

**AGENDA
CASCADE CHARTER TOWNSHIP
REGULAR BOARD MEETING**

Wednesday, April 13, 2016

7:00 P.M.

Cascade Branch of the Kent District Library, Wisner Center
2870 Jacksmith, S.E.

Expected Meeting Procedures

1. During public comments you may speak on any item not noted on the agenda for a public hearing.
2. Please limit comments to 3 minutes per person and the Board may or may not choose to respond.
3. Please limit your comments to a specific issue.
4. Please turn OFF cellular phones.

- Article 1. Call to Order, Roll Call**
- Article 2. Pledge of Allegiance to the Flag**
- Article 3. Approval of Agenda**
- Article 4. Presentations/Public Comments (limit comments to 3 minutes)**
- Article 5. Approval of Consent Agenda**
- a. Receive and File Various Meeting Minutes
 1. Regular Township Board Minutes of 3/9/16 and 3/23/16.
 2. Regular Planning Commission Minutes of 02/01/16.
 3. Regular Zoning Board of Appeals Minutes of 01/12/16.
 - b. Receive and File Reports
 1. Fire Department Year End Report – 2015.
- Article 6. Financial Actions**
- a. Consider Approval of March 2016, Payables, Payroll and Transfers.
- Article 7. Unfinished Business**
- Article 8. New Business**
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|-----------------|---|
| 027-2016 | Consider Approval of the Cascade Township Utility Extension Participation Policy. |
| 028-2016 | Consider Approval of the request to construct a Boat Ramp on Township Floodway Property. |
| 029-2016 | Consider Approval of Contract with Hamilton Helicopter Inc. for Gypsy Moth Suppression Services. |
| 030-2016 | Consider to Move Forward with Township Hall Project. |
- Article 9. Public Comments on any other matters. (limit comments to 3 minutes)**
- Article 10. Manager Comments**
- Article 11. Board Member Comments**
- Article 12. Adjournment**

**MINUTES OF THE
CASCADE CHARTER TOWNSHIP
REGULAR BOARD MEETING**

Wednesday, March 9, 2016
7:00 P.M.

- Article 1.** Supervisor Beahan called the meeting to order at 7:00 p.m.
Present: Supervisor Beahan, Treasurer Peirce, Clerk Goodyke, Trustee Goldberg, Koessel and Lewis.
Absent: Trustee McDonald (excused)
Also Present: Manger Swayze, Community Development Director Peterson and those listed in Supplement #1.
- Article 2.** Supervisor Beahan led the Pledge of Allegiance to the Flag.
- Article 3.** Motion was made by Trustee Goldberg and supported by Trustee Lewis to approve the Agenda as presented. Motion carried.
- Article 4.** **Presentations/Public Comments (limit comments to 3 minutes)**
- Article 5.** **Approval of Consent Agenda**
- a. Receive and File Various Meeting Minutes
 - 1. Regular Township Board Minutes for 02/24/2016.
 - b. Education Requests
 - 1. Ken Peirce – MMTA 2016 Advanced Institute – Mt. Pleasant, MI – 5/16/16 thru 5/18/16.
 - c. Receive and File Reports
 - 1. Fire Department Month End Report – January, 2016
 - 2. Building Department Month End Report – February, 2016.
- Motion was made by Clerk Goodyke and supported by Trustee Goldberg to approve the Consent Agenda as presented. Motion carried.
- Article 6.** **Financial Actions**
- a. **Consider Approval of January, 2016 General/Special Funds.**
Motion was made by Trustee Koessel and supported by Trustee Lewis to approve the January, 2016 General/Special Funds. Motion carried.
 - b. **Consider Approval of February, 2016 Payables, Payroll and Transfers.**
Motion was made by Trustee Lewis and supported by Clerk Goodyke to approve the February, 2016 Payables, Payroll and Transfers. Motion carried.
 - c. **Consider Approval of Change Order #5 and Pay Draw #5 for the Village Improvements.**
Motion was made by Trustee Koessel and supported by Trustee Goldberg to approve Change Order #5 and Pay Draw #5 for the Village Improvements in the amount of \$52,167.61. Motion carried.
- Article 7.** **Unfinished Business (Tabled)**
- 001-2016** **Consider Approval of Ordinance to Amend P.U.D. #55 to permit 10 Unit Single Family Detached homes for Roundhill. (Remanded back to the Planning Commission on 1/13/16)**
Motion was made by Trustee Lewis and supported by Trustee Goldberg to remove this item from the table. Motion carried.

Motion was made by Trustee Lewis and supported by Trustee Koessel to Approve the Ordinance to Amend P.U.D. #55 to permit 10 Unit Single Family Detached homes for Roundhill. Motion carried by roll call vote.
Ayes – 5 Nays – 1 (Peirce) Absent – 1 (McDonald)

Article 8. New Business
016-2016

Consider Approval of Purchase of Laptop Mobile Computers and Vehicle Modems for Fire Dept.
Fire Chief Sigg reviewed the request from the Fire Dept. Motion was made by Trustee Koessel and supported by Clerk Goodyke to approve the purchase of Laptop Mobile Computers and Vehicle Modems for the Fire Department at a cost of \$22,500.00. Motion carried.

017-2016

Consider Approval of Contract for July 4th Celebration – Funny Business.
Fire Chief Sigg reviewed the contract from Funny Business. Motion was made by Trustee Goldberg and supported by Trustee Koessel to approve the contract for July 4th Celebration to Funny Business in the amount of \$41,375.00. Motion carried.

018-2016

Consider Approval of Resolution for Road Closures for July 4th Celebration.
Motion was made by Clerk Goodyke and supported by Trustee Koessel to approve the Resolution for the Road Closures for the July 4th Celebration. Motion carried by roll call vote.

Article 9.

Public Comments on any other matters. (limit comments to 3 minutes)
Ken Carey, 2929 Thornapple River Dr. was present to talk to the Board regarding his lawsuit.
Ron McCollum, 3010 Thornapple River Dr. addressed the Board.

Article 10.

Manager Comments

Article 11.

Board Member Comments

Article 12.

Adjournment
Motion was made by Treasurer Peirce and supported by Trustee Goldberg to adjourn. Motion carried.

Meeting adjourned at 7:35 p.m.

Respectfully submitted,

Denise M. Biegalle
Deputy Clerk

Approved by:

Ron Goodyke, Clerk

Robert S. Beahan, Supervisor

**MINUTES OF THE
CASCADE CHARTER TOWNSHIP
REGULAR BOARD MEETING**

Wednesday, March 23, 2016
7:00 P.M.

- Article 1.** Supervisor Beahan called the meeting to order at 7:00 p.m.
Present: Supervisor Beahan, Clerk Goodyke, Treasurer Peirce, Trustee Lewis, Koessel, McDonald and Goldberg.
Absent: None
Also Present: Manager Swayze, Assessor McCarty, Community Development Director Peterson and those listed in Supplement #1.
- Article 2.** Supervisor Beahan led the Pledge of Allegiance to the Flag.
- Article 3.** Motion was made by Trustee Lewis and Trustee Goldberg to approve the Agenda as presented. Motion carried unanimously.
- Article 4.** **Presentations/Public Comments (limit comments to 3 minutes)**
- Article 5.** **Approval of Consent Agenda**
- a. Receive and File Various Meeting Minutes
 - 1. Regular meeting minutes of the DDA 01/19/2016
 - b. Education Requests
 - 1. Lt. Todd Stevenson and FF Mike Bolt – Annual Fire Department Instructors Conference– Indianapolis, IN – 4/20/16 thru 4/23/16.
 - 2. Vincent Milito – PIAM of Michigan 2016 Spring Conference – Cadillac, MI – 05/04/16 thru 05/06/16
 - 3. Lt. Todd Stevenson – Tuition Reimbursement for class taken for Organizational Leadership – Waldorf College
 - c. Receive and File Reports
 - 1. Fire Department Month End Report – February, 2016
 - 2. DDA – 2015 Annual Report
- Motion was made by Clerk Goodyke and supported by Trustee Koessel to approve the Consent Agenda as presented. Motion carried unanimously.
- Article 6.** **Financial Actions**
- a. **Consider Approval of February, 2016 General/Special Funds.**
Motion was made by Trustee Goldberg and supported by Clerk Goodyke to approve the February, 2016 General/Special Funds. Motion carried unanimously.
- Article 7.** **Unfinished Business**
- Article 8.** **New Business**
- 019-2016 a. Public Hearing – Establish IFT District for Compatico located at 5005 Kraft Ave.**
Motion was made by Clerk Goodyke and supported by Trustee Lewis to move into public hearing. Motion carried unanimously.
No comments received.
Motion was made by Trustee Lewis and supported by Trustee McDonald to reconvene into regular session. Motion carried unanimously.

b. Consider Resolution to Approve IFT District for New Facility for Compatico located at 5005 Kraft Ave.

Assessor McCarty reviewed the request from Compatico. Motion was made by Trustee Goldberg and supported by Clerk Goodyke to approve the Resolution for the IFT District for a New Facility for Compatico located at 5005 Kraft Ave. Motion carried unanimously by roll call vote.

020-2016

a. Public Hearing – Issuance of IFT Certificate for Compatico located at 5005 Kraft Ave.

Motion was made by Trustee Koessel and supported by Trustee Goldberg to move into public hearing. Motion carried unanimously.

No comments received.

Motion was made by Trustee Koessel and supported by Trustee Goldberg to reconvene into regular session. Motion carried unanimously.

b. Consider Resolution to Approve the Issuance of IFT Certificate for Compatico located at 5005 Kraft Ave.

Motion was made by Trustee Goldberg and supported by Clerk Goodyke to approve the Issuance of an IFT Certificate for Compatico located at 5005 Kraft Ave. Motion carried unanimously by roll call vote.

021-2016

Consider Approval of Resolution of Support for Liquor License for Grimms Bee, LLC, 5904 Buttrick Ave., Alto, MI.

Manager Swayze reviewed the request to open a home based business producing honey wine (also known as mead). They are currently looking for a small winemaker license from the State of Michigan Liquor Control Commission. Discussion followed.

Motion was made by Treasurer Peirce and supported by Trustee Lewis to approve the Resolution of Support for Liquor License for Grimms Bee, LLC, 5904 Buttrick Ave., Alto, MI. Motion carried unanimously by roll call vote.

022-2016

Consider Approval of Cascade Recreation Park Playground Proposal.

Community Development Director Peterson reviewed the Park Playground Proposal. Motion was made by Clerk Goodyke and supported by Trustee Lewis to approve the Cascade Recreation Park Playground Proposal for \$280,000 with community build. Motion carried unanimously.

023-2016

Consider Request from KDL for Music Programming Funding.

KDL Librarian Cutler was present to review the proposed program. Motion was made by Trustee McDonald and supported by Trustee Lewis to approve the request from the KDL to provide \$3,500 in funding to the Sunday Afternoon LIVE! Music program. Motion carried unanimously.

024-2016

Consider Approval of Township Social Media Usage Policy.

Manager Swayze reviewed the proposed social media usage policy with the Board. Discussion followed. Motion was made

by Trustee Koessel and supported by Treasurer Peirce to table the item. Motion carried unanimously.

025-2016 Consider Approval of METRO Act Right-of-Way Unilateral Permit request from 123.Net, Inc.

Motion was made by Trustee Goldberg and supported by Trustee Koessel to approval the METRO Act Right-of-Way Unilateral Permit request from 123.Net,Inc. Motion carried unanimously.

026-2016 Consider Approval of Recommendation for Clerk Replacement.

Manager Swayze gave a synopsis of the events that have taken place since the resignation of Clerk Goodyke at the February 10th Board Meeting, with an effective date of March 31, 2016. Trustee Goldberg reviewed the interview process that had taken place with the candidates. Motion was made by Trustee Goldberg and supported by Trustee Koessel to appoint Clem Bell to the vacancy of Clerk effective April 1, 2016. Motion carried.

Article 9. Public Comments on any other matters. (limit comments to 3 minutes)

Kent County Sheriff Deputy Ryan Roe was present to update the Board on happenings in the East Precinct.

Article 10. Manager Comments

Manager Swayze offered the following comments:

- Reminder that tomorrow night is our "Community Forum" from 5:30 until 7:30 pm at the Wisner Center
- Township Sign project is moving forward. The Zoning Board of Appeals approved our zoning variance. The Drury Hotel should be building their part of the wall within the next couple of weeks and then shortly after spring break we will start our portion of the wall. We are expecting the Drury Hotel to be open in early July.
- We do have our Planning Intern starting next week.
- I would like to thank Ron for the great experience it has been working with him the last couple of years.

Article 11. Board Member Comments

Clerk Goodyke offered the following comments:

- Would like to thank the Township Board. The Township is in the best hands it could possibly be, both on the Board and the Staff. It has been truly a pleasure.

Trustee Koessel offered the following comments:

- Wish Ron the very best in his retirement.

Trustee Lewis offered the following comments:

- Best wishes to Ron.

Treasurer Peirce offered the following comments:

- Congratulate Clem Bell
- Add my good wishes to Ron

Trustee Goldberg offered the following comments:

- Offer my congratulations to Clem
- Best wishes to Ron

Trustee McDonald offered the following comments:

- Best wishes to Ron.

Supervisor Beahan offered the following comments:

- Thank Ron for all his many years of service to the Community in so many ways. It has been a pleasure working with you.

Article 12. Adjournment

Motion was made by Treasurer Peirce and supported by Trustee Lewis to adjourn. Motion carried unanimously.

Meeting adjourned at 8:36 p.m.

Respectfully submitted,
Denise M. Biegallé
Deputy Clerk

Approved by:

Ron Goodyke, Clerk

Robert S. Beahan, Supervisor

DRAFT

MINUTES

Cascade Charter Township Planning Commission
Monday, February 01, 2016
7:00 P.M.

ARTICLE 1. Chairman Waalkes called the meeting to order at 7:00 PM.
Members Present: Katsma, Mead, Pennington, Rissi, Sperla, Waalkes Williams
Members Absent: Lewis (Excused) Robinson (Excused)
Others Present: Community Development Director, Steve Peterson, and others listed on the sign in sheet.

ARTICLE 2. Pledge of Allegiance to the flag.

ARTICLE 3. Approve the current Agenda.

Motion by Member Pennington to approve the Agenda. Support by Member Mead. Motion carried 7-0.

ARTICLE 4. Approve the Minutes of the January 11, 2016 meeting.

Motion by Member Sperla to approve the minutes of the January 11, 2016 meeting as written. Support by Member Mead. Motion carried 7-0.

ARTICLE 5. Acknowledge visitors and those wishing to speak to non-agenda items (Comments are limited to five minutes per speaker.)

No one wished to speak on a non-agenda item.

ARTICLE 6. Case #15-3229 RJ Ventures

Property Address: 3000 Thornhills Avenue SE

Requested Action: The Township Board has remanded this project back to the Planning Commission for further review.

Director Peterson presented the case. The Township Board sent this case back to the Planning Commission for clarification on a few points:

- Landscaping around the perimeter of the site
- Storm Water Maintenance Agreement
- Performance Bond during construction

While the Township Board could have made these changes they remanded back to the Planning Commission so that there would not be any surprises by the changes.

The Applicant has provided a Landscaping Plan which includes a buffer around the perimeter of the site. Buffer yards are not required but if we are including one

we should request a Landscaping Bond of \$8,200. The language in the PUD Ordinance states that the landscaping will be completed in accordance with the plan.

Cliff Bloom, Attorney - Law Weathers is representing the Township in this case. He has taken a look at the Storm Water Maintenance Agreement and it has been modified slightly and he has improved the language.

The need for a Performance Bond was discussed for soil erosion control mechanisms and processes. The Road Commission has taken a look at their soil erosion plan. They have not issued a permit yet but they seem agreeable. A Soil Erosion Bond of \$5,000 would be required by the KCRC. Our Township Engineer was asked what the worst case scenario damage would cost to clear the site. They have recommended a \$50,000 Performance Bond. This Bond would be in place just during the construction phase of the project and once the site was stabilized the Bond would be released. It would not be in place during home construction. The county could require individual soil erosion permits for each house.

The Township Board modified the language of the new PUD Ordinance slightly to incorporate a sentence that states the Ordinance incorporates and adopts Staffs comments and the conclusions from the Staff report.

There is communications in the packet from Mr. Rohde and his Attorney requesting that the case be reheard but the purpose of tonight is to look at the three items the Township Board requested. I did also put into the packet a private communication between Mr. Rohde and Member Lewis that we are publicly disclosing.

The Planning Commission has a couple of options before them:

- The recommendation can be sent back as originally presented to the Board.
- The recommendation may be amended to the Board to include all the changes.
- The recommendation may contain a combination.

Staff is comfortable with the new Landscaping Plan, the new Storm Water Maintenance Agreement and the Performance Bond the Township Engineer has recommended.

Member Sperla asked if Mr. Rohde and his counsel had a chance to review the new Storm Water Maintenance Agreement. I saw that there were changes that I have not seen in the past and I really like that the new enforcement provisions are stronger and I would like to see this in future Storm Water Agreements. I

would be interested to know if you have received any feedback from Mr. Rohde on the new language in this Storm Water Agreement. Director Peterson stated that he had not received any feedback. We did not specifically send the new Storm Water Maintenance Agreement to Mr. Rohde but it was available on-line. Member Sperla stated that he liked the provisions, it provides a lot more clout and enforcement rights. I know if I was sitting in Mr. Rohde's shoes, I would feel pretty good about this Agreement.

Member Pennington asked Director Peterson to highlight the changes to the Storm Water Maintenance Agreement. Director Peterson stated that he would defer to Mr. Bloom the Township Attorney.

Cliff Bloom, Township Attorney came forward with comments.

There were no substantive changes on pages one and two. On page three the important provision is just above B. The Maintenance Agreement as it existed was quite good for most municipalities. As Member Sperla stated, this nails it down more. We wanted to make it clear that the obligation to maintain the storm water retention/detention facility doesn't stop with the developer. It runs with the land. This language makes it clear that not only is the developer responsible while it's involved, but thereafter the Association is responsible and the individual units are also. For if some reason the Association went bankrupt than it would be an obligation of the unit owners and there would be a lien on the property. Member Sperla stated that this would be a recorded instrument for any prospective purchasers within the development. Mr. Bloom concurred stating that this document would be recorded so that everyone will know when they purchase a unit within the condominium. Statement B states that if the Township has to enforce the agreement and prevails in court, it can recover its attorney fees which normally you cannot do in absence of a contract.

In the middle of the Special Assessment District, if for whatever reason the Township wants to clean up the site and doesn't want to go against the unit owners they can agree ahead of time for the creation of a Special Assessment District. The benefit is that it simply goes on the tax rolls automatically and is easier to collect.

A disclosure was added to alert the homeowners that in the event the Association went defunct that they would be held responsible individually.

Number five (5) made it clear that this Agreement does not negate the requirements that they comply with all laws: state, county and federal.

Chairman Waalkes asked anyone with comments to come forward.

Tim Newhouse, Attorney on behalf of Mark Rohde, 3087 Thornapple River Drive came forward with comments. Mr. Newhouse stated that he had the opportunity to review the Storm Water Maintenance Agreement. In the packet is the correspondence from Mr. Rohde stating his objections to the proposed amendment to the PUD, as well as, my outline as to why we feel this amendment does not comply with your Zoning Ordinance. I realize that you have already approved the proposed amendment to the Township Board and they have returned it for three items. The new Landscaping Plan is designed to cover up one of the bigger issues Mr. Rohde believes prevents this plan from being adopted. The other main issue is the retention pond and the Maintenance Agreement. The drainage plan in this proposed amendment diverts most of the water to the retention pond on the SW corner. This parcel is now split into two different parcels with competing interests. By approving this amendment, you are potentially diverting all of the storm water and runoff from the retention pond onto Sentinel Pointe's property. Sentinel Pointe has indicated that they do not approve of this particular amendment. They are part of this PUD. I think the proper approach would be to amend the PUD to remove this 40 acre parcel and then propose their development. In my opinion, they would then have to get an easement for the drainage over the Sentinel Pointe property.

Member Sperla asked if Mr. Newhouse was aware that Mr. Rohde was the original developer of Sentinel Pointe, in two phases, he was not only the Owner but the Engineer as well. It seems a little problematic that somebody that causes the split and sells it to someone else, still wants to retain control over how it is developed. If he wanted that why didn't he just continue to own the property? He sold it to someone and they obviously were going to make some use of it which is contrary to what the Sentinel Pointe original PUD ordinance provided for. Mr. Newhouse states, when he sold the property there were two attempts, as I understand it, to have an elderly facility proposed there that didn't make it past the Planning Commission because of drainage issues. Member Sperla states that seems to me that he turned around and sold the property knowing that some use was going to be made of that property, it was not going to be part of the Sentinel Pointe development in accordance to the approved plan that had a Phase A and Phase B. Mr. Newhouse said that he looked for the original PUD through a FOIA request, but it was not found. Member Sperla reiterates that if he wanted to control how it was developed he should not have sold it. When he sold the property he gave up the right of ownership and control over what could be built on the property. He had to know that the property was going to be developed at some point and most likely not to his liking. If you want to control it, you have to own it. But again, he gave up that control when he sold the property. Mr. Newhouse states that Mr. Rohde would probably agree with that and regrets that decision. Mr. Newhouse says the maintenance agreement with the overflow is not going to happen. Mr. Bloom made a comment that it is going to be stated that the Unit owners will be aware of their requirements to maintain this

retaining pond. The only time anything will happen is if there is an event and then it is too late. There will be no dredging, the home owners association will probably have it in their dues that it be maintained, but nobody will do anything about it. The water will be spilling over into other people's property and because, in our opinion, the storm ordinance is not followed with its borings, there may be potential liability on the Township and we would like to prevent that from happening.

Chairman Waalkes asked anyone with comments to come forward.

Tom Giusti, representing RJ Ventures the proposed developer. Mr. Giusti states that the comments regarding trees being cleared and moving forward developing the property is not correct, we will not touch the property until we get the proper permitting and approval from the Township. Secondly, as Director Peterson mentioned, the Kent County Road Commission suggested that on top of their Bond, we have provided a landscape plan with screening. Each of the Units will be required to have a soil erosion permit at the time of construction, so there will be two layers of protection. The landscape plan shows all the deciduous and evergreen trees around the whole perimeter. We also have shrubs protecting the retaining wall on the south and north side. We also do not need permission from any of the adjoining neighbors because we will not be on any of their properties for these retaining walls.

Cherie Grunske, 3056 Thornapple River Dr., our property is downstream from the property in question. Our concern with this is that there will now be hard surfaces and possibly sand and could cause a problem with this coming downstream.

Chairman Waalkes stated that all the hard surface paving is draining directly to that pond, as it is a retention pond. It is a 100 percent infiltration. This could be an improvement to the problem.

Mr. Giusti states that it seems there has been negligence in prior developments, there are safety valves put in and are stringent on what we are going to be required to do, to not allow any erosion and sedimentation into the river. We are doing everything possible to not disturb the people downstream or anyone around this particular piece of property. Nederveld has taken their time and done their due diligence on the retention pond and complied with the Township and Fishbeck's requirements on what they need to have.

Ron McCollum, 3010 Thornapple River Dr., the one thing that I am concerned about is this is not a 100 percent retention pond, as it does have an emergency spill way. Mr. Giusti said they did everything that Nederveld and Fishbeck asked as far as the retention pond, but the two soil borings weren't done as demanded

to be done by Fishbeck. I am also concerned that this pond doesn't drain properly and is a spill way, when you have a hundred year rain it may spill over. If it is sand and can handle it, that's great. But if it does go over, it will dump sand and erosion in the Cascade Bayou. We have a petition to look into dredging the Bayou and would like to look into plunge pits. Down by the river ideally there could be a plunge pit that could be dug out. We just don't want any more sediment coming down on our properties.

Kenneth Carey, 2929 Thornapple River Dr., it is quite humorous how they think they can catch all this water, but nobody knows more than I do the things that can go wrong. Over the past 5 years I have dealt with problems from the Summit. Attorney's fees and Engineering Fees and everything else that has gone along with this excluding Attorney and Engineering Fees from the Township, have easily exceeded \$100,000.00. Mr. Bloom has said, so eloquently at the last meeting, that if things go wrong there is a civil remedy. And by a civil remedy it means that you are going to have to get an Attorney and sue. You are going to have to go through the same five years that my wife and I have gone through, along with tens of thousands of dollars' worth of damage. If you lay the Summit over the drawing, my home is directly down from the homes here. All the drainage from the non-porous structures, including the driveways in front of the homes and all roof structures. The driveways were all angled and dumped off the back of the hill, focus drainage. I know how Mr. Bloom feels about focus drainage, he is well published and I had a conversation over the phone with him. He told me he solved this problem, and I believe he was upset when another home was built and allowed to dump off the back of the property. This has cost me tens of thousands of dollars in damages and I have had a law suit going for a year and a half. You tell me there is going to be no problems here, but I know differently. The civil remedy that Mr. Bloom talks about is devastating to the people involved. The people that live in the Bayou and below now is the time to settle this. Not years from now when everyone is going to have to pay up. The only reason this came to a forefront is because I had Legal and engineering coverages for this lawsuit otherwise this would never have happened. They know this. They count on the fact that people do not have the resolve or the financial reserves to fight this. They counted wrong on my part when it came to me. This is what you are dealing with here. It all looks fine and dandy when it's presented to you but the plans will not be followed. Now Mr. Peterson at the last meeting January 13, 2016, indicated that there were a lot of problems here and that's not going to happen again. Well, when the trees came down in this area for that latest home that was built in the Summit, I raised the concerns early, and I was always assured that things were going to be done properly. Even though at the time he knew they would not be and that is where I am right now, I had to settle for reduced damages. The man who built the home is ready to tear his hair out. He trusted people and he trusted the wrong people. I warned him that if you pursue you will be in court. This is what you guys have to decide. I did not deserve this. We

voiced our concerns early and they said nothing was going to go wrong, but it did. It went terribly wrong. Good luck to the residents because they are not going to have the financial reserves to fight this and you guys are all counting on that.

Tom Giusti stated that he feels bad for this gentleman for what he has gone through and I am not minimizing it and it is unfortunate. We have to take what we have here and do the best we can with engineers and the process to capture rain water, roof water, driveway and street water and put it all in retention and do the best we can to make this the best solution. It is unfortunate that someone's negligence in the past has caused hardship. We are trying not to do that and to do our best to make everything the best that we can to do this right.

Member Williams asked if the borings had been done as suggested. Mr. Guisti stated that Nederveld had confirmed with Fishbeck that we had performed the appropriate tests and in line with the Township requires for a retention basin.

Member Pennington asked the Board to focus on the three items the Planning Commission was asked to review and not the drainage aspect as this had been approved at the last meeting.

Member Mead asked if the Storm Water Maintenance Agreement and adding additional language to it, I question the ability to further enforce this down the road. I continue to hear that we are adding to a problem that is existing, do we have an existing Storm Water Agreement that covers this PUD as a whole and is it being fully enforced today? Director Peterson stated that we do not have such an Agreement. The Storm Water Maintenance Agreement is a relatively newer tool that we use. The Storm Water Ordinance is new as well and was not in effect when the original Sentinel Pointe was built. The Storm Water Maintenance Agreement only addresses the property that is under development. Some of the issues that people are speaking about and the problems around it are really separate. Some of the work that is planned to be done are not really coming from areas here but rather west of Thornhills. That is what the Township has been studying with the Township Engineer to see what can be done for a long term fix. Our engineer pointed out that they are quite confident in this site meeting the current standards for our Storm Water Ordinance which are much more stringent than any of the sites around it.

Member Mead stated if it is safe to say that by this proposed development we are taking the water runoff that is freely running as of today and trying to capture it and divert it to the infiltration basin. Director Peterson stated that this was correct. The water would now seep into the ground rather than running down the hill. Member Mead stated that in theory this development could alleviate some of the problems this PUD is having on the surrounding environment. Director Peterson stated that little things can contribute a great deal to water

runoff, such as tree growth or reshaping a yard can have a significant impact over time on how water reacts on site. Certainly the intent of a Storm Water Ordinance is to minimize the impact from the water runoff created by a development. Our standards are not getting easier but rather tougher. This developer is meeting and exceeding our requirements.

Member Sperla stated that we can't hold a developer on a defined piece of property to correct every problem that exists coming from other parcels. All they can do is put before us what their proposed plan is, the detention ponds. The Storm Water Ordinance came into existence in 2005 and I have had my own issues in the past and have looked at it quite extensively. You cannot impose newly adopted Ordinances on developments that took place 15-20 years ago. Nor can you ask a developer or an owner of another piece of property to correct problems in other parts of the Township unless it's part of the original plan. I don't believe this was. I believe part of the problem they have created themselves. I do believe that this is in an area where it has the most stringent requirements, it says when possible they require 100% infiltration. That does not mean there can't be a spillway. There is a big hill and it goes into the river but the design of this pond is 100% infiltration. The Engineer has stated that this will occur and we have to be careful of trying to impose burdens on other parties that really did not create the pre-existing problems that existed prior to the Storm Water Ordinance being adopted in 2005.

Chairman Waalkes stated for clarification, we are reviewing the Landscaping Plan with its associated Landscape Bond, the slight revision in the PUD that references the Landscape Plan, the revised Storm Water Maintenance Agreement and the \$50,000 Performance Bond during construction.

Member Rissi asked if it was typical to see a Landscaping Plan that shows the landscape around the perimeter but not around the individual units. Director Peterson stated that it would be unusual to see the landscaping around the homes. The borings that were requested at the last meeting the developer addressed and was it satisfactory to our Ordinance.

Member Pennington stated that typically we do not require a landscape buffer for residential builds and I am fine with what we previously approved but if the Planning Commission wanted to include these requirements, I would support that too.

Chairman Waalkes stated that he is in agreement with Member Pennington but he is willing to support the additional requirements.

Member Sperla made a motion to approve the changes that have been outlined in the Staff report and to forward a positive recommendation to the Township Board to include the following:

- Landscaping around the perimeter of the site
- Landscaping Bond of \$8,200
- Updated Storm Water Maintenance Agreement
- Performance Bond during construction of \$50,000

Support by Member Mead. Motion carried 7-0.

ARTICLE 7. Case #16-3293 John Slagboom

Property Address: 5210 52nd Street

Requested Action: The Applicant is requesting site plan approval for a 4,800 sq. ft. warehouse addition.

Director Peterson presented the case. South side of 52nd Street with existing warehouse. When we approved this Special Use, approximately 10 years ago, they had several other buildings planned as well as outdoor storage. They have only built the few buildings up front and a few smaller buildings than originally planned. In reference to Storm Water, the site was designed and constructed to accommodate much more construction. We have approved a few smaller building administratively but we are to the point where any further additions must come before the Planning Commission. The Applicant has indicated that the addition will be used for storage and light maintenance and repair. It fits within the purview of the industrial zoning and their Special Use Permit for their project. The Township Engineer looked at the plans and the site can already accommodate the addition. The Township Fire Department did not have any issues or comments. This is pretty straightforward and I am recommending approval of their site plan. They will have to do a Storm Water Maintenance Agreement that essentially would be agreeing to what they have already done.

Member Pennington asked if the original proposal requesting more singular buildings or one large building. Director Peterson stated that the original plan was to continue the larger buildings and it has evolved as they have used the site.

Chairman Waalkes asked the Applicant to come forward with comments.

John Slagboom, 5210 52nd Street came forward as the Applicant.

The Applicant stated that the original plan was for nine (9) buildings similar to the first three buildings.

Member Sperla asked if there was going to be water and electric to the building. The Applicant stated that there would be electrical for lights only.

Member Rissi made a motion for Site Plan Approval on Case #16-3293- John Slagboom for a 4,800 sq. ft. warehouse addition with the condition that they sign the Storm Water Maintenance Agreement. Support by Member Williams. Motion carried 7-0.

**ARTICLE 8. Case #15-3295 Cascade Township
Accessory Building Zoning Requirements Discussion**

Director Peterson presented the case. I have provided a summary of accessory buildings from 2010-2015. This gives a sense of the size of the buildings that have come before the Board. What is important to remember is that the accessory buildings that we are seeing are much larger than 832 sq. ft. on average. The 832 sq. ft. correlates to the size of the attached garage that you are allowed. That size can then increase based on the size of your house. Director Peterson stated that he is comfortable with the 832 sq. ft. and that if we raise the allowed square footage too much it could cause a few issues in some of our neighborhoods if we were permitting larger buildings with just a staff review. It seems we would open up a whole new set of issues. After reviewing the data I really like what we have.

Member Sperla stated that we have a unique position in Cascade having the airport, industrial parks around the airport, we have agricultural areas, high-end neighborhoods and some older neighborhoods. We have a real conglomeration of underlying uses. I have been thinking about building an accessory building and I think 832 sq. ft. is reasonable. If you need a bigger building it makes sense that you apply for a Special Use Permit given the challenges that are unique to the Township. Director Peterson concurred that we have some neighborhoods that are completely different from one another and we have some very unique areas in the Township. We are one of the very few Townships that do not arbitrarily limit the size of an accessory building. We have a threshold that once you go over the limit you apply for a Special Use Permit.

Member Pennington stated that when he built his accessory building he built it right to 832 sq. ft. and if he had been allowed to build it bigger he would have. In retrospect he realizes that the building would not have fit into his neighborhood and would potentially have caused problems with his neighbors.

Member Rissi stated that he had studied the summary and feels that 832 sq. ft. is a good number. The only possible way of changing it in my mind, is that in the agricultural/conservation zoned district you have an arrangement that you can go up to 50% of the size of the home on a multiple acre site. You start to get into charts and may open a large can of worms.

Member Sperla stated it gets complex and you can't look at the circumstances surrounding you. You have to have enough authority to take into consideration the property owners adjacent to the property. Member Rissi stated we are not doing an extreme amount of them.

Member Mead stated that the requests we had in 2015 were substantially larger than the 832 sq. ft. allowed. At least half of these cases would have had to come before the Planning Commission even if we allowed a 1,500 sq. ft. building.

Member Katsma stated that we need to have some level of protection to be able to hear neighbor's concerns in the situation where one neighbor has no consideration of his neighbor's concerns. This gives us a level of protection while still approving larger accessory buildings where they fit into the neighborhood.

Chairman Waalkes stated that it sounds like everyone feels that the data supports our current accessory building requirements. All Members were in agreement.

ARTICLE 9. Any other business

There was no new business.

ARTICLE 10. Adjournment

Motion made by Member Sperla to Adjourn. Support by Member Mead. Motion carried 7-0. Meeting adjourned at 8:14 PM.

Respectfully submitted,
Aaron Mead, Secretary
Ann Seykora/Julie Kutchins – Planning Administrative Assistant

ZONING MINUTES
Cascade Charter Township
Zoning Board of Appeals
Tuesday, January 12, 2016
7:00 P.M.
Cascade Library Wisner Center
2870 Jackson Avenue SE

ARTICLE 1. Chairman Casey called the meeting to order at 7:00 P.M.
Members Present: Berra, Casey, McDonald, Milliken, Pennington
Members Absent: None
Others Present: Community Development Director Steve Peterson and those listed on the sign in sheet.

ARTICLE 2. Chairman Casey led the Pledge of Allegiance to the flag.

ARTICLE 3. Approve the current Agenda.

Motion made to approve the Agenda as printed by Member McDonald. Support by Member Berra. Motion carried 5-0.

ARTICLE 4. Approve the Minutes of the December 08, 2015 Meeting.

Motion made by Member McDonald to approve the Minutes of the December 08, 2015 Meeting as written. Support by Member Berra. Motion carried 5-0.

ARTICLE 5. Acknowledge visitors and those wishing to speak to non-agenda items.

No visitors present wished to speak to non-agenda items.

ARTICLE 6. Case #15:3291 Meijer

Public Hearing

Property Address: 5531 28th Street SE

Requested Action: The Applicant is seeking approval from the Zoning Board to construct a bus stop shelter for The Rapid.

Community Development Director Peterson introduced the case. This is a bus shelter for The Rapid. It will be located on private property. The location for the bus stop is on the east side of the site. There is a small shelter in this location that is a smoking shelter for employees. This will be an additional structure in the same vicinity. We treat this as we do other public utility type structures. This will be important moving forward as we have more of these built in the more traditional locations in the road right-of-way. It will give neighbors the opportunity to come in and see the plans and comment on the locations. I have printed and highlighted the areas of our Ordinance that pertains to the standards that The Zoning Boards of Appeals must follow in approving these projects. These projects can be approved provided that you find the use, the height, the building structure is designed directed and landscaped to essentially fit into the district. This is a normal bus shelter and we are recommending approval. There will be additional bus shelters being built along 28th Street now that The Rapid bus service has started in Cascade Township.

Member Pennington asked if each of the bus shelter had to come before the Zoning Board. Director Peterson stated that each bus shelter would have to come before the Board.

Chairman Casey asked the applicant to come forward with comments.

The Applicant did not have any further comments.

Member McDonald made a motion to open the Public Hearing. Second by Member Berra. Motion passes 5-0.

Chairman Casey asked anyone with comments to come forward. No one came forward with comments.

Chairman Casey asked if they had performed a trial run of the bus to see if it would make the turn. The Applicant stated that they had worked with The Rapid to pick the best location and trial runs were performed to make sure the location would work. Chairman Casey asked who was responsible for snow removal. The Applicant stated that Meijer's was responsible for snow removal.

Chairman Casey asked Director Peterson if he had received any input from the public on the Bus shelter. Director Peterson stated that he did not receive anything.

Member McDonald made a motion to close the Public Hearing. Second by Member Berra. Motion passes 5-0.

Member McDonald made a motion to approve the construction of the bus shelter for Case 15:3291 Meijer as presented. Second by Member Berra. Motion passes 5-0.

ARTICLE 7 Planning Department 2015 Annual Report

Director Peterson stated that the numbers are up from last year.

ARTICLE 8. Election of Officers

- **Member Berra - Chairman**
- **Member Milliken - Vice Chair/Secretary**
- **Member Pennington - VDRC**

Motion by Member McDonald to elect officers to the positions stated. Support by Member Berra. Motion passes 5-0.

ARTICLE 9. Rules of Conduct

Director Peterson handed out the Rules of Conduct and Communication as a reminder.

ARTICLE 10. Any other business.

ARTICLE 11. Adjournment

**Motion by Member McDonald to adjourn the meeting. Support by Member Berra.
Motion Passed 5-0. Meeting adjourned at 7:25 PM.**

Respectfully submitted,

Ann Seykora/Julie Kutchins
Planning Administrative Assistant

Cascade Charter Township Fire Department **2015 Year End Report**



2865 Thornhills SE
Grand Rapids, Michigan 49546
(616) 949-1320
www.cascadetwp.org

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To: Benjamin Swayze-Township Manager
Township Board

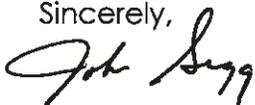
I want to present to you the Cascade Charter Township Fire Department 2015 Annual Report. It is my pleasure to present this report to you to give you an idea of what your fire department has done during the past year. Your fire department responds to many emergency and non-emergency calls for assistance throughout the year. We operate on millages due to the support we receive from our community. We also receive funds from the general township budget which allows us to offer the level of service our residents have come to expect. Your department operates with both fulltime and paid on call personnel. We have fulltime coverage 365 days a year with supplemental assistance provided by our paid on call staff at both fire stations. We continue to increase our paid on call staff each year and will continue to do this for the foreseeable future to ensure our residents are provided with the outstanding level of service that they have come to expect. Our paid on call staff have full time jobs and they respond to calls when they are available. We are very proud of our paid on call personnel and would not be able to do our job without their dedication and commitment.

This year we had a call volume increase of one percent, or 62 responses, as compared to 2014. We responded to a total of 1,757 requests for service. The calls consisted of fires, medicals, accidents, citizens assist and other types of responses.

We also continued to offer educational and informational programs for the public. We have a child seat program where new parents, grandparents etc. can come in and have their child seats installed properly. This work is done in conjunction with Ada and Caledonia Fire Departments. If a Cascade Firefighter is not available we can send our citizens to one of the other departments. We also provide CPR/AED programs for the public. CPR is critical in saving lives when someone is in cardiac arrest. The sooner CPR is started and performed correctly the better the chance of survival. These public relations programs are critical for us and give our staff the ability to go out into the public to raise awareness and teach fire safety.

We cannot do our job without the support of the community and the Township Board. We want to thank you for your continued support of your department and the community in making our jobs as safe as possible.

Sincerely,



John Sigg
Fire Chief

Administration

Mission Statement

“Cascade Charter Township Fire Department will deliver quality preventive and emergency services to the community.”

As our community continues to grow the requests for service continue to increase. This past year we had the highest call volume we have ever experienced in the department's history. Some of the highlights from the past year include:

CALL TYPE	EMERGENT LOCATION	MITIGATION RESULT
Machinery Fire	Interior of building	Fire contained to machine
Hotel room Fire	Stove fire	Contained to stove
Garage Fire	Garage	Damage to garage
Semi-truck fire	Engine area of semi	Damage to engine
Machinery Fire	Interior of building	Fire contained to building
Fire in Wal-Mart	Inside store	Damage to toys and smoke throughout store
Car fire under car port	Car port	Damage to multiple cars and car port
Garage Fire	Large garage	Garage total loss

FDAC

FDAC (Fire Department Advisory Committee) met throughout the past year. This committee approves projects within the fire department. Projects are presented, discussed and needed recommended to the Township board thru FDAC. This committee remains very active and regularly meets on a monthly basis.

Changes in Department

We had staffing changes this year in the department. We hired five (5) new paid on call firefighters. They are; Steven Drake, David Lintemuth, Nathan VanOosterhout, Colin Rodriguez and Reid Klein. They are all Township residents and will be a valuable addition to our department. We hired three (3) fulltime staff; two (2) from our paid on call ranks and one from the outside. The two (2) from the paid on call ranks are; Colin Forzley and Jon Snyder. Josh Dettwiler was hired from the outside and he is also a paid on call firefighter with Plainfield Township.

Site Plan Reviews

Throughout the year we review plans for new buildings, private roads and new and existing sub divisions. We continue to work with the Building and Planning departments on the site plan review process. Some of the plans we reviewed this year were:

Lacks Enterprises
Advantage Label
Grooters Warehouse Building
Clean Room International
Cascade Hospital for Animals
Portabella Road

Training

Cascade Charter Township Fire Department (CFD) trains year round. Trainings are conducted twice a month and some weekends. We also have shift trainings that cover fire and medical topics. Our training consists of ongoing education which satisfies our many licensure requirements as well as new training to enhance the knowledge base of our staff. We continue to monitor the progress of our training program by meeting with the Instructors and Officers and make adjustments as needed. We also offer opportunities to our neighboring departments to participate in trainings with us. We utilize several instructors from other departments as well as our staff to conduct these trainings. Due to changing nature of our training, we strive to provide the most up to date training and the most knowledgeable instructors we can. Some of the department trainings we participated in this past year include:

Water and Ice Rescue with neighboring departments
Electrical emergencies
Annual AED/CPR and airway Recertification for the department
Air Pack Training with air management
Fire Fighter Survival
Vehicle Extrication
Annual Drivers Training course and classroom
Annual Incident Command and Unified Command
Water Shuttle Training with Caledonia, Alto and Ada Fire Departments
Medical Continuing Education
Water Streams, Hose Operations, Pumps
Search and Rescue
Hazardous Materials
Annual Blood borne Pathogens
MSDS /LEPC Plans
Annual Respiratory Protection
Building Construction
Fire ground operations, radio operations, fire ground safety
Firefighter Right to Know
<i>This is not an all-inclusive list of our trainings</i>

Shift Training

Listed below are some of the shift trainings we held this year. These are held during shift and paid on call are welcome to come in and participate as they are available.

Ventilation
Health and Fitness
Ladders
EMS Safety
Extrication
Chest and Abdominal Trauma
Drafting, Pump Operations
Driving
Disaster Planning
Fire Sprinklers and Fire Pumps
Pediatric Emergencies
Electrical, gas and hand tools
Firefighter Safety
<i>This is not an all-inclusive list of our trainings</i>

Fire Inspections

In 2015 we conducted many activities in fire prevention. Fire prevention activities help protect properties from devastating loss, the life and safety of our citizens, business owners and employees, and the health and safety of our firefighters.

Many of our local businesses in Cascade rely on our fire department to provide them with fire extinguisher training and emergency evacuation procedures and drills.

363 Re-Inspections
33 Liquour License inspections
285 Business inspections
235 Violations Issued
31 Complaint investigations
37 incidents assisting the duty crew in emergency responses
78 Hours of required department training
72 hours of required continuing education credit hours for fire inspectors
50 hours of required continuing education credit hours for fire investigators
13 significant fires requiring investigation
Participated in plan reviews
Participated in many fire prevention activities in schools, business, and retirement communities

Fire Inspector Poolman obtained the following certifications in 2015:

- Michigan Certified Level II Fire Inspector
- Michigan Certified Plan Reviewer
- Michigan certified Building Code Official for Fire Systems



Community Involvement

Tours and Events

In 2015, we held or attended 30 events with approximately 3000 people in attendance. We attended numerous neighborhood block parties, birthday parties, events at the library, community and business events. We conducted fire safety and gave first aid talks to numerous Boy and Girl Scout groups.

CPR/AED

We taught CPR classes to nurses, citizens, and employees of businesses in the township. This year we had 160 individuals attend CPR/AED classes that our department presented.

Camp 911

Camp 911 was held again this year out at Station #2. This camp is sponsored by Life EMS and is free to children ages 9 to 12. We had a full house again this year, 35 kids. Of all the camps in the area, ours was one of the largest this year. The kids learn basic first aid, CPR, bike safety, fire safety, and also safety around downed electrical wires and household electricity. At the end of the day the kids get to see and learn about our trucks and how they work, followed by a small obstacle course. The obstacle course requires them to put on some of the protective gear we wear, maneuver through some cones to the end of the hose line and then spray water on a target.

Memorial Day

Memorial Day was well attended again this year by 100 men, women and children to honor our veterans. The Forest Hills Jazz band was on hand to play patriotic music for those attending. Also part of the event was the 3rd Michigan Infantry Company F Civil War Re-enactors. The speaker at this year's Memorial Day program was Paul Ryan – Captain, US Navy (Retired).

July 4th

July 4th was another huge success with close to 5,000 people in attendance at the celebration. The rides, games and food always make for an enjoyable day for the community.

Halloween

Halloween attendance this year was well attended by the community. We handed out 800 bags of candy. As always we have food and drinks for those attending. We also have clowns to provide entertainment for the kids.

On-Sites

Our on-site program was active again this year. We visited the following sites: Costco, Wal-Mart, and Cascade Engineering Health Fair. We talked to 150 people and obtained 291 blood pressures. All that stopped by and had blood pressure checks were very thankful that we offer this service to the community.

Child Safety Seat Inspections

As part of our Child Safety Seat Inspection program we inspected 10 car seats for residents. We offer this very important program to our community and for the safety of our small children. We currently have one firefighter that is certified to conduct car seat inspections. We work with Ada and Caledonia fire departments on child seat checks to ensure that someone is always available to do the car seat checks when needed.

AHA Training Center

Cascade Fire Department has been an American Heart Association (AHA) training center for the last 16 years. We are a training center for AHA (American Heart Association) and have 40 instructors that work under our center. We also have training sites at the Gerald R Ford International Airport, Grattan Township Fire Department and KCMRC (Kent County Medical Reserve Corp) through Kent County Emergency Management. Each of those sites has also taught an estimated 230 people CPR/AED and First Aid.

School Fire Safety

Once again this year we taught Fire Safety/Prevention at the two elementary schools in the township. Firefighter's Albright and Knowles worked with principals Mike Lareau of Pine Ridge and Greg Shubel of Thornapple to teach approximately 900 kindergarten-fourth grade students important lessons on fire safety, fire prevention and what to do should they have an emergency.

Topics Covered:

Firefighters Are Your Friend
Smoke Detectors
Home Escape Planning
Crawl Low Under Smoke
Get Out/Stay Out
911 Usage
Stop, Drop, Roll

In addition to fire safety, we continue to offer assistance to the schools in the form of fire drills and any other assistance they may require.

Apparatus

Below is a list of our apparatus and their station locations.

Fire Chief 2007 Chevrolet Suburban
Inspector / Utility 9 2001 Chevrolet Suburban – Station 1



Tender 4 - 2005 International Tender/ 3,000 gallons of water – Station 2. This vehicle is used to haul water to our non-hydrant areas as well as on automatic and mutual aid calls to other communities.



Boat 1 - Recovery Boat – Station 2. We use our boat for any water emergency as well as assisting other communities.



Medic 7 - 2012 Chevrolet Suburban – Station 2. This vehicle responds to medical emergencies in station 2 district which is East of the Thornapple River.



Engine 8 - 2012 Rosenbauer Pumper / 1,000 gallons of water – Station 2. This is the main pumper out of Station 2.



Engine 6 - 2015 Rosenbauer Pumper / 1,000 gallons of water – Station 1. This is the first out apparatus on fire calls.



Rescue 7 - 1999 F-550 Ford Rescue Vehicle – Station 1. This vehicle is first out on accident calls.



Brush 10 - 2005 Chevrolet Pickup / Grass Truck – Station 1. This is our main vehicle for grass or unauthorized burns.



Medic 11 - 2015 Chevrolet Suburban – Station 1. This is the main vehicle for all medical emergencies West of the Thornapple River.



Engine 5 - 2010 Rosenbauer Pumper / 1,000 gallons of water – Station 1. This is the second engine out of station 1 and is usually staffed with Paid on Call staff.

Apparatus Maintenance

All of our vehicles had their annual DOT inspections, pump testing and routine maintenance again this year. Most of the repairs that were required resulted from normal usage.

We have annual inspections and testing of our equipment. Those annual testing and inspections are:

- Self-Contained Breathing Apparatus (SCBA) packs
- All Ladders on our apparatus
- All of our fire hose
- All of our Fire Extinguishers
- General Maintenance on vehicles

Station Maintenance

We completed general maintenance on our stations this year. We had no major repairs or improvements.

Fire Stations



Station #2 is located at 2990 Buttrick SE. Full time staff man this station 24 hours a day. Paid on Call Firefighters respond to calls when available and fill shifts for fulltime staff.



Station 1 located at 2865 Thornhills. Fulltime staff man this station 24 hours a day. Paid on Call Firefighters respond when available to calls and fill in shifts for fulltime staff.

Personnel

In 2015, we hired five (5) paid on call firefighters and three (3) full time firefighters. Two (2) of the fulltime staff were hired from within the department and the third was hired from the outside. Our department consists of one (1) full-time Fire Chief, one (1) paid on call Deputy Chief, one (1) full-time Fire Inspector, 15 full-time Firefighters and 17 paid on call firefighters. Our full-time Firefighters operate three (3) shifts consisting of five (5) personnel on duty each shift. They operate out of both stations and are staffed 24-hours a day, 365 days a year.

Listed are your fire department staff as of 12/31/2015 and years of service to the community.



Fire Chief John Sigg
31 years of service



Deputy Chief John Shipley
45 Years of service



Lieutenant Ron Rowland
29 Years of service



Lieutenant Doug Venema
28 Years of service



FF John Porter
24 Years of service



FF Andrew Albright
21 Years of service



FF Kreigh Deering
20 Years of service



FF Jeff Rashid
20 Years of service



FF Mike Buys
17 Years of service



FF Rick Toppel
16 Years of service



Fire Inspector Doug Poolman
15 Years of service



FF Robert Norris
15 Years of service



FF Brian Currier
14 Years of service



FF Jeffrey Knowles
13 Years of service



FF Andy Marsman
13 Years of service



FF James Walker
11 Years of service



FF Colin Forzley
9 Years of service



FF John Makuch
9 Years of Service



LT Todd Stevenson
8 Years of service



FF Lance Korhorn
8 Years of service



FF Eric Rodegher
8 Years of service



FF Michael Lemkuil
7 Years of service



FF Jon Snyder
7 Years of service



FF Clem Bell
5 Years of Service



FF Michael Bolt
5 Years of service



FF Michael Kadish
4 Years of service



FF Brett Boonenberg
4 Years of service



FF Josh Dettwiler
1 Year of service



FF Steven Drake
1 Year of service



FF David Lintemuth
1 Year of service



FF Nathan VanOosterhout
1 Year of service



FF Colin Rodriguez
6 months of service



FF Reid Klein
6 months of service

Staff Activities

Throughout the year staff performs many duties while not responding to calls of assistance from the community. Some of the duties completed are as follows:

Summer months:

• Mowing lawns at Township Offices and Buttrick Fire Station
• Trainings – Shift and Department trainings
• Locking and unlocking Township properties – Cemeteries and parks
• Block parties, birthday parties, church events, etc.
• CPR classes
• Child seat checks and installations
• Assist with building issues
• Boy Scout and Girl Scout safety talks
• Household Waste Clean-up day at Buttrick Fire Station
• July 4 th Parade and Celebration
• Halloween
• Ada/Cascade Clean-up days

Winter Months:

• Hydrant clearing
• Plowing snow at Township offices and Library
• Salting Township Properties
• Trainings – Shift and Department trainings
• Locking and unlocking township properties – Cemeteries and parks
• CPR classes
• Child Safety seat checks and installations
• Boy Scout and Girl Scout safety talks

Automatic and Mutual Aid

We continue to work with our neighboring departments on mutual and automatic aid. We currently have a mutual aid agreement with all Fire Departments in Kent County. We currently have automatic aid agreements with Ada, Alto, Caledonia, Lowell, Kentwood and the Gerald R. Ford International Airport. Automatic Aid agreements provide additional predetermined resources to respond to an emergent incident within a specific geographic location in Cascade by dispatching those resources at the same time Cascade is dispatched ensuring additional resources will arrive sooner at the scene. This also pertains when we respond to a neighboring department for a request for aid.

Mutual Aid is defined by FEMA as – “agreements between agencies, organizations, and jurisdictions that provide a mechanism to quickly obtain emergency assistance in the form of personnel, equipment, materials, and other associated services. The primary objective is to facilitate rapid, short-term deployment of emergency support. Mutual Aid is not guaranteed, it is always dependent upon the availability of personnel and apparatus. Automatic Aid is when a fire department is initially dispatched outside of their response area to assist another department.”

Listed below are the numbers and types of mutual and automatic aid we responded to last year. Also listed are a few of the incidents we used mutual and automatic aid.

Ada Fire Department	
Mutual Aid Given	1
Mutual Aid Received	1
Automatic Aid Given	4
Automatic Aid Received	8

Bowne /Alto Fire Department	
Mutual Aid Received	5
Automatic Aid Received	1

Gerald R Ford International Airport	
Mutual Aid Received	1
Mutual Aid Given	2

Kentwood Fire Department	
Mutual Aid Given	8
Mutual Aid Received	9
Automatic Aid Received	2
Automatic Aid Given	1

Grand Rapids Fire Department	
Automatic Aid Given	1

Grand Rapids Township	
Mutual Aid Given	2

Lowell Fire	
Mutual Aid Given	1
Auto Aid Given	1

Caledonia Township Fire Department	
Mutual Aid Given	14
Mutual Aid Received	3
Automatic Aid Received	2
Automatic Aid Given	7

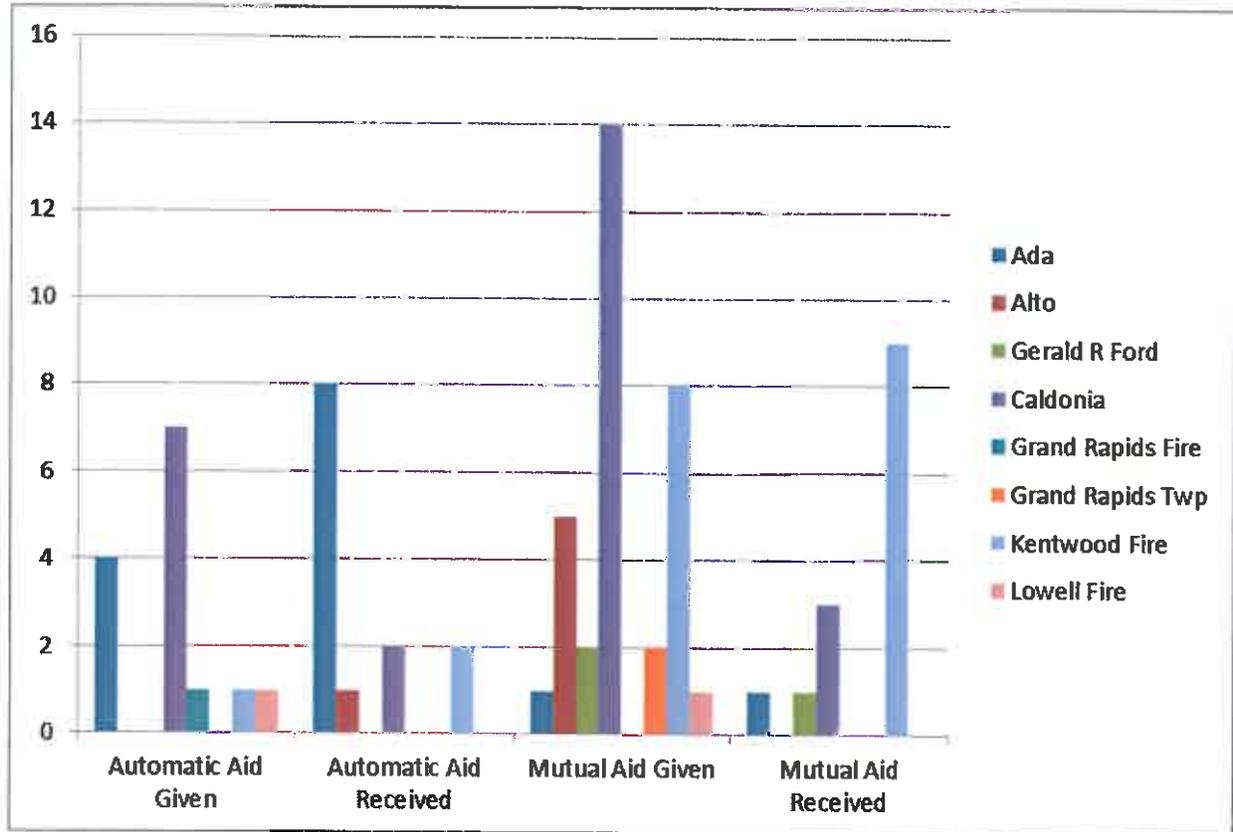
Listed below are some of the mutual and automatic aid responses we had this year.

Department	Call Type	Aid Type
Ada Fire	House Fire	Mutual Aid Received
Caledonia and Kentwood Fire	Building Fire	Mutual Aid Received
Alto and Caledonia Fire	Barn Fire	Mutual Aid Received
Ada Fire	Building Fire	Automatic Aid Received
Caledonia Fire	Building Fire	Automatic Aid Given
Caledonia Fire	Building Fire	Mutual Aid Given
Kentwood Fire	Building Fire	Automatic Aid received
Ada and Alto Fire	Building Fire	Mutual Aid Received
Grand Rapids Township	House Fire	Mutual Aid Given
Ada, Alto, Caledonia and Kentwood Fire	Garage Fire	Automatic Aid Received

MABAS 3603

MABAS (Mutual Aid Box Alarm System) is another mutual aid agreement that is supported with the vast majority of departments in Kent County. Kent County is MABAS Division 3603. Ottawa, Muskegon counties are also MABAS divisions as well as the majority of departments on the West side of the state. As a MABAS member agency, every community has the same agreement as the signatories -- all agreeing to send predetermined resources to assist a stricken community. Without a formal written mutual aid agreement, a request for mutual aid assistance becomes a voluntary act, putting the Fire Chief and the employing community sending the resource, at great risk should equipment be damaged, or if a fire fighter is injured or killed in the line of duty. By joining MABAS with other fire departments in our region, there is increased protection from a catastrophic event and litigation

Automatic and Mutual Aid



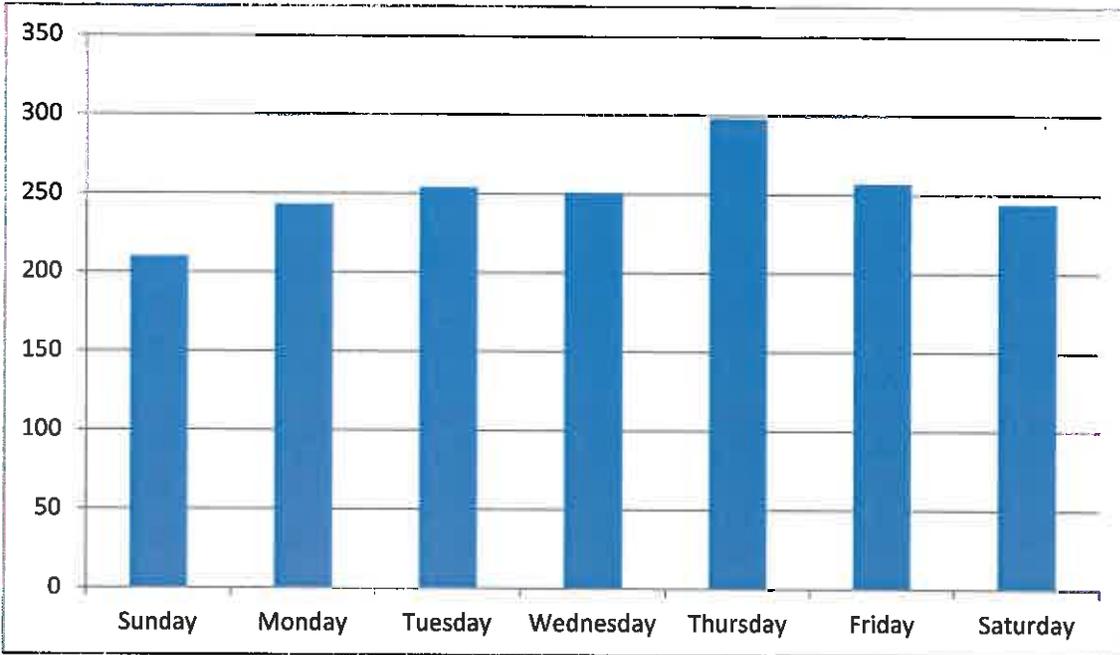
STATISTICS

Fire Alarms	182
Auto Aid	12
Aircraft Alerts	5
Bomb Threats	0
Carbon Monoxide Alarms	21
Check Welfare	0
Dumpster Fires	2
Service Calls	18
Fires	12
Grass Fires	14
Hazardous Incidents	9
Illegal Burns	23
Lock Outs	26
Lift Assists	22
Lightning Strike – No Fire	1
Med 1	566
Med 2	219
Med 3	355
Medical Alarms	20
Mechanical Failure	2
Mutual Aid	21
Gas Leaks	12
Odor of Smoke	6
Odor Investigation	10
Personal Injury Accidents	83
Property Damage Accidents	50
Stand By	5
Smoke in Area	6
Searches	0
Trees Down	4
Technical Rescue	1
Unknown Accidents	0
Vehicle Fires	22
Wires Down	24
Wash Downs	4
TOTAL	1,757

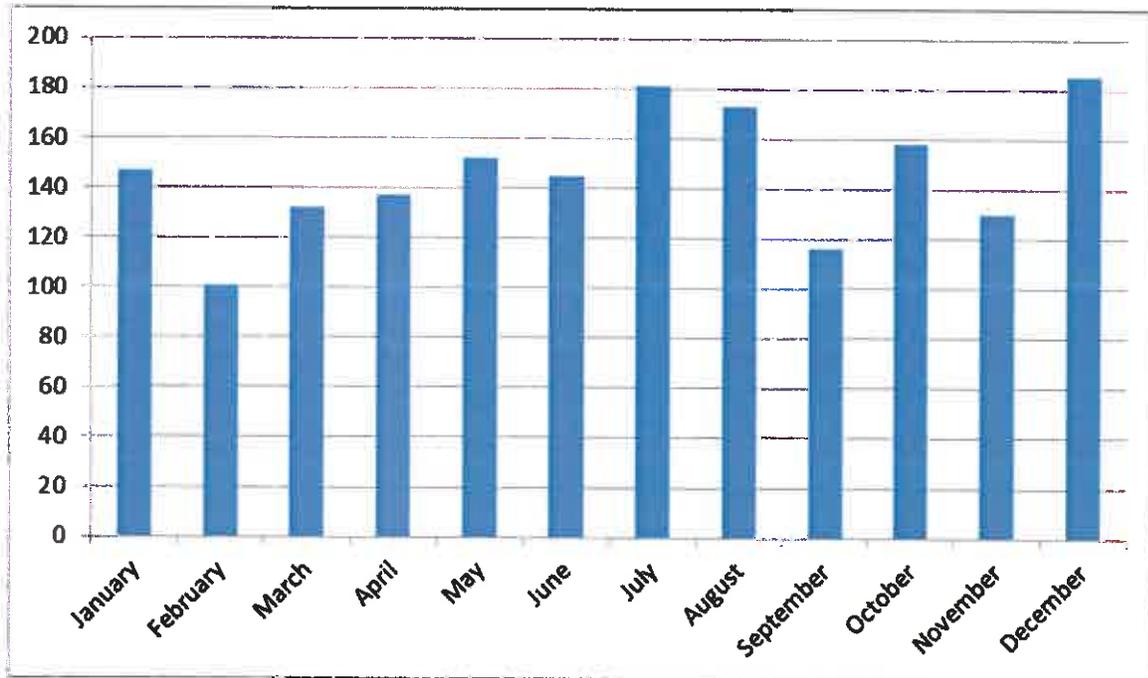
Years in Comparison (Total calls for the year)

2015	1,757
2014	1,695
2013	1,686
2012	1,602
2011	1,586
2010	1,432
2009	1,418
2008	1,510
2007	1,404
2006	1,267
2005	1,216
2004	1,249
2003	1,252
2002	1,172
2001	1,123
2000	1,207
1999	1,199
1998	1,077
1997	986
1996	946
1995	946

Incidents by Day of Week



Incidents by Month



04/05/2016 CHECK DISBURSEMENT REPORT FOR CASCADE CHARTER TOWNSHIP
CHECK DATE FROM 03/01/2016 - 03/31/2016
MARCH 2016 PAYABLES, PAYROLL, AND TRANSFERS

Check Date	Bank	Check #	Invoice	Payee	Description	Account	Dept	Amount
FUND 101		GENERAL FUND						
03/17/2016	GENS	63766*	16AR001788	G R CITY TREASURER	REIMB/REFUNDS-SEWER OLD 28TH ST TO TH 671-683		000	627.50
Department: 101 TOWNSHIP BOARD								Total for department 000: 627.50
03/17/2016	GENS	63788*#	9761402612	VERIZON WIRELESS	TRUSTEE CELL PHONES TABLETS	924-100	101	64.13
Department: 171 SUPERVISOR/MANAGER								Total for department 101: 64.13
03/17/2016	GENS	63752	FEB 2016 MILG	ROBERT S BEAHAN	SUP/MGR/DEPT MILEAGE BEAHAN 54 MILES	860-000	171	29.16
03/17/2016	GENS	63752	FEB 2016 MILG	ROBERT S BEAHAN	SUP/MGR/DEPT MILEAGE BEAHAN PARKING	860-000	171	3.00
03/17/2016	GENS	63752	FEB 2016 MILG	ROBERT S BEAHAN	MANAGER CELL PHONE BEAHAN CELL PHONE	925-000	171	50.00
CHECK GENS 63752 TOTAL FOR FUND 101:								82.16
03/17/2016	GENS	63788*#	9761218577	VERIZON WIRELESS	MANAGERS CELL PHONE FEB	925-000	171	42.92
03/17/2016	GENS	63788	9761402612	VERIZON WIRELESS	MANAGERS CELL PHONE FEB	925-000	171	32.07
CHECK GENS 63788 TOTAL FOR FUND 101:								74.99
03/24/2016	GENS	63808#	02736	FIRST BANKCARD	SUP/MGR/DEPT MILEAGE SWAYZE PARKING	860-000	171	8.00
03/24/2016	GENS	63808	1358	FIRST BANKCARD	SUP/MGR/DEPT MILEAGE SWAYZE PARKING	860-000	171	6.00
03/24/2016	GENS	63808	7326	FIRST BANKCARD	SUPERVISOR EXPENSE ACCOUNT KCRC MTG	862-500	171	34.36
CHECK GENS 63808 TOTAL FOR FUND 101:								48.36
Department: 215 CLERK								Total for department 171: 205.51
03/17/2016	GENS	63788*#	9761218577	VERIZON WIRELESS	CLERK CELL PHONE FEB	925-000	215	49.98
03/17/2016	GENS	63788	9761402612	VERIZON WIRELESS	CLERK CELL PHONE FEB	925-000	215	32.07
CHECK GENS 63788 TOTAL FOR FUND 101:								82.05
Department: 253 TREASURER								Total for department 215: 82.05
03/17/2016	GENS	63781	MILG 1/8-2/29	SOURINE, OXANA	TREASURER MILEAGE SOURINE 70 MILES	860-000	253	37.80
03/17/2016	GENS	63788*#	9761402612	VERIZON WIRELESS	TREASURER'S CELL PHONES FEB	924-100	253	16.03
Department: 257 ASSESSING								Total for department 253: 53.83
03/03/2016	GENS	63727	MILG 2/2-2/29	HOLZHEI, SHAWN	ASSESSING MILEAGE HOLZHEI 91 MILES	860-000	257	49.14
03/17/2016	GENS	3283(A)	PA4491	PAPER & PRINT USA LLC	CHANGE NOTICE PAPER & ENVELOPES	900-000	257	834.93
03/17/2016	GENS	63777#	1000015084 FEB 20	MLIVE MEDIA GROUP	ASSESSING PRINTING AND PUBLISHING BOR	900-000	257	336.00
03/17/2016	GENS	63788*#	9761402612	VERIZON WIRELESS	CELL PHONES/DATA FEB	924-100	257	16.03
Department: 262 ELECTIONS								Total for department 257: 1,236.10
03/03/2016	GENS	63736#	2/25/2016	PETTY CA CASH - GENERAL FUND	ELECTION MISC EXPENSES ELECTION TRANIN	788-000	262	40.00
03/03/2016	GENS	63740*#	488762-0	SUPPLYGEEKS.BIZ	ELECTION MISC EXPENSES LABELS	788-000	262	104.60

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03/17/2016	GENS	63777#	1000015084	FEB 20 MLIVE MEDIA GROUP	ELECTION MISC EXPENSES ACCURACY TEST	788-000	262	143.00	
03/17/2016	GENS	63788*#	9761413195	VERIZON WIRELESS	ELECTION MISC EXPENSES TELEPHONE FEB	788-000	262	118.62	
03/24/2016	GENS	63795#	MILG 3/10	DENISE M BIEGALLE	ELECTION MISC EXP BIEGALLE ELECT MTG	788-000	262	11.88	
03/24/2016	GENS	63807	31128	ELECTION SOURCE	ELECTION SUPPLIES- VOTE STICKERS	756-000	262	74.85	
03/24/2016	GENS	63808#	3/09ELECTIONS	FIRST BANKCARD	ELECTION MISC EXPENSES ELECTION TRAININ	788-000	262	446.52	
03/24/2016	GENS	63823*#	490206-0	SUPPLYGEEKS.BIZ	ELECTION SUPPLIES	756-000	262	23.92	
Department: 265 BUILDING AND GROUNDS								Total for department 262:	963.39
03/03/2016	GENS	3258(A)*#	80024	ENVIRO-CLEAN	CLEANING TOWNSHIP HALL FEB	802-200	265	462.00	
03/03/2016	GENS	3261(A)*#	193303	KINGSLAND'S ACE HARDWARE	BLDG & GRDS VEHICLE MAINTENANCE PULLE	863-000	265	12.92	
03/03/2016	GENS	3261(A)	193274	KINGSLAND'S ACE HARDWARE	BLDG & GRDS VEHICLE MAINTENANCE PULLE	863-000	265	12.92	
03/03/2016	GENS	3261(A)	193305	KINGSLAND'S ACE HARDWARE	BLDG & GRDS VEHICLE MAINTENANCE SUPPL	863-000	265	134.82	
03/03/2016	GENS	3261(A)	193397	KINGSLAND'S ACE HARDWARE	BLDG & GRD VEHICLE MAINT FLEX TUB & RIN	863-000	265	15.00	
03/03/2016	GENS	3261(A)	193389	KINGSLAND'S ACE HARDWARE	BLDG & GRDS VEHICLE MAINTENANCE SUPPL	863-000	265	24.27	
03/03/2016	GENS	3261(A)	193271	KINGSLAND'S ACE HARDWARE	BLDG & GRDS VEHICLE MAINT PULLER AXLE	863-000	265	13.91	
03/03/2016	GENS	3261(A)	193306	KINGSLAND'S ACE HARDWARE	BLDG & GRDS VEHICLE MAINT CR ON INV 193	863-000	265	(5.00)	
03/03/2016	GENS	3261(A)	193278	KINGSLAND'S ACE HARDWARE	BLDG & GRDS VEHICLE MAINT CR INV 193306	863-000	265	(5.00)	
03/03/2016	GENS	3261(A)	193272	KINGSLAND'S ACE HARDWARE	BLDG & GRDS VEHICLE MAINT CR INV 193271	863-000	265	(13.91)	
03/03/2016	GENS	3261(A)	193316	KINGSLAND'S ACE HARDWARE	COMPLEX MAINTENANCE SUPPLIES	931-000	265	3.59	
03/03/2016	GENS	3261(A)	193404	KINGSLAND'S ACE HARDWARE	COMPLEX MAINTENANCE CLEANING SUPPLIES	931-000	265	7.98	
CHECK GENS 3261(A) TOTAL FOR FUND 101:								201.50	
03/03/2016	GENS	3264(A)*#	188385	QUALITY AIR	MONTHLY MAINTENANCE- COMPLEX	931-000	265	141.38	
03/03/2016	GENS	3264(A)	188385	QUALITY AIR	MONTHLY MAINTENANCE- B&G	931-000	265	48.90	
03/03/2016	GENS	3264(A)	188385	QUALITY AIR	MONTHLY MAINTENANCE- BUILDING	931-000	265	76.19	
CHECK GENS 3264(A) TOTAL FOR FUND 101:								266.47	
03/03/2016	GENS	3273(A)	44209985	WEX BANK	BLDG & GRDS VEHICLE FUEL FEB	864-000	265	945.45	
03/03/2016	GENS	3273(A)	44209985	WEX BANK	BLDG & GRDS VEHICLE FUEL CR ON FEB BILL	864-000	265	(75.00)	
CHECK GENS 3273(A) TOTAL FOR FUND 101:								870.45	
03/03/2016	GENS	63721*#	100000285161	2/2C CONSUMERS ENERGY	COMPLEX ELECTRICITY FEB	921-000	265	1,930.37	
03/03/2016	GENS	63721	100012052419	2/2C CONSUMERS ENERGY	COMPLEX ELECTRICITY 65\69 THORNBROOK F	921-000	265	22.59	
03/03/2016	GENS	63721	100012762959	2/2C CONSUMERS ENERGY	COMPLEX ELECTRICITY B&G FEB	921-000	265	352.24	
CHECK GENS 63721 TOTAL FOR FUND 101:								2,305.20	
03/03/2016	GENS	63722*#	01720517386011	M COMCAST	COMPLEX PHONES CABLE INTERNET MARCH	924-000	265	206.74	
03/03/2016	GENS	63725*#	457268600022	2/2C DTE ENERGY	COMPLEX HEATING FEB	923-000	265	964.33	
03/03/2016	GENS	63725	457268600048	2/2C DTE ENERGY	COMPLEX HEATING FEB	923-000	265	302.37	
CHECK GENS 63725 TOTAL FOR FUND 101:								1,266.70	
03/03/2016	GENS	63737*#	0240-006044554	REPUBLIC SERVICES	COMPLEX MAINTENANCE RECYCLE MARCH	931-000	265	523.17	
03/03/2016	GENS	63737	0240-006044554	REPUBLIC SERVICES	COMPLEX MAINTENANCE B&G RECYCLE MAR	931-000	265	63.23	
CHECK GENS 63737 TOTAL FOR FUND 101:								586.40	

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03/17/2016	GENS	3285(A)	00301449	THE LIGHT BULB COMPANY	LIGHT BULBS/BALLASTS	931-000	265	33.88
03/17/2016	GENS	63760*#	301-02736 FEB 2016	CINTAS CORP #301	2016 RUG CLEANING SERVICE COMPLEX/BLDG	931-000	265	179.36
03/17/2016	GENS	63760	301-02736 FEB 2016	CINTAS CORP #301	2016 RUG CLEANING SERVICE BLDG	931-000	265	39.64
					CHECK GENS 63760 TOTAL FOR FUND 101:			219.00
03/17/2016	GENS	63767*#	WS2059560 NOV-M	GRAND RAPIDS CITY TREASURER	COMPLEX WATER-SEWER B&G FIRE PROTECT	927-000	265	17.45
03/17/2016	GENS	63767	WS2059561 NOV-FE	GRAND RAPIDS CITY TREASURER	COMPLEX WATER-SEWER B&G NOV-FEB	927-000	265	44.95
					CHECK GENS 63767 TOTAL FOR FUND 101:			62.40
03/17/2016	GENS	63783*#	16207	SUPERIOR PEST CONTROL INC	PEST CONTROL - B&G	931-000	265	16.00
03/17/2016	GENS	63783	16208	SUPERIOR PEST CONTROL INC	PEST CONTROL - TWP HALL	931-000	265	16.00
					CHECK GENS 63783 TOTAL FOR FUND 101:			32.00
03/17/2016	GENS	63788*#	9761218577	VERIZON WIRELESS	BLDG AND GROUNDS CELL PHONES FEB	924-100	265	132.23
03/17/2016	GENS	63788	9761402612	VERIZON WIRELESS	BLDG AND GROUNDS CELL PHONES FEB	924-100	265	16.03
					CHECK GENS 63788 TOTAL FOR FUND 101:			148.26
03/24/2016	GENS	3291(A)*#	186053	QUALITY AIR	COMPLEX MAINT CHANGE HEAT SETTING CLE	931-000	265	266.25
03/24/2016	GENS	63793	616957084703 3/2C	AT&T	COMPLEX PHONES	924-000	265	175.97
03/24/2016	GENS	63800	02-226199	CARLETON EQUIPMENT	59"/60" BOLT ON EDGE 10 HOLES	863-000	265	219.02
03/24/2016	GENS	63800	02-226199	CARLETON EQUIPMENT	SKID SHOE	863-000	265	412.12
03/24/2016	GENS	63800	02-226199	CARLETON EQUIPMENT	NUT LOCKING 3/8-16	863-000	265	14.40
03/24/2016	GENS	63800	02-226199	CARLETON EQUIPMENT	STD CAP SCREW 5/8 X 1.75" GR8	863-000	265	27.24
03/24/2016	GENS	63800	02-226199	CARLETON EQUIPMENT	CARRIAGE BOLT 1/2" X 1.50" GR5	863-000	265	61.00
03/24/2016	GENS	63800	02-226199	CARLETON EQUIPMENT	BUSHING	863-000	265	52.38
03/24/2016	GENS	63800	02-226199	CARLETON EQUIPMENT	NUT 5	863-000	265	34.60
					CHECK GENS 63800 TOTAL FOR FUND 101:			820.76
03/24/2016	GENS	63803*#	41821729	COMCAST	COMPLEX PHONES	924-000	265	149.61
03/24/2016	GENS	63803	41821729	COMCAST	COMPLEX PHONES B&G	924-000	265	28.52
					CHECK GENS 63803 TOTAL FOR FUND 101:			178.13
03/24/2016	GENS	63812	23187	HOOGERHYDE SAFE & LOCK, INC	SERVICE CALL, LABOR AND WEATHER STRIP	931-000	265	228.00
03/25/2016	GENS	63825*#	23882	FIRST BANKCARD	BLDG & GRD VEHICLE MAINT- HYDRAULIC PU	863-000	265	50.00
03/25/2016	GENS	63825	000006	FIRST BANKCARD	BLDG & GRDS VEHICLE MAINTENANCE OIL LU	863-000	265	87.66
03/25/2016	GENS	63825	000014	FIRST BANKCARD	BLDG & GRDS VEHICLE MAINTENANCE	863-000	265	125.79
					CHECK GENS 63825 TOTAL FOR FUND 101:			263.45
					Total for department 265:			8,593.56
Department: 276 CEMETERY								
03/03/2016	GENS	63721*#	100012548051 2/2C	CONSUMERS ENERGY	CEMETERY ELECTRICITY 5601 WHITNEYVILLE	921-000	276	22.59
03/03/2016	GENS	63721	100012957591 2/2C	CONSUMERS ENERGY	CEMETERY ELECTRICITY 7200 30TH FEB	921-000	276	76.29
					CHECK GENS 63721 TOTAL FOR FUND 101:			98.88
					Total for department 276:			98.88
Department: 295 ADMINISTRATIVE								
03/03/2016	GENS	3259(A)*#	345865	FISHBECK THOMPSON CARR & HUBER	ENGINEERING COSTS PLAYGROUND	821-000	295	165.00
03/03/2016	GENS	3259(A)	345865	FISHBECK THOMPSON CARR & HUBER	ENGINEERING COSTS MEADOWBROOKE	821-000	295	165.00

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03/03/2016	GENS	3259(A)	345858	FISHBECK THOMPSON CARR & HUBER	ENGINEERING COSTS SITE PLANS FEB	821-000	295	381.00
03/03/2016	GENS	3259(A)	345859	FISHBECK THOMPSON CARR & HUBER	ENGINEERING COSTS 2015 REC PARK IMP	821-000	295	609.00
				CHECK GENS 3259(A) TOTAL FOR FUND 101:				1,320.00
03/03/2016	GENS	63723	2016 CONTRIBUTIO	COMMUNITY MEDIA CENTER	CABLE EQUIPMENT GRANTS 2015	951-000	295	35,000.00
03/03/2016	GENS	63723	2016 CONTRIBUTIO	COMMUNITY MEDIA CENTER	COMMUNITY MEDIA CENTER 2016 CONTRIBL	955-000	295	5,000.00
				CHECK GENS 63723 TOTAL FOR FUND 101:				40,000.00
03/03/2016	GENS	63736#	2/25/2016PETTY	CA CASH - GENERAL FUND	POSTAGE	730-000	295	3.08
03/03/2016	GENS	63736	2/25/2016PETTY	CA CASH - GENERAL FUND	OTHER EXPENSES KITCHEN SUPPLIES	787-000	295	12.17
03/03/2016	GENS	63736	2/25/2016PETTY	CA CASH - GENERAL FUND	OTHER EXPENSES RECEPTION SUPPLIES	787-000	295	5.00
03/03/2016	GENS	63736	2/25/2016PETTY	CA CASH - GENERAL FUND	OTHER EXPENSES RECEPTION SUPPLIES	787-000	295	7.99
				CHECK GENS 63736 TOTAL FOR FUND 101:				28.24
03/03/2016	GENS	63740*#	488717-0	SUPPLYGEEKS.BIZ	GENERAL FUND SUPPLIES	727-000	295	13.12
03/03/2016	GENS	63740	488582-0	SUPPLYGEEKS.BIZ	GENERAL FUND SUPPLIES	727-000	295	60.97
03/03/2016	GENS	63740	488245-0	SUPPLYGEEKS.BIZ	GENERAL FUND POCKET SEAL	727-000	295	3.75
03/03/2016	GENS	63740	488915-0	SUPPLYGEEKS.BIZ	GENERAL FUND OFFICE SUPPLIES	727-000	295	5.30
03/03/2016	GENS	63740	488849-0	SUPPLYGEEKS.BIZ	GENERAL FUND OFFICE SUPPLIES	727-000	295	55.92
03/03/2016	GENS	63740	488762-0	SUPPLYGEEKS.BIZ	GENERAL FUND SUPPLIES	727-000	295	142.45
				CHECK GENS 63740 TOTAL FOR FUND 101:				281.51
03/17/2016	GENS	3275(A)	5069578	CLARKE MOSQUITO CONTROL	MOSQUITO CONTROL PUCK	816-000	295	2,131.80
03/17/2016	GENS	3277(A)*#	397904	FIRST CHOICE COFFEE SERVICE	COFFEE SERVICE FOR TWP. HALL	787-000	295	142.72
03/17/2016	GENS	3279(A)	91358-1	FUNNY BUSINESS AGENCY INC	JULY 4TH CONTRACT FOR JULY 4TH 2016	881-000	295	20,687.50
03/17/2016	GENS	3281(A)	51911	MUNICIPAL WEB SERVICES	WEBSITE HOSTING	815-000	295	130.00
03/17/2016	GENS	3284(A)	18326	SAGE DIRECT INC	ESTIMATED POSTAGE FOR CHANGE NOTICES	814-000	295	1,293.39
03/17/2016	GENS	63773	9002195284	KONICA MINOLTA BUSINESS SOLUTIONS	WORKROOM COPY CHARGES 11/28-2/27	939-000	295	1,502.45
03/17/2016	GENS	63777#	1000015084	FEB 20 MLIVE MEDIA GROUP	PRINTING/PUBLISHING RECRUITMENT ADV	900-000	295	612.66
03/17/2016	GENS	63784	488933-0	SUPPLYGEEKS.BIZ	GENERAL FUND OFFICE SUPPLIES	727-000	295	221.50
03/17/2016	GENS	63784	488743-0	SUPPLYGEEKS.BIZ	GENERAL FUND OFFICE SUPPLIES- STAMP	727-000	295	32.49
03/17/2016	GENS	63784	C487301-0	SUPPLYGEEKS.BIZ	OFFICE SUPPLIES CREDIT INV 487301-0	727-000	295	(13.12)
				CHECK GENS 63784 TOTAL FOR FUND 101:				240.87
03/17/2016	GENS	63787	968744	VARNUM	LEGAL FEES GENERAL LABOR FEB	826-000	295	91.00
03/17/2016	GENS	63787	968743	VARNUM	LEGAL FEES ZONING FEB	826-000	295	182.00
03/17/2016	GENS	63787	968742	VARNUM	LEGAL FEES ORDINANCE ENFORCEMENT FEB	826-000	295	1,474.20
03/17/2016	GENS	63787	9*68741	VARNUM	LEGAL FEES GENERAL FEB	826-000	295	819.00
				CHECK GENS 63787 TOTAL FOR FUND 101:				2,566.20
03/17/2016	GENS	63788*#	9761402612	VERIZON WIRELESS	CELL PHONES/DATA FEB	924-100	295	16.03
03/17/2016	GENS	63789*#	3485	VREDEVELD HAEFNER LLC	2015 AUDIT FINAL BILLING PARTIAL	807-000	295	1,600.00

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03/23/2016	GENS	63792	3/23/16OPEN HOU	NIGHTHAWK CATERING	EMPLOYEE TRAINING OPEN HOUSE3/23	726-000	295	897.00
03/24/2016	GENS	3286(A)	787947	APPLIED IMAGING	MONTHLY MAINT COPIER/ADM LEASE & COP	939-000	295	109.26
03/24/2016	GENS	3289(A)*#	K-3987	KENT COUNTY TREASURER - TAX	PROPERTY TAX REFUNDS MTT/STC REFUND	950-000	295	710.78
03/24/2016	GENS	3290(A)	7017031-MR16	PITNEY BOWES GLOBAL	2016 POSTAGE MACHINE LEASE PAYMENT 1S	941-000	295	675.00
03/24/2016	GENS	63795#		REIMB FOR OPEN H DENISE M BIEGALLE	EMPLOYEE TRAINING- OPEN HOUSE SUPPLIES	726-000	295	16.95
03/24/2016	GENS	63797	15137	BLOOM SLUGGETT MORGAN	LEGAL FEES- GENRAL FEB	826-000	295	1,036.00
03/24/2016	GENS	63806	696385	DRIVERS LICENSE GUIDE COMPANY	PRINTING/PUBLISHING DRIVER LICENSE GUID	900-000	295	29.95
03/24/2016	GENS	63808#	SALES TAX CR	FIRST BANKCARD	OTHER EXPENSES SALES TAX CREDIT	787-000	295	(16.02)
03/24/2016	GENS	63809	38430	FLAGS UNLIMITED LTD	FOURTH OF JULY US COMMERICAL NYLON	881-000	295	132.30
03/24/2016	GENS	63810	1964	GRAND VALLEY METRO COUNCIL	LEGAL FEES DAS TOWER CONSORTIUM DUES	826-000	295	744.74
03/24/2016	GENS	63822	472652	SHMG URGENT CARE BROADMOOR	GENERAL FUND PHYSICAL EXAMS HIGGINS	957-000	295	62.00
03/24/2016	GENS	63823*#	490074-0	SUPPLYGEEKS.BIZ	GENERAL FUND OFFICE SUPPLIES	727-000	295	60.34
03/24/2016	GENS	63823	485491-0	SUPPLYGEEKS.BIZ	GENERAL FUND OFFICE SUPPLIES	727-000	295	51.15
				CHECK GENS 63823 TOTAL FOR FUND 101:				111.49
					Total for department 295:			77,062.82
Department: 445 DRAIN								
03/03/2016	GENS	3259(A)*#	345024	FISHBECK THOMPSON CARR & HUBER	DRAIN ENGINEERING SENTINE POINTE	821-000	445	8,222.95
03/24/2016	GENS	3287(A)*#	345868	FISHBECK THOMPSON CARR & HUBER	STORM WATER GRANT MATCH/KCDC (SAW)	818-000	445	1,105.10
03/24/2016	GENS	3287(A)	345868	FISHBECK THOMPSON CARR & HUBER	STORM WATER/SAW GRANT CONTR SERVICE	818-010	445	9,814.50
				CHECK GENS 3287(A) TOTAL FOR FUND 101:				10,919.60
					Total for department 445:			19,142.55
Department: 447 YARD WASTE REMOVAL								
03/25/2016	GENS	63825*#	135116041-001	FIRST BANKCARD	YARD WASTE OTH EXP- CHIPPER FOR XMAS T	787-000	447	443.00
					Total for department 447:			443.00
Department: 448 STREET LIGHTS								
03/03/2016	GENS	63721*#	100011965082 2/2C	CONSUMERS ENERGY	STREETLIGHTING 2870 JACK SMITH FEB	926-000	448	97.20
03/17/2016	GENS	63758	100000373306 2/2C	CONSUMERS ENERGY	STREETLIGHTING FEB	926-000	448	8,592.40
03/17/2016	GENS	63772	409719	KENT COUNTY ROAD COMMISSION	STREETLIGHTING FEB	926-000	448	9.79
					Total for department 448:			8,699.39
Department: 652 TRANSPORTATION								

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03/03/2016	GENS	63729	086114	INTERURBAN TRANSIT PARTNERSHIP	BUS SERVICE 33RD & 36TH JAN 2016	861-000	652	20,854.40
03/17/2016	GENS	63769	073123	HOPE NETWORK	SENIOR AND DISABLED TRANSPORTATION FE	859-000	652	3,883.75
03/17/2016	GENS	63769	072746	HOPE NETWORK	SENIOR AND DISABLED TRANSPORTATION-JA	859-000	652	4,338.75
				CHECK GENS 63769 TOTAL FOR FUND 101:				8,222.50
03/17/2016	GENS	63771	086114/	CONTRACT INTERURBAN TRANSIT PARTNERSHIP	LINEHAUL SERVICE - 36TH STREET FEB 2016	861-000	652	2,386.71
03/24/2016	GENS	63814*#	086312-	INTERURBAN TRANSIT PARTNERSHIP	LINEHAUL SERVICE - 36TH STREET MARCH	861-000	652	2,386.71
03/24/2016	GENS	63814	086312	INTERURBAN TRANSIT PARTNERSHIP	28TH STREET LINEHAUL SERVICE FEB	861-100	652	23,975.70
				CHECK GENS 63814 TOTAL FOR FUND 101:				26,362.41
				Department: 721 PLANNING	Total for department 652:			57,826.02
03/03/2016	GENS	3259(A)*#	345864	FISHBECK THOMPSON CARR & HUBER	SPECIAL PROJECTS GATEWAY SIGNS	967-000	721	180.00
03/03/2016	GENS	63736#	2/25/2016	PETTY CA CASH - GENERAL FUND	COMM DEV EXP ACCT CODE ENFORCEMENT :	862-500	721	8.47
03/17/2016	GENS	63764	MILG 2/1-2/26	FAST, STEPHANIE	PLANNING MILEAGE- FAST 56 MILES	860-000	721	30.24
03/17/2016	GENS	63788*#	9761218577	VERIZON WIRELESS	COMM DEV CELL/DATA FEB	925-000	721	151.12
03/17/2016	GENS	63788	9761402612	VERIZON WIRELESS	COMM DEV CELL/DATA FEB	925-000	721	32.07
03/17/2016	GENS	63788	9761218577	VERIZON WIRELESS	COMM DEV SMALL EQUIP AND FURNITURE F	981-000	721	49.99
				CHECK GENS 63788 TOTAL FOR FUND 101:				233.18
				Department: 756 PARKS	Total for department 721:			451.89
03/03/2016	GENS	3261(A)*#	193312	KINGSLAND'S ACE HARDWARE	PARK MAINTENANCE PAIL & ICE MELT	935-000	756	33.09
03/03/2016	GENS	3261(A)	193341	KINGSLAND'S ACE HARDWARE	PARK MAINTENANCE SUPPLIES	935-000	756	37.03
				CHECK GENS 3261(A) TOTAL FOR FUND 101:				70.12
03/03/2016	GENS	3264(A)*#	188385	QUALITY AIR	MONTHLY MAINTENANCE- PARKS	935-000	756	11.33
03/03/2016	GENS	63721*#	100012592265	2/2C CONSUMERS ENERGY	PARK ELECTRICITY 2900 THORNAPPLE FEB	921-000	756	386.90
03/03/2016	GENS	63721	100014570673	2/2C CONSUMERS ENERGY	PARK ELECTRICITY 3804 THORNAPPLE FEB	921-000	756	85.34
03/03/2016	GENS	63721	100014570889	2/2C CONSUMERS ENERGY	PARK ELECTRICITY 3820 THORNAPPLE FEB	921-000	756	48.30
				CHECK GENS 63721 TOTAL FOR FUND 101:				520.54
03/03/2016	GENS	63737*#	0240-006044554	REPUBLIC SERVICES	PARK MAINTENANCE RECYCLE MARCH	935-000	756	454.31
03/15/2016	GENS	63750		IRRIG WELL PERMIT KENT COUNTY - HEALTH DEPT	PARK MAINT- WELL PERMIT FOR REC PARK	935-000	756	250.00
03/17/2016	GENS	3276(A)	13068351	CRYSTAL FLASH ENERGY	PROPANE 3810 THORNAPPLE RIVER DR 2/22	935-000	756	334.19
03/17/2016	GENS	63767*#	WS2064693	NOV-FE GRAND RAPIDS CITY TREASURER	PARK WATER-SEWER 2900 THORNAPPLE RIVE	927-000	756	281.90
03/24/2016	GENS	63803*#	41821729	COMCAST	PARK PHONES	924-000	756	21.38
03/24/2016	GENS	63815	EH022916-3774	KENT COUNTY - HEALTH DEPT	PARK MAINTENANCE WATER TESTING	935-000	756	36.00

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03/24/2016	GENS	63816	89687	KERKSTRA PORTABLE RESTROOM SERVICE	PORTABLE TOILETS FOR PEACE AND MCGRAV	935-000	756	110.00
Department: 803 HISTORICAL								2,089.77
03/03/2016	GENS	3264(A)*#	188385	QUALITY AIR	MONTHLY MAINTENANCE- MUSEUM	961-000	803	31.12
03/03/2016	GENS	63721*#	100012592398	2/2C CONSUMERS ENERGY	MUSEUM - ELECTRICITY 2839 THORNAPPLE FI	921-000	803	110.66
03/03/2016	GENS	63725*#	457268600030	2/2C DTE ENERGY	MUSEUM - HEATING/UTILITY FEB	923-000	803	144.98
03/17/2016	GENS	63767*#	WS2064703	NOV-FE GRAND RAPIDS CITY TREASURER	MUSEUM WATER-SEWER NOV-FEB	927-000	803	67.98
03/17/2016	GENS	63783*#	16206	SUPERIOR PEST CONTROL INC	PEST CONTROL - MUSEUM	961-000	803	45.00
Department: 850 BENEFITS/INSURANCE								399.74
03/17/2016	GENS	63765*	9467700	FIDELITY SECURITY LIFE INS	VISION INSURANCE BENEFITS MARCH	718-000	850	136.77
03/24/2016	GENS	63805*	RIS0001057382	DELTA DENTAL	DENTAL INSURANCE BENEFITS APRIL	721-000	850	975.32
03/24/2016	GENS	63805	RIS0001057382	DELTA DENTAL	MI CLAIMS TAX - DENTAL APRIL	721-200	850	6.33
CHECK GENS 63805 TOTAL FOR FUND 101:								981.65
03/24/2016	GENS	63820*	160740068904	PRIORITY HEALTH	HEALTH INSURANCE BENEFITS APRIL	719-000	850	9,653.08
Department: 965 TRANSFERS OUT								10,771.50
03/17/2016	GENS	63756	MAR 2016 GF ALLOI	CASCADE CHARTER TOWNSHIP	TRANSFER TO FIRE FUND MARCH 2016	999-006	965	33,333.33
Total for department 965:								33,333.33
Total for fund 101 GENERAL FUND								222,144.96
FUND 151	CEMETERY FUND							
03/24/2016	GENS	3292(A)	CLI...	THORNAPPLE RIVER NURSERY, INC.	PICKING UP LEAVES AT 30TH CEMETERY	931-000	276	250.00
Total for department 276:								250.00
Total for fund 151 CEMETERY TRUST FUND								250.00
FUND 206	FIRE FUND							
03/03/2016	GENS	3260(A)	1606001	FUEL MANAGEMENT SYSTEM	FIRE FUELS	745-000	336	165.13
03/03/2016	GENS	3260(A)	1606001	FUEL MANAGEMENT SYSTEM	FIRE FUELS	745-000	336	(8.90)
CHECK GENS 3260(A) TOTAL FOR FUND 206:								156.23
03/03/2016	GENS	3261(A)*#	193371	KINGSLAND'S ACE HARDWARE	FIRE STATION MAINT ANGLE PLUG	936-000	336	15.29
03/03/2016	GENS	3261(A)	193492	KINGSLAND'S ACE HARDWARE	FIRE STATION MAINT HOLD DOWN STRAPS	936-000	336	27.27
03/03/2016	GENS	3261(A)	193351	KINGSLAND'S ACE HARDWARE	FIRE EQUIPMENT MAINT SNAPS & RINGS	938-000	336	22.03
CHECK GENS 3261(A) TOTAL FOR FUND 206:								64.59
03/03/2016	GENS	3264(A)*#	188385	QUALITY AIR	MONTHLY MAINTENANCE- FIRE	936-000	336	79.95
03/03/2016	GENS	3264(A)	188385	QUALITY AIR	MONTHLY MAINTENANCE- FIRE BUTTRICK	936-002	336	124.60
CHECK GENS 3264(A) TOTAL FOR FUND 206:								204.55

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03/03/2016	GENS	63721*#	100012762959	2/2C CONSUMERS ENERGY	FIRE ELECTRICITY/BUTTRICK FEB	921-002	336	704.49
03/03/2016	GENS	63722*#	01720517386011	M COMCAST	FIRE PHONES CABLE MARCH	924-000	336	119.75
03/03/2016	GENS	63722	01720575391010	3/ COMCAST	FIRE PHONES/BUTTRICK XFINITY MARCH	924-002	336	42.53
03/03/2016	GENS	63722	01720206159018	3/ COMCAST	FIRE PHONES/BUTTRICK INTERNET MARCH	924-002	336	94.90
					CHECK GENS 63722 TOTAL FOR FUND 206:			257.18
03/03/2016	GENS	63725*#	457268600048	2/2C DTE ENERGY	FIRE HEATING/BUTTRICK FEB	923-002	336	604.77
03/03/2016	GENS	63728	2025598	THE HOME DEPOT CREDIT SERVICES	FIRE EQUIPMENT MAINT SUPPLIES	938-000	336	98.68
03/03/2016	GENS	63737*#	0240-006044554	REPUBLIC SERVICES	FIRE STATION MAINT/BUTTRICK RECYCLE MA	936-002	336	126.48
03/03/2016	GENS	63738	16010	RESCUE RESPONSE GEAR INC	FIRE EQUIPMENT MAINT TUBULAR MIL-SPEC	938-000	336	129.05
03/17/2016	GENS	3277(A)*#	397903	FIRST CHOICE COFFEE SERVICE	FIRE OTHER EXPENSES COFFEE SERVICE	787-000	336	113.85
03/17/2016	GENS	3278(A)	1607501	FUEL MANAGEMENT SYSTEM	FIRE FUELS	745-000	336	327.69
03/17/2016	GENS	3278(A)	1607501	FUEL MANAGEMENT SYSTEM	FIRE FUELS	745-000	336	(16.24)
					CHECK GENS 3278(A) TOTAL FOR FUND 206:			311.48
03/17/2016	GENS	3282(A)	209787	OVERHEAD DOOR CO OF GR, INC	FIRE STATION MAINT/BUTTRICK DOOR 8	936-002	336	123.00
03/17/2016	GENS	63760*#	301-02736 FEB 2016	CINTAS CORP #301	2016 RUG CLEANING SERVICE S.C.	936-000	336	30.60
03/17/2016	GENS	63760	301-02736 FEB 2016	CINTAS CORP #301	2016 RUG CLEANING SERVICE FIRE	936-000	336	95.72
					CHECK GENS 63760 TOTAL FOR FUND 206:			126.32
03/17/2016	GENS	63767*#	WS2059560 NOV-M	GRAND RAPIDS CITY TREASURER	FIRE WATER/BUTTRICK FIRE PROTECTION	927-002	336	34.90
03/17/2016	GENS	63767	WS2059561 NOV-FE	GRAND RAPIDS CITY TREASURER	FIRE WATER/BUTTRICK NOV-FEB	927-002	336	89.91
					CHECK GENS 63767 TOTAL FOR FUND 206:			124.81
03/17/2016	GENS	63774	AR138265	KRAFT BUSINESS SYSTEM	FIRE COPIER/LEASE/SERVICE SHARP MX-M36	939-000	336	69.01
03/17/2016	GENS	63778	12079	REITSMA ELECTRIC	REPAIR EXTERIOR LIGHTS STA 2 FLAG POLE	936-002	336	4,215.90
03/17/2016	GENS	63779	3737	RIVERHOUSE	POLO SHIRTS FOR STAFF SUMMER UNIFORM	768-000	336	2,572.08
03/17/2016	GENS	63783*#	16208	SUPERIOR PEST CONTROL INC	PEST CONTROL - STATION 1	936-000	336	32.00
03/17/2016	GENS	63783	16207	SUPERIOR PEST CONTROL INC	PEST CONTROL - STATION 2	936-002	336	32.00
					CHECK GENS 63783 TOTAL FOR FUND 206:			64.00
03/17/2016	GENS	63785	28165068	VALLEY CITY LINEN INC	FIRE STATION MAINT-RUG & TOWEL CLEANIN	936-000	336	38.95
03/17/2016	GENS	63785	28170722	VALLEY CITY LINEN INC	FIRE STATION MAINT-RUG & TOWEL CLEANIN	936-000	336	38.95
03/17/2016	GENS	63785	28175494	VALLEY CITY LINEN INC	FIRE STATION MAINT-RUG & TOWEL CLEANIN	936-000	336	38.95
03/17/2016	GENS	63785	28180189	VALLEY CITY LINEN INC	FIRE STATION MAINT-RUG & TOWEL CLEANIN	936-000	336	38.95
					CHECK GENS 63785 TOTAL FOR FUND 206:			155.80
03/17/2016	GENS	63788*#	9761218577	VERIZON WIRELESS	FIRE PHONES FEB	924-000	336	111.14

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03/17/2016	GENS	63788	9761402612	VERIZON WIRELESS	FIRE PHONES MODEMS FEB	924-000	336	16.03
03/17/2016	GENS	63788	9761413195	VERIZON WIRELESS	FIRE PHONES MODEM FEB	924-000	336	7.89
				CHECK GENS 63788 TOTAL FOR FUND 206:				135.06
03/17/2016	GENS	63789*#	3485	VREDEVELD HAEFNER LLC	2015 AUDIT FINAL BILLING PARTIAL	807-000	336	300.00
03/17/2016	GENS	63790	CONF 2/25-2/28/20	JAMES WALKER	FIRE EDUCATION WALKER LODGING EMS CO	724-000	336	399.48
03/17/2016	GENS	63790	CONF 2/25-2/28/20	JAMES WALKER	FIRE EDUCATION WALKER REGISTRATION EM	724-000	336	290.00
				CHECK GENS 63790 TOTAL FOR FUND 206:				689.48
03/24/2016	GENS	3289(A)*#	K-3987	KENT COUNTY TREASURER - TAX	PROPERTY TAX REFUNDS MTT/STC REFUND	950-000	336	447.14
03/24/2016	GENS	63798	REIMB- LICENSE&B	BOLT, MICHAEL	FIRE UNIFORMS BOLT WORK BOOTS	768-000	336	60.00
03/24/2016	GENS	63798	REIMB- LICENSE&B	BOLT, MICHAEL	FIRE OTHER EXPENSES BOLT EMS LICENSE	787-000	336	25.00
				CHECK GENS 63798 TOTAL FOR FUND 206:				85.00
03/24/2016	GENS	63801	45383	CASCADE AUTOMOTIVE SERVICE	FIRE EQUIPMENT MAINT OIL LUBE UTILITY 9	938-000	336	45.89
03/24/2016	GENS	63803*#	41821729	COMCAST	FIRE PHONES	924-000	336	57.01
03/24/2016	GENS	63803	41821729	COMCAST	FIRE PHONES/BUTTRICK	924-002	336	21.38
				CHECK GENS 63803 TOTAL FOR FUND 206:				78.39
				Total for department 336:				12,003.23
Department: 850 BENEFITS/INSURANCE								
03/17/2016	GENS	63765*	9467700	FIDELITY SECURITY LIFE INS	VISION INSURANCE BENEFITS MARCH	718-000	850	194.82
03/24/2016	GENS	63805*	R150001057382	DELTA DENTAL	DENTAL INSURANCE BENEFITS APRIL	721-000	850	1,834.30
03/24/2016	GENS	63805	R150001057382	DELTA DENTAL	MI CLAIMS TAX - DENTAL APRIL	721-200	850	10.56
				CHECK GENS 63805 TOTAL FOR FUND 206:				1,844.86
03/24/2016	GENS	63820*	160740068904	PRIORITY HEALTH	HEALTH INSURANCE BENEFITS APRIL	719-000	850	11,646.39
				Total for department 850:				13,686.07
Department: 901 CAPITAL OUTLAY								
03/30/2016	GENS	63826	BRUSH TRUCK -FD	TINNEY AUTOMOTIVE CORP	NEW BRUSH TRUCK	981-000	901	32,178.96
				Total for department 901:				32,178.96
				Total for fund 206 FIRE FUND				57,868.26
FUND 207 POLICE FUND								
03/24/2016	GENS	3288(A)	F16136	KENT COUNTY TREASURER	SHERIFF PROTECTION FEB 2016	801-000	301	46,157.10
03/24/2016	GENS	3288(A)	F15792CR	KENT COUNTY TREASURER	SHERIFF PROTECTION CR ON INV F15792	801-000	301	(3,000.00)
				CHECK GENS 3288(A) TOTAL FOR FUND 207:				43,157.10
03/24/2016	GENS	3289(A)*#	K-3987	KENT COUNTY TREASURER - TAX	PROPERTY TAX REFUNDS MTT/STC REFUND	950-000	301	156.08
				Total for department 301:				43,313.18
				Total for fund 207 POLICE FUND				43,313.18
FUND 209 CCT OPEN SPACE FUND								
03/03/2016	GENS	3264(A)*#	188385	QUALITY AIR	MONTHLY MAINTENANCE- BURTON PARK	935-000	751	50.47

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03/03/2016	GENS	63721*#	100041772151 2/2C	CONSUMERS ENERGY	ELECTRICITY 6803 BURTON FEB	921-000	751	102.26
03/03/2016	GENS	63721	100061096465 2/2C	CONSUMERS ENERGY	ELECTRICITY 6803 BURTON FEB	921-000	751	22.59
					CHECK GENS 63721 TOTAL FOR FUND 209:			124.85
03/17/2016	GENS	63767*#	WS2049855 NOV-FI	GRAND RAPIDS CITY TREASURER	WATER-SEWER 6805 BURTON	927-000	751	72.13
03/24/2016	GENS	3289(A)*#	K-3987	KENT COUNTY TREASURER - TAX	TAX REFUNDS MTT/STC REFUND	950-000	751	78.19
03/25/2016	GENS	63825*#	12352	FIRST BANKCARD	PARK MAINTENANCE GREEN TOPRAIL AND PA	935-000	751	186.25
					Total for department 751:			511.89
					Total for fund 209 CCT OPEN SPACE			511.89
FUND 2016	PATHWAYS FUND							
03/03/2016	GENS	3261(A)*#	193437	KINGSLAND'S ACE HARDWARE	MAINT & REPAIR CHAIN SAW REPAIR	931-000	758	46.50
03/24/2016	GENS	3289(A)*#	K-3987	KENT COUNTY TREASURER - TAX	PROPERTY TAX REFUNDS MTT/STC REFUND	950-000	758	135.48
					Total for department 758:			181.98
					Total for fund 216 PATHWAYS FUND			181.98
FUND 246	IRF FUND							
03/03/2016	GENS	3259(A)*#	345869	FISHBECK THOMPSON CARR & HUBER	ADMIN ENGINEERING COSTS TRD UTILITY EXT	821-000	295	1,212.00
03/03/2016	GENS	3259(A)	345861	FISHBECK THOMPSON CARR & HUBER	ADMIN ENGINEERING COSTS CASC/BURTON	821-000	295	2,725.44
					CHECK GENS 3259(A) TOTAL FOR FUND 246:			3,937.44
03/24/2016	GENS	3287(A)*#	344301	FISHBECK THOMPSON CARR & HUBER	ADMIN ENGINEERING COSTS THRD UTILITY E)	821-000	295	7,249.00
					Total for department 295:			11,186.44
					Total for fund 246 IRF			11,186.44
FUND 248	DDA FUND							
03/03/2016	GENS	63721*#	100011901541 2/2C	CONSUMERS ENERGY	ELECTRICITY 6800 CASCADE FEB	921-000	170	282.04
03/03/2016	GENS	63721	100011901814 2/2C	CONSUMERS ENERGY	ELECTRICITY 6811 CASCADE FEB	921-000	170	136.91
03/03/2016	GENS	63721	100012017115 2/2C	CONSUMERS ENERGY	ELECTRICITY 6753 OLD 28TH FEB	921-000	170	219.95
03/03/2016	GENS	63721	100012017305 2/2C	CONSUMERS ENERGY	ELECTRICITY 6610 28TH FEB	921-000	170	183.27
03/03/2016	GENS	63721	100012213862 2/2C	CONSUMERS ENERGY	ELECTRICITY 6658 28TH FEB	921-000	170	22.59
03/03/2016	GENS	63721	100041058650 2/2C	CONSUMERS ENERGY	ELECTRICITY 6116 28TH FEB	921-000	170	102.83
03/03/2016	GENS	63721	100041059278 2/2C	CONSUMERS ENERGY	ELECTRICITY 5905 28TH FEB	921-000	170	111.48
03/03/2016	GENS	63721	100041059393 2/2C	CONSUMERS ENERGY	ELECTRICITY 6282 28TH FEB	921-000	170	138.28
03/03/2016	GENS	63721	100041081355 2/2C	CONSUMERS ENERGY	ELECTRICITY 5613 28TH FEB	921-000	170	96.85
03/03/2016	GENS	63721	1000543796084 2/2	CONSUMERS ENERGY	ELECTRICITY 5196 28TH FEB	921-000	170	226.48
03/03/2016	GENS	63721	100054393572 2/2C	CONSUMERS ENERGY	ELECTRICITY 5434 28TH FEB	921-000	170	83.21
03/03/2016	GENS	63721	100063460503 2/2C	CONSUMERS ENERGY	ELECTRICITY 5770 FOREMOST FEB	921-000	170	174.48
03/03/2016	GENS	63721	100066874924 2/2C	CONSUMERS ENERGY	ELECTRICITY 2990 LUCERNE FEB	921-000	170	230.48
					CHECK GENS 63721 TOTAL FOR FUND 248:			2,008.85
03/17/2016	GENS	3274(A)	45705	AQUARIUS LAWN SPRINKLING	MAINT & REPAIR/IMPROV DAMAGE INTL BEV	931-000	170	100.27
03/17/2016	GENS	63788*#	9761402612	VERIZON WIRELESS	CELL PHONES TABLET FEB	924-100	170	16.03

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03/24/2016	GENS	3289(A)*#	K-3987	KENT COUNTY TREASURER - TAX	DDA PROPERTY TAX REFUNDS MTT/STC REFU 950-000		170	4,504.02
03/24/2016	GENS	63814*#	086312	INTERURBAN TRANSIT PARTNERSHIP	28TH STREET LINEHAUL SERVICE FEB Total for department 170:	861-100	170	7,991.90 14,621.07
Department: 901 CAPITAL OUTLAY								
03/03/2016	GENS	3259(A)*#	345862	FISHBECK THOMPSON CARR & HUBER	ENGINEERING- ENHANCED INTERSECTIONS FI 821-054		901	935.00
03/17/2016	GENS	3280(A)	APPL# 5	KAMMINGA AND ROODVOETS INC	CAP OUT-VILLAGE AREA MID-BLOCK CROSSIN 974-053 Total for department 901:		901	52,167.61 53,102.61
Department: 990 DEBT SERVICE								
03/17/2016	GENS	63759	009999796105-109	CHEMICAL BANK	MUN BOND 2010 / INT & FEES Total for department 990: Total for fund 248 DDA	996-003	990	7,888.50 7,888.50 75,612.18
FUND 249	BUILDING FUND							
03/03/2016	GENS	63717		REFUND PERMIT FE BAUMANN & DEGROOT	GR TWP MECHANICAL PERMITS 1570 SAGE C 607-533		000	40.00
03/03/2016	GENS	63720	P# 2558	CASCADE CHARTER TOWNSHIP	S/W CONNECT 6313 CASCADE RD SE	237-000	000	1,100.00
03/03/2016	GENS	63720	P# 2557	CASCADE CHARTER TOWNSHIP	S/W CONNECT 2410 CASCADE SPRINGS	237-000	000	1,100.00
								2,200.00
03/17/2016	GENS	63757	2555	CASCADE CHARTER TOWNSHIP	S/W CONNECT 5121 28TH ST SE	237-000	000	4,328.00
03/17/2016	GENS	63786		REFUND PM160002 VANDERHYDE MECHANICAL	CASCADE TWP MECHANICAL PERMITS REFUN 607-486		000	805.00
03/17/2016	GENS	63786		REFUND PM160002 VANDERHYDE MECHANICAL	CASCADE TWP MECHANICAL PERMITS REFUN 607-486		000	805.00
								1,610.00
03/24/2016	GENS	63802	P3 25596	CASCADE CHARTER TOWNSHIP	S/W CONNECT 1289 MARSMAN Total for department 000:	237-000	000	2,200.00 10,378.00
Department: 371 BUILDING DEPARTMENT								
03/03/2016	GENS	63740*#	488849-0	SUPPLYGEEKS.BIZ	BUILDING FUND	727-000	371	142.91
03/17/2016	GENS	63753	MILG 2/15-3/04	BENOIT, BILL	MILEAGE - BENOIT 809 MILES	860-000	371	436.86
03/17/2016	GENS	63754	MILG 2/15-3/04	BIEGALLE, JEFFREY	MILEAGE- BIEGALLE, J 793 MILES	860-000	371	428.22
03/17/2016	GENS	63761		WILSON, BRIAN 201- CODE OFFICIALS CONFERENCE OF MI	EDUCATION WILSON CODE OFFICIAL CONF 4/ 724-000		371	120.00
03/17/2016	GENS	63761		SABIN, RON 4/2016 CODE OFFICIALS CONFERENCE OF MI	EDUCATION SABIN CODE OFFICIAL CONF 4/27 724-000		371	150.00
03/17/2016	GENS	63761		BENOIT, BILL 4/2016 CODE OFFICIALS CONFERENCE OF MI	EDUCATION BENOIT CODE OFFICIAL CONF 4/ 724-000		371	150.00
								420.00
03/17/2016	GENS	63762	MILG 4/15-3/04	KEN DAVIS	MILEAGE DAVIS 567 MILES	860-000	371	306.18
03/17/2016	GENS	63768	MILG 2/15-3/04	DANIEL L HEYER	MILEAGE HEYER 756 MILES	860-000	371	408.24

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03/17/2016	GENS	63770	MILG 2/15-3/04	HUYSER, DANIEL A.	MILEAGE- HUYSER 788 MILES	860-000	371	425.52
03/17/2016	GENS	63776	MILG 2/15-3/04	VINCENT MILITO	MILEAGE MILITO- 617 MILES	860-000	371	333.18
03/17/2016	GENS	63780	MILG 2/15-3/04	RON SABIN	MILEAGE SABIN 585 MILES	860-000	371	315.90
03/17/2016	GENS	63782	MILITO,VINCE	STATE OF MICHIGAN	MEMBERSHIPS AND DUES MILITO 2016 PLUM 723-000		371	300.00
03/17/2016	GENS	63782	BIEGALLE,JEFFREY21	STATE OF MICHIGAN	MEMBERSHIPS AND DUES BIEGALLE 2016 PLL 723-000		371	300.00
03/17/2016	GENS	63782	HEYER,DANIEL 2016	STATE OF MICHIGAN	MEMBERSHIPS AND DUES HEYER 2016 PLUM 723-000		371	300.00
				CHECK GENS 63782 TOTAL FOR FUND 249:				900.00
03/17/2016	GENS	63788*#	9761218577	VERIZON WIRELESS	CELL PHONES FEB	924-100	371	404.34
03/17/2016	GENS	63788	9761402612	VERIZON WIRELESS	CELL PHONES TABLETS	924-100	371	128.26
03/17/2016	GENS	63788	9761218577	VERIZON WIRELESS	SMALL EQUIPMENT/FURNITURE CREDIT SABII	981-000	371	(150.00)
				CHECK GENS 63788 TOTAL FOR FUND 249:				382.60
03/17/2016	GENS	63789*#	3485	VREDEVELD HAEFNER LLC	2015 AUDIT FINAL BILLING PARTIAL	807-000	371	100.00
03/17/2016	GENS	63791	MLG 2/15-3/04	BRIAN WILSON	MILEAGE WILSON 503 MILES	860-000	371	271.62
03/24/2016	GENS	63794	MILG 3/7-3/18	BENOIT, BILL	MILEAGE - BENOIT 554 MILES	860-000	371	299.16
03/24/2016	GENS	63796	MILG 3/7-3/16	BIEGALLE, JEFFREY	MILEAGE- BIEGALLE,J 395 MILES	860-000	371	213.30
03/24/2016	GENS	63803*#	41821729	COMCAST	PHONES	924-000	371	49.88
03/24/2016	GENS	63804	MILG 3/7-3/18	KEN DAVIS	MILEAGE DAVIS 541 MILES	860-000	371	292.14
03/24/2016	GENS	63811	MILG 3/7-3/18	DANIEL L HEYER	MILEAGE HEYER 570 MILES	860-000	371	307.80
03/24/2016	GENS	63813	MILG 3/7-3/18	HUYSER, DANIEL A.	MILEAGE- HUYSER 569 MILES	860-000	371	307.26
03/24/2016	GENS	63817	9022195447	KONICA MINOLTA ALBIN	C454 COPIER MAINT 1/28-2/27	939-000	371	78.35
03/24/2016	GENS	63818	MILG 3/07-3/18	VINCENT MILITO	MILEAGE MILITO- 605 MILES	860-000	371	326.70
03/24/2016	GENS	63821	MILG 3/7-3/18	RON SABIN	MILEAGE SABIN 494 MILES	860-000	371	266.76
03/24/2016	GENS	63823*#	490206-0	SUPPLYGEEKS.BIZ	BUILDING FUND OFFICE SUPPLIES	727-000	371	141.30
03/24/2016	GENS	63824	MILG 3/7-3/18	BRIAN WILSON	MILEAGE WILSON 580 MILES	860-000	371	313.20
				Total for department 371:				7,467.08
Department: 850 BENEFITS/INSURANCE								
03/17/2016	GENS	63765*	9467700	FIDELITY SECURITY LIFE INS	VISION INSURANCE BENEFITS MARCH	718-000	850	101.20

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03/24/2016	GENS	63805*	RIS0001057382	DELTA DENTAL	DENTAL INSURANCE BENEFITS APRIL	721-000	850	650.37
03/24/2016	GENS	63805	RIS0001057382	DELTA DENTAL	MI CLAIMS TAX - DENTAL APRIL	721-200	850	4.22
				CHECK GENS 63805 TOTAL FOR FUND 249:				654.59
03/24/2016	GENS	63820*	160740068904	PRIORITY HEALTH	HEALTH INSURANCE BENEFITS APRIL	719-000	850	9,468.70
				Total for department 850:				10,224.49
Department: 964 PAYMENTS TO OTHER TOWNSHIPS								
03/03/2016	GENS	3257(A)	FEB 2016 PERMITS	EAST GRAND RAPIDS/CITY OF	PERMITS DUE TO EAST GR FEB 2016	964-500	964	2,512.00
03/03/2016	GENS	3262(A)	FEB, 2016 PERMITS	LOWELL TOWNSHIP	PERMITS DUE TO LOWELL TWP FEB 2016	964-100	964	1,483.40
03/03/2016	GENS	3263(A)	FEB 2016 PERMITS	PLAINFIELD CHARTER TOWNSHIP	PERMITS DUE PLAINFIELD FEB 2016	964-600	964	3,455.40
03/03/2016	GENS	63716	FEB 206 PERMITS	ADA TOWNSHIP	PERMITS DUE TO ADA TWP FEB 2016	964-400	964	2,831.40
03/03/2016	GENS	63719	FEB 2016 PERMITS	CASCADE CHARTER TOWNSHIP	PERMITS DUE CASCADE TWP FEB 2016	964-800	964	7,409.45
03/03/2016	GENS	63726	FEB 2016 PERMITS	GRAND RAPIDS CHARTER TOWNSHIP	PERMITS DUE TO GR TWP FEB 2016	964-300	964	5,491.70
03/03/2016	GENS	63730	FEB 2016 PERMITS	LOWELL MI, CITY OF	PERMITS DUE CITY OF LOWELL FEB 2016	964-700	964	453.20
03/03/2016	GENS	63749	FEB 2016 PERMITS	VERGENNES TOWNSHIP	PERMITS DUE TO VERGENNES TWP FEB	964-200	964	717.20
				Total for department 964:				24,353.75
				Total for fund 249 BUILDING FUND				52,423.32
FUND 270 LIBRARY FUND								
03/03/2016	GENS	3258(A)*#	80024	ENVIRO-CLEAN	CLEANING LIBRARY FEB	802-200	790	1,487.00
03/03/2016	GENS	3258(A)	80024	ENVIRO-CLEAN	CLEANING WISNER FEB	802-200	790	330.00
03/03/2016	GENS	3258(A)	80024	ENVIRO-CLEAN	CLEANING LIBRARY (WEEKEND) FEB	802-200	790	180.00
				CHECK GENS 3258(A) TOTAL FOR FUND 270:				1,997.00
03/03/2016	GENS	3261(A)*#	193357	KINGSLAND'S ACE HARDWARE	LIBRARY MAINTENANCE ROTO DRAIN CLEANE	931-000	790	13.49
03/03/2016	GENS	3264(A)*#	188385	QUALITY AIR	MONTHLY MAINTENANCE- LIBRARY	931-000	790	785.64
03/03/2016	GENS	63721*#	100000284784 2/2C	CONSUMERS ENERGY	LIBRARY ELECTRICITY FEB	921-000	790	3,904.08
03/03/2016	GENS	63724	XJWJC51D6	DELL MARKETING LP	INSPIRON S558	981-000	790	931.52
03/03/2016	GENS	63725*#	457271900013 2/2C	DTE ENERGY	LIBRARY HEATING FEB	923-000	790	1,310.94
03/03/2016	GENS	63737*#	0240-006044554	REPUBLIC SERVICES	LIBRARY MAINTENANCE RECYCLE MARCH	931-000	790	404.15
03/17/2016	GENS	63751	829732	ALLIED EAGLE SUPPLY	LIBRARY MAINTENANCE ROCK SALT & ICE ME	931-000	790	2,180.99

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03/17/2016	GENS	63760*#	301-02737 FEB 2016	CINTAS CORP #301	2016 RUG CLEANING SERVICE LIBRARY FEB	931-000	790	749.32
03/17/2016	GENS	63763	51130	ELEVATOR SERVICE INC	LIBRARY MAINTENANCE ELEVATOR MAINT M	931-000	790	99.00
03/17/2016	GENS	63775	345824	MIDSTATE SECURITY CO.	FIRE INSPECTION 2016	931-000	790	233.00
03/17/2016	GENS	63783*#	16205	SUPERIOR PEST CONTROL INC	PEST CONTROLL - LIBRARY	931-000	790	65.00
03/24/2016	GENS	3289(A)*#	K-3987	KENT COUNTY TREASURER - TAX	PROPERTY TAX REFUNDS MTT/STC REFUND	950-000	790	51.00
03/24/2016	GENS	3291(A)*#	186054	QUALITY AIR	LIBRARY MAINT REPLACE PRESSURE TUBS	931-000	790	1,115.00
03/24/2016	GENS	63799	52135	CANFIELD PLUMBING & HEATING	REPLACE KIDDIE TOILET	931-000	790	395.00
03/24/2016	GENS	63803*#	41821729	COMCAST	LIBRARY PHONES	924-000	790	21.38
03/24/2016	GENS	63819	460852	MINER SUPPLY COMPANY	CLEANING SUPPLIES/PAPER PRODUCT LIBRAF	727-000	790	256.89
					Total for department 790:			14,513.40
					Total for fund 270 LIBRARY FUND			14,513.40
FUND 701	TRUST AND AGENCY FUND							
03/03/2016	GENS	3259(A)*#	345863	FISHBECK THOMPSON CARR & HUBER	DRURY DEVELOPMENT S/W 9/2015 FEB	252-231	000	495.00
03/03/2016	GENS	63718	REFUND 15-3288	CASCADE CHARTER TOWNSHIP	ROADHOUSE 6817 CASCADE RD 15-3288 10/1	253-351	000	322.00
03/03/2016	GENS	63739	REFUND 15-3288	RJR ENTERPRISE	ROADHOUSE 6817 CASCADE RD 15-3288 10/1	253-351	000	178.00
03/17/2016	GENS	63755	REFUND 15-3263	CASCADE CHARTER TOWNSHIP	LACKS ENTERPRISE-CORP 15-3263 8/2015	253-342	000	500.00
03/17/2016	GENS	63755	REFUND 15-3270	CASCADE CHARTER TOWNSHIP	253345 RICHARD SIEGLE DVM/S 15-3270 9/1	253-345	000	500.00
					CHECK GENS 63755 TOTAL FOR FUND 701:			1,000.00
03/17/2016	GENS	63766*	16AR001609	G R CITY TREASURER	FORD AIRPORT PK LOT S/W FEB	252-230	000	5,103.75
03/17/2016	GENS	63766	16AR001614	G R CITY TREASURER	DRURY DEVELOPMENT S/W 9/2015 FEB	252-231	000	2,432.50
03/17/2016	GENS	63766	16AR001575	G R CITY TREASURER	LACKS TRIM DIV S/W 1/2016 FEB	252-236	000	1,348.75
					CHECK GENS 63766 TOTAL FOR FUND 701:			8,885.00
					Total for department 000:			10,880.00
					Total for fund 701 TRUST AND AGENCY			10,880.00
FUND 703	CURRENT AND DELINQUENT TAX COLLECTION FUND							
03/03/2016	GENS	3265(A)	CAL 1527	CALEDONIA COMMUNITY SCHOOLS	CALEDONIA - OPERATING	225-410	000	6,875.58
03/03/2016	GENS	3265(A)	CAL 1527	CALEDONIA COMMUNITY SCHOOLS	CALEDONIA - INTEREST OPER	225-411	000	127.75
					CHECK GENS 3265(A) TOTAL FOR FUND 703:			7,003.33
03/03/2016	GENS	3266(A)	CALD 1527	CALEDONIA COMMUNITY SCHOOLS	CALEDONIA - INTEREST	225-411	000	103.23
03/03/2016	GENS	3266(A)	CALD 1527	CALEDONIA COMMUNITY SCHOOLS	CALEDONIA - DEBT	225-420	000	6,133.81
03/03/2016	GENS	3266(A)	CALD 1527	CALEDONIA COMMUNITY SCHOOLS	CALEDONIA - IFT DEBT	225-520	000	3,583.99
					CHECK GENS 3266(A) TOTAL FOR FUND 703:			9,821.03

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03/03/2016	GENS	3267(A)	FHPS 1527	FOREST HILLS PUBLIC SCHOOLS	FHPS - OPERATING	225-110	000	14,391.86
03/03/2016	GENS	3267(A)	FHPS 1527	FOREST HILLS PUBLIC SCHOOLS	FHPS - INTEREST DEBT	225-111	000	584.75
03/03/2016	GENS	3267(A)	FHPS 1527	FOREST HILLS PUBLIC SCHOOLS	FHPS - INTEREST OPER	225-111	000	367.96
03/03/2016	GENS	3267(A)	FHPS 1527	FOREST HILLS PUBLIC SCHOOLS	FHPS - INTEREST REC	225-111	000	75.95
03/03/2016	GENS	3267(A)	FHPS 1527	FOREST HILLS PUBLIC SCHOOLS	FHPS - DEBT	225-120	000	32,963.40
03/03/2016	GENS	3267(A)	FHPS 1527	FOREST HILLS PUBLIC SCHOOLS	FHPS - RECREATION	225-130	000	4,280.79
03/03/2016	GENS	3267(A)	FHPS 1527	FOREST HILLS PUBLIC SCHOOLS	DUE TO TAXPAYERS - MTT & STC REFUNDS	275-002	000	(4.00)
				CHECK GENS 3267(A) TOTAL FOR FUND 703:				52,660.11
03/03/2016	GENS	3268(A)	GRCC 1527	GRAND RAPIDS COMMUNITY COLLEGE	GRCC - TAXES	235-110	000	2,596.86
03/03/2016	GENS	3268(A)	GRCC 1527	GRAND RAPIDS COMMUNITY COLLEGE	GRCC - TAXES INTEREST	235-111	000	160.47
03/03/2016	GENS	3268(A)	GRCC 1527	GRAND RAPIDS COMMUNITY COLLEGE	DUE TO TAXPAYERS - MTT & STC REFUNDS	275-002	000	(1.40)
				CHECK GENS 3268(A) TOTAL FOR FUND 703:				2,755.93
03/03/2016	GENS	3269(A)	KC 1527	KENT COUNTY TREASURER	KENT COUNTY - OPERATING	222-110	000	6,221.90
03/03/2016	GENS	3269(A)	KC 1527	KENT COUNTY TREASURER	KENT COUNTY - INTEREST	222-111	000	525.88
03/03/2016	GENS	3269(A)	KC 1527	KENT COUNTY TREASURER	KENT COUNTY - JAIL	222-160	000	7,426.12
03/03/2016	GENS	3269(A)	KC 1527	KENT COUNTY TREASURER	KENT COUNTY - SENIOR	222-170	000	4,704.29
03/03/2016	GENS	3269(A)	KC 1527	KENT COUNTY TREASURER	KENT COUNTY - VETERAN'S MILLAGE	222-172	000	470.14
03/03/2016	GENS	3269(A)	KC 1527	KENT COUNTY TREASURER	KENT COUNTY DRAIN	222-180	000	17.49
03/03/2016	GENS	3269(A)	KC 1527	KENT COUNTY TREASURER	KENT COUNTY - IFT JAIL	222-260	000	808.23
03/03/2016	GENS	3269(A)	KC 1527	KENT COUNTY TREASURER	KENT COUNTY - IFT SENIOR	222-270	000	511.99
03/03/2016	GENS	3269(A)	KC 1527	KENT COUNTY TREASURER	KENT COUNTY - IFT VETERAN'S MILLAGE	222-272	000	51.18
03/03/2016	GENS	3269(A)	KC 1527	KENT COUNTY TREASURER	DUE TO TAXPAYERS - MTT & STC REFUNDS	275-002	000	(3.72)
				CHECK GENS 3269(A) TOTAL FOR FUND 703:				20,733.50
03/03/2016	GENS	3270(A)	SET 1527	KENT COUNTY TREASURER-SET	KENT COUNTY - INTEREST CALEDONIA	222-111	000	12.43
03/03/2016	GENS	3270(A)	SET 1527	KENT COUNTY TREASURER-SET	KENT COUNTY - INTEREST FHPS	222-111	000	464.98
03/03/2016	GENS	3270(A)	SET 1527	KENT COUNTY TREASURER-SET	KENT COUNTY - INTEREST LOWELL	222-111	000	61.57
03/03/2016	GENS	3270(A)	SET 1527	KENT COUNTY TREASURER-SET	CALEDONIA SET & OPERATING TAX (COUNTY)	228-001	000	207.24
03/03/2016	GENS	3270(A)	SET 1527	KENT COUNTY TREASURER-SET	FHPS SET & OPERATING TAX (COUNTY)	228-001	000	7,488.21
03/03/2016	GENS	3270(A)	SET 1527	KENT COUNTY TREASURER-SET	LOWELL SET & OPERATING TAX (COUNTY)	228-001	000	1,026.28
03/03/2016	GENS	3270(A)	SET 1527	KENT COUNTY TREASURER-SET	DUE TO TAXPAYERS - MTT & STC REFUNDS	275-002	000	(4.71)
				CHECK GENS 3270(A) TOTAL FOR FUND 703:				9,256.00
03/03/2016	GENS	3271(A)	KISD 1527	KENT INTERMEDIATE SCHOOLS	KENT ISD - TAXES	234-110	000	6,963.25
03/03/2016	GENS	3271(A)	KISD 1527	KENT INTERMEDIATE SCHOOLS	KENT ISD - TAXES INTEREST	234-111	000	430.33
03/03/2016	GENS	3271(A)	KISD 1527	KENT INTERMEDIATE SCHOOLS	DUE TO TAXPAYERS - MTT & STC REFUNDS	275-002	000	(5.77)
				CHECK GENS 3271(A) TOTAL FOR FUND 703:				7,389.81
03/03/2016	GENS	3272(A)	LOW 1527	LOWELL AREA SCHOOLS	LOWELL - OPERATING	226-110	000	1,042.27
03/03/2016	GENS	3272(A)	LOW 1527	LOWELL AREA SCHOOLS	LOWELL - INTEREST	226-111	000	66.54
03/03/2016	GENS	3272(A)	LOW 1527	LOWELL AREA SCHOOLS	LOWELL - DEBT	226-120	000	1,918.22
03/03/2016	GENS	3272(A)	LOW 1527	LOWELL AREA SCHOOLS	LOWELL BLDG/SITE	226-130	000	274.02
				CHECK GENS 3272(A) TOTAL FOR FUND 703:				3,301.05
03/03/2016	GENS	63731	RFD03401014	NAHIKIAN KURT	DUE TO 41-19-03-401-014	275-000	000	1,444.14
03/03/2016	GENS	63732	RFD17104001	EAGLE NUMBER THREE LLC	DUE TO 41-19-17-104-001	275-000	000	341.18
03/03/2016	GENS	63733	RFD04226021	PYNNONEN EDWARD J	DUE TO 41-19-04-226-021	275-000	000	9.35
03/03/2016	GENS	63734	MTT156022	KOWAL CHRISTOPHER & ELIZABETH	DUE TO MTT #15-006022 SUMMER	275-000	000	841.78
03/03/2016	GENS	63734	MTT156022	KOWAL CHRISTOPHER & ELIZABETH	DUE TO TAXPAYERS - MTT INTEREST	275-002	000	16.83
				CHECK GENS 63734 TOTAL FOR FUND 703:				858.61

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03/03/2016	GENS	63735	MTT156022W	KOWAL CHRISTOPHER & ELIZABETH	DUE TO MTT #15-006022 WINTER	275-000	000	416.52
03/03/2016	GENS	63735	MTT156022W	KOWAL CHRISTOPHER & ELIZABETH	DUE TO TAXPAYERS - MTT INTEREST	275-002	000	2.87
					CHECK GENS 63735 TOTAL FOR FUND 703:			419.39
03/03/2016	GENS	63741	FIRE 1527	CASCADE CHARTER TOWNSHIP	CCT-INTEREST & PENALTY	214-111	000	138.83
03/03/2016	GENS	63741	FIRE 1527	CASCADE CHARTER TOWNSHIP	CCT - FIRE PP	214-115	000	1,449.61
03/03/2016	GENS	63741	FIRE 1527	CASCADE CHARTER TOWNSHIP	CCT - FIRE	214-115	000	10,924.70
03/03/2016	GENS	63741	FIRE 1527	CASCADE CHARTER TOWNSHIP	CCT - IFT FIRE	214-215	000	1,346.76
03/03/2016	GENS	63741	FIRE 1527	CASCADE CHARTER TOWNSHIP	DUE TO TAXPAYERS - MTT & STC REFUNDS	275-002	000	(0.36)
					CHECK GENS 63741 TOTAL FOR FUND 703:			13,859.54
03/03/2016	GENS	63742	GF 1527	CASCADE CHARTER TWP	CCT - OPERATING TAXES	214-110	000	8,070.52
03/03/2016	GENS	63742	GF 1527	CASCADE CHARTER TWP	CCT - OPERATING TAXES PP	214-110	000	1,070.85
03/03/2016	GENS	63742	GF 1527	CASCADE CHARTER TWP	CCT-INTEREST	214-111	000	104.85
03/03/2016	GENS	63742	GF 1527	CASCADE CHARTER TWP	CCT-PENALTY	214-111	000	5,011.20
03/03/2016	GENS	63742	GF 1527	CASCADE CHARTER TWP	CCT - OVER/SHORT	214-112	000	(6.05)
03/03/2016	GENS	63742	GF 1527	CASCADE CHARTER TWP	CCT - STREET LIGHTS	214-140	000	224.40
03/03/2016	GENS	63742	GF 1527	CASCADE CHARTER TWP	CCT - ADMIN	214-155	000	1,650.42
03/03/2016	GENS	63742	GF 1527	CASCADE CHARTER TWP	CCT - IFT OPERATING TAXES	214-210	000	994.90
03/03/2016	GENS	63742	GF 1527	CASCADE CHARTER TWP	DUE TO TAXPAYERS - MTT & STC REFUNDS	275-002	000	(0.46)
					CHECK GENS 63742 TOTAL FOR FUND 703:			17,120.63
03/03/2016	GENS	63743	LIB 1527	LIBRARY FUND	CCT-INTEREST & PENALTY	214-111	000	15.83
03/03/2016	GENS	63743	LIB 1527	LIBRARY FUND	CCT - LIBRARY PP	214-120	000	165.33
03/03/2016	GENS	63743	LIB 1527	LIBRARY FUND	CCT - LIBRARY	214-120	000	1,245.76
03/03/2016	GENS	63743	LIB 1527	LIBRARY FUND	CCT-IFT LIBRARY	214-220	000	153.59
03/03/2016	GENS	63743	LIB 1527	LIBRARY FUND	DUE TO TAXPAYERS - MTT & STC REFUNDS	275-002	000	(0.05)
					CHECK GENS 63743 TOTAL FOR FUND 703:			1,580.47
03/03/2016	GENS	63744	OS 1527	CASCADE CHARTER TOWNSHIP	CCT-INTEREST & PENALTY	214-111	000	24.26
03/03/2016	GENS	63744	OS 1527	CASCADE CHARTER TOWNSHIP	CCT OPEN SPACE	214-116	000	1,910.30
03/03/2016	GENS	63744	OS 1527	CASCADE CHARTER TOWNSHIP	CCT OPEN SPACE	214-116	000	253.47
03/03/2016	GENS	63744	OS 1527	CASCADE CHARTER TOWNSHIP	CCT OPEN SPACE IFT	214-216	000	235.50
03/03/2016	GENS	63744	OS 1527	CASCADE CHARTER TOWNSHIP	DUE TO TAXPAYERS - MTT & STC REFUNDS	275-002	000	(0.05)
					CHECK GENS 63744 TOTAL FOR FUND 703:			2,423.47
03/03/2016	GENS	63745	PATH 1527	PATHWAYS FUND	CCT-PATHWAYS	214-100	000	3,309.99
03/03/2016	GENS	63745	PATH 1527	PATHWAYS FUND	CCT-PATHWAYS	214-100	000	439.17
03/03/2016	GENS	63745	PATH 1527	PATHWAYS FUND	CCT-INTEREST & PENALTY	214-111	000	42.09
03/03/2016	GENS	63745	PATH 1527	PATHWAYS FUND	CCT - IFT PATHWAYS	214-200	000	408.04
03/03/2016	GENS	63745	PATH 1527	PATHWAYS FUND	DUE TO TAXPAYERS - MTT & STC REFUNDS	275-002	000	(0.11)
					CHECK GENS 63745 TOTAL FOR FUND 703:			4,199.18
03/03/2016	GENS	63746	POL 1527	POLICE FUND	CCT-POLICE	214-105	000	3,813.34
03/03/2016	GENS	63746	POL 1527	POLICE FUND	CCT-POLICE	214-105	000	505.97
03/03/2016	GENS	63746	POL 1527	POLICE FUND	CCT-INTEREST & PENALTY	214-111	000	48.39
03/03/2016	GENS	63746	POL 1527	POLICE FUND	CCT - IFT POLICE	214-205	000	470.10
03/03/2016	GENS	63746	POL 1527	POLICE FUND	DUE TO TAXPAYERS - MTT & STC REFUNDS	275-002	000	(0.12)
					CHECK GENS 63746 TOTAL FOR FUND 703:			4,837.68
03/03/2016	GENS	63747	KDL 1527	KENT DISTRICT LIBRARY	KDL - TAXES	223-110	000	12,043.21
03/03/2016	GENS	63747	KDL 1527	KENT DISTRICT LIBRARY	KDL - TAX INTEREST	223-111	000	135.18
03/03/2016	GENS	63747	KDL 1527	KENT DISTRICT LIBRARY	KDL - IFT TAXES	223-210	000	1,310.71
03/03/2016	GENS	63747	KDL 1527	KENT DISTRICT LIBRARY	DUE TO TAXPAYERS - MTT & STC REFUNDS	275-002	000	(0.35)
					CHECK GENS 63747 TOTAL FOR FUND 703:			13,488.75

04/05/2016 CHECK DISBURSEMENT REPORT FOR CASCADE CHARTER TOWNSHIP
 CHECK DATE FROM 03/01/2016 - 03/31/2016
 MARCH 2016 PAYABLES, PAYROLL, AND TRANSFERS

Check Date	Bank	Check #	Invoice	Payee	Description	Account	Dept	Amount
03/03/2016	GENS	63748	MI 1527	STATE OF MICHIGAN	IFT SET & OPER TAX CALED OPER	228-201	000	4,778.46
03/24/2016	GENS	3293(A)	DELQTAX	KENT COUNTY TREASURER	DELQ TAX - REAL 41-19-30-300-015 SOULE	230-002	000	3,639.86
03/24/2016	GENS	3293(A)	DELQTAX	KENT COUNTY TREASURER	DELQ TAX - REAL 41-19-18-477-024 MAMC	230-002	000	18,110.59
				CHECK GENS 3293(A) TOTAL FOR FUND 703:				21,750.45
					Total for department 000:			200,032.06
					Total for fund 703 CURRENT TAX COLLECTION FUND			200,032.06
				TOTAL - ALL FUNDS				688,917.67

*#-INDICATES CHECK DISTRIBUTED TO MORE THAN ONE FUND

#-INDICATES CHECK DISTRIBUTED TO MORE THAN ONE DEPARTMENT

Transactions Log for Payroll Deductions
MONTH ENDING: MARCH 2016

Direct Deposit

Date Submitted	<u>3.8.16</u>	Transaction#	_____	Amount	<u>62,215.29</u>
Date Submitted	<u>3.22.16</u>	Transaction#	<u>1070515</u>	Amount	<u>53,798.86</u>
Date Submitted	_____	Transaction#	_____	Amount	_____

Deferred Comp

Date Submitted	<u>3.22.16</u>	Transaction#	<u>G87D2</u>	Amount	<u>1269.10</u>
Date Submitted	<u>3.28.16</u>	Transaction#	<u>G898I</u>	Amount	<u>1229.10</u>
Date Submitted	_____	Transaction#	_____	Amount	_____

Payroll Taxes

Date Submitted	<u>03.10.16</u>	Transaction#	<u>12219011</u>	Amount	<u>30,777.46</u>
Date Submitted	<u>03.22.16</u>	Transaction#	<u>52063316</u>	Amount	<u>25,021.77</u>
Date Submitted	_____	Transaction#	_____	Amount	_____

HSA

Date Submitted	<u>3.8.16</u>	Transaction#	<u>1061390</u>	Amount	<u>2765.00</u>
Date Submitted	<u>3.22.16</u>	Transaction#	<u>1070531</u>	Amount	<u>2515.00</u>
Date Submitted	_____	Transaction#	_____	Amount	_____

ICMA RC

Date Submitted	<u>3.8.16</u>	Transaction#	<u>1061392</u>	Amount	<u>498.00</u>
Date Submitted	<u>3.22.16</u>	Transaction#	<u>1070522</u>	Amount	<u>498.00</u>
Date Submitted	_____	Transaction#	_____	Amount	_____

MERS

Date Submitted	<u>3.31.16</u>	Transaction#	<u>00056583-2</u>	Amount	<u>27,569.85</u>
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Monthly Check Register – Gross

Date Submitted	<u>3.22.16</u>	Amount	<u>327,385.28</u>
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Clerk's Office
Date 3.31.16.



CASCADE CHARTER TOWNSHIP
2865 Thornhills SE Grand Rapids, Michigan 49546-7140

Date: April 13th, 2016
To: Supervisor Beahan and Township Board Members
From: Ben Swayze, Township Manager
Subject: Township Utility Extension Participation Policy

FACTS:

Occasionally the Township receives requests from developers, businesses and/or residents to extend the public water and sewer utilities in the Township. The requests can be related to numerous issues including new development, environmental issues and quality of life issues. Often times the proposal comes with a request for the Township to participate in the extension of the utilities.

Because of the frequency of requests, last year the Infrastructure Committee undertook the task of developing a policy to establish guidelines for the Township to consider participation in water and/or sewer utility extension requests that are received by the Township. The policy was developed to adopt a clear policy goal, establish guidelines for the Township to consider participating in a utility extension request, delineate the ways in which the Township can consider participating in a project and establish a process for considering a utility extension proposal.

Attached for your review are:

- Proposed Township Participation in Water and Sewer Utility Extension Policy

ANALYSIS & CONCLUSIONS:

The proposed Township Participation in Water and Sewer Utility Extension policy was developed and reviewed by the Township staff and Department Heads most likely to participate in a utility extension project.

The policy was review by the Infrastructure Committee at their March meeting and it was recommended that the Township Board approve the proposed policy.

The policy was reviewed by the Finance Committee at their March meeting and it was recommended the Township Board approve the proposed policy with the following changes:

- Under **Section III (C) – Process for Consideration** there should be a step for the Manager to consider the merits of the petition on its face before the administrative review. This will ensure staff and consultant time (and money) will not be spent on proposals with no merit.

The recommended change was incorporated into the final draft of the policy.

FINANCIAL CONSIDERATIONS:

The approval of the Township Participation in Water and Sewer Utility Extension Policy itself has no financial ramifications. The Township could see costs associated with projects the Township chooses to participate in based on the policy.

RECOMMENDED ACTION:

Approve the Cascade Charter Township Utility Extension Participation Policy.

	CASCADE CHARTER TOWNSHIP, MICHIGAN			
	POLICIES AND PROCEDURES		# OF PAGES: <u>3</u>	POLICY #: <u>Board 2016-01</u>
	SUBJECT: Township Participation in Water and Sewer Utility Extension Request		APPROVED BY: TOWNSHIP SUPERVISOR , ROBERT BEAHAN	
	DEPARTMENT: Administrative	SUPERCEDES: None	DATE OF ISSUE: TBD	DATE OF EFFECT: Immediate

I. PURPOSE

The purpose of this policy is to establish guidelines for the Cascade Township Board of Trustees to consider participation in water and/or sewer utility extension requests that are initiated by residents, businesses, developers or entities other than the Township or City of Grand Rapids.

II. POLICY STATEMENT

It is the policy of Cascade Township that we will consider participating, financial or otherwise, in water and/or sewer utility extension projects that are initiated by residents, businesses, developers or entities other than the Township or City of Grand Rapids based on the guidelines and procedure set forth within.

III. PROCEDURES

A. Guidelines For Participation – The Township may choose to participate in a utility extension project for a variety of reasons. Below is an outline, in no particular order, of the objectives that the Township will consider when deliberating participation in a project.

1. **Economic Development** – Does the proposed utility extension meet any economic development goal or objective of the Township?
2. **Environmental Protection** – Does the proposed utility extension remedy a known or anticipated environmental issue in the Township?
3. **Utility Master Plan** - Does the proposed utility extension provide an improvement to the overall system for the current utility customers? Improvements could include system looping, redundancy, improved pressure, etc...
4. **Connection for Existing Structures** – Does the utility extension provide an opportunity for structures not currently on the utility system network to connect?
5. **Township Planning Goals** – Does the utility extension meet goals and objectives as outlined in other planning documents of the Township including, but not limited to, the Township Board Strategic Plan, Township Master Plan, DDA Development Plan and Parks and Recreation Master Plan?

6. **“Completion” of Proposed Extension** – Does the proposed utility extension include only water or only sewer and should the Township participate to include the utility not requested.
7. **Cost of Proposed Extension** – Is the cost of the proposed utility extension prohibitively high?
8. **Financial Participation of Requestor** – What level of financial participation for the proposed utility extension is the requestor offering?
9. **Synergy of Project** – Does the proposed utility extension correlate with another current or planned Township or private development project.

B. Avenues For Participation – Should it be determined that the Township should participate in a utility extension project, there are several different avenues for the Township to consider as methods for participation. Below is an outline, in no particular order, of the methods of participation the Township may consider.

1. **Direct Subsidization of Costs** – The Township can consider subsidizing the construction cost of a utility extension through the Water/Sewer Improvement Revolving Fund, the DDA Fund or the General Fund.
2. **System Funding** – The Township can consider system funding for part or all of a project. System funding is funding provided by the City of Grand Rapids and recovered through utility rate increases. System funding should be considered only when there is an improvement to the overall system.
3. **Financing** – The Township can consider financing a project through the utilization of a Special Assessment District.
 - a. Additionally, the Township can consider a deferred Special Assessment to either a predetermined time or to the time of connection to the system.
4. **Elimination or Reduction of Fees** – The Township can consider either reducing or eliminating the Front Footage fees charged by the City of Grand Rapids and/or fees for connection charged by the Township.
5. **Engineering** – The Township can consider providing planning and/or engineering for a proposed utility extension.
6. **Permitting** – The Township can consider applying for and covering the costs for any needed permits for a proposed utility extension.

C. Process For Consideration – Below is an outline of the process the Township should utilize when considering a request for participation in a utility extension request.

1. **Petition** – The request for a utility extension with Township participation should be received by the Township in the form of a *Petition for Public Improvement*.

2. **Preliminary Review** – Once reviewed and processed, the Township Manager or his/her designee will review the request and make a determination whether the request should be considered based on section III (A).
3. **Administrative Review** – If approved to move forward, Township administrative staff will review the request. Review will include consultation with the City of Grand Rapids, preliminary/conceptual engineering to determine feasibility and costs as well as a review of potential participation avenues.
4. **Infrastructure Committee Review** – The administrative review and recommendations will be presented to the Infrastructure Committee by Township Staff. The Infrastructure Committee will be responsible for recommending the necessity for the project to the Township Board.
5. **Finance Committee** – If the proposed project receives a positive recommendation from the Infrastructure Committee, the administrative review and recommendation will be forwarded to the Finance Committee for review. The Finance Committee will be responsible for recommendation the type and level of participation to the Township Board.
6. **Township Board** – In consideration of the administrative review and recommendations, Infrastructure Committee recommendations and Finance Committee recommendations, the Township Board, in its sole discretion, is responsible for approving any utility extension project as well as any Township participation in the project.

IV. REGULATION

A. Enforcement of Policy

1. The Township Manager shall be responsible for the oversight of the provisions contained within this policy.
2. The Township Manager, Community Development Director and DDA/Economic Development Director shall be responsible for the implementation of the provisions contained within this policy

B. Adoption/Amendment of Policy

The Township Board of Trustees shall be responsible for the adoption and amendment of this policy upon the recommendation of the Infrastructure Committee and/or Finance Committee.



CASCADE CHARTER TOWNSHIP

2865 Thornhills SE Grand Rapids, Michigan 49546-7140

Date: April 13th, 2016
To: Supervisor Beahan and Township Board Members
From: Ben Swayze, Township Manager
Subject: Request to Construct Boat Ramp on Township Floodway Property

FACTS:

The Township is in receipt of a request from Jack Bos, through his builder Tim Brinks, to construct a concrete boat launch on the Township floodway property at the riverbank between the Mr. Bos's property, located at 3095 Thorncrest Dr. SE, and the Thornapple River.

The Township has a policy for the use of floodway property by the adjoining property owners. The Policy states that:

Adjoining private property owners who wish to use the floodway properties for their use and enjoyment must receive approval from the Township Board before they make any land changes to the floodway properties. The following guidelines shall be followed unless modified by the Township Board.

- (a) No trees or earth moving activities shall be done on the floodway property without the written consent of the Township Board.*
- (b) No trees larger than 2" in diameter shall be removed from the floodway properties. Dead or diseased trees may be removed only after receiving approval by the Township Manager.*
- (c) The use of fertilizers and herbicides is prohibited on the floodway properties.*
- (d) Permanent structures, including decks, patios, basketball courts tennis courts and other similar uses is prohibited on the floodway properties.*

Mr. Bos is proposing constructing a concrete boat launch that would be approximately 22' long by 10' wide and 5" of concrete that would sit on the riverbed bottom.

Attached for your review are:

- Letter of request from Tim Brinks on behalf of Jack Bos and sketch drawing of the proposed ramp.
- Overhead map of property and proposed project site, including boat ramps at nearby properties
- Copy of the ***Policies Regarding Township Riverfront/Floodway Properties***

ANALYSIS & CONCLUSIONS:

The request from Mr. Bos meets the guidelines for approval as set by the Township policies. A cursory review of the project area shows that there are 2 similar concrete boat launches on Township property in this particular area. In addition, concrete boat launches are a common item

on riverfront property within the Township. The Township last approved a concrete boat launch for Duane Vandenburg in 2013, whose property is a few houses away from Mr. Bos's property.

Construction in the floodway is governed by the MDEQ. Even with Township permission, Mr. Bos will need to obtain a MDEQ permit before construction can commence. The builder indicated the MDEQ has preliminarily said they will be able to obtain a MDEQ permit, but they need to receive Township permission to use the property before they can apply.

FINANCIAL CONSIDERATIONS:

There are no direct financial ramifications of approving the request.

RECOMMENDED ACTION:

Approve the request from Mr. Jack Bos to construct a concrete boat launch on Township floodway property adjacent to his property, pending the receipt of a MDEQ permit for construction.

Tim Brinks

To: Ben Swayze
Subject: RE: Boat ramp

Hi Ben

I have drawings done for the Bos Ramp and have talked to Joshua Crane with the DEQ. Joshua said I could submit the application with the DEQ but I needed to be aware a permit could not be issued without township approval.

There are 2 other boat ramps at residences near the Bos' The Vanderbergs at 3157 Thorncrest had theirs installed just last year.
3094 Thorncrest also has a ramp.

Jack Bos works in Royal Oak MI so if you would like to get together with Jack and Julie Bos it would be helpful if we could schedule either first or last time in the day.

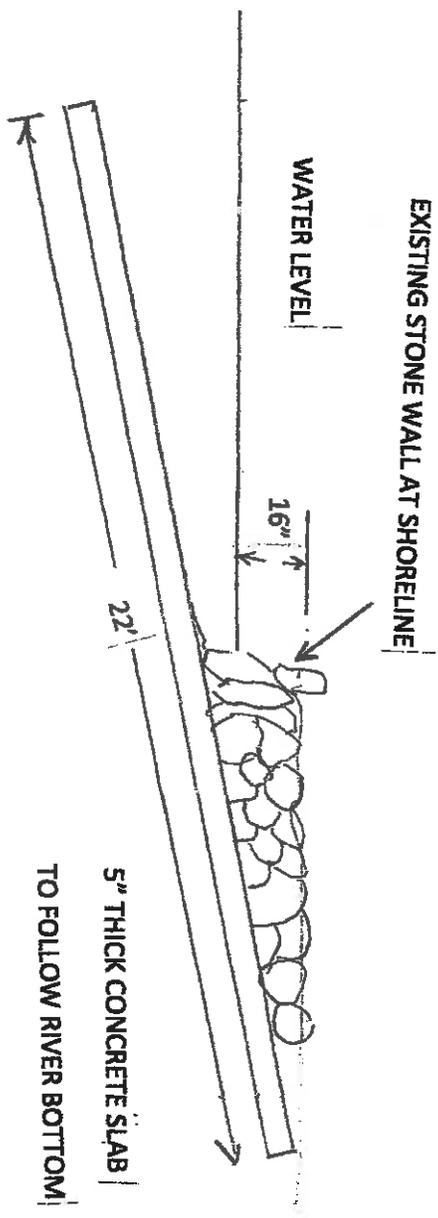
Let me know if you need more from me.

Thanks

tim brinks
560 3301

brinksbuiders.com

NO EXCAVATION WILL OCCUR AT THE RIVER BED,
CONCRETE TO BE LAID ON TOP OF EXISTING RIVER BOTTOM.



MR. AND MRS. BOS

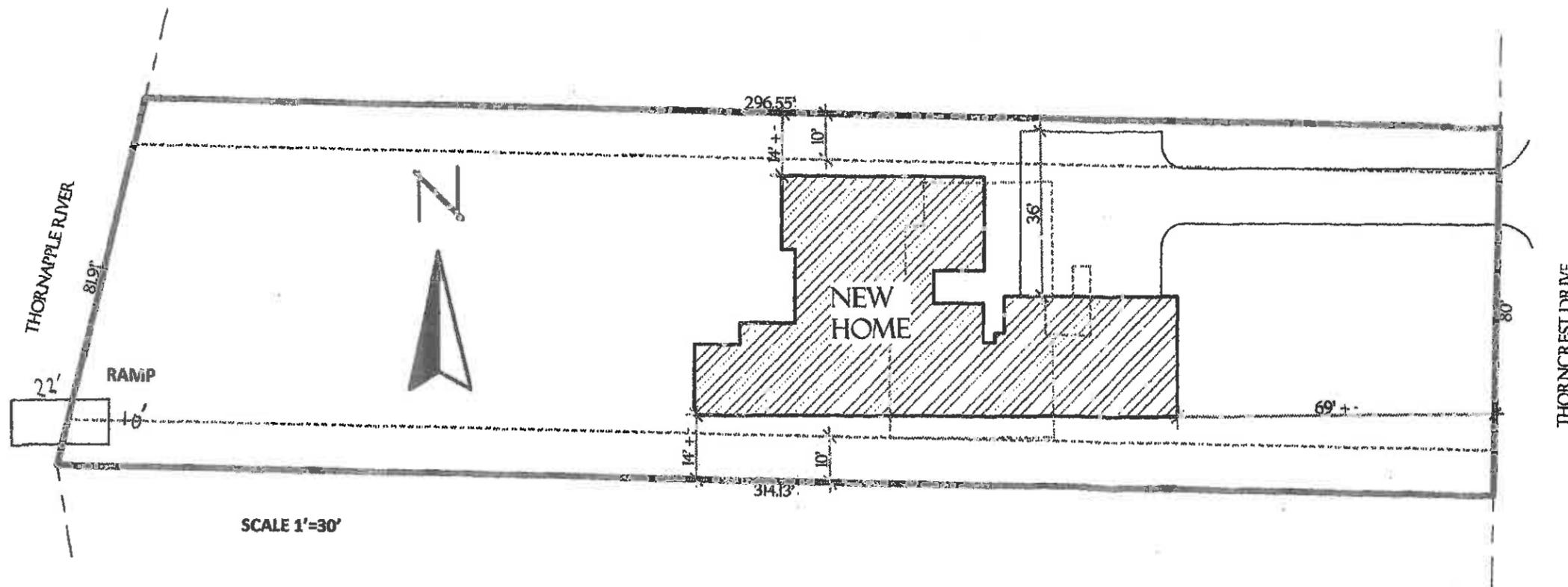
3095 THORNCREST DR SE

GRAND RAPIDS MI 49546

MR. AND MRS. BOS

3095 THORNCREST DR SE

GRAND RAPIDS MI 49546



SCALE 1'=30'

Jack Bos - Boat Ramp



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This map does not represent a legal document. It is intended to serve as an aid in graphic representation only. Information shown on this map is not warranted for accuracy and should be verified through other means. Any duplication is restricted under copyright laws and the Enhanced Access to Public Records Act, PA 462 of 1996, as amended.

Printed 4/8/2016 8:54:33 AM

Policies Regarding Township Riverfront / Floodway Property
(adopted June 26, 1996)

Township - owned riverfront property that is part of the floodway for the Cascade Dam may be used by the adjoining private property owners subject to the following conditions:

1. The floodway properties may not be developed in a manner that is contrary to the "established and prevailing neighborhood standards" of the area in which the subject property is located. For the purposes of this policy, "established and prevailing neighborhood standards" is defined as the accepted yard and lawn maintenance practices of all property within 500 feet of the subject property in question.
2. Adjoining private property owners to the floodway properties shall not prevent township officials or its citizens from walking on the floodway properties. (This statement is not meant in any way to allow township officials and its citizens the right to trespass on private property to gain access to these floodway properties.)
3. The construction of docks for watercraft on the floodway properties is permitted provided the dock is lawfully constructed in accordance with the laws of the State of Michigan and with all ordinances of the township.
4. Adjoining private property owners who wish to use the floodway properties for their use and enjoyment must receive approval from the Township Board before they make any land changes to the floodway properties. The following guidelines shall be followed unless modified by the Township Board.
 - (a) No trees or earth moving activities shall be done on the floodway property without the written consent of the township board.
 - (b) No trees larger than a 2- inch diameter shall be removed from the floodway properties. Dead or diseased trees may be removed only after receiving approval by the Township Manager.
 - (c) The use of fertilizers and herbicides is prohibited on the floodway properties.
 - (d) Permanent structures, including decks, patios, basketball courts, tennis courts and other similar uses is prohibited on the floodway properties.



CASCADE CHARTER TOWNSHIP

2865 Thornhills SE Grand Rapids, Michigan 49546-7140

Date: April 13th, 2016
To: Supervisor Beahan and Township Board Members
From: Ben Swayze, Township Manager
Subject: Contract with Hamilton Helicopter Inc. for Gypsy Moth Suppression Services

FACTS:

In the fall of 2015 Cascade Township contracted with Aquatic Consulting Services LLC to conduct gypsy moth egg mass surveys to determine areas that require aerial spraying for 2016. As a result of that survey, it has been recommended that approximately 384 acres of the Township be sprayed for gypsy moth suppression.

The Township had utilized Mid-Michigan Helicopter Inc. for Gypsy Moth Suppression services since the onset of our program until last year. Last year Mid-Michigan Helicopter was bought by Hamilton Helicopter. Our spray program last year was successful with no known issues reported from the contractor or residents in the affected areas. The Township last sprayed for gypsy moths in spring of 2015, when we sprayed 687 acres. The follow up report from Aquatic Consulting Services in summer of 2015 indicated the spray program was successful in suppressing the gypsy moth population in a majority of the indicated spray areas. A portion of one area sprayed last year will need to be sprayed again this year, possibly a result of residents who chose to opt their properties out of the program.

The proposed contract would provide for gypsy moth suppression services for the Township at a cost of \$63.00 per acre, which is a \$3.00 per acre increase from 2015. The cost to spray the entire recommended area would be \$24,192. The program will take place in the time period between May 1st and June 15th, with a more specific date to be available when the weather breaks. The Township is required to notify all residences in the spray block areas of the program. Any objectors to the spray program are eligible to be removed from the spray block at the discretion of the Township.

Attached for your review are:

- Proposed agreement with Hamilton Helicopter Inc. for Gypsy Moth Suppression Services.
- Map of the proposed spray blocks for 2016
- Gypsy Moth information brochure published by the MSU Extension
- Information regarding Bacillus Thuringiensis pesticide.

ANALYSIS & CONCLUSIONS:

The Township has participated in the gypsy moth spray program in conjunction with Mid-Michigan Helicopter Inc/Hamilton Helicopter. and Aquatic Consulting Services going on 18 years. The Township has participated in the program because of the acknowledgement of the devastating effect the gypsy moth population could have on the canopy cover of the Township.

The partnership with both Aquatic Consulting Resources and Hamilton Helicopters Inc. has allowed us to efficiently allocate our financial resources to this program. The survey ensures that the aerial spray program effectively targets areas of infestation above the set thresholds, and on several occasions has saved us from unnecessarily spraying, as was the case in 2013 and 2010-11

FINANCIAL CONSIDERATIONS:

The proposed agreement with Hamilton Helicopter Inc. is for a rate of \$63.00 per acre, which is \$3.00 per acre more than the 2015 contract. If the Township chooses to spray the entire recommended area, the cost of the program would come to \$24,192. The Township has budgeted \$25,000 for this program in 2016.

RECOMMENDED ACTION:

Approve the agreement with Hamilton Helicopter Inc. for Gypsy Moth Suppression Services to spray 384 acres at a cost of \$24,192



Hamilton Helicopters Inc.

P.O. Box 264
4488 134th Ave
Hamilton, MI 49419
616-291-5808
khomkes@gmail.com

March 4, 2016

Hi Benjamin

I have enclosed a service agreement/contract for the 2016 Gypsy Moth Program. BT prices have increased some, which is reflected in the applied price. If you have any questions or need additional information, please feel free to contact me in anyway.

Thanks again!

A handwritten signature in black ink that reads 'Kurt Homkes'. The signature is written in a cursive, flowing style.

Kurt Homkes
Hamilton Helicopters

GYPSY MOTH SUPPRESSION SERVICES AGREEMENT

This agreement is made as of _____, 2016, between Cascade Charter Township, a Michigan municipal corporation at 2865 Thornhills Ave. SE, Grand Rapids Michigan. 49546. (Hereafter referred to as the Township), and Hamilton Helicopter Inc. (hereafter referred to as Hamilton Helicopters).

Whereas the Township desires to control the gypsy moth population within its boundaries, and Hamilton Helicopters is interested in and capable of participating in a Gypsy moth suppression program with the Township.

NOW, therefore, the parties agree as follows.

- A With regard to the gypsy moth suppression program, the Township shall provide or arrange for the following to be performed.
- (1) Determination of spray blocks.
 - (2) Provide homeowner notification of the spraying program, and make all public notices required, and make sure there are no objectors in the spray blocks.
 - (3) Provide location of all objectors in and outside the spray blocks, and exclude and defend Hamilton Helicopters from any action, legal or otherwise, that should arise from the "no exclusion policy".
 - (4) Provide digitized maps of the spray blocks.
 - (5) Provide traffic and crowd control at the time of spraying, in the spray blocks and at the load site if deemed necessary by the parties.
 - (6) Provide a central loading site.
- B With regard to the gypsy moth suppression program, Hamilton Helicopters shall.
- (1) Have and maintain insurance coverage during the term of this agreement in the amount of \$2,000,000.00 single limit bodily injury and property damage. The Township and its employees shall be named as "additional insured". All liability for Hamilton Helicopters and its employees will be limited to the insurance policy provided.
 - (2) Will apply to the F.A.A. for a (workable) congested area spray plan for the time period from May 1, 2016 to June 15, 2016.
 - (3) Provide Bacillus Thuringiensis 'BT' at the rate of 19 B.I.U. per acre to cover 384 acres for the Township.
 - (4) Coordinate the spray timing with Aquatic Consulting Services.
- C In addition to providing the services in paragraph A above, the City shall pay Hamilton Helicopters a fee of \$63.00 per acre for providing the services listed in paragraph B. This shall be paid within 30 days of billing.
- D In the event Hamilton Helicopters is prevented from spraying as a result of legal action, court injunction, terrorist related problems or any problems beyond the control of Hamilton Helicopters, the Township will pay \$15.00 per acre to cover some of the costs incurred.

E For the purposes of this contract, the contractor and its employees shall be considered Independent contractors.

F Either party upon Thirty (30) days' notice may terminate this agreement, in addition, this agreement may be amended by mutual consent of the parties.

IN WITNESS THERE OF, the parties here have executed this agreement by and through their authorized representatives as of the date written above.

Cascade Charter Township

Hamilton Helicopters Inc.

_____ DATE _____

[Signature] DATE 3/4/16
Its Pres.



Aquatic Consulting Services LLC

P.O. Box 530, Sanford, MI 48657 989-687-5198

Lake and Pond Improvement
Water Quality Investigation
Environmental Assessments
Wetland Use Evaluations

November 12, 2015

Mr. Ben Swayze,
Township Manager
Cascade Charter Township
2865 Thornhills, S.E.
Grand Rapids, MI 49546

Dear Mr. Swayze:

I have completed the gypsy moth surveys for the 2016 season in Cascade Charter Township. I have enclosed smaller sized maps of the results in this package along with a short report on the conditions in each recommended spray block. Also included in this package is a CD-ROM with electronic versions of the report and the spray block map in JPG format for use on your web site and a printable PDF version. One 18 x 24 inch display map is being sent in a separate package.

I am pleased to report that egg mass numbers are down across the township. We were fortunate to catch the populations on the rise and suppress the growth of the populations before more extensive reactionary spraying would be necessary. It does however appear that a few remnant populations have spread into new areas which we will need to continue monitoring to contain spreading. This is common during the growth phase of an invasive species curve. There are also a couple new populations that will require spraying to limit growth. The annual surveying that Cascade has become accustomed to has been shown to be the best means of control. We have their limits well defined, and the spray should be effective at keeping the overall population in check. We achieved good results in areas sprayed last year and I anticipate further progress this year.

I will hold off for a few of months on digitizing the spray blocks for the pilot's use until you have had a chance to review the map. If it meets with your approval, I will put a final package together for Kurt Homkes of Hamilton Helicopters, Inc. I am told that the cost per acre should stay the same as last year with any increases solely due to the cost of the B.t. product. Kurt will contact you to discuss this season's spray contract.

Thank you again for the opportunity to work for Cascade Township. Please let me know if you need anything further. (989) 687-5198 or gypsymoth@aquaticremedies.com.

Sincerely,

Neal Swanson
Owner/Biologist

Enclosures

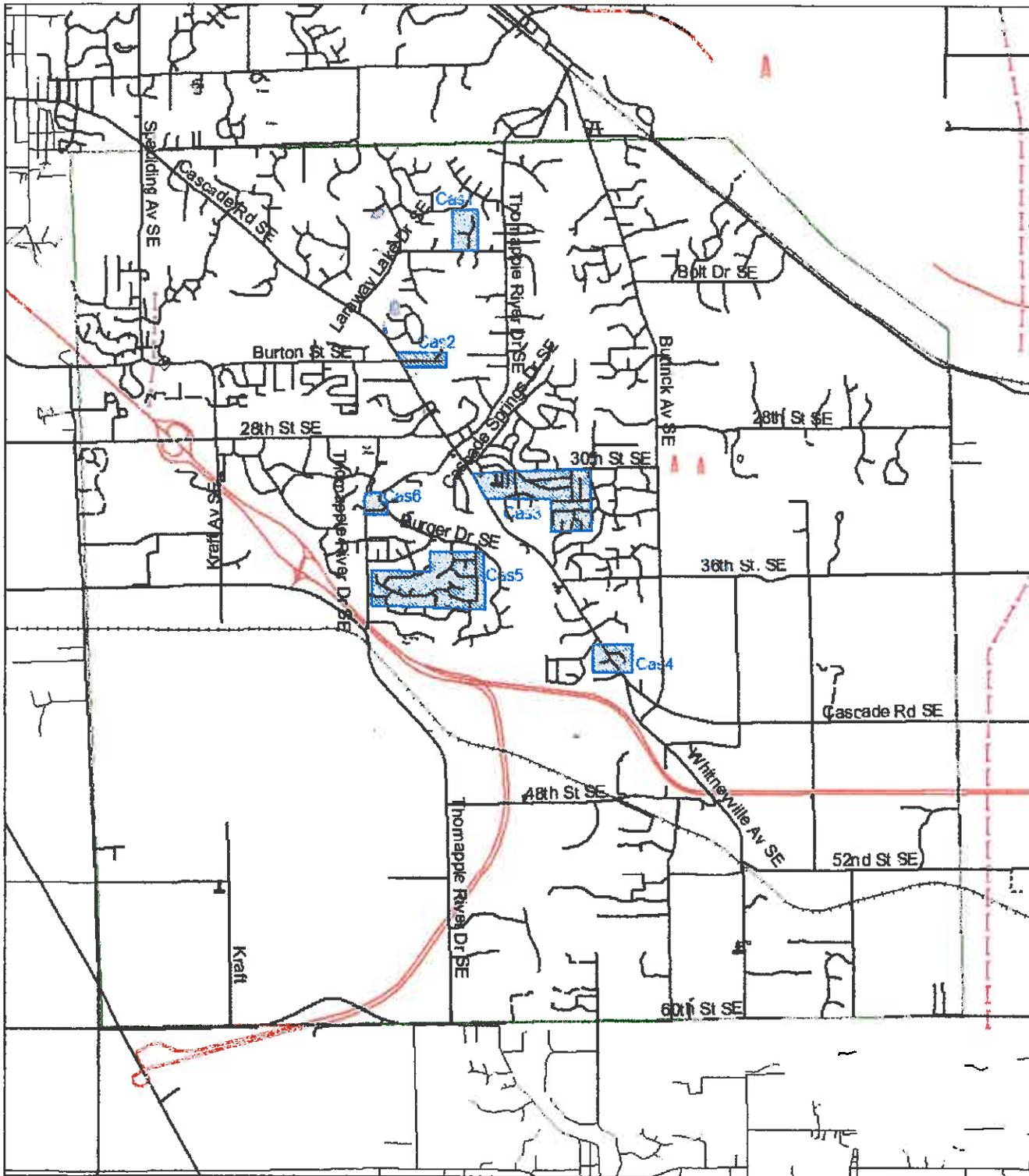
**Cascade Charter Township
Recommended Gypsy Moth Spray Areas 2016**

**By
Aquatic Consulting Services LLC
November 2015**

Block #	Acres	Reason for Spray
Cas1	31	A rising population in prime habitat, spray to prevent buildup.
Cas2	20	An isolated population beginning to multiply, spray to contain and prevent buildup.
Cas3	134	A remnant population in prime habitat. Spray to further suppress population and reduce nuisance.
Cas4	34	A rising population in good habitat, spray to prevent nuisance.
Cas5	152	A remnant population that has spread to surrounding habitat. Spray to contain spread and suppress further growth.
Cas6	13	A rising population in prime habitat, spray to prevent buildup.

Total Acreage = 384 acres

Cascade Township Gypsy Moth Spray Survey Report for 2016 Season



**Shaded Areas are Proposed for
Aerial Spray in Spring 2016**



— Township Border

2015 Aquatic Consulting Services

Gypsy Moth in Michigan

Michigan State University Extension & Michigan State University Department of Entomology
& the Michigan Department of Agriculture

The following information was taken from the
Gypsy Moth in Michigan Homeowner's Guide

**MICHIGAN STATE
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EXTENSION**



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Gypsy Moth Management Starts At Home

You are the first line of defense for protecting your trees and shrubs from damage by gypsy moth, other insects, nematodes and diseases. Being knowledgeable about the life cycle of the gypsy moth will pay off in money saved, labor expended and peace of mind.

Depending upon where you live in Michigan, gypsy moth outbreaks may last from two to several years or may never occur. Why gypsy moth populations explode from time to time is not entirely clear. Outbreaks will eventually collapse, usually from natural causes.

Until a local gypsy moth population crashes, however, there are several techniques that homeowners can employ to keep damage and nuisance to an affordable minimum.

Monitoring

Hopefully, the mind set of dragging the sprayer out of the garage and spraying insecticide on trees and shrubs just because something might be out there lurking is no longer a part of the Michigander mentality. Years ago this was called "insurance spraying" when everybody was spraying chlorinated hydrocarbon insecticides (e.g., DDT) on everything that moved. We all know where that got us!

Take time to inspect your trees and shrubs periodically for the various life forms of gypsy moth. Especially look for the caterpillars when they begin to hatch, usually in early May.

Contrary to popular belief, population explosions in a locality do not happen suddenly! An area will undergo a gradual population buildup for a time before the population goes into a phase of rapid release. This gives vigilant homeowners, neighborhoods and communities time to assess local conditions and take appropriate action.

The gypsy moth is in the egg mass form for nearly nine months, plenty of time to find and destroy them before they hatch in the spring. While it may not be possible to find and destroy all of the egg masses in and around your backyard, this activity will complement management activity taken in the spring.

Management Non-Pesticide Techniques:

Water and Fertilize

We often take trees and shrubs for granted, figuring that they are indestructible and meant to last forever. Trees and shrubs have specific nutrient and water requirements. Take the time to determine what they need, and water and fertilize properly. There are bulletins available at all county extension offices and garden centers. Most insects and diseases select trees and shrubs that are being stressed. Keeping your trees and shrubs healthy will reduce the pests and diseases attracted to your foliage and lessen the damage done if they are attacked.

Sanitation

Keep your yard as clean as possible. Remove discarded items, dead branches (from the ground and out of the trees), stumps, etc., where the adult female moth is likely to lay egg masses. It is very important that homeowners be watchful when obtaining firewood from areas infested by the gypsy moth. A good rule of thumb is to never get more firewood in the summer or fall than you can burn by spring.

Each fall, check recreation vehicles (boats, trailers, campers, etc.) for gypsy moth egg masses. Vehicular movement is how gypsy moth came to Michigan.

Destroy Egg Masses

As mentioned, gypsy moth egg masses are around for nearly nine months before they hatch. Homeowners can help reduce gypsy moth population on their property and in their neighborhood by seeking out and destroying egg masses each year.

When a gypsy moth caterpillar is about to pupate, it will look for a protected area such as a loose flap of bark, something flat nailed to a tree, woodpile of the underside of branches, etc. Once a suitable location is found, it weaves a loose net of silk around itself and

transforms into a pupa. This is the resting state where the caterpillar undergoes the miracle transformation from caterpillar to moth. This takes about two weeks.

Upon emergence, the female gypsy moth is creamy white and has a wingspan of about two inches. The male moth is smaller in size and camouflage brown with black mottling. Both have a distinguishing mark on their forewings: an inverted black V often referred to as a chevron marking.

The female generally deposits egg masses from early July to mid-August depending upon local weather conditions. The female cannot fly, so she will lay egg masses near where she was in the pupal (cocoon) stage.

The adult female lives about a week. Her only purpose in life is to breed as quickly as possible and lay her eggs. She cannot fly, so she emits a chemical odor to attract the nearest male for mating, the male flies off to mate several more times before dying. After mating, the female spends about a day depositing her egg mass, falls to the ground and dies. Neither the male or female moth feed.

Each egg mass can contain from 50-1,000 eggs. The eggs are intertwined in a matting of hair from the body of the female. The hair is a tan-buff color and helps insulate eggs.

The egg masses begin hatching the following May. Hatching coincides with the bud break of aspen and the flowering of serviceberry.

Homeowners are encouraged to search out and destroy egg masses. This is accomplished by scraping them from the surface to which they are attached into a coffee can or similar receptacle. They can be buried or burned. Remember that each egg mass destroyed probably eliminated 400-500 caterpillars. Destroying egg masses is not a cure all. Many times egg masses are overlooked or inaccessible. However, it is a very good and certainly very cheap way to significantly impact the gypsy moth population in your yard and neighborhood.

Continued on page 3

Barrier Bands

Sticky, or slippery bands can be placed around tree trunks to help curtail, though not necessarily prevent, the caterpillars movement into and out of the tree canopy.

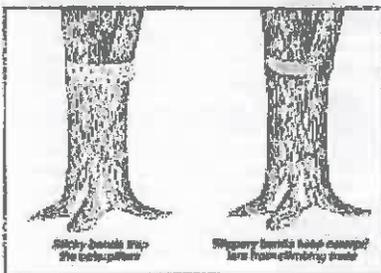
Sticky bands can be purchased or made using a nonporous material that can be wrapped around a tree trunk, then coated with a commercially made, vegetable-based sticky material. **Never put sticky material directly on the tree trunk.** This will permanently stain the bark and may harm the tree.

Sticky bands should not be put on the tree until the caterpillars are about an inch long. Smaller caterpillars usually stay in the tree canopy. Sticky bands eventually lose their effectiveness due to rain and other weather factors, the sticky material has to be reapplied periodically. Bands covered completely with caterpillars need to be cleaned or replaced.

Slippery bands are also intended to interrupt the daily migration of the caterpillar. They prevent the caterpillar from climbing up into the canopy.



Gypsy moth caterpillars use sticky bands to hide during daylight hours. Scrape the caterpillars into a bucket of soapy water.



Sticky bands trap the caterpillars.

Slippery bands help caterpillars slide from climbing trunks.

Hiding Bands

Cloth, or hiding bands, can be homemade from medium weight dark cloth about 12 to 18 inches wide and long enough to completely wrap

around the tree. Fasten each band at chest height around the tree with twine, cord or wire about midway from the bottom of the cloth. Then fold the top part of the cloth down over the bottom half.

Caterpillars descending the tree in the morning in search of a secluded daytime resting spot will hide under the flap of the band. Remove and destroy caterpillars each day by scraping them into a bucket of soapy water.

Pesticide Techniques

Biological Pesticide

Many pesticides are registered for use against gypsy moth in Michigan. A biological pesticide commonly used on gypsy moth is *Bacillus thuringiensis* var. *kurstaki*. B.t. is a common soil bacteria. It is commercially formulated and sold under various labels (e.g., Dipel, Foray, Thuricide and Bactur to name a few). B.t. can be applied from the ground or by aerial spraying.

B.t. formulations are quite safe to humans. There is no apparent human toxicity, although there have been rare cases of allergic reaction by humans to certain formulations of B.t. In fact, B.t. is only known to be toxic to the caterpillars of moths and butterflies. While there are many species of caterpillars affected by B.t., this pesticide is the most "selective" product available.

To be effective in minimizing defoliation, B.t. must be applied when caterpillars are less than one inch long. As caterpillars get larger, the efficacy of B.t. diminishes. B.t. has a reported residual activity (i.e. how long it remains potent) of about a week. It is broken down by sunlight. In instances where there are very high gypsy moth populations, two applications five days apart might be needed.

Most chemical pesticides are 95% - 99% effective. B.t.k. is probably is 80% - 85% efficient in field applications. This is a desirable attribute of B.t.k. That may sound like a contradiction, but it isn't. Pesticides that are highly efficient will eventually work against the pest manager. Insects, through natural selection, will develop resistance to the pesticide. By

leaving 15% of the population intact, selection for resistance is slowed.

B.t.k. has been used against gypsy moth for over twenty-five years and no resistance has been discovered. There is, quite naturally, a trade off. When B.t.k. is applied there are still some caterpillars crawling around. However, nuisance is reduced to a minimum, defoliation lowered below damaging levels.

Soap and Water

In addition to destroying egg masses, homeowners can use other non-pesticide methods to reduce defoliation of their yard trees.

Watch for the appearance of the small caterpillars in the spring. A garden hose has sufficient water pressure to knock them off the foliage. Spraying them with water under pressure kills many of them.

Garden centers carry various brands of "insecticidal soap." An insecticidal soap is not a soap with a synthetic insecticide but instead refers to the ability of the soap to kill certain insects. Spraying gypsy moth caterpillars with a hose with an attachment to dispense soap can be effective. Always follow label directions on the insecticidal soap container. Small and large caterpillars can be drowned when submerged into a bucket of soapy water.

Chemical Insecticides

A number of chemical pesticides are registered against gypsy moth in Michigan. Many are available at your local garden center or nursery. Some of the most common are formulations of acephate, carbaryl, and malathion.

If you choose to use chemical insecticides, apply them judiciously and wisely. Besides gypsy moth they can have a potential impact on a variety of beneficial insects, including valuable predators, parasites and honeybees.

Regardless of what insecticide you choose, read the label instructions and follow them exactly. If you have any potential personal health concerns regarding pesticides, discuss them with a physician or contact your local health department.

Trees and shrubs defoliated by gypsy moth

Although gypsy moth caterpillars feed primarily on deciduous tree species such as oak or aspen, this insect is known for its wide-ranging appetite. When populations of gypsy moth are very high, the caterpillars quickly devour the leaves of their preferred host tree species. Once their favored food source disappears, the hungry caterpillars do not hesitate to seek out new sources of food. When this occurs, almost any deciduous or conifer tree, shrub or other landscape plant may be at risk of suffering some amount of defoliation.

Consequently, it is difficult to state exactly how susceptible a tree or shrub species is to defoliation by gypsy moth caterpillars. Therefore, the following list is offered only as a guide to homeowners. This list does not guarantee that any species listed as minimally at risk will never be defoliated by the gypsy moth.

More importantly, homeowners need to recognize that gypsy moth caterpillars do have preferences for certain types of trees and thrive best on those species. Typically these favored food sources are usually the first ones attacked in a homeowner's yard, especially tall, large crowned trees. These are the trees most likely at risk to defoliation.

Generally speaking, when gypsy moth caterpillars move into less preferable food sources, the caterpillars do not thrive as well and often only cause minor damage.

However, regardless of this insect's food preferences, close inspection of yard trees and outdoor fixtures and prompt action by the homeowner to destroy egg masses and small caterpillars is crucial. This is the real key to minimizing the discomfort and, to some degree, the defoliation caused by large numbers of gypsy moth caterpillars.

If a homeowner is able to minimize the amount of defoliation from the gypsy moth, it will lessen the overall impact on tree health. When a hardwood tree is heavily defoliated, the needed energy to regrow a new set of leaves causes stress. This stress often weakens a tree which may lead

to additional tree health problems.

Moreover, conifer species, such as spruce or pine, are at greater risk than hardwoods because conifers are not able to regrow needles lost to defoliation. Thus complete defoliation of conifers by gypsy moth is usually fatal.

Trees and Shrubs Most at Risk to Defoliation

All Oak (*Quercus*).

All aspen and poplar (*Populus*).

Gray, paper (white), and river birch (*Betula*).

All willow (*Salix*).

All apple and crabapple (*Malus*).

All thornapple and hawthorne (*Craetagus*).

White pine (*Pinus*).

Blue spruce (*Picea*).

American beech (*Fagus*).

Basswood (*Tilia*).

Sweetgum (*Liquidambar*).

Juneberry or serviceberry (*Amelanchier*).

Witch hazel (*Hamamelis*).

Hazelnut (*Cornus*).

Mountain ash (*Sorbus*).

Trees and Shrubs Somewhat at Risk to Defoliation

Black walnut and butternut (*Juglans*).

All cherry and plum (*Prunus*).

Norway, red and sugar maple (*Acer*).

Hophornbeam or ironwood (*Ostrya*).

Alder (*Alnus*).

Elm (*Ulmus*).

Hickory (*Carya*).

Eastern redbud (*Cercis*).

Sassafras (*Sassafras*).

Paw paw (*Asimina*).

White and Norway spruce (*Picea*).

Balsam fir (*Abies*).

Eastern hemlock (*Tsuga*).

Red, jack, scotch and Austrian Pine (*Pinus*).

Trees and Shrubs at Minimal Risk to Defoliation

Ash (*Fraxinus*).

Tulip tree or yellow poplar (*Liriodendron*).

Sycamore and London plane tree (*Plantanus*).

Northern catalpa (*Catalpa*).

Honey locust (*Gleditsia*).

Black locust (*Robinia*).

Horsechestnut (*Aesculus*).

Dogwood (*Cornus*).



Gypsy moth caterpillars prefer to eat leaves of certain tree species, including poplar.

Eastern redcedar (*Juniperus*).

Juniper (*Juniperus*).

Yew (*Taxus*).

Lilac (*Syringa*).

Azalea (*Azalea*).

Rhododendron (*Rhododendron*).

Arborvitae (*Thuja*).

Viburnum (*Viburnum*).

Homeowners considering planting trees or shrubs in areas prone to high gypsy moth population build-ups should choose species that are at minimal risk to defoliation. Contact your local MSU Extension office for bulletins and information on tree selection, planting and care.



Be careful about quick fixes for your gypsy moth problem

Struggling with the effects of the gypsy moth can be frustrating enough without unscrupulous people trying to take advantage of the homeowner by offering quick fixes.

There are no quick fixes, declares Russell Kidd, MSU Extension district forestry agent in Roscommon County.

He advises homeowners to be wary of products or services that promise or imply they can end gypsy moth problems in the backyard or woodlot.

Be careful of salespeople who want to spray your trees with chemicals that are "guaranteed" to control the gypsy moth. In some cases, these may be worthless or even dangerous.

Homeowners should ask what chemical is to be used, its hazard, what its effect will be and what precautions will be taken to minimize spray drift to nearby objects.

Homeowners should also ask to see proof that the company and the individual are certified and licensed to

apply such a material. Michigan law requires that commercial pesticide spraying companies be certified and licensed by the Michigan Department of Agriculture.

Remember that chemical sprays are effective only during the caterpillar stage of the gypsy moth. Spraying trees before the eggs hatch or after the caterpillars have pupated or emerged as adults moths is worthless. (See the gypsy moth life cycle chart).

Be wary of unrealistic claims about products or techniques to rid your property of the gypsy moth by themselves.

Some products, such as sticky bands, are indeed useful, but they will not control the gypsy moth completely, especially when used alone. Only a combination of control treatments, used diligently by the homeowner, will achieve satisfactory control of the gypsy moth.

Other products may not do what their names imply. Take, for instance, the gypsy moth trap. The

purpose of the trap is to attract and capture the adult gypsy moth. Traps are used to monitor gypsy moth populations. They will not control or eliminate next year's gypsy moth problem in your yard because one adult male moth can mate with many female moths and one or two traps will not capture enough males to interfere with mating or cause the population to decline significantly next year.

Be very careful about timber buyers who offer to buy standing trees that have been defoliated. Unscrupulous timber buyers may use gypsy moth infestations in an area as a scare tactic to persuade people to sell valuable timber at low prices before the tree die.

Timber owners should always consult with professional foresters before they decide to sell any standing timber.

Your county MSU Extension office can provide the names of professional foresters in your area.



Be careful with pesticides!



Use proper recycling procedures for disposing of pesticide containers.

This publication contains pesticide recommendations based on research and pesticide regulations. However, changes in pesticide regulations occur constantly. Some pesticides mentioned may no longer be available, and some may no longer be legal. If you have questions about the legality and/or registration status for using pesticides, contact your MSU Extension county office.

To protect yourself and others and the environment, always read the label before applying any pesticide. For information about pesticide labels see Extension Bulletin E-2182 *Reading a Pesticide Product Label*.

For more information about pesticide safety, see Extension Bulletin E-2215, *Using Pesticides Safely: A Guide for the Applicator*; Extension Bulletin E-1546 *Take Cover! Protect Yourself from Exposure (Pesticides)*.

For more information about safe disposal of pesticide containers see Extension Bulletin AM-95 *Rinsing and Recycling Pesticide Containers*.

Dozens of other Extension bulletins on safe application of pesticides are also available.

Gypsy Moth Life Cycle

1) Small Larvae. This stage lasts for 7-10 days after eggs hatch in early May (or sooner in warmer weather). Larvae are less than 1/2 inch long and usually black. They linger around the egg cluster for several days if the weather is cool or rainy, then climb trees or other objects, trailing silken threads as they move. When the larvae reach the top of the tree, they do not feed but drop on silken threads and are dispersed by the wind.

2) Large Larvae. Feeding at night for 4 to 6 weeks, large larvae generally rest during the day unless populations are very large, then they wander constantly. They grow until they are about 2 inches long.



1. Small Larvae—May



2. Large Larva—June



3. Pupae—July



4. Adults—August

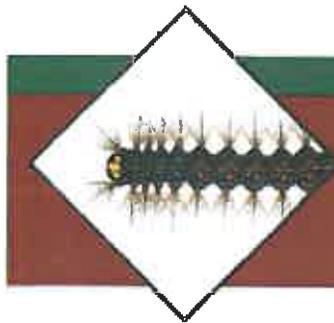


5. Egg masses—August

3) Pupae. During this stationary stage the larvae are changing into moths. This generally occurs from the end of July until early August. After about 10 days in the dark colored pupal cases, the adult moths emerge, leaving the pupal cases behind.

4) Adults. The female moth is creamy white and does not fly but emits a chemical called a pheromone to attract a male moth. The male is brownish and flies in a zigzag pattern looking for the female. A single male can mate with many females. Both sexes have chevron markings (V or notch-shaped marking) on each forewing.

5) Egg masses. The buff-colored egg masses contain between 50 and 1,500 eggs. The female deposits the eggs on any convenient surface. The masses are usually covered with hairs from the female's abdomen. The egg masses are quite cold resistant and can survive temperatures as low as -20 degrees F. Egg masses hatch during May.



Extension Bulletin E-1509 Reprinted June 2002

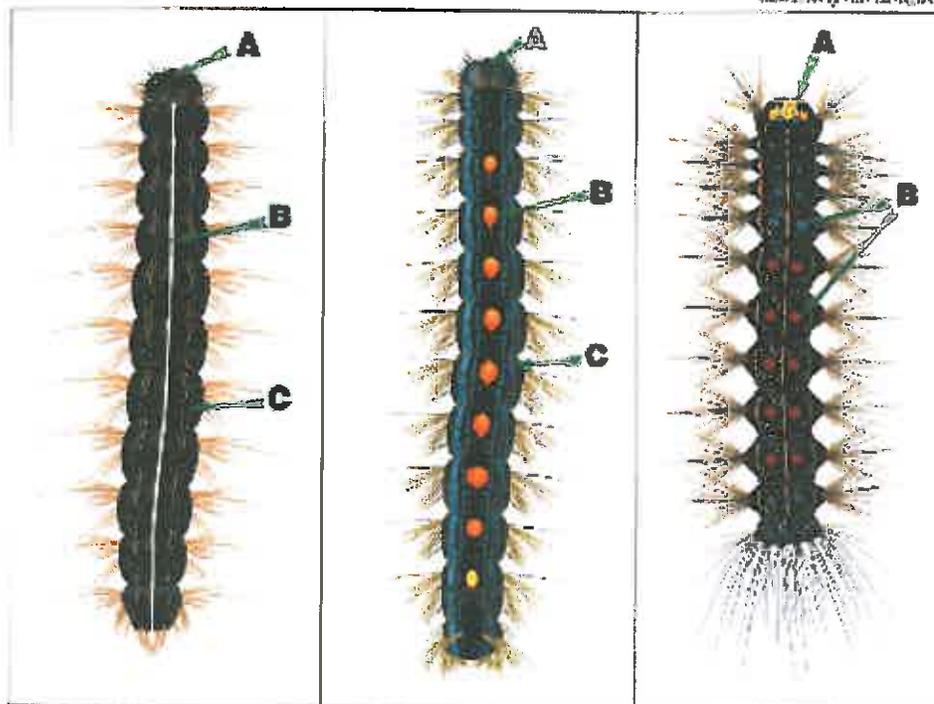
Comparison of the Eastern Tent Caterpillar, Forest Tent Caterpillar and Gypsy Moth

Michigan State University Extension

These three insects are often found feeding on the leaves of hardwood trees early in the summer. They can be easily confused with one another. The illustrations and information here will help you to identify which caterpillar is feed-

ing on your trees. Contact your local MSU Extension office or regional Dept. of Natural Resources office for more information on the biology and management of these insects.

Illustrated by Peter Gansler



Eastern Tent Caterpillar
(Malacosoma americanum)

Forest Tent Caterpillar
(Malacosoma disstria)

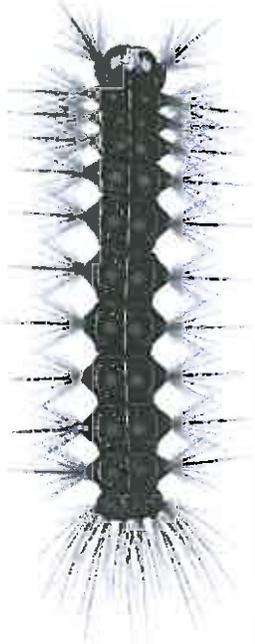
Gypsy Moth Caterpillar
(Lymantria dispar)

Markings	A) Dark head; B) prominent white or yellow stripe down the center of the body; C) small blue spots to the side.	A) Blue head; B) prominent central row of white or yellow markings in keyhole or footprint shape; C) bluish on sides of body.	A) Yellow head with black markings; B) prominent blue and red spots.
Tents	Prominent silk tent is branch junction.	They do not spin silk tents; resting sites on leaves may have small silk layer.	No silk tents.

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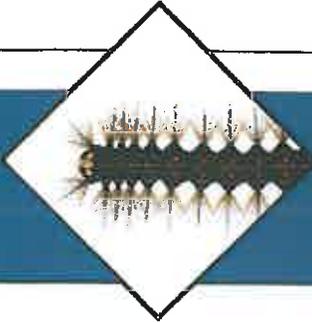
Comparison of the Eastern Tent Caterpillar, Forest Tent Caterpillar and Gypsy Moth

	 Eastern Tent Caterpillar <i>(Malacosoma americanum)</i>	 Forest Tent Caterpillar <i>(Malacosoma disstria)</i>	 Gypsy Moth Caterpillar <i>(Lymantria dispar)</i>
Egg Mass	Dark, spindle-shaped mass wrapped around twigs; rough varnished texture. 	Similar to eastern tent caterpillar. 	Tan color; covered with fine hairs; 1 to 3 inches long; usually on tree bark. 
Preferred Host Trees	Black cherry, apple, crabapple.	Aspen, sugar maple, oaks, birch, black gum.	Oaks, aspen, birch, willow and more than 250 other species.
Populations	Native insect; silk tent is unattractive, but feeding rarely harms trees; common pest of ornamental trees in urban settings.	Native insect; outbreaks occur at roughly 10-year intervals and usually last 2 to 4 years; most common in forests, especially where aspen is abundant.	Exotic pest; severe defoliation during outbreaks can occur for 2 to 3 years in urban and forested areas, especially where oaks are abundant.

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Entomophaga maimaiga - A Natural Enemy of Gypsy Moth

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The gypsy moth (*Lymantria dispar* L.) is an exotic pest of urban and forest trees. Gypsy moth caterpillars feed on the leaves of oaks, aspens, and many other hardwood and conifer trees. During gypsy moth outbreaks, trees may be completely stripped of leaves. Although gypsy moth caterpillars rarely kill trees by themselves, trees weakened by heavy defoliation may become more susceptible to drought, disease or other insect pests. In addition, the large hairy caterpillars annoy people living or recreating in outbreak areas.

Managing gypsy moth requires the integration of a variety of control tactics. Biological control, the use of natural enemies to control a pest, can be an important part of an integrated pest management program for gypsy moth. One biocontrol agent that has recently shown much promise is a fungal pathogen, *Entomophaga maimaiga*.

Origin of *Entomophaga maimaiga*

Entomophaga maimaiga is a common disease in gypsy moth populations in its native country of Japan. The fungus was first released into the United States near Boston in 1910 as part of a program to introduce natural enemies of gypsy moth. Scientists could find no evidence that the fungus had become established and the project was abandoned a few years later. However, the fungus appeared unexpectedly in several northeastern states in 1989 and caused high mortality in many gypsy moth populations. Although scientists have several theories, the strange reappearance of the fungus is still a mystery.

Entomophaga maimaiga was first brought into Michigan in 1991 by scientists at Michigan State University and the USDA Forest Service. It was released in three sites in northern lower Michigan and monitored closely.

Additional introductions have since occurred and the fungus also is spreading naturally. *Entomophaga maimaiga* has now been found throughout most of Lower Michigan.

Life history of *Entomophaga maimaiga*

Entomophaga maimaiga passes the winter as a tough, thick-walled "resting spore" in the soil and on tree bark. In May and June, resting spores germinate and produce sticky spores at the end of a stalk that grows just above the soil surface. Gypsy moth caterpillars come into contact with these spores in the spring as they search for suitable leaves to feed on. The fungus digests its way through the exoskeleton of the caterpillar and grows inside the body of the caterpillar. Infected caterpillars may die within one week.

When young caterpillars are affected early in the summer, the fungus will produce a second type of spore called conidia. These microscopic spores are spread by the wind and can infect other caterpillars. The cycle of conidia production and infection may occur four to nine times during the summer. When the fungus develops in large caterpillars, it produces the overwintering resting spores.

Weather plays an important role in determining how effective *Entomophaga maimaiga* will be. Like most fungi, its spores need moisture and high humidity to germinate. Frequent rainfall during May and June contributes to the start and spread of *Entomophaga maimaiga* through a gypsy moth population. Temperatures of 50 to 80 degrees F enhance fungal growth.



Entomophaga maimaiga – A Natural Enemy of Gypsy Moth



Figure 1. Gypsy moth larva killed by NPV hanging in an inverted "V" position.



Figure 2. Dead larva covered with conidia of *Entomophaga maimaiga*.



Figure 3. Larvae killed by *Entomophaga maimaiga* often remain attached to trees.

Distinguishing *Entomophaga maimaiga* from NPV

Another disease is common in outbreak populations of gypsy moth. NPV (nuclearpolyhedrosis virus) is a virus disease that often causes gypsy moth outbreak populations to collapse. One important difference between the two diseases is that NPV is seldom prevalent until gypsy moth populations reach very high levels. In contrast, *Entomophaga maimaiga* may be found even when gypsy moth populations are low.

Caterpillars killed by NPV often remain attached to the stem or branches of trees. The bodies of the dead caterpillars are soft, filled with a brown liquid and disintegrate rapidly. Usually they hang limply in an upside-down "V" position (Fig. 1).

Caterpillars killed by *Entomophaga maimaiga* will also remain attached to tree stems or branches. However, the bodies tend to be stiff and straight, and the legs extend stiffly from the body. Some of the dead caterpillars may have tiny white conidia attached to the hairs on the body (Fig. 2). The cadavers may remain on the stem well into autumn (Fig. 3).

The future of *Entomophaga maimaiga*

Entomophaga maimaiga may become an important biological control of gypsy moth in both low and high populations. Infections may be more common in years with rainy spring weather than in years with dry spring weather. Scientists have found that the fungus is established in a number of areas in Michigan. Laboratory and field studies have shown that *Entomophaga maimaiga* is host specific and poses little risk to other insect populations. It will not affect other animals or humans. Introductions and evaluation will continue. Although there is not likely to be any "silver bullet" for gypsy moth, *Entomophaga maimaiga* should improve our ability to manage this pest in Michigan.

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File 27.35 (Pests and Management)

Gypsy Moth Populations Growing

Robert Bricault, MSU Horticulture Educator

One of the hardest lessons I learned over the years is that information taught in the past may not be remembered tomorrow. Gypsy Moth management was the central focus of my career from 1985 through 1999. I worked in landscaping in Midland and Isabella Counties when Gypsy Moths caused the first defoliation in Michigan in 1985. During the 1990's the insect moved into Southeast Michigan where it continued it's destructive pattern of ravenous eating, stripping thousands of trees of their leaves.



By 1994, Extension worked with the Michigan Department of Agriculture mapping out areas with large Gypsy Moth egg mass counts for aerial spraying with the bacteria, Bt (*Bacillus thuringiensis*). Bt did not kill the caterpillars quickly, but made them sick by changing the pH in their stomachs. Eventually they stopped eating and starved to death.

Bt helped to reduce the population not eliminate it, giving parasites, predators and pathogens a chance to develop. A pathogen called NPV, nucleopolyhedrosis virus, began killing large number of caterpillars leaving them hanging in an upside down V on tree trunks. Unfortunately, NPV only worked well when populations of the insect were very high. A real break came when a soil borne fungus, *Entomophaga maimaiga* started to kill off large numbers of caterpillars in midsummer leaving them hanging straight down on tree trunks. The fungus was effective even in sites with low numbers of Gypsy Moths present. The fungus spreads during periods of consistent rainfall in late spring and early summer. Gypsy Moth populations have been at very low numbers for the past eight years in Washtenaw County mostly due to the *Entomophaga* fungus.

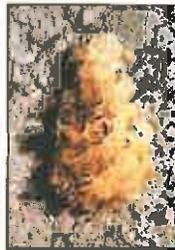
The drought of 2007 reduced the development of the fungus allowing more caterpillars to survive, change into moths and lay eggs. The increasing population of caterpillars led to localized defoliation of trees. The worst damage was on Blue Spruces. Fortunately, we did experience good rainfall in June 2008, allowing the *Entomophaga* fungus to spread and kill many caterpillars. Enough Gypsy Moth did survive in 2008 to produce larger numbers of egg masses than we have seen in over six years. This may cause some localized defoliation of trees again this coming summer, increasing the need to educate residents on managing this pest.

Gypsy moth eggs hatch in mid spring usually about the time serviceberry is in bloom. People often confuse Gypsy Moth with other caterpillars that make tents or webs in trees. Gypsy Moth can hang from silk like strands from a branch but do not make webbed tents. They can spread by wind while hanging from this thread. At this early stage they are susceptible to Bt. Bt works well on young caterpillars, but is ineffective once they get beyond an inch long. Trees can be banded with burlap to trap caterpillars that seek shelter under the burlap during the day. Unfortunately, in blue spruces it is

hard to manage them through banding. Once in the moth stage Gypsy Moth does not feed. The brown male moths can be seen flying around searching for the white female moths that do not fly. The female leaves behind buff colored egg masses that are easy to see.



Fall and winter are great times to go hunting for the buff colored egg masses in trees. If you have spruces check under the branches for the egg masses. If you find egg masses on structures, outdoor furniture or trees, knock them off into soapy water. This sanitation practice greatly reduces the number of caterpillars the following year. Some of their favorite trees include oak, birch, apple, willow, hawthorn, white pine, blue spruce, serviceberry and poplars, but they will eat leaves from maples and other trees that are not their most preferred species. If large populations are found damaging trees it may become necessary to treat the trees with an insecticide. The greatest risk is to evergreens like blue spruces and white pines that do not come back from defoliation as well as deciduous trees will. If using a pesticide make sure it is labeled for control of Gypsy Moth.



We are often asked why the county is not still part of the state's suppression program. The need for the program in Washtenaw and across Michigan declined as Gypsy Moth levels dropped very low across the state. The State's Suppression program actually ended in 2006 and also the availability of federal dollars to assist communities in aerial spray programs. The suppression program did what it was supposed to do, reducing the insects population long enough for other forces that help control Gypsy Moth to develop in our ecosystem.

Through careful monitoring, sanitation practices, banding as well as localized pesticide treatment, you can help to keep Gypsy Moth in check while allowing natural pathogens, predators and parasites to gain back a balance of control. Our hope is that nature will continue to keep Gypsy Moth populations at low levels in most years and eliminate the need for large scale spray programs. If you find large local Gypsy Moth infestations please share this information with the Horticulture staff at the MSU Extension office: 734 997-1678 or contact the Master Gardener Hotline from mid April through October at 734 997-1819.

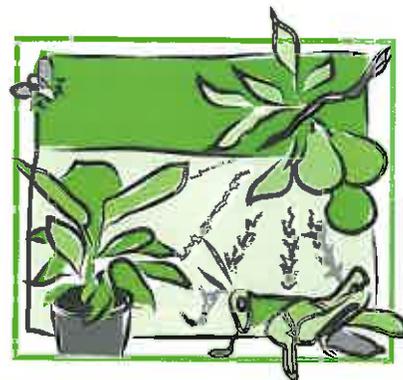
Gypsy moth and gardening questions phone:
Washtenaw County, MSU Extension
Master Gardening Hotline at: 734 997-1819
Master Gardener Volunteers are available:
mid April through October
Monday through Thursday
9:00 a.m. – 12:00 noon
1:00 p.m. – 4:00 p.m.

At other times phone the MSU Extension office at 734 997-1678

Bacillus thuringiensis

Fact Sheet No. 5.556

Insect Series | Home and Garden



by W.S. Cranshaw*

Bacillus thuringiensis (Bt) is an insecticide with unusual properties that make it useful for pest control in certain situations. Bt is a naturally occurring bacterium common in soils throughout the world. Several strains can infect and kill insects. Because of this property, Bt has been developed for insect control. At present, Bt is the only “microbial insecticide” in widespread use.

The insecticidal activity of Bt was first discovered in 1911. However, it was not commercially available until the 1950s. In recent years, there has been tremendous renewed interest in Bt. Several new products have been developed, largely because of the safety associated with Bt-based insecticides.

Properties

Unlike typical nerve-poison insecticides, Bt acts by producing proteins (delta-endotoxin, the “toxic crystal”) that reacts with the cells of the gut lining of susceptible insects. These Bt proteins paralyze the digestive system, and the infected insect stops feeding within hours. Bt-affected insects generally die from starvation, which can take several days.

Occasionally, the bacteria enter the insect’s blood and reproduce within the insect. However, in most insects it is the reaction of the protein crystal that is lethal to the insect. Even dead bacteria containing the proteins are effective insecticides.

The most commonly used strain of Bt (*kurstaki* strain) will kill only leaf- and needle-feeding caterpillars. In the past decade, Bt strains have been developed that control certain types of fly larvae (*israelensis* strain, or Bti). These are widely used against larvae of mosquitoes, black flies and fungus gnats.

More recently, strains have been developed with activity against some

leaf beetles, such as the Colorado potato beetle and elm leaf beetle (*san diego* strain, *tenebrionis* strain). Among the various Bt strains, insecticidal activity is specific. That is, Bt strains developed for mosquito larvae do not affect caterpillars. Development of Bt products is currently an active area and many manufacturers produce a variety of products. Effectiveness of the various formulations may differ.

Disadvantages

Bt is susceptible to degradation by sunlight. Most formulations persist on foliage less than a week following application. Some of the newer strains developed for leaf beetle control become ineffective in about 24 hours.

Manufacturers are experimenting with several techniques to increase its persistence. One involves inserting Bt toxic crystal genes into other species of bacteria that can better survive on leaf surfaces (e.g., the M-Trak formulation of *san diego* strain).

The highly specific activity of Bt insecticides might limit their use on crops where problems with several pests occur, including nonsusceptible insects (aphids, grasshoppers, etc.). As strictly a stomach poison insecticide, Bt must be eaten to be effective, and application coverage must be thorough. This further limits its usefulness against pests that are susceptible to Bt but rarely have an opportunity to eat it in field use, such as codling moth or corn earworm that tunnel into plants. Additives (sticking or wetting agents) often are useful in a Bt application to improve performance, allowing it to cover and resist washing.

Since Bt does not kill rapidly, users may incorrectly assume that it is ineffective a day or two after treatment. This, however, is merely a perceptual problem, because Bt-affected insects eat little or nothing before they die.

Bt-based products tend to have a shorter shelf life than other insecticides.

Quick Facts

- *Bacillus thuringiensis* (Bt) is a naturally occurring bacterial disease of insects. These bacteria are the active ingredient in some insecticides.
- Bt insecticides are most commonly used against some leaf- and needle-feeding caterpillars. Recently, strains have been produced that affect certain fly larvae, such as mosquitoes, and larvae of leaf beetles.
- Bt is considered safe to people and nontarget species, such as wildlife. Some formulations can be used on essentially all food crops.
- Bt is used in agriculture as a liquid applied through overhead irrigation systems or in a granular form for control of European corn borer.

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www.ext.colostate.edu



*Colorado State University Extension entomologist and professor, bioagricultural sciences and pest management. 12/2008



Figure 1: Alfalfa webworms killed by *Bacillus thuringiensis*.

Manufacturers generally indicate reduced effectiveness after two to three years of storage. Liquid formulations are more perishable than dry formulations. Shelf life is greatest when storage conditions are cool, dry and out of direct sunlight.

Advantages

The specific activity of Bt generally is considered highly beneficial. Unlike most insecticides, Bt insecticides do not have a broad spectrum of activity, so they do not kill beneficial insects. This includes the natural enemies of insects (predators and parasites), as well as beneficial pollinators, such as honeybees. Therefore, Bt integrates well with other natural controls. For example, in Colorado, Bt to control corn borers in field corn has been stimulated by its ability to often avoid later spider mite problems. Mite outbreaks commonly result following destruction of their natural enemies by less selective treatments.

Perhaps the major advantage is that Bt is essentially nontoxic to people, pets and wildlife. This high margin of safety recommends its use on food crops or in other sensitive sites where pesticide use can cause adverse effects.

Bt-based products tend to have a shorter shelf life than other insecticides

Unlike most insecticides, Bt insecticides do not have a broad spectrum of activity, so they do not kill beneficial insects.

Perhaps the major advantage is that Bt is essentially nontoxic to people, pets and wildlife.

Table 1. Primary strains of *Bacillus thuringiensis* used in managing insects.

<i>Bacillus thuringiensis</i> strain (Common name)	Susceptible insects
<i>aizawi</i>	Many Lepidoptera larvae
<i>kurstaki</i>	Many Lepidoptera larvae
<i>israelensis</i>	Larvae of mosquitoes, black flies, fungus gnats
<i>japonensis</i>	Larvae of scarab beetles (Coleoptera: Scarabaeidae)
<i>tenebrionis (sandiego)</i>	Larvae of leaf beetles (Coleoptera: Chrysomelidae)
<i>CryIAb delta-endotoxin¹</i>	Many Lepidoptera larvae
<i>Cry3Bb1 variant¹</i>	Corn rootworm larvae (Coleoptera: Chrysomelidae)

¹Only used in production of genetically modified crops

Insects Controlled by Bt

Kurstaki strain (Biobit, Dipel, MVP, Steward, Thuricide, etc.):

Vegetable insects

- Cabbage worm (cabbage looper, imported cabbageworm, diamondback moth, etc.).
- Tomato and tobacco hornworm.

Field and forage crop insects

- European corn borer (granular formulations have given good control of first generation corn borers).
- Alfalfa caterpillar, alfalfa webworm.

Fruit crop insects

- Leafroller.
- Achemon sphinx.

Tree and shrub insects

- Tent caterpillar.
- Fall webworm.
- Leafroller.
- Redhumped caterpillar.
- Spiny elm caterpillar.
- Western spruce budworm.
- Pine budworm.
- Pine butterfly.

Israelensis strains (Vectobac, Mosquito Dunks, Gnatrol, Bactimos, etc.)

- Mosquito.
- Black fly.
- Fungus gnat.

San diego/tenebrionis strains (Trident, M-One, M-Trak, Foil, Novodor, etc.)

- Colorado potato beetle.
- Elm leaf beetle.
- Cottonwood leaf beetle.

Application

The greatest use of Bt involves the *kurstaki* strain used as a spray to control caterpillars on vegetable crops. In addition, Bt is used in agriculture as a liquid applied through overhead irrigation systems or in a granular form for control of European corn

borer. The treatments funnel down the corn whorl to where the feeding larvae occur.

Many formulations (but not all) are exempt from pesticide tolerance restrictions and may be used up to harvest on a wide variety of crops. This also makes Bt useful in applications where pesticide drift onto gardens is likely to occur, such as treating trees and shrubs. The exceptional safety of Bt products also makes them useful where exposure to pesticides is likely during mixing and application.

To control mosquito larvae, formulations containing the *israelensis* strain are placed into the standing water of mosquito breeding sites. For these applications, Bt usually is formulated as granules or solid, slow-release rings or brickettes to increase persistence. Rates of use are determined by the size of the water body. Make applications shortly after insect eggs are expected to hatch, such as after flooding due to rain or irrigation. Bt persistence in water is longer than on sun-exposed leaf surfaces, but reapply if favorable mosquito breeding conditions last for several weeks. Although the *israelensis* strain is quite specific in its activity, some types of nonbiting midges, which serve as food for fish and wildlife, also are susceptible and may be affected. For information on mosquito control, see fact sheet 5.526, *Mosquito Management*.

Use of Bt (*israelensis*) for control of fungus gnat larvae involves drenching the soil. Bt applied for control of elm leaf beetle or Colorado potato beetle (*san diego/tenebrionis* strain) is sprayed onto leaves in a manner similar to the formulations used for caterpillars. Bt does **not** control shore flies, another common fly found in greenhouses.

Colorado State University, U.S. Department of Agriculture and Colorado counties cooperating. CSU Extension programs are available to all without discrimination. No endorsement of products mentioned is intended nor is criticism implied of products not mentioned.



CASCADE CHARTER TOWNSHIP

2865 Thornhills SE Grand Rapids, Michigan 49546-7140

Date: April 13th, 2016
To: Supervisor Beahan & Cascade Township Board
From: Benjamin Swayze, Township Manager
Subject: Township Hall Project – Approval to Move Forward

FACTS:

In fall of 2014 the Township Board approved a Township Facility Master Plan and Administrative Office Design Study. The study was approved in response to several major needed repairs and facility deficiencies at Township Hall, and the sentiment was that we should determine the present and future needs of the Township, and insure our current facilities can fulfill those needs, before investing significant dollars into our current Township Hall facility. Issues that were identified that led to the study being approved included:

- Identification of nearly \$500,000 in repairs needed to the current Township Hall facility including a new roof and a complete overhaul of the HVAC system.
- Building Department has already run out of space, and does not have the space needed to accommodate scheduled equipment upgrades. In addition, future employment needs, including those related to anticipated new work in current customer communities, cannot be accommodated in our current facility.
- Township Hall lacks needed meeting space and it is becoming increasingly difficult to hold on site meetings. Meeting space is often occupied by non-regular operations (elections, auditors, Board of Review, etc...)
- Storage space is extremely limited, most archive record storage is held at the Wisner Center and current space barely meets the needs of regularly stored records.
- Township Hall is out of office space and lacks capacity to add any additional administrative staff.

The approved project was split into three phases:

- **Phase I – Programming** - Determine the programming needs, and subsequently space needs, for the Township operations
- **Phase II – Master Planning** - Plan the library complex land, given the programming and space needs identified in Phase I.
- **Phase III – Schematic Design** – Create a schematic design and elevations for a new Township Hall, renovations for the existing Township Hall, or another new facility need that is identified. The tasks in this phase may be altered based on the outcomes of Phases I and II.

In January 2015 the architects from Fishbeck presented the needs assessment (Phase I), which identified that our current facility significantly lacked the capacity to accommodate the organization for the 20 year timeline, and was already deficient in several areas. During Phase II

of the study, the architects utilized the information gathered from Phase I as well as input from Township staff, officials and community partners (specifically the DDA and Library) to develop several Master Plan alternatives for the Township facilities. This culminated in a charrette-style open house for stakeholders to provide input on the different Master Plan alternatives. Several items of note came out of the open house:

- The area on the corner of 28th Street and Jack Smith Ave. should be reserved for a future DDA community gathering area project.
- Any new Fire Station, as well as any future Buildings and Grounds facility, should be located on the current Township Hall/Station #1 site.
- The two most popular spots for a new Township Hall were either a facility connected to the Wisner Center in the south-east portion of the property, or a separate facility located on the green space to the south-west of the current library parking lot.

After considering the two location options, the Township Board selected the green space to the south-west of the current library parking lot as the preferred location for a proposed new Township Hall facility, and authorized Phase III of the study, which entailed the development of schematic floor plans and elevations for the facility, as well as a “turn-key” cost estimate.

Phase III of the study began with a tour of several local municipal facilities with a group that included members of the Infrastructure Committee and Township Department Head staff. From that meeting, direction was given to the architects by the working group, in consideration of the findings of Phases I and II of the study, on what was to be incorporated into the new facility. Through a series four additional development meetings, the group worked on several iterations of the floor plans and elevations. The group worked cohesively to tackle several issues including a single floor vs. dual floor facility, parking constraints, building orientation and customer circulation. After a final floor plan and elevation was selected by the group, the architects developed a detailed cost estimate from the proposal, which totaled approximately \$7.5 million, including construction costs, softs costs and site furnishings as well as significant contingencies. In the fall of 2015, the Township Board voted to receive the proposed plans and directed the Finance Committee to develop a funding proposal for the project.

The work to develop a funding proposal was delayed through the budgeting process for the FY 2016 budget due to time constraints and the desire to hold a public open house for the project after the holiday season. At their January meeting, the finance committee had the opportunity to explore several funding scenarios that were developed by Township staff with assistance from the Township financial advisor. After debating the pros and cons of each scenario, and bringing up other scenarios that the Township Board could consider, the Finance Committee recommended that the Township Board select the funding scenario where the furnishings and soft costs, as well as 50% of the construction costs would be paid for utilizing General Fund and Building Department fund balance, and the remaining costs would be financed over a period of 10 years. The analysis showed that both funds would continue to maintain a healthy fund balance, and the 10 year budget projection showed that each fund can handle the debt service without stressing the funding of General Operations. The recommendation was forwarded to the Township Board for consideration and approved at a meeting in February.

After approval of the financing option, the Township set-up a Community Forum to solicit feedback on the project from the residents of Cascade. The public forum, which was advertised

through an article in the Cadence and on mLive.com, as well as through the Township website, was held on March 24th at the Wisner Center and was lightly attended.

Attached for your review are:

- Final Township Hall Facially Master Plan and Administrative Design Office Study
- Estimated Township Hall Construction Budget
- Spreadsheets outlining selected funding scenario
- 10 year budget forecast for Millage funds
- 2016 Building Fund budget
- Funding Scenario Summary & Estimation Report from Hutchinson, Shockey, Erley & Co (Township Financial Advisor)
- Advertisement and article for Community Forum
- Attendance list from Community Forum
- Proposed project timeline

ANALYSIS & CONCLUSIONS:

As mentioned, attendance at the Community Forum was light, with less than a dozen residents in attendance. Of the residents that did attend, there was one resident who expressed opposition to the project as a poor use of tax funds. The resident also questioned various aspects of the project, including shower facilities and the exercise room for employees. Among the other attendees, reaction to the Community Forum was generally positive.

The Township has solicited written comments on the proposed project as well, and to date has not received any comments.

The feasibility study for the project is now complete, and the Township Board should decide if he project should move forward. If the Township Board decides to move the project forward, we will begin to develop contracts for the project including architectural design, construction management and bond counsel. It is anticipated these contracts would be in front of the Township Board in late April or early May. While the Township Board would still have an opportunity to stop the project, the next steps of the project will involve serious outlay as architectural design and bidding documents are developed.

FINANCIAL CONSIDERATIONS:

For the General Fund, the cash outlay will end up being somewhere between \$3-\$3.5 million. The current fund balance for the general fund is over \$8 million dollars which means that the new fund balance will be between \$4-\$5 million, still well above 100% of regular operating expenditures. The debt service for the general fund will be around \$275,000, while our 10 year budget project shows significant surpluses (\$480,000 - \$1,000,000 +) in 8 of the next 10 years.

For the Building Fund, the cash outlay would be between \$1.1-\$1.3 million. The current fund balance for the building fund is around \$2.1 million, which means that the new building fund fund balance would be around \$1 million. It is important that the Building Fund fund balance remain at least at 100% of regular operating expenditures given the volatile nature of permit revenues. This scenario would maintain the balance at that level. The debt service to come from the Building Fund would be around \$100,000 depending on the final mix of support. Staff is working on exactly where that portion will come from, but unless we see a significant economic

recession again we do not see covering that cost to be an issue. The Building Fund has run significant surpluses (\$400,000+) over the past several years.

RECOMMENDED ACTION:

To approve the proposed Cascade Township Hall project to move forward.



Cascade Charter Township

Facility Master Plan and
Administrative Office Design Study



Fishbeck, Thompson, Carr & Huber, Inc.
engineers | scientists | architects | constructors

September 4, 2015



September 4, 2015
Project No. G140721

Mr. Benjamin Swayze, Township Manager
Cascade Charter Township
2865 Thornhills SE
Grand Rapids, MI 49546

Re: Township Facility Master Plan and Administrative Office Design Study

Dear Ben:

It is an exciting time for Cascade Township as you plan for your future site and building needs. Fishbeck, Thompson, Carr & Huber, Inc. (FTCH) is pleased to have the opportunity to work together with the Township in identifying current and projected space needs, evaluating how best to utilize your existing site to meet the identified needs, and developing the Schematic Design for a proposed new township hall facility.

As this initial study phase of the project comes to a conclusion, we have assembled the following information developed over the course of our study for your use and review.

- Phase 1 - Programming
 - Population Trends and Projections for Kent County
 - Preliminary Program for Office Areas
 - Preliminary Program for Separate Facilities (Off-Site)
- Phase 2 - Site Master Planning
 - Conceptual Site Master Plan Schemes
 - 3D Site Aerial Images
- Phase 3 - Schematic Design
 - Schematic Design Drawings - Site Plan, Floor Plans, Exterior and Interior Renderings
 - Preliminary LEED Scorecard
 - Preliminary Cost Estimate

Please contact our office if you have any questions regarding our report. We look forward to working together with Cascade Township toward the successful completion of this important project.

Sincerely,

FISHBECK, THOMPSON, CARR & HUBER, INC.

Daniel E. Durkee, AIA, LEED AP

Gregg A. Yeomans, RA

pjb
By email

Phase 1 - Programming

The programming process began by gathering available information including drawings for each Township facility and population trends and projections for Kent County and Cascade Township (attached). A brief questionnaire was prepared and distributed to Township department leaders. FTCH then met with key Township staff to gain an understanding of current and assessed projected future space needs. Based upon input from Township staff interviews and past FTCH experience with similar municipal clients, the attached preliminary program documents for both office areas and separate facilities (off-site) were prepared for this report.

The first program document is devoted to Township office areas including Administration, Assessing, Building Inspections, Community Development and Planning, and Treasurer. Existing and projected office areas specific to each department are included, followed by common areas such as meeting rooms, and support areas such as mechanical/electrical and public restrooms. The program is concluded with a summary of all net office, common, and support spaces, including application of a grossing factor to accommodate for circulation corridors and partitions. In summary, the total office area is recommended to grow from an existing 8,610 Gross Square Feet (GSF) to 13,140 GSF, representing increases in every department with particular needs in Building Inspections and general meeting spaces to support all departments.

A second program document illustrates space needs in a similar format for other separate facilities (off-site) including Building and Grounds, Fire Station No. 1, and Fire Station No. 2.

This program information provides a foundation and guideline for further evaluation and design in connection with site Master Planning of the Township campus and schematic design for a proposed new administrative office facility.

Population Trends and Projections through 2030 for Kent County - DRAFT

Cities	Trends										Projections									
	1970		1980		1990		2000		2010		2015		2020		2025		2030			
	Pop	Trend	Pop	Trend	Pop	Trend	Pop	Trend	Pop	Trend										
Cedar Springs	1,877	2,615	2,800	3,112	3,538	3,750	3,922	3,908	4,336	4,105	10,589	10,296	184,176	184,612	188,520	182,888	183,089			
East Grand Rapids	12,565	10,914	10,807	10,764	10,664	10,659	10,495	10,824	10,824	10,536	10,536	10,296	17,850	17,850	18,100	18,100	18,174			
Grand Rapids	187,649	181,843	189,126	197,800	188,040	183,180	186,897	178,260	185,484	185,755	173,400	173,400	184,176	184,612	188,520	182,888	183,089			
Kentwood	20,310	30,438	37,828	45,255	48,707	50,433	52,220	52,159	56,154	56,154	56,154	56,154	59,877	59,877	63,600	63,600	63,758			
Lowell	3,068	3,707	3,883	4,013	3,763	3,668	3,771	3,553	3,789	3,789	3,789	3,789	4,114	4,114	4,323	4,323	4,224			
Rockford	2,428	3,324	3,750	4,826	5,719	6,288	6,688	6,812	7,667	7,667	7,667	7,667	8,628	8,628	9,805	9,805	9,585			
Walker	11,492	15,088	17,279	21,842	23,537	24,385	25,243	25,232	28,704	28,704	28,950	29,704	28,658	32,748	28,927	30,382	35,872			
Wyoming	98,580	89,816	88,861	88,368	72,125	73,504	74,153	74,882	74,882	76,182	76,182	77,087	78,210	79,588	77,639	80,239	82,049			
Villages																				
Caledonia	716	722	885	1,102	1,511	1,716	1,721	1,820	1,917	1,930	1,917	1,930	2,140	2,140	2,329	2,323	2,350			
Cassonia	205	187	180	176	176	176	173	176	173	174	174	170	167	167	176	171	184			
Kent City	888	880	889	1,061	1,057	1,055	1,091	1,053	1,125	1,125	1,051	1,200	1,271	1,271	1,049	1,193	1,343			
Sand Lake	390	368	456	492	500	504	514	508	527	527	512	539	569	569	516	584	579			
Sparta	3,094	3,373	3,696	4,159	4,140	4,131	4,241	4,121	4,341	4,341	4,490	4,490	4,442	4,695	4,102	4,543	4,840			
Townships																				
Ada	4,479	5,472	7,578	9,882	13,142	14,772	16,046	16,319	16,402	18,880	18,880	19,497	18,032	22,674	19,662	20,787	25,851			
Alpena	3,086	4,411	5,496	7,596	9,932	11,001	11,483	12,684	12,288	13,094	13,094	15,435	13,436	18,187	14,804	16,136	20,938			
Alpine	8,163	8,394	9,863	13,976	13,336	13,016	13,855	14,382	12,688	14,573	15,449	15,449	12,376	16,505	12,856	15,810	17,582			
Browne	1,428	1,719	2,743	3,984	3,984	3,955	3,987	3,630	3,423	3,689	3,689	3,977	3,689	3,982	3,768	4,295	4,870			
Byron	7,483	10,104	13,235	17,853	20,317	21,689	22,838	24,863	23,081	24,953	26,010	24,463	27,271	33,356	25,845	29,589	37,703			
Caledonia	3,126	4,205	5,369	7,862	10,821	12,301	12,803	14,151	15,780	14,785	17,480	15,288	18,768	20,810	16,739	18,760	24,140			
Cannon	3,600	4,983	7,928	12,075	13,338	13,967	15,240	14,597	17,245	17,245	15,228	18,199	19,199	26,409	18,958	21,163	30,767			
Cascade	5,243	10,320	12,859	15,107	17,134	18,148	18,902	21,901	16,161	20,669	26,749	21,175	22,437	31,706	21,188	24,204	36,564			
Courtyard	2,198	3,272	3,950	5,817	7,678	8,609	8,883	10,074	9,539	10,288	10,288	12,470	10,470	11,593	11,400	12,888	16,564			
Gainess	8,784	10,364	14,533	20,112	25,146	27,663	28,801	30,991	30,180	32,456	32,456	32,697	36,110	42,880	35,214	39,765	48,525			
Grand Rapids	8,823	9,294	10,760	14,056	18,066	17,994	18,444	18,288	22,667	20,228	22,667	20,589	22,011	25,670	21,871	23,785	28,673			
Grandin	1,893	2,975	2,876	3,551	3,621	3,658	3,614	4,034	3,691	4,006	4,006	4,447	3,728	4,189	3,761	4,391	5,274			
Lowell	2,180	3,972	4,774	5,219	5,949	6,314	6,454	7,253	6,879	8,559	8,559	8,559	7,044	7,468	7,409	7,970	11,167			
Nelson	1,558	2,253	2,950	3,700	4,284	4,548	4,719	5,190	4,828	5,175	5,175	5,175	5,110	5,630	5,382	6,086	7,967			
Oldfield	2,159	2,983	3,842	5,038	5,782	6,144	6,410	6,956	6,508	7,058	7,058	8,288	7,058	7,058	7,230	8,288	10,633			
Plainfield	18,935	20,611	24,846	30,185	30,952	31,331	32,827	34,154	37,709	34,301	37,357	32,068	35,976	40,559	32,468	37,851	43,781			
Schoon	2,114	2,809	3,848	4,862	5,974	6,630	6,790	7,338	7,288	7,608	8,701	7,942	8,421	10,055	6,588	9,237	11,428			
Sharon	3,372	3,561	4,749	4,779	4,970	5,088	5,141	5,264	5,161	5,311	5,311	5,559	5,257	5,482	5,352	5,622	6,148			
Spencer	1,458	2,365	3,184	3,691	3,960	4,100	4,283	4,809	4,239	4,606	4,606	5,059	4,379	4,900	4,518	5,263	7,358			
Ivone	1,747	2,193	2,888	3,687	3,486	3,714	3,768	3,929	4,038	4,375	4,145	4,308	4,145	4,308	4,380	4,579	5,251			
Vergennes	1,400	1,819	2,492	3,611	4,189	4,476	4,746	5,232	4,767	5,304	5,304	6,275	5,056	5,861	5,345	6,418	8,362			
Kent County	411,044	444,506	500,631	574,335	602,622	618,786	634,834	684,780	630,808	667,047	726,888	646,053	689,259	789,037	659,196	731,472	851,176			

Source: West Michigan Regional Planning Commission; U.S. Census of Population

Notes: Projections are based on trends (10, 20, 30, & 40 year percent and numeric change) and may not be the best indicator of a community's future. Ideally, projections should incorporate planning and the established goals of a community

"High" projections are based on 40-year (1970-2010) percentage change. Trends and "low" projections are based on 10-year (2000-2010) numeric change trends

**Cascade Charter Township
 Facility Master Plan and Administrative Office Design Study
 Preliminary Program for Office Areas**

d	IT Equipment Storage	0	0	0	80	80
e	Restrooms - Main	1	394	394	450	450
f	Janitor's Closet	0	0	0	40	40
g	General Building Storage	0	0	0	200	200
h	Exercise Room	0	0	0	220	220
i	Unisex Restroom & Shower	0	0	0	100	100
j	Building Delivery/Staging Area	0	0	0	80	80
	Subtotal - Building Support			760		1,830
	Subtotal - Common & Support Areas(NSF)		3,004			5,190
	GROSSING FACTOR (20-25%)		751		1,038	Circulation & partition allowance
	TOTAL COMMON/SUPPORT AREAS (GSF)		3,755		6,228	
	TOTAL OFFICE AREAS (GSF)		4,855		6,912	
	TOTAL BUILDING AREA (GSF)		8,610		13,140	

**Cascade Charter Township
 Facility Master Plan and Administrative Office Design Study
 Preliminary Program for Separate Facilities**

Fishbeck, Thompson, Carr & Huber, Inc.
 Project No. G140721
 December 4, 2014

Department/ Function	EXISTING			PROJECTED			Total Area	Total Area	Remarks	
	# of Rooms	Room Area	Total Area	# of Rooms	Room Area	Total Area				
1 BUILDINGS & GROUNDS (Offices & Shop)										
a Director	1	110	110	1	150	150	150	Existing taken from Fire Station #2		
b Break & Meeting Room	1	634	634	1	280	280	280	Existing shared w/Fire Station #2		
c Office Storage	0	0	0	1	40	40	40			
d Locker Area	1	60	60	1	60	60	60			
e Shop	1	206	206	1	300	300	300			
Subtotal - Buildings & Grounds (NSF)			1,010				830			
GROSSING FACTOR (20%)										
TOTAL OFFICE AREAS (GSF)			1,212				996	Circulation & partition allowance		
COMMON/SUPPORT AREAS										
Department/ Function	# of Rooms	Room Area	Total Area	# of Rooms	Room Area	Total Area	# of Rooms	Room Area	Total Area	Remarks
BUILDING SUPPORT										
a Entry Vestibule(s)	1	100	100	1	65	65	1	65	65	
b Mechanical/Electrical Room(s)	0	0	0	1	100	100	1	100	100	
c Unisex Restrooms	2	70	140	2	120	240	2	120	240	One of the new to have a shower
d Janitor's Closet	1	55	55	1	40	40	1	40	40	
Subtotal - Building Support			295						445	
GROSSING FACTOR (20%)										
TOTAL COMMON/SUPPORT AREAS (GSF)			354				59		89	Circulation & partition allowance
TOTAL OFFICE AREAS (GSF)			1,212						996	
TOTAL B&G BUILDING AREA (GSF)			1,566						1,530	

**Cascade Charter Township
 Facility Master Plan and Administrative Office Design Study
 Preliminary Program for Separate Facilities**

		EXISTING		PROJECTED	
Department/ Function		Total Area	Total Area	Total Area	Remarks
BUILDING & GROUNDS REMOTE EQUIPMENT STORAGE					
a	Fire Station #1	200		0	Remove B&G from Apparatus Rm.
b	Fire Station #2	1,200		0	Remove B&G from Apparatus Rm.
c	Burton Street Park	6,986		6,986	No change
d	Tassell Park	576		576	No change
e	Thirtieth Street Cemetery	556		556	No change
f	Cascade Rec. Park- general	1,200		1,200	No change
g	Cascade Rec. Park- salt storage	480		0	Double the size @ a new location
h	Cascade Rec. Park- athletic storage	0		480	In area of exist salt storage
i	New salt storage	0		800	Location to be determined
j	Relocated from Fire Station #1	0		200	Location to be determined
k	Relocated from Fire Station #2	0		1,200	Location to be determined
l	Additional Equipment Area	0		600	Associated w/Department Offices
TOTAL- REMOTE STORAGE AREAS (GSF)		11,198		12,598	

**Cascade Charter Township
 Facility Master Plan and Administrative Office Design Study
 Preliminary Program for Separate Facilities**

		EXISTING			PROJECTED			
Department/ Function	# of Rooms	Room Area	Total Area	# of Rooms	Room Area	Total Area	Remarks	
2 FIRE STATION #1								
a Fire Chief	1	179	179	1	150	150		
b Deputy Chief	1	176	176	1	120	120		
c Fire Inspector	1	159	159	1	120	120		
d Watch Office	1	147	147	1	150	150		
e Conference Room	1	137	137	1	240	240		
f Copy Room	1	147	147	1	150	150		
g Break Room/ Dining Room	1	188	188	1	180	180		
h Kitchen	1	170	170	1	170	170		
i Day Room	1	210	210	1	200	200		
j Exercise Room	1	630	630	1	500	500		
k Restroom & Shower- Men's	0	0	0	1	130	130		
l Restroom & Shower- Women's	0	0	0	1	120	120		
m Men's Sleeping Room	1	319	319	1	320	320		
n Women's Sleeping Room	0	0	0	1	220	220		
o Storage Room	1	96	96	1	300	300		
p Secure Storage Room	1	312	312	1	100	100		
q Turn-out Gear Lockers	1	136	136	1	140	140		
r Shop	1	93	93	1	120	120		
s Tank Filling Room	0	0	0	1	80	80		
Subtotal -F.S. #1 (NSF)			3,099			3,510		
GROSSING FACTOR (20%)			619			702	Circulation & partition allowance	
TOTAL OFFICE AREAS (GSF)			3,718			4,212		
COMMON/SUPPORT AREAS								
Department/ Function	# of Rooms	Room Area	Total Area	# of Rooms	Room Area	Total Area	Remarks	
BUILDING SUPPORT								
a Entry Vestibule(s)	1	65	65	1	65	65		
b Mechanical/Electrical Room(s)	1	48	48	1	200	200	Exist. is part of Mezz. Storage Rm.	

**Cascade Charter Township
 Facility Master Plan and Administrative Office Design Study
 Preliminary Program for Separate Facilities**

Department/ Function	EXISTING			PROJECTED			Remarks
	# of Rooms	Room Area	Total Area	# of Rooms	Room Area	Total Area	
3 FIRE STATION #2							
a Private Office	1	110	110	1	110	110	Currently used by Bldg. & Grounds
b Private Office	1	120	120	1	120	120	
c Watch Room	1	140	140	1	140	140	
d Training Room	1	634	634	1	634	634	
e "Public" Kitchen	1	80	80	1	80	80	
f Day Room	1	247	247	1	247	247	
g Kitchen	1	243	243	1	243	243	
h Exercise Room	1	231	231	1	231	231	
i Men's Sleeping Room	1	404	404	1	284	284	
j Women's Sleeping Room	0	0	0	1	120	120	
k Men's Restroom & Shower	1	120	120	1	120	120	
l Women's Restroom & Shower	1	130	130	1	130	130	
m Storage- Open	0	0	0	0	0	0	
n Storage Closets	2	30	60	2	30	60	
o Secure Storage Room	0	0	0	0	0	0	
p Shop	1	206	206	1	206	206	Currently shared w/Bldg. & Grounds
Subtotal - F.S. #2 (NSF)			2,725			2,725	
GROSSING FACTOR (20%)			545			545	Circulation & partition allowance
TOTAL OFFICE AREAS (GSF)			3,270			3,270	
COMMON/SUPPORT AREAS							
Department/ Function	# of Rooms	Room Area	Total Area	# of Rooms	Room Area	Total Area	Remarks
BUILDING SUPPORT							
a Lobby	1	100	100	1	100	100	
b Mechanical/Electrical Room	1	116	116	1	116	116	Plus Mezzanine Area
c Computer Server/Telecom Equip.	0	0	0	0	0	0	
d Restrooms - Public	1	100	100	1	100	100	
e Janitor's Closet	1	55	55	1	55	55	

**Cascade Charter Township
 Facility Master Plan and Administrative Office Design Study
 Preliminary Program for Separate Facilities**

f	Common Corridor	1	300	300	1	300	300
g	General Building Storage	0	0	0	0	0	0
	Subtotal - Building Support		671			671	
	GROSSING FACTOR (20%)		134			134	Circulation & partition allowance
	TOTAL COMMON/SUPPORT AREAS (GSF)		805			805	
	TOTAL OFFICE AREAS (GSF)		3,270			3,270	
	TOTAL APPARATUS FLOOR AREA (GSF)		2,495			3,672	Projected includes B&G area
	TOTAL FIRE STATION #2 BUILDING AREA (GSF)		6,570			7,747	

Phase 2 - Site Master Planning

Based upon the building and site needs outlined in the final program document approved at the January 14th Township Board meeting, a series of three (3) alternative master plan layouts were developed utilizing properties under Township control. These properties included the existing Township Hall/Fire Station site and land surrounding the Library and Wisner Center facility located within an existing Planned Unit Development (PUD). Each scheme addressed potential placement options of proposed new and future Township facilities and was reviewed with staff at meetings in February and March. A workshop was conducted on April 15th with public and staff invited to review and evaluate the master plan schemes, each of which included the following program elements:

- 13,000 square foot Administration Building
- 9,200 s.f. Fire Station with drive-through equipment bays
- Recreation splash/climbing park, along with a support Pavilion and dedicated parking
- 3,000 s.f. office and garage for Buildings & Grounds
- 6,000 s.f. potential expansion to the Library, which remained in the same location for each scheme
- A Children's Garden, located southeast of the Library addition
- Parking in quantities as required to service the new building elements

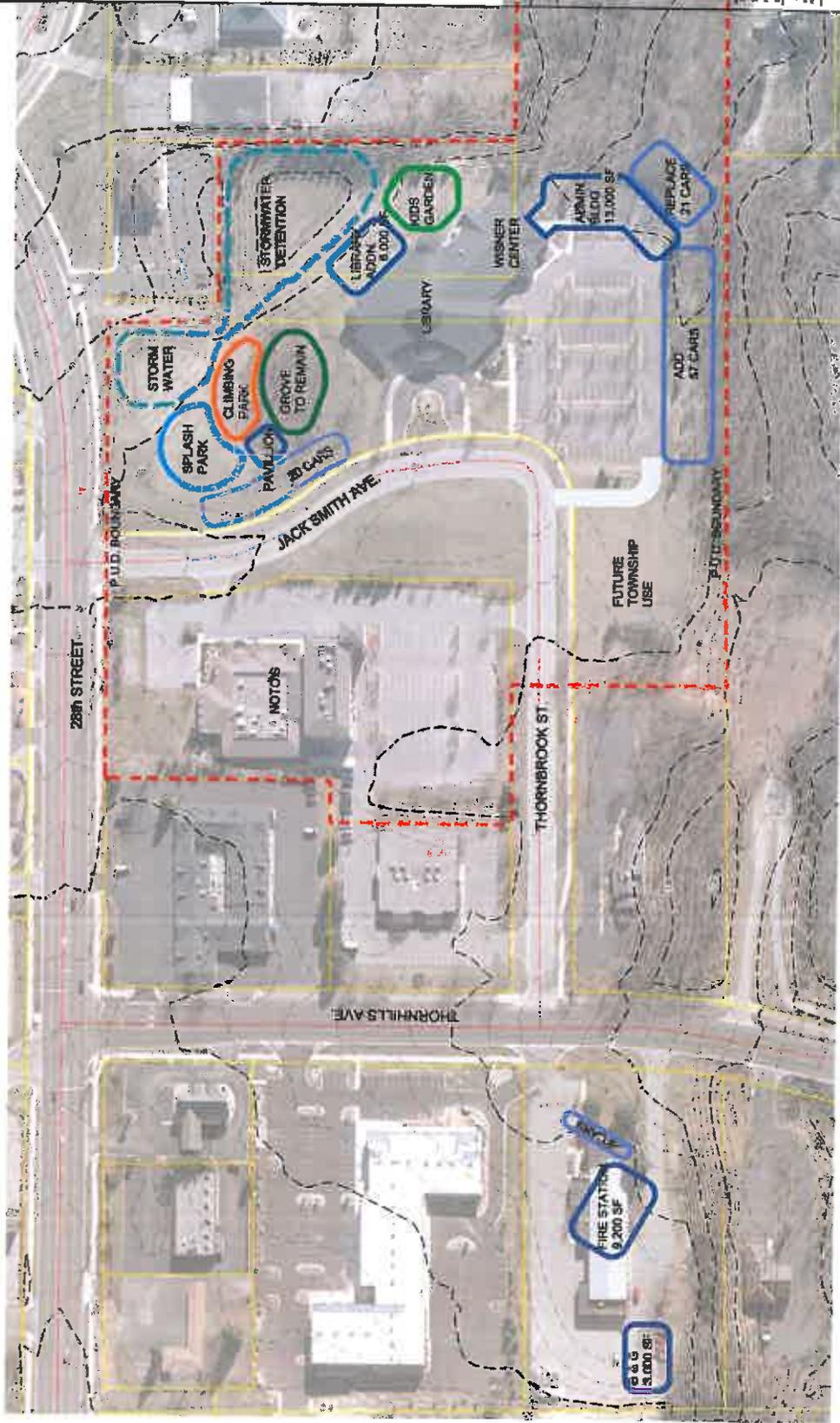
From this workshop and further input by staff, Schemes A and B were selected for further review and consideration and additional 3D computer models prepared to help illustrate them. Graphic illustrations of these two schemes are attached and were presented at the May 6th Infrastructure Committee and May 13th Township Board meeting where Scheme B was approved to proceed into the schematic design phase.



engineers
scientists
architects
constructors

2000 Grand Rapids, MI 49503
248.761.1100
www.fich.com

Cascade Charter Township
2865 Thornbills Ave SE, Grand Rapids MI
Master Planning



SITE PLAN
PROJECT # 140721
DATE 4-28-2015

PARKING COUNT

EXISTING	120 CARS
NEW	27 CARS
TOTAL	147 CARS
ALLOWABLE TOTAL	147 CARS

147 CARS EXISTING
27 CARS NEW
147 CARS ALLOWABLE TOTAL



PROJECT # 140721
DATE 4-28-2015

A-1.1
4-28-2015



engineers
scientists
architects
consultants

2015-2016

Cascade Charter Township

2885 Thornhills Ave SE, Grand Rapids MI

Master Planning

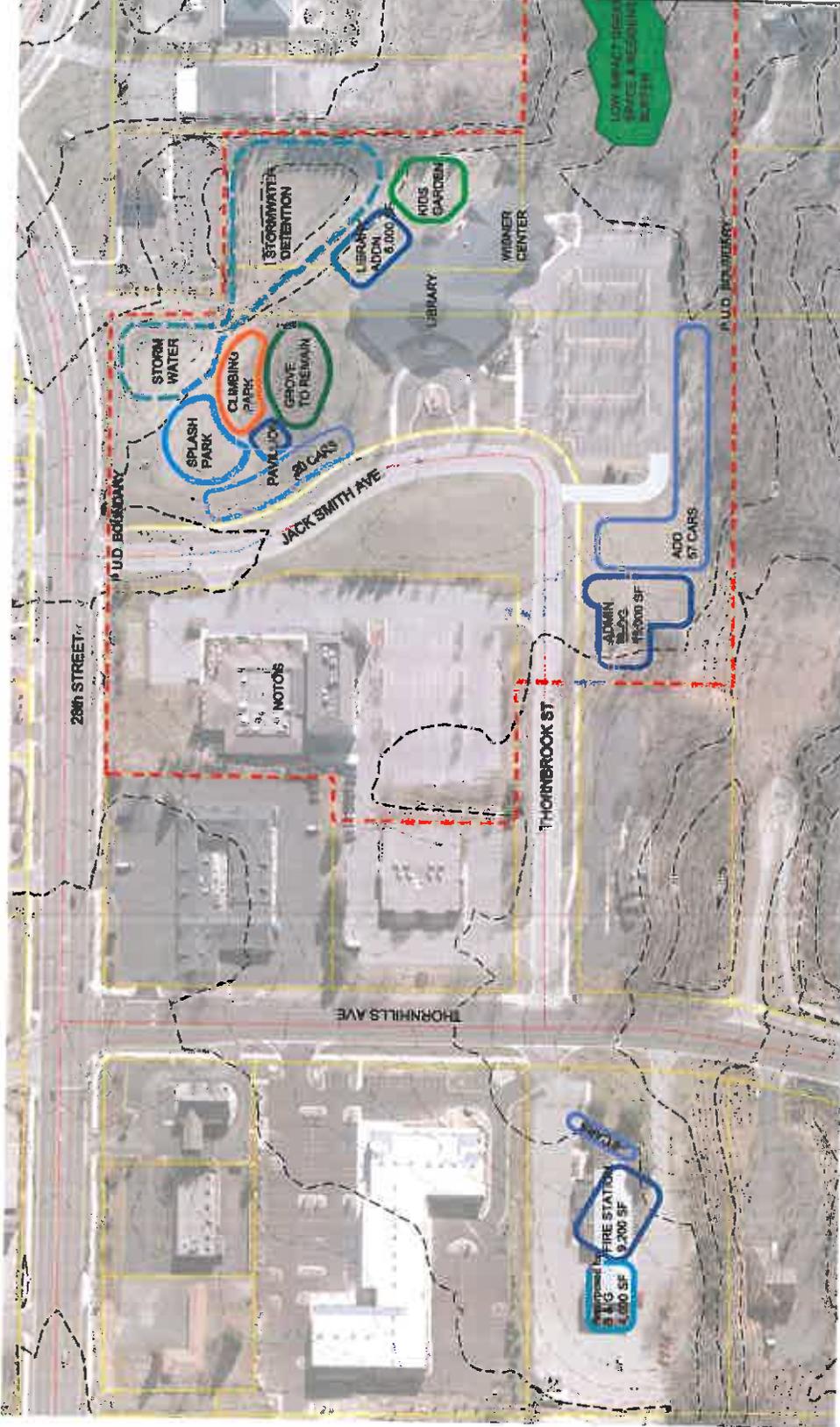
PROJECT NO.
G140721



SITE PLAN

B-1.1

4-28-2015



PARKING COUNT	
USE CASES	EXCLUDED AREAS
100 CARS	100 CARS
200 CARS	200 CARS
50 CARS	50 CARS
TOTAL CARS	TOTAL CARS
100 CARS	100 CARS
200 CARS	200 CARS
50 CARS	50 CARS
TOTAL CARS	TOTAL CARS





Phase 3 - Schematic Design

The schematic design phase began on June 2nd with tours of the East Grand Rapids, Wyoming, and Kentwood City Hall facilities to learn first-hand how similar municipalities dealt with their site and building design issues. Working with the approved program document and selected master plan layout, schematic design options for a proposed new administrative office facility were prepared and evaluated during a series of design team meetings from June 25th to August 14th. Options included placing all departments on a single/main level but, due to limitations of the site, the final plan incorporates the Building Inspection department on a lower level, together with other support functions. This approach works well in providing a separate parking area and secure entry to address a frequent need for building inspections staff to conduct early morning meetings with builders without allowing access to other areas of the building. The main level includes an entry corridor with dual access from both Thornbrook Street with a front entry plaza to the north and visitor parking to the south. A multi-purpose meeting room is positioned adjacent to this entry corridor together with public restrooms to allow secure access for after-hours meetings. Public access to each department on the main level is provided by a welcoming service lobby/corridor with north-facing natural light that extends from the entry corridor into adjacent staff areas. An open stair and elevator at the west end of the lobby/corridor provides access to and from the Building Inspections department on the lower level.

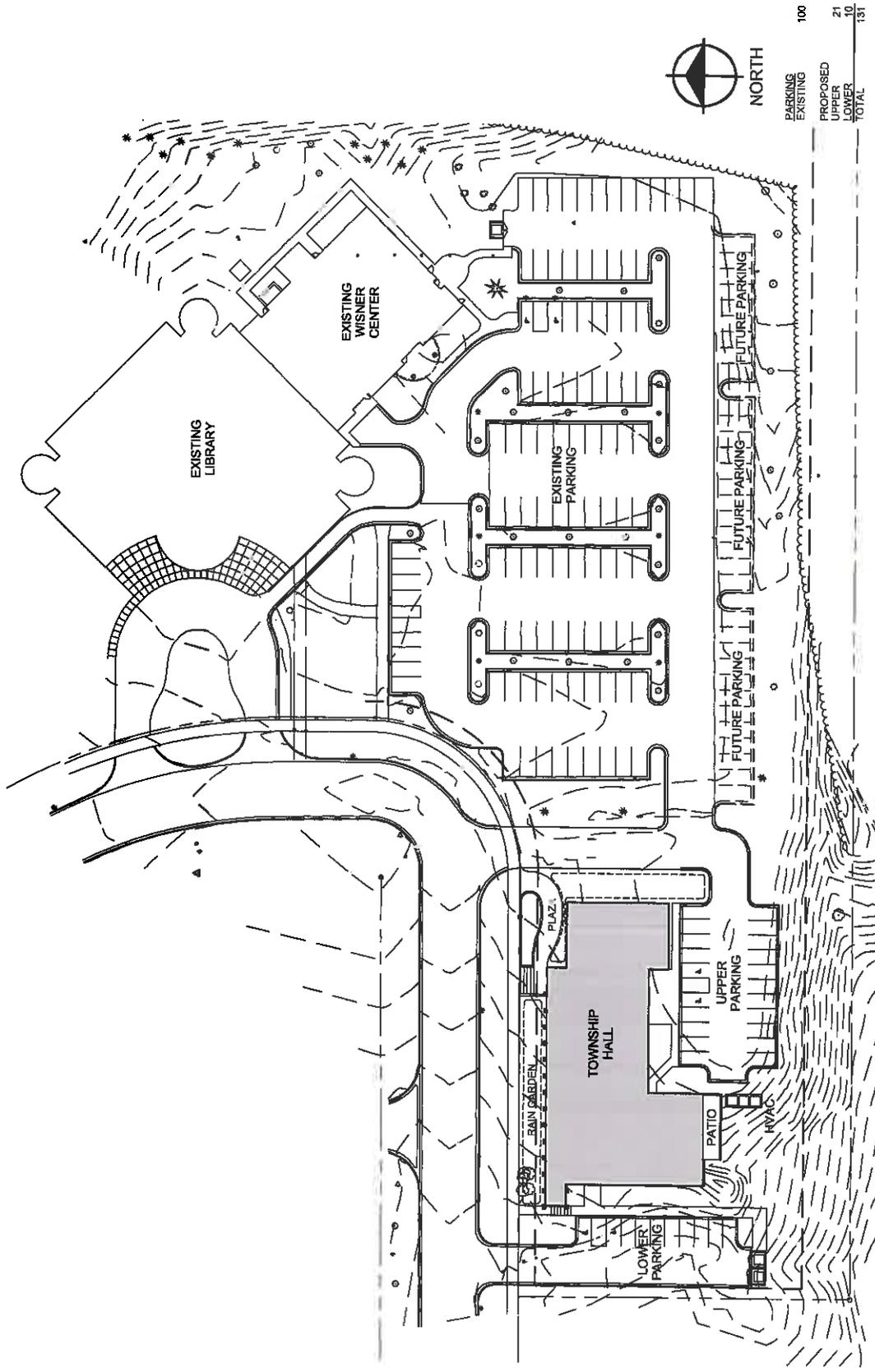
Exterior design of the new building is representative of a classic municipal style with brick masonry set on a stone base and individual window openings at office areas, which is distinct and yet compatible with the existing Library and Wisner Center. Schematic design drawings including site plan, floor plans, and 3D images of the exterior and interior service lobby/corridor are attached, together with a preliminary estimate for construction and other anticipated project costs.

As an expression of the Township's commitment toward sustainable design, the site and building will be designed to meet Leadership in Energy and Environmental Design (LEED) standards for certification at the silver or gold level. Attached is a copy of a preliminary LEED scorecard which was prepared during a review meeting on July 14th which indicates credits to be investigated and pursued during the development of the design and selection of building systems.



September 2, 2015 | 140721

CASCADE CHARTER TOWNSHIP



PARKING	100
EXISTING	
PROPOSED	21
UPPER	
LOWER	10
TOTAL	131
FUTURE	3*

CASCADE CHARTER TOWNSHIP fishbeck, thompson, carr & huber, inc.

SITE PLAN 09/02/15

SCALE: 1" = 60'-0"



CASCADE CHARTER TOWNSHIP
 12,903 GSF

FIRST FLOOR
 SCALE: 1/16" = 1'-0"

fishbeck, thompson, carr & huber, inc.
 08/02/15

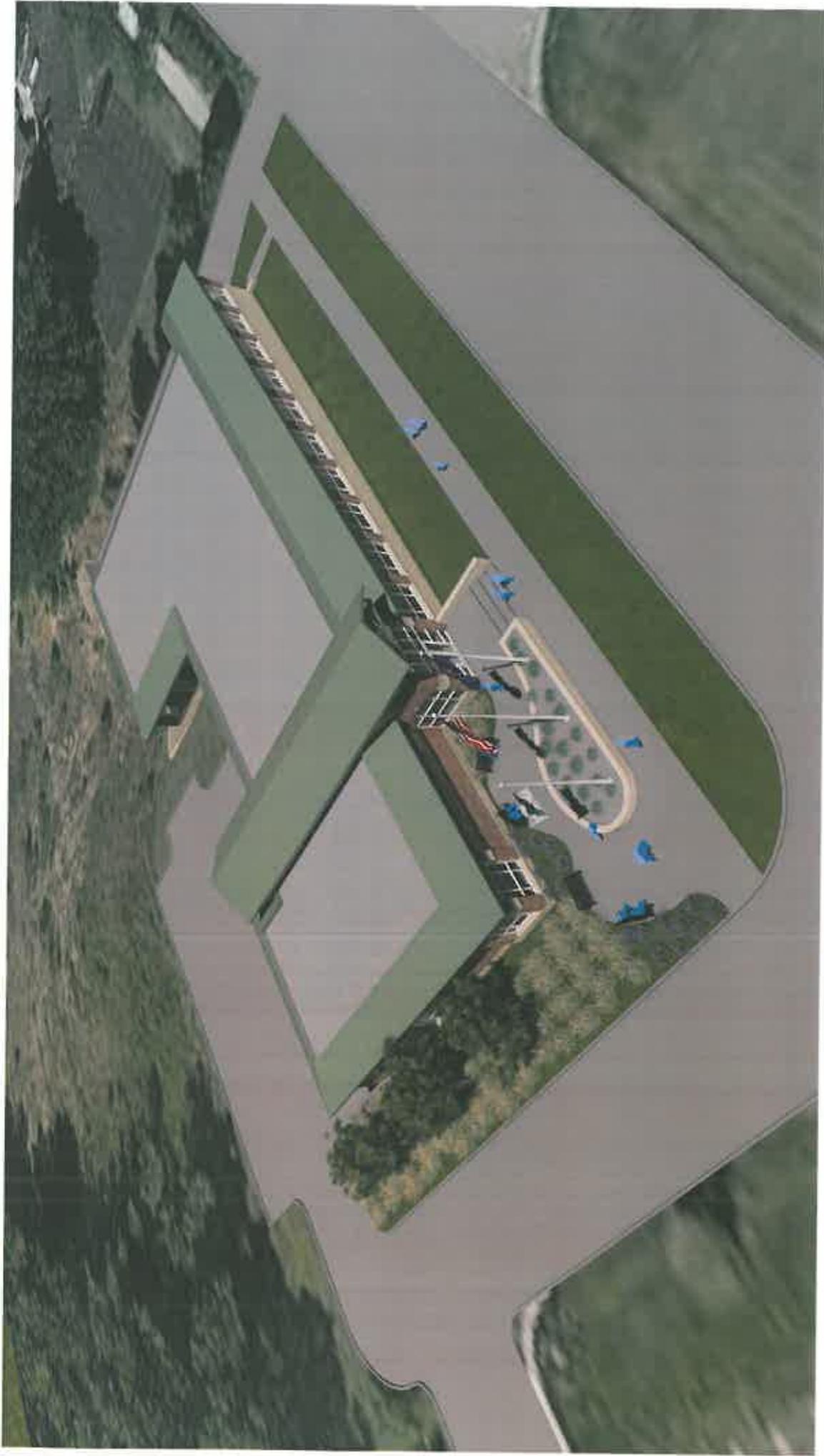


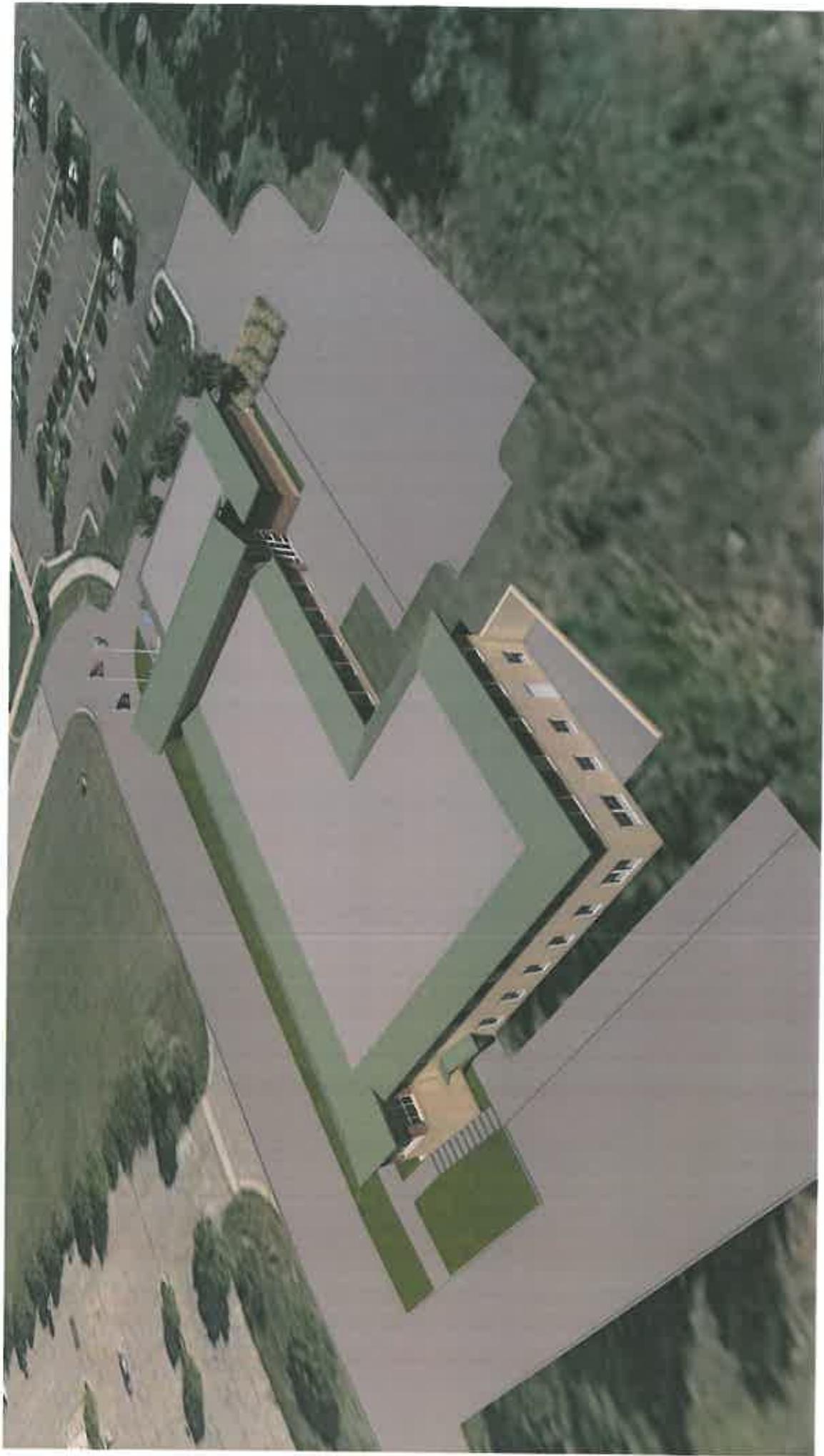


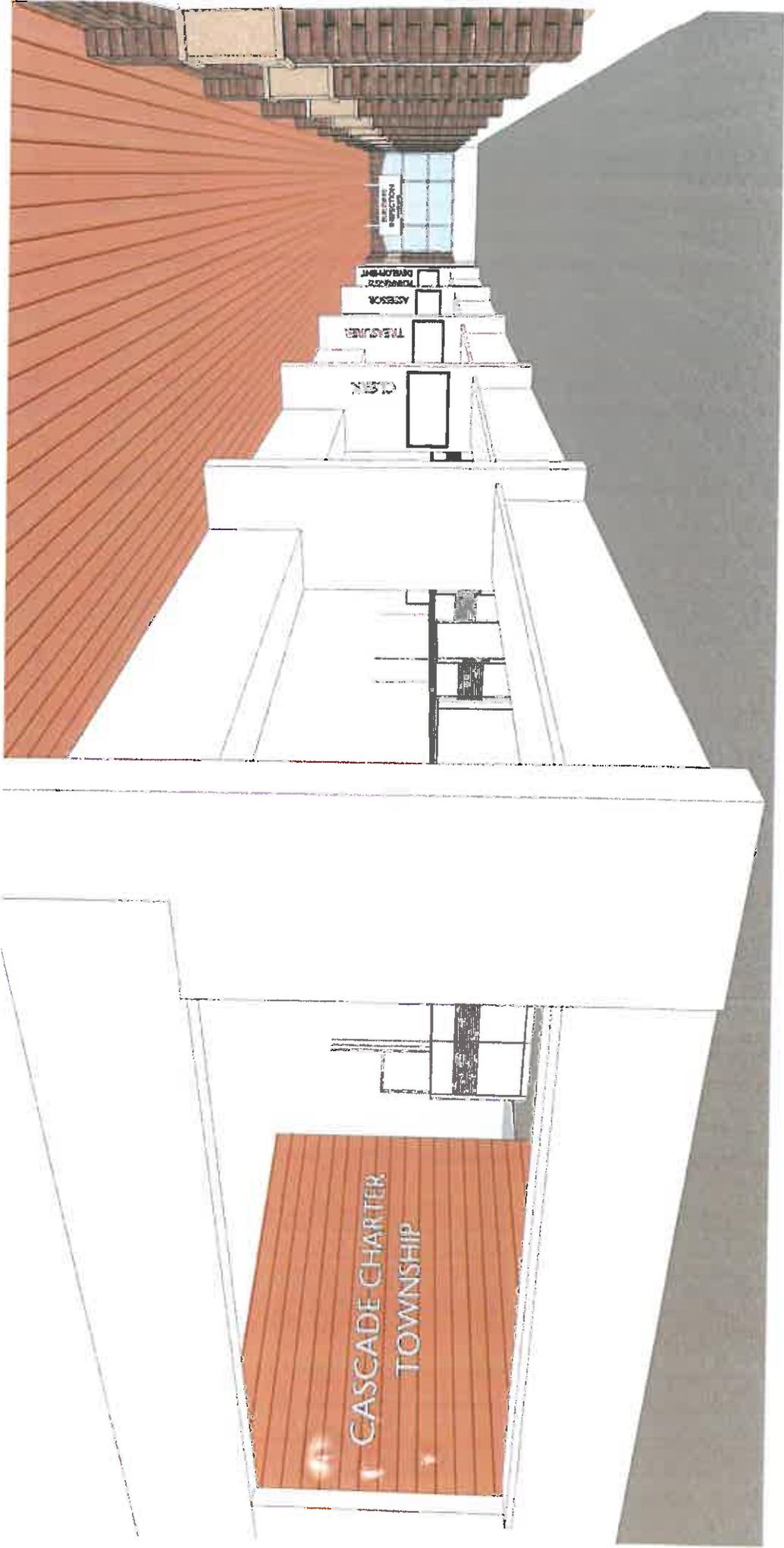
CASCADE CHARTER TOWNSHIP
8,937 GSF

LOWER LEVEL
SCALE: 1/16" = 1'-0"

fishbeck, thompson, carr & huber, inc.
09/02/15









LEED v4 for BD+C: New Construction and Major Renovation
Cascade Township Office

		Prerequisites/Credits		Responsibility	
		Primary	Secondary		
Project Information		-			
PII	Project Information				
Integrative Process		1			
IPe1	Integrative Process	1			
Location and Transportation		16			
LTa1	LEED for Neighborhood Development Location	16			
LTa2	Sensitive Land Protection	1			
LTa3	High Priority Site	2			
LTa4	Surrounding Density and Diverse Uses	5			
LTa5	Access to Quality Transit	5			
LTa6	Bicycle Facilities	4			
LTa7	Reduced Parking Footprint	1			
LTa8	Green Vehicles	1			
Sustainable Sites		10			
SSp1	Construction Activity Pollution Prevention	Required			
SSo1	Site Assessment	1			
SSc2	Site Development - Protect or Restore Habitat	2			
SSa4	Open Space	1			
SSo4	Rainwater Management	3			
SSc5	Heat Island Reduction	2			
SSc6	Light Pollution Reduction	1			
Water Efficiency		11			
WEp1	Outdoor Water Use Reduction	Required			
WEp2	Indoor Water Use Reduction	Required			
WEp3	Building-Level Water Metering	Required			
WEc1	Outdoor Water Use Reduction	2			
WEc2	Indoor Water Use Reduction	6			
WEc3	Cooling Tower Water Use	2			
WEc4	Water Metering	1			
Energy and Atmosphere		33			
EAp1	Fundamental Commissioning and Verification	Required			
EAp2	Minimum Energy Performance	Required			
EAp3	Building-Level Energy Metering	Required			
EAp4	Fundamental Refrigerant Management	Required			
EAc1	Enhanced Commissioning	6			
EAc2	Optimize Energy Performance	18			
EAc3	Advanced Energy Metering	1			
EAc4	Demand Response	2			
EAc5	Renewable Energy Production	3			
EAc6	Enhanced Refrigerant Management	1			
EAc7	Green Power and Carbon Offsets	2			
Materials and Resources		13			
MRp1	Storage and Collection of Recyclables	Required			
MRa2	Construction and Demolition Waste Management Planning	Required			
MRc1	Building Life-Cycle Impact Reduction	5			
MRc2	Building Product Disclosure and Optimization - Environmental Product	2			
MRc3	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2			
MRc4	Building Product Disclosure and Optimization - Material Ingredients	2			
MRc5	Construction and Demolition Waste Management	2			
Indoor Environmental Quality		16			
IEQp1	Minimum Indoor Air Quality Performance	Required			
IEQp2	Environmental Tobacco Smoke Control	Required			
IEQc1	Enhanced Indoor Air Quality Strategies	2			
IEQc2	Low-Emitting Materials	3			
IEQc3	Construction Indoor Air Quality Management Plan	1			
IEQc4	Indoor Air Quality Assessment	2			
IEQc5	Thermal Comfort	2			
IEQc6	Interior Lighting	2			
IEQc7	Daylight	3			
IEQc8	Quality Views	1			
IEQc9	Acoustic Performance	1			
Innovation		6			
INc1	Innovation	5			
INc2	LEED Accredited Professional	1			
Regional Priority		4			
RPc1	Regional Priority: SSo4 Rainwater Management	1			
RPc2	Regional Priority: EAc2 Optimize Energy Performance	1			
RPc3	Regional Priority: Specific Credit	1			
RPc4	Regional Priority: Specific Credit	1			
60	43	17	TOTALS	Possible Points	110
Certified: 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 110					

Preliminary Construction Cost Estimate

Cascade Charter Township Office

August 24, 2015

Based upon Schematic Design Drawings dated 8/24/15
 Main Level 12,903 Lower Level 8,937 Total 21,840

Work Item Description	Units	Factored Quantity	Unit Cost	Total Cost	Cost /SF
New Building					
A10 Standard Foundations	LS	1	\$ 256,912	\$ 256,912	
A20 Basement Construction	LS	1	\$ 217,116	\$ 217,116	
B10 Superstructure Construction	LS	1	\$ 745,062	\$ 745,062	
B20 Exterior Closure Construction	LS	1	\$ 674,365	\$ 674,365	
B30 Roof Covering Construction	LS	1	\$ 341,763	\$ 341,763	
C10 Interior Construction	LS	1	\$ 408,070	\$ 408,070	
C20 Stair Construction	LS	1	\$ 40,400	\$ 40,400	
C30 Interior Finishes	LS	1	\$ 346,161	\$ 346,161	
D10 Elevator Construction	LS	1	\$ 68,800	\$ 68,800	
D20 Plumbing	LS	1	\$ 92,697	\$ 92,697	
D30 HVAC	LS	1	\$ 654,330	\$ 654,330	
D40 Fire Protection	LS	1	\$ 76,339	\$ 76,339	
D50 Electrical	LS	1	\$ 528,917	\$ 528,917	
G10 Site Preparation	LS	1	\$ 25,868	\$ 25,868	
G20 Site Improvements	LS	1	\$ 148,681	\$ 148,681	
G30 Site Civil/Mechanical Utilities	LS	1	\$ 2,790	\$ 2,790	
"EV" Charging Station - Dual mount	ALLOW	1	\$ 6,500	\$ 6,500	
G50 Other Site Construction	LS	1	\$ 144,160	\$ 144,160	
Estimating and Design Contingencies	LS	1	\$ 443,893	\$ 443,893	
Builders Risk Insurance	LS	1	\$ 10,000	\$ 10,000	
Michigan Sales Tax	LS	0	\$ 143,173	\$ -	
SUBTOTAL BASE BUILDING AND SITE CONSTRUCTION COST				\$ 5,232,823	
BUILDING PERMITS				\$ 62,922	
GENERAL CONTRACTORS PROFIT				\$ 213,410	
CONTRACTORS OVERHEAD & GENERAL CONDITIONS				\$ 360,000	
SPECIAL INSPECTION & TESTING				\$ 50,000	
PAYMENT & PERFORMANCE BONDS				\$ 59,655	
TOTAL BASE CONSTRUCTION COST				\$ 5,869,155	\$269
CONSTRUCTION CONTINGENCY				\$ 299,628	
BASE CONSTRUCTION BUDGET				\$ 6,168,783	\$282
Furnishings					
Office Furnishings (based on 75% NEW)	LS	1	\$ 320,000	\$ 320,000	
Furnishing Design & Installation Fees	LS	1	\$ 35,000	\$ 35,000	
Audio - Visual Equipment	ALLOW	1	\$ 150,000	\$ 150,000	
Telecommunication/Data/Technology	ALLOW	1	\$ 25,000	\$ 25,000	
Window Treatment	ALLOW	1	\$ 12,000	\$ 12,000	
Artwork and Landscaping	ALLOW	1	\$ 10,000	\$ 10,000	
SUBTOTAL FURNISHINGS BUDGET				\$ 552,000	
CONTINGENCY				\$ 55,200	
TOTAL FURNISHINGS BUDGET				\$ 607,200	\$28
Soft Costs					
Basic Architect/Engineering Fees & Expenses	LS	1	\$ 520,000	\$ 520,000	
LEED Administration	LS	1	\$ 45,000	\$ 45,000	
LEED/GBCI Application & Review	LS	1	\$ 3,500	\$ 3,500	
LEED Fundamental and Enhanced Commissioning	LS	1	\$ 35,000	\$ 35,000	
LEED Energy Modeling	LS	1	\$ 30,000	\$ 30,000	
Moving Costs	ALLOW	1	\$ 10,000	\$ 10,000	
Owner Administrative/Legal Costs	ALLOW	1	\$ 10,000	\$ 10,000	
Building Surveying	LS	1	\$ 5,000	\$ 5,000	
Soil Boring and Geotech	LS	1	\$ 5,000	\$ 5,000	
SUBTOTAL SOFT COSTS/FEEES				\$ 663,500	
CONTINGENCY				\$ 66,350	
TOTAL SOFT COST/FEE BUDGET				\$ 729,850	\$33
Summary					
BASE CONSTRUCTION BUDGET				\$ 6,168,783	
TOTAL FURNISHINGS BUDGET				\$ 607,200	
TOTAL SOFT COST/FEE BUDGET				\$ 729,850	
TOTAL PROJECT BUDGET				\$ 7,505,833	\$344

Scenario 3 - Finance 50% of Construction Costs Over 10 Years

Amount Paid Cash: \$4,405,833
 Amount Financed: \$3,158,456
 Average Service: \$380,291
 Interest Paid: \$644,454

Under this scenario, the Township would pay cash for the furnishings and soft costs as well as 50% of the base construction costs and finance the remaining base construction costs over a period of 10 years.

	<u>Level of Building Department Support</u>			
	<u>20%</u>	<u>25%</u>	<u>30%</u>	<u>35%</u>
General Fund Cash:	\$3,524,666.40	\$3,304,374.75	\$3,084,083.10	\$2,863,791.45
General Fund Debt Service:	\$304,232.80	\$285,218.25	\$266,203.70	\$247,189.15
Building Fund Cash:	\$881,166.60	\$1,101,458.25	\$1,321,749.90	\$1,542,041.55
Building Fund Debt Service:	\$76,058.20	\$95,072.75	\$114,087.30	\$133,101.85
Years on Debt Service:	10	10	10	10
General Fund Total Cost:	\$6,566,994.40	\$6,156,557.25	\$5,746,120.10	\$5,335,682.95
Building Fund Total Cost:	\$1,641,748.60	\$2,052,185.75	\$2,462,622.90	\$2,873,060.05
Total Project Cost:	\$8,208,743.00	\$8,208,743.00	\$8,208,743.00	\$8,208,743.00

CASCADE CHARTER TOWNSHIP
10 YEAR FORECAST
MILLAGE FUNDS
2012 THROUGH 2025
PRINT DATE 1/22/2016

	2012 ACTUAL	2013 ACTUAL	2014 BUDGET	2015 ESTIMATE	2016 ESTIMATE	2017 ESTIMATE	2018 ESTIMATE	2019 ESTIMATE	2020 ESTIMATE	2021 ESTIMATE	2022 ESTIMATE	2023 ESTIMATE	2024 ESTIMATE	2025 ESTIMATE	
181- GENERAL FUND															
FUNDS															
REVENUE	3,977,999	3,937,657	3,866,424	4,007,867	4,078,431	4,112,228	4,198,340	4,293,901	4,401,106	4,497,209	4,605,445	4,605,445	4,605,445	4,605,445	59,842,852
EXPENSE	3,402,348	3,030,031	3,363,333	4,070,530	4,167,788	3,631,178	3,880,715	3,809,468	3,884,725	3,490,485	3,581,222	3,667,873	3,813,912	3,881,955	51,773,263
NET REV/EXPENSE	575,651	907,626	603,091	(62,662)	(89,357)	481,050	217,625	484,433	516,381	1,006,724	1,024,223	937,771	791,533	723,489	8,067,589
BEGINNING FUND BALANCE	6,233,637	6,741,318	7,648,944	8,252,035	8,189,372	8,100,015	8,581,065	8,798,650	9,283,123	9,799,504	10,806,228	11,830,451	12,768,223	13,559,756	6,215,657
ENDING FUND BALANCE	6,741,318	7,648,944	8,252,035	8,189,372	8,100,015	8,581,065	8,798,650	9,283,123	9,799,504	10,806,228	11,830,451	12,768,223	13,559,756	14,283,246	14,283,246
FIRE FUND															
REVENUE	2,189,035	2,104,703	2,189,382	2,259,760	2,184,357	2,293,397	2,284,476	2,331,561	2,387,008	2,446,284	2,499,841	2,559,198	2,625,220	2,693,410	32,990,652
EXPENSE	2,324,182	2,133,066	2,452,255	2,093,780	2,292,240	2,109,775	2,619,228	2,173,016	2,232,721	2,316,745	2,378,104	2,442,231	2,509,273	2,579,394	32,655,972
NET REV/EXPENSE	(135,147)	(28,363)	(268,873)	165,980	(107,883)	123,623	(334,752)	158,545	154,287	129,539	121,736	116,967	115,947	114,016	334,680
BEGINNING FUND BALANCE	2,327,808	2,401,718	2,373,353	2,104,480	2,270,460	2,162,576	2,286,199	1,951,446	2,109,992	2,264,279	2,393,818	2,515,555	2,632,522	2,748,469	2,527,805
ENDING FUND BALANCE	2,401,718	2,373,353	2,104,480	2,270,460	2,162,576	2,286,199	1,951,446	2,109,992	2,264,279	2,393,818	2,515,555	2,632,522	2,748,469	2,862,485	2,862,485
POLICE FUND															
REVENUE	605,213	594,373	607,719	626,056	632,605	629,260	644,805	663,331	681,831	700,847	719,581	738,629	758,269	781,206	9,383,725
EXPENSE	379,531	546,154	573,107	589,463	606,475	624,124	642,406	661,318	680,864	701,049	721,882	743,373	765,536	788,386	9,221,660
NET REV/EXPENSE	225,682	48,219	34,612	36,591	26,130	5,136	2,399	2,013	967	(202)	(2,301)	(4,744)	(7,267)	(7,180)	162,065
BEGINNING FUND BALANCE	1,134,552	1,142,244	1,190,463	1,225,075	1,261,666	1,287,796	1,292,932	1,295,331	1,297,344	1,298,311	1,298,109	1,295,808	1,291,064	1,283,788	1,276,617
ENDING FUND BALANCE	1,142,244	1,190,463	1,225,075	1,261,666	1,287,796	1,292,932	1,295,331	1,297,344	1,298,311	1,298,109	1,295,808	1,291,064	1,283,788	1,276,617	1,276,617
OCT OPEN SPACE															
REVENUE	107,039	296,418	309,428	313,799	319,268	316,301	323,897	333,028	342,256	351,816	361,138	370,609	380,458	392,090	4,717,546
EXPENSE	358,782	356,971	364,856	368,826	367,360	365,283	367,605	364,823	365,466	365,782	365,345	369,216	367,580	370,433	5,118,139
NET REV/EXPENSE	(251,743)	(60,553)	(55,228)	(55,028)	(48,092)	(48,982)	(43,708)	(31,795)	(23,210)	(13,966)	(4,207)	1,393	12,879	21,657	(400,593)
BEGINNING FUND BALANCE	628,014	586,261	525,708	470,480	415,452	367,360	318,378	274,670	242,874	219,664	205,698	201,492	202,885	215,764	638,014
ENDING FUND BALANCE	586,261	525,708	470,480	415,452	367,360	318,378	274,670	242,874	219,664	205,698	201,492	202,885	215,764	237,421	237,421

CASCADE CHARTER TOWNSHIP
10 YEAR FORECAST
MILLAGE FUNDS
2012 THROUGH 2025
PRINT DATE 1/22/2016

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
	ACTUAL	ACTUAL	BUDGET	ESTIMATE											
PATHWAYS															
REVENUE	1,475,049	514,709	523,540	545,475	552,404	545,610	557,802	2,068	1,296	(478)	(760)	(1,043)	(1,328)	(1,614)	4,674,028
EXPENSE	1,794,393	429,023	578,102	473,462	966,483	824,746	461,824	56,412	356,000	56,000	55,900	55,900	55,900	55,900	6,190,648
NET REV/EXPENSE	(319,344)	85,686	(54,562)	72,013	(414,079)	(279,136)	95,978	(54,344)	(354,704)	(56,478)	(56,660)	(56,943)	(57,228)	(57,514)	(1,516,619)
BEGINNING FUND BALANCE	1,010,790	707,613	793,299	738,737	810,750	396,671	117,535	213,513	159,168	(195,536)	(252,013)	(308,675)	(365,618)	(422,846)	1,036,260
ENDING FUND BALANCE	707,613	793,299	738,737	810,750	396,671	117,535	213,513	159,168	(195,536)	(252,013)	(308,675)	(365,618)	(422,846)	(480,359)	(480,359)
LIBRARY															
REVENUE	577,185	523,244	561,608	298,065	235,899	241,175	245,386	251,634	258,047	254,193	270,382	277,792	285,382	293,206	4,518,297
EXPENSE	558,023	739,692	229,814	291,189	228,061	560,572	218,820	226,808	260,440	244,778	254,333	264,370	274,906	285,962	4,637,566
NET REV/EXPENSE	18,162	(216,448)	331,794	(53,124)	7,938	(319,397)	26,766	24,826	(2,394)	19,415	16,050	13,422	10,476	7,244	(119,269)
BEGINNING FUND BALANCE	1,802,765	1,816,927	1,600,479	1,932,273	1,879,149	1,887,088	1,567,691	1,594,456	1,619,283	1,616,889	1,636,304	1,652,354	1,665,776	1,676,252	1,802,765
ENDING FUND BALANCE	1,816,927	1,600,479	1,932,273	1,879,149	1,887,088	1,567,691	1,594,456	1,619,283	1,616,889	1,636,304	1,652,354	1,665,776	1,676,252	1,683,496	1,683,496
TOTAL ALL MILLAGE FUNDS															
REVENUE	9,046,749	7,971,104	8,152,101	7,991,021	8,003,064	8,077,972	8,254,706	7,875,522	8,071,544	8,259,873	8,455,626	8,550,629	8,653,446	8,763,743	116,127,101
EXPENSE	8,985,171	7,234,939	7,561,267	7,887,251	8,628,407	8,115,679	8,290,398	7,291,845	7,780,216	7,174,839	7,356,786	7,542,763	7,787,108	7,952,030	109,599,248
NET REV/EXPENSE	61,078	736,165	590,834	103,769	(625,343)	(37,707)	(35,692)	583,678	291,328	1,085,034	1,098,841	1,007,866	866,339	801,713	6,527,853
BEGINNING FUND BALANCE	13,335,053	13,396,081	14,132,246	14,723,079	14,826,848	14,201,505	14,163,799	14,128,106	14,711,784	15,003,112	16,088,145	17,186,985	18,194,853	19,061,193	13,335,053
ENDING FUND BALANCE	13,396,081	14,132,246	14,723,079	14,826,848	14,201,505	14,163,798	14,128,106	14,711,784	15,003,112	16,088,146	17,186,985	18,194,851	19,061,192	19,862,906	19,862,906

** The projection are based on the actual prior years balance and adopted budget for the current year. Figures are subject to change throughout the year; forecast does not reflect the current year activity.**

01/22/2016

BUDGET REPORT FOR CASCADE CHARTER TOWNSHIP

Calculations as of 12/31/2015

GL NUMBER	DESCRIPTION	2013 ACTIVITY	2014 ACTIVITY	2015 ACTIVITY	2016 RECOMMENDED BUDGET	2016 RECOMMENDED AMT CHANGE	2016 RECOMMENDED % CHANGE
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Fund 249 - BUILDING FUND

ESTIMATED REVENUES

Dept 000							
249-000-600-644	NSF FEES	40					
249-000-607-483	CASCADE TWP EDBG COM PERMITS	105,799	152,606	257,317	130,000	127,317	98.7%
249-000-607-484	CASCADE TWP BLDG RES PERMITS	30,039	138,120	94,835	95,000	5,000	5.3%
249-000-607-485	CASCADE TWP ELECTRICAL PERMITS	63,800	81,232	105,856	70,000	(27,000)	(27.84)
249-000-607-486	CASCADE TWP MECHANICAL PERMITS	85,436	99,061	116,960	80,000	(26,000)	(24.53)
249-000-607-487	CASCADE TWP PLUMBING PERMITS	44,537	51,549	61,509	55,000	(6,509)	(11.83)
249-000-607-488	CASCADE TWP PLAN REVIEWS	104,504	97,061	110,484	85,000	(25,484)	(29.99)
249-000-607-490	CASCADE TWP CONTRACTOR REG	11,510	9,895	7,110	8,000	(890)	(11.12)
249-000-607-500	LOWELL TWP BUILDING PERMITS	24,759	18,215	19,939	21,000	1,061	5.05%
249-000-607-501	LOWELL TWP ELECTRICAL PERMITS	10,361	9,200	9,156	8,000	(1,156)	(14.51)
249-000-607-502	LOWELL TWP MECHANICAL PERMITS	8,585	9,120	10,505	8,000	(2,505)	(31.23)
249-000-607-503	LOWELL TWP PLUMBING PERMITS	7,359	5,318	5,768	6,000	232	3.83%
249-000-607-511	VERGENNES TWP ELECTRICAL PERMITS	3,701	9,828	9,969	8,000	(1,969)	(24.58)
249-000-607-512	VERGENNES TWP MECHANICAL PERMITS	5,736	9,485	9,550	7,000	(2,550)	(36.35)
249-000-607-516	VERGENNES TWP PLUMBING PERMITS	7,083	6,172	5,592	8,000	2,408	30.1%
249-000-607-520	ADA TWP BUILDING PERMITS	150,896	77,891	99,084	80,000	(19,084)	(23.91)
249-000-607-521	ADA TWP PLUMBING PERMITS	19,534	19,352	29,413	30,000	587	1.96%
249-000-607-525	ADA TWP ELECTRICAL PERMITS	41,791	34,389	41,732	35,000	(6,732)	(19.05)
249-000-607-524	ADA TWP MECHANICAL PERMITS	39,797	39,648	47,595	35,000	(12,595)	(36.01)
249-000-607-531	GR TWP BUILDING PERMITS	200,856	154,445	109,932	105,000	(4,932)	(4.67)
249-000-607-532	GR TWP ELECTRICAL PERMITS	66,566	51,977	46,019	50,000	3,981	7.91%
249-000-607-533	GR TWP MECHANICAL PERMITS	74,276	63,862	58,210	58,000	(210)	(0.36)
249-000-607-534	GR TWP PLUMBING PERMITS	39,071	36,841	32,704	38,000	5,196	13.44%
249-000-607-536	EAST GR BUILDING PERMITS	51,392	67,223	64,424	56,000	(8,424)	(15.00)
249-000-607-537	EAST GR ELECTRICAL PERMITS	32,883	36,360	37,295	32,000	(5,295)	(16.55)
249-000-607-538	EAST GR MECHANICAL PERMITS	40,052	42,410	42,714	40,000	(2,714)	(6.78)
249-000-607-539	EAST GR PLUMBING PERMITS	22,246	24,300	27,994	24,000	(3,994)	(16.64)
249-000-607-541	EAST GR-MENTAL INSP	2,900	3,250	2,450	4,000	1,550	38.75%
249-000-607-551	PLAINFIELD - ELECTRICAL PERMITS	59,933	68,094	69,411	62,000	(7,411)	(11.92)
249-000-607-552	PLAINFIELD MECHANICAL PERMITS	75,492	91,832	95,059	84,000	(11,059)	(13.11)
249-000-607-553	PLAINFIELD - PLUMBING PERMITS	165	41,405	48,456	42,000	(6,456)	(15.43)
249-000-607-555	PLAINFIELD INSPECTION FEES -NP	14,050	16,338	2,550	2,000	(550)	(27.07)
249-000-607-560	LOWELL, CITY OF - BUILDING PERMITS	11,228	16,584	19,355	18,000	(1,355)	(7.83)
249-000-607-561	LOWELL, CITY OF - ELECTRICAL PERMITS	8,413	6,626	7,347	7,000	(347)	(4.74)

249-000-607-563	LOWELL CITY OF - MECHANICAL PERMITS	4,263	2,589	5,160	5,000				
249-000-607-563	LOWELL CITY OF - PLUMBING PERMITS	2,393	2,820	4,653	5,000				
249-000-665-000	INTEREST REVENUE	534	1,248	11,583	18,850				
249-000-671-671	MISCELLANEOUS INCOME	1,589	1,925	1,866	1,000			7,150	61.11
249-000-673-000	SALE OF ASSETS		100						
249-000-676-000	REIMBURSEMENT INSURANCE/ELECTION			(1,845)					
Totals for dept 000-		1,545,964	1,599,512	1,727,021	1,420,850	(1,701,150)		(10,669)	
TOTAL ESTIMATED REVENUES		1,545,964	1,599,512	1,727,021	1,420,850			(10,669)	

APPROPRIATIONS									
DEPT 371-BUILDING DEPARTMENT									
249-371-703-000	DIRECTOR OF INSPECTIONS	86,436	81,906	71,828	84,980	5,246		6.58	
249-371-706-000	BLDG WAGES/SALARY- KO	57,156	59,167	61,297	62,830	1,533		2.50	
249-371-706-302	BLDG INSPECTOR - JB	41,237	54,808	60,960	62,484	1,574		2.50	
249-371-706-303	BLDG INSPECTOR - WIR	45,385	59,885	63,538	65,117	1,589		2.50	
249-371-706-304	BLDG INSPECTOR - DH	66,546	65,043	66,083	67,141	1,058		1.60	
249-371-706-305	BLDG INSPECTOR - JV/NM	59,533	48,211	60,960	62,485	1,525		2.50	
249-371-706-306	BLDG INSPECTOR / PT - SB	30,554	34,974	47,517	58,944	11,944		24.88	
249-371-706-307	BLDG INSPECTOR - JH	2,500							
249-371-706-309	BLDG INSPECTOR - DHU		39,749	54,037	57,143	3,106		5.75	
249-371-706-400	BUILDING CLERICAL I	41,232	34,097	36,067	39,032	2,958		8.20	
249-371-708-401	BUILDING CLERICAL H- JC	5,217	11,602	13,507	16,900	1,352		8.70	
249-371-706-402	BUILDING CLERICAL PART-TIME KH	10,761	11,695	13,145	16,900	1,352		8.70	
249-371-706-500	BLDG ADDITIONAL HELP	47,252	19,812	16,563	28,000	4,000		16.67	
249-371-723-000	MEMBERSHIPS AND DUES	1,937	1,462	3,464	3,200				
249-371-724-000	EDUCATION	1,670	3,025	1,959	5,000				
249-371-727-000	SUPPLIES		1,638	2,763	4,500				
249-371-756-000	DEPARTMENT SUPPLIES	5,142	3,296	3,784	9,000				
249-371-757-000	SUPPLIES-HCC BOOKS	5,561	10,908	3,784	9,000				
249-371-768-000	DEPARTMENT UNIFORMS	1,468	2,214	2,366	3,900	1,570		62.50	
249-371-787-000	OTHER EXPENSES	1,575	72	514	1,500				
249-371-787-200	OTHER EXPENSES- CREDIT CARD FEES	1,371	6,396	11,012	12,000	3,500		41.18	
249-371-807-000	AUDIT FEES & SERVICES	1,242	1,214	750	1,300	420		47.73	
249-371-810-000	INSURANCE	5,416	5,717	6,346	5,408				
249-371-850-000	MAILEAGE	55,305	52,404	58,692	54,000	4,000		8.00	
249-371-862-500	DEPT HEAD, SUPV EXPENSES	67	220	286	500				
249-371-900-000	PRINTING & PUBLISHING		655		2,000				
249-371-924-000	PHONES	1,888	1,153	979	1,800				
249-371-924-100	CELL PHONES	3,555	5,734	5,652	5,500				
249-371-931-000	OFFICE EQUIP & COMPUTER REPAIR	8,347	980		6,000	3,500		140.00	
249-371-939-000	SERVICE CONTRACTS	3,427	8,523	9,904	12,000	3,000		33.33	
249-371-941-000	POSTAGE & MACHINE LEASE	750	750	750	1,000				
249-371-950-000	DEPARTMENT RENTHDS	275							
249-371-957-000	BLDG PHYSICAL EXAMS		514		750				

249-371-967-000	BLDG - SPECIAL PROJECTS	289	73	24,514	24,000	(514)	(31,481)	(31,481)
249-371-961-000	SMALL EQUIPMENT/FURNITURE	343	891	5,056	5,000	(56)	(3,339)	(3,339)
Totals for dept 371-BUILDING DEPARTMENT		597,496	628,926	704,293	787,816	40,524	5,365	5,365

Dept 850-BENEFITS/INSURANCE								
249-850-715-000	FICA-EMPLOYER	97,253	97,724	41,976	47,657	2,865	6,35	6,35
249-850-717-000	WORKERS COMP INSURANCE	8,090	9,374	11,482	10,026	1,437	12,73	12,73
249-850-718-000	VISION INSURANCE BENEFITS	793	1,037	1,214	1,391	226	19,40	19,40
249-850-719-000	HEALTH INSURANCE BENEFITS	34,547	64,952	80,847	90,936	9,255	11,33	11,33
249-850-719-100	OPT-OUT INSURANCE	1,500	1,000	1,500	2,000	500	39,38	39,38
249-850-719-200	MI CLAIMS TAX- HEALTH	624			200			
249-850-720-000	LIFE & DISABILITY INSURANCE	2,739	3,054	4,014	4,803	555	13,06	13,06
249-850-721-000	DENTAL INSURANCE BENEFITS	6,004	7,062	9,323	10,738	(910)	(7,81)	(7,81)
249-850-721-200	MI CLAIMS TAX- DENTAL	79	77	72	200			
249-850-722-000	PENSION PLAN BENEFITS	38,577	43,438	204,286	56,117	(24,000)	(100,00)	(100,00)
Totals for dept 850-BENEFITS/INSURANCE		130,206	167,683	354,564	224,068	(134,624)	(37,53)	(37,53)

Dept 901-CAPITAL OUTLAY								
249-901-670-000	CAPITAL OUTLAY - FEE	19,672	5,149	11,579				
Totals for dept 901-CAPITAL OUTLAY		19,672	5,149	11,579				

Dept 964-PAYMENTS TO OTHER TOWNSHIPS								
249-964-964-100	PERMITS DUE TO LOWELL TWP	10,183	8,353	8,958	8,600			
249-964-964-200	PERMITS DUE TO VERGENNES TWP	3,304	5,094	5,112	4,600			
249-964-964-300	PERMITS DUE TO GR TWP	76,027	61,399	49,328	50,200	(400)	(0,79)	(0,79)
249-964-964-400	PERMITS DUE TO ADA TWP	52,366	34,246	48,582	36,000			
249-964-964-500	PERMITS DUE TO EAST GR	29,326	34,091	34,401	30,400			
249-964-964-600	PERMITS DUE PLAINFIELD	25,840	41,436	42,572	37,600	(5,000)	(11,74)	(11,74)
249-964-964-700	PERMITS DUE CITY OF LOWELL	5,259	5,932	7,304	7,000			
249-964-964-800	PERMITS DUE CASCADE TWP	62,344	102,570	127,275	86,000			
Totals for dept 964-PAYMENTS TO OTHER TOWNSHIPS		264,547	299,871	318,532	266,500			

TOTAL APPROPRIATIONS								
MET OP REVENUES/APPROPRIATIONS - FUND 249		514,008	498,283	338,053	148,566	12,690		
TOTAL APPROPRIATIONS		1,011,961	1,095,229	1,388,968	1,272,284	(157,520)	(11,02)	(11,02)

BEGINNING FUND BALANCE								
ENDING FUND BALANCE		1,299,997	1,798,261	2,136,333	2,294,899			

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**#3 (50% Est. Construction Costs) - 10 Yr.
CHARTER TOWNSHIP OF CASCADE
COUNTY OF KENT, STATE OF MICHIGAN**

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HUTCHINSON, SHOCKEY, ERLEY & CO. DISCLAIMER LANGUAGE

**#3 (50% Est. Construction Costs) - 10 Yr.
CHARTER TOWNSHIP OF CASCADE
COUNTY OF KENT, STATE OF MICHIGAN**

Non-Advice Disclaimer

Important Information about Our Communications with You

In connection with its responsibilities under the federal securities laws and the rules of the Municipal Securities Rulemaking Board, Hutchinson, Shockey, Erley & Co. wants to ensure that you understand the purpose of our communications with you and the role we intend to play in any transactions that we may engage in with you. We are communicating with you for the purpose of soliciting business as an underwriter of municipal securities. We propose to serve as an underwriter, not as a financial advisor or municipal advisor, in connection with any transaction that may result from our communications. Please note that:

- » *HSE is not recommending that you take any action;*
- » *HSE is not acting as the advisor to you or any obligated person on a municipal securities issue and do not owe a fiduciary duty pursuant to Section 15B of the Securities Exchange Act of 1934 to you or any obligated person with respect to the information and material contained in this communication;*
- » *HSE is acting for its own interests; and*
- » *You and any person that will have a repayment obligation with respect to any municipal securities issue being considered should discuss any information and material contained in this communication with any and all internal or external advisors and experts that you or the obligated person deem appropriate before acting on this information or material.*

MSRB Rule G-17

HSE would serve as an underwriter in connection with the proposed Offering of municipal securities, not as a financial advisor. Rule G-17 of the Municipal Securities Rulemaking Board requires an underwriter such as HSE to deal fairly at all times with both municipal issuers and investors. HSE's primary role in the Offering would be to purchase securities with a view to distribution in an arm's-length commercial transaction with the Issuer, and HSE has financial and other interests that differ from those of the Issuer. Unlike a municipal advisor, HSE as an underwriter does not have a fiduciary duty to the Issuer under the federal securities laws and is, therefore, not required by federal law to act in the best interests of the Issuer without regard to its own financial or other interests. HSE will have a duty to purchase any securities sold in the offering from the Issuer at a fair and reasonable price, but must balance that duty with its duty to sell those securities to investors at prices that are fair and reasonable. HSE makes no recommendation with regard to the hiring of a municipal advisor by the Issuer. HSE's compensation as an underwriter would be contingent on the closing of the Offering. Such contingent compensation presents a conflict of interest, because it may cause HSE to recommend the Offering even if it is unnecessary or to recommend that the size of the Offering be larger than is necessary. If retained, HSE will review the official statement for the securities sold in the Offering in accordance with, and as part of, its responsibilities to investors under the federal securities laws, as applied to the facts and circumstances of the Offering.

Informational Accuracy and Future Performance Disclaimer

Some information contained herein has been obtained from sources believed to be reliable, but is not necessarily complete and its accuracy cannot be guaranteed. Any opinions expressed are subject to change without notice. Any performance information shown represents historical market information only and does not infer or represent any past performance. It should not be assumed that any historical market performance information discussed herein will equal such future performance.

SOURCES AND USES OF FUNDS**#3 (50% Est. Construction Costs) - 10 Yr.
CHARTER TOWNSHIP OF CASCADE
COUNTY OF KENT, STATE OF MICHIGAN**

Dated Date 07/01/2016
 Delivery Date 07/01/2016

Sources:

Bond Proceeds:	
Par Amount	3,000,000.00
Premium	209,683.50
	3,209,683.50

Uses:

Project Fund Deposits:	
Base Construction Budget	3,100,000.00
Cost of Issuance:	
Costs of Issuance (est)	75,000.00
Underwriter's Discount:	
Underwriting Discount (1%) *Estimate	30,000.00
Other Uses of Funds:	
Additional Proceeds	4,683.50
	3,209,683.50

Notes:

Base CUSIP of Issuer: 147384

All Costs of Issuance & Underwriter's Discount are estimated and subject to change

Underlying Rating of the Issuer : Aa1 / AAA / NR

BOND SUMMARY STATISTICS

**#3 (50% Est. Construction Costs) - 10 Yr.
CHARTER TOWNSHIP OF CASCADE
COUNTY OF KENT, STATE OF MICHIGAN**

Dated Date	07/01/2016
Delivery Date	07/01/2016
First Coupon	02/01/2017
Last Maturity	02/01/2026
Arbitrage Yield	2.548046%
True Interest Cost (TIC)	2.741961%
Net Interest Cost (NIC)	2.860127%
All-in TIC	3.238495%
Average Coupon	3.965872%
Average Life (years)	5.417
Weighted Average Maturity (years)	5.463
Duration of Issue (years)	4.899
Par Amount	3,000,000.00
Bond Proceeds	3,209,683.50
Total Interest	644,454.17
Net Interest	464,770.67
Bond Years from Dated Date	16,250,000.00
Bond Years from Delivery Date	16,250,000.00
Total Debt Service	3,644,454.17
Maximum Annual Debt Service	366,900.00
Average Annual Debt Service	380,290.87
Underwriter's Fees (per \$1000)	
Average Takedown	
Other Fee	10.000000
Total Underwriter's Discount	10.000000
Bid Price	105.989450

Bond Component	Par Value	Price	Average Coupon	Average Life	Duration	PV of 1 bp change
Serial Bond	3,000,000.00	106.989	3.966%	5.417	4.914	1,538.75
	3,000,000.00			5.417		1,538.75

	TIC	All-In TIC	Arbitrage Yield
Par Value	3,000,000.00	3,000,000.00	3,000,000.00
+ Accrued Interest			
+ Premium (Discount)	209,683.50	209,683.50	209,683.50
- Underwriter's Discount	(30,000.00)	(30,000.00)	
- Cost of Issuance Expense		(75,000.00)	
- Other Amounts			
Target Value	3,179,683.50	3,104,683.50	3,209,683.50
Target Date	07/01/2016	07/01/2016	07/01/2016
Yield	2.741961%	3.238495%	2.548046%

BOND PRICING

**#3 (50% Est. Construction Costs) - 10 Yr.
CHARTER TOWNSHIP OF CASCADE
COUNTY OF KENT, STATE OF MICHIGAN**

Bond Component	Maturity Date	Amount	Rate	Yield	Price	Premium (-Discount)
Serial Bond:						
	02/01/2017	245,000.00	3.000%	0.850%	101.247	3,055.15
	02/01/2018	260,000.00	3.000%	1.170%	102.861	7,438.60
	02/01/2019	270,000.00	4.000%	1.490%	106.336	17,107.20
	02/01/2020	280,000.00	4.000%	1.820%	107.528	21,078.40
	02/01/2021	295,000.00	4.000%	2.080%	108.350	24,632.50
	02/01/2022	305,000.00	4.000%	2.330%	108.694	26,516.70
	02/01/2023	315,000.00	4.000%	2.570%	108.608	27,115.20
	02/01/2024	330,000.00	4.000%	2.790%	108.216	27,112.80
	02/01/2025	345,000.00	4.000%	2.920%	108.145	28,100.25
	02/01/2026	355,000.00	4.000%	3.060%	107.754	27,526.70
3,000,000.00						209,683.50

Dated Date	07/01/2016	
Delivery Date	07/01/2016	
First Coupon	02/01/2017	
Par Amount	3,000,000.00	
Premium	209,683.50	
Production	3,209,683.50	106.989450%
Underwriter's Discount	(30,000.00)	(1.000000%)
Purchase Price	3,179,683.50	105.989450%
Accrued Interest		
Net Proceeds	3,179,683.50	

Notes:

Market Rate Assumptions: (As of Sep-29-2015) +50 Basis Points
 Bank Qualified - Limited Tax General Obligation
 Optional Redemption Feature : 10 year call at Par
 Interest Rates are preliminary and subject to change
 Underlying Rating of the Issuer : Aa1 / AAA / NR

BOND DEBT SERVICE

**#3 (50% Est. Construction Costs) - 10 Yr.
CHARTER TOWNSHIP OF CASCADE
COUNTY OF KENT, STATE OF MICHIGAN**

Dated Date 07/01/2016
 Delivery Date 07/01/2016

Period Ending	Principal	Coupon	Interest	Debt Service
12/31/2017	245,000.00	3.000%	120,854.17	365,854.17
12/31/2018	260,000.00	3.000%	103,700.00	363,700.00
12/31/2019	270,000.00	4.000%	94,400.00	364,400.00
12/31/2020	280,000.00	4.000%	83,400.00	363,400.00
12/31/2021	295,000.00	4.000%	71,900.00	366,900.00
12/31/2022	305,000.00	4.000%	59,900.00	364,900.00
12/31/2023	315,000.00	4.000%	47,500.00	362,500.00
12/31/2024	330,000.00	4.000%	34,600.00	364,600.00
12/31/2025	345,000.00	4.000%	21,100.00	366,100.00
12/31/2026	355,000.00	4.000%	7,100.00	362,100.00
	3,000,000.00		644,454.17	3,644,454.17

BOND DEBT SERVICE

**#3 (50% Est. Construction Costs) - 10 Yr.
CHARTER TOWNSHIP OF CASCADE
COUNTY OF KENT, STATE OF MICHIGAN**

Dated Date 07/01/2016
Delivery Date 07/01/2016

Period Ending	Principal	Coupon	Interest	Debt Service	Annual Debt Service
02/01/2017	245,000.00	3.000%	67,054.17	312,054.17	
08/01/2017			53,800.00	53,800.00	365,854.17
02/01/2018	260,000.00	3.000%	53,800.00	313,800.00	
08/01/2018			49,900.00	49,900.00	363,700.00
02/01/2019	270,000.00	4.000%	49,900.00	319,900.00	
08/01/2019			44,500.00	44,500.00	364,400.00
02/01/2020	280,000.00	4.000%	44,500.00	324,500.00	
08/01/2020			38,900.00	38,900.00	363,400.00
02/01/2021	295,000.00	4.000%	38,900.00	333,900.00	
08/01/2021			33,000.00	33,000.00	366,900.00
02/01/2022	305,000.00	4.000%	33,000.00	338,000.00	
08/01/2022			26,900.00	26,900.00	364,900.00
02/01/2023	315,000.00	4.000%	26,900.00	341,900.00	
08/01/2023			20,600.00	20,600.00	362,500.00
02/01/2024	330,000.00	4.000%	20,600.00	350,600.00	
08/01/2024			14,000.00	14,000.00	364,600.00
02/01/2025	345,000.00	4.000%	14,000.00	359,000.00	
08/01/2025			7,100.00	7,100.00	366,100.00
02/01/2026	355,000.00	4.000%	7,100.00	362,100.00	362,100.00
	3,000,000.00		644,454.17	3,644,454.17	3,644,454.17



MARCH 24, 2016

CASCADE TOWNSHIP

HALL COMMUNITY

FORUM

Come Learn About This Important Community Project

Over the past year, Cascade Township has been working on a feasibility study for a potential new Township Hall. This Community Forum will be your opportunity to:

- Learn why the Township is considering a new facility
- Understand the process that was used to develop the project
- See the proposed final design and cost estimate
- Offer feedback to your Elected Officials on the project



Wisner Center
2870 Jacksmith Ave
(attached to Library)

Thurs., March 24th

5:30 pm – 7:30 pm

CASCADE CHARTER
TOWNSHIP

2865 Thornhills SE
Grand Rapids, MI 49546

www.cascadetwp.com

Ann Arbor

Cascade Township to host community forum on proposed \$7.5 million township hall project



By **Jan Holst** | jholst@mlive.com

[Email the author](#)

on March 15, 2016 at 10:00 AM

Cascade Township is poised to introduce its plan to construct a new township hall and is looking for public input.

Residents wishing to learn why the township is considering a new facility as well as see the proposed final design and cost estimates should attend the event planned for 5:30 - 7:30 p.m. Thursday, March 24, at the Wisner Center, 2870 Jacksmith Drive.

A question-and-answer session will be held after a presentation on the project from township staff and consultants. In addition, attendees will have an opportunity to offer feedback, either directly to township personnel or in written form.

Over the past year, the Cascade Township staff and Township Board worked on a feasibility study for a potential new township hall. Early on, deficiencies with the current township hall facility, which was re-purposed from an office building in 1980, were identified.

"The facility is in need of several major improvements, including a new roof and a new HVAC system," said Township Manager Ben Swayze. "In addition, we have had to co-opt much of our meeting space for regular township operations, and have essentially outgrown the space that is available. Before we invest a lot of money in the facility, we wanted to ensure it can meet the long-term needs of the township."

A three-phase feasibility study included a needs assessment, an exploration of potential sites for a new facility, and development of conceptual plans for a new facility.

The township proposes to fund the estimated \$7.5 million project with \$4.5 million - \$5 million from the current township fund balance and a 10-year capital bond.

"We are excited about the project and are hoping to get feedback from the residents as well. This facility, if it is approved, will be an important part of the community for the foreseeable future and we want as much input as possible before a decision is made," said Swayze.

For residents unable to attend the forum, the final Township Hall Feasibility Study and a comment form are available on the township website at www.cascadetwp.com. Completed forms can be emailed to Township Manager Ben Swayze at bswayze@cascadetwp.com or dropped off at Cascade Township Hall.

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Ad Choices

**CASCADE CHARTER TOWNSHIP
TOWNSHIP HALL COMMUNITY FORUM**

PLEASE SIGN IN

NAME	ADDRESS
JOAN WILSON	6339 Greenway Dr SE, Grand Rapids MI 49546
Ken Peirce/Jill Peirce	1979 Talamore CT SE
Tom & Sandy McDaniel	
Scott Rice	7238 Cascade Rd
Neomi Elmi	2469 Candlewick
Pam McCall	3010 Thornapple Pk Dr -
Carle C. Kasper (and Jim)	1540 Hillsboro St 06
JOHN M. SHIPLEY	7373 BISCAYNE WAY 49546



Preliminary Schedule for New Township Hall Cascade Charter Township 3-21-16



ID	Task Name	Duration	Start	Finish	2016												2017											
					Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan		
1	Project Approved to Proceed by Township Board	0 days	Wed 4/13/16	Wed 4/13/16	◆ Project Approved to Proceed by Township Board																							
2	A/E Contract Reviewed/Appvd. By Township Board	0 days	Wed 4/27/16	Wed 4/27/16	◆ 4/27																							
3	DESIGN DEVELOPMENT	99 days	Thu 4/28/16	Wed 9/14/16	DESIGN DEVELOPMENT																							
4	Design Development Documents (DD)	24 days	Thu 4/28/16	Tue 5/31/16	Design Development Documents (DD)																							
5	50% DD Review w/Infrastructure Comm.	0 days	Wed 6/1/16	Wed 6/1/16	◆ 50% DD Review w/Infrastructure Comm.																							
6	Apply for PUD Amendment	0 days	Mon 6/13/16	Mon 6/13/16	◆ Apply for PUD Amendment																							
7	Planning Comm. Public Hearing	0 days	Mon 6/20/16	Mon 6/20/16	◆ Planning Comm. Public Hearing																							
8	Planning Comm. PUD Amendment Approval	0 days	Mon 7/11/16	Mon 7/11/16	◆ Planning Comm. PUD Amendment Approval																							
9	Planning Comm. Public Hearing	0 days	Mon 7/18/16	Mon 7/18/16	◆ Planning Comm. Public Hearing																							
10	Planning Comm. Design Approval	0 days	Mon 8/8/16	Mon 8/8/16	◆ Planning Comm. Design Approval																							
11	Cont. Working on DD	21 days	Tue 7/19/16	Tue 8/16/16	Cont. Working on DD																							
12	90% DD Review w/ Infra. Comm. (with pricing)	0 days	Wed 8/17/16	Wed 8/17/16	◆ 90% DD Review w/ Infra. Comm. (with pricing)																							
13	100% DD Review w/ Infra. Comm.	0 days	Wed 9/7/16	Wed 9/7/16	◆ 100% DD Review w/ Infra. Comm.																							
14	Infra. Comm. Reports to Township Board	0 days	Wed 9/14/16	Wed 9/14/16	◆ Infra. Comm. Reports to Township Board																							
15	CONSTRUCTION DOCUMENTS	64 days	Thu 9/15/16	Wed 12/14/16	CONSTRUCTION DOCUMENTS																							
16	Work on Construction Documents (CD)	14 days	Thu 9/15/16	Tue 10/4/16	Work on Construction Documents (CD)																							
17	40% CD Review w/ Infra. Comm.	0 days	Wed 10/5/16	Wed 10/5/16	◆ 40% CD Review w/ Infra. Comm.																							
18	Continue w/CD's	24 days	Thu 10/6/16	Tue 11/8/16	Continue w/CD's																							
19	90% CD Review w/ Infra. Comm. (with pricing)	0 days	Wed 11/9/16	Wed 11/9/16	◆ 90% CD Review w/ Infra. Comm. (with pricing)																							
20	Complete CD's & Quality Control	19 days	Thu 11/10/16	Tue 12/6/16	Complete CD's & Quality Control																							
21	Present Bid Docs. To Infra. Comm.	0 days	Wed 12/7/16	Wed 12/7/16	◆ Present Bid Docs. To Infra. Comm.																							
22	Twp. Board Approval to Proceed w/Bidding	0 days	Wed 12/14/16	Wed 12/14/16	◆ Twp. Board Approval to Proceed w/Bidding																							
23	BIDDING	33 days	Thu 12/15/16	Mon 1/30/17	BIDDING																							
24	Advertise For Bidders	13 days	Thu 12/15/16	Mon 1/2/17	Advertise For Bidders																							
25	Bidding	16 days	Tue 1/3/17	Tue 1/24/17	Bidding																							
26	Hold Pre-bid Meeting	1 day	Tue 1/10/17	Tue 1/10/17	Hold Pre-bid Meeting																							
27	Bids Due	1 day	Tue 1/24/17	Tue 1/24/17	Bids Due																							
28	Evaluate Bids	5 days	Tue 1/24/17	Mon 1/30/17	Evaluate Bids																							
29	AWARD & START-UP	43 days	Wed 2/1/17	Fri 3/31/17	AWARD & START-UP																							
30	Recommend Contractors to Infra. Comm.	0 days	Wed 2/1/17	Wed 2/1/17	◆ Recommend Contractors to Infra. Comm.																							
31	Township Board Approval	0 days	Wed 2/8/17	Wed 2/8/17	◆ Township Board Approval																							
32	Township Signs CM Contract for Constr.	5 days	Wed 2/15/17	Tue 2/21/17	Township Signs CM Contract for Constr.																							
33	CM Award Contracts for Construction	10 days	Wed 2/22/17	Tue 3/7/17	CM Award Contracts for Construction																							
34	Contractor Mobilization & Submittals	25 days	Mon 2/27/17	Fri 3/31/17	Contractor Mobilization & Submittals																							
35	Groundbreaking Ceremony	0 days	Wed 3/15/17	Wed 3/15/17	Groundbreaking Ceremony																							
36	CONSTRUCTION	208 days	Thu 3/16/17	Tue 1/2/18	CONSTRUCTION																							
37	Building Construction	207 days	Thu 3/16/17	Fri 12/29/17	Building Construction																							
38	Owner Occupancy	0 days	Tue 1/2/18	Tue 1/2/18	Owner Occupancy																							