DRAFT FINAL

PERFLUORINATED COMPOUNDS PRELIMINARY ASSESSMENT SITE VISIT REPORT

FRANCIS S. GABRESKI AIR NATIONAL GUARD BASE WESTHAMPTON BEACH, NEW YORK

Prepared For:

Headquarters Air National Guard
Joint Base Andrews, Maryland

February 2016

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LIST OF ACRONYMS

AFFF	Aqueous Film Forming Foam
AMSL	above mean sea level
ANG	Air National Guard
ANGB	Air National Guard Base
AOC	Area of Concern
AST	aboveground storage tank
BB&E	BB&E, Inc.
bgs	below ground surface
EM	Environmental Manager
FD	Fire Department
FSS	fire suppression system
ft	feet
FTA	Fire Training Area
HEF	High Expansion Foam
LTM	long-term monitoring
NFA	No Further Action
NYSDEC	New York State Department of Environmental Conservation
IRP	Installation Restoration Program
OWS	oil water separator
PA	Preliminary Assessment
PFCs	Perfluorinated Compounds
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonate
PHAL	Provisional Health Advisory Levels
RI	Remedial Investigation
SI	Site Investigation
SVOC	semi-volatile organic compound
USAF	United States Air Force
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	underground storage tank
VOC	volatile organic compound

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1.0 INTRODUCTION

A preliminary assessment (PA) site visit was conducted by BB&E, Inc. (BB&E) on 18 November 2015 at the Francis S. Gabreski Air Guard National Guard Base (ANGB) in Columbus, Ohio. The site location is shown on Figure 1. The purpose of the trip was to identify potential sites of historic environmental releases of perfluorinated compounds (PFCs), specifically from Aqueous Film Forming Foam (AFFF) usage and storage, as shown on Figure 2. Prior to the site visit, BB&E conducted research of any documented Fire Training Areas (FTAs) in operation since 1970, or any other use or release of AFFF in accordance with the Final PFC Preliminary Assessment Work Plan (BB&E, 2015). During the site visit, BB&E conducted personnel interviews, reviewed on-site documentation and toured each potential site.

Individuals contributing to this PA effort included the following:

- Captain Shaun Denton – Gabreski ANGB Environmental Manager (EM)
- Mr. Tony Vasell – Gabreski ANGB State Environmental Technician
- Captain Kenny Caron – Station Captain for State of New York (former Gabreski ANGB Firefighter)

Sections 2.0 and 3.0 of this report outline the potential PFC sources identified on the Base property during the records review and site visit, while Section 4.0 provides conclusions and recommendations for potential follow-on actions. References are included in Section 5.0. Representative photos of the subject sites taken during the site visit are attached as Appendix A. Interview questions and records of communication are presented in Appendix B and other supporting documentation is provided in Appendix C.

1.1 Hydrogeologic Setting

According to the Final Preliminary Assessment/Site Inspection (PA/SI) report for the Regional Compliance Program (AECOM, 2015), groundwater beneath the site is found within different aquifers: 1) Lloyd Aquifer—the deepest aquifer, which provides a good source of drinking water in an area where salt water intrusion is common; 2) Magothy (a good source of drinking water); and 3) Upper Glacial the unconfined, shallow surficial aquifer, which is the major source of

potable water in the area. This unconfined aquifer consists of very porous and highly permeable coarse sands and gravels, and can yield large quantities of water. It is generally 120 feet (ft) thick, and flows southeast toward the headwaters of Quantuck Creek. Depth to groundwater varies from 5 ft below ground surface (bgs) in the southern portion of the Base to 40 ft at higher elevations.

Groundwater flow direction is toward the south-southeast (PEER, 2004).

Surface water information is included in Sections 2.2.4 and 3.2.4.

2.0 FIRE TRAINING AREAS

FTA Areas of Concern (AOCs) are sites where AFFF has been released during fire training activities. The following section includes a description of any fire training AOCs, operational history, waste characteristics, and pathway evaluations. One historical FTA was used by the ANG as described below.

2.1 AOC Description, Operational History, and Waste Characteristics

The following are the FTA AOCs that were identified during this PA Investigation.

2.1.1 IRP Site 7 Fire Training Area

Installation Restoration Program (IRP) Site 7 is a former FTA. 130 feet northwest of the taxiway on the southeastern side of the airport on a 10-inch thick concrete hard stand, approximately 400 feet long by 50 ft wide, and bordered by a 10 foot wide asphalt apron. The FTA was used for fire-fighting training exercises by the United States Air Force (USAF) from 1943 until 1971. The area was originally an unlined pit encompassing 1 acre. Waste fuels, solvents (e.g., kerosene, mineral spirits, TCE, 2-butanone, toluene, etc.), and jet fuel were reportedly poured directly on the ground and ignited for firefighting training exercises.

The area was paved with concrete hard stand in 1971 after the ANG took over operations. Curbing 1 foot high and 50 by 50 ft in size was constructed in 1978 to act as a berm to enclose the burn area. Burn procedures were modified by floating a layer of jet fuel inside the berm on water, then either separating the fuel into a concrete underground storage tank (UST), or burning off excess fuel. Fuel to be used in training exercises was stored in a steel aboveground storage tank (AST) located about 250 ft south-southeast of the former FTA. Both tanks were connected to the former FTA by buried piping. The former FTA is located about 3,200 ft upgradient of the Suffolk County Water Authority's Meeting House Road well field. Use of the site for fire-fighting training exercises was discontinued by the ANG in 1986 (ANG, 2011).

IRP Site 7 was investigated in 1989 and volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) were detected above respective action levels. A remedial investigation (RI) was conducted in 2001 and found VOCs, SVOCs, arsenic, and lead above

action levels in groundwater samples. Long-term monitoring (LTM) was begun in 2004 and continued through October 2012, when sampling was ceased and No Further Action (NFA) was requested (SAIC, 2012). New York State Department of Environmental Conservation (NYSDEC) concurred with NFA on April 16, 2013.

According to Base personnel, AFFF and protein foam were used, although usage amounts are unknown. The concrete and a portion of the berm still remain. This area is now used as munitions storage. An undated aerial photo taken when the former FTA was in use is included as Appendix C-1.

Fire training activities now take place southwest of the former FTA - this parcel is not located on ANG property.

2.2 Pathway and Environmental Hazard Assessment

The following is a preliminary evaluation of the threats and targets associated with each potential exposure pathway. In their anionic forms, perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) are water soluble and can migrate readily from soil to groundwater. The United States Environmental Protection Agency (USEPA) has not established Provisional Health Advisory Levels (PHALs) for PFOS and PFOA in soil (USEPA, 2014). The primary exposure pathway for PFOS and PFOA would be the ingestion of contaminated drinking water.

2.2.1 Groundwater

Groundwater flow direction is discussed in Section 1.1. No documentation was available showing that groundwater at the Base has been tested for PFCs; therefore it is unknown whether PFCs are present in the groundwater. Based on historical practices, they may be present in the groundwater in the areas of the former FTA (IRP Site 7).

2.2.1.1 Water Wells

A review of the EDR Radius Map™ Report with Geocheck® dated November 13, 2015 shows 14 water wells within a one-mile radius of the Gabreski ANGB as listed in the Federal United

States Geological Survey (USGS) Database (Appendix C-2) (EDR, 2015). No public water supply system wells were identified within one mile of the Gabreski ANGB.

Drinking water is supplied to the Gabreski ANGB from the Suffolk County Water Authority (PEER, 2004).

According to the RI Report for Sites 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, and 12 (PEER, 2004), the nearest public supply well field is located 0.6 miles southeast of Francis S. Gabreski Airport (Appendix C-3). As part of the RI, information on private water wells was researched at the NYSDEC Division of Water, Water Supply, at Stony Brook, New York. Well locations were found and Well Completion Reports were reviewed and copied from the files of the NYSDEC Water Supply office for all wells within the target area, during the RI. Completion Reports were found for 35 privately owned water wells dating from October 1944 through February 1990. Ten wells were installed for municipal water supply, thirteen wells were installed for domestic use, three wells were installed for commercial use by business, two wells were installed for irrigation purposes, and six wells were installed for observation (monitoring) purposes. Two wells were installed for other purposes, one being to supply firefighting water in an area where no hydrants exist, and the other being a temporary well used by a Department of Defense contractor for a rocket test (PEER, 2004). Appendix C-3 includes details on these identified wells.

2.2.2 Soil

No documentation was available showing that soils at Gabreski ANGB have been tested for PFCs; therefore it is unknown whether PFCs are present in the soil. However, based on historical practices, they may be present in the soil around the Former FTA (IRP Site 7).

2.2.3 Sediment

No documentation was available showing that sediments at Gabreski ANGB have been tested for PFCs; therefore it is unknown whether PFCs are present in sediments. Based on historical practices, PFCs could be present in sediment in locations that have received drainage from the Former FTA (IRP Site 7) AOC.

2.2.4 Surface Water

The following was obtained from the Integrated Spill and Stormwater Plan (ANG, 2012a). Most of the active administrative and industrial areas of the installation are paved or roofed and exhibit high runoff coefficients. Drainage of the built-upon area is by overland flow to either storm drain inlets connected to a network of underground pipes, or to the subsurface soils. In most areas of the Base, the surface water percolates into the porous surface soils and enters the groundwater. Many of the buildings located on the Base and at the airport discharge roof drainage or their associated paved parking areas into dry wells. Three drainage basins contain the industrial activities of the Base. These basins generally slope from northwest to southeast.

Drainage on the Base discharges through the network of in-ground conveyances and grass-lined ditches or directly into the subsurface soils. Surface and subsurface drainage structures on the Base direct stormwater and any spills to two stormwater outfalls (SDO-001 and SDO-002).

Drainage on the Base Aircraft Parking Apron (Eastern Concrete Ramp/Apron) is collected in several catch basins located along the southeastern edge of the Apron and directed through underground pipes to a main 54-inch pipe, which in turn discharges to SDO-001, located approximately 1,100 ft south of the Apron. The drainage then flows through an open drainage swale, which extends approximately 400 ft south of the outfall point, where it infiltrates into the subsurface soils north of Department of Public Works Service Road. This underground storm sewer system receives drainage from on-Base facilities located along the flight line and from off-Base airport properties located north of the Base.

Drainage from the Helicopter Parking Apron (Southern Concrete Ramp/Apron) is collected in several catch basins located along the southeast portion of the Apron, and directed through underground pipes to a main 30-inch pipe, which discharges south to SDO-002, located in a wooded area northwest of SDO-001. Building 424, which overlaps the former footprint of Building 378, has two stormwater drainage areas that discharge directly into the subsurface soils. Storm drainage basin (SDB-003) represents the on Base areas that discharge drainage directly into the subsurface soils.

Stormwater drainage at the Bulk Fuels Facility is directed to an external swale that discharges to the southwestern drainage ditch. Drainage from the bulk above ground storage tanks containment

area and the loading island is directed to an interceptor tank for eventual release to the sanitary sewer system.

The Integrated Spill and Stormwater Plan (ANG, 2012a) states that the ANG is not required to monitor stormwater discharges at this time.

Based on historical practices, PFCs could be present in surface water in locations that have received drainage from the Former FTA (IRP Site 7) AOC.

Appendix C-4 shows the direction of Gabreski ANGB stormwater drainage.

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3.0 NON-FIRE TRAINING AREAS

Non-FTA AOCs are sites where AFFF has been stored or released and may include crash sites, hangars, fuel spill areas, hazardous waste storage facilities, firefighting equipment testing areas, etc. In general, AFFF systems installed in hangars were designed to contain, store, and in the case of system engagement, ultimately discharge the AFFF inside the hangar.

The following section includes a description of any non-fire training AOCs identified during this PA effort including operational history, waste characteristics, and pathway evaluations, as applicable.

3.1 AOC Description, Operational History, and Waste Characteristics

The following are the Non-FTA AOCs that were identified during this PA Investigation. Appendix A contains photos of these areas. A copy of a recent sanitary and stormwater sewer system drawing, obtained during the site visit, is included in Appendix C-5. Records review focused on the potential PFC sources within the Gabreski ANGB property boundaries. According to Base personnel, the start date of AFFF use is unknown but potentially started as early as 1984. 3M, Ansul, and non-spec AFFF has been used.

3.1.1 Building 300 – Fire Station

Building 300 was built in 1989. Approximately two pallets of 5-gallon AFFF buckets have historically been stored within Building 300 and an overhead fill system was present to transfer AFFF to vehicles. During the PA site visit, Building 300 was under construction and therefore fire department (FD) vehicles were stored in Building 395 (Section 3.1.3). An average of four foam-carrying trucks have been utilized by the FD through the years. No records of accidental AFFF releases at Building 300 exist. Any AFFF releases during testing or accidental release within the fire station likely would have been routed to the floor drains which discharge to an oil/water separator (OWS) on the southeast side of the building which then discharges into the sanitary sewer system (Appendix C-6). Prior to being connected to the sanitary sewer, the Gabreski ANGB had a Base Septic System. IRP Site 8S was the old Base Septic System associated with Building 300 and is further discussed in Section 3.1.13.

3.1.2 Former Building 230 – Vehicle Maintenance

Building 230 was built in 1962 and demolished on 27 February 2012. A concrete parking area for mobility containers now covers the former footprint. Building 230 was utilized for vehicle maintenance, including the occasional maintenance of AFFF-carrying FD vehicles. There were no reports or records of accidental AFFF releases at Building 230. Information pertaining to floor drains in the former Building 230 – Vehicle Maintenance was unavailable at the time of the site visit.

3.1.3 Building 395 – Helicopter Pods

The AFFF fire suppression system (FSS) at Building 395 was installed in 1998. Due to contracting and certification issues, the AFFF FSS was never used and portable AFFF units were used instead. The fire suppression system was retrofitted to high expansion foam (HEF) in 2012. Due to construction at Building 300, FD vehicles are stored in Pod 3 of Building 395. During the PA site visit, four of the trucks were carrying a combined 821 gallons of AFFF and a trailer was carrying 2,000 gallons of AFFF. There are no records of accidental AFFF releases. There were no floor drains observed at Building 395. Storm drains on the apron along the southeast side of Building 395 discharge to the storm sewer system. Prior to be connected to the sanitary sewer, the Gabreski ANGB had a Base Septic System. IRP Sites 8K and 8J were the old Base Septic System associated with Building 395 and are further discussed in Section 3.1.14 and 3.1.15.

3.1.4 Hangar 370

Hangar 370, located on the southern portion of the Base, was equipped with an AFFF FSS from approximately 1998/1999 until 2011, when the system was retrofitted for use of HEF (construction drawings included as Appendix C-7). The brand of AFFF utilized is unknown, but was a 3% concentrate. No records of accidental AFFF releases or system testing exist. AFFF for the FSS was supplied from a 300-gallon tank located in the boiler room of the hangar. Any AFFF releases during testing or accidental release within the boiler room would have been routed to the floor drain; releases within the main hangar likely entered the trench drain on the south side of the interior. Floor and trench drains thereafter led to an OWS on the east side of the hangar which then discharged into the sanitary sewer system.

3.1.5 Hangar 358

Hangar 358, located on the southern portion of the Base, was equipped with an AFFF FSS from approximately 1998/1999 until 2011, when the system was retrofitted for use of HEF (construction drawings included as Appendix C-7). The brand of AFFF utilized is unknown, but was a 3% concentrate. No records of accidental AFFF releases or system testing exist. AFFF for the FSS was believed to have been supplied from a 300-gallon tank located in the boiler room of the hangar. Any AFFF releases during testing or accidental release within the boiler room or main hangar would have been routed to the floor drains, and thereafter led to an OWS on the side of the hangar which then discharged into the sanitary sewer system.

Prior to be connected to the sanitary sewer, the Gabreski ANGB had a Base Septic System. IRP Site 8G was the old Base Septic System associated with Building 358 and is further discussed in Section 3.1.15.

3.1.6 Building 250 - Warehouse

Historically, approximately two pallets of 5-gallon pails of AFFF have been stored at any one time in the warehouse as a backup supply for the FD. One pallet of Military Specification AFFF (3%) from Minnesota Mining and Manufacturing was observed during the site visit with pails dated circa 1988. No floor drains were observed in the building. There have been no known AFFF leaks or spills.

3.1.7 Eastern Concrete Ramp/Apron

Although there are no records of AFFF usage, the Eastern Concrete Ramp/Apron may have been impacted by AFFF due to the historical presence of aircraft. There were Base personnel accounts of AFFF usage adjacent to the ramp/apron (Section 3.1.9 and 3.1.10). Stormwater runoff from the eastern ramp/apron, located next to Buildings 358, 369, and 370, enters drains on the southeast side of the ramp/apron and ultimately discharges to the outfall south of the runways (Section 3.1.10).

3.1.8 Southern Concrete Ramp/Apron

Although there are no records of AFFF usage, the Southern Concrete Ramp/Apron may have been impacted by AFFF due to the historical presence of aircraft. There were Base personnel accounts of AFFF usage adjacent to the ramp/apron (Section 3.1.3).

3.1.9 IRP Site 4- Fuel Spill Area

According to the 2011 Final Community Involvement Plan, a fuel spill occurred in 1987 within the grassy area adjacent to the south edge of the Eastern Concrete Ramp/Apron. An unknown amount of fuel spilled at the site and the FD reportedly applied foam (unknown type) to the area. The flow of fuel, water and foam was stopped before entering nearby drains. The remainder of the spill on the concrete ramp/apron surface was allowed to evaporate and absorbent matting and powdered absorbent were placed along the outfall (IRP Site 9). Remedial action is currently in place at IRP Site 4; however, analytical parameters do not include PFCs.

3.1.10 Nozzle Testing Area

According to Base personnel, FD personnel historically placed a target in the grassy area on the south edge of the concrete ramp/apron, directly across from Building 300, to use in support of vehicle nozzle testing. It is unknown whether foam or water was used. There was no evidence of stressed vegetation.

3.1.11 Outfall SDO-001

Surface and subsurface drainage structures on the Base direct stormwater and any spills to two stormwater outfalls (SDO-001 and SDO-002), both located on airport property southeast of the Base. SDO-001 receives discharges from the Eastern Concrete Ramp/Apron, as well as the majority of buildings on the north and eastern portions of Base property. SDO-001 also receives drainage from off-Base airport property.

3.1.12 Outfall SDO-002

Surface and subsurface drainage structures on the Base direct stormwater and any spills to two stormwater outfalls (SDO-001 and SDO-002), both located on airport property southeast of the

Base. SDO-002 receives discharges from the Southern Concrete Ramp/Apron, as well as adjacent Building 395 (Helicopter Pods).

3.1.13 IRP Site 5- Southwest Storm Drainage Ditch

IRP Site 5 is a storm water drainage ditch that originates as a subsurface outfall on the southwest side of Hangar 370. Drainage in the ditch is directed to the southwest along the ditch for about 280 ft before it goes below ground surface through a drainage culvert. The culvert resurfaces approximately 50 ft farther south and the ditch continues southwest for nearly 200 ft before drainage is again directed below ground surface through a culvert. The second culvert extends another 450 ft to the south, then resurfaces and then continues east for approximately 550 ft. At this point, flow from the ditch enters the base storm drain system. Flow eventually discharges to a dry ravine about 1500 ft southeast of IRP Site 5. The dry ravine in turn discharges to Aspatuck Creek about 1000 ft further south-southeast. The drainage receives rainwater from roof drains and runoff from paved areas in the southwestern portion of the base (PEER, 2004).

Investigations and remedial actions were conducted at IRP Site 5 from 1998 until 2009 when no further action was recommended. NYSDEC approved site closure in December 2010 (ANG, 2011). PFC sampling was not included in the investigation activities at IRP Site 5. IRP Site 5 may have received potentially AFFF-impacted stormwater from the Southern Concrete Ramp/Apron and Building 395 – Helicopter Pods.

3.1.14 IRP Site 8S- Old Base Septic System

IRP Site 8 is a composite of underground structures including cesspools, septic tanks, distribution boxes, oil/mud traps, and dry wells at numerous locations throughout the base. Most of the structures have been removed, while others have been abandoned in place. None of the septic system structures are still in use. Together, the individual structures (former and abandoned-in-place) make up the Old Base Septic Systems. Site 8 includes 21 subsites, designated as Subsites 8A through 8U, based on the individual structures and subsystems that were identified. Appendix C-8 includes a figure identifying the various IRP Site 8 subsites.

Environmental studies were performed at Site 8 from 1991 to 2005. The initial studies indicated that Site 8 had the potential to cause environmental impacts and warranted further assessment

and/or action. Based on the initial investigations, remedial action was taken to mitigate any potential impacts to soil or groundwater at Site 8. Subsequently, an additional investigation was conducted to determine the extent of any soil or groundwater contamination remaining at the site. Only localized occurrences of low-level contaminants were found at the site (ANG, 2012b). Site 8 was recommended for no further action in 2012 and received regulatory concurrence on 2 April 2013.

According to the Technical Memorandum for Site 8 Septic System Remediation Completion Report (MACTEC, 2003), Site 8S consisted of one septic tank and two cesspools which were abandoned in place in 2003. Site 8S was associated with Building 300 – Fire Station. PFC sampling was not included in the investigation activities at IRP Site 8S.

3.1.15 IRP Site 8K- Old Base Septic System

IRP Site 8 is a composite of underground structures including cesspools, septic tanks, distribution boxes, oil/mud traps, and dry wells at numerous locations throughout the base. Most of the structures have been removed, while others have been abandoned in place. None of the septic system structures are still in use. Together, the individual structures (former and abandoned in place) make up the Old Base Septic Systems. Site 8 includes 21 subsites, designated as Subsites 8A through 8U, based on the individual structures and subsystems that were identified. Appendix C-8 includes a figure identifying the various IRP Site 8 subsites.

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According to the Technical Memorandum for Site 8 Septic System Remediation Completion Report (MACTEC, 2003), Site 8K consisted of one septic tank and three cesspools which were

abandoned in place in 2003. Site 8K was associated with Building 395 – Helicopter Pods. PFC sampling was not included in the investigation activities at IRP Site 8K.

3.1.16 IRP Site 8J- Old Base Septic System

IRP Site 8 is a composite of underground structures including cesspools, septic tanks, distribution boxes, oil/mud traps, and dry wells at numerous locations throughout the base. Most of the structures have been removed, while others have been abandoned in place. None of the septic system structures are still in use. Together, the individual structures (former and abandoned in place) make up the Old Base Septic Systems. Site 8 includes 21 subsites, designated as Subsites 8A through 8U, based on the individual structures and subsystems that were identified. Appendix C-8 includes a figure identifying the various IRP Site 8 subsites.

Environmental studies were performed at Site 8 from 1991 to 2005. The initial studies indicated that Site 8 had the potential to cause environmental impacts and warranted further assessment and/or action. Based on the initial investigations, remedial action was taken to mitigate any potential impacts to soil or groundwater at Site 8. Subsequently, an additional investigation was conducted to determine the extent of any soil or groundwater contamination remaining at the site. Only localized occurrences of low-level contaminants were found at the site (ANG, 2012b). Site 8 was recommended for no further action in 2012 and received regulatory concurrence on 2 April 2013.

According to the Technical Memorandum for Site 8 Septic System Remediation Completion Report (MACTEC, 2003), Site 8J is still currently in use as part of the storm water drainage system. Site 8J was associated with Building 395 – Helicopter Pods. PFC sampling was not included in the investigation activities at IRP Site 8J.

3.1.17 IRP Site 8G- Old Base Septic System

IRP Site 8 is a composite of underground structures including cesspools, septic tanks, distribution boxes, oil/mud traps, and dry wells at numerous locations throughout the base. Most of the structures have been removed, while others have been abandoned in place. None of the septic system structures are still in use. Together, the individual structures (former and abandoned in place) make up the Old Base Septic Systems. Site 8 includes 21 subsites,

designated as Subsites 8A through 8U, based on the individual structures and subsystems that were identified. Appendix C-8 includes a figure identifying the various IRP Site 8 subsites.

Environmental studies were performed at Site 8 from 1991 to 2005. The initial studies indicated that Site 8 had the potential to cause environmental impacts and warranted further assessment and/or action. Based on the initial investigations, remedial action was taken to mitigate any potential impacts to soil or groundwater at Site 8. Subsequently, an additional investigation was conducted to determine the extent of any soil or groundwater contamination remaining at the site. Only localized occurrences of low-level contaminants were found at the site (ANG, 2012b). Site 8 was recommended for no further action in 2012 and received regulatory concurrence on 2 April 2013.

According to the Technical Memorandum for Site 8 Septic System Remediation Completion Report (MACTEC, 2003), Site 8G consisted of one septic tank, two cesspools, and one distribution box which were abandoned in place in 2003. Site 8G was associated with Hangar 358. PFC sampling was not included in the investigation activities at IRP Site 8G.

3.2 Pathway and Environmental Hazard Assessment

The following is a preliminary evaluation of the threats and targets associated with each potential exposure pathway. In their anionic forms, PFOS and PFOA are water soluble and can migrate readily from soil to groundwater. The USEPA has not established PHALs for PFOS and PFOA in soil (USEPA, 2014). The primary exposure pathway for PFOS and PFOA would be the ingestion of contaminated drinking water.

3.2.1 Groundwater

Groundwater flow direction is discussed in Section 1.1. No documentation was available showing that groundwater at the Base has been tested for PFCs; therefore it is unknown whether PFCs are present in the groundwater. Based on historical practices, they may be present in the groundwater in the areas in areas such as: Building 300- Fire Station, Building 395 – Helicopter Pods, Hangar 370, Hangar 358, Eastern and Southern Concrete Ramp/Apron, IRP Site 4- Fuel Spill Area, Nozzle Testing Area, Outfall SDO-001, Outfall SDO-002, IRP Site 5-Southwest

Storm Drainage Ditch, IRP Site 8S-Old Base Septic System, IRP Site 8K-Old Base Septic System, IRP Site 8J-Old Base Septic System, and IRP Site 8G-Old Base Septic System.

3.2.1.1 Water Wells

A review of the EDR Radius Map™ Report with Geocheck® dated November 13, 2015 shows 14 water wells within a one-mile radius of the Gabreski ANGB as listed in the Federal United States Geological Survey (USGS) Database (Appendix C-2) (EDR, 2015). No public water supply system wells were identified within one mile of the Gabreski ANGB.

Drinking water is supplied to the Gabreski ANGB from the Suffolk County Water Authority (PEER, 2004).

According to the RI Report for Sites 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, and 12 (PEER, 2004), the nearest public supply well field is located 0.6 miles southeast of Francis S. Gabreski Airport (Appendix C-3). As part of the RI, information on private water wells was researched at the NYSDEC Division of Water, Water Supply at Stony Brook, New York. Well locations were found and Well Completion Reports were reviewed and copied from the files of the NYSDEC Water Supply office for all wells within the target area, during the RI. Completion Reports were found for 35 privately owned water wells dating from October 1944 through February 1990. Ten wells were installed for municipal water supply, thirteen wells were installed for domestic use, three wells were installed for commercial use by business, two wells were installed for irrigation purposes, and six wells were installed for observation (monitoring) purposes. Two wells were installed for other purposes, one being to supply firefighting water in an area where no hydrants exist, and the other being a temporary well used by a Department of Defense contractor for a rocket test (PEER, 2004). Appendix C-3 includes details on these identified wells.

3.2.2 Soil

No documentation was available showing that soils at Gabreski ANGB have been tested for PFCs; therefore it is unknown whether PFCs are present in the soil. Based on historical practices, they may be present in the soil in areas such as: Building 300- Fire Station, Building 395 – Helicopter Pods, Hangar 370, Hangar 358, Eastern and Southern Concrete Ramp/Apron, IRP Site 4- Fuel Spill Area, Nozzle Testing Area, Outfall SDO-001, Outfall SDO-002, IRP Site 5-

Southwest Storm Drainage Ditch, IRP Site 8S-Old Base Septic System, IRP Site 8K-Old Base Septic System, IRP Site 8J-Old Base Septic System, and IRP Site 8G-Old Base Septic System.

3.2.3 Sediment

No documentation was available showing that sediments at Gabreski ANGB have been tested for PFCs; therefore it is unknown whether PFCs are present in sediments. Based on historical practices, PFCs could be present in sediment in locations that have received drainage from AOCs such as Outfalls SDO-001 and -002.

3.2.4 Surface Water

The following was obtained from the Integrated Spill and Stormwater Plan (ANG, 2012a). Most of the active administrative and industrial areas of the installation are paved or roofed and exhibit high runoff coefficients. Drainage of the built-upon area is by overland flow to either storm drain inlets connected to a network of underground pipes, or to the subsurface soils. In most areas of the Base, the surface water percolates into the porous surface soils and enters the groundwater. Many of the buildings located on the Base and at the airport discharge roof drainage or their associated paved parking areas into dry wells. Three drainage basins contain the industrial activities of the Base. These basins generally slope from northwest to southeast.

Drainage on the Base discharges through the network of in-ground conveyances and grass-lined ditches or directly into the subsurface soils. Surface and subsurface drainage structures on the Base direct stormwater and any spills to two stormwater outfalls (SDO-001 and SDO-002).

Drainage on the Base Aircraft Parking Apron (Eastern Concrete Ramp/Apron) is collected in several catch basins located along the southeastern edge of the Apron and directed through underground pipes to a main 54-inch pipe, which in turn discharges to SDO-001, located approximately 1,100 feet south of the Apron. The drainage then flows through an open drainage swale, which extends approximately 400 feet south of the outfall point, where it infiltrates into the subsurface soils north of Department of Public Works Service Road. This underground storm sewer system receives drainage from on Base facilities located along the flight line and from off Base airport properties located north of the Base.

Drainage from the Helicopter Parking Apron (Southern Concrete Ramp/Apron) is collected in several catch basins located along the southeast portion of the Apron, and directed through underground pipes to a main 30-inch pipe, which discharges south to SDO-002, located in a wooded area northwest of SDO-001. Building 424, which overlaps the former footprint of Building 378, has two stormwater drainage areas that discharge directly into the subsurface soils. Storm drainage basin (SDB-003) represents the on Base areas that discharge drainage directly into the subsurface soils.

Stormwater drainage at the Bulk Fuels Facility is directed to an external swale that discharges to the southwestern drainage ditch. Drainage from the bulk above ground storage tanks containment area and the loading island is directed to an interceptor tank for eventual release to the sanitary sewer system.

The Integrated Spill and Stormwater Plan (ANG, 2012a) states that the ANG is not required to monitor stormwater discharges at this time.

Based on historical practices, PFCs could be present in surface water in locations that have received drainage from the AOCs with known AFFF usage such as Outfalls SDO-001 and -002.

Appendix C-4 shows the direction of Gabreski ANGB stormwater drainage.

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4.0 FINDINGS AND CONCLUSIONS

18 potential AOCs have been identified at the Gabreski ANGB during this PA. Of these 18 AOCs, 16 are recommended for further investigation.

Further investigation is recommended at the Gabreski ANGB to characterize potential soil, groundwater, surface water, and sediment PFC contamination. In addition, verification of the structural integrity of the existing oil/water separators and connected sanitary sewer is also advised.

Table 1 summarizes the recommendation and rationale for each potential AOC identified at the Base.

Table 1: Preliminary Assessment Report Summary and Recommendations

No.	Potential AFFF PFC AOC	GPS Coordinates		Rationale	Recommendation
		Latitude	Longitude		
1	IRP Site 7 - Fire Training Area	40.837370°	-72.628441°	Former FTA from 1971 to 1986. According to Base personnel AFFF and protein foam were used, although usage amounts are unknown.	Proceed to SI. Focus on soil and groundwater.
2	Building 300 – Fire Station	40.838623°	-72.641827°	Fire Station since 1989. AFFF stored inside fire vehicles and in 5-gallon buckets. Floor drains inside building are connected to OWS then sanitary sewer system.	Proceed to SI. Focus on soil and groundwater.
3	Former Building 230 – Vehicle Maintenance	40.839808°	-72.643183°	Vehicle Maintenance building from 1962 to 2012. Currently a concrete parking area for mobility containers. Building 230 was utilized for occasional maintenance of AFFF-carrying FD vehicles. There were no reports or records of accidental AFFF releases.	No Further Action
4	Building 395 – Helicopter Pods	40.834942°	-72.644856°	AFFF FSS was installed in 1998 and retrofitted to HEF in 2012. Due to contracting and certification issues, the AFFF FSS was never used and portable AFFF units were used instead. ARFF vehicles currently stored within building. No records of accidental AFFF releases. No floor drains observed. Storm drains on the apron along the southeast side of Building 395 discharge to the storm sewer system.	Proceed to SI. Focus on soil and groundwater.
5	Hangar 370	40.836545°	-72.644505°	Equipped with AFFF FSS from approximately 1998/1999 until 2011, when the system was retrofitted for use of HEF. No records of accidental AFFF releases or system testing exist.	Proceed to SI. Focus on soil and groundwater.

Table 1: Preliminary Assessment Report Summary and Recommendations

No.	Potential AFFF PFC AOC	GPS Coordinates		Rationale	Recommendation
		Latitude	Longitude		
6	Hangar 358	40.837889°	-72.642882°	Equipped with an AFFF FSS from approximately 1998/1999 until 2011, when the system was retrofitted for use of HEF. No records of accidental AFFF releases or system testing exist.	Proceed to SI. Focus on soil and groundwater.
7	Building 250 - Warehouse	40.839524°	-72.645442°	Historically, approximately two pallets of 5-gallon buckets of AFFF have been stored at any one time in the warehouse as a backup supply for the FD. No floor drains were observed in the building. There have been no known AFFF leaks or spills.	NFA.
8	Eastern Concrete Ramp/Apron	40.836669°	-72.642633°	Concrete ramp/apron may have been impacted by AFFF due to the historical presence of aircraft. AFFF usage occurred adjacent to the ramp/apron.	Proceed to SI. Focus on soil and groundwater on the downgradient edge of ramp/apron.
9	Southern Concrete Ramp/Apron	40.834665°	-72.644151°	Concrete ramp/apron may have been impacted by AFFF due to the historical presence of aircraft. AFFF usage occurred adjacent to the ramp/apron.	Proceed to SI. Focus on soil and groundwater on the downgradient edge of ramp/apron.
10	IRP Site 4 - Fuel Spill Area	40.836421°	-72.641520°	In 1987, a fuel spill occurred within the grassy area adjacent to the south edge of the Eastern Concrete Ramp/Apron. Foam (unknown type) was applied to the spill.	Proceed to SI. Focus on soil and groundwater.
11	Nozzle Testing Area	40.837924°	-72.640509°	FD personnel historically placed a target in the grassy area on the south edge of the concrete ramp/apron, directly across from Building 300, to use in support of vehicle nozzle testing. It is unknown whether foam or water was used.	Proceed to SI. Focus on soil and groundwater.

Table 1: Preliminary Assessment Report Summary and Recommendations

No.	Potential AFFF PFC AOC	GPS Coordinates		Rationale	Recommendation
		Latitude	Longitude		
12	Outfall SDO-001	40.833633°	-72.639772°	Receives discharges from the Eastern Concrete Ramp/Apron and the majority of buildings in the north and east portions of Base property. This outfall may have been impacted by AFFF due to potential historical usage of AFFF in these source areas.	Proceed to SI. Focus on soil, groundwater, sediment, and surface water.
13	Outfall SDO-002	40.833208°	-72.641090°	Receives discharges from the Southern Concrete Ramp/Apron, Building 395 (Helicopter Pods), and IRP Site 5. This outfall may have been impacted by AFFF due to potential historical usage of AFFF in these source areas.	Proceed to SI. Focus on soil, groundwater, sediment, and surface water.
14	IRP Site 5-Southwest Storm Drainage Ditch	40.833837°	-72.645584°	Storm water drainage ditch that originates as a subsurface outfall on the southwest side of Hangar 370. This outfall may have been impacted by AFFF due to the historical usage of AFFF in the area.	Proceed to SI. Focus on soil, groundwater, sediment, and surface water.
15	IRP Site 8S – Old Base Septic System	40.838415°	-72.641788°	Site 8S consisted of one septic tank and two cesspools which were abandoned in place in 2003. Site 8S was associated with Building 300 – Fire Station and therefore may have been impacted by AFFF.	Proceed to SI. Focus on soil and groundwater.
16	IRP Site 8K – Old Base Septic System	40.835154°	-72.645246°	Site 8K consisted of one septic tank and three cesspools which were abandoned in place in 2003. Site 8K was associated with Building 395 – Helicopter Pods and therefore may have been impacted by AFFF.	Proceed to SI. Focus on soil and groundwater.

Table 1: Preliminary Assessment Report Summary and Recommendations

No.	Potential AFFF PFC AOC	GPS Coordinates		Rationale	Recommendation
		Latitude	Longitude		
17	IRP Site 8J – Old Base Septic System	40.834778°	-72.644665°	Site 8J is still currently in use as part of the storm water drainage system. Site 8J was associated with Building 395 – Helicopter Pods and therefore may have been impacted by AFFF.	Proceed to SI. Focus on soil and groundwater.
18	IRP Site 8G – Old Base Septic System	40.837941°	-72.642191°	Site 8G consisted of one septic tank, two cesspools, and one distribution box which were abandoned in place in 2003. Site 8G was associated with Hangar 358 and therefore may have been impacted by AFFF.	Proceed to SI. Focus on soil and groundwater.

AFFF – Aqueous Film Forming Foam
AOC – Area of Concern
ARFF – aircraft rescue and firefighting foam
FD – Fire Department
FSS – fire suppression system
FTA – Fire Training Area
GPS – Global Positioning Satellite
HEF – high expansion foam
IRP – Installation Restoration Program
PFC – Perfluorinated Compound
SI – Site Investigation

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5.0 REFERENCES

AECOM, 2015. Regional Compliance Restoration Program Preliminary Assessment/Site Inspection. July.

ANG, 2011. Final Community Involvement Plan for the 106th Rescue Wing. September.

ANG, 2012a. 106th RQW Integrated Spill and Stormwater Plan. May 31, 2012.

ANG, 2012b. Final Record of Decision for Site 8. April.

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EDR, 2015. EDR Radius Map™ Report with Geocheck®. November 13, 2015.

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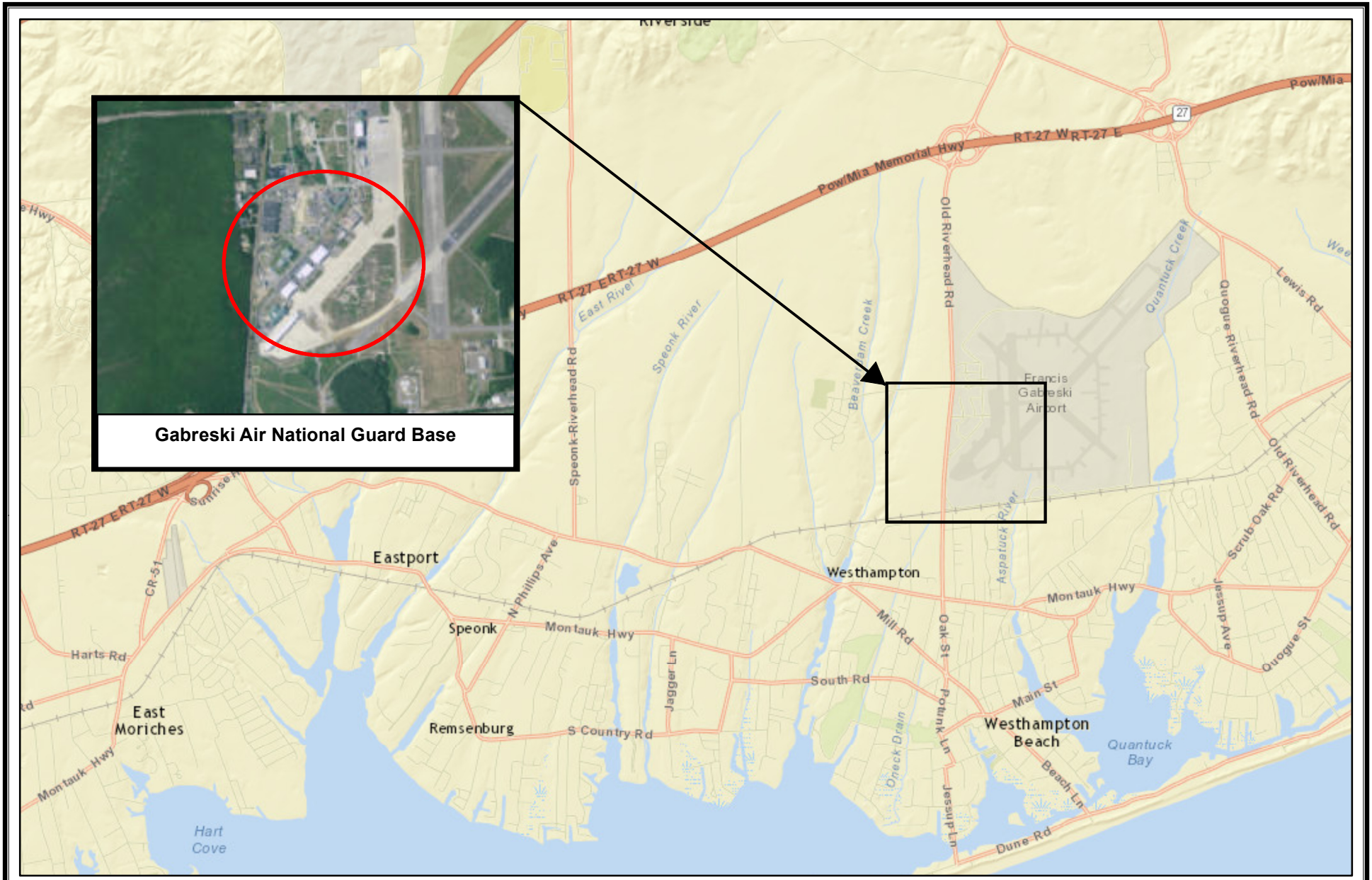
FIGURES



NORTH

0 1 2

Miles

Figure 1
Site Location Map

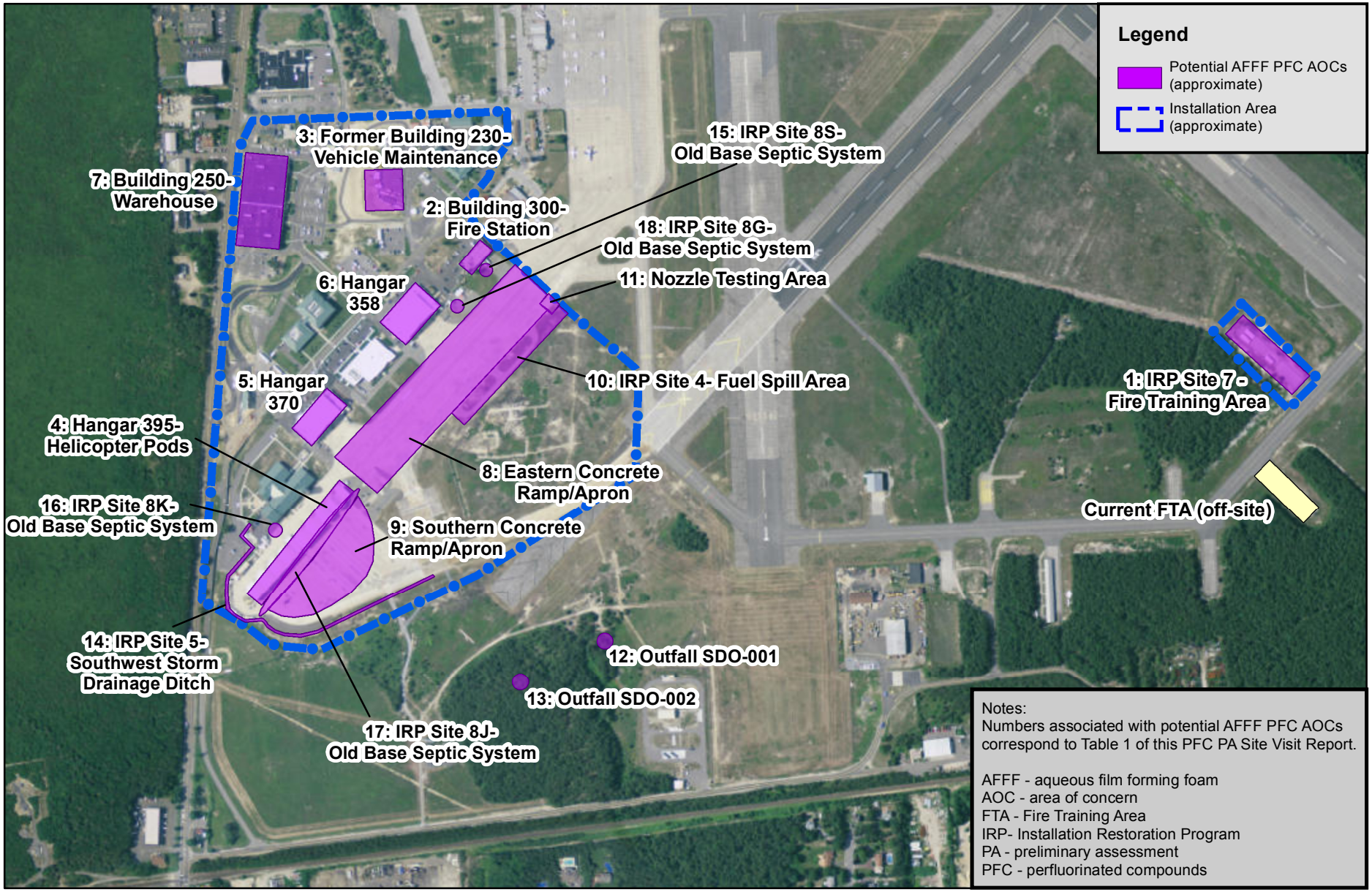
Gabreski Air National Guard Base
Westhampton Beach, New York

BB&E

Document Path: H:\IT\GIS\ANG\AFFF PFC\Gabreski\Site Location Map Gabreski.mxd

Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

KMA 11/5/2015



NORTH

0 750 1,500

Feet

Figure 2
Site Features and Potential AOCs

Gabreski Air National Guard Base
Westhampton Beach, New York

BB&E

Document Path: H:\IT\GIS\ANG\AFFF PFC\Gabreski\Site Features Map Gabreski.mxd

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
KMG 1/26/2016

APPENDIX A

PHOTO DOCUMENTATION

Appendix A

Francis S. Gabreski Air National Guard Base, PFC PA Site Visit, Westhampton Beach, NY – November 18, 2015

Photo 1: Trench drains were present in Building 300 (Fire Station), which was undergoing construction during the PA site visit. Fire Department vehicles were stored in this area. AFFF pallets were historically stored on the far (northeasterly) wall.

Photo 2: Looking northeast toward the Fire Department nozzle testing area which is located directly across the apron from Building 300.

Photo 3: Drains were present on the apron.

Photo 4: Looking east toward a fuel spill area where AFFF was used, located on the southeast side of the apron.

Photo 5: Floor drains were present in Hangar 358.

Photo 6: Trench drains were present in Hangar 370.

Photo 7: Fire Department vehicles are currently stored in Pod 3 of Hangar 395.

Photo 8: Looking northwest toward IRP Site 7 – Fire Training Area.

Appendix A
Francis S. Gabreski Air National Guard Base, PFC PA Site Visit, Westhampton Beach, NY – November 18, 2015

Photo 9: A portion of the berm (left side of photo) remains at IRP Site 7 – Fire Training Area.

Photo 10: Looking southeast towards the Current FTA, which is located outside of the ANG property boundary.

Appendix A
Francis S. Gabreski Air National Guard Base, PFC PA Site Visit, Westhampton Beach, NY – November 18, 2015

Photo 11: Military Specification AFFF (3%) from Minn. Mining and Manufacturing was present in Building 250 – Warehouse.

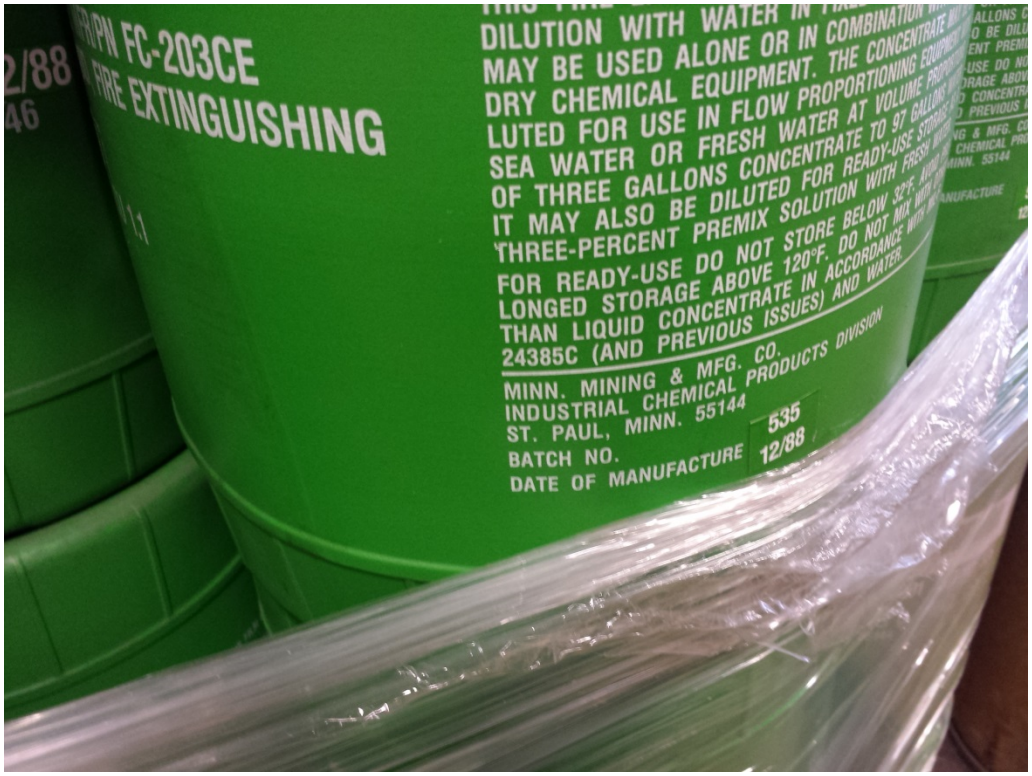


Photo 12: AFFF pails in Building 250 – Warehouse were dated circa 1988.

APPENDIX B

RECORDS OF COMMUNICATION

1/7/15 Interviewed: Tony Vasell
On Base since: 1984
Currently: NY State Environmental Technician
Formerly: Industrial Hygienist

Interview Questions regarding AFFF use
(At Present and back to 1970)

When did AFFF first start being used on this installation?
At least since 1984 for fire fighting

2. What are the years of active use for each Fire Training Area (FTA), Aircraft Hangar, Fire Department, other places AFFF may have been used (collectively Potential Areas of Concern (PAOC)?
   → This date may be in IRP Document.

   FTA is now the Munitions Area (on ANG property).
   Parcel used for FTA (to the SW of former FTA) is not on ANG property.

3. What type of AFFF is used or has been used on this installation (i.e. 3%, 6%, High Expansion Foam)?
   ~~AFF~~ Had 6% at some point.
   3% in hangars?

4. What manufacturer's AFFF products are used or were used on this installation (i.e. 3M, Ansul, Chemguard, etc.)?
   3M & Ansul

5. Did you ever dispose of old bulk AFFF, if so, when and where?
   No. Currently looking to dispose of foam from trucks & bulk storage in warehouse & hangar 395

6. Is the AFFF stored as a mixed solution (3% or 6%) or do you formulate the AFFF on the installation?
   NA

7. If AFFF is formulated on base, where is the solution mixed, contained, transferred, etc.?
   NA

8. Are your automated fire suppression systems currently charged with AFFF or have they been retrofitted for use of high expansion foam?
   Thinking AFFF (3%) was in Hangars A (310) and B (358) before HEF conversion, and 395 (in pods).

Fire Station (300) has a 1,000 gal OWS.

OWSs associated with hangars. There was no evidence of OWS leaking during the "yank a tank" program in 1995.
The county samples every ≈5 weeks now at hangars.
The county samples prior to every discharge (discharges go to WWTP south of the Base).

9. If retrofitted, when was that done?

10. Do you have an inventory of the amount of AFFF stored on the installation, now and in the past, or present in automated fire suppression systems? Were retention ponds built to store discharged AFFF? Was the AFFF trickled to the sanitary sewer or left in the pond to infiltrate?

Interview turned over to Capt Caron, who Tony said would have more information

11. Provide a list of vehicles that carried AFFF, now and in the past, and where are/were they located? Any vehicles have a history of leaking AFFF?

12. How much AFFF (gallons) is/was carried/stored in the specified vehicles?

13. Do you ever dispose of unused AFFF? If so, how and where?

14. Has unused AFFF ever been disposed of in the past? If so, how and where?

15. Do you/did you test the vehicles spray patterns to make sure equipment is working properly?

16. How often are/were these spray tests performed and can you provide the locations of these tests, now and in the past?

17. Can you describe the procedure on how vehicles and systems are/were supplied with AFFF?

18. Can you provide the procedures on how these vehicles are/were cleaned/decontaminated and where vehicle cleaning is performed currently as well as performed in the past?

19. Is/was there a specified area on the installation where vehicles are filled with AFFF and does this area have secondary containment in case of spills?

20. When a release of AFFF occurs during a fire training exercise, now and in the past, how is the AFFF cleaned and disposed of?

21. How many FTAs are/were on this installation and where are they?

22. How many FTAs are active and inactive?

23. What types of fuels/flammables were used at the FTAs?

JP4 and possibly solvents.

Solvents found in area samples, but may be from the aircraft refurbishing building nearby.

24. For inactive FTAs, when was the last time that fire training using AFFF was conducted at them? Find out ahead of time in Admin Record for former FTAs.

25. What are/were the non-FTA locations where PFCs or AFFF release systems are installed (i.e. Hangars, Wastewater Treatment Plants, Fire Stations, etc.)? Where are/were these locations (Building numbers)?

26. Do you have a list (Building names and numbers, current and demolished) where the fire suppression systems either currently contain or have contained AFFF?

27. Do you have records of fuel spill logs and emergency response logs? Knowledge of aircraft mishaps/crashes?

28. Do you have recollection or records of AFFF being used as a precaution in response to fuel releases to prevent fires?

29. Do you have recollection or records of historical emergency response sites (i.e. crash sites and fires) where AFFF was used?

30. Do you have recollection or record of emergency runway landings where foam might have been used as a precaution?

31. If not written records or incomplete written records, do you have anecdotal/verbal information and locations of spills or other emergency response incidents where AFF was used?

See back page

32. What is the typical procedure for removing dispensed AFFF from an area where it has been used?

33. Can you provide any other locations where AFFF has been stored, released, or used (i.e. hangars, buildings, fire stations, firefighting equipment testing and maintenance areas, emergency response sites, storm water/surface water, waste water treatment plants, and AFFF ponds)?

34. Do you have or did you have a chrome plating shop on base? If no, skip to Question #38.

35. What were/are the years of operation of that chrome plating shop?

36. Do you know whether the shop has/had a foam blanket mist suppression system or used a fume hood for emissions control?

37. If foam blanket mist suppression was used, where was the foam stored, mixed, applied, etc.?

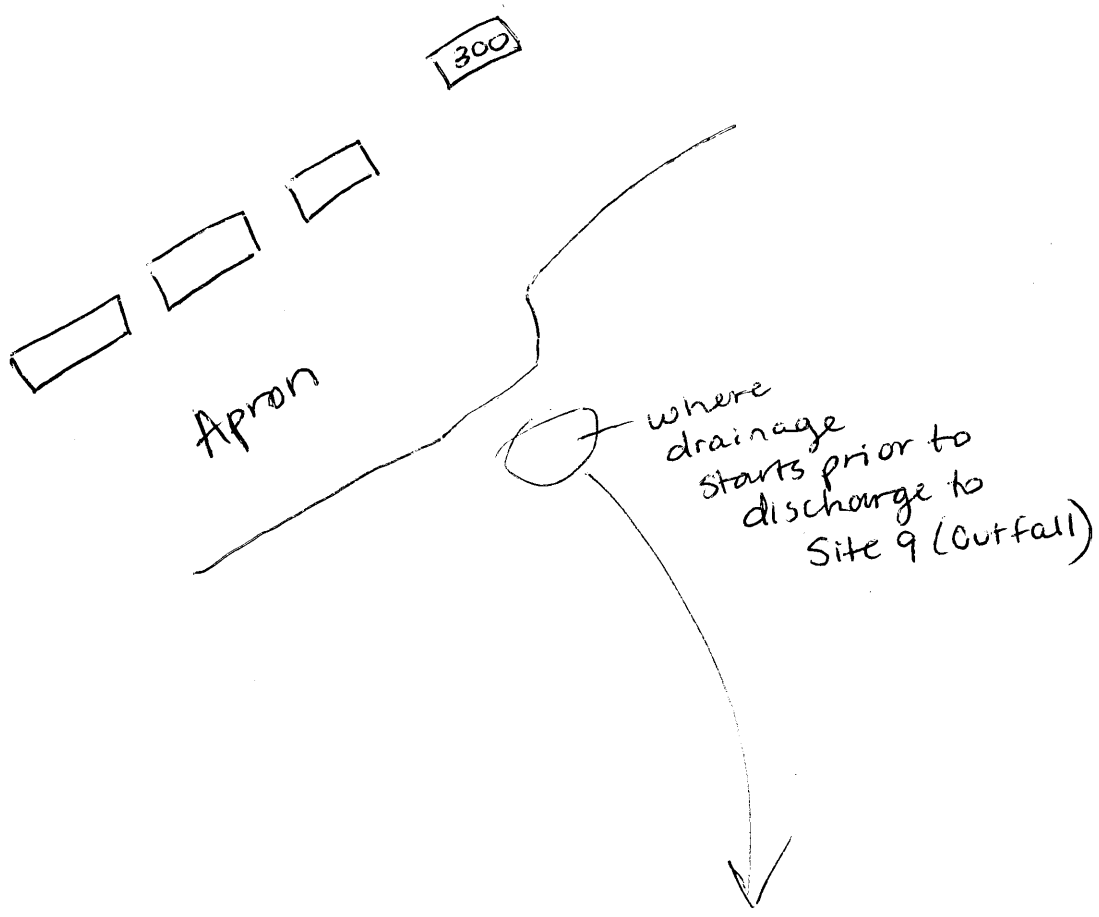
38. Is there anyone else or other base organization personnel that you would recommend we interview? Name, organization, position, phone number, e-mail.

39. Was it common practice to wash away fuel spills with AFFF?

See back page →

40. Identify drainage patterns around flightline/ramp area. Point source discharge is likely AFFF Area of Concern (AOC).

Groundwater from Base flows south to the Aspatuck River.
Drainage from the apron and adjacent buildings discharges to Site 9 (outfall).
Nearby sensitive environments: the Quogue Wildlife Refuge to the SE of the former FTA.
The former FTA is approximately 2500 ft NW of the open water @ the Quogue.



11/17/15 Interviewed: Capt Kenny Caron
On Base since 1988
Currently: Station Capt for State of NY
Formerly: Fire fighter

Interview Questions regarding AFFF use
(At Present and back to 1970)

1. When did AFFF first start being used on this installation?
   Not sure when started

2. What are the years of active use for each Fire Training Area (FTA), Aircraft Hangar, Fire Department, other places AFFF may have been used (collectively Potential Areas of Concern (PAOC)?
   FTA: not known — 1987 → AFFF & protein foam used @ FTA
   Target behind Fire House - early '90s

3. What type of AFFF is used or has been used on this installation (i.e. 3%, 6%, High Expansion Foam)?
   In FD trucks, 6% was used, then switched to 3% in '90s

4. What manufacturer's AFFF products are used or were used on this installation (i.e. 3M, Ansul, Chemguard, etc.)?
   3M & Ansul

5. Did you ever dispose of old bulk AFFF, if so, when and where?
   No

6. Is the AFFF stored as a mixed solution (3% or 6%) or do you formulate the AFFF on the installation?
   ———

7. If AFFF is formulated on base, where is the solution mixed, contained, transferred, etc.?
   ———

8. Are your automated fire suppression systems currently charged with AFFF or have they been retrofitted for use of high expansion foam?
   Currently HEF

9. If retrofitted, when was that done?

~~AFH~~ Not known

10. Do you have an inventory of the amount of AFFF stored on the installation, now and in the past, or present in automated fire suppression systems? Were retention ponds built to store discharged AFFF? Was the AFFF trickled to the sanitary sewer or left in the pond to infiltrate?

No

11. Provide a list of vehicles that carried AFFF, now and in the past, and where are/were they located? Any vehicles have a history of leaking AFFF?

On average, about 4 trucks with foam through the years.

12. How much AFFF (gallons) is/was carried/stored in the specified vehicles?

Currently, 4 trucks carry the following: 210 gal, 500 gal, 55 gal, & 56 gal
And a trailer carries 2,000 gal.

13. Do you ever dispose of unused AFFF? If so, how and where?

No

14. Has unused AFFF ever been disposed of in the past? If so, how and where?

No

15. Do you/did you test the vehicles spray patterns to make sure equipment is working properly?

Yes - may have been water or foam

16. How often are/were these spray tests performed and can you provide the locations of these tests, now and in the past? Not known

target opposite of fire house.
Also could've been performed anywhere in grass area south of apron.

17. Can you describe the procedure on how vehicles and systems are/were supplied with AFFF?

The majority of time, was hand poured with cans.
There is an overhead fill system in fire house (Bldg 300).
Currently, have a foam trailer in Bldg 395 (Bldg 300 under construction)

18. Can you provide the procedures on how these vehicles are/were cleaned/decontaminated and where vehicle cleaning is performed currently as well as performed in the past?

Cleaned at Fire Station, which has drains.
An OWS was installed in 1996.

19. Is/was there a specified area on the installation where vehicles are filled with AFFF and does this area have secondary containment in case of spills?

Fire House

20. When a release of AFFF occurs during a fire training exercise, now and in the past, how is the AFFF cleaned and disposed of?

NA

21. How many FTAs are/were on this installation and where are they?

1

22. How many FTAs are active and inactive?

1 active off-Base

23. What types of fuels/flammables were used at the FTAs?

JP4

24. For inactive FTAs, when was the last time that fire training using AFFF was conducted at them? Find out ahead of time in Admin Record for former FTAs.

≈ 1987

25. What are/were the non-FTA locations where PFCs or AFFF release systems are installed (i.e. Hangars, Wastewater Treatment Plants, Fire Stations, etc.)? Where are/were these locations (Building numbers)?

Hangar A, B, 395 (now = HEF)

26. Do you have a list (Building names and numbers, current and demolished) where the fire suppression systems either currently contain or have contained AFFF?

27. Do you have records of fuel spill logs and emergency response logs? Knowledge of aircraft mishaps/crashes? No

↳ Airshow crash in '94 south of NWTP > see back page for sketch
Plane fire in '89 on runway

Foam may have been used

28. Do you have recollection or records of AFFF being used as a precaution in response to fuel releases to prevent fires?

No

29. Do you have recollection or records of historical emergency response sites (i.e. crash sites and fires) where AFFF was used?

See #27

30. Do you have recollection or record of emergency runway landings where foam might have been used as a precaution?

No

31. If not written records or incomplete written records, do you have anecdotal/verbal information and locations of spills or other emergency response incidents where AFF was used?

No

32. What is the typical procedure for removing dispensed AFFF from an area where it has been used? NA

33. Can you provide any other locations where AFFF has been stored, released, or used (i.e. hangars, buildings, fire stations, firefighting equipment testing and maintenance areas, emergency response sites, storm water/surface water, waste water treatment plants, and AFFF ponds)?

NA

34. Do you have or did you have a chrome plating shop on base? If no, skip to Question #38.

No ANG chrome shop (not sure about AF)

35. What were/are the years of operation of that chrome plating shop?

36. Do you know whether the shop has/had a foam blanket mist suppression system or used a fume hood for emissions control?

37. If foam blanket mist suppression was used, where was the foam stored, mixed, applied, etc.?

38. Is there anyone else or other base organization personnel that you would recommend we interview? Name, organization, position, phone number, e-mail.

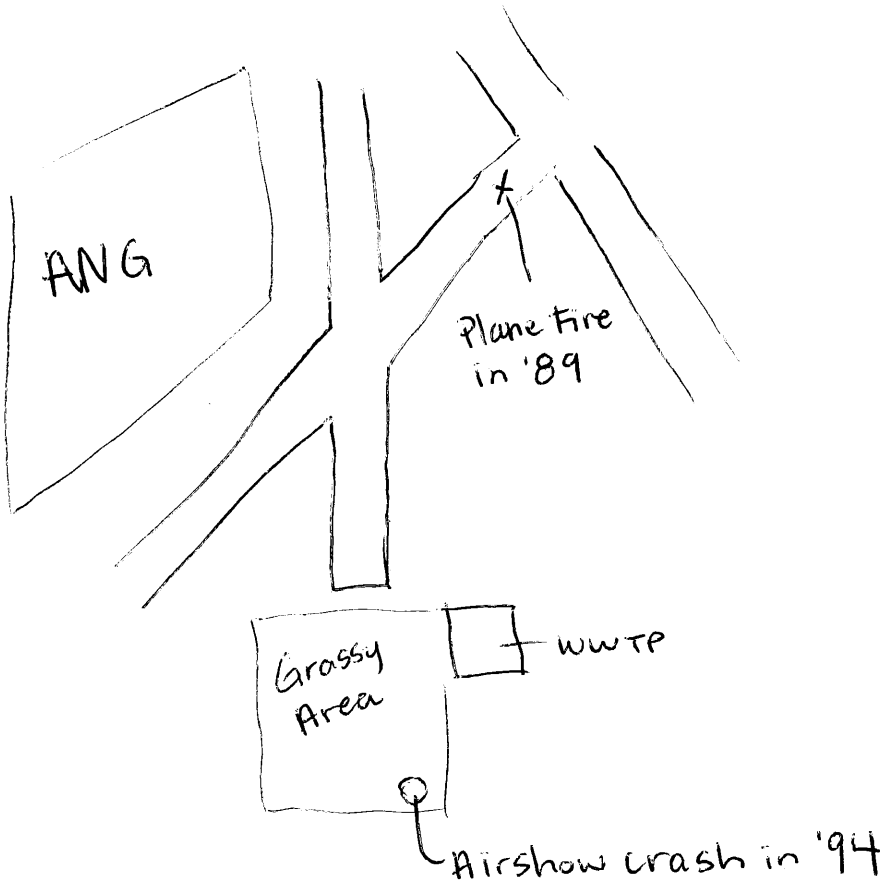
NA

39. Was it common practice to wash away fuel spills with AFFF?

NA

40. Identify drainage patterns around flightline/ramp area. Point source discharge is likely AFFF Area of Concern (AOC).

Aircraft Mishaps Sketch



APPENDIX C

SUPPORTING DOCUMENTATION

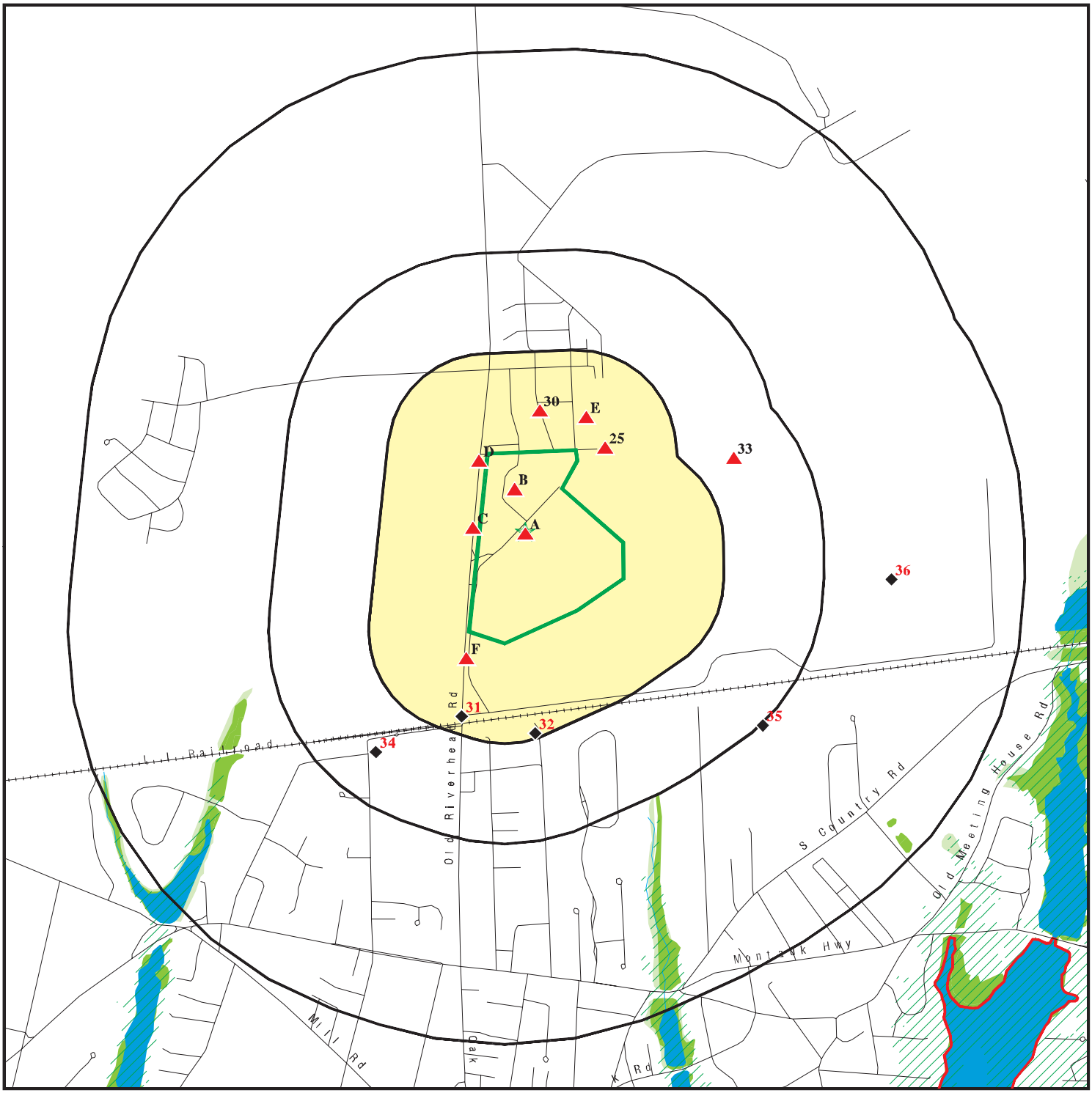
APPENDIX C-1

IRP SITE 7 FIRE TRAINING AREA AERIAL PHOTOGRAPH (DATE UNKNOWN)

APPENDIX C-2

EDR ONE-MILE RADIUS WATER WELLS MAP

OVERVIEW MAP - 4466400.2S

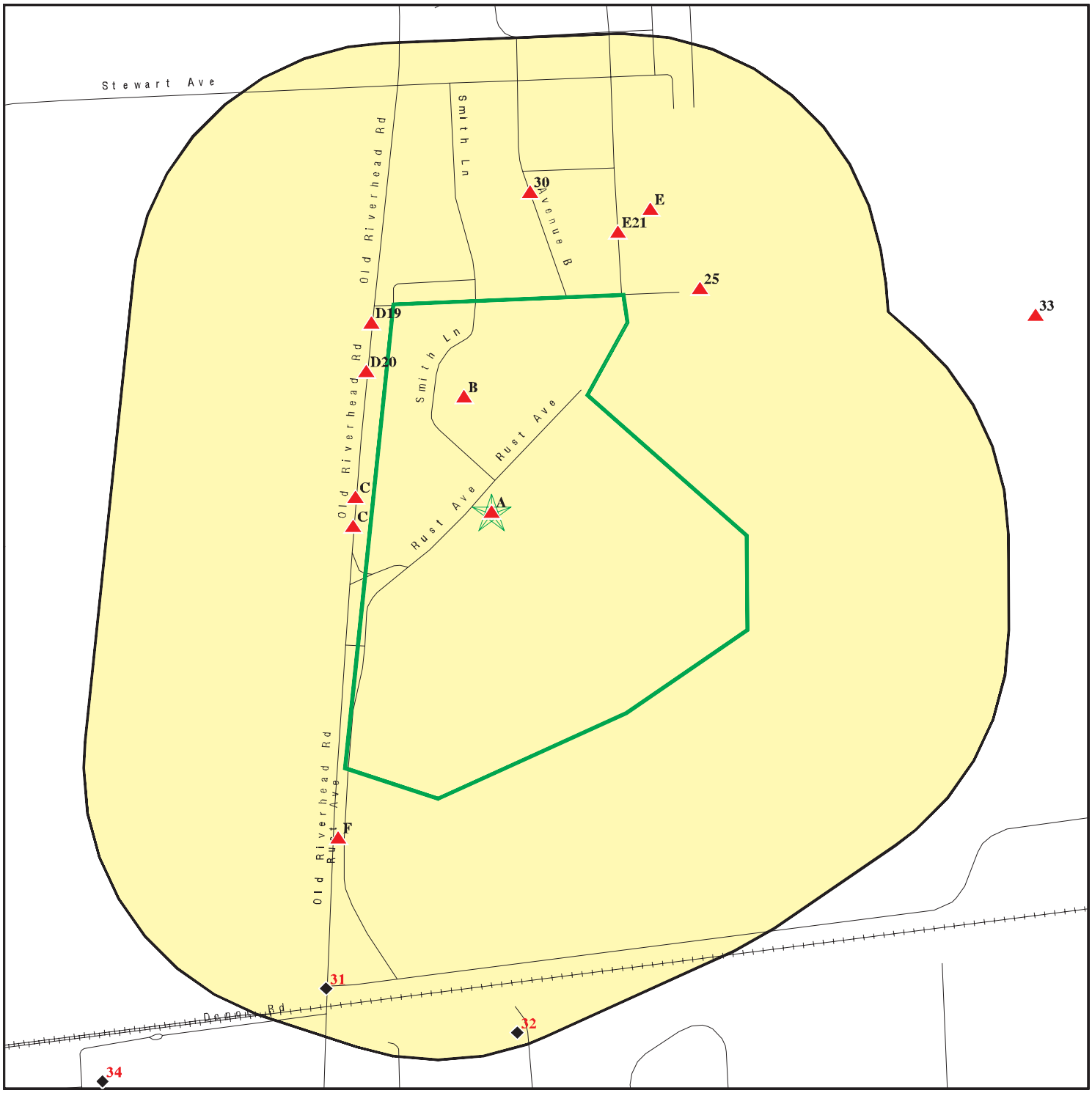


- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- County Boundary
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Gabreski ANGB	CLIENT: B.B. & E
ADDRESS: 150 Old Riverhead Road Westhampton Beach NY 11978	CONTACT: Naila Hosein
LAT/LONG: 40.8375 / 72.6438	INQUIRY #: 4466400.2s DATE: November 13, 2015 2:03 pm

DETAIL MAP - 4466400.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- 100-year flood zone
- 500-year flood zone

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Gabreski ANGB	CLIENT:	B.B. & E
ADDRESS:	150 Old Riverhead Road Westhampton Beach NY 11978	CONTACT:	Naila Hosein
		INQUIRY #:	4466400.2s
LAT/LONG:	40.8375 / 72.6438	DATE:	November 13, 2015 2:05 pm

PHYSICAL SETTING SOURCE MAP - 4466400.2s

- County Boundary
- Major Roads
- Contour Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME: Gabreski ANGB	CLIENT: B.B. & E
ADDRESS: 150 Old Riverhead Road Westhampton Beach NY 11978	CONTACT: Naila Hosein
LAT/LONG: 40.8375 / 72.6438	INQUIRY #: 4466400.2s DATE: November 13, 2015 2:06 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.250

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	USGS40000834163	1/4 - 1/2 Mile ESE
2	USGS40000834046	1/4 - 1/2 Mile SSE
3	USGS40000834367	1/2 - 1 Mile NW
A4	USGS40000834067	1/2 - 1 Mile SE
5	USGS40000833994	1/2 - 1 Mile SSW
A6	USGS40000834045	1/2 - 1 Mile SE
B7	USGS40000834083	1/2 - 1 Mile ESE
B8	USGS40000834084	1/2 - 1 Mile ESE
9	USGS40000834038	1/2 - 1 Mile SE
B10	USGS40000834044	1/2 - 1 Mile SE
11	USGS40000833976	1/2 - 1 Mile SE
12	USGS40000834099	1/2 - 1 Mile ESE
13	USGS40000834115	1/2 - 1 Mile WSW
14	USGS40000834328	1/2 - 1 Mile WNW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
ESE **FED USGS** **USGS40000834163**
1/4 - 1/2 Mile
Lower

Org. Identifier:	USGS-NY		
Formal name:	USGS New York Water Science Center		
Monloc Identifier:	USGS-405008072382201		
Monloc name:	S 3468. 1		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	02030202	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.835655
Longitude:	-72.638984	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	45.0
Vert measure units:	feet	Vertacc measure val:	0.1
Vert accmeasure units:	feet		
Vertcollection method:	Level or other surveying method		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Northern Atlantic Coastal Plain aquifer system		
Formation type:	Glacial Aquifer, Upper		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	53
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

2
SSE **FED USGS** **USGS40000834046**
1/4 - 1/2 Mile
Lower

Org. Identifier:	USGS-NY		
Formal name:	USGS New York Water Science Center		
Monloc Identifier:	USGS-404953072382201		
Monloc name:	S 52492. 1		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	02030202	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.8314884
Longitude:	-72.6389841	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	Not Reported
Vert measure units:	Not Reported	Vertacc measure val:	Not Reported
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refsys:	Not Reported	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 9

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1975-12-15		11.71	1975-09-22		11.72
1975-06-09		12.46	1975-02-28		11.95
1974-11-25		10.57	1974-10-11		10.85
1974-09-09		11.15	1974-08-15		11.31
1974-07-11		11.72			

3
NW
1/2 - 1 Mile
Higher

FED USGS **USGS40000834367**

Org. Identifier:	USGS-NY		
Formal name:	USGS New York Water Science Center		
Monloc Identifier:	USGS-405037072390301		
Monloc name:	S 3543. 1		
Monloc type:	Well		
Monloc desc:	LAT/LONG UPDATES FROM SIM 3066		
Huc code:	02030202	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.8438611
Longitude:	-72.65025	Sourcemap scale:	24000
Horiz Acc measure:	.1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from Digital Map		
Horiz coord refsys:	NAD83	Vert measure val:	64.1
Vert measure units:	feet	Vertacc measure val:	0.1
Vert accmeasure units:	feet		
Vertcollection method:	Level or other surveying method		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Northern Atlantic Coastal Plain aquifer system		
Formation type:	Glacial Aquifer, Upper		
Aquifer type:	Not Reported		
Construction date:	1907	Welldepth:	58
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 694

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2005-02-24		18.25	2005-01-20		17.96
2004-12-15		18.00	2004-11-23		18.23
2004-10-21		18.66	2004-09-22		19.00
2004-08-20		19.59	2004-07-19		20.04
2004-06-14		20.37	2004-05-20		20.36
2004-04-22		19.47	2004-03-15		19.56
2004-02-20		19.81	2004-01-29		19.74
2003-12-16		19.71	2003-11-18		20.15
2003-10-21		20.65	2003-09-15		21.35
2003-08-18		21.83	2003-07-15		21.67
2003-06-16		20.29	2003-05-15		19.55

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
2003-04-16		18.43
2003-02-27		17.50
2002-12-23		16.08
2002-10-17		16.01
2002-08-21		16.36
2002-06-17		16.29
2002-04-24		16.12
2002-02-22		16.79
2001-12-20		17.71
2001-10-19		18.69
2001-08-23		19.33
2001-06-28		19.26
2001-04-19		17.27
2001-02-21		16.17
2000-12-20		16.53
2000-10-26		17.14
2000-08-29		17.71
2000-06-22		17.77
2000-04-27		17.09
2000-02-23		17.15
1999-11-17		17.77
1999-09-29		18.07
1999-07-21		18.68
1999-03-31		18.69
1997-03-12		19.72
1996-06-25		18.67
1996-01-18		16.19
1995-09-19		15.76
1995-05-17		16.34
1995-01-18		16.55
1994-10-25		17.44
1994-08-25		18.20
1994-06-17		18.96
1994-04-21		17.74
1994-03-01		17.21
1993-12-22		17.02
1993-09-24		17.95
1993-07-21		18.81
1993-05-17		19.23
1993-03-22		17.79
1993-01-29		17.40
1992-11-18		17.11
1992-09-22		17.54
1992-07-14		17.60
1992-05-11		16.82
1992-03-16		17.00
1992-01-27		17.23
1991-11-13		17.97
1991-09-16		18.53
1991-07-19		18.86
1991-05-23		18.99
1991-03-20		18.83
1991-01-29		18.67
1990-11-16		19.57
1990-09-17		21.41
2003-03-20		17.80
2003-01-17		16.46
2002-11-15		15.86
2002-09-19		16.17
2002-07-15		16.55
2002-05-20		16.02
2002-03-18		16.46
2002-01-18		17.28
2001-11-26		18.08
2001-09-19		19.04
2001-07-16		19.40
2001-05-31		19.18
2001-03-20		16.35
2001-01-24		16.26
2000-11-24		16.81
2000-09-29		17.42
2000-07-20		17.86
2000-05-24		17.41
2000-03-20		16.97
1999-12-22		17.58
1999-10-28		17.89
1999-08-19		18.44
1999-05-21		19.14
1998-03-16		17.81
1996-09-25		18.22
1996-03-18		17.35
1995-12-06		15.73
1995-07-21		16.10
1995-03-22		16.36
1994-12-14		16.82
1994-09-26		17.83
1994-07-20		18.67
1994-05-24		19.12
1994-03-31		18.06
1994-02-01		17.03
1993-11-23		17.18
1993-08-30		18.27
1993-06-21		19.11
1993-04-30		18.90
1993-03-02		17.68
1992-12-30		17.02
1992-10-20		17.35
1992-08-31		17.65
1992-06-29		17.31
1992-04-13		16.92
1992-02-19		17.09
1991-12-20		17.56
1991-10-21		18.21
1991-08-22		18.68
1991-06-21		19.15
1991-04-25		18.75
1991-02-25		18.70
1990-12-26		18.92
1990-10-16		19.97
1990-08-21		20.72

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1990-07-16		21.01
1990-05-14		20.76
1990-03-28		20.84
1990-01-29		21.13
1989-11-27		21.34
1989-09-25		21.89
1989-07-26		20.09
1989-05-23		17.26
1989-03-20		16.11
1989-01-24		16.25
1988-11-22		16.02
1988-09-27		16.49
1988-07-22		17.11
1988-05-23		17.49
1988-03-24		16.64
1988-01-25		16.11
1987-10-28		17.05
1987-08-12		17.83
1987-05-14		17.71
1987-04-02		17.02
1987-02-03		15.93
1986-11-25		14.94
1986-10-06		15.05
1986-07-24		15.64
1986-05-20		15.84
1986-03-26		15.47
1986-01-16		15.82
1985-11-18		16.28
1985-09-25		16.70
1985-07-25		17.06
1985-05-20		17.63
1985-03-20		18.49
1985-01-30		19.33
1984-11-26		20.62
1984-09-24		21.85
1984-07-23		22.53
1984-05-23		21.72
1984-03-22		19.70
1984-01-29		19.04
1983-11-21		18.62
1983-09-19		19.48
1983-08-22		19.80
1983-06-29		20.14
1983-05-23		19.73
1983-05-10		18.99
1983-03-21		16.64
1983-01-24		16.79
1982-12-08		17.42
1982-10-20		18.22
1982-09-20		18.66
1982-08-19		19.02
1982-06-23		18.36
1982-04-22		15.95
1982-02-24		15.34
1981-12-21		15.14
1990-06-14		20.97
1990-04-19		20.80
1990-02-28		20.93
1989-12-26		21.39
1989-10-23		21.58
1989-08-23		20.90
1989-06-28		19.28
1989-04-26		16.47
1989-02-28		16.20
1988-12-29		16.15
1988-10-25		16.25
1988-08-22		16.83
1988-06-20		17.36
1988-04-25		17.17
1988-02-25		16.12
1987-11-25		16.71
1987-09-16		17.51
1987-07-16		17.99
1987-04-30		17.42
1987-02-24		16.39
1986-12-23		14.99
1986-10-28		15.07
1986-08-20		15.46
1986-06-25		15.84
1986-04-22		15.69
1986-02-25		15.53
1985-12-17		16.05
1985-10-22		16.48
1985-08-21		17.02
1985-06-20		17.30
1985-04-22		17.98
1985-02-21		18.94
1984-12-19		20.16
1984-10-23		21.29
1984-08-27		22.22
1984-06-20		22.11
1984-04-23		20.90
1984-03-02		19.56
1983-12-19		18.72
1983-10-21		18.99
1983-09-14		19.54
1983-07-26		19.98
1983-06-20		20.19
1983-05-23		19.73
1983-04-21		17.69
1983-02-24		16.49
1982-12-20		17.29
1982-11-24		17.67
1982-10-06		18.42
1982-09-08		18.81
1982-07-21		19.21
1982-05-18		16.07
1982-03-22		15.71
1982-01-25		15.05
1981-11-20		15.34

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1981-10-27		15.49
1981-08-24		15.81
1981-06-22		16.84
1981-04-21		16.00
1981-02-25		16.47
1980-12-23		17.34
1980-10-28		18.14
1980-08-26		18.96
1980-06-23		19.48
1980-04-30		18.79
1980-02-26		18.82
1979-12-19		19.65
1979-10-26		20.47
1979-08-28		21.39
1979-06-29		21.86
1979-05-03		22.32
1979-02-27		21.94
1978-12-18		19.19
1978-10-26		19.89
1978-08-29		20.67
1978-06-29		20.99
1978-04-25		21.49
1978-02-22		21.70
1977-12-22		18.65
1977-10-25		18.06
1977-08-24		18.10
1977-06-24		18.44
1977-04-27		18.04
1977-01-27		17.92
1976-11-23		18.24
1976-09-29		18.47
1976-07-29		18.65
1976-05-20		19.20
1976-04-02		19.35
1976-01-29		18.46
1975-11-03		18.70
1975-08-28		19.50
1975-07-02		19.22
1975-04-24		18.41
1975-02-25		17.56
1975-01-06		18.22
1974-11-27		17.45
1974-09-30		18.08
1974-03-29		18.35
1973-10-04		20.23
1973-03-30		20.12
1972-10-02		19.00
1972-03-27		17.54
1971-09-23		17.45
1971-08-09		17.75
1971-06-25		16.99
1971-05-28		18.14
1971-03-15		16.74
1971-01-28		16.89
1970-11-24		17.00
1981-09-21		15.69
1981-07-20		15.93
1981-05-21		15.86
1981-03-23		16.24
1981-01-26		16.84
1980-11-24		17.75
1980-09-23		18.62
1980-07-24		19.26
1980-05-22		18.78
1980-03-25		18.51
1980-02-04		19.06
1979-11-23		20.03
1979-09-25		20.95
1979-07-26		21.79
1979-05-29		22.07
1979-03-27		22.34
1979-01-31		19.97
1978-11-29		19.36
1978-10-04		20.22
1978-07-25		20.95
1978-05-25		21.23
1978-03-22		21.77
1978-01-25		19.54
1977-11-29		18.37
1977-09-21		17.87
1977-07-26		18.24
1977-05-26		18.47
1977-03-03		17.66
1976-12-28		18.06
1976-11-02		18.34
1976-08-25		18.55
1976-06-25		18.95
1976-04-29		19.26
1976-02-26		19.00
1975-11-26		18.47
1975-10-22		18.67
1975-08-04		19.75
1975-05-29		18.87
1975-03-24		18.04
1975-01-31		17.15
1974-12-27		17.20
1974-10-31		17.74
1974-07-04		18.90
1973-12-26		18.90
1973-07-02		21.24
1972-12-29		18.69
1972-07-07		18.67
1971-12-20		16.64
1971-09-01		17.66
1971-07-27		17.88
1971-06-08		18.11
1971-04-27		18.02
1971-02-23		16.95
1971-01-06		16.64
1970-10-22		17.29

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1970-10-08		17.44
1970-07-23		18.28
1970-05-11		18.66
1970-03-11		17.25
1970-01-15		16.60
1969-11-24		16.48
1969-09-30		16.99
1969-07-29		17.45
1969-05-29		17.48
1969-03-27		17.18
1969-01-24		16.90
1968-11-26		16.95
1968-09-26		17.60
1968-07-30		18.22
1968-05-21		18.78
1968-03-29		17.97
1968-01-29		17.76
1967-11-28		17.99
1967-10-03		18.42
1967-07-25		18.04
1967-05-28		16.69
1967-03-31		15.45
1967-01-26		15.03
1966-11-28		15.37
1966-09-28		16.58
1966-07-27		15.90
1966-06-07		15.36
1966-03-25		15.50
1966-01-03		15.86
1965-11-30		16.49
1965-09-28		17.09
1965-07-26		17.43
1965-05-25		17.43
1965-03-29		17.22
1965-01-28		16.64
1964-11-23		17.21
1964-09-30		17.99
1964-07-29		18.64
1964-05-27		18.62
1964-03-26		17.42
1964-01-30		17.46
1963-12-03		17.88
1963-09-27		18.70
1963-07-31		19.09
1963-05-28		19.18
1963-03-27		19.29
1963-01-30		19.10
1962-12-04		18.81
1962-10-02		19.27
1962-07-26		19.78
1962-05-31		20.31
1962-04-03		19.90
1962-02-06		19.42
1961-11-28		19.39
1961-10-04		19.49
1970-08-28		17.92
1970-06-15		18.63
1970-04-09		17.34
1970-02-25		17.22
1969-12-22		16.34
1969-11-03		16.69
1969-08-27		17.27
1969-06-27		17.59
1969-04-30		17.42
1969-02-28		17.18
1968-12-27		16.77
1968-10-24		17.22
1968-08-30		17.49
1968-07-01		18.48
1968-04-24		18.67
1968-02-27		17.78
1967-12-27		17.75
1967-10-30		18.17
1967-08-30		17.99
1967-06-27		17.37
1967-04-25		16.10
1967-02-28		15.55
1966-12-27		15.12
1966-10-27		15.57
1966-08-31		15.90
1966-06-30		15.56
1966-04-26		15.35
1966-02-28		15.70
1965-12-28		16.20
1965-11-01		16.78
1965-08-30		17.34
1965-06-28		17.42
1965-04-21		17.45
1965-03-02		16.85
1964-12-28		16.85
1964-10-27		17.57
1964-08-31		18.30
1964-07-01		18.80
1964-04-28		17.67
1964-02-25		17.12
1963-12-27		17.60
1963-11-04		18.24
1963-09-04		18.91
1963-07-02		19.10
1963-04-29		19.31
1963-02-26		19.06
1962-12-27		19.07
1962-10-29		19.06
1962-08-31		19.42
1962-07-03		20.02
1962-04-30		20.30
1962-03-05		19.68
1962-01-03		19.10
1961-11-06		19.45
1961-09-06		19.55

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1961-07-26		19.79
1961-05-31		19.36
1961-04-04		18.66
1961-02-01		17.90
1960-12-07		18.05
1960-10-04		18.40
1960-08-01		18.81
1960-06-08		19.20
1960-04-06		18.90
1960-02-01		18.81
1959-11-23		19.65
1959-09-28		20.43
1959-08-04		20.75
1959-05-29		20.91
1959-03-31		19.65
1959-01-29		19.94
1958-12-01		20.20
1958-09-26		20.50
1958-07-29		21.24
1958-05-26		21.00
1958-03-25		19.08
1958-01-27		17.09
1957-11-25		16.84
1957-09-25		17.50
1957-07-30		17.86
1957-05-28		18.46
1957-03-27		17.64
1957-01-30		17.81
1956-11-28		18.54
1956-10-03		19.18
1956-07-30		19.75
1956-05-28		20.04
1956-03-28		18.87
1956-01-25		19.26
1955-11-25		18.44
1955-10-06		18.19
1955-07-26		18.82
1955-05-25		19.21
1955-03-25		19.33
1955-01-25		19.32
1954-11-18		19.43
1954-09-30		18.92
1954-07-27		18.63
1954-05-27		18.68
1954-03-26		18.59
1954-01-27		19.06
1953-11-20		18.87
1953-10-07		19.55
1953-08-25		20.24
1953-06-24		20.87
1953-04-30		19.96
1953-02-27		17.80
1952-12-22		18.00
1952-11-06		18.52
1952-08-27		19.04
1961-07-06		19.68
1961-05-01		19.09
1961-02-28		18.06
1961-01-06		17.94
1960-11-08		18.02
1960-09-02		18.54
1960-07-06		18.97
1960-05-04		19.09
1960-02-29		18.65
1959-12-30		19.16
1959-10-28		20.07
1959-09-01		20.66
1959-07-01		20.69
1959-05-01		20.71
1959-02-25		19.77
1959-01-07		20.14
1958-10-28		20.11
1958-08-25		20.86
1958-06-24		21.46
1958-04-28		20.36
1958-02-26		18.45
1957-12-17		16.67
1957-10-28		17.16
1957-08-28		17.80
1957-07-02		18.39
1957-04-24		17.88
1957-02-27		17.68
1956-12-20		18.22
1956-10-31		18.87
1956-08-29		19.55
1956-06-21		20.05
1956-04-26		19.46
1956-02-29		18.76
1955-12-28		18.96
1955-11-02		18.20
1955-08-25		18.62
1955-06-21		19.08
1955-04-25		19.17
1955-02-23		19.47
1954-12-27		19.15
1954-10-26		19.40
1954-08-24		18.44
1954-06-29		18.82
1954-04-28		18.45
1954-02-25		18.85
1953-12-21		18.72
1953-11-09		19.03
1953-09-10		19.99
1953-08-05		20.45
1953-05-28		20.78
1953-03-31		18.53
1953-02-04		17.65
1952-12-02		18.20
1952-09-25		18.86
1952-07-23		19.01

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1952-06-25		18.79
1952-04-23		18.06
1952-03-27		17.61
1952-01-25		16.34
1951-11-28		16.09
1951-09-26		16.40
1951-07-26		16.74
1951-05-31		16.83
1951-03-28		15.50
1951-01-23		15.35
1950-11-28		15.73
1950-09-28		16.20
1950-07-25		16.43
1950-05-25		16.10
1950-03-27		16.22
1950-01-30		16.57
1949-11-30		17.45
1949-09-28		18.34
1949-07-25		19.19
1949-05-23		19.65
1949-03-28		19.06
1949-01-31		18.04
1948-11-30		18.14
1948-09-30		18.87
1948-08-05		19.34
1948-05-28		18.64
1948-03-31		17.85
1948-01-27		16.68
1947-11-24		16.50
1947-10-02		16.68
1947-07-31		17.10
1947-06-05		17.01
1947-04-03		16.22
1947-01-23		16.75
1943-03-31		17.09
1943-01-29		16.33
1942-11-30		15.90
1942-09-28		16.39
1942-09-11		16.52
1942-08-28		16.63
1942-08-14		16.73
1942-07-31		16.82
1942-07-17		16.91
1942-07-06		17.01
1942-06-19		17.06
1942-06-05		17.04
1942-05-22		16.97
1942-05-08		16.82
1942-04-24		16.55
1942-04-14		16.31
1909-11-18		16.52
1909-08-25		17.47
1909-06-01		17.42
1909-03-24		16.51
1909-01-12		17.05
1952-05-27		18.45
1952-03-28		17.62
1952-02-29		17.07
1951-12-21		16.08
1951-11-02		16.12
1951-08-29		16.58
1951-06-29		16.86
1951-04-25		16.04
1951-02-27		15.18
1950-12-26		15.52
1950-10-30		15.97
1950-08-30		16.41
1950-06-27		16.24
1950-04-27		16.11
1950-02-24		16.36
1949-12-28		17.07
1949-10-26		17.94
1949-08-23		18.84
1949-06-29		19.40
1949-04-25		19.44
1949-02-21		18.30
1948-12-23		17.84
1948-10-27		18.55
1948-08-25		19.22
1948-07-06		19.20
1948-04-30		18.30
1948-02-25		17.33
1947-12-22		16.54
1947-10-28		16.48
1947-09-03		16.88
1947-07-09		17.18
1947-05-06		16.61
1947-03-06		16.38
1943-04-30		17.31
1943-02-25		16.77
1942-12-31		15.84
1942-11-02		16.11
1942-09-18		16.47
1942-09-04		16.58
1942-08-21		16.68
1942-08-07		16.78
1942-07-24		16.87
1942-07-10		16.96
1942-06-26		17.03
1942-06-12		17.06
1942-05-29		17.01
1942-05-15		16.90
1942-04-30		16.68
1942-04-17		16.39
1909-12-16		16.03
1909-10-06		17.02
1909-07-13		17.84
1909-04-24		16.66
1909-03-02		16.53
1908-11-17		17.87

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1908-10-12		18.36	1908-08-20		19.02
1908-07-08		19.35	1908-06-10		19.49
1908-05-08		19.44	1908-04-04		19.04
1908-03-05		18.55	1908-02-08		18.01
1908-01-06		17.55	1907-11-15		18.12
1907-08-15		18.95	1907-03-18		18.37

A4
SE **FED USGS** **USGS40000834067**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-NY		
Formal name:	USGS New York Water Science Center		
Monloc Identifier:	USGS-404955072381001		
Monloc name:	S 3544. 1		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	02030202	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.8320439
Longitude:	-72.6356506	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	Not Reported
Vert measure units:	Not Reported	Vertacc measure val:	Not Reported
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refsys:	Not Reported	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	39
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 132

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1954-12-27		13.14	1954-10-25		13.47
1954-06-29		12.76	1954-03-26		12.62
1953-12-21		13.36	1953-11-20		12.16
1953-11-09		12.30	1953-10-06		12.47
1953-08-25		13.18	1953-08-05		13.42
1953-05-28		14.65	1953-04-30		14.67
1953-03-31		13.54	1952-12-29		11.66
1952-12-02		11.78	1952-11-06		12.05
1952-09-25		12.60	1952-08-27		13.05
1952-07-23		13.00	1952-06-25		13.27
1952-05-27		13.15	1952-04-23		12.87
1952-03-27		12.64	1952-02-29		12.33
1952-01-25		11.64	1951-12-21		11.09
1951-11-28		11.01	1951-11-02		10.59
1951-10-01		10.77	1951-08-29		11.13

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1951-07-26		11.46
1951-05-31		11.92
1951-03-28		11.13
1951-01-23		10.15
1950-11-28		10.30
1950-09-28		10.72
1950-07-25		11.33
1950-05-25		11.16
1950-03-27		11.06
1950-01-31		10.65
1949-12-01		11.01
1949-10-04		11.55
1949-07-25		12.56
1949-05-23		13.42
1949-03-28		13.60
1949-01-31		12.72
1948-11-30		11.69
1948-09-30		12.27
1948-08-05		13.10
1948-05-28		13.12
1948-03-31		12.77
1948-02-06		11.99
1947-11-24		11.36
1947-10-02		11.02
1947-07-31		11.58
1947-06-05		11.94
1947-04-03		11.10
1947-01-25		11.02
1943-03-31		11.90
1943-01-29		11.35
1942-11-02		10.40
1942-09-18		10.72
1942-09-04		10.83
1942-08-21		10.95
1942-08-07		11.05
1942-07-24		11.19
1942-07-10		11.33
1942-06-26		11.45
1942-06-12		11.58
1942-05-29		11.66
1909-12-16		10.28
1909-10-06		10.83
1909-07-13		12.00
1909-04-24		11.47
1909-03-02		10.95
1908-11-17		11.10
1908-08-19		12.15
1908-06-10		12.96
1908-04-04		13.17
1908-02-08		12.53
1907-08-15		12.42
1951-06-29		11.69
1951-04-25		11.87
1951-02-27		10.57
1950-12-26		10.20
1950-10-31		10.46
1950-08-30		11.01
1950-06-27		11.36
1950-04-27		11.12
1950-02-28		10.95
1949-12-28		10.83
1949-10-26		11.29
1949-08-23		12.09
1949-06-29		12.95
1949-04-25		13.58
1949-02-21		13.00
1948-12-23		11.52
1948-10-27		11.94
1948-08-25		12.85
1948-07-06		13.45
1948-04-30		13.02
1948-02-25		12.70
1947-12-22		11.28
1947-10-28		10.76
1947-09-03		11.29
1947-07-09		11.78
1947-05-06		11.80
1947-03-06		10.99
1943-04-30		11.94
1943-02-25		11.67
1942-11-30		10.27
1942-09-28		10.64
1942-09-11		10.77
1942-08-28		10.89
1942-08-14		10.95
1942-07-31		11.12
1942-07-17		11.26
1942-07-03		11.41
1942-06-19		11.52
1942-06-05		11.63
1942-05-22		11.71
1909-11-18		10.47
1909-08-24		11.45
1909-06-01		12.35
1909-03-24		11.36
1909-01-12		10.69
1908-10-12		11.48
1908-07-08		12.69
1908-05-02		13.16
1908-03-05		12.88
1908-01-06		11.77
1907-03-18		12.22

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

5
SSW
1/2 - 1 Mile
Lower

FED USGS **USGS40000833994**

Org. Identifier:	USGS-NY		
Formal name:	USGS New York Water Science Center		
Monloc Identifier:	USGS-404946072385601		
Monloc name:	S 3506. 1		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	02030202	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.8295439
Longitude:	-72.6484289	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	40.0
Vert measure units:	feet	Vertacc measure val:	0.1
Vert accmeasure units:	feet		
Vertcollection method:	Level or other surveying method		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Northern Atlantic Coastal Plain aquifer system		
Formation type:	Glacial Aquifer, Upper		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	102
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

A6
SE
1/2 - 1 Mile
Lower

FED USGS **USGS40000834045**

Org. Identifier:	USGS-NY		
Formal name:	USGS New York Water Science Center		
Monloc Identifier:	USGS-404953072380701		
Monloc name:	S 52548. 1		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	02030202	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.8314884
Longitude:	-72.6348172	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	Not Reported
Vert measure units:	Not Reported	Vertacc measure val:	Not Reported
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refsys:	Not Reported	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 7

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1975-09-22		10.83	1975-06-10		11.41
1975-04-28		11.69	1975-02-28		11.11
1974-11-21		9.79	1974-10-11		9.97
1974-09-18		10.08			

B7
ESE **FED USGS** **USGS40000834083**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-NY		
Formal name:	USGS New York Water Science Center		
Monloc Identifier:	USGS-404956072380101		
Monloc name:	S 52128. 1		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	02030202	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.8323217
Longitude:	-72.6331505	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	Not Reported
Vert measure units:	Not Reported	Vertacc measure val:	Not Reported
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refsys:	Not Reported	Countrycode:	US
Aquifername:	Northern Atlantic Coastal Plain aquifer system		
Formation type:	Glacial Aquifer, Upper		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	37
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 33

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1983-03-04		10.36	1982-12-21		9.90
1982-09-16		12.69	1981-03-02		9.66
1980-12-06		10.03	1980-09-06		10.83
1980-06-21		11.98	1980-03-13		10.96
1979-12-17		11.49	1979-09-21		12.00
1979-06-22		13.38	1979-03-13		14.37
1979-01-04		11.40	1978-03-15		13.56
1977-12-15		11.55	1977-09-21		10.65
1977-06-21		11.16	1977-03-23		10.73
1976-12-28		10.67	1976-09-27		10.90
1976-06-23		11.25	1976-03-25		12.05
1975-12-15		11.33	1975-09-22		11.15

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1975-06-10		11.70	1975-02-28		11.38
1974-12-19		10.28	1974-11-25		10.07
1974-10-11		10.31	1974-09-09		10.52
1974-08-15		10.74	1974-07-09		11.20
1974-06-19		11.44			

B8
ESE **FED USGS** **USGS40000834084**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-NY		
Formal name:	USGS New York Water Science Center		
Monloc Identifier:	USGS-404956072380102		
Monloc name:	S 52552. 1		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	02030202	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.8323217
Longitude:	-72.6331505	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	Not Reported
Vert measure units:	Not Reported	Vertacc measure val:	Not Reported
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refsys:	Not Reported	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

9
SE **FED USGS** **USGS40000834038**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-NY		
Formal name:	USGS New York Water Science Center		
Monloc Identifier:	USGS-404952072380401		
Monloc name:	S 52549. 1		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	02030202	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.8312106
Longitude:	-72.6339839	Sourcemap scale:	24000

Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	Not Reported
Vert measure units:	Not Reported	Vertacc measure val:	Not Reported
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refsys:	Not Reported	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 4

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1975-02-28		10.58	1974-11-21		9.30
1974-10-11		9.47	1974-09-09		9.65

B10
SE
1/2 - 1 Mile
Lower

FED USGS **USGS40000834044**

Org. Identifier:	USGS-NY		
Formal name:	USGS New York Water Science Center		
Monloc Identifier:	USGS-404953072375901		
Monloc name:	S 52550. 1		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	02030202	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.8314884
Longitude:	-72.6325949	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	Not Reported
Vert measure units:	Not Reported	Vertacc measure val:	Not Reported
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refsys:	Not Reported	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 7

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1975-09-22		10.41	1975-06-10		11.01
1975-04-28		11.33	1975-02-28		10.74
1974-11-21		9.34	1974-10-11		9.57
1974-09-18		9.70			

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
11 SE 1/2 - 1 Mile Lower	**FED USGS**	**USGS40000833976**

Org. Identifier:	USGS-NY		
Formal name:	USGS New York Water Science Center		
Monloc Identifier:	USGS-404944072380901		
Monloc name:	S 52551. 1		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	02030202	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.8289884
Longitude:	-72.6353728	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	27.8
Vert measure units:	feet	Vertacc measure val:	0.1
Vert accmeasure units:	feet		
Vertcollection method:	Level or other surveying method		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Northern Atlantic Coastal Plain aquifer system		
Formation type:	Glacial Aquifer, Upper		
Aquifer type:	Not Reported		
Construction date:	19740828	Welldepth:	29
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 71

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2003-03-20		10.29	2002-03-18		8.35
2001-03-23		9.53	2000-03-20		9.18
1999-03-31		10.17	1998-03-16		10.55
1997-03-12		10.35	1996-03-18		9.82
1995-03-22		8.83	1994-03-31		10.61
1994-03-09		9.78	1993-03-22		9.93
1992-03-16		8.92	1991-03-20		9.82
1990-03-28		10.43	1990-03-22		10.47
1989-01-13		8.95	1988-05-04		9.62
1987-03-03		9.64	1986-12-29		8.59
1986-09-25		7.68	1986-06-03		8.28
1986-03-12		8.35	1985-09-17		9.21
1985-07-03		8.73	1985-07-03		8.73
1985-03-27		8.94	1985-01-01		9.34
1984-09-25		10.24	1984-06-21		11.55
1984-04-02		11.34	1983-09-14		9.38
1983-06-29		10.63	1983-05-10		11.53
1983-03-04		8.94	1982-12-21		8.43
1982-12-08		8.52	1982-10-06		8.93
1982-09-16		12.23	1982-09-08		9.31
1982-06-14		10.60	1982-03-01		8.80
1981-12-09		7.79	1981-09-18		8.03
1981-06-12		8.40	1981-03-02		8.36
1980-12-06		8.53	1980-09-06		8.09

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1980-06-21		9.09	1980-03-13		9.78
1979-12-14		9.71	1979-09-19		9.10
1979-06-22		11.09	1979-03-26		11.75
1979-01-03		9.65	1978-10-05		9.60
1978-03-15		11.42	1977-12-15		10.04
1977-09-21		8.11	1977-06-21		9.43
1977-03-23		9.11	1976-06-23		9.41
1976-03-25		10.13	1975-12-15		9.50
1975-09-22		9.31	1975-06-10		9.86
1975-04-28		10.14	1975-02-28		9.71
1974-11-21		8.44	1974-10-11		8.58
1974-09-09		8.76			

12
ESE **FED USGS** **USGS40000834099**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-NY		
Formal name:	USGS New York Water Science Center		
Monloc Identifier:	USGS-404959072375001		
Monloc name:	S 9582. 1		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	02030202	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.8331551
Longitude:	-72.6300948	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	40.0
Vert measure units:	feet	Vertacc measure val:	0.1
Vert accmeasure units:	feet		
Vertcollection method:	Level or other surveying method		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Northern Atlantic Coastal Plain aquifer system		
Formation type:	Glacial Aquifer, Upper		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	59
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

13
WSW **FED USGS** **USGS40000834115**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-NY		
Formal name:	USGS New York Water Science Center		
Monloc Identifier:	USGS-405001072393001		
Monloc name:	S 36154. 1		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	02030202	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.8337105
Longitude:	-72.6578738	Sourcemap scale:	24000

Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	Not Reported
Vert measure units:	Not Reported	Vertacc measure val:	Not Reported
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refsys:	Not Reported	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	74
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 41

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1981-03-31		7.59	1981-03-18		7.65
1980-07-02		9.03	1980-03-25		8.91
1980-01-10		9.32	1979-10-03		9.90
1979-07-23		10.64	1979-02-01		8.82
1979-01-12		9.21	1978-10-03		9.74
1978-06-23		10.45	1978-03-28		11.02
1978-01-05		8.52	1977-10-12		8.03
1977-06-30		8.69	1977-04-07		8.70
1977-01-12		9.38	1976-09-27		9.05
1976-06-30		9.41	1976-03-16		9.59
1976-01-09		9.07	1975-10-09		8.77
1975-06-30		9.16	1975-04-08		8.70
1974-12-30		8.35	1974-09-19		8.75
1974-06-11		9.87	1974-03-20		9.59
1973-12-21		10.05	1973-09-27		10.69
1973-06-19		9.93	1973-03-29		10.27
1972-12-27		9.60	1972-10-02		9.30
1972-07-07		8.82	1972-03-21		7.70
1971-12-17		8.60	1971-09-22		7.64
1971-03-19		8.16	1970-10-26		8.27
1970-03-11		8.35			

14
WNW
1/2 - 1 Mile
Lower

FED USGS **USGS40000834328**

Org. Identifier:	USGS-NY		
Formal name:	USGS New York Water Science Center		
Monloc Identifier:	USGS-405032072392901		
Monloc name:	S 89541. 1		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	02030202	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.8425993
Longitude:	-72.6578737	Sourcemap scale:	24000

Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	Not Reported
Vert measure units:	Not Reported	Vertacc measure val:	Not Reported
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refsys:	Not Reported	Countrycode:	US
Aquifername:	Northern Atlantic Coastal Plain aquifer system		
Formation type:	Glacial Aquifer, Upper		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	108
Welldepth units:	ft	Wellholedepth:	110
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

APPENDIX C-3

WATER WELL INFORMATION FROM 2004 REMEDIAL INVESTIGATION

The upward movement of water from the Magothy Aquifer would cause the upper glacial water to flow horizontally toward surface water discharge points. Migration of contaminants downward into lower aquifers is very unlikely (Dames & Moore 1986).

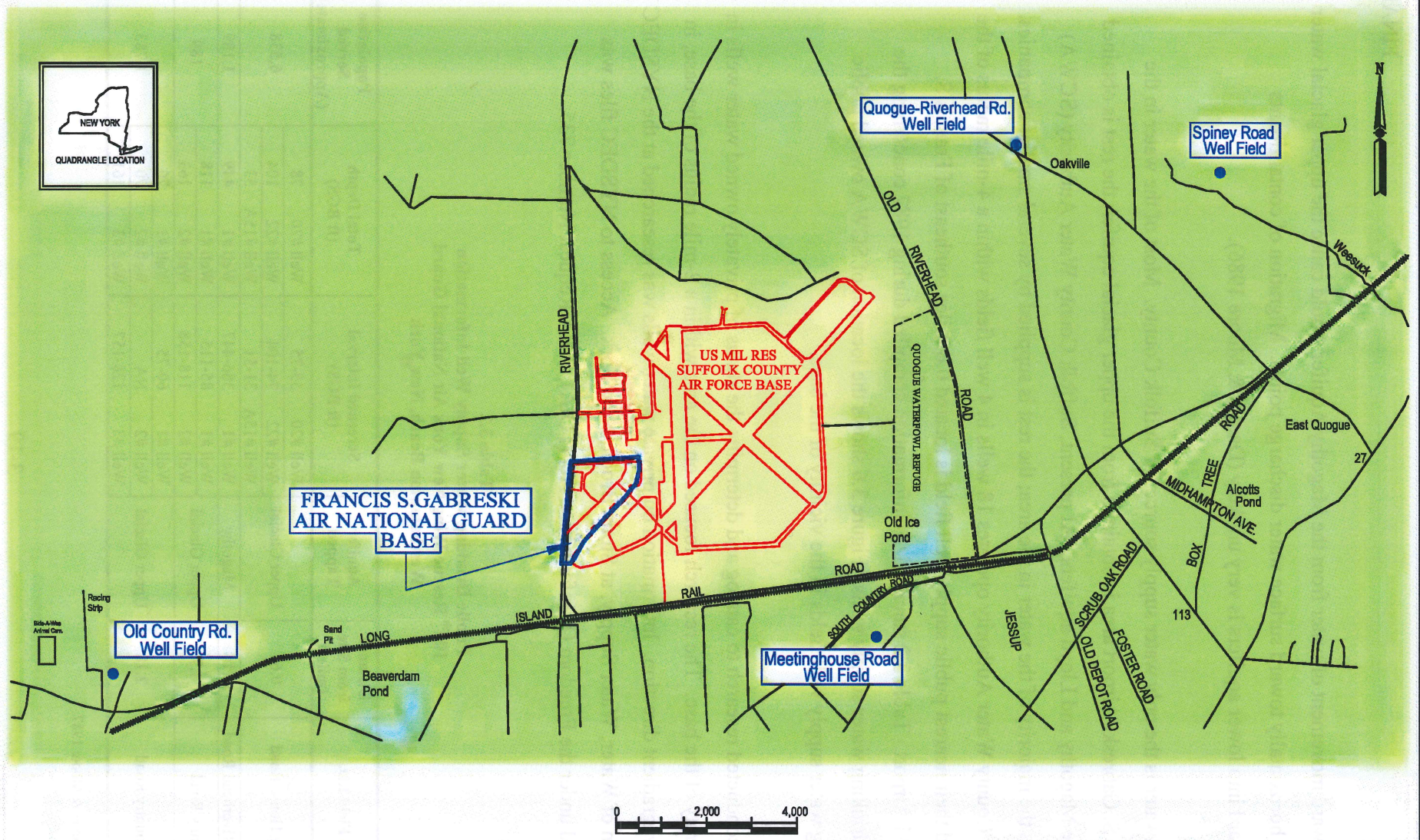
Groundwater is the only water supply source for Suffolk County. Most of the water in the Francis S. Gabreski Airport area is obtained from the upper glacial aquifer; the rest is obtained from the Magothy and Lloyd aquifers. At present, Suffolk County Water Authority (SCWA) supplies the majority of the water in the area; the rest is supplied by several smaller companies. Suffolk County Water Authority operates 18 wells in 4 well fields within a 4-mile radius of the site, and their nearest public supply well field is located 0.6 miles southeast of Francis S. Gabreski Airport. Table 3.2 summarizes information compiled during 1987 concerning the public drinking water supply wells. Figure 3.6 shows the location of SCWA owned public drinking water supply well fields in the vicinity of the base.

PEER conducted research to catalog and determine the status of privately owned water wells in the vicinity of the base. The research focused on the area within a 2-mile radius of the base, in the downgradient direction. Information on private water wells was researched at the NYSDEC Division of Water, Water Supply, at Stony Brook, New York. Access to NYSDEC files was obtained under the Freedom Of Information Act (FOIA), FOIA Request Number 735.

Table 3.2
Public Drinking Water Supply Well Information
106th Rescue Wing New York Air National Guard
Westhampton Beach, New York

Well Field I.D.	Distance from Site (miles)	Aquifer Tapped	Screened Interval (ft BGS)	Total Depth (ft BGS)	Population Served (Approximate)
Meeting House Road	0.61	Upper Glacial	Well #20 55-75	Well #20 78	6,538
			Well #22 74-104	Well #22 104	
			Well #15A 31-51	Well #15A 53	
Quogue-Riverhead Road	1.16	Magothy	Well #1 386-447	Well #1 449	1,189
Spinny Road	1.7	Upper Glacial	Well #1 85-115	Well #1 118	189
			Well #2 118-158	Well #2 163	
Old Country Road	2.18	Upper Glacial	Well #1 60-75	Well #1 76	1,783
			Well #2 NA	Well #2 70	
			Well #3 128-157	Well #3 161	

Source: Dames & Moore 1987.



SOURCE: USGS 7.5 minute series quadrangle maps for Eastport and Quogue, New York dated 1956

PEER PROJ./1565-053 GAB 1566-053/Final RI/FIG 3.6	PUBLIC DRINKING WATER SUPPLY WELL FIELD LOCATIONS 106th RESCUE WING, NEW YORK ANG FRANCIS S. GABRESKI AIRPORT WESTHAMPTON BEACH, NEW YORK	FIGURE 3.6

APPENDIX C-4

STORMWATER MAP

AST 74
CAP #23
COOK ST.
COOK ST.
204
206
CE SHED
208
AST 131
SAP #8
VM/AGE FACILITY
SAP #9
AST 113
OWS
212
TANKS 116,117
EM OFFICE
AST 75
SAP #1
250
AST 114
DRAINAGE DITCH
235
SPILL RESPONSE TRAILER
302
FIRE STATION
300
325
OWS
TANK 82
NEW AST
254
COMPOSITE SUPPORT FACILITY
SMITH ST.
MOEN ST.
345
SAP #7
358
SAP #13
SAP #10,11,12
AST 130
AST 128
OWS
TANK 86
OWS
TANK 88
369
2015
MAIN GATE
375
2017
370
SAP #14,15,16
OWS
TANK 92
376
TANK 101
GLYCOL UST TANK 100
DE-ICE WATER UST TANK 99
OWS
424
SAP #20
SAP #17
395
SAP #18
SAP #19
ERL LINE
AST 102
AST 132
AST 133
AST 134
HELIPAD
LOCALIZER EQUIPMENT SHELTER ACCESS RD
UST TANK 119
Ballfield
OLD RIVERHEAD ROAD
RIVERHEAD ROAD
Not Shown:
AST 95 (Bldg. 1210 TACAN)
AST 104
AST 105
AST 112
UST 110
SAP #21
JET FUEL FARM
OWS
TANK 108
1305
AST 106
LONG ISLAND RAILROAD

NOTES:

1- Refer to Table 3-1 for a detailed listing of storage containers including type, product stored, volume and engineering practices.

LEGEND:

- ABOVEGROUND STORAGE TANK
- UNDERGROUND STORAGE TANK
- OIL/WATER SEPARATOR
- SATELLITE ACCUMULATION POINT
- DRUMS
- BOWSER/ MOBILE TANK
- SPILL FLOW DIRECTION

NORTH

INTEGRATED SPILL AND STORMWATER PLAN (ISSWP)

106TH RESCUE WING
NEW YORK AIR NATIONAL GUARD
WESTHAMPTON BEACH, NY

FIGURE 2-2
Facility Diagram

Updated By: M.E.H.	Date: May 31, 2012
Approved By: T.M.	Y:\CMSO\Projects\Air National Guard\106 RQW NY ANG\2011\autoCAD and GIS\10ANG_Facility_Diagram_Feb_29_12.dwg

APPENDIX C-5

SANITARY AND STORMWATER SEWER SYSTEMS


NORTH
0
100'
200'
SCALE IN FEET

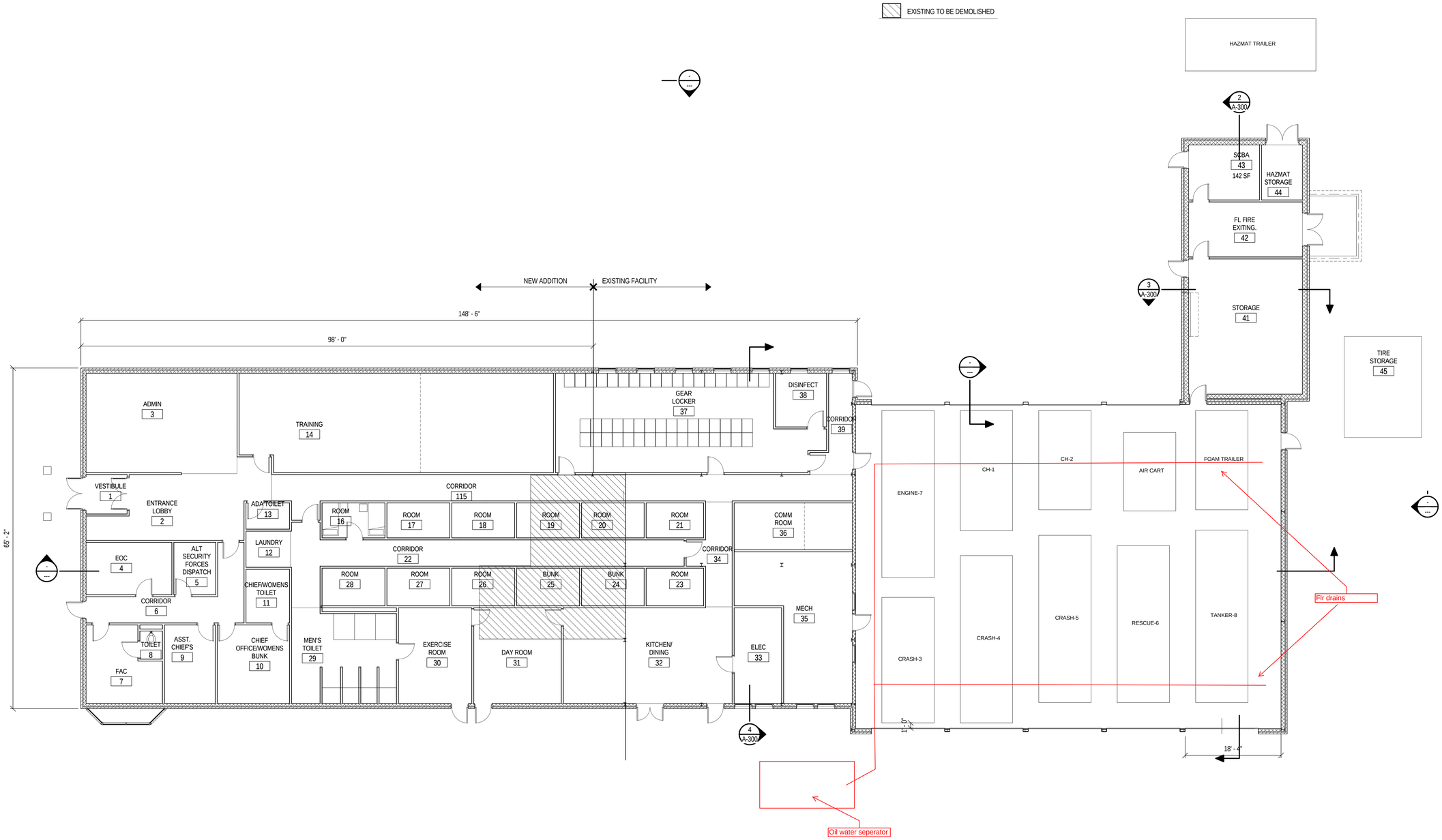
APPENDIX C-6

BUILDING 300 (FIRE STATION) FLOOR PLAN – 2012

REV	DESCRIPTION	DATE	DRWN	CHKD

FLOOR PLAN LEGEND:

EXISTING TO BE DEMOLISHED



FLOOR PLAN

0 4' 8' 16'

SCALE IN FEET

ARCHITECT NAME
PROFESSIONAL ARCHITECT
LICENSE NO. A-XXX

Burns & McDonnell
SINCE 1898

9400 Ward Parkway
Kansas City, MO 64114
011 (816) 333-9400
Architecture # AR002546
Engineering # 000165

date	detailed
11/27/12	V. VYAS
designed	checked
P. KRAUSE	Checker

NEW YORK AIR NATIONAL GUARD
106th RESCUE WING
FRANCIS S. GABRESKI AIRPORT
WESTHAMPTON BEACH, NEW YORK

ADD TO FIRE STATION
NEW CONSTRUCTION FLOOR PLAN

project	contract
69623	WKVB099052

drawing **A-012** rev. —

sheet of sheets

file 69623_A_CENTRAL.rvt

Millimeters
Inches
Scale For Microfilming

APPENDIX C-7

DECOMMISSIONING OF BUILDING 358 AND 370 AFFF FIRE SUPPRESSIONS SYSTEMS

New York Air National Guard

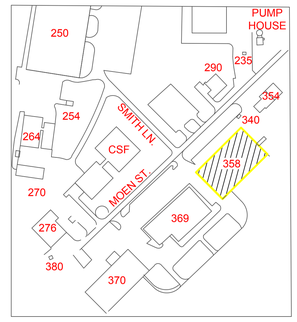
Repair Maintenance Hangar Fire Suppression System

106th Rescue Wing
Gabreski Air National Guard Base
Francis S. Gabreski Airport
Westhampton Beach, NY

FEBRUARY 2009

47962

VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

ONE OR TWO CHARACTER DISCIPLINE DESIGNATOR (MAY NOT BE PRESENT IF CALLOUT AND TITLE ARE ON DRAWINGS WITHIN THE SAME DISCIPLINE) — A / FP001 — LETTER OR NUMBER DESIGNATOR; DRAWING SEQUENCE NUMBER INDICATES WHERE TITLE IS LOCATED (MAY NOT BE PRESENT IF CALLOUT AND TITLE ARE ON THE SAME DRAWING)

SECTION, DETAIL, AND ELEVATION SYMBOL IDENTIFIERS

A / FP001 — A / FP001

SECTION CALLOUT EXAMPLE

7 / FP001

DETAIL CALLOUT EXAMPLE

B / A001

ELEVATION CALLOUT EXAMPLE

THE WORD "SECTION" MAY BE REPLACED WITH "ELEVATION" OR "DETAIL"

SECTION — A / 001

SECTION, DETAIL, OR ELEVATION TITLE EXAMPLE

SECTION, DETAIL, AND ELEVATION IDENTIFICATION SYSTEM

Contract Drawings

GENERAL DRAWINGS

DWG. NO.	TITLE
	COVER
	INDEX

CIVIL DRAWINGS

DWG. NO.	TITLE
C101	SITE PLAN
C501	SITE DETAILS

MECHANICAL DRAWINGS

DWG. NO.	TITLE
FP001	HANGAR "B" 358 - FIRE PROTECTION LEGEND AND SYMBOLS
FPD101	HANGAR "B" 358 - FIRE PROTECTION DEMOLITION PLAN
FP101	HANGAR "B" 358 - FIRE PROTECTION PLAN
FP102	HANGAR "B" 358 - FIRE PROTECTION BOILER ROOM PLAN
FP201	HANGAR "B" 358 - FIRE PROTECTION RISER DIAGRAM AND SCHEDULE

ELECTRICAL DRAWINGS

DWG. NO.	TITLE
E001	HANGAR 'B' BUILDING 358 - ELECTRICAL LEGEND AND ABBREVIATIONS
E002	HANGAR 'B' BUILDING 358 - FIRST FLOOR PLAN - HAZARDOUS LOCATION PLAN
E301	HANGAR 'B' BUILDING 358 - FIRST FLOOR PLAN - FIRE ALARM - DEMOLITION
E302	HANGAR 'B' BUILDING 358 - FIRST FLOOR PLAN - FIRE ALARM
E303	HANGAR 'B' BUILDING 358 - MEZZANINE FLOOR PLAN - FIRE ALARM
E601	HANGAR 'B' BUILDING 358 - RISER DIAGRAM - FIRE ALARM - DEMOLITION
E602	HANGAR 'B' BUILDING 358 - RISER DIAGRAM - FIRE ALARM
E603	HANGAR 'B' BUILDING 358 - OPERATION MATRIX

no.	date	by	ckd	description
0	02/09/09	DJL	SB	ISSUED FOR CONSTRUCTION

Contract: WKVB022019

Burns & McDonnell SINCE 1898

ISSUED FOR CONSTRUCTION

Index

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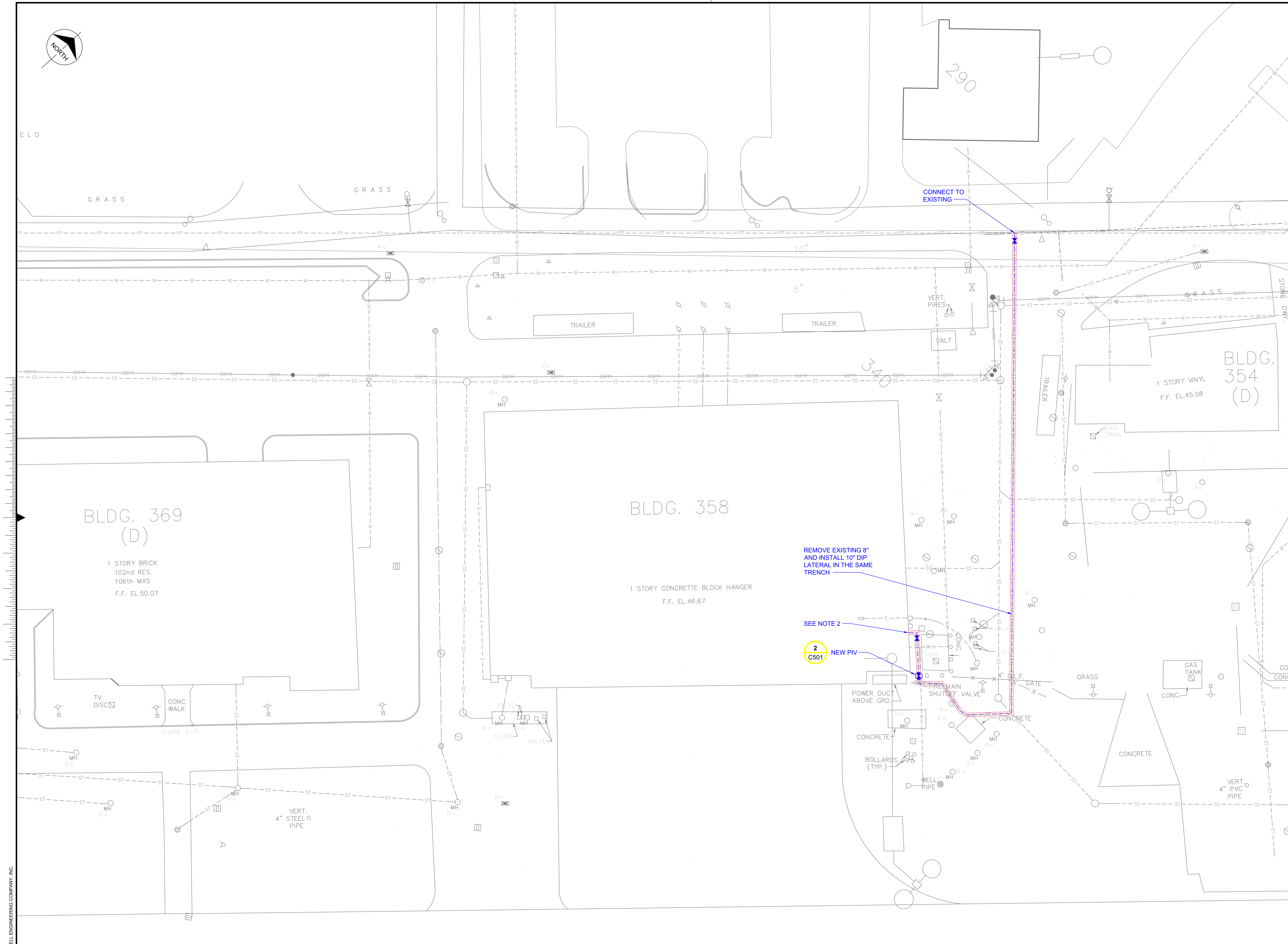


no.	date	by	ckd	description
0	02/09/09	MJD	RMM	ISSUED FOR CONSTRUCTION

LEGEND

- FIRE PROTECTION MAIN
- TRENCH THROUGH PAVEMENT (3 / C501)
- WATER VALVE BOX (1 / C501)

NOTES:

1. CONTRACTOR SHALL VERIFY ALL UTILITY INFORMATION PRIOR TO START OF CONSTRUCTION.
2. SEE MECHANICAL DRAWINGS FOR ALL CONNECTIONS TO BUILDINGS.

Burns & McDonnell SINCE 1898

date: December 2, 2008	detailed: M. FERNANDEZ
designed: K. WARRENDER	checked: M. DURNEY

NEW YORK AIR NATIONAL GUARD
106th RESCUE WING
FRANCIS S. GABRESKI AIRPORT
WESTHAMPTON BEACH, NEW YORK

REPAIR MAINT HANGAR FIRE SUPPR SYS

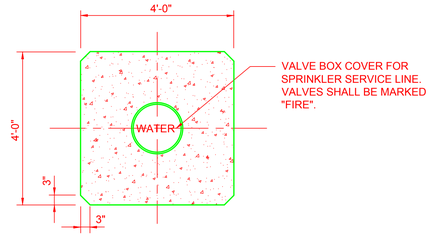
SITE PLAN

project 47962 — contract WKVB022019

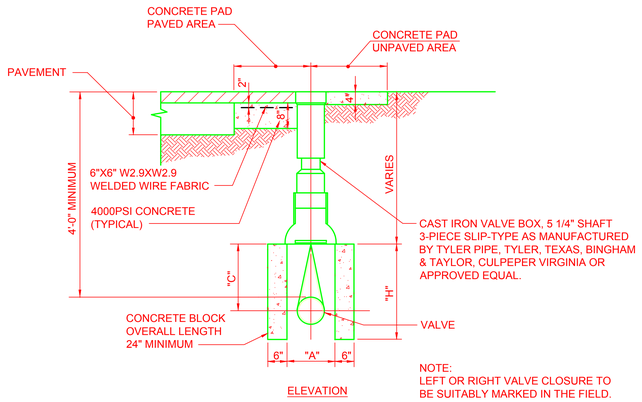
drawing C101 — rev. 0

sheet 3 of 17 sheets

file 47962C101.dwg



DETAIL OF CONCRETE PAD

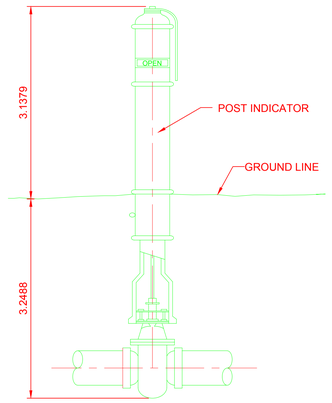


ELEVATION

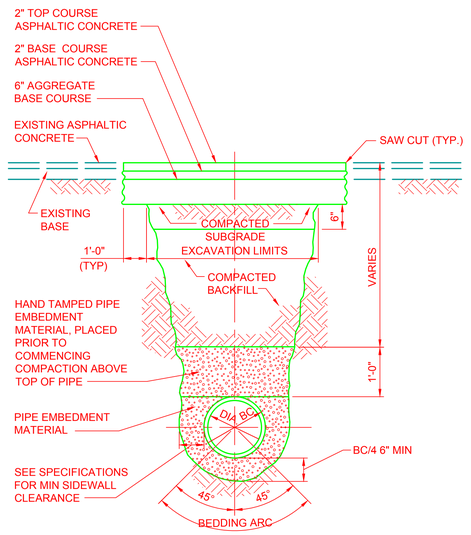
NOTE:
LEFT OR RIGHT VALVE CLOSURE TO BE SUITABLY MARKED IN THE FIELD.

SCHEDULE				
PIPE SIZE	"A"	"C"	"H"	VALVE BOX BASE
1"-2"	11"	0'-6 1/4"	1'- 1"	NO. 4 ROUND
4"	11"	1'-2 3/4"	1'-10"	NO. 4 ROUND
6"	12"	1'-5 1/2"	2'- 2"	NO. 6 ROUND
8"	15"	1'-9"	2'- 6"	NO. 6 ROUND

VALVE BOX — NOT TO SCALE — 1 (C101, C102)



POST INDICATOR VALVE — NOT TO SCALE — 2 (C101)



NOTES:

1. ASPHALTIC CONCRETE COURSES SHALL CONFORM TO SPECIFICATION SECTION 02746. CONTRACTOR SHALL SUBMIT JOB MIXES TO CONTRACTING OFFICER FOR APPROVAL PRIOR TO CONSTRUCTION.
2. MIN CLEARANCE INDICATED UNDER PIPE APPLICABLE THROUGHOUT 90 DEGREES BEDDING ARC.
3. PROVIDE TACK COAT BETWEEN BITUMINOUS ASPHALT PAVEMENT COURSES.
4. PROVIDE PRIME COAT BETWEEN BITUMINOUS ASPHALT PAVEMENT AND AGGREGATE BASE COURSE.

PIPE TRENCH WITH PAVEMENT REMOVAL AND REPLACEMENT — NOT TO SCALE — 3 (C101, C102)

no.	date	by	ckd	description
0	02/09/09	MJD	RMM	ISSUED FOR CONSTRUCTION

Burns & McDonnell SINCE 1898

date: December 2, 2008	detailed: M. FERNANDEZ
designed: K. WARRENDER	checked: M. DURNEY

NEW YORK AIR NATIONAL GUARD
106th RESCUE WING
FRANCIS S. GABRESKI AIRPORT
WESTHAMPTON BEACH, NEW YORK

REPAIR MAINT HANGAR FIRE SUPPR SYS

SITE DETAILS

project	contract
47962	WKVB022019

drawing **C501 – 0** (rev.)

sheet 4 of 17 sheets

file 47962C501.dwg

Scale For Microfilming
Millimeters
Inches

FIRE PROTECTION DESIGN CRITERIA:

1. APPLICABLE CODES AND STANDARDS:
   A. NFPA 10 - PORTABLE FIRE EXTINGUISHERS
   B. NFPA 11A - MEDIUM AND HIGH EXPANSION FOAM SYSTEMS
   C. NFPA 13 - NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 13, INSTALLATION OF SPRINKLER SYSTEMS
   D. NFPA 409 - STANDARDS ON AIRCRAFT HANGARS

2. FACILITY FIRE PROTECTION SYSTEM SHALL BE SERVED FROM THE 10" WATER MAIN LOCATED IN THE FIRE PUMP ROOM. FIRE PROTECTION CONTRACTOR SHALL HYDRAULICALLY DESIGN THE PREACTION FIRE PROTECTION SYSTEM BASED ON THE CALCULATED STATIC AND RESIDUAL PRESSURE AVAILABLE.

3. MAXIMUM VELOCITY IN ANY ABOVE GROUND FIRE PROTECTION PIPE SHALL BE 20 FPS, AND 10 FPS UNDERGROUND.

4. PIPING SYSTEM COMPONENTS AND DESIGN SHALL BE PROVIDED FOR 175 PSIG MINIMUM WORKING PRESSURE.

5. WATER/FOAM SUPPLY CALCULATIONS:
   OVERHEAD WET SPRINKLER SYSTEM:
   5000 SQ.FT X 0.20 GPM/SQ. FT = 1000 GPM

   LOW-LEVEL HIGH EXPANSION FOAM:
   FOAM GENERATORS SHALL DELIVER A FOAM SOLUTION TO A DEPTH OF 3.28 FEET IN 4 MINUTES, COVERING THE ENTIRE AREA OF THE AIRCRAFT HANGAR. RATE OF DISCHARGE FOR FOAM GENERATORS:

   R = (V/T + Rs)*Cn*Cl
   R = RATE OF DISCHARGE (CFM)
   V = AREA * AREA FACTOR * DEPTH
   T = TIME (4 MIN)
   Rs = S * Q (10*1200 = 12,000 CFM)
   S = FOAM BREAKDOWN FROM SPRINKLERS (10 CFM/GPM)
   Q = SPRINKLER FLOW RATE (1000 GPM)
   Cn = SHRINKAGE COMPENSATION (1.15)
   Cl = COMP FOR FOAM LOSS (2.5)
   R = (70400 CF/4 MIN + 12,000 CFM)*1.15*2.5 = 85100 CFM

PROVIDE (6) FOAM GENERATORS AT 14,200 CFM EACH (85100 CFM TOTAL).
EACH GENERATOR REQUIRES 135 GPM WATER AT 74 PSIG.

WATER REQ'S: 6 GENERATORS * 135 GPM EACH = 810 GPM

TOTAL BLDG DEMAND = APPROXIMATELY 2,200 GPM

6. FOAM STORAGE REQUIREMENTS:
   2.00 % FOAM: 810 GPM * 0.02* 15 MIN STORAGE = 243 GALLONS
   20 % SAFETY FACTOR: 243 X 1.20 = 292 GALLONS
   STORAGE TANK SIZE = 300 GALLONS

   7. FOAM GENERATORS SHALL BE LOCATED TO PROVIDE FOAM COVERAGE OF 90 PERCENT OF THE AIRCRAFT SILHOUETTE AREA PROJECTED ON THE FLOOR IN ONE MINUTE OR LESS.

   8. DETECTION/ACTUATION:

      SEE FIRE PROTECTION RISER DIAGRAM AND MATRIX ON ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.

      ACTIVATION FOR THE HIGH EXPANSION FOAM SYSTEM SHALL BE BY HEAT DETECTOR, FLOW SWITCH ON HANGAR BAY SPRINKLER SYSTEM OR BY MANUAL PULL STATION, AS INDICATED IN THE SEQUENCE OF OPERATION BELOW.

      OVERHEAD HANGAR BAY SYSTEM IS A WET SPRINKLER SYSTEM WITH 175 DEG. F (79.4 DEG. C) RATED SPRINKLERS. ACTIVATION OF HANGAR BAY SPRINKLER SYSTEM SHALL ACTIVATE HEF SYSTEM

      PROVIDE MANUAL FOAM PULL STATIONS IN THE AIRCRAFT SERVICING AREA AT EXITS TO ACTUATE THE HIGH EXPANSION FOAM SYSTEM. DEAD MAN TYPE ABORT STATIONS SHALL NOT BE PROVIDED.

      PROVIDE COVER FOR MANUAL HIGH EXPANSION FOAM PULL STATIONS TO PROTECT THEM FROM ACCIDENTAL ACTIVATION. PROVIDE SIGNS AT THE PULL STATIONS INDICATING "START FOAM SYSTEM".

9. SEQUENCE OF OPERATION

HI EXPANSION FOAM (HEF) SYSTEM:

MANUAL ACTIVATION - HEF MANUAL RELEASE STATION
- SOUND HEF PRE-DISCHARGE ALARM "YELP" TONE.
- ANNUNCIATE A CONFIRMED FIRE, HEF ALARM AT THE BLDG FACP, AND TRANSMIT SIGNAL TO BASE FIRE STATION.
- OPEN HIGH EXPANSION FOAM AND PREACTION VALVES.
- SHUT DOWN HANGAR OVERHEAD RADIANT HEATING.
- ACTIVATE GENERAL BUILDING ALARM.

HEAT DETECTOR SEQUENCE
ACTIVATION OF ONE OVERHEAD HEAT DETECTOR (UNCONFIRMED FIRE):
- SOUND THE HEF PRE-ALARM "WHOOP" TONE.
- ANNUNCIATE AN UNCONFIRMED FIRE, HEF ALARM AT THE BLDG FACP, AND TRANSMIT SIGNAL TO BASE FIRE STATION.

ACTIVATION OF TWO CROSS-ZONED DETECTORS (CONFIRMED FIRE):
- SOUND THE HEF PRE-DISCHARGE ALARM "YELP" TONE.
- ANNUNCIATE A CONFIRMED FIRE, HEF ALARM AT THE BLDG FACP, AND TRANSMIT SIGNAL TO BASE FIRE STATION.
- OPEN VALVE.
- SHUT DOWN HANGAR OVERHEAD RADIANT HEATING.
- ACTIVATE GENERAL BUILDING ALARM.

SPRINKLER DISCHARGE SEQUENCE
DISCHARGE FROM ANY HANGAR BAY SPRINKLER HEAD:
- SOUND HEF ALARM - A "HIGH-LOW" TONE
- TRANSMIT A CONFIRMED FIRE, HEF ALARM AT THE BUILDING FSCP, AND TRANSMIT TO BASE RECEIVING STATION
- FIRE PUMP STARTS UPON DROP IN SYSTEM PRESSURE
- ACTIVATE ANY HANGAR EXHAUST FAN SHUT-DOWNS
- CLOSE GAS VALVE, (HANGAR BAY ONLY)
- ACTIVATE GENERAL BUILDING ALARM

NOTES:

1 THE MINIMUM HEIGHT OF SPRINKLERS, PIPING, HANGERS AND EQUIPMENT IS 28'-0" AFF.

2 PROVIDE DRAINS FOR ALL PORTIONS OF THE SYSTEMS. SLOPE PIPING TOWARD DRAINS.

FIRE ALARM/DETECTION SYMBOLS

- SPEAKER/HORN
- BELL (GONG)
- WATER MOTOR ALARM
- WFI — WATER FLOW INDICATOR
- TAMPER SWITCH
- FLOW DETECTOR/SWITCH
- PRESSURE DETECTOR/SWITCH
- LEVEL DETECTOR/SWITCH
- FCP — FIRE ALARM CONTROL PANEL
- FCP — FIRE SYSTEM ANNUNCIATOR
- FCP — FIRE ALARM TRANSPONDER OR TRANSMITTER
- EMERGENCY LIGHT BATTERY POWERED (ONE LAMP)
- EMERGENCY LIGHT BATTERY POWERED (TWO LAMPS)
- ILLUMINATED EXIT SIGN SINGLE FACE
- ILLUMINATED EXIT SIGN DOUBLE FACE
- P — PULL STATION
- ABORT SWITCH
- R/F — COMBINATION - RATE OF RISE AND FIXED TEMPERATURE
- (S)P — PHOTOELECTRIC PRODUCTS OF COMBUSTION DETECTOR
- (S)I — IONIZATION PRODUCTS OF COMBUSTION DETECTOR
- (S) — SMOKE DETECTOR IN DUCT

AUTOMATIC SPRINKLER SYSTEM SYMBOLS

- 6" ASR — AUTOMATIC SPRINKLER RISER
- STANDARD UPRIGHT SPRINKLER HEAD
- PENDANT TYPE SPRINKLER HEAD
- OPEN SPRINKLER HEAD (NO FUSIBLE LINK)
- SPRINKLER HEAD WITH GUARD
- PENDANT SPRINKLER HEAD ON DROP NIPPLE
- UPRIGHT SPRINKLER HEAD, NIPPLED UP
- SIDEWALL SPRINKLER HEAD (H) HORIZONTAL
- SPRINKLER HEAD - STRUCTURAL STEEL COLUMN PROTECTION

FIRE WATER DISTRIBUTION

- ALARM VALVE
- DRY PIPE VALVE
- DRY PIPE VALVE (W/ ACCELERATOR OR EXHAUSTER)
- DELUGE VALVE
- PREACTION VALVE
- HYDRAULIC ACTUATED VALVE
- WATER POWERED BALL VALVE
- RELIEF VALVE
- POST INDICATOR VALVE (S) SUPERVISED
- WALL TYPE POST INDICATOR VALVE (S) SUPERVISED (R) RECESSED
- OUTSIDE SCREW & YOKE VALVE (S) SUPERVISED
- CHECK VALVE
- VALVE WITH TAMPER SWITCH
- KEY-OPERATED VALVE
- FS — FLOW SWITCH
- INDICATING BUTTERFLY VALVE
- NON-INDICATING VALVE (NON-RISING STEM VALVE)
- DETECTOR CHECK VALVE WITH (SIZE) BYPASS
- ILBP — INLINE BALANCED PRESSURE PROPORTIONING MODULE

FIRE PROTECTION ABBREVIATIONS

AS	AUTOMATIC SPRINKLER
AFF	ABOVE FINISHED FLOOR
DSP	DRY STANDPIPE - NO WATER CONNECTION
DSPW	DRY STANDPIPE - W/WATER CONNECTION
FDC	FIRE DEPARTMENT CONNECTION
FE	FURNISHED EQUIPMENT
FL	FIRE LINE
FP	FIRE PROTECTION
RN	RISER NIPPLE
SPRK	SPRINKLER
WSP	WET STANDPIPE

FIRE DEPARTMENT PUMPER CONNECTIONS

- TWO-WAY SIAMESE CONNECTION
- FREE STANDING
- ONE WAY

FIRE WATER DISTRIBUTION

- RESTRICTING ORIFICE
- M — PUMP FLOW METER
- FIRE PUMP TEST HEADER, WALL (-2-1/2" VALVES) — NUMBER REQUIRED
- FIRE PUMP TEST HEADER, FREE STANDING (-2-1/2" VALVES) — NUMBER REQUIRED
- PRIVATE HYDRANT, ONE HOSE OUTLET
- PUBLIC HYDRANT, TWO HOSE OUTLETS
- PUBLIC HYDRANT TWO HOSE OUTLETS AND PUMPER CONNECTION
- WALL HYDRANT, TWO HOSE OUTLETS
- PRIVATE HOUSED HYDRANT, TWO HOSE OUTLETS
- FOAM CHAMBER/MAKER
- MONITOR NOZZLE, DRY
- MONITOR NOZZLE, CHARGED
- SPRAY (FOG) NOZZLE

FIRE PIPE LINE DESIGNATIONS

?" FM	FIRE MAIN
?" FWFL	FIRE WATER/FOAM LINE - (2% AFFF)
?" SPR	SPRINKLER PIPING
?" HXF	FOAM CONCENTRATE

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designed A. PASQUALI	checked R. JORDAN

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FRANCIS S. GABRESKI AIRPORT
WESTHAMPTON BEACH, NEW YORK

REPAIR MAINT HANGAR FIRE SUPPR SYS
HANGAR "B" 358
FIRE PROTECTION
LEGEND AND SYMBOLS

project 47962	contract WKVB022019

drawing **FP001** — rev. **0**

sheet 5 of 17 sheets
file 47962FP001.DWG

Millimeters
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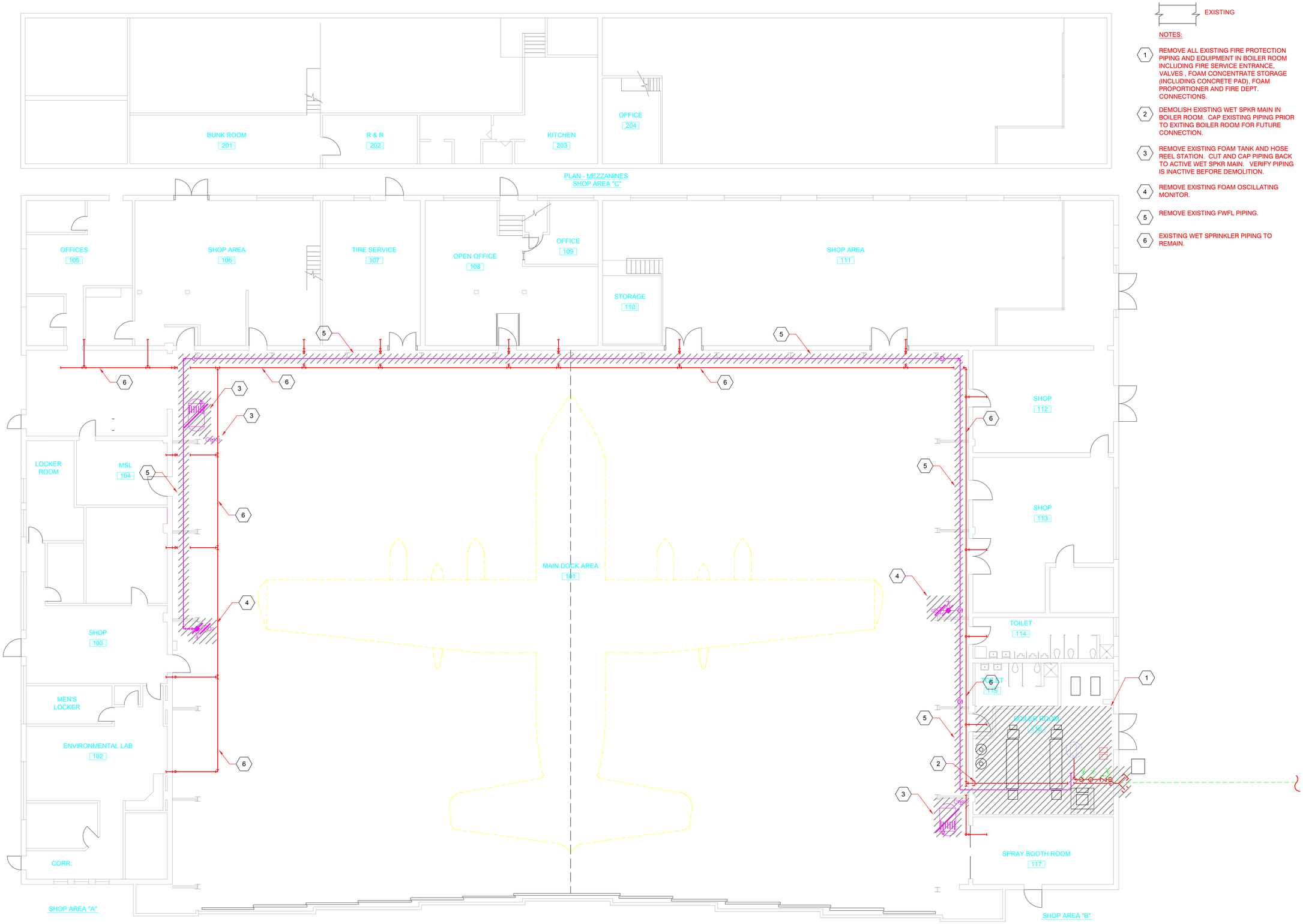

FLOOR PLAN (DEMOLITION)

0 4' 8' 16'
SCALE IN FEET

NORTH

LEGEND

DEMOLITION

EXISTING

NOTES:

1. REMOVE ALL EXISTING FIRE PROTECTION PIPING AND EQUIPMENT IN BOILER ROOM INCLUDING FIRE SERVICE ENTRANCE, VALVES , FOAM CONCENTRATE STORAGE (INCLUDING CONCRETE PAD), FOAM PROPORTIONER AND FIRE DEPT. CONNECTIONS.
2. DEMOLISH EXISTING WET SPKR MAIN IN BOILER ROOM. CAP EXISTING PIPING PRIOR TO EXITING BOILER ROOM FOR FUTURE CONNECTION.
3. REMOVE EXISTING FOAM TANK AND HOSE REEL STATION. CUT AND CAP PIPING BACK TO ACTIVE WET SPKR MAIN. VERIFY PIPING IS INACTIVE BEFORE DEMOLITION.
4. REMOVE EXISTING FOAM OSCILLATING MONITOR.
5. REMOVE EXISTING FWFL PIPING.
6. EXISTING WET SPRINKLER PIPING TO REMAIN.

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REPAIR MAINT HANGAR FIRE SUPPR SYS
HANGAR "B" 358
FIRE PROTECTION
DEMOLITION PLAN

project 47962	contract WKVB022019
drawing **FPD101**	rev. **0**
sheet 6 of 17 sheets	
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Inches

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NOTES

1. PROVIDE WET SPRINKLER SYSTEM IN MAIN DOCK AREA. EXCEPT AS MODIFIED ON ON DRAWINGS AND SPECIFICATIONS. SYSTEM ACCORDANCE WITH NFPA-13.
2. ALL EXISTING SPRINKLER SYSTEMS ARE TO REMAIN. ANY FAILURES OF THE EXISTING SYSTEM TO MEET THE REQUIREMENTS OF ITS THE HAZARD CLASSIFICATION SHALL SHALL BE FIXED.
3. RUN MAINS, CROSSMAINS, AND BRANCH PIPING TIGHT TO BOTTOM OF JOISTS OR IN JOIST SPACE.
4. SUPPORT FWFL AND FW MAINS IN HANGAR FROM ROOF JOISTS. COORDINATE THE LOCATION OF HANGER AND THRUST LOADS WITH THE BUILDING SUPPLIER
5. HIGH EXPANSION FOAM SYSTEM VENDOR SHALL SUPPLY CERTIFIED SHOP DRAWINGS INDICATING EXACT LOCATIONS OF HIGH EXPANSION FOAM GENERATORS VERIFYING SYSTEM WILL MEET REQUIRED THE COVERAGE WITHIN TIME CONSTRAINTS.
6. ALL PIPING PENETRATING FIRE RATED BARRIERS OR WALLS SHALL BE SEALED WITH APPROPRIATE FIRE STOP SYSTEMS TO PRESERVE CONTINUITY OF FIRE RATING.

LEGEND

NEW EXTRA HAZARD WET SPRINKLER SYSTEM

0.20 GPM/SQ FT OVER HYDRAULICALLY REMOTE 5000 SQ FT. MAX COVERAGE OF 100 SF PER SPRINKLER.

EXISTING ORDINARY HAZARD GROUP II WET SPRINKLER SYSTEM
0.20 GPM/SQ FT OVER HYDRAULICALLY REMOTE 3000 SQ FT. MAX COVERAGE OF 130 SF PER SPRINKLER.

PLAN - MEZZANINES
SHOP AREA "C"

BUNK ROOM 201
R & R 202
KITCHEN 203
OFFICE 204
OFFICES 105
SHOP AREA 106
TIRE SERVICE 107
OPEN OFFICE 108
OFFICE 109
STORAGE 110
SHOP AREA 111
SHOP 112
SHOP 113
TOILET 114
TOILET 115
BOILER ROOM 116
SPRAY BOOTH ROOM 117
LOCKER ROOM
MSL 104
SHOP 103
MEN'S LOCKER
ENVIRONMENTAL LAB 102
CORR
MAIN DOCK AREA 101

HX-1 2½" FWFL 2½" FWFL HX-2
4" FWFL
HX-3 2½" FWFL 6" FWFL 2½" FWFL 6" FWFL HX-4
6" FWFL
4" FWFL
HX-5 2½" FWFL 2½" FWFL HX-6

1
FP102

SHOP AREA "A"
SHOP AREA "B"

FLOOR PLAN (PROPOSED WORK)

0 4' 8' 16'
SCALE IN FEET

NORTH

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REPAIR MAINT HANGAR FIRE SUPPR SYS
HANGAR "B" 358
FIRE PROTECTION PLAN

project	contract
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sheet 7 of 17 sheets

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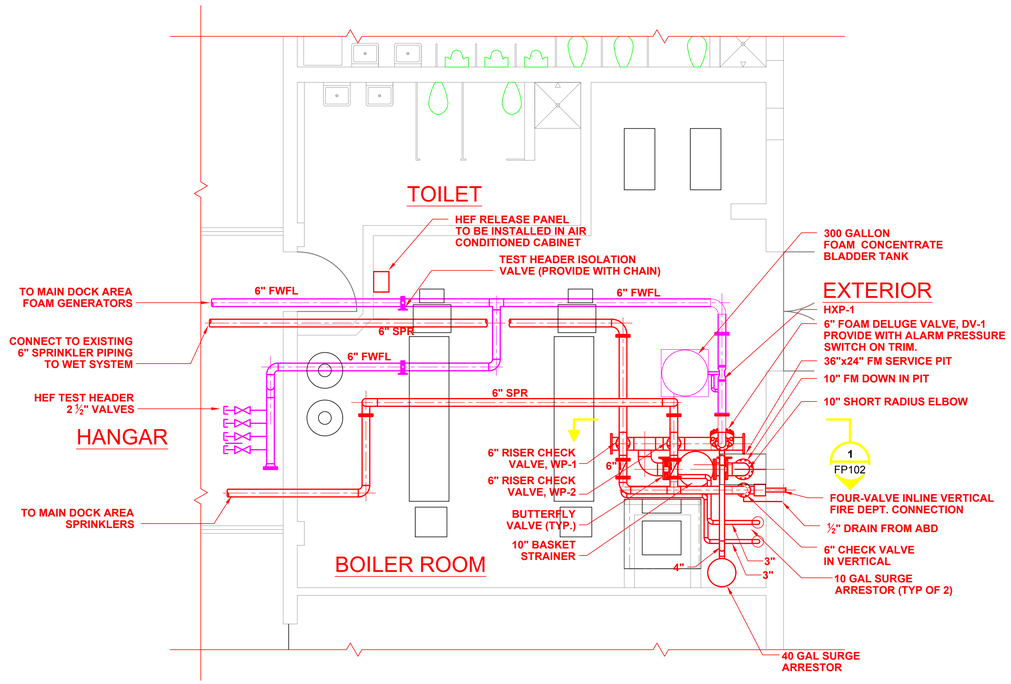
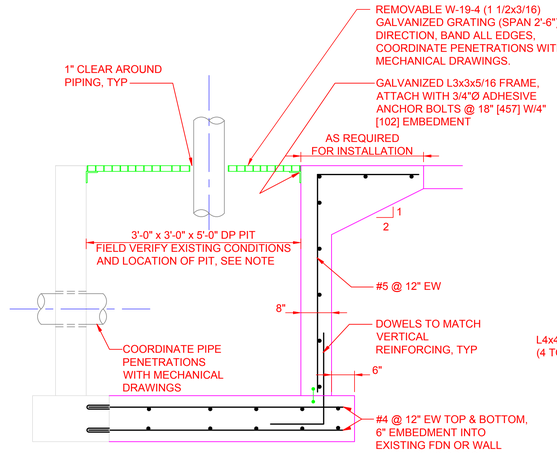


HANGAR BOILER ROOM PLAN 1 FP102

SCALE IN FEET

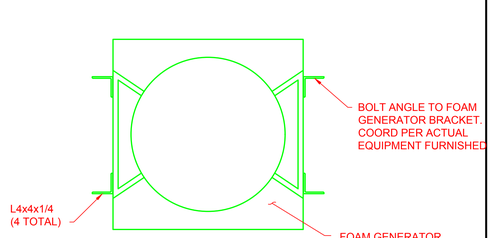
HANGAR BOILER ROOM SECTION 1 FP102



NOTE:
PIPE PIT REQUIRED IN EXISTING HANGARS AT FIRE PROTECTION LINES. CONTRACTOR RESPONSIBLE FOR COORDINATING EXISTING CONDITIONS PRIOR TO CONSTRUCTION OF PIT. SINCE NO EXISTING INFORMATION WAS AVAILABLE DURING DESIGN, CONTRACTOR TO NOTIFY CONTRACTING OFFICER OF EXISTING CONDITIONS AND ANY DISCREPANCIES WITH DETAIL PROVIDED.

TYPICAL PIPE PIT DETAIL 2 FP102

NOT TO SCALE



SECTION DETAIL 4 FP102

NOT TO SCALE

NOTE:
APPROX. FOAM GENERATOR WEIGHT = 500 LBS

TYPICAL FOAM GENERATOR DETAIL 3 FP102

NOT TO SCALE

SECTION DETAIL 5 FP102

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REPAIR MAINT HANGAR FIRE SUPPR SYS
HANGAR "B" 358
FIRE PROTECTION
BOILER ROOM PLAN AND DETAILS

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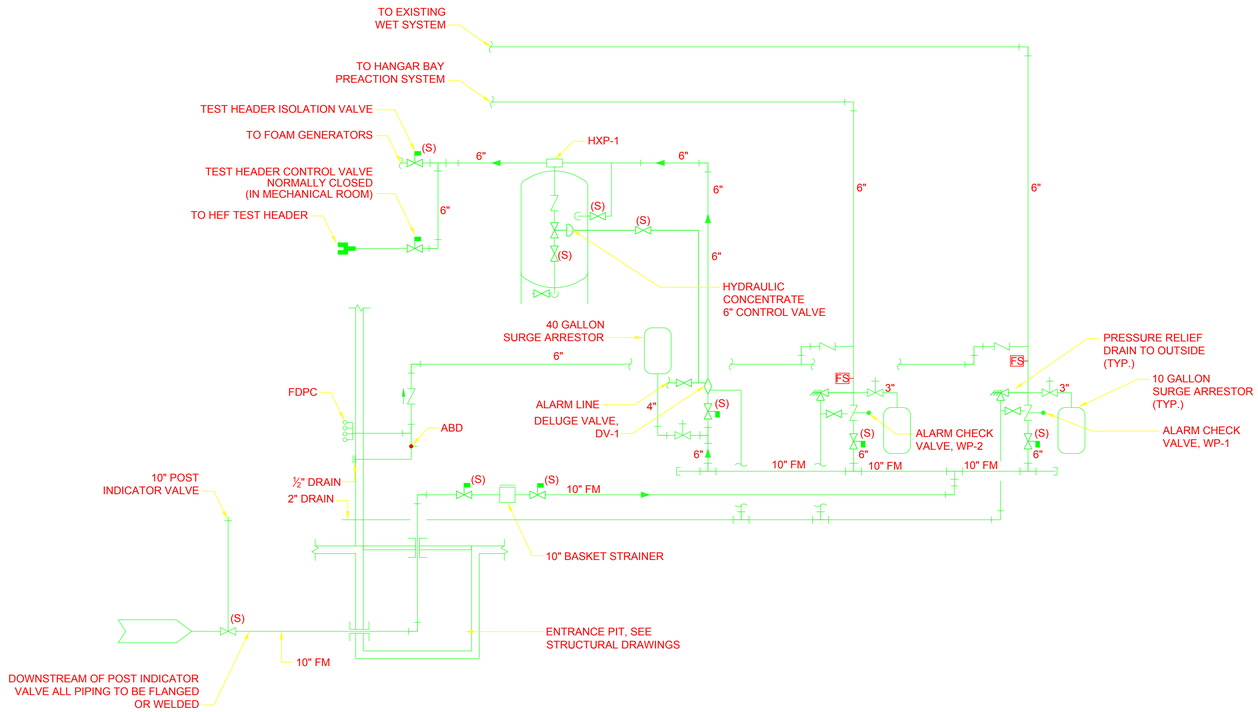


FIRE PROTECTION RISER DIAGRAM DETAIL

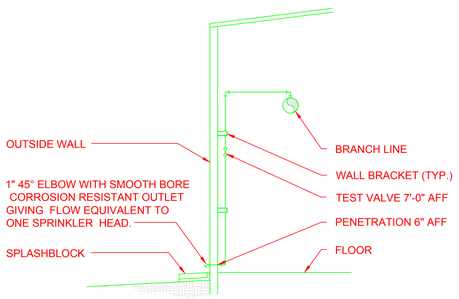
NOT TO SCALE

HIGH EXPANSION FOAM GENERATORS SCHEDULE						
GENERATOR NUMBER	HX-1	HX-2	HX-3	HX-4	HX-5	HX-6
FOAM DISCHARGE (CFM)	14200	14200	14200	14200	14200	14200
DISCHARGE DIRECTION (DOWN OR HORIZONTAL	DOWN	DOWN	DOWN	DOWN	DOWN	DOWN
DESIGN INLET PRESSURE (PSIG)	74	74	74	74	74	74
FOAM SOLUTION FLOW (GPM)	135	135	135	135	135	135
FOAM EXPANSION RATIO	825	825	825	825	825	825
WEIGHT(LBS)	441	441	441	441	441	441
APPROVAL REQUIRED	FM AND/OR UL LISTED	FM AND/OR UL LISTED	FM AND/OR UL LISTED	FM AND/OR UL LISTED	FM AND/OR UL LISTED	FM AND/OR UL LISTED
MANUFACTURER	CHEMGUARD	CHEMGUARD	CHEMGUARD	CHEMGUARD	CHEMGUARD	CHEMGUARD
MODEL NUMBER	15000WP	15000WP	15000WP	15000WP	15000WP	15000WP

HIGH EXPANSION FOAM PROPORTIONER SCHEDULE	
PROPORTIONER NUMBER	HXP-1
SIZE (INCHES)	6
PROPORTIONING PERCENTAGE	2
USABLE FLOW RANGE	300-3400
APPROXIMATE DESIGN FLOW (GPM)	750
MINIMUM REQUIRED INLET WATER PRESSURE (PSIG)	30
APPROVAL REQUIRED	UL
MANUFACTURER	CHEMGUARD
MODEL NUMBER	EF10263

VALVE SCHEDULE			
VALVE TAG	WP-1	WP-2	DV-1
SERVICE	WET SPRINKLER SYSTEM	WET SPRINKLER SYSTEM	FOAM/WATER SYSTEM
TYPE	RISER SWING CHECK	RISER SWING CHECK	FLOW CONTROL DELUGE
TAG SIZE - IN.	6	6	6
PRESSURE RATING-PSI	250	250	250
MANUFACTURER	VIKING	VIKING	VIKING
MODEL NUMBER	EASY RISER -F-1	EASY RISER -F-1	J-1
REMARKS			NOTE 1

NOTES:
1. VALVE TO BE PRESSURE REGULATING TYPE SET TO 100 PSI.



INSPECTORS TEST STATION DETAIL

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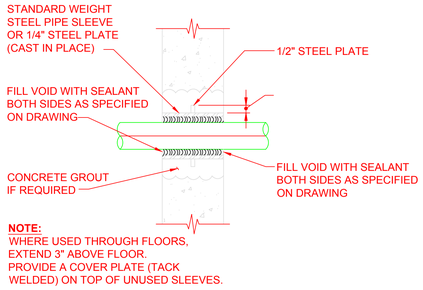

WALL SLEEVE DETAIL

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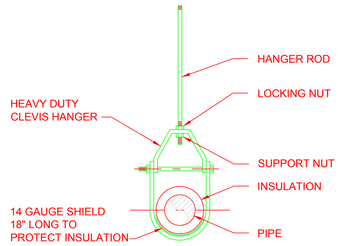

PIPE HANGER - CLEVIS TYPE

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REPAIR MAINT HANGAR FIRE SUPPR SYS
HANGAR "B" 358
FIRE PROTECTION
RISER DIAGRAM AND SCHEDULE

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Westhampton Beach, NY

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NORTH

Contract Drawings

GENERAL DRAWINGS

DWG. NO.	TITLE
	COVER
	INDEX

CIVIL DRAWINGS

DWG. NO.	TITLE
G001	ACCESS AND SAFETY PLAN
CP101	SITE PLAN - 1
CP102	SITE PLAN - 2
CP501	SITE DETAILS

ARCHITECTURAL DRAWINGS

DWG. NO.	TITLE
AP001	PUMP HOUSE ARCHITECTURAL SYMBOLS, ABBREVIATIONS & GENERAL NOTES
AP101	PUMP HOUSE DEMOLITION PLAN & FLOOR PLAN
AP102	PUMP HOUSE ROOF PLAN
AP201	PUMP HOUSE ELEVATIONS
AP301	PUMP HOUSE BUILDING SECTIONS
AP302	PUMP HOUSE WALL SECTIONS
AP501	PUMP HOUSE ROOF DETAILS
AP601	PUMP HOUSE DOOR FRAME DETAILS & MISC.DETAILS

STRUCTURAL DRAWINGS

DWG. NO.	TITLE
SP001	PUMP HOUSE GENERAL NOTES & ABBREVIATIONS
SP101	PUMP HOUSE FOUNDATION PLAN
SP102	PUMP HOUSE SLAB PLAN
SP103	PUMP HOUSE ROOF FRAMING PLAN
SP501	PUMP HOUSE MISCELLANEOUS DETAILS
SP502	PUMP HOUSE MASONRY DETAILS
SP503	PUMP HOUSE FOUNDATION SECTION & DETAILS
SP504	PUMP HOUSE ROOF FRAMING SECTIONS & DETAILS

MECHANICAL DRAWINGS

DWG. NO.	TITLE
MG001	MECHANICAL LEGEND AND SYMBOLS
MG601	MECHANICAL SCHEDULES
MDP101	FIRE PUMP HOUSE MECHANICAL/ PLUMBING/ FIRE PROTECTION DEMOLITION PLAN
MP101	FIRE PUMP HOUSE MECHANICAL PLAN
MP201	FIRE PUMP HOUSE MECHANICAL RISER DIAGRAM AND DETAILS
FG001	FIRE PROTECTION LEGEND AND SYMBOLS
FG201	FIRE PROTECTION RISER DIAGRAM AND SCHEDULE
FDH101	HANGAR "A" BUILDING 370 FIRE PROTECTION DEMOLITION PLAN
FH101	HANGAR "A" BUILDING 370 FIRE PROTECTION PLAN
FH102	HANGAR "A" BUILDING 370 FIRE PROTECTION PLAN BOILER ROOM AND DETAILS
FP101	FIRE PUMP HOUSE FIRE PROTECTION PLAN
FP201	FIRE PUMP HOUSE FIRE SUPPRESSION AND AUTOMATIC DETECTION SYSTEM DETAILS
FP202	FIRE PUMP HOUSE FIRE SUPPRESSION AND AUTOMATIC DETECTION SYSTEM DETAILS
FP203	FIRE PUMP HOUSE FIRE PROTECTION RISER DIAGRAM
FP301	FIRE PUMP HOUSE FIRE SUPPRESSION AND AUTOMATIC DETECTION SYSTEM SECTIONS
FP302	FIRE PUMP HOUSE FIRE SUPPRESSION AND AUTOMATIC DETECTION SYSTEM SECTIONS
PG001	PLUMBING LEGEND AND SYMBOLS
PP101	FIRE PUMP HOUSE PLUMBING ABOVE GROUND PIPE PLAN
PP201	FIRE PUMP HOUSE STORM AND SANITARY RISER DIAGRAMS
PP301	FIRE PUMP HOUSE SCHEDULE AND DETAILS

ELECTRICAL DRAWINGS

DWG. NO.	TITLE
EG001	ELECTRICAL LEGEND AND ABBREVIATIONS
EH001	HANGAR "A" BUILDING 370, FIRST FLOOR PLAN, FIRE ALARM - HAZARDOUS LOCATION PLAN
EHD301	HANGAR "A" BUILDING 370, FIRST FLOOR PLAN, FIRE ALARM - DEMOLITION
EHD302	HANGAR "A" BUILDING 370, MEZZANINE FLOOR PLAN, FIRE ALARM - DEMOLITION
EH303	HANGAR "A" BUILDING 370, FIRST FLOOR PLAN, FIRE ALARM
EH304	HANGAR "A" BUILDING 370, MEZZANINE FLOOR PLAN, FIRE ALARM
EHD601	HANGAR "A" BUILDING 370, RISER DIAGRAM, FIRE ALARM - DEMOLITION
EH602	HANGAR "A" BUILDING 370, RISER DIAGRAM & DETAILS, FIRE ALARM
EH603	HANGAR "A" BUILDING 370, OPERATION MATRIX
EPD001	PUMP HOUSE, SITE PLAN, ELECTRICAL - DEMOLITION
EP002	PUMP HOUSE, SITE PLAN, ELECTRICAL
EPD101	PUMP HOUSE, FLOOR PLAN, ELECTRICAL - DEMOLITION
EP102	PUMP HOUSE, FLOOR PLAN, POWER
EP103	PUMP HOUSE, FLOOR PLAN, GROUNDING
EP201	PUMP HOUSE, FLOOR PLAN, LIGHTING
EP301	PUMP HOUSE, FLOOR PLAN, COMMUNICATION AND FIRE ALARM
EP501	PUMP HOUSE, DETAILS
EP502	PUMP HOUSE, DETAILS
EP503	PUMP HOUSE, DETAILS
EP601	PUMP HOUSE, ONE-LINE DIAG - FIRE PMP HSE, FP-1 & FP-2, DEMOLITION & MODIFICATION
EP602	PUMP HOUSE, RISER DIAGRAM & DETAIL
EP901	PUMP HOUSE, BURIED CONDUIT AND DUCBANK SECTIONS
EP902	PUMP HOUSE, PANEL SCHEDULES

ONE OR TWO CHARACTER DISCIPLINE DESIGNATOR (MAY NOT BE PRESENT IF CALLOUT AND TITLE ARE ON DRAWINGS WITHIN THE SAME DISCIPLINE)

LETTER OR NUMBER DESIGNATOR

DRAWING SEQUENCE NUMBER INDICATES WHERE TITLE IS LOCATED (MAY NOT BE PRESENT IF CALLOUT AND TITLE ARE ON THE SAME DRAWING)

A / FP001

SECTION, DETAIL, AND ELEVATION SYMBOL IDENTIFIERS

A / FP001 — A / FP001

SECTION CALLOUT EXAMPLE

7 / FP001

DETAIL CALLOUT EXAMPLE

B / A001

ELEVATION CALLOUT EXAMPLE

THE WORD "SECTION" MAY BE REPLACED WITH "ELEVATION" OR "DETAIL."

SECTION — A / 001

SECTION, DETAIL, OR ELEVATION TITLE EXAMPLE

SECTION, DETAIL, AND ELEVATION IDENTIFICATION SYSTEM

no.	date	by	ckd	description
0	01/30/09	DJL	SB	ISSUED FOR CONSTRUCTION

Burns & McDonnell SINCE 1898

REPAIR FUEL CELL HANGAR FIRE SUPPRESSION SYSTEM
WKVB 002011

Index

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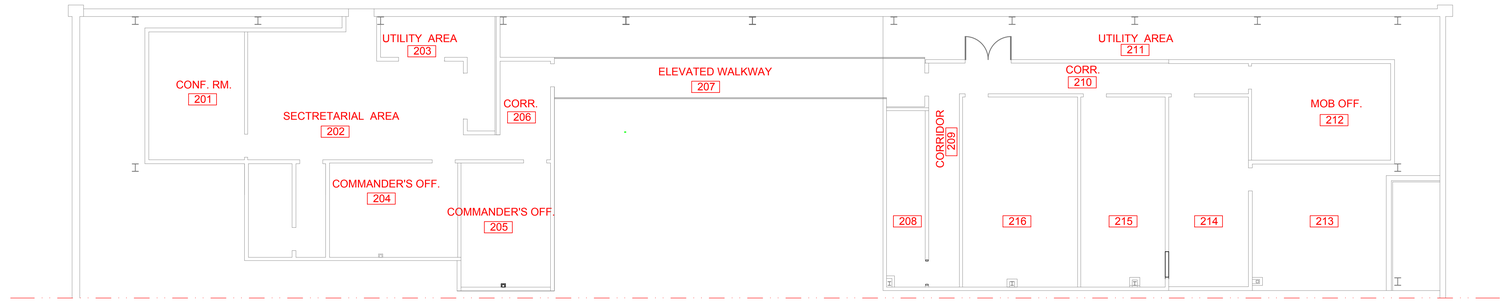
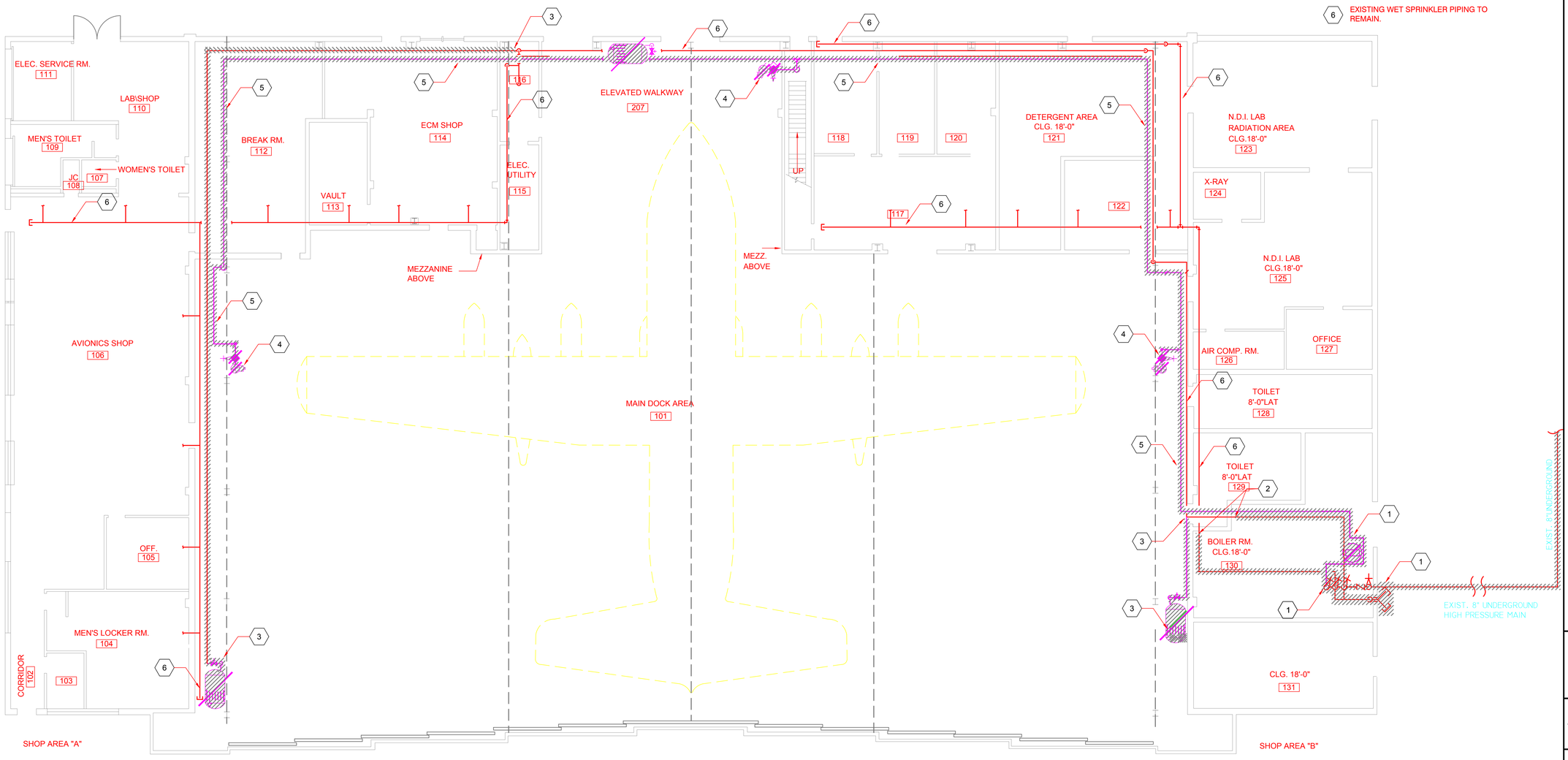


PART. MEZZ. PLAN



FLOOR PLAN (DEMOLITION)

0 4' 8' 16'
SCALE IN FEET

NORTH

LEGEND

DEMOLITION

EXISTING

NOTES:

1. REMOVE ALL EXISTING FIRE PROTECTION PIPING AND EQUIPMENT IN BOILER ROOM INCLUDING FIRE SERVICE ENTRANCE, VALVES , FOAM CONCENTRATE STORAGE (INCLUDING CONCRETE PAD), FOAM PROPORTONER AND FIRE DEPT. CONNECTIONS.
2. DEMOLISH EXISTING WET SPKR PIPING IN BOILER ROOM. CAP EXISTING PIPING PRIOR TO EXITING BOILER ROOM FOR FUTURE CONNECTION.
3. REMOVE EXISTING FOAM TANK AND HOSE REEL STATION. CUT AND CAP PIPING BACK TO ACTIVE WET SPKR MAIN. VERIFY PIPING IS INACTIVE BEFORE DEMOLITION.
4. REMOVE EXISTING FOAM OSCILLATING MONITOR.
5. REMOVE EXISTING FWFL PIPING.
6. EXISTING WET SPRINKLER PIPING TO REMAIN.

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date JULY 10, 2008	detailed C. QUINN
designed A. PASQUALI	checked R. JORDAN

NEW YORK AIR NATIONAL GUARD
106 RQW FRANCIS S. GABRESKI AIRPORT
WESTHAMPTON BEACH,
NEW YORK

REPAIR FUEL CELL HANGAR FIRE SUPPR SYS
HANGAR "A" BUILDING 370
FIRE PROTECTION
DEMOLITION PLAN

project	contract
47963	WKVB002011

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Scale For Microfilming: Millimeters / Inches

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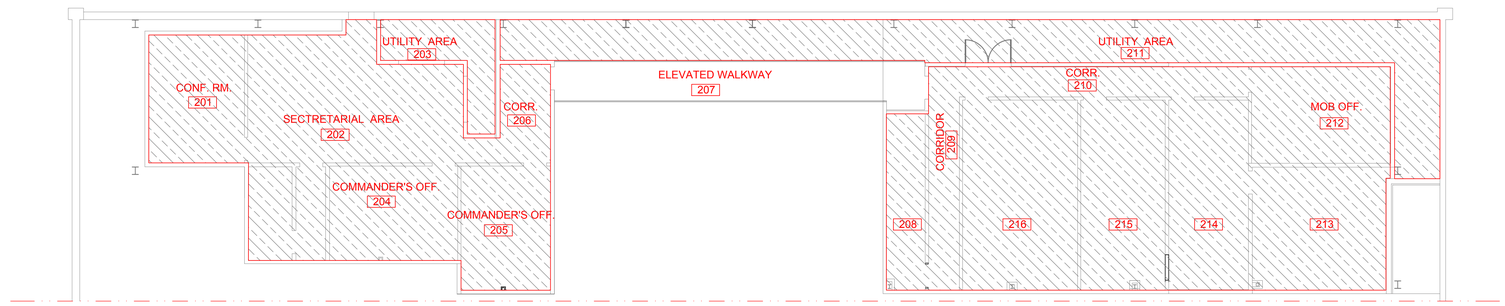

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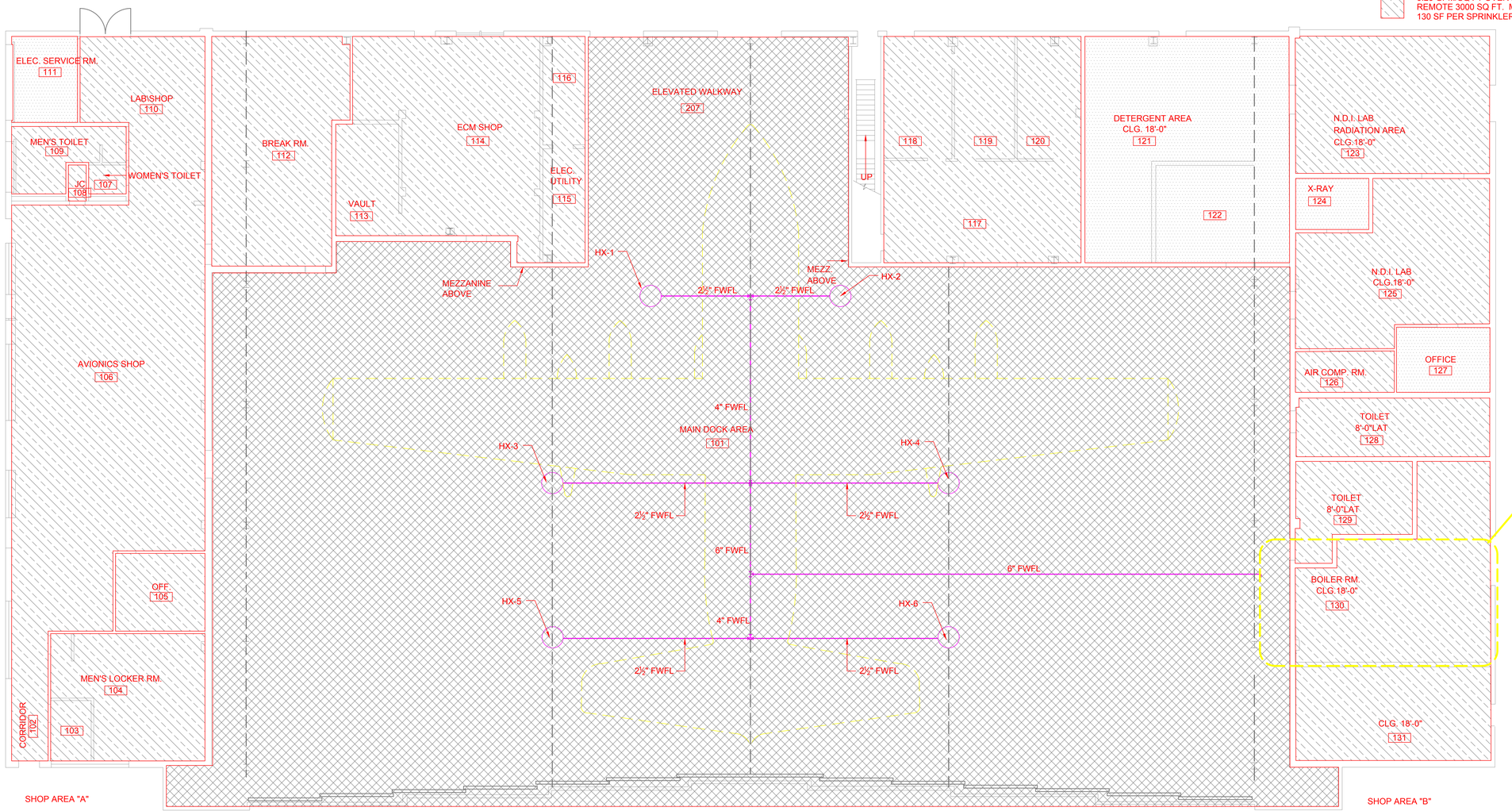

FLOOR PLAN (PROPOSED WORK)

0 4' 8' 16'
SCALE IN FEET

NORTH

NOTES

1. PROVIDE WET SPRINKLER SYSTEM IN MAIN DOCK AREA. EXCEPT AS MODIFIED ON ON DRAWINGS AND SPECIFICATIONS. SYSTEM ACCORDANCE WITH NFPA-13.
2. ALL EXISTING SPRINKLER SYSTEMS ARE TO REMAIN. ANY FAILURES OF THE EXSITING SYSTEM TO MEET THE REQUIREMENTS OF ITS THE HAZARD CLASSIFICATION SHALL SHALL BE FIXED.
3. RUN MAINS, CROSSMAINS, AND BRANCH PIPING TIGHT TO BOTTOM OF JOISTS OR IN JOIST SPACE.
4. SUPPORT FWFL AND FW MAINS IN HANGAR FROM ROOF JOISTS. COORDINATE THE LOCATION OF HANGER AND THRUST LOADS WITH THE BUILDING SUPPLIER
5. HIGH EXANSION FOAM SYSTEM VENDOR SHALL SUPPLY CERTIFIED SHOP DRAWINGS INDICATING EXACT LOCATIONS OF HIGH EXPANSION FOAM GENERATORS VERIFYING SYSTEM WILL MEET REQUIRED THE COVERAGE WITHIN TIME CONSTRAINTS.
6. ALL PIPING PENETRATING FIRE RATED BARRIERS OR WALLS SHALL BE SEALED WITH APPROPRIATE FIRE STOP SYSTEMS TO PRESERVE CONTINUITY OF FIRE RATING.

LEGEND

NEW EXTRA HAZARD WET SPRINKLER SYSTEM
0.20 GPM/SQ FT OVER HYDRAULICALLY REMOTE 5000 SQ FT. MAX COVERAGE OF 100 SF PER SPRINKLER.

NEW ORDINARY HAZARD GROUP II WET SPRINKLER SYSTEM
0.20 GPM/SQ FT OVER HYDRAULICALLY REMOTE 3000 SQ FT. MAX COVERAGE OF 130 SF PER SPRINKLER.

EXISTING ORDINARY HAZARD GROUP II WET SPRINKLER SYSTEM
0.20 GPM/SQ FT OVER HYDRAULICALLY REMOTE 3000 SQ FT. MAX COVERAGE OF 130 SF PER SPRINKLER.

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date JULY 10, 2008	detailed C. QUINN
designed A. PASQUALI	checked R. JORDAN

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REPAIR FUEL CELL HANGAR FIRE SUPPR SYS
HANGAR "A" BUILDING 370
FIRE PROTECTION PLAN

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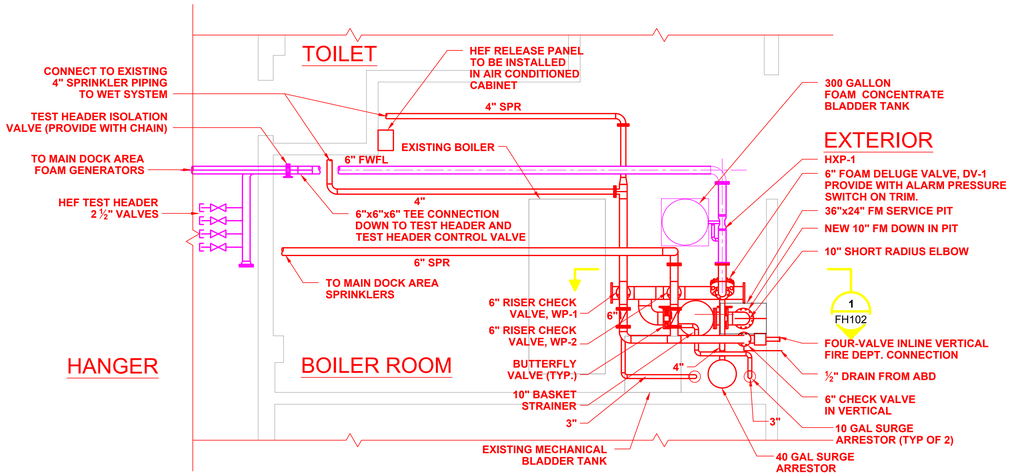
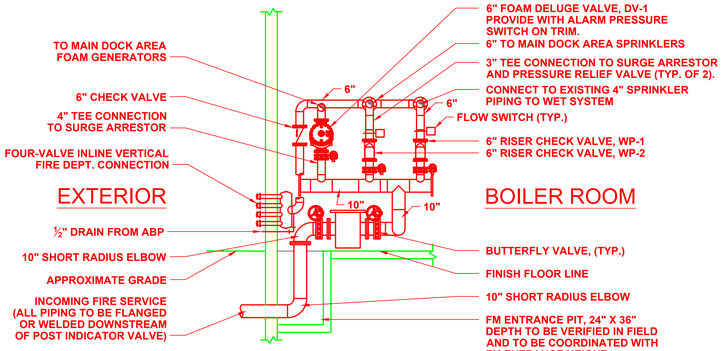


HANGAR BOILER ROOM PLAN

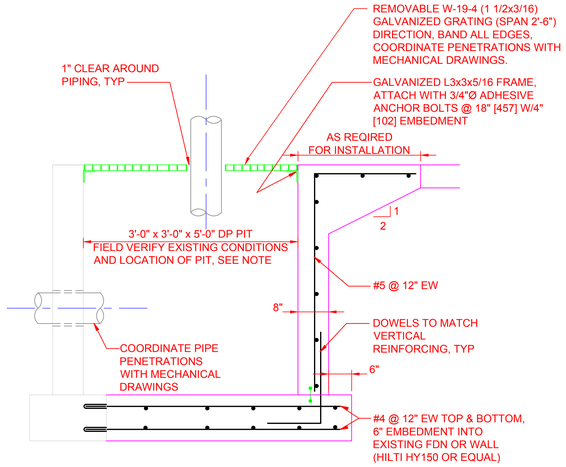
0 2' 4' 8'
SCALE IN FEET



HANGAR BOILER ROOM SECTION

1 FH102

0 2' 4' 8'
SCALE IN FEET

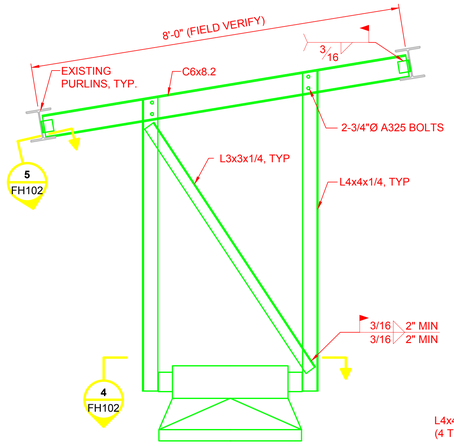


NOTE:
PIPE PIT REQUIRED IN EXISTING HANGARS AT FIRE PROTECTION LINES. CONTRACTOR RESPONSIBLE FOR COORDINATING EXISTING CONDTITIONS PRIOR TO CONSTRUCTION OF PIT. SINCE NO EXISTING INFORMATION WAS AVAILABLE DURING DESIGN, CONTRACTOR TO NOTIFY CONTRACTING OFFICER OF EXISTING CONDITIONS AND ANY DISCREPANCIES WITH DETAIL PROVIDED.

TYPICAL PIPE PIT DETAIL

NOT TO SCALE

2 FH102

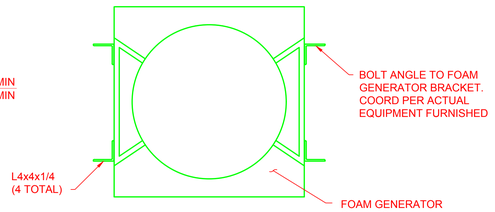


NOTE:
APPROX. FOAM GENERATOR WEIGHT = 500 LBS

TYPICAL FOAM GENERATOR DETAIL

NOT TO SCALE

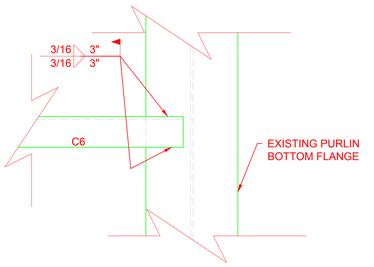
3 FH102



SECTION DETAIL

NOT TO SCALE

4 FH102



SECTION DETAIL

NOT TO SCALE

5 FH102

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Burns & McDonnell SINCE 1898

date	detailed
JULY 10, 2008	C. QUINN
designed	checked
A. PASQUALI	R. JORDAN

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REPAIR FUEL CELL HANGAR FIRE SUPPR SYS
HANGAR "A" BUILDING 370
FIRE PROTECTION PLAN
BOILER ROOM AND DETAILS

project	contract
47963	WKVB002011

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APPENDIX C-8

IRP SITE 8 FIGURE

FINAL
RECORD OF DECISION
SITE 8

106TH RESCUE WING
FRANCIS S. GABRESKI AIRPORT
WESTHAMPTON BEACH, NEW YORK

APRIL 2012

Prepared for

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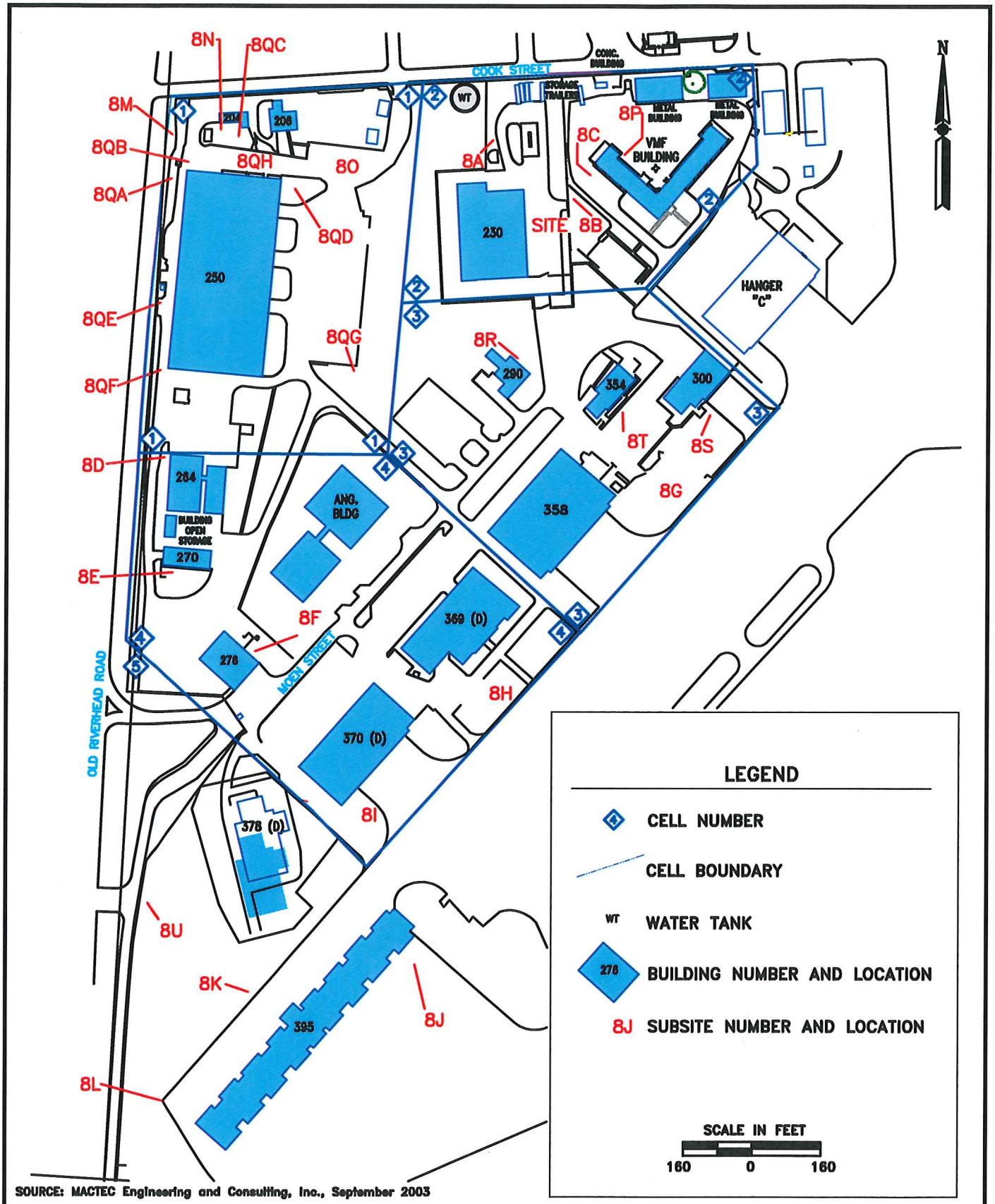

SOURCE: MACTEC Engineering and Consulting, Inc., September 2003

PROJ./3005-034
ROD/FIG 2.3

SITE 8 – CELL AND SUBSITE LOCATION MAP
106th RESCUE WING
WESTHAMPTON BEACH, NEW YORK

FIGURE 2.3