



DFSP NORWALK RESTORATION ADVISORY BOARD

**Defense Logistics Agency – Installation Support for Energy
Update**



February 22, 2018

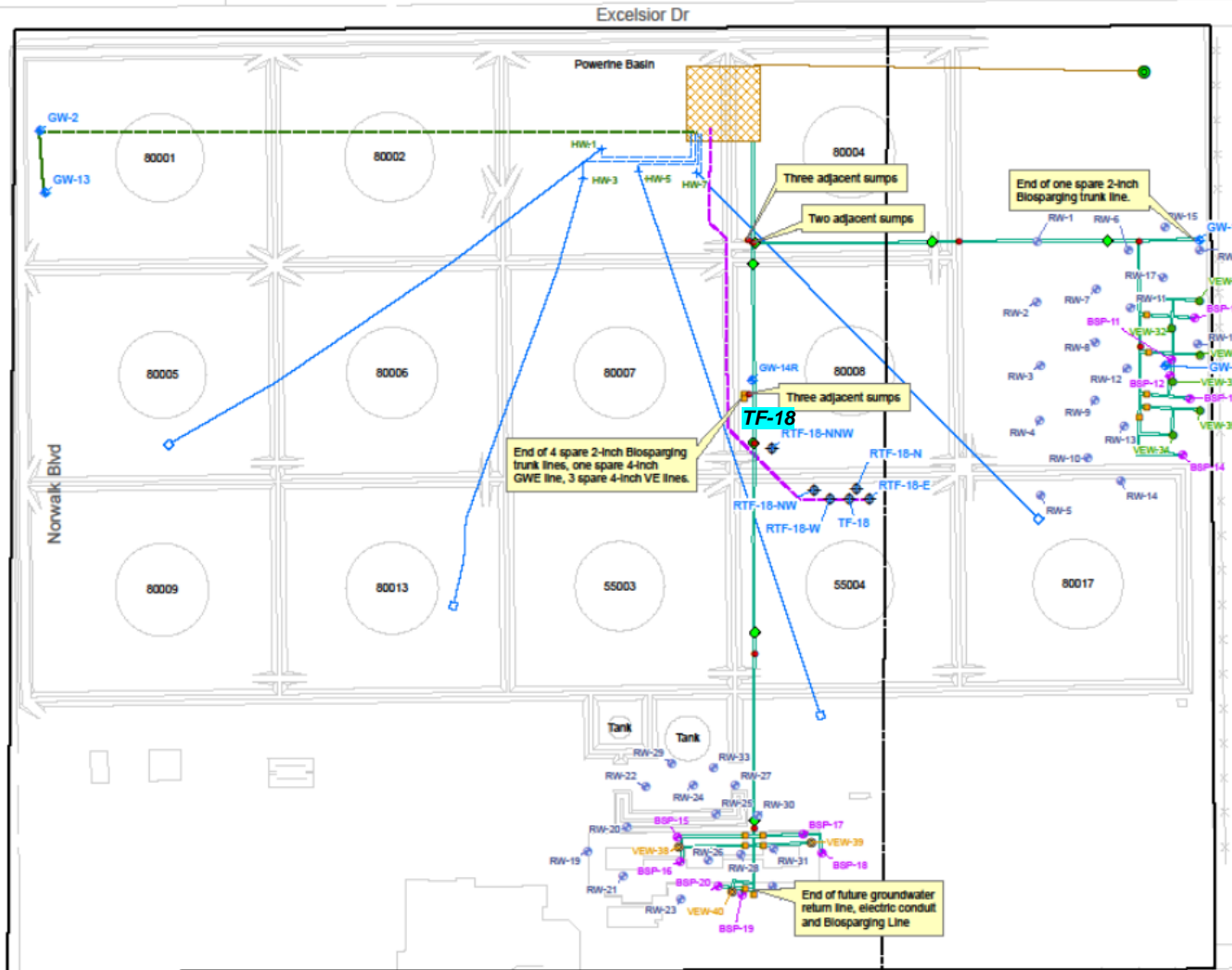
Status of Remediation System

Status of Soil and Groundwater Remediation System

- **Groundwater Remediation: 396,896 gallons in Q4 2017 with Treated 77.7MM gallons since April 1996;**
- **SVE System: Recovered 5,284 lbs in Q4 2017, with 2.97MM Pounds of Contamination (Hydrocarbon Equivalent or 436,375 gallons) since April 1996.**
- **SVE system is currently operating – from re-developed horizontal SVE wells and re-installed SVE wells in east and south parts of the Site.**
 - **A temporary 500-scfm gas-fired oxidizer is currently being operated due to increased vapor concentrations – operations limited by noise concerns.**
- **LNAPL Recovery: 212 gallons of LNAPL were recovered during Q4 2017 via hand bailing, absorbent socks, and automatic pumping.**

In-Situ Treatment System

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Legend

- Former Above Ground Storage Tanks
- DFSP Norwalk Border
- Existing Treatment System
- Below Grade Trenching and Piping to Remediation Wells
- Existing Horizontal Vapor Extraction Wells
- Electric Pole Line
- Below Grade Groundwater Extraction System Piping
- Above Grade Groundwater Extraction System Piping
- Product Recovery System Piping
- Horizontal Vapor Extraction System Piping
- Western Boundary of Eastern 15-Acre Parcel
- Groundwater Extraction Wells
- Biosparrow Wells (November 2016)
- Vapor Extraction Wells (November 2016)
- Vapor Extraction Wells (April 2007)
- Biosparrow and Vapor Extraction Wells (July 2017)
- Access Vaults for Groundwater Extraction Piping
- Condensate Sump for Vapor Extraction Piping
- Remediation System Control Vaults
- Electric Pole

N

DFSP Norwalk
15306 Norwalk Boulevard
Norwalk, California

Project Number:	Date:	Drawn By:	Approved By:
04-NDLA-007	08/01/2017	PW	BT

0 70 140 280
Feet

Site Map Showing Remediation Well and Piping Locations

Soil Remediation – Site Wide

Shallow Soil Remediation - Completed:

- **Soil Remediation Accomplished by Excavation and On-site Bio-remediation**
- **All Soil Between 0 to 10 feet with *Contamination Above Cleanup Goals* have been Excavated and Treated:**
- **Eastern Area Report: addendum submitted to the RWQCB on July 13, 2017**
- **Western Area Report submitted to the RWQCB on Jan 23, 2018.**

Western Area Shallow Soil Completion Report

- **Reports Submitted - Currently Under RWQCB Review**
- **Reports Include an Evaluation of Risk to:**
 - **Future On-Site Workers**
 - **Off-Site, Residential Receptors**
 - **Results Indicate no Significant Risk**
- **Anticipate RWQCB's Concurrence with Recommendation for No Further Action for the Shallow Soil by mid 2018**

Soil Remediation – Site Wide

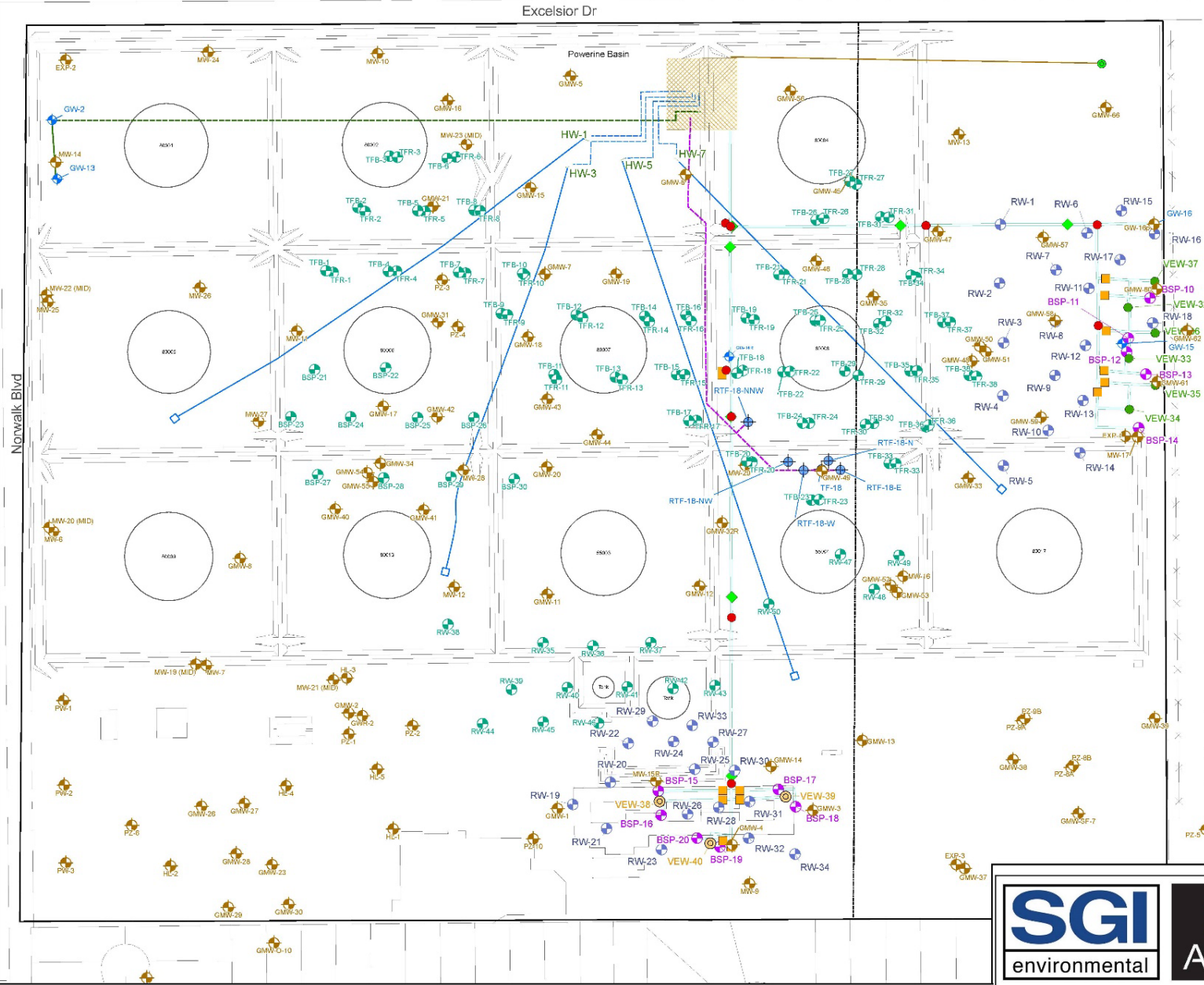
Deeper Soil Remediation:

- **SVE from New Vertical Wells and 3 Horizontal Wells (HW-3 found to have collapsed and is not usable)**
- **Air Sparging and Groundwater Treatment via Expanded Remediation Well Network.**
- **LNAPL Recovery occurring from 6 wells near TF-18**
- **Completed in Q3 2017:**
 - **Replaced 18 Groundwater Wells (Abandoned Prior to Soil Excavations),**
 - **New 3 SVE and 11 Sparge Wells and 34 Dual-use SVE/Sparge wells were installed.**
 - **Pilot Tested SVE/Air Sparge in Eastern and Southern Portions of Site – Results used to design expanded treatment well network.**

Soil Remediation – Site Wide

- **Q4 2017 and Q1 2018:**
 - **Installed 118 Remediation wells including 38 Total Fluids Recovery Wells, 64 Biosparge Wells and 16 SVE Wells.**
 - **Piping being installed currently; expect to be completed and available for use by Q2 2018.**
 - **All Piping will be buried**
 - **Detailed as-builts being maintained and will be provided to City and future Site developers**
 - **Evaluating necessity of replacing HW-3**

Remediation System Layout



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Groundwater – Planning for Next Phase

- **LNAPL CSM Submitted**
- **Currently Re-Starting Expanded SVE Well Network and Biosparging**
- **Increasing Air Sparge Capacity and Have Ordered new 3,000-scfm Vapor Extraction/Treatment Equipment**
- **Completed LNAPL Recovery Testing: Skimming, Vacuum-Enhanced Skimming, Total Fluids Extraction and Surfactant Bench Testing - Report Pending**
- **Focus: LNAPL Removal via Total Fluids (water and LNAPL) recovery; LNAPL Recovery Only, and enhanced with Air Sparge Well Network**



DLA Update

Questions & Discussion

