

Watson Johnson Landfill Superfund Site



**Public Information Session
Groundwater Remedy
April 14, 2016**

Welcome

- ◆ Introductions
- ◆ Watson Johnson Landfill Groundwater Remedy Presentation
- ◆ Community Involvement Presentation
- ◆ Q&A

Watson Johnson Landfill Superfund Site Information Session

- ◆ Site overview
- ◆ What and where is the groundwater contamination?
- ◆ Chosen Cleanup Remedy for Groundwater
- ◆ What will EPA be doing and when?
- ◆ How to get information and ask questions

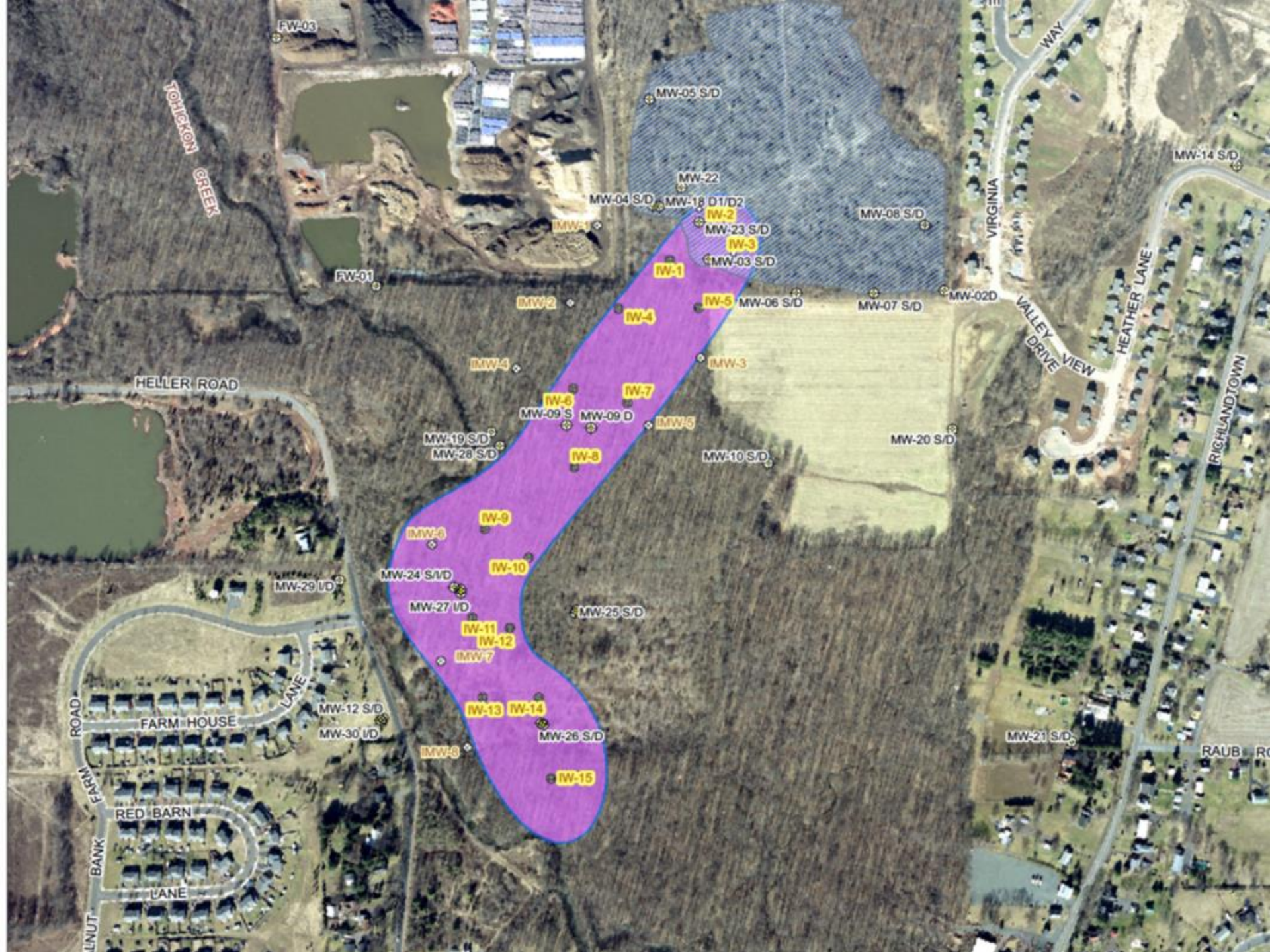


Site History

- ◆ 20.4 acre, inactive, unlined landfill
- ◆ Waste accepted from 1950-1970
- ◆ Municipal Solid Waste Landfill (MSW)
- ◆ Added to National Priorities List (NPL) in September 2001
- ◆ Remedial Investigation initiated in 2001 and completed May 2006

Site History...continued

- ◆ Proposed Plan - September 2008
- ◆ Record of Decision (ROD) - August 2009
 - Multi-layer geotextile landfill cap
 - In-situ treatment
- ◆ Remedial Design initiated November 2009 and completed October 2011
- ◆ Remedial Action funded September 2014



EPA's Recent Efforts

- ◆ Groundwater sampling of select wells
 - March 2008
 - December 2009
- ◆ Groundwater sampling/Wells installed
 - December 2010
 - August 2011
 - December 2012
 - August 2014
- ◆ Transducer investigation – March-June 2012
- ◆ Groundwater Modeling – November 2012

Groundwater Cleanup Schedule (Estimated)

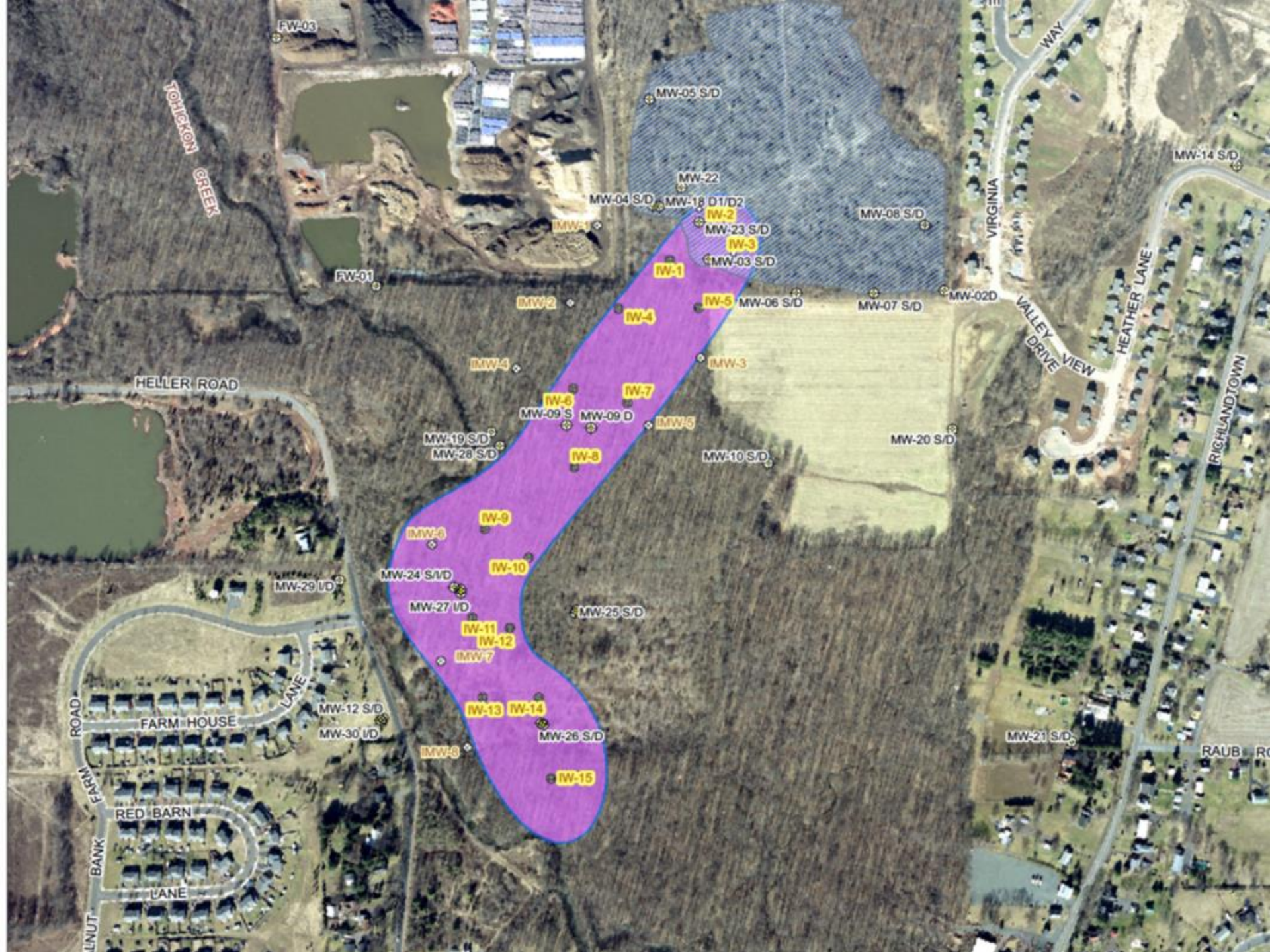
- ◆ Contract with Tetra Tech, Inc. – September 2014
- ◆ Remedial Action Work Plan – January 2015
- ◆ Construction start – May 2016
 - Temporary Roads and Wells
- ◆ First injection – August 2016

Groundwater Remedy

- ◆ In-Situ Chemical Oxidation (ISCO)
- ◆ In-Situ means in place. We add materials into the groundwater by pumping them in specific locations using injection wells
 - An injection well is a well that is put in place for the purpose of adding material into the groundwater
- ◆ Chemical Oxidation. A chemical, or “oxidant,” is used to change the contaminants into harmless substances.

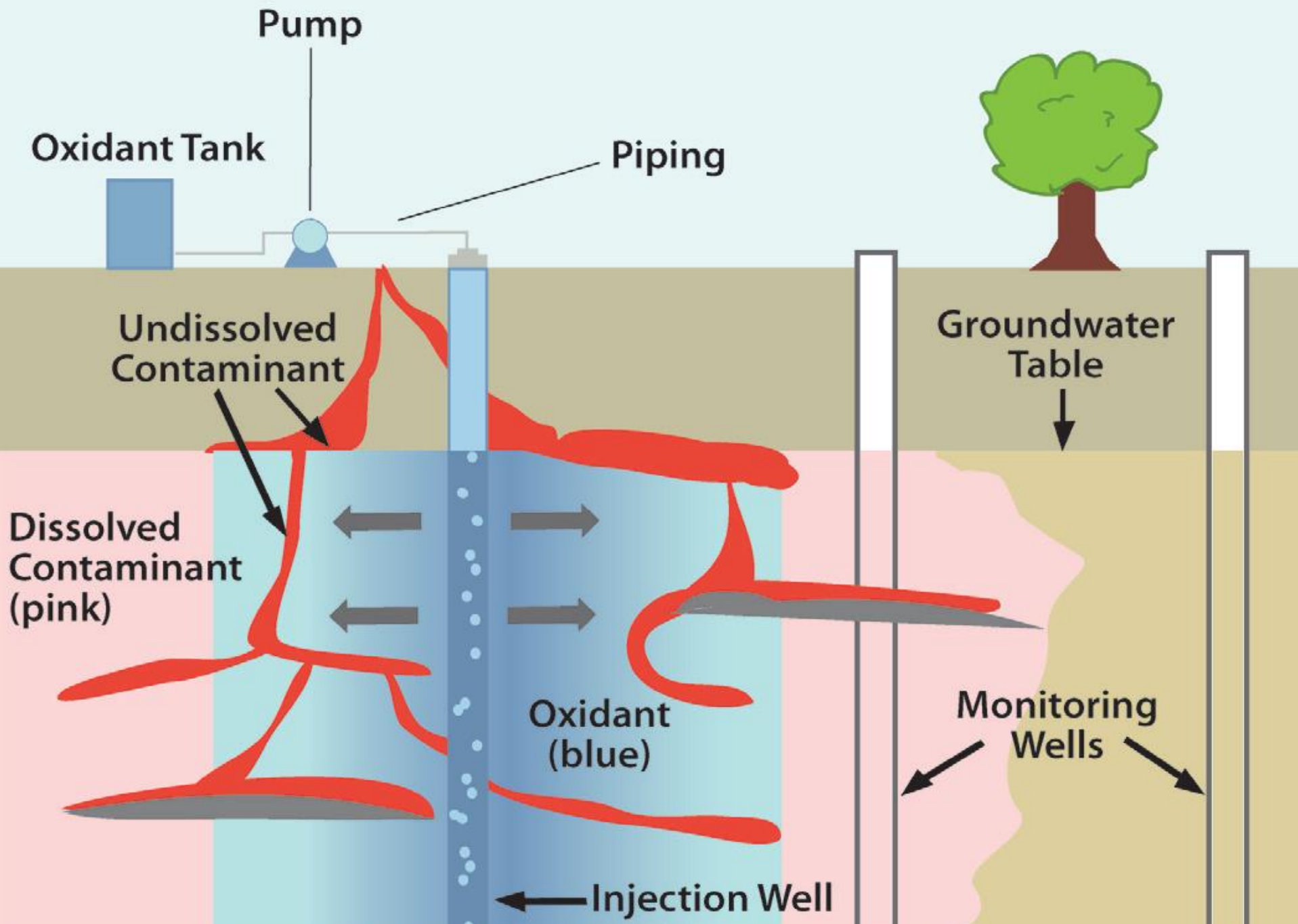
Injection Phases

- ◆ Injections with 10% sodium permanganate
- ◆ First Round ISCO Injections
 - IW-1 to IW-5
 - Approx. 730 gallons per well, low pressure
- ◆ Second Round ISCO Injections
 - IW-8 to IW-12
 - Approx. 730 gallons per well, low pressure
- ◆ Third Round ISCO Injections
 - IW-13 to IW-15
 - Approx. 730 gallons per well, low pressure





Realistic Plume and Injector Configuration for Bedrock Aquifer





LEGEND:

- Existing Access Roads
- New Access Roads (Ph.1)
- New Access Roads (Ph.2)
- New Access Roads (Ph.3)
- Existing Monitoring Well
- Stream Monitoring Point
- Limits of Landfill
- Proposed Injection Well Phase 1 (3 Wells)
- Proposed Injection Well Phase 2 (3 Wells)
- Proposed Injection Well Phase 3 (3 Wells)
- Proposed Monitoring Well Phase 1 (7 Wells)

NO.	WELL NAME	STATUS
1	IMW-1	EXISTING
2	IMW-2	EXISTING
3	IMW-3	EXISTING
4	IMW-4	EXISTING
5	IMW-5	EXISTING
6	IMW-6	EXISTING
7	IMW-7	EXISTING
8	IMW-8	EXISTING
9	IMW-9	EXISTING
10	IMW-10	EXISTING
11	IMW-11	EXISTING
12	IMW-12	EXISTING
13	IMW-13	EXISTING
14	IMW-14	EXISTING
15	IMW-15	EXISTING
16	IMW-16	EXISTING
17	IMW-17	EXISTING
18	IMW-18	EXISTING
19	IMW-19	EXISTING
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24	IMW-24	EXISTING
25	IMW-25	EXISTING
26	IMW-26	EXISTING
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29	IMW-29	EXISTING
30	IMW-30	EXISTING
31	IMW-31	EXISTING
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43	IMW-43	EXISTING
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45	IMW-45	EXISTING
46	IMW-46	EXISTING
47	IMW-47	EXISTING
48	IMW-48	EXISTING
49	IMW-49	EXISTING
50	IMW-50	EXISTING



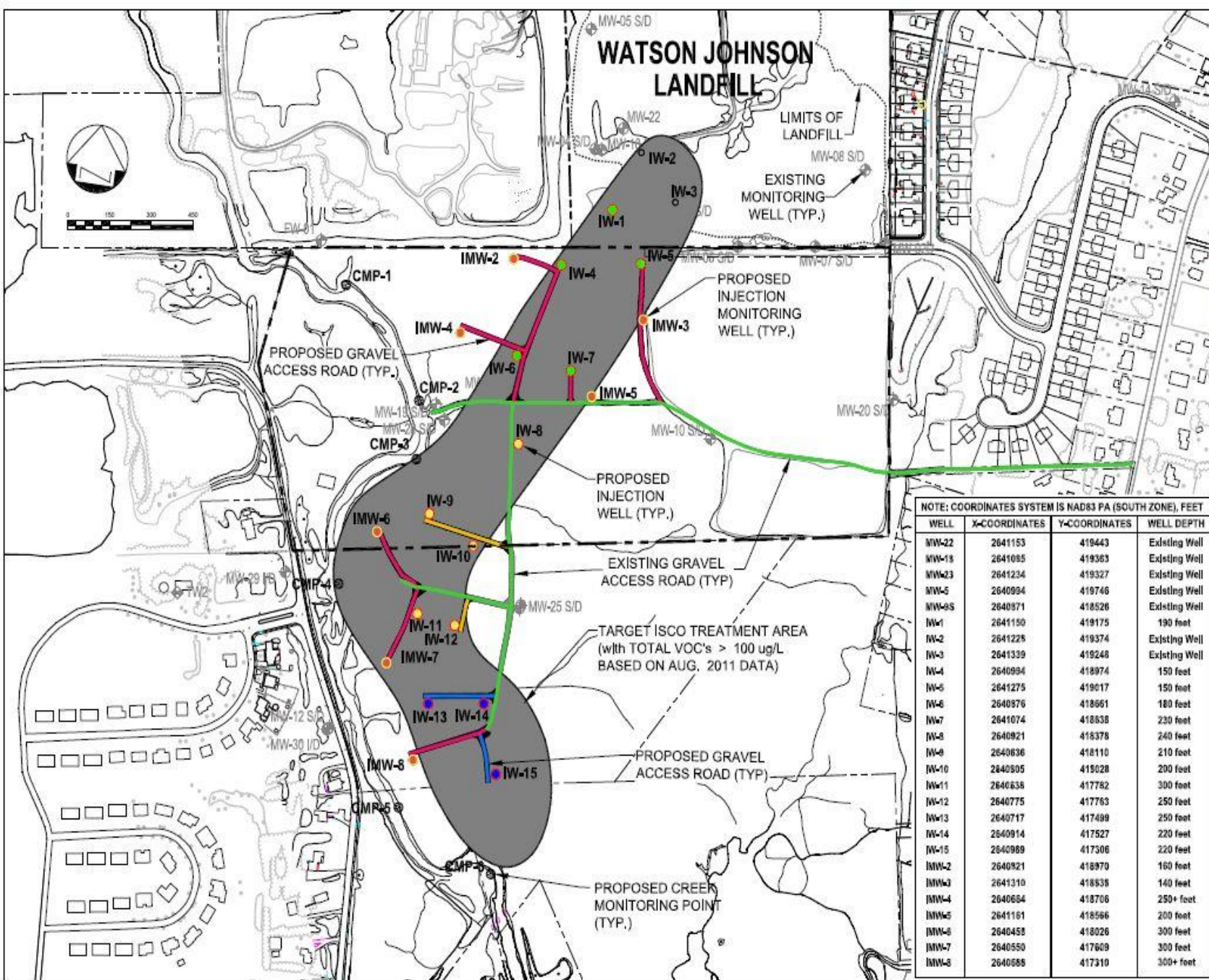
PROJECT No. 1120020254
DRAWN BY: JDE
CHECKED BY: BK
SCALE: 1"=100'
APPROVED BY: RMB
DATE: 05/20/2011
SHEET No. 1120020254-01 of 01

UNITED STATES
ENVIRONMENTAL
PROTECTION AGENCY
(USEPA)
**WATSON JOHNSON
LANDFILL
REMEDIAL DESIGN**

RICHLAND TOWNSHIP
BUCKS COUNTY, PENNSYLVANIA

**INJECTION / MONITORING WELL &
ACCESS ROAD LOCATION PLAN**
(OWNER: TTD)

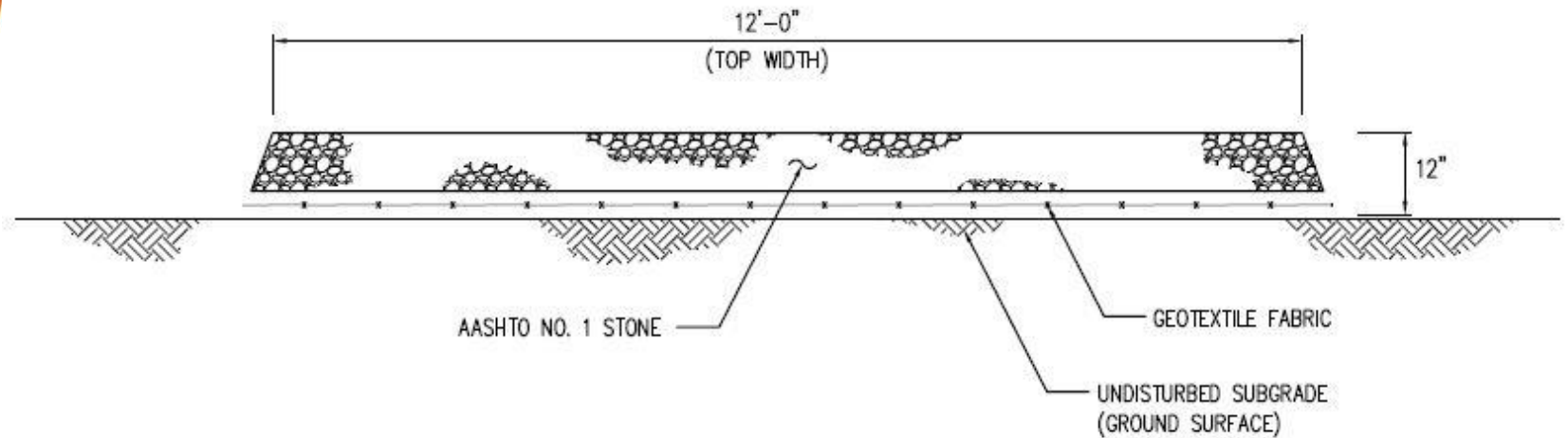
ISSUED: 05/20/2011
EXHIBIT A



NOTE: COORDINATES SYSTEM IS NAD83 PA (SOUTH ZONE), FEET

WELL	X-COORDINATES	Y-COORDINATES	WELL DEPTH
MW-22	2641153	419443	Existing Well
MW-18	2641085	419363	Existing Well
MW-23	2641234	419327	Existing Well
MW-5	2640994	419746	Existing Well
MW-8S	2640971	418526	Existing Well
IW-1	2641150	419175	190 feet
IW-2	2641225	419374	Existing Well
IW-3	2641339	419248	Existing Well
IW-4	2640994	418974	150 feet
IW-5	2641275	419017	150 feet
IW-6	2640976	418661	180 feet
IW-7	2641074	418638	230 feet
IW-8	2640921	418378	240 feet
IW-9	2640636	418110	210 feet
IW-10	2640905	415028	200 feet
IW-11	2640638	417782	300 feet
IW-12	2640775	417763	250 feet
IW-13	2640717	417499	250 feet
IW-14	2640914	417527	220 feet
IW-15	2640989	417306	220 feet
IMW-2	2640921	418970	160 feet
IMW-3	2641310	418538	140 feet
IMW-4	2640664	418706	250+ feet
IMW-5	2641161	418566	200 feet
IMW-6	2640458	418026	300 feet
IMW-7	2640550	417609	300 feet
IMW-8	2640588	417310	300+ feet

Constructing roads into remote areas for well installation.



TYPICAL ACCESS ROAD SECTION





Communications/Outreach



Communications/Outreach

- ◆ Community Involvement Plan

Communications/Outreach

◆ Facebook Page

❖ www.facebook.com/EPAwjlandfill



Availability Session

Mark Leipert – EPA Hydrogeologist

- ◆ Visit Mark's Table and Learn about:
 - ❖ Geology of the Site
 - ❖ The Watson Johnson groundwater plume
 - ❖ Common injection and monitoring wells construction

Jill Lowe – EPA Remedial Project manager


◆ Visit Jill's Table and Learn about:

- ❖ The past, current, and future steps regarding the Watson Johnson Landfill Superfund Site



Alexander Mandell and Cathleen Kennedy - EPA Community Involvement Coordinators

- ◆ Visit Alex and Cathleen's Table and Learn about:
 - ❖ Community Involvement and outreach efforts
 - ❖ Community Involvement Plan participation

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- ◆ **Jill Lowe**
EPA Remedial Project Manager
Lowe.jill@epa.gov
215-814-3123
 - ◆ **Alexander Mandell**
EPA Community Involvement Coordinator
Mandell.alexander@epa.gov
215-814-5517
 - ◆ **Cathleen Kennedy**
EPA Community Involvement Coordinator
kennedy.cathleen@epa.gov
215-814-2746
 - ◆ **Mark Leipert**
EPA Hydrogeologist
Leipert.mark@epa.gov
215-814-3341