

## 2010 Flood Event Update #2



- ❑ Thank you for your time this evening to provide 2010 Flood Event Update #2
  - ❑ Video & PowerPoint Presentation for Update #2 will be posted on the City of Moorhead Flood Information Website
  - ❑ **City of Moorhead Flood Information Website:**  
[www.cityofmoorhead.com/flood/](http://www.cityofmoorhead.com/flood/)
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## 2010 Flood Event Update #2



### **Updates on the Following Topics:**

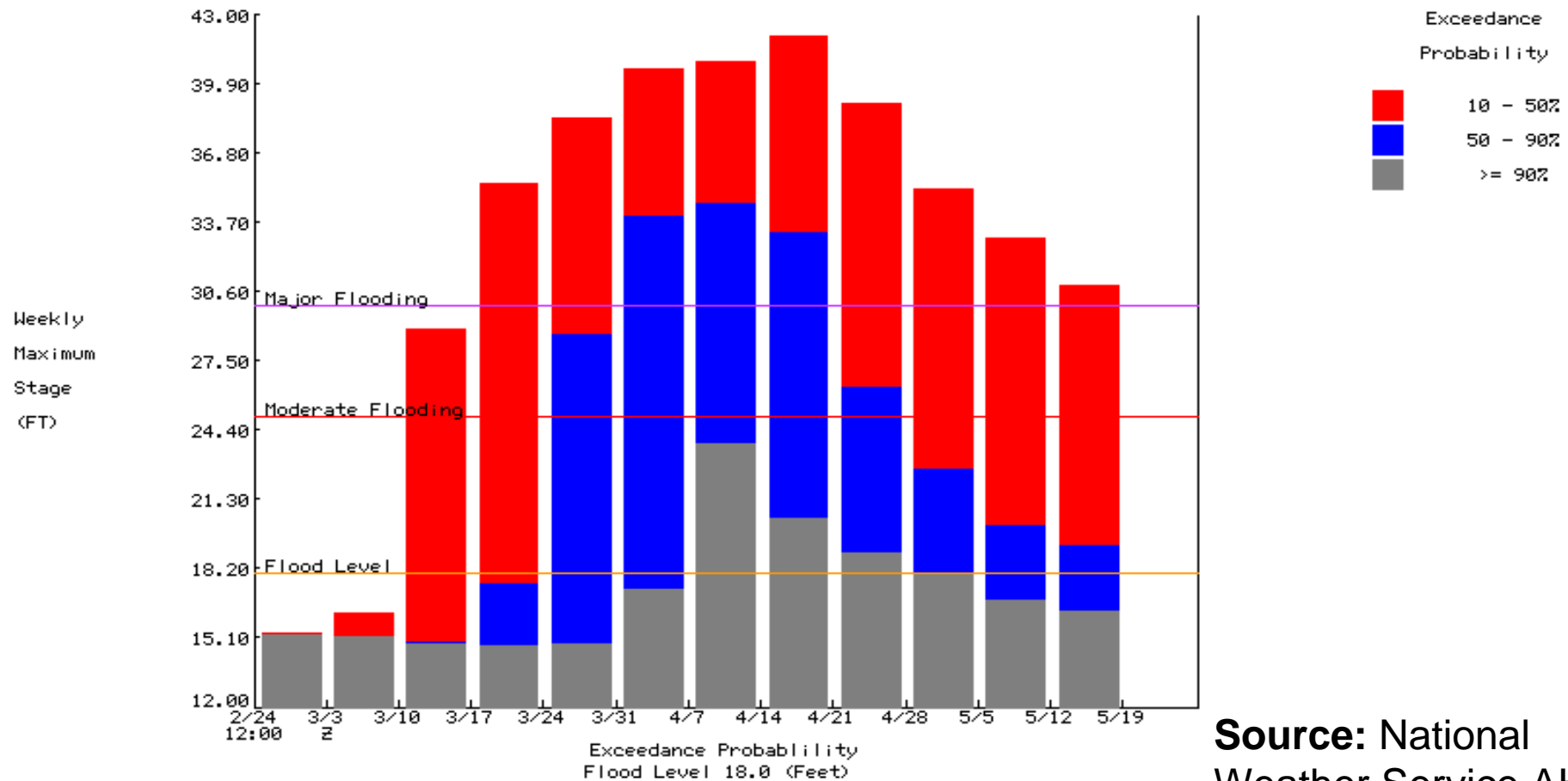
- ❑ Potential 2010 Flood Event – Revised NWS Information – February 19, 2009
  
  - ❑ Sandbag Operations Plan
  
  - ❑ Question/Answer period at the close of the presentation
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# 2010 Flood Event Update #2



## Potential 2010 Flood Event Update Exceedance Probability Forecast – 2/17/10

1 Week Chances of Exceeding River Levels on the RED R at FARGO ND  
 Latitude: 46.5 Longitude: 96.7  
 Forecast for the period 2/24/2010 - 5/19/2010  
 This is a conditional simulation based on the current conditions as of 2/17/2010

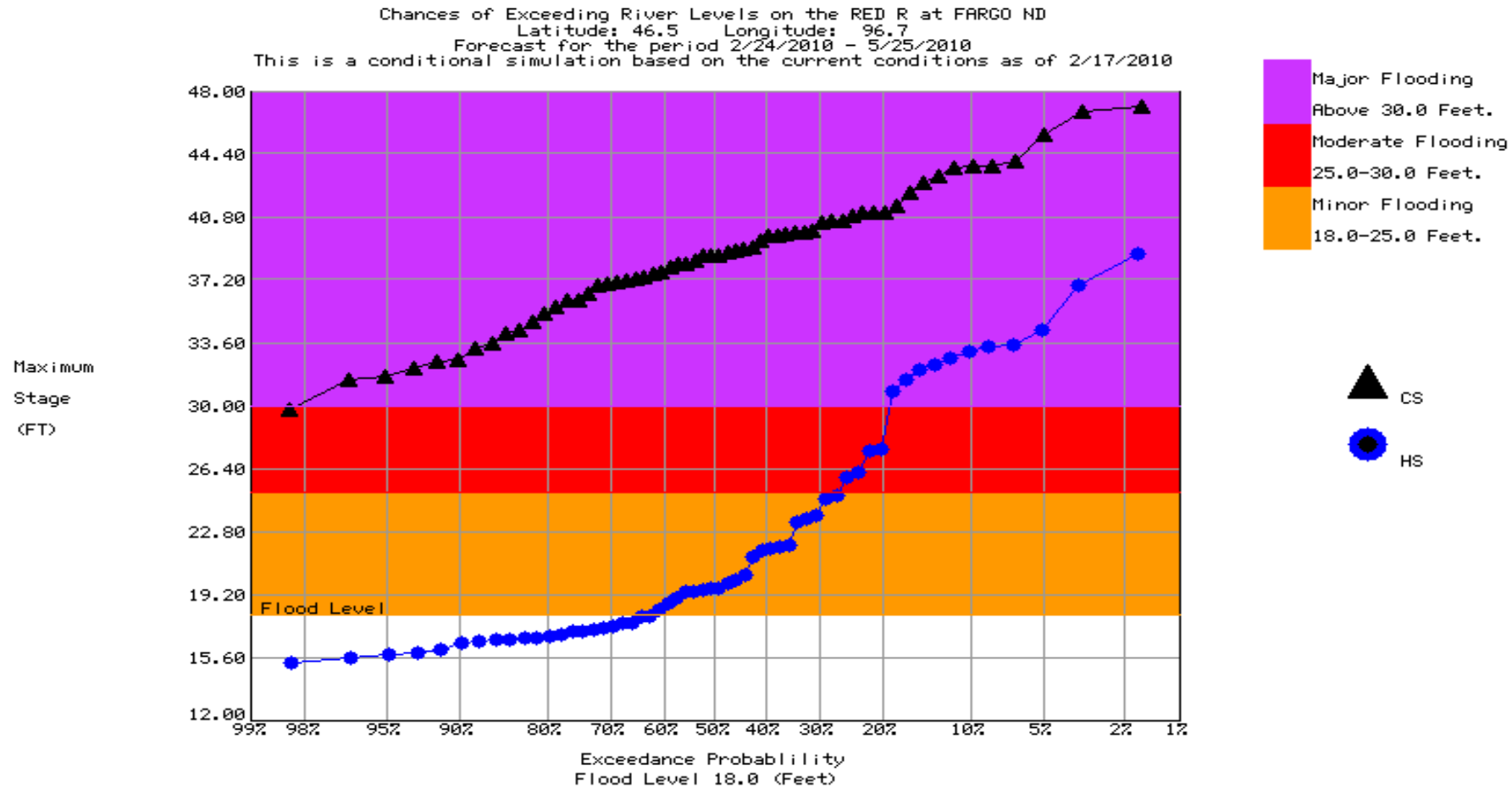


**Source:** National Weather Service AHPS

# 2010 Flood Event Update #2



## Potential 2010 Flood Event Update – Probability Forecast Revised 2/17/10



Source: National Weather Service AHPS

## 2010 Flood Event Update #2



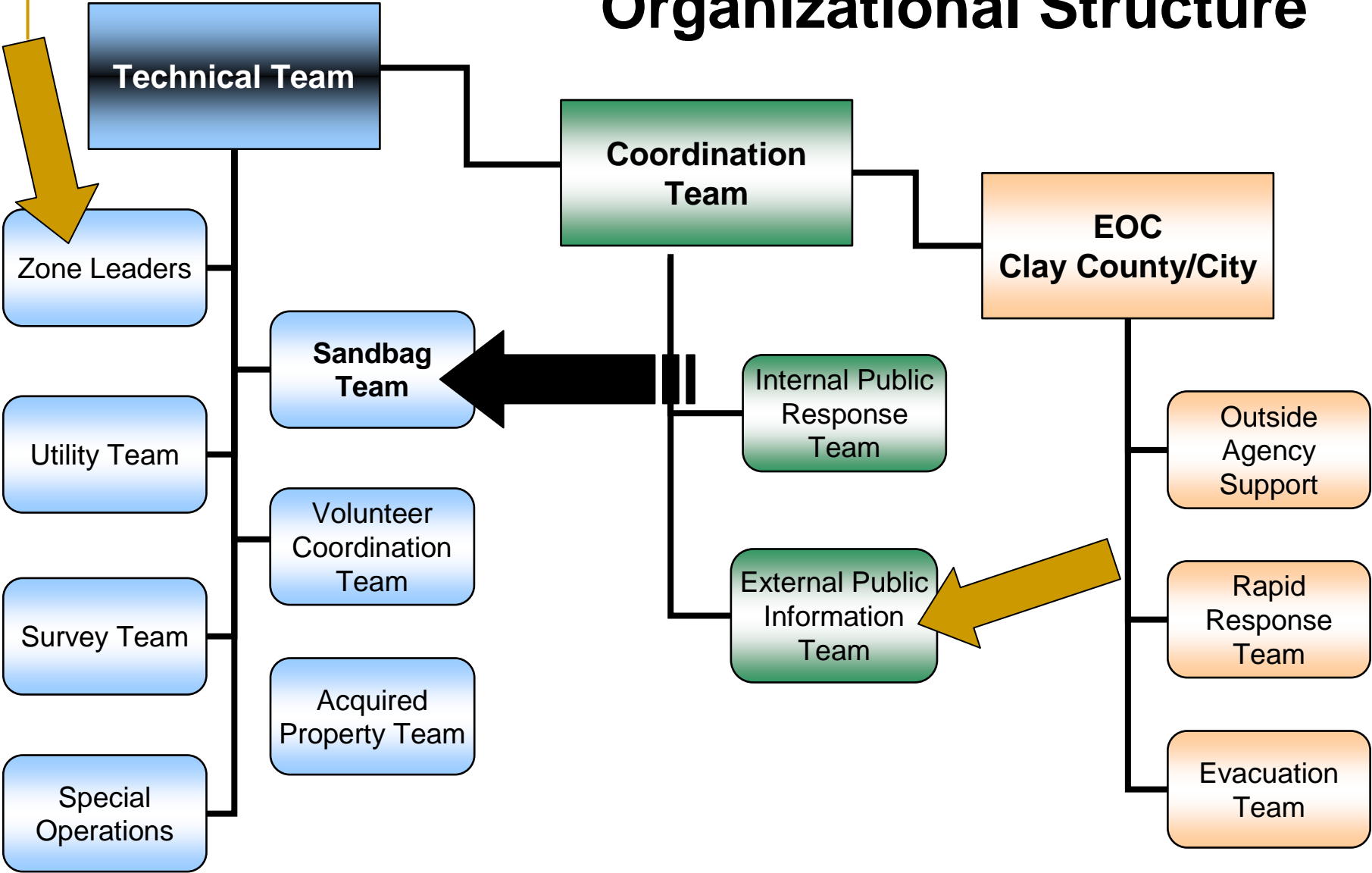
### Potential 2010 Flood Event Update – Probability Forecast – Text Product

| Fargo/<br>Mhd | 90%  | 80%  | 70%  | 60%  | 50%  | 40%  | 30%  | 20%  | 10%  |
|---------------|------|------|------|------|------|------|------|------|------|
| Stage:        | 32.7 | 35.3 | 37.0 | 37.8 | 38.6 | 39.6 | 40.3 | 41.0 | 43.7 |

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**Source:** National  
Weather Service AHPS

# Organizational Structure





## Emergency Flood Plan Response

- ❑ Flood Response is a Public Works Emergency
- ❑ Revised Emergency Flood Plan Organization
- ❑ 15 Total Teams/Work Groups identified in Emergency Flood Plan

### Technical Team

- Neighborhood Zones
- ***Sandbag Team***
- Volunteers
- Utilities
- Surveys
- Acquired Properties

### Coordination Team

- Internal Public Response
- External Public Information
- EOC
- Outside Agencies/Support
- Rapid Response
- Evacuation Team



### **City Response to Revised NWS Forecast Information:**

- ❑ February 8<sup>th</sup> Update #1: Determine course of action based upon revised NWS forecast information on February 19<sup>th</sup>
  - ❑ February 22<sup>nd</sup> Update #2: Proposed \$550,000 Pre-Event and Event Operational Plan
  - ❑ Federal Disaster Declaration/Reimbursement
  - ❑ The City's Proposed Pre-Event Plan: Deliberate and Proactive
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### City Sandbag Needs:

Infrastructure Improvements + Property Acquisitions  
=  
**Less overall sandbag need in City**

- 1/3 fewer sandbags required in 2010
  - Clay levee systems for acquired home sites
    - Example: Horn Park neighborhood, south of I-94
  - Review Table Slide
-

## 2010 Flood Event Update #2



### 2010 City Sandbag Needs:

| River Stage | Approximate # Sandbags |
|-------------|------------------------|
| 37          | 150,000                |
| 38          | 300,000                |
| 39          | 560,000                |
| 41          | 1,600,000              |

**\*2009: Approximately 2,500,000 – 3,000,000 bags at 43-foot level**



## City Sandbag Needs:

### ***Goal:***

**300,000 Pre-Event Sandbags**

- 38-foot level, which is approximately a 50-60% probability
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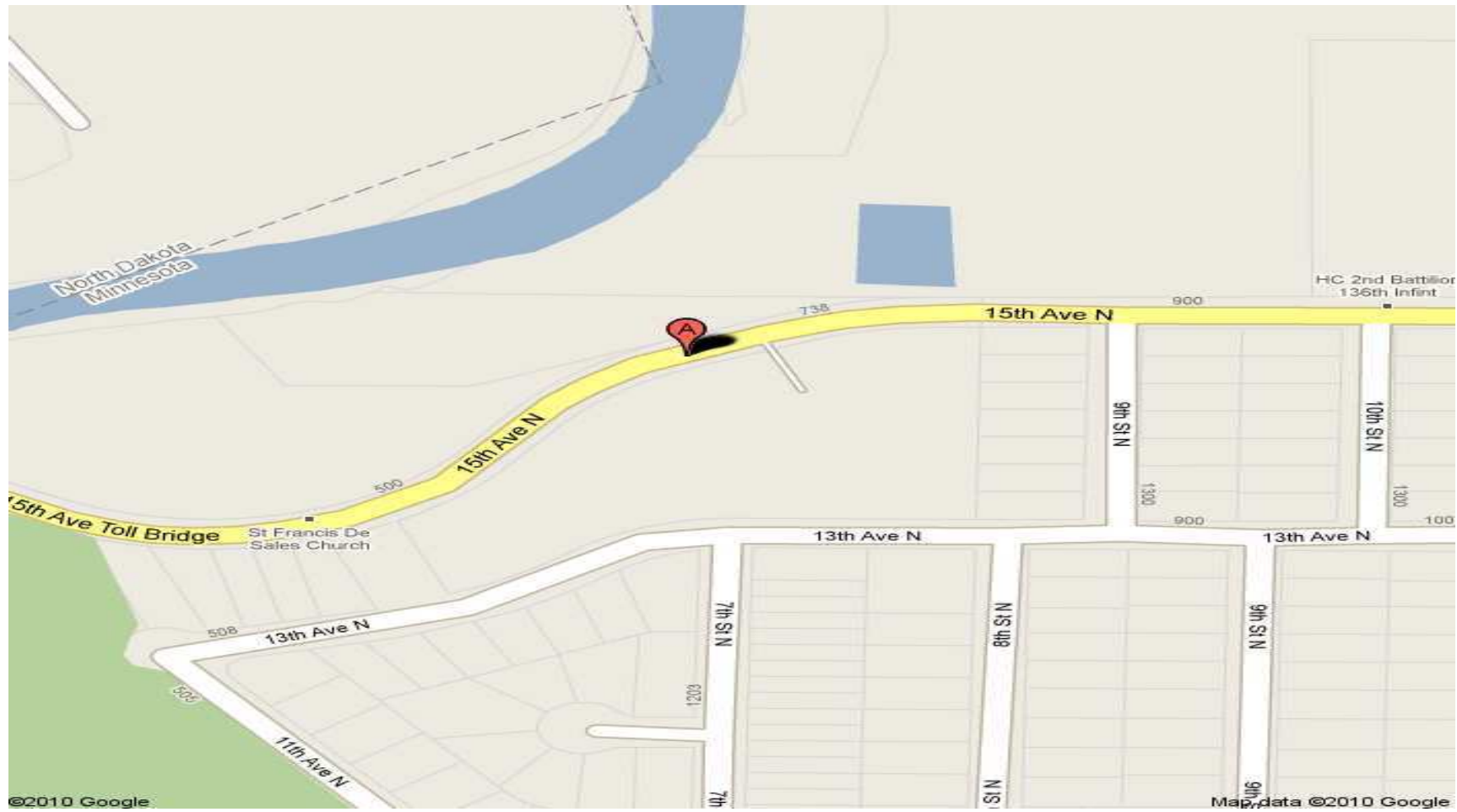
### **Overview of Pre-Event Sandbag Plan:**

- Location: City of Moorhead Public Works Facility, Pole Barn, 700 15<sup>th</sup> Ave. N.
  - Starting Monday, March 1st
  - Open Monday – Saturday from 7:00 a.m. – 6:00 p.m.
  - Sunday: 12:00 – 6:00 p.m.
  - External Public Information: Press Releases, Radio, Website/Facebook, CodeRED® Calls
  - **Volunteers Needed**
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### City of Moorhead Public Works Facility, 700 15<sup>th</sup> Ave. N.



Source: Google Maps

## 2010 Flood Event Update #2



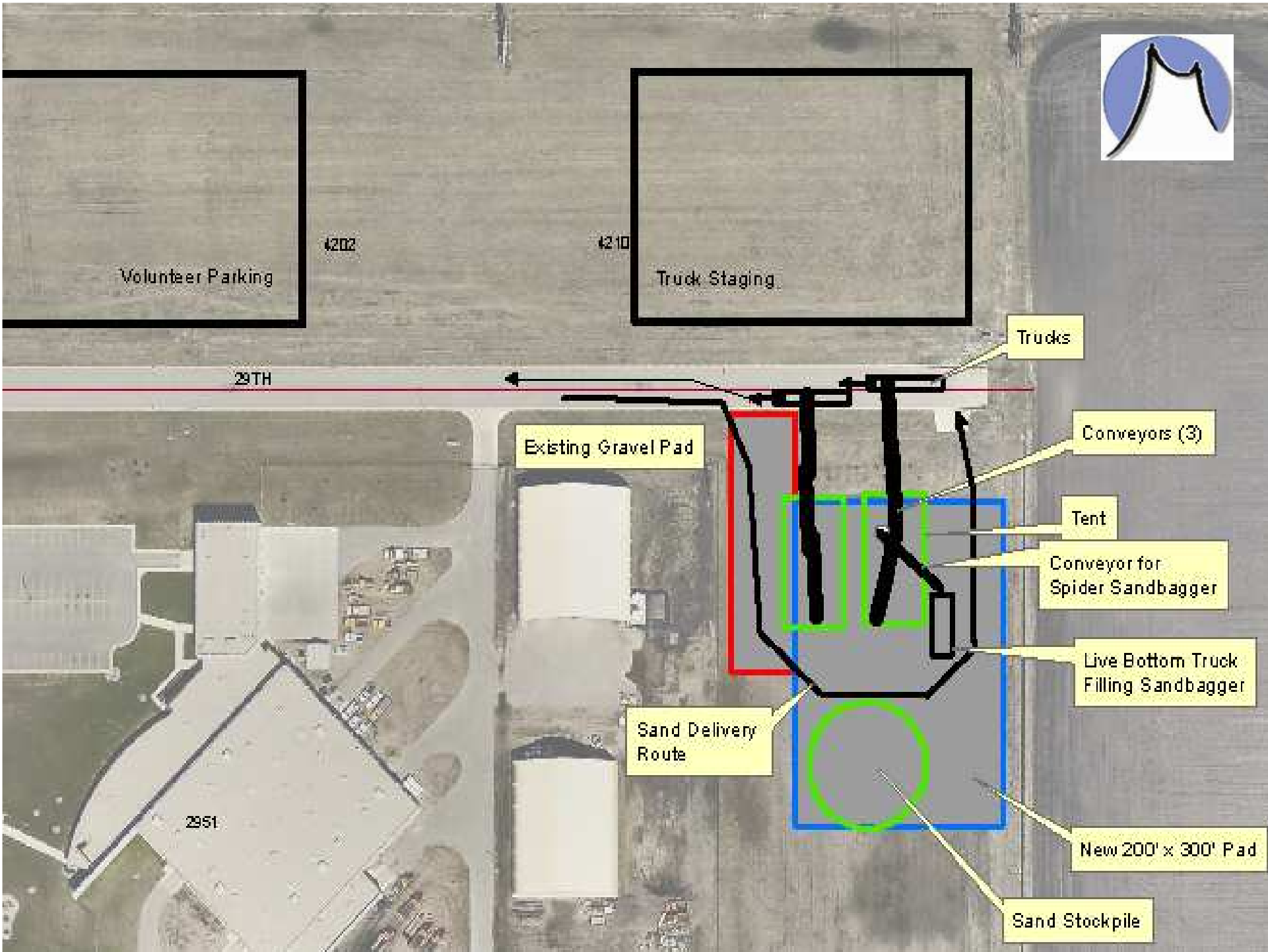
### **Pre-Event Sandbag Plan Budget:**

|                         |                 |
|-------------------------|-----------------|
| Storage Rent            | \$60,000        |
| Loader Rent             | \$10,000        |
| Skid Steer Rent         | \$4,500         |
| Cones                   | \$2,000         |
| Temp Heater (2)         | \$1,600         |
| Light Plant (2)         | \$900           |
| Shovels                 | \$500           |
| Temp Labor              | -----           |
| <b>PRE-EVENT TOTAL:</b> | <b>\$79,500</b> |



### **Overview of Event Sandbag Plan:**

- Location: East of Joint Public Works Facility, MCCARA Business Park, 29<sup>th</sup> Ave. S.
  - 24x7 operation if needed
  - Approximately 50 persons needed for optimal operation
    - 5,000 bags/hour
  - Outside Agencies, Volunteers, Others Needed
  - National Guard Mission Request (same as ND)
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### Event Sandbag Plan Budget:

- Mechanized/Automated
- Long-Term

|                                      |           |
|--------------------------------------|-----------|
| Construct Sandbag Central Pad (JPWF) | \$100,000 |
| Spider 12-Station + Conveyor         | \$34,000  |
| Triple Conveyors (2) – Truck Loading | \$26,000  |
| Sand (10,000 yards on hand)          | -----     |
| Sandbags (750,000 on hand)           | -----     |
| Light Plants (4)                     | \$2,000   |
| Temp Heaters (4)                     | \$3,200   |

## 2010 Flood Event Update #2



### **Event Sandbag Plan Budget:**

|                             |                  |
|-----------------------------|------------------|
| Tents (2) - 60x120          | \$26,000         |
| Loaders (2)                 | \$26,000         |
| Live Bottom Truck (2)       | \$67,000         |
| Roll-off Trucks             | \$40,000         |
| Tandem Rental (20)          | \$32,600         |
| Fork Lift (all terrain) (2) | \$4,000          |
| <b>EVENT TOTAL:</b>         | <b>\$360,800</b> |
| <b>+ PRE-EVENT TOTAL:</b>   | <b>\$79,500</b>  |
| <b>GRAND TOTAL:</b>         | <b>\$440,300</b> |



### **Residential Sand/Bags:**

- **Primary City Objective: Filled Sandbags & Delivery**
    - Consistent with City of Fargo
  - Residents may order sand for residential delivery
  - City will provide bags
  - Reimbursement Policy: Sand and bags only
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## 2010 Flood Event Update #2



### **Preparation Meetings:**

- Technical Staff Meetings
  - Coordination Team
  - Clay County EOC/Sheriff's Office
    - MN HSEM
    - MN National Guard Response – Red River Valley
      - Mission Request: Same as ND National Guard
  - Volunteer Coordination/MSUM Center
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### **Preparation Meetings:**

- Vendors/Contractors
  - Website Development
    - Social Media – Facebook Page
  - Moorhead Public Service
  - Higher Education /ISD 152 Leaders (Early March)
  - Other Institutional Leaders (Friday 2/26 – Eventide)
  - Public Meetings Reminder:
    - March 1 & March 2, Hanson Theater, Center for the Arts, MSUM
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## Questions/Comments?

**City Flood Information Website:**  
[www.cityofmoorhead.com/flood/](http://www.cityofmoorhead.com/flood/)



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