

CHAPTER 16

EMERGENCY MANAGEMENT

Prepared By:

Jim Bowerman, Chairperson

Doug Enos

Sarah Pistro

Bill Rosebush

Jeff Friedle

Dave Charney

John Cosens

16:1 INTRODUCTION

As we are all aware, a natural disaster can occur at any time and at any place. While little can be done to prevent such disasters, steps taken beforehand may minimize the impacts from them. Being prepared for a disaster, so that response time is decreased and the recovery period is moved forward is the goal of emergency services management. This chapter is written as an outline for development of a plan to deal with these natural disasters which may affect the Drain Commissioner's Office.

16:2 BEFORE A DISASTER

It is before a disaster that the most effective planning may be undertaken for dealing with the disaster. In general, the type of disaster that will affect Drain Commissioners most often is a flood and/or a severe windstorm that creates debris obstructing open ditches. The planning effort described in this chapter is for a flood event but could be modified for other events.

16:2.1 Emergency Management Coordinator

The County Emergency Coordinator or Emergency Manager is the person that will be the most effective ally during and after a disaster. Understanding each other's roles and responsibilities as well as the skills, equipment and personnel at the disposal of each are essential to the development of a relationship.

One thing to keep in mind is that the Emergency Manager may not understand County Drains. Explaining to him/her the difference between a natural watercourse, a private ditch and a County Drain, as well as a discussion about the right-of-way along the Drain, is a good place to start in defining your responsibilities. To get a better understanding of the Emergency Manager's responsibilities ask him/her for a copy of the Michigan Emergency Management Act and the local Emergency Management Resolution adopted by the County Board of Commissioners. Another document that should be reviewed is the Emergency Operations Plan. This also may be obtained from the Emergency Manager.

16:2.2 Preparation

(1) Policy of Standards and Practices

When it comes time to apply for funds from the Federal Emergency Management Agency (FEMA) for repair of damages, funds will only be made available to restore a facility to its previous condition. Unless a separate grant is approved through the mitigation procedure, funds will not be available for improvements to a drainage system. The exception to this rule is that a

facility may be not only restored, but also updated to published standards that are in use. Therefore, to maximize the recovery dollars available to the local community it is essential to have written policies regarding repairs and to be able to document their use.

In this case, the published standards would seem to imply that policies, procedures and specifications for dealing with repairs have been put into a written format that has been presented to the Board of Commissioners for its review. The Board may simply receive and file the information. To show that the standards are in use, documentation of other instances of upgrades to the same standards must be available.

The standards would address the policies regarding repair of the following:

1. Eroded side inlets to Drains
2. Bank erosion at corners
3. Side slope repair
4. Sediment island removal during repair
5. Cleanout of sediment basins
6. Debris removal and disposal
7. Culvert installation
8. Catch basin and manhole repair
9. Repair of separated joints in storm sewer
10. Field tile outlet repair
11. Grade protection
12. Any other maintenance and/or repair items which may come to mind

Specifications for installation of and payment of work items would be included, very similar to those found in a construction contract. They should include the following:

1. Plain rip-rap installation
2. Heavy rip-rap installation
3. Stone spillway construction
4. Geotextile spillway construction
5. Grade protection construction
6. Geotextile installation
7. Gabion installation

8. Bag rip-rap headwall installation
9. Debris management
10. Spoil leveling
11. Seeding
12. Ditch side slope requirements
13. Field surface drainage tube installation
14. Seepage collar installation
15. Field tile outlet repair
16. Any other specifications which may be needed for work items

Another important consideration in this area is to identify the trigger that will cause any repair or maintenance work item to be implemented.

(2) List Potential Problem Areas

Past experience with local flood events should be used as a guide to identify those areas which are the first to flood. Flood Insurance Rate Maps for those communities who are members of the National Flood Insurance program can also be used to identify potential problem areas.

Drain improvement projects currently under construction and those recently completed are the ones most susceptible to damage during a flood event. Maintaining a project list with dates of construction should be part of the disaster recovery plan.

Another consideration in determining potential problem areas is to consider the various watersheds and sub-watersheds as a whole. Damage to individual watersheds is most likely to be witnessed in the middle to downstream portions of the watershed. The reason for this is that the drainage channel is gathering energy and momentum as more and more water is collected in the system. While the upstream areas of a Drain may suffer from water entering the Drain, the downstream areas are more likely to suffer channel erosion or failed culverts from the excessive amount of water in the Drain. Just downstream of the confluence of major tributaries is an important area to check.

As one gathers more information after observances during high flow events such as large spring runoff, the information should be documented and added to the list of potential problem areas.

(3) Prevention Through Maintenance

After completion of a Drain reconstruction project, maintenance of the Drain afterward is likely to lead to reduced damages during flood events. Work items such as continuing to

control soil erosion after project completion or periodic sediment removal or an aggressive vegetation control program are all practices which tend to limit damage and protect conveyance capacity in the Drain. Some of the most severe damage is likely to be witnessed in a watershed adjacent to another watershed in which the channel in the second watershed is so severely restricted as to cause flood waters to flow from the second watershed to the first. Drain maintenance that prevents floodwaters from one watershed from overwhelming a neighboring one is likely to be well worth the effort.

(4) Establish Office Policy

Establishing a procedure policy for responding to the public should be an issue developed beforehand and explained to staff personnel rather than developing it "on the fly" during a disaster. Some things to consider are the following:

1. Who will answer the phones?
2. Will there be expanded hours?
3. Need caller's name, address, time of call, nature of complaint. Is the situation life threatening? Is there a County Drain involved? Etc....
4. To whom will media questions be directed? Is that person readily available?
5. How will Drain Office maintenance personnel be directed?
6. How will communications between office personnel be conducted? (i.e. radios, cell phones, etc....)
7. To whom may other questions be directed?

(5) Jurisdictional Issues

Decisions need to be made before an event as to scope of effort that will be put forth by the Drain Commissioner's Office during the event. There are likely to be some very distraught individuals who are along natural watercourses which are not County Drains. Is this something in which you are going to get involved? Should this be passed along to the County Emergency Manager?

If it is decided to get involved in non-County Drain problems, remember that there is no Drain right-of-way. How will work on such a watercourse be paid for when there is no Drainage District?

If the decision has been made to not involve oneself in problems outside the scope of the County Drains themselves, then how is this to be explained to the public? Such an explanation

should be developed and passed on to the staff personnel who will need to make such an explanation to the public.

(6) Board of Commissioners Agreements

Any deviations from standard office policy and budget conditions that may be reasonably anticipated should be enumerated and presented to the Board of Commissioners for concurrence. Some of the items that should be considered are the following:

1. Will overtime be allowed?
2. May temporary help be hired (e.g. Kelly Services for help with the phones)?
Where will funds for their wages come from?
3. If additional field personnel are needed (e.g. engineering consultants), can they be retained and if so how will they be paid?
4. Under what circumstances might aerial reconnaissance seem prudent? How will this be paid for?
5. Policy for use of equipment owned by another department. (e.g. DPW, Parks Dept, etc...)

(7) Emergency Numbers List

A list should be developed of all emergency agencies. Such a list should include names of personnel, telephone numbers, fax numbers, E-mail addresses, etc. It must be continually updated and kept readily available. The Emergency Manager may be able to supply such a list.

(8) Contractors List

A list of the local contractors available for help in emergencies should be developed and maintained. The list should include not only phone numbers and E-mail addresses, but also an equipment list. A working knowledge of those contractors who have sandpits available could also prove helpful if fill for sandbags is needed. This list must also be readily available.

(9) Additional Consideration

When the time is at hand to prepare an initial damage estimate to the Drains and later when damage to the various Drains is being documented, a considerable number of maps of the County Drains will be utilized. It is a good idea to have a number of these maps stockpiled for use.

Another item to consider is the availability of sandbags. The U.S. Corps of Engineers makes sandbags available to communities during a federally declared disaster. They do not make them available to individuals. Some Counties have chosen to stockpile such bags for use

during a disaster. However, again these bags may not be released except during a federally declared disaster.

Counties who wish to make sandbags available to its citizens on a timely basis during disasters which have not received federal declaration, should independently purchase and stockpile such sandbags. Check with the Emergency Services Coordinator in your County to determine the availability of sandbags. He/she should at least have a list of companies from whom bags may be purchased.

16:3 EDUCATION

16:3.1 Flood Fight Operations

- Floods are the most devastating disasters with economic implications in the United States.
- Effective community planning is critical to successful flood operations.
- Flood and other emergency plans must be coordinated to work together.
- Hazards and concerns that may be encountered must be identified in a high water event.
- Importance of good documentation.
- Identify your resources and workers.
- Learn to become an effective presenter, train the individuals who will be working with you.

Speaking from experience, the first reactions everyone has is "I never thought it would happen during my term in office". It doesn't happen that way. The second reaction is "The people who voted me into office can't afford the necessary repairs". The third reaction is "How do I go about obtaining Federal and State assistance". The fourth reaction is "I'm so tired, who am I going to get to help me identify all of the damage within the time frame allowed"? The fifth reaction is "Thank God for FEMA". The final reaction is "I'm going to be better prepared next time".

Everyone is calling your office and you know you have damages. Your major damages will probably be near the areas that the Road Commission has washed out crossings. Your Drains under construction will receive more damages than Drains that have stabilized. The Drains that are damaged the most will parallel roads and around curves. The importance of

documentation cannot be stressed enough. Take videos by air and land. Overload your office with pictures of before and after repairs are made. Record area rain and river gauges.

Drain Commissioners that are under staffed will need to identify specific sites and quantities required to make the necessary repairs that are standard in your County. You will need to assess the damages without the time you think is necessary to assess those damages. It is helpful if you know someone with a helicopter. The local airport can give you a list of pilots and owners of helicopters. They want to become involved and quite often just charge you for the gas. If you have a large number of Drains, you can obtain helicopters from the State Police and assess damages to your Drains from the air. A good tip is to use engineering firms in your area and firms you employ on a regular basis. They are familiar with the roads and can identify your Drains readily by identifying area landmarks. Everything looks different from the air, however it is the quickest way to find out where and how severe your damage is in your County. If the damages are significant and you are the only County involved, you can also receive help from the engineers from the State of Michigan. You will want to use individuals who understand drainage and can recognize costly slope failures and sediment loads and will know the standard procedures your County uses to repair such damages.

16:3.2 Michigan State Police Emergency Management Course

As a County Drain Commissioner you qualify to become the trainer. You can also learn to be an effective presenter of this program through the Federal Emergency Management Agency. Your next question is "Why would I want to train anyone to get up and talk to a large group to present anything?" The answer is your Township, City and Village Officials can become your best allies during a flood because they are the most concerned about trying to help you obtain State and Federal assistance. A course, which will take you approximately two days, will give you insight beyond belief. You will learn to become an effective presenter, how to handle hostile questions as well as receive your own set of slides and a book about how to become an effective presenter book. This course is available through the Michigan State Police Emergency Management Division. It is not offered on a regular basis, however it is highly recommended for all County Drain Commissioners to attend. Contact the Michigan State Police Emergency Management Division and put your name on a list, and when they have an adequate response they will set up the program.

16:4 AFTER A DISASTER

It is very important that lines of communication are set up between local governmental entities, as well as with state and federal agencies. Names of agencies and their contact persons should be kept readily available and updated on a continuous basis.

In cases where a disaster has occurred, the local government entities are responsible for taking immediate steps to protect the life and property within their jurisdiction. However, if additional assistance is needed, the local government agencies may request the Governor to declare a State of Emergency or disaster. If the situation is beyond the capabilities and resources of the local and state government entities, then the Governor may request the President to declare that a Major Disaster or Emergency exists. Should a disaster be declared, then it is essential that a map be prepared showing the location of the damaged areas. Failure to complete the mapping in a timely manner may unnecessarily delay public assistance. A Drain that has been damaged and declared as a disaster will be put back or repaired to its original state prior to the disaster. There is no upgrade repair done unless a standard policy is verifiable in writing and is in place. As Drain Commissioner, you must refer to past projects that provide a unit cost of the damaged area and then prepare information on local costs that are available.

16:4.1 Disaster Repair Projects

There are two (2) types of disaster repair projects. The first is small projects, which normally will be the case in most instances. Small projects are those that can be repaired for under \$44,800. The Federal Share of small projects will be 75% of the total project estimate and reconciled at final payment. The State's share, however, is paid after all small projects are certified as completed. The State will then give up to 12½% of the Actual Certified Cost of each project. However, their share will not be made on a project by project basis nor will payment of their share be made in advance.

Large projects are projects which are repaired at a cost of over \$44,800. A portion of the Federal Share of these projects may be advanced to help cover the immediate funding needs. Actual Expenses incurred determines the amount of the advance, which may be up to 50% of the Federal Share. Their remaining share would then be paid upon project completion. The State's Share is paid when it has been certified that each project has been completed and FEMA has authorized final payment. Again, the State's share is 12½% of actual costs and on large projects is paid on a project by project basis.

Documentation of disaster areas can not be stressed enough. Colored snapshots of each project before the disaster, after the disaster, and again when repairs have been completed are invaluable. Invoices for all work, including materials, equipment, administration, etc. is invaluable and required in order to submit for Federal and State shared cost. If some disaster areas must be taken care of immediately and prior to the actual declaration of a disaster by the State or Federal Government, you will need these invoices to recoup their share of costs incurred due to a disaster.

16:5 AUDIT AND INSPECTION

All projects where disaster relief is given will be audited. A recipient of FEMA and state disaster funds must prepare for audit on both large and small category projects. Audits and field inspections will be conducted through the Emergency Management Division of the Michigan State Police.

The audit will consist of a review of all documents associated with each project and include the following: Disaster Survey Report (DSR); contractor's property damage costs; liability and workman's compensation insurance; completed copies of P-4 Forms that show the total dollars expended per project and copies of all canceled checks (front and back) showing payments to contractors and engineers. Time spent surveying damage after a disaster is not an allowable expense.

All large projects will be inspected for completeness during the audit. Approximately ten percent (10%) of the small projects will be field inspected as part of the audit procedures.

16:6 HAZARD MITIGATION

There are two (2) mitigation programs administered through FEMA. The programs are identified by the sections of the Stafford Act, which authorize mitigation expenditures, Section 404 and Section 406.

Section 406 mitigation is a funding source for cost effective measures that would reduce or eliminate the threat of further damage to a facility damaged during a declared disaster. Mitigation measures must apply only to the damaged elements of a facility rather than to other undamaged parts of the facility or to the whole system. For example, if flooding inundates a storm sewer and blocks catch basins with sediment, mitigation to prevent the blockage of the

damaged catch basins in a future event may be considered eligible. Work to improve undamaged catch basins would not be eligible, even though the catch basins are part of the same system.

Mitigation measures restore a facility beyond its predisaster condition. Section 406 measures are considered part of the total eligible cost of repair, restoration, reconstruction or replacement of a facility. Mitigation is limited to measures of permanent work, and the applicant may not apply mitigation funding to alternate projects or improve projects. Upgrades required to meet applicable codes and standards are not mitigation measures because the upgrade measures are part of eligible restoration work.

The other type of mitigation is Section 404, funding. Section 404 Grants are prioritized and managed by the State. The amount of dollars available is a percentage of the entire Federal allocation for the declared disaster. Section 404 mitigation measures do not have to be structural in nature, and may be applied for from anywhere in the State. Examples of Section 404 mitigation are the acquisition of flood prone homes or businesses, or constructing a detention/retention basin.

Questions and Answers

1. When can I expect to receive funds from the Federal and/or State government?

- A. On small projects, the Federal government's share (75%) is made available to the State after approval of the initial estimate of costs. The State then grants funds to the applicant as soon as possible after initial approval. On large projects, the Federal share is again made available to the State after approval of the initial estimate. The applicant may then periodically request funds from the State as needed. The final payment, including any adjustment in the final cost, is made available after an audit has been completed on the project. The State's share (12.5%) is submitted after the audit is complete.

2. Who will pay the local share (i.e. county, township, property owners, etc.)?

- A. While the county or a township could volunteer to pay the local share, any repair work done on a county drain will most likely be paid by the Drainage District.

3. What constitutes "emergency" repairs?

- A. To qualify for disaster repair funding, only emergency repairs may be undertaken prior to preparation of a Damage Survey Report (DSR). Emergency situations are those that pose an immediate threat to life, property or transportation. Some sound judgement will be required to determine how imminent the threat may be. Documentation of the nature and extent of the threat through photographs and/or videotape is critical.

4. How much may I spend before a disaster is declared?

- A. The general rule of thumb would be, do what you would have to do anyway. Emergency situations demand immediate attention regardless of whether a disaster has been or will be declared. For more routine repairs, the declaration will come within a matter of days and you will know whether or not to wait for a DSR before undertaking the repair.

5. How should I prepare the preliminary estimate and how detailed should the estimate be?

- A. Timing is everything in answering this question. The preliminary estimate is not at all detailed, it is an estimate to determine an order of magnitude of damage costs. If the estimate is required before the flood waters have receded and the extent of damage can be evaluated, then an aerial survey combined with your local knowledge of chronic problem areas, soils, accessibility and local costs will be your guide in establishing a gross estimate. It is little more than a guess at this point. As more information becomes available as to the extent of damage, the more refined the estimate may become. However, there is little question that an estimate will be required before any real documentation and analysis have been undertaken. Again, the preliminary estimate is to get an order of magnitude, i.e. \$100,000 vs. \$1,000,000 vs. \$10,000,000.

6. Where can sandbags be obtained?

- A.** The U.S. Army Corps of Engineers will provide sandbags to communities (not individuals) during a federally declared disaster. A community may stockpile bags that may then be distributed, but only after there has been a federal declaration. A community that wishes to have sandbags available at all times for distribution to the public should purchase them from a retailer and have them stockpiled. Check with you Emergency Manager about the availability of sandbags in your county. The Emergency Manager should also have a list of sandbag retailers.

7. Do I need to help landowners that are flooding from natural watercourses?

- A.** Individual landowners are responsible for protection of their own facilities during a disaster. After the disaster any repair efforts undertaken by the Drain Commissioner's office must be confined to only those areas over which the Drain Commissioner has jurisdiction. While it might be heart warming to make a mission out of repair efforts elsewhere, serious liability issues may arise from work outside of a drain right-of-way. It will also be very difficult to come up with the local share of any repair project in such an instance. You may wish to consult with your attorney about this issue.