2012 AND 2013 SOURCE CONTROL SUMMARY FOR THE ONONDAGA LAKE BOTTOM SUBSITE
Syracuse, New York

Prepared For:

Honeywell

301 Plainfield Road, Suite 330
Syracuse, New York 13212

Prepared By:

PARSONS

301 Plainfield Road, Suite 350
Syracuse, New York 13212

In association with

O'BRIEN & GERE

DECEMBER 2013

OVERVIEW

As documented in the Onondaga Lake Record of Decision (NYSDEC, 2005), the remediation of Onondaga Lake is being coordinated with upland remedial activities. This report provides a summary of the lake capping and dredging activities performed in 2012 and anticipated to be performed in 2013, and documents the extent to which potential sources of recontamination to the 2012 and 2013 remediation areas that are controlled by Honeywell have been addressed.

The schedule goal for the lake remediation is to complete dredging to the extent practical in four years (beginning in 2012), and capping in five years (beginning 2012). A sequencing plan for the dredging and capping activities has been developed by the design team with input from the remediation contractor, as detailed in the Onondaga Lake Capping, Dredging, Habitat and Profundal Zone (SMU 8) Final Design (Parsons, 2012). Based on this sequencing plan and subsequent updates, the areas in Remediation Areas C, D, and E are anticipated to be in process or completed by the end of 2013 and are shown in Figure 1. Honeywell-controlled sources addressed in this report include:

- Area Groundwater – Attachment A
- Tributary 5A – Attachment B
- I-690 Storm Drain System – Attachment B
- Upper Harbor Brook IRM - Attachment B
- East Flume - Attachment B

As detailed in Attachments A and B, these remedial activities have been, or will be, sufficiently completed, consistent with NYSDEC-approved designs, such that the potential for lake recontamination from these sources has been mitigated.

REFERENCES

New York State Department of Environmental Conservation and United States Environmental Protection Agency Region 2. 2005. *Record of Decision. Onondaga Lake Bottom Subsite of the Onondaga Lake Superfund Site*. July 2005.

ATTACHMENT A

AREA GROUNDWATER

WILLIS AVENUE/SEMET TAR BEDS SITES IRM & WASTEBED B / HARBOR BROOK IRM HYDRAULIC BARRIER WALL AND GROUNDWATER COLLECTION SYSTEMS

Area groundwater has been addressed through construction of the Willis Avenue/Semet Tar Beds Sites (Willis/Semet) IRM and the Wastebed B/Harbor Brook IRM hydraulic control systems. These systems, each of which includes a sheet pile barrier wall and a groundwater collection system, were constructed in three phases beginning in 2006 and finishing in 2012. The systems were designed and constructed to eliminate, to the extent practicable, the discharge of contaminated groundwater and non-aqueous phase liquids (NAPL) to Onondaga Lake from the Southwest Shoreline area of Onondaga Lake (Figure 1). As detailed below, these systems were constructed consistent with the NYSDEC-approved designs. They prevent the discharge of contaminated groundwater and NAPL to the lake from this area, and have addressed the potential for groundwater upwelling to impact the Onondaga Lake sediment cap consistent with the cap design assumptions for this area.

In addition to the IRMs discussed below, dense non-aqueous-phase liquid (DNAPL) collection was initiated along the lakeshore in 1993. The system was expanded to include additional collection wells in 1995 and 2002. In 2012, the system was again expanded and the entire system upgraded and optimized. To date, over 40,000 gallons of DNAPL have been recovered and transported off-site for disposal/incineration.

Construction of the IRMs included the following elements:

- Grading, as required, to establish a work platform to allow for implementation of the IRMs
- Installation of a sealed interlock sheet pile barrier wall along the lakeshore to prevent migration of contaminated groundwater and NAPL to Onondaga Lake
- Installation of a shallow (bottom elevation of 358 ft. (NAVD 88)) groundwater collection trench with wick drains to work in conjunction with the barrier wall to prevent the discharge of contaminated groundwater and NAPL to Onondaga Lake from the shallow and intermediate depth hydrogeologic units
- Backfilling, as required, behind the barrier wall to establish required grades
- Removal/abandonment of defunct utilities in conflict with the barrier wall/trench alignment
- Realignment of the Harbor Brook channel
- Pumping collected groundwater to the Willis/Semet Groundwater Treatment Plant (GWTP) for treatment

The hydraulic control systems were constructed from west to east beginning in the vicinity of Tributary 5A and extended to the area adjacent to the CSX rail line east of Harbor Brook. The construction was completed in the following phases (Figure 1):

- Phase 1 – Installation of 1,288 linear feet of barrier wall and groundwater collection system from October 2006 to May 2007.
- Phase 2 – Installation of 1,612 linear feet of barrier wall and groundwater collection system, placement of approximately 43,000 cy of light-weight aggregate behind the barrier wall, abandonment of existing 72 inches and 84 inches diameter Allied intake pipelines from the barrier wall alignment to the shoreline, installation of an HDPE liner system along portions of the barrier wall subject to flooding during high lake water events, and installation of a tie-back anchorage system to mitigate deflection of the barrier wall in areas with deep water present outboard of the wall from August 2008 to May 2012.
- Phase 3 –Construction of a work platform, installation of a total of 4,678 linear feet of barrier wall and a groundwater collection system (1,630 ft. for the East Wall and 3,048 ft. for the West Wall), realignment of the lower reach of Harbor Brook, and replacement of the lower Harbor Brook culvert were completed from December 2009 to March 2012.

HYDRAULIC BARRIER/GROUNDWATER COLLECTION SYSTEM DESCRIPTION

The barrier walls were completed consistent with the design and prevent the discharge of contaminated groundwater and NAPL to the lake from this area by ensuring that the performance goal of creating an inward groundwater gradient is maintained. The hydraulic barrier wall is constructed of coated steel sheet piling. Every other interlock was factory seal welded to reduce the number of joints and minimize the potential for interruptions in the hydraulic barrier. Interlocks that are not seal welded were sealed with a hydrophilic material that swells 200 percent when in contact with water. All seal welds and interlocks were inspected by quality control technicians prior to installation. Sheet piling was installed a minimum of 3 ft. into a clay layer present across the site at depths ranging from 35 to 70 ft. below grade.

The groundwater collection system was installed up-gradient of the wall to collect groundwater captured behind the barrier wall. The collection system consists of the following components:

- 6-inch diameter perforated collection pipe installed at elevation 358.00 ft. (NAVD 88) in a trench backfilled with granular material
- Wick drains to transmit intermediate depth groundwater to the collection piping
- Groundwater conveyance piping
- Groundwater pump stations

- Shallow piezometers for monitoring groundwater levels adjacent to the collection trench

All groundwater collected by the system is pumped from the groundwater pump stations through the conveyance piping to the "Lakeshore Pump Station" and then to the Honeywell Willis-Semet GWTP where it is treated prior to discharge.

Based on the containment of groundwater provided by the system as described above, concerns related to potential recontamination of the cap have been addressed.

SYSTEM OPERATION

The groundwater collection system was activated as the respective phases of construction were completed. A description of system operational status for each phase is provided below.

Phase 1

- Completion of construction/activation of collection system: May 2007
- System shut-down for upgrade of collection sump piping and re-route of conveyance piping and electrical/signal wiring: October 2009 - December 2009
- System shutdown due to Onondaga Lake flooding and subsequent electrical repair: April 19, 2011 – June 1, 2011
- System shutdown due to re-route of conveyance piping and electrical/signal conduit during construction of the Phase 2 tie-back anchorage system: January 2012 – April 2012

Phase 2

- Completion of construction/activation of collection system: November 2009
- System shutdown due to Onondaga Lake flooding: April 19, 2011 – June 1, 2011
- Begin supplemental pumping utilizing a trailer mounted diesel pump extracting groundwater from a well point adjacent to the groundwater pump station to augment the groundwater collection system due to damage to collection piping: August 2011
- System shutdown due to collection piping repair and re-routing of electrical/signal conduit during construction of the Phase 2 tie-back anchorage system. Supplemental pumping (as described above) continued throughout shutdown: December 2011 – April 2012.

Phase 3

- Start-up of pumping from Collection Sumps (CS) 4 & 5 to offset construction water volumes during trench installation: August 2011
- Completion of construction/activation of collection system: April 2012

- Corrective action taken to clear obstructions within collection system: July 9 through 20, 2012

SYSTEM PERFORMANCE

Overall system performance is assessed based on groundwater elevations that are monitored in the shallow piezometers and based on the volume of groundwater collected/treated. The design goal is to maintain groundwater levels below lake levels. If discrepancies in the data are noted, they are investigated to determine their significance and if response actions are needed. Weekly average Onondaga Lake and groundwater (piezometer) elevation data for the Phases 1, 2, and 3 collection system adjacent to areas anticipated to be remediated by the end of 2013 are provided in Figures 2, 3, and 4, respectively. All elevations are presented in the NAVD 88 datum.

The ability to contain groundwater behind the wall has been demonstrated. As shown on the figures, following initial system start-up, and during normal operating periods, most Phases 1 and 2 data demonstrate groundwater levels below lake level, indicating that hydraulic capture and an inward hydraulic gradient were achieved. Occasionally water levels in the collection trench rise above lake level for short periods of time. These short term increases do not affect the ability of the overall system to maintain an inward gradient and do not pose a concern unless contaminated groundwater from the trench overtops the barrier wall and reaches the lake. The wall has never been overtopped by groundwater and the cause is investigated whenever collection trench water levels are observed rising rapidly or when they approach lake levels. Findings related to collection trench groundwater level increases or unexplained piezometer data include:

- Piezometer #3, located in the Phase 1 wall section, occasionally exceeds lake levels due to additional contributions from the I-690 storm underdrain and the west section of the temporary collection trench (a French drain) during storm events. Both of these drain into Transition Sump #2 (located in the vicinity of Piezometer #3) and flows from storm events can temporarily raise water levels in the nearby sections of the trench where Piezometer #3 is located.
- Groundwater levels along Phase 2 trench were affected by leaks in the Wastebeds 1-8 force main caused by ground settlement during the fall of 2013. A bypass pipe was installed to divert flows around the affected area in the event of future Wastebeds 1-8 force main leaks.
- Piezometers # 4 and #5 were damaged during construction of the tie-back wall and were repaired in July, 2013. Both piezometers have been functional since then, however only Piezometer 4 has been providing consistently usable data. In November 2013 both wells were examined and it was determined that sand from the nearby roadway was being washed into the wells when dust control water trucks passed. Both wells were flushed the week of November 11, 2013. The pull box on Piezometer 5 was

raised 6-inches and Piezometer 4 raised 3-inches to prevent sediment from reaching the well. In addition an extension has been added to the Piezometer 5 riser and the wire piezometer was set to match the previous depth. Both piezometers are now functioning and providing data.

- During start-up of Phase 3 in April 2012, obstructions were located in portions of the Phase 3 collection system and corrective actions taken. Immediately following implementation of the corrective actions and completion of startup in July 2012, inward hydraulic gradients consistent with those demonstrated for the Phase 1 and Phase 2 portions were documented. Power was lost to the Phase 3 data loggers in mid-October 2012 and restored in mid-December 2012; procedures have been implemented, including weekly data downloads, to verify piezometer function on a regular and frequent basis so that periods of data loss do not occur in the future.

Beginning in early 2013, to facilitate Harbor Brook remedial construction activities that will be completed this season, water from Harbor Brook construction activities was diverted into the Phase 3 collection system, which conveys the collected water to the treatment plant. During short periods in April and June this additional water resulted in an increase in groundwater levels behind some sections of the barrier wall that were higher than elevations along the sections of wall with lowest top of wall elevations. Observations at the time verified that the pumping systems were sufficient and prevented groundwater from reaching the surface and overtopping the barrier wall. As detailed above, the containment of groundwater provided by the barrier wall and the groundwater collection system addresses concerns related to potential recontamination of the cap. The ability to contain groundwater and maintain an inward gradient, even during periods where external contributions influence groundwater levels, has been demonstrated for all three Phases of the IRM and is expected to continue indefinitely.

ATTACHMENT B

TRIBUTARY 5A

I-690 STORM DRAINS

EAST FLUME

UPPER HARBOR BROOK IRM

This remediation project was undertaken to address groundwater influences to Tributary 5A and Onondaga Lake, as well as sediment migration to Onondaga Lake (Figure 5). To achieve these remedial action objectives, the project included shallow groundwater collection, sediment removal, isolation layer installation, and tributary restoration, as further described in the NYSDEC-approved Design report and subsequent revisions (O'Brien & Gere 2008). Based on work completed to date and water samples collected from the culvert in October2011 the potential for recontamination of the Onondaga Lake cap has been mitigated.

1. Work completed to date includes the following:

- Reach-1
  - » Groundwater collection and treatment at the Willis GWTP was initiated in November 2011
  - » Sediment removal and isolation layer installation was completed in May 2012
  - » Substrate and topsoil placement was completed in May 2012
- Reach-2
  - » Groundwater collection and treatment at the Willis GWTP was initiated in December 2011
  - » Sediment removal and isolation layer installation was completed in December 2011
  - » Substrate and topsoil placement was completed in March 2012
- Relocation of Semet material from Stringer Ponds to Semet Pond #2 was completed in July 2010
- CCTV inspection of culvert between Reach-2 and Onondaga Lake with subsequent wet and dry weather sampling was completed in October 2011.
- Replacement of the culvert between Reach-1 and Reach-2 was completed in September 2012
- Final restoration, including seeding and shrub planting of Reach-1 and Reach-2 was completed in March 2013.
- Reach-1 and Reach-2 pump station start-up and commissioning was completed in March 2012 for R1 and December 2012 for R2.

2. Conclusions

The work completed to date addresses the potential groundwater impacts to Tributary 5A and subsequently to Onondaga Lake. Based on the work that has been completed to date and the results of the October 2011 culvert sampling as part of this project, sources of contamination from Tributary 5A to Onondaga Lake have been addressed, thereby, mitigating the potential for recontamination of the Onondaga lake cap.

As part of the ongoing Site monitoring activities, surface water and sediment samples will be collected annually, starting in 2013. Samples will be evaluated to assess the potential impacts of Site groundwater, surface water run-off from the Site, storm sewer inputs to the tributary, potential upgradient sources, and the potential for migration of Site-related and other constituents to Onondaga Lake.

We understand that subsequent to the work described above, releases to Tributary 5A from operations related to Crucible Specialty Metals are being documented. We further understand that

these releases are being addressed by Crucible Specialty Metals under the direction of NYSDEC Region 7 personnel, and that NYSDEC may enter into a consent order with Crucible Specialty Materials to address any additional releases to the tributary in the future.

REFERENCES

O'Brien & Gere. 2008. 95% Remedial Design Report, Semet Residue Ponds Remedial Design Groundwater Remedial Alternative, Geddes, New York. Prepared for Honeywell, Morristown, NJ. December 2008.

The I-690 Storm Drain IRM has been a phased remediation. This remediation was undertaken to address groundwater influences to the eastern and western storm drain systems downgradient of the Willis Avenue and Semet Ponds Sites (Figure 6). To date, three phases have been completed that have mitigated potential impacts to the Onondaga Lake cap. A fourth phase was initiated in 2012 and was completed in 2013 to address soluble constituents detected at trace levels in the storm drain system.

1. Work completed to date includes the following:

The eastern and western I-690 storm drainage systems were investigated using closed circuit television (CCTV) prior to the implementation of Phase 1 remedial work.

Phase 1 – Eastern Portion

- Grouted joints and sealed catch basins
- Installed new manholes MH-1 and MH-2
- Rerouted Tap to DR-42
- Installed new 18-inch ductile iron pipe from DR-42x to DR-42
- Installed cured in-place pipe (CIPP) from DR-42 to MH-1

Phase 1 – Western Portion

- Installed CIPP at off-set joint downgradient of DR-40

Subsequent to the Phase 1 rehabilitation work a completion report was completed by O'Brien & Gere. The I-690 Storm Drainage System Rehabilitation Completion Report (O'Brien & Gere, 2000) was submitted to the NYSDEC in March 2000.

Phase 2 – Eastern Portion

- Re-routed taps downgradient of catch basins DR-44 and DR-46 into catch basins

Subsequent to the re-routing of the taps, a pilot study was undertaken in the eastern portion of the storm drainage system. The I-690 Storm Drainage System Phase 2 Underdrain Pilot Study was completed in July 2005. Sampling of underdrain water indicated that this water was a source of contamination and as such, needed to be separated from storm water discharges.

Phase 3 – Eastern Portion

- Installed underdrain conveyance piping and CIPP
- Conveyed underdrain water to Willis/Semet Barrier wall collection system
- Treatment of underdrain water at the Willis GWTP

Phase 3 – Western Portion

Installed CIPP from catch basin DR-40B to DR-40

Phase 4

- Cleaning and CCTV of eastern and western portions of system including sediment sumps in catch basins
- Epoxy coating of 16 catch basins and 3 manholes to address groundwater infiltration into these structures
- Soil removal and geomembrane lining of the State Fair Blvd drainage ditch
- Installation of a groundwater collection trench beneath the State Fair Blvd drainage ditch
- Treatment of collected water at the Willis GWTP.
- CIPP lining of remaining unlined portions of the eastern system
- CIPP lining of the remaining unlined portions of the western system

2. Flow monitoring/Sampling

Flow monitoring and analytical sampling was initiated in August 2011, subsequent to completion of Phase 3 construction. Flow was monitored continuously (except for a period from January 4, 2011 to March 27, 2012) in the eastern and western storm drain systems. Analytical samples have been collected twice per month (1 wet weather, 1 dry weather). The data indicates that trace concentrations of benzene, chlorobenzene, dichlorobenzenes, and mercury are still entering the system. However, flow monitoring and visual observation indicate that dry weather flows within the eastern portion have been reduced to approximately 0.5 gpm from 5-10 gpm prior to the first three phases of remediation. These concentrations are not anticipated to have an adverse effect on the Onondaga Lake cap. Catch basins MH-1 and MH-2 are also equipped with sumps to minimize the transport of sediment to Onondaga Lake.

3. Conclusions

Based on the completed Phase 1 through 4 work, it is anticipated that the potential impacts to the Onondaga Lake cap from the I-690 Storm Drain system are mitigated.

REFERENCES

Honeywell. 2006. Letter from Honeywell to NYSDEC regarding I-690 Storm Drain System Phase 3 Proposed recommendations. December 7, 2006.

Honeywell. 2011. Letter Work Plan from Honeywell to NYSDEC regarding I-690 Storm Drain System Flow Monitoring and Sampling. June 9, 2011.

O'Brien & Gere. 1997. I-690 Storm Drainage System (Eastern Portion) Conceptual Design Report. Geddes, New York. August 1997.

O'Brien & Gere, 1997a. I-690 Storm Drainage System Investigation (western portion) Report. Geddes, New York December 1997.

O'Brien & Gere. 2002. I-690 Storm Drainage System Underdrain Isolation Pilot Study Revised Work Plan. Geddes, New York. March 2002.

O'Brien & Gere. 2008. I-690 Storm Drainage System Phase 3 Design. Geddes, New York. May 2008.

This remediation project was undertaken to address groundwater influences to the existing 42", 60" and 72" storm sewers and Onondaga Lake. To achieve these remedial action objectives, the project included installation of a 48" storm sewer pipe through the steel barrier wall along the lakeshore, cleaning and lining the 60" and 72" storm sewers, abandonment of an additional 60" storm sewer, elimination of the East Flume along the lakeshore, abandonment of a section of the 42" storm sewer and installation of a pump station and force main as further described in the NYSDEC-approved Design documents. Based on the work completed to date the potential for recontamination of the Onondaga Lake cap has been mitigated.

1. Work completed to date includes the following:

    - Installation of a 48" steel pipe with cathodic protection through the steel barrier wall was completed in early 2010
    - Installation of additional 48" steel pipe with cathodic protection was completed in December 2010
    - Cleaning and lining of the 60" and the 72" storm sewers was completed in December 2010
    - Abandonment by filling an additional 60" storm sewer with concrete was completed in December 2010
    - Elimination of the East Flume was completed in 2011
    - Abandonment of a section of the 42" storm sewer and installation of a pump station and force main is scheduled to be completed by January 2014

2. Conclusions

The work completed to date and the work that will be completed by January 2014 addresses the potential groundwater impacts to the existing storm sewers described above and subsequently to Onondaga Lake. Based on the work that has been completed to date and that will be completed by January 2014, sources of contamination from the storm sewers to Onondaga Lake will be addressed, thereby, mitigating the potential for recontamination of the Onondaga Lake cap.

REFERENCES

O'Brien & Gere. 2010. East Flume IRM Storm Sewer Outfall Relocation and Modifications Contract Documents. Geddes, New York. January 2010.

This remediation project was undertaken to address groundwater influences to Upper Harbor Brook and Onondaga Lake as well as impacted sediment migration to Onondaga Lake. To achieve these remedial action objectives, the project included a shallow groundwater collection system and treatment at the Willis GWTP, sediment removal, isolation layer installation, sealing of leaks in the culverts, and ditch/stream/wetland restoration, as further described in the NYSDEC-approved Design documents and in subsequent field modifications conducted during the field activities. Based on the work completed to date the potential for recontamination of the Onondaga Lake cap has been mitigated.

1. Work completed to date includes the following:

    - A groundwater collection system and two pump stations with force mains were completed in October 2013
    - Sediment removal and isolation layer installation at the open water areas of Harbor Brook was completed in October 2013
    - Sealing of leaks in the culverts along Harbor Brook (except Culvert #3) was completed in October 2013
    - Substrate placement in open water areas and placement of clay and topsoil in wetland areas was completed in November 2013
    - CCTV inspection of culverts that discharge to Upper Harbor Brook via the 690 ditch with subsequent sampling was completed in November 2012
    - Final restoration, including seeding and planting of shrubs in the wetland areas (except the Penn Can area) and other impacted areas was completed in October 2013
    - Pump station start-up was completed in November 2013
    - Sealing of the leaks in Culvert #3 is scheduled to be completed in December 2013

2. Conclusions

The work completed to date addresses the potential groundwater impacts to Upper Harbor Brook and subsequently to Onondaga Lake. Based on the work that has been completed to date, sources of contamination from Upper Harbor Brook to Onondaga Lake have been addressed, thereby, mitigating the potential for recontamination of the Onondaga Lake cap.

REFERENCES

O'Brien & Gere. 2007. Remedial Investigation Wastebed B/ Harbor Brook Site Report. Geddes and Syracuse, New York. November 2007.

O'Brien & Gere. 2012. Upper Harbor Brook IRM Final Design Report. Geddes, New York. March 2012.

FIGURES

Piezometer Location

Note: Not to scale. Locations approximate.

Area where remediation is anticipated to be in progress or completed by end of 2013

FIGURE 1

Honeywell

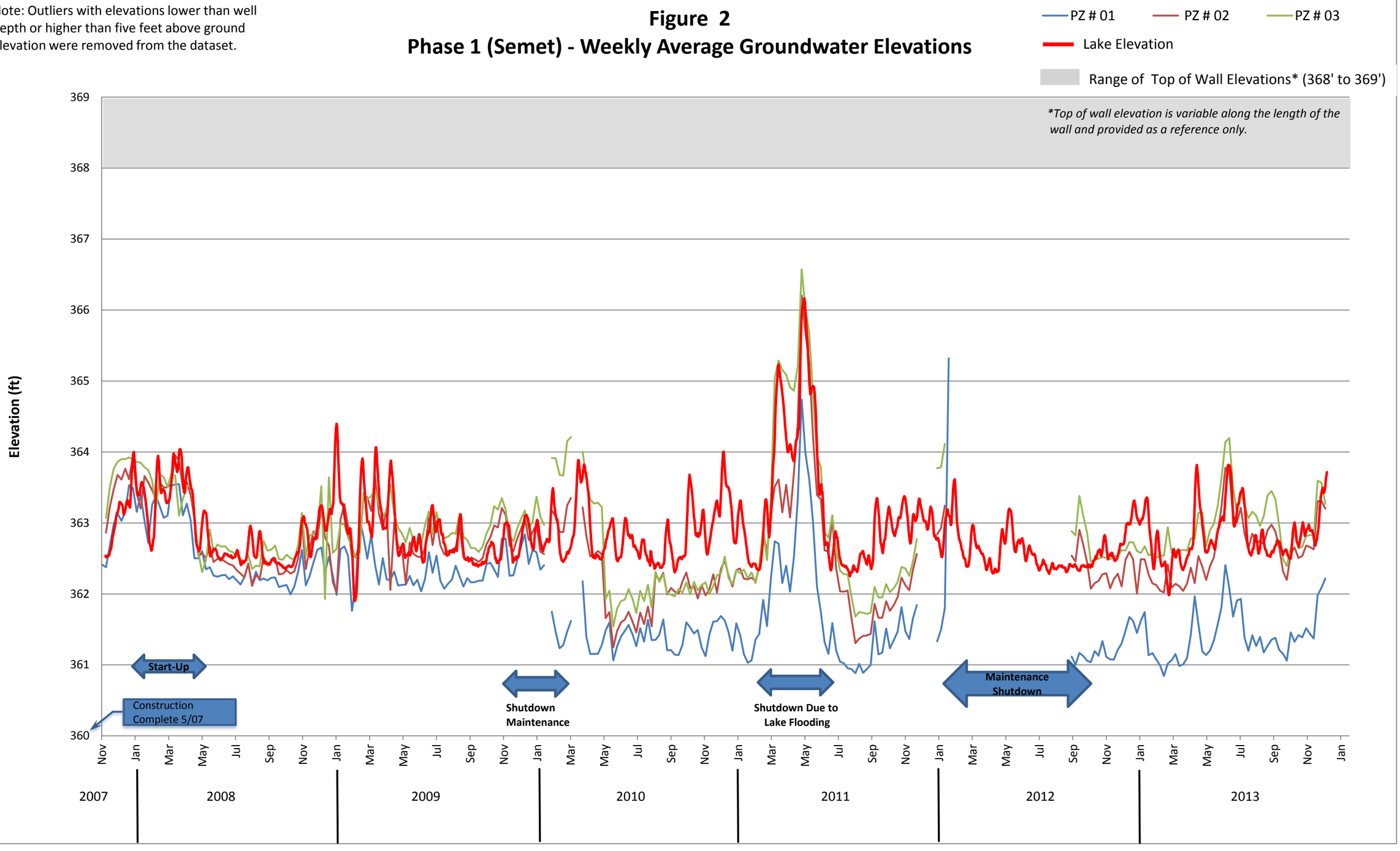
Onondaga Lake 2012 and 2013 Remediation Areas

PARSONS

301 Plainfield Road, Suite 350, Syracuse, NY 13212

Note: Outliers with elevations lower than well depth or higher than five feet above ground elevation were removed from the dataset.

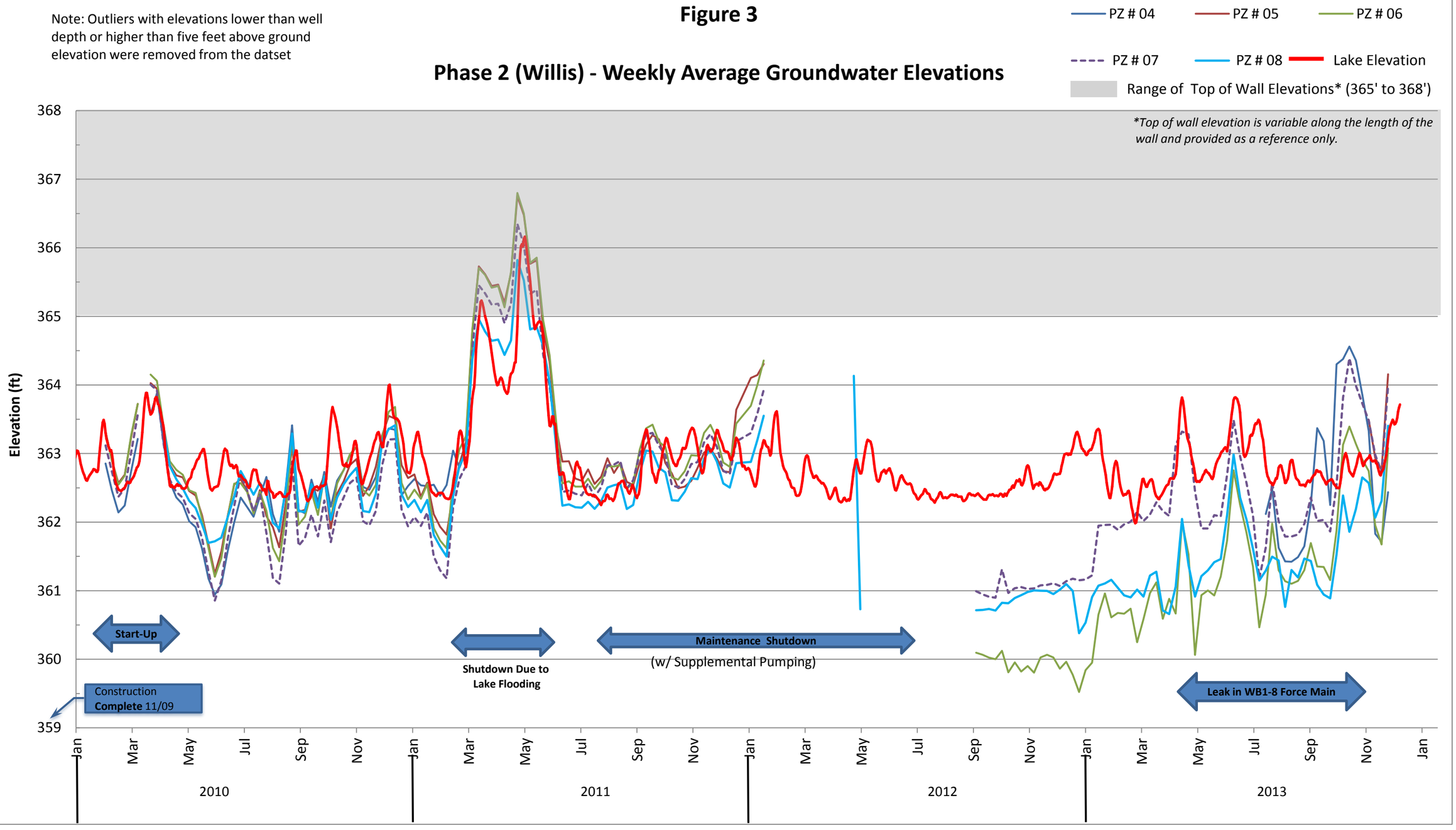
Figure 2
Phase 1 (Semet) - Weekly Average Groundwater Elevations



Note: Outliers with elevations lower than well depth or higher than five feet above ground elevation were removed from the datset

Figure 3

Phase 2 (Willis) - Weekly Average Groundwater Elevations



Note: Outliers with elevations lower than well depth or higher than five feet above ground elevation were removed from the dataset

Figure 4
Phase 3(West) - Weekly Average Groundwater Elevations

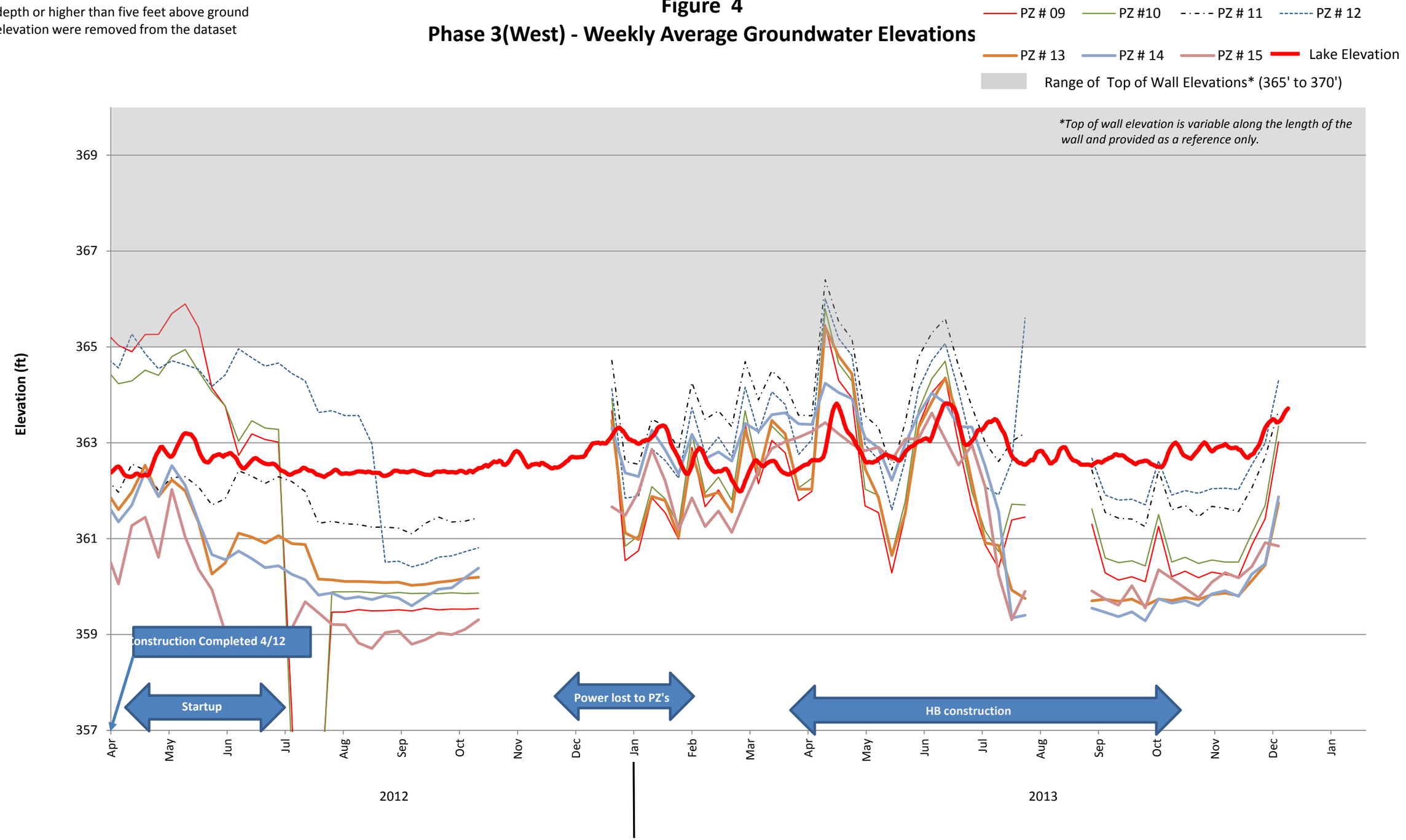
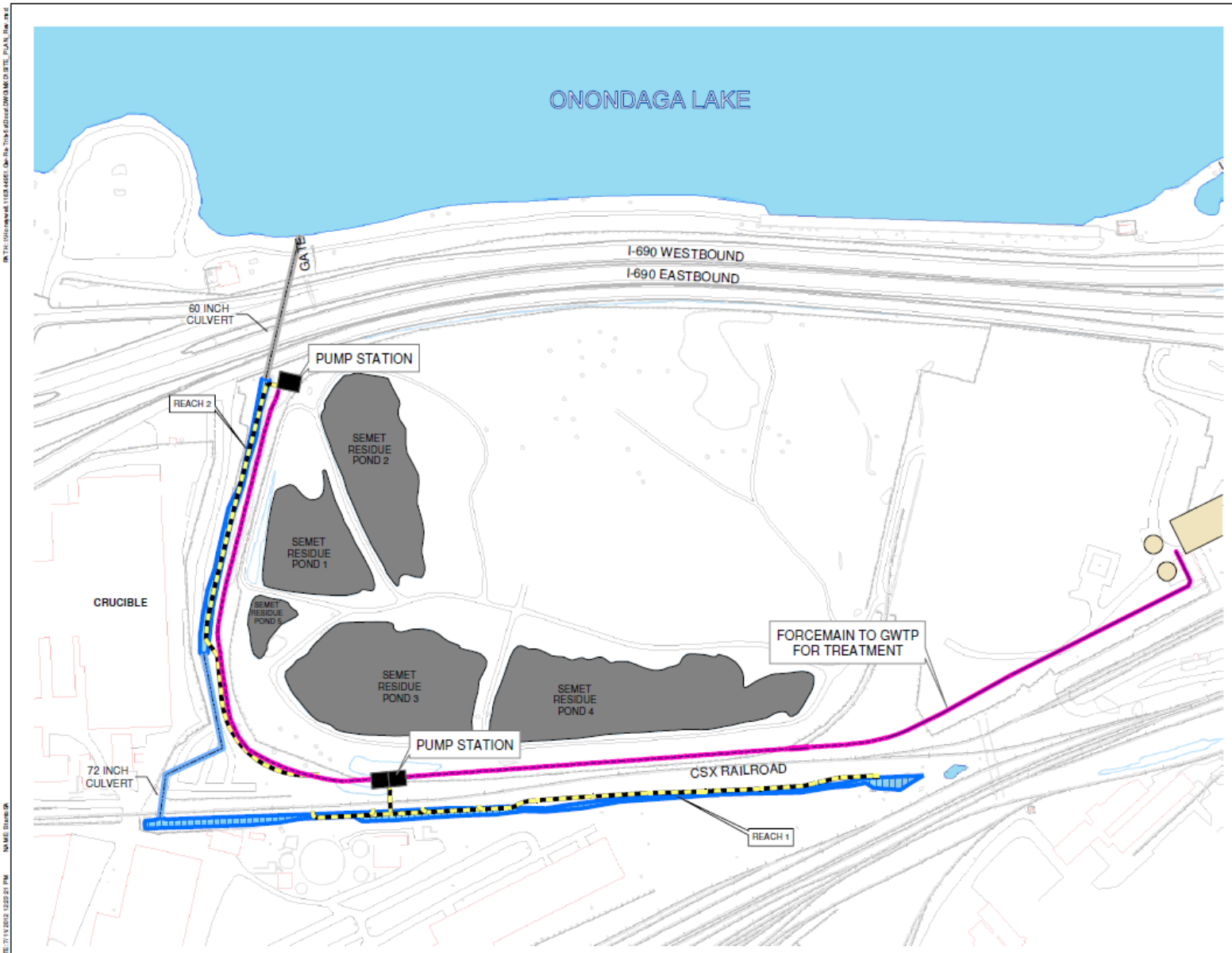


FIGURE 5



LEGEND

- 60 INCH CULVERT
- 72" CULVERT REHABILITATION
- FORCEMAIN
- COLLECTION TRENCH
- TRIBUTARY 5A
- GROUNDWATER TREATMENT PLANT
- SEMET PONDS

HONEYWELL
TRIBUTARY 5A
GEDDES, NEW YORK

SITE PLAN

0 125 250 500
Feet

JULY 2012
1163.44951

O'BRIEN & GERE

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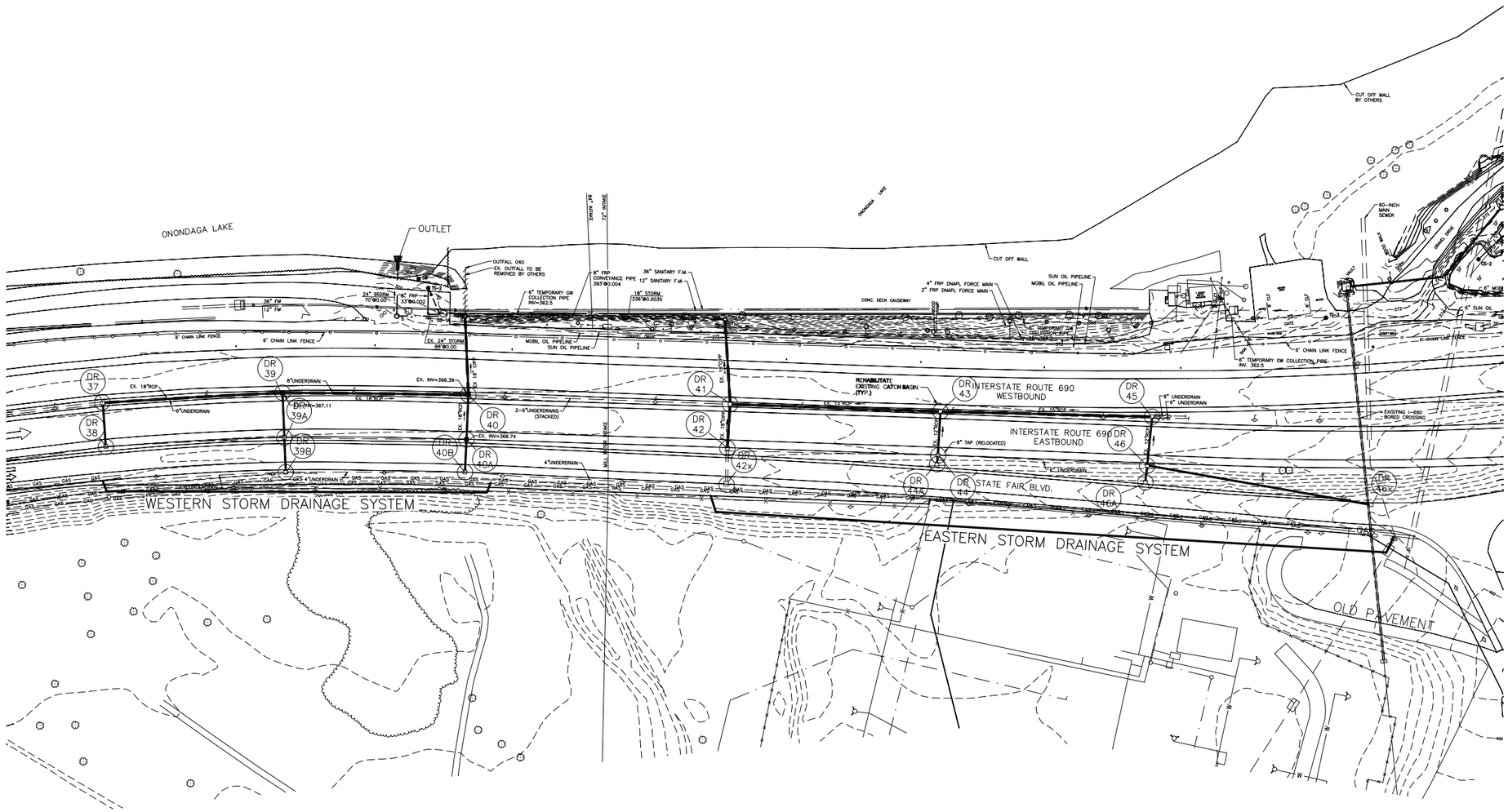
Dec 18, 2013 - 2:20pm

FIGURE 6



LEGEND

CIPP INSTALLED

HONEYWELL
INTERNATIONAL INC.
TOWN OF GEDDES
SYRACUSE, NEW YORK

I-690 STORM DRAINAGE SYSTEM

1"=160' (160 0 160)

FILE NO. 1163.46699-020-FIG6
DECEMBER 2013

O'BRIEN & GERE

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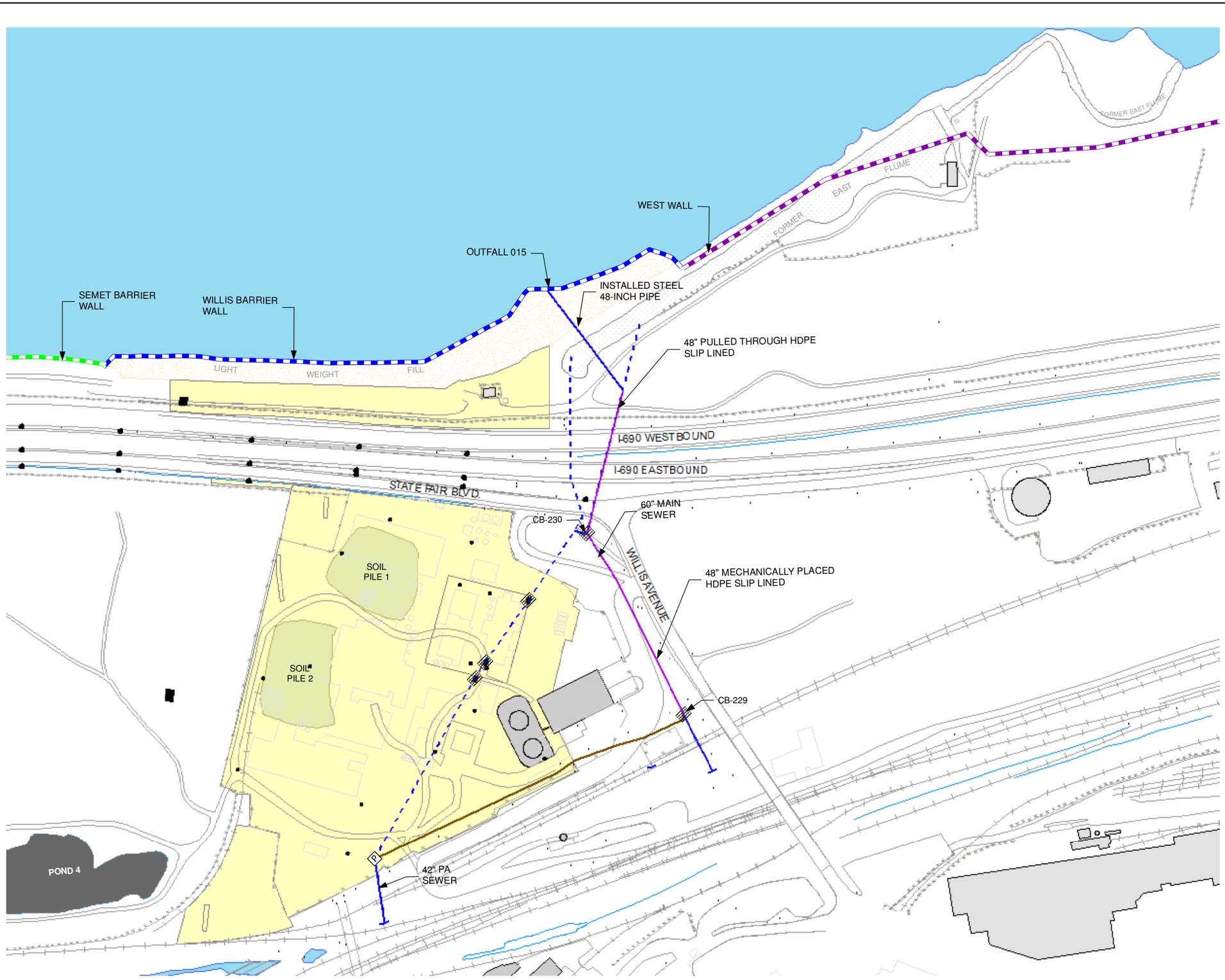
FIGURE 7



LEGEND

- CATCH BASIN
- PUMP STATION
- ORIGINAL SEWER
- ABANDONED PA SEWER
- 48" SLIP LINED PIPE
- NEWLY INSTALLED CONVEYANCE PIPE

WILLIS AVENUE
CHLOROBENZENE SITE
REMEDIAL INVESTIGATION
GEDDES, NEW YORK

PA SEWER REMEDIATION

0 125 250 500
Feet

DECEMBER 2013
1163.44042

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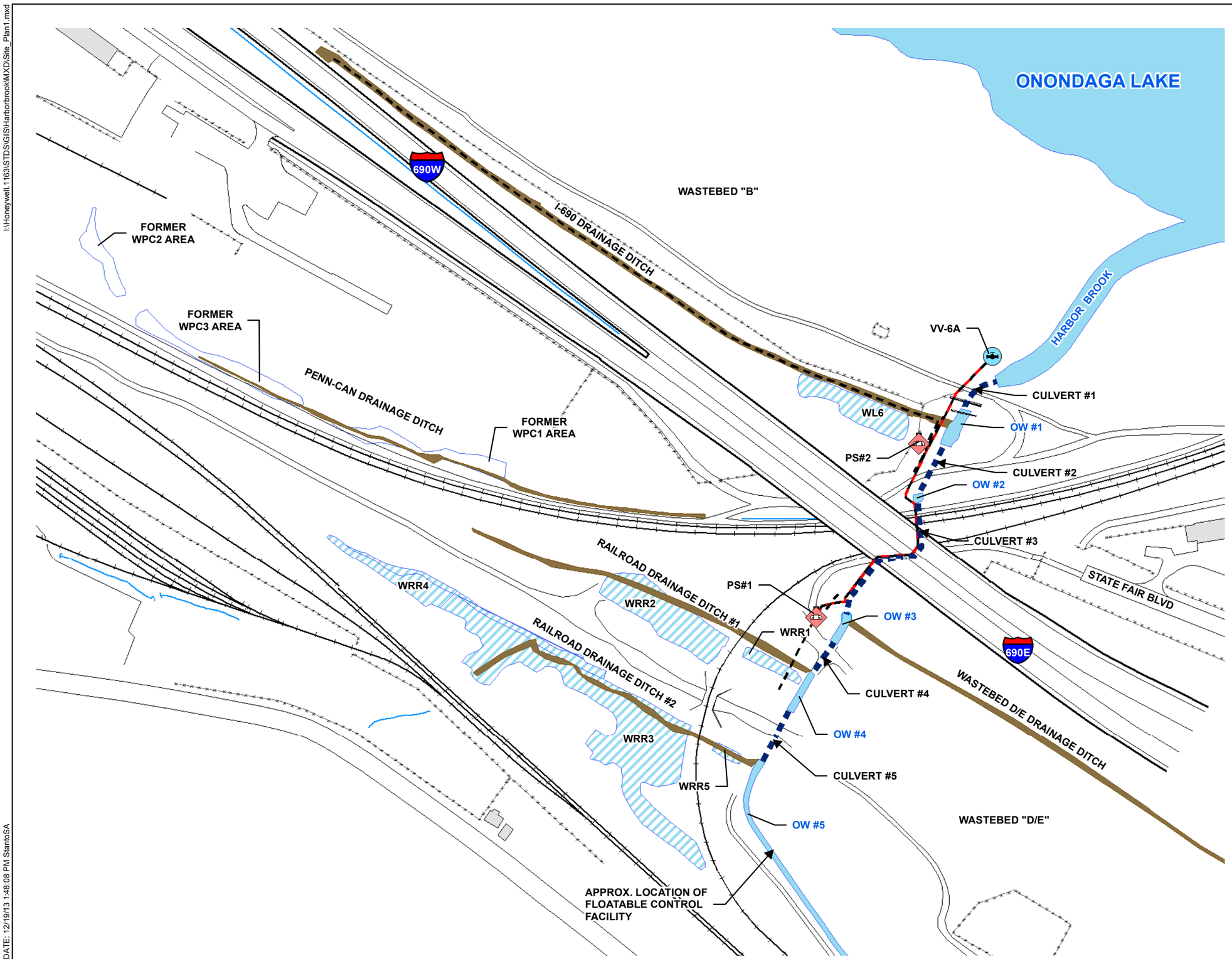
FIGURE 8



LEGEND

- PUMP STATION
- VALVE VAULT
- GROUNDWATER COLLECTION PIPE
- CULVERT
- FORCE MAIN
- FENCELINE
- RAILROAD
- HIGHWAY
- ROAD
- WETLAND
- OPEN WATER
- DITCH
- BUILDINGS

NOTE:
REFER TO FIGURE 3 FOR SITE PLAN SHOWING THE GROUNDWATER COLLECTION AND FORCE MAIN PIPING.

HONEYWELL
INTERNATIONAL INC.
UPPER HARBOR BROOK IRM
SYRACUSE, NEW YORK

SITE PLAN

0 100 200 400
Feet

DECEMBER 2013
1163.49142

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