

Revised Soil and Groundwater Management Plan (Revision 2) Truman Waterfront Park Key West, Florida

E Sciences Project Number 7-0070-002
February 13, 2015



ENGINEERING
ENVIRONMENTAL
ECOLOGICAL

Prepared for:



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3132 Flagler Avenue
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Mr. Randy P. Hollingworth
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2601 South Bayshore Drive, 10th Floor
Miami, FL 33133

**Subject: Revised Soil and Groundwater Management Plan – Revision 2
Truman Waterfront Park
Key West, Florida
E Sciences Project Number 7-0070-002**

Dear Mr. Hollingworth:

E Sciences, Incorporated (E Sciences) is pleased to submit the enclosed Soil and Groundwater Management Plan (SMP/GMP) for the above referenced site. This SMP/GMP was developed to provide procedures and precautions to be implemented for the management of impacted soil and groundwater during construction activities associated with the development of a 23-acre park referred to as Truman Waterfront Park located on the westernmost area of Key West within the Truman Annex Naval Complex.

We appreciate the opportunity to perform these services for you and the City of Key West. Please contact us at (954) 484-8500 if you have questions regarding this information.

Sincerely,
E SCIENCES, INCORPORATED

A handwritten signature in blue ink, appearing to read 'MP' with a flourish.

Maria Paituvi, P.E.
Senior Engineer

A handwritten signature in blue ink, appearing to read 'Nadia G. Locke'.

Nadia G. Locke, P.E.
Associate

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1.0 INTRODUCTION

The City of Key West Naval Properties Local Redevelopment Agency (LRA) has been engaged in the acquisition, planning and permitting of the redevelopment of a portion of the former US Navy Truman Waterfront base since 1995 as allowed by the Federal Government's Base Realignment and Closure (BRAC) process. The LRA is seeking to develop a portion of surplus Navy property known as the Truman Waterfront Upland Parcels, located in Key West, Monroe County, Florida. The overall project consists of designing and implementing a thematically integrated waterfront park consistent with the character of a surrounding historic community and is named the Truman Waterfront Park. E Sciences was engaged by Bermello, Ajamil & Partners, Inc. (B&A) to prepare a Soil and Groundwater Management Plan (SMP/GMP) for the Truman Waterfront Park Project (the Site).

The Site is located at the westernmost end of Key West within the Truman Annex Naval Complex. The Site encompasses multiple properties over an approximate 23-acre area adjacent to the Florida Bay waters. The Site includes Parcel C, Parcel K and Parcel E. The soil and groundwater on these parcels have historically been impacted by former Navy activities. The Navy has undertaken remedial activities in order to achieve cleanup to allow the construction of a recreational park and the unrestricted use of the park by the public. The presence of residual impacted soils will be capped to prevent exposure to the public. The soil and groundwater management provisions presented herein have been developed to provide management protocols specifically for construction activities that might require direct exposure, handling and disposal of residual subsurface impacted soil based during excavation. Additional information regarding the history and status of the assessment and remediation activities conducted at these properties is provided in Section 2.0. The Site location is depicted in **Figure 1**. **Figure 2** provides aerial coverage for the Site.

The provisions provided within this SMP/GMP are based on the review of the current information and reports available and cited herein. The provisions may be modified based on results of future assessment or testing conducted within the subject properties that may occur prior to or during the proposed development activities or based on historical assessment information that may be discovered or provided at later time. It is also noteworthy that the environmental conditions and restrictions are based on proposed deed modifications pending concurrence and approval from the Florida Department of Environmental Protection (FDEP).

2.0 BACKGROUND INFORMATION

The following sections provide a summary of impacts and the regulatory closure status for the following properties within the Site limits:

- City-owned portion of Parcel K: herein referred to as Parcel K.
- Parcel C: herein referred to as the Former Defense Reutilization and Marketing Office Waste Storage Area (DRMO) Parcel.
- Parcel E: subdivided into Parcel E1 (north portion) and Parcel E2 (south portion) and Parcel E3 (strip of land beneath the pavement directly adjacent to waterfront).

The above-referenced parcels have been, or are currently being, addressed for historical impacts under the Department of Navy, Naval Facilities Engineering Command (NAVFAC) BRAC Program. The impacts within these parcels have been addressed to the necessary standards to permit the construction of the proposed waterfront park and the recreational use by the public. The documented soil impacts has been addressed by means of excavation and offsite disposal or the installation of an engineering control that prevents direct exposure to the impacted soil, which will be preserved as part of the park development. The location of these parcels is depicted on **Figure 3**. The following sections present a cursory summary of the history of on those parcels, regulatory status and impacts.

Based on the extensive and complex environmental history of the Site, our understanding of the environmental conditions and restrictions for each parcel was provided to the FDEP and the Navy for concurrence. Correspondence regarding FDEP and Navy concurrence is provided in **Appendix A**.

For the purposes of this SMP/GMP, the soil layer extending from zero to two feet below land surface (bls) is referred to as surface soil and subsurface soil extends below two feet bls. An engineering control may consist of different configurations that prevent the exposure to impacted soil. Engineering controls include but are not limited to the following:

- A two-foot layer of non-impacted soil.
- A concrete or asphalt cover.
- Synthetic liners.

The following sections provide brief background information for each parcel.

2.1 Truman Annex DRMO Waste Storage Area (Parcel C)

The DRMO Parcel is approximately 6.25 acres of land located at the southeastern corner of the Site. The former use of this parcel included storage and use of fuels, oils and metals. The latest regulatory and assessment information for this parcel is documented in a *Site Rehabilitation Completion Report (SRCR)* dated December 2010 prepared by CH2M HILL. This parcel underwent numerous remediation activities

between 1998 and 2010. Excavation and disposal of impacted soil were implemented in order to meet the Soil Cleanup Target Levels (SCTL) defined under FDEP Chapter 62-777, Florida Administrative Code (F.A.C.) and achieve unrestricted land use criteria. Based on review of deed documentation provided by the City of Key West (the City), soil restrictions are in effect for this property and land use is currently restricted to non-residential.

Based on information provided in the 2010 SRCR, the soil impacts at the DRMO Parcel have been remediated to meet SCTLs and it is suitable for unrestricted land use. Therefore, the report recommended that the current Land Use Controls (LUC) tied to the property deed be revoked.

A *BRAC Five Year Review of Six BRAC Environmental Sites for Naval Air Station Key West* report dated April 2014 includes additional information regarding the DRMO Parcel. According to this document, parameters of concern included inorganics (lead, antimony, iron, arsenic, manganese), semi-volatile organic compounds (SVOC) (benzo[a]pyrene, benzo(b)fluoranthene, dibenzo[a,h]anthracene, and indeno(1,2,3-cd)pyrene) and polychlorinated biphenyls (PCBs).

Based on information disclosed during a teleconference held on April 14, 2014 (attended by BRAC, FDEP Federal Programs Section Bureau of Waste Cleanup and Naval Air Station Key West representatives), FDEP's review revealed a concern regarding historic iron levels in the soil and FDEP requested additional monitoring to determine that iron has not leached into the groundwater. The results of a recent groundwater sampling event revealed no groundwater contamination impacts. Other information disclosed during this teleconference indicates that FDEP is receptive to approval of the removal of the LUCs associated with the soil at this parcel. Therefore, this SMP is based on the assumption that no surface or subsurface soil impacts remain on the DRMO parcel. The GMP is based upon the absence of groundwater impacts. Overall, it is presumed that FDEP will issue a Site Rehabilitation Completion Order (SRCO) for the parcel and this will allow unrestricted groundwater and land use. A copy of the draft minutes from the April 14, 2014 teleconference provided to us is included in **Appendix A**.

We understand that the Navy will revise the deed for the DRMO Parcel and it will allow unrestricted land and groundwater use.

2.2 City-Owned Parcel K

City-owned Parcel K is located on the Truman Annex waterfront. It historically housed multiple buildings associated with metal shops, repair shops, a lumber shed, boat and boiler shops and a foundry. The buildings were removed from this property in 1982. The storage and use of metals, solvents, fuels, acids and oil were considered potential sources of impacts at this location. The latest environmental report available for this parcel is the SRCR dated April 2014. Additional historical information on the current status for this parcel was also contained in the April 2014 BRAC 5 Year Review document. Based on review of deed documentation provided by the City, soil restrictions are in effect for this parcel and it is currently restricted to non-residential use. There are currently no groundwater use restrictions on this parcel.

Parameters of concern historically documented above FDEP SCTLs include PCBs, lead and polycyclic aromatic hydrocarbons (PAH) affecting the surface and subsurface soil. Source removal efforts were implemented between January 2012 and February 2012 in order to meet site-specific recreational use SCTLs at this parcel. The surface soil at this parcel currently meets site-specific Direct Exposure Recreational SCTLs, which allows the construction and use of the park.

The 2014 SRCR recommended that the deed restriction be revised to allow for recreational use of the parcel while maintaining the restriction on residential land use. In correspondence dated June 4, 2014, FDEP stated that the SRCR was suitable for its intent and approved as final. The FDEP would issue a SRCO upon demonstration that the deed has been revised according to the SRCR. Based on information disclosed during a teleconference held on April 14, 2014 (attended by BRAC, FDEP Federal Programs Section Bureau of Waste Cleanup and Naval Air Station Key West representatives), FDEP and BRAC are coordinating the completion of the SRCO and deed modifications.

The following table presents the SCTLs implemented for site rehabilitation. Please note that site-specific recreational SCTLs are above direct exposure residential SCTLs and therefore, those soils shall be considered impacted for the purposes of this SMP.

	Lead (mg/kg)	PCBs (mg/kg)	PAHs (mg/kg)
Residential Adult and Child	400	0.5 ^b	0.1 ^b
Recreational Youth^a	400	1.29 ^b	0.35 ^b
Industrial Worker	1,400	2.6 ^b	0.7 ^b
Leachability^c	400	17	8 ^d

All values are in milligrams per kilogram (mg/kg) units.
^a Exposure Factors were obtained from FDEP, RBCA Guidance, and recreational SCTL was calculated using assumptions provided in Appendix B.
^b When both PCBs and PAHs were collocated, cumulative risk from both PCBs and PAHs together was aimed to be 1E-6, which is equivalent to using the apportioned target SCTL value.
^c Selected LGW SCTL values are based on protection of groundwater to potable quality, although the area groundwater is likely in contact with saline water in the adjacent bay.
^d Individual PAHs have LGW SCTLs ranging from 0.7 mg/kg to 77 mg/kg (see Appendix A, Table A-4).

Source: Site Rehabilitation Completion Report, Soil Removal Actions at the City-Owned Portion of Parcel K Revision No. 02 dated April 2014 and prepared by CH2M HILL.

We understand that the Navy will revise the deed for Parcel K and it will allow unrestricted recreational land use and groundwater use.

2.3 Parcel E

Based on review of deed documentation provided by the City, the current LUCs enforced on Parcel E include non-residential land use provisions and groundwater use restrictions. The requirement for engineering controls exists but is limited to a delineated area on the former location of Building 136.

Based on assessment information and the current environmental status of distinct areas within Parcel E, this SMP addresses the following sub-parcel areas independently:

- Parcel E1: also referred to as the former Building 189 site.
- Parcel E2: formerly occupied by Building 136, Building 102 and Building 104 and currently occupied by Building 103
- Parcel E3: also referred to as East Quay.

It is our understanding that the FDEP understands that the above sub-parcels present individual environmental conditions independent of the current LUC provisions. Please refer to **Figure 3** for the location of each sub-parcel. The following sections include background information and environmental conditions pertinent to each sub-parcel.

2.3.1 Parcel E1

Parcel E1 was formerly occupied by Building 189. The latest regulatory documentation available for review is the Site Rehabilitation Completion Order (SRCO) issued by FDEP for this parcel on August 7, 2001. A copy of the SRCO is included in **Appendix B**. Therefore, no groundwater or soil impacts associated with this sub-parcel of Parcel E are considered a concern for the proposed site development and land use as a park. The SMP is based upon the assumption that the Navy will revise the deed and land use restrictions will be removed for this parcel.

2.3.2 Parcel E2

Parcel E2 was formerly occupied by Building 136, Building 102 and Building 104. Building 103 remains on the property. The approximate location of these buildings is depicted on **Figure 3**. Based on the environmental impacts in different areas within Parcel E2, we have provided discussions for two functional areas: the area including Building 102, 103 and 104 and the area including Building 136.

Buildings 102, 103 and 104

Buildings 102 (Former Torpedo Overhaul and Storehouse) and 104 (Former Battery Overhaul and Storage) have been removed. Knowledge of the operations in these buildings is limited to naval submarine support activities. Hazardous materials, specifically volatile organic compounds (VOCs), SVOCs, and inorganics are likely to have been used in these buildings. The latest environmental document available for this parcel regarding soil impacts is a *Proposed Plan for Soil Remedy* dated September 19, 1999. Previous remedial action efforts at Buildings 102 and 104 included the excavation of two separate areas of impacted soil to a depth of two feet bls. Based on review of the reports cited herein, SVOCs (specifically Benzo (a) pyrene constituents) remain above FDEP SCTLs in the subsurface soil.

Building 103 (Former Central Power Plant) is still standing but is out of service. Knowledge of the operations in this building is limited to naval submarine support activities. Documented parameters of concern include SVOCs and PCBs. Removal of impacted soil in the vicinity of Building 103 conducted prior to 1999 was impeded by building foundations and concrete transformer casements in the ground. Therefore, it is concluded that subsurface soil impacts remain within this area.

Most recent information regarding remedial efforts associated with the presence of petroleum free product in the groundwater near Building 102 and Building 103 was provided in a report titled *Annual Status Report Petroleum Recovery Program* December 2005 to December 2006 and *Monthly Status Report January 2007 for Trumbo Point Fuel Farm and Truman Annex Buildings 102 and 103* prepared by CH2M HILL. The presence of free product in the groundwater within the area of Building 102 and Building 103 was addressed by implementation of active and passive free product recovery. However, groundwater

analytical data was not available for review to evaluate the potential presence of residual groundwater petroleum impacts in this area.

Based on information provided above, the surface soil within this area of Parcel E2 has been remediated to meet Direct Exposure Residential SCTLs and therefore meets recreational use criteria. Impacts remain above FDEP SCTLs in the subsurface soil. Therefore, an engineering control shall be implemented on this area of Parcel E and subsurface soil shall be considered as impacted soil during construction activities.

Groundwater impacts are presumed within this area of Parcel E2, therefore groundwater use restrictions and groundwater management provisions are applicable for this area.

Building 136

Building 136 served as a naval docking and support facility for more than a century. Building 136 (Shipfitters and, prior to 1951, the Plate and Mold Shop) was demolished and the debris was buried in and around the building's footprint in the 1980s, but the debris was later removed for off-site disposal. Lead, metals, solvents, and oils from building operations and demolition debris buried on site were considered potential soil parameters of concern. The latest regulatory environmental document available for this area is provided in a *Proposed Plan for Soil Remedy* dated September 19, 1999. Additional historical information was also identified in the April 2014 BRAC 5 Year Review document and the 2010 SRCR for the DRMO parcel.

Remedial efforts consisting of soil removal were implemented in this area in 1999 and 2007. COCs for this area included SVOCs, arsenic and iron. During the 1999 source removal, due to impacts remaining below the surface in the vicinity of building 136, an engineering control was implemented in order to address the residual arsenic soil impacts below two feet bls. This engineering control was incorporated into the deed restriction for Parcel E and was limited to a delineated area. Additional remedial efforts conducted in 2007, after the deed restriction was executed, removed the additional arsenic impacted soil near Building 136 to a depth of two feet bls.

No reports documenting the presence of groundwater impacts were identified or provided during the development of this document. Therefore, groundwater analytical data was not available for review to evaluate the potential presence of groundwater petroleum impacts in this area.

Based on information reviewed, no surface soil impacts are present within this area. However, we could not ascertain the presence or absence of subsurface soil impacts within this area of Parcel E2. Therefore, the subsurface soil will be considered impacted for the purposes of this SMP and an engineering control shall be implemented on this area of Parcel E. Groundwater use restrictions are in effect on this parcel

based on the current deed conditions. Groundwater restriction and management provisions will be applicable to this area of Parcel E2.

We understand that the deed will continue to have soil and groundwater land use restrictions for Parcel E2.

2.3.3 Parcel E3

Parcel E3 consists of fill soil beneath the concrete slab of the “East Quay”. According to information provided by BRAC, in 1988 earthwork was conducted in this parcel to tie the seawall into the deadmen that anchor the wall. During these construction efforts, a Navy fuel line was identified in the work area. Several thousand cubic yards of petroleum-impacted soil were removed off-site as part of this construction activity. However, no documentation related to these activities has been located for review at this time. Construction plans and cross sections for this parcel dated 1986 depict the presence of diesel oil lines, tanks, an oil-water separator and other utilities. Boring logs included within the plan sheets, document the presence of petroleum product odors identified “above limestone” in the subsurface. Copies of select pages of the plan set identifying these features are provided in **Appendix C**.

Based on this limited information available and based on recommendations by BRAC, this parcel is considered to have surface and subsurface soil impacts. Groundwater use restrictions are in effect on this parcel based on the current deed conditions.

We understand that the deed will continue to have soil and groundwater land use restrictions for Parcel E3. The requirements and measures contained within this SMP/GMP regarding Parcel E3 are subject to change based on additional assessment or review of additional documentation that may be conducted at a later time.

The following table summarizes the current impacts and proposed restrictions for each parcel. The proposed restrictions are based on most recent groundwater assessment results conducted by the Navy and are subject to approval by FDEP.

Table 2.1 Summary of Existing Environmental Conditions

		Former DRMO	Parcel K	Parcel E1	Parcel E2	Parcel E3
Surface Soil	Above FDEP SCTLs		✓			✓
	Meets FDEP Residential Exposure SCTLs	✓		✓	✓	
	Meet Site-Specific Recreational SCTLs ¹		✓			
Subsurface Soil	Above FDEP SCTLs		✓		✓	✓
	Meets FDEP Residential Exposure SCTLs	✓		✓		
	Meets Site Specific Recreational SCTLs		✓			
Groundwater	Impacts Present or Presumed				✓	✓
	No Impacts	✓	✓	✓		
Restrictions	Engineering Control to prevent exposure to subsurface soil to be maintained				✓	✓
	Surface Soil to be replaced with clean fill or an engineering control to be installed over existing surface soil					✓
	Recreational Use Allowed for Surface Soil	✓	✓	✓	✓	
	Groundwater Use Restriction				✓	✓

SCTL =Soil Cleanup Target Levels defined under Florida Department of Environmental Protection (FDEP) Chapter 62-777, Florida Administrative Code (F.A.C.)

¹Site-specific Recreational SCTL values area above the FDEP Direct Exposure Residential SCTLs (dependent on the parameter). Therefore, for the purposes of this SMP, Recreational soils are considered to be above FDEP SCTLs based on Direct Exposure Residential criteria.

3.0 SOIL MANAGEMENT PLAN

The following SMP has been developed to isolate the areas within the parcels where previous assessment activities identified soils with impacts above the Residential, Recreational and Industrial Direct Exposure SCTLs and to provide protocols and precautions that will be implemented for the management of soil excavated within the SMP area during design and construction activities for the Site. The proposed development plan is depicted on **Figure 4**.

The documented impacts within the subject parcels have been or will be addressed as follows in order to meet the regulatory requirements to construct the proposed park for the safe use of the public:

- Excavation and offsite disposal;
- Implementation of engineering controls to prevent direct exposure to subsurface impacted soil. This approach is widely implemented in similar conditions as it provides an effective barrier for the protection of the human health and the environment.

Soil impact information provided herein is based on information provided and contained within the documents referenced in Section 2.0. Table 3.1 below summarizes the soil impacts documented for each individual parcel. The areas and soil layers affected by impacts depicted on **Figure 5** are referred to as SMP areas as described herein.

Soil excavation and regulatory documentation within soil impact areas shall be conducted in accordance with FDEP Chapter 62-780.500(5) as it pertains to soil removal, treatment, and disposal.

**Table 3.1
 Soil Impacts and SMP Summary**

Site	Depth Interval	Impacts	SMP Provisions
DRMO	No Impacts	<ul style="list-style-type: none"> • No Impacts 	<ul style="list-style-type: none"> •No import of soil from other parcels. •No re-use of soil beyond parcel boundaries.
Parcel K	Surface Soil	<ul style="list-style-type: none"> • Meets site-specific Recreational SCTLs •Above FDEP Residential SCTLs 	<ul style="list-style-type: none"> •No re-use of soil beyond parcel boundaries. •Subject to SMP provisions.
	Subsurface Soil	<ul style="list-style-type: none"> • Meets site-specific Recreational SCTLs •Above Residential FDEP SCTLs 	<ul style="list-style-type: none"> •No re-use of subsurface soil beyond parcel boundaries. •Subject to SMP provisions described in Section 3.0.
Parcel E1	No Impacts	<ul style="list-style-type: none"> •No Impacts 	<ul style="list-style-type: none"> •No import of soil from other parcels. •No re-use of soil beyond parcel boundaries.
Parcel E2	Surface Soil	<ul style="list-style-type: none"> •No Impacts 	<ul style="list-style-type: none"> •No import of soil from other parcels. •No re-use of soil beyond parcel boundaries.
	Subsurface Soil	<ul style="list-style-type: none"> •Above FDEP Residential SCTLs 	<ul style="list-style-type: none"> •Subsurface soil excavated shall not be used above 2 feet bls within the parcel boundaries unless covered with an engineering control. •No re-use of soil beyond parcel boundaries. •If excavated, upper two feet must be replaced with a minimum of two feet of non-impacted soil or alternative engineering control. • Subject to SMP provisions described in Section 3.0.
Parcel E3	Surface Soil (Beneath concrete)	<ul style="list-style-type: none"> •Above FDEP Residential SCTLs 	<ul style="list-style-type: none"> •Soil must be excavated or covered with appropriate engineering controls. •No re-use of soil beyond parcel boundaries. • Subject to SMP provisions described in Section 3.0.
	Subsurface Soil	<ul style="list-style-type: none"> •Above FDEP Residential SCTLs 	<ul style="list-style-type: none"> •Soil must be covered with appropriate engineering controls. •No re-use of subsurface soil beyond parcel boundaries. • Subject to SMP provisions described in Section 3.0.

Remediation efforts in Parcel K were targeted to meet site specific Recreational SCTLs. The Recreational SCTLs are equal or above Residential Direct Exposure SCTLs and therefore, soil excavated from those areas is to be handled as impacted soil.

In the event that soil staining/discoloration or odor is identified during construction, work in the affected area shall cease and onsite personnel shall notify the project manager in order to document the findings and evaluate the potential soil management provisions and proper course of action. In the event that buried debris is encountered during construction activities, work in the affected area shall cease and the project manager must be notified to document the findings and evaluate the proper course of action. Additional information regarding notifications is provided in Section 5.0.

3.1 Health and Safety Plan

The proposed development will be conducted in areas subject to soil and groundwater restrictions due to the presence of parameters of concern. As such, the construction activities in those areas must be implemented by personnel who meet the necessary safety training requirements. These requirements include, but are not limited to training for workers who will come in direct contact with contaminated media as outlined in the Occupational Safety and Health Administration (OSHA) Standard 1910.120(e). While general requirements from this standard are outlined below the contractor shall ensure full compliance with OSHA requirements:

- General site workers (such as equipment operators, general laborers and supervisory personnel) engaged in hazardous substance removal or other activities which expose or potentially expose workers to hazardous substances and health hazards shall receive a minimum of 40 hours of instruction off the site, and a minimum of three days actual field experience under the direct supervision of a trained experienced supervisor.
- Workers on site only occasionally for a specific limited task (such as, but not limited to, land surveying, or geophysical surveying) and who are unlikely to be exposed over permissible exposure limits and published exposure limits shall receive a minimum of 24 hours of instruction off the site, and the minimum of one day actual field experience under the direct supervision of a trained, experienced supervisor.
- On-site management and supervisors who supervise employees engaged in, hazardous waste operations shall receive 40 hours initial training, and three days of supervised field experience and at least eight additional hours of specialized training at the time of job assignment on such topics as, but not limited to, the employer's safety and health program and the associated employee training program, personal protective equipment program, spill containment program, and health hazard monitoring procedure and techniques.

Prior to implementing construction activities at the Site, the contractor shall develop a site-specific Health and Safety Plan (HASP) for workers directly exposed to soil and groundwater at the Site. The HASP shall describe the known or presumed existing site conditions that may affect worker or public health and safety; the activities that will be taking place within the SMP/GMP affected areas; health and safety requirements; appropriate levels of personal protection required and the criteria for such protection; hygiene; decontamination procedures; training requirements and contingency planning in terms of communication, emergency equipment and emergency planning, as well as any appropriate monitoring or inspection requirements.

Minimum requirements to be included in the HASP include, but are not limited to:

- Description of the specific work areas and impacts associated with the proposed construction activity.
- List of key personnel responsible for site safety, response operations and protection of public health.
- Procedures to control site access.
- Specific description of levels of protection to be worn by personnel in the work area.
- Description of decontamination procedures for personnel and equipment
- Establishment of site specific emergency procedures, including route to nearest medical facility and emergency care for on-site injuries

The contractor shall be responsible for preparing and implementing the HASP in accordance with OSHA 1910(b). In the event that previously unknown conditions are discovered during the course of the construction activities, the contractor shall update and modify the HASP provisions accordingly.

FDEP has compiled templates and guidance for the preparation of HASP for similar cleanup sites. This information can be accessed at the following link:

<http://www.dep.state.fl.us/waste/categories/pcp/pages/safety.htm>

3.2 Dust and Sediment Control

Dust and sediment control measures shall be implemented in compliance with all applicable laws and regulations. During excavation of impacted soil, all exposed soil surfaces within the SMP area (refer to **Figure 5**) shall be kept visibly moist by water spray, or covered with continuous heavy-duty plastic sheeting or other covering to minimize emissions of particulates into the atmosphere. Soil shall not be inundated to the degree that may cause soil migration.

Vehicular access in the SMP area should be controlled and vehicles sprayed prior to exiting the Site as necessary to keep soil onsite and prevent off-site tracking of impacted soil. Parking areas, staging areas, and traffic pathways on the Site shall be cleaned as necessary to control dust emissions. Adjacent public streets shall also be cleaned immediately when soil material from the Site is visible. Soil loaded into

transport vehicles for off-site disposal shall be covered with tarps or other covering to minimize emissions into the atmosphere. The cover shall be in good condition, joined at the seams, and securely anchored.

All soil stockpiles and uncovered soils in the SMP areas shall be managed by appropriate erosion and sediment best management practices (BMPs) in accordance with the project's Erosion Control Plan (ECP) and Stormwater Pollution Prevention Plan (SWPPP). The ECP may be integral to the SWPPP and shall be developed and implemented by the contractor.

3.3 Soil Stockpile Management

Excavated soil from the SMP areas where FDEP SCTL exceedances are known shall be segregated and stockpiled separately from clean soil and placed on top of heavy-duty plastic sheeting. The excavated soil within the subject SMP area shall be stockpiled in a designated area and shall be maintained according to the ECP, applicable regulations and best management practices. A stockpile management system shall be developed prior to earthwork. The origin of the soil in each stockpile shall be documented and the stockpile tracked during relocation and disposal. Each stockpile shall be categorized and numbered. Wherever practical, excavated soil will be stockpiled in areas with improved asphalt or concrete surface and not adjacent to drainage features and water bodies. Soil stockpiles shall be covered with impervious material adequate to prevent soil transport by wind or rainwater runoff. Covers shall be maintained in good condition and inspected daily. When not covered, soil stockpile surfaces shall be kept visibly moist by water spray, as necessary.

3.4 Soil Characterization

Soil with FDEP SCTL exceedances excavated from the SMP areas shall be properly sampled by qualified staff according to the frequency required by the pre-designated disposal facility. As a minimum, sampling frequency shall be conducted as presented in Table A of FDEP Chapter 62-713 F.A.C. Sampling will be conducted for disposal characterization prior to off-site disposal or the future re-use within the Site in accordance with FDEP Standard Operating Procedures (SOP) FS 5000 Waste Sampling per FDEP Chapter 62-160, as appropriate. The qualified staff will report items out of the ordinary and will contact FDEP and the disposal facility, if necessary, to determine the need for additional testing. Soil samples will be analyzed for the presence of the parameters of concern to be determined by the selected disposal facility. Please see **Appendix D** for a copy of an excerpt of the referenced regulatory rule.

3.5 Equipment Decontamination

The contractor must designate a temporary decontamination area within each SMP area. After completing surface and subsurface earthwork, the contractor shall decontaminate the equipment and vehicles that have come in contact with impacted soil by washing off the equipment and excavator buckets with a neutral

surfactant and water mix followed by a water rinse. Decontamination shall be performed when vehicles and equipment are being transferred from one SMP area to another.

3.6 Soil Reuse

Soil re-use is an option under certain circumstances. Soil re-use is defined as the excavation of soil from one location and placement of soil for use as fill in another location within a respective parcel. All soil must remain within the site boundaries, even during re-use activities. Additionally soil excavated within a respective SMP parcel may be reused within that parcel provided that impacted soils are managed as such, and in a manner consistent with the engineering control restrictions applicable to the parcel. Table 3.1 specifically states the SMP provisions that must be followed in each case. Soil for backfill may be imported from off-site sources if soil shortages occur. The contractor will certify and provide supporting documentation that any imported soil is not contaminated prior to arriving onsite.

3.7 Waste Disposal

Soil that is excavated from the SMP area exhibiting parameter concentrations above SCTLs based on analytical results (see Section 3.4) that is not being re-used and requires off-site disposal shall be kept in distinct stockpiles and in accordance with Section 3.3 pending characterization and disposal. Impacted soil will be transported to a FDEP-approved solid waste disposal or treatment facility.

Appropriate vehicles and operating procedures will be used to prevent spillage and leakage of materials from occurring at the Site and en-route to the disposal facility. Trucks shall be securely covered prior to leaving the Site. If materials resulting from leakage or tracking are observed along the adjacent roadways, they shall immediately be cleaned and procedures modified as necessary to prevent recurrence.

3.8 Disposal Documentation

A manifest system shall be used so that impacted soils can be tracked from generation (excavation location, stockpile) to ultimate disposal. The manifests shall comply with all provisions of the appropriate transportation and disposal regulations.

The City will be considered the generator of these wastes. The Contractor shall coordinate manifest signatures with appropriate City personnel.

3.9 Tree Removal and Relocation

Tree removal and relocation may be included as part of the development scope for the Site. Trees shall not be relocated from an impacted parcel to an unrestricted parcel. In the event that tree removal is required within Parcel K and Parcel E, the affected trees will be removed from the root ball as practicable; the roots will be washed off as practical to remove soil within the root area, chipped for use as mulch or off-site disposal. Soil washing shall occur in a designated area and in a manner so as to contain the spread of impacted soil on the ground.

3.10 Pre-Construction Meeting

Prior to initiation of construction activities, a qualified staff member shall conduct a pre-construction meeting with the contractor to identify the area within the Site that was identified as the SMP area and discuss health and safety protocols and other items pertinent to soil management. Visual markers shall be placed to delineate the SMP areas prior to any site work.

4.0 GROUNDWATER MANAGEMENT PLAN

The following GMP has been developed to reduce disturbance and migration of groundwater impacts during construction activities at the Site.

4.1 Extent of Groundwater Impacts

The following information regarding groundwater impacts is based on the information summarized in Section 2.0:

- No groundwater impacts are present within the DRMO Parcel.
- No groundwater impacts are present within Parcel K.
- The presence of petroleum has been documented in Parcels E2 and E3. Groundwater restrictions are applicable to these sub-parcels.
- Groundwater impacts in Parcel E1 have been addressed to meet regulatory criteria and therefore no groundwater restrictions are deemed necessary within this sub-parcel.

Therefore, the GMP provisions are applicable to Parcel E2 and E3 only. The parameters of concern in these areas include petroleum product previously identified in the building 102 and 104 and East Quay areas. Parameters of concern for the building 136 area have not been determined based on the lack of assessment data. However, soil impacts in the area of building 136 included SVOCs, iron and arsenic. Therefore, groundwater parameters of concern for Parcel E2 include SVOC, iron, arsenic and petroleum constituents.

4.2 Groundwater Management Provisions

The following provisions apply to the GMP area:

- The contractor shall obtain all necessary dewatering permits for the project. Dewatering permits as required must be approved by FDEP and the South Florida Water Management District. In addition, a Generic Permit for Discharges from Petroleum Contaminated Sites under Chapter 62-621.300, F.A.C. must be secured by the construction contractor and approved by FDEP prior to dewatering activities in areas with impacted groundwater or areas within 500 feet of known or presumed impacted groundwater. The permit conditions must be enforced. Additional permit conditions may be required based on parameters of concern identified within the GMP.
- Groundwater may not be discharged to a storm drain or sanitary sewer unless in compliance with an approved discharge permit. Discharge into the City Waste Water Treatment Plant will need to meet influent standards and will require prior approval from the City.

- The discharge must be free of floating solids, visible foam, turbidity, or visible oil and must not create nuisances to surface waters.
- If groundwater is extracted, it must be contained, characterized and treated (if required) prior to discharge to a permitted discharge point or disposed off-site.
- Records of groundwater testing and disposal documentation shall be kept on file.
- Groundwater monitoring as required by the Dewatering Permit conditions shall be implemented.
- Groundwater shall not be used for irrigation purposes.
- No water supply wells shall be used onsite.
- Daily logs documenting dewatering activities shall be kept on file.

Please note that additional and specific requirements will be dictated by the permitting agency upon issuing the dewatering permit for the specific proposed dewatering areas.

Also note that dewatering activities conducted within the remaining parcels may affect the migration of the groundwater impacts from Parcels E2 and E3. Therefore, it is possible that depending on the extent of the dewatering conducted within other parcel areas adjacent to Parcel E2 and E3, dewatering restrictions and conditions may be required. It will be incumbent on the contractor to demonstrate that dewatering will not cause migration of impacted groundwater into un-impacted areas.

4.3 Groundwater Monitoring Wells

Existing monitoring wells must be protected from damage or replaced if damaged or removed during construction. Preconstruction and post-construction surveys of existing monitoring wells shall be conducted. The contractor shall be responsible to replace damaged monitoring wells.

5.0 SMP/GMP IMPLEMENTATION AND SUPERVISION

Prior to commencing work within the Site, the contractor shall complete and certify the Truman Waterfront LUC Area Construction Permit for submittal to the Navy for approval. The permit application shall also be submitted to FDEP for review and concurrence. The permit application form is included in **Appendix E**. This permit includes a certification that the permittee will obtain a copy of this SMP/GMP document and implement the protocols and measure described herein.

An environmental professional will be designated by the City of Key West to observe and document the construction activities as they relate to the proper soil and groundwater management and compliance with this SMP/GMP. This designated professional will conduct periodic site visits and document activities, as well as report back to the City regarding additional management measures required or improper techniques observed. This observation will be conducted on behalf of the City and does not exempt the contractor for responsibility to implement and enforce the SMP and GMP provision, nor does it substitute or exclude the notification and record keeping requirements set forth in Section 6.0 of this document.

Please note that the City will not be responsible for enforcement and implementation of the HASP.

6.0 RECORD KEEPING AND NOTIFICATIONS

Based on the presence of impacts at the Site, site contractor personnel shall document the soil and groundwater disposal practices, soil re-use activities as well as document health and safety protocols and routine briefings. The following records shall be kept on file for submittal to the City, the Navy and FDEP upon completion of development or as requested during construction activities:

- Manifests for disposal of impacted soil or groundwater.
- Laboratory analytical reports for soil and groundwater testing performed during development.
- Documentation regarding clean fill brought to the Site during development.
- Records of damaged monitoring wells and well replacement activities, if applicable.
- Daily logs of soil removed from the Site for off-site disposal.
- Documentation of stockpile tracking.
- Records of communication regarding unforeseen environmental conditions encountered.
- Records of discovery of soil staining or discoloration, or odor. This information will include descriptions of the observations, locations, notifications, as well as course of action implemented.

Questions regarding environmental conditions or discovery of potential environmental conditions not included here can be addressed to the Mr. James Bouquet with the City of Key West at (305) 809-3962 and jbouquet@cityofkeywest-fl.gov.

7.0 REFERENCES

CH2M HILL, *Annual Status Report Petroleum Recovery Program December 2005 to December 2006 Monthly Status Report January 2007 for Trumbo Point Fuel Farm and Truman Annex Buildings 102 and 103*, May 2007

CH2M HILL, *Site Rehabilitation Completion Report Soil Removal Actions at the City-Owned Portion of Parcel K, Naval Air Station Key West, Key West, Florida*, April 2014

FDEP, *correspondence regarding approval of Site Rehabilitation Completion Report Soil Removal Actions at the City-Owned Portion of Parcel K*, June 4, 2014

TetraTech, *BRAC Five Year Review for Six BRAC Environmental Sites Naval Air Station Key West*, April 2014

CH2M HILL, *Site Rehabilitation Completion Report Former Defense Reutilization and Marketing Office Truman Annex, Naval Air Station Key West, Key West, Florida*, December 2010

Naval Facilities Engineering Southern Division Command, *Finding of Suitability to Transfer Truman Annex Parcels*, Naval Air Facility, Key West, Florida,

Draft Teleconference Notes (version 2), meeting held by FDEP, BRAC, NAVFAC and NAS, April 14, 2014

Proposed Plan for Soil Remedy at Truman Annex Buildings 102 And 104 Naval Air Station, September 19, 1999

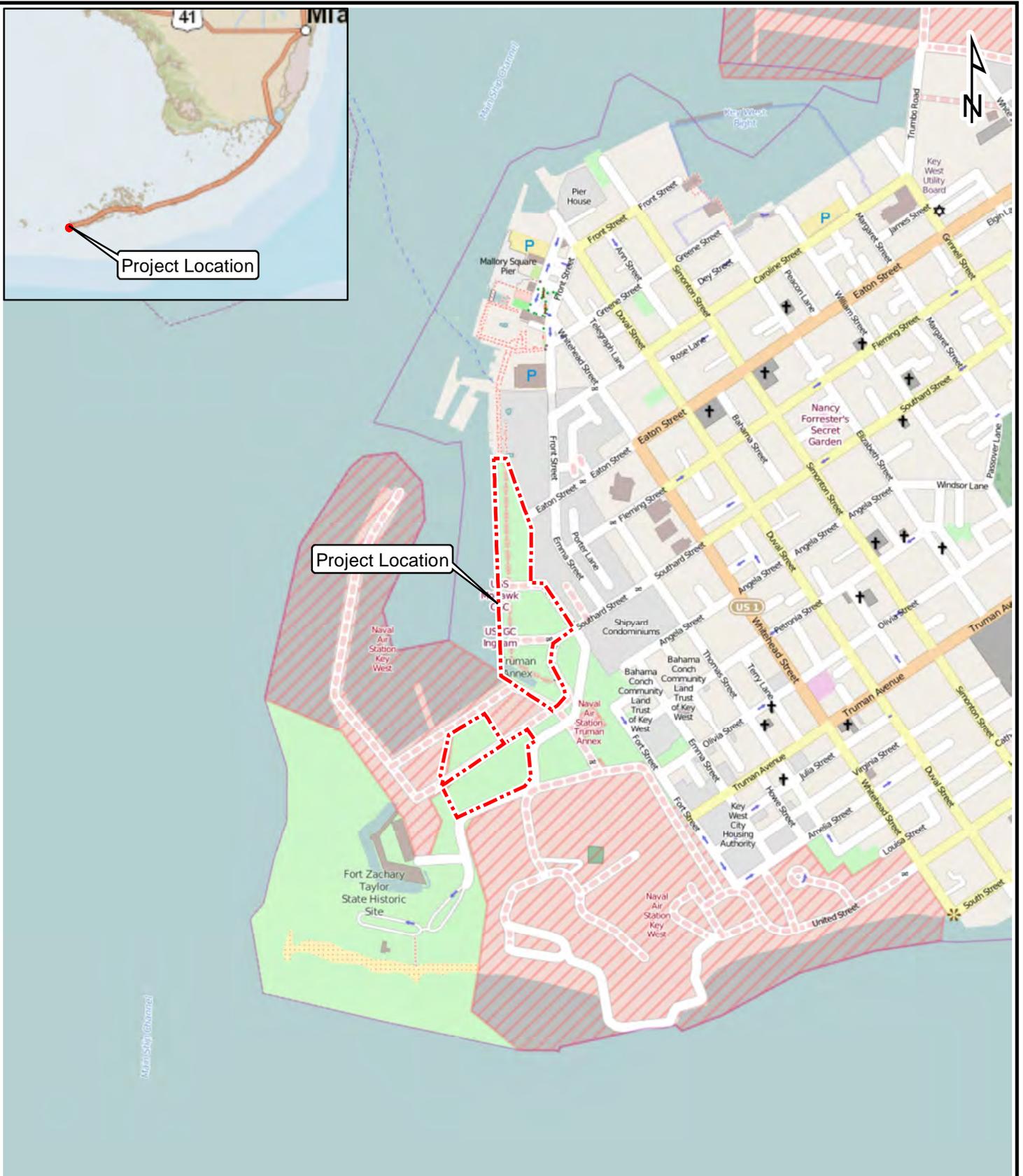
Proposed Plan for Soil Remedy at Truman Annex Buildings 103 Naval Air Station, September 19, 1999

Proposed Plan for Soil Remedy at Truman Annex Buildings 136 Naval Air Station, September 19, 1999

FDEP, *Site Rehabilitation Completion Order, Building 189, Naval Air Station Key West, Key West, Florida*, August 7, 2001

County of Monroe, *Quitclaim Deed, December 3, 2002*

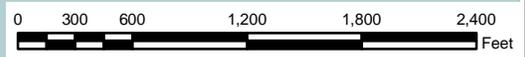
FIGURES



Background Source: ESRI Street Map

Legend

 Project Location




E Sciences, Incorporated
 FL Engineering Lic. #8691
 224 SE 9th Street
 Ft. Lauderdale, Florida 33316
 www.esciencesinc.com
 Phone: 954-484-8500
 Fax: 954-484-5146

Truman Waterfront Park

Section 6, Township 68S, Range 25E
 Key West, Monroe County, Florida

Location Map

FIGURE
1

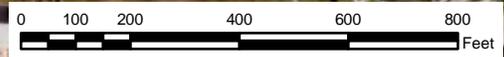
DRAWN BY: TV	CHECKED BY: MP	PROJECT NUMBER: 7-0070-002
--------------	----------------	----------------------------

SCALE: 1"=1,000'	DATE: 8/28/2014
------------------	-----------------



Background Source: BING 2012

Legend
 Project Location



E Sciences, Incorporated
 FL Engineering Lic. #8691
 224 SE 9th Street
 Ft. Lauderdale, Florida 33316
 www.esciencesinc.com
 Phone: 954-484-8500
 Fax: 954-484-5146

Truman Waterfront Park

Section 6, Township 68S, Range 25E
 Key West, Monroe County, Florida

Aerial Photograph

SCALE: 1"=350'

DATE: 8/28/2014

FIGURE

2

DRAWN BY: TV

CHECKED BY: MP

PROJECT NUMBER: 7-0070-002



Background Source: BING 2012

Legend

 Project Location Former building locations are approximate based on historical documents.




E Sciences, Incorporated
 FL Engineering Lic. #8691
 224 SE 9th Street
 Ft. Lauderdale, Florida 33316
 www.esciencesinc.com
 Phone: 954-484-8500
 Fax: 954-484-5146

Truman Waterfront Park

Section 6, Township 68S, Range 25E
Key West, Monroe County, Florida

Parcel Reference Map

SCALE: 1"=350' DATE: 10/23/2014

FIGURE

3

DRAWN BY: LG	CHECKED BY: MP	PROJECT NUMBER: 7-0070-002
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O:\Projects\7-0000-0099\7-0070-002\4_figures and drawings\GIS\Parcel Reference Map.mxd



Truman Waterfront Park

THE CITY OF KEY WEST
DATE: 08/14/2014

E Sciences
 E Sciences, Incorporated
 FL Engineering Lic. #8691
 224 S.E. 9th Street
 Fort Lauderdale, FL 33316
 www.esciencesinc.com
 Phone: 954-484-8500
 Fax: 954-484-5146

DRAWN BY: LG	CHECKED BY:	PROJECT NUMBER: 7-0070-002
--------------	-------------	----------------------------

Truman Waterfront Park

Section 6, Township 68S, Range 25E
 Key West, Monroe County, Florida

Proposed Development Plan
 September 2014

SCALE: NTS	DATE: 10/8/2014
------------	-----------------

FIGURE
4

Soil and Groundwater Impacts and SMP/GMP Summary		
Impacts		Provisions
No Impacts	• No Impacts	•No import of soil from other parcels. •No re-use of soil beyond parcel boundaries.
Surface Soil	• Meets site-specific Recreational SCTLs •Above FDEP SCTLs	•No re-use of soil beyond parcel boundaries. •Subject to SMP provisions presented in Section 3.0 of Soil and Groundwater Management Plan dated February 6, 2015..
Subsurface Soil	•Above FDEP SCTLs	•No re-use of soil beyond parcel boundaries •Subject to SMP provisions presented in Section 3.0 of Soil and Groundwater Management Plan dated February 6, 2015..
Surface Soil	•No Impacts	•No import of soil from other parcels. •No re-use of soil beyond parcel boundaries.
Subsurface Soil	•Above FDEP SCTLs	•Subsurface soil excavated shall not be used above 2 feet bls within the parcel boundaries unless covered with an engineering control. •No re-use of soil beyond parcel boundaries. •If excavated, upper two feet must be replaced with a minimum of two feet of non-impacted soil or alternative engineering control. •Subject to SMP provisions presented in Section 3.0 of Soil and Groundwater Management Plan dated February 6, 2015.
Groundwater	•Groundwater Impacts documented.	•Subject to GMP provisions presented in Section 4.0 of Soil and Groundwater Management Plan dated February 6, 2015.
Surface Soil	•Above FDEP SCTLs	•Soil must be excavated or covered with appropriate engineering controls. •No re-use of soil beyond parcel boundaries. •Subject to SMP provisions presented in Section 3.0 of Soil and Groundwater Management Plan dated February 6, 2015..
Subsurface Soil	•Above FDEP SCTLs	•Soil must be excavated or covered with appropriate engineering controls. •No re-use of soil beyond parcel boundaries. •Subject to SMP provisions presented in Section 3.0 of Soil and Groundwater Management Plan dated February 6, 2015.
Groundwater	•Groundwater Impacts documented.	•Subject to GMP provisions presented in Section 4.0 of Soil and Groundwater Management Plan dated February 6, 2015.

Note: Refer to the SMP/GMP text for additional information.



Background Source: BING 2012

Legend

Project Location

E Sciences, Incorporated
 FL Engineering Lic. #8691
 224 SE 9th Street
 Ft. Lauderdale, Florida 33316
 www.esciencesinc.com
 Phone: 954-484-8500
 Fax: 954-484-5146

Truman Waterfront Park

Section 6, Township 68S, Range 25E
 Key West, Monroe County, Florida

SMP and GMP
 Reference Map

SCALE: 1"=350' DATE: 2/6/2015

FIGURE
5

P:\Projects\7-0000-0099\7-0070-0024_figures and drawings\GIS\SMP Reference Map.mxd

APPENDIX A

From: [James Bouquet](#)
To: [Barney, David A CIV NAVFACHQ, BRAC PMO](#)
Cc: [dcraig@keywestcity.com](#); [dbradsha@keywestcity.com](#); [rhollingworth@bermelloajamil.com](#); [Nadia Locke](#); [Amy.Twitty@CH2M.com](#); [Vaught,Tracie \(Tracie.Vaught@dep.state.fl.us\)](#); [Fielding, Thuane B CIV NAVFAC HQ, BRAC PMO](#); [aperez@perezeng.com](#); [Gary Volenec](#)
Subject: RE: Truman Waterfront Parcel Restrictions
Date: Tuesday, October 07, 2014 11:32:43 AM

David:

Yes, the existing survey does indicate a "gas line" running under the pier. Our original intent was to remove all of the concrete pavement and replace with new patterned concrete and landscaping. Based on your email, the Navy will now require that soil along the quay not covered with pavement will be under a 2 foot cap (or geomembrane layer) similar to sub-parcel E2, correct?

Are there asbuilts or information available that indicate the extent of soil removal and clean backfill replacement? Again, our plans for this area are primarily surficial and the knowledge that several feet of clean soil existing at the surface would be important from a design, soil management plan and ultimately cost perspective.

Jim

-----Original Message-----

From: Barney, David A CIV NAVFACHQ, BRAC PMO

[<mailto:david.a.barney@navy.mil>]

Sent: Tuesday, October 07, 2014 11:10 AM

To: James Bouquet

Cc: [dcraig@keywestcity.com](#); [dbradsha@keywestcity.com](#);

[rhollingworth@bermelloajamil.com](#); [nlocke@esciencesinc.com](#);

[Amy.Twitty@CH2M.com](#); Vaught,Tracie (Tracie.Vaught@dep.state.fl.us); Fielding, Thuane B CIV NAVFAC HQ, BRAC PMO

Subject: RE: Truman Waterfront Parcel Restrictions

Jim,

As I currently understand the circumstances of the Truman Waterfront Parcel Restrictions, the Navy generally agrees with the summary provided below for sub-parcels E1 and E2. However, regarding sub-parcel E3 (the pier) after further discussions it is my understanding that circa 1988, the East Seawall (the pier) was expanded seaward. A significant amount of earthwork was required to tie the new seawall into existing deadmen that anchor the wall. The long tie-rods were replaced during which work a Navy fuel line was identified in the work area. Several thousand cubic yards of petroleum contaminated soil were removed and taken off site as part of this construction activity. However, at this time, the Navy and FDEP have not been able to locate any reports describing the petroleum contaminated soil removal (nature and extent, potential impact to groundwater) or any analytical information on the new fill brought in for the expansion of the seawall. Until such information can be obtained, and concurrence provided to eliminate necessary land use controls, we recommend including appropriate handling of the soil and groundwater at sub-Parcel E3 in your soil management plan.

r/

David Barney
BRAC Environmental Coordinator
Naval Facilities Engineering Command
BRAC Program Management Office East
571 Shea Memorial Drive
South Weymouth, MA 02190

Phone: 617-753-4656
US Mail Address: PO Box 169
Email: david.a.barney@navy.mil

-----Original Message-----

From: James Bouquet [<mailto:jbouquet@cityofkeywest-fl.gov>]
Sent: Tuesday, September 30, 2014 3:44 PM
To: Barney, David A CIV NAVFACHQ, BRAC PMO
Cc: dcraig@keywestcity.com; dbradsha@keywestcity.com;
rhollingworth@bermelloajamil.com; nlocke@esciencesinc.com
Subject: RE: Truman Waterfront Parcel Restrictions

Thanks David and I look forward to working with you.

Let me know what the City or our consulting team can do to expedite the process.

Jim

-----Original Message-----

From: Barney, David A CIV NAVFACHQ, BRAC PMO
[<mailto:david.a.barney@navy.mil>]
Sent: Tuesday, September 30, 2014 3:36 PM
To: James Bouquet
Subject: RE: Truman Waterfront Parcel Restrictions

Hi Jim,

I am working with one of our Real Estate Specialist (Stephanie Zamorski) on the survey/legal description concerns. I am also working with Amy to better understand the LUC descriptions and what needs to be communicated to, and received from, FDEP to follow up on the bullet points from the initial email from Maria Paituvi below.

r/

David Barney
BRAC Environmental Coordinator
Naval Facilities Engineering Command
BRAC Program Management Office East
571 Shea Memorial Drive
South Weymouth, MA 02190

Phone: 617-753-4656
US Mail Address: PO Box 169
Email: david.a.barney@navy.mil

-----Original Message-----

From: James Bouquet [<mailto:jbouquet@cityofkeywest-fl.gov>]
Sent: Tuesday, September 30, 2014 2:58 PM
To: Barney, David A CIV NAVFACHQ, BRAC PMO
Subject: FW: Truman Waterfront Parcel Restrictions

David B

Should have directed this to you.

I will be asked why/when was it determined that the City was responsible for surveying/legal descriptions of the environmental parcels? I can see the City preparing descriptions for utility easements effected by the proposed project, but not sure how that relates to the Navy's environmental work?

Jim

-----Original Message-----

From: Criswell, David CIV NAVFAC HQ, BRAC PMO [<mailto:david.criswell@navy.mil>]
Sent: Tuesday, September 30, 2014 9:35 AM
To: James Bouquet; Barney, David A CIV NAVFACHQ, BRAC PMO
Cc: nlocke@esciencesinc.com; Amy.Twitty@ch2m.com;
rhollingworth@bermelloajamil.com; dbradsha@keywestcity.com;
dcraig@keywestcity.com; James K. Scholl; mpaituvi@esciencesinc.com; Preston, Gregory C CIV NAVFACHQ, BRAC PMO; tracie.vaught@dep.state.fl.us; Zamorski, Stephanie CIV NAVFACHQ, BRAC PMO
Subject: RE: Truman Waterfront Parcel Restrictions

Jim,

Thank you for reaching out to the "New Dave". One thing I wanted to remind the City of is the need for a survey for each parcel on which the Navy will be releasing the restrictions. Most pressing is the release of restrictions for Parcel K. The Navy needs a survey specific to the Parcel where we are releasing the restrictions. Similar surveys will be needed for the DRMO Parcel and the Parcel E subparcels. Please work with Dave Barney and Amy Twitty to coordinate the requirements.

It has been a pleasure to work with you all and I look forward to visiting Key West again to see the new park!

David Criswell

-----Original Message-----

From: James Bouquet [<mailto:jbouquet@cityofkeywest-fl.gov>]
Sent: Tuesday, September 30, 2014 8:17 AM

To: Barney, David A CIV NAVFACHQ, BRAC PMO
Cc: nlocke@esciencesinc.com; Amy.Twitty@ch2m.com;
rhollingworth@bermelloajamil.com; dbradsha@keywestcity.com;
dcraig@keywestcity.com; James K. Scholl; mpaituvi@esciencesinc.com; Criswell,
David CIV NAVFAC HQ, BRAC PMO; Preston, Gregory C CIV NAVFACHQ, BRAC PMO;
tracie.vaught@dep.state.fl.us
Subject: FW: Truman Waterfront Parcel Restrictions

David:

My name is Jim Bouquet and I am the City of Key West Project Manager for the Truman Waterfront Park Project. As David Criswell is retiring, I am forwarding you this email chain regarding preparation of a draft Soil Management Plan/Groundwater Management Plan to support construction of the proposed park.

As indicated below, Nadia Locke of E-Sciences (the project's environmental consultant) has requested the Navy's conformation of the proposed land use controls (LUCs) for the Truman site, specially as related to the proposed Parcel E subdivisions. Our understanding of these LUCs are based on a presentation by the Navy at the July RAB meeting held in Key West and subsequent discussions with the Navy's consultant CH2M Hill (Amy Twitty). Note that FDEP (Tracie Vaught) has concurred with the proposed LUCs.

We would like to submit a draft Soil Management /Groundwater Management Plan to both the Navy and FDEP during October for review and comment. To meet this schedule, your timely feedback to this email will be appreciated. As you are aware, this Plan and agreement on the LUCs are critical to revising/amending the existing deed for the Site, which will be required prior to commencing construction planned for early Summer 2016.

Feel free to contact and discuss directly with Nadia and her team.

It is our understanding that the BRAC Program Management Office (Greg Preston) will be taking the lead in revising the existing deed. Please let me know if you require additional information from the City to expedite this process.

Thanks and please contact me with any questions.

Jim Bouquet, P.E.

305.809.3962

From: Vaught, Tracie [<mailto:Tracie.Vaught@dep.state.fl.us>
<<mailto:Tracie.Vaught@dep.state.fl.us>>]
Sent: Tuesday, September 23, 2014 1:55 PM
To: Criswell, David CIV NAVFAC HQ, BRAC PMO; Amy.Twitty@CH2M.com
<<mailto:Amy.Twitty@CH2M.com>> ; James Bouquet; Randy Hollingworth;
nlocke@esciencesinc.com <<mailto:nlocke@esciencesinc.com>>
Cc: Barney, David A CIV NAVFACHQ, BRAC PMO
Subject: RE: Truman Waterfront Parcel Restrictions

The descriptions provided below are correct. I would like to emphasize that the groundwater does have a land use control which will require the groundwater to be handled accordingly if it is impacted in any way during the construction of the Truman Annex Park. The only documents that have been provided with official DEP approval are documents that you already have in your possession.

Respectfully,

Tracie L. Vaught

Bob Martinez Center

2600 Blairstone Road

Mail Station 4535

Tallahassee, Florida, 32399

Tracie.vaught@dep.state.fl.us <<mailto:Tracie.vaught@dep.state.fl.us>>

Office number (850) 245-8998

-----Original Message-----

From: Criswell, David CIV NAVFAC HQ, BRAC PMO [<mailto:david.criswell@navy.mil>]
<<mailto:david.criswell@navy.mil>>]
Sent: Tuesday, September 23, 2014 1:04 PM
To: Vaught,Tracie
Subject: FW: Truman Waterfront Parcel Restrictions

-----Original Message-----

From: Maria Paituvi [<mailto:mpaituvi@esciencesinc.com>]
<<mailto:mpaituvi@esciencesinc.com>>]

Sent: Tuesday, September 23, 2014 11:05 AM

To: Criswell, David CIV NAVFAC HQ, BRAC PMO; Amy.Twitty@CH2M.com
<<mailto:Amy.Twitty@CH2M.com>>

Cc: Nadia Locke; jbouquet@keywestcity.com <<mailto:jbouquet@keywestcity.com>> ;
Randy Hollingworth (RHollingworth@bermelloajamil.com
<<mailto:RHollingworth@bermelloajamil.com>>)

Subject: Truman Waterfront Parcel Restrictions

Good afternoon David and Amy,

Thank you for providing us with so much information to assist us with preparing the soil management plan for the Truman Waterfront Project. We have reviewed the extensive documentation you have provided. We feel as though we have a good handle on Parcel K and the DRMO parcel. As you already know, Parcel E is the challenging part. We believe that we are at a point where we could use your assistance once again by reviewing our understanding and providing confirmation or clarification.

Based on documents provided and additional information provided by the City, this

is our current understanding of the existing and proposed restrictions on Parcel E for your review and confirmation:

. The parcel was subdivided into Parcels E1, E2 and E3 in order to separate areas with different types of restrictions in order to facilitate the development of the proposed park.

o Parcel E1: This site (Building 189) received an SRCO and therefore can be considered as a clean site (soil and groundwater) for the purpose of development. No soil or groundwater management provision will be required for this site during construction of the proposed park and there will be no land use controls.

o Parcel E2: This site includes former Buildings 102, 103, 104 and 136. Historical soil impacts above 2 feet have been addressed to residential standards. Soil impacts remain below 2 feet. Therefore, soil management provisions will address the presence of impacted soil below 2 feet by maintaining the existing engineering control of two feet of clean fill across Parcel E2. Groundwater use restrictions will remain in place but there will be no land use restrictions that will prevent use of this parcel as a recreational park and playground as long as the engineering control remains in place.

o Parcel E3: No soil or groundwater impacts are present. Therefore, no soil or groundwater management restrictions will be required.

. We understand that FDEP was engaged in the discussions during a meeting that occurred in July 2014 where it was agreed by all parties that the Navy and City would employ different land use controls of those subparcels separately and that FDEP concurs in concept with the information presented above. We further understand that the development and use of the proposed park is allowable and that there will be no land use restrictions to prevent this type of land use. Are there meeting minutes or any other type of documentation confirming FDEP's concurrence?

. It is the City's understanding that BRAC will be revising the deeds for Parcel E2 and Parcel K to allow for recreational use, and the deeds for Parcels E1, E3 and the DRMO parcel to remove all land use restrictions.

We understand that the history and regulatory interaction for this site is complex and we appreciate your cooperation and insight as we try to develop the soil management plan and convey this information in the most efficient and clear manner.

Please don't hesitate to call us to discuss.

Thank you,

Maria Paituvi, P.E.

Senior Engineer

Description: Description:
C:\Users\mpaituvi\AppData\Roaming\Microsoft\Signatures\image001.jpg

224 SE 9th Street

Fort Lauderdale, FL 33316

954/484-8500 Telephone

954/484-5146 Fax

305/984-9162Cell

mpaituvi@esciencesinc.com <<mailto:mpaituvi@esciencesinc.com>>
<<mailto:mpaituvi@esciencesinc.com> <<mailto:mpaituvi@esciencesinc.com>> >

www.esciencesinc.com <<http://www.esciencesinc.com>>
<<http://www.esciencesinc.com/> <<http://www.esciencesinc.com/>> >

Orlando - Fort Lauderdale - Miami - DeLand

Miami-Dade County CBE, SFWMD SBE

Image removed by sender. <<http://survey.dep.state.fl.us/?refemail=Tracie.Vaught@dep.state.fl.us>>

To: nlocke@esciencesinc.com [Remove](#) this sender from my allow list

From: jbouquet@cityofkeywest-fl.gov

You received this message because the sender is on your allow list.

Maria Paituvi

From: Amy.Twitty@CH2M.com
Sent: Tuesday, September 09, 2014 4:13 PM
To: Maria Paituvi; Nadia Locke
Cc: jbouquet@keywestcity.com; david.criswell@navy.mil; art.sanford.ctr@navy.mil
Subject: RE: Truman Waterfront Park-Soil Management Plan - Request for Documents
Attachments: D Scale drawing Pages from Project Completion Rpt_DRMO.pdf; Figure 2-7 EC-G from Project Completion Rpt_DRMO-2.pdf

Maria – Regarding your first bullet below, please refer to Figure 8 (Summary of Risk-Based Corrective Action Analysis Technical Memorandum) which shows the residual BEQ concentrations from 2 to 4 feet bls. We compared those BEQ results to leachability criteria (8 mg/kg) and all were below; therefore, no removal actions were necessary based on BEQs. However, some results exceeded residential (0.1 mg/kg), recreational (0.35 mg/kg), and industrial (0.7 mg/kg) criteria for BEQs (although it appears some of our color coding is incorrect for some samples). Thus, in the event that subsurface soil >2 ft bls is excavated and brought to the surface, direct exposure to these soils could become an issue and would need to be managed accordingly.

Regarding the second bullet, I have a copy of a 2006 Tech Memo Former DRMO Site. I have uploaded it to the same ftp site as before:

<https://transfer.ch2m.com>

Then find the “pub” folder and then the “KeyWestDocs” folder. I’m not sure if this full link will work but you can try it (I am an internal client so I can’t test it):

<https://transfer.ch2m.com/pub/KeyWestDocs>

Please note this week’s user ID and Password is:

Username = **ext\Innovation**

Password = **ehulem45**

And yes, iron is the only gw COC.

For your third bullet, this one is a little trickier! I have some free product recovery reports that include Parcel E that I will look for. At a minimum, the portion of Parcel E associated with Building 189 received a Site Rehabilitation Completion Order from FDEP and should remove LUCs from Building 189 and north (not sure there was ever anything to the north anyway). The arsenic left in soil near Building 136 was removed during the DRMO excavation activities (you have that completion report). See figures attached regarding the Engineering Control area G (EC-G) that was removed to 2 ft. The SI (1998) and SSI (1999) reports show some of the soil maps from Parcel E. You also have these reports.

More to follow...



From: Maria Paituvi [mailto:mpaituvi@esciencesinc.com]
Sent: Monday, September 08, 2014 9:49 AM
To: Twitty, Amy/NVR; Nadia Locke
Cc: jbouquet@keywestcity.com
Subject: RE: Truman Waterfront Park-Soil Management Plan - Request for Documents

Hello Amy,

Thank you for all the files. We are trying to sort through the directly relevant information as it is available in order to prepare the Soil and Groundwater Management Plan for the development of the Truman Waterfront Park. That is why we requested information and documents associated with soil and groundwater delineation for DRMO, Parcel K and Parcel E as they would assist us greatly of depicting an accurate description of the site conditions and allow us to develop the appropriate management measures accordingly. Based on the information reviewed, we have the following understanding:

- Parcel K meets Recreational standards above 2 ft bls and there is no residual contamination above Residential standards below 2 ft. Therefore, we can draft the soil management plan under the provision that only soil above 2 ft is impacted above residential standards. We understand that this site was subject a Risk Based Corrective Action as documented on the Summary of Risk-Based Corrective Action Analysis Technical Memorandum prepared by CH2M Hill dated August 13, 2010. The groundwater is not impacted and there will be no groundwater controls necessary on Parcel K.
- For the DRMO, excavation efforts addressed the surface and subsurface soil impacts and the site meets residential standards. Historical assessment was based on risk characterization and assessment documented in Decision Document for Ten Base Realignment and Closure (BRAC) Sites by TetraTech dated April 2002 and Technical Memorandum – Former DRMO Site prepared by CH2M Hill dated 2007. Could we request a copy of the 2007 CH2M Hill document? We understand that besides the iron, there are no issues related to groundwater and it is anticipated that once this is resolved there will be no LUCs on groundwater.
- We are still trying to locate updated information regarding the groundwater contamination in Parcel E and the delineated soil impacts there. I understand the that entire site is restricted for non-residential use. Are we to assume that all soil at the Site is impacted above residential standards or are there delineation areas available? Based on Decision Document for Ten Base Realignment and Closure (BRAC) Sites by TetraTech dated April 2002, soil impacts at Building 102, 103 and 104 had been addressed and no further action was supported by a residual risk assessment performed for those sites. Arsenic soil contamination remained at the Building 136 site and engineering controls were implemented there. Are there maps that depict where contaminated soil was removed and contaminated soil remains? We could not locate documents regarding groundwater assessment and remediation. Are there maps that depict the groundwater or free product plumes delineations?

If you could confirm the information above and provide any additional clarification and documentation (specially on Parcel E) it will be greatly appreciated.

I am always available to talk, so don't hesitate to call me if you want to discuss any of this information.

Thank you,

Maria Paituvi, P.E.
Senior Engineer



224 SE 9th Street
Fort Lauderdale, FL 33316
954/484-8500 Telephone
954/484-5146 Fax
305/984-9162 Cell
mpaituvi@esciencesinc.com
www.esciencesinc.com
Orlando - Fort Lauderdale - Miami - DeLand

Miami-Dade County CBE, SFWMD SBE

From: Amy.Twitty@CH2M.com [<mailto:Amy.Twitty@CH2M.com>]
Sent: Friday, August 29, 2014 11:42 AM
To: Maria Paituvi; Nadia Locke
Cc: jbouquet@keywestcity.com
Subject: RE: Truman Waterfront Park-Soil Management Plan - Request for Documents

Also note in the 2010 DRMO SRCR Section 2 describes the final excavation to remove soil contamination from 2 to 3 feet to meet residential (not recreational) criteria.



From: Maria Paituvi [<mailto:mpaituvi@esciencesinc.com>]
Sent: Tuesday, August 26, 2014 9:04 PM
To: Twitty, Amy/NVR; Nadia Locke
Cc: jbouquet@keywestcity.com
Subject: RE: Truman Waterfront Park-Soil Management Plan - Request for Documents

Hello Amy,

Thank you for providing us with all the valuable information and documents for this project. At this time we have a few more specific questions that I was hoping you might be able to assist us with. The information listed below would assist us better prepare the soil management plan:

- Groundwater impacts have been documented in Building 102, 103 and 104 in Parcel E. The latest groundwater data we have located was included in Free Product Recovery Program Summary Continued Compliance Monitoring – 4th Additional Quarter (March 2005 – May 2005) Compliance Monitoring Results Trumbo Point Fuel Farm, USGC and Navy Piers and Truman Annex Building 103 prepared by CH2M HILL. This document included a figure depicting Free Product Areas but no groundwater contamination plume areas were identified. To your knowledge, is there later data available?
- The DRMO site has a lot of history. Overall it appears that only the top 2 feet of surface soil have been addressed in order to pursue the LUC for recreational use. Do you know if there are soil delineation

maps available for the soil contamination below 2 feet? The SRCR dated December 2010 includes excavation maps and extensive background information but it would help us greatly to identify the specific areas where soil impacts remain below 2 ft bls.

- Regarding Parcel K, the SRCR dated April 2014 stated that impacted surface and subsurface soil was removed from the site and the site has been addressed to Recreational standards. For this site, it would also be helpful to locate any available delineation maps for the impacts remaining on the site below the excavation depth.

We would really appreciate any help and assistance you might be able to provide. The files are both numerous and extensive so any insight you can provide to locate the above information would be greatly appreciated. The information provided above is based on our cursory review of the files available.

Please contact me with any questions or comments.

Thank you,

Maria Paituvi, P.E.
Project Engineer



224 SE 9th Street
Fort Lauderdale, FL 33316
954/484-8500 Telephone
954/484-5146 Fax
305/984-9162 Cell
mpaituvi@esciencesinc.com
www.esciencesinc.com

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From: Amy.Twitty@CH2M.com [Amy.Twitty@CH2M.com]
Sent: Monday, August 25, 2014 11:59 AM
To: Maria Paituvi; Nadia Locke
Cc: jbouquet@keywestcity.com
Subject: RE: Truman Waterfront Park-Soil Management Plan - Request for Documents

Glad to hear it. Sorry for the confusion.

From: Maria Paituvi [<mailto:mpaituvi@esciencesinc.com>]
Sent: Monday, August 25, 2014 10:58 AM
To: Twitty, Amy/NVR; Nadia Locke
Cc: jbouquet@keywestcity.com
Subject: RE: Truman Waterfront Park-Soil Management Plan - Request for Documents

Thanks Amy,
We were able to locate and download the documents under the link provided.
Regards,

Maria Paituvi, P.E.
Project Engineer



224 SE 9th Street
Fort Lauderdale, FL 33316
954/484-8500 Telephone
954/484-5146 Fax
305/984-9162 Cell
mpaituvi@esciencesinc.com
www.esciencesinc.com
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Miami-Dade County CBE, SFWMD SBE

From: Amy.Twitty@CH2M.com [<mailto:Amy.Twitty@CH2M.com>]
Sent: Monday, August 25, 2014 10:03 AM
To: Nadia Locke
Cc: Maria Paituvi; jbouquet@keywestcity.com
Subject: RE: Truman Waterfront Park-Soil Management Plan - Request for Documents

Sorry about that. Many computer issues for me last week. Try this:

<https://transfer.ch2m.com>

Then find the "pub" folder and then the "KeyWestDocs" folder. I'm not sure if this full link will work but you can try it (I am an internal client so I can't test it):

<https://transfer.ch2m.com/pub/KeyWestDocs>

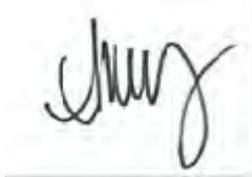
Please note this week's user ID and Password below"

Public READ ONLY Password

Username = **ext\Innovation**

Password = **osiwox77**

Last changed on 8/25/2014 12:00:06 AM, MT



From: Nadia Locke [<mailto:nlocke@esciencesinc.com>]

Sent: Monday, August 25, 2014 6:09 AM

To: Twitty, Amy/NVR

Cc: Maria Paituvi

Subject: RE: Truman Waterfront Park-Soil Management Plan - Request for Documents

Hi Amy. I don't recall hearing back. Can you please send the updated link when you have a moment? Thank you!

Nadia

Nadia G. Locke, P.E., LEED AP ND
Associate



Miami-Dade County CBE, SFWMD SBE

224 SE 9th Street

Fort Lauderdale, FL 33316 [MAP](#)

954/484-8500 Telephone

954/484-5146 Fax

954/937-9678 Cell

nlocke@esciencesinc.com

www.esciencesinc.com

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From: Amy.Twitty@CH2M.com [<mailto:Amy.Twitty@CH2M.com>]

Sent: Thursday, August 21, 2014 3:08 PM

To: jbouquet@keywestcity.com; Nadia Locke

Cc: Maria Paituvi; Justin Freedman

Subject: RE: Truman Waterfront Park-Soil Management Plan - Request for Documents

Sorry. I will send another link.



From: James Bouquet [<mailto:jbouquet@keywestcity.com>]
Sent: Thursday, August 21, 2014 2:06 PM
To: Nadia Locke; Twitty, Amy/NVR
Cc: Maria Paituvi; Justin Freedman
Subject: RE: Truman Waterfront Park-Soil Management Plan - Request for Documents

Me neither

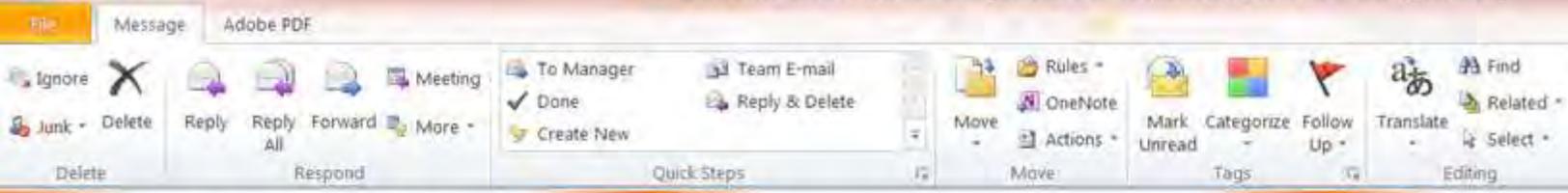
From: Nadia Locke [<mailto:nlocke@esciencesinc.com>]
Sent: Thursday, August 21, 2014 2:41 PM
To: Amy.Twitty@CH2M.com; jbouquet@keywestcity.com
Cc: Maria Paituvi; Justin Freedman
Subject: RE: Truman Waterfront Park-Soil Management Plan - Request for Documents

Hello Amy

Please see my screenshot below. My computer is indicating that it cannot find the filepath to the public website. Can you please check and resend it? Thanks for your help!

Nadia

Nadia G. Locke, P.E., LEED AP ND
Associate



You forwarded this message on 8/20/2014 4:04 PM.

From: Amy.Twitty@CH2M.com
To: jbouquet@keywestcity.com
Cc: Nadia Locke; david.criswell@navy.mil; Tracie.Vaught@dep.state.fl.us; dcraig@keywestcity.com; RHollingworth@bermelloajamil.com
Subject: RE: Truman Waterfront Park-Soil Management Plan - Request for Documents

- 1998 Site Inspection Report for Nine BRAC Parcels
- 1999 Supplemental Site Inspection Report for BRAC Parcels
- 1999 Project Completion Report for BRAC Parcels Fast Track Soil Removals
- 2002 Decision Document for Ten BRAC Sites
- 2007 Project Completion Report for Excavation of PCB and Lead-contaminated Soil at the Former Defense Reutilization and Marketing Office

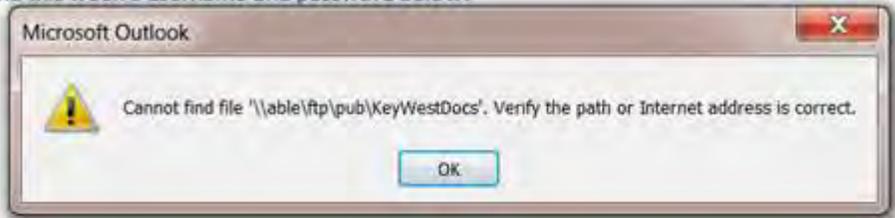
I'll continue to search and upload documents when I can. Link and this week's username and password below:

CH2M HILL Public FTPS Site

<\\able\ftp\pub\KeyWestDocs>

Public READ ONLY Password
Username = **extlInnovation**
Password = **agokal41**

Please note the password changes every Sunday at midnight, MT.



Click on a photo to see social network updates and email messages from this person.



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954/937-9678 Cell
nlocke@esciencesinc.com

www.esciencesinc.com

From: Amy.Twitty@CH2M.com [<mailto:Amy.Twitty@CH2M.com>]
Sent: Monday, August 18, 2014 4:35 PM
To: jbouquet@keywestcity.com
Cc: Nadia Locke; david.criswell@navy.mil; Tracie.Vaught@dep.state.fl.us; dcraig@keywestcity.com; RHollingworth@bermelloajamil.com
Subject: RE: Truman Waterfront Park-Soil Management Plan - Request for Documents

I have placed a few reports on our public ftp site. These include:

- 1998 Site Inspection Report for Nine BRAC Parcels
- 1999 Supplemental Site Inspection Report for BRAC Parcels
- 1999 Project Completion Report for BRAC Parcels Fast Track Soil Removals
- 2002 Decision Document for Ten BRAC Sites
- 2007 Project Completion Report for Excavation of PCB and Lead-contaminated Soil at the Former Defense Reutilization and Marketing Office

I'll continue to search and upload documents when I can. Link and this week's username and password below:

CH2M HILL Public FTPS Site

[\\able\ftp\pub\KeyWestDocs](ftp://able\ftp\pub\KeyWestDocs)

Public READ ONLY Password
Username = **ext\Innovation**
Password = **agokal41**
Please note the password changes every Sunday at midnight, MT.



From: James Bouquet [<mailto:jbouquet@keywestcity.com>]
Sent: Monday, August 18, 2014 12:38 PM
To: Twitty, Amy/NVR
Cc: Nadia Locke; Criswell, David CIV NAVFAC HQ, BRAC PMO; Tracie.Vaught@dep.state.fl.us; Don Craig; Randy Hollingworth
Subject: RE: Truman Waterfront Park-Soil Management Plan - Request for Documents

Amy – cover sheets of documents sent to Nadia

From: Nadia Locke [<mailto:nlocke@esciencesinc.com>]
Sent: Monday, August 18, 2014 1:15 PM
To: James Bouquet
Cc: Amy.Twitty@ch2m.com; Criswell, David CIV NAVFAC HQ, BRAC PMO; Tracie.Vaught@dep.state.fl.us; Don Craig; Randy Hollingworth
Subject: RE: Truman Waterfront Park-Soil Management Plan - Request for Documents

Thank you for sending over the documents in the two emails, Jim. We only had the document named DRMO LUC Areas from Deed.pdf. The others documents are new to us. The previous document request we sent Fridays still relevant, as we do not know what documents may exist that we do not have. So, thank you for forwarding the request to Amy prior to me responding. I was in meetings.

Nadia

Nadia G. Locke, P.E., LEED AP ND
Associate



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224 SE 9th Street
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954/484-5146 Fax
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nlocke@esciencesinc.com

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From: James Bouquet [<mailto:jbouquet@keywestcity.com>]

Sent: Monday, August 18, 2014 9:22 AM

To: Nadia Locke

Cc: Amy.Twitty@ch2m.com; Criswell, David CIV NAVFAC HQ, BRAC PMO; Tracie.Vaught@dep.state.fl.us; Don Craig; Randy Hollingworth

Subject: RE: Truman Waterfront Park-Soil Management Plan - Request for Documents

2 of 2

From: James Bouquet [<mailto:jbouquet@keywestcity.com>]

Sent: Monday, August 18, 2014 9:20 AM

To: 'Nadia Locke'

Cc: 'Amy.Twitty@CH2M.com'; 'Criswell, David CIV NAVFAC HQ, BRAC PMO'; Tracie.Vaught@dep.state.fl.us; Don Craig; 'Randy Hollingworth'

Subject: RE: Truman Waterfront Park-Soil Management Plan - Request for Documents

Nadia:

Before forwarding your request to Amy, I just want to confirm you are in receipt of the attached documents.

This is email 1 of 2

Jim

From: Nadia Locke [<mailto:nlocke@esciencesinc.com>]
Sent: Friday, August 15, 2014 2:34 PM
To: dcraig@keywestcity.com; jbouquet@keywestcity.com
Cc: Randy Hollingworth; Justin Freedman; Maria Paituvi
Subject: Truman Waterfront Park-Soil Management Plan - Request for Documents

Good afternoon and thank you for the opportunity to discuss the City's needs and obligations regarding the environmental and land use control issues at the Site. We are looking forward to developing the soil management plan as we understand that it is part of the critical path for the project. We are in receipt of some items based upon what has been provided to us by the City and the information we have downloaded from regulatory databases, but our records are by no means complete. We therefore request the following information be provided to us as soon as practical:

- DRMO/Parcel C-The latest information we have is the Site Rehabilitation Completion Report dated December 2010. Please provide any additional assessment reports or communications with the agencies confirming their acceptance of the recommendations, if they exist. Also, please provide us with the data of the groundwater analysis (site plan and lab reports) as soon as that is received so that we can incorporate that information into the management plan without waiting on the final report if possible.
- Parcel E-We have no documentation associated with the assessment, remediation or regulatory communication on this property. Please provide us with assessment and remediation reports documenting the soil and groundwater quality at Parcels E1, E2 and E3. Also, please provide any regulatory communications relative to these documents or that may be relevant to the project.

Thank you and we look forward to a successful project.

Nadia

Nadia G. Locke, P.E., LEED AP ND
Associate



Miami-Dade County CBE, SFWMD SBE

224 SE 9th Street
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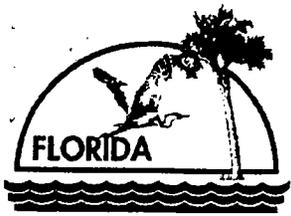
To: mpaituvi@esciencesinc.com

[Remove](#) this sender from my allow list

From: amy.twitty@ch2m.com

You received this message because the sender is on your allow list.

APPENDIX B



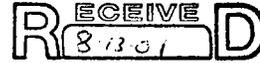
0001

N7846-2.1.006

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400



David B. Struhs
Secretary

August 7, 2001

Mr. Byas Glover
Code 18410
Southern Division
Naval Facilities Engineering Command
Post Office Box 190010
North Charleston, South Carolina 29419-9010

Q A Record

RE: Groundwater Monitoring Report, Building 189 Pipeline
Site, Naval Air Station (NAS) Key West, Key West,
Florida

Dear Mr. Glover:

I have completed the technical review of the
Groundwater Monitoring Report and No Further Action Proposal
for the Building 189 Pipeline Site, NAS Key West dated June
2001 (received by Electronic Mail June 26, 2001). Based
upon my review, the enclosed Site Rehabilitation Completion
Order was signed by Mr. Douglas A. Jones, Chief, Bureau of
Waste Cleanup. The No Further Action Proposal was
incorporated by reference in the Site Rehabilitation
Completion Order.

If I can be of any further assistance with this matter,
please contact me at (850) 921-9989.

Sincerely,

Joseph F. Fugitt

Joseph F. Fugitt, P.G.
Remedial Project Manager

cc: Robert Courtright, NAS Key West
Chuck Bryan, Tetra Tech NUS, Aiken, South Carolina

TJB *[Signature]*

JJC *[Signature]*

ESN *[Signature]*

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

Printed on recycled paper.



Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struns
Secretary

August 6, 2001

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Byas Glover
Code 18410
Southern Division
Naval Facilities Engineering Command
Post Office Box 190010
North Charleston, South Carolina 29419-9010

Subject: Site Rehabilitation Completion Order
Building 189 Pipeline Site
Naval Air Station Key West
Key West, Monroe County

Dear Mr. Glover:

The Bureau of Waste Cleanup has reviewed the Groundwater Monitoring Report and No Further Action Proposal (NFAP) dated June 2001 (received June 26, 2001), submitted for the petroleum product discharge discovered at this site. Documentation submitted with the NFAP confirms that criteria set forth in Rule 62-770.680(1), Florida Administrative Code (F.A.C.), have been met. The NFAP is hereby incorporated by reference in this Site Rehabilitation Completion Order (Order). Therefore, you are released from any further obligation to conduct site rehabilitation at the site for petroleum product contamination, except as set forth below.

- (1) In the event concentrations of petroleum products' contaminants of concern increase above the levels approved in this Order, or if a subsequent discharge of petroleum or petroleum product occurs at the site, the Department of Environmental Protection (Department) may require site rehabilitation to reduce concentrations of petroleum products' contaminants of concern to the levels approved in the NFAP or otherwise allowed by Chapter 62-770, F.A.C.
- (2) Additionally, you are required to properly abandon all monitoring wells, except compliance wells required by Chapter 62-761, F.A.C., for release detection, within 60 days of receipt of this Order. The monitoring wells must be abandoned in accordance with the requirements of Rule 62-532.500(4), F.A.C.

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

Legal Issues

The Department's Order shall become final unless a timely petition for an administrative proceeding (hearing) is filed under Sections 120.569 and 120.57, Florida Statutes (F.S.), within 21 days of receipt of this Order. The procedures for petitioning for a hearing are set forth below.

Persons affected by this Order have the following options:

If you choose to accept the above decision by the Department about the No Further Action Proposal you do not have to do anything. This Order is final and effective as of the date on the top of the first page of this Order.

If you disagree with the decision, you may do one of the following:

- (1) File a petition for administrative hearing with the Department's Office of General Counsel within 21 days of receipt of this Order; or
- (2) File a request for an extension of time to file a petition for hearing with the Department's Office of General Counsel within 21 days of receipt of this Order. Such a request should be made if you wish to meet with the Department in an attempt to informally resolve any disputes without first filing a petition for hearing.

Please be advised that mediation of this decision pursuant to Section 120.573, F.S., is not available.

How to Request an Extension of Time to File a Petition for Hearing

For good cause shown, pursuant to Rule 62-110.106(4), F.A.C., the Department may grant a request for an extension of time to file a petition for hearing. Such a request must be filed (received) in the Department's Office of General Counsel at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, within 21 days of receipt of this Order. Petitioner, if different from Southern Division of Naval Facilities Engineering Command, shall mail a copy of the request to Southern Division of Naval Facilities Engineering Command at the time of filing. Timely filing a request for an extension of time tolls the time period within which a petition for administrative hearing must be made.

How to File a Petition for Administrative Hearing

A person whose substantial interests are affected by this Order may petition for an administrative hearing under Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed (received) in the Department's Office of General Counsel at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000,

within 21 days of receipt of this Order. Petitioner, if different from Southern Division of Naval Facilities Engineering Command, shall mail a copy of the petition to Southern Division of Naval Facilities Engineering Command at the time of filing. Failure to file a petition within this time period shall waive the right of anyone who may request an administrative hearing under Sections 120.569 and 120.57, F.S.

Pursuant to Section 120.54(5)(b)4.a., F.S. (1998, Supp.), and Rule 28-106.201, F.A.C., a petition for administrative hearing shall contain the following information:

- (a) The name, address, and telephone number of each petitioner, the name, address, and telephone number of the petitioner's representative, if any, the site owner's name and address, if different from the petitioner, the FDEP facility number, and the name and address of the facility;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) An explanation of how each petitioner's substantial interests are or will be affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by the petitioner, or a statement that there are no disputed facts;
- (e) A statement of the ultimate facts alleged, including a statement of the specific facts the petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the Department to take with respect to the Department's action or proposed action.

This Order is final and effective as of the date on the top of the first page of this Order. Timely filing a petition for administrative hearing postpones the date this Order takes effect until the Department issues either a final order pursuant to an administrative hearing or an order responding to supplemental information provided pursuant to meetings with the Department.

Judicial Review

Any party to this Order has the right to seek judicial review of it under Section 120.68, F.S., by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within 30 days after this Order is filed with the clerk of the Department (see below).

Mr. Byas Glover
August 6, 2001
Page Four

Questions

Any questions regarding the Department's review of your No Further Action Proposal should be directed to Joseph F. Fugitt, P.G. at (850) 921-9989. Questions regarding legal issues should be referred to the Department's Office of General Counsel at (850) 488-9314. Contact with any of the above does not constitute a petition for administrative hearing or request for an extension of time to file a petition for administrative hearing.

Sincerely,



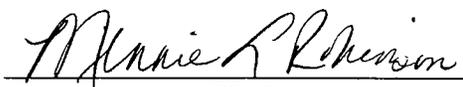
Douglas A. Jones, Chief
Bureau of Waste Cleanup
Division of Waste Management

DAJ/jff

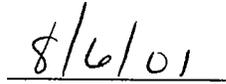
cc: Robert Courtright, NAS Key West, Environmental Department, Post Office Box 9007, Key West, Florida 33040-9007
Chuck Bryan, Tetra Tech NUS, 900 Trail Ridge Road, Aiken, South Carolina, 29803
File

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to
§120.52 Florida Statutes, with the
designated Department Clerk, receipt
of which is hereby acknowledged.



Clerk
(or Deputy Clerk)



Date

Mr. Byas Glover
Building 189 Pipeline Site NAS Key West

P.G. CERTIFICATION

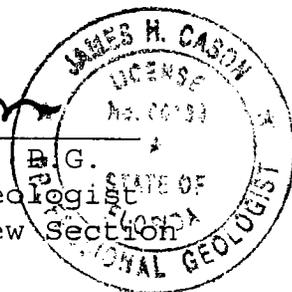
Groundwater Monitoring Report/NFAP for Building 189
Pipeline Site

I hereby certify that in my professional judgement, the components of this Groundwater Monitoring Report and No Further Action Proposal for the Building 189 Pipeline Site at Naval Air Station Key West, Key West, Florida, satisfy the requirements set forth in Chapter 62-770, F.A.C., and that the geological interpretations in this report provide reasonable assurances of achieving the Assessment objectives stated in Chapter 62-770, F.A.C.

I personally completed this review.

This review was conducted by Joseph F. Fugitt,
P.G. working under my supervision.


James H. Cason, P.G.
Professional Geologist
Technical Review Section



August 7, 2001
Date

APPENDIX C

REVISIONS				
LET	DESCRIPTION	PREP'D BY	DATE	APPROVED

MISNER MARINE CONSTRUCTION, INC.
 "It is hereby certified that the material/equipment shown and marked in this submittal, shop drawing, catalog cut(s), etc., to be incorporated with Contract Number N62467-85-C-0141 is in compliance with the contract drawings and specifications, can be installed in the allocated spaces, is approved for use, and is submitted for Government approval (submitted to Government for record purposes).
 Authorized Reviewer: _____ Date: _____
 Signature CQC Rep: *[Signature]* Date: 10-25-84
AS-BUILT'S

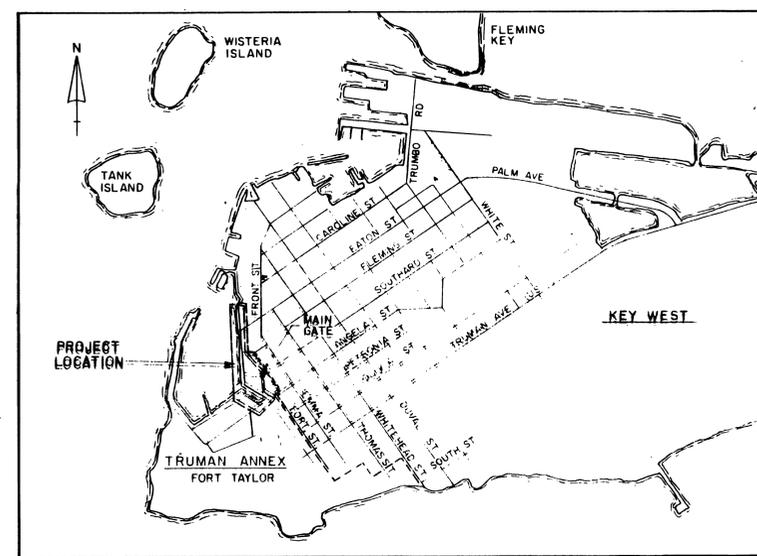
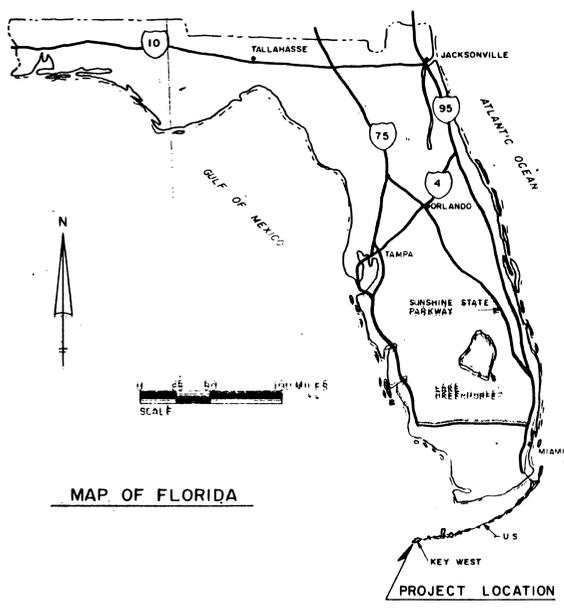
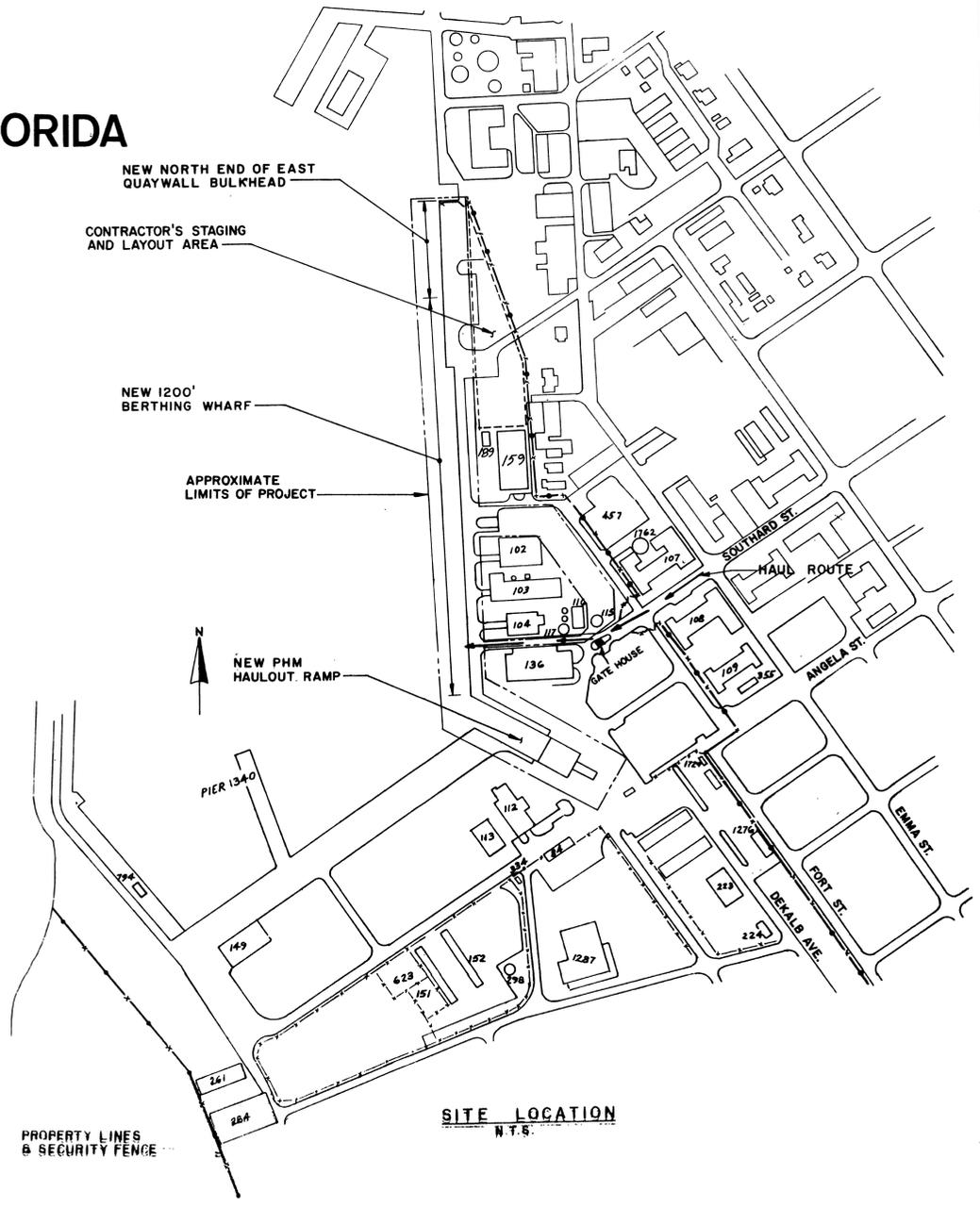
TRUMAN ANNEX

NAVAL AIR STATION

KEY WEST, FLORIDA

P H M BERTHING WHARF

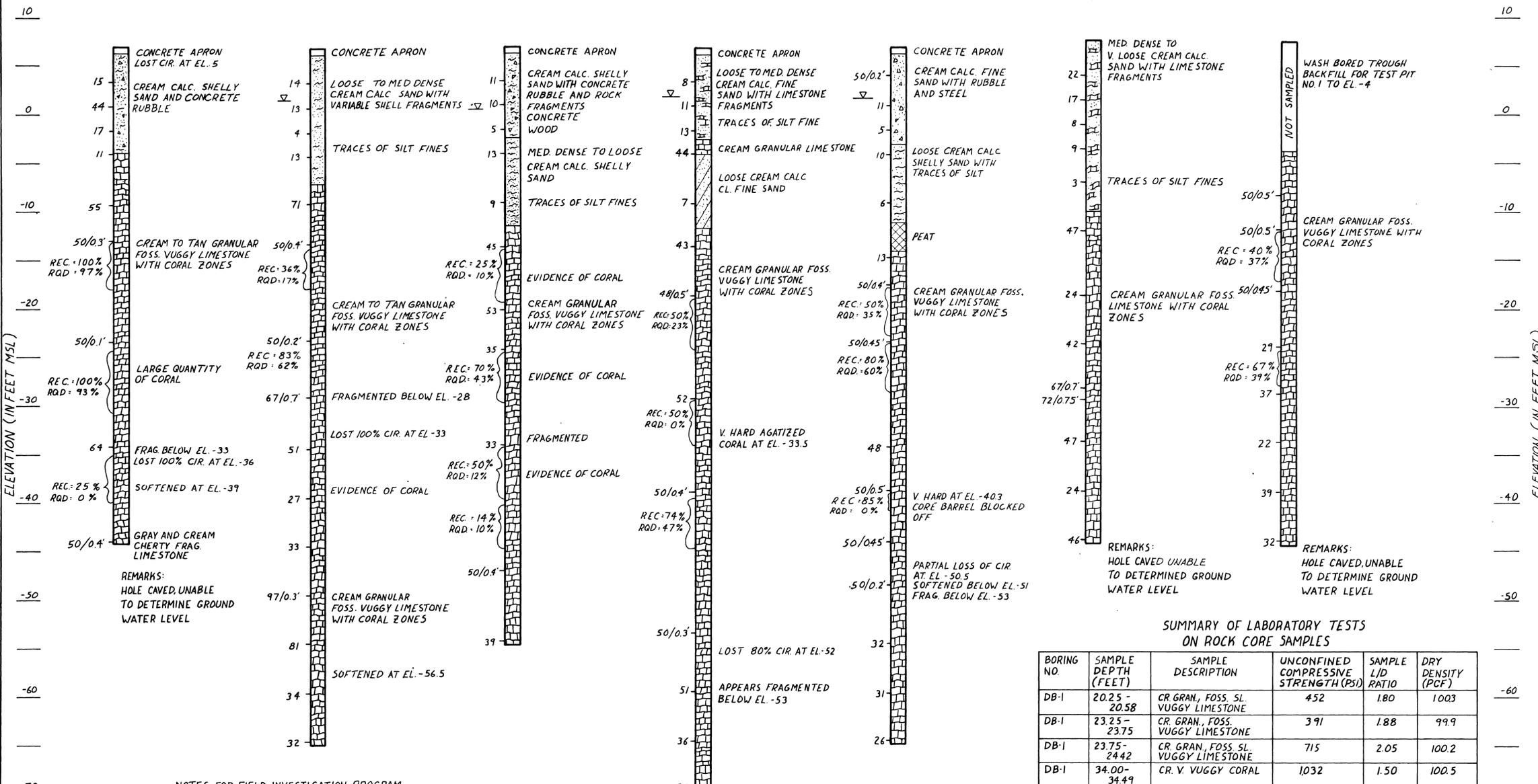
CONSTRUCTION CONTRACT NO. N62467-85-C-0141
 SPECIFICATION NO. 06-85-0141



VICINITY MAP
 SCALE 1 1/2 0 1 MILE

FOR OFFICIAL USE ONLY		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND SOUTHERN DIVISION CHARLESTON, S.C.	
Greiner Engineering Sciences, Inc. CONSULTING ENGINEERS TAMPA, FLORIDA		NAVAL AIR STATION KEY WEST, FLA.	
SUBMITTED BY: <i>[Signature]</i> DATE: <u>10/25/84</u>		P H M BERTHING WHARF TRUMAN ANNEX SITE LOCATION & VICINITY MAP	
APPROVED BY: <i>[Signature]</i> DATE: <u>10/25/84</u>		SIZE: F	CODE IDENT NO.: 80091
APPROVED BY: <i>[Signature]</i> DATE: <u>10/25/84</u>		SCALE: NOTED	RAVTRAC DRAWING NO.: 5157631
ARCH: <i>[Signature]</i> SEAL		CONSTR CONTR NO. N62467-85-C-0141 SPEC-06-85-0141 SHEET 1 OF 2	

BORING NO. DB-1 DB-2 DB-3 DB-4 DB-5 DB-6 DB-7
 @ "B" STATION 118+70 121+62 124+10 126+80 129+30 114+12 112+09
 OFFSET 5' LT. 1' LT. 5' LT. 5' LT. 25' LT. 58' RT. 5' RT.



NOTES: FOR FIELD INVESTIGATION PROGRAM CAN BE FOUND ON SHEET C-22

REVISIONS			
LET	DESCRIPTION	PREP BY	DATE

LEGEND FOR BORING LOGS

[Symbol]	CONCRETE	[Symbol]	ASPHALT AND BASE
[Symbol]	LIMESTONE	[Symbol]	SAND (SW-SM TO SM)
[Symbol]	SANDY SILT (ML)	[Symbol]	CLAYEY SAND (SM-SC TO SC)
[Symbol]	ORGANIC MATERIAL (Pt)	[Symbol]	SAND WITH LIMESTONE FRAGMENTS (SM-SM TO SM WITH LIMESTONE)
[Symbol]	SHELL	[Symbol]	SAND WITH RUBBLE (SM-SM TO SM WITH RUBBLE)
[Symbol]	LIMESTONE AND SHELL	[Symbol]	UNIFIED SOIL CLASSIFICATION (TYPICAL)

ABBREVIATIONS

L.M.R.K.	LIMESTONE	TR.	TRACES
ASPH.	ASPHALT	CR.	CREAM
FOSS.	FOSSILIFEROUS	GRAN.	GRANULAR
CL.	CLAYEY	L.S.	LIMESTONE
CIR.	CIRCULATION		
FRAG.	FRAGMENTED		
CALC.	CALCAREOUS		
EL.	ELEVATION		
V.	VERY		
MED.	MEDIUM		
BR.	BROWN		
REC.	RECOVERY		
RQD.	ROCK QUALITY DESIGNATION		
S.P.T.	STANDARD PENETRATION TEST		
SL.	SLIGHTLY		

LOCATION OF GROUND WATER IN TEST HOLE

S.P.T. BLOWCOUNTS FOR 12 INCHES OF PENETRATION → 36

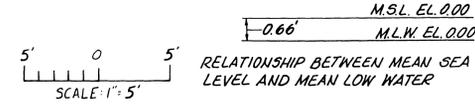
S.P.T. BLOWCOUNTS FOR PENETRATION INTERVAL INDICATED → 64/07'

INTERVAL OF 4" DIAMETER ROCK CORING →

SUMMARY OF LABORATORY TESTS ON ROCK CORE SAMPLES

BORING NO.	SAMPLE DEPTH (FEET)	SAMPLE DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH (PSI)	SAMPLE L/D RATIO	DRY DENSITY (PCF)
DB-1	20.25 - 20.58	CR GRAN, FOSS SL VUGGY LIMESTONE	452	1.80	100.3
DB-1	23.25 - 23.75	CR GRAN, FOSS VUGGY LIMESTONE	391	1.88	99.9
DB-1	23.75 - 24.42	CR GRAN, FOSS SL VUGGY LIMESTONE	715	2.05	100.2
DB-1	34.00 - 34.49	CR V. VUGGY CORAL	1032	1.50	100.5
DB-1	34.64 - 35.13	CR GRAN, FOSS VUGGY LIMESTONE, TR. OF CORAL	641	1.53	111.5
DB-2	30.15 - 30.85	CR SL VUGGY CORAL	1333	2.12	120.5
DB-3	32.00 - 32.45	CR GRAN, FOSS V VUGGY LIMESTONE	397	1.46	90.8
DB-4	26.65 - 27.05	CR GRAN, V SL VUGGY LIMESTONE	502	1.32	100.4
DB-4	46.00 - 47.15	CR GRAN, FOSS V VUGGY LIMESTONE	271	1.70	99.5
DB-4	47.15 - 47.56	CR GRAN, FOSS V VUGGY LIMESTONE	151	1.40	103.1
DB-5	32.65 - 33.09	CR SL VUGGY CORAL	383	1.39	102.1
DB-7	21.00 - 21.45	CR GRAN, FOSS V SL VUGGY LIMESTONE	668	1.37	103.1
SB-2	17.85 - 18.42	CR GRAN, FOSS	283	1.78	94.4

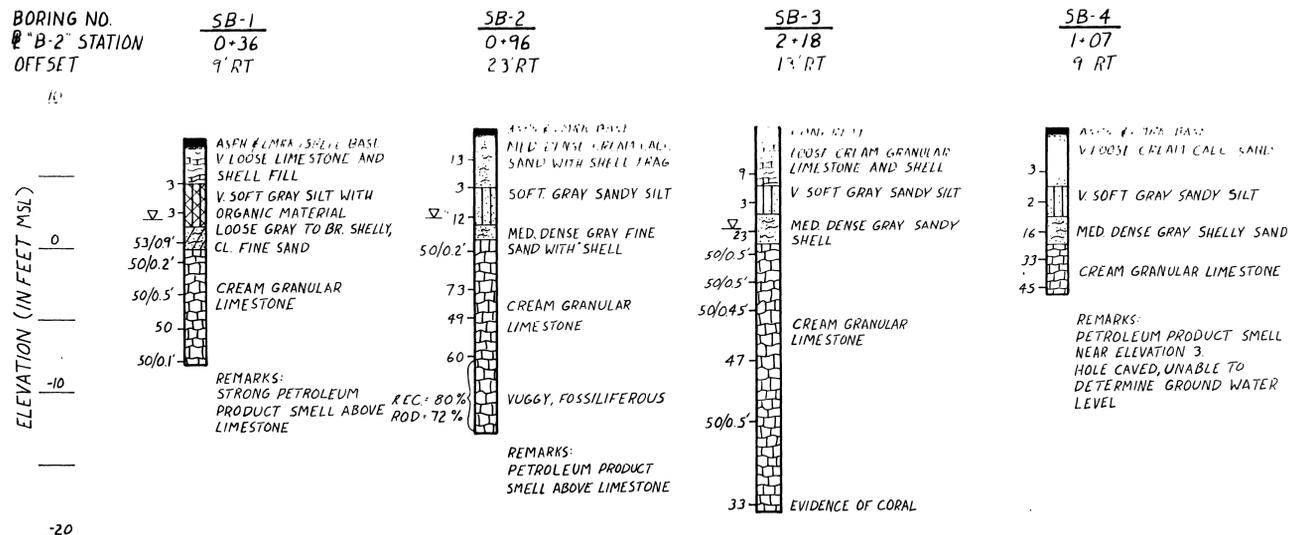
DRY DENSITIES WERE OBTAINED BY CALCULATING THE GROSS VOLUME OF THE CORE BASED ON THE LENGTH OF THE CORE AND AVERAGE OUTSIDE DIAMETER.



SUMMARY OF PULLOUT TEST RESULTS

TEST LOCATION	DEPTH TO BOTTOM OF PLUG (FEET)	TEST PLUG LENGTH (FEET)	FAILURE LOAD (TONS)
DB-2	25.0	3.5	27.5
DB-3	25.0	2.9	56.0
DB-4	37.0	3.3	60.0
DB-5	34.0	3.0	70.0

NOTE: NO TEST PLUGS WERE RECOVERED. THE 4" DIAMETER CORE BARREL USED CORES A NOMINAL 6" DIAMETER HOLE. TEST PLUG DIAMETERS ≥ 6".



BORING LOGS
SCALE: 1"=5'-0" VERTICAL

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Greiner Engineering Sciences, Inc. CONSULTING ENGINEERS TAMPA, FLORIDA

DEPARTMENT OF THE NAVY SOUTHERN DIVISION NAVAL AIR STATION KEY WEST, FLA. CHARLESTON S.C.

PHM BERTHING WHARF TRUMAN ANNEX BORING LOGS

5157653

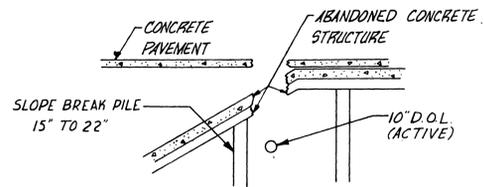
6/18/80

C-23

APPROVED: [Signature] DATE: 6/18/80

OFFICER IN CHARGE: [Signature] DATE: 6/18/80

ARCH & ENGR. SEAL

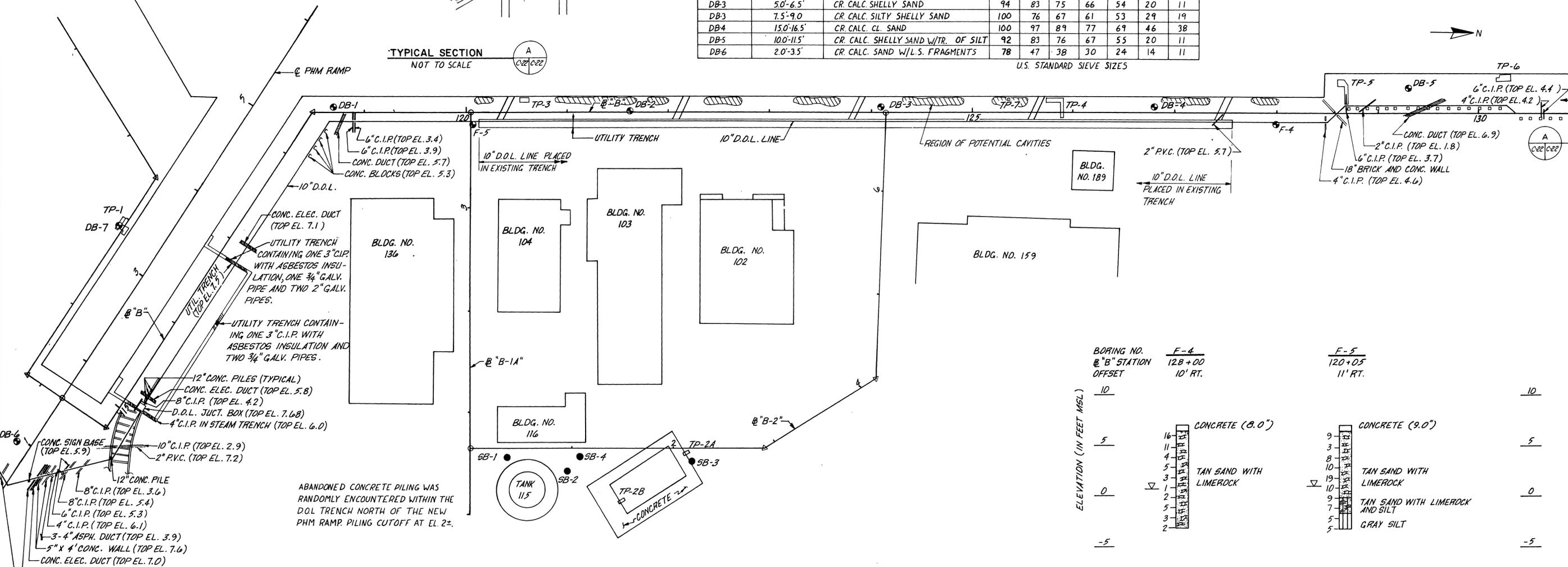


TYPICAL SECTION
NOT TO SCALE

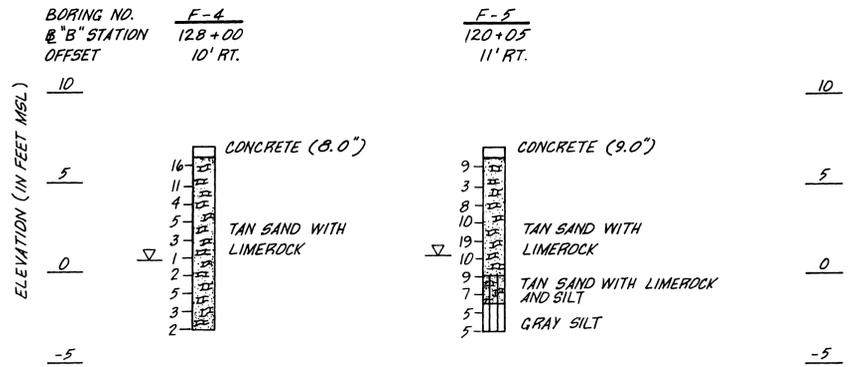
BORING NO.	SAMPLE DEPTH	DESCRIPTION	PERCENT FINER BY WEIGHT						
			3/4"	NO. 4	NO. 10	NO. 20	NO. 40	NO. 100	NO. 200
SB-1	4.0'-5.5'	GRAY SANDY SILT	100	99	97	89	81	63	53
SB-3	6.0'-7.5'	GRAY SILTY, SHELLY SAND	100	99	95	89	77	31	22
SB-3	2.0'-3.5'	CR. GRAN. L.S. AND SHELL	93	82	74	62	40	21	19
DB-1	2.0'-3.5'	CR. CALC. SILTY SHELLY SAND	100	93	87	82	73	39	22
DB-2	7.5'-9.0'	CR. CALC. SILTY FINE SAND W/SHELL	91	76	69	63	54	28	18
DB-3	5.0'-6.5'	CR. CALC. SHELLY SAND	94	83	75	66	54	20	11
DB-3	7.5'-9.0'	CR. CALC. SILTY SHELLY SAND	100	76	67	61	53	29	19
DB-4	15.0'-16.5'	CR. CALC. CL. SAND	100	97	89	77	69	46	38
DB-5	10.0'-11.5'	CR. CALC. SHELLY SAND W/TR. OF SILT	92	83	76	67	55	20	11
DB-6	2.0'-3.5'	CR. CALC. SAND W/L.S. FRAGMENTS	78	47	38	30	24	14	11

U.S. STANDARD SIEVE SIZES

DESCRIPTION	PREP BY	DATE	APPROVED



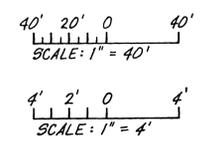
PLAN
SCALE: 1" = 40'



BORING LOGS
SCALE: 1" = 4' VERT.

- NOTES**
- "F" BORINGS WERE DRILLED BY FLORIDA TESTING AND ENGINEERING CO. OF FT. LAUDERDALE, FLORIDA DURING OCTOBER 1983. ALL OTHER BORINGS WERE DRILLED BY DRIGGERS ENGINEERING SERVICES, INC. OF CLEARWATER, FLORIDA DURING JULY AND AUGUST OF 1985.
 - BORINGS WERE STANDARD PENETRATION TEST (S.P.T.) BORINGS IN GENERAL ACCORDANCE WITH ASTM D 1586. SPOON SAMPLER = 1 3/8" INSIDE DIA., 2" OUTSIDE DIA. HAMMER WEIGHT = 140 POUNDS. AVERAGE HAMMER DROP = 30".
 - NUMBERS TO LEFT OF BORING LOGS INDICATE S.P.T. BLOW COUNT FOR 12 INCH (UNLESS NOTED OTHERWISE) SPLIT SPOON PENETRATION.
 - FOUR INCH DIA. ROCK CORING WAS PERFORMED AT SELECTED LOCATIONS IN DB BORINGS. RECOVERY (CUMULATIVE LENGTH OF MATERIAL RECOVERED, EXPRESSED AS A PERCENT OF TOTAL CORE LENGTH) AND ROCK QUALITY DESIGNATION (CUMULATIVE LENGTH OF RECOVERED INTACT PIECES 4 INCHES AND LONGER, EXPRESSED AS A PERCENT OF TOTAL CORE LENGTH) FOR EACH CORE IS INDICATED ON THE CORRESPONDING BORING. THE ABBREVIATIONS "REC" AND "RQD" ARE USED.
 - THE BORING LOGS SHOWN ARE FOR THE CONTRACTOR'S GENERAL INFORMATION ONLY AND REPRESENT SUBSURFACE CONDITIONS ENCOUNTERED WITHIN THE TEST HOLE AT THE TIME OF TESTING.
 - LABORATORY TESTING ON SELECTED SAMPLES INCLUDED GRAIN SIZE ANALYSES, UNCONFINED COMPRESSION TEST, AND ROCK CORE DENSITY. RESULTS ARE PRESENTED IN TABULAR FORM ON THIS SHEET AND ON SHEET C-23.
 - PULLOUT TESTS WERE CONDUCTED AT SELECTED LOCATIONS IN DB BORINGS TO EVALUATE ROCK ULTIMATE FRICTIONAL STRENGTH. THIS WAS ACCOMPLISHED BY INSTALLING A REINFORCED GROUT PLUG AT A CHOSEN SMALL DEPTH INTERVAL IN A BOREHOLE AND JACKING THE PLUG UNTIL FAILURE OCCURRED. PULLOUT TEST RESULTS ARE PRESENTED IN TABULAR FORM ON SHEET C-23.
 - TEST PITS WERE EXCAVATED BY WILLIAM G STEVENS, INC. OF KEY WEST FLORIDA DURING JULY AND AUGUST OF 1985.
 - THE TEST PIT DETAILS SHOWN HEREIN ARE PROVIDED FOR THE CONTRACTOR'S GENERAL INFORMATION. THE CONTRACTOR SHALL ANTICIPATE THAT ACTUAL CONDITIONS MAY VARY BETWEEN AND ADJACENT TO TEST PIT LOCATIONS.
 - ALL TEST PITS EXCEPT TP-7 WERE BACKFILLED AND COMPACTED, AND ALL TEST PITS EXCEPT TP-2A, 2B, AND 7 RECEIVED A 6 TO 8 INCH CONCRETE SURFACE PATCH WITH WIRE MESH REINFORCEMENT.
 - IN THESE AREAS INDICATED, THE CONCRETE APRON PAVEMENT WAS OBSERVED TO EXHIBIT SEVERE CRACKING, AND SETTLEMENTS OF UP TO 16" WERE MEASURED AT SEVERAL LOCATIONS. TEST PIT NO. 7 SHOWED THAT CAVITIES DO EXIST IN SOME AREAS ADJACENT TO THE EXISTING BULKHEAD.
 - LOGS FOR SB AND DB BORINGS ARE SHOWN ON SHEET C-23.
 - THE 10" D.O.L. LINE SHOWN ON THE ABOVE PLAN WAS INSTALLED UNDER SEPARATE CONTRACT. THE FEATURES SHOWN ON THIS DRAWING WERE NOTED BY A REPRESENTATIVE OF GREINER ENGINEERING SCIENCES, INC. IN MARCH 1985 AFTER TRENCHING FOR THIS LINE WAS COMPLETED. THIS INFORMATION IS PROVIDED FOR THE CONTRACTOR'S GENERAL INFORMATION.

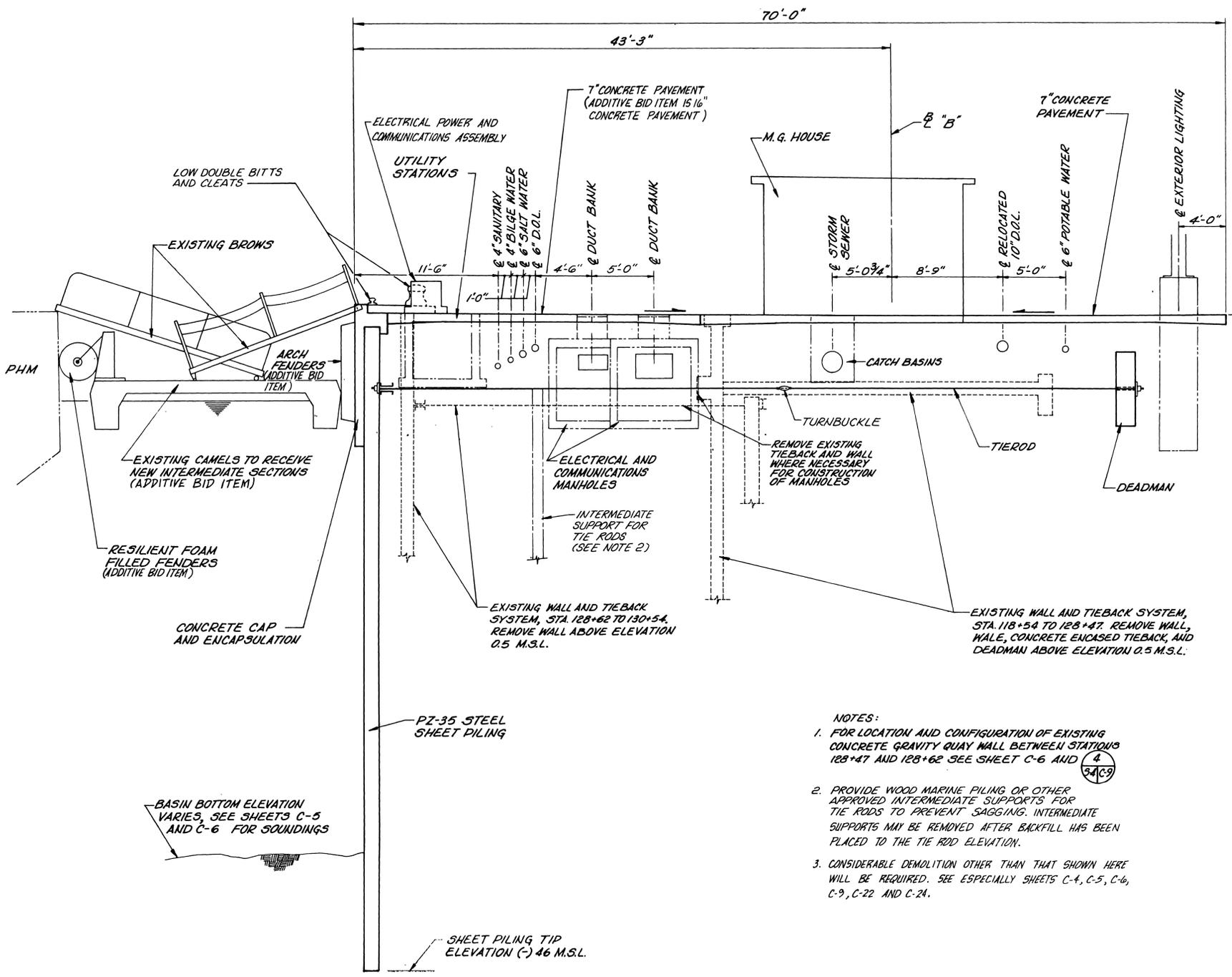
- LEGEND**
- SB SHALLOW (10' TO 30') STANDARD PENETRATION TEST BORING.
 - ⊕ DB DEEP (50' TO 75') STANDARD PENETRATION TEST BORING.
 - TP TEST PIT.
 - ▽ INDICATES LOCATION OF GROUND WATER TABLE.
 - ▨ REGION OF POTENTIAL CAVITIES - SEE NOTE 11.



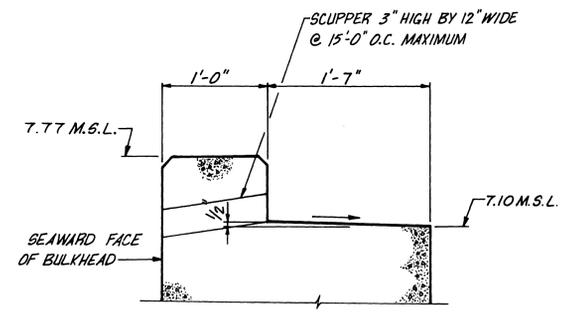
M.S.L. EL. 0.00
0.66' M.L.W. EL. 0.00
RELATIONSHIP BETWEEN MEAN SEA LEVEL AND MEAN LOW WATER

FOR OFFICIAL USE ONLY		DEPARTMENT OF THE NAVY	
Greiner Engineering Sciences, Inc. CONSULTING ENGINEERS TAMPA, FLORIDA		NAVAL FACILITIES ENGINEERING COMMAND	
ORGAN. EVALUATOR: ZICHLIN, WALKER SUPERVISOR: WALKER, CHENG, MILITELLO SUBMITTED BY: S. Micallo, EUP 010180 DATE: 6/12/86 FIG. E.R. Sittler, Jomo		SOUTHERN DIVISION CHARLESTON S.C.	
APPROVED: [Signature] DATE: 6/12/86		NAVAL AIR STATION KEY WEST, FLA.	
OFFICER IN CHARGE: [Signature]		PHM BERTHING WHARF	
DATE: 7/16/86		TRUMAN ANNEX	
TITLE: PHM BERTHING WHARF		BORING LOCATIONS AND TEST PITS	
C-22		BORING NO. 5157652	
ARCH & ENGR SEAL		CONTR. CONTR. NO. N62467-85-C-0141	
SCALE: AS NOTED		SPEC. 06-85-0141 SHEET 22 OF	

LET	DESCRIPTION	REVISED BY	DATE	APPROVED



M.S.L. EL. 0.00
 -0.66' M.L.W. EL. 0.00
 RELATIONSHIP BETWEEN MEAN SEA LEVEL AND MEAN LOW WATER.



APPLIES FOR NEW BERTHING AREA @ "B" STA. 118+54 TO 133+66.

ENCAPSULATION GRADING DETAIL
 SCALE: 1/2" = 1'-0"
 154
 C-13, C-14, WC-4

FOR TIE RODS BETWEEN @ PHM RAMP STATIONS 5+16.28 AND 5+61.56 AND WHARF AREA SOUTH OF STA. 130+64.55

SYSTEM	ROD DIA. (IN.)	UPSET DIA. (IN.)	TURNBUCKLE	ROD MATERIAL
1	3"	3 1/4"	3 1/4"	A-36
2	3 1/4"		3 1/4"	A-36
3	2 1/2"	3 1/4"	3 1/4"	A-588
4	3 1/4"		3 1/4"	A-588

- NOTES:
- THE CONTRACTOR SHALL HAVE THE OPTION TO SELECT ONE OF THE FOUR TIE ROD SYSTEMS LISTED ABOVE FOR THE APPROPRIATE AREA. THE SELECTED SYSTEM SHALL NOT BE CHANGED DURING THE COURSE OF THE WORK.
 - ALL CHANNELS USED FOR WALES BEHIND PZ35 SHEETING SHALL BE A-572, CP. 50.
 - THE TIE RODS PROVIDED BETWEEN @ PHM RAMP STATIONS 5+16.28 AND 5+31.38 SHALL SLOPE FROM EL. 1.25 M.S.L. AT THE WALE TO EL. 0.90 AT THE DEADMAN.
 - THE TIE RODS PROVIDED ALONG THE WHARF WALLS BETWEEN @ "B" STATIONS 118+55.77 AND 120+16.3 SHALL SLOPE FROM EL. 1.25 M.S.L. AT THE WALE TO EL. (-) 0.10 AT THE DEADMAN.
 - TIE RODS SHALL BE 1" DIA. UNLESS OTHERWISE SPECIFIED.

- NOTES:
- FOR LOCATION AND CONFIGURATION OF EXISTING CONCRETE GRAVITY QUAY WALL BETWEEN STATIONS 128+47 AND 128+62 SEE SHEET C-6 AND 154 (C-9)
 - PROVIDE WOOD MARINE PILING OR OTHER APPROVED INTERMEDIATE SUPPORTS FOR THE RODS TO PREVENT SAGGING. INTERMEDIATE SUPPORTS MAY BE REMOVED AFTER BACKFILL HAS BEEN PLACED TO THE TIE ROD ELEVATION.
 - CONSIDERABLE DEMOLITION OTHER THAN THAT SHOWN HERE WILL BE REQUIRED. SEE ESPECIALLY SHEETS C-4, C-5, C-6, C-9, C-22 AND C-24.

BASIN BOTTOM ELEVATION VARIES, SEE SHEETS C-5 AND C-6 FOR SOUNDINGS

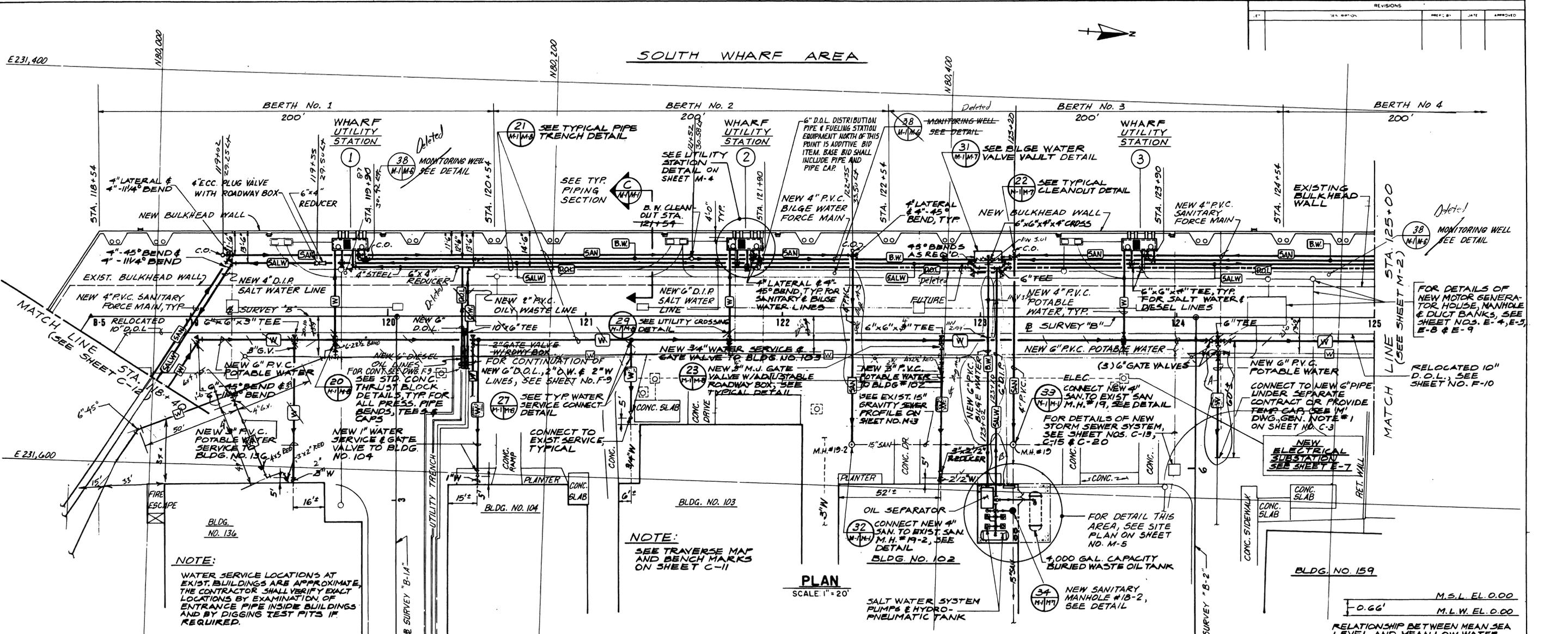
PZ-35 STEEL SHEET PILING
 SHEET PILING TIP ELEVATION (-) 46 M.S.L.

TYPICAL CROSS SECTION
 SCALE: 1/4" = 1'-0"
 154
 S-1, S-2

12' 6' 0' 1' 2'
 SCALE: 1/2" = 1'-0"
 12' 0' 2' 4'
 SCALE: 1/4" = 1'-0"

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Greiner Engineering Sciences, Inc. CONSULTING ENGINEERS TAMPA, FLORIDA	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND SOUTHERN DIVISION CHARLESTON, S.C.
DESIGN: EVANS, VONDERBERG, WALKER SUPERVISOR: WALKER SUBMITTED BY: [Signature] DATE: 6/25/80 FOR REVIEW BY: EYP DATE: 6/25/80 BY: [Signature]	NAVAL AIR STATION KEY WEST, FLA. PHM BERTHING WHARF TRUMAN ANNEX SECTIONS AND DETAILS
APPROVED: [Signature] DATE: 6/25/80 OFFICER IN CHARGE: [Signature] DATE: 6/25/80 SUPERVISOR: [Signature]	NAVFAC DRAWING NO. 5157690 CONSTR. CONTR. NO. N62467-85-C-0141 SPEC. 06-85-0141 SHEET 62 OF 62

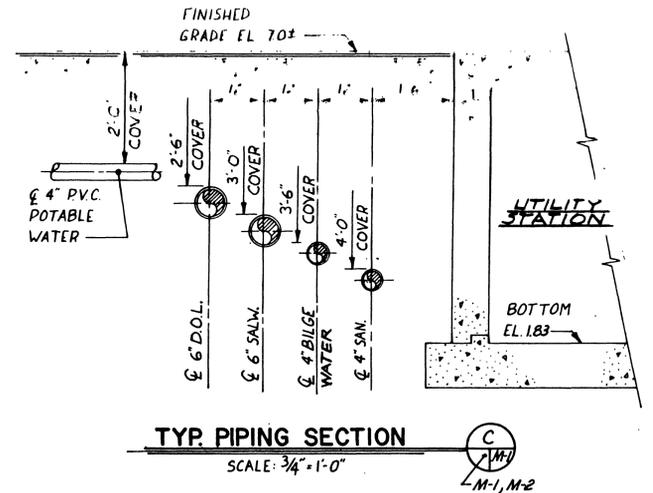


NOTE:
WATER SERVICE LOCATIONS AT EXIST. BUILDINGS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS BY EXAMINATION OF ENTRANCE PIPE INSIDE BUILDINGS AND BY DIGGING TEST PITS IF REQUIRED.

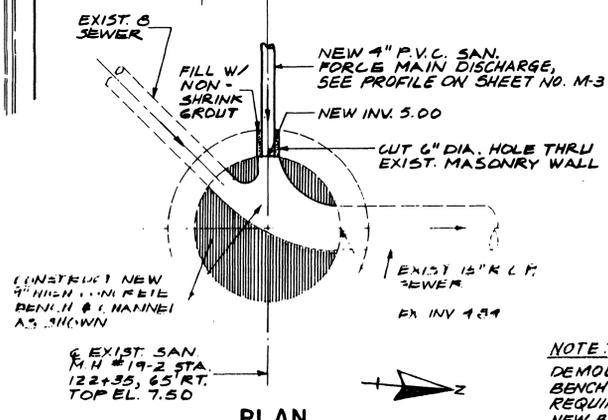
NOTE:
SEE TRANSVERSE MAP AND BENCH MARKS ON SHEET C-11

PLAN
SCALE: 1"=20'

- NOTES:**
1. FOR LEGEND, SEE SHEET C-2
 2. FOR GENERAL NOTES, SEE SHEET C-3
 3. THE ELECTRICAL DISTRIBUTION IS SHOWN SCHEMATICALLY ON THIS SHEET AND SHEET M-2. FOR EXACT LOCATIONS AND SIZES, SEE SHIS. E-4 AND E-5.
 4. UNLESS OTHERWISE INDICATED, ALL EXISTING STRUCTURES OR UTILITIES ON THIS SHEET WHICH INTERFERE WITH NEW CONSTRUCTION SHALL BE DEMOLISHED AND REMOVED, TO THE EXTENT NECESSARY FOR NEW CONSTRUCTION. THE CONTRACTOR SHALL ALSO DEMOLISH AND REMOVE ALL STRUCTURES AND UTILITIES INDICATED ON OTHER SHEETS.
 5. EXISTING PIPE OBSTRUCTIONS AND ABANDONED UTILITIES SHOWN ARE FROM THE BEST INFORMATION AVAILABLE, BUT NOT GUARANTEED. SHOULD THE CONTRACTOR ENCOUNTER OBSTRUCTIONS AND/OR UTILITIES NOT INDICATED, THE CONTRACTING OFFICER SHALL BE NOTIFIED FOR DISPOSITION.
 6. ALL ELEVATIONS SHOWN ARE MEAN SEA LEVEL (M.S.L.).

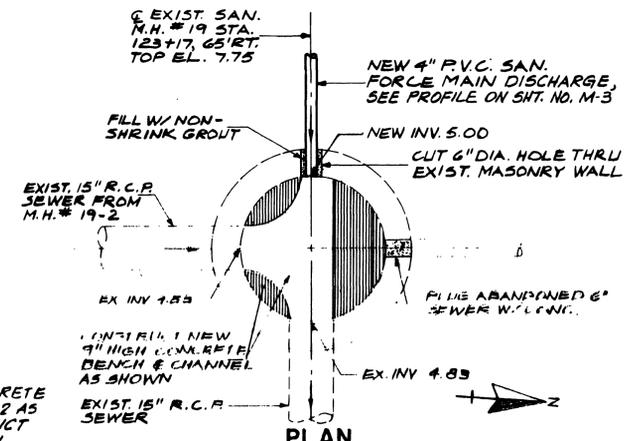


TYP. PIPING SECTION
SCALE: 3/4"=1'-0"

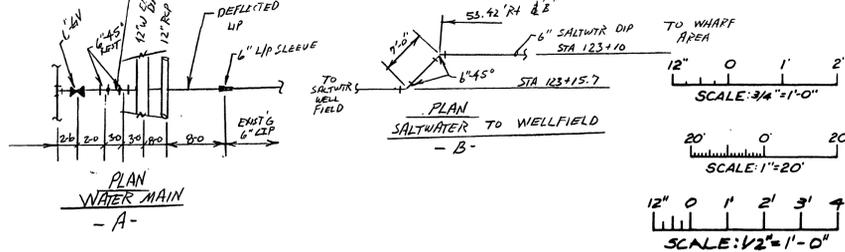


PLAN
EXIST. SAN. M.H. #19-2
SCALE: 1/2"=1'-0"

NOTE:
DEMOLISH EXIST. CONCRETE BENCH IN M.H. #19 & 19-2 AS REQUIRED TO CONSTRUCT NEW BENCH & CHANNEL.



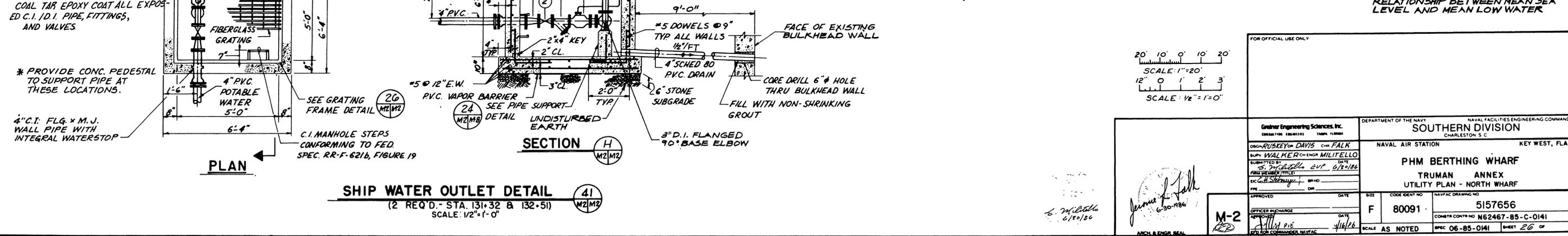
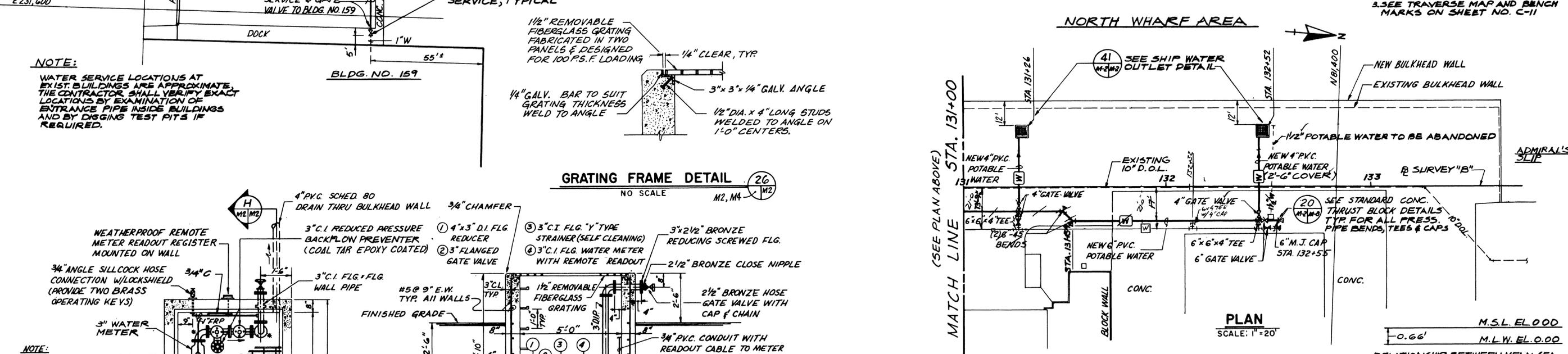
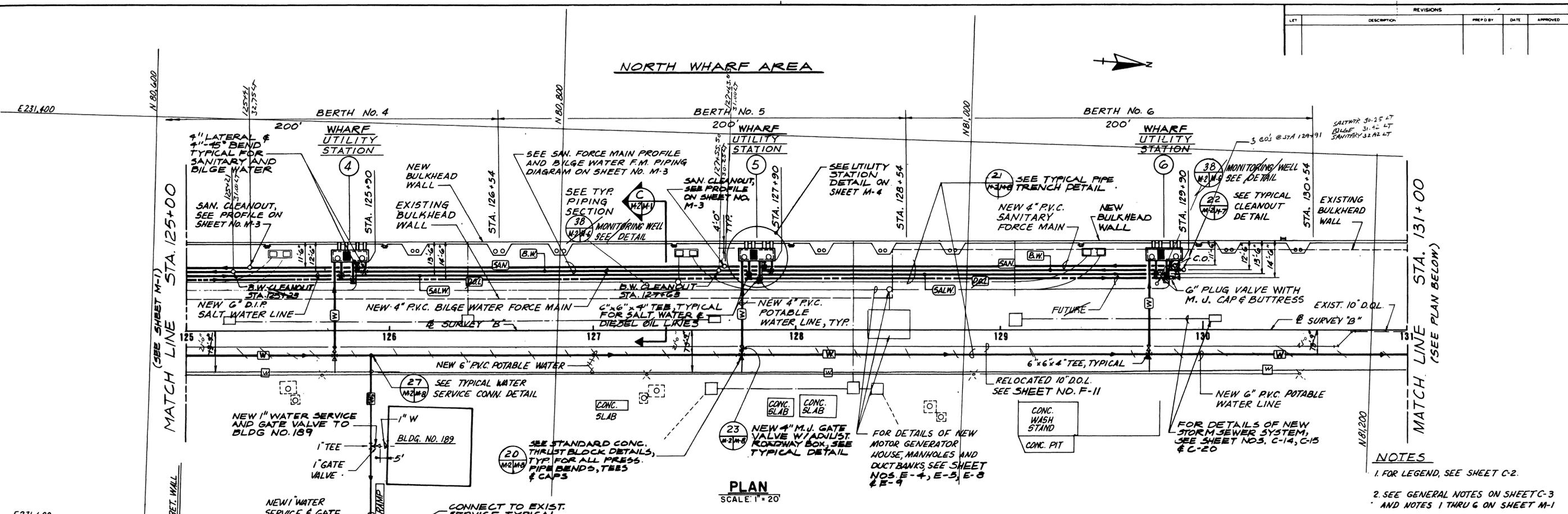
PLAN
EXIST. SAN. M.H. #19
SCALE: 1/2"=1'-0"



PLAN
SALTWATER MAIN - B-
SCALE: 3/4"=1'-0"

Greiner Engineering Sciences, Inc. CONSULTING ENGINEERS TAMPA, FLORIDA		DEPARTMENT OF THE NAVY NAVAL FAC. ENGINEERING COMMAND	
CHRONISKEY, DAVIS WALKER, MILITELLO		SOUTHERN DIVISION CHARLES, S. J.	
SUBMITTED BY: DATE: 1/10/86 EVP, 0120186		NAVAL AIR STATION KEY WEST, FLA.	
PROJECT: PHM BERTHING WHARF TRUMAN ANNEX UTILITY PLAN - SOUTH WHARF		PROJECT NO.: 5157655	
APPROVED: [Signature]	DATE: 3/14/86	SIZE: F	CODE: 80091
OFFICER IN CHARGE: [Signature]	DATE: 3/14/86	CONTRACT NO.: N62467-85-0-0141	CONTRACTOR: M-1
SCALE: AS NOTED	SPEC: 06-85-0141	SHEET 25 OF 25	

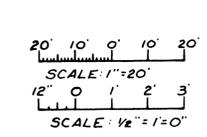
REV.	DESCRIPTION	PREP'D BY	DATE	APPROVED



NOTE:
WATER SERVICE LOCATIONS AT EXIST. BUILDINGS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS BY EXAMINATION OF ENTRANCE PIPE INSIDE BUILDINGS AND BY DIGGING TEST PITS IF REQUIRED.

NOTE:
COAL TAR EPOXY COAT ALL EXPOSED C.I. J.O.I. PIPE, FITTINGS, AND VALVES.
* PROVIDE CONC. PEDESTAL TO SUPPORT PIPE AT THESE LOCATIONS.

NOTES
1. FOR LEGEND, SEE SHEET C-2.
2. SEE GENERAL NOTES ON SHEET C-3 AND NOTES 1 THRU 6 ON SHEET M-1
3. SEE TRAVERSE MAP AND BENCH MARKS ON SHEET NO. C-11



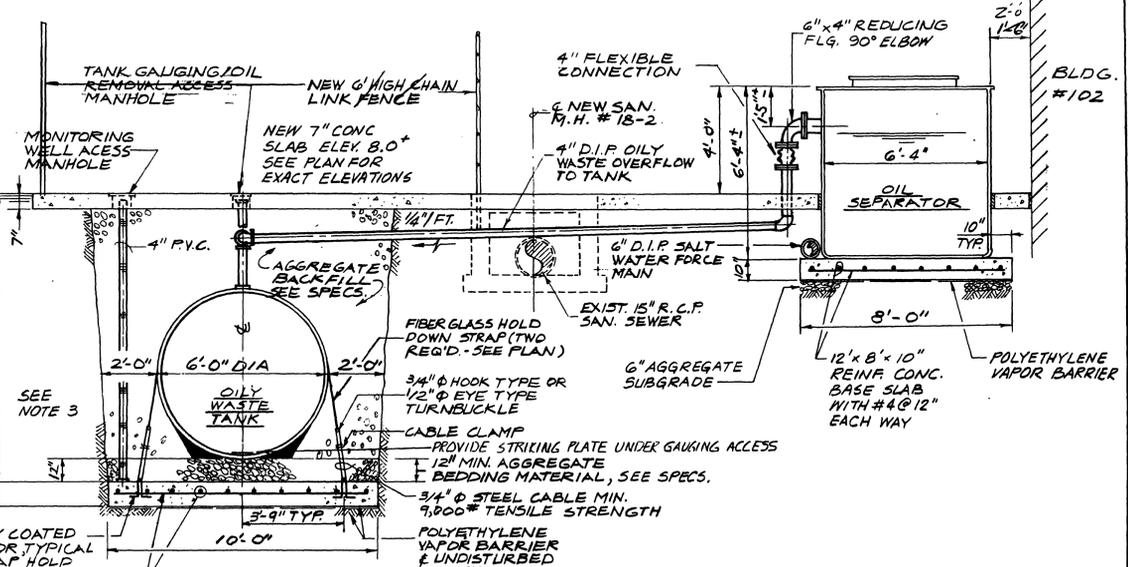
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Grainer Engineering Sciences, Inc.		NAVAL FACILITIES ENGINEERING COMMAND	
SOUTHERN DIVISION		CHARLESTON S.C.	
NAVAL AIR STATION		KEY WEST, FLA.	
PHM BERTHING WHARF			
TRUMAN ANNEX			
UTILITY PLAN - NORTH WHARF			
APPROVED	DATE	SIZE	CODE IDENT NO.
<i>James F. Falk</i>	6/30/86	F	80091
OFFICER IN CHARGE	DATE	SCALE	NAVY DRAWING NO.
<i>Ally D. B.</i>	4/16/86	SCALE AS NOTED	5157656
CONTRACTOR	DATE	CONTRACT NO.	CONTRACTOR'S NO.
<i>Grainer Engineering Sciences, Inc.</i>	4/16/86	N62467-85-C-0141	
SCALE	AS NOTED	SPEC	06-85-0141
SHEET		26 OF	

REV	DESCRIPTION	PREP BY	DATE	APPROVED

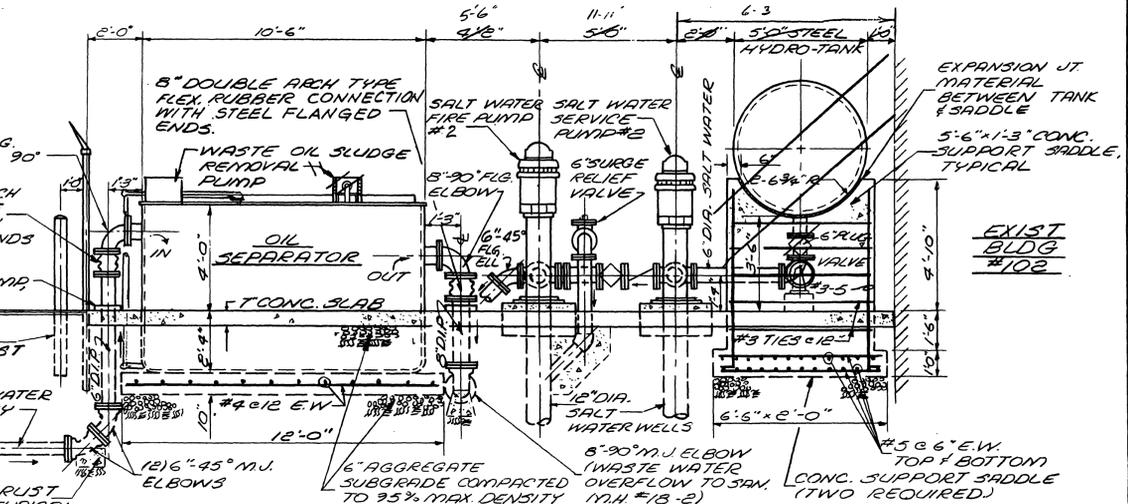
- NOTES:**
- FOR LEGEND, SEE SHEET NO. C-2.
 - FOR GENERAL NOTES, SEE SHEET NO. C-3.
 - SHADED AREAS SHOWN ON SECTION (A) THIS SHEET INDICATE WHERE AGGREGATE BACKFILL WILL NOT FLOW AND COMPACT UNDER TANK. GRAVEL MUST BE WORKED INTO VOIDS FOR APPROX. THE FIRST 12 INCH LAYER OF FILL ABOVE THE BASE LAYER TO INSURE PROPER BEDDING OF THIS CRITICAL AREA.
 - ALL EXPOSED FERROUS METAL PIPING SHALL BE COATED WITH COAL TAR EPOXY AND ALL UNDERGROUND FERROUS PIPING SHALL BE BITUMINOUS COATED, D.I. PIPE SHALL BE CEMENT LINED.
 - ALL ELEVATIONS SHOWN ARE MEAN SEA LEVEL (M.S.L.).
 - PROVIDE TYPE (A) THICKENED EDGE JOINT AT ALL EDGES OF CONCRETE SLAB AND PROVIDE 3 TYPE (A) JOINTS AT EQUAL SPACINGS IN BOTH DIRECTIONS ACROSS SLAB.
 - PLACE 1/2" EXPANSION JOINT MATERIAL AND SEALANT AROUND ALL PROTRUSIONS THRU THE CONCRETE SLAB.

- (43) SEE DETAIL OF TUBING CONNECTION @ 6" CROSS
- (35) 12" DIA. x 50' DEEP SALT WATER WELL, TYPICAL @ EACH PUMP SEE DETAIL (4 REQUIRED)

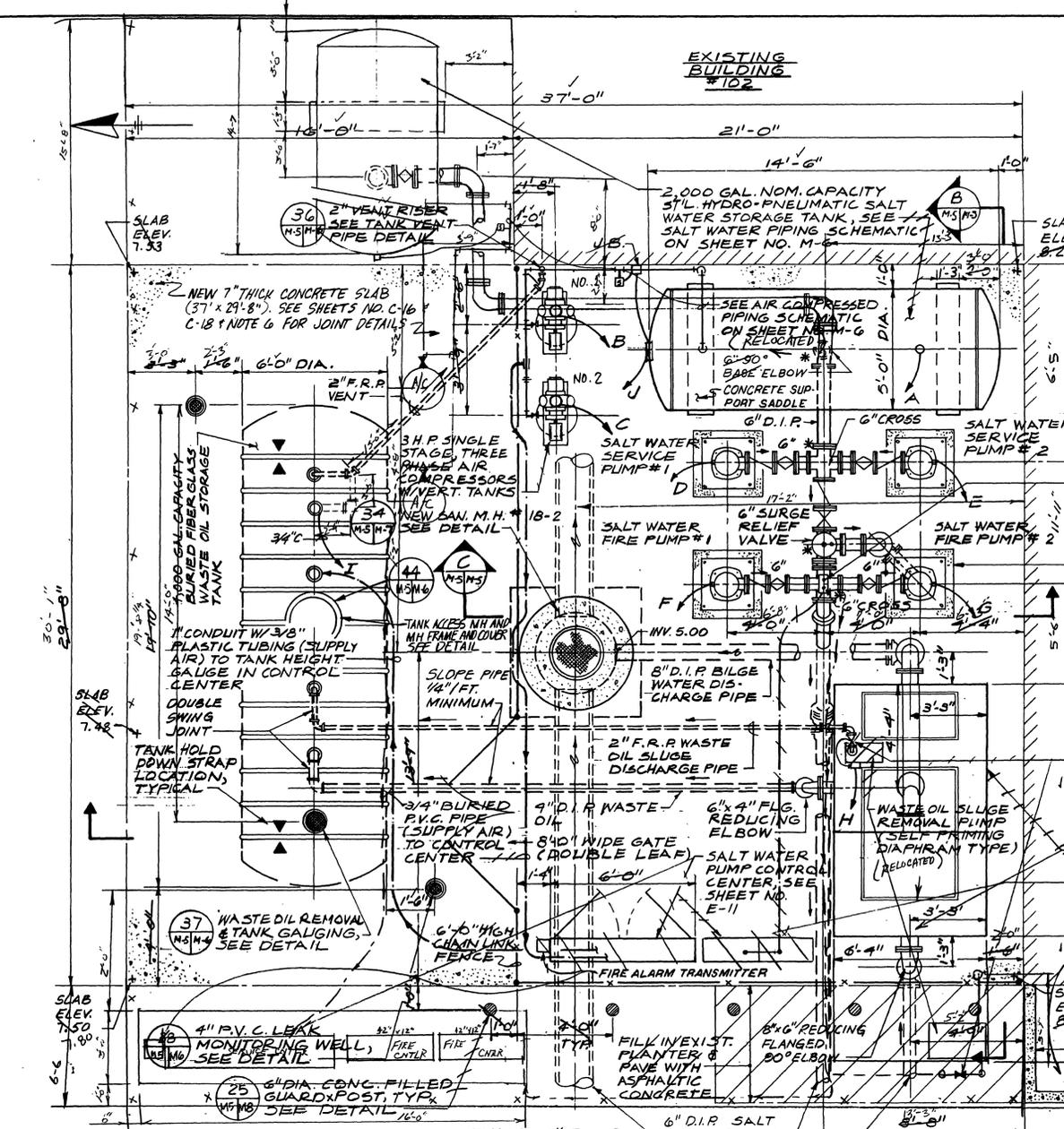
- EXISTING BUILDING #102**
- 2" NO SOLENOID VALVE TO CLOSE WHEN WASTE TANK IS FULL
- 300 GAL. CAPACITY VERT. TUBE OIL SEPARATOR
- 1/2" CONDUIT W/ 2 3/8" (SALT WATER PRESURE) PLASTIC TUBING TO CONTROL CENTER. SEE SHEET E-11 FOR DETAILS
- 3/4" Ø EPOXY COATED STEEL ANCHOR TYPICAL @ EACH STRAP HOLD DOWN LOCATION (4 REQUIRED)
- PROVIDE CONCRETE PIPE SUPPORTS AT THESE LOCATIONS.



SECTION A
SCALE: 3/8" = 1'-0" (M.S.L.)



SECTION B
SCALE: 3/8" = 1'-0" (M.S.L.)

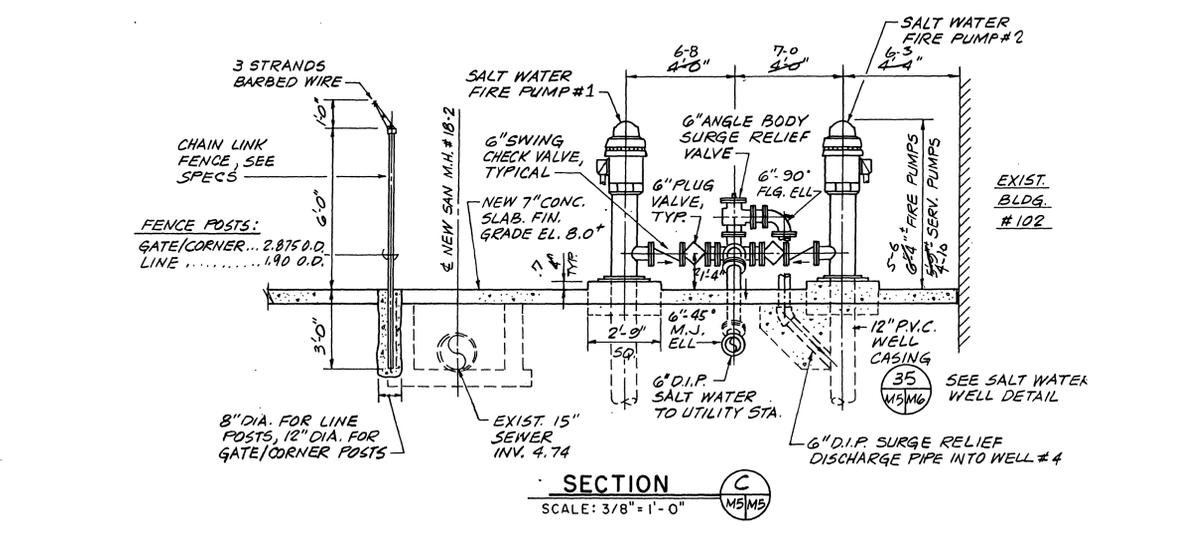
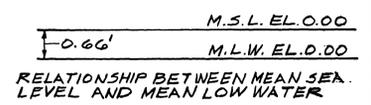


SALT WATER WELLS / OIL SEPARATOR SITE PLAN
SCALE: 3/8" = 1'-0" TYP.

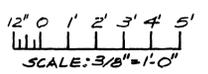
- LEGEND**
- CONDUIT HOME RUNS TO CONTROL CENTER
 - PLASTIC TUBING & P.V.C. PIPE TO CONTROL CENTER

CONDUIT DESIGNATION	CONDUIT SIZE	DESCRIPTION
A	3/4"	DIFF. PRESS. XMITTER 2-#12 CONDUCTORS
B	3/4"	AIR COMPRESSOR NO. 1 3-#12 CONDUCTORS
C	3/4"	AIR COMPRESSOR NO. 2 3-#12 CONDUCTORS
D	1"	SERVICE PUMP #1 3-#8 CONDUCTORS
E	1"	SERVICE PUMP #2 3-#8 CONDUCTORS
F	2"	FIRE PUMP #1 3-#10 CONDUCTORS
G	2"	FIRE PUMP #2 3-#10 CONDUCTORS
H	3/4"	SLUDGE PUMP 3-#12 CONDUCTORS PLUS 2-#12 CONDUCTORS FOR SOLENOID VALVE
I	3/4"	HIGH LEVEL ALARM 2-#12 CONDUCTORS
J	3/4"	FLOAT SWITCH AND SOLENOID VALVE 4-#12 CONDUCTORS

DESCRIPTION	NO.	CAPACITY/SIZE
HYDRO-PNEUMATIC TANK	1	2,000 GAL.
SALT WATER WELLS	4	12" DIA.
SERVICE PUMPS	2	500 GPM @ 54 PSI G
FIRE PUMPS	2	500 GPM @ 178 PSI G
OIL/WATER SEPARATOR	1	300 GPM
AIR COMPRESSORS	2	11.9 CFM @ 100 PSI G
WASTE OIL TANK	1	4,000 GAL.
SALT WATER PUMP CONTROLS	1	200 AMP
SURGE RELIEF VALVE	1	6"



SECTION C
SCALE: 3/8" = 1'-0" (M.S.L.)



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NAVAL AIR STATION
KEY WEST, FLA.

PHM BERTHING WHARF
TRUMAN ANNEX
SALT WATER WELLS / OIL SEPARATOR DETAILS

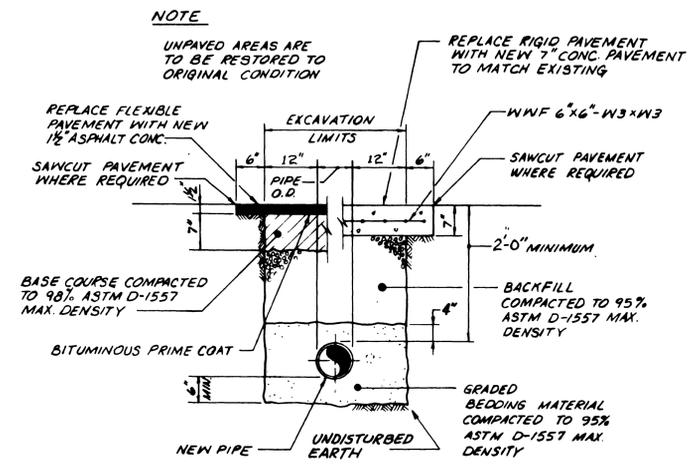
APPROVED: [Signature]
DATE: 3/16/86

OFFICER IN CHARGE: [Signature]
DATE: 3/16/86

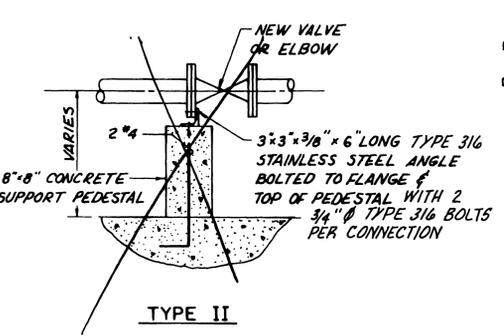
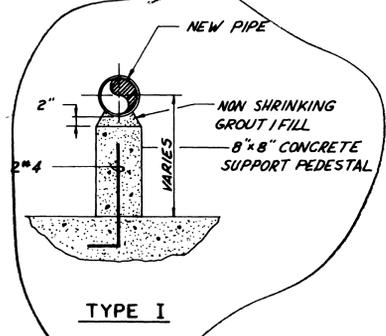
SCALE: AS NOTED

5157659
N62467-85-C-0141
SHEET 29 OF

REV.	DESCRIPTION	PREP BY	DATE	APPROVED



TYPICAL PIPE TRENCH DETAIL (21)
NO SCALE C-12, M-1, M-2 MB

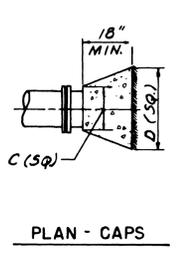
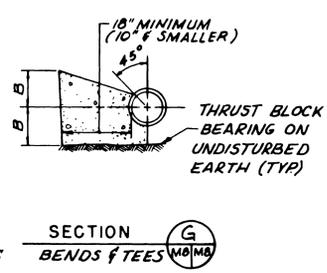
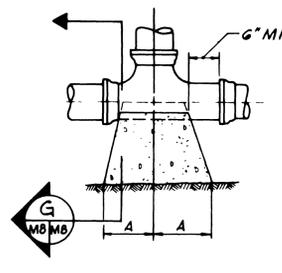
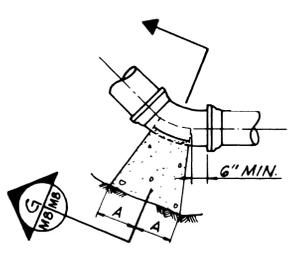


PIPE SUPPORT DETAIL (24)
NO SCALE M-2, M-4, M-5, M-6, M-7 MB

HORIZONTAL BUTTRESS SCHEDULE

SIZE	90° BENDS		45° BENDS		22 1/2° BENDS*		TEES		CAPS	
	A	B	A	B	A	B	A	B	C	D
4"	14"	8"	7"	8"	6"	7"	8"	10"	8"	17"
6"	16"	10"	9"	10"	6"	8"	10"	12"	10"	21"
10"	26"	17"	14"	17"	10"	13"	16"	20"	14"	36"

* OR LESS

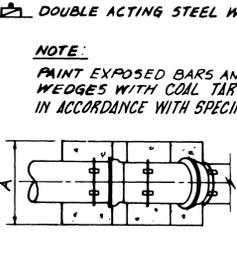
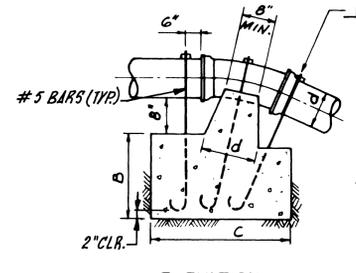


BUTTRESSES FOR HORIZONTAL BENDS, TEES & CAPS

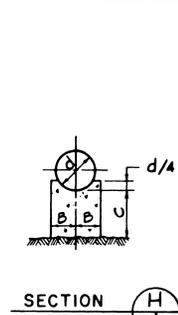
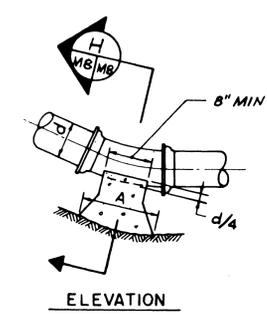
VERTICAL BUTTRESS SCHEDULE

SIZE	45° BENDS			22 1/2° BENDS*			45° BENDS			22 1/2° BENDS*		
	A	B	C	A	B	C	A	B	C	A	B	C
4"	15"	6"	6"	12"	6"	6"	24"	24"	30"	18"	18"	27"
6"	15"	7"	7"	12"	7"	7"	30"	30"	36"	24"	21"	30"
10"	25"	9"	10"	18"	8"	8"	48"	42"	54"	44"	30"	46"

* OR LESS

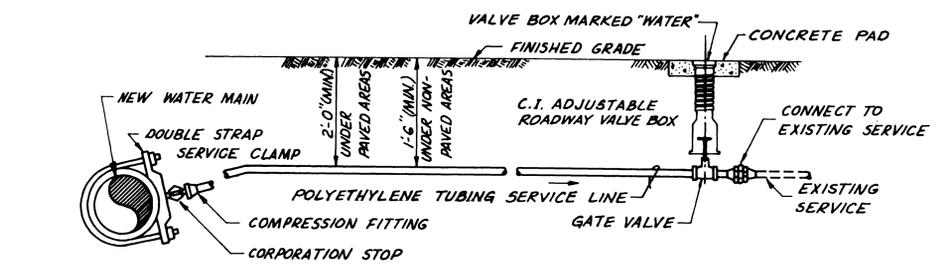


ANCHORAGE FOR VERTICAL BENDS



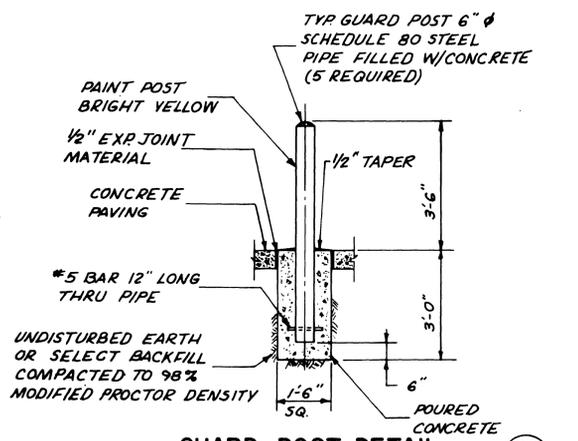
BUTTRESSES FOR VERTICAL BENDS

STANDARD THRUST BLOCK DETAILS (20)
NO SCALE AS NECESSARY MB

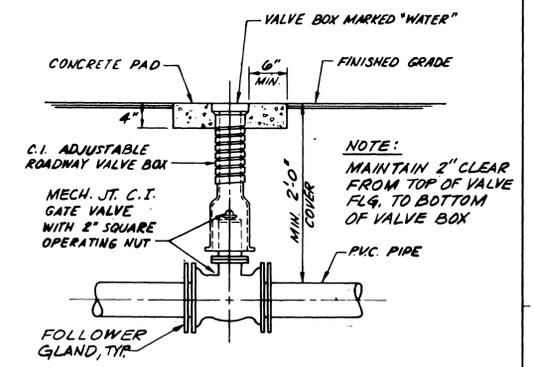


- SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED NOT LESS THAN 18" ON CENTERS.
- NEW SERVICE PIPE SHALL BE AS SHOWN.
- FOR 1" SERVICE LINES THE MINIMUM RADIUS SHALL BE 14" FOR 1 1/2" SERVICES THE MINIMUM RADIUS SHALL BE 21"

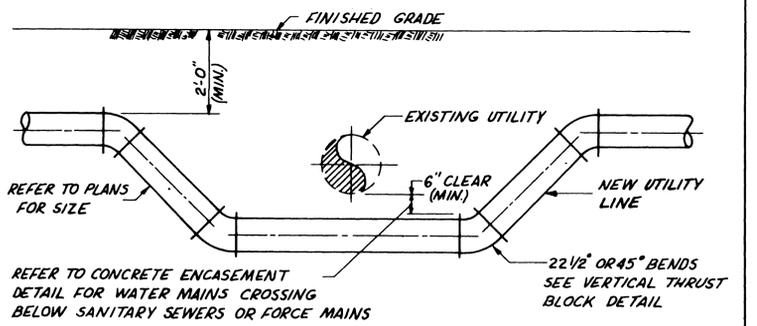
TYPICAL WATER SERVICE CONNECTION DETAIL (27)
NO SCALE M-1, M-2 MB



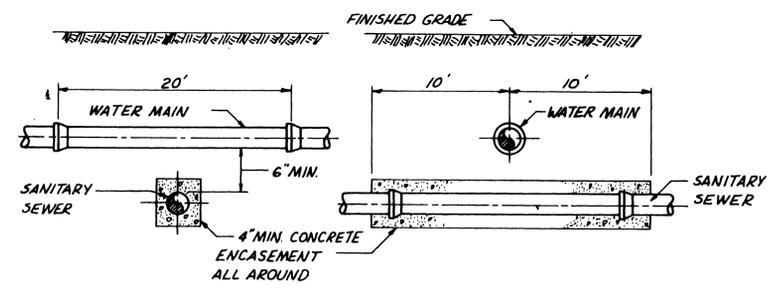
GUARD POST DETAIL (25)
SCALE: 1/2" = 1'-0" MB/MB



GATE VALVE & BOX DETAIL (23)
NO SCALE C-12, M-1, M-2 MB

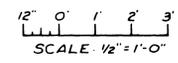


UTILITY CROSSING DETAIL (29)
NO SCALE AS NECESSARY MB



CONCRETE ENCASEMENT DETAIL (28)
NO SCALE AS NECESSARY MB

- WHERE THE LOCATION OF THE WATER LINE IS NOT CLEARLY DEFINED BY DIMENSIONS ON THE DRAWINGS, DO NOT LAY WATER LINE CLOSER HORIZONTAL THAN 10 FEET FROM ANY SEWER LINE.
- WHERE WATER LINES CROSS UNDER GRAVITY SEWER LINES, ENCASE SEWER LINE FULLY IN CONCRETE FOR A DISTANCE OF AT LEAST 10 FEET ON EACH SIDE OF THE CROSSING, UNLESS SEWER LINE IS MADE OF PRESSURE PIPE WITH RUBBER-GASKETED JOINTS AND NO JOINT IS LOCATED WITHIN 3 FEET HORIZONTALLY OF THE CROSSING.
- LAY WATER LINES WHICH CROSS SEWER FORCE MAINS AT LEAST 2 FEET ABOVE SEWER LINES; WHEN JOINTS IN THE SEWER LINE ARE CLOSER THAN 3 FEET HORIZONTALLY FROM THE WATER LINE, ENCASE JOINTS IN CONCRETE.
- CONSTRUCTION SHALL CONFORM WITH SPECIFICATION 02713 PARAGRAPH 3.1.1.1



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12" 0' 1' 2' 3'

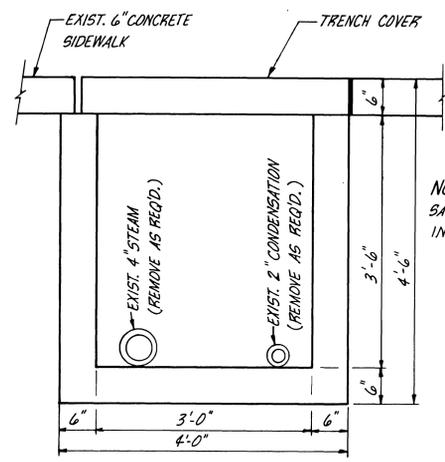
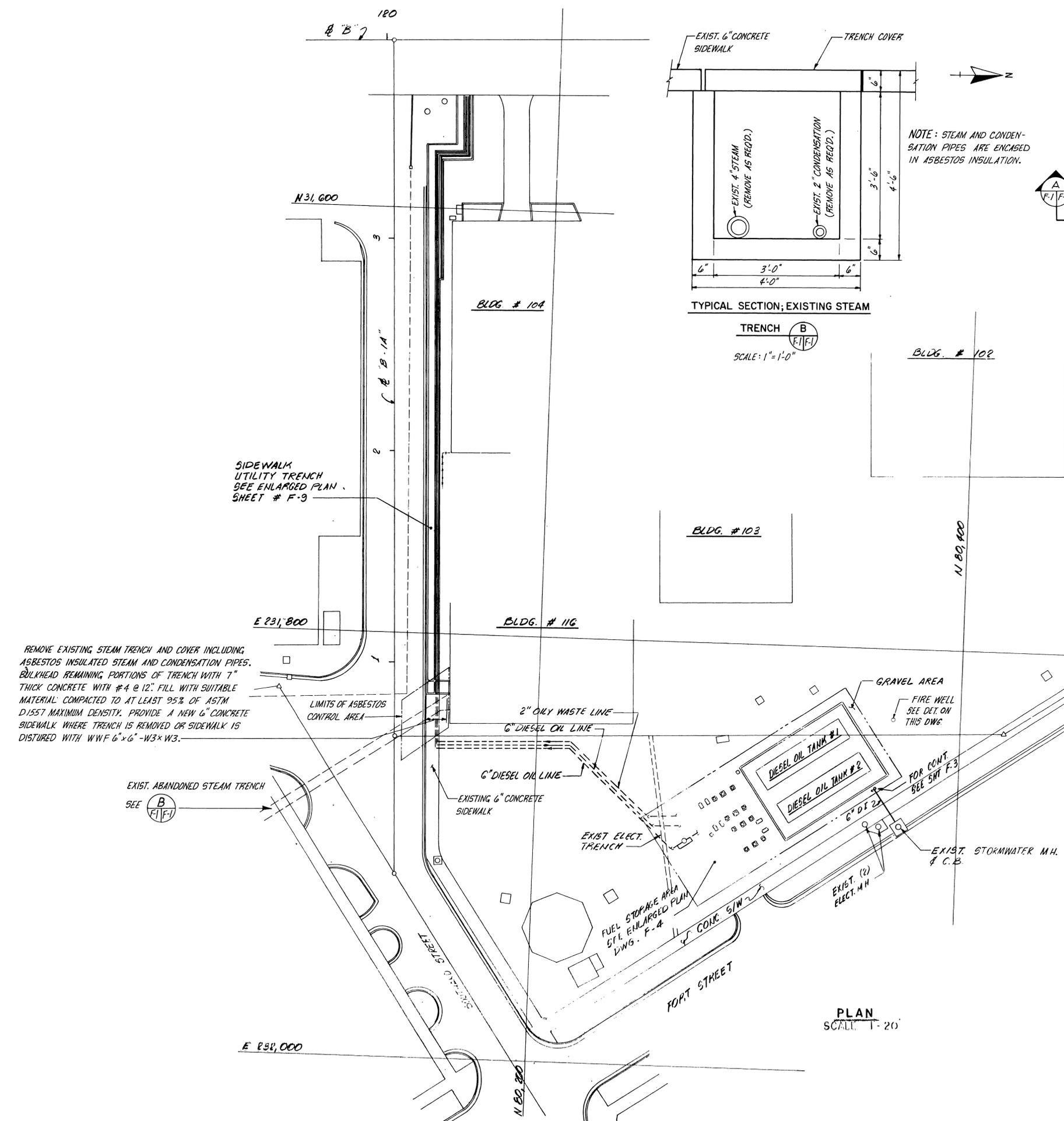
SCALE: 1/2" = 1'-0"

Gruber Engineering Sciences, Inc. CONSULTING ENGINEERS TAMPA, FLORIDA DESIGNED BY: RUSKEY, LUTE, FALK SUPERVISOR: WALKER, MILITELLO SUBMITTED BY: S. M. LUTHE, E. P. MILITELLO DATE: 6/10/66 PROJECT: PHM BERTHING WHARF SHEET: 32 OF 32	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING DIVISION SOUTHERN DIVISION CHARLESTON, S.C. NAVAL AIR STATION KEY WEST, FLA. PHM BERTHING WHARF TRUMAN ANNEX UTILITY DETAILS APPROVED: [Signature] DATE: 6/10/66 OFFICER IN CHARGE: [Signature] DATE: 6/10/66 APPROVED: [Signature] DATE: 6/10/66 PROJECT COMMANDER: NAVFAC
---	--

M-8

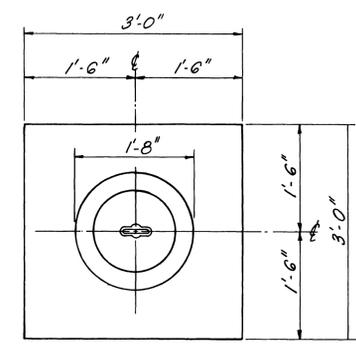
SIZE: F
CODE: 80091
CONSTR. CONT. NO.: N62467-85-C-0141
SPEC. 06-85-0141

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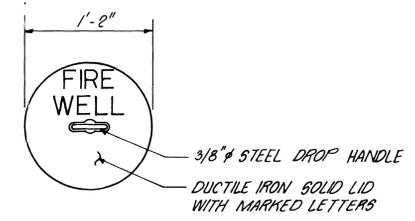


TYPICAL SECTION, EXISTING STEAM
TRENCH B
SCALE: 1"=1'-0"

NOTE: STEAM AND CONDENSATION PIPES ARE ENCASED IN ASBESTOS INSULATION.

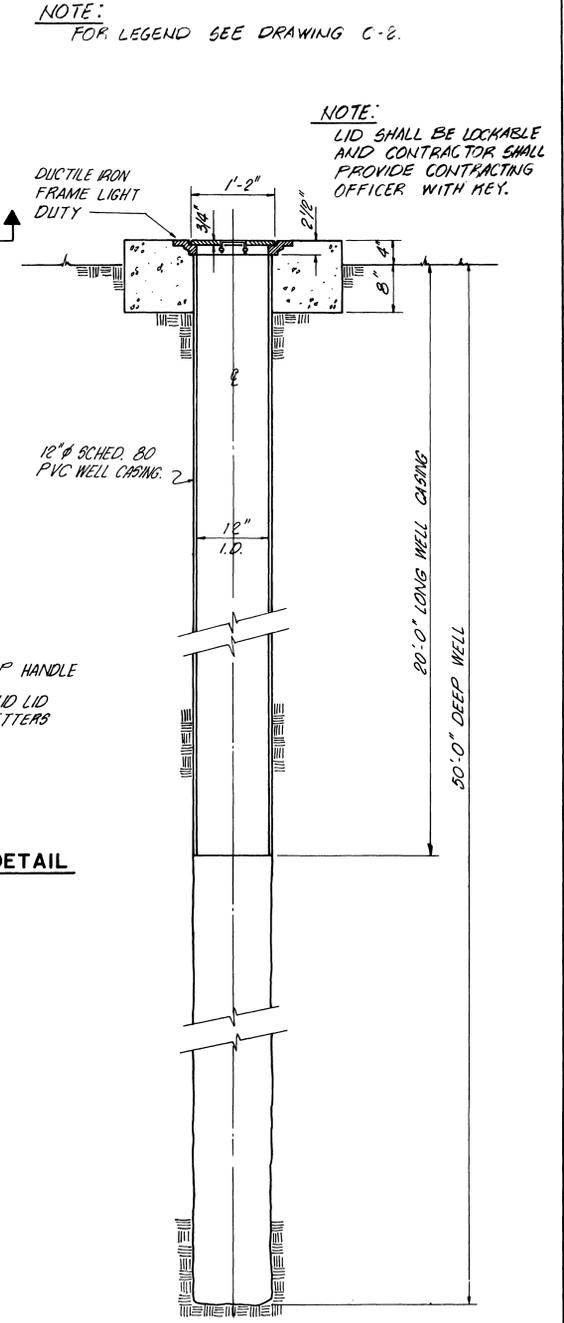


PLAN
SCALE: 1"=1'-0"



COVER
SCALE: 1/2"=1'-0"

SALT WATER WELL DETAIL



SECTION
SCALE: 1"=1'-0"

REMOVE EXISTING STEAM TRENCH AND COVER INCLUDING ASBESTOS INSULATED STEAM AND CONDENSATION PIPES. BULKHEAD REMAINING PORTIONS OF TRENCH WITH 7" THICK CONCRETE WITH #4 @ 12". FILL WITH SUITABLE MATERIAL COMPACTED TO AT LEAST 95% OF ASTM D1557 MAXIMUM DENSITY. PROVIDE A NEW 6" CONCRETE SIDEWALK WHERE TRENCH IS REMOVED OR SIDEWALK IS DISTURBED WITH WWF 6"x6"-W3xW3.

SIDEWALK UTILITY TRENCH SEE ENLARGED PLAN SHEET # F-9

LIMITS OF ASBESTOS CONTROL AREA

2" OILY WASTE LINE
6" DIESEL OIL LINE

DIESEL OIL TANK #1
DIESEL OIL TANK #2

GRAVEL AREA
FIRE WELL SEE DET. ON THIS DWG

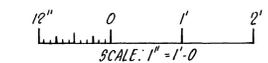
FOR CONT. SEE SHEET F-3

EXIST. STORMWATER M.H. & C.B.

EXIST. ELECT. TRENCH

FUEL STORAGE AREA SEE ENLARGED PLAN DWG. F-4

EXIST. (2) ELECT. M.H.

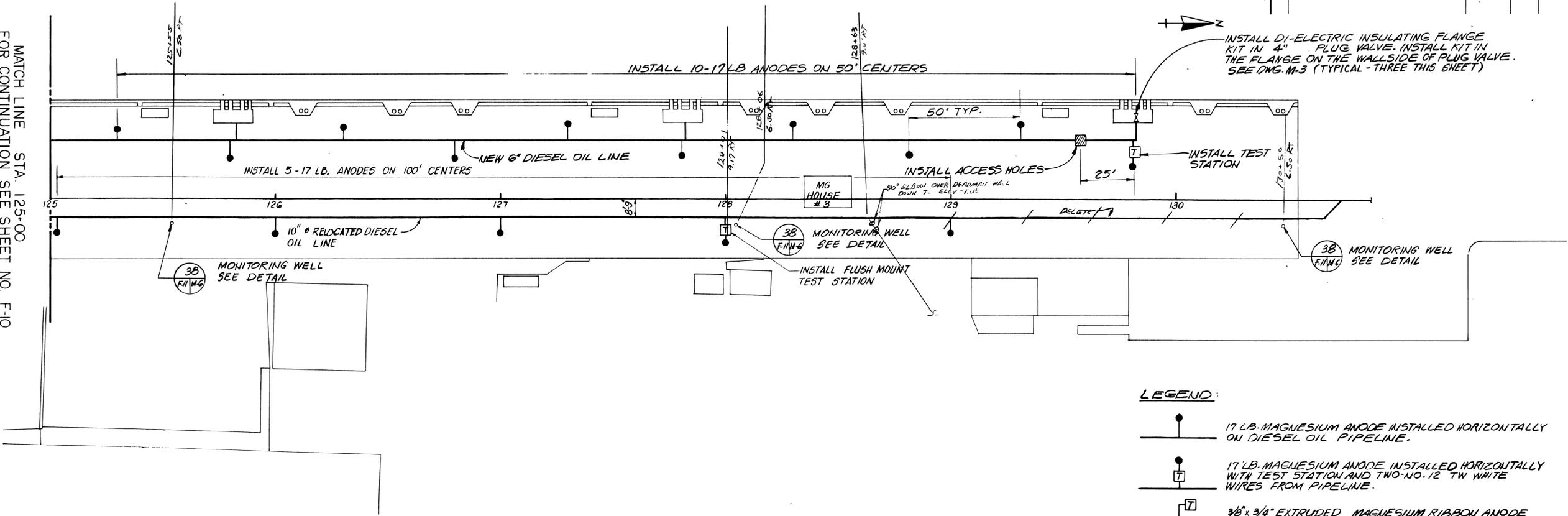


PLAN
SCALE: 1"=20'

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Griner Engineering Services, Inc. SENIOR ENGINEERS 12504 FORD RD 1000 WALKER (CROSSING MI 11711) 41555 DATE: 4/12/86 TITLE: FUEL OIL DISTRIBUTION SYSTEM DRAWN BY: [Signature] CHECKED BY: [Signature]	THE DEPARTMENT OF THE NAVY SOUTHERN DIVISION NAVAL AIR STATION KEY WEST, FLA PHM BERTHING WHARF TRUMAN ANNEX FUEL OIL DISTRIBUTION SYSTEM CODE IDENT NO: 80091 NAVY DRAWING NO: 5157663 CONSTRUCTION NO: N62467-85-C-0141 SPEC: 06-85-0141 SHEET 33 OF 33
APPROVED: [Signature] OFFICER IN CHARGE DATE: 4/12/86	APPROVED: [Signature] DATE: 4/12/86 ARCH & ENGR SEAL

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LET	DESCRIPTION	PREP BY	DATE

MATCH LINE STA. 125+00 FOR CONTINUATION SEE SHEET NO. F-10



LEGEND:

- 17 LB. MAGNESIUM ANODE INSTALLED HORIZONTALLY ON DIESEL OIL PIPELINE.
- 17 LB. MAGNESIUM ANODE INSTALLED HORIZONTALLY WITH TEST STATION AND TWO-NO. 12 TW WHITE WIRES FROM PIPELINE.
- 3/8" x 3/4" EXTRUDED MAGNESIUM RIBBON ANODE WITH TEST STATION INSTALLED IN UTILITY TRENCH AND CENTERED BETWEEN PIPELINES.
- ACCESS HOLE TO SOIL DIRECTLY OVER PIPELINE, CENTERED BETWEEN ANODES.
- NO. 8 HMWPE BOND CABLE THERMIT WELDED TO 2.6" DIESEL PIPELINES.

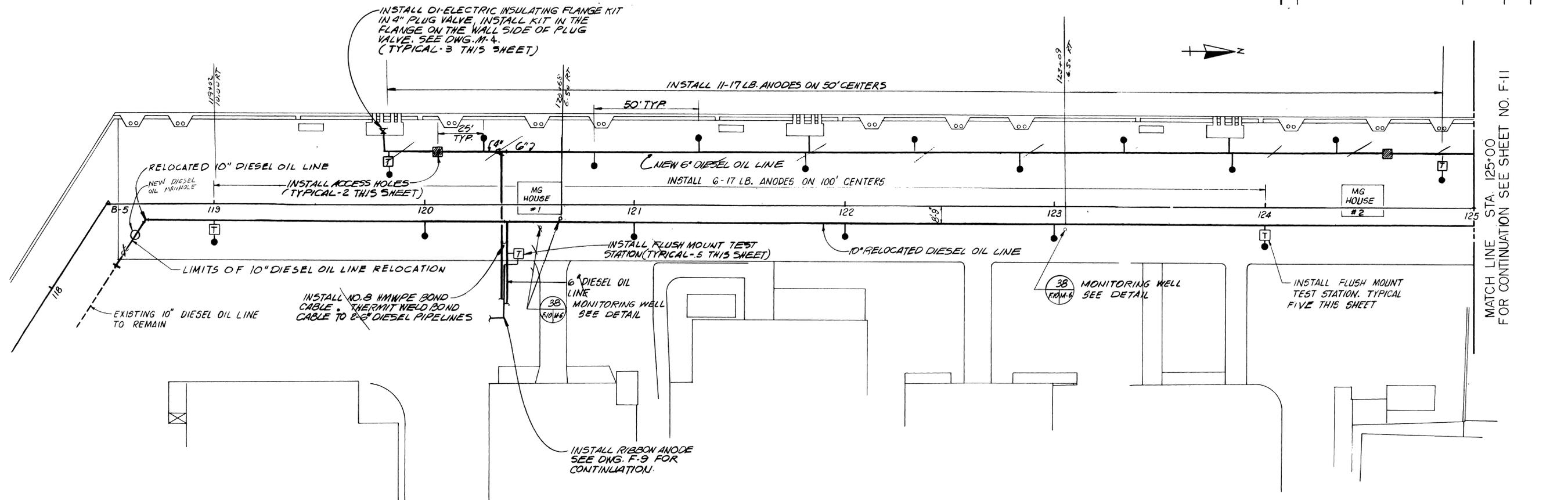
NOTES:

- 1 - ALL 17 LB. ANODES TO BE INSTALLED HORIZONTALLY AND PARALLEL TO PIPE.
- 2 - BOND CABLE BETWEEN 2.6" DIESEL PIPELINES TO BE NO. 8 HMWPE CABLE, THERMIT WELD CABLE TO BOTH PIPES AND REPAIR COATING.
- 3 - MAGNESIUM RIBBON ANODE TO BE INSTALLED IN UTILITY TRENCH AND CENTERED BETWEEN PIPELINES. RIBBON ANODE TO BE INSTALLED TO A MINIMUM DEPTH EQUAL TO THE DEPTH OF THE BOTTOM OF THE PIPELINES.

20' 10' 0' 20'
SCALE: 1" = 20'

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DESIGN: LARREA, RODRIGUEZ, LARREA SUPV: WALKER CH ENGR: MILITELLO SUBMITTED BY: [Signature] DATE: 4/14/85 FIRM MEMBERS TITLE: [Signature] EIC: [Signature] DIR: [Signature]	NAVAL AIR STATION KEY WEST, FL A PHM BERTHING WHARF TRUMAN ANNEX PIPING RELOCATION AND CATHODIC PROTECTION-NORTH
APPROVED: [Signature] DATE: 4/14/85 OFFICE IN CHARGE: [Signature] DATE: 4/14/85 ARCH. & ENGR. SEAL: [Signature]	SIZE: F CODE IDENT NO: 80091 NAVFAC DRAWING NO: 5157673 CONSTR CONTR NO: N62467-85-C-0141 SPEC: 06-85-0141 SHEET 43 OF 43

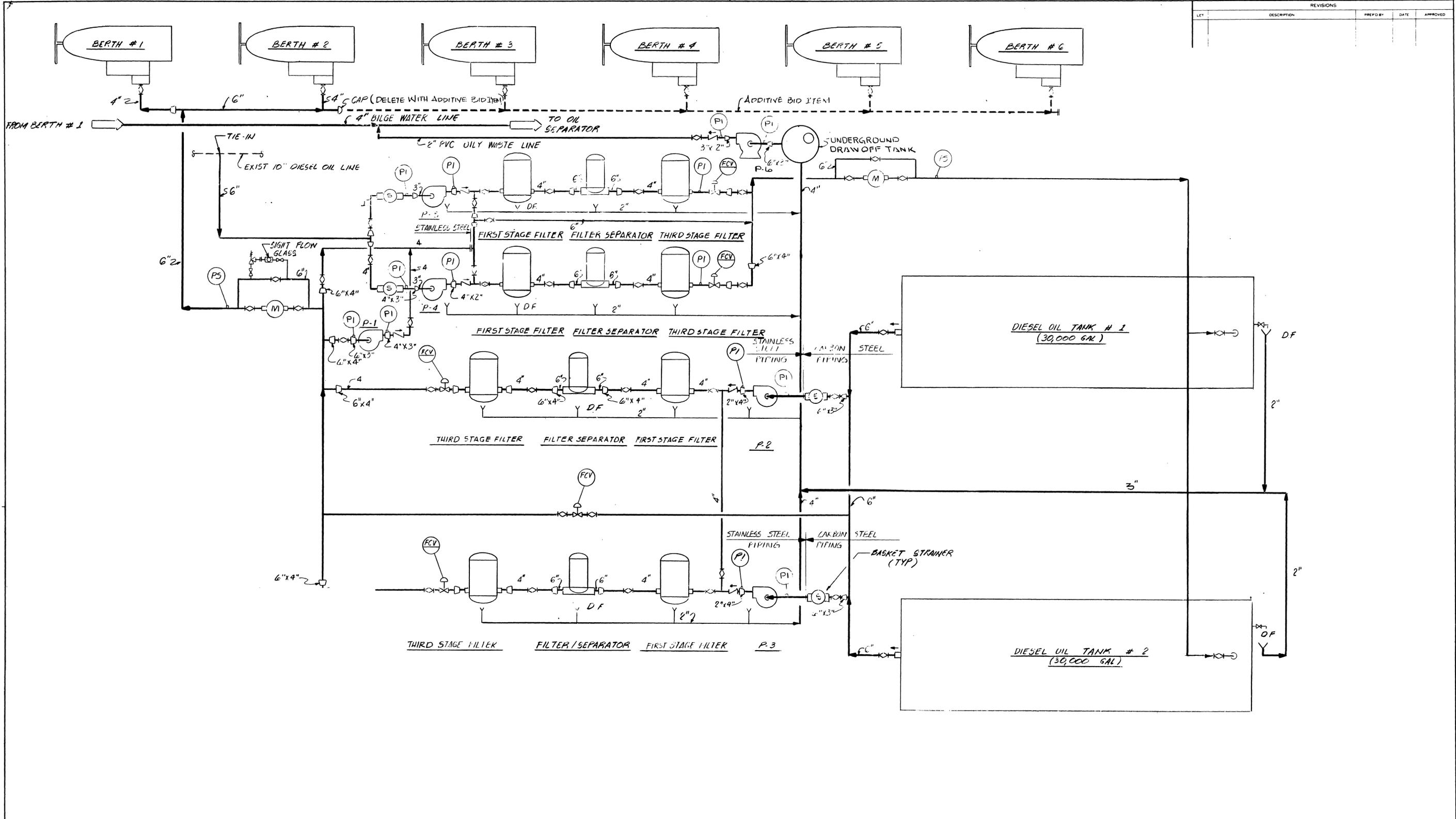
REVISIONS			
LET	DESCRIPTION	PREP BY	DATE



20' 10' 0' 20'
SCALE: 1" = 20'

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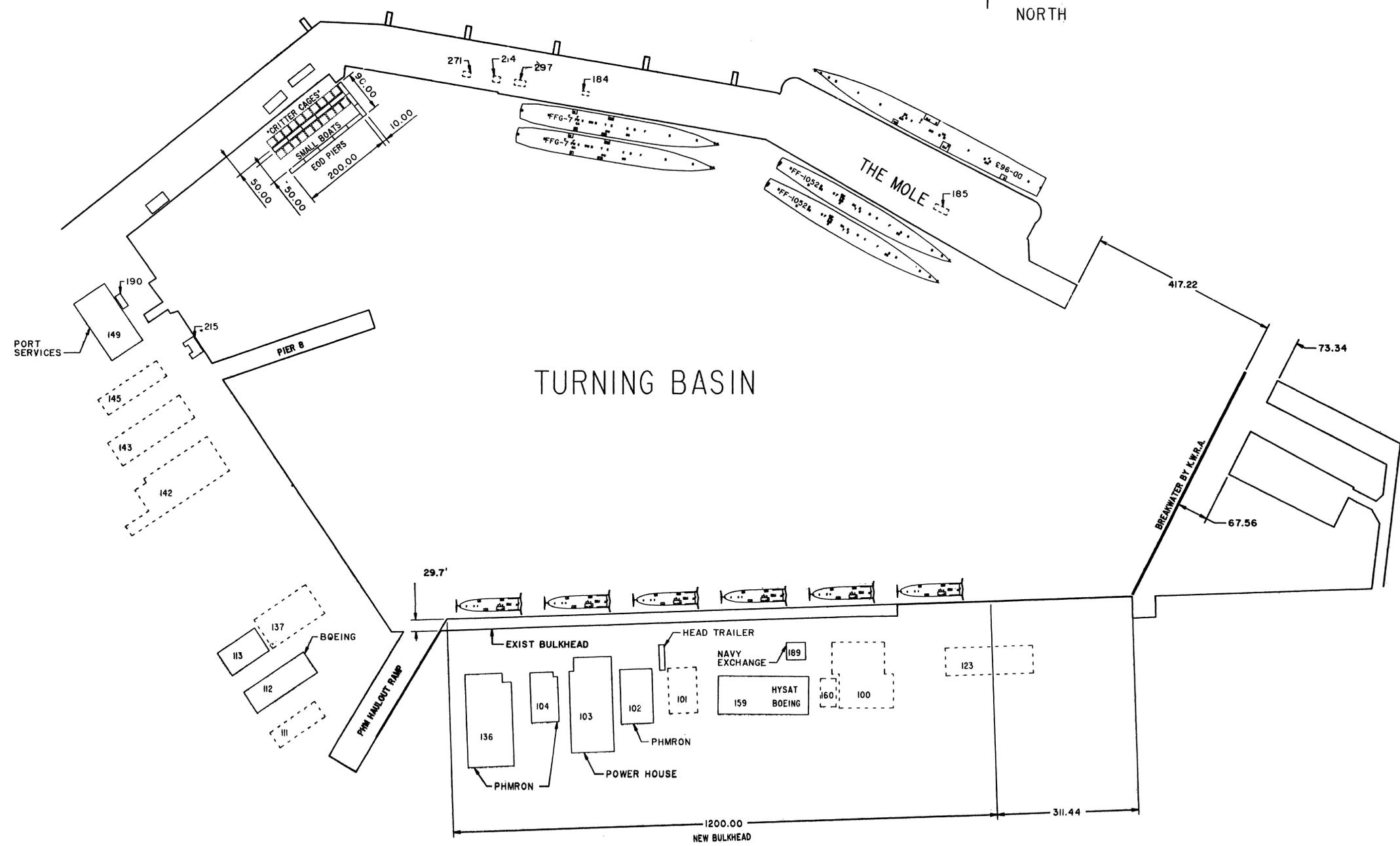
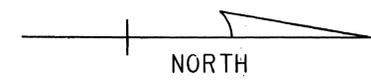
Greiner Engineering Sciences, Inc CONSULTING ENGINEERS TAMPA, FLORIDA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND SOUTHERN DIVISION CHARLESTON, S.C.	
DESIGN: LARRA, D. RODRIGUEZ, M. LARRA SUPV: WALKER, CH ENGR MILITELLO		NAVAL AIR STATION KEY WEST, FLA.	
SUBMITTED BY: S. M. Little, EUP 6/20/86 DATE: 6/20/86		PHM BERTHING WHARF TRUMAN ANNEX	
EIC: U.S. SHAW, DIR		PIPING RELOCATION AND CATHODIC PROTECTION-SOUTH	
APPROVED: [Signature]	DATE: 3/14/86	SIZE: F	CODE IDENT NO: 80091
ARCH & ENGR SEAL		SCALE: 1" = 20'	NAVAC DRAWING NO: 5157672
			CONSTR CONTR NO: N62467-85-C-0141
			SPEC: 06-85-0141 SHEET 42 OF 42



REVISIONS			
LET	DESCRIPTION	PREP BY	DATE

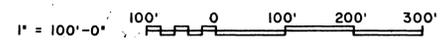
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Griner Engineering Sciences, Inc. CONSULTING ENGINEERS TAMPA, FLORIDA		NAVAL FACILITIES ENGINEERING COMMAND SOUTHERN DIVISION CHARLESTON, S.C.	
DESIGN: LARREA-MARTINEZ CHEN LARREA		NAVAL AIR STATION KEY WEST, FLA.	
SUBMITTED BY: WAIKER CHENGA MILITELLO		PHM BERTHING WHARF TRUMAN ANNEX FLOW DIAGRAM	
DATE: 6/20/06		NAVFAC DRAWING NO: 5157664	
FOR REVIEW BY: [Signature]		OFFICER IN CHARGE: [Signature]	
DATE: 6/20/06		DATE: 3/14/06	
APPROVED: [Signature]		SCALE: NONE	
ARCH & ENGINEER SEAL		SHEET 38 OF 40	

REVISIONS			
LET	DESCRIPTION	PREP'D BY	DATE



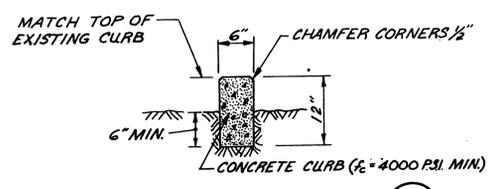
TURNING BASIN

BERTHING PLAN

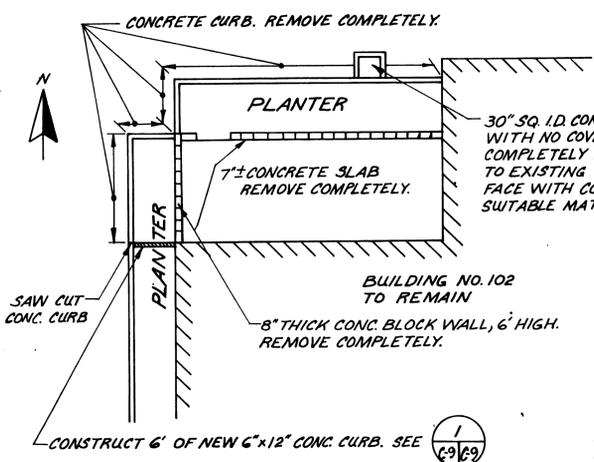


DESIGNED BY E.H. STEHMEYER, JR., P.E.	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
DRAWN BY SOUTHNAVFAC CADDS	SOUTHERN DIVISION CHARLESTON, SC
CHECKED BY E.H. STEHMEYER, JR., P.E.	NAVAL AIR STATION KEY WEST FLORIDA
IN CHARGE T.E. KNISLEY	PHM BERTHING WHARF TRUMAN ANNEX
PROJ. ENGR. <i>[Signature]</i>	BERTHING PLAN
DIRECTOR	
APPROVED <i>[Signature]</i>	DATE 3/16/86
S-16	SIZE F
	CODE IDENT. NO. 80091
	NAVFAC DRAWING NO. 5157702
	CONTRACT NUMBER NO. N62467-85-C-0141
	SCALE AS NOTED
	SPRINT NO. 06-85-0141
	SHEET 74 OF 74

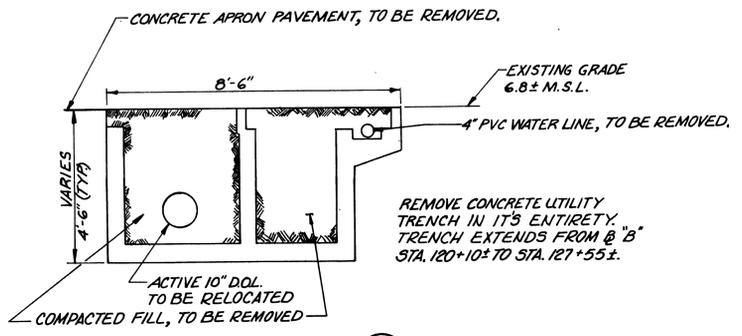
REVISIONS				
LET	DESCRIPTION	PREP BY	DATE	APPROVED



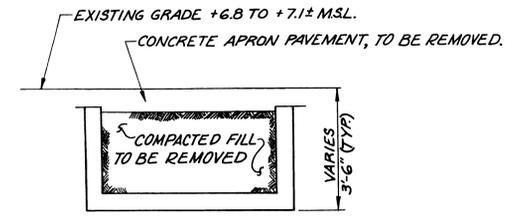
BUILDING 102 PLANTER CURB DETAIL
SCALE: 1/2" = 1'-0" (C9/C9)



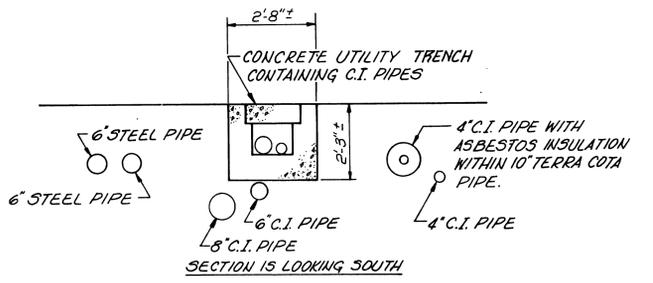
BUILDING 102 AREA DEMOLITION DETAIL
SCALE: 1/8" = 1'-0" (C9/C9)



UTILITY TRENCH SECTION
SCALE: 1/2" = 1'-0" (C9/C9)

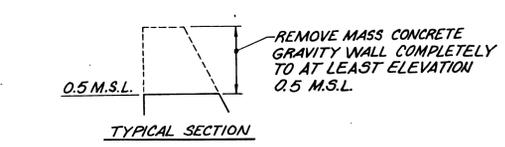
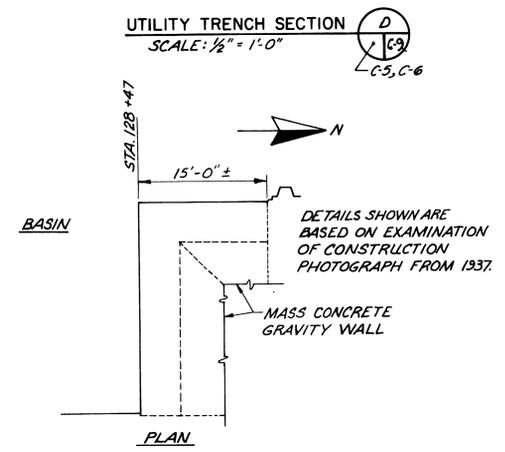


UTILITY TRENCH SECTION
SCALE: 1/2" = 1'-0" (C9/C9)

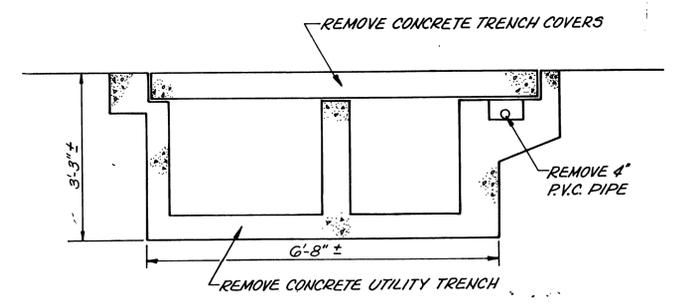


SECTION E
SCALE: 1/2" = 1'-0" (C9/C9)

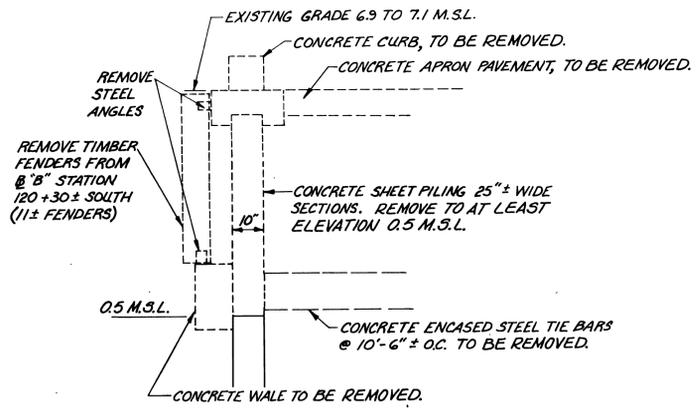
THE INFORMATION SHOWN ABOVE HAS BEEN EXTRACTED FROM NAVY DRAWING KW-81 DATED 3/29/52



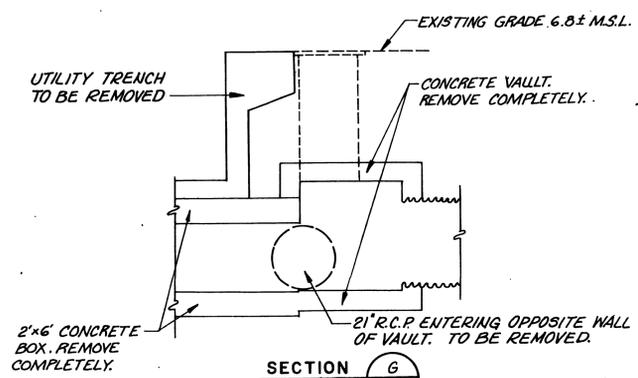
CONCRETE GRAVITY QUAY WALL DETAIL
SCALE: 1/8" = 1'-0" (C9/C9)



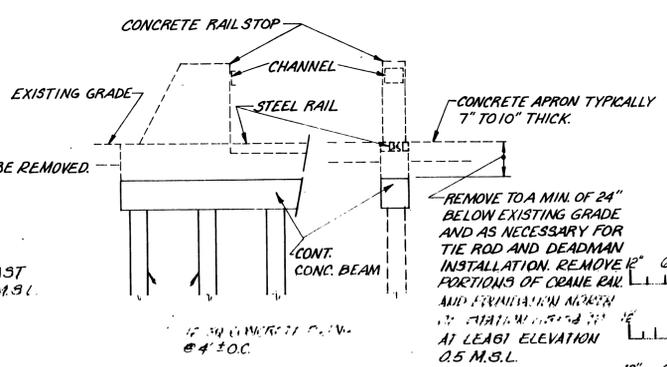
SECTION F
SCALE: 3/4" = 1'-0" (C9/C9)



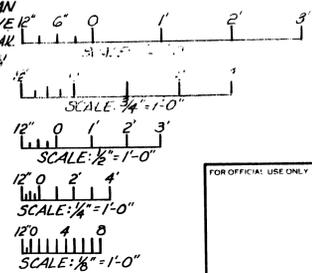
BULKHEAD DEMOLITION SECTION
SCALE: 1/2" = 1'-0" (C9/C9)



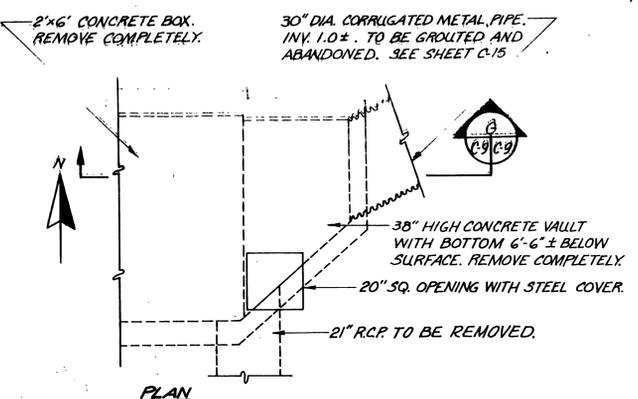
SECTION G
SCALE: 1/4" = 1'-0" (C9/C9)



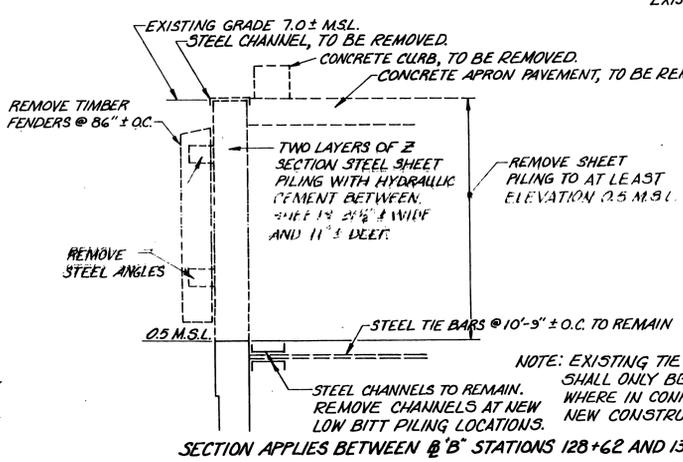
CRANE RAIL DETAIL
SCALE: 1/4" = 1'-0" (C9/C9)



M.S.L. EL. 000
M.L.W. EL. 000
RELATIONSHIP BETWEEN MEAN SEA LEVEL AND MEAN LOW WATER



DETAIL 3
SCALE: 1/4" = 1'-0" (C9/C9)



BULKHEAD DEMOLITION SECTION
SCALE: 1/2" = 1'-0" (C9/C9)

NOTE: EXISTING TIE BAR SYSTEM SHALL ONLY BE REMOVED WHERE IN CONFLICT WITH NEW CONSTRUCTION.

FOR OFFICIAL USE ONLY		DEPARTMENT OF THE NAVY	
Greiner Engineering Sciences, Inc. CONSULTING ENGINEERS TAMPA, FLORIDA		NAVAL FACILITIES ENGINEERING COMMAND SOUTHERN DIVISION CHARLESTON S.C.	
DESIGN: EVANS, MUNCHING, WALKER SUPERVISOR: WALKER CHECKED: MURIELLO DATE: 6/12/80 PROJECT: PHM BERTHING WHARF TRUMAN ANNEX DRAWING TITLE: DEMOLITION SECTIONS AND DETAILS		NAVAL AIR STATION KEY WEST, FLA.	
APPROVED: [Signature]		NAVFAC DRAWING NO. 5157639	
OFFICER IN CHARGE: [Signature]		CONSTRUCTION NO. N62467-85-C-0141	
DATE: 7/16/80		SCALE: AS NOTED	
ARCH & ENGR. SEAL		SHEET 9 OF 9	

APPENDIX D

62-713.900 Forms.

The forms used by the Department for soil treatment facilities are adopted and incorporated by reference in this section. The form is listed by rule number, which is also the form number, and with the title, subject and effective date. Copies of forms may be obtained from a local District Office or by writing to the Florida Department of Environmental Protection, Solid Waste Section, MS 4565, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

(1) Form 62-713.900(1): Application for Permit to Construct or Operate a Stationary Soil Treatment Facility, effective August 5, 1999.

(2) Form 62-713.900(2): Notification of Intent to Use a General Permit to Construct or Operate a Mobile Soil Treatment Facility, effective August 5, 1999.

(3) Form 62-713.900(3): Soil Testing Reporting Form, effective August 5, 1999.

Specific Authority 403.061, 403.704 FS. Law Implemented 403.0877, 403.707 FS. History--New 8-5-99.

Table A. Minimum Number of Soil Samples Required

Amount of Soil by Volume, yd ³	Amount of Soil by Weight, tons	Number of Discrete Samples Required for Volatile Organics	Number of Composite Samples Required for non-Volatile Organics
<100	<140	1	1
100 to <500	140 to <700	3	3
500 to <1000	700 to <1400	5	5
For each additional 500 yd ³	For each additional 700 tons	1	1

Table B. Total Metals Analysis and TCLP Test Requirements

If	Exceeds	TCLP Test Criteria
Total Arsenic	100 mg/kg	5.0 mg/L
Total Barium	2000 mg/kg	100.0 mg/L
Total Cadmium	20 mg/kg	1.0 mg/L
Total Chromium	100 mg/kg	5.0 mg/L
Total Lead	100 mg/kg	5.0 mg/L
Total Mercury	4 mg/kg	0.2 mg/L
Total Selenium	20 mg/kg	1.0 mg/L
Total Silver	100 mg/kg	5.0 mg/L

APPENDIX E

TRUMAN WATERFRONT LUC AREA CONSTRUCTION PERMIT

GENERAL INFORMATION:

Requestor:	Location: (Include Bldg Nos. and Streets) Truman Waterfront Park	Date of Request:
Contractor:	Subcontractors:	SWMUs/AOCs Impacted: Parcel C - Former DRMO Parcel K - City Owned portion Parcel E

PROPOSED WORK:

Scope of Work: (Attach sketches, drawings & information outlined in Process to Conduct Construction Activities Document)

LAND USE CONTROLS:

Current Land Use Controls on Construction Area:		
	City-owned portion of Parcel K	- Restricted to Allow Recreational Use Only.
	Parcel C: Former Defense Reutilization and Marketing Office Waste Storage Area (DRMO) Parcel	-No LUCs.
	Parcel E1	- Restricted to Allow Recreational Use Only.
	Parcel E2	- Restricted to Allow Recreational Use Only. - Engineering Control in place to prevent exposure to soil beyond two feet below land surface
	Parcel E3	- Restricted to Allow Recreational Use Only. - Engineering Control in place to prevent exposure to soil beyond two feet below land surface

Frequency and Date of Next LUC Inspection for Construction Area:

Potential Effect of Proposed Construction on LUCs:

- Relocation or reuse of contamination impacted soil.
- Alteration to existing and required engineering controls.
- Need to implement provisions specified in Soil and Groundwater Management Plan. This provisions include but are not limited to:
 - *Restriction on soil reuse and relocation.
 - *Soil storage and disposal protocols.
 - *Equipment decontamination.
 - *Dust and Sediment control.
 - *Tree removal and relocation.
 - *Record keeping and notifications.

CERTIFICATIONS:

As a representative of the property owner of the subject property, I hereby certify that: (check all that apply)

- I possess an updated copy of the LUC Areas Map.
- I possess an updated copy of the approved Soil and Groundwater Management Plan.
- I acknowledge that residual contamination exists on the subject property and protocols and provisions described in the Soil and Groundwater Management Plan must be observed and implemented at all times.
- I acknowledge that residual contamination exists on the subject property and am aware that further information on site contaminants beyond the information provided in the Soil and Groundwater Management Plan can be found in the Administrative Record located at City of Key West City Hall, 3126 Flagler Avenue, Key West, Florida
- Information regarding areas of concern and contaminants will be provided to all contractors and subcontractors.
- The proposed construction will not change the land use assigned to each individual parcel.
- Personnel hazards will be controlled where construction activities have the potential to interfere with existing remedies (i.e. engineering controls).
- Dewatering will not affect migration of contaminants, and water under groundwater use restriction will be tested and properly disposed in accordance with a Dewatering Permit to be procured from local and state agencies as necessary.
- Soil excavated within designated LUC areas will be tested and properly disposed of per the provisions included in the Soil and Groundwater Management Plan.
- Exposure assumptions used in deriving LUCs will not be altered.
- Soil excavation, stockpiling, relocation/resuse and disposal will be monitored and documented during construction activities.
- Any previously unknown contamination that is discovered will be reported immediately to the Navy and the City of Key West.

Signature of Requesting Official:

Printed Name and Phone Number:

Date:

Navy Review:

- Requestor Authorized to Proceed
- Further Information is Requested
- Permit Denied

Signature: _____

Navy RPM/BEC

Date out: _____

Serial No: _____

(Authorization to proceed does not constitute approval of methods by which environmental, safety, and other regulations are satisfied.)