TETRA TECH

NOR-02678

February 25, 2021

Mr. Jason Pelton
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau A, 12th Floor
625 Broadway
Albany, New York 12233-7015

Reference: CLEAN Contract No. N6247016D9008
Contract Task Order WE13

Subject: Final CERCLA Letter Work Plan
Site 1 Operable Unit (OU) 2 Plume Data Gap Investigation
Monitoring Well Installation Program
Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage, New York

Dear Mr. Pelton:

On behalf of the Department of the Navy, Tetra Tech is submitting the *Final CERCLA Letter Work Plan Site 1 OU2 Plume Data Gap Investigation Monitoring Well Installation Program, NWIRP Bethpage* to the New York State Department of Environmental Conservation (NYSDEC) for its records. NYSDEC comments on the draft work plan provided to the Navy in the February 19, 2021 letter correspondence have been addressed and incorporated into the final document.

If you have any questions please contact Mr. Brian Murray, NAVFAC MIDLANT, at brian.s.murray@navy.mil or (757) 341-0491.

Sincerely,

Ernie Wu
Project Manager

Enclosures: Final CERCLA Letter Work Plan
Site 1 Operable Unit 2 Plume Data Gap Investigation
Monitoring Well Installation Program
NWIRP Bethpage, New York

Distribution:
NYSDEC, Don Hesler
NAVFAC MIDLANT, Brian Murray
Tetra Tech, David Brayack
Project File

Tetra Tech, Inc.
5700 Lake Wright Drive, Suite 102 Norfolk, VA 23502
Tel 757.461.3768 Fax 757.461.4148 www.tetratech.com

CERCLA LETTER WORK PLAN
SITE 1 OPERABLE UNIT 2 PLUME DATA GAP INVESTIGATION
MONITORING WELL INSTALLATION PROGRAM
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT
BETHPAGE, NEW YORK
FEBRUARY 2020

1.0 INTRODUCTION

The Department of Navy (Navy) is conducting an investigation to support ongoing delineation and monitoring of the Site 1 Operable Unit (OU) 2 groundwater volatile organic compound (VOC) plume (hereafter OU2 VOC plume) at the former Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage (Figure 1). This work plan specifically addresses the installation of monitoring wells to further delineate the OU2 VOC plume at shallow (0 to 300 feet below ground surface [bgs]) and intermediate (300 to 500 feet bgs) groundwater depth intervals, downgradient (southeast) of the former NWIRP. The deep groundwater interval (greater than 500 feet bgs) OU2 VOC plume has undergone extensive investigation by the Navy and is currently monitored under a quarterly groundwater sampling program.

Installation of the monitoring wells described in this work plan will follow the general procedures described in the *Final December 2018 On-Property Letter Work Plan, Vertical Profile Boring and Monitoring Well Installation Program* (Tetra Tech, 2018). The Navy undertakes and documents its environmental remedial activities with respect to releases/suspected releases from the former NWIRP through Navy Work Plans. These documents outline technical requirements for conducting these activities and include provisions to protect health and safety and to minimize impact to the local community. These provisions include restricting impacts to noise, dust, work hours, and site maintenance (e.g., cleanliness).

This work plan has been prepared by Tetra Tech for the Mid-Atlantic Division of the Naval Facilities Engineering Systems Command (NAVFAC) pursuant to Contract Task Order (CTO) WE13, issued under Comprehensive Long-term Environmental Action Navy (CLEAN) Contract Number N6247016D9008.

This document is provided for review and comment in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERLCA) requirements for notice of environmental restoration activities. The Department of Navy will address reviewer's comments prior to finalization of the document.

2.0 SCOPE AND OBJECTIVE

The purpose of this monitoring well installation program is to address data gaps in the OU2 VOC plume by better defining the horizontal and vertical extent of groundwater contamination, evaluating migration, and determining concentrations of VOCs in groundwater. The shallow OU2 VOC plume (0 to 300 feet bgs) downgradient of the former NWIRP is delineated primarily based on vertical profile boring (VPB) data. Similarly, the southern boundary of the intermediate plume (300 to 500 feet bgs) is delineated based on VPB data. The VPB data consists of groundwater grab samples that represent primarily a single non-reproduceable sampling event. This current investigation will install eleven monitoring wells to allow collection of current data to delineate the OU2 VOC plume in these areas and to allow for the collection of future groundwater data to evaluate potential changes in the VOC concentrations over time. The proposed locations of these wells are shown on Figure 2.

Under this program, eight monitoring wells will be installed in the shallow plume (0 to 300 feet bgs) and three monitoring wells will be installed downgradient of the intermediate (300 – 500 feet bgs) depth OU2 VOC plume. These wells will be used to evaluate the leading edge of the plume boundary. Figures 3 and 4 show the proposed locations of the shallow and intermediate depth wells relative to the respective 2019 shallow (0 to 300 feet bgs) and intermediate (300 to 500 feet bgs) trichloroethylene (TCE) plume.

The monitoring wells will be installed using mud rotary drilling techniques. The new monitoring wells are located at or near former VPB locations. Therefore, the well screen interval(s) will be selected by the Navy using the data from the VPBs, such as presence/absence of VOCs and subsurface geology. Figures showing the individual proposed drilling locations are provided in Attachment 1. Groundwater sampling and analysis is addressed under other work plans for this project.

Installation of additional monitoring wells may be required in the future to further refine the delineation of the OU2 VOC plume in the shallow and intermediate groundwater depth intervals.

3.0 PROTECTION OF THE COMMUNITY

The drilling site will be maintained in a manner to protect the health and safety of the surrounding community. This protection will be achieved through implementation of best operational practices and controls applicable to drilling activities in residential areas. This section provides a summary of these practices and controls. Drilling at each location is expected to have a duration of approximately 4 to 7 weeks (4 weeks at locations with one well and 7 weeks at locations with two wells installed).

3.1 Notification of Drilling Activities

Prior to mobilization of equipment, drilling notifications will be distributed to residents located near the drilling sites to inform the residents of the Navy's intent and plans. Notifications will be hand-delivered a minimum of one week prior to mobilization to residents in the vicinity of the drilling locations. The notifications will include points of contact for the Navy, the Navy's prime contractor (Tetra Tech), New York State Department of Environmental Conservation (NYSDEC), and the New York State Department of Health (NYSDOH). An example notification letter is provided in Attachment 2. Tailored letters are to be provided to residents at addresses located immediately adjacent to the drilling site. NYSDEC, NYSDOH, and the respective local municipalities (Town of Hempstead or Town of Oyster Bay) will be notified at least 48-hours prior to the distribution of residential drilling notifications.

3.2 Drilling Controls

Monitoring well drilling will be conducted using mud rotary drilling techniques. Installation of monitoring wells will be accomplished using mud rotary drilling techniques. General work hours for active operation of the drill rig will typically be weekdays from 8:00 am to 4:30 pm. The work site will be maintained to ensure cleanliness both inside and outside of the drill site. Trash will be maintained in an acceptable receptacle and be removed on a regular basis from the site as to not allow for excessive accumulation. The Navy's contractor will provide a field operations manager to visit the site and inspect for cleanliness and safety.

Although work is not routinely conducted on weekends or holidays, there may be instances where work will be required outside of the general work hours. For example, over a weekend or holiday, an active borehole may require inspection or the addition of drilling mud to ensure the integrity of the hole. Site workers will minimize their time at the drill site during non-routine work hour visits.

3.3 Site Controls

A perimeter security fence equipped with a lockable gate will surround the drill rig, equipment and materials, and waste receptacle(s). The gate will be secured with a lock at the end of each workday. A sound barrier will be installed to mitigate excessive noise from the drill site prior to the onset of drilling.

3.4 Traffic Control

Caution will be exercised when entering/exiting the site. Temporary traffic control devices shall be utilized as necessary, to provide adequate warning of conditions created by work vehicles entering and exiting the site. Temporary traffic control devices which may be used are as follows:

- Signage shall be used as necessary to warn and direct traffic.
- Channelizing devices such as traffic cones shall be used as necessary, to warn road users of the temporary disruption caused by equipment/vehicles entering and exiting the site; and
- Flaggers shall be used if alternate traffic management systems are not feasible.

All workers involved in traffic management activities shall wear high visibility vests. Temporary traffic control measures shall be removed as soon as practical when they are no longer needed. A separate traffic management and control plan will be implemented for each drilling site as shown in figures provided in Attachment 1.

3.5 Monitoring for Airborne Matter

Excessive airborne matter and VOCs are not expected to be generated during installation of the monitoring wells; however, to ensure safety to workers and the surrounding community, air monitoring will be conducted during these operations. The Navy's plan closely follows procedures outlined in NYSDEC's guidance for community air monitoring during restoration activities.

The constituents of concern in the OU2 VOC plume area are VOCs. VOCs will be monitored during drilling activities using a photo-ionization detector (PID) equipped with a 10.6 eV lamp. Drilling activities will not likely result in the generation of particulate matter which would trigger particulate monitoring; however, to ensure the safety of the workers and community, particulate monitoring will be conducted during drilling. Particulates will be monitored using a particulate air monitor equipped with a micro-processor to perform real-time measurement of airborne concentrations in microgram per cubic meter ($\mu g/m^3$).

Both the PID and particulate monitoring equipment will be calibrated on a daily basis when they are used. The PID will be calibrated using a 100 parts per million (ppm) isobutylene air standard. The particulate air monitoring equipment will be calibrated using the appropriate air standard as specified in the equipment manufacturer's instructions. Calibration records will be maintained in the field log/notes.

Both VOCs and particulate monitoring will be conducted at the upwind and downwind perimeter of the drill site. The location of the monitoring equipment may be adjusted as necessary based on wind shifts. Real-time air monitoring field logs/data will be maintained to allow for interpretation of the data when necessary and will be available for review. Site conditions, weather conditions, work activities, and, implemented engineering controls will be documented in field logs/notes.

VOC and particulate monitoring recordings will be maintained in the project files. These records will be made available for NYSDEC and NYSDOH personnel to review upon

request. Any exceedances of the action levels will be reported to NYSDEC and NYSDOH personnel as well as a representative of the local municipality.

In addition, to real time air monitoring, during drilling activities, two air samples per monitoring well drilling site will be collected and analyzed for VOCs using United States Environmental Protection Agency (EPA) Method TO-15. Air samples will be collected using SUMMA canisters over an approximate 8-hour period. One air sample will be collected near/downwind of the drill rig and one air sample will be collected upwind of the drill rig.

4.0 FIELD ACTIVITIES

4.1 Utility Clearance

Prior to the initiation of intrusive fieldwork, the drilling subcontractor will contact Dig Safely New York to arrange for the location and marking of all underground utilities in the vicinity of the proposed soil boring and monitoring well locations, as required by the New York Code of Rules and Regulations (NYCRR) Part 753. The drilling subcontractor will make the one call ticket available for review. In addition to the one call ticket, a third party independent utility company will be contracted to confirm utility locations.

During drilling, the first five feet of borehole will be cleared in a safe manner, to locate/avoid any utilities that may have not been identified during utility clearance

4.2 Drilling Locations for Monitoring Wells

Figure 2 provides the regional location of the proposed monitoring wells discussed in this work plan. The monitoring wells will be installed south of the Hempstead Turnpike which is located approximately two miles south of the NWIRP Bethpage property.

4.3 Monitoring Well Installation

During this investigation, eleven monitoring wells will be installed. The monitoring well locations for the shallow (eight wells) and intermediate (three wells) plumes are shown on Figures 3 and 4, respectively. These figures depict the proposed locations of the wells relative to the OU2 VOC plume. The approximate well screen intervals, based on the data from existing VPBs, are provided in Table 1.

The monitoring wells will be installed using mud rotary drilling techniques. Following completion of the borehole, a down-hole geophysical survey will be conducted to evaluate the subsurface geology. Based on the geophysical survey, adjustments may be made to place the screen within the most transmissive zone where VOCs are anticipated to be encountered. A typical well construction diagram is presented in Attachment 3.

The construction details for these monitoring wells are as follows:

- The wells will be 4-inch diameter, Schedule 80 National Sanitation Foundation (NSF)-grade polyvinyl chloride (PVC) well casing and screen.
- Screens will be 20 feet in length with a 10 slot (0.010 inches) screen.
- After setting the well screen and casing, a gravel pack (#1 quartz sand) will be placed within the boring annulus to a minimum of 10 feet above top of screen.
- A 5-foot thick fine sand layer (#0 quartz sand) will be placed in the annulus on top of the gravel pack.
- A 4-foot thick (minimum) bentonite seal will be installed above the fine sand layer.
- A bentonite/cement grout will be installed within the annular space above the bentonite seal.
- Wells will be completed at grade using a 12-inch diameter, locking curb box in place over the wells.
- A 0.5-foot thick concrete apron measuring 2 feet by 2 feet square will be installed around each well.
- The wells will be covered with a clean compression well cap. Well locks will be used to secure the wells. Final well construction details will be documented on well construction log sheets.

4.4 Groundwater Monitoring Well Development

Following the installation, wells will be developed no sooner than 5 days after installation to evacuate drilling mud, silts, and other fine-grained sediments which may have accumulated within the well during installation. Wells will be developed using a combination of air lifting and mechanical surging. Field parameters (pH, temperature, specific conductivity, oxidation reduction potential, dissolved oxygen, and turbidity) will be monitored and recorded throughout well development. Development will continue until drilling mud is not observed and the well produces clear, sediment-free water, to the extent practicable. In compliance with NYSDEC policy, wells will be developed until turbidity is less than 50 nephelometric turbidity units (NTUs).

Well development will also include purging stagnant water from the well above the screen interval and rinsing the interior well casing above the water table using only water from that well.

4.5 Surveys

The location of each newly installed monitoring well will be surveyed by a New York State licensed surveyor.

5.0 DECONTAMINATION

A centrally-located decontamination pad at NWIRP Bethpage will be used to decontaminate drilling equipment and tooling. All decontamination fluids will be collected from the pad and managed as Investigation derived waste (IDW). As necessary a decontamination pad may be required to be constructed at the drill site within the secured fence and lockable gate. Decontamination activities conducted during this investigation will follow procedures outlined in Tetra Tech Standard Operating Procedure (SOP) SA-7.1 Decontamination of Field Equipment and Management of Investigation Derived Waste (Tetra Tech, 2016).

6.0 INVESTIGATION DERIVED WASTE

IDW generated from drilling activities will be managed in a manner that is protective to the community. IDW created during this program will include soil cuttings, drilling fluids, groundwater, and decontamination fluids. All IDW will be containerized and properly labeled, characterized, and temporarily stored at a central staging area located at NWIRP Bethpage. It is anticipated all IDW generated from drilling activities will be non-hazardous. IDW drilling fluids will also include wash fluids generated from decontamination of down-hole drilling equipment (e.g., augers and rods).

IDW will be disposed of properly based on waste characterization results. The management of IDW generated during this investigation will follow procedures outlined in Tetra Tech SOP SA-7.1 Decontamination of Field Equipment and Management of Investigation Derived Waste (Tetra Tech, 2016) and United States Environmental Protection Agency Guide to Management of Investigation-Derived Wastes (OSWER, 1992).

7.0 MONITORING WELL SAMPLING

Monitoring wells installed during this program will be sampled utilizing the following procedures. Each well will be allowed to stabilize for a minimum of 14-days prior to sampling. Monitoring wells installed during this program will be incorporated into the ongoing Quarterly OU2 Groundwater Monitoring Program. After installation and development, monitoring wells will be sampled in the next quarterly groundwater monitoring event.

Wells will be sampled in accordance with similar procedures outlined in the Final Letter Work Plan for 2019-2020 Quarterly Groundwater Sampling Events OU2 – Offsite

Groundwater Monitoring Program NWIRP Bethpage, NY (Tetra Tech, 2019). Groundwater samples will be analyzed for VOCs via Method 8260B and 1,4-dioxane via Method 8270 SIM.

These wells will be incorporated into the Navy's ongoing groundwater sampling program. The frequency of sampling will be evaluated following one year of quarterly sampling.

8.0 REPORTING

8.1 Field Documentation

Field documentation required to support this project will consist of the following items:

- Field notebook.
- Boring log for each boring.
- Groundwater and soil sample log sheets.
- Chain of custody forms documenting shipment of sample to a fixed based analytical laboratory.
- Well completion form for each well.
- Well development record.
- Survey map identifying newly installed monitoring well.
- Analytical data summary.

8.2 DATA VALIDATION

Analytical data from TO-15 air samples collected during drilling and groundwater data collected from monitoring well sampling during the quarterly OU2 groundwater sampling events will undergo full data validation in accordance with EPA data validation guidelines (EPA, 2017).

8.3 Data Summary Report

A monitoring well installation report will be developed to document installation of each monitoring well. Figures and tables will be used to present lithological data. The report will include log sheets documenting monitoring well drilling, gamma logs, well construction details, and development logs. A summary of air monitoring data will also be included in the report.

The Navy will provide reports to the NYSDEC for review and concurrence. This report may be provided to the local municipalities as requested, concurrent with issuance of the final document to the NYSDEC.

The sampling of the OU2 plume data gap monitoring wells will be integrated into the Navy's ongoing quarterly OU2 groundwater sampling program. Groundwater analytical data collected during these quarterly groundwater sampling events will be reported in separate groundwater data reports.

9.0 REFERENCES

EPA, 2017. USEPA National Functional Guidelines for Organic Superfund Methods Data Review. EPA-540-R-2017-002, January.

Office of Solid Waste and Emergency Response (OSWER), 1992. Guide to Management of Investigation-Derived Wastes, April.

Tetra Tech, 2016. Standard Operating Procedure SA-7.1 Decontamination of Field Equipment and Management of Investigation Derived Waste, July.

Tetra Tech, 2018. December 2018 On-Property Letter Work Plan, Vertical Profile Boring and Monitoring Well Installation Program. NWIRP Bethpage, December.

Tetra Tech, 2019. Final Letter Work Plan, 2019 -2020 Quarterly Groundwater Sampling Events, OU2 – Offsite Groundwater Monitoring Program. NWIRP Bethpage, November.

TABLE

TABLE 1
PROPOSED MONITORING WELLS
OPERABLE UNIT 2 PLUME DATA GAP INVESTIGATION
NWIRP BETHPAGE

New Monitoring Well ID	Existing VPB Location	Top of Screen (feet bgs) **	Bottom of Screen (feet bgs) **
Shallow Wells (0 to 300 feet bgs)			
TT-MW150S1	VPB-150	230	250
TT-MW161S1	VPB-161	200	220
TT-MW158S1	VPB-158	210	230
TT-MW172S1	VPB-172	250	270
TT-MW149S1	VPB-149	210	230
TT-MW205S1*	VPB-131	230	250
TT-MW163S1	VPB-163	270	290
TT-MW162S1	VPB-162	250	270
Intermediate Wells (300 to 500 feet bgs)			
TT-MW174I1	VPB-174	300	320
TT-MW149I1	VPB-149	330	350
TT-MW158I1	VPB-158	300	320

Notes:

* Proposed screen interval for TT-MW205S1 based on depths where TCE was detected in upgradient locations VPB-149 and VPB-172.

** Final monitoring well screen intervals will be determined by analysis of the well borehole and adjacent VPB geophysical logs. Adjustments may be made to set the screen within the most transmissive zone.

NWIRP - Naval Weapons Industrial Reserve Plant
bgs - below ground surface
VPB - vertical profile boring

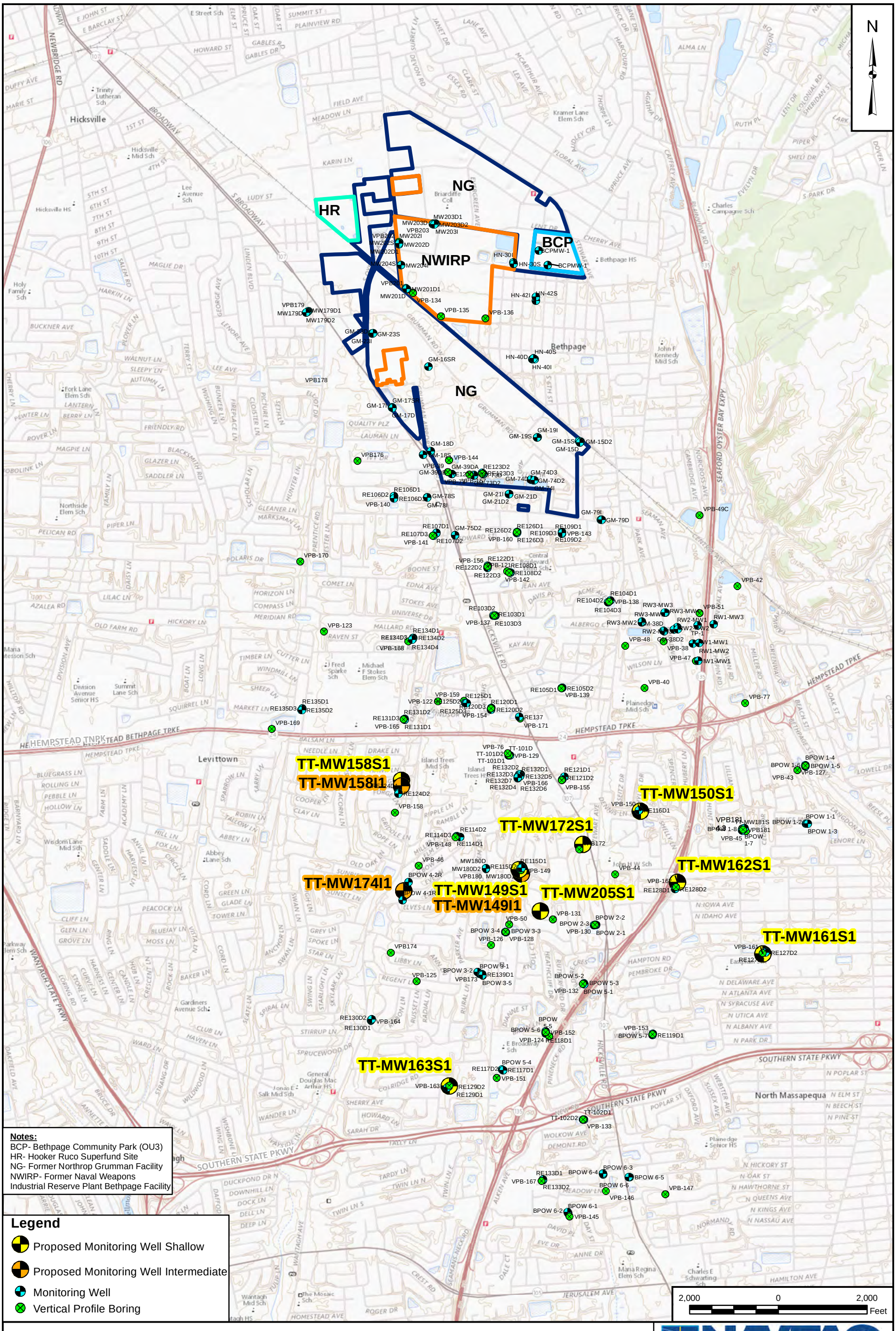
FIGURES

NAVFAC

GENERAL LOCATION MAP
NWIRP BETHPAGE, NEW YORK

CTO	N62470-16-D-9008 WE13
DRAWN BY	DATE
MC	08/15/19
CHECKED BY	DATE
EW	08/15/19
FIGURE NUMBER	
1	

NOR P:\GIS_files\Bethpage\MAP DOCS\MXD\2013\RI_add\BP_longisland-new_8x11.mxd MMC



PROPOSED MONITORING WELL LOCATIONS
OU2 VOC PLUME DATA GAP INVESTIGATION
NWIRP BETHPAGE, NEW YORK

NAVFAC Naval Facilities Engineering Systems Command

DRAWN BY	DATE	CTO
MC	02/23/21	N62470-16-D-9008-WE13
CHECKED BY	DATE	FIGURE NUMBER
DB	02/23/21	2

NOR P:\GIS_files\BethpageMAP DOCS\MXD\2020_SP\2020_Proposed_MWs.mxd MMC

N

NG

HR

BCP

NWIRP

NG

Groundwater Flow

TT-MW158S1

TT-MW150S1

TT-MW172S1

TT-MW162S1

TT-MW149S1

TT-MW205S1

TT-MW161S1

TT-MW163S1

Downgradient shallow plume primarily delineated based on VPB data

Notes:
BCP- Bethpage Community Park (OU3)
bgs- below ground surface
HR- Hooker Ruco Superfund Site
NG- Former Northrop Grumman Facility
NWIRP- Former Naval Weapons Industrial Reserve Plant Bethpage Facility
TCE- Trichloroethene
µg/L- microgram per liter

Legend

- Proposed Monitoring Well Shallow
- Monitoring Well
- Vertical Profile Boring

2019 TCE (0 to 300 feet bgs)

- 5 to 100 µg/L TCE
- >100 to 1,000 µg/L TCE
- >1,000 µg/L TCE

TCE (0 to 300 feet bgs)

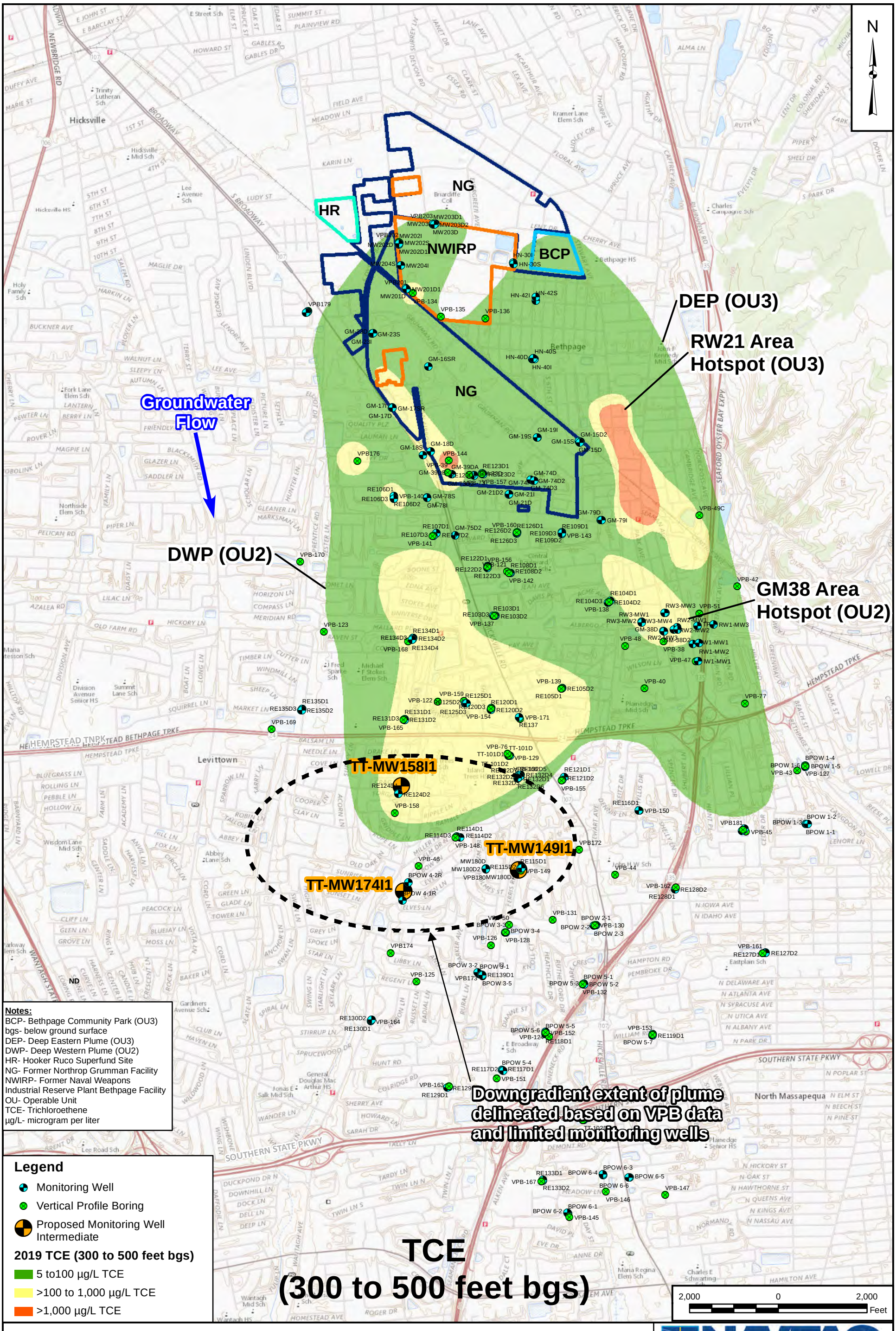
2,000 0 2,000 Feet

PROPOSED SHALLOW DEPTH MONITORING WELL LOCATIONS
2019 TCE CONCENTRATION IN GROUNDWATER
(0 to 300 FEET BGS)
NWIRP BETHPAGE, NEW YORK

NAVFAC Naval Facilities Engineering Systems Command

DRAWN BY	DATE	CTO
MC	02/23/21	N62470-16-D-9008-WE13
CHECKED BY	DATE	FIGURE NUMBER
DB	02/23/21	3

NOR P:\GIS_files\Bethpage\MAP DOCS\MXD\2020_SP\2019_BP_0-300_TCE_MWs.mxd MMC



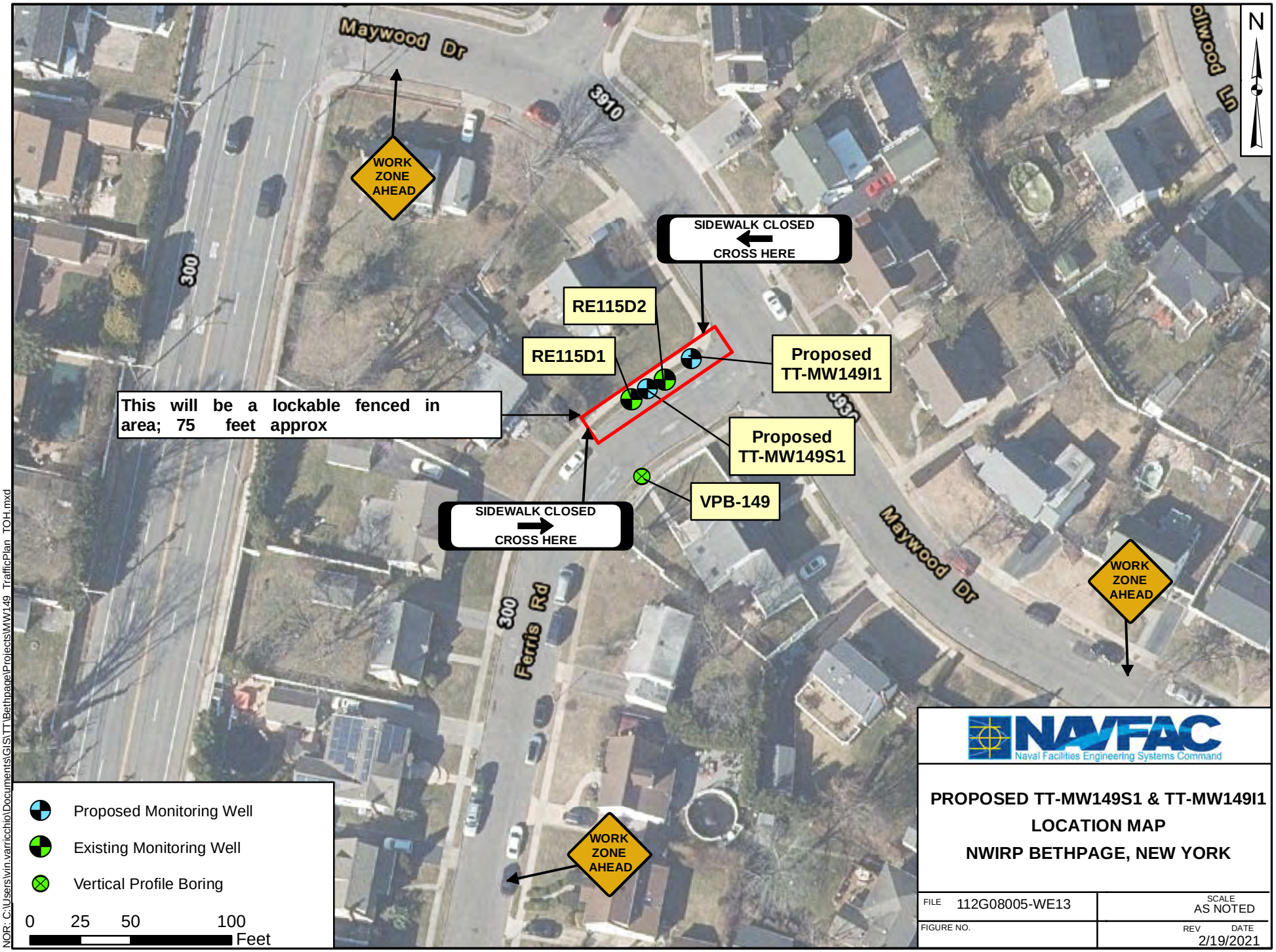
PROPOSED INTERMEDIATE DEPTH MONITORING WELL LOCATIONS
2019 TCE CONCENTRATION IN GROUNDWATER
(300 to 500 FEET BGS)
NWIRP BETHPAGE, NEW YORK

Naval Facilities Engineering Systems Command

DRAWN BY	DATE	CTO
MC	01/21/21	N62470-16-D-9008-WE13
CHECKED BY	DATE	FIGURE NUMBER
DB	01/21/21	4

NOR P:\GIS_files\BethpageMAP DOCS\MXD\2020_SPI\2019_300-500_TCE_MWs.mxd MMC

ATTACHMENT 1
DRILLING LOCATION MAPS/TRAFFIC CONTROL PLANS

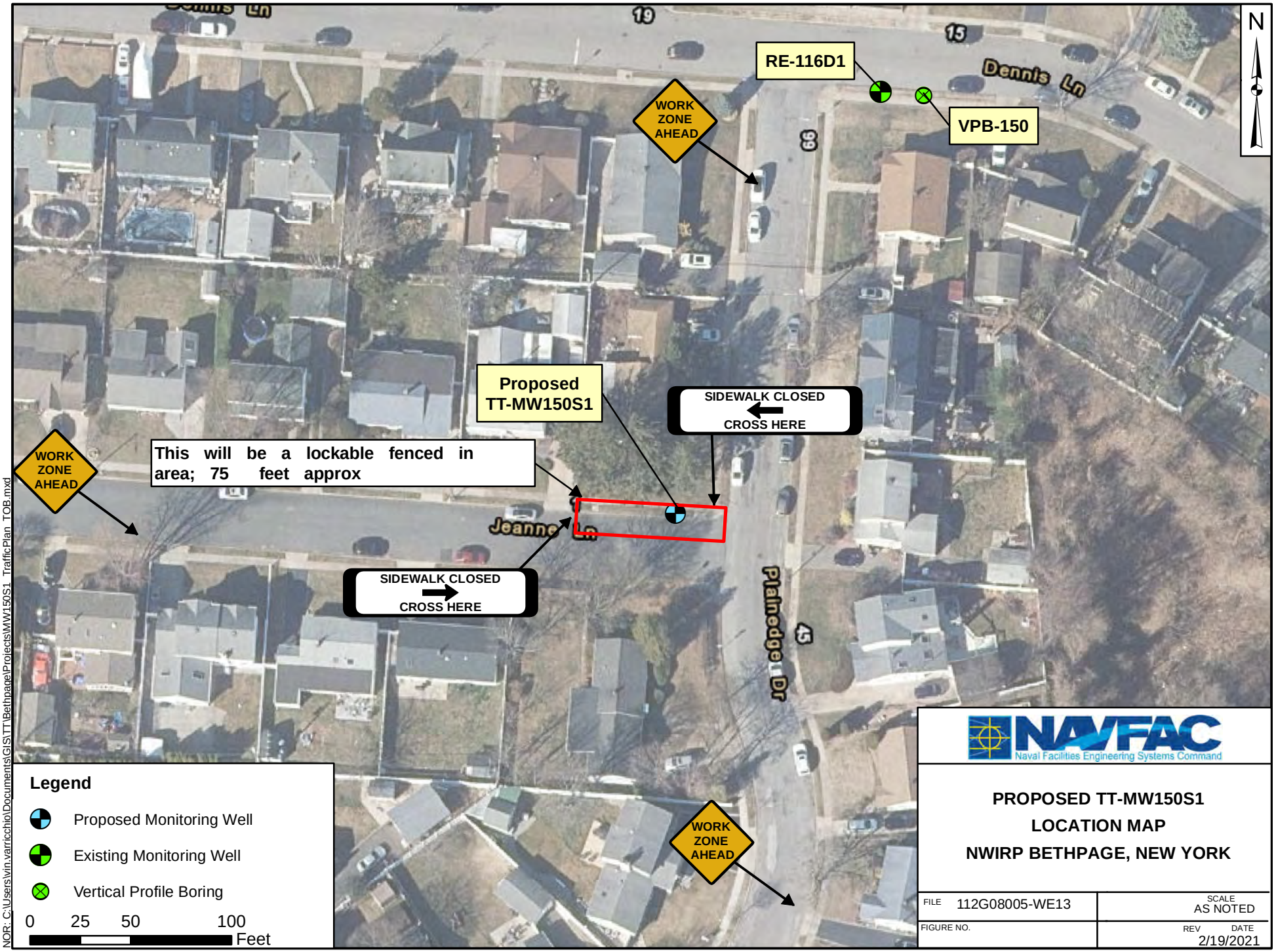


NAVFAC
Naval Facilities Engineering Systems Command

PROPOSED TT-MW149S1 & TT-MW149I1
LOCATION MAP
NWIRP BETHPAGE, NEW YORK

FILE	112G08005-WE13	SCALE	AS NOTED
FIGURE NO.		REV DATE	2/19/2021

NOR: C:\Users\vin.varricchio\Documents\GIS\TT\Bethpage\Projects\MW149_TrafficPlan_TOH.mxd

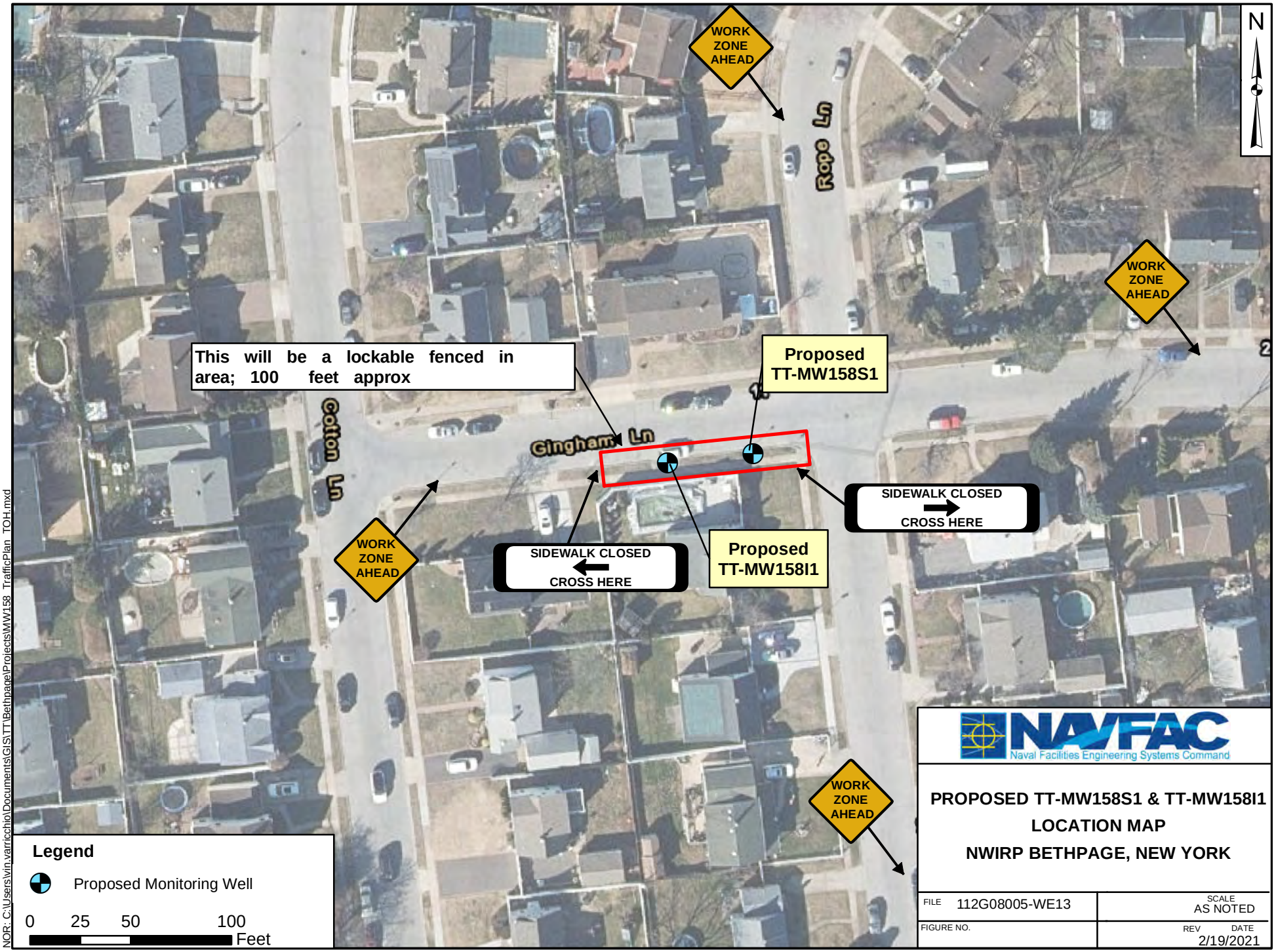


NAVFAC
Naval Facilities Engineering Systems Command

PROPOSED TT-MW150S1
LOCATION MAP
NWIRP BETHPAGE, NEW YORK

FILE	112G08005-WE13	SCALE	AS NOTED
FIGURE NO.		REV DATE	2/19/2021

NOR: C:\Users\vin.varricchio\Documents\GIS\TT\BethpageProjects\MW150S1_TrafficPlan_TOB.mxd

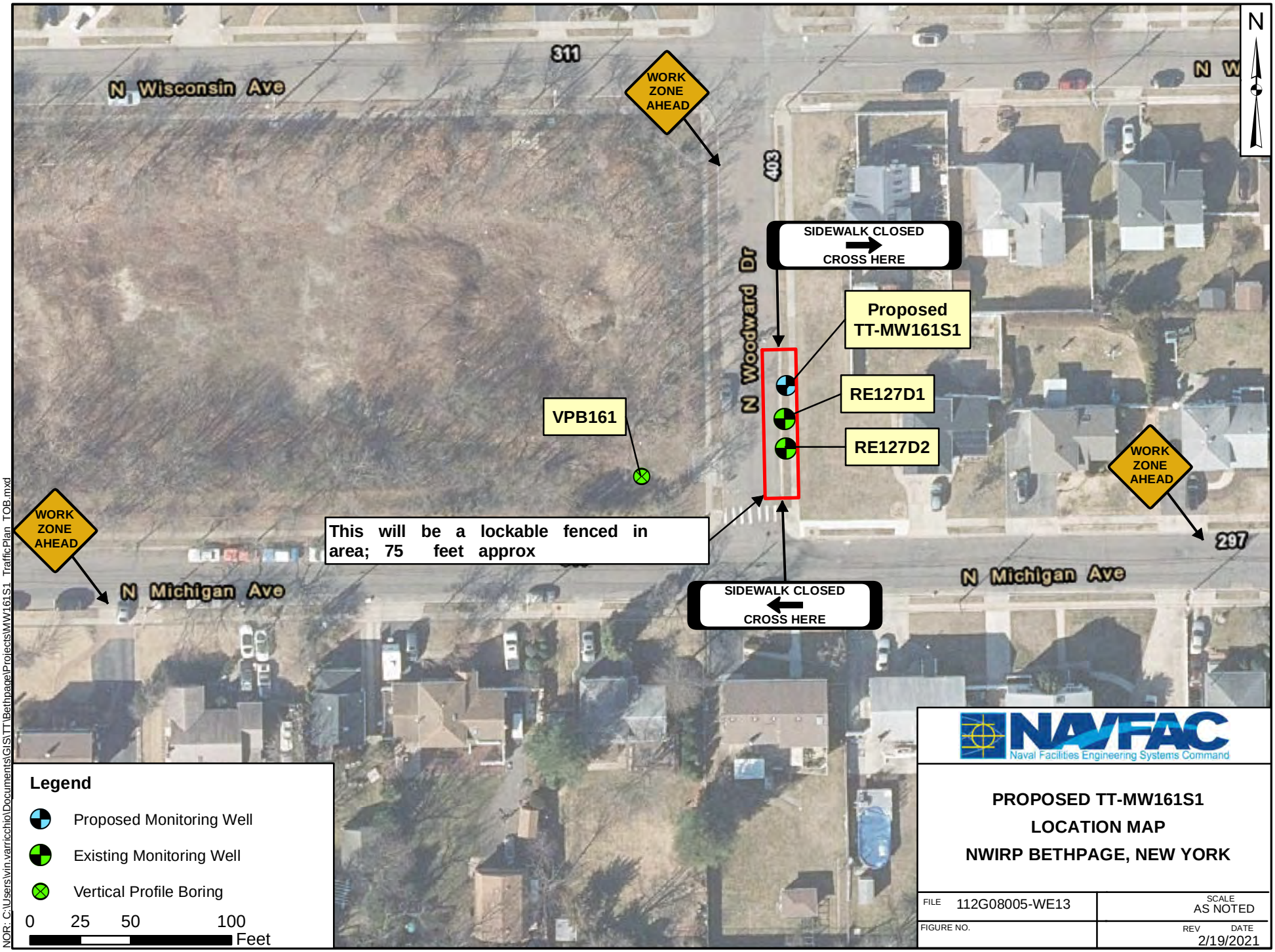


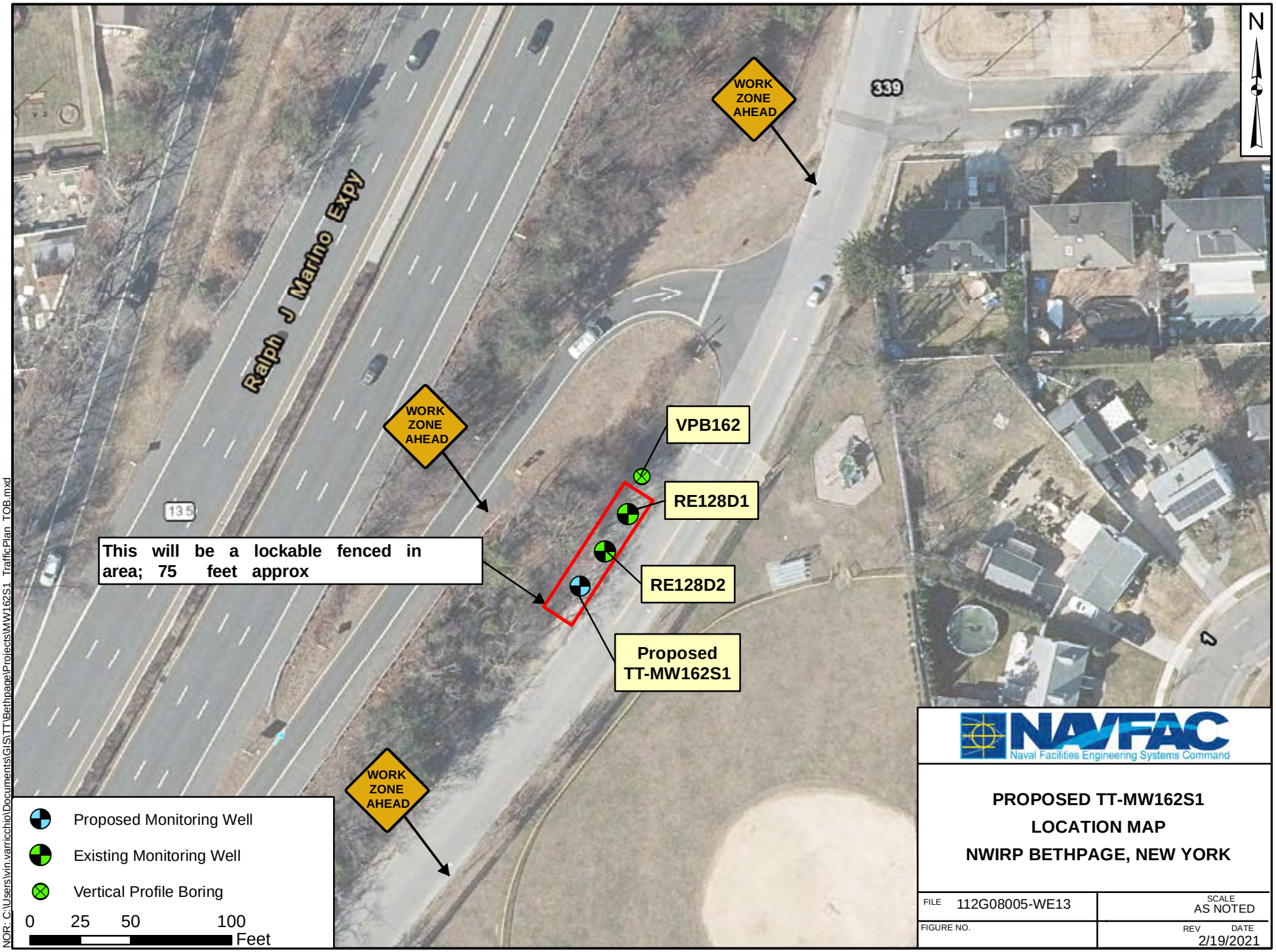
NAVFAC
Naval Facilities Engineering Systems Command

PROPOSED TT-MW158S1 & TT-MW158I1
LOCATION MAP
NWIRP BETHPAGE, NEW YORK

FILE	112G08005-WE13	SCALE	AS NOTED
FIGURE NO.		REV DATE	2/19/2021

NOR: C:\Users\vin.varricchio\Documents\GIS\TT\BethpageProjects\MW158_TrafficPlan_TOH.mxd


N Wisconsin Ave
311
WORK ZONE AHEAD
403
N Woodward Dr
SIDEWALK CLOSED
CROSS HERE
Proposed TT-MW161S1
RE127D1
RE127D2
VPB161
WORK ZONE AHEAD
297
WORK ZONE AHEAD
N Michigan Ave
This will be a lockable fenced in area; 75 feet approx
SIDEWALK CLOSED
CROSS HERE
N Michigan Ave
N
Legend
Proposed Monitoring Well
Existing Monitoring Well
Vertical Profile Boring
0 25 50 100
Feet
NAVFAC
Naval Facilities Engineering Systems Command
PROPOSED TT-MW161S1
LOCATION MAP
NWIRP BETHPAGE, NEW YORK
FILE 112G08005-WE13
SCALE AS NOTED
FIGURE NO.
REV DATE
2/19/2021
NOR: C:\Users\vin.varricchio\Documents\GIS\TT\BethpageProjects\MW161S1_TrafficPlan_TOB.mxd

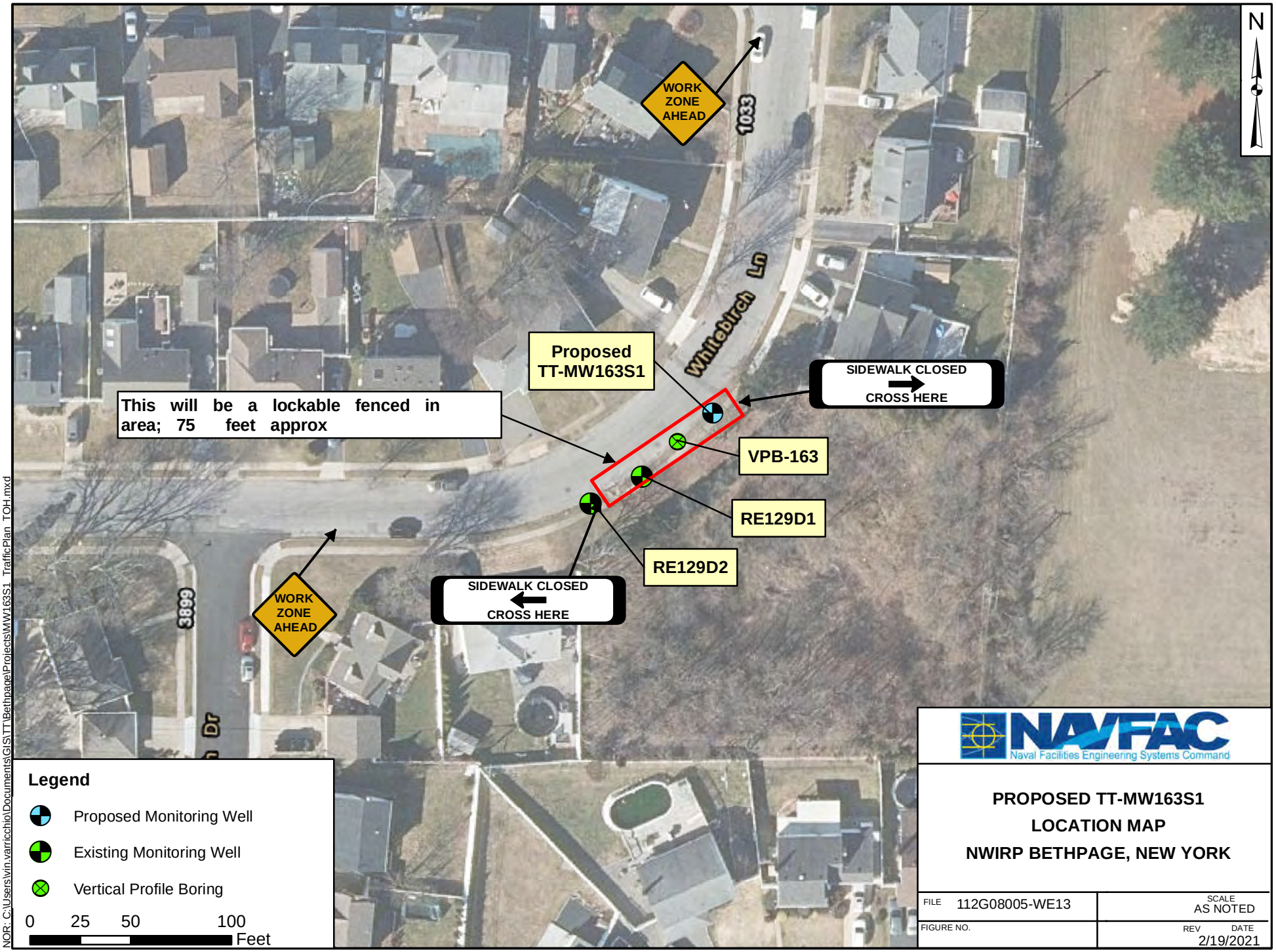


NAVFAC
Naval Facilities Engineering Systems Command

PROPOSED TT-MW162S1
LOCATION MAP
NWIRP BETHPAGE, NEW YORK

FILE 112G08005-WE13	SCALE AS NOTED
FIGURE NO.	REV DATE 2/19/2021

NOR: C:\Users\vin.varricchio\Documents\GIS\TT\Bethpage\Projects\MW162S1_TrafficPlan_TOB.mxd

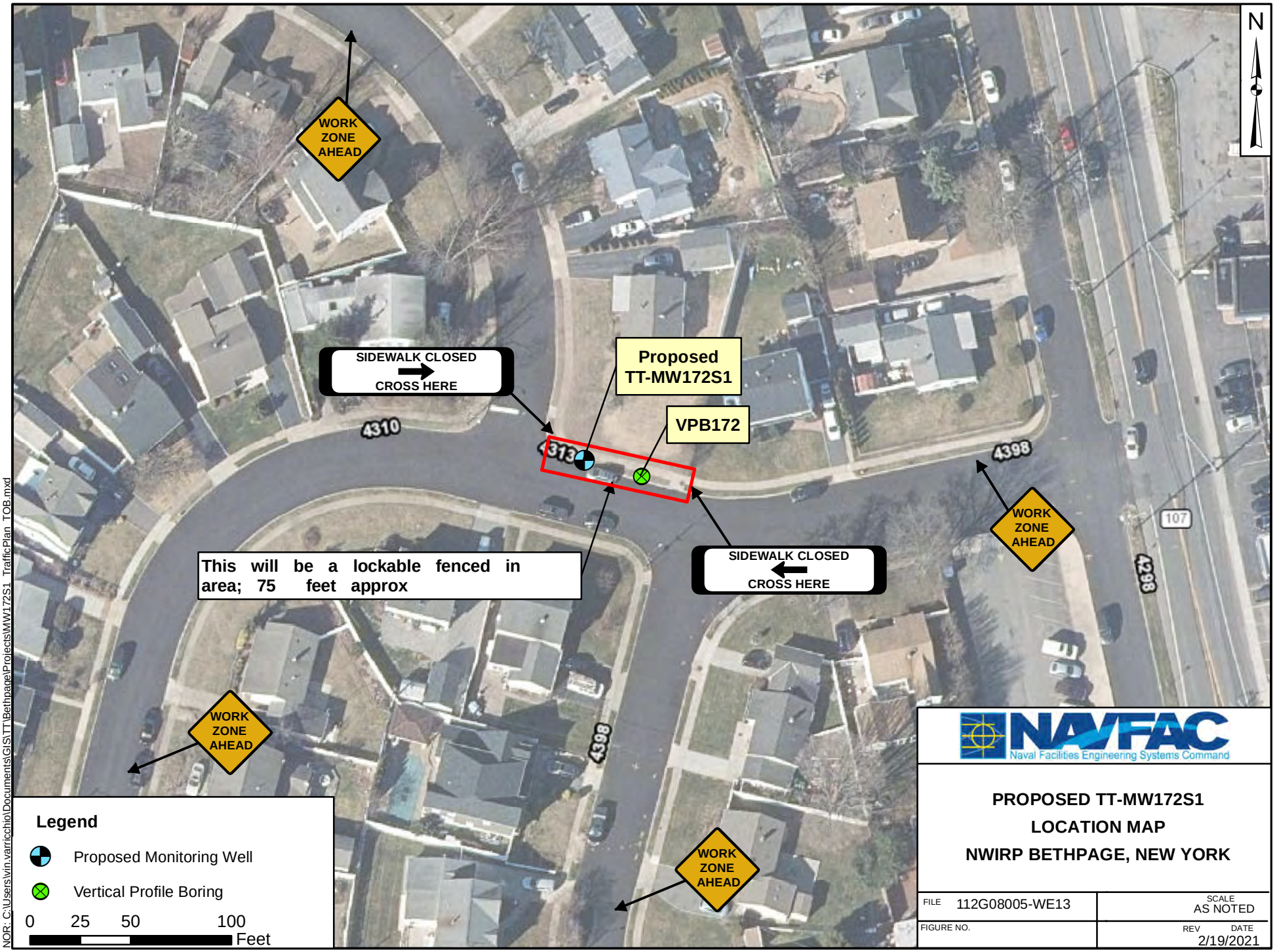


NAVFAC
Naval Facilities Engineering Systems Command

PROPOSED TT-MW163S1
LOCATION MAP
NWIRP BETHPAGE, NEW YORK

FILE	112G08005-WE13	SCALE	AS NOTED
FIGURE NO.		REV DATE	2/19/2021

NOR: C:\Users\vin.varricchio\Documents\GIS\TT\BethpageProjects\MW163S1_TrafficPlan_TOH.mxd

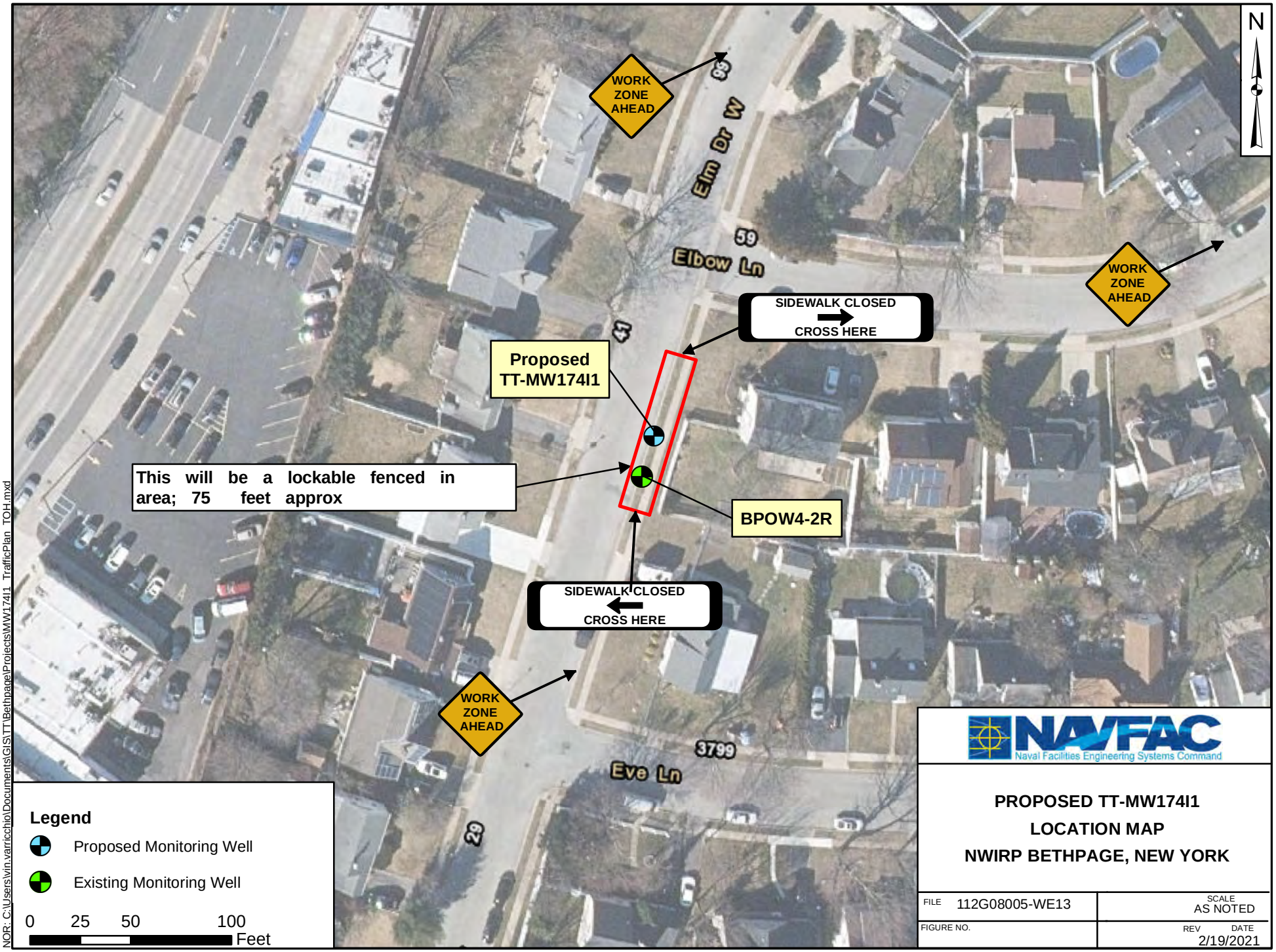


NAVFAC
Naval Facilities Engineering Systems Command

PROPOSED TT-MW172S1
LOCATION MAP
NWIRP BETHPAGE, NEW YORK

FILE	112G08005-WE13	SCALE	AS NOTED
FIGURE NO.		REV DATE	2/19/2021

NOR: C:\Users\vin.varricchio\Documents\GIS\TT\BethpageProjects\MW172S1_TrafficPlan_TOB.mxd

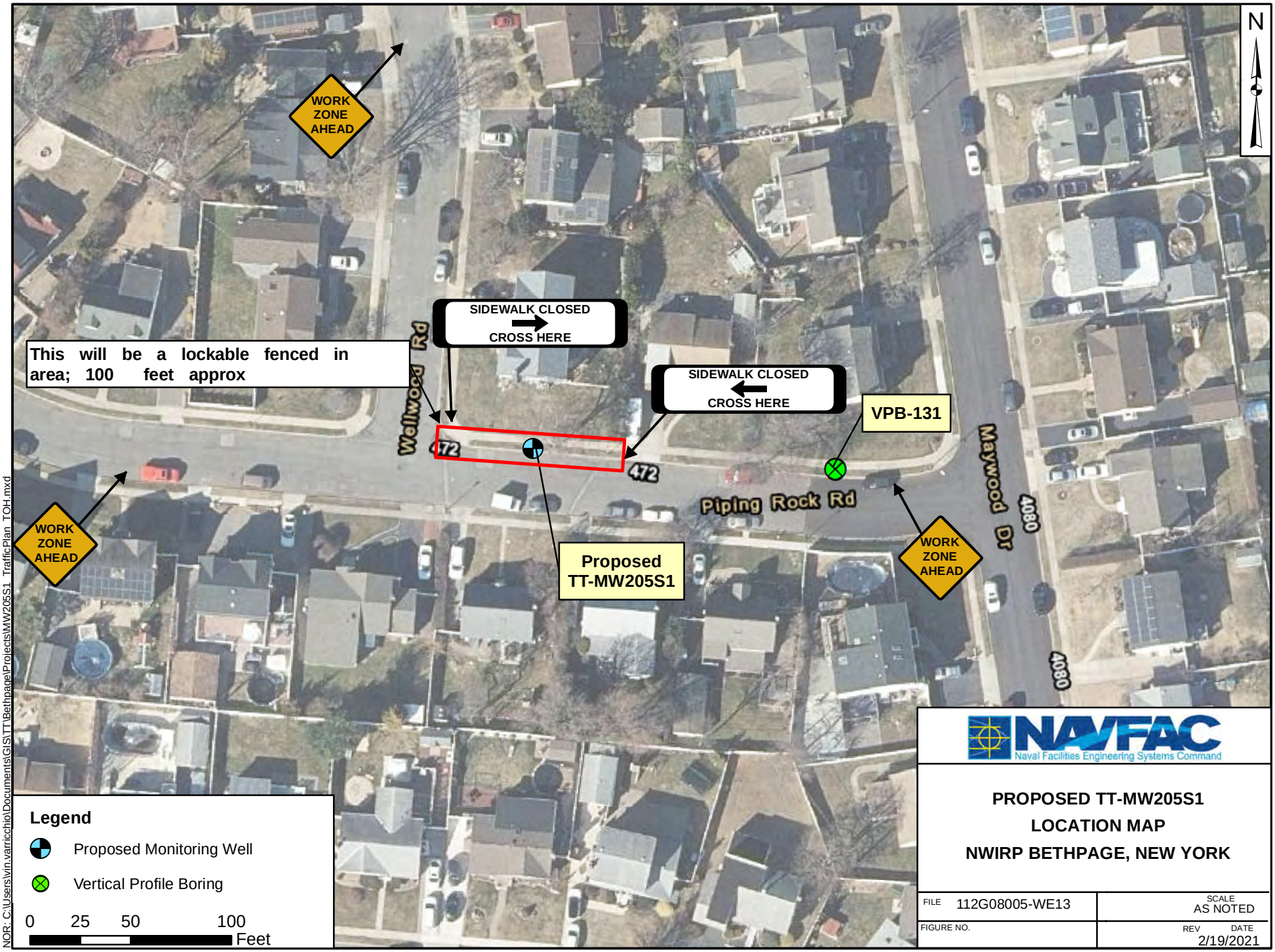


NAVFAC
Naval Facilities Engineering Systems Command

PROPOSED TT-MW174I1
LOCATION MAP
NWIRP BETHPAGE, NEW YORK

FILE	112G08005-WE13	SCALE	AS NOTED
FIGURE NO.		REV DATE	2/19/2021

NOR: C:\Users\vin.varricchio\Documents\GIS\TT\Bethpage\Projects\MW174I1_TrafficPlan_TOH.mxd



NAVFAC
Naval Facilities Engineering Systems Command

PROPOSED TT-MW205S1
LOCATION MAP
NWIRP BETHPAGE, NEW YORK

FILE	112G08005-WE13	SCALE	AS NOTED
FIGURE NO.		REV DATE	2/19/2021

NOR: C:\Users\vin.varricchio\Documents\GIS\TT\Bethpage\Projects\MW205S1_TrafficPlan_TOH.mxd

ATTACHMENT 2
COMMUNITY DRILLING NOTIFICATION

DRILLING NOTICE
Taylor Ave and Coleridge St, Levittown, NY
March 11, 2020

Please be advised that the U.S. Navy, in conjunction with the New York State Department of Environmental Conservation, will be conducting drilling activities in your area. This work is being conducted to test groundwater quality at depths of 50 to 1,000 feet below ground surface. Volatile organic compounds (VOCs), including the solvents trichloroethylene (TCE) and perchloroethylene (PCE), have been detected in groundwater in the general area as a result of historic operations at the Grumman plant to the north. The drilling is part of an on-going investigation to better understand where the groundwater contamination is located, and how it is moving and to develop cleanup options. ***Additional information on the Navy's environmental cleanup program and the groundwater investigation is available at http://go.usa.gov/DyXF.***

The work will involve installation and collection of groundwater samples from a vertical profile boring (VPB) that will be drilled to a depth of 1,000 feet. Following completion of the VPB, up to three groundwater wells will be drilled to depths of approximately 350 to 800 feet. Each monitoring well will require 2 to 4 weeks to install. Access to the VPBs and monitoring wells during the drilling operation will be secured with fencing surrounding the drilling equipment. Any soil and groundwater removed from the borings will be containerized in drums and transported to Navy property off South Oyster Bay Road. Groundwater samples will be collected from the VPBs and wells and submitted to a certified laboratory to test for the presence of VOCs.

Because of the depth of the drilling work, the drill rig and support vehicles will be present at this specific location for approximately 8 to 10 weeks to complete the VPB and additional time will be required based on the number of wells. Once the work is completed, the area will be returned to its current condition (soil and grass seed).

Work hours will be Monday through Friday, from 8:00 AM to 4:30 PM (no machinery will operate before 8:00 AM). However, periodically during drilling operations, extended work hours and weekend activities may be required. If it is necessary to visit the site during other hours or on the weekends, activities will be kept to a minimum. Drilling will start on or about the third week of March 2020.

Onsite contractors for the Navy will be Delta Drilling, who will be conducting the drilling operations, and Tetra Tech, who will provide oversight. Inquiries may be directed to Mr. Vincent Varricchio, the Onsite Field Manager, or other contacts as listed below.

If you require additional information, please contact:

Vincent Varricchio
Tetra Tech
Onsite Field Manager
(631) 962-0812

David Brayack
Tetra Tech
Project Manager
(757) 466-4909

Brian Murray
Navy
Remedial Project Manager
(757) 341-0491

Jason Pelton
NYSDEC
Project Manager
(518) 402-9478
Jason.Pelton@dec.ny.gov

Bill Fonda
NYSDEC
Regional Citizen Participation Specialist
(631) 444-0350
bill.fonda@dec.ny.gov

Jim Sullivan
NYSDOH
Project Manager
(518) 402-7860
beei@health.ny.gov

EXAMPLE

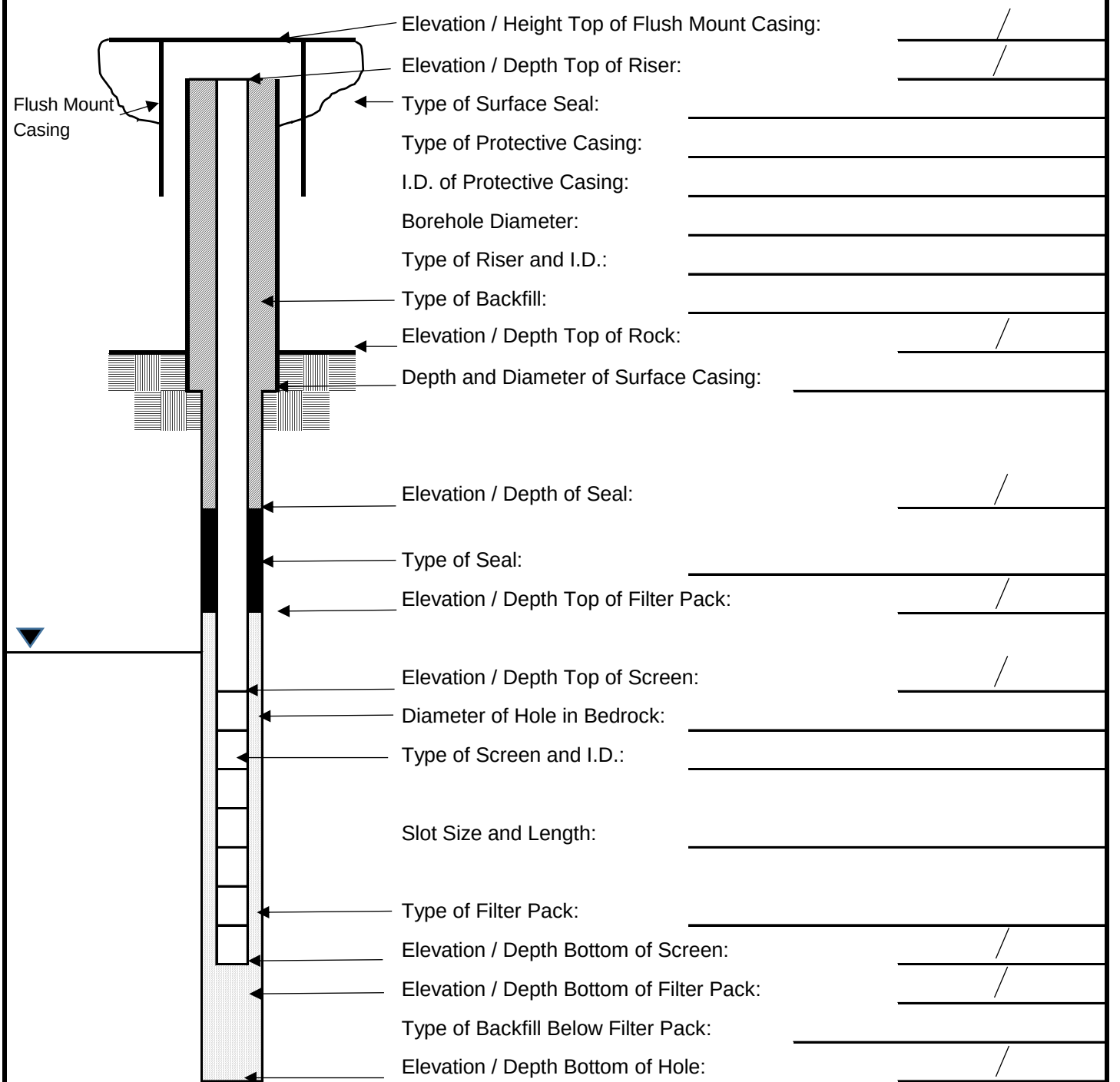
ATTACHMENT 3
MONITORING WELL CONSTRUCTION DETAIL (TYPICAL)

TETRA TECH

Well No. _____

MONITORING WELL CONSTRUCTION SHEET
OVERBURDEN / BEDROCK - FLUSH MOUNT

Project Name:	Drilling Co.:	Boring No.:
Project No:	Driller:	Date Completed:
Site Name:	Drilling Method:	Northing:
Geologist:	Dev. Method:	Easting:



Not To Scale