/2015		N		(29.20)
02/01/2015	ATLANTA GA, 30353-0954	/ /	0.0000	N		0.00
		03/10/2015		N		(29.20)
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
101-751-775.006	MAINTENANCE SUPPLIES / PARKS			(29.20)		
LOWES HOME	LOWE'S HOME CENTERS INC	02/01/2015	027650	GEN	BEACH HOUSE REPAIRS	
66775	P O BOX 530954	03/10/2015		N		39.20
02/01/2015	ATLANTA GA, 30353-0954	/ /	0.0000	N		0.00
		03/10/2015		N		39.20
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
101-751-775.006	MAINTENANCE SUPPLIES / PARKS			39.20		
LOWES HOME	LOWE'S HOME CENTERS INC	02/02/2015	0925553	GEN	LIGHTS FOR CITY HALL	
66778	P O BOX 530954	03/10/2015		N		28.48
02/02/2015	ATLANTA GA, 30353-0954	/ /	0.0000	N		0.00
		03/10/2015		N		28.48
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
101-265-740.018	OPER SUPP/LANDSCAPING			28.48		
LOWES HOME	LOWE'S HOME CENTERS INC	02/01/2015	925831	GEN	SPOT LIGHT FOR LIFT STATIONS	
66776	P O BOX 530954	03/10/2015		N		77.37
02/01/2015	ATLANTA GA, 30353-0954	/ /	0.0000	N		0.00

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
		03/10/2015		N		77.37

Open

GL NUMBER	DESCRIPTION	AMOUNT
590-536-740.000	OPERATING SUPPLIES	77.37

VENDOR TOTAL: 115.85

VALLEY GAS	MATHESON TRI-GAS INC	02/23/2015	10813926	GEN	OXYGEN FOR TORCHES	
66749	P.O. BOX 347297	03/10/2015		N		39.40
02/23/2015	PITTSBURGH PA, 15251-4297	/ /	0.0000	N		0.00
		03/10/2015		N		39.40

Open

GL NUMBER	DESCRIPTION	AMOUNT
640-441-775.000	MAINTENANCE SUPPLIES	39.40

VENDOR TOTAL: 39.40

MERIT LAB	MERIT LABORATORIES	02/18/2015	64469	GEN	MONTHLY CYANIDE TEST	
66725	2680 EAST LANSING DR	03/10/2015		N		65.00
02/18/2015	EAST LANSING MI, 48823	/ /	0.0000	N		0.00
		03/10/2015		N		65.00

Open

GL NUMBER	DESCRIPTION	AMOUNT
590-537-801.000	PROFESSIONAL SERVICES	65.00

VENDOR TOTAL: 65.00

MI PIPE	MICHIGAN PIPE & VALVE	02/10/2015	L485099	GEN	STOCK	
66668	P.O. BOX 4370	03/10/2015		N		556.50
02/10/2015	JACKSON MI, 49204-4370	/ /	0.0000	N		0.00
		03/10/2015		N		556.50

Open

GL NUMBER	DESCRIPTION	AMOUNT
591-536-775.000	MAINTENANCE SUPPLIES	556.50

VENDOR TOTAL: 556.50

MICRO SOUR	MICRO SOURCE INC.	02/18/2015	095969	GEN	REPLACEMENT USB RECEIVER	
66726	655 FAIRFIELD COURT	03/10/2015		N		61.81
02/18/2015	ANN ARBOR MI, 48108	/ /	0.0000	N		0.00
		03/10/2015		N		61.81

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-191-980.005	EQUIP / COMPUTER SOFTWARE	61.81

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
MICRO SOUR	MICRO SOURCE INC.	02/18/2015	095976	GEN	DISPLAY PORT ADAPTER	
66727	655 FAIRFIELD COURT	03/10/2015		N		41.75
02/18/2015	ANN ARBOR MI, 48108	/ /	0.0000	N		0.00
		03/10/2015		N		41.75

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-447-980.004	EQUIP /COMPUTER HARDWARE	41.75

VENDOR TOTAL: 103.56

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
MISC	MILES, MELISSA	03/05/2015	03/04/2015	GEN	UB REFUND FOR 107 E GRAND RV #201	
66783	9827 BLACKBURN	03/10/2015		N		0.00
03/04/2015	LIVONIA MI, 48150	03/10/2015	0.0000	N		0.00
		03/10/2015		N		117.66

Open

GL NUMBER	DESCRIPTION	AMOUNT
590-536-643.001	2210-1 S RTS	33.25
591-536-644.000	1000-WTR USAGE	30.93
590-536-644.001	2000-SEW USG PL	21.32
591-536-643.000	1210-1 WTR RTS	19.86
590-536-644.005	2005-SEW USG.CM	7.13
226-528-635.001	3240-APT 1 COMP	5.17
		117.66

VENDOR TOTAL: 117.66

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
NCL OF WI	NCL OF WISCONSIN INC	02/11/2015	351198	GEN	LAB SUPPLIES	
66728	P O BOX 8	03/10/2015		N		283.21
02/11/2015	BIRNAMWOOD WI, 54414	/ /	0.0000	N		0.00
		03/10/2015		N		283.21

Open

GL NUMBER	DESCRIPTION	AMOUNT
590-564-775.003	LABORATORY SUPPLIES	283.21

VENDOR TOTAL: 283.21

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
NORTH EAST	NORTH EASTERN UNIFORMS & EQUIPMENT	02/11/2015	3840	GEN	UNIFORM - LOCKHART	
66729	900 WEST NORTH AVE	03/10/2015		N		399.45
02/11/2015	PITTSBURGH PA, 15233	/ /	0.0000	N		0.00
		03/10/2015		N		399.45

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-301-741.000	UNIFORMS/CLOTHING ALLOWANCE	399.45

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
NORTH EAST	NORTH EASTERN UNIFORMS & EQUIPMENT	02/24/2015	3882	GEN	UNIFORMS - WOODS	
66772	900 WEST NORTH AVE	03/10/2015		N		106.00
02/24/2015	PITTSBURGH PA, 15233	/ /	0.0000	N		0.00
		03/10/2015		N		106.00
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-301-741.000	UNIFORMS/CLOTHING ALLOWANCE	106.00

VENDOR TOTAL: 505.45

OFFICE DEP	OFFICE DEPOT	02/10/2015	753978536002	GEN	SMALL BINDERS	
66648	P O BOX 633211	03/10/2015		N		3.18
02/10/2015	CINCINNATI OH, 45263-3211	/ /	0.0000	N		0.00
		03/10/2015		N		3.18
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-301-727.000	OFFICE SUPPLIES	3.18

OFFICE DEP	OFFICE DEPOT	02/06/2015	754248536001	GEN	CD CABINET	
66730	P O BOX 633211	03/10/2015		N		188.08
02/06/2015	CINCINNATI OH, 45263-3211	/ /	0.0000	N		0.00
		03/10/2015		N		188.08
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-301-727.000	OFFICE SUPPLIES	188.08

OFFICE DEP	OFFICE DEPOT	02/10/2015	754248658001	GEN	SCREEN CLEANER	
66651	P O BOX 633211	03/10/2015		N		23.70
02/10/2015	CINCINNATI OH, 45263-3211	/ /	0.0000	N		0.00
		03/10/2015		N		23.70
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-301-727.000	OFFICE SUPPLIES	23.70

OFFICE DEP	OFFICE DEPOT	02/10/2015	754864886001	GEN	OFFICE SUPPLIES	
66649	P O BOX 633211	03/10/2015		N		50.10
02/10/2015	CINCINNATI OH, 45263-3211	/ /	0.0000	N		0.00
		03/10/2015		N		50.10
Open						

GL NUMBER	DESCRIPTION	AMOUNT
101-172-727.000	OFFICE SUPPLIES	50.10

OFFICE DEP	OFFICE DEPOT	02/10/2015	754872757001	GEN	BANDAGES	
66650	P O BOX 633211	03/10/2015		N		5.99

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
02/10/2015	CINCINNATI OH, 45263-3211	/ /	0.0000	N		0.00
		03/10/2015		N		5.99
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
101-172-727.000	OFFICE SUPPLIES				5.99	
OFFICE DEP	OFFICE DEPOT	02/24/2015	7572871780010	GEN	OFFICE SUPPLIES	
66751	P O BOX 633211	03/10/2015		N		47.84
02/24/2015	CINCINNATI OH, 45263-3211	/ /	0.0000	N		0.00
		03/10/2015		N		47.84
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
101-172-727.000	OFFICE SUPPLIES				47.84	
OFFICE DEP	OFFICE DEPOT	02/25/2015	757287267001	GEN	OFFICE SUPPLIES	
66750	P O BOX 633211	03/10/2015		N		3.98
02/25/2015	CINCINNATI OH, 45263-3211	/ /	0.0000	N		0.00
		03/10/2015		N		3.98
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
101-172-727.000	OFFICE SUPPLIES				3.98	
					VENDOR TOTAL:	322.87
OTIS ELEV	OTIS ELEVATOR COMPANY	02/10/2015	CVI23624001	GEN	RESET FIREMEN ALARM	
66731	P O BOX 73579	03/10/2015		N		694.75
02/10/2015	CHICAGO IL, 60673-7579	/ /	0.0000	N		0.00
		03/10/2015		N		694.75
Open						
GL NUMBER	DESCRIPTION				AMOUNT	
101-265-930.002	REP & MAINT - ELEVATOR				694.75	
					VENDOR TOTAL:	694.75
PAYROLL	PAYROLL FUND	02/21/2015	02-21-2015	GEN	PAY ENDING 2/21/2015	
66675		03/10/2015		N		147,872.96
02/21/2015	,	/ /	0.0000	N		0.00
		02/24/2015		N		147,872.96
PD CK# 81486 02/25/2015						
GL NUMBER	DESCRIPTION				AMOUNT	
101-000-001.002	PAYROLL CHECKING				147,872.96	
					VENDOR TOTAL:	147,872.96

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
PETTY CASH	PETTY CASH	02/25/2015	PD/81.29	GEN	PETTY CASH REIMBURSEMENT	DEC 2014 T
66752		03/10/2015		N		81.29
02/25/2015	,	/ /	0.0000	N		0.00
		03/10/2015		N		81.29
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
101-301-740.000	OPERATING SUPPLIES			81.29		
					VENDOR TOTAL:	81.29
PROFESSION	PROFESSIONAL PUMP, INC.	02/19/2015	5068548	GEN	REBUILD HIGH SERVICE PUMP #3	
66753	41300 COCA COLA DRIVE	03/10/2015		N		5,856.00
02/19/2015	BELLEVILLE MI, 48111	/ /	0.0000	N		0.00
		03/10/2015		N		5,856.00
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
591-564-930.009	REPAIR & MAINT - EQUIPMENT			5,856.00		
					VENDOR TOTAL:	5,856.00
RELIABLE F	RELIABLE FLEET SERVICES, INC.	02/03/2015	26605	GEN	REPAIR #36 BRAKING	
66754	P.O. BOX 2085	03/10/2015		N		654.04
	3600 W GRAND RIVER					
02/03/2015	HOWELL MI, 48844-2085	/ /	0.0000	N		0.00
		03/10/2015		N		654.04
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
640-441-930.006	REPAIR & MAINT. VEHICLES			654.04		
					VENDOR TOTAL:	654.04
EMPLOYEE	SELL, STEVE	02/04/2015	02042015	GEN	MILEAGE / EXPO	
66757	6484 CROFOOT	03/10/2015		N		40.25
02/04/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		03/10/2015		N		40.25
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
590-564-957.000	EDUCATION / TRAINING			40.25		
					VENDOR TOTAL:	40.25
SKILLPATH	SKILLPATH SEMINAR	02/23/2015	10912804	GEN	EXCEL TRAINING - RIZZO	
66652	P O BOX 804441	03/10/2015		N		99.00
02/23/2015	KANSAS CITY MO, 64180-4441	/ /	0.0000	N		0.00
		03/10/2015		N		99.00

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-301-957.000	EDUCATION / TRAINING	99.00

VENDOR TOTAL: 99.00

SPARTAN TI	SPARTAN TIRE & SERVICE CENTER	02/11/2015	18588	GEN	TIRE WORK	
66672	716 S MICHIGAN AVE	03/10/2015		N		76.00
02/11/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		03/10/2015		N		76.00

Open

GL NUMBER	DESCRIPTION	AMOUNT
640-441-930.006	REPAIR & MAINT. VEHICLES	76.00

SPARTAN TI	SPARTAN TIRE & SERVICE CENTER	02/17/2015	18619	GEN	TIRES AND DISPOSAL	
66755	716 S MICHIGAN AVE	03/10/2015		N		738.00
02/17/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		03/10/2015		N		738.00

Open

GL NUMBER	DESCRIPTION	AMOUNT
640-441-775.002	MAINTENANCE SUPPLIES - TIRES	692.00
640-441-930.006	REPAIR & MAINT. VEHICLES	46.00
		738.00

VENDOR TOTAL: 814.00

SPICER GRO	SPICER GROUP	02/01/2015	175548	GEN	PROFESSIONAL SERVICES	
66756	230 S WASHINGTON AVE	03/10/2015		N		3,417.50
02/01/2015	SAGINAW MI, 48607	/ /	0.0000	N		0.00
		03/10/2015		N		3,417.50

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-751-975.000	BUILDINGS /BLDG IMPROVEMENTS	3,417.50

VENDOR TOTAL: 3,417.50

DEQ	STATE OF MICHIGAN	02/20/2015	905635	GEN	STORM WATER	
66705	MDEQ, CASHIER'S OFFICE-SESC P.O. BOX 30657	03/10/2015		N		260.00
02/20/2015	LANSING MI, 48909-8157	/ /	0.0000	Y		0.00
		03/10/2015		N		260.00

Open

GL NUMBER	DESCRIPTION	AMOUNT

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
590-564-840.001	REGULATORY FEES			260.00		
DEQ	STATE OF MICHIGAN	02/01/2015	906055	GEN	ANNUAL PERMIT FEE STORMWATER	
66759	MDEQ, CASHIER'S OFFICE-SESC	03/10/2015		N		2,000.00
	P.O. BOX 30657					
02/01/2015	LANSING MI, 48909-8157	/ /	0.0000	Y		0.00
		03/10/2015		N		2,000.00
Open						

GL NUMBER	DESCRIPTION	AMOUNT
203-538-840.001	REGULATORY FEES	1,000.00
202-538-840.001	REGULATORY FEES	1,000.00
		2,000.00

VENDOR TOTAL: 2,260.00

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
MDOT	STATE OF MICHIGAN	02/14/2015	SE 373909	GEN	SIGNAL ENERGY	
66701	ATTN: FINANCE CASHIER	03/10/2015		N		122.45
	P.O. BOX 30648					
01/20/2015	LANSING MI, 48909	/ /	0.0000	N		0.00
		02/24/2015		N		122.45
PD CK# 81494 03/02/2015						

GL NUMBER	DESCRIPTION	AMOUNT
202-474-920.010	ELEC/TRAFFIC SIGNAL ENERGY	122.45

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
MDOT	STATE OF MICHIGAN	02/01/2015	SE367173	GEN	REVISED AMOUNT	
66702	ATTN: FINANCE CASHIER	03/10/2015		N		903.52
	P.O. BOX 30648					
02/01/2015	LANSING MI, 48909	/ /	0.0000	N		0.00
		02/24/2015		N		903.52
PD CK# 81494 03/02/2015						

GL NUMBER	DESCRIPTION	AMOUNT
202-474-920.010	ELEC/TRAFFIC SIGNAL ENERGY	903.52

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
MDOT	STATE OF MICHIGAN	02/04/2015	SM2 373836	GEN	SIGNAL MAINT FEB 2015	
66758	ATTN: FINANCE CASHIER	03/10/2015		N		501.33
	P.O. BOX 30648					
02/04/2015	LANSING MI, 48909	/ /	0.0000	N		0.00
		03/10/2015		N		501.33
Open						

GL NUMBER	DESCRIPTION	AMOUNT
202-474-930.000	REPAIR & MAINTENANCE	501.33

VENDOR TOTAL: 1,527.30

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
MISC	STORM, HEATHER	03/05/2015	03/04/2015	GEN	UB REFUND FOR 109 E GRAND RIVER #202	
66784	107 E GRAND RIVER #201	03/10/2015		N		0.00
03/04/2015	HOWELL MI, 48843	03/10/2015	0.0000	N		0.00
		03/10/2015		N		112.90

Open

GL NUMBER	DESCRIPTION	AMOUNT
590-536-643.001	2210-1 S RTS	41.84
591-536-644.000	1000-WTR USAGE	25.87
591-536-643.000	1210-1 WTR RTS	25.59
590-536-644.001	2000-SEW USG PL	14.70
590-536-644.005	2005-SEW USG.CM	4.90
		112.90

VENDOR TOTAL: 112.90

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
TEGGERDINE	TEGGERDINE, DAVID	02/20/2015	2-23-2015	GEN	TRAINING	
66653	809 S MICHIGAN	03/10/2015		N		133.47
02/20/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		03/10/2015		N		133.47

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-247-712.002	BOARD OF REVIEW WAGES	133.47

VENDOR TOTAL: 133.47

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
THE BKNY M	THE BANK OF NEW YORK MELLON, N.A.	03/02/2015	MARCH2015	GEN	DWRF2009, 2010 & 2011	
66732	ATTN:POOLED FINANCE UNIT- JOANNE GU 10161 CENTURION PARKWAY N	03/10/2015		N		404,980.57
03/02/2015	JACKSONVILLE FL, 32256	/ /	0.0000	N		0.00
		03/10/2015		N		404,980.57

Open

GL NUMBER	DESCRIPTION	AMOUNT
591-906-991.000	PRINCIPAL	135,000.00
591-906-995.000	INTEREST	31,458.84
591-906-991.000	PRINCIPAL	130,000.00
591-906-995.000	INTEREST	31,517.26
591-906-991.000	PRINCIPAL	60,000.00
591-906-995.000	INTEREST	17,004.47
		404,980.57

VENDOR TOTAL: 404,980.57

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
THE SPIRIT	THE SPIRIT OF LIVINGSTON	02/25/2015	00009970	GEN	NAME PLATE PLANNING COMMISSION	
66761	3280 W GRAND RIVER	03/10/2015		N		12.00
02/25/2015	HOWELL MI, 48855	/ /	0.0000	N		0.00

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
		03/10/2015		N		12.00

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-172-727.000	OFFICE SUPPLIES	12.00

VENDOR TOTAL: 12.00

THE UPS	THE UPS STORE	02/19/2015	332386913	GEN	POSTAGE	
66770	4337 E GRAND RIVER AVE	03/10/2015		N		10.51
02/19/2015	HOWELL MI, 48843	/ /	0.0000	N		0.00
		03/10/2015		N		10.51

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-301-730.000	POSTAGE	10.51

VENDOR TOTAL: 10.51

VAN METER	VAN METER & ASSOCIATES, INC	02/20/2015	00-19245	GEN	QUOTA FREE PRODUCTIVITY - MANNOR & F	
66706	P.O. BOX 21313	03/10/2015		N		280.00
02/20/2015	COLUMBUS OH, 43221	/ /	0.0000	N		0.00
		02/24/2015		N		280.00

PD CK# 81492 03/02/2015

GL NUMBER	DESCRIPTION	AMOUNT
274-301-957.000	EDUCATION / TRAINING	280.00

VENDOR TOTAL: 280.00

VERIZON WI	VERIZON WIRELESS	01/28/2015	9739803264	GEN	CELLULAR COMMUNICATION	
66608	P O BOX 15062	03/10/2015		N		214.22
01/28/2015	ALBANY NY, 12212-5062	/ /	0.0000	N		0.00
		02/19/2015		N		214.22

PD CK# 81485 02/19/2015

GL NUMBER	DESCRIPTION	AMOUNT
641-441-850.000	COMMUNICATIONS - TELEPHONES	214.22

VENDOR TOTAL: 214.22

VSP	VSP	02/17/2015	MARCH 2015	GEN	ACTIVE EMPLOYEE VISION	
66669		03/10/2015		N		929.89
	P.O. BOX 742788					
02/17/2015	LOS ANGELES CA, 90074-2788	/ /	0.0000	N		0.00
		02/24/2015		N		929.89

PD CK# 81487 02/25/2015

GL NUMBER	DESCRIPTION	AMOUNT

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
101-000-081.001	DUE FROM REC AUTHORITY			49.02		
101-290-714.000	EMPLOYEE MEDICAL INSURANCE			880.87		
				929.89		
VSP	VSP	02/17/2015	MARCH 2015	GEN	RETIREES VISION	
66670		03/10/2015		N		187.22
	P.O. BOX 742788					
02/17/2015	LOS ANGELES CA, 90074-2788	/ /	0.0000	N		0.00
		02/24/2015		N		187.22
PD CK# 81487 02/25/2015						
GL NUMBER	DESCRIPTION			AMOUNT		
101-000-083.001	DF FORMER EMPLOYEE/HLTH INS			187.22		
					VENDOR TOTAL:	1,117.11
VWR INT	VWR INTERNATIONAL LLC	02/11/2015	8040345938	GEN	LAB SUPPLIES	
66763	P O BOX 640169	03/10/2015		N		208.28
02/11/2015	PITTSBURGH PA, 15264-0169	/ /	0.0000	N		0.00
		03/10/2015		N		208.28
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
591-564-775.003	LABORATORY SUPPLIES			208.28		
VWR INT	VWR INTERNATIONAL LLC	02/11/2015	8040350335	GEN	LAB SUPPLIES	
66762	P O BOX 640169	03/10/2015		N		45.79
02/11/2015	PITTSBURGH PA, 15264-0169	/ /	0.0000	N		0.00
		03/10/2015		N		45.79
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
591-564-775.003	LABORATORY SUPPLIES			45.79		
VWR INT	VWR INTERNATIONAL LLC	02/11/2015	8040352523	GEN	LAB SUPPLIES	
66760	P O BOX 640169	03/10/2015		N		73.55
02/11/2015	PITTSBURGH PA, 15264-0169	/ /	0.0000	N		0.00
		03/10/2015		N		73.55
Open						
GL NUMBER	DESCRIPTION			AMOUNT		
591-564-775.003	LABORATORY SUPPLIES			73.55		
					VENDOR TOTAL:	327.62
WASTE MAN	WASTE MANAGEMENT OF MICHIGAN	03/02/2015	226528804019	GEN	FEB 2015	
66733	ATTN: JENNIFER ADAMS	03/10/2015		N		39,283.95
	48797 ALPHA DR SUITE 150					

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
03/02/2015	WIXOM MI, 48393	/ /	0.0000	N		0.00
		03/10/2015		N		39,283.95

Open

GL NUMBER	DESCRIPTION	AMOUNT
226-528-804.019	CONTR SERV - CBD COMPACTOR	170.10
641-441-920.003	UTILITIES - RUBBISH	300.04
101-276-920.003	UTILITIES - RUBBISH	149.91
226-528-804.019	CONTR SERV - CBD COMPACTOR	1,909.44
226-528-804.019	CONTR SERV - CBD COMPACTOR	636.48
226-528-804.019	CONTR SERV - CBD COMPACTOR	954.72
226-528-804.019	CONTR SERV - CBD COMPACTOR	954.72
101-747-881.002	RECYCLE LIVINGSTON SERVICES	37.51
101-265-920.003	UTILITIES - RUBBISH	300.04
226-528-804.019	CONTR SERV - CBD COMPACTOR	954.72
226-528-804.020	CONTR SERV-CORRUGATED CARDBRD	131.04
226-528-804.020	CONTR SERV-CORRUGATED CARDBRD	148.72
226-528-804.020	CONTR SERV-CORRUGATED CARDBRD	223.08
226-528-804.020	CONTR SERV-CORRUGATED CARDBRD	297.44
226-528-804.020	CONTR SERV-CORRUGATED CARDBRD	223.08
226-529-804.015	CONTRACT SERV - YARD WST PROG	1,545.12
226-528-804.016	CONTRACT SERV - RESIDENT PICKP	24,842.27
226-528-804.017	CONTRACT SERV - RES CURB CART	5,145.72
226-528-804.017	CONTRACT SERV - RES CURB CART	359.80
		39,283.95

VENDOR TOTAL: 39,283.95

Vendor Code / Ref # / Invoice Date	Vendor name / Address / City/State/Zip	Post Date / CK Run Date / Disc. Date / Due Date	Invoice / PO / Disc. %	Bank / Hold / Sep CK / 1099	Invoice Description	Gross Amount / Discount / Net Amount
MISC	WYLIE, SUSAN	02/20/2015	3532	GEN	OVER PAYMENT OF GRAVE	
66656	1219 CURZON CT #103	03/10/2015		N		100.00
02/20/2015	HOWELL MI, 48843	/ /	0.0000	Y		0.00
		03/10/2015		N		100.00

Open

GL NUMBER	DESCRIPTION	AMOUNT
101-000-646.000	CEMETERY LOT SALES	100.00

VENDOR TOTAL: 100.00

TOTAL - ALL VENDORS: 714,177.45

CITY OF HOWELL
MEMORANDUM

TO: MAYOR & CITY COUNCIL

FROM: SHEA CHARLES, CITY MANAGER

DATE: MARCH 5, 2015

RE: ROAD FUNDING PROPOSAL

In December the Michigan Legislature voted to put before state voters a proposal to provide increased road funding. The proposal will increase revenues overall by the following means:

- Eliminate the current 6% sales tax on gasoline & diesel sales
- Raise the State Sales tax from 6% to 7%
- Sets in place new wholesale fuel taxes
- Increases assorted registration fees

The revenue proposals will result in net increases in funding once fully implemented by the 2017-2018 fiscal year (numbers are in millions).

Michigan Transportation Fund	$1,464.3
Comprehensive Transportation Fund	$123.3
Recreation Account (Legacy Fund)	$27.6
School Aid Fun	$393.8
Constitutional Revenue Sharing	$118.3
State General Fund	$36.4
Total	**2,040.3**

The City will recognize increases in two revenue streams, Constitutional Revenue Sharing ($83,824/annually) and Act 51 funds.

City of Howell Act 51 Revenue Projections

	Current FY	FY 16	FY 17	FY 18
Annual Increase		$126,828	$126,827	$126,828
Total Act 51 Revenues	$576,420	$703,248	$830,075	$956,903

Total Annual Increase once law fully implemented **$380,483**

Total combined revenues will be approximately $463,000 annually and would be the first significant road funding increase from the State of Michigan in years. I have attached a break down of the revenue impact for all Livingston County communities. Livingston County is holding an informational session on Wednesday March 18th at the

Jack LaBelle Public Safety Complex (flyer attached). The Michigan Municipal League has endorsed the proposal and recommends communities consider resolutions of support (information attached).

Shea Charles
City Manager

Proposal 1Ballot Issues

House Joint Resolution UU

May 5, 2015

Package Elements: Constitutional

STATE OF MICHIGAN
97TH LEGISLATURE
REGULAR SESSION OF 2014

Introduced by Rep. Haveman

ENROLLED HOUSE JOINT RESOLUTION UU

A JOINT RESOLUTION proposing an amendment to the state constitution of 1963, by amending sections 8, 10, and 11 of article IX, to increase the maximum sales tax rate and use tax rate permitted under law, to exempt gasoline and diesel fuel from the sales tax and use tax, to dedicate a portion of sales tax revenue and use tax revenue, and to revise the permissible uses for payments from the school aid fund.

Resolved by the Senate and House of Representatives of the state of Michigan, That the following amendment to the state constitution of 1963, to increase the maximum sales tax rate and use tax rate permitted under law, to exempt gasoline and diesel fuel from the sales tax and use tax, to dedicate a portion of sales tax revenue and use tax revenue, and to revise the permissible uses for payments from the school aid fund, is proposed, agreed to, and submitted to the people of the state:

ARTICLE IX

Sec. 8. Except as provided in this section, the Legislature shall not impose a sales tax on retailers at a rate of more than 5% of their gross taxable sales of tangible personal property.

Beginning May 1, 1994, the sales tax shall be imposed on retailers at an additional rate of 2% of their gross taxable sales of tangible personal property not exempt by law and the use tax at an additional rate of 2%. The proceeds of the sales and use taxes imposed at the additional rate of 2% shall be deposited in the state school aid fund established in section 11 of this article. The allocation of sales tax revenue required or authorized by sections 9 and 10 of this article does not apply to the revenue from the sales tax imposed at the additional rate of 2%.

No sales tax or use tax shall be charged or collected from and after January 1, 1975 on the sale or use of prescription drugs for human use, or on the sale or use of food for human consumption except in the case of prepared food intended for immediate consumption as defined by law. This provision shall not apply to alcoholic beverages.

No sales tax or use tax shall be charged or collected from and after October 1, 2015 on the sale or use of gasoline or diesel fuel used to operate a motor vehicle on the public roads or highways of this state.

Sec. 10. Fifteen percent of all taxes imposed on retailers on taxable sales at retail of tangible personal property at a rate of not more than 5% shall be used exclusively for assistance to townships, cities and villages, on a population basis as provided by law. In determining population the legislature may exclude any portion of the total number of persons who are wards, patients or convicts in any tax supported institution.

(318)

Package Elements: Statutory

Legislative Analysis

HOUSE FISCAL AGENCY

Mary Ann Cleary, Director
Phone: (517) 373-8080
http://www.house.mi.gov/hfa

TRANSPORTATION FUNDING PACKAGE

House Joint Resolution UU as adopted by the Legislature
Sponsor: Rep. Joe Haveman

House Bills 4539 and 5167 as enrolled
Public Acts 467 and 471 of 2014
Sponsor: Rep. Wayne Schmidt

House Bill 5492 as enrolled
Public Act 474 of 2014
Sponsor: Rep. Earl Poleski

Senate Bill 847 as enrolled
Public Act 469 of 2014
Sponsor: Sen. Gretchen Whitmer

House Bills 5477 & 5493 as enrolled
Public Acts 468 and 475 of 2014
Sponsor: Rep. Rob VerHeulen

Senate Bill 80 as enrolled
Public Act 476 of 2014
Sponsor: Sen. Goeff Hansen

House Bill 4251 as enrolled
Public Act 472 of 2014
Sponsor: Rep. Kevin Cotter

House Bill 4630 as enrolled
Public Act 470 of 2014
Sponsor: Rep. Michael D. McCready

House Bill 5460 as enrolled
Public Act 473 of 2014
Sponsor: Rep. Dan Lauwers

Complete to 2-16-15

All or Nothing

- Effective for FY 16 (10/1/2015) if approved by voters
- All bills are tie-barred to adoption of the proposal
- There is no Plan B

Moving Parts

Summary: Transportation Funding Package Fiscal Impacts
Millions of Dollars

Proposed Change	FY 2015-16 GF/GP	SAF	Rev Shar	CTF	# STF Debt	Other MTF	TOTAL	FY 2016-17 GF/GP	SAF	Rev Shar	CTF	# STF Debt	Other MTF	TOTAL	FY 2017-18 GF/GP	SAF	Rev Shar	CTF	# STF Debt	Other MTF	TOTAL
Exempt motor fuel sales from sales tax (HJR UU/HB 4539)	(94.9)	(479.3)	(49.0)	(30.4)			(653.6)	(96.2)	(568.5)	(74.5)	(36.0)			(775.2)	(101.0)	(608.1)	(81.6)	(38.6)			(829.3)
Increase Sales/Use Tax Rate by 1 Percent (HJR UU/HB 4539/HB 5492)	558.0	771.7	138.9	16.7			1,485.3	528.0	789.1	188.3	15.8			1,521.2	543.1	808.1	192.7	15.2			1,559.1
Increase Motor Fuel Taxes (HB 5477/HB 5493)				38.0	865.3	362.0	1,265.3				78.0	467.5	722.0	1,267.5				129.2		1,183.7	1,312.9
Registration taxes: phase out depreciation (HB 4630)*				1.5		13.1	14.5				4.2		37.4	41.5				6.2		56.0	62.2
Increase registration taxes for trucks > 26,000 lbs (HB 4630)**				1.3		11.9	13.2				2.7		23.9	26.5				4.0		35.8	39.8
Impose registration surtax on electric vehicles (HB 4630)***				0.1		0.5	0.6				0.1		0.5	0.6				0.1		0.5	0.6
Expand Earned Income Tax Credit (SB 847)							0.0	(260.0)						(260.0)	(269.1)						(269.1)
TOTAL	**463.1**	**292.4**	**89.9**	**27.2**	**865.3**	**387.4**	**2,125.3**	**171.8**	**220.6**	**113.8**	**64.6**	**467.5**	**783.8**	**1,822.1**	**173.0**	**200.0**	**111.1**	**116.1**	**0.0**	**1,276.0**	**1,876.2**

Estimated distribution of new MTF revenue (other than CTF and STF debt pay-down)																					
Recreation Improvement Account						19.6							20.2							20.9	
Distribution to road agencies						367.8							763.6							1,255.1	
State Trunkline Fund (39.1%)							143.8							298.6							490.8
County Road Commissions (39.1%)							143.8							298.6							490.8
Cities and Villages (21.8%)							80.2							166.5							273.6

Notes:

* Phase out of depreciation of vehicle registration tax rates would be effective January 1, 2016. Estimates are presented on calendar-year basis.

** Increase in truck registration taxes would be phased in over three years beginning March 1, 2016. Estimates are presented on calndar-year basis.

*** Surtax on electric vehicle registrations would be effective beginning January 1, 2016. Estimates are presented on calendar-year basis.

Allocation of motor fuel tax revenue to STF debt service assumes the distribution of only the additional revenue generated as a result of the enactment of House Bill 5477.

Road Funding

MTF Impacts As Projected

	FY 15	FY 16	FY 17	FY 18	Increased Dollars
Brighton	$465,346	$567,734	$670,123	$772,511	$307,165
Fowlerville	$207,751	$253,462	$299,173	$344,884	$137,133
Howell	$576,420	$703,248	$830,075	$956,903	$380,483
Pinckney	$150,719	$183,881	$217,043	$250,205	$99,486
	$1,400,236	$1,708,325	$2,016,414	$2,324,503	$924,267
LCRC	$12,838,431	$15,732,454	$18,626,477	$21,520,499	$8,682,068
Total					**$9,606,335**

School Aid Fund

- No Local Projections
- $393M to the SAF per Senate Fiscal
- The SAF would exclude Higher Ed
- Would not likely be all K-12

Constitutional Revenue Sharing

Local Unit Type	Unit Name	Current Law Estimate (January 2015 Consensus)	Tax on Internet Sales (PA 553/554)	Revised Current Law Estimate	May 2015 Ballot Proposal (HJR UU)	Potential FY 2016 Payments
Township	Brighton	$1,412,967	$10,834	$1,423,801	$158,903	$1,582,704
Township	Cohoctah	$263,437	$2,020	$265,457	$29,626	$295,083
Township	Conway	$281,624	$2,159	$283,784	$31,672	$315,455
Township	Deerfield	$331,183	$2,539	$333,722	$37,245	$370,967
Township	Genoa	$1,574,190	$12,071	$1,586,261	$177,034	$1,763,295
Township	Green Oak	$1,383,899	$10,611	$1,394,510	$155,634	$1,550,144
Township	Hamburg	$1,680,931	$12,889	$1,693,820	$189,038	$1,882,858
Township	Handy	$406,632	$3,118	$409,750	$45,730	$455,480
Township	Hartland	$1,164,540	$8,929	$1,173,470	$130,965	$1,304,434
Township	Howell	$532,275	$4,081	$536,356	$59,860	$596,216
Township	Iosco	$301,877	$2,315	$304,191	$33,949	$338,141
Township	Marion	$793,885	$6,087	$799,973	$89,281	$889,254
Township	Oceola	$947,961	$7,269	$955,230	$106,608	$1,061,838
Township	Putnam	$462,306	$3,545	$465,851	$51,991	$517,842
Township	Tyrone	$795,792	$6,102	$801,894	$89,495	$891,389
Township	Unadilla	$267,329	$2,050	$269,379	$30,064	$299,443
Totals				**$12,697,449**	**$1,417,095**	**$14,114,543**
City	Brighton	$591,205	$4,533	$595,738	$66,487	$662,225
City	Howell	$745,360	$5,715	$751,075	$83,824	$834,898
Village	Fowlerville	$229,207	$1,758	$230,965	$25,777	$256,741
Village	Pinckney	$192,753	$1,478	$194,231	$21,677	$215,908
Totals				**$1,772,009**	**$197,765**	**$1,969,772**
Total Increase					**$1,614,860**	

Net Analysis

Fund	Knowns	Unknowns
MTF	• Increased Funding • Raises $600M less statewide than needed	• Formula basis of wholesale value • “Reform” language might need tweaks
SAF	• Increased Funding	• Legislative appropriation & directives • K-12 allocation
Revenue Sharing	• $100M increase statewide • All Constitutional	• Future appropriations of statutory RS

Resources

- House & Senate Fiscal Agency reports
- www.saferoadsyes.com
- www.justfixthe roads.com
- www.mml.org/advocacy/safe-roads-yes.html
- www.milocalroads.com
- At least one Public Meeting scheduled for March 18th at 6:30 p.m.

Is it OK for our council to pass a resolution?

On occasion, there have been concerns raised whether or not a local government can pass a resolution taking a position on a ballot proposal. We encourage you to take up any concerns you have with your local municipal attorney. In talking with your attorney we suggest that you share the letters listed below from officials at the Michigan Secretary of State, which oversees elections. The Secretary of State is periodically asked to interpret Sec 57 of the Michigan Campaign Finance Act (MCFA), which is relevant to the actions of local governments.

In the more recent of the two letters, the S.O.S. looked into this issue late last year regarding a city's passage of a resolution in support of the PPT ballot question. Although the letter ruling is only specifically applicable to the particular circumstances, a key part of the letter is the last paragraph, which I have included below:

*In sum, the MCFA's prohibition against using public resources to make a contribution or expenditure includes a number of important exceptions that recognize the societal benefit of inviting public discussion of issues confronting government agencies and public officials, thus enabling voters to make informed decisions based on an official's expression of views or factual information concerning government operations. The City Council's discussion and adoption of a resolution expressing support for Proposal 14-1**,** its hosting of a forum to discuss personal property tax reform and other issues including business recruitment and worker training, and the Mayor's favorable comments regarding Proposal 14-1 made during a City Council meeting fall squarely within the exceptions of MCL 169.257(1)(a)-(d).*

- The Secretary of State's "Bourgoin" interpretive letter of Oct. 24, 2014: http://www.mml.org/pdf/advocacy/2014-10-24-SOS-opinion-on-municipal-support-of-proposals.pdf
- The Secretary of State's "Murley" interpretive letter of Oct. 31, 2005: http://www.mml.org/pdf/advocacy/2005%20Murley%20SOS%20Interpretive%20Statement.pdf

If you have questions regarding this feel free to contact:

Matt Bach, Director of Media Relations, Michigan Municipal League,
mbach@mml.org, 734-669-6317

William Mathewson, General Counsel, Michigan Municipal League,
wmathewson@mml.org, 734-669-6305

If you have questions specific to Proposal 1, please contact:

John LaMacchia, Legislative Associate, State Affairs, Michigan Municipal League
jlamacchia@mml.org, 517-908-0303

A Resolution in Support of
Proposal 1 for Safer Roads

WHEREAS, Michigan's roads and bridges threaten driver safety and contribute to countless accidents each year, as drivers swerve to avoid potholes and other road hazards; and

WHEREAS, 38 percent of Michigan's state- and locally-owned urban roads and 32 percent of the state's state- and locally-owned rural roads are in poor condition; and

WHEREAS, Michigan has relied on Band-Aid, short-term fixes for our roads instead of investing enough money to fix our roads for the long term; and

WHEREAS, Michigan invests less per capita in transportation than any state in the United States of America; and

WHEREAS, the longer we wait to fix Michigan's roads, the more it will cost us; and

WHEREAS, in addition to threatening public safety, Michigan's crumbling roads hurt our economy; and

WHEREAS, Proposal 1 on the May 5 ballot is Michigan's last, best chance to finally fix our roads with funds that the politicians can't divert somewhere else – while also supporting Michigan's long-term future by investing in our public schools and local communities;

NOW THEREFORE BE IT RESOLVED: That the City/Village/Township of __(your city/village/township)____ supports Proposal 1 on the May 5 ballot to provide the funding needed to finally fix our roads for the long term; and

RESOLVED: That the City/Village/Township of __(your city/village/township)____ knows the 1-cent increase in the sales tax will benefit local communities and help ensure drivers' safety on the roads; and

RESOLVED: That the City/Village/Township of __(your city/village/township)____ formally supports Safe Roads Yes! because if it passes, every penny we pay at the pump in state gas taxes is guaranteed in the constitution to go to transportation.

MML Hand Out

About Proposal 1

This proposal would provide funding needed to fix our roads and bridges for the long-term. It would require that all state taxes paid on gas go to transportation. State lawmakers would no longer be able to shift these taxes we pay on gas somewhere else.

When do I vote: May 5, 2015

What's the impact on my community?: In addition to helping fix our roads, Proposal 1 would generate much-needed additional dollars for our schools and communities.

Ballot language: Coming soon

Frequently Asked Questions:

Isn't this is a special interest money grab because it sends money to a bunch of places other than roads?
Funding the agencies responsible for making our roads safe, for keeping our drinking water safe and clean, and educating our children are not special interests. They provide the essential services we all demand as Michigan residents and taxpayers. I would also note that this proposal would, for the first time, guarantee all state taxes we pay on gasoline must be used for transportation and nothing else. For the first time, the politicians in Lansing would no longer be able to shift state taxes on gas to some other place.

What do you say to those who argue there is already enough money in the state budget?
The answer is simple. No, there is not. $52 billion is a big number, and that's the size of the state budget. But the vast majority of that amount is federal funds that must be used for some purpose other than roads. Michigan now spends less per resident on roads than any other state. Let me say that again: Michigan is now dead last in per-capita funding for roads. We've neglected our roads and bridges, and we've let the politicians send road taxes away from roads and transportation. This proposal solves two problems: It guarantees funds for safer Michigan roads by guaranteeing that every penny we pay in state fuel taxes goes to transportation. This proposal is not perfect … nothing from Lansing ever is. But it's our last chance to fix Michigan's roads for years if not decades and to end the road tax shell game in Lansing.

What is the current condition of Michigan roads?
Awful – and they're getting worse. Thirty-eight percent of Michigan's state- and locally-owned urban roads and 32 percent of the state's state- and locally-owned rural roads are in poor condition, according to the national transportation research group TRIP.

Want to see how bad Michigan's roads are? Just take a drive – and you'll see! The roads aren't just "bad." They were bad 10 years ago. Now the condition of many of our roads and bridges is simply dangerous. Just take a look — and you'll see!

Can't we just fix Michigan's roads and bridges with existing state money?
No. The state doesn't have the money to fix Michigan's roads and bridges today without *drastically* cutting essential funding for our local communities, schools and public safety officers. And let's face it: our local communities, schools and public safety sustained massive budget cuts during Michigan's decade-long recession.

Michigan invests less per capita in transportation than any state in all of America. We simply can't fix our roads without raising more revenue. Ohio – a state with a similar climate and road system to Michigan – invests more than $1 billion more in its roads each year than Michigan does.

Waiting longer to fix Michigan's roads will only cost us all more. For every $1 invested in maintaining our roads and bridges we save at least $6 in reconstruction costs. Fixing this problem now will save money later. We lose nearly $3 million daily and over $1 billion annually in the value of the state's transportation.

When was the last time Michigan raised taxes to pay for roads?
The last time Michigan raised taxes to pay for roads was 1997. Eighteen years later, it's time for Michigan to modernize how it pays for roads and finally fix them. Proposal 1 not only modernizes our road funding system, it guarantees in our constitution that every penny we pay at the pumps in fuel taxes must go to transportation. It ends the Lansing shell game of diverting revenues for roads someplace else in the state budget.

Aren't heavy trucks the reason for Michigan's bad roads?
No; this is a common myth. If it was the case, roads outside of heavy shipping corridors like I-94 and I-96 would be in good condition – but we know that is not the case.

The Michigan Department of Transportation has thoroughly studied this issue, and has found that the most important factor when it comes to truck weight is the amount of weight distributed on each truck axle.

Reducing truck weight limits could cause more damage to Michigan's road system, since more trucks would be needed on the road (also increasing traffic congestion and raising safety concerns). Other states are considering

adopting truck axle weight laws like Michigan's.

How will this proposal promote public safety?
Fixing our roads will make them safer by repairing dangerous potholes and improving roadway design. Today, many drivers swerve to avoid dangerous potholes or lose control of their vehicles as a result of flat tires. According to TRIP, a national transportation research organization, roadway design is a contributing factor in about one-third of fatal traffic crashes. Between 2008 and 2012, 4,620 people died in Michigan car accidents – an average of 924 fatalities per year.

How much will this cost me?
Fixing this problem now will save money later – both for the state, and for individual Michigan motorists. A January 2013 study by the Michigan Department of Transportation titled "State Transportation Investment Comparison" found that Michigan ranks first for annual individual repair costs to registered drivers, at $357 per driver.

Michigan also ranks first (tied with Ohio) in total statewide annual repair costs. Michigan drivers spend over $84 per year more in repair costs than the average of the five comparison states. Michigan drivers even spend as much as $132 per year more in repair costs than neighboring Indiana.

Safer and better roads will cut down on motorists' vehicle repair bills – not to mention reducing the risk of car accidents.

Michigan's sales tax rate would be the same as neighboring Indiana (7 percent) if this proposal passes, according to the nonpartisan Tax Foundation. A 7 percent sales tax would be ranked 21st in the country.

What guarantees in Proposal 1 improve Michigan's road funding system for taxpayers?
This proposal has three guarantees:

1. The proposal would guarantee, for the first time, that every penny we pay in state fuel taxes goes to transportation. The politicians in Lansing would no longer be able to divert state gas taxes to some other state program or service.

2. The proposal would guarantee that all state and local government road construction projects include pavement warranties. County, city and village road agencies will be required to submit warranty programs to the Michigan Department of Transportation for approval.

3. This proposal requires road builders to provide their own guarantees in the form of warranties on the roads they build. If the roads aren't built right, the road builders will pay for the repairs, not taxpayers.

Which roads will be fixed?
Local, county and state governments have inventories of projects they haven't been able to fund. The result: poor, unsafe and crumbling roads, and bridges with plywood preventing concrete chunks from falling onto the roads. Contact your local road commission or the Michigan Department of Transportation for more information about road projects in your area.

Will this proposal hurt the poor?
No. This proposal is supported by organizations like the Michigan League for Public Policy (MLPP) because it also would restore the state's Earned Income Tax Credit (EITC). The MLPP estimates that more than 1 million Michigan children are in families that will benefit from Passage of Proposal 1**.** The EITC targets low-income working families with temporary assistance to remain in the workforce and get back on their feet. President Reagan once called the EITC "the best antipoverty, the best pro-family, the best job-creation measure ever to come out of Congress." Here's what the MLPP is saying about Proposal 1: *"A 'yes' vote on May 5 would end the era of delaying needed road repairs or paying for them with borrowed dollars. All with a penny sales tax increase. The sales tax increase to 7 cents will put Michigan in the middle of the pack of states -- the same as Indiana's. For working families earning the least in Michigan,* ***the penny tax increase will be offset by a full restoration of the state Earned Income Tax Credit to 20 percent*** *of the federal credit. The EITC is the best tool we have to reward work and lift families from poverty. More than 1 million Michigan children will benefit. What a win-win!"*

Facts & Figures

Ballot Proposal:

- Raises the sales tax from 6% to 7%
- Exempts sales tax from motor fuel
- Removes higher education funding from the School Aid Fund
- Dedicates a a portion of the use tax to K-12 education

Statutory Changes Effective Only if Proposal 1 Passes:

- Increases the tax charged on motor fuel

- Eliminates the depreciation on vehicle registration fees
- Increase registration fees on the heaviest trucks
- Requires more competitive bidding and road warranties
- Restores the Earned Income Tax Credit to 20% of the federal level

Revenue Generated:

- $1.3 billion in new revenue for roads, bridges, and transit resulting in a 60% increase in funding to cities and villages
- An additional $100 million in Constitutional Revenue Sharing
- $300 million in new funding for the schools
- $260 million in tax relief through the Earned Income Tax Credit

- **Roads** - Nearly 30 percent of roads in Michigan are in poor or mediocre condition.
- **Bridges** - 27 percent of Michigan bridges are structurally deficient or functionally obsolete. To search for deficient bridges in your community, click here.
- **Car repair costs** - Michigan ranks first for annual individual repair cost to registered drivers, at $357 per driver
- **Per capita spending** - Michigan ranks last in per capita spending on roads at $154 (see chart below).

How much does Michigan pay per capita for roads compared to neighboring states? How much do we pay to repair our vehicles on average compared to other states as a result of bad roads?

State	Investment in Roads Per Capita	Annual Repair Cost Avg.
Michigan	**$154**	**$539**
Ohio	$214	$413
New York	$239	$505
Minnesota	$275	$369
Indiana	$289	$391
Wisconsin	$302	$502
Illinois	$412	$449
Pennsylvania	$530	$424

SOURCE: www.tripnet.org (extra vehicle repair and operating costs due to driving on roads in need of repair), Census 2010

Is it true that Michigan would have the highest sales tax in the country if this passed?
No – not at all. Michigan's sales tax rate would be the same as neighboring Indiana (7 percent) if this proposal passes, according to the nonpartisan Tax Foundation. A 7 percent sales tax would be ranked 21st in the country when it comes to average state and local sales tax rates.

State	State & Average Local Sales Tax Rate
Michigan (today)	6%
Michigan (if Proposal 1 passes)	7%
Indiana	7%
Ohio	7.11%
Wisconsin	5.43%
Illinois	8.16%
Pennsylvania	6.34%
New York	8.47%

Minnesota 7.19%

SOURCE: Tax Foundation, State and Local Tax Rates in 2014

What are the bill numbers that formed Proposal 1 and the road funding package?: HBs 4539, 5167, 5477, 5492, 5493, 5460, 4251, 4630 and Senate Bills 80 and 847.

- Go here to view a legislative analysis of the package:
- Go here to look up each individual bill and the related legislative analysis. (IMPORTANT: You will need to change the Legislative session to 2013-14 before typing in the bill number).

Newsletter, e-newsletter, and blog article

State-Wide Road Funding Ballot Proposal Goes Before Voters on May 5
Michigan's roads, bridges and highways were once the envy of the nation. Today, Michigan's roads and bridges are now a significant threat to driver safety, contributing to countless accidents as motorists swerve to avoid potholes. You see and feel their teeth-jarring, crumbling condition every time you drive.

You've seen the sheets of plywood affixed beneath road and freeway bridges across our state to keep chunks of concrete from falling on vehicles and pedestrians below.

Our kids are on Michigan's roads and bridges — riding in our family vehicles and in school buses. Parents have to constantly worry if their children are safe, and if the deteriorating roads are going to cause their teenage drivers to have accidents.

Proposal 1 provides taxpayers with three guarantees:

If Proposal 1 passes, funding for safer roads will be guaranteed in Michigan's constitution. The politicians in Lansing no longer will be able to shift the taxes we pay at the pump to some place other than roads and bridges.

- Every penny you pay at the pump in state gas taxes is guaranteed in Michigan's constitution to go to transportation. The politicians in Lansing no longer will be able to shift the taxes we pay on gas somewhere else.
- Every penny in the School Aid Fund is guaranteed in the constitution to fund education where it helps our kids the most: our K-12 schools and community colleges. No more shell games with education funding.
- Warranties from the road builders. If their roads don't last, they pay to fix them, not taxpayers.

If Proposal 1 fails the legislature has not provided a "Plan B" and it would be back to the drawing board with no timeframe for coming up with a solution. In the meantime the likelihood that our roads will continue to get worse, further threatening public safety and our economy will continue.

Voters can learn more about Proposal 1 at www.SafeRoadsYes.com.

CITY OF HOWELL
MEMORANDUM

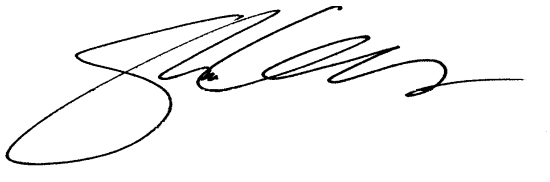
TO: MAYOR & CITY COUNCIL

FROM: SHEA CHARLES, CITY MANAGER

DATE: MARCH 5, 2015

RE: STATUS OF HRC CONTRACT

Pursuant to the request at the February 23, 2015 City Council meeting, attached is a letter from City Attorney Perkins providing his opinion on the current relationship with HRC since the expiration of the contract extension.



Shea Charles

HOWELL
MICHIGAN

DENNIS L. PERKINS
City Attorney

105 E. Grand River • Howell, MI 48843

(517) 546-6623 • FAX: (517) 546-6718

March 5, 2015

Shea Charles
Howell City Manager
611 E. Grand River
Howell, MI 48843

RE: HRC Professional Services Contract

Dear Mr. Charles:

At the last regular meeting of the Howell City Council on February 23, 2015, Councilman Heins inquired of me under Old Business how the current relationship between HRC and the City could continue without a written agreement.

There are various ways to establish a contractual relationship between two parties. Examples of a contractual relationship is that it can be written, oral, actions and behaviors based upon custom and usage or a combination of all of these types of relationships. Michigan law, like most juridictions, has various statutory authority based upon the statute of frauds (any agreement for a term for more than a year must be in writing), parol evidence (oral agreements). A written agreement is always better than an oral or indefinite agreement. However, it is not unusual, while contracts are being negotiated or bids are being received and reviewed, to continue with the same terms and conditions of the old contract until a new contract is executed.

In the instance of the HRC contract, it ended 18 months from July 3, 2013, being January 3, 2015, according to Article IV of the contract. HRC has continued working for the City under the same terms and conditions as the July 3, 2013 agreement. So long as HRC continues to work under the same agreement and the City chooses to keep engaging their services, such a continuing relationship would be considered an effective, legal contract. This type of agreement could continue unabated for an indefinite term so long as the parties agree to same.

I look forward to answering any questions Council has relative to this matter.

Sincerely yours,

Dennis L. Perkins

DLP/

cc Jane Cartwright

NOTES

CAPITAL CONFERENCE

MARCH 24-25, 2015 • LANSING CENTER, LANSING

Contact Information:

Municipality Name _____

Contact Name (person completing this form) _____

Address _____ City, State, Zip _____

Phone _____ Fax _____

Attendee Information (please complete another form if registering more than three attendees):

Attendee #

#1. Attendee Name _____ Nickname _____

Title _____ *Email _____

#2. Attendee Name _____ Nickname _____

Title _____ *Email _____

#3. Attendee Name _____ Nickname _____

Title _____ *Email _____

*Hotel housing code will be sent here

Registration Information:

Special Rate (for MML Full & Associate Members only who participate in Liability Pool or Workers Comp Fund)–see Registration Procedures

☐ Liability Pool & Workers Comp Fund Member ($100 per person) Attendee #(s) _____ Qty: _____ $_____

Full & Associate Members/BAP Participants

☐ Early Bird, through 2/24/15 ($175 per person) Attendee #(s) _____ Qty: _____ $_____

☐ Regular, after 2/24/15 ($299 per person) Attendee #(s) _____ Qty: _____ $_____

Nonmember Government Entity Rates

☐ Early Bird Rate ($299/person); Regular Rate ($375/person) Attendee #(s) _____ Qty: _____ $_____

☐ Liability Pool & Workers Comp Fund Member ($205 per person) Attendee #(s) _____ Qty: _____ $_____

College Student Rates

The college student rate is available for full-time undergrad or graduate students, who are not municipal officials or employees, or members of the Business Alliance Program.

☐ College Student Attendee ($75 per person) Attendee #(s) _____ Qty: _____ $_____

Guests

☐ Guest Attendee ($60/person before 2/24/15; $70/person after 2/24/15) Qty: _____ $_____

Guest Name(s): _____

☐ MWIMG Coffee Talk (Free) Attendee #(s) _____ Qty: _____ $_____

Total: $ _____

Special Accommodations

Do any of the above listed attendees require a vegetarian/vegan meal? If so, please list name(s) below:

_____

Do any of the above listed attendees require special assistance/accommodations? If so, please specify below:

_____

Registration Options:

Online: To register and pay online visit www.mml.org. On the home page located on the right hand side under "My League," click on "Log On" and sign in to your League account. After you are logged in, click on "Events" and select Capital Conference.

Fax: Please fax registration form to 734-669-4223, then mail with check payable to: Michigan Municipal League P.O. Box 7409 Ann Arbor, MI 48107-7409

Registration Questions? Call 734-669-6371 or email registration@mml.org. For a full list of Capital Conference registration policies, please visit www.mml.org, click on Training/Events, click on Capital Conference Registration Policies.