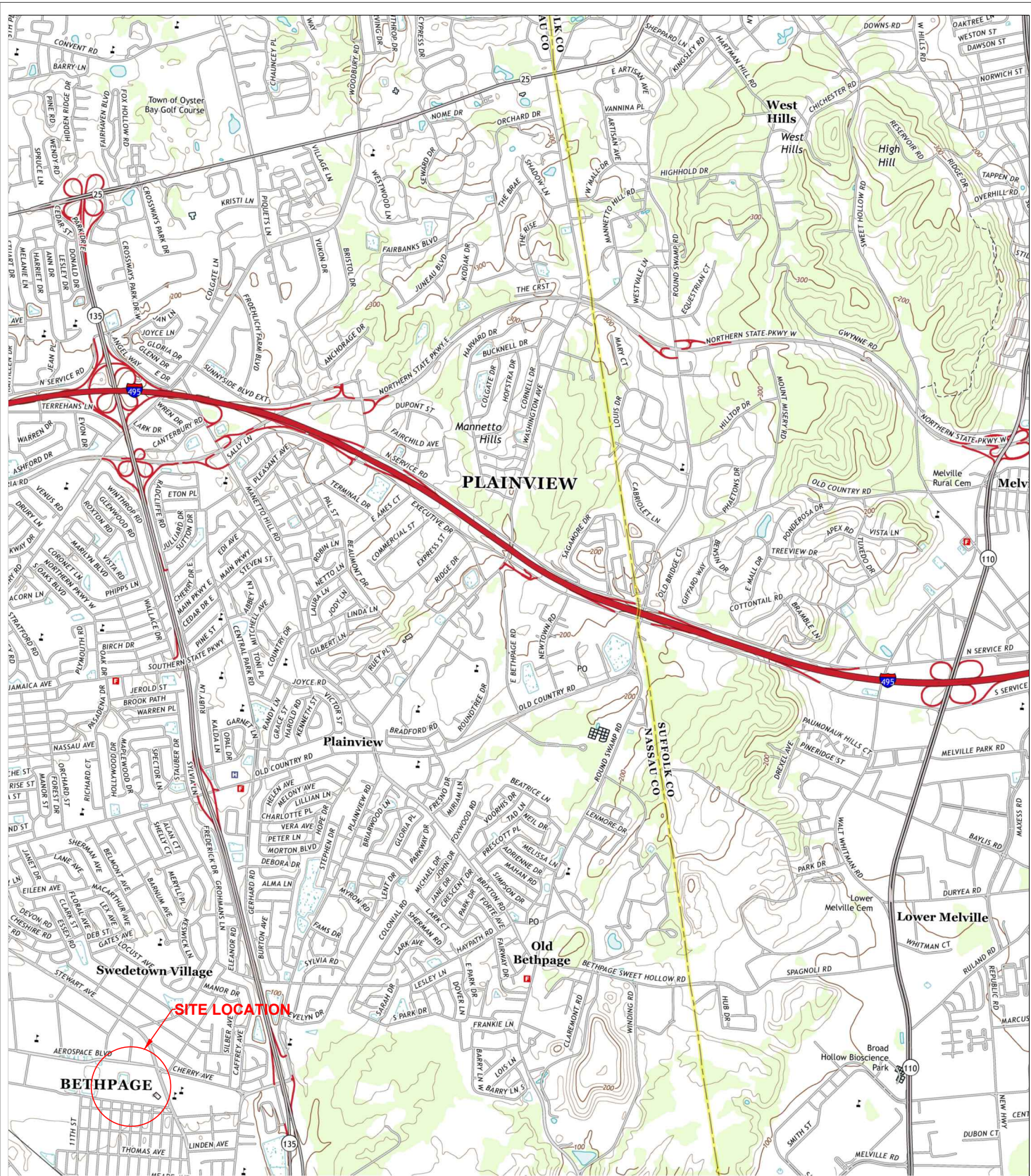


Town of Oyster Bay
Ice Rink Brownfields Project
Decision Document Development and
Release Meeting BURA-DOH

C130212

Nassau County, Bethpage LI



Notes:
 1. Based map obtained from United States Geological Survey (USGS) Huntington Quadrangle, 7.5-Minute Series and dated 2013.

PROJECT:
 BROWNFIELD CLEANUP PROGRAM
 BETHPAGE COMMUNITY PARK ICE RINK AREA
 REMEDIAL INVESTIGATION REPORT
 TOWN OF OYSTER BAY
 BETHPAGE, NEW YORK
 NYSDEC SITE NO.: C130212

DRAWING:
 Figure 1: Site Location Map
 SCALE:
 Not to Scale

H2M PROJECT NO.:
 TOBY1307
 DATE:
 April 10, 2015

<div style="font-size: 48pt; font-weight: bold; letter-spacing: 10px;">H 2 M</div>	architects + engineers
	Melville, NY Albany, NY New City, NY Parsippany, NJ

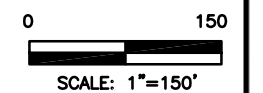


NOTES:

1. PARK FEATURES AND STRUCTURES DIGITIZED FROM A MARCH 14, 1974 AERIAL PHOTOGRAPH.
2. THE APPROXIMATE LOCATIONS AND DIMENSIONS OF THE PARK FEATURES AND STRUCTURES HAVE BEEN FIELD VERIFIED.

LEGEND:

- PROPERTY LINE
- x-x- FENCE
- TEMPORARY FENCE
- SOIL PROBE LOCATION (ADVANCED TO A DEPTH OF 8 FEET BELOW GRADE)
- EXPOSURE POINT SAMPLING LOCATION (COLLECTED FROM THE 0-2" DEPTH INTERVAL)
- SURFACE SOIL SAMPLING LOCATION (COLLECTED FROM THE 0-2" DEPTH INTERVAL)



TOWN OF OYSTER BAY
 BETHPAGE COMMUNITY PARK
 SOIL SAMPLING PROGRAM

DECEMBER 2, 1953 AERIAL PHOTOGRAPH OVERLAY



Town Board of Oyster Bay

TOWN HALL
OYSTER BAY, N. Y.

SUPERVISOR
JOHN J. BURNS

COUNCILMEN
MARJORIE R. POST
PETER B. ALLSOPP
LOUIS A. SISIA
EDMUND A. OCKER
EDWARD J. POULOS
A. CARL GRUNEWALD

TOWN CLERK
WILLIAM B. O'KEEFE

WALNUT 2-5800

October 16, 1962

Grumman Aircraft Engineering Corporation
South Oyster Bay Road
Bethpage, Long Island, New York

Dear Sirs:

Re: Donation of Land to Bethpage Park District

In connection with your proposed gift of approximately 18 acres of land to the Bethpage Park District for a community park and recreation center, this will confirm the following:

1. In accordance with your request, there will be erected and maintained at a suitable place in the Park a permanent plaque recording Grumman's donation of the land, but the Park will not be named for Grumman or any individual presently or heretofore associated with Grumman.

2. It is not contemplated that the establishment of the proposed community park and recreation center will lead to the rezoning of Grumman's adjacent property in a manner which would impair its usefulness to Grumman.

3. Title to the fencing presently enclosing the sump on the land will remain in Grumman, and Grumman may at its own expense remove such fencing from the land after the gift of land has been made, provided that it does so before the continued presence of the fencing will impede development of the land.

4. Grumman may continue to discharge the non-toxic liquid waste currently being discharged into the sump, and may continue to dump clean fill on the land as heretofore, until the further discharge of such liquid waste and further dumping of such fill will in the Town's opinion impede development of the land.

5. All out-of-pocket expenses incident to the gift of land (eg the cost of a survey and deed recording costs) will be borne by the Town, and the Town Tax and School Tax paid or payable by



Town Board of Oyster Bay

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TOWN CLERK
WILLIAM B. O'KEEFE

-2-

Grumman with respect to the donated land will be refunded or abated, as appropriate, to the extent that they relate to a portion of the tax year after the gift of land has been made.

6. The closing for the gift of land will be held at 11:15 A.M., October 17, 1962, in the Office of the Town Attorney, Town Hall, Audrey Avenue, Oyster Bay, New York.

Sincerely yours,

TOWN BOARD OF OYSTER BAY

By


Supervisor

BFMcC/kdc

EXPLANATION

- NORTHROP GRUMMAN CORPORATION PROPERTY LINE
- FENCE
- LIMITS OF BETHPAGE HIGH SCHOOL MAIN BUILDING
- ▨ BASIN

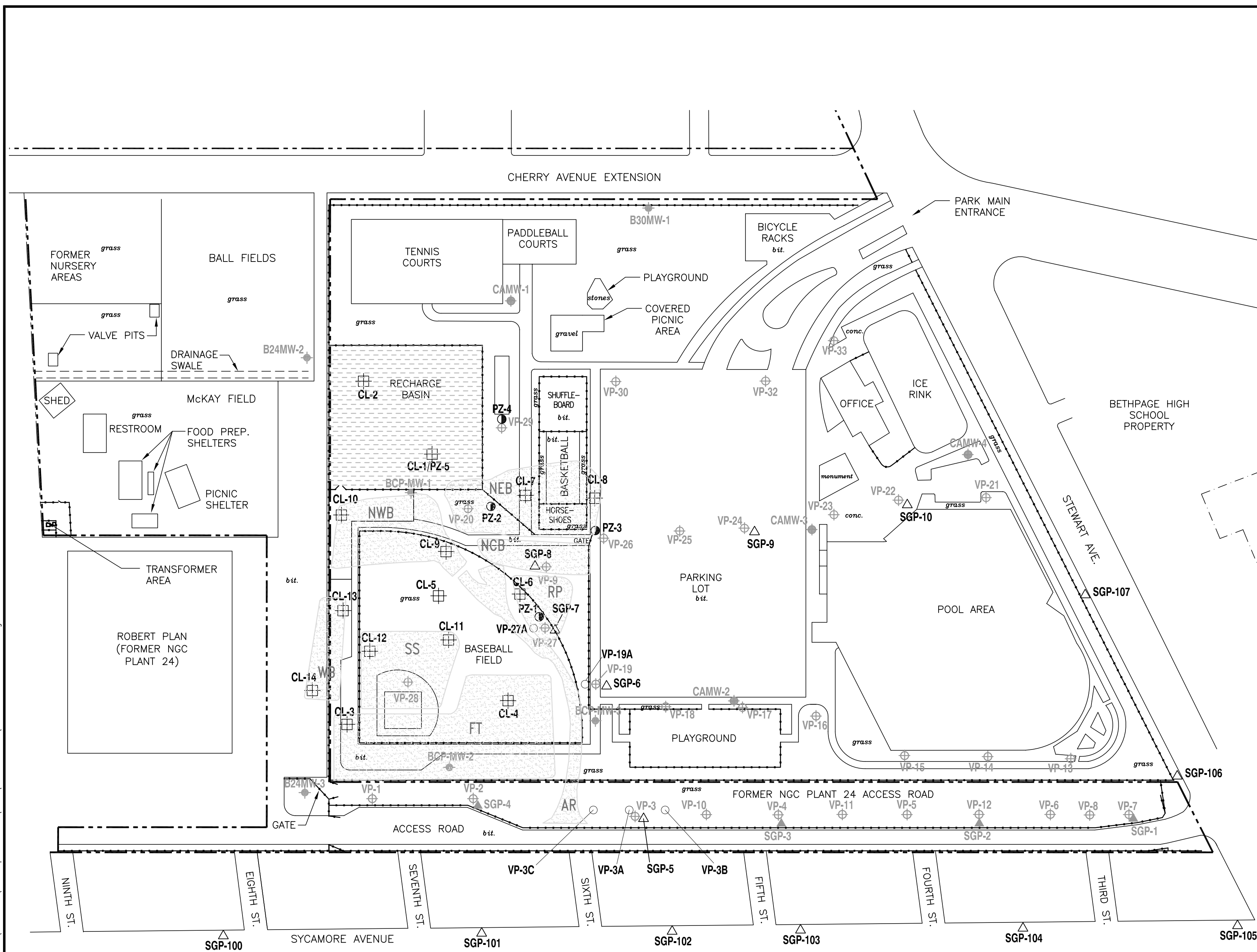
- bit.* BITUMINOUS PAVEMENT
- BCP-MW-3 ● EXISTING MONITORING WELL
- VP-1 ⊕ COMPLETED PHASE 1 RI VERTICAL PROFILE BORING (BY ARCADIS)
- SGP-1 ▲ COMPLETED PHASE 1 RI SOIL GAS POINT (BY ARCADIS)
- VP-27A ○ PROPOSED PHASE 2 RI VERTICAL PROFILE BORING
- SGP-19 ▲ PROPOSED PHASE 2 RI SOIL GAS POINT
- PZ-1 ● PROPOSED PHASE 2 RI PIEZOMETER
- CL-6 ⊕ PROPOSED PHASE 2B RI SOIL BORING (USING HSA METHODOLOGY)

NOTES:

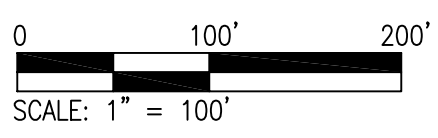
1. COMPLETED WELL, SGP, AND VPB LOCATIONS ARE APPROXIMATE.
2. LOCATIONS OF WELLS INSTALLED BY THE TOWN OF OYSTER BAY ARE BASED ON THE 2005 REPORTS, LOCATIONS ARE APPROXIMATE (H2M 2005 a;b).
3. PROPOSED LOCATIONS REQUIRE FIELD VERIFICATION AND MAY CHANGE.
4. ANALYTICAL RESULTS FROM COMPLETED VPBs SHOWN ON FIGURE E-1 (APPENDIX E) OF THIS WORK PLAN.
5. LOCATIONS OF HISTORICAL OPERATIONS ARE APPROXIMATE.
6. PHASE 2A RI SOIL BORINGS BY D&B SHOWN ON FIGURE 4 OF THIS WORK PLAN.
7. OFF-SITE SGPs WILL BE LOCATED ON TOWN RIGHTS OF WAY.
8. IF CONE PENETROMETER TESTING (CPT)/ MEMBRANE INTERFACE PROBE (MIP) METHODOLOGY IS SELECTED, THEN THE LOCATIONS OF BORINGS CL-1 TO CL-14 WILL BE MODIFIED AND BORINGS MAY BE ADDED.

- NEB FORMER NORTHEAST SLUDGE DRYING BED
- NCB FORMER NORTH CENTRAL SLUDGE DRYING BED
- NWB FORMER NORTHWEST SLUDGE DRYING BED
- RP FORMER RAG PIT
- FT FORMER FIRE TRAINING AREA
- SS FORMER "SHORT STOP" AREA
- WB FORMER WEST AREA
- AR FORMER ACCESS ROAD
- VPB VERTICAL PROFILE BORING
- SGP SOIL GAS POINT
- NGC NORTHROP GRUMMAN CORPORATION
- D&B DVIRKA AND BARTILUCCI
- RI REMEDIAL INVESTIGATION
- HSA HOLLOW-STEM AUGER

DRAWING REFERENCE:
DVIRKA AND BARTILUCCI
CONSULTING ENGINEERS 2003



Date: Time : Fri, 10 Mar 2006 - 9:59am
 Path: Name : G:\PROJECT\Northrop Grumman\Cadd\REPORT 2006\FIG 5 VPB-SIP WELLS.dwg
 Acad Version : R16.2s (LMS Tech)
 User Name : ehughes
 copyright © 2006



88 Duryea Road
Melville, NY 11747
Tel: 631-249-7600 Fax: 631-249-7610
www.arcadis-us.com

PROJECT TITLE
**OPERABLE UNIT 3
FORMER GRUMMAN SETTLING PONDS
BETHPAGE, NEW YORK**

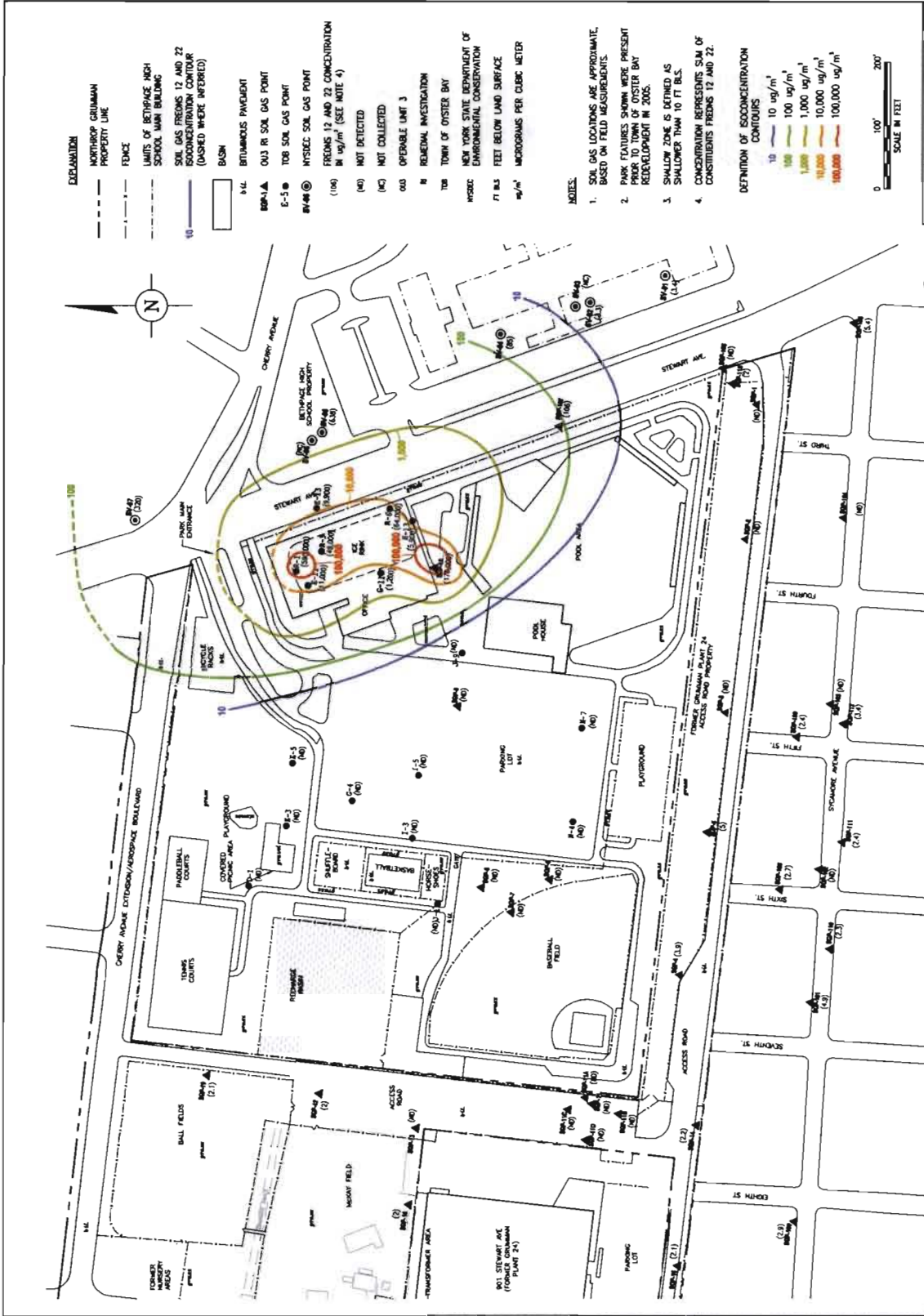
PROJECT MANAGER
C. SAN GIOVANNI

DEPARTMENT MANAGER
M. WOLFERT

SHEET TITLE
**LOCATIONS OF HISTORICAL OPERATIONS
AND PHASE 2 RI VPBs, SGPs,
AND PHASE 2B RI SOIL BORINGS**

LEAD DESIGNER	CHECKED BY
TASK/PHASE NUMBER	DRAWN BY
PROJECT NUMBER	FIGURE
00002	D. STERN
NY001348.0706	E. HUGHES
	5

NO.	DATE	REVISION DESCRIPTION	BY
0	3/8/2006	REMEDIAL INVESTIGATION/FEASIBILITY STUDY WORK PLAN	CKD



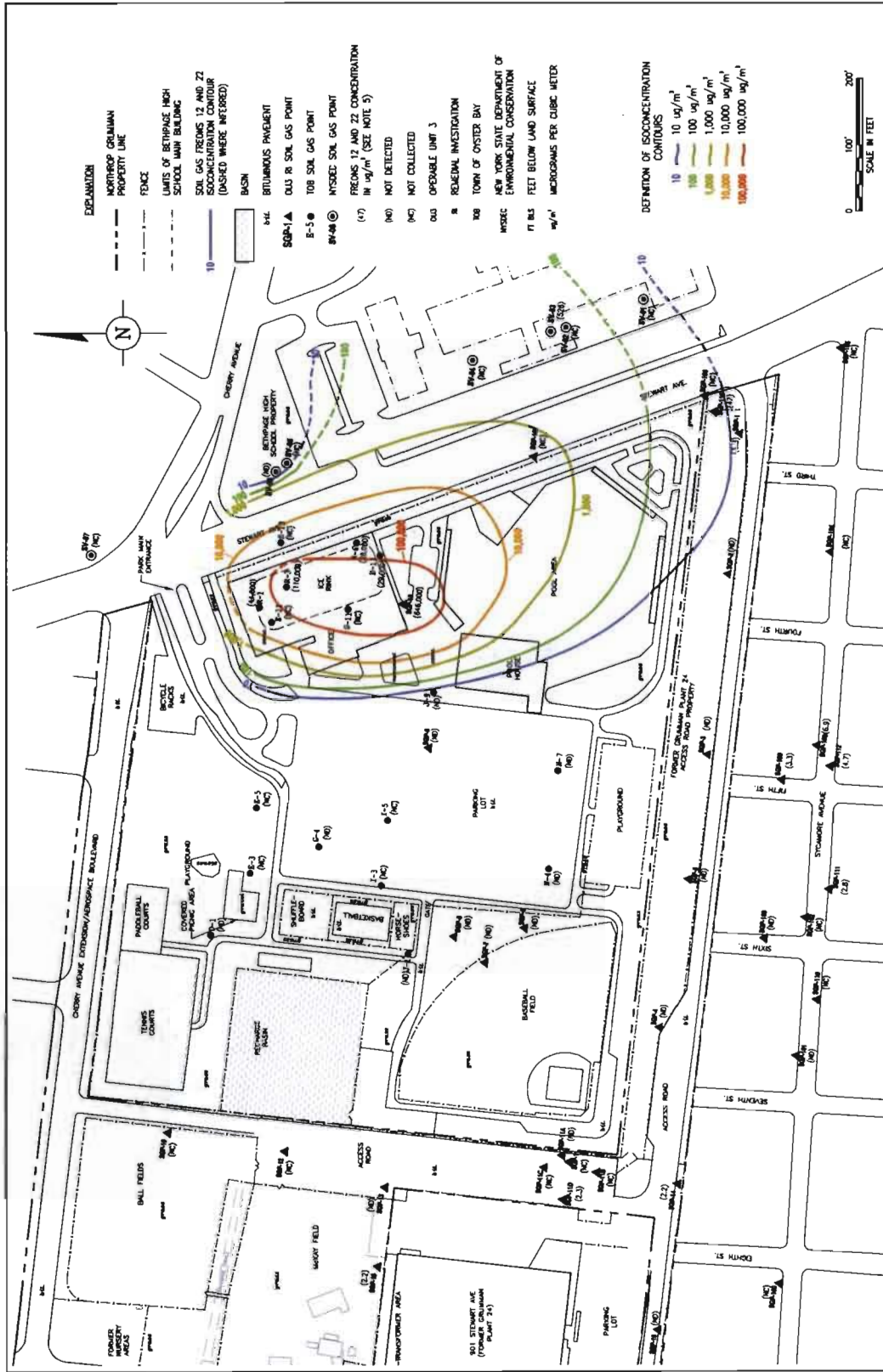
SEE AREA FEATURES RELEVANT TO THIS PROJECT IN THE ATTACHED SITE PLAN AND SOIL GAS DATA SHEETS (SEE SETTING POND(S) OPERABLE UNIT - SEE MAP OF NEW YORK STATE).

FREONS 12 AND 22 IN SHALLOW SOIL GAS

ARCADIS

PROJECT: 4-12

PREPARED: AUGUST 2009



EXPLANATION

NORTHROP GRAMMAN PROPERTY LINE

FENCE

LIMITS OF BETHPAGE HIGH SCHOOL WASH BUILDING

SOIL GAS TRENDS 12 AND 22

SOIL GAS TRENDS 12 AND 22

(DASHED WHERE INTERFERED)

BASIN

SOA-1A

B-3

B-4

B-5

B-6

B-7

B-8

B-9

B-10

B-11

B-12

B-13

B-14

B-15

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DEFINITION OF ISOCONCENTRATION CONTOURS

10 ug/m³

100 ug/m³

1,000 ug/m³

10,000 ug/m³

100,000 ug/m³

0 100' 200'

SCALE IN FEET

PREPARED: AUGUST 2009

ARCADIS

4-13

SOIL GAS LOCATIONS ARE APPROXIMATE, BASED ON FIELD MEASUREMENTS.

PARK FEATURES SHOWN WERE PRESENT PRIOR TO TOWN OF OYSTER BAY REDEVELOPMENT IN 2005.

DEPT ZONE IS DEFINED AS DEEPER THAN 3/4 FT BLS.

DEPTH TO GROUNDWATER IS APPROXIMATELY 55 FT BLS.

CONCENTRATION REPRESENTS SUM OF CONSTITUENTS FRENS 12 AND 22.

SITE AREA PROVIDED FREELY BY NORTHROP GRAMMAN SYSTEMS CORPORATION, OF COURTESY OF BETHPAGE, NEW YORK.

FRENS 12 AND 22 IN DEEP SOIL GAS

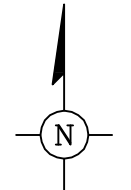
4-13



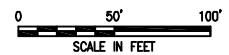
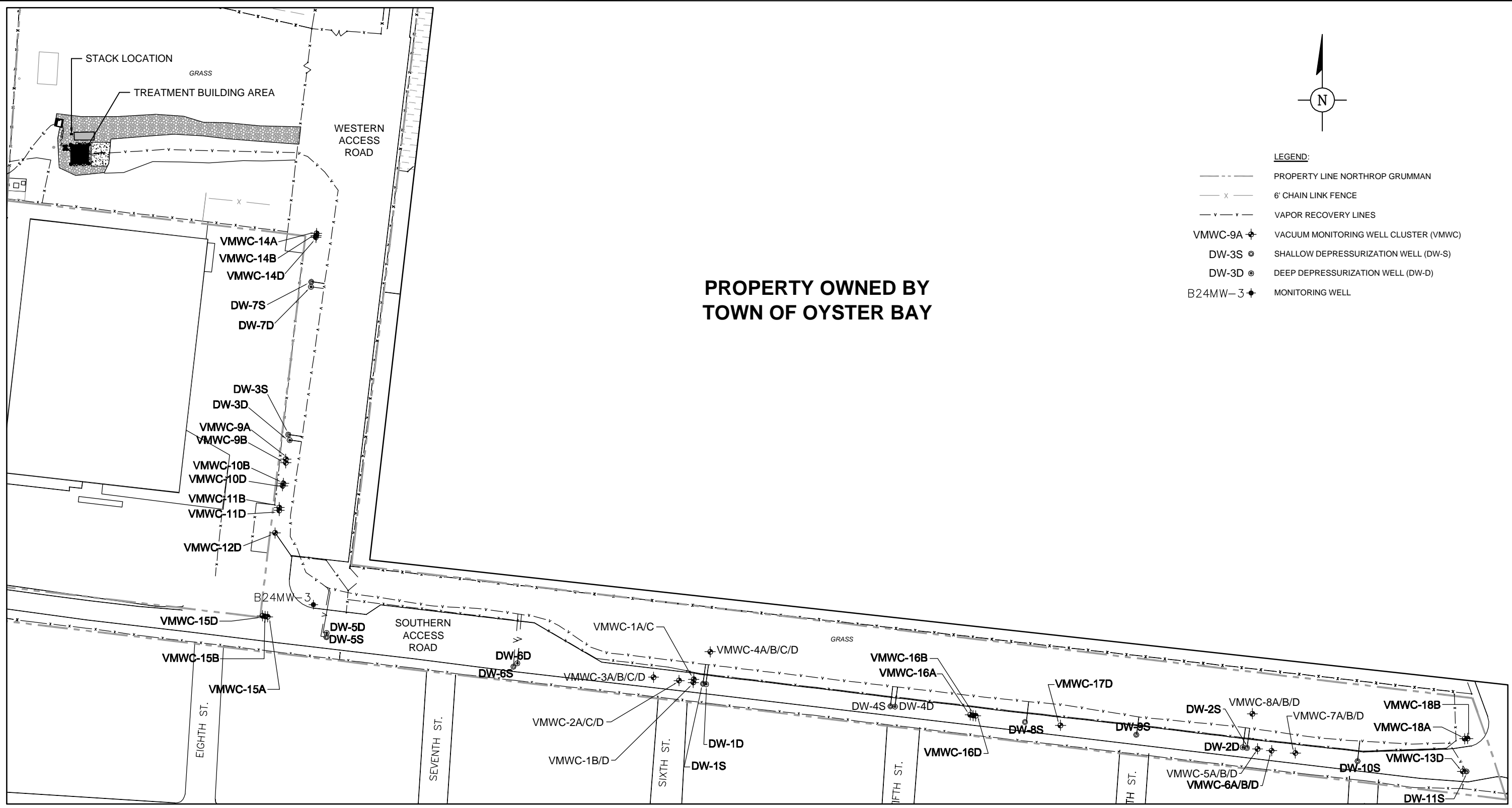


CITY: MELVILLE, NY DIV: GROUP: ENV: CAD DE: AL: P: C: P: M: C: S: G: T: M: L: Y: R: O: N: =: O: F: F: =: R: E: F:
 G: E: N: V: C: A: D: M: e: l: l: e: -: N: Y: 0: 0: 1: 4: 8: 3: 0: 9: 0: 0: 0: 0: 1: V: e: v: O: N: M: &: M: A: Q: 2: S: i: t: e: P: l: a: n: r: e: v: 1: .: d: w: g: L: A: Y: O: U: T: -: 2: S: A: V: E: D: -: 2/16/2009 4:00 PM ACAD: V: E: R: -: 17:1 S (LMS TECH) PAGESETUP: -: -: -: P: L: O: T: S: T: Y: L: E: T: A: B: L: E: -: A: R: C: A: D: I: S: _: M: E: L: V: I: L: L: E: C: T: B: P: L: O: T: T: E: D: -: 4/24/2009 3:58 PM BY: -: S: A: N: C: H: E: Z: _: A: D: R: I: A: N
 X: R: E: F: S: -: I: M: A: G: E: S: -: P: R: O: J: E: C: T: N: A: M: E: -: N: Y: 0: 0: 1: 4: 8: 3: 0: 9: 0: 0: 0: 0: 1

**PROPERTY OWNED BY
TOWN OF OYSTER BAY**



- LEGEND:**
- PROPERTY LINE NORTHROP GRUMMAN
 - x - 6' CHAIN LINK FENCE
 - v - v - VAPOR RECOVERY LINES
 - VMWC-9A + VACUUM MONITORING WELL CLUSTER (VMWC)
 - DW-3S ⊙ SHALLOW DEPRESSURIZATION WELL (DW-S)
 - DW-3D ⊙ DEEP DEPRESSURIZATION WELL (DW-D)
 - B24MW-3 + MONITORING WELL

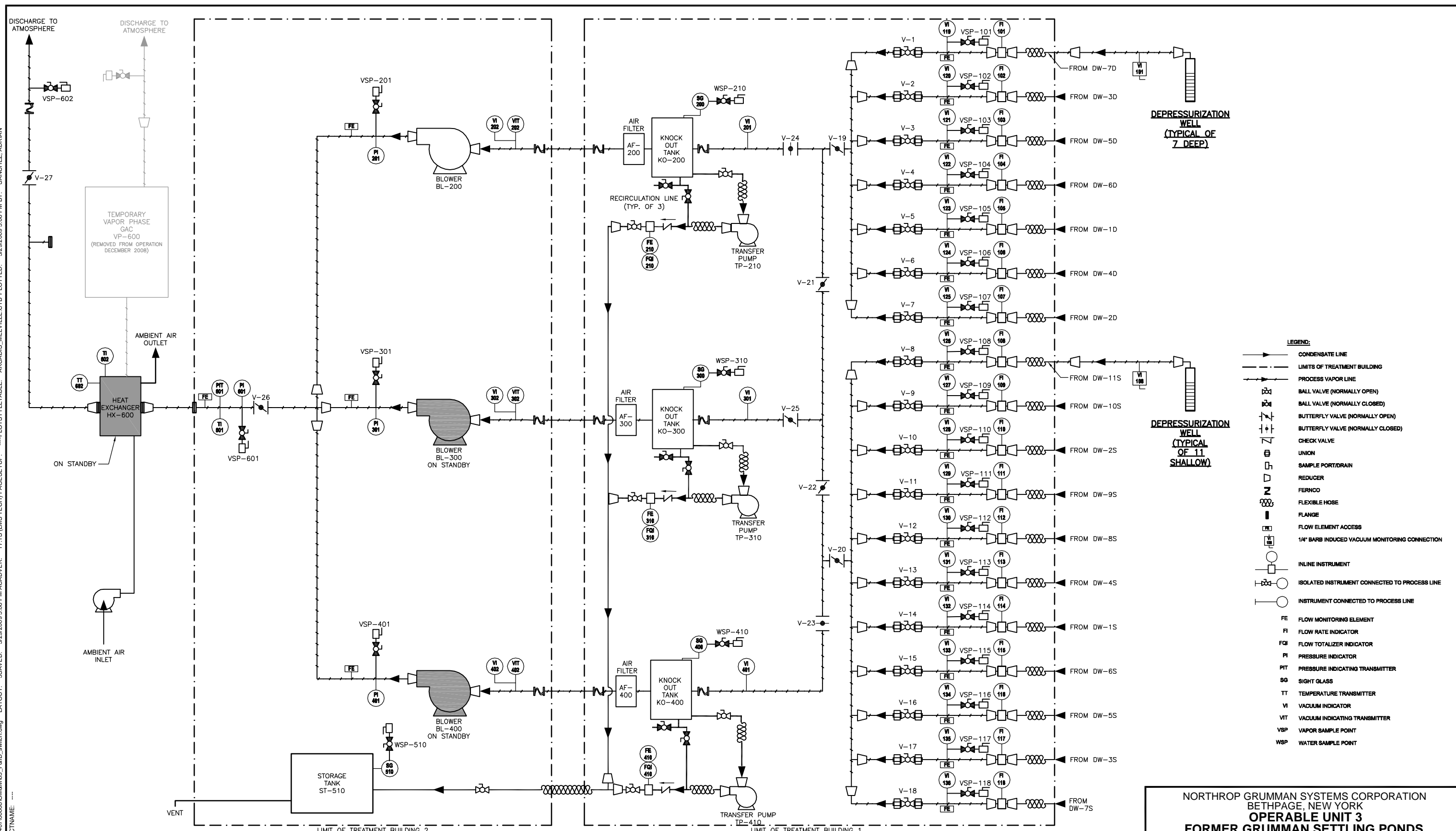


NORTHROP GRUMMAN SYSTEMS CORPORATION
 BETHPAGE, NEW YORK
OPERABLE UNIT 3
 FORMER GRUMMAN SETTLING PONDS

GENERAL SITE PLAN
SOIL GAS INTERIM REMEDIAL MEASURE

FIGURE
2

CITY: MELVILLE, NY DIV: GROUP: ENV/lead DB: LD: PIC: PM: CSG TMKZ LYR: ON: OFF: REF: G: ENV/ CAD: Melville-NY\Y0146411407\00008\OM&M03_P&ID_switch.dwg LAYOUT: 3\$AVED: 5/29/2009 5:06 PM ACADVER: 17.1.S (LMS TECH) PAGES: 17 PLOTTED: 5/29/2009 5:06 PM BY: SANCHEZ, ADRIAN

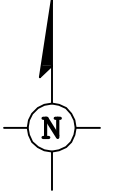
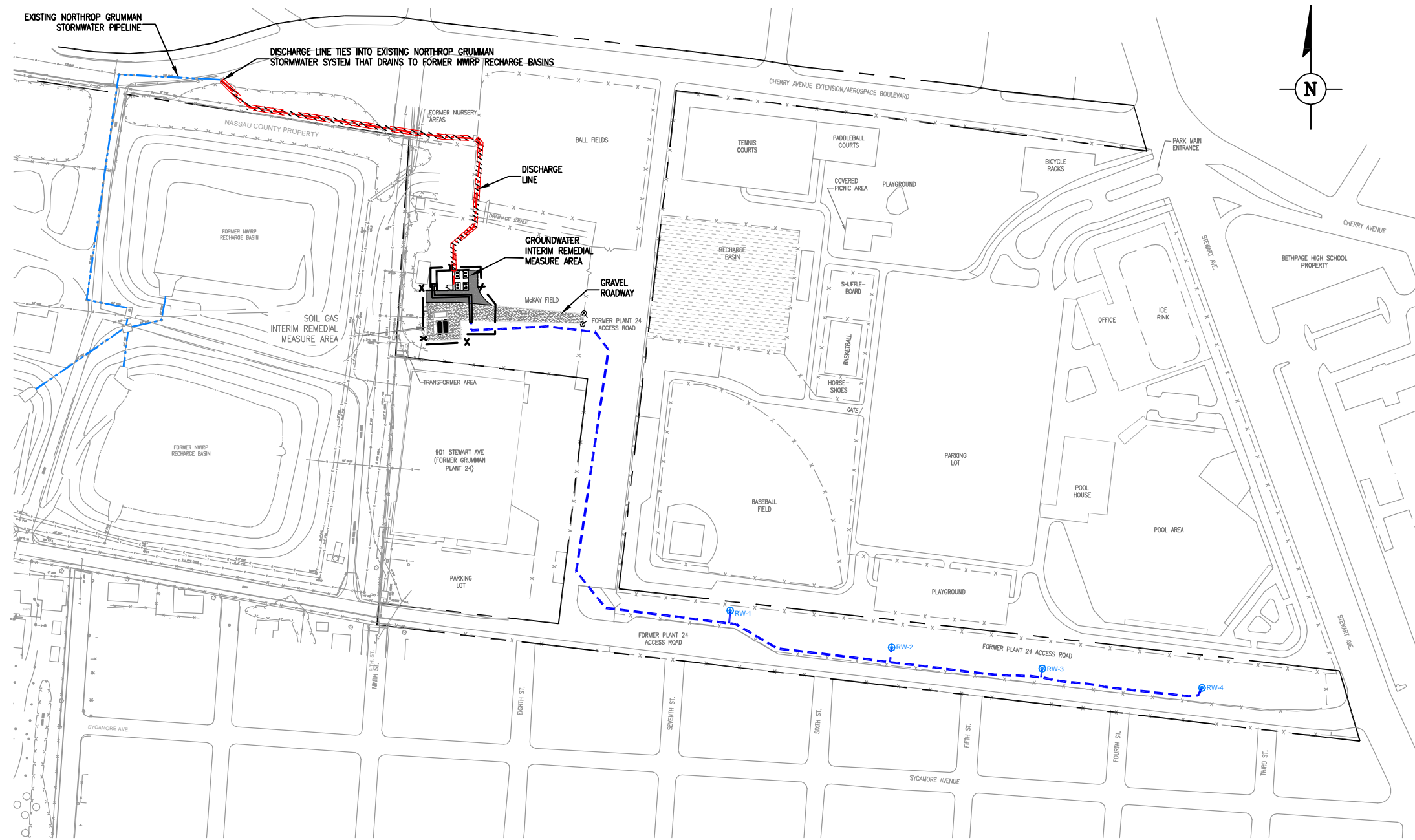


- LEGEND:**
- CONDENSATE LINE
 - LIMITS OF TREATMENT BUILDING
 - PROCESS VAPOR LINE
 - BALL VALVE (NORMALLY OPEN)
 - BALL VALVE (NORMALLY CLOSED)
 - BUTTERFLY VALVE (NORMALLY OPEN)
 - BUTTERFLY VALVE (NORMALLY CLOSED)
 - CHECK VALVE
 - UNION
 - SAMPLE PORT/DRAIN
 - REDUCER
 - FERNCO
 - FLEXIBLE HOSE
 - FLANGE
 - FLOW ELEMENT ACCESS
 - 1/4" BARB INDUCED VACUUM MONITORING CONNECTION
 - INLINE INSTRUMENT
 - ISOLATED INSTRUMENT CONNECTED TO PROCESS LINE
 - INSTRUMENT CONNECTED TO PROCESS LINE
 - FE FLOW MONITORING ELEMENT
 - FI FLOW RATE INDICATOR
 - FTI FLOW TOTALIZER INDICATOR
 - PI PRESSURE INDICATOR
 - PIT PRESSURE INDICATING TRANSMITTER
 - SG SIGHT GLASS
 - TT TEMPERATURE TRANSMITTER
 - VI VACUUM INDICATOR
 - VIT VACUUM INDICATING TRANSMITTER
 - VSP VAPOR SAMPLE POINT
 - WSP WATER SAMPLE POINT

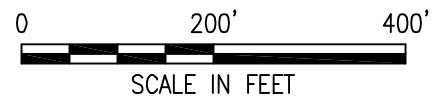
NORTHROP GRUMMAN SYSTEMS CORPORATION
 BETHPAGE, NEW YORK
OPERABLE UNIT 3
FORMER GRUMMAN SETTLING PONDS

PROCESS FLOW DIAGRAM
SOIL GAS INTERIM REMEDIAL MEASURE

FIGURE
3



- LEGEND:**
- NORTHROP GRUMMAN PROPERTY LINE
 - X- FENCE
 - o.o.o. BITUMINOUS PAVEMENT
 - GROUNDWATER IRM INFLUENT PIPELINE AND ELECTRICAL CONDUITS
 - GROUNDWATER IRM EFFLUENT PIPELINE
 - EXISTING NORTHROP GRUMMAN STORMWATER PIPELINE
 - RW-4 GROUNDWATER INTERIM REMEDIAL MEASURE WELL
 - NWIRP NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NOW OWNED BY NASSAU COUNTY)



GROUNDWATER INTERIM REMEDIAL MEASURE
OPERABLE UNIT 3
(FORMER GRUMMAN SETTLING PONDS)
NORTHROP GRUMMAN SYSTEMS CORPORATION
BETHPAGE, NEW YORK

**SITE AND GROUNDWATER INTERIM
REMEDIAL MEASURE LAYOUT**

FIGURE
2

