

CITY OF MARSHALLTOWN
MARCH 2017 FLOOD MANAGEMENT PLAN

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CITY OF MARSHALLTOWN, IOWA FLOOD MANAGEMENT PLAN

(Revised March 2017)

I General

The City of Marshalltown has developed this Flood Management Plan in preparation for and in anticipation of response in the event of local flooding. The potential for flooding is caused by the proximity of the Iowa River, Linn Creek, and the potential for locally heavy rains within the City's drainage and ponding areas. The City of Marshalltown is bordered by the Iowa River on the north that includes a drainage area of over 1500 square miles, and is divided in the middle by Linn Creek, that runs west to east with a much smaller drainage area that starts west of State Center. Flooding along the Iowa River and Linn Creek is protected by the Corps of Engineers dike system and storm water ponding areas.

A) **Iowa River**

Flooding along the Iowa River is common in the early spring and summer. In August of 1993, the Iowa River reached a gauge height of 20.78 feet as measured at the USGS gauging station located on the Highway 14 (Iowa River) bridge north of Marshalltown. This record level was 1.5 feet below the design flood stage for the dike system and 5.5 feet below the top of the dike at the Highway 14 bridge. Although continued rains in the drainage area could have caused the potential to overlap the dike system, the largest concern came from prolonged periods of rain and high river levels that applied pressure to an already soft earthen dike. Although the Iowa River rises and falls at a relatively slow rate and usually provides adequate time to respond to flood conditions, these conditions require very close monitoring. In June 2008, the Iowa River reached a gauge height of 21.78 feet and in May 2013, the river reached a gauge height of 22.08 and mirrored the same conditions as were seen in 1993. In July 2014, the river reached a record height of 22.25 feet and conditions were steady with previous flood events.

B) **Linn Creek**

Flooding of areas along Linn Creek west of 12th Street and east of 12th Avenue is possible with periods of extremely heavy rain and at times when the Iowa River is at high flood stages and restricting the discharge of Linn Creek. After a very heavy rainstorm in 1993, Linn Creek approached 3 feet of the top of the dike system east of 12th Avenue and demonstrated its potential to rise very rapidly (within 12 hours). In 2003, Linn Creek was dredged to regain its original design capacity and should help with the flooding concerns east of 12th Avenue.

C) Anson Creek – Detention Ponds

Localized flooding can occur along Anson Creek. Three storm water detention ponds have been built along the southern reaches of Anson Creek to control downstream flooding, but monitoring of the creek during localized heavy rainstorm events is still recommended.

D) Ponding Areas

The Corps of Engineers has provided storm water ponding/storage areas at 18th Ave. & Main, 18th Ave. & Marion, North 3rd Ave. & Leo St., 4th Street & High, 13th Ave. & Jackson, East Church & Beer Garden Rd., 9th Ave. & Turner, the Public Works Facility holding pond on East Main, and at the Riverview Park lagoon. These ponding areas are designed to address storm water drainage during extended periods of rainfall when the storm sewers cannot drain by gravity to the Iowa River or Linn Creek.

Heavy prolonged rains within the City's drainage basins can cause the filling of the ponding areas. Once filled, localized flooding may occur around the ponding areas and require emergency (portable) pumping of the storm water over the dike system. Only the Riverview Park lagoon area and 18th Ave. & Marion are assisted by storm water pump stations that maintain a proper level in the storage lagoon. All other locations would need emergency pumping if flooding is to be minimized until the area naturally drains. Draining of the ponding areas can only be accomplished when the Iowa River or Linn Creek is at a non-flooded level, and thus allows for gravity drainage to the river or creek.

The City of Marshalltown maintains the Corps of Engineers Flood Protection System and administers this Flood Management Plan including the monitoring of the flood conditions, communication of those conditions, and any emergency operation which protects private property from area-wide flooding.

II Responsibilities

The City of Marshalltown has delegated the responsibilities of this Flood Management Plan to City employees based on qualifications and positions best able to administer the Plan. The following chart lists under ordinary circumstances the job duties and job responsibilities for each position and department, with specific individuals listed in Appendix A.

DUTIES OF MANAGEMENT TEAM

TEAM LEADERS

TEAM LEADER

Public Works Director 754-5734(w)

- Coordinate the activities of the team
- Perform the duties of Public Information Officer in his absence
- Chair team briefings

ASSISTANT TEAM LEADER

Fire Chief 754-5751(w)

- Perform the duties of Team Leader in his absence
- Oversee the monitoring of flood conditions and levels

PUBLIC INFORMATION OFFICER

City Administrator 754-5799(w)

- Dissemination of all public information, including press releases, live reports, and notices of evacuation

Other Team Members

VOLUNTEER COORDINATOR

Human Resources Director 754-5704(w)
(backup-Emergency Management)

- Recruitment of volunteers for emergency flood operations

FLOOD GATE OPERATIONS

Street Superintendent 754-5746(w)
(backup-Street Maintenance Worker IV)

- Open & close flood gates on the dike system and advise team of status
- Oversee the pumping of the designated ponding areas

SEWER SYSTEMS & FLAP GATES

Sewer Superintendent 754-5749(w)
(backup-Sewer Dept. designate)

- Maintenance and pumping of storm and sanitary sewer systems
- Maintenance of all flap gates & slide gates on the storm water discharges

DIKE MAINTENANCE & INSPECTION

Parks Superintendent 754-5755(w)
(backup-Parks & Recreation Director) 754-5715(w)

- Maintenance of the dike system throughout the year
- Semi-annual inspection of the dike system
- Closing of the bike path at 18th Ave., Nevada Street, and elsewhere as needed
- Dike walking and inspection at high flood levels (19.5' and up)

SANDBAGGING OPERATION

Public Facilities Superintendent 754-5761(w)
(backup-Street Superintendent)

- Coordinate sandbagging operations

ELECTRICAL FAILURES

Public Facilities Superintendent 754-5761(w)
(backup-Electrical Division designate)

- Handle the City's electrical problems related to the flood

EMERGENCY RESCUE

Fire Chief 754-5751(w)
(backup-Deputy Fire Chief)

- Man rescue boat operations and fire control
- Backup the Police Dept. with traffic control

TRAFFIC CONTROL & EVACUATION NOTIFICATION

Police Chief 754-5771(w)
(backup-Police Captain)

- Provide traffic control in emergency situations
- Determination of barricade needs
- Provide notification of emergency evacuations
- Disseminate prepared public information through the central dispatch

COUNTY WIDE EMERGENCY MANAGEMENT

Emergency Management Coordinator 754-6385(w)

(backup-Communications Center – Marshalltown Police Dept. 754-5725)

- Coordinate state-wide assistance efforts, including a request for National Guard assistance
- Assist in obtaining sandbags as needed
- Request for disaster assistance funding
- Assist in obtaining additional pumps from Emergency Management or IMAC (Iowa Mutual Aid Compact)

DUTIES BY DEPARTMENT

CITY ADMINISTRATION/CITY ADMINISTRATOR

- Provide public information
- Oversee department operations
- Approve emergency purchases

WATER POLLUTION CONTROL - PLANT

- Maintain the operation of the waste treatment plant
- Provide team with Iowa River & Linn Creek gauge readings 24-hours a day
- Disseminate information provided by the Public Information Officer

PUBLIC WORKS - SEWER DIVISION

- Maintain pumps in the sewer system to prevent backups
- Assist Street Division in the pumping of the storm water ponding areas

PUBLIC WORKS - STREET DIVISION

- Monitor elevations of storm water ponding areas
- Operate flood gates
- Man storm water pumps at the ponding areas as needed
- Assist in the transporting of sandbags & use of heavy equipment
- Placement of barricades on flooded streets

PUBLIC WORKS – PUBLIC FACILITIES/ELECTRICAL DIVISION

- Supervise the sandbag operation
- Handle electrical problems

PUBLIC WORKS - ENGINEERING DIVISION

- Provide monitoring of Linn Creek as needed
- Federal Emergency Management Agency – Flood Plain Administration (pre-planning)

PARKS & RECREATION DEPARTMENT

- Perform dike inspections during flood events
- Assist in sandbag operations
- Assist Street & Sewer Divisions with pumping operations including the hauling of fuel

POLICE DEPARTMENT

- Dispatchers to disseminate information provided by the Public Information Officer
- Provide traffic control prior to the placement of barricades
- Provide notice of evacuation as required

FIRE DEPARTMENT

- Provide emergency rescue operations
- Assist the Police Dept. in traffic control

HUMAN RESOURCES DEPARTMENT

- Solicit volunteers for sandbagging and other emergency flood operations

EMERGENCY MANAGEMENT

- Coordinate state-wide assistance efforts, including request for National Guard assistance
- Assist in obtaining sandbags as needed
- Maintain records of sandbag distribution and shall be responsible for billing and collection of sandbag sales
- Make request for disaster assistance funding

III Monitoring of Flood Conditions

A key part of providing flood protection for the citizens of Marshalltown is the monitoring of water levels on the Iowa River, Linn Creek, and specific storm water ponding areas. The following monitoring procedures have been developed to achieve this goal:

A) Iowa River Monitoring Procedures

Personnel at the Water Pollution Control Plant shall be responsible for keeping track of the elevation of the Iowa River as it may affect treatment plant operation as well as requiring a response by other City, County, and State departments. The procedures listed below shall act as guidelines to be followed by all plant personnel:

1) Recording River Gauge Reading

Each day at 6 a.m., the plant operator on duty shall log the Iowa River gauge reading on the daily "Weather Sheet". Any time the river gauge reaches or exceeds 17.0 feet river elevation, the operator shall hourly monitor the level and record on the appropriate sheets.

2) Manual Wire Weight Reading at Bridge

Anytime the river gauge recorder does not appear to be working properly, a wire weight reading on the river bridge should be taken to verify the recorder's operation. (Proper safety precautions shall be used, including a City truck with flashing lights and a safety harness shall be worn to prevent someone from falling in the river. For safety reasons, all personnel performing wire weight readings should always stay in pairs and wear a flotation device; a wire weight reading should never be conducted with only one person present.) Report any problem with the recorder to the plant office manager so the United States Geological Survey can be notified for necessary repairs. If the recorder fails, the operator should contact the plant supervisor immediately.

3) Notification of High River Stages

The plant operator shall notify the plant office manager or make the following notifications personally. All notifications should be done during normal working hours, except when a rapidly rising river level approaches 18.0 feet and appears to be continuing upward.

River Stage	Position to Notify	Message
15.00	- Street Supt.	* Verify closing of gates on dike system (between 7:30 a.m. – 4:00 p.m.)
16.00	- Brad Weuve Parks Superintendent	* Tell current river level, and water is approaching the 18 th Avenue bike path (Note: Water approaches path when Linn Creek is near 7.0')
17.00	- WPC Plant Operator	* Start recording hourly river gauge readings
17.00	- Leadership Team	* Tell current river level and if rising fast or slow
17.00	- Marshall County Conservation Board	* Tell current river level and be advised of possible flooding conditions at Timmons Grove camping area (between 8:00 a.m. – 5:00 p.m.)
17.00	- DOT <small>First notice - Not between 10 p.m. & 7 a.m.</small>	* Tell current river level, and water may be approaching road by Timmons Grove
19.00 or 20mgd at Plant	- WPCP Assistant Superintendent	* Tell current river level and consider putting on second Operator
19.00	- County Engineering Dept.	* River near East Main St. Rd.
19.50	- Leadership Team Leader - DOT	*Leadership Team Meetings will be held at 7 a.m. each morning *Keep Leadership Team advised of changes in river level and crests *Approaching HWY 14 North

Notification of personnel should be logged on the river level reporting sheet maintained at the operator's station at the treatment plant. List the person contacted and the time. See Appendix A for a current notification list and phone numbers.

4) Use of other personnel

All WPCP personnel should be shown how to read the SCADA weather station, the river gauge recorder at the Iowa River bridge, how to read the wire weight river gauge on the bridge, and where the key for the gauge station is located.

5) Information provided to the public

Water Pollution Control Plant employees shall only provide information to the public and media as it relates to the following:

- a) River gauge level as read or recorded at a given time
- b) A rate and direction of change in river gauge readings (i.e. going up at a rate of .5' per hour)
- c) A prepared statement provided by the City's Public Information Officer

Do not give predictions on the crest of the Iowa River unless the prediction comes from the National Weather Service and has been authorized for release.

The National Weather Service will issue a flood statement at 17.00' and a flood warning at an 18.00' river level.

B) Linn Creek Monitoring Procedures

The monitoring of Linn Creek shall be performed by the Engineering Division of the Public Works Department and will only be required following very heavy rainfalls in the Linn Creek drainage basin west of Marshalltown. The Water Pollution Control Plant does have continuous monitoring capabilities of Linn Creek at 18th Avenue, and will provide to the team as requested. (For safety reasons, all personnel performing creek monitoring should always stay in pairs and wear a flotation device.)

The procedures listed below are provided as guidance in monitoring on Linn Creek after very heavy rainfall events in the Linn Creek basin:

1) Linn Creek elevation recording

Elevation observations may be taken at the following locations along Linn Creek:

- a) Bridge on Knapp Ave. south of Lamoille
- b) Bridge on Iowa Highway 330
- c) Bridge on Highland Acres Road
- d) Bridge by Campbell Drive bike trail access
- e) Bridge on S. 12th St.
- f) Old bridge on S. 6th St.
- g) Bridge on S. Center St.
- h) Bridge on bike path north of old Handy Manufacturing Company
- i) Bridge on E. Main St.
- j) Bridge on S. 18th Ave.

Measurements shall be made with a weighted tape measure down from a marked point of reference. Generally, this will be some point on top of the bridge railing. The point should be selected so that water readings may be taken but not put the operator in danger. At the Highland Acres Road location, both approaches to the bridge flood and there will not be access to the bridge. Therefore, the operator will have to determine some visible point of reference other than the bridge railing.

Measurements shall be recorded on the Linn Creek Water Surface Elevation Sheet. The date and time of reading shall be logged in the appropriate columns for each location. Readings should be timed so that each location is read at approximately equal time spacings to better follow the change in water levels.

Readings shall be continued until it is assured that the water levels are receding.

At the end of the flood event, all readings shall be converted to USGS Sea Level datum for future analysis.

2) Notification of Linn Creek stages

After beginning Linn Creek measurements, the operator shall report to the Team Leader the upward or downward movement of the creek water levels and the location of the crest when it is observed at any point.

C) Monitoring of Storm Water Ponding Areas

The monitoring of the ponding areas on Main St. east of 18th Ave. and west of 3rd Ave. and Leo St. shall be performed by the Street Division of the Public Works Department. The monitoring shall be done during periods of heavy rain and when the floodgates are closed on the Iowa River and on Linn Creek. (18th Ave. & Marion and Riverview Park shall be monitored and maintained by the WPC personnel.)

The procedures listed below are provided as guidelines in monitoring the ponding areas and the determination of when to operate the portable pumps to dewater the areas:

1) Notice of rising river conditions

The Water Pollution Control Plant personnel shall notify the Street Superintendent or designee when the Iowa River reaches 15.0 feet river elevation.

2) Closing of floodgates

Upon notice of a rising river condition, Street Division personnel shall monitor the difference in elevations between the river/creek and the ponding area, and close the floodgate prior to the river/creek backflowing into the ponding areas.

3) Monitoring of the ponding areas

The Street Division will continue to monitor the elevations of the water in the ponding areas to determine any additional action. The following levels shall act as benchmarks for the operation of portable pumps as needed to lower the levels in the ponding areas:

a) Main St. east of 18th Ave.

Pumping should begin when it appears that the Iowa River and Linn Creek will be elevated for an extended period of time, and the ponding area water elevation begins backing water into the E. Main Street road ditches or begins backing into the storm sewer outlet of N. 18th Avenue south of Linn Creek.

- b) West of 3rd Ave. & Leo St.

Pumping should begin when it appears that the Iowa River will be elevated for an extended period of time, and the ponding area water elevation approaches to within 50 feet of the Ken Wise building.

- c) Other ponding areas

Other ponding areas should not have to be pumped unless there are extenuating circumstances. These areas will be monitored and pumping will begin if it is determined necessary by the Team Leaders.

See Section V - Emergency Operating Guidelines for Storm Water Pumping Procedures.

- 4) Communications

Once the floodgates are closed, the Street Superintendent shall inform the Team Leaders of the gate positions and any critical flooding levels in the ponding areas. When water levels in the ponding areas reach the critical levels that require pumping, the Street Division employees will be notified of the need to set up pumps.

When the river/creek levels recede to a point where the floodgates can be reopened, the Street Superintendent shall inform the Team Leaders and the Operator on duty at the Water Pollution Control Plant.

IV Communications

During flood conditions, it is very important to maintain good communications between members of the Flood Management Team, City personnel, the media, and the general public.

A) Management Team Communication

- 1) All pertinent information on the status of the flood should be directed to the three Team Leaders.
- 2) The Water Pollution Control Plant should provide a daily report to the Leadership Team Leader on the status of the Iowa River once it reaches and maintains an elevation of 19.5 feet or greater.

- 3) Once the Iowa River reaches 19.5 feet or when Linn Creek poses a threat of flooding, a daily 7 a.m. Team Meeting shall be held at City Hall. This meeting shall review team assignments and outline any additional action that may need to be initiated. No media should be present for team meetings.
- 4) Special Team Meetings may be required to prepare for emergency operations and shall be called by the Leadership Team. No media should be present for team meetings.
- 5) If the City encounters serious flood problems that require County, State, or Federal assistance, the Leadership Team shall notify the Mayor of the problems and request that a formal letter be prepared and signed by the Mayor requesting assistance. All communications for outside assistance should be headed up by the County Wide Emergency Management Coordinator or designee.

B) Communications with the Media

- 1) In order to insure the consistent and accurate release of information to the media and public, all press releases shall come from the Public Information Officer (PIO).
- 2) Press releases shall be issued as information warrants. During emergency situations that warrant special observations and concern, news releases will be issued just before 9 a.m., 12 noon, 6 p.m. and 10 p.m. in conjunction with the local newscasts.
- 3) The following communication policies are recommended:
 - a) Utilize street names to designate boundaries of areas to be referred to in a press release.
 - b) Terms such as "imminent threat" or "possible evacuation" should not be used unless such action is necessary.
 - c) All press releases and flyers should be on City letterhead, time/dated, and signed.
 - d) Press releases should include a phone number, and that number should reach a manned phone and not an answering machine.
- 4) Distribution of Press Releases
 - a) All press releases should be distributed to all members of the Management Team and other department heads. This can be done

by use of e-mail, fax, or City Hall mailboxes depending on the urgency to get the information out. Do not trust any one of these to provide immediate notice without calling and letting the person know the press release is coming.

- b) All press releases shall be in a clear typed form if at all possible, and delivered in person, e-mail, or by fax. See Appendix B for Media Contacts.
- c) A copy of all press releases shall be given to the Police Communication Center, Water Pollution Control Plant, City Clerk's Office, Engineering Office, Parks & Recreation and the Emergency Management Office. Each of these locations is a known area that receives phone calls from the public concerning the status of a flood.
- d) Pertinent information will also be made available through the Police Department on NIXLE through e-mail or text messages.

C) Evacuation Communications

The Police Department will be responsible for the process of evacuation communications during times of "imminent threat" of flooding. The following procedures should be used as guideline for evacuation:

- 1) Evacuations
 - a) Once an evacuation decision has been made by the Management Team, a press release prepared by the PIO will be passed immediately to the Police communication center with instructions for immediate release.
 - b) The communications center will notify the on-duty shift commander.
 - c) Marked units will be dispatched to the affected evacuation area. With emergency lights operating, officers will slowly drive through the evacuation area and announce the evacuation order on the public address system.
 - d) The on-duty shift commander will immediately recall the number of officers necessary to continue with routine business.
 - e) In the event that the evacuation area is under water, or otherwise not accessible by car, the Fire Department will be contacted and asked to assist.
 - f) If the evacuation area is extremely large, or the public address announcements of the evacuation order appears to be unsuccessful, the City Human Resources Director will be asked to gather volunteers and the Police Department will transport them to the affected area. Volunteers will then go door-to-door announcing the evacuation order.

- g) Should boats be necessary for either evacuation notification or rescue, the Fire Department will be notified. If additional boats are required, the City Human Resources Director will be contacted to ask for volunteers with boats.
- h) **Unless the Governor has declared an emergency, all evacuations are voluntary. We will not forcibly remove persons from their homes.**
- i) The local American Red Cross at 753-3317 or 1-877-792-3808 is responsible for opening shelters during times of need. The City will need to clearly identify the shelter location to the evacuees if this need arises. (The Veterans Memorial Coliseum or the Salvation Army Building is a possible location site.)

2) Rescue

The Fire Department has the primary rescue responsibility. When lives are at stake, police officers will assist in rescue as necessary. Safety is of paramount concern and officers/fire fighters should not risk themselves unnecessarily.

3) Protection of evacuation areas

The Police Department will dedicate resources, as available, to protect any evacuation area against the threat of looters.

D) Communication Equipment

During periods of flooding, the City shall use the City band portable radios on the main communication frequency (155.82). All maintenance on the radios shall be directed to Racom and the service personnel should be informed of the immediate need for repairs or a loaner.

Most team members have access to cellular phones, which should be used for more private conversation.

V Emergency Operating Guidelines

A) Volunteer Recruitment

During times of potential flooding, the Management Team may need volunteers to supplement City employees in performing some flood operations such as

sandbagging and dike walking. The Human Resources Director shall be responsible for the recruitment of volunteers and shall be assisted by the Emergency Management Coordinator.

The procedures listed below are provided as guidelines for volunteer solicitation:

1) Define the scope of volunteer services required

Upon request for volunteers by the Management Team, the Volunteer Recruiter shall collect the following information from the team member:

- a) Define work to be performed, including physical requirements.
- b) Location where the volunteers are to report, and to whom they should report to.
- c) Time to report and duration of work.
- d) Equipment, gloves or other clothing required of the volunteers.
- e) Number of volunteers requested.

2) Solicitation of Volunteers

Once the scope of volunteer services is defined, the Volunteer Recruiter shall contact the following organizations to recruit volunteers and define the services needed as listed in scope of services above.

- Service Organizations (See Appendix B for current contacts.)
- High School
- Marshalltown Community College
- Local Industries, such as Lennox, Fishers, JBS Swift, etc.
- United Way - may be able to get support from the United Way Agencies
- Salvation Army ++
- Red Cross ++
- Churches United in Compassion & Concern
- Media (See Appendix B for current contacts.)

++ If the duration of volunteer services becomes lengthy, the Salvation Army and the Red Cross should be contacted for assistance in providing food and first aid for the volunteers.

The number of contacts made will depend on the number of volunteers required and the commitment received by the organizations contacted. It is always better to have more volunteers than not have enough.

After the volunteers contacts have been made, the Recruiter should contact the team member who requested the volunteers and report on the success of the recruitment.

3) Record Keeping

The Volunteer Recruiter should keep track of the organizations contacted and follow up with the team member who received the volunteers, to ascertain the volunteers name and address, and any organizations represented. These records should be maintained by the Human Resources Director. The Team Leader may request a copy of this documentation from time to time to generate reports and grant requests.

4) Volunteer Recognition

Upon completion of the flooding and use of volunteers for the flood event, the Human Resources Director shall send a thank you card or letter to each known volunteer and organization. A "Letter to the Editor" of thanks may also be appropriate.

B) Street Closing

Upon determination from the team members, Police Department or other department personnel that there is a need for barricades to provide safety to the public from floodwater or for traffic control, notification shall be given to the Street Superintendent. The Street Division will deliver and set up barricades to block the street. Barricades shall be located at the nearest intersection in advance of the hazard to enable traffic to make a decision on their alternate route without having to turn around in a dead end at the hazard. Barricades shall be set in the traffic lane of the direction of approaching traffic, and if available, a "Water Over Road" sign should be set in the center of the lane or on the terrace beside the lane barricade. If residents or businesses are within the barricaded area, the exiting lane shall not be blocked. If barricades will be in place overnight, a yellow flasher shall be attached to the barricade.

Upon a forecast of heavy rain, the Street Superintendent may direct barricades be distributed to known problem areas and set on the terrace. In this case, the Street Superintendent shall notify the Police dispatcher so if there is a need to set out the barricades after regular work hours, the Police Department shall set out the barricades accordingly.

C) Storm Water Pumping

Based on the monitoring of the storm water ponding areas by the Street Division, pumping of the ponding areas may be required. The Street Superintendent shall coordinate the storm water pumping at the following locations:

1) N. 3rd Avenue ponding area by Ken Wise

A pump is permanently mounted in the manhole on the intake side of the ponding area gate well structure pipe. A 40 Hp tractor with power take-off and 75 feet of 8-inch discharge hose is needed at this location. The hose is currently attached to the pump and additional hose is available at the Public Works Facility.

2) E. Main and 18th Avenue ponding area

The pumping needs at this location is rare, but may be required for extended rains. Initially, a 30 Hp tractor with power take-off, a 12-inch Crisafulli pump and 75 feet of 12-inch discharge hose is needed. Additional Crisafulli pumps are available from the Street Division. The 16" pump requires a 75Hp tractor and 75' of 16-inch discharge hose.

3) Other gate well or ponding locations

The locations listed below have either small or no ponding storage when there are substantial rains in the area. These areas shall be monitored frequently, and when water levels approach the north end of the Lennox parking lot on East Main St. or the street gutters on the other three locations, pumps will be required to pump out of the storm sewer catch basins.

S. 12th Ave. and Boone St.

4" pump w/20' of suction hose & 100' of discharge hose

E. Main St. at Lennox parking lot

6" pump w/30' of suction hose & 50' of discharge hose

S. 12th Ave. at old Gra Iron site (North of Turner Street)

4" pump w/20' of suction hose & 50' of discharge hose

The other ponding areas shall be monitored periodically and pumped as needed to prevent flooding damage to private property structures or street flooding.

D) Gate Opening & Closing

The City has several storm drainage areas that utilize gate wells that when closed will isolate the low-lying areas from the Iowa River or Linn Creek. The Street

Division under the supervision of the Street Superintendent is responsible for the monitoring and operation of the following gate locations:

- 1) N. 3rd Ave. gate well at Ken Wise

This slide gate is closed all the time and opened to release ponded water either before the Iowa River rises to the outlet level or after the Iowa River recedes to below the outlet level. Since the outlet pipe does not have a flap gate, the slide gate is kept in a closed position to prevent a surprise entry of floodwaters.

- 2) Marion St. at the Iowa River

This slide gate is closed all the time and opened to release ponded water either before the Iowa River rises to the outlet level or after the Iowa River recedes to below the outlet level. Since the outlet pipe does not have a flap gate, the slide gate is kept in a closed position to prevent a surprise entry of floodwaters. The storm water lift station now provides protection from flooding inside the levee system in this location.

- 3) Marion St. and 18th Ave. at Linn Creek

This slide gate is closed all the time. The storm water lift station now provides protection from flooding inside the levee system in this location.

- 4) E. Main St. and 18th Ave. at Linn Creek

This slide gate is kept open all the time and only closed if there appears to be a malfunction or blockage of the flap gates. The outlet pipes do have flap gates and the slide gates are kept in an open position to allow Melcher Creek to discharge as hydraulic pressures allow. When Linn Creek is elevated, there shall be a periodic observation of the gate well to assure there is no problem with the flap gates. If there is a problem, the Team Leader shall be notified and a determination will be made on closure of the slide gates.

- 5) E. Main St. at the east end of Church St.

This slide gate is kept open at all times since the Iowa River has shown in the past that flood waters seldom back up to this outlet elevation. However, since different conditions occur with every flood event, there shall be a periodic inspection of this gate well during high-water events on the Iowa River to determine if the slide gate should be closed. The levels of interior drainage water can be more damaging to business structures in the area than

water backup from the Iowa River through the structure. It is easier to monitor the slower rising exterior levels than it is the fast rising interior levels.

- 6) S. 12th Ave. and Boone St., E. Main St. at the Lennox parking lot,
S. 12th Ave. at old Gra Iron site (North of Turner Street)

These slide gates are kept open all the time and only closed if there appears to be a malfunction or blockage of the flap gates. The outlet pipes do have flap gates. The slide gates are kept in an open position to allow the storm sewers to discharge as long as possible. When Linn Creek is elevated, there shall be a periodic observation of the gate wells to assure there is no problem with the flap gates. If there is a problem and water is backing into the storm sewer, the slide gate shall be closed and pumps readied to pump if needed.

E) Sandbagging Operation

City organized sandbagging operations shall be coordinated by the Public Facilities Superintendent, with assistance in locating volunteers by the Human Resources Director. The following guidelines should be considered in preparing for the filling and distribution of sandbags:

- 1) Stockpile of filled sandbags

The City shall always try to maintain a stockpile of approximately 1000 filled sandbags at the red Parks Barn on Woodland Street. These bags are stacked on pallets and ready for loading with a forklift. If additional sandbags are needed, a sandbag filling operation will need to be initiated. (The City shall always try to maintain an inventory of 25,000 sandbags available for fill in times of need.)

- 2) Location to fill sandbags

The coordinator of sandbag operations should locate the sandbag filling location as close to the area needing sandbags as possible, without putting the operation in a zone of possible flooding. The Linn Creek area may want to use the Lennox parking lot on Main Street; and for Iowa River flooding, the Lennox lot or the Public Works Facility on East Main Street may be available.

In locating the sandbag filling area, consideration needs to be given to provide enough space for heavy equipment such as endloaders and dump trucks to haul in sand and haul out filled sandbags, and enough room to park the cars of all the volunteers.

3) Sandbag filling operation

Once the location is defined, the Public Facilities Superintendent shall notify the Parks Superintendent to deliver the empty sandbags and the Street Division personnel to provide the following:

- a) Dump trucks to haul sand in from the Sand Plant to the filling operation and to haul filled sandbags to the potential flooding location.
- b) Endloaders to move the sandbags from the point of filling to the potential flooding location.
- c) Duall and dump trucks that have the capability to off-load sand on a conveyor and allow for the filling of the sandbags without having to shovel the sand.

Volunteers shall be utilized for the actual filling and tying of the sandbags and moving the bags onto equipment that will be used to transport the bags to the potential flooding location. Depending on the number of sandbags needing to be filled, volunteers may need to bring shovels and fill the sandbags by hand as well as using the Duall trucks and dump trucks. See Appendix C for instructions on the proper filling of sandbags.

4) Transportation

Depending on the quantity of sandbags needed, the City should first try to move the bags with an endloader that provides the flexibility of off-loading the bags without manual labor or breaking the bags. If larger quantities need to be moved to the final location of sandbagging, dump trucks may need to be used.

5) Placement of sandbags

The Public Facilities Superintendent shall designate a person responsible for oversight of the placement of sandbags at the site of potential flooding, and the volunteers' needs. Examples of the proper placement of sandbags are shown in Appendix C.

6) Record Keeping

The Public Facilities Superintendent or designee shall be responsible for maintaining a list of volunteers that assist in the sandbagging operation.

This information shall be used in report generating by the Team Leader and by the Human Resources Director for thank you notes. The volunteer list should be given to the Human Resources Director for purposes of maintaining and storing of the records.

F) Dike Walking

The Parks Superintendent shall be responsible for overseeing the inspection of the City's dike system during periods of high creek and river levels. The Parks & Recreation's maintenance personnel shall be utilized for the inspection and supplemented with other department personnel or volunteers as needed.

The initiation of dike walking inspections shall be a decision of the Management Team upon consideration of the dike's condition and the creek and river elevations.

The following guidelines are provided for the dike walking inspection process:

1) Daytime Inspections

During daylight hours, two walkers should be provided at each of the following locations (total of ten):

- From start of dike system west of highway 14 bridge to Marion Street
- From Marion Street to Nevada Street then cross the creek and return back to Marion Street
- 18th Ave. East and over to East Main Street
- From Nevada Street to Center Street, then cross the creek and return back to Nevada Street
- Center St. to 6th St. then cross the creek and return back to Center St.

The daylight inspection should be scheduled for 8 a.m., 1 p.m., and approximately 7 p.m. (before dark), with the inspections taking about two hours each.

2) Nighttime Inspections

During the nighttime hours, where possible, the Parks Superintendent and

designee should drive the dike with a City vehicle and a flood light. The nighttime inspectors should center on problem areas noted during the daytime inspections and then just a general inspection of the system. This inspection can be done in about two hours, and typically should be done at around 1 a.m. and 4 a.m. depending on the flood conditions.

3) Inspection Procedures

During dike inspections, each walker should carry a portable City radio for the purpose of communicating problems with the dike system back to the Parks Superintendent and in case of personal injury. For safety reasons, all personnel performing dike inspections should always stay in pairs and wear a flotation device.

Dike walkers should pay special attention to the following warning signs of problems:

a) River or creek side of dike

- i) Swirling water at or near the dike may be an indication of water movement under the dike.
- ii) Fast flowing water along the dike may indicate locations where erosion may occur. The inspector should look for any loss of soil.

b) Dry side of the dike

- i) Boiling of flowing water along the dike or back as much as 100 feet from the dike may indicate a flow of water under the dike. This eventually could undermine the dike and cause failure.
- ii) Air bubbles coming up in areas of standing water may indicate the flow of water from under the dike, forcing the air out of the soil.

Use of dye solutions is sometimes helpful in identifying water movement in areas of standing water. Dye solution is available from the Sewer Division.

All areas of concern should be relayed to the Parks Superintendent for review. The Parks Superintendent should then report the problem areas to the Leadership Team for corrective action.

G) Closing of City Facilities

The following City owned facilities have been identified as locations of potential flooding or could pose a public safety risk:

- 1) Bike Path along the City dike system
- 2) Campground, Riverview Park
- 3) Shelter Facilities, Riverview Park
- 4) Peterson Park
- 5) Wetlands-OHV Park , Marion Street

As the Iowa River and/or Linn Creek demonstrates a threat of flooding, the Management Team, with a recommendation made by the Parks & Recreation Director, shall consider the closing of the above-mentioned facilities. It shall be the responsibility of the Parks & Recreation Department to facilitate the directed closing(s).

APPENDIX A

TEAM LEADERS

TEAM LEADER

JUSTIN NICKEL 754-5734(w)

- Coordinate the activities of the team
- Chair team briefings

ASSISTANT TEAM LEADER

DAVID RIERSON 754-5751(w)

- Perform the duties of Team Leader in his absence
- Perform the duties of Public Information Officer in his absence
- Oversee the monitoring of flood conditions and levels

PUBLIC INFORMATION OFFICER

JESSICA KINSER 754-5799(w)

- Dissemination of all public information, including press releases, live reports, and notices of evacuation.

Other Team Members

VOLUNTEER COORDINATOR

JILL PETERMEIER 754-5704(w)

(backup-Kim Elder) 754-6385(w)

- Recruitment of volunteers for emergency flood operations

FLOOD GATE OPERATIONS

JEFF ROADS 754-5746(w)

(backup-Ted Smith) 754-5746(w)

- Open & close flood gates on the dike system and advise team of status
- Oversee the pumping of the designated ponding areas

SEWER SYSTEMS & FLAP GATES

STEVE SIMONS 754-5749(w)

(backup-Mike Bryan) 754-5749(w)

- Maintenance and pumping of storm and sanitary sewer systems
- Maintenance of all flap gates on the storm water discharges

DIKE MAINTENANCE & INSPECTION

BRAD WEUVE 754-5755(w)
(backup-Anne Selness) 754-5715(w)

- Maintenance of the dike system throughout the year
- Semi-annual inspection of the dike system
- Closing of the bike path at 18th Ave. and elsewhere as needed
- Dike walking and inspection at high flood levels (19.5'and up)

SANDBAGGING OPERATION

DAVID DATERS 754-5761(w)
(backup-Jeff Roads) 754-5746(w)

- Coordinate sandbagging operations

ELECTRICAL FAILURES

DAVID DATERS 754-5761(w)
(backup-Phil Schwarck) 754-5761(w)

- Handle the City's electrical problems related to the flood

EMERGENCY RESCUE

DAVID RIERSON 754-5751(w)
(backup-Chris Cross) 754-5751(w)

- Man rescue boat operations and fire control
- Backup the Police Dept. with traffic control

TRAFFIC CONTROL & EVACUATION NOTIFICATION

MICHAEL TUPPER 754-5771(w)
(backup-Brian Batterson) 754-5725(w)

- Provide traffic control in emergency situations
- Provide notification of emergency evacuations
- Disseminate prepared public information through the central dispatch

COUNTY WIDE EMERGENCY MANAGEMENT

KIM ELDER 754-6385(w)
(backup-Communications Center – Marshalltown Police Dept.) 754-5725

- Coordinate state-wide assistance efforts, including a request for National Guard assistance
- Assist in obtaining sandbags as needed
- Request for disaster assistance funding

APPENDIX A

FLOOD MANAGEMENT PLAN Phone List March 2017

Team Member	Work #	Home #	Cell Phone	Dept.	Radio
Batterson, Brian	754-5725			POLICE	
Bryan, Mike	754-5749			SEWER	212
Campbell, Bruce	754-5734			ENGR.	303
Cross, Chris	754-5751			FIRE	
Daters, David	754-5761			ENGR./ELECT.	602
Elder, Kim	754-6385				
Kinser, Jessica	754-5799			ADMIN	
Nickel, Justin	754-5734			ENGR.	
Petermeier, Jill	754-5704			HUMAN RES	
Ranson, Bob	754-5709			WPCP	509
Rierson, David	754-5751			FIRE	
Roads, Jeff	754-5746			STREET	621
Schwarck, Phil	754-5761			ELECT.	604
Selness, Anne	754-5715			P&R	
Simons, Steve	754-5749			SEWER	208
Smith, Ted	754-5746			STREET	614
Tupper, Michael	754-5771			POLICE	
Weuve, Brad	754-5715			P&R	709

Flood Management Plan - Phone List (Continued)

Marshall County Conservation Board

Mike Stegmann Director	Office	752-5490
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If Mike Stegmann cannot be reached at the office or home, please call Marty Malloy, Maintenance Supervisor.

County Engineering Department

Paul Geilenfeldt County Engineer	Office	754-6343
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Brad Nichols
Maintenance Sup.

DOT

Mark Stephens Supervisor	Office	753-7783
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Bob Close	Office	319-824-5259 (Grundy Center Office)
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APPENDIX B

MEDIA PHONE NUMBERS

Times Republican

Telephone-	753-6611
Fax-	753-7221

KDAO Radio & TV 39

Telephone-	752-4122
Sunset to 6AM	752-1577 (Mark Osmundson)
Fax-	752-5121

KFJB - KXIA Radio

Telephone- KFJB	753-3361
& KXIA	753-6101
Midnight to 6AM	753-7701
Fax-	752-7201

Note: City Hall has the ability to email messages to the news media. A group has been set up and can be accessed through the City Hall Server for sending email messages.

A radio station located out of Belle Plaine, Iowa is currently broadcasting a Spanish adult music format (KZAT-FM 95.5). If notices need to be delivered to our Spanish speaking citizens, this may be an option that we should utilize.

APPENDIX B

SERVICE ORGANIZATION LIST

The following organizations should be the first contacted for volunteer assistance. The attached list from the Chamber of Commerce shall give you the current contact person for each organization and other organizations that can be drawn from if needed.

Assistance League

Evening Lions Club

Legion of Gaurdsmen

Marshalltown Lioness Club

Matins Kiwanis Club

Morning Optimists

Noon Kiwanis Club

Noon Lions Club

Noon Optimists

PM Kiwanis Club

Rotary Club

Young Professionals

IOWA RIVER HIGH WATER READINGS

1972 – 2016

Year	Reading	Month/Day	Time of Day
1972	17.56	6-14	8 a.m.
1973	16.52	4-17	5 a.m.
1974	19.38	6-23	10 a.m.
1975	18.37	3-21	1 a.m.
1976	17.44	4-19	8 a.m.
1977	16.34	8-16	10 p.m.
1978	15.96	9-21	6 p.m.
1979	19.88	3-19	11 a.m.
1980	15.82	6-14	11 p.m.
1982	17.47	3-20	8 a.m.
1983	18.69	7-5	7 a.m.
1984	18.60	2-17	11 a.m.
1985	17.30	3-4	4 p.m.
1986	17.23	3-14	5 p.m.
1990	20.15	6-17	12M
1991	19.95	6-5	9 a.m.
1992	16.07	2-19	4 a.m.
1993	20.78	8-17	6 a.m.
1994	16.74	3-6	3 p.m.
1995	15.50	5-10	4 p.m.
1996	16.40	6-18	7 a.m.
1997	17.96	6-22	9 p.m.
1998	19.43	6-25	10 a.m.
1999	18.21	6-11	3 p.m.
2000	16.46	6-17	3 a.m.
2001	17.45	3-22	9 a.m.
2002	No readings over 15 feet		
2003	16.30	5-10	5 a.m.
2004	18.19	5-26	5 a.m.
2005	17.18	6-30	3 a.m.
2006	No readings over 17 feet		
2007	19.57	6-23	11 p.m.
2008	21.79	6-13	7 a.m.
2009	18.34	4-28	5 a.m.
2010	18.99	6-28	7 p.m.
2011	No readings over 17 feet		
2012	No readings over 17 feet		
2013	22.08	5-30	8 p.m.
2014	22.25	7-02	3 a.m.
2015	20.43	12-15	8 a.m.
2016	18.95	9-28	10 a.m.

Iowa River Dike System at Marshalltown was accepted September 25, 1975 (Gauge 0 = 853.10)

Design Flood - Above Hwy 14 bridge - 22.1 ft. Below bridge - 21.4 ft.
 Top of Dike - Above Hwy 14 bridge - 26.1 ft. Below bridge - 24.4 ft.
 Freeboard - Above Hwy 14 bridge - 4.0 ft. Below bridge - 3.0 ft.

FLOOD MANAGEMENT PLAN

Program Update Checklist

To maintain an accurate and up-to-date Flood Management Plan, the program needs to be reviewed and updated each year. Special emphasis should be given to actual flood operations that have occurred over the past year and areas that could be improved or were handled differently under the flood emergency.

- 1) Review responsibilities of Management Team & Departments
- 2) Review Section III - Monitoring of Flood Conditions for any change in procedures or notification levels
- 3) Review Section V. (A) for new organizations for volunteer recruitment
- 4) Review Section V. (C) for locations relating to storm water pumping and equipment needs
- 5) Review locations of any new gate wells and add into the Plan
- 6) Inventory of sandbags
- 7) Review Appendix A, verify responsible person and phone numbers
- 8) Review Appendix B, verify media phone numbers and update the service organization list provided by the Chamber of Commerce
- 9) Update Appendix D to include current year flood water levels
- 10) Give program a general review to identify deficiencies and changes in the City's operations that may affect the Plan

CITY OF MARSHALLTOWN FLOOD MANAGEMENT PLAN

Program Distribution List

<u>Public Works Department</u>	<u>8 Copies</u>
Public Works Director	<u>Electronic PDF file</u>
Engineering Office	
Public Facilities Superintendent	
Street Superintendent	
Sewer Superintendent	
WPCP Superintendent	
WPCP Assistant Superintendent	
WPCP Operations Center	
<u>City Administration</u>	<u>3 Copies</u>
City Administrator	
Human Resources Director	
City Clerk	<u>Electronic PDF file</u>
Mayor	
<u>Police Department</u>	<u>2 Copies</u>
Police Chief	
Communications Center	
<u>Parks & Recreation Department</u>	<u>2 Copies</u>
P & R Director	
Parks Superintendent	
<u>Fire Department</u>	<u>2 Copies</u>
Fire Chief	
Command Room	
<u>Emergency Management</u>	<u>1 Copy</u>
Emergency Management Coordinator	
<u>Marshall County Conservation Board</u>	<u>1 Copy</u>
Marshall County Conservation Director	

Flood Management Plan

For the most beneficial Iowa River-Marshalltown information located on the internet, please bookmark the following sites:

NOAA's National Weather Service

weather.gov

The Home Screen is tabs located above a United States map.

- Click "Water" tab
- Place cursor over "Des Moines, IA" area and click once
- Place cursor on "Marshalltown" and click once

You are now at the Iowa River at Marshalltown information page.

Bookmark this page.

(Note: During times of flooding, the graph will be extended by dashed lines to show predicted crest information.)

Iowa Flood Center – The University of Iowa

www.iowafloodcenter.org

Tabs are located along the top of the Iowa Flood Center's Home Page.

Bookmark this page.

- Click the tab "IFIS"
- Click "Launch IFIS"
- In the "My Community" space enter "Marshalltown" and you can select from Marshalltown (Iowa River) or Marshalltown (Linn Creek)
- Click on Marshalltown (Iowa River)

An interactive map will appear with the information available for the Iowa River. You can click on the various buttons available on the map to access more information on the Iowa River at Marshalltown.