

## MEETING MINUTES

**Date:** Tuesday, November 29, 2022 at 5:30 P.M.

**Location:** East Hampton Town Hall  
One Community Drive  
East Hampton, CT

**Meeting Title:** Town of East Hampton, Connecticut  
Water System Preliminary Design Project  
Water Sub-Committee Meeting

**Prepared By:** Hanna Schenkel, Environmental Partners

**Attendants:** David Cox, Town Manager, Town of East Hampton  
Tim Feegel, Town Council Member, Town of East Hampton  
Brandon Goff, Town Council Member, Town of East Hampton  
Scott Clayton, Public Utilities Administrator, Town of East Hampton  
Chuck Adelsberger, Senior Project Manager, Environmental Partners  
Ann Marie Petricca, Director of Geosciences, Environmental Partners  
Hanna Schenkel, Engineer, Environmental Partners

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The Town of East Hampton's (Town) Water Sub-Committee and Environmental Partners (EP) met at the above date and location to discuss the Town's Water Supply Evaluation project and EP's findings to date. EP provided a progress update on the groundwater exploration field program and discussed next steps in the design process.

Ann Marie Petricca provided geotechnical results from the Pine Brook site exploration and preliminary water quality results from the Oakum Dock/Cobalt Landing wellfield testing. Chuck Adelsberger discussed potential approaches to water supply expansion and provided an overview on the next steps of the design process. Collectively, we discussed EP's findings, questions, and next steps. The Town provided an update on project funding. Dave Cox indicated that State Senator Norm Needleman applied for grant funding through the State's Bond Commission on behalf of the Town and received approval for \$1.0M for the next phase of the project. Chuck Adelsberger suggested that the grant funding be used for the surveying, mapping and geotechnical services after the proposed water supply facilities are sited during this phase of the work.

EP has presented below our understanding of the topics and responses as discussed during the meeting and action items to complete this phase of the project.

## I. Project Update

- EP presented a draft of the Preliminary Engineering Report (PER) to the Town at the Water Sub-Committee Meeting on June 22, 2022.
- EP conducted a groundwater exploration field program at the Pine Brook site and does not recommend siting the Town's second water supply source at Pine Brook due to poor aquifer material.
- EP conducted water quality testing at the Oakum Dock/Cobalt Landing wellfield, which yielded good results.

## II. Pine Brook Groundwater Exploration

Ann Marie Petricca presented EP's observations and findings during the Pine Brook Groundwater Exploration program.

- Access to the site
- Test well locations
- Shallow till/bedrock
- Exploration did not reveal sufficient aquifer for future groundwater supply.
- *Three borings were drilled.*
  - *Initial mapping presented aquifer (yellow area)*
  - *No aquifer material was not found at any of the boring sites.*
  - *Area was probed down without sampling, hit refusal from 12.5' to 25.5'*
  - *Material: clay, till*
    - *Bedrock East to West, anticipated aquifer material is likely under Pine Brook and wetland areas.*
  - *Located borings as close to wetland buffer as possible.*
- EP will finalize Groundwater Exploration report documenting observations and finding.
- Previous reports mention flooding of test wells.
  - *Probable that drilling was in wetlands.*
  - *Scott indicated that the previous test well location is currently under water.*

## III. Oakum Dock Wells

- There is a boat repair facility and potential hazards nearby the existing Oakum Dock wellfield.
- WQ results
  - *Six-hour well pump tests, each well (100 gpm)*
  - *Low pH levels*
  - *Low turbidity*
  - *Elevated iron, manganese, and sodium*
    - *Blending raw water may reduce concentrations of some reporting contaminants.*
    - *May recommend sequestering of iron and manganese for treatment (maintains Fe and Mn in solution) to avoid potential filtration treatment.*
  - *PFAS*

- *Action level= 16 ppt*
  - *Result= 5.8 ppt*
- *1,4 Dioxane was ND*
  - *Chlorinated solvents*
  - *Septic systems*
- *Coliform hit in Well 2 (may have needed more extensive flushing)*
- Specific Capacity
  - *Well #1 Previously (2004): 5.64 gpm/foot Current: 6.49 gpm/foot with 15.40-foot drawdown*
  - *Well #2 Previously (2004): 6.49 gpm/foot Current: 10.42 gpm/foot with 9.60-foot drawdown*
  - *20-30' available drawdown.*
  - *400 gpm well*
    - *EP suggested that the Town can potentially get higher production at the wellfield than permitted capacity.*
  - *Typically goes down over time so results are good.*
- EP will send camera report to Town once we receive it from LaFramboise Water Services.

#### IV. Potential Future Water Supply Sources

- Middletown has radial collector wells across the Connecticut River.
  - *Full development of Town is possible but unlikely in the next 20 years.*
    - *Assuming majority of the towns people is served*
  - *Realistically, the Town will serve most populated areas with permitted Oakum Dock wellfield capacity (i.e., Village Center, schools, residents with contaminated well south/west of Lake Pocotopaug, etc.)*
  - *Town should design and size water supply facilities for future system expansion.*

#### V. Water System Facility Siting and Hydraulic Evaluation Report

- Minimum pipe diameters should be 8-inch for needed fire flows.
- Hydraulic model will provide information on water age needed to system storage facilities and limit the formation of total trihalomethanes (THMs). Goal is to provide enough storage capacity, while limiting water age and corresponding THM formation potential.
- The water facilities will be sized to treat and pump the maximum day demand flow rate with peak hour demands provided by system storage.
- EP will site, size and design treatment facilities for future system expansion.
- EP will review the existing Cobalt Wellfield diversion permit and discuss potential increase in permit capacity for additional supply with the Connecticut Department of Energy and Environmental Protection (CTDEEP).
- EP will also contact the Connecticut Department of Public Health (CTDPH) Drinking Water Section about treatment and potential emerging contaminants.

## VI. Next Steps

- Initial facility siting and sizing (2-3 months)
- Service areas and elevation changes
- Further discussion on whether to maintain or abandon the Town's existing public water systems.
  - *Maintaining existing pipes if they are in adequate condition.*
- Public meeting – generic designs (aiming for March)
- Portland CT Site
  - *CT Water tried to site future water supply by river, but treatment was cost – prohibitive.*
    - *On other side of the river*
  - *East Hampton has been in contact with Portland.*
- Town needs EP to mention radial collector wells in a report. Ann Marie suggested subsurface exploration in the Connecticut River to assess potential for radial collector wells as future source of drinking water supply.
  - *EP with contact Middletown to confirm the location of their radial collector wells.*
  - *Potential gravelly material*
  - *Schedule meetings with CTDEEP and CTDPH on viability of radial collector wells for drinking water supply.*
- Consider equipment life expectancy.
- Town has approval with CTDPH eligibility application for Drinking Water State Revolving Fund (DWSRF) program.
- Town has begun discussions with Marina about siting wellfield facilities at the Oakum Dock wellfield.
- EP to schedule site walk with Scott.

The Town discussed potential available project funding and schedule.

- \$250k until end of 2023
- \$1.5 million until the end of 2025
- \$7k ARPA funding (may not be utilized)

# MEETING AGENDA

**Date:** November 29, 2022 at 5:30 PM

**Meeting Title:** Town of East Hampton, Connecticut  
Water System Preliminary Design Project  
Water Sub-Committee Meeting

## Topics

- a. Project Update
- b. Pine Brook Groundwater Exploration
  - Access to the site
  - Test well locations
  - Shallow till/bedrock
  - Exploration did not reveal sufficient aquifer for future groundwater supply.
- c. Oakum Dock Wells
  - Water quality tests
  - Existing wells video inspection
  - Permitted capacities
  - Initial Recommendations
    - Remove mineral buildup on casing and screen with brushing and bleaching
    - Clean sediment buildup with air lifting
    - Flush wells of sediment and minerals with thorough surging and pumping
  - Develop Oakum Dock wells as primary source
    - Design pumping facilities (need to site future treatment plant to confirm hydraulic conditions and pump characteristics)
- d. Potential Future Water Supply Sources
  - Exploration of Marlborough, CT site
  - Radial collector wells under Connecticut River (requires surface water treatment)
  - Potentially teaming with Portland, CT on new water supply source/site
- e. Water System Facility Siting and Hydraulic Evaluation Report
  - Task 1: Perform Field Program
  - Task 2: Develop Hydraulic Model of Current and Potential Expanded Water System
  - Task 3: Recommend Capital Improvement Program (CIP)
  - Task 4: Prepare Water System Facility Siting and Hydraulic Evaluation Report
- f. Additional Planning and Design Tasks

- Confirm extent of distribution system expansion to meet available water supply capacity
  - Perform water quality assessment for mixing of source waters
  - Initial surveying and geotechnical tasks following siting of facilities
- g. Project Funding and Schedule for Design Tasks
- Recommend completing the siting of facilities by March 2023
  - Confirm schedule for grant funding through the Connecticut State Bond Commission and develop scope, fee and schedule for preliminary design phase (i.e., survey, geotechnical, permitting, etc.)
  - Discuss funding and schedule for Drinking Water State Revolving Fund (DWSRF) Program
- h. EPA Health Advisory for PFAS and CTDPH New PFAS Minimum Contamination Level (MCLs)

#### Action Items and Next Steps in Preliminary Design Phase

- a. Water System Facility Siting and Hydraulic Evaluation Report

#### General Discussion/Questions



## Pine Brook Exploration Summary - East Hampton, CT

September 20-22, 2022

Boring/Probe	Total Depth/Refusal	Depth to Water	Lithology
B-1	12.5	DRY	TILL - Silty sand with gravel
B-2	14	6	TILL - sandy SILT and fine SAND with gravel
B-3	20.5	16	TILL - Silty sand with gravel and cobbles
Probe 1	16.5		
Probe 2	8		



B-3 12-16'



B-3 16-20'





B-3 20-22'

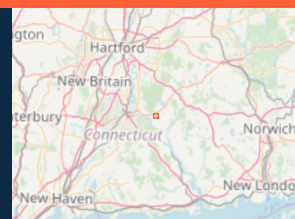
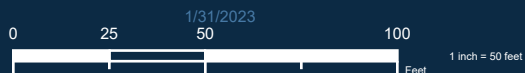




**Legend**

-  Boring
-  Probe

**Figure 2**  
**Pine Brook Site Exploration Activities**  
East Hampton, CT



**ENVIRONMENTAL**  
 **PARTNERS**  
— An Apex Company —

Disclaimer: This map is intended for planning purposes



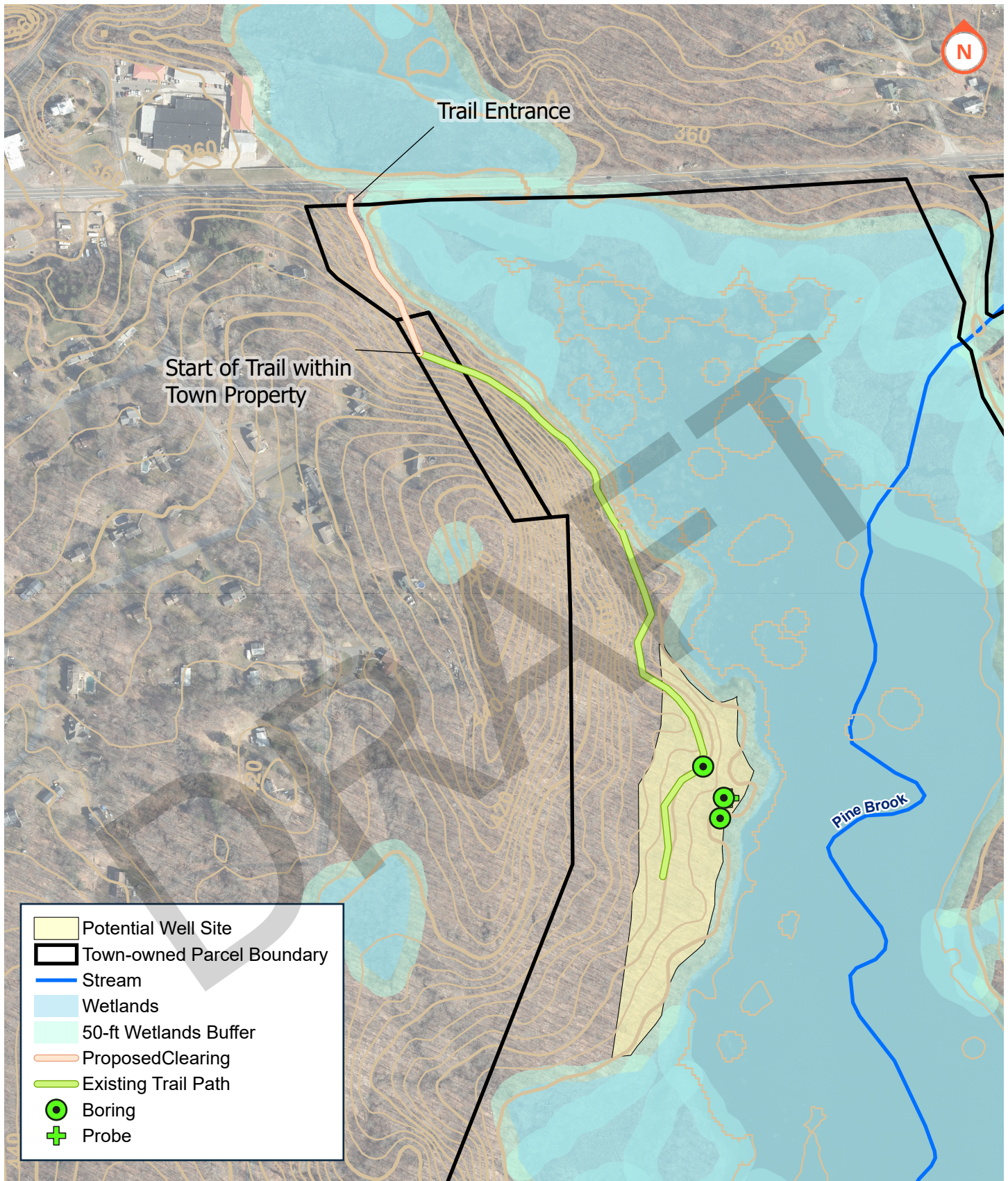
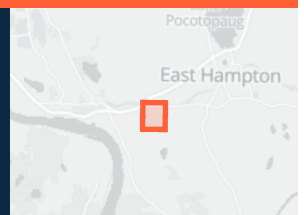


Figure 1  
Pine Brook Site

East Hampton, CT  
September 2022

ENVIRONMENTAL  
 PARTNERS  
— An Apex Company —





## Cobalt Wellfield - East Hampton, CT

November 10-11, 2022

6-Hours of Well Pumping

WATER QUALITY		Well #1	Well #2
Temp	degrees C	12.5	13.3
Specific Cond.	ug/cm2	310.0	516.0
DO	mg/L	6.25	7.78
pH		6.08	6.16
Turbidity	NTU	0.75	0.28

PUMPING DATA		Well #1	Well #2
Static WL (TOC)	feet TOC	12.60	13.80
End of Test WL (TOC)	feet TOC	28.00	23.40
Drawdown	feet TOC	15.40	9.60
Pumping Rate	GPM	100	100.00
Specific Capacity	GPM/foot	6.49	10.42
2004 Specific Capacity	GPM/foot	5.64	6.49



**Cobalt Wellfield - Groundwater Results**  
**East Hampton, CT**  
**November 2022**



Sample Identification: Date Sampled:	PFAS ACTION LEVEL	Well 1 11/3/2022	Well 2 11/4/2022
<i>Field Parameters</i>			
Temperature (°C)		12.5	13.3
pH (su units)		<b>6.08</b>	<b>6.16</b>
Dissolved Oxygen (mg/L)		6.26	7.78
Specific Conductance (µs/cm °C)		309.9	516
Turbidity		0.55	1.05
<i>524.2 Volatile Organic Compounds (VOCs)(ug/l)</i>			
2-Butanone		-	-
4-Methyl-2-Pentanone		-	-
Diethyl Ether		-	-
cis-1,2-Dichloroethene		-	-
Tetrachloroethene		-	-
Trichloroethene		-	-
Toluene		-	-
Acetone		-	-
Methyl tert-Butyl Ether (MTBE)		-	-
<i>Semi-Volatile Organic Compounds (SVOCs)(ug/l)</i>			
1,4-Dioxane		-	-
<i>Dissolved Metals (mg/l)</i>			
Aluminum		-	-
Antimony		-	-
Barium		0.043	0.102
Beryllium		-	-
Cadmium		-	-
Calcium		24.4	29.7
Copper		-	-
Hardness		86	102
Iron		<b>0.352</b>	0.0827
Lead		-	-
Magnesium		6.07	6.83
Manganese		<b>0.0948</b>	-
Mercury		-	-
Nickel		-	-
Potassium		3.87	3.84
Selenium		-	-
Silver		-	-
Sodium		<b>20.4</b>	<b>55.8</b>
Thallium		-	-
Zinc		-	-
<i>Perfluorinated Alkyl Acids(ng/l)</i>			
Perfluorobutanesulfonic Acid (PFBS)	NSA	2.71	10.9
Perfluorohexanoic Acid (PFHxA)	NSA	-	4.58
Perfluorooctanesulfonic Acid (PFOS)	10	-	-
Perfluorononanoic Acid (PFNA)	12	-	-
Perfluorooctanoic Acid (PFOA)	16	-	5.8
Perfluorohexanesulfonic Acid (PFHxS)	49	-	-
PFAS, Total (6)	NSA	-	5.8

**Cobalt Wellfield - Groundwater Results**  
**East Hampton, CT**  
**November 2022**



Sample Identification: Date Sampled:	PFAS ACTION LEVEL	Well 1 11/3/2022	Well 2 11/4/2022
<i>EPH Extractable Petroleum Hydrocarbons(ug/l)</i> C9-C18 Aliphatics1 C19-C36 Aliphatics1 C11-C22 Unadjusted Aromatics1 C11-C22 Aromatics1,2		- - - -	- - - -
<i>VPH Volatile Petroleum Hydrocarbon(ug/l)</i> C9-C10 Aromatics C5-C8 Aliphatics1,2 C9-C12 Aliphatics2,3 Benzene Ethylbenzene Methyl tert-Butyl Ether Naphthalene Toluene Xylene O Xylene P,M		- - - - - - - - - - -	- - - - - - - - - - -
<i>Microbiological Analysis(CFU/ml)</i> Heterotrophic Plate Count		-	-
<i>Bacteria in Water(col/100ml)</i> Coliform, Total Escherichia Coli		- -	1.00 -
<b>Other</b> <i>Total Alkalinity (mg CaCO3/l)</i> <i>NEMI Method 2320B</i>		51.0	34
<i>Chloride (mg/l)</i> <i>EPA Method 300.0</i>		50.2	116
<i>Fluoride (mg/l)</i> <i>EPA Method 300.0</i>		-	-
<i>Nitrates (mg/l)</i> <i>EPA Method 353.2</i>		1.62	3.04
<i>Nitrites (mg/l)</i> <i>EPA Method 353.2</i>		-	-
<i>Sulfates (mg/l)</i> <i>EPA Method 300.0</i>		12.6	16.0
<i>Total Dissolved Solids (mg/l)</i> <i>NEMI Method 2540C</i>		200.0	310
<i>Cyanide (mg/l)</i> <i>APHA Method 4500 CN CE</i>		-	-

**Notes:**

- = Not Detected Above Method Detection Limit



NOVEMBER 19, 2004

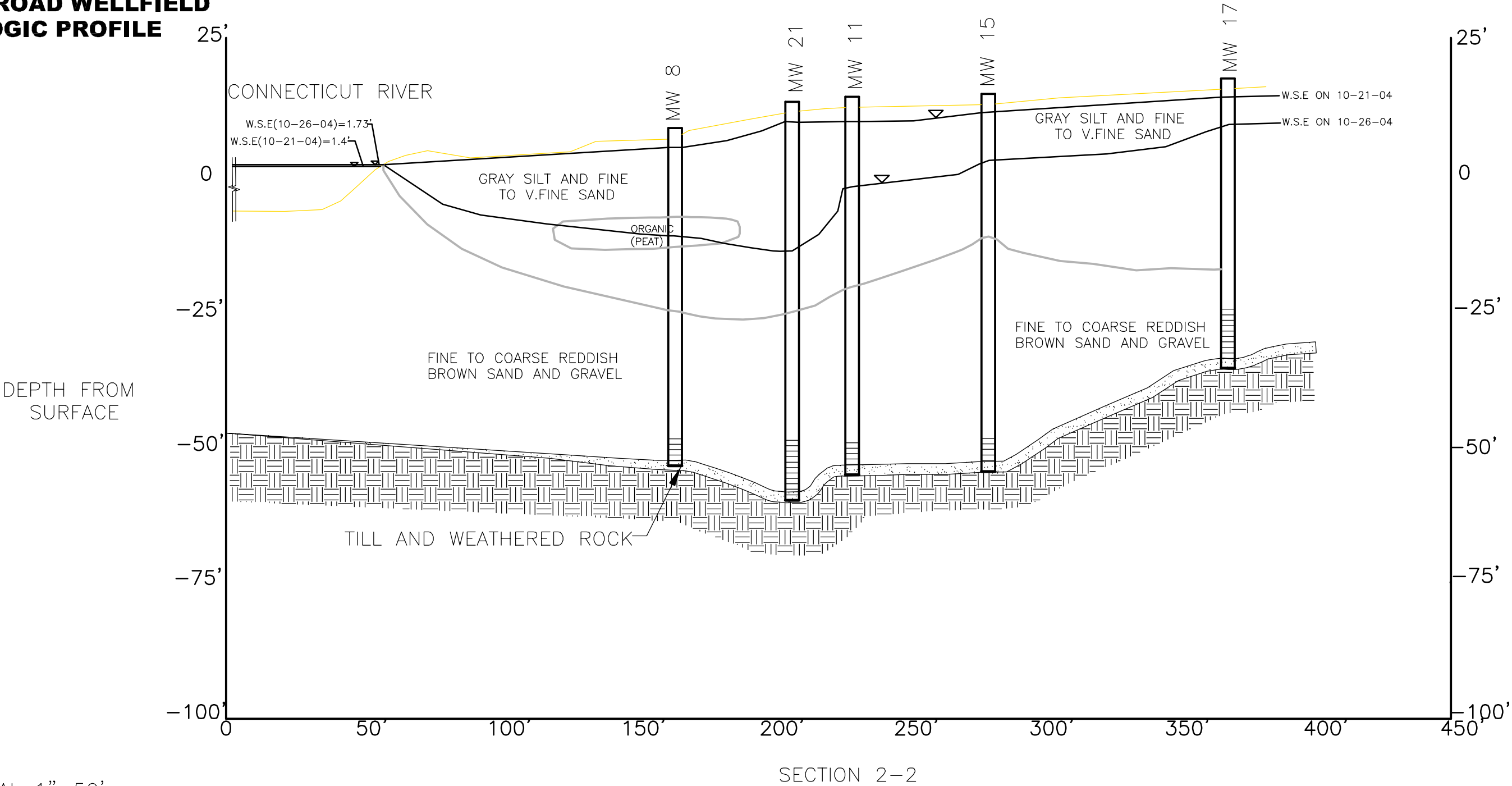


TOWN OF EAST HAMPTON  
INITIAL WATER SUPPLY PLAN

FIGURE III-2b  
OAKUM-DOCK ROAD WELLFIELD  
HYDROGEOLOGIC PROFILE

PREPARED BY:  
**MAGUIRE**  
GROUP

- NOTE:
- 1. ELEVATION BASED ON NAVD 1988
  - 2. STATIC WATER SURFACE ELEVATION AT 10.00 AM OCT. 21, 2004
  - 3. PUMPING WATER SURFACE ELEVATION AT 10.00 AM OCT. 26, 2004



SCALE:  
HORIZONTAL 1"=50'  
VERTICAL 1"=25'