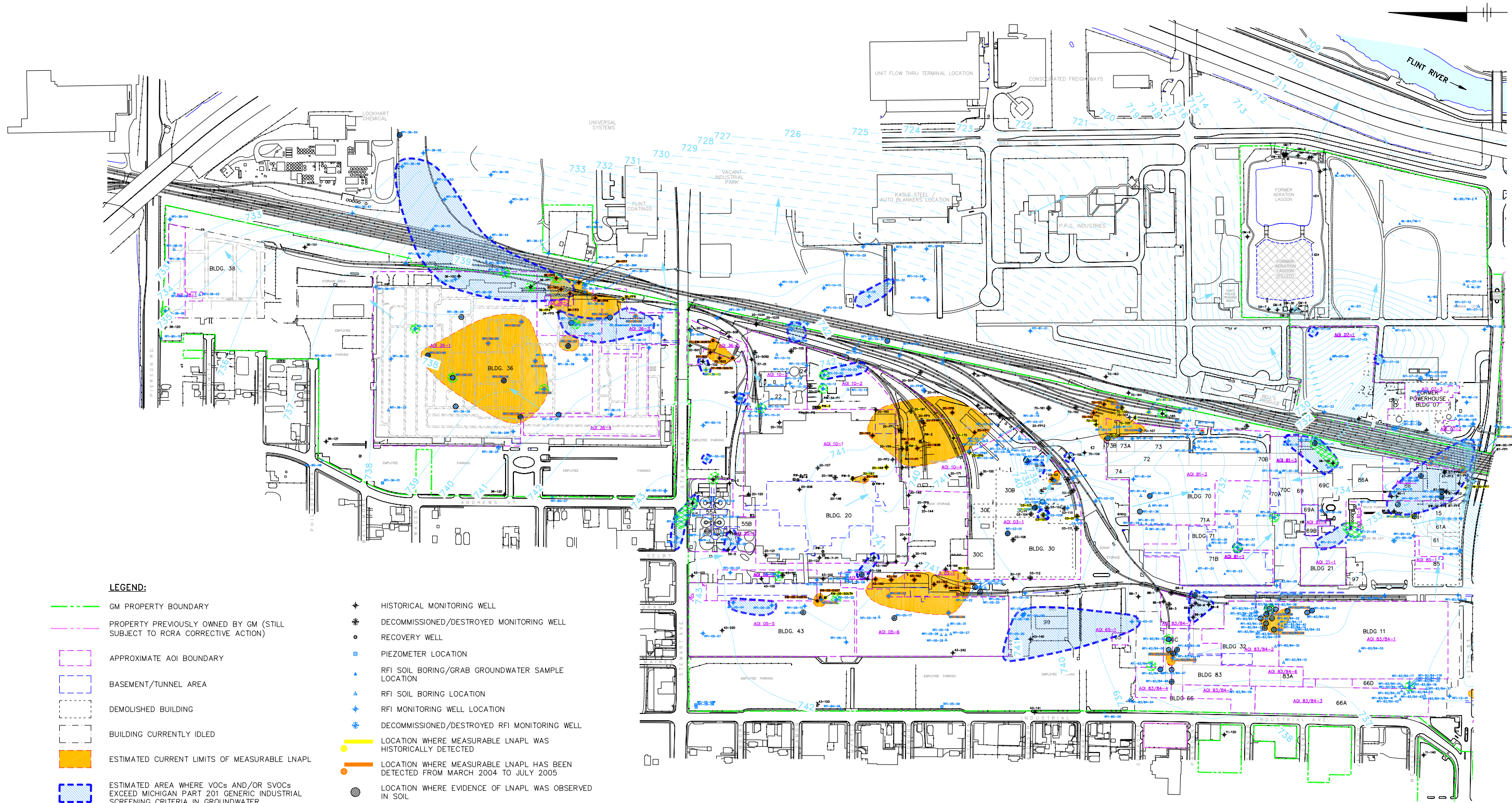


US EPA ARCHIVE DOCUMENT



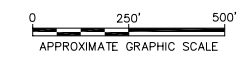
JULY 2006

**LEGEND:**

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- APPROXIMATE AOI BOUNDARY
- BASEMENT/TUNNEL AREA
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- ESTIMATED AREA WHERE VOCs AND/OR SVOCs EXCEED MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA IN GROUNDWATER
- ESTIMATED AREA WHERE INORGANICS EXCEED MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA IN GROUNDWATER
- + HISTORICAL MONITORING WELL
- + DECOMMISSIONED/DESTROYED MONITORING WELL
- o RECOVERY WELL
- PIEZOMETER LOCATION
- ▲ RFI SOIL BORING/GRAB GROUNDWATER SAMPLE LOCATION
- ▲ RFI SOIL BORING LOCATION
- + RFI MONITORING WELL LOCATION
- + DECOMMISSIONED/DESTROYED RFI MONITORING WELL
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- GENERALIZED GROUNDWATER FLOW DIRECTION
- 739 DECEMBER 2004 GROUNDWATER ELEVATION CONTOUR (IN FEET)

**NOTES:**

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ INC., DATED APRIL 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.
3. ANALYTICAL DATA SHOWN ARE FROM MOST RECENT SAMPLING EVENT AT EACH LOCATION. ESTIMATED LIMITS OF MEASURABLE LNAPL BASED ON MEASUREMENTS FROM MARCH 2004 TO JULY 2005.



X: 64410X01, X02, X3A, X06, X24.DWG  
 L: ON=\*, OFF=\*REF\*, [SHD]-BUILDING, \*HIST\_SB  
 P: PAGESET/SYR-DL  
 7/11/06 SYR-85-NES LAF GMS  
 64410112/RFI-06/64410B06.DWG

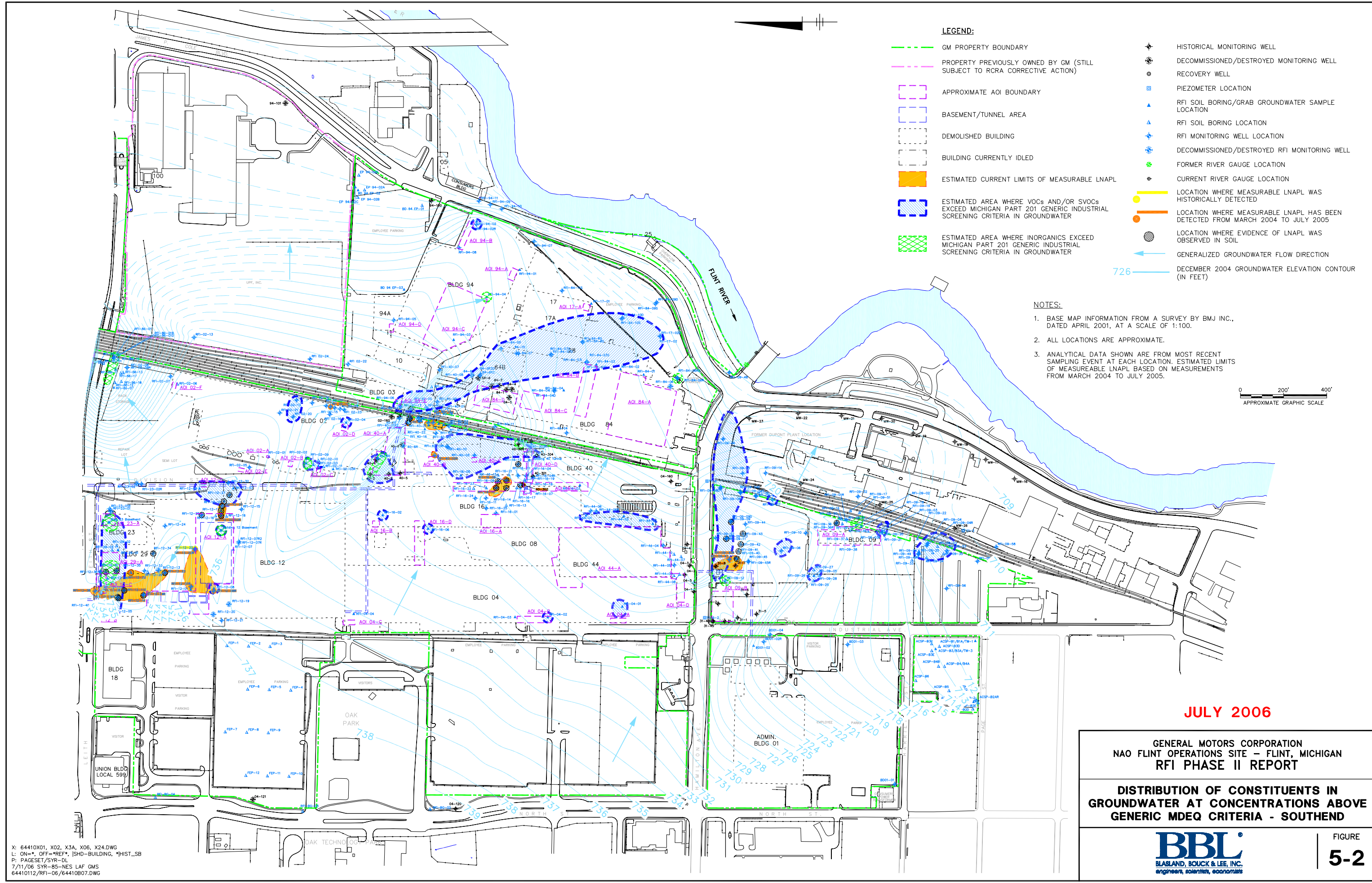
**GENERAL MOTORS CORPORATION  
 NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN  
 RFI PHASE II REPORT**

**DISTRIBUTION OF CONSTITUENTS IN  
 GROUNDWATER AT CONCENTRATIONS ABOVE  
 GENERIC MDEQ CRITERIA - NORTHEND**

**BBL**  
 BLASLAND, BOUCK & LEE, INC.  
 engineers, scientists, economists

FIGURE  
**5-1**



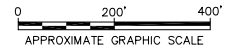


**LEGEND:**

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- APPROXIMATE AOI BOUNDARY
- BASEMENT/TUNNEL AREA
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- ESTIMATED AREA WHERE VOCs AND/OR SVOCs EXCEED MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA IN GROUNDWATER
- ESTIMATED AREA WHERE INORGANICS EXCEED MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA IN GROUNDWATER
- + HISTORICAL MONITORING WELL
- ⊕ DECOMMISSIONED/DESTROYED MONITORING WELL
- RECOVERY WELL
- ⊠ PIEZOMETER LOCATION
- ▲ RFI SOIL BORING/GRAB GROUNDWATER SAMPLE LOCATION
- △ RFI SOIL BORING LOCATION
- + RFI MONITORING WELL LOCATION
- ⊕ DECOMMISSIONED/DESTROYED RFI MONITORING WELL
- + FORMER RIVER GAUGE LOCATION
- + CURRENT RIVER GAUGE LOCATION
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- GENERALIZED GROUNDWATER FLOW DIRECTION
- DECEMBER 2004 GROUNDWATER ELEVATION CONTOUR (IN FEET)

**NOTES:**

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ INC., DATED APRIL 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.
3. ANALYTICAL DATA SHOWN ARE FROM MOST RECENT SAMPLING EVENT AT EACH LOCATION. ESTIMATED LIMITS OF MEASURABLE LNAPL BASED ON MEASUREMENTS FROM MARCH 2004 TO JULY 2005.



**JULY 2006**

**GENERAL MOTORS CORPORATION**  
**NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN**  
**RFI PHASE II REPORT**  
  
**DISTRIBUTION OF CONSTITUENTS IN**  
**GROUNDWATER AT CONCENTRATIONS ABOVE**  
**GENERIC MDEQ CRITERIA - SOUTHEND**

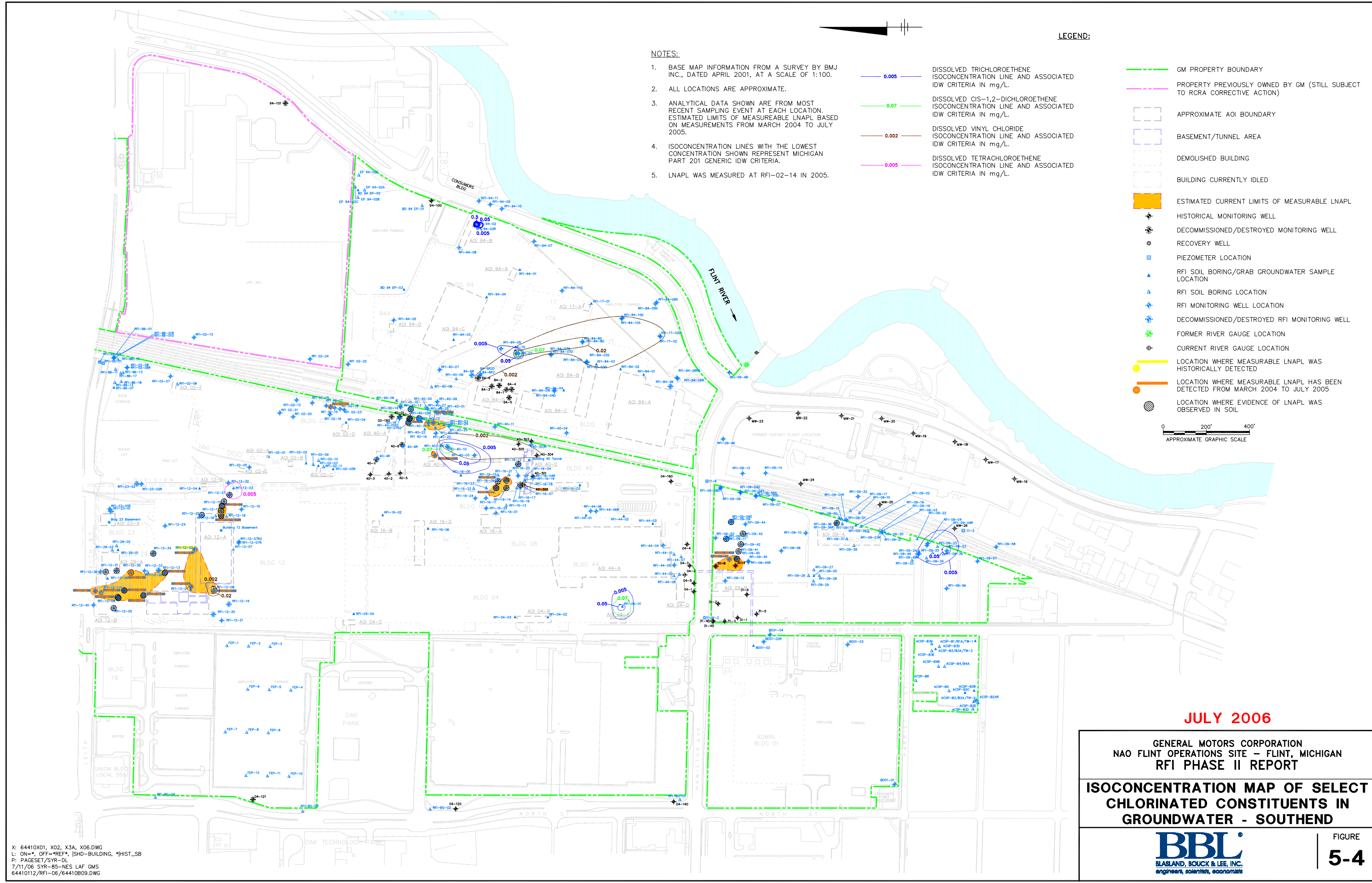


FIGURE  
**5-2**

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L: ON=\*, OFF=\*REF\*, [SHD]-BUILDING, \*HIST\_SB  
P: PAGESET/SYR-DL  
7/11/06 SYR-85-NES LAF GMS  
64410112/RFI-06/64410B07.DWG







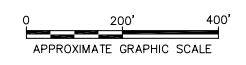
**NOTES:**

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ INC., DATED APRIL 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.
3. ANALYTICAL DATA SHOWN ARE FROM MOST RECENT SAMPLING EVENT AT EACH LOCATION. ESTIMATED LIMITS OF MEASUREABLE LNAPL BASED ON MEASUREMENTS FROM MARCH 2004 TO JULY 2005.
4. ISOCONCENTRATION LINES WITH THE LOWEST CONCENTRATION SHOWN REPRESENT MICHIGAN PART 201 GENERIC IDW CRITERIA.
5. LNAPL WAS MEASURED AT RFI-02-14 IN 2005.

- 0.005 DISSOLVED TRICHLOROETHENE ISOCONCENTRATION LINE AND ASSOCIATED IDW CRITERIA IN mg/L
- 0.07 DISSOLVED CIS-1,2-DICHLOROETHENE ISOCONCENTRATION LINE AND ASSOCIATED IDW CRITERIA IN mg/L
- 0.002 DISSOLVED VINYL CHLORIDE ISOCONCENTRATION LINE AND ASSOCIATED IDW CRITERIA IN mg/L
- 0.005 DISSOLVED TETRACHLOROETHENE ISOCONCENTRATION LINE AND ASSOCIATED IDW CRITERIA IN mg/L

**LEGEND:**

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- APPROXIMATE AOI BOUNDARY
- BASEMENT/TUNNEL AREA
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- ESTIMATED CURRENT LIMITS OF MEASUREABLE LNAPL
- HISTORICAL MONITORING WELL
- DECOMMISSIONED/DESTROYED MONITORING WELL
- RECOVERY WELL
- PIEZOMETER LOCATION
- RFI SOIL BORING/GRAB GROUNDWATER SAMPLE LOCATION
- RFI SOIL BORING LOCATION
- RFI MONITORING WELL LOCATION
- DECOMMISSIONED/DESTROYED RFI MONITORING WELL
- FORMER RIVER GAUGE LOCATION
- CURRENT RIVER GAUGE LOCATION
- LOCATION WHERE MEASUREABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE MEASUREABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL



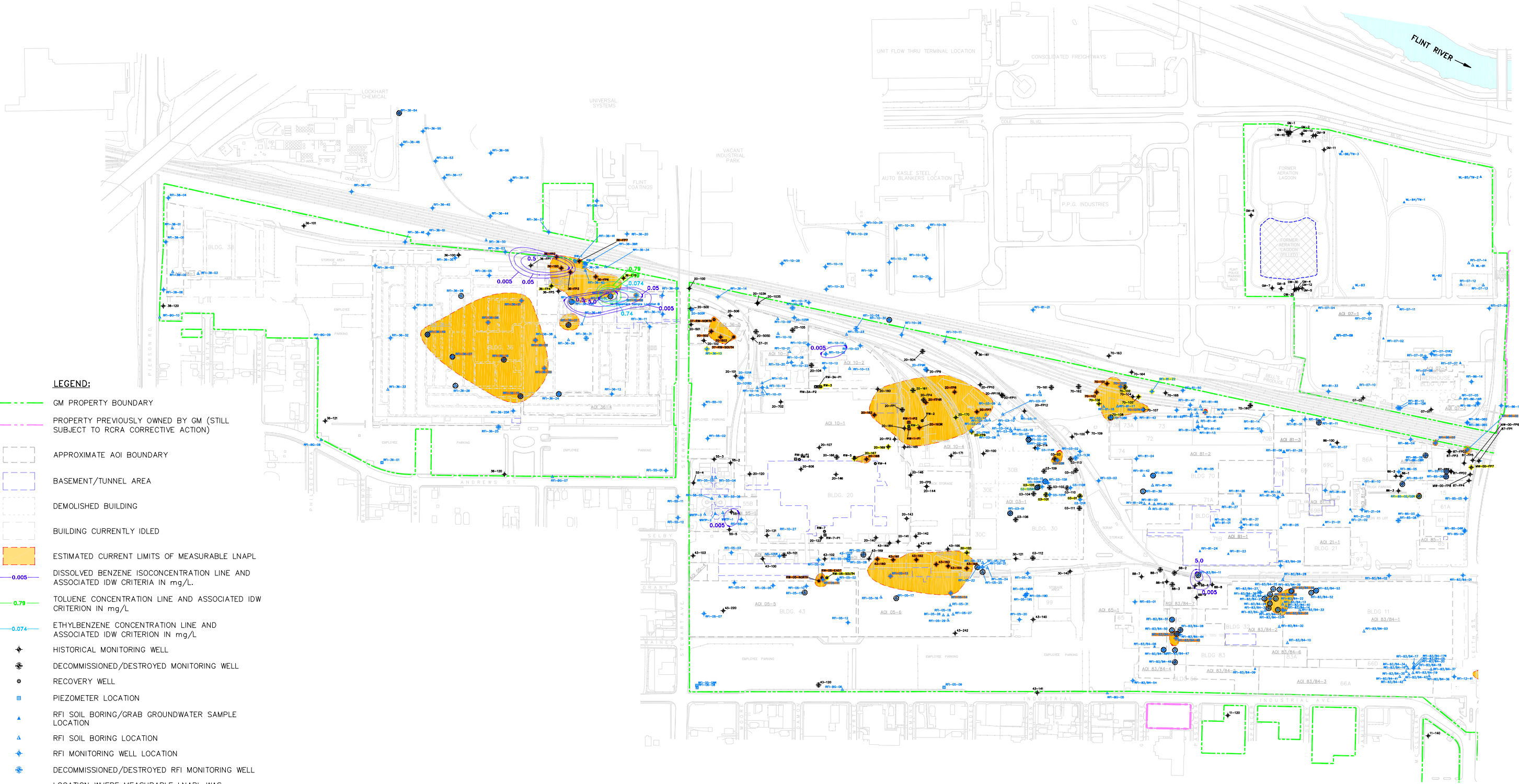
**JULY 2006**

GENERAL MOTORS CORPORATION  
 NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN  
 RFI PHASE II REPORT  
**ISOCONCENTRATION MAP OF SELECT CHLORINATED CONSTITUENTS IN GROUNDWATER - SOUTHEND**



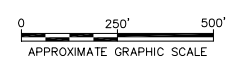
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 L: ON=\*, OFF=\*REF\*, [SHD]-BUILDING, \*HIST\_SB  
 P: PAGESET/SYR-DL  
 7/11/06 SYR-85-NES LAF GMS  
 64410112/RFI-06/64410B09.DWG





**LEGEND:**

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- APPROXIMATE AOI BOUNDARY
- BASEMENT/TUNNEL AREA
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 0.005 DISSOLVED BENZENE ISOCONCENTRATION LINE AND ASSOCIATED IDW CRITERIA IN mg/L.
- 0.79 TOLUENE CONCENTRATION LINE AND ASSOCIATED IDW CRITERION IN mg/L
- 0.074 ETHYLBENZENE CONCENTRATION LINE AND ASSOCIATED IDW CRITERION IN mg/L
- + HISTORICAL MONITORING WELL
- ⊗ DECOMMISSIONED/DESTROYED MONITORING WELL
- RECOVERY WELL
- ⊗ PIEZOMETER LOCATION
- ▲ RFI SOIL BORING/GRAB GROUNDWATER SAMPLE LOCATION
- △ RFI SOIL BORING LOCATION
- + RFI MONITORING WELL LOCATION
- ⊗ DECOMMISSIONED/DESTROYED RFI MONITORING WELL
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL



**NOTES:**

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ INC., DATED APRIL 2001, AT A SCALE OF 1:100.
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3. ANALYTICAL DATA SHOWN ARE FROM MOST RECENT SAMPLING EVENT AT EACH LOCATION. ESTIMATED LIMITS OF MEASURABLE LNAPL BASED ON MEASUREMENTS FROM MARCH 2004 TO JULY 2005.
4. ISOCONCENTRATION LINES WITH THE LOWEST CONCENTRATION SHOWN REPRESENT MICHIGAN PART 201 GENERIC IDW CRITERIA.

**JULY 2006**

**GENERAL MOTORS CORPORATION  
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN  
RFI PHASE II REPORT**

**ISOCONCENTRATION MAP OF BENZENE,  
TOLUENE AND ETHYLBENZENE IN  
GROUNDWATER - NORTHEND**




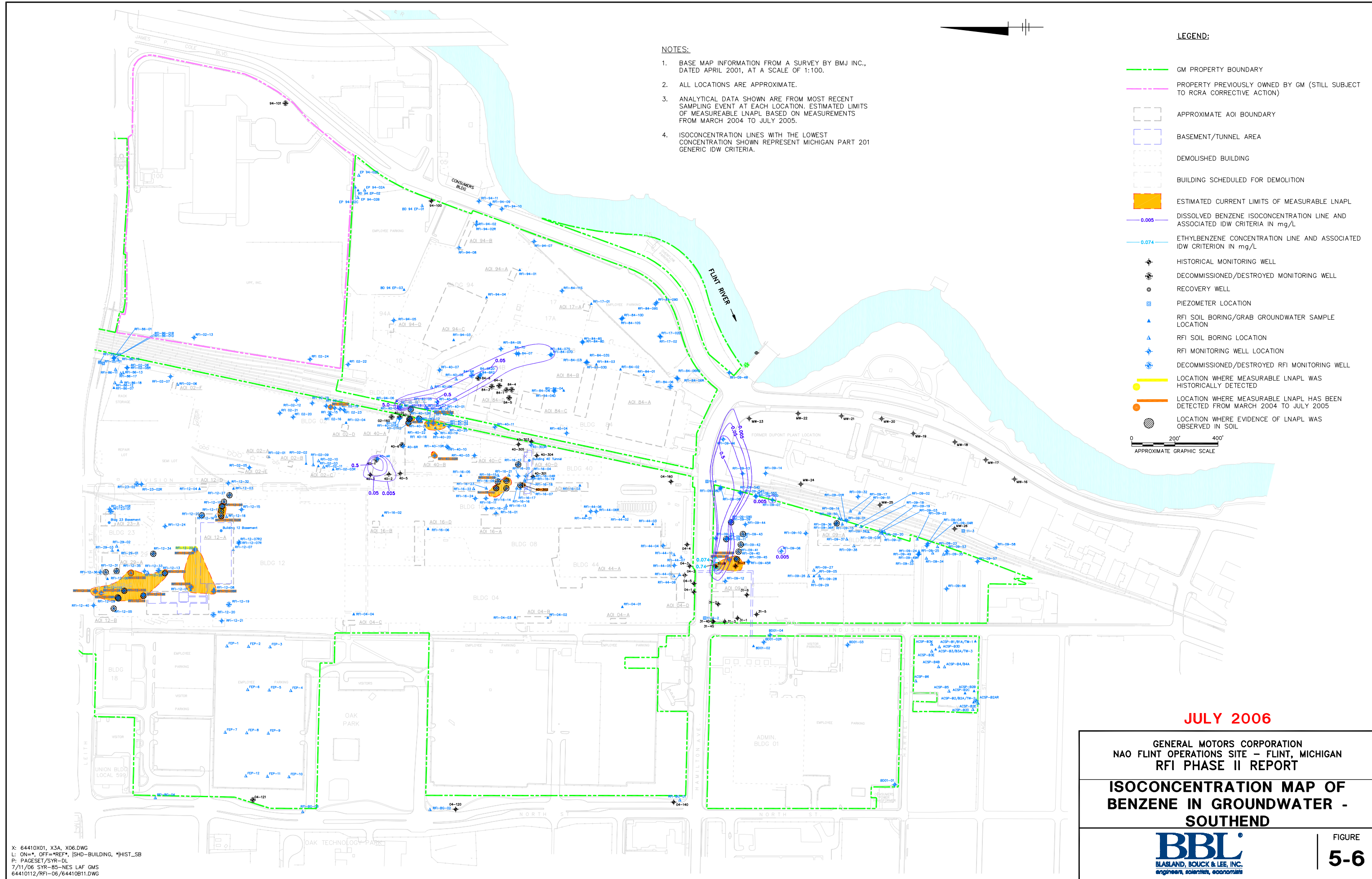
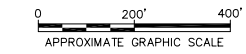
FIGURE  
**5-5**

**NOTES:**

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ INC., DATED APRIL 2001, AT A SCALE OF 1:100.
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4. ISOCONCENTRATION LINES WITH THE LOWEST CONCENTRATION SHOWN REPRESENT MICHIGAN PART 201 GENERIC IDW CRITERIA.

**LEGEND:**

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- APPROXIMATE AOI BOUNDARY
- BASEMENT/TUNNEL AREA
- DEMOLISHED BUILDING
- BUILDING SCHEDULED FOR DEMOLITION
- ESTIMATED CURRENT LIMITS OF MEASUREABLE LNAPL
- 0.005 DISSOLVED BENZENE ISOCONCENTRATION LINE AND ASSOCIATED IDW CRITERIA IN mg/L
- 0.074 ETHYLBENZENE CONCENTRATION LINE AND ASSOCIATED IDW CRITERION IN mg/L
- + HISTORICAL MONITORING WELL
- ⊗ DECOMMISSIONED/DESTROYED MONITORING WELL
- ⊙ RECOVERY WELL
- ⊠ PIEZOMETER LOCATION
- ▲ RFI SOIL BORING/GRAB GROUNDWATER SAMPLE LOCATION
- △ RFI SOIL BORING LOCATION
- + RFI MONITORING WELL LOCATION
- ⊗ DECOMMISSIONED/DESTROYED RFI MONITORING WELL
- LOCATION WHERE MEASUREABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE MEASUREABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- ⊗ LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL



**JULY 2006**

GENERAL MOTORS CORPORATION  
 NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN  
 RFI PHASE II REPORT

**ISOCONCENTRATION MAP OF  
 BENZENE IN GROUNDWATER -  
 SOUTHEND**



FIGURE  
**5-6**

X: 64410X01, X3A, X06.DWG  
 L: ON=\*, OFF=\*REF\*, [SHD]-BUILDING, \*HIST\_SB  
 P: PAGESET/SYR-DL  
 7/11/06 SYR-85-NES LAF GMS  
 64410112/RFI-06/64410B11.DWG