

**EMERGENCY ACTION PLAN  
EAST AND WEST ASH PONDS  
WAUKEGAN STATION  
NOVEMBER 2022**

This Emergency Action Plan (EAP) has been prepared pursuant to Title 40 of the Code of Federal Regulations (40 CFR) Part 257, Subpart D, §257.73(a)(3) for the East and West Ash Ponds at the Midwest Generation, LLC (MWG) Waukegan Station (Station) in Waukegan, Illinois. This November 2022 update of the initial EAP has been revised to comply with 35 Illinois Administrative Code (35 IAC) Part 845, Subpart E, §845.520(b)(3) by revising the code references, and includes an updated contact list provided as Table 5. The EAP is presented as follows:

**Section 1.0:** Definition of the events or circumstances involving the CCR unit(s) that represent a safety emergency, along with a description of the procedures that will be followed to detect a safety emergency in a timely manner;

**Section 2.0:** Definition of the responsible persons, their respective responsibilities, and notification procedures in the event of a safety emergency involving the CCR unit(s);

**Section 3.0:** Contact information of emergency responders;

**Section 4.0:** Provide site maps which delineate the downstream areas which would be affected in the event of an East and West Ash Ponds failure and a physical description of the CCR Units;

**Section 5.0:** Include provisions for an annual face-to-face meeting or exercise between representatives of Waukegan Station, and local emergency responders; and

**Section 6.0:** The owner or operator of the CCR unit(s) must obtain a certification from a qualified professional engineer stating that the written EAP, and any subsequent amendment of the EAP, meets the requirements of paragraph (a)(3) of this section.



Civil & Environmental Consultants, Inc.

## **1.0 DEFINITION OF THE EVENTS THAT REPRESENT A SAFETY EMERGENCY**

The following tables define the events and/or circumstances involving the East and West Ash Ponds that represent a safety emergency, along with a description of the procedures that will be followed to detect a safety emergency in a timely manner.

The information provided in Tables 1 through 4 provides a listing of problems which may occur at the East and West Ash Ponds, how to make a rapid evaluation of the problem, and what action should be taken in response to the problem. This section presents only generalized information to aid in first response to a given problem. Suspected problems should be reported as soon as possible, as discussed in Section 2.0, and assistance from a qualified engineer should be obtained if necessary.

The problems outlined in this Section are related to above grade, earthen type embankment dams similar in construction to the East and West Ash Ponds. The problems discussed herein include:

- Table 1: Seepage;
- Table 2: Sliding;
- Table 3: Cracking; and
- Table 4: Animal Burrows and Holes.

For each problem, the indicators are discussed followed by evaluation techniques and then by action items for each problem.

**Table 1: East and West Ash Ponds Event Definition, Evaluation and Action: Seepage**

<b>Definition</b>	<b>Evaluation</b>	<b>Action</b>
1A: Wet area on downstream embankment slope or other area downstream of the embankment, with very little or no surface water or very minor seeps.	1B: Condition may be caused by infiltration of rainwater, which is not serious; or may be the start of a serious seepage problem, which would be indicated by a quick change to one of the conditions below.	1C: No immediate action required. Note the location for future comparison.
2A: Same wet area as above, with moderate seeps of clear or relatively clear water and the rate of flow not increasing.	2B: Measure the flow periodically and note changes in clarity.	2C: No immediate action required. Note the location, flow rate, and clarity for future comparison. During reservoir flood stages, the seepage area should be watched for changes.
3A: Same wet area as above, with moderate seeps of clear or relatively clear water and rate of flow increasing.	3B: Measure the flow periodically and note changes in clarity. Inspect downstream area for new seeps.	3C: Contact a qualified engineer (see Table 5) for immediate inspection. Observe the condition constantly for further changes in flow rate or clarity, unless notified otherwise by the engineer.
4A: Piping (seepage with the removal of materials from the foundation or embankment), moderate to active flows of cloudy to muddy water.	4B: If the water is cloudy to muddy, and the rate of flow is increasing, this condition could lead to failure of the dam. If, along the piping, there is an upstream swirl (whirlpool) caused by water entering through the abutments of embankment, failure is imminent.	4C: Immediate action is necessary. Notify the appropriate agencies (see Table 5).
5A: Boils (soil particles deposited around a water exit forming a cone, varying from a few inches in diameter spaced 2 to 3 feet apart to isolated locations several feet in diameter in the floodplain downstream of the dam) may show the types of flow as noted above.	5B: Evaluation of the problem is the same as noted above for the various flow conditions, i.e., clear and constant, clear and increasing, and cloudy or muddy and increasing.	5C: Actions to be taken are essentially the same as those noted above.

**Table 2: East and West Ash Ponds Event Definition, Evaluation and Action: Sliding**

<b>Indicator</b>	<b>Evaluation</b>	<b>Action</b>
1A: Movement of a portion of the embankment, either the upstream or downstream slope, toward the toe of the dam.	1B: Various degrees of severity of a slide require different responses. The first condition is that the slide does not pass through the crest and does not extend into the embankment for more than 5 feet., measured perpendicular to the slope.	1C: For this condition, a qualified engineer (see Table 5) should be consulted before repairs are initiated to determine the cause of the slide and to recommend modifications to prevent future slides. The downstream side of the dam should be watched for the emergence of water, either through the slide or opposite the slide. If water is noted discharging, the area should be treated as a seepage location and monitored as noted above.
2A: Slide passes is the second condition.	2B: In this condition, the slide passes through the crest and that the reservoir elevation is more than 10 feet below the lowered crest.	2C: Use the same actions as noted above, and notify the appropriate MWG personnel (see Table 5) of the situation so they may be prepared to act if the condition worsens.
3A: Slide passes is also the third condition.	3B: In this condition, the slide passes through the crest and that the reservoir elevation is less than 10 feet below the lowered crest.	3C: This condition is critical, and failure of the dam should be considered imminent. Notify the appropriate agencies (see Table 5).

**Table 3: East and West Ash Ponds Event Definition, Evaluation and Action: Cracking**

<b>Indicator</b>	<b>Evaluation</b>	<b>Action</b>
1A: Cracks in the embankment can occur either in the longitudinal (along the length of the dam) or transverse (across the dam from upstream to downstream directions).	1B: Some cracking of the surface soils may occur when they become dry. This cracking is to be expected, and no further action is required.	1C: No further action is required.
2A: Longitudinal cracking can indicate the beginning of a slide or be an uneven settlement of the embankment.	2B: Monitor the crack for future changes, and contact a qualified engineer for assistance in the evaluation of the crack and recommended repairs.	2C: Contact a qualified engineer for assistance and recommendations (see Table 5).
3A: Transverse cracking can indicate uneven settlement or the loss of support below the crack. Such cracks usually occur over an outlet conduit, near the abutments, or in the taller portion of the embankment.	3B: Monitor the crack for future changes, and contact a qualified engineer for assistance in the evaluation of the crack and recommended repairs.	3C: Contact a qualified engineer for assistance and recommendations (see Table 5).

**Table 4: East and West Ash Ponds Event Definition, Evaluation and Action: Animal Burrows and Holes**

<b>Indicator</b>	<b>Evaluation</b>	<b>Action</b>
1A: Holes in the embankment, varying in size from about one inch in diameter to one foot in diameter caused by animals.	1B: If the holes do not penetrate through the embankment, the situation is usually not serious. Some animal holes will have soil pushed out around the hole in a circular fashion, which may look like a boil (crayfish or crawdad). Watch for the movement of water and soil particles from these holes to determine whether they are boils.	1C: Backfill as deeply as possible with impervious material. If rodents become a nuisance, an effective rodent control program, as approved by the Illinois Department of Natural Resources District Wildlife Biologist, should be implemented.

## **2.0 RESPONSIBLE PERSONS, RESPECTIVE RESPONSIBILITIES AND NOTIFICATION PROCEDURES**

The EAP must be implemented once events or circumstances involving the CCR unit that represent a safety emergency are detected, including conditions identified during periodic structural stability assessments, annual inspections, and inspections by a qualified person. The following sections define responsible persons, their respective responsibilities, and notification procedures in the event of a safety emergency involving the Ponds. Contact information is provided in Table 5, attached.

### **2.1 Responsible Persons and Responsibilities**

Appropriate parties will be notified based on the nature and severity of the incident as determined by the Station environmental specialist. If failure is imminent or has occurred, notification and mitigation procedures are a top priority, particularly for a potentially hazardous situation. The Station environmental specialist, in conjunction with the Station director, is responsible for this determination.

### **2.2 Notification Sequence**

The following notification procedures shall be used by employees in the event of a safety emergency with the East and West Ash Ponds.

- (1) Notify the operations supervisor and environmental specialist, or alternate.
- (2) If unsafe conditions exist, the employee should evacuate the area.
- (3) Only the environmental specialist or designated alternate shall have any official communication with non-employees or regulatory agencies, and only the communications director shall have any contact with the media.

The environmental specialist or designated alternate should follow these procedures in the event of a safety emergency involving the East and West Ash Ponds:

- (1) Organize appropriately trained Station personnel and/or other employees or contractors as necessary to assist with the safety emergency.
- (2) After consultation with appropriately trained Station personnel, contact the proper civil authorities (e.g., fire, police, etc.) if necessary. Notify the appropriate agencies where there has been a reportable release of material(s) into the environment. See Table 5, attached for contact information. Notify MWG Corporate via the Intalex online notification system within twenty-four hours in the event of a reportable release. A reportable release is a Material Release defined as a spill or leak that materialized in the waterway. A Non-Material Release is a spill or leak that did not come into contact with the waterway.
- (3) Be prepared to evacuate the potential inundation areas at any time during the safety emergency response.
- (4) If the emergency is beyond the Facility's response capabilities, contact one or more emergency response contractors as necessary.
- (5) Corrective actions should only be performed by properly trained individuals.

### 2.3 Emergency Responders Contact Information

Contact information for emergency responders, contractors and consultants are provided in Table 5, attached. The Station environmental specialist or alternate will determine who to notify, including any affected residents and/or businesses, in the case of an imminent or actual CCR surface impoundment dam failure. The Station environmental specialist or alternate will ensure proper notifications are made.

Appropriate contractors will be utilized to assist the Station environmental specialist or alternate with mitigated actions being undertaken in order to minimize the impact of an event that has occurred.

### 3.0 **SITE MAP AND A SITE MAP DELINEATING THE DOWNSTREAM AREA**

The following section provides a physical description of the East and West Ash Ponds. A site vicinity map is provided as Figure 1, attached. Drawings depicting the locations of, and the downstream areas affected by, a potential failure of East and West Ash Ponds were prepared by Geosyntec in October 16, 2016 and are provided in Attachment A.

#### 3.1 Basin Locations and Descriptions

The East and West Ash Ponds are located in the southeastern portion of Waukegan Station (see Figure 1). The Ponds are south of the Power Block Building and Coal Pile.

From our observations and review of construction and engineering documentation provided by MWG, the Ponds are formed by embankments to the south, east and west with abroad at grade fill areas to the west. An earthen berm is located west of the West Ash Basin, which diverts storm water from areas west of the Ponds toward the south. Due to the topographic constraints, run-on to the Ponds is generally limited to the embankment crests. Physical characteristics of the East and West Ash Ponds are provided in Table 6, below.

**Table 6: Basin Characteristics**

	<b>East Ash Basin</b>	<b>West Ash Basin</b>
<b>Estimated Capacity (acre-feet)</b>	113.7	138.5
<b>Estimated Maximum Basin Depth (feet)</b>	14.5	17.5
<b>Elevation - Maximum Crest (feet msl.)</b>	603	603

#### 3.2 Delineation of Downstream Areas

The potential impacts from failure of the East and West Ash Ponds were evaluated and reported by Geosyntec in the Hazard Potential Classification Assessment (HPCA), dated October 2016. A copy of the HPCA is contained on the CCR Rule Compliance Data and Information website (<http://www.nrg.com/legal/coal-combustion-residuals/>).

Results of the HPCA indicate that both the East and West Ash Ponds are classified as significant hazard potential CCR surface impoundments. The evaluation reports the East and West Ponds are



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## **FIGURES**

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NORTH



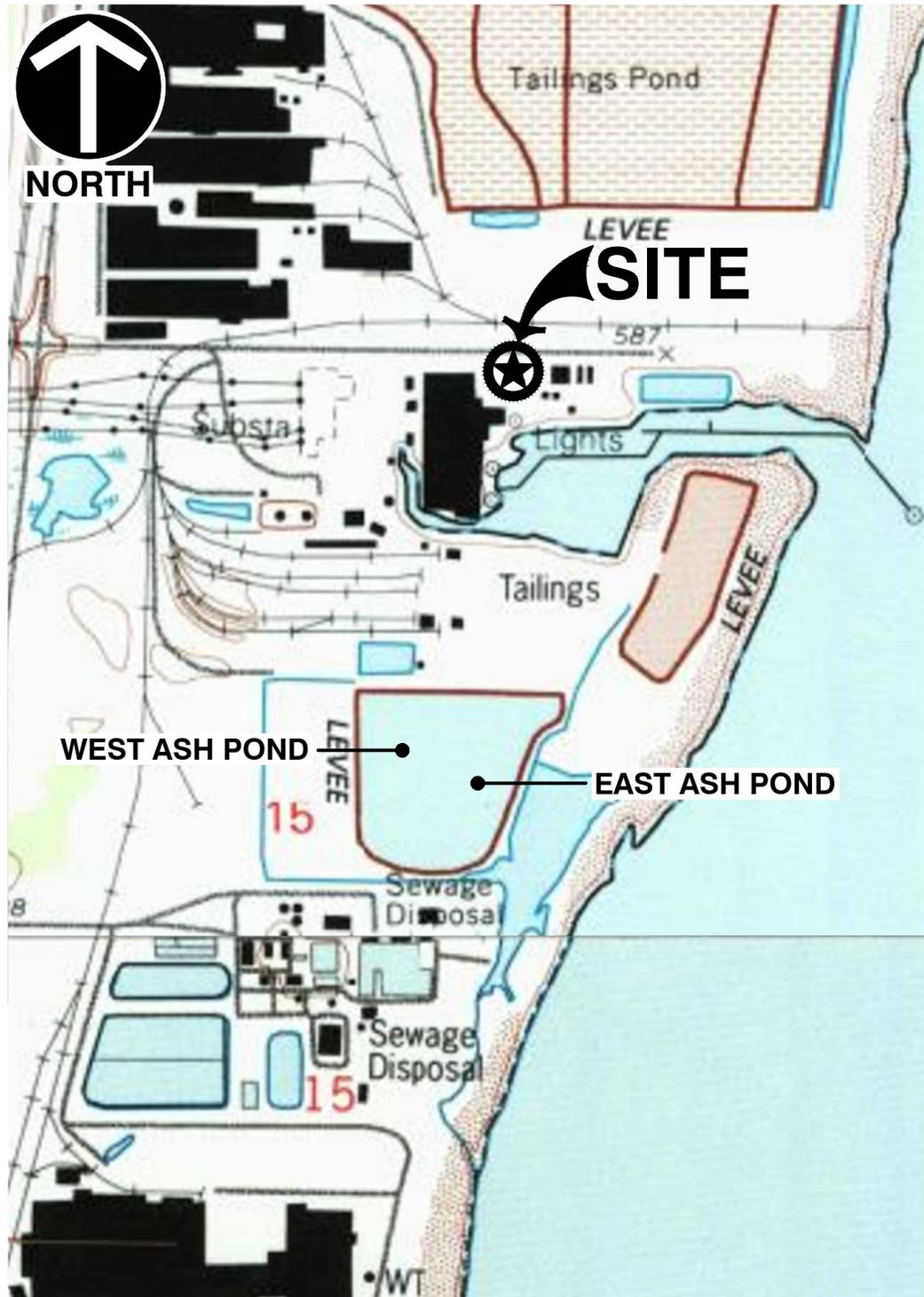
NORTH

PROJECT SITE



LOCATION KEY MAP

COUNTY MAP SOURCE:  
ILLINOIS STATE GEOLOGICAL SURVEY  
NOT TO SCALE



P:\2017\170-204\CADD\Draw\170204-CV01-Waukegan Station\170204-CV01-Site Vicinity Map.dwg[LAYOUT] LS:(4/5/2017 - mkrpff) - LP: 4/5/2017 1:28 PM

**REFERENCE**

1. U.S.G.S. 7.5' TOPOGRAPHIC MAP, ZION QUADRANGLE, ILLINOIS-WISCONSIN DATED: 1993.

\*HAND SIGNATURE ON FILE

SCALE IN FEET



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WAUKEGAN STATION  
EAST AND WEST ASH PONDS  
WAUKEGAN, ILLINOIS

SITE VICINITY MAP

DRAWN BY: MSK	CHECKED BY: MDJ	APPROVED BY: MDJ*	FIGURE NO.:
DATE: 04/05/2017	DWG SCALE: 1"=1000'	PROJECT NO: 170-204.0100	<b>1</b>

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**TABLE 5**

**EAP NOTIFICATION LIST**

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**Table 5: Midwest Generation Waukegan Station CCR Surface Impoundment EAP Notification List**

**Emergency Coordinators**

**Phone Number**

**Plant Contacts:**

Name	Title	Contact Info
Mr. Mark Wehling	Environmental Specialist	Office: 847-599-2201 Cell: 847-456-9631
Mr. Mike Brown	Operations Supervisor	Office: 847-599-7610 Cell: 847-456-8334
Mr. Chris Lux	Operations and Maintenance Manager	Office: 847-599-2243 Cell: 847-456-4641
Mr. Phillip Rausch	Plant Manager	Office: 815-372-4512 Cell: 815-715-8532

**Corporate Support:**

Name	Title	Contact Info (Cell Phone #)
Ms. Sharene Shealey	Director, Environmental Policy PJM West	724-255-3220
Mr. Tony Shea	Director - Environmental Compliance	609-651-6478
Mr. David Schrader	Senior Manager Communications (point of public contact)	267-295-5768

**Emergency Response Agencies:**

Agency	Address	Contact Info
National Response Center (NRC)	NA	800-424-8802
Illinois Department of Natural Resources, Office of Water Resources	One Natural Resources Way, 2nd Floor Springfield, Illinois 62702-1271	8:30AM-5:00PM 217-785-3334
Illinois Emergency Management Agency (IEMA)	110 East Adams Springfield, Illinois 62701	800-782-7860
Illinois Environmental Protection Agency (IEPA)	Bureau of Water 1021 North Grand Avenue East Springfield, Illinois 62794	217-782-3637
Lake County Emergency Management Agency Operations Center	1303 North Milwaukee Avenue Libertyville, Illinois 60048	Phone: 847-377-7100 24-Hour: 911
Lake County ETSB: Dispatches to Fire, Police and Emergency Medical services	1300 Gilmer Road Volo, Illinois 60073	Emergency: 9-1-1 Non-Emergency: 847-487-8163
Waukegan Police Department	1101 Belvidere Street Waukegan, Illinois 60085	Emergency: 9-1-1 Non-Emergency: 847-360-9000
Waukegan Fire Department	101 North West Street Waukegan, Illinois 60085	Emergency: 9-1-1 Non-Emergency: 847-249-5410

**Environmental Response Contractors/Consultants:**

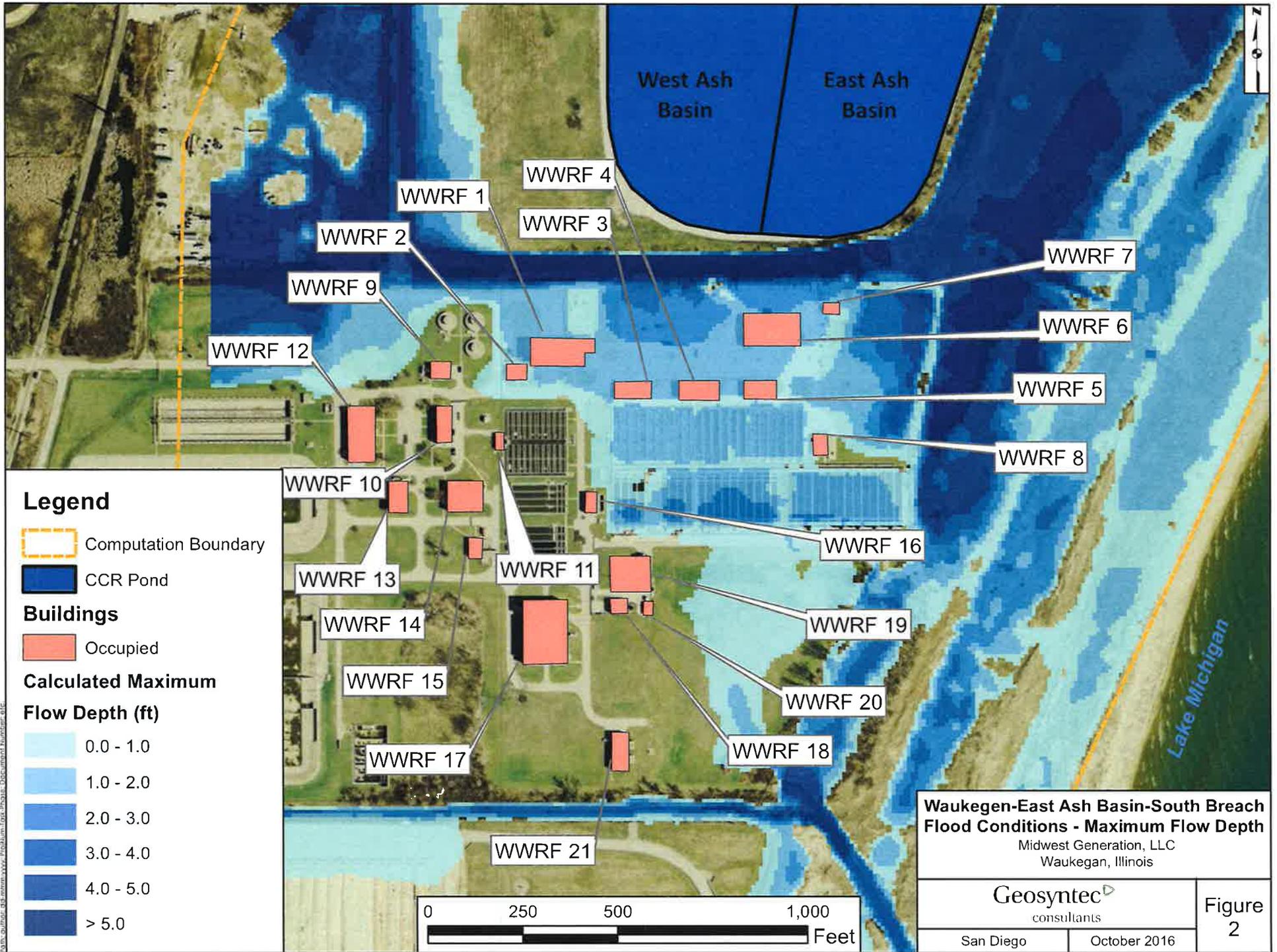
Contractor/Consultant	Address	Contact Info
Civil & Environmental Consultants, Inc.	1230 East Diehl Road · Suite 200 · Naperville, Illinois 60563	630-963-6026
SET Environmental - Project Manager - JR Bonnot	450 Sumac Road Wheeling, Illinois 60090	847-850-1056
SET Environmental 24-hour Emergency Response		877-437-7455

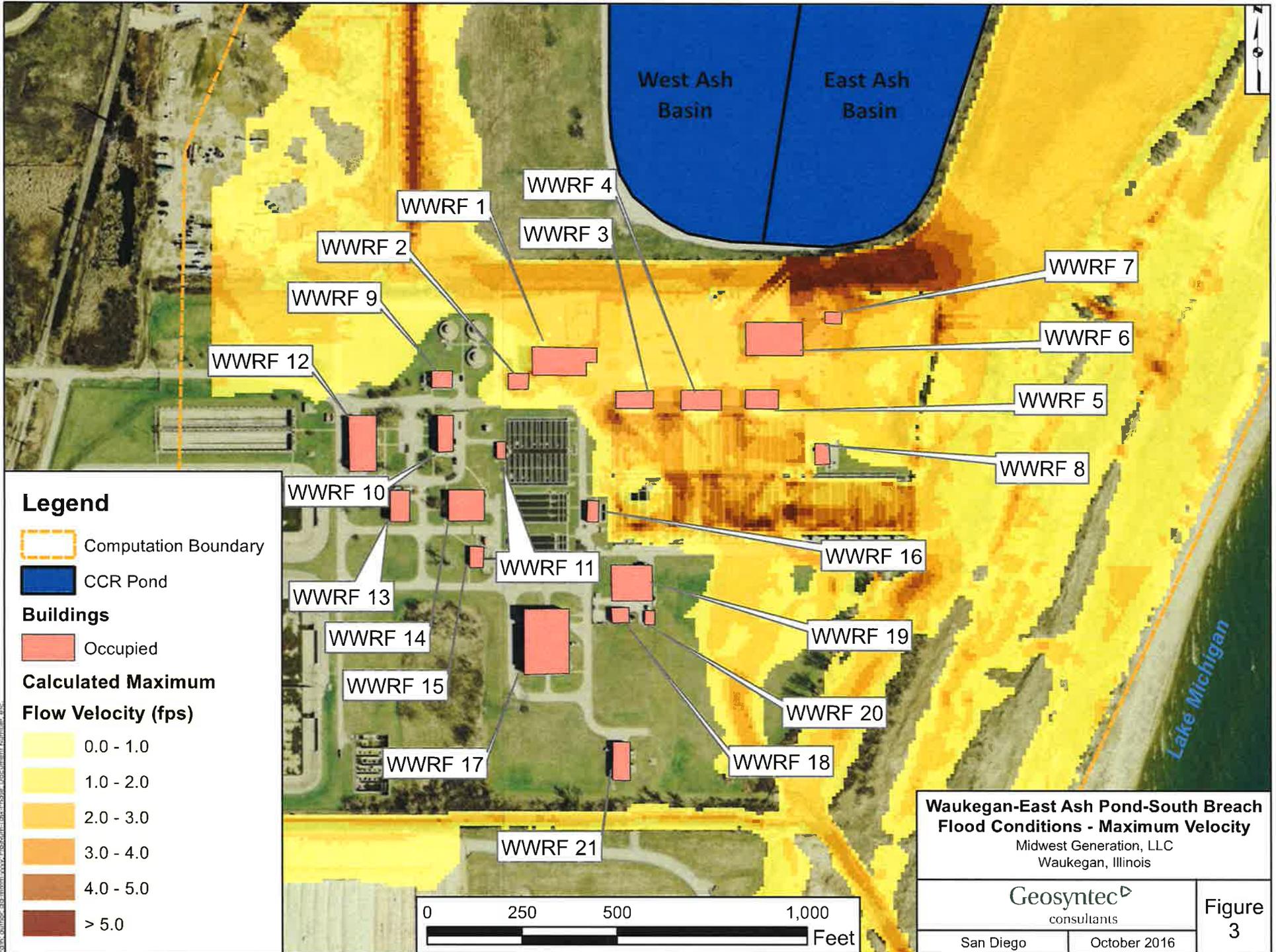
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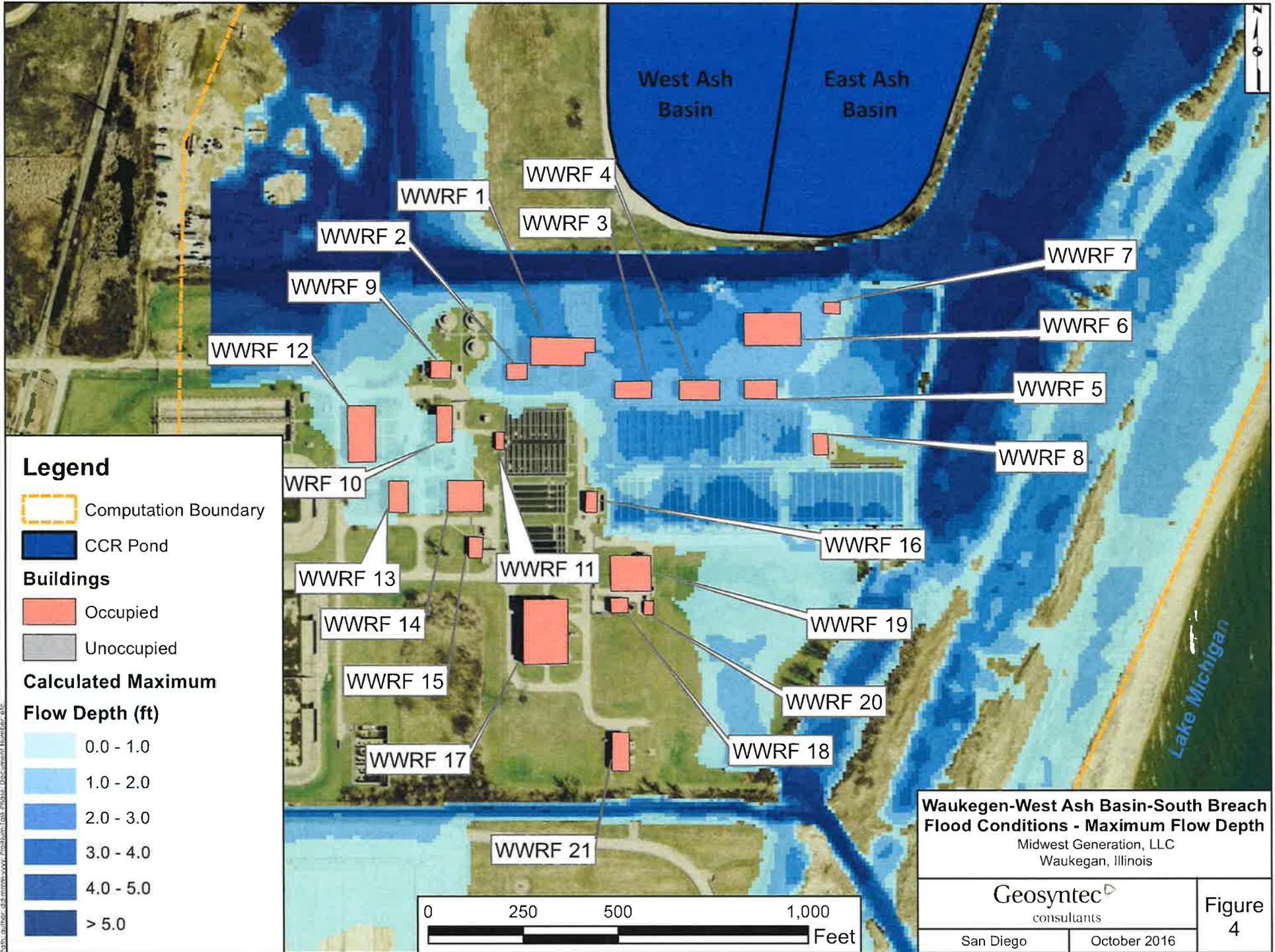
**APPENDIX A**

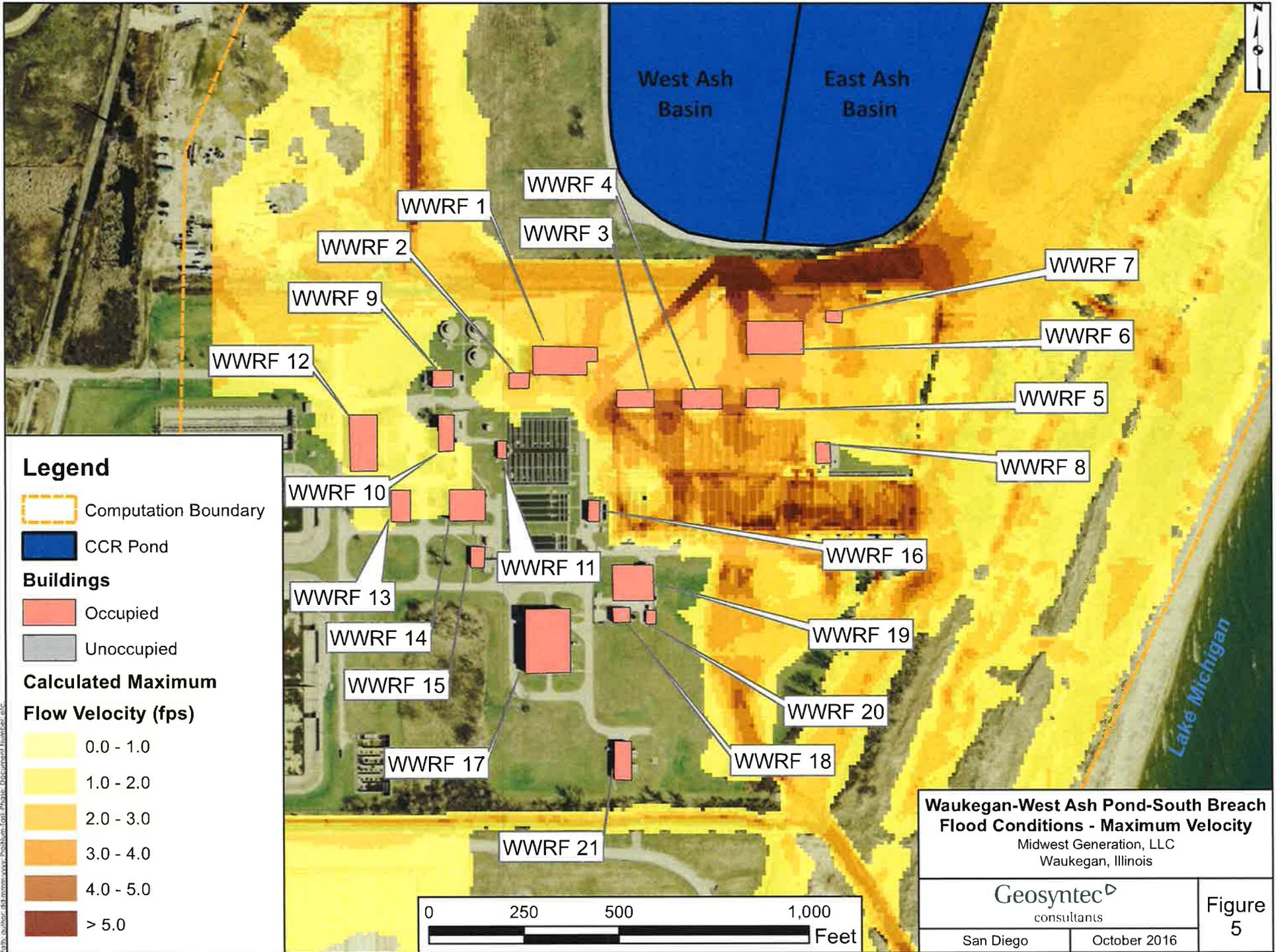
**GEOSYNTEC HPCA INUNDATION MAPS**

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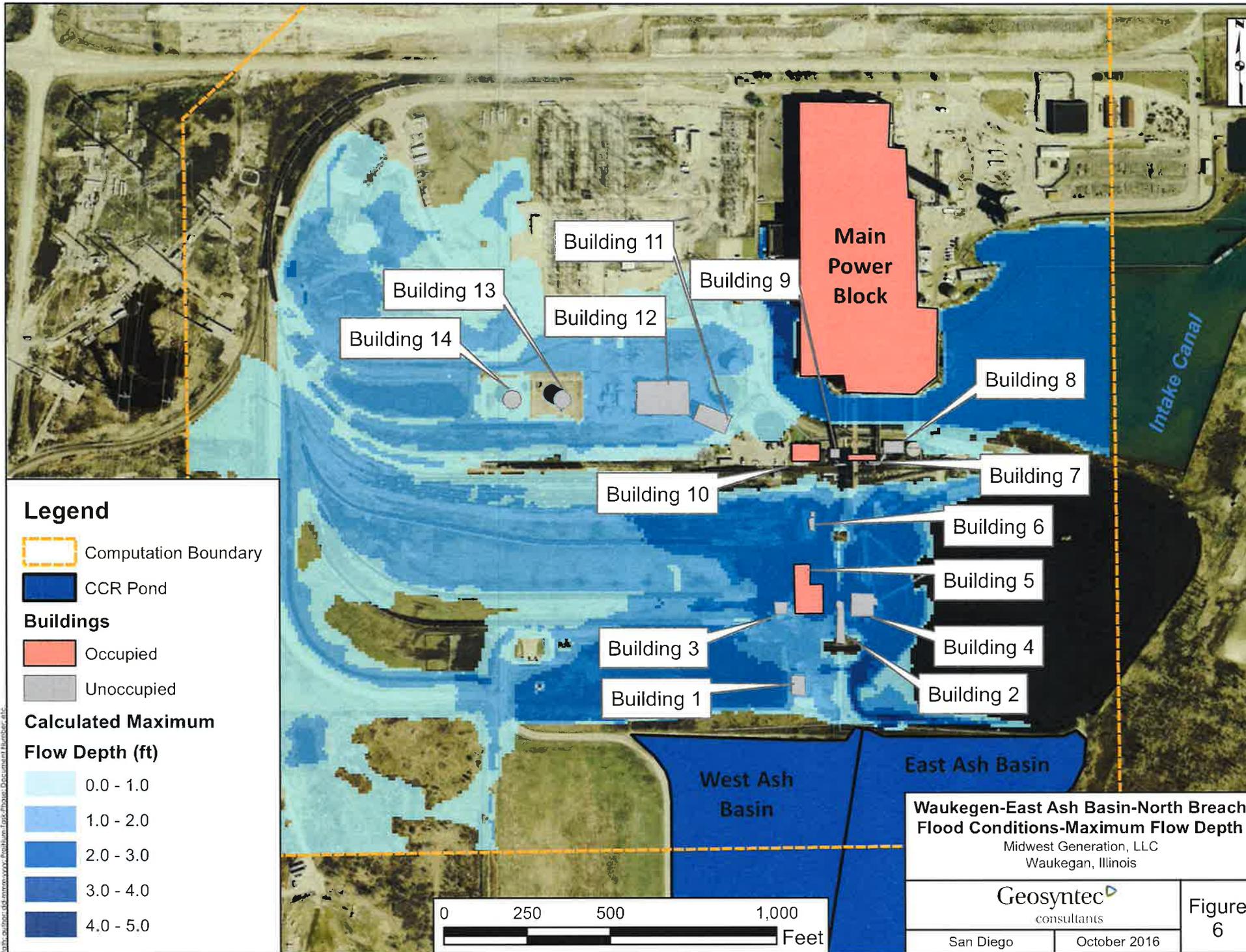




**Waukegan-West Ash Pond-South Breach Flood Conditions - Maximum Velocity**  
 Midwest Generation, LLC  
 Waukegan, Illinois

Geosyntec<sup>®</sup>  
 consultants  
 San Diego      October 2016

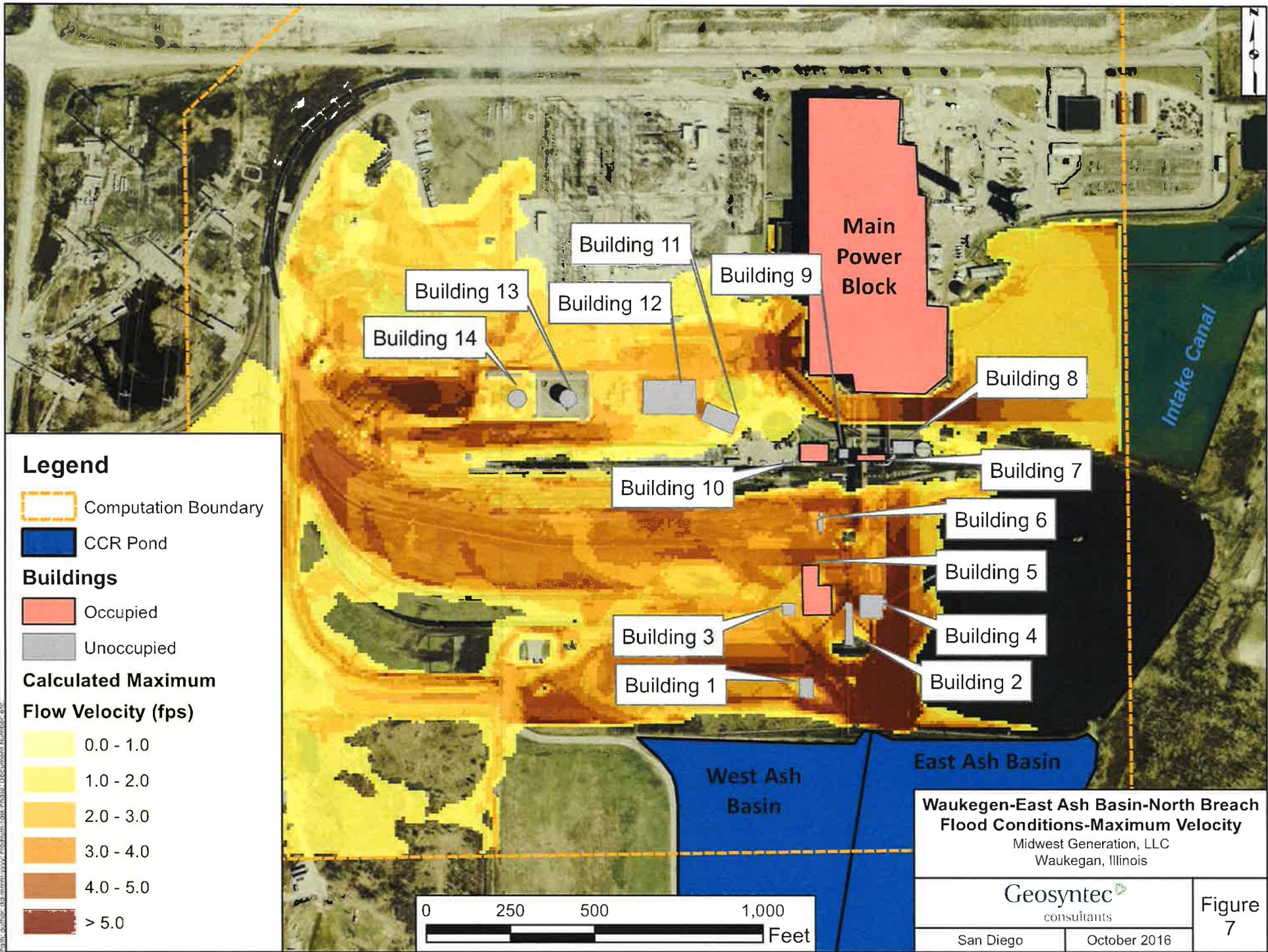
Figure  
 5



**Waukegen-East Ash Basin-North Breach Flood Conditions-Maximum Flow Depth**  
 Midwest Generation, LLC  
 Waukegan, Illinois

Geosyntec  
 consultants  
 San Diego      October 2016

Figure  
 6



**Waukegen-East Ash Basin-North Breach  
Flood Conditions-Maximum Velocity**  
Midwest Generation, LLC  
Waukegan, Illinois

Geosyntec  
consultants  
San Diego      October 2016

Figure  
7

