



# Hamburg Township Public Safety Department

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RICHARD DUFFANY, DIRECTOR OF PUBLIC SAFETY



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**TO:** Hamburg Township Board  
**FROM:** Chief Richard Duffany  
**DATE:** March 29, 2023  
**RE:** Agenda Item Topic: **Emergency Management Resolution**  
General Ledger #:  
Number of Supporting Documents: N/A  
NEW/OLD BUSINESS: **XXX** New Business

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## Requested Action

- Motion to approve the updated Hamburg Township Emergency Management Resolution.

## Background

On December 6, 2016 the Hamburg Township Board of Trustees adopted a document entitled Emergency Management Resolution. This document includes the Township Board Resolution electing to have Hamburg Township incorporated into the Livingston County Emergency Management Program, a Support Emergency Operations Plan, General Emergency Management Guidelines, Emergency Management Response Procedures and Emergency Action Guidelines. Subsequently, the Townships Flood Response Action Plan (FRAP) was also incorporated into the Emergency Management Resolution. A review of this document is required annually during the budget preparation process.

I have reviewed the current Emergency Management Resolution and I am requesting that the Board adopt the attached amended resolution. There is only one substantive change to the previous document (on p. 33) and it changes the time that the Flood Event Review Report must be presented to the Board from “60 days (2 months) after the date that the NWS cancels the flood warnings for the event” to “60 days (2 months) from the date that the water level falls below 7.0 feet gage height.”

All other amendments address contact information and position title updates.

Respectfully,

A handwritten signature in black ink, appearing to read "Richard Duffany".

Chief Richard Duffany  
Director of Public Safety



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# **EMERGENCY MANAGEMENT RESOLUTION**

**Support Emergency Operations Plan  
General Emergency Management Guidelines  
Emergency Management Response Procedures  
Flood Response Action Plan  
Emergency Action Guidelines**

**Adopted Date: April 04, 2023**

**Effective Date: April 04, 2023**

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# Emergency Management Resolution

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## TOWNSHIP OF HAMBURG – EMERGENCY MANAGEMENT RESOLUTION

**WHEREAS**, Hamburg Township has elected to be incorporated into the Livingston County Emergency Management Program; and

**WHEREAS**, by becoming part of the county emergency management program, Hamburg Township and Livingston County have certain responsibilities to each other; and

**WHEREAS**, this Support Emergency Operations Plan has been developed to identify the responsibilities between Hamburg Township and Livingston County in regards to pre-disaster emergency management activities and it also providing for Hamburg Township government agencies to respond to various types of emergencies or disasters that affect the community.

**WHEREAS**, this support plan is to be used in concurrence with the County Emergency Operations Plan as it is a supporting document; and

**WHEREAS**, the support plan will be maintained in accordance with the up-to-date standards of the Livingston County Emergency Operations Plan and review of this support plan shall be accomplished concurrently with the county plan,

**NOW THEREFORE, BE IT RESOLVED**, that Hamburg Township adopts and approves this Resolution to provide for the mitigation, preparedness, response and recovery from natural and human-made disasters within Hamburg Township by being part of the Livingston County emergency management program; to appoint the County Emergency Management Coordinator as the Hamburg Township Emergency Management Coordinator; to provide for a means for coordinating the resources of the municipality with those of the county; and to provide a means through which the township Board may exercise the authority and discharge the responsibilities vested in them by this resolution and Act No. 390 of the Public Acts of 1976, as amended; said Resolution is as follows:

**A RESOLUTION** to provide for the mitigation, preparedness, response and recovery from natural and human-made disasters within Hamburg Township by being part of the Livingston County Emergency Management Program; to appoint the County Emergency Management Coordinator as the Hamburg Township Emergency Management Coordinator; to provide for a means for coordinating the resources of the municipality with those of the county; and to provide a means through which the township board may exercise the authority and discharge the responsibilities vested in them by this resolution and Act No. 390 of the Public Acts of 1976, as amended.

### **Article 1 - Short Title**

**Section 101.** This resolution shall be known as the “Emergency Management Resolution.”

### **Article 2 – Definitions**

**Section 201.** For the purpose of this resolution, certain words used herein are defined as follows:

- (a) “Act” means the Michigan Emergency Management Act, Act No. 390 of the Public Acts of 1976, as amended.
- (b) “Disaster” means an occurrence or threat of widespread or severe damage, injury or loss of life or property resulting from a natural or human-made cause, including but not limited to, fire, flood, snowstorm, ices storm, tornado, windstorm, wave action, oil spill, water contamination, utility failure, hazardous peacetime radiological incident, major transportation accident, hazardous materials incident, epidemic, air contamination, blight, drought, infestation, explosion, or hostile military action or paramilitary action, or similar occurrences resulting from terrorist activities, riots, or civil disorders.
- (c) “Disaster relief force” means all agencies of county and municipal government, private and volunteer personnel, public officers and employees, and all other persons or groups of persons identified in the Livingston County Emergency Operations Plan as having duties to perform or those called into duty or working at the direction of a party identified in the plan to perform a specific disaster or emergency related task during a local state of emergency.
- (d) “District Coordinator” means the Michigan Department of State Police District Emergency Management Coordinator. The District Coordinator serves as liaison between local emergency management programs and the Michigan State Police, Emergency Management Division in all matters pertaining to the mitigation, preparedness, response and recovery of emergency and disaster situations.
- (e) “Emergency management coordinator” means the person appointed to coordinate all matters pertaining to emergency management within the municipality. The emergency management coordinator for Hamburg Township is the Livingston County emergency management coordinator.
- (f) “Emergency management program” means a program established to coordinate mitigation, preparedness, response and recovery activities for all emergency or disaster situations within a given geographic area made up of one or several political subdivisions. Such a program has an appointed emergency management coordinator and meets the program standards and requirements established by the Department of State Police, Emergency Management Division. Hamburg Township has elected to be part of the Livingston County emergency management program.
- (g) “Emergency operations plan” means the plan developed and maintained by county and political subdivisions included in the emergency management program area for the purpose of responding to all emergency or disaster situations by identifying and organizing the disaster relief force.
- (h) “Governor’s state of disaster” means an executive order or proclamation by the Governor that implements the disaster response and recovery aspects of the Michigan Emergency Management Plan and applicable local plans of the county or municipal programs affected.
- (i) “Governor’s state of emergency” means an executive order or proclamation by the Governor that implements the emergency response and recovery aspects of the Michigan Emergency Management Plan and applicable local plans of the county or municipal programs affected.

- (j) “Local state of emergency” means a declaration by the Township Supervisor pursuant to the act and this resolution which implements the response and recovery aspects of the Livingston County Emergency Operations Plan and authorizes certain actions as described in this resolution.
- (k) “Vital records” means those records that contain information needed to continue the effective functioning of a government entity jurisdiction and for the protection of the rights and interests of persons under emergency conditions in the event of an emergency or disaster situation.

### **Article 3 - Emergency Management Coordinator; Appointment**

**Section 301.** By the authority of this resolution the Township Supervisor hereby appoints the Livingston County Emergency Management Coordinator as the emergency management coordinator for Hamburg Township. In addition to acting for, and at the direction of, the County Administrator, the Emergency Management Coordinator will also act for, and at the direction of, the Township Supervisor.

**Section 302.** A line of succession for the Livingston County Emergency Management Coordinator has been established and is listed in the Hamburg Township Emergency Operations Plan.

### **Article 4 - Emergency Management Coordinator; Duties**

**Section 401.** The Emergency Management Coordinator shall comply with standards and requirements established by the Department of State Police, Emergency Management Division, under the authority of the act, in accomplishing the following<sup>1</sup>:

- (a) Direct and coordinate the development of the Livingston County Emergency Operations Plan, which shall be consistent in content with the Michigan Emergency Management Plan.
- (b) Specify departments or agencies which must provide an annex to the plan or otherwise cooperate in its development.
- (c) Identify departments and agencies to be included in the Emergency Operations Plan as disaster relief force.
- (d) Develop and maintain a county Resource Manual.
- (e) Coordinate the recruitment, appointment, and utilization of volunteer personnel.
- (f) Assure the emergency management program meets eligibility requirements for state and federal aid.
- (g) Coordinate and/or conduct training and exercise programs for the disaster relief force within the county and to test the adequacy of the Emergency Operations Plan.

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<sup>1</sup> Act 390, as amended, sec. 7a (4) gives the Emergency Management Division the authority to promulgate several standards and requirements.



- (h) Through public information programs, educate the population as to actions necessary for the protection of life and property in an emergency or disaster.
- (i) Assist in the development of mutual aid agreements.
- (j) Assist the Hamburg Township municipal liaison with the development of municipal standard operating procedures which are consistent with the county Emergency Operations Plan.
- (k) Oversee the implementation of all functions necessary during an emergency or disaster in accordance with the Emergency Operations Plan.
- (l) Coordinate county emergency management activities with those municipalities included in the county emergency management program, other municipalities, the state, and adjacent counties.
- (m) Coordinate all preparedness activities, including maintaining primary and alternate Emergency Operations Centers.
- (n) Identify mitigation opportunities within the county and encourage departments/agencies

#### **Article 5 - Emergency Management Liaison; Duties**

**Section 501.** By the authority of this resolution the Township Supervisor has appointed a liaison, as defined in Section IV of the Support Emergency Operations Plan Introduction, for the purpose of assisting the county Emergency Management Coordinator in coordinating the emergency management activities within the municipality. The duties of the liaison are as follows:

- (a) Coordinate municipal emergency management activities with those of the county jurisdictions.
- (b) Assist the county Emergency Management Coordinator with the development of the county Emergency Operations Plan and the incorporation of municipal resources into the plan.
- (c) Identify municipal departments and agencies to be included in the Emergency Operations Plan as part of the disaster relief force.
- (d) Identify municipal resources and forward information to the county Emergency Management Coordinator for inclusion in the county Resource Manual.
- (e) Coordinate the recruitment, appointment, and utilization of volunteer resources.
- (f) Assist the county Emergency Management Coordinator with administering training programs.
- (g) Coordinate municipal participation in exercises conducted by the county.
- (h) Assist in the development of mutual aid agreements.

- (i) Assist in educating the population as to actions necessary for the protection of life and property in an emergency or disaster.
- (j) Encourage departments/agencies within the municipality to identify and implement procedures to mitigate the effects of potential disasters.
- (k) Assist in the assessment of the nature and scope of the emergency or disaster and collect damage assessment information and forward to the county.
- (l) Coordinate the vital records protection program.
- (m) Develop municipal standard operating procedures for disaster response which are consistent with the county Emergency Operations Plan.

**Section 502.** The Township Supervisor shall appoint a minimum of two persons as successors to the position of the municipal liaison. The line of succession shall be supplied to the county Emergency Management Coordinator: Primary liaison is the Director of Public Safety, first alternate is the Deputy Director – Fire, and Second Alternate is the Deputy Director – Police.

#### **Article 6 – Township Supervisor: Powers; Duties**

**Section 601.** On an annual basis, the Township Supervisor shall review the eligibility and performance of the Emergency Management Coordinator and provide a written recommendation to the Township in conjunction with the Budget approval process.

**Section 602.** The Township Supervisor shall, review the effectiveness of the Livingston County Emergency Operations Plan as the plan relates to the municipality every year. With the assistance of the municipal liaison, he\she shall make recommendations to the county Emergency Management Coordinator of any changes which may be needed. After this review and incorporation of necessary changes, the township supervisor shall certify the plan to be current and adequate for Hamburg Township.<sup>2</sup>

**Section 603.** When circumstances within the township indicate that the occurrence or threat of occurrence of widespread or severe damage, injury or loss of life or property from natural or human-made cause exists the Township Supervisor may declare a local state of emergency. Such a declaration shall be promptly filed with the Livingston County Emergency Management Office, who shall forward it to the Department of State Police, Emergency Management Division. This declaration shall not be continued or renewed for a period in excess of 7 days except with the consent of the Township Board.

**Section 604.** If the Township Supervisor invokes such power and authority, he/she shall, as soon as reasonably expedient, convene the Township Board for one or more emergency meetings in accordance with the Open Meetings Act to perform its normal legislative and administrative duties as the situation demands, and will

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<sup>2</sup> Rule 4 (c) (d-q) of the administrative rules promulgated for Act 390, sec. 19 states that the plan shall be considered official upon bearing the signature of the chief executive official of the municipality. The plan must be current and adequate (see rule) within two years.

report to that body relative to emergency activities. Nothing in this resolution shall be construed as abridging or curtailing the powers of the Township Board unless specifically provided herein.

**Section 605.** The Township Supervisor may do one or more of the following under a local state of emergency:

- (a) Direct the Emergency Management Coordinator to implement the Emergency Operations Plan.
- (b) Issue directives as to travel restrictions on local roads within the municipality.
- (c) Relieve township employees of normal duties and temporarily reassign them to other duties.
- (d) Activate mutual aid agreements.
- (e) Direct the municipal disaster relief effort in accordance with the county Emergency Operations Plan and municipal standard operating procedures.
- (f) Notify the public and recommend in-place or evacuation or other protective measures.
- (g) Request a state of disaster or emergency declaration from the Governor as described in Article 7.
- (h) When obtaining normal approvals would result in further injury or damage, or is not possible due to the nature of the disaster, the Township Supervisor may, until the Township Board convenes, waive procedures and formalities otherwise required pertaining to the following:
  - (1) For a period of up to 7 days, send the disaster relief force and resources to the aid of other communities as provided by mutual aid agreements.
  - (2) For a period of up to 7 days, appropriate and expend funds from the disaster contingency fund created in Article 9 up to \$250,000.
  - (3) For a period of up to 7 days, make contracts, obtain and distribute equipment, materials, and supplies for disaster purposed.
  - (4) Employ temporary workers.
  - (5) Purchase and distribute supplies, materials, and equipment.
  - (6) Make, amend, or rescind ordinances or rules necessary for emergency management purposes which supplement a rule, order, or directive issued by the Governor or a state agency. Such an ordinance or rule shall be temporary and, upon the Governor’s declaration that a state of disaster or state of emergency is terminated, shall no long be in effect.<sup>3</sup>

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<sup>3</sup> Act 390, as amended, sec.12 (2) provides this authority.

**Section 606.** If a state of disaster or emergency is declared by the Governor, assign and make available for duty the employees, property, or equipment of the township within or without the physical limits of the township as ordered by the Governor or the Director of the Department of State Police in accordance with the act.<sup>4</sup>

#### **Article 7 - Governor Declaration Request**

**Section 701.** If a disaster or emergency occurs that has not yet been declared to be a state of disaster or a state of emergency by the Governor, and the Township Supervisor determines that the situation is beyond control of the municipality, he/she may request the Governor to declare that a state of disaster or state of emergency exists in the municipality in accordance with the act. This shall be done by immediately contacting the Livingston County Emergency Management Coordinator. The Emergency Management Coordinator shall immediately contact the District Coordinator. The District Coordinator, in conjunction with the Emergency Management Coordinator, shall assess the nature and scope of the disaster or emergency, and they shall recommend the state personnel, services, and equipment that will be required for its prevention, mitigation, or relief.<sup>5</sup>

#### **Article 8- Volunteers; Appointment; Reimbursement**

**Section 801.** Each municipal department, commission, board, or other agency of municipal government is authorized to appoint volunteers to augment its personnel in time of emergency to implement emergency functions assigned in the county Emergency Operations Plan. Such individuals are part of the disaster relief force and shall be subject to the rules and operational control set forth by the respective department, commission, board, or agency through which the appointment was made, and shall be reimbursed for all actual and necessary travel and subsistence expenses.<sup>6</sup>

#### **Article 9 - Disaster Contingency Fund**

**Section 901.** A disaster contingency fund is hereby created in the budget of not less than \$250,000. Money may be expended from the fund when a local state of emergency has been declared for the purpose of paying the disaster relief force, purchase of supplies and services, repair costs, or other needs required specifically for the mitigation of the effects of, or in response to, the emergency or disaster.

#### **Article 10 - Rights of Disaster Relief Force**

**Section 1001.** In accordance with the act, personnel of the disaster relief force while on duty shall have the following rights:

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<sup>4</sup> Act 390, as amended, sec. 10 (1) (h) provides this authority.

<sup>5</sup> Act 390, as amended, sec.12 states that the “chief executive official” (see definitions in act) of a county or any municipality may make this request. However, he/she must do this utilizing the procedures set forth in sec. 14 of the act which states that the appointed emergency management coordinator and the district coordinator must jointly assess the situation and make recommendations.

<sup>6</sup> Act 390, as amended, sec. 11 (1) (a-c) discusses disaster relief force rights and duties.

(a) If they are employees of the municipality, or other governmental agency regardless of where serving, have the powers, duties, rights, privileges, and immunities and receive the compensation incidental to their employment.

(b) If they are not employees of the municipality, or other governmental agency be entitled to the same rights and immunities as are provided for by law.

#### **Article 11 - Temporary Seat of Government**

**Section 1101.** The Township Board shall provide for the temporary movement and reestablishment of essential government offices in the event that existing facilities cannot be used.

#### **Article 12 – Liability**

**Section 1201.** As provided for in the act and this resolution, the municipality, or the agents or representatives of the municipality, shall not be liable for personal injury or property damage sustained by the disaster relief force. In addition, any member of the disaster relief force engaged in disaster relief activity shall not be liable in a civil action for damages resulting from an act of omission arising out of and in the course of the person’s good faith rendering of that activity, unless the person’s act or omission was the result of that person’s gross negligence or willful misconduct. The right of a person to receive benefits or compensation to which he or she may otherwise be entitled to under the worker’s compensation law, any pension law, or act of congress will not be affected as a result of said activity.<sup>7</sup>

**Section 1202.** As provided for in the act, any person owning or controlling real estate or other premises who voluntarily and without compensation grants the municipality the right to inspect, designate and use the whole or any part of such real estate or premises for the purpose of sheltering persons or for any other disaster related function during a declared local state of emergency or during an authorized practice disaster exercise, shall not be civilly liable for the death of, or injury to, any person on or about such real estate or premises under such license, privilege or other permission, or for loss of, or damage to, the property of such person.

#### **Article 13 – Sovereignty**

**Section 1301.** Should any section, clause, or provision of this resolution be declared by the courts invalid for any reason, such declaration shall not affect the validity of this resolution as a whole or any part thereof, other than the section, clause, or provision so declared to be invalid.

#### **Article 14 – Repeals**

**Section 1401.** All resolutions or parts of resolutions inconsistent herewith are hereby repealed.

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<sup>7</sup> Act 390, as amended, sec. 11 (2-8) discusses liability.

#### **Article 15 - Annual Review**

**Section 1501.** This resolution shall be reviewed annually by the Township Board in conjunction with the adoption of the Budget and changes shall be made if necessary.

**Article 16 - Effective Date**

**Section 1601.** This resolution shall have immediate effect.

**[End Resolution Text]**

**ROLL CALL VOTE:**

A roll call vote on the foregoing resolution was taken and was as follows:

**AYES:** \_\_\_\_\_

**NAYS:** \_\_\_\_\_

**ABSENT:** \_\_\_\_\_

**RESOLUTION DECLARED:** \_\_\_\_\_

**CERTIFICATION**

I, Michael H. Dolan, being the duly elected Clerk of the Township of Hamburg, Livingston County, Michigan hereby certify that:

- (1) The foregoing is a true and complete copy of the Resolution duly adopted by the Township Board on April 04, 2023;
- (2) The original of such resolution is on file in the records of the Clerk’s office;
- (3) The meeting was conducted, and public notice thereof was given, pursuant to and in full compliance with the Open Meetings Act (Act No. 267, Public Acts of Michigan, 1976, as amended); And,
- (4) The minutes of such meeting were kept and will be or have been (or will be) made available as required by the Open Meetings Act.

**DATE:** \_\_\_\_\_

\_\_\_\_\_  
**Michael H. Dolan, Hamburg Township Clerk**

# **Hamburg Township**

## **Support Emergency Operations Plan**

### **A Support Plan to County Emergency Operations Plan/ Emergency Action Guidelines**

**Date: April 04, 2023**

**Signature page**

Date:

To all Recipients:

Transmitted herewith is the Support Emergency Operations Plan for the Hamburg Township in support to the Livingston County Emergency Operations Plan.

The plan provides a framework for the Township to use in performing emergency functions before, during, and after a natural disaster, technological incident or a hostile attack.

This plan was adopted by the Board under Resolution dated April 04, 2023. It supersedes all previous plans.

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PATRICK J. HOHL, Hamburg Township Supervisor

Date



## Hamburg Township

# Introduction to the Plan

### I. Purpose

Hamburg Township has elected to be incorporated into the Livingston County Emergency Management Program. By becoming part of the county emergency management program, Hamburg Township and Livingston County have certain responsibilities to each other. This Support Emergency Operations Plan has been developed to identify the responsibilities between Hamburg Township and Livingston County in regards to pre-disaster emergency management activities. It also provides for Hamburg Township government agencies to respond to various types of emergencies or disasters that affect the community. This support plan is to be used in concurrence with the County Emergency Operations Plan as it is a supporting document. The support plan will be maintained in accordance with the up-to-date standards of the Livingston County Emergency Operations Plan. Review of this support plan shall be accomplished concurrently with the county plan.

### II. Scope

This plan is a flexible document in which changes from the content of the plan may occur due to unique nature of emergencies.

Each agency that has a supported role in this plan or its elements has developed Standard Operating Procedures (SOPs) which provides systematic instructions for accomplishing assigned functions.

In addition, to support emergency preparedness and response efforts, the local government also conducts other activities such as personnel training, participating in exercises, encouraging chronic disease prevention techniques; educate the public on awareness activities, and use of appropriate land use planning decisions for mitigation and prevention purposes as well.

Through this plan, Hamburg Township continues to implement the National Incident Management System, participating in efforts to provide an effective and efficient incident management operation.

### III. Plan Maintenance and Implementation

The plan has been developed together with local community, and county officials to ensure consistency within the county emergency management program documents. The plan is required to be approved by the Hamburg Township Board every year in conjunction with the Budget, or whenever the Elected Officials change, and is to be forwarded to the County Emergency Management Office. Upon approval, it will be implemented, tested through exercises in concurrence with County officials, and review/updated to maintain its current with the County Emergency Operations Plan.

This plan has been provided to all municipal agencies, elected officials, the county emergency management office and the MSP/EMHSD district coordinator.

#### **IV. Emergency Management Program Oversight**

Hamburg Township has appointed its Director of Public Safety to serve as the Municipal Emergency Management Liaison responsible for working with the County Emergency Management Coordinator in matters pertaining to emergency management for the municipality. Pursuant to the requirements in P.A. 390, of 1976, as amended, Section 19, Livingston County has adopted a resolution that incorporates Hamburg Township into its emergency management program, necessary for disaster assistance.

## Hamburg Township

# Basic Information

### Community Profile

**Location.** Hamburg Township is situated in Town 1 North, Range 5 East of Livingston County.

**Geographical Area.** Hamburg Township has a total area of 36.0 square miles, of which 32.2 square miles are land and 3.8 square miles, or 10.49%, are water.

**Population.** As of the 2020 census, Hamburg Township has a population of 21,259 residents.

**Major Industries.** The township has very limited industrial and commercial development. The Hamburg Township Fire Department has on file, and will update annually in conjunction with the annual facilities inspection, a record of each industrial and commercial industry in the township.

**Flooding Risks.** Hamburg Township has over 6 miles of the Huron River traversing through it as well as 32 named lakes. Flooding events occur frequently and present an on-going issue for the township. Information specific to the township's response to flood events can be found in Hamburg Township's Flooding Response Action Plan which is included in this Resolution. Hamburg Township is NFIP Community #260118 and is included in the FEMA Flood Insurance Study for Livingston County, Michigan dated September 17, 2008.

**Railway Risks.** We also have approximately 8 miles of rail running through our township that may or may not have unknown hazardous materials aboard.

**General Hazard Vulnerabilities.** More information regarding hazard vulnerability can be found in the County's Hazard Mitigation Plan/Analysis.

**Extremely Hazardous Materials Locations.** Within the community, there are no sites that contain extremely hazardous materials. Pursuant to SARA Title III, off-site emergency response plans have been developed by the LEPC to prepare the fire department(s) to respond to the specific hazardous materials on the sites. In addition, the owners of the site(s) have reported the types of hazardous material that is housed on-site, as required by the Emergency Planning and Community Right-To-Know Act.

### Emergency Management Authority

Pursuant to P.A. 390 of 1976, as amended, the Hamburg Township Supervisor may declare a local state of emergency for Hamburg Township. In the Township Supervisor's absence, pursuant to local legislation, the Deputy Supervisor is authorized to declare the local state of emergency as well. Upon a declaration, PA 390 of 1976 also authorizes the Township Supervisor to issue directives, such as restrictions to travel on local roads. The local declaration activates this emergency plan as well as the emergency operations center to conduct activities to ensure the safety of people, property, and the environment.

Hamburg Township has been a recipient of federal preparedness assistance; a resolution has been adopted by the local government for establishing the National Incident Management System as the standard for incident management for all-hazards. Through the adoption, the township continues to implement the concepts of the

NIMS through training, planning, exercising activities and adoption of ancillary policies which incorporate NIMS.

### Response Resources

Hamburg Township maintains a full-time Public Safety Department responsible for providing public safety and welfare to the community. The Public Safety Department is comprised of two divisions (Police and Fire) consisting of well-qualified and well-trained emergency personnel and the department maintains equipment capable of effectively responding to emergencies. A list of resources that the Public Safety Department uses for emergency situations can be requested through the municipal emergency management liaison (Director of Public Safety). Under circumstances, if the incident requires additional resources beyond the capability of Hamburg Township, the Township Supervisor may enact mutual aid, or it may be necessary to request county assistance through proper procedures.

### Emergency Management Organization

The Hamburg Township emergency management organization consists of five departments responsible for conducting activities in response to emergencies within the community. These five departments have been assigned specific emergency functions the municipality has identified necessary in order to provide an effective response to secure the safety of people, property, and the environment. Each agency is responsible for implementing pre-disaster activities to help prevent and/or prepare for various hazards that the community is vulnerable to such as: chronic diseases, flooding, hazardous material spills, inclement weather, tornadoes, and public disturbance to name a few; a more profound list can be found in the County’s Hazard Mitigation Plan/Analysis. Prevention and preparedness activities include: awareness training, exercising, hygienic practices to prevent spreading of infectious diseases, stockpiling equipment, and educating people to self-care for themselves in an emergency.

The Township Supervisor serves as the incident manager for municipal coordination. At his/her side is the emergency management liaison, a planning chief, finance chief, operations chief, and logistics chief. The operations chief is responsible for coordinating the individual emergency functions assigned by agencies.

The table lists the functions, assigned township departments, primary point of contact, and phone number.

| Function                   | Department                     | Primary Contact  | Phone      |
|----------------------------|--------------------------------|------------------|------------|
| Direction and Control      | Supervisor                     | Pat Hohl         | ██████████ |
| Fire Services              | Public Safety – Fire           | Jeffrey Newton   | ██████████ |
| Law Enforcement            | Public Safety – Police         | Richard Duffany  | ██████████ |
| Warning and Communications | Public Safety – Fire           | Jeffrey Newton   | ██████████ |
| Public Information         | Supervisor                     | Pat Hohl         | ██████████ |
| Damage Assessment          | Assessing                      | Holly Cozza      | ██████████ |
| Public Works               | Technical Services / Utilities | Tony Randazzo    | ██████████ |
| Emergency Medical Services | Public Safety – Fire           | Jordan Zernick   | ██████████ |
| Human Services             | Township Clerk                 | Michael H. Dolan | ██████████ |

### Line of Succession

The following is a list of the 2nd and 3rd alternates for each department identified in the plan to maintain the emergency tasks assigned:

| Department                  | 2nd Alternate             | 3rd Alternate                |
|-----------------------------|---------------------------|------------------------------|
| PUBLIC SAFETY – FIRE        | DC Zernick [REDACTED]     | Capt. Jase Lawver [REDACTED] |
| PUBLIC SAFETY - POLICE      | DC Nisenbaum [REDACTED]   | Sgt. Gary Harpe [REDACTED]   |
| SUPERVISOR                  | Tony Randazzo [REDACTED]  | Michael Dolan [REDACTED]     |
| ASSESSING                   | Alex Wilkinson [REDACTED] | Emily Pizzo [REDACTED]       |
| TECHNICAL SERVICE/UTILITIES | Ryan Ward [REDACTED]      | Duane Hoepfner [REDACTED]    |
| CLERK                       | Mary Kuzner [REDACTED]    | Courtney Paton [REDACTED]    |

## Hamburg Township

# General Emergency Management Guidelines

The following guidelines are general to the municipality, all agencies, and individuals who have a role in responding to an emergency within the Hamburg Township. Being that emergency planning is a work in progress guidelines are continuously reviewed and modified due to the situation and complexity of incidents.

1. Report to the local Emergency Operations Center when activated for scheduled exercises or disasters, or delegate another individual to staff the EOC and implement the plan.
2. Implement mutual aid agreements or contracts with other organizations to supplement local resources that have been exhausted.
3. Ensure compliance with this plan and the County Emergency Plan, and any pertinent procedures and documents issued, which impact the provision of emergency services in the municipality.
4. Train department emergency personnel in emergency management functions and NIMS/ICS concepts.
5. Assists in the development, review and maintenance of the plan and of the County EOP.
6. Develop and maintain standard operating procedures for specific functions or actions identified in the plan.
7. Maintain a list of resources available by the departments/agencies.
8. Protect records and other resources deemed essential for continuing government functions and each agency's emergency operations in accordance to procedures and policies.
9. Establish mutual aid agreements and/or contracts with other jurisdictions/entities to supplement municipal resources.
10. Establish a system of coordination, such as the incident command system, within the EOC. Field operations, however, are required to use the incident command system.
11. Participate in the review and update of this emergency operations plan, in accordance to a schedule identified by the Municipal Emergency Management Liaison and the County Emergency Management Coordinator.
12. Adapt and provide printed emergency management materials and verbal messages to those who are vision impaired, hearing impaired or non-English speaking.

13. Conduct pre-disaster public awareness activities including education classes, self-care guidelines, communications plans, and protocols.
14. Make recommendations to the Township Supervisor regarding protective actions.
15. Utilize MI CIMS to record and log significant events throughout the duration of the emergency, as well as the decisions made by the Incident Commander and Township Supervisor.
16. Continuously conduct emergency planning activities as it is a work-in-progress, periodically being reviewed and updated.

All emergency response agencies are considered to be available to respond.

## Hamburg Township

# Emergency Management Response Procedures

The following are procedures that Hamburg Township conducts and coordinates with the county in response to a local state of emergency.

1. Assure that the municipal emergency response agencies, elected officials and the County Emergency Management Coordinator are notified of the situation.
2. Municipal agencies assess the nature and scope of the emergency or disaster.
3. If the situation can be handled locally, do so, using the following sequenced guidelines:
  - The Emergency Management Liaison advises the Township Supervisor and coordinates all emergency response actions.
  - The Township Supervisor declares a local state of emergency and notifies the County Emergency Management Coordinator of this action.
  - A local state of emergency declaration is forwarded to the county office.
  - **The emergency management liaison activates the emergency operations center. The EOC is located at 10100 Veterans Memorial Drive, Hamburg, MI 48139-0157 (HTFD Station #12). If this location is unavailable an alternate location is at 3666 East M-36, Pinckney, MI 48169 (HTFD Station #11).**
  - Emergency response agencies are notified through telephone, smart messaging, Livingston County Central Dispatch by the Municipal Emergency Management Liaison to report to the EOC.
  - The Township Supervisor directs departments/agencies to respond to the emergency situation in accordance to each agency’s functional guidelines indicated in the attachments to this plan.
  - The Township Supervisor issues directives as to travel restrictions on local roads and recommends protective actions from the commanding agency. Protective action recommendations will be based on weather forecasting and if the incident complexity increases due to inability to respond rapidly and with a “ready” supply of resources to mitigate the incident.
  - Notify the public of the situation, through the Public Information Official, and take appropriate actions.
  - Keep the County Emergency Management Coordinator informed of the situation and actions taken.
  - If municipal resources become exhausted or if special resources are needed, request county assistance through the County Emergency Management Coordinator.
4. If assistance is requested, the county emergency management coordinator assesses the situation and makes recommendations on the type/level of assistance. The County will also take the following steps:
  - Activate the County Emergency Operations Center.
  - Activate the County Emergency Operations Plan/Emergency Action Guidelines.



- Respond with county resources as requested.
- Activate mutual aid agreements.
- Coordinate county resources with municipal resources.
- Notify MSP/EMHSD District Coordinator.
- Develop a jurisdiction situation report and a damage and injury assessment report via and submit to the MSP/EMHSD.
- Assist the municipality with prioritizing and allocating resources.
- If county resources are exhausted, the county makes a request to the Governor to declare a state of emergency or state of disaster in accordance with procedures set forth in PA 390, as amended. The county shall not request state assistance or a declaration of a state of disaster or a state of emergency unless requested to do so by the Township Supervisor of Hamburg Township if the situation occurs solely within the confines of the municipality.
- If state assistance is requested, the MSP/EMHSD District Coordinator, in conjunction with the County Emergency Management Coordinator and Municipal Emergency Management Liaison, assess the disaster or emergency situation and recommends the necessary resources that are required for its prevention, mitigation, or relief efforts.
- After completing the assessment, the MSP/EMHSD District Coordinator immediately notifies the State Director of Emergency Management and Homeland Security of the situation.
- The State Director of Emergency Management and Homeland Security notifies the Governor and makes recommendations.
- If state assistance is granted, procedures are followed in accordance to the Michigan Emergency Management Plan and the County Emergency Operations Plan.

## Hamburg Township

# Flood Response Action Plan (FRAP)

The following are guidelines and procedures specific to the municipality, all agencies, and individuals who have a role in responding to flooding emergencies within the Hamburg Township.

### Article 1 – Short Title

Section 101. This document shall be known as the “Hamburg Township Flood Response Action Plan” (FRAP).

### Article 2 – Goals

Section 200. To identify the overall goal and objectives shared between the Livingston County Emergency Response Plan, the Hamburg Township Emergency Operations Plan, and this FRAP including any and all recommended actions related to flood hazard reduction and cost-effective and efficient high water/flooding event response actions.

Section 201. To minimize losses associated with flooding by timely and appropriate responses that will result in the reduction of the possibility of damage and losses to existing assets, including people, critical facilities and/or infrastructure, and public facilities due to high water events.

Section 202. The identification of and implementation of the most cost - effective marshaling and deployment of Township resources and funding in handling high water events in the flood prone areas of Hamburg Township and the properties on Riverside Drive in Green Oak Township which are accessed through Riverside Drive from Hamburg Township, and any other flood-prone areas throughout Hamburg Township.

Section 203. To provide a lasting policy framework for high water event management responses that survives changes in township administrations and staff over time.

Section 204. To provide property-by-property documentation for properties located within the assessment area for Hamburg and Green Oak Townships contained in the [December 2019 USACE Project, “Huron River Nonstructural Flood Mitigation Assessment for Hamburg and Green Oak Townships,” \(Appendix A\)](#) with a view towards promoting strategies to decrease potential homeowner losses due to high water events.

Section 205. Increase public understanding and support for effective high-water event hazard monitoring via [NWS, NOAA AND USGS web-based stream gage station monitoring graphs](#) and the on-line [USGS Flood Inundation Mapper](#).

Section 206. Promote disaster-resistant future development in the Hamburg Township and other areas of the [Huron River Watershed](#) through the pertinent regulations of the Hamburg Township Zoning Ordinance and all other Township ordinances and plans in effect, which are incorporated herein by reference.

### Article 3 – Flooding History

Section 301. A separate document, **Flooding History of Hamburg Township**, contains important information on past high water and flooding events in Hamburg Township and related flood plain management activities.

Section 302. Flooding events in Hamburg Township that reached “Major Flood Stage” category:

- (1) 8.46 ft on 06/30/1968
- (2) 8.35 ft on 05/15/1956
- (3) 8.13 ft on 05/27/2004
- (4) 8.05 ft on 08/16/2021

**Article 4 – Michigan Emergency Management Plan Definitions – Degrees of Damage**

The following sections set forth the general nature of levels of high water/flooding events, the types of damages to be expected, and the responses by various levels of government.

The State of Michigan Emergency Management Plan delineates different “Degrees of Damage” categories for severe damage events. The same definitions are also consistent with FEMA PDA guidelines. See the [Michigan Damage Assessment Handbook](#).

The following definitions are from the [Michigan Emergency Management Plan \(MEMP\)](#):

| CATEGORY NUMBER | DAMAGE LEVEL     | CHARACTERISTICS   | FOR FLOODING  | APPROXIMATE % OF DAMAGE   |
|-----------------|------------------|---|---|---|
| 0               | Affected         | Structure is habitable/usable and requires mostly cosmetic repairs to return it to pre-disaster condition   | Structure with basement: less than one foot of water; minor access problems   | Minimal damage; mostly cosmetic   |
| 1               | Minor Damage     | Generally, has less than 50% damage to structure, is not currently habitable/useable but can be repaired within 30 days   | Structure with basement: 1 foot or more water or sewer backup in basement and no structural damage. Structures with no basement – 1 foot or less of water covering first floor                            | <50% damaged; involves structural features affecting strength/safety. Water in place more than 1 day may have Major Damage  |
| 2               | Major Damage     | Structure has sustained structural or significant damage, is not habitable/useable, and requires extensive repairs before it can be used again  | Structures with no basement that have in range of 2 to 4 feet of water covering first floor. Structures with basement 1 foot or more water on first floor.  | > 50% damaged; involves structural features affecting strength/safety. Water in place more than 1 day may have advanced to the Destroyed Damage level due to water having caused substantial foundational or structural damages, collapsed wall, etc. |
| 3               | Destroyed Damage | Structure is a total loss because the cost of repairs would likely exceed the replacement cost. Could be a) permanently uninhabitable; b) complete failures to major components; c) only foundation remains; d) two or more walls destroyed and roof substantially damaged; e) structure pushed off foundation; f) structure in imminent danger due to impending landslides, mudslides, sinkholes, etc. What is left will have to be bulldozed off or dismantled for new construction | The depth, velocity and duration of water in and around the structure will have a significant impact of the level of damage. Structures that are not economically repairable can be considered destroyed. | 100% damaged; repair costs exceed structure’s value. If water duration 1 day or less, may be consider Major Damage classification   |

## Article 5 – Definitions of Water Levels

Section 501. NOAA high water level terminology and definitions can be found at:

<https://www.weather.gov/aprfc/terminology>

Section 502. Flood stages for the Huron River at Hamburg gage:

|                       |      |
|-----------------------|------|
| Major Flood Stage:    | 8.00 |
| Moderate Flood Stage: | 7.50 |
| Minor Flood Stage:    | 7.00 |
| Action Stage:         | 6.50 |

## Article 6 – HAMBURG TOWNSHIP RESPONSES AT VARIOUS FLOOD STAGE LEVELS

| Gage Height   | Category          | Description of Flood Impacts   | Responses  |
|---|-------------------|--|--|
| <b>Up to 6.50 Feet</b><br>(856.50 feet above sea level) | Bankfull          | (None)   | <ul style="list-style-type: none"> <li>Routine monitoring of NWS/USGS forecasts.</li> </ul>  |
| <b>6.50 Feet</b><br>(856.50 feet above sea level)       | Action Stage      | <ul style="list-style-type: none"> <li>Water begins to spill over bank</li> <li>Boat docks begin to become submerged.</li> </ul>   | <ul style="list-style-type: none"> <li>NWS begins issuing flood forecasts.</li> <li>Daily monitoring of NWS/USGS reports, data and forecasts.</li> <li>Fire and Police personnel begin physical monitoring of affected areas.</li> </ul>   |
| <b>7.00 Feet</b><br>(857.00 feet above sea level)       | Minor flood Stage | <p><u>Damage Level:</u> Affected Damage.</p> <ul style="list-style-type: none"> <li>Yards of homes along the Huron River, Little Ore Lake and Ore Lake become flooded.</li> </ul>  | <ul style="list-style-type: none"> <li>NWS issues Flood Warning over local media (radio, TV, newspapers) when actual gage height is 7.00 feet.</li> <li>Continue monitoring of NWS/USGS reports, data or forecasts.</li> <li>After reaching 7.00 feet with a forecast of 7.50 feet the Township Supervisor convenes an emergency meeting of the Township Board of Trustees and requests a resolution pursuant to MCL 324.80146 (“No Wake” restrictions for affected areas).</li> <li>Fire and Police personnel continue physical monitoring of affected areas.</li> </ul>  |
| <b>7.50 Feet</b><br>(857.50 feet above sea level)       | Moderate Flooding | <p><u>Damage Level:</u> Transitions From Affected Damage to Minor Damage.</p> <ul style="list-style-type: none"> <li>Water reaching foundations and crawl spaces of many homes along the Huron River, Little Ore Lake and Ore Lake as homes are surrounded by flood water</li> <li>Roads in flood prone areas are being covered by flood waters</li> </ul> | <ul style="list-style-type: none"> <li>NWS continues issuing Flood Warnings over local media (radio, TV, newspapers) cross-indexed to precipitation forecasts and NOAA Advanced Hydrologic Prediction Service modeling.</li> <li>Township Supervisor closely monitors NWS flooding forecast and has daily consultations with Director of Public Safety and Public Safety command officers (multiple times daily if necessary)</li> <li>Fire and Police personnel continue physical monitoring of affected areas and conduct needs assessment based upon conditions and forecast.</li> <li>Township Supervisor formally requests “No Wake” restrictions from Livingston County Sheriff and/or Livingston County Emergency Management Coordinator.</li> <li>If a “No Wake” order is issued, the Action Plan outlined in Article 12 of the FRAP is implemented.</li> <li>Police Department begins enforcing “No Wake” restrictions in affected areas.</li> <li>Shut off utilities such as grinder pumps, electrical service and natural gas service as needed.</li> </ul> |

|   |                        |  |   |
|---|------------------------|--|---|
| <p><b>8.00 Feet</b><br/>(858.00 feet above sea level)</p> | <p>Major Flooding</p>  | <p><u>Damage Level:</u> Transitions From Minor to Major Damage as some homes begin suffering Major Damage.</p> <p>Flood Events on Record reaching 858.00 feet (8.00):</p> <p>(1) 8.46 ft on 06/30/1968<br/>(2) 8.35 ft on 05/15/1956<br/>(3) 8.13 ft on 05/27/2004<br/>(4) 8.05 ft on 08/16/2021</p> | <ul style="list-style-type: none"> <li>• All of the above responses continue to occur.</li> <li>• Township Supervisor implements <i>Emergency Response Procedures</i> as outlined in the Hamburg Township Support Emergency Operation Plan. This includes deciding whether and when to declare a Local State of Emergency and whether and when to activate the local Emergency Operations Center.</li> <li>• Police Department deploys additional officers to affected areas to carry out Law Enforcement responsibilities as outlined in the Hamburg Township <i>Emergency Action Guidelines</i> (requests mutual aid if necessary).</li> <li>• Fire Department deploys additional personnel to affected areas to carry out Fire and Emergency Medical Service responsibilities as outlined in the Hamburg Township <i>Emergency Action Guidelines</i> (requests mutual aid if necessary).</li> <li>• Continue shutting off utilities such as grinder pumps, electrical service and natural gas service as needed.</li> <li>• Township decides whether and when to advise residents to evacuate flooded areas</li> <li>• Incident Command decides whether local resources are enough to continue to handle event. If not, Township Supervisor prepares and executes Disaster Declaration to request additional resource support from County, State and Federal sources.</li> <li>• Livingston Emergency Management Plan protocols followed.</li> </ul> |
| <p><b>8.50 Feet</b><br/>(858.50 feet above sea level)</p> | <p>Record Flooding</p> | <p><u>Damage Level:</u> Major Damage.</p> <ul style="list-style-type: none"> <li>• NOTE: No documentation for flooding at this level on record.</li> </ul>   | <ul style="list-style-type: none"> <li>• All of above responses would occur.</li> <li>• Disaster Declaration would be updated to reflect requests for additional resources as required.</li> <li>• State protocols for Damage Assessments would be followed under Michigan Emergency Management Plan</li> <li>• Federal protocols for Damage Assessments would be followed under FEMA/NFIP plans and Homeland Security plans</li> </ul>   |
| <p><b>9.0+ Feet</b><br/>(859.00 feet above sea level)</p> | <p>Flood Disaster</p>  | <p><u>Damage Level:</u> Destroyed.</p>   | <ul style="list-style-type: none"> <li>• All of above responses would occur.</li> <li>• Disaster Declaration would be updated to reflect requests for additional resources as required.</li> <li>• State protocols for Damage Assessments would be followed under Michigan Emergency Management Plan</li> <li>• Federal protocols for Damage Assessments would be followed under FEMA/NFIP plans and Homeland Security plans</li> </ul>   |

### Article 7 – Data Analysis – Property by Property Mapping

As a part of the 2020 USACE study results an online tool, the Flood Inundation Mapper (link: <https://fim.wim.usgs.gov/fim/>), can be used to reveal where water levels will cover land in the Ore Lake/Huron River Areas of Hamburg Township/Green Oak Township.

**Mapping Locations of Property Elevations have been indexed to Gage Heights in Flood Prone Areas**

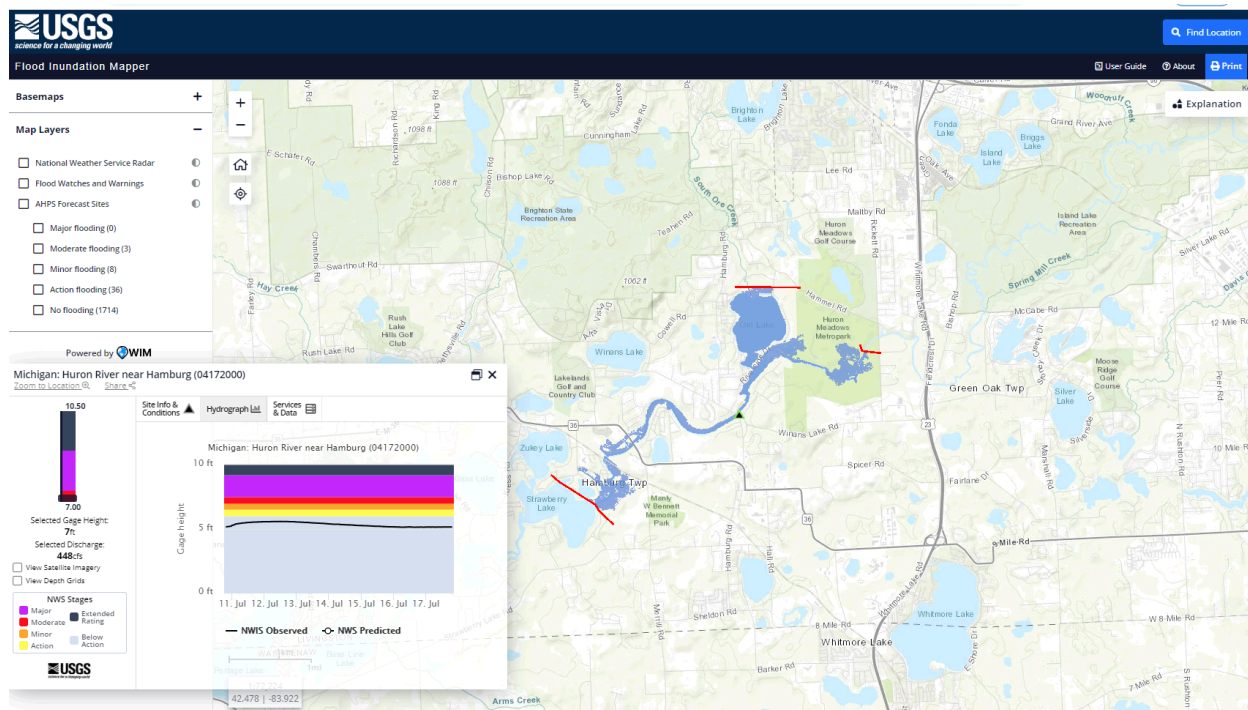
**The grinder pump data table pages have been excerpted and are available in Appendix A.**

#### Action Plan:

During a high-water event, Emergency Management Staff will use the USGS Flood Inundation Mapper web tool in conjunction with the grinder pump data table pages in Appendix A-3 and NWS/NOAA flood event data to assist in determining:

- Which properties will need utilities suspended (electrical, gas, and water/sewer).
- Which properties will need grinder pumps removed.
- Which properties will likely need grinder pumps reconditioned/replaced.
- Which properties will likely need water wells re-chlorinated.

### SCREENSHOT – USGS FLOOD INUNDATION ONLINE MAPPER TOOL



### Article 8 – Property by Property Water Levels Cross Indexed to Grinder Pump Elevations

The USGS has prepared an interactive map, the Flood Inundation Mapper, located at [https://fim.wim.usgs.gov/fim/?site\\_no=04172000](https://fim.wim.usgs.gov/fim/?site_no=04172000), to show what levels the water will rise to during a flood event relative to each home’s elevation and the location of the grinder pump.

The plan would be to shut down/power back up grinder pumps as appropriate based on water height and location of grinder pump vs. elevation at each location.

This data is set forth in the USACE/USGS document “Huron River Nonstructural Flood Mitigation Assessment for Hamburg and Green Oak Townships,” available at the following link:

[http://cms5.revize.com/revize/hamburgtownship/Huron\\_River/USGS-USACE%20STUDIES%20AND%20REPORTS/Hamburg\\_GreenOak\\_Nonstructural\\_Report.pdf](http://cms5.revize.com/revize/hamburgtownship/Huron_River/USGS-USACE%20STUDIES%20AND%20REPORTS/Hamburg_GreenOak_Nonstructural_Report.pdf)

For ease of reference these tables are incorporated as Appendix A.

## **Article 9 – Uses and Locations for the Installation of Sand Bags**

In several of the earlier high-water events since 2004, sand bags were supplied through the Livingston County Drain Commission or via individual property owner purchases through private vendors. Hamburg Fire Department has no empty sand bags for the public; it had approximately 2,000 empty bags for use by the Township. The effectiveness of the use of sand bagging in Hamburg Township during flood events is very limited, costly and labor intensive, due to the larger area of impact caused by flooding versus the small areas that can be adequately protected by the use of sand bags.

A significant factor in the use of sand bagging for flood control is that of the involvement of community nongovernmental labor volunteers to fill and position the sand bags. Historically in Hamburg, this level has not reached the levels of community involvement in other flood-prone communities that practice the extensive use of sandbagging in flooding events (example: the Minot, North Dakota flooding of 2011).

A large number of sand bags are needed for a single property (typically in the 3,000 to 6,000 bag level); frequently, it is next to impossible on short notice to procure that many sand bags for a community, let alone a single property. Many individual property owners would not have adequate storage space for that many empty bags nor the amount of sand required to fill them.

In addition to high levels of community volunteer involvement, for the use of sand bagging to be most effective, it needs to be accompanied by the continual use of sump pumps to pump out seeping waters from the sandbagged areas. Some property owners have and do use sump pumps in a flooding event; however, many property owners do not have or use sump pumps. The Township is not in a position to provide adequate levels of supplemental pumping to individual property owners.

Also, the Township incurs additional costs for sand and staff when sand bagging is used. It was determined to be most beneficial during the 2004 flood to use sand bags to keep roads such as Riverside Drive open for traffic, rather than attempting to protect individual structures. Adequate Township staff and resources are not available to engage in sand bagging to assist property owners with protecting individual privately owned structures.

For these reasons, if used, government sand bagging efforts would focus on the keeping roads in flooded areas open to traffic and any Township owned/operated utility equipment safe in flooded areas as much as possible. These operations would be handled by the Emergency Management Command staff, Fire/Police Departments, Dept. of Public Works and in cooperation with local citizen volunteers and community service workers as needed. Such workers would not be available to help sand bag individual privately owned properties.

Property owners are responsible to assemble and manage their own volunteer labor to handle sand bagging operations they desire on their private properties, and should expect no assistance from Township staff to deliver or to position the sandbags on their property.

### **Action Plan:**

- Identify on a map the priority areas to be sand-bagged on Riverside Drive to keep the road open during a high water event

- Procure and store adequate numbers of sand bags
- Conduct public information campaign on sand bagging, sand bagging methods, limits of Township response to be expected regarding sand bagging during high water events
- Provide sand bag vendor information to homeowners that desire it.

#### **Article 10 - Conditions Triggering Implementation and Placement of Water Pumps/Fueling of Pumps**

##### Action Plan:

- The Hamburg DPW Department, working in conjunction with the Hamburg Township Fire and Police Departments (Public Safety Administration), will work with the Emergency Command structure to determine whether, when, and where the placement of water pumps in flooding areas will occur. The three departments will coordinate supervision, security and fueling of any pumps so employed.

#### **Article 11 - Respective Involvement/Responsibilities of High-Water Events Requiring Coordinated Responses from Both Hamburg/Green Oak Townships**

The Livingston County Emergency Plan details the mutual aid relationships and procedures for coordinated responses to emergencies for communities located in Livingston County. Both Hamburg and Green Oak Townships are signatories and participants in the County Plan.

##### Action Plan:

- The County Plan’s provisions are incorporated herein to this FRAP by reference.

#### **Article 12 - Implementation of “No Wake” Requirements for Watercraft on all Affected Hamburg Township Bodies of Water during High-Water Events**

High-water events frequently occur in warmer weather when boaters want to use lakes for full-sports activities. The wakes caused by these vessels exacerbate water wave action on already flooded waterfront yards and homes leading to increased damage to shoreline properties.

Current Michigan law (MCL 324.80158) holds operators of watercraft responsible for any damage to shoreline properties resulting from a wake or swell created by the negligent operation of their vessels.

While Hamburg Township Ordinances regulate speeds and wakes on several Township lakes, not all lakes that could be affected by high-water events have speed/wake regulations in place.

Michigan law (MCL 324.80146) authorizes the County Sheriff and/or the County Emergency Management Coordinator, after receiving a resolution from the governing body of a municipality, to enact temporary vessel speed limits on waterways within their jurisdiction during emergency conditions.

##### Action Plan:

- After gage height reaches 7.00 feet with an NWS/USGS forecast to reach 7.50 feet, the Township Supervisor will convene an emergency meeting of the Hamburg Township Board of Trustees and request a resolution pursuant to MCL 324.80146.
- Formally present resolution to the Livingston County Sheriff and/or Livingston County Emergency Management Coordinator.



- Upon issuance of an order for the temporary reductions in speeds (or “No Wake”) in the affected areas, the Township will take steps to publicize the order, including posting on Township website, posting on Township social media sites, issuing a press release, and requesting local media to make regular announcements.
- The Police Department will be responsible for placing the required buoys in the waterways covered by the order in order to provide notice to vessel operators of the reduction in speed/no wake.
- Police Department will deploy additional officers to the affected areas to enforce the speed reduction/no wake order.

### **Article 13 - Damage Assessment Procedures to Be Completed by Hamburg/Green Oak Assessing Departments for High Water Events**

After a high-water event causing damages which trigger a level of township, county or state level responses, Hamburg and Green Oak Township Assessors will work to complete damage assessments according to the requirements set forth in the [State of Michigan Damage Assessment Handbook](#).

#### **Action Plan:**

- Refer to and follow the procedures in the [State of Michigan Damage Assessment Handbook](#).

### **Article 14 - Livingston County Health Department Re-certifications of Private Wells/Septic Fields Following High Water Events**

Occupied properties along the Huron River in Hamburg Township and Green Oak Township are served by private water wells, which may be subjected to flooding during high water events.

#### **Action Plan:**

- The Hamburg Township DPW Department will notify the Livingston County Health Department (LCHD) staff when wells in Hamburg Township have been compromised by high water events. The Townships will conduct this work through their DPW department whose staff will prepare a list of affected wells by address and turn the list over to the Livingston County Health Department. Each property owner will then be responsible to have their well tested and brought into compliance with Health Department requirements.
- The LCHD will distribute brochures about maintaining a healthy well to property owners as necessary.
- The LCHD will make appropriate public notifications through radio station WHMI 93.5 FM, web sites, the Livingston County Daily Press & Argus newspaper, and other appropriate mass media.

### **Article 15 – Post Event Review & Reports/Plan Monitoring**

Flooding mitigation programs can help reach attainment of a level of sustainability, ensure long-term economic vitality and promote the environmental health for the community as a whole in the floodplain prone areas of the Huron River and Hamburg/Green Oak Townships. Monitoring and evaluating how successfully the FRAP is being implemented is important.

- **Flood Event Review:** For every flood event with an 8.0+ foot gage height, an Event Review and Recommendations Report will be made by township staff, under the direction of the Township Supervisor, and presented to the Township Boards of Trustees. Elements of the report will be:
  - Data analysis of gage heights, stream flows, participation events, etc.
  - Maps of areas of damage with damaged properties highlighted
  - Photographic/video graphic records of flooding damages
  - Printouts of local news media reports about the event
  - Assessor’s list of damaged homes prepared using the State of Michigan Damage Assessment forms

- List of all grinder pumps/water well damages, repairs and replacements
- Accounting report of all Township incurred expenses for the event prepared using the State of Michigan Damage Report forms
- Analysis page from all Township department heads as to what went well and what needs to be done differently for dealing with future events
- The Flood Event Review Report is to be presented within 60 days (2 months) after the water level falls below 7.0 feet gage height.
- The Flood Event Review Report will be retained in perpetuity by the Clerk’s Department for a historical record of the event.

## FRAP APPENDIX A:

### Property by Property Water Levels Cross Indexed to Grinder Pump Elevations

The information in Tables 4 through 8 include the house’s street address, and elevations in feet NAVD88 datum. This includes the lowest adjacent ground elevation, first floor elevation, water depth above lowest adjacent grade using FEMA FIS, water depth above lowest adjacent grade using USGS model high flow flood elevations, FEMA FIS 1% water surface elevations, water depth above first floor using FEMA FIS, USGS FIM maximum water surface elevations, water depth above first floor (with respect to USGS flood elevations), grinder pump elevation (where available), water depth above grinder pumps using FEMA FIS, and water depth above grinder pumps using the USGS flood elevations.

This data is set forth in the USACE/USGS document “Huron River Nonstructural Flood Mitigation Assessment for Hamburg and Green Oak Townships,” available at the following link:

[http://cms5.revize.com/revize/hamburgtownship/Huron\\_River/USGS-USACE%20STUDIES%20AND%20REPORTS/Hamburg\\_GreenOak\\_Nonstructural\\_Report.pdf](http://cms5.revize.com/revize/hamburgtownship/Huron_River/USGS-USACE%20STUDIES%20AND%20REPORTS/Hamburg_GreenOak_Nonstructural_Report.pdf)

| Street Address  | Lowest Adjacent Ground Elevation ft | First Floor Elev. ft | Water Depth above Lowest Adj Grade ft (FEMA) | Water Depth above Lowest Adj Grade ft (USGS) | FEMA FIS 1% Water Surface Elevation ft | Water Depth above First Floor ft (FEMA) | USGS FIM Max Water Surface Elevation | Water Depth above First Floor ft (USGS) | Grinder Elev. ft | Water Depth above Grinder ft (FEMA) | Water Depth above Grinder ft (USGS) |
|-----------------|-------------------------------------|----------------------|--|--|--|---|--------------------------------------|---|------------------|-------------------------------------|-------------------------------------|
| 7930 Branch Dr  | 856.8                               | 859.4                | 2.5  | 4.05   | 859.3                                  | -0.1                                    | 860.85                               | 1.45                                    | 857.8            | 1.5                                 | 3.05                                |
| 7938 Branch Dr  | 857.7                               | 859.5                | 1.6  | 3.15   | 859.3                                  | -0.2                                    | 860.85                               | 1.35                                    | 858.7            | 0.6                                 | 2.15                                |
| 7946 Branch Dr  | 857.5                               | 859.1                | 1.8  | 3.35   | 859.3                                  | 0.2                                     | 860.85                               | 1.75                                    | 858.3            | 1                                   | 2.55                                |
| 7954 Branch Dr  | 857.4                               | 859.1                | 1.9  | 3.45   | 859.3                                  | 0.2                                     | 860.85                               | 1.75                                    | 857.9            | 1.4                                 | 2.95                                |
| 7958 Branch Dr  | 857.3                               | 860.8                | 2  | 3.55   | 859.3                                  | -1.5                                    | 860.85                               | 0.05                                    | 858.2            | 1.1                                 | 2.65                                |
| 7962 Branch Dr  | 857.6                               | 859.5                | 1.7  | 3.25   | 859.3                                  | -0.2                                    | 860.85                               | 1.35                                    | 858.1            | 1.2                                 | 2.75                                |
| 7976 Branch Dr  | 857.9                               | 859.4                | 1.4  | 2.95   | 859.3                                  | -0.1                                    | 860.85                               | 1.45                                    | 857.4            | 1.9                                 | 3.45                                |
| 7984 Branch Dr  | 857.8                               | 860.9                | 1.5  | 3.05   | 859.3                                  | -1.6                                    | 860.85                               | -0.05                                   | 858.2            | 1.1                                 | 2.65                                |
| 7992 Branch Dr  | 856.7                               | 858.6                | 2.6  | 4.15   | 859.3                                  | 0.7                                     | 860.85                               | 2.25                                    | 857.4            | 1.9                                 | 3.45                                |
| 8000 Branch Dr  | 857.2                               | 860.9                | 2.1  | 3.65   | 859.3                                  | -1.6                                    | 860.85                               | -0.05                                   | 857.7            | 1.6                                 | 3.15                                |
| 8008 Branch Dr  | 856.6                               | 858.6                | 2.7  | 4.25   | 859.3                                  | 0.7                                     | 860.85                               | 2.25                                    | 857.5            | 1.8                                 | 3.35                                |
| 8024 Branch Dr  | 856.9                               | 861                  | 2.4  | 3.95   | 859.3                                  | -1.7                                    | 860.85                               | -0.15                                   | 857.8            | 1.5                                 | 3.05                                |
| 8032 Branch Dr  | 856.6                               | 860                  | 2.7  | 4.25   | 859.3                                  | -0.7                                    | 860.85                               | 0.85                                    | 857.7            | 1.6                                 | 3.15                                |
| 8040 Branch Dr  | 856.8                               | 858.6                | 2.5  | 4.05   | 859.3                                  | 0.7                                     | 860.85                               | 2.25                                    | 857.7            | 1.6                                 | 3.15                                |
| 8050 Kildeer Dr | 860.05                              | 862.34               | -0.75  | 0.8  | 859.3                                  | -3.04                                   | 860.85                               | -1.49                                   | 859.57           | -0.27                               | 1.28                                |
| 8051 Kildeer Dr | 858                                 | 858.99               | 1.3  | 2.85   | 859.3                                  | 0.31                                    | 860.85                               | 1.86                                    |                  |                                     |                                     |
| 8061 Kildeer Dr | 857.66                              | 859.63               | 1.64   | 3.19   | 859.3                                  | -0.33                                   | 860.85                               | 1.22                                    | 859.84           | -0.54                               | 1.01                                |
| 8064 Branch Dr  | 856.9                               | 860.7                | 2.4  | 3.95   | 859.3                                  | -1.4                                    | 860.85                               | 0.15                                    | 857.4            | 1.9                                 | 3.45                                |
| 8064 Kildeer Dr | 859.466                             | 859.796              | -0.166                                       | 1.384  | 859.3                                  | -0.496                                  | 860.85                               | 1.054                                   | 859.726          | -0.426                              | 1.124                               |
| 8067 Kildeer Dr | 858.176                             | 859.506              | 1.124  | 2.674  | 859.3                                  | -0.206                                  | 860.85                               | 1.344                                   | 859.356          | -0.056                              | 1.494                               |
| 8072 Branch Dr  | 856.9                               | 858.9                | 2.4  | 3.95   | 859.3                                  | 0.4                                     | 860.85                               | 1.95                                    |                  |                                     |                                     |
| 8073 Kildeer Dr | 857.945                             | 859.226              | 1.355  | 2.905  | 859.3                                  | 0.074                                   | 860.85                               | 1.624                                   | 859.316          | -0.016                              | 1.534                               |
| 8079 Kildeer Dr |                                     |                      |  |  | 859.3                                  |   | 860.85                               |   |                  |                                     |                                     |
| 8080 Branch Dr  | 857                                 | 858.9                | 2.3  | 3.85   | 859.3                                  | 0.4                                     | 860.85                               | 1.95                                    | 857.8            | 1.5                                 | 3.05                                |
| 8080 Kildeer Dr |                                     | 860.37               |  |  | 859.3                                  | -1.07                                   | 860.85                               | 0.48                                    | 859.416          | -0.116                              | 1.434                               |
| 8085 Kildeer Dr | 857.968                             | 858.568              | 1.332  | 2.882  | 859.3                                  | 0.732                                   | 860.85                               | 2.282                                   |                  |                                     |                                     |
| 8086 Kildeer Dr |                                     |                      |  |  | 859.3                                  |   | 860.85                               |   |                  |                                     |                                     |
| 8088 Branch Dr  | 857.9                               | 857.9                | 1.4  | 2.95   | 859.3                                  | 1.4                                     | 860.85                               | 2.95                                    | 858.5            | 0.8                                 | 2.35                                |
| 8092 Kildeer Dr | 858.95                              | 860.67               | 0.35   | 1.9  | 859.3                                  | -1.37                                   | 860.85                               | 0.18                                    |                  |                                     |                                     |
| 8098 Kildeer Dr | 858.79                              | 860.47               | 0.51   | 2.06   | 859.3                                  | -1.17                                   | 860.85                               | 0.38                                    | 860.23           | -0.93                               | 0.62                                |

|                   |         |         |        |        |       |        |        |        |         |        |        |
|-------------------|---------|---------|--------|--------|-------|--------|--------|--------|---------|--------|--------|
| 8100 Branch Dr    | 858.1   | 859.6   | 1.2    | 2.75   | 859.3 | -0.3   | 860.85 | 1.25   | 858.7   | 0.6    | 2.15   |
| 8106 Halfway Dr   |         | 860.794 |        |        | 859.3 | -1.494 | 860.85 | 0.056  | 863.054 | -3.754 | -2.204 |
| 8112 Branch Dr    | 858.8   | 861.7   | 0.5    | 2.05   | 859.3 | -2.4   | 860.85 | -0.85  | 859     | 0.3    | 1.85   |
| 8120 Branch Dr    | 858.2   | 861.4   | 1.1    | 2.65   | 859.3 | -2.1   | 860.85 | -0.55  | 859.5   | -0.2   | 1.35   |
| 8128 Branch Dr    | 858     | 860.4   | 1.3    | 2.85   | 859.3 | -1.1   | 860.85 | 0.45   | 859.3   | 0      | 1.55   |
| 8134 Riverside Dr | 859.5   | 862.1   | -0.2   | 1.35   | 859.3 | -2.8   | 860.85 | -1.25  | 860.6   | -1.3   | 0.25   |
| 8156 Riverside Dr | 860.3   | 862.6   | -1     | 0.55   | 859.3 | -3.3   | 860.85 | -1.75  | 860.8   | -1.5   | 0.05   |
| 8175 Halfway Dr   | 858.012 | 858.632 | 1.288  | 2.838  | 859.3 | 0.668  | 860.85 | 2.218  |         |        |        |
| 8182 Riverside Dr | 859     | 861.1   | 0.3    | 1.85   | 859.3 | -1.8   | 860.85 | -0.25  |         |        |        |
| 8195 Halfway Dr   |         | 862.392 |        |        | 859.3 | -3.092 | 860.85 | -1.542 |         |        |        |
| 8202 Riverside Dr | 859     | 861.7   | 0.3    | 1.85   | 859.3 | -2.4   | 860.85 | -0.85  | 860.8   | -1.5   | 0.05   |
| 8211 Halfway Dr   | 859.666 | 861.846 | -0.366 | 1.184  | 859.3 | -2.546 | 860.85 | -0.996 |         |        |        |
| 8224 Hillpoint Dr | 858.672 | 860.532 | 0.628  | 2.178  | 859.3 | -1.232 | 860.85 | 0.318  |         |        |        |
| 8230 Hillpoint Dr | 859.172 | 861.862 | 0.128  | 1.678  | 859.3 | -2.562 | 860.85 | -1.012 |         |        |        |
| 8234 Riverside Dr | 860     | 862.2   | -0.7   | 0.85   | 859.3 | -2.9   | 860.85 | -1.35  | 859.7   | -0.4   | 1.15   |
| 8235 Hillpoint Dr | 858.212 | 860.302 | 1.088  | 2.638  | 859.3 | -1.002 | 860.85 | 0.548  | 858.932 | 0.368  | 1.918  |
| 8243 Hillpoint Dr | 859.397 | 859.727 | -0.097 | 1.453  | 859.3 | -0.427 | 860.85 | 1.123  |         |        |        |
| 8244 Hillpoint Dr | 860.957 | 861.587 | -1.657 | -0.107 | 859.3 | -2.287 | 860.85 | -0.737 |         |        |        |
| 8260 Riverside Dr | 859.2   | 862.4   | 0.1    | 1.65   | 859.3 | -3.1   | 860.85 | -1.55  | 860.4   | -1.1   | 0.45   |
| 8286 Riverside Dr | 857.5   | 862.3   | 1.8    | 3.35   | 859.3 | -3     | 860.85 | -1.45  | 859.6   | -0.3   | 1.25   |
| 8312 Riverside Dr | 858.1   | 859.8   | 1.2    | 2.75   | 859.3 | -0.5   | 860.85 | 1.05   | 858.3   | 1      | 2.55   |
| 8338 Riverside Dr | 858.7   | 860.1   | 0.6    | 2.15   | 859.3 | -0.8   | 860.85 | 0.75   | 859.2   | 0.1    | 1.65   |
| 8363 Riverside Dr | 858.2   | 861.2   | 1.1    | 2.65   | 859.3 | -1.9   | 860.85 | -0.35  |         |        |        |
| 8364 Riverside Dr | 858.3   | 860.3   | 1      | 2.55   | 859.3 | -1     | 860.85 | 0.55   | 858.4   | 0.9    | 2.45   |
| 8370 Riverside Dr | 858.4   | 860     | 0.9    | 2.45   | 859.3 | -0.7   | 860.85 | 0.85   | 859     | 0.3    | 1.85   |
| 8384 Riverside Dr | 858.1   | 859.8   | 1.2    | 2.75   | 859.3 | -0.5   | 860.85 | 1.05   |         |        |        |

**Table 4 – Residential Structure Detailed Data (All positive numbers are water depths above item referenced)**

| Street Address    | Lowest Adjacent Ground Elevation ft | First Floor Elev. ft | Water Depth above Lowest Adj Grade ft (FEMA) | Water Depth above Lowest Adj Grade ft (USGS) | FEMA FIS 1% Water Surface Elevation ft | Water Depth above First Floor ft (FEMA) | USGS FIM Max Water Surface Elevation | Water Depth above First Floor ft (USGS) | Grinder Elev. ft | Water Depth above Grinder ft (FEMA) | Water Depth above Grinder ft (USGS) |
|-------------------|-------------------------------------|----------------------|--|--|--|---|--------------------------------------|---|------------------|-------------------------------------|-------------------------------------|
| 8388 Riverside Dr | 858.4                               | 860.1                | 0.9  | 2.45   | 859.3                                  | -0.8                                    | 860.85                               | 0.75                                    |                  |                                     |                                     |
| 8399 Riverside Dr | 858.9                               | 860.3                | 0.4  | 1.95   | 859.3                                  | -1                                      | 860.85                               | 0.55                                    | 859.3            | 0                                   | 1.55                                |
| 8407 Riverside Dr | 858.2                               | 860.3                | 1.1  | 2.65   | 859.3                                  | -1                                      | 860.85                               | 0.55                                    | 858.8            | 0.5                                 | 2.05                                |
| 8412 Riverside Dr | 859.3                               | 861.1                | 0  | 1.55   | 859.3                                  | -1.8                                    | 860.85                               | -0.25                                   | 860.4            | -1.1                                | 0.45                                |
| 8419 Riverside Dr | 860                                 | 862                  | -0.7   | 0.85   | 859.3                                  | -2.7                                    | 860.85                               | -1.15                                   |                  |                                     |                                     |
| 8426 Riverside Dr | 857.5                               | 860                  | 1.8  | 3.35   | 859.3                                  | -0.7                                    | 860.85                               | 0.85                                    | 858.5            | 0.8                                 | 2.35                                |
| 8443 Riverside Dr | 858.9                               | 861.7                | 0.4  | 1.95   | 859.3                                  | -2.4                                    | 860.85                               | -0.85                                   |                  |                                     |                                     |
| 8444 Riverside Dr | 857.6                               | 858.5                | 1.7  | 3.25   | 859.3                                  | 0.8                                     | 860.85                               | 2.35                                    | 858.2            | 1.1                                 | 2.65                                |
| 8450 Riverside Dr | 857.5                               | 859.8                | 1.8  | 3.35   | 859.3                                  | -0.5                                    | 860.85                               | 1.05                                    | 857.7            | 1.6                                 | 3.15                                |
| 8462 Riverside Dr | 857.6                               | 859.5                | 1.7  | 3.25   | 859.3                                  | -0.2                                    | 860.85                               | 1.35                                    |                  |                                     |                                     |
| 8474 Riverside Dr | 858                                 | 859.8                | 1.3  | 2.85   | 859.3                                  | -0.5                                    | 860.85                               | 1.05                                    |                  |                                     |                                     |
| 8500 Riverside Dr | 857                                 | 861                  | 2.3  | 3.85   | 859.3                                  | -1.7                                    | 860.85                               | -0.15                                   |                  |                                     |                                     |
| 8509 Oreview Ave  | 858.3                               | 858.5                | 1  | 2.55   | 859.3                                  | 0.8                                     | 860.85                               | 2.35                                    | 858.9            | 0.4                                 | 1.95                                |
| 8513 Oreview Ave  | 858.4                               | 860.7                | 0.9  | 2.45   | 859.3                                  | -1.4                                    | 860.85                               | 0.15                                    | 859.1            | 0.2                                 | 1.75                                |
| 8518 Oreview Ave  | 859.4                               | 861.8                | -0.1   | 1.45   | 859.3                                  | -2.5                                    | 860.85                               | -0.95                                   |                  |                                     |                                     |
| 8525 Oreview Ave  | 858.7                               | 859.5                | 0.6  | 2.15   | 859.3                                  | -0.2                                    | 860.85                               | 1.35                                    | 859.7            | -0.4                                | 1.15                                |
| 8526 Riverside Dr | 857.6                               | 861.1                | 1.7  | 3.25   | 859.3                                  | -1.8                                    | 860.85                               | -0.25                                   |                  |                                     |                                     |
| 8532 Riverside Dr | 858.6                               | 861.2                | 0.7  | 2.25   | 859.3                                  | -1.9                                    | 860.85                               | -0.35                                   | 858.9            | 0.4                                 | 1.95                                |
| 8533 Oreview Ave  | 858.3                               | 859.9                | 1  | 2.55   | 859.3                                  | -0.6                                    | 860.85                               | 0.95                                    | 858.7            | 0.6                                 | 2.15                                |
| 8538 Riverside Dr | 857.9                               | 858.5                | 1.4  | 2.95   | 859.3                                  | 0.8                                     | 860.85                               | 2.35                                    | 858.8            | 0.5                                 | 2.05                                |
| 8550 Riverside Dr | 858.5                               | 862                  | 0.8  | 2.35   | 859.3                                  | -2.7                                    | 860.85                               | -1.15                                   | 859.1            | 0.2                                 | 1.75                                |
| 8555 Oreview Ave  | 859.2                               | 861.7                | 0.1  | 1.65   | 859.3                                  | -2.4                                    | 860.85                               | -0.85                                   | 858.5            | 0.8                                 | 2.35                                |
| 8560 Riverside Dr | 857.5                               | 859.4                | 1.8  | 3.35   | 859.3                                  | -0.1                                    | 860.85                               | 1.45                                    | 858.6            | 0.7                                 | 2.25                                |
| 8570 Riverside Dr | 858.7                               | 860.5                | 0.6  | 2.15   | 859.3                                  | -1.2                                    | 860.85                               | 0.35                                    | 859.4            | -0.1                                | 1.45                                |
| 8571 Oreview Ave  | 859.6                               | 860                  | -0.3   | 1.25   | 859.3                                  | -0.7                                    | 860.85                               | 0.85                                    |                  |                                     |                                     |
| 8579 Oreview Ave  | 857.5                               | 859.9                | 1.8  | 3.35   | 859.3                                  | -0.6                                    | 860.85                               | 0.95                                    |                  |                                     |                                     |
| 8580 Riverside Dr | 859.6                               | 860.9                | -0.3   | 1.25   | 859.3                                  | -1.6                                    | 860.85                               | -0.05                                   | 859.7            | -0.4                                | 1.15                                |
| 8585 Oreview Ave  | 858.2                               | 860.4                | 1.1  | 2.65   | 859.3                                  | -1.1                                    | 860.85                               | 0.45                                    | 858.7            | 0.6                                 | 2.15                                |
| 8591 Ardmore Ave  | 858.6                               | 860.5                | 0.7  | 2.25   | 859.3                                  | -1.2                                    | 860.85                               | 0.35                                    |                  |                                     |                                     |
| 8594 Riverside Dr | 858.1                               | 858.6                | 1.2  | 2.75   | 859.3                                  | 0.7                                     | 860.85                               | 2.25                                    | 859.2            | 0.1                                 | 1.65                                |
| 8599 Ardmore Ave  | 857.66                              | 859.4                | 1.64   | 3.19   | 859.3                                  | -0.1                                    | 860.85                               | 1.45                                    | 858.9            | 0.4                                 | 1.95                                |
| 8600 Riverside Dr | 858.3                               | 860.7                | 1  | 2.55   | 859.3                                  | -1.4                                    | 860.85                               | 0.15                                    | 858.2            | 1.1                                 | 2.65                                |
| 8602 Ardmore Ave  | 858.1                               | 859.8                | 1.1  | 2.75   | 859.2                                  | -0.6                                    | 860.85                               | 1.05                                    | 858              | 1.2                                 | 2.85                                |
| 8604 Riverside Dr | 858.6                               | 862                  | 0.7  | 2.25   | 859.3                                  | -2.7                                    | 860.85                               | -1.15                                   | 858.5            | 0.8                                 | 2.35                                |
| 8606 Riverside Dr | 858                                 | 858.7                | 1.3  | 2.85   | 859.3                                  | 0.6                                     | 860.85                               | 2.15                                    | 858.7            | 0.6                                 | 2.15                                |
| 8610 Riverside Dr | 858                                 | 859.7                | 1.3  | 2.85   | 859.3                                  | -0.4                                    | 860.85                               | 1.15                                    | 858.8            | 0.5                                 | 2.05                                |
| 8614 Riverside Dr | 858.1                               | 859.4                | 1.2  | 2.75   | 859.3                                  | -0.1                                    | 860.85                               | 1.45                                    |                  |                                     |                                     |
| 8618 Ardmore Ave  | 858.5                               | 859                  | 0.7  | 2.35   | 859.2                                  | 0.2                                     | 860.85                               | 1.85                                    |                  |                                     |                                     |
| 8618 Riverside Dr | 858.7                               | 860.9                | 0.6  | 2.15   | 859.3                                  | -1.6                                    | 860.85                               | -0.05                                   | 859.8            | -0.5                                | 1.05                                |
| 8621 Ardmore Ave  | 857.3                               | 859                  | 1.9  | 3.55   | 859.2                                  | 0.2                                     | 860.85                               | 1.85                                    | 857.5            | 1.7                                 | 3.35                                |
| 8622 Riverside Dr | 858.8                               | 860.2                | 0.5  | 2.05   | 859.3                                  | -0.9                                    | 860.85                               | 0.65                                    | 858.9            | 0.4                                 | 1.95                                |
| 8626 Riverside Dr | 858.3                               | 860.4                | 1  | 2.55   | 859.3                                  | -1.1                                    | 860.85                               | 0.45                                    | 859.1            | 0.2                                 | 1.75                                |
| 8629 Ardmore Ave  | 857.3                               | 857.6                | 1.9  | 3.55   | 859.2                                  | 1.6                                     | 860.85                               | 3.25                                    | 857.4            | 1.8                                 | 3.45                                |
| 8630 Riverside Dr | 858.3                               | 858.8                | 1  | 2.55   | 859.3                                  | 0.5                                     | 860.85                               | 2.05                                    | 859.4            | -0.1                                | 1.45                                |
| 8636 Ardmore Ave  | 857.9                               | 860.2                | 1.3  | 2.95   | 859.2                                  | -1                                      | 860.85                               | 0.65                                    | 858.7            | 0.5                                 | 2.15                                |
| 8637 Ardmore Ave  | 858                                 | 859.9                | 1.2  | 2.85   | 859.2                                  | -0.7                                    | 860.85                               | 0.95                                    | 858.5            | 0.7                                 | 2.35                                |
| 8644 Ardmore Ave  | 857.8                               | 859.4                | 1.4  | 3.05   | 859.2                                  | -0.2                                    | 860.85                               | 1.45                                    | 858.35           | 0.85                                | 2.5                                 |
| 8645 Ardmore Ave  | 857.4                               | 859.7                | 1.8  | 3.45   | 859.2                                  | -0.5                                    | 860.85                               | 1.15                                    | 858              | 1.2                                 | 2.85                                |
| 8646 Riverside Dr | 858.1                               | 859.9                | 1.2  | 2.75   | 859.3                                  | -0.6                                    | 860.85                               | 0.95                                    | 858.3            | 1                                   | 2.55                                |
| 8653 Ardmore Ave  | 857.8                               | 860.1                | 1.4  | 3.05   | 859.2                                  | -0.9                                    | 860.85                               | 0.75                                    | 857.8            | 1.4                                 | 3.05                                |
| 8656 Riverside Dr | 857.4                               | 858.6                | 1.9  | 3.45   | 859.3                                  | 0.7                                     | 860.85                               | 2.25                                    | 857.8            | 1.5                                 | 3.05                                |
| 8660 Ardmore Ave  | 858.5                               | 858.5                | 0.7  | 2.35   | 859.2                                  | 0.7                                     | 860.85                               | 2.35                                    | 859.4            | -0.2                                | 1.45                                |
| 8661 Ardmore Ave  | 857.2                               | 859.4                | 2  | 3.65   | 859.2                                  | -0.2                                    | 860.85                               | 1.45                                    | 857.8            | 1.4                                 | 3.05                                |
| 8670 Ardmore Ave  | 859.2                               | 861                  | 0  | 1.65   | 859.2                                  | -1.8                                    | 860.85                               | -0.15                                   | 858.8            | 0.4                                 | 2.05                                |

Table 5 – Residential Structure Detailed Data - (All positive numbers are water depths above item referenced)

| Street Address    | Lowest Adjacent Ground Elevation ft | First Floor Elev. ft | Water Depth above Lowest Adj Grade ft (FEMA) | Water Depth above Lowest Adj Grade ft (USGS) | FEMA FIS 1% Water Surface Elevation ft | Water Depth above First Floor ft (FEMA) | USGS FIM Max Water Surface Elevation | Water Depth above First Floor ft (USGS) | Grinder Elev. ft | Water Depth above Grinder ft (FEMA) | Water Depth above Grinder ft (USGS) |
|-------------------|-------------------------------------|----------------------|--|--|--|---|--------------------------------------|---|------------------|-------------------------------------|-------------------------------------|
| 8677 Beach Dr     | 858                                 | 860.2                | 1.2  | 2.85   | 859.2                                  | -1                                      | 860.85                               | 0.65                                    | 858.1            | 1.1                                 | 2.75                                |
| 8687 Beach Dr     | 857.6                               | 858                  | 1.6  | 3.25   | 859.2                                  | 1.2                                     | 860.85                               | 2.85                                    |                  |                                     |                                     |
| 8695 Beach Dr     | 858                                 | 859.5                | 1.2  | 2.85   | 859.2                                  | -0.3                                    | 860.85                               | 1.35                                    | 859              | 0.2                                 | 1.85                                |
| 8634 Riverside Dr | 858                                 | 858.9                | 1.3  | 2.85   | 859.3                                  | 0.4                                     | 860.85                               | 1.95                                    | 859.4            | -0.1                                | 1.45                                |
| 8700 Richmond D   | 859.1                               | 861                  | 0.1  | 1.75   | 859.2                                  | -1.8                                    | 860.85                               | -0.15                                   | 859.6            | -0.4                                | 1.25                                |
| 8701 Lagoon Dr    | 858.3                               | 858.9                | 0.9  | 2.55   | 859.2                                  | 0.3                                     | 860.85                               | 1.95                                    | 859.5            | -0.3                                | 1.35                                |
| 8703 Lagoon Dr    | 858.2                               | 858.2                | 1  | 2.65   | 859.2                                  | 1                                       | 860.85                               | 2.65                                    | 859.1            | 0.1                                 | 1.75                                |
| 8704 Ardmore Ave  | 859.7                               | 861.1                | -0.5   | 1.15   | 859.2                                  | -1.9                                    | 860.85                               | -0.25                                   |                  |                                     |                                     |
| 8707 Ardmore Ave  | 857.3                               | 859                  | 1.9  | 3.55   | 859.2                                  | 0.2                                     | 860.85                               | 1.85                                    |                  |                                     |                                     |
| 8710 Richmond D   | 859.7                               | 861.7                | -0.5   | 1.15   | 859.2                                  | -2.5                                    | 860.85                               | -0.85                                   | 860              | -0.8                                | 0.85                                |
| 8711 Lagoon Dr    | 858.4                               | 859.6                | 0.8  | 2.45   | 859.2                                  | -0.4                                    | 860.85                               | 1.25                                    |                  |                                     |                                     |
| 8712 Ardmore Ave  | 860.9                               | 862.7                | -1.7   | -0.05  | 859.2                                  | -3.5                                    | 860.85                               | -1.85                                   |                  |                                     |                                     |
| 8719 Ardmore Ave  | 862                                 | 858.2                | -2.8   | -1.15  | 859.2                                  | 1                                       | 860.85                               | 2.65                                    |                  |                                     |                                     |
| 8719 Lagoon Dr    | 858.1                               | 859.5                | 1.1  | 2.75   | 859.2                                  | -0.3                                    | 860.85                               | 1.35                                    |                  |                                     |                                     |
| 8720 Lagoon Dr    | 860.4                               | 862.7                | -1.2   | 0.45   | 859.2                                  | -3.5                                    | 860.85                               | -1.85                                   | 860.5            | -1.3                                | 0.35                                |
| 8722 Riverside Dr | 858.2                               | 860.6                | 1.1  | 2.65   | 859.3                                  | -1.3                                    | 860.85                               | 0.25                                    | 858.4            | 0.9                                 | 2.45                                |
| 8723 Lagoon Dr    | 857.6                               | 858.5                | 1.6  | 3.25   | 859.2                                  | 0.7                                     | 860.85                               | 2.35                                    | 858.9            | 0.3                                 | 1.95                                |
| 8724 Century Dr   | 859.5                               | 860.8                | -0.3   | 1.35   | 859.2                                  | -1.6                                    | 860.85                               | 0.05                                    |                  |                                     |                                     |
| 8726 Riverside Dr | 858.1                               | 860.1                | 1.2  | 2.75   | 859.3                                  | -0.8                                    | 860.85                               | 0.75                                    | 858.8            | 0.5                                 | 2.05                                |
| 8728 Century Dr   | 859.5                               | 861.2                | -0.3   | 1.35   | 859.2                                  | -2                                      | 860.85                               | -0.35                                   |                  |                                     |                                     |
| 8728 Garland Ave  | 860.7                               | 862.3                | -1.5   | 0.15   | 859.2                                  | -3.1                                    | 860.85                               | -1.45                                   | 859.6            | -0.4                                | 1.25                                |
| 8730 Riverside Dr | 857.6                               | 859.2                | 1.7  | 3.25   | 859.3                                  | 0.1                                     | 860.85                               | 1.65                                    | 858.5            | 0.8                                 | 2.35                                |
| 8731 Lagoon Dr    | 859.3                               | 861.5                | -0.1   | 1.55   | 859.2                                  | -2.3                                    | 860.85                               | -0.65                                   | 859.8            | -0.6                                | 1.05                                |
| 8734 Riverside Dr | 857.9                               | 859.1                | 1.4  | 2.95   | 859.3                                  | 0.2                                     | 860.85                               | 1.75                                    | 858.7            | 0.6                                 | 2.15                                |
| 8735 Lagoon Dr    | 858.1                               | 859.9                | 1.1  | 2.75   | 859.2                                  | -0.7                                    | 860.85                               | 0.95                                    | 859.7            | -0.5                                | 1.15                                |
| 8738 Riverside Dr | 858                                 | 860.4                | 1.3  | 2.85   | 859.3                                  | -1.1                                    | 860.85                               | 0.45                                    |                  |                                     |                                     |
| 8739 Lagoon Dr    | 858.4                               | 859.7                | 0.8  | 2.45   | 859.2                                  | -0.5                                    | 860.85                               | 1.15                                    | 858.8            | 0.4                                 | 2.05                                |
| 8740 Century Dr   | 859.4                               | 861.3                | -0.2   | 1.45   | 859.2                                  | -2.1                                    | 860.85                               | -0.45                                   |                  |                                     |                                     |
| 8742 Riverside Dr | 858.1                               | 860.2                | 1.2  | 2.75   | 859.3                                  | -0.9                                    | 860.85                               | 0.65                                    | 859.1            | 0.2                                 | 1.75                                |
| 8743 Century Dr   | 859.6                               | 863.8                | -0.4   | 1.25   | 859.2                                  | -4.6                                    | 860.85                               | -2.95                                   | 860.3            | -1.1                                | 0.55                                |
| 8746 Century Dr   | 859                                 | 860.1                | 0.2  | 1.85   | 859.2                                  | -0.9                                    | 860.85                               | 0.75                                    |                  |                                     |                                     |
| 8746 Riverside Dr | 858.6                               | 860.8                | 0.7  | 2.25   | 859.3                                  | -1.5                                    | 860.85                               | 0.05                                    | 859.5            | -0.2                                | 1.35                                |
| 8747 Lagoon Dr    | 858.2                               | 860.8                | 1  | 2.65   | 859.2                                  | -1.6                                    | 860.85                               | 0.05                                    | 858.2            | 1                                   | 2.65                                |
| 8750 Riverside Dr | 859.2                               | 861.1                | 0.1  | 1.65   | 859.3                                  | -1.8                                    | 860.85                               | -0.25                                   | 859.8            | -0.5                                | 1.05                                |
| 8751 Lagoon Dr    | 857.7                               | 859.4                | 1.5  | 3.15   | 859.2                                  | -0.2                                    | 860.85                               | 1.45                                    | 857.9            | 1.3                                 | 2.95                                |
| 8754 Riverside Dr | 858.7                               | 860.3                | 0.6  | 2.15   | 859.3                                  | -1                                      | 860.85                               | 0.55                                    |                  |                                     |                                     |
| 8755 Lagoon Dr    | 858.9                               | 860.7                | 0.3  | 1.95   | 859.2                                  | -1.5                                    | 860.85                               | 0.15                                    | 858              | 1.2                                 | 2.85                                |
| 8756 Lagoon Dr    | 859.6                               | 861.23               | -0.4   | 1.25   | 859.2                                  | -2.03                                   | 860.85                               | -0.38                                   | 859.8            | -0.6                                | 1.05                                |
| 8758 Riverside Dr | 858.1                               | 859.8                | 1.2  | 2.75   | 859.3                                  | -0.5                                    | 860.85                               | 1.05                                    | 859.1            | 0.2                                 | 1.75                                |
| 8761 Riverside Dr | 859.2                               | 861.3                | 0.1  | 1.65   | 859.3                                  | -2                                      | 860.85                               | -0.45                                   | 859.5            | -0.2                                | 1.35                                |
| 8762 Riverside Dr | 858                                 | 860.5                | 1.3  | 2.85   | 859.3                                  | -1.2                                    | 860.85                               | 0.35                                    | 859.1            | 0.2                                 | 1.75                                |
| 8763 Lagoon Dr    | 857.6                               | 859.5                | 1.6  | 3.25   | 859.2                                  | -0.3                                    | 860.85                               | 1.35                                    | 858.8            | 0.4                                 | 2.05                                |
| 8766 Lagoon Dr    | 859.2                               | 861.1                | 0  | 1.65   | 859.2                                  | -1.9                                    | 860.85                               | -0.25                                   |                  |                                     |                                     |
| 8766 Riverside Dr | 858.9                               | 861                  | 0.4  | 1.95   | 859.3                                  | -1.7                                    | 860.85                               | -0.15                                   | 859.4            | -0.1                                | 1.45                                |
| 8767 Lagoon Dr    | 858                                 | 860.3                | 1.2  | 2.85   | 859.2                                  | -1.1                                    | 860.85                               | 0.55                                    | 858.4            | 0.8                                 | 2.45                                |
| 8770 Riverside Dr | 858.8                               | 861.7                | 0.5  | 2.05   | 859.3                                  | -2.4                                    | 860.85                               | -0.85                                   | 859.5            | -0.2                                | 1.35                                |
| 8771 Lagoon Dr    | 857.4                               | 859.2                | 1.8  | 3.45   | 859.2                                  | 0                                       | 860.85                               | 1.65                                    | 858.8            | 0.4                                 | 2.05                                |
| 8772 Riverside Dr | 858.3                               | 860.1                | 1  | 2.55   | 859.3                                  | -0.8                                    | 860.85                               | 0.75                                    |                  |                                     |                                     |
| 8773 Century Dr   | 859.7                               | 861.2                | -0.5   | 1.15   | 859.2                                  | -2                                      | 860.85                               | -0.35                                   | 860              | -0.8                                | 0.85                                |
| 8774 Lagoon Dr    | 858.9                               | 860.3                | 0.3  | 1.95   | 859.2                                  | -1.1                                    | 860.85                               | 0.55                                    | 859.1            | 0.1                                 | 1.75                                |
| 8776 Riverside Dr | 858.5                               | 860                  | 0.8  | 2.35   | 859.3                                  | -0.7                                    | 860.85                               | 0.85                                    | 859.2            | 0.1                                 | 1.65                                |

Table 6 – Residential Structure Detailed Data - (All positive numbers are water depths above item referenced)

| Street Address    | Lowest Adjacent Ground Elevation ft | First Floor Elev. ft | Water Depth above Lowest Adj Grade ft (FEMA) | Water Depth above Lowest Adj Grade ft (USGS) | FEMA FIS 1% Water Surface Elevation ft | Water Depth above First Floor ft (FEMA) | USGS FIM Max Water Surface Elevation | Water Depth above First Floor ft (USGS) | Grinder Elev. ft | Water Depth above Grinder ft (FEMA) | Water Depth above Grinder ft (USGS) |
|-------------------|-------------------------------------|----------------------|--|--|--|---|--------------------------------------|---|------------------|-------------------------------------|-------------------------------------|
| 8779 Lagoon Dr    | 857.7                               | 859                  | 1.5  | 3.15   | 859.2                                  | 0.2                                     | 860.85                               | 1.85                                    | 858.8            | 0.4                                 | 2.05                                |
| 8783 Lagoon Dr    | 857.8                               | 859.4                | 1.4  | 3.05   | 859.2                                  | -0.2                                    | 860.85                               | 1.45                                    | 858.8            | 0.4                                 | 2.05                                |
| 8784 Lagoon Dr    | 858.9                               | 860.7                | 0.3  | 1.95   | 859.2                                  | -1.5                                    | 860.85                               | 0.15                                    |                  |                                     |                                     |
| 8784 Riverside Dr | 858                                 | 859.1                | 1.3  | 2.85   | 859.3                                  | 0.2                                     | 860.85                               | 1.75                                    | 859              | 0.3                                 | 1.85                                |
| 8786 Century Dr   | 859.3                               | 860.6                | -0.1   | 1.55   | 859.2                                  | -1.4                                    | 860.85                               | 0.25                                    |                  |                                     |                                     |
| 8790 Riverside Dr | 857.3                               | 857.8                | 2  | 3.55   | 859.3                                  | 1.5                                     | 860.85                               | 3.05                                    | 858.7            | 0.6                                 | 2.15                                |
| 8791 Riverside Dr | 858.3                               | 860.6                | 1  | 2.55   | 859.3                                  | -1.3                                    | 860.85                               | 0.25                                    | 858.5            | 0.8                                 | 2.35                                |
| 8794 Riverside Dr | 856.9                               | 860                  | 2.4  | 3.95   | 859.3                                  | -0.7                                    | 860.85                               | 0.85                                    | 858              | 1.3                                 | 2.85                                |
| 8795 Lagoon Dr    | 858.1                               | 859.8                | 1.1  | 2.75   | 859.2                                  | -0.6                                    | 860.85                               | 1.05                                    | 859              | 0.2                                 | 1.85                                |
| 8796 Century Dr   | 858.9                               | 860.3                | 0.3  | 1.95   | 859.2                                  | -1.1                                    | 860.85                               | 0.55                                    |                  |                                     |                                     |
| 8796 Riverside Dr | 856.7                               | 858.5                | 2.6  | 4.15   | 859.3                                  | 0.8                                     | 860.85                               | 2.35                                    | 858.2            | 1.1                                 | 2.65                                |
| 8798 Riverside Dr | 857.2                               | 860                  | 2.1  | 3.65   | 859.3                                  | -0.7                                    | 860.85                               | 0.85                                    | 858.2            | 1.1                                 | 2.65                                |
| 8802 Riverside Dr | 857.3                               | 858                  | 2  | 3.55   | 859.3                                  | 1.3                                     | 860.85                               | 2.85                                    |                  |                                     |                                     |
| 8805 Lagoon Dr    | 858                                 | 859.1                | 1.2  | 2.85   | 859.2                                  | 0.1                                     | 860.85                               | 1.75                                    | 859              | 0.2                                 | 1.85                                |
| 8806 Riverside Dr | 857.4                               | 859.4                | 1.9  | 3.45   | 859.3                                  | -0.1                                    | 860.85                               | 1.45                                    | 858.4            | 0.9                                 | 2.45                                |
| 8810 Riverside Dr | 858.2                               | 859.6                | 1.1  | 2.65   | 859.3                                  | -0.3                                    | 860.85                               | 1.25                                    | 858.2            | 1.1                                 | 2.65                                |
| 8811 Lagoon Dr    | 857.9                               | 859.5                | 1.3  | 2.95   | 859.2                                  | -0.3                                    | 860.85                               | 1.35                                    | 858.8            | 0.4                                 | 2.05                                |
| 8813 Riverside Dr | 858.1                               | 860.3                | 1.2  | 2.75   | 859.3                                  | -1                                      | 860.85                               | 0.55                                    | 859.1            | 0.2                                 | 1.75                                |
| 8814 Riverside Dr | 857.5                               | 859.8                | 1.8  | 3.35   | 859.3                                  | -0.5                                    | 860.85                               | 1.05                                    | 858.3            | 1                                   | 2.55                                |
| 8815 Riverside Dr | 858.4                               | 862.4                | 0.9  | 2.45   | 859.3                                  | -3.1                                    | 860.85                               | -1.55                                   | 858.6            | 0.7                                 | 2.25                                |
| 8818 Riverside Dr | 856.9                               | 859.8                | 2.4  | 3.95   | 859.3                                  | -0.5                                    | 860.85                               | 1.05                                    | 858.7            | 0.6                                 | 2.15                                |
| 8819 Century Dr   | 857.6                               | 859.9                | 1.6  | 3.25   | 859.2                                  | -0.7                                    | 860.85                               | 0.95                                    | 858.6            | 0.6                                 | 2.25                                |
| 8819 Riverside Dr | 856.5                               | 858.9                | 2.8  | 4.35   | 859.3                                  | 0.4                                     | 860.85                               | 1.95                                    | 858.4            | 0.9                                 | 2.45                                |
| 8823 Century Dr   | 856.9                               | 859.4                | 2.3  | 3.95   | 859.2                                  | -0.2                                    | 860.85                               | 1.45                                    |                  |                                     |                                     |
| 8826 Riverside Dr | 857.2                               | 859                  | 2.1  | 3.65   | 859.3                                  | 0.3                                     | 860.85                               | 1.85                                    | 859              | 0.3                                 | 1.85                                |
| 8827 Century Dr   | 856.9                               | 858.5                | 2.3  | 3.95   | 859.2                                  | 0.7                                     | 860.85                               | 2.35                                    | 857.9            | 1.3                                 | 2.95                                |
| 8830 Riverside Dr | 857.7                               | 860.1                | 1.5  | 3.15   | 859.2                                  | -0.9                                    | 860.85                               | 0.75                                    | 859.1            | 0.1                                 | 1.75                                |
| 8831 Century Dr   | 856.9                               | 858.3                | 2.3  | 3.95   | 859.2                                  | 0.9                                     | 860.85                               | 2.55                                    | 858              | 1.2                                 | 2.85                                |
| 8833 Riverside Dr | 858                                 | 860.7                | 1.2  | 2.85   | 859.2                                  | -1.5                                    | 860.85                               | 0.15                                    | 858.8            | 0.4                                 | 2.05                                |
| 8834 Riverside Dr | 857.4                               | 859.1                | 1.8  | 3.45   | 859.2                                  | 0.1                                     | 860.85                               | 1.75                                    | 858.6            | 0.6                                 | 2.25                                |
| 8835 Lagoon Dr    | 857.2                               | 859.6                | 2  | 3.65   | 859.2                                  | -0.4                                    | 860.85                               | 1.25                                    | 858.3            | 0.9                                 | 2.55                                |
| 8837 Riverside Dr | 857.5                               | 860.9                | 1.7  | 3.35   | 859.2                                  | -1.7                                    | 860.85                               | -0.05                                   | 859              | 0.2                                 | 1.85                                |
| 8838 Riverside Dr | 857                                 | 858.4                | 2.2  | 3.85   | 859.2                                  | 0.8                                     | 860.85                               | 2.45                                    | 857.6            | 1.6                                 | 3.25                                |
| 8841 Riverside Dr | 856.8                               | 859.1                | 2.4  | 4.05   | 859.2                                  | 0.1                                     | 860.85                               | 1.75                                    | 857.6            | 1.6                                 | 3.25                                |
| 8843 Lagoon Dr    | 857.3                               | 861.2                | 1.9  | 3.55   | 859.2                                  | -2                                      | 860.85                               | -0.35                                   | 858.7            | 0.5                                 | 2.15                                |
| 8844 Lagoon Dr    | 859.1                               | 860.6                | 0.1  | 1.75   | 859.2                                  | -1.4                                    | 860.85                               | 0.25                                    |                  |                                     |                                     |
| 8844 Riverside Dr | 857.7                               | 861                  | 1.5  | 3.15   | 859.2                                  | -1.8                                    | 860.85                               | -0.15                                   |                  |                                     |                                     |
| 8845 Lagoon Dr    | 857                                 | 860.2                | 2.2  | 3.85   | 859.2                                  | -1                                      | 860.85                               | 0.65                                    | 858.7            | 0.5                                 | 2.15                                |
| 8845 Riverside Dr | 858.2                               | 859.7                | 1  | 2.65   | 859.2                                  | -0.5                                    | 860.85                               | 1.15                                    | 858.5            | 0.7                                 | 2.35                                |
| 8846 Lagoon Dr    | 858.7                               | 861                  | 0.5  | 2.15   | 859.2                                  | -1.8                                    | 860.85                               | -0.15                                   |                  |                                     |                                     |
| 8854 Lagoon Dr    | 858.7                               | 861.3                | 0.5  | 2.15   | 859.2                                  | -2.1                                    | 860.85                               | -0.45                                   | 860.3            | -1.1                                | 0.55                                |
| 8855 Lagoon Dr    | 857.1                               | 859.4                | 2.1  | 3.75   | 859.2                                  | -0.2                                    | 860.85                               | 1.45                                    | 858.8            | 0.4                                 | 2.05                                |
| 8860 Lagoon Dr    | 858.7                               | 859.2                | 0.5  | 2.15   | 859.2                                  | 0                                       | 860.85                               | 1.65                                    |                  |                                     |                                     |
| 8861 Lagoon Dr    | 858.9                               | 861.1                | 0.3  | 1.95   | 859.2                                  | -1.9                                    | 860.85                               | -0.25                                   |                  |                                     |                                     |
| 8865 Lagoon Dr    | 857.8                               | 858.8                | 1.4  | 3.05   | 859.2                                  | 0.4                                     | 860.85                               | 2.05                                    |                  |                                     |                                     |
| 8869 Lagoon Dr    | 857.7                               | 860.2                | 1.5  | 3.15   | 859.2                                  | -1                                      | 860.85                               | 0.65                                    | 858.7            | 0.5                                 | 2.15                                |
| 8870 Lagoon Dr    | 858.9                               | 861.4                | 0.3  | 1.95   | 859.2                                  | -2.2                                    | 860.85                               | -0.55                                   | 859.3            | -0.1                                | 1.55                                |
| 8872 Lagoon Dr    | 859.8                               | 862.7                | -0.6   | 1.05   | 859.2                                  | -3.5                                    | 860.85                               | -1.85                                   | 860.3            | -1.1                                | 0.55                                |
| 8873 Lagoon Dr    | 858.1                               | 860.9                | 1.1  | 2.75   | 859.2                                  | -1.7                                    | 860.85                               | -0.05                                   | 858.4            | 0.8                                 | 2.45                                |
| 8874 Lagoon Dr    | 860.2                               | 862                  | -1   | 0.65   | 859.2                                  | -2.8                                    | 860.85                               | -1.15                                   | 859.9            | -0.7                                | 0.95                                |
| 8877 Lagoon Dr    | 857.7                               | 859                  | 1.5  | 3.15   | 859.2                                  | 0.2                                     | 860.85                               | 1.85                                    | 858.3            | 0.9                                 | 2.55                                |

Table 7 – Residential Structure Detailed Data - (All positive numbers are water depths above item referenced)

| Street Address    | Lowest Adjacent Ground Elevation ft | First Floor Elev. ft | Water Depth above Lowest Adj Grade ft (FEMA) | Water Depth above Lowest Adj Grade ft (USGS) | FEMA FIS 1% Water Surface Elevation ft | Water Depth above First Floor ft (FEMA) | USGS FIM Max Water Surface Elevation | Water Depth above First Floor ft (USGS) | Grinder Elev. ft | Water Depth above Grinder ft (FEMA) | Water Depth above Grinder ft (USGS) |
|-------------------|-------------------------------------|----------------------|--|--|--|---|--------------------------------------|---|------------------|-------------------------------------|-------------------------------------|
| 8881 Lagoon Dr    | 857.2                               | 859.8                | 2  | 3.65   | 859.2                                  | -0.6                                    | 860.85                               | 1.05                                    | 859.3            | -0.1                                | 1.55                                |
| 8885 Lagoon Dr    | 857.1                               | 862.9                | 2.1  | 3.75   | 859.2                                  | -3.7                                    | 860.85                               | -2.05                                   |                  |                                     |                                     |
| 8886 Lagoon Dr    | 859.4                               | 862.7                | -0.2   | 1.45   | 859.2                                  | -3.5                                    | 860.85                               | -1.85                                   | 860              | -0.8                                | 0.85                                |
| 8889 Lagoon Dr    | 859.5                               | 860.5                | -0.3   | 1.35   | 859.2                                  | -1.3                                    | 860.85                               | 0.35                                    |                  |                                     |                                     |
| 8892 Lagoon Dr    |                                     |                      |  |  | 859.2                                  |   | 860.85                               |   | 860.1            | -0.9                                | 0.75                                |
| 8893 Lagoon Dr    | 859.1                               | 861.6                | 0.1  | 1.75   | 859.2                                  | -2.4                                    | 860.85                               | -0.75                                   | 860.3            | -1.1                                | 0.55                                |
| 8897 Riverside Dr | 858.7                               | 858.7                | 0.5  | 2.15   | 859.2                                  | 0.5                                     | 860.85                               | 2.15                                    | 858.8            | 0.4                                 | 2.05                                |
| 8905 Riverside Dr | 859                                 | 860                  | 0.2  | 1.85   | 859.2                                  | -0.8                                    | 860.85                               | 0.85                                    | 860.8            | -1.6                                | 0.05                                |
| 8908 Century Dr   | 860.5                               | 861.5                | -1.3   | 0.35   | 859.2                                  | -2.3                                    | 860.85                               | -0.65                                   | 861.6            | -2.4                                | -0.75                               |
| 8913 Riverside Dr | 860.7                               | 863.4                | -1.5   | 0.15   | 859.2                                  | -4.2                                    | 860.85                               | -2.55                                   | 859.6            | -0.4                                | 1.25                                |
| 8937 Riverside Dr | 858.9                               | 860                  | 0.3  | 1.95   | 859.2                                  | -0.8                                    | 860.85                               | 0.85                                    | 860              | -0.8                                | 0.85                                |
| 8945 Riverside Dr | 855.8                               | 859.5                | 3.4  | 5.05   | 859.2                                  | -0.3                                    | 860.85                               | 1.35                                    | 859.4            | -0.2                                | 1.45                                |
| 8975 Riverside Dr | 858.5                               | 859.7                | 0.7  | 2.35   | 859.2                                  | -0.5                                    | 860.85                               | 1.15                                    |                  |                                     |                                     |
| 8487 Hillpoint Dr | 860.4                               | 860.6                | -1.1   | 0.45   | 859.3                                  | -1.3                                    | 860.85                               | 0.25                                    |                  |                                     |                                     |
| 8463 Hillpoint Dr | 860.3                               | 860.3                | -1   | 0.55   | 859.3                                  | -1                                      | 860.85                               | 0.55                                    | 859.6            | -0.3                                | 1.25                                |

Table 8 – Residential Structure Detailed Data - (All positive numbers are water depths above item referenced)



## **EMERGENCY ACTION GUIDELINES**

The following attachments provide guidelines for each function that has been assigned to a particular township department in response to an emergency or disaster situation.

- Attachment A: Direction and Control
- Attachment B: Fire Services
- Attachment C: Law Enforcement
- Attachment D: Warning and Communications
- Attachment E: Public Information
- Attachment F: Damage Assessment
- Attachment G: Public Works
- Attachment H: Emergency Medical Services
- Attachment I: Human Services

Each department assigned is responsible for maintaining the guidelines, as well as approving any changes to the guidelines or changes to the official responsible for implementation.

## **ATTACHMENT A: Direction and Control**

The Township Supervisor, with support from the Emergency Management Liaison, is responsible for directing and controlling emergency management operations.

The following guidelines represent a checklist of actions that the Township Supervisor and Liaison must consider for providing an effective response to an emergency or disaster situation.

### **Functional Guidelines:**

1. Issue orders and directives, i.e., travel restrictions, and recommend protective actions to be taken by the general public.
2. Declare a local state of emergency or disaster and notify the County Emergency Management Office.
3. Generate and disseminate information to the public via the Public Information Officer.
4. Provide for continuity of operations.
5. Activates and maintains the local emergency operations center.
6. Seek federal post-disaster funds, as available, as well as pre-disaster assistance.
7. Maintain record of activity regarding decisions on emergency actions.
8. Review and evaluate assessment data.
9. Maintain liaison with state and federal officials.
10. Coordinate with County officials in response and recovery efforts.
11. Coordinate and conduct information sharing activities to identify potential and enacted WMD or terrorism activities, and mobilize and direct resources in response to such incidents.
12. Prepares and maintains an emergency plan for the municipality subject to the direction of the elected officials; reviews and updates as required.
13. Develops and maintains a trained staff and current emergency response checklists appropriate for the emergency needs and resources of the community.
14. Coordinate with State and federal officials in collecting and sharing terrorism related information.

The Township Supervisor has reviewed and approves the assigned guidelines. These will be maintained in accordance to the current standards of the county’s emergency plan.

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PATRICK J. HOHL, Hamburg Township Supervisor

Date

## **ATTACHMENT B: Fire Services**

The Fire Department is responsible for fire service activities.

The following guidelines represent a checklist of actions that department officials must consider for providing an effective response to an emergency or disaster situation.

### **Functional Guidelines:**

1. Provide command level representatives to the EOC and Unified Incident Command Post, when activated.
2. Coordinates fire and search and rescue services with appropriate personnel at the County Emergency Management Agency; including assistance to regional specialty teams such as, but not limited to the Regional Response Team, MUSAR, and BOMB Squad.
3. Coordinates with County EMC and the State of Michigan in the decontamination and monitoring of affected citizens and emergency workers after exposure to CBRNE hazards.
4. Assumes primary responsibility for emergency alerting of the public.
5. Assists with evacuation of affected citizens, especially those who are institutionalized, immobilized or injured.
6. Provides resources for fire services response and rescue operations.
7. Assists in salvage operations and debris clearance.
8. Advises elected officials about fire and rescue activities.
9. Conduct safety analysis of the emergency, inform and recommend corrections to the Township Supervisor.
10. Respond to hazardous materials spills in accordance to the procedures in Appendix 1.
11. Assist in search and rescue operations.
12. Assist in searching for bombs and/or explosive devices in connection with WMD events.

The Director of Public Safety and Deputy Director – Fire Operations have reviewed and approved the assigned guidelines. These will be maintained in accordance to the current standards of the county’s emergency plan.

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JEFFREY NEWTON, Hamburg Township Deputy Director – Fire Operations

Date

ATTACHMENT B: APPENDIX 1: Fire Services

**HAZMAT RESPONSE Guidelines**

The Fire Department is responsible for the response to hazardous materials spills. Response will be in accordance to the following procedures.

1. Assume incident command upon arrival at the scene.
2. Establish scene security or coordinate with other available agencies to establish scene security.
3. Monitor and evaluate environmental health risks or hazards from hazardous materials releases.
4. Inspect possible sources of contamination.
5. Provide technical assistance and liaison with other appropriate agencies or organizations for the remediation of hazardous waste releases and other contamination sources.
6. Disseminate information to the Emergency Operations Center Public Information Officer on hazardous material releases issues.
7. Makes protective action recommendations based on severity and complexity of incident type.
8. Ensure PPE is fit tested to responders.
9. Prior to proceeding with cleanup, analyze and evaluate the safety of the spill by a certified Safety Officer/technician.
10. Decontaminate equipment and gear.

The Director of Public Safety and Deputy Director – Fire Operations have reviewed and approved the assigned guidelines. These will be maintained in accordance to the current standards of the county’s emergency plan.

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JEFFREY NEWTON, Hamburg Township Deputy Director – Fire Operations

Date

**ATTACHMENT C: Law Enforcement**

The Police Department is responsible for law enforcement activities.

The following guidelines represent a checklist of actions that department officials must consider for providing an effective response to an emergency or disaster situation.

**Functional Guidelines:**

1. Develops and maintains procedures for the Public Safety Department.
2. Coordinates security and law enforcement services; with appropriate personnel at the County Emergency Operations Center.
3. Establishes security and protection of critical facilities.
4. Provides traffic and access control in and around affected areas.
5. Assists with emergency alerting and notification of threatened population.
6. Assists with the evacuation of affected citizens, especially those who are institutionalized, immobilized or injured.
7. In cooperation with the Fire personnel, performs search and rescue operations.
8. Implement any curfews ordered by the Township Supervisor.
9. Provides access control to affected areas.
10. Provide emergency assistance to persons with special/functional needs.
11. Assists the medical examiner with mortuary services.
12. Coordinate urban search and rescue activities.
13. Investigate incident and provide intelligence information to state and federal officials.

The Director of Public Safety has reviewed and approves the assigned responsibilities. These responsibilities will be maintained in accordance to the current standards of the county’s emergency plan.

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RICHARD DUFFANY, Hamburg Township Director of Public Safety/Police Chief

Date

## **ATTACHMENT D: Warning and Communications**

The Hamburg Township Public Safety Department is responsible for warning and communications activities.

The following guidelines represent a checklist of actions that department officials must use for providing an effective response to an emergency or disaster situation.

### **Emergency Guidelines:**

1. Warn the following individuals via telephone, pager, smart messaging, sirens, etc.:
  - a. Township Supervisor.
  - b. Municipal Emergency Management Liaison.
  - c. County Emergency Management Coordinator.
  - d. Municipal Emergency Operations Center representatives.
2. Ensure all agencies represented in the municipal Emergency Operations Center have communications both to their staff at their department offices and their staff at the incident site. This equipment consists of radios, telephones, cell phones, pagers, sirens, etc.
3. Establish communications with the county Emergency Operations Center if activated. The communications equipment available for this link is i.e., LEIN, telephone, fax, pagers, sirens, etc.
4. Establish communications with the Incident Command Post, if established.
5. Activate the public warning system in accordance to the procedures listed in Appendix D-1.
6. Ensure the public warning system provides notification to special needs populations identified in the community, i.e., elderly, hearing impaired, non-English speaking, and others. The system consists of sirens, door-to-door, telephone fan out, 211 system, etc.
7. Contact and warn special facilities and locations, such as schools, hospitals, nursing homes, major industries, institutions, and place of public assembly. The methods of warning and contacting these locations consist of sirens, personal contact, telephone, etc.

The Director of Public Safety has reviewed and approves the assigned responsibilities. These responsibilities will be maintained in accordance to the current standards of the county's emergency plan.

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RICHARD DUFFANY, Hamburg Township Director of Public Safety

Date

## **ATTACHMENT E: Public information**

The Township Supervisor is responsible for public information activities.

The following guidelines represent a checklist of actions that the Public Information Official must consider for providing an effective response to an emergency or disaster situation.

### **Emergency Guidelines:**

1. Function as the sole point of contact for the news media and public officials.
2. Collect information from municipal emergency response agencies located in the emergency operations center and other locations.
3. Prepare news releases to be disseminated to the local media.
4. Conduct press tours of disaster area(s) within the community.
5. Establish a **Public Information Center at Fire Station 12, 10100 Veterans Memorial Drive, Hamburg, Michigan 48139** to become the central point from which news releases are issued.
6. Establish and maintain contact with the County Public Information Official if the County's Emergency Operations Plan is activated.
7. Coordinate public information activities with the county Public Information Officer if the County Emergency Operations Center is activated.
8. Assist the county in establishing a Joint Information Center (JIC).
9. Assist the county with establishing a Rumor Control Center.
10. Assist the Municipal Emergency Management Liaison in developing and distributing education material on the hazards that face the municipality.
11. Develop and maintain Emergency/Public Information procedures.
12. Maintain a log and file of all information released to the media.

The Township Supervisor has reviewed and approves the assigned responsibilities. These responsibilities will be maintained in accordance to the current standards of the county's emergency plan.

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PATRICK J. HOHL, Hamburg Township Supervisor

Date



## **ATTACHMENT F: Damage Assessment**

The Assessing Department is responsible for damage assessment activities.

The following guidelines represent a checklist of actions that department officials must consider for providing an effective response to an emergency or disaster situation.

### **Emergency Guidelines:**

1. Record initial information from first responders such as law enforcement, fire services, and public works.
2. If necessary, activate the damage assessment team which consists of the following agencies:
  - Assessing Department - responsible for public damage assessment.
  - Assessing Department - responsible for individual damage assessment.
3. Provide information to the Municipal Emergency Management Liaison. The Liaison will then provide assessment data to the county for preparation of a jurisdictional situation report via E-Team.
4. If the situation warrants, assist the Township Supervisor with the preparation of a local state of emergency declaration and forward to the County Emergency Management Coordinator.
5. Prepare a request for county assistance in conjunction with the Municipal Emergency Management Liaison.
6. Plot damage assessment information on status boards in the Municipal Emergency Operations Center.
7. Record all expenditures for municipal personnel, equipment, supplies, services, etc., and track resources being used.
8. Prepare reports for the municipal public information official.
9. Collect information and forward to the County so that the county can complete the Damage and Injury Assessment information through the jurisdiction's situational report via MI CIMS.

The Assessing Department official has reviewed and approves the assigned responsibilities. These responsibilities will be maintained in accordance to the current standards of the county's emergency plan.

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HOLLY COZZA, MAAO, Hamburg Township Assessor

Date

## **ATTACHMENT G: Public Works**

The Fire Department with the support of the Public Works Department is responsible for providing general emergency response and damage assessment support.

The following guidelines represent a checklist of actions that department officials must consider for providing an effective response to an emergency or disaster situation.

### **Emergency Guidelines:**

1. Maintain transportation routes.
2. If necessary, coordinate activities designed to control the flow of flood water, including sandbagging, emergency diking, and pumping operations.
3. Coordinate travel restrictions/road closures within the municipality.
4. Identify evacuation routes.
5. Provide emergency generators and lighting.
6. Assist with traffic control.
7. Assist with access control.
8. Assist with urban search and rescue activities, i.e., persons trapped in damaged buildings or under heavy debris/objects, etc.
9. Assist private utilities with the shutdown and restoration of gas and electric services.
10. Assist with transportation of essential goods, i.e., food, medical supplies, etc.
11. As necessary, establish a staging area for public works.
12. Report damage information to the Damage Assessment Team.
13. If necessary, assist with damage surveys for the federal public assistance grant program.
14. If the county Emergency Operations Center is activated, establish and maintain contact with the person representing public works.
15. Notify Law Enforcement of the location(s) of disabled vehicles.

16. Inspect critical infrastructure and other public utilities for safety.

The Director of Public Safety and Deputy Director – Fire Operations have reviewed and approves the assigned responsibilities. These responsibilities will be maintained in accordance to the current standards of the county’s emergency plan.

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JEFFREY NEWTON, Hamburg Township Deputy Director – Fire Operations

Date

## **ATTACHMENT G: APPENDIX 1: Public Works**

### **Hazmat Response Guidelines**

1. The Public Works Department will support the Fire Department in response efforts according to the following:
2. Assist the Fire Department in the cleanup of contaminated soils and transport to appropriate dump sites.
3. Evaluates inland waters conditions and makes recommendations to Fire Chief on response actions.
4. Provides heavy equipment and diking materials to support the Fire Department's response hazardous materials incidents.
5. Advise the incident commander of any safety concerns.
6. Ensure personnel use adequate personal protection equipment.
7. Decontaminate equipment and gear.
8. Operation, and deactivation if necessary, of residential grinder pumps and all waste water collection and treatment systems.
9. Function as the liaison with the operators of the Livingston Community Water Authority to ensure safety of the water provided.
10. Facilitate and provide for the services of private equipment/excavation contractors as needed.
11. The Director of Technical Services and Utilities has reviewed and approves these guidelines. These will be maintained in accordance to the current standards of the county's emergency plan.

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TONY RANDAZZO, Hamburg Township Director of Technical Services

Date

## **ATTACHMENT H: Emergency Medical Services**

The Fire Department is responsible for emergency medical service activities.

The following guidelines represent a checklist of actions that agency officials must consider for providing an effective response to an emergency or disaster situation.

### **Emergency Guidelines:**

1. Evacuate nursing homes, hospitals, and other medical facilities.
2. Assist with animal and pet control.
3. Assist with decontamination.
4. Coordinate emergency medical care to victims.
5. Establish a staging area for emergency medical equipment.
6. Identify a facility to be used as a temporary morgue if necessary.
7. Coordinate with hospitals and shelter managers to staff medical teams at shelters.
8. When appropriate, coordinate field units' participation in damage assessment activities.
9. Ensure that emergency medical teams responding on-scene have established an on-scene medical command post and a medical commander.
10. Maintain a list and the addresses of individuals with special/functional needs and other individuals needing assistance.

The emergency medical official has reviewed and approves the assigned responsibilities. These responsibilities will be maintained in accordance to the current standards of the county's emergency plan.

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JORDAN ZERNICK, Hamburg Township Deputy Fire Chief

Date

## **ATTACHMENT I: Human Services**

The Township Clerk will serve as the Human Services Liaison and is responsible for human services activities. The liaison will coordinate and/or keep informed human services activities occurring within the municipality, with the County Human Services Department.

The following guidelines represent a checklist of actions that the liaison must consider for providing an effective response to an emergency or disaster situation.

### **Emergency Guidelines:**

1. Coordinate activities of municipal agencies/departments which provide human service type services.
2. Coordinate the provision of transportation for evacuation.
3. Open and manage shelters in the municipality.
4. Set up canteen to feed emergency workers in the municipality.
5. Provide food and clothing to municipality workers and victims of disaster residing in the municipality.
6. Assist the county with establishing a Rumor Control Center.
7. Arrange for provision of Crisis Counseling or Critical Incident Stress Debriefing (CISD) for both victims and identified disaster workers.
8. If the County Emergency Operations Center is activated, establish and maintain contact with the person representing Human Services. If the county Emergency Operations Center is not activated, establish and maintain contact with the county Human Services Official directly at the county Department of Human Services.
9. Coordinate with ARC and other pertinent organizations for the distribution of emergency clothing for disaster victims.
10. Coordinate efforts to provide transportation for disaster victims. (Consider local school buses, council on aging, canoe liveries, USFS, volunteers, etc.)

The Township Clerk has reviewed and approves the assigned responsibilities. These responsibilities will be maintained in accordance to the current standards of the county's emergency plan.

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MICHAEL H. DOLAN, Hamburg Township Clerk

Date

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**Attachment I**

**APPENDIX 1: HUMAN SERVICES:  
Resources and Support Services**

| <b>TRANSPORTATION RESOURCES</b>  | <b>Type</b>   |
|--|---|
| <p><b>Brighton Area Schools</b><br/>                     Transportation Department Office<br/>                     Phone: 810-299-3890<br/>                     Fax: 810-299-3898<br/>                     5800 Borderline, Brighton, MI 48116<br/>                     (Located behind Busch’s Shopping Center in Brighton)<br/>                     Web Site:<br/> <a href="http://www.brightonk12.com/transportation">http://www.brightonk12.com/transportation</a></p> | <p>School Busses</p>  |
| <p><b>Pinckney Community Schools</b><br/>                     Transportation Department Office – Phone: 810-225-3960<br/>                     (Board of Education/Central Offices – Phone: 810-225-3900)<br/>                     2020 East M-36, Pinckney, Michigan 481169<br/>                     Web Site: <a href="http://www.pinckneypirates.org/page/transportation">http://www.pinckneypirates.org/page/transportation</a></p>                                     | <p>School Busses</p>  |
| <p><b>Livingston Essential Transportation Service (L.E.T.S.)</b><br/>                     3950 West Grand River, Howell, Michigan 48855<br/>                     Phone: 517-546-6600 / Fax: 517-546-5088<br/>                     Web Site: <a href="https://www.livgov.com/lets">https://www.livgov.com/lets</a></p>  | <p>Public Transportation Services - Dial-A-Ride Service to Any Destination Countywide and Regional Medical Service To Ingham, Oakland, Genesee, and Washtenaw Counties. See further information on the web site regarding service hours, trip scheduling, fares and tokens.</p> |

| <b>SHELTERS</b>   | <b>Maximum occupancy</b>   |
|---|--|
| <p><b>Hamburg Township Senior Center</b><br/>                     Mailing Address:<br/>                     10407 Merrill Road, P.O. Box 157, Hamburg, Michigan 48139<br/><br/>                     Physical Address: 10407 Merrill Road, Whitmore Lake, Michigan 48189<br/>                     (Located in Hamburg Township Municipal Complex)<br/><br/>                     Phone: 810-222-1140<br/>                     Fax: 810-231-3877</p> | <ul style="list-style-type: none"> <li>• Has a kitchen certified for and used for serving Meals on Wheels by the Livingston County Health Department</li> <li>• Has a large open area room which can seat up to 134 people at round tables/chairs for meal service</li> <li>• Large open area room could be used as sleeping area – could temporarily house 41 people</li> <li>• Public restrooms for men and women</li> <li>• No shower facilities</li> <li>• No generator at location</li> </ul> |



|  |   |
|--|---|
| <p><b>Hamburg Township Hall</b><br/> Mailing Address: 10405 Merrill Road, P.O. Box 157, Hamburg, Michigan 48139<br/> Physical Address: 10405 Merrill Road, Whitmore Lake, Michigan 48189<br/> Phone: 810-231-1000<br/> Fax: 810-231-4295<br/> Web site: <a href="http://www.hamburg.mi.us/">http://www.hamburg.mi.us/</a></p>  | <ul style="list-style-type: none"> <li>• Board room could be used as sleeping area – could temporarily house 50 people</li> <li>• Public restrooms for men and women</li> <li>• No shower facilities</li> <li>• <b>Has generator back up</b></li> </ul>   |
| <p><b>Hamburg Township Fire Department Station 11</b><br/> Mailing Address: P.O. Box 157, Hamburg, Michigan 48139<br/> Physical Location: 3666 East M-36, Pinckney, Michigan 48169<br/> Phone: 810-222-1100<br/> Fax: 810-231-1974</p>   | <ul style="list-style-type: none"> <li>• Training room can seat up to 146 people for meal service</li> <li>• Training room could be used as sleeping area – could temporarily house 47 people</li> <li>• Restrooms for men and women</li> <li>• Has shower facilities</li> <li>• <b>Has generator back up</b></li> </ul>  |
| <p><b>St. Paul’s Lutheran Church</b><br/> Phone: 810-231-1033<br/> Physical Location: 7701 E M-36, Whitmore Lake, MI 48189<br/> Web site: <a href="https://stpaulhamburg.com/">https://stpaulhamburg.com/</a></p>  | <ul style="list-style-type: none"> <li>• Restrooms for men and women</li> <li>• No shower facilities</li> <li>• Can seat up to 169 people at round tables/chairs for meal service</li> <li>• Upstairs open room and basement could be used for sleeping area for up to 74 people</li> <li>• No generator at location</li> </ul>                                     |
| <p><b>Pinckney Community Schools</b><br/> Web Site: <a href="https://www.pinckneypirates.org/">https://www.pinckneypirates.org/</a></p> <ul style="list-style-type: none"> <li>• <b>Pathfinder School</b> – 2100 East M-36, Pinckney, MI 48169.<br/> Phone: 810-225-5200<br/> Fax: 810-225-5205</li> <li>• <b>Navigator School</b> – 2150 East M-36, Pinckney, MI 48169.<br/> Phone: 810-225-5300</li> </ul> | <ul style="list-style-type: none"> <li>• County Health Dept. Certified Cafeterias/Kitchens/Lunch Rooms<br/> Restrooms for men and women<br/> Has shower facilities<br/> Gymnasiums could provide Shelter and food service for</li> <li>• Gymnasiums could be used as sleeping area – could temporarily house people</li> <li>• No generator at locations</li> </ul> |

| FOOD/FAMILY CARE RESOURCES   | Type of service   |
|--|---|
| <p><b>Kroger Grocery Store</b><br/>           9700 Chilson Commons<br/>           Pinckney, Michigan 48169<br/>           Phone: 734-213-7970<br/>           Hours: Daily 6:00 am to 10:00pm<br/>           Web Site: <a href="https://www.kroger.com/">https://www.kroger.com/</a></p>  | <ul style="list-style-type: none"> <li>• General Food Services</li> <li>• Bottled water</li> <li>• Cleaning items and supplies</li> <li>• Pharmacy</li> <li>• Baby supplies</li> </ul>  |
| <p><b>Meijer Grocery Store</b><br/>           8650 W Grand River Ave<br/>           Brighton, MI 48116<br/>           Phone: 810-227-3404<br/>           Hours:<br/>           Daily 6:00am to Midnight<br/>           Web Site: <a href="https://meijer.com">https://meijer.com</a></p> | <ul style="list-style-type: none"> <li>• General Food Services</li> <li>• Bottled water</li> <li>• Cleaning items and supplies</li> <li>• Pharmacy</li> <li>• Baby supplies</li> <li>• Clothing</li> </ul>  |
| <p><b>Boomers Party Store &amp; Pizza</b><br/>           8999 Hamburg Road<br/>           Brighton, Michigan 48116<br/>           Phone: 810-231-4200<br/>           Hours: Daily 10:00 am to 8:00 pm</p>  | <ul style="list-style-type: none"> <li>• Party Store &amp; Pizzeria</li> </ul>  |
| <p><b>Mimi's Diner</b><br/>           5589 East M-36<br/>           Pinckney, Michigan 48169<br/>           Phone: 810-231-9800<br/>           Hours: Daily 7:00 am to 9:00 pm</p>   | <ul style="list-style-type: none"> <li>• Full Service/Coney Island Diner</li> </ul>   |
| <p><b>The Salvation Army Thrift Store/Livingston County, Michigan</b><br/>           503 Lake Street<br/>           Howell, Michigan 48843<br/>           Phone: 517-546-4750</p>  | <ul style="list-style-type: none"> <li>• Recycling of Used Clothing and Household Goods, Furniture, and Appliances for minimal cost</li> </ul>  |
| <p><b>St. Vincent DePaul Thrift Store – Ann Arbor, Michigan</b><br/>           1001 Broadway St., Ann Arbor, Michigan 48105<br/>           Phone: 734-761-1400</p>   | <ul style="list-style-type: none"> <li>• Gently Used Clothing, Household and Vintage</li> </ul>   |
| SPECIAL/FUNCTIONAL NEEDS CARE SERVICES   | Type of service   |
| <p><b>Hamburg Township Fire Station 12</b><br/>           Physical Location: 10100 Veterans Memorial Drive, Whitmore Lake, Michigan 48189<br/>           Mailing Address: P.O. Box 157, Hamburg, Michigan 48139<br/>           Phone: 810-222-1100<br/>           Fax: 810-231-1974</p>  | <ul style="list-style-type: none"> <li>• Medical Alert Information Program - Working to identify and maintain a list of all Township residents that may need special assistance in the event of any emergency evacuation through used of attached form</li> </ul> |

**APPENDIX 2  
AREA GENERAL COMMUNITY EMERGENCY SERVICES**

| COMPANY/ORGANIZATION   | Type of service  |
|--|--|
| <p><i>Note: Hamburg Township is approximately half-way between the Red Cross offices in Howell, Michigan and Ann Arbor, Michigan.</i></p> <p><b>American Red Cross – Mid-Michigan Chapter</b><br/>           1800 East Grand River Ave., Lansing, MI 48909 Phone:<br/>           517-484-7461/Fax: 517-484-3799<br/>           Serving Clare, Clinton, Eaton, Gratiot, Hillsdale, Ingham, Jackson,<br/>           Livingston &amp; Shiawassee Counties Web Site for Emergency<br/>           Services:<br/> <a href="http://www.redcross.org/local/mi/emergency-services">http://www.redcross.org/local/mi/emergency-services</a></p> <p><b>Livingston County Office:</b><br/>           1372 West Grand River Ave., Howell, Michigan 48843 Phone:<br/>           517-546-0326/Fax: 517-546-0886</p> <p><b>American Red Cross – Southeastern Michigan Chapter</b><br/>           100 Mack Avenue, Detroit, Michigan 48201 Phone:<br/>           313-833-4440/Fax: 313-833- 4461<br/>           Serving Washtenaw, Oakland, Other SE Michigan Counties</p> <p><b>Ann Arbor Offices</b><br/>           4624 Packard Road, Ann Arbor, Michigan 48108<br/>           Phone: 734-971-5300</p> | <ul style="list-style-type: none"> <li>• Emergency food, clothing, temporary shelter and personal care items to disaster victims as needed.</li> <li>• Facilitate inquiries from concerned family members outside the disaster area</li> <li>• Referrals to agencies for long-term needs</li> <li>• Emergency services outside of Michigan</li> <li>• Trained volunteers from Michigan are regularly called upon to provide emergency relief throughout</li> </ul> |
| <p><b>F.E.M.A. – LIVINGSTON COUNTY C.E.R.T. PROGRAM<br/>(LIVINGSTON COUNTY COMMUNITY EMERGENCY RESPONSE TEAM)</b></p> <p><b>Point of Contact:</b><br/>           Bruce Pollock<br/>           Livingston County CERT Coordinator<br/>           Livingston County Community Emergency Response Team<br/>           300 S. Highlander Way<br/>           Howell, MI 48843</p> <p><b>*Request for C.E.R.T. response is made through Livingston County Central Dispatch.</b></p>  | <ul style="list-style-type: none"> <li>• Local FEMA/CERT Team Services</li> </ul>  |

**DISASTER ASSISTANCE RESPONSE TEAM (D.A.R.T.)**

Mailing Address:

DART, Inc.

1211 W. Grand River Ave., Howell, Michigan 48843

Web Site:

<http://dartliv.org/>

**\*Request for DART response is made through Livingston County Central Dispatch.**

- The Livingston County DART is made up of dedicated men and women looking to serve their community. DART provides services by responding to larger incidents and taking care of our first responders. This service provides proper nutrition, warm gloves, and other resources to first responders.

**APPENDIX 3  
EMERGENCY RESTORATION DAMAGE SERVICES  
(EQUIPMENT CONTRACTORS)**

| COMPANY/ORGANIZATION  | Type of service   |
|---|---|
| <p><b>BOB MYERS EXCAVATING, INC.</b><br/>8111 Hammel Road, Brighton, Michigan 48116<br/>Office: 810-231-2044 Fax: 810-231-9790<br/>Contact Persons:<br/>Mike Myers – Mobile Phone: 810-217-6350<br/>Bob Myers – Mobile Phone: 810-217-6359</p>  | <ul style="list-style-type: none"> <li>• Excavating Services</li> </ul>   |
| <p><b>BELFOR PROPERTY RESTORATION SERVICES – Michigan</b></p> <p><b>Ann Arbor Area Offices:</b><br/>2643 East Michigan Avenue, Ypsilanti, Michigan 48198.<br/>Phone: 734-994-7790<br/>24-hour emergency hotline: 800-421-4141</p> <p><b>Fenton Area Offices:</b><br/>3041 Thompson Road, Fenton, MI 48430<br/>Phone: 810-714-6262<br/>24-hour emergency hotline: 800-856-3333</p> | <ul style="list-style-type: none"> <li>• Water Damage</li> <li>• Fire Damage</li> <li>• Storm Damage</li> <li>• Mold Damage</li> <li>• Recovery Services</li> </ul> |
| <p><b>C &amp; E CONSTRUCTION COMPANY, INC.</b><br/>P.O. Box 1359<br/>Highland, Michigan 48357<br/>Office Phone: 248-889-1716<br/>Fax: 248-889-4677<br/>Contact Persons: Greg Harris/April Harris<br/>Mobile Phone: 248-568-9801</p>   | <ul style="list-style-type: none"> <li>• Excavating Contractor</li> </ul>   |
| <p><b>KNIGHT’S GRADING &amp; EXCAVATING</b><br/>8930 Dexter Pinckney Road, Pinckney, MI 48169<br/>Contact Person: Robert Knight<br/>Phone: 734-426-3948<br/>Fax: 734-426-5009</p>   | <ul style="list-style-type: none"> <li>• Grading &amp; Excavating Services</li> </ul>   |
| <p><b>TERRA CONTRACTING SERVICES, LLC</b><br/>6760 Metroplex, Romulus, Michigan 48174<br/>Office Phone: 734-895-1292</p>  | <ul style="list-style-type: none"> <li>• Environmental Services</li> </ul>  |