Portage Creek Area
Time Critical Removal Action

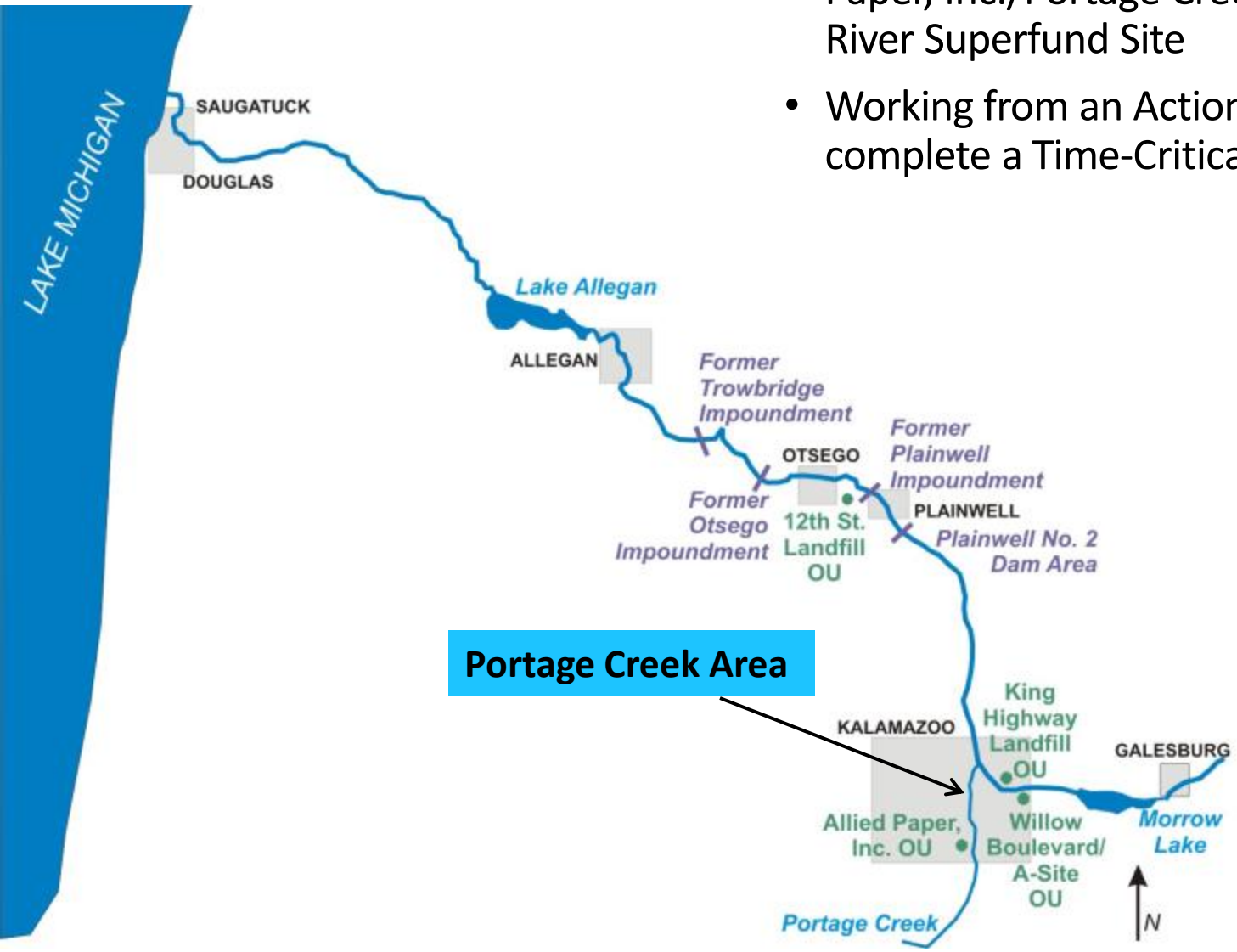
Progress Update

EOC brief

1/07/2013

Overview

- Portage Creek Area is part of the Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site
- Working from an Action Memo to complete a Time-Critical Removal Action



Command Post

Office trailers

De-watering / transfer pad

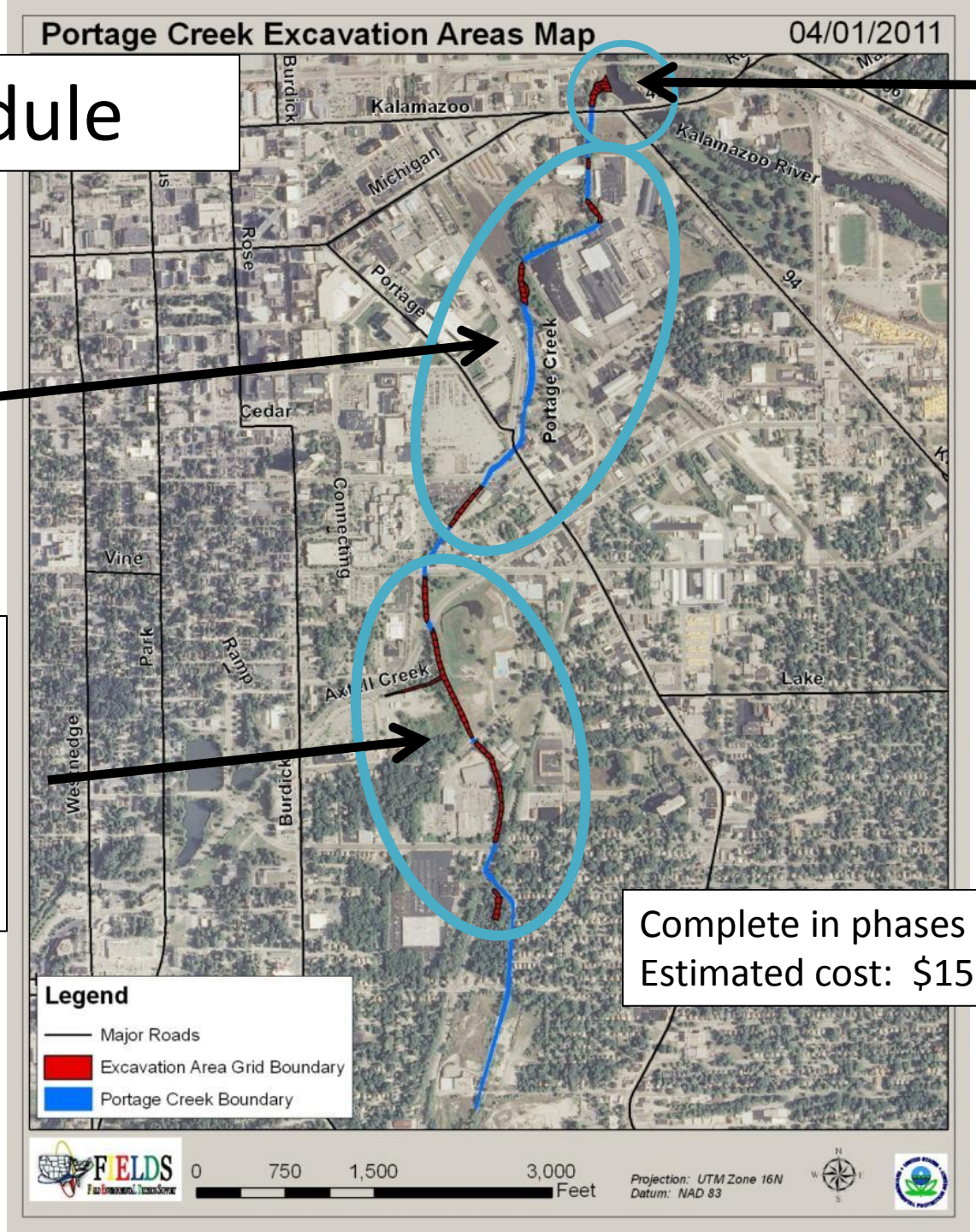
Equipment Staging

EPA's Mobile Wastewater Treatment Plant

'Springfield Belle' Wastewater Treatment Plant

Staging / De-watering Pad

Schedule



2014
SA1-A

2013
SA5-A
SA3-A
SA1-B&C

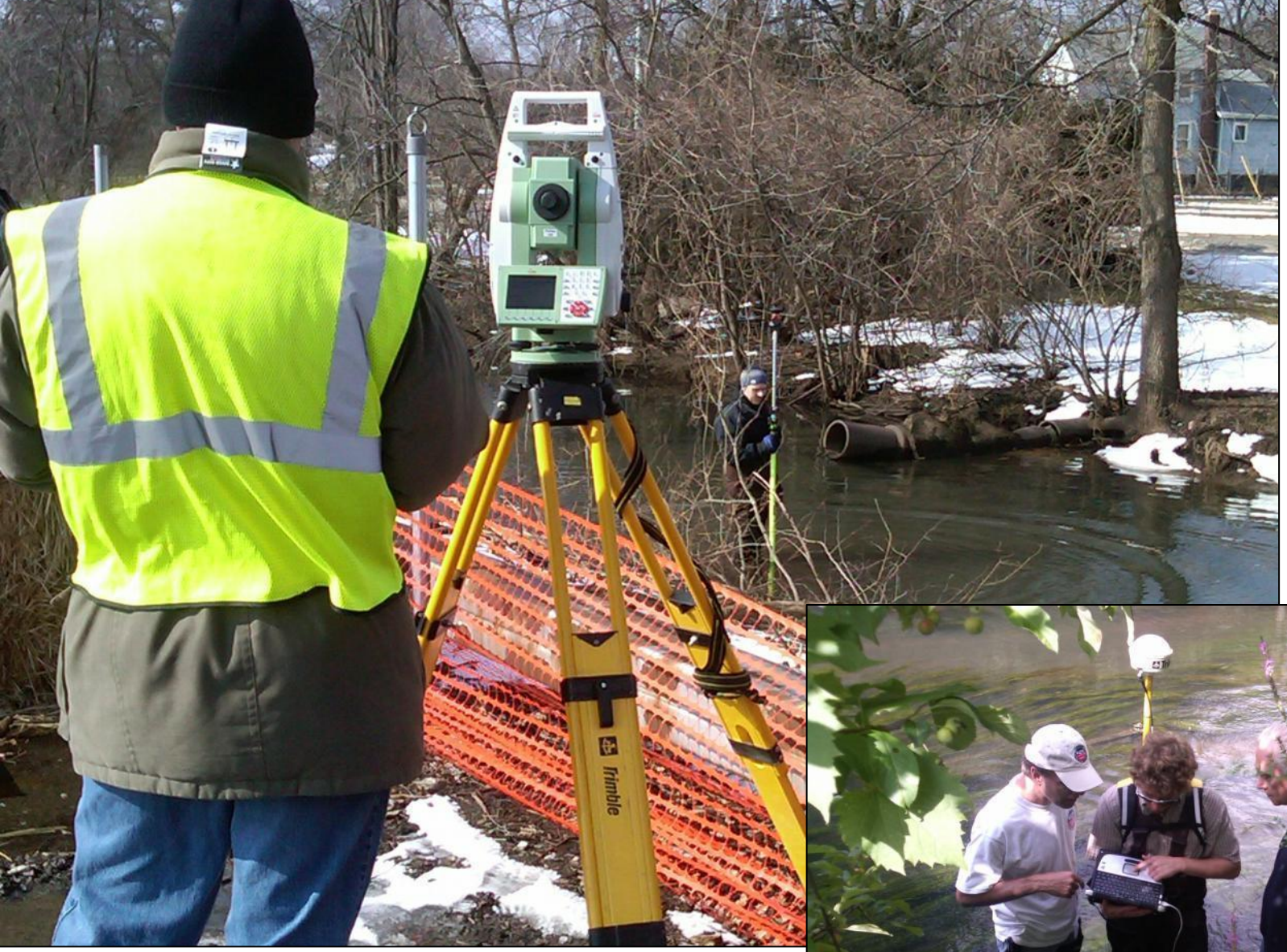
2012
SA7
SA6
Axtell Creek
SA5D&C
- completed -

Complete in phases in 2-4 yrs
Estimated cost: $15.8m

Operations Overview

Site Preparation

- Clear & grub for access
- Pre-survey (structural feature, engineering, precondition photo documentation, topographic/bathymetric)
- Data gap sampling (sediments, UpJohn Park, etc.)
- Access
- Area-specific controls (security, environmental, H&S)
- Isolation
    - Task 1- Cofferdam construction
    - Task 2- By-pass pumping ongoing during removal
    - Task 3- Excavation area dewatering and water treatment



Pre-survey

Operations Overview (cont)

Contaminated sediment removal

- Preliminary solidification/Load & transfer sediment to dewatering pad
- Final stabilization/solidification for disposal/2ndary staging for shipment
- Load out for disposal (subtitle D, or TSCA landfill)
- Verification sampling/re-excavate and resample as needed
- Post removal survey (Structural feature, Topographic/bathymetric)

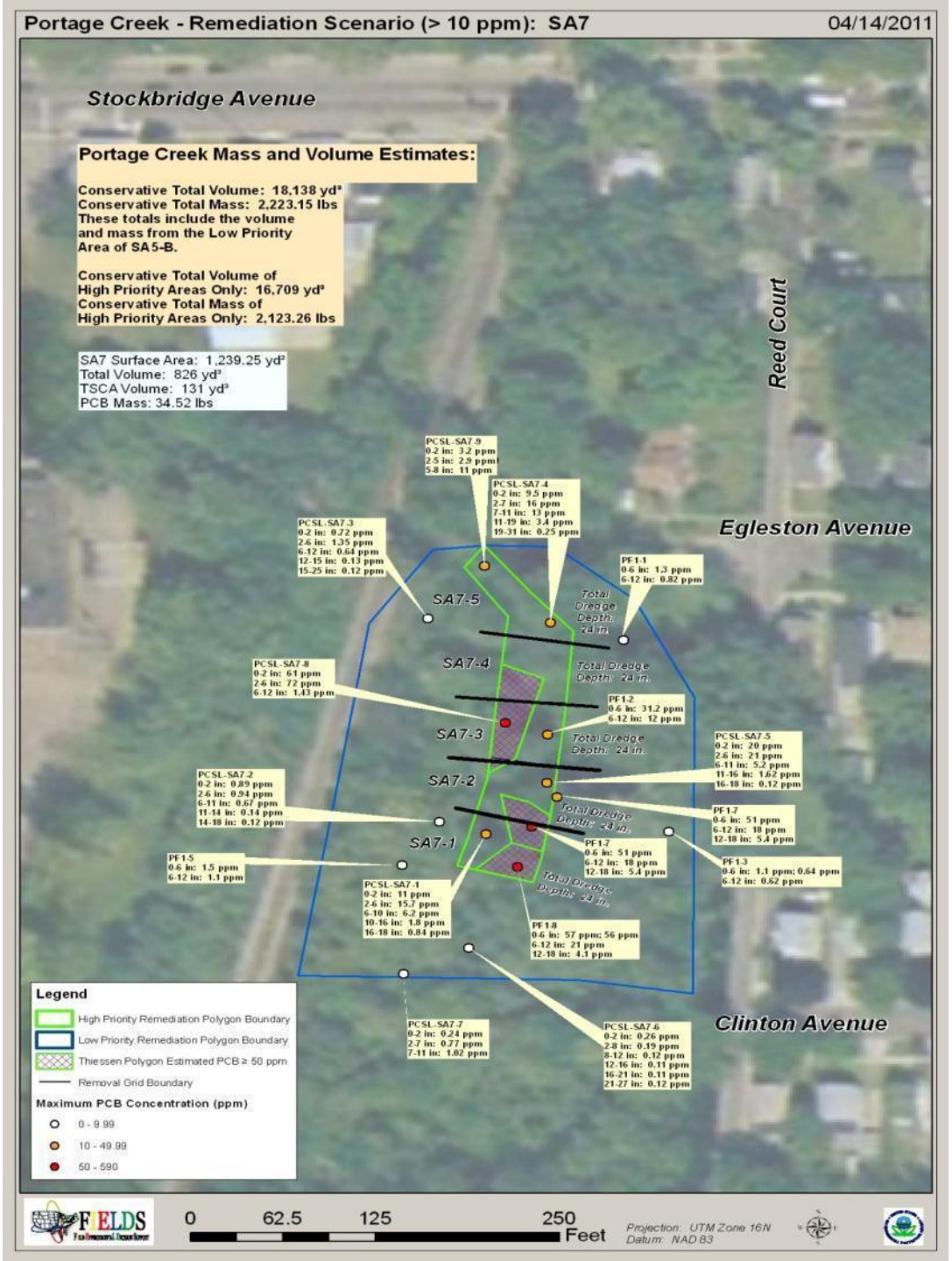
Operations Overview (cont.)

Site Restoration

- Backfill stream channel/bank
- Cofferdam removal
- Removal area restoration planting
- Infrastructure restoration activities (fence replacement, asphalt repairs, etc.)
- Remove sediment erosion controls after re-vegetation
- Post condition documentation

SA7

Forested wetland between Stockbridge Ave. & Reed St.



Delayed Start – Winter 2011

Staging Area
423 Reed St

Access Road

Excavation

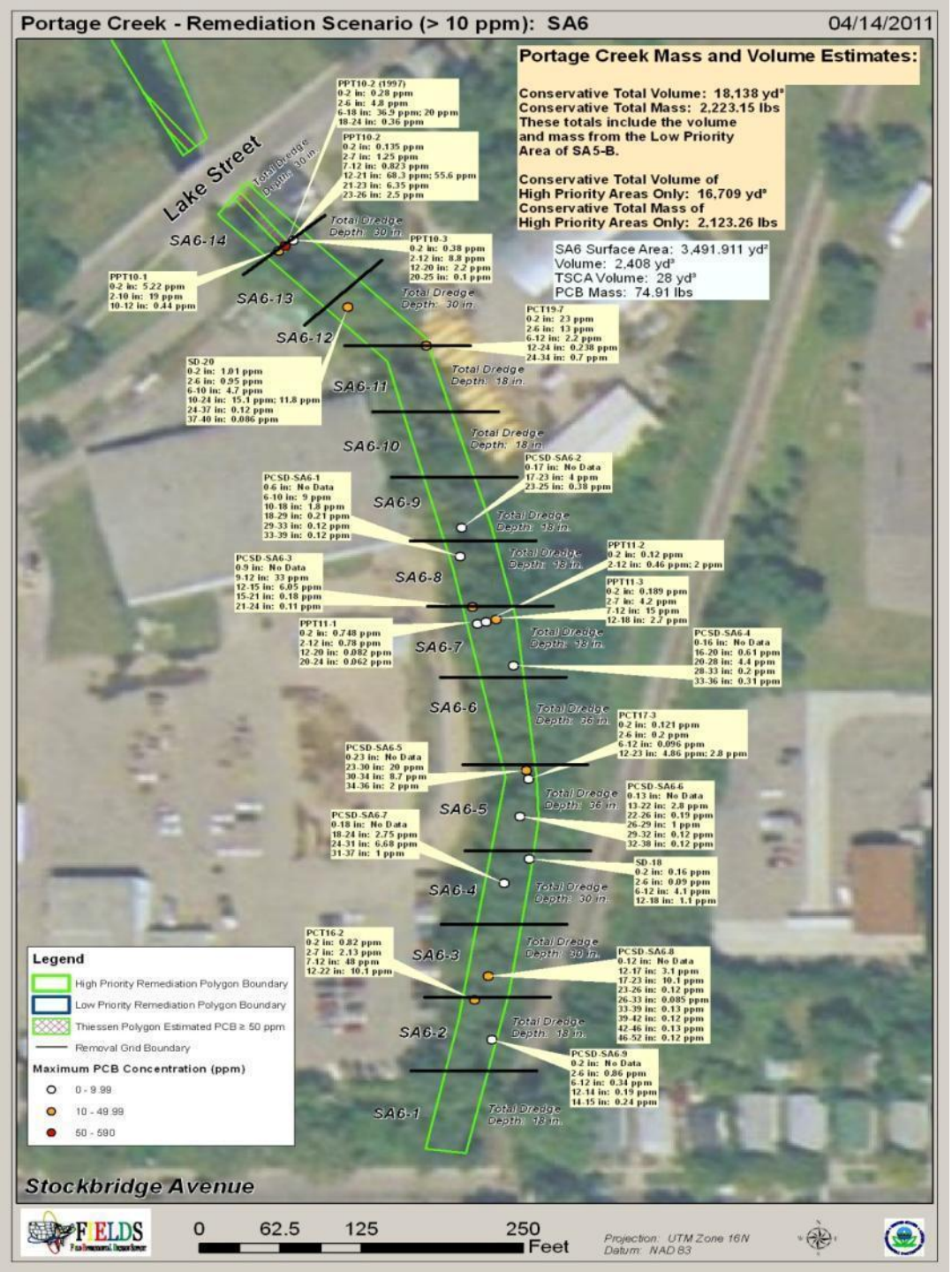
March / April 2012

May 27
05/27/2012 11:24

September 20, 2012

SA6

Stockbridge Ave to Lake Street



Work Area Preparation

Clearing / Grubbing
&
Mat
Placement

Creek Bypass Pump System

Creek Water Quality Monitoring

(1 upstream, 2 downstream monitors)

Groundwater de-watering system

Sipper wells manifold to 6” PVC headers running to 6” diesel pumps

‘Sipper Well’ header / manifold

Butterfly valve used to control vacuum on sipper well

1.5” PVC well with slotted screen at bottom

Typical installation depth 20-25’

Excavation

Solidification / Load out

Wastewater Treatment
(contact water, wheel wash, staging pad run-off)

MDEQ required SRD (weekly samples)

50 gpm

Sump -> Frac tank -> 25 u filters -> 5 u filters -> 1 OMC & 2 carbon vessels -> 1u filter -> Creek

John Street Staging Pad

TSCA (>50ppm) – EQ (Detroit)
Non-TSCA (>50ppm) - C&C Landfill (Marshall)

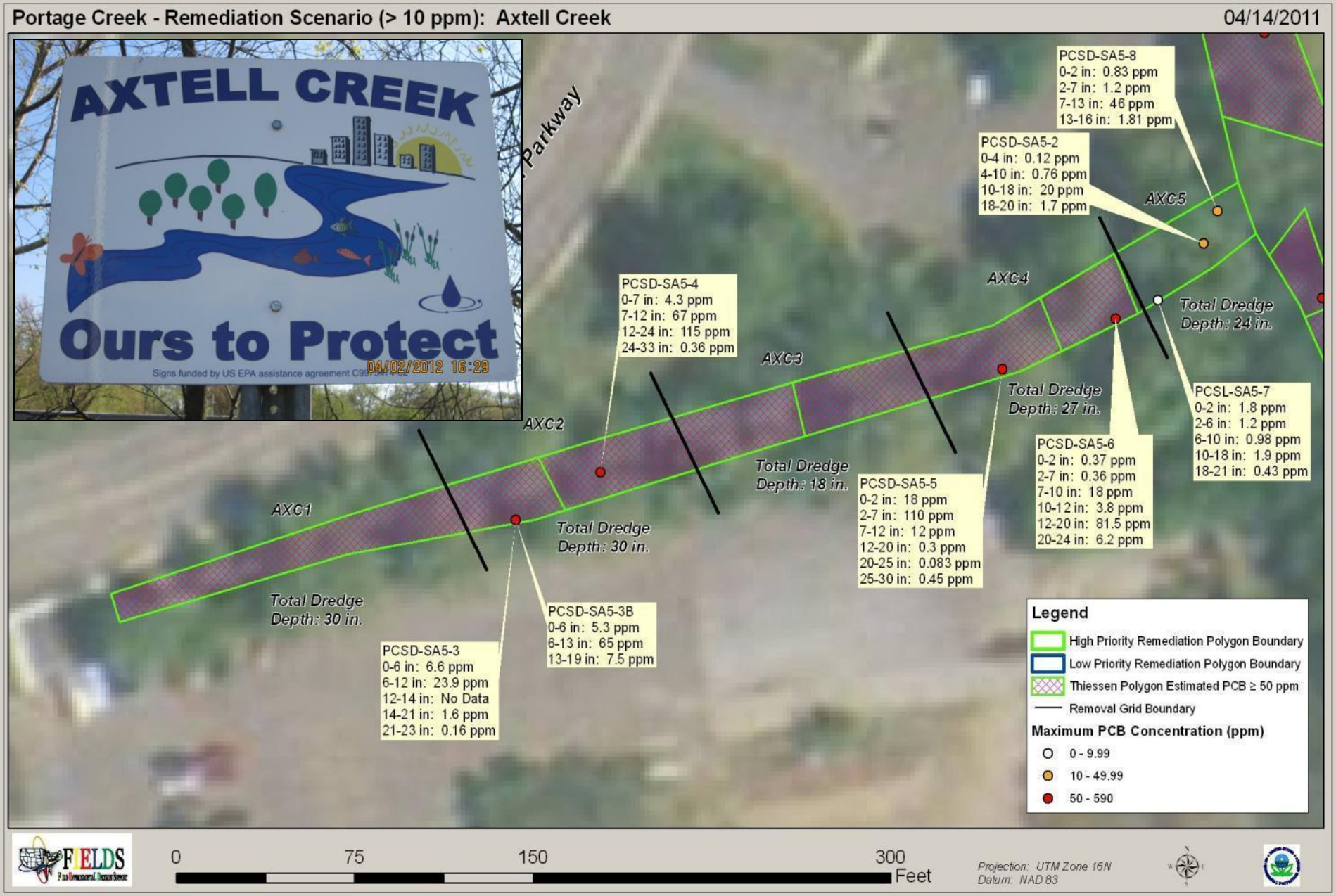
Truck Tire Wash Unit

Separation of TSCA & Non-TSCA sediments on staging pad

Backfilling

Backfilling / Restoration

Axtell Creek – John Street to Portage Creek



Site Preparation

(Excavation in July)

Axtell Creek
By-pass system

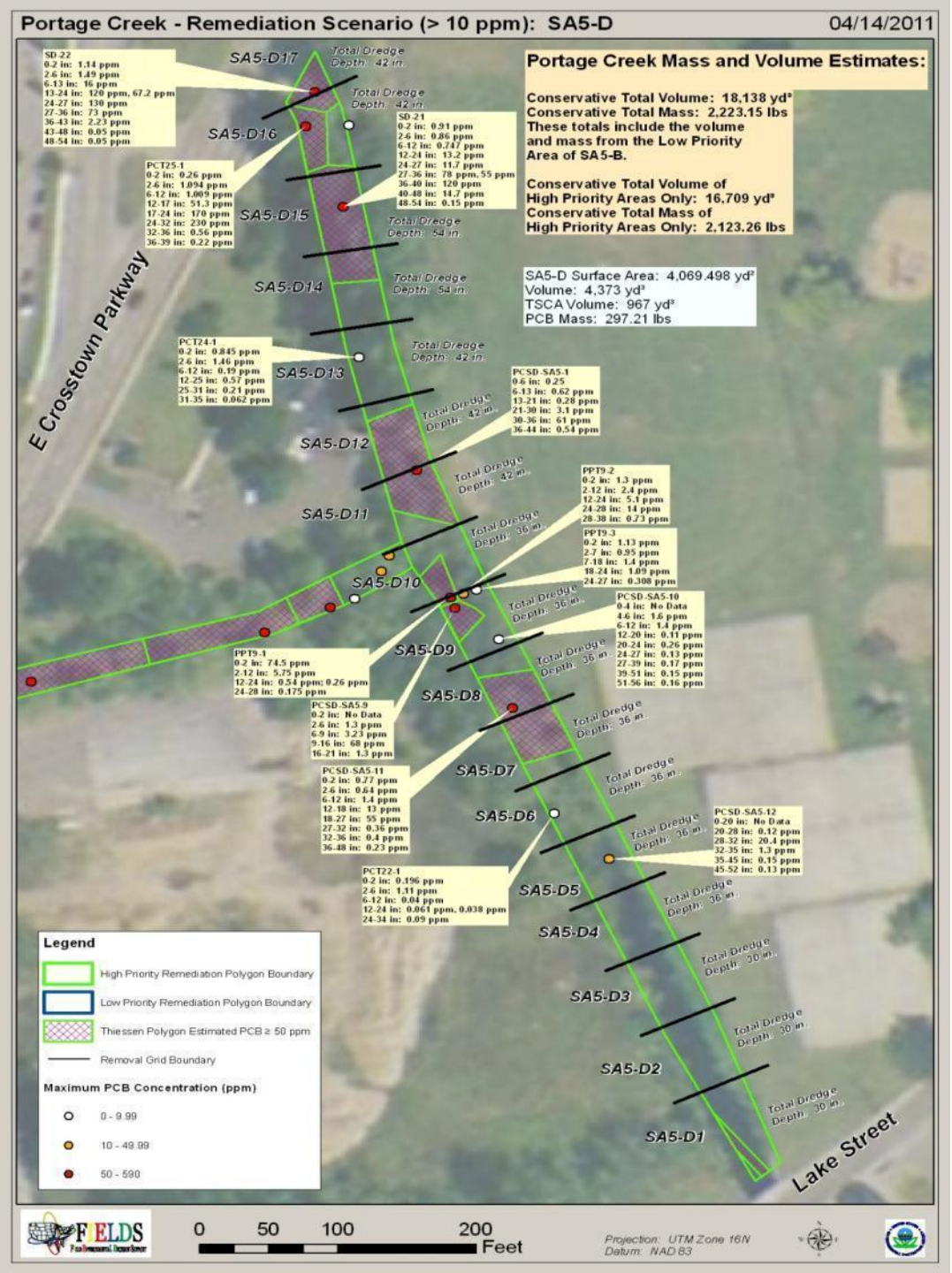
- Two 6” pumps
- 8” suctions
- Manifold into 12” discharge line to maximize performance

Axtell Creek Excavation

SA5-Axtell
November 2012

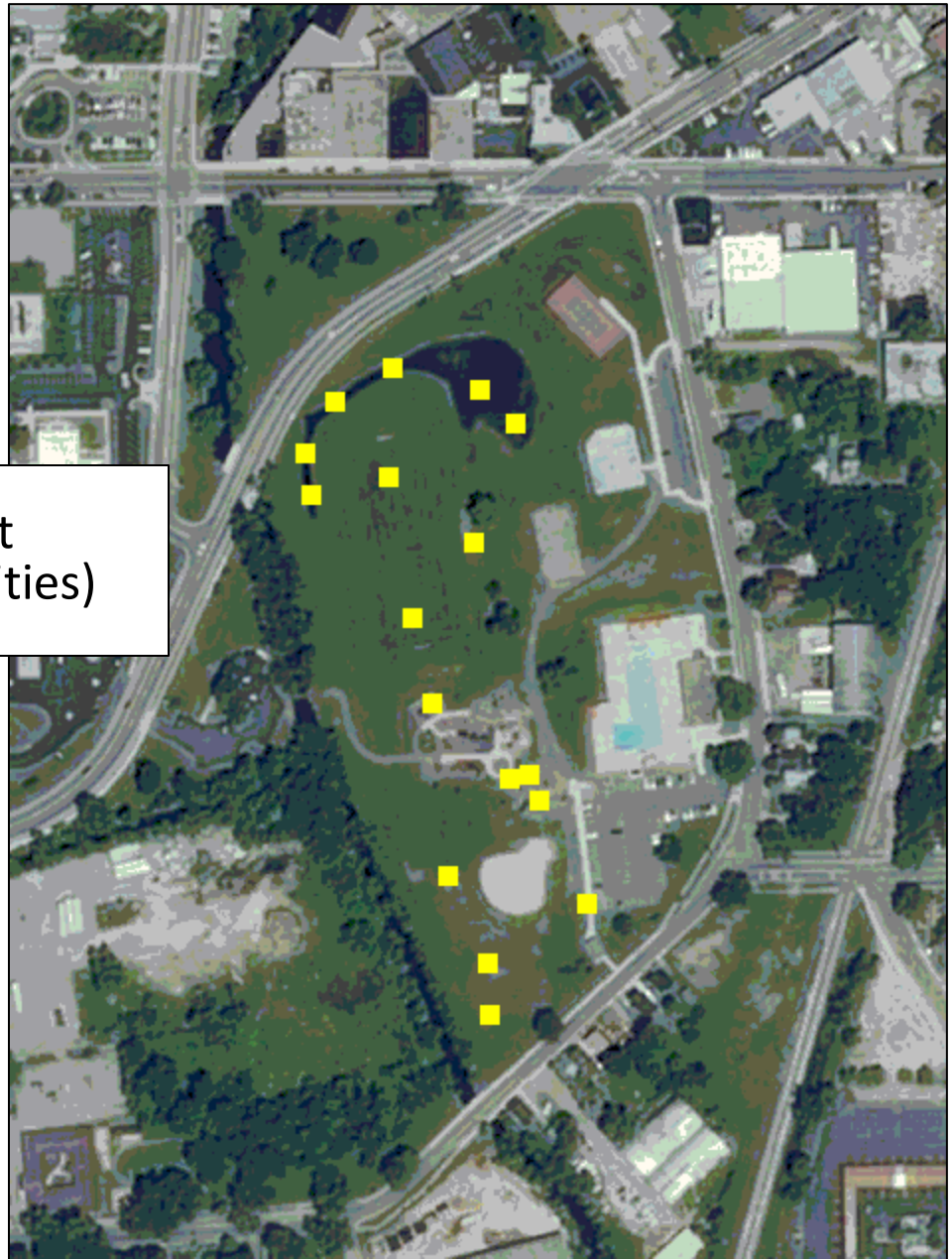
SA5-D

E. Crosstown Pkwy to Lake Street



Upjohn Park Sampling

All results were non-detect
(below lab instrument capabilities)



SA5D Creek By-Pass System

- Locking, sound dampening cabinets
- Easier to work on
- Better fault indication
- Resolved many problems vs. 24's in SA6

4 – 12" pumps w/ 12" suctions
2 – 18" discharge lines
1 – 12" backup pump
1 – 1000 gal fuel cell

SA5 By-Pass Discharge Lines

Discharged onto gabion baskets downstream of excavation area behind sand bag coffer dam

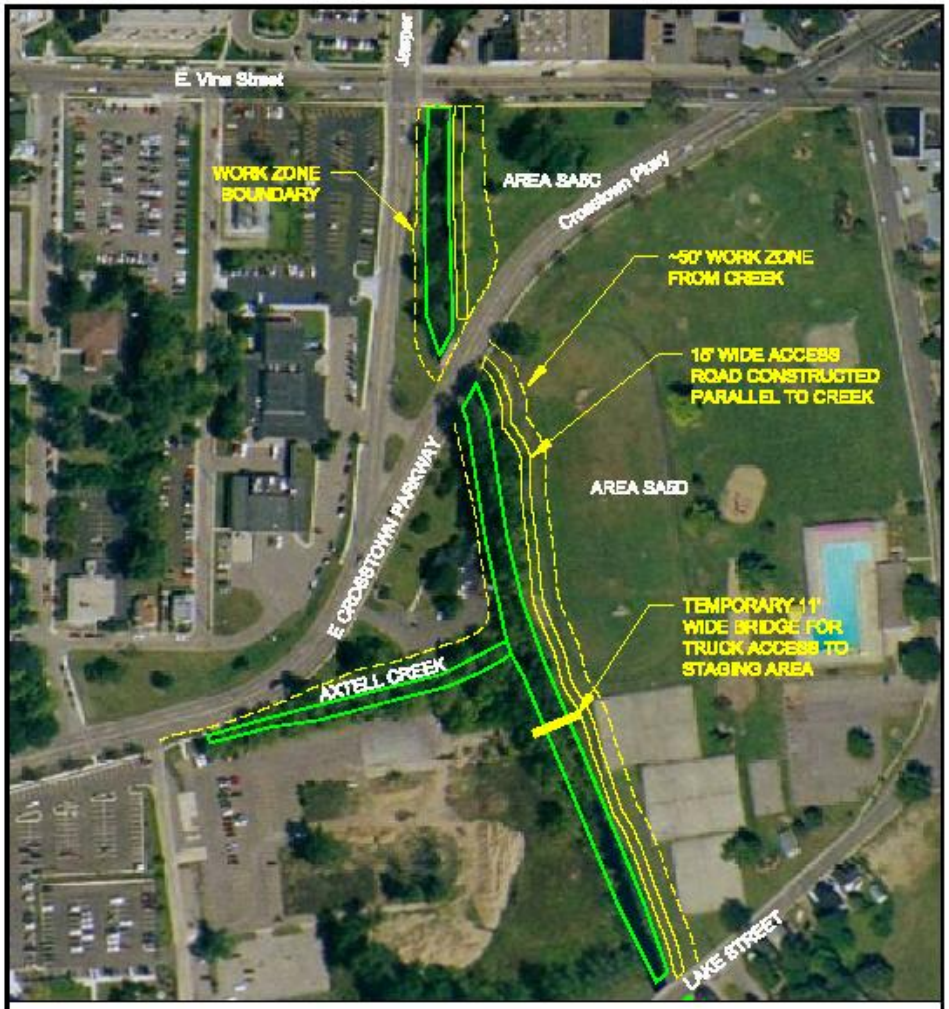
Fusion welded HDPE lines were flexible in the sun

Used 45's to run under street bridges to avoid pump re-set on other side

SA5D Excavation

SA5D Restoration

SA5-D
November 2012



LEGEND

REMEDIATION BOUNDARY

0 100' 200'

N

ENVIRONMENTAL QUALITY MANAGEMENT, INC.
1800 CARILLON BLVD.
CINCINNATI, OHIO 45240
P (513)825-7500
F (513)825-7555

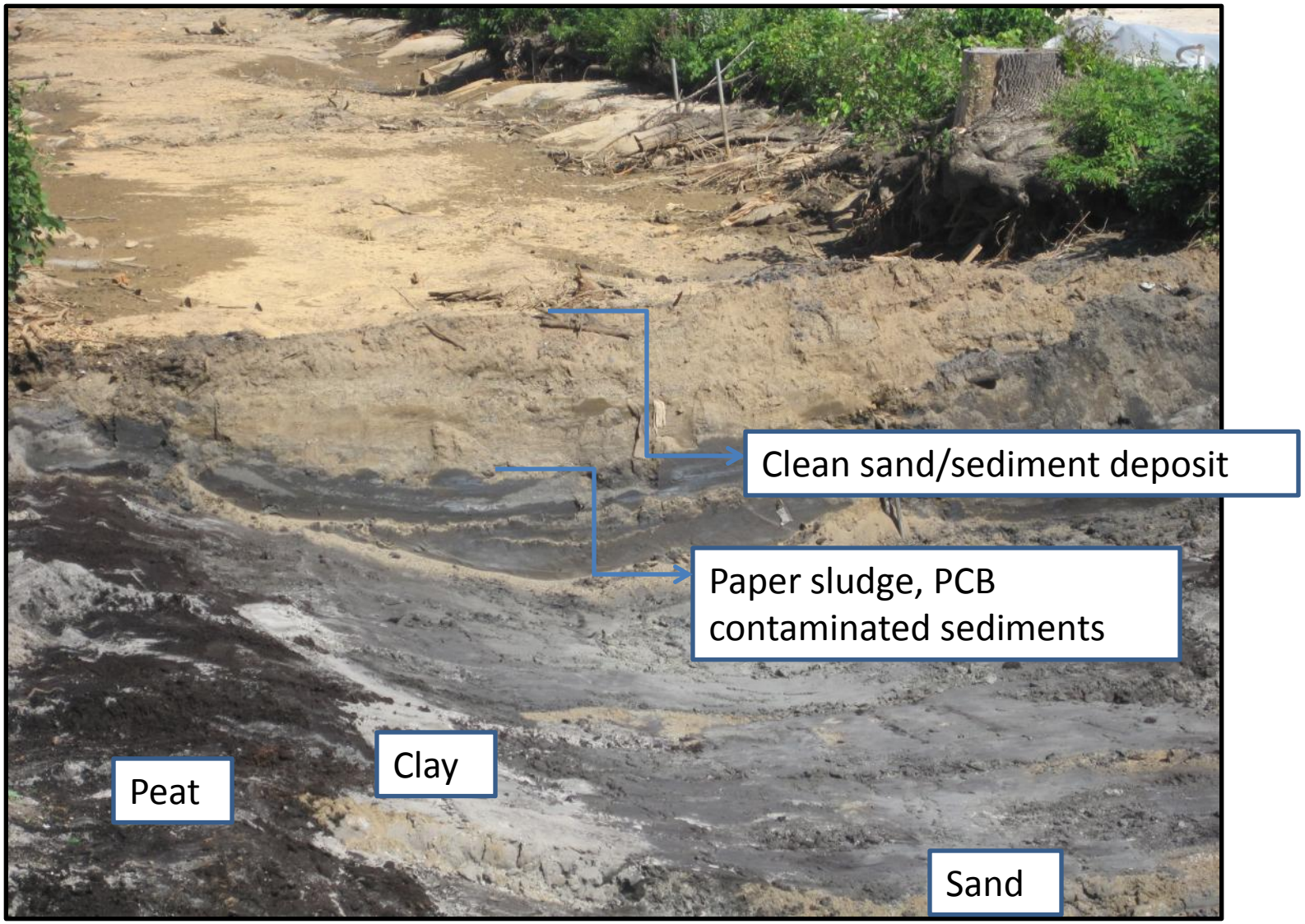
DRAWN	D.TOMO	9-09-11	
CHECKED			
APPROVED			
SCALE	NONE		

PORTAGE CREEK AREA SA5-C& SA5-D EXCAVATION AND WORK BOUNDARIES

REV.	PROJECT NO.	DWG NO.	REV
A	30281.0087	FIGURE 2	0

SA5C Excavation

SA5C Excavation



SA5-C
November 2012

Verification Data

- Multiple grids required over-excavation from target depths

- Verification samples are taken at target depth to justify over-dig

- Confirmation samples are taken at final depth for clean-up objectives

GRID	TARGET DEPTH (in)	INITIAL PCB RESULT (ppm)	OVERDIG (in)	TOTAL DEPTH (in)	CONFIRMATION PCB RESULT (ppm)	2nd OVERDIG (in)	TOTAL DEPTH (in)	2nd CONFIRMATION PCB RESULT (ppm)
AXC-1	24	27.9	12	36	35.8	24	60	ND
AXC-2	30	8.9	12	42	14.3	24	66	0.97
AXC-3	24	16.1	12	36	19.3	24	60	6.97
AXC-4	30	18.7	12	42	22.6	24	66	0.061
AXC-5	24	4.15	6	30	3.93	6	36	0.189

Example of grid data from Axtell Creek

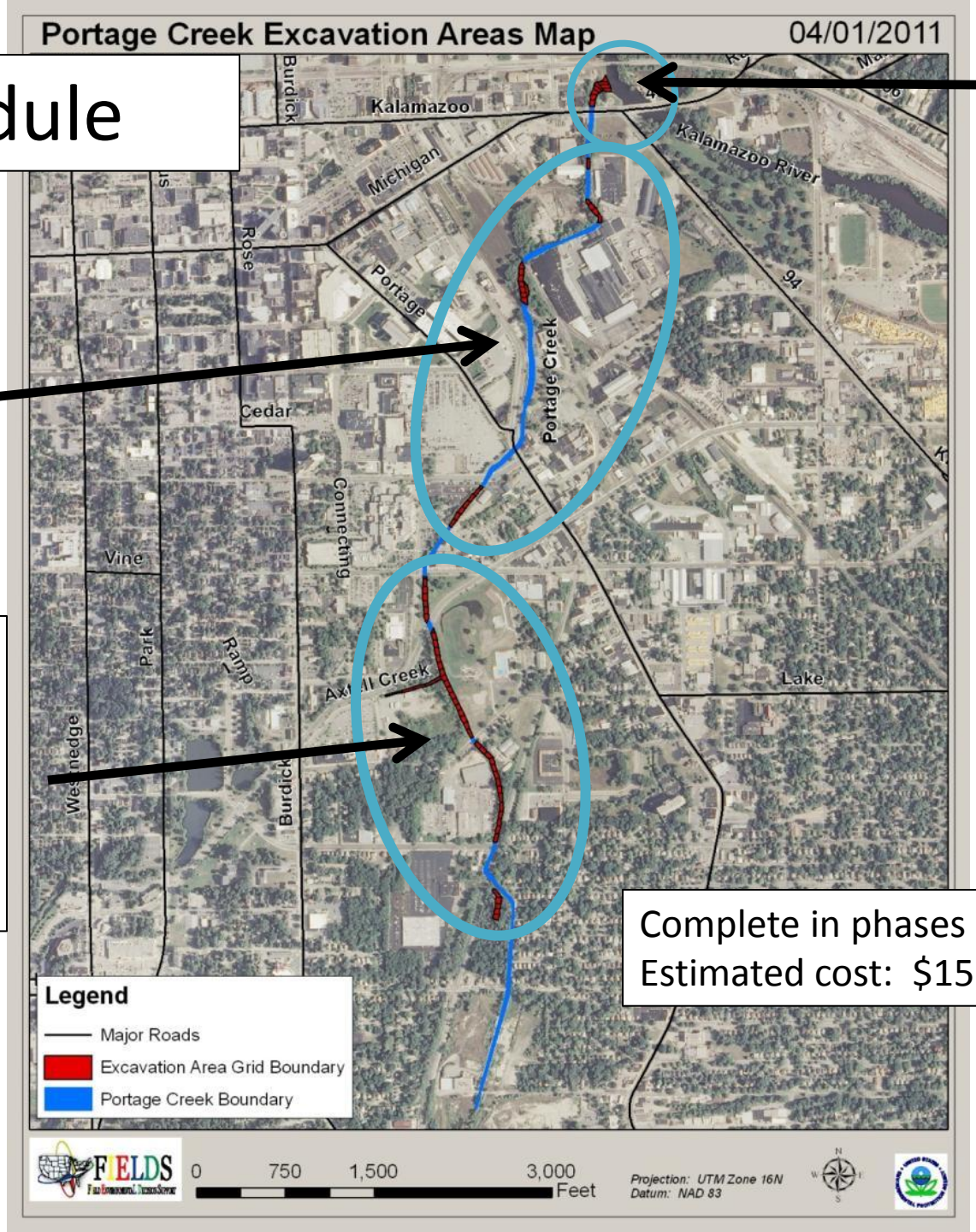
Cleanup Performance Standard/Goal

- Initial project estimate approximately 17,000 yd^3 (will be revised upward)
- In-stream sediment
- Standard = 10 mg/kg for both in-stream sediment and floodplain soils
  - Goal = 1 mg/kg with 6” over-dredge
  - All samples from SA6, SA5-Axtell, SA5D, & SA5C meet performance standard
  - All but 2 samples also meet performance standard goal
  - Range non-detect to 6.97 mg/kg
  - Uable to excavate SA5D-17 , a portion of SAC-6 & all of SAC-7
- Floodplain soil goal = 5mg/kg with 6” over-dredge
  - All SA7 confirmatory samples (5 taken) < 5 mg/kg
  - Range non-detect to 1.26 mg/kg
- Dredge depths range 12” – 71” over entire area

Summary of Original Estimated vs. Final Volume for Areas Excavated during FY 2012

Removal Area	Original Volume (yd^3)	Final Volume (yd^3)	Increase in Volume (yd^3)
SA5-C	2,040	2,871	831
SA5-D	3,880	4,504	624
SA6	2,737	2,982	245
SA7	826	826	0
Axtell Creek	849	1,871	1,022
Total	**10,332**	**13,054**	**2,722**

Schedule



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Project Partners

- State of Michigan
- Kalamazoo City
  - Dept. of Public Services
  - Planning
  - Economic Development Dept.
  - Parks & Recreation Dept.
  - School District
  - Tree Committee
- Kalamazoo
  - Nature Conservancy
  - River Cleanup Coalition
  - River Watershed Council
- U.S. Fish & Wildlife Service, NOAA
- Others
  - Private property owners
  - Utilities (railroad, power, phone, gas)
  - EQM & Weston Crews

Questions ?

www.epaosc.org/portagecreekarea

Craig Thomas
(312) 886-5907
thomas.craig@epa.gov

Paul Ruesch
(312) 886-7898
ruesch.paul@epa.gov

Andy Maguire
(312) 353-8782
maguire.andrew@epa.gov