

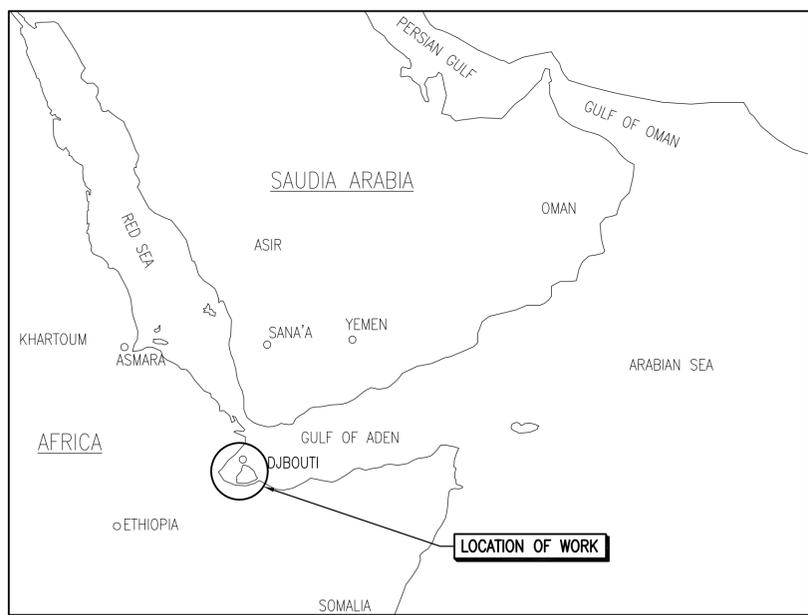
DESC1701/P1701

CONSTRUCT FUEL STORAGE FACILITIES

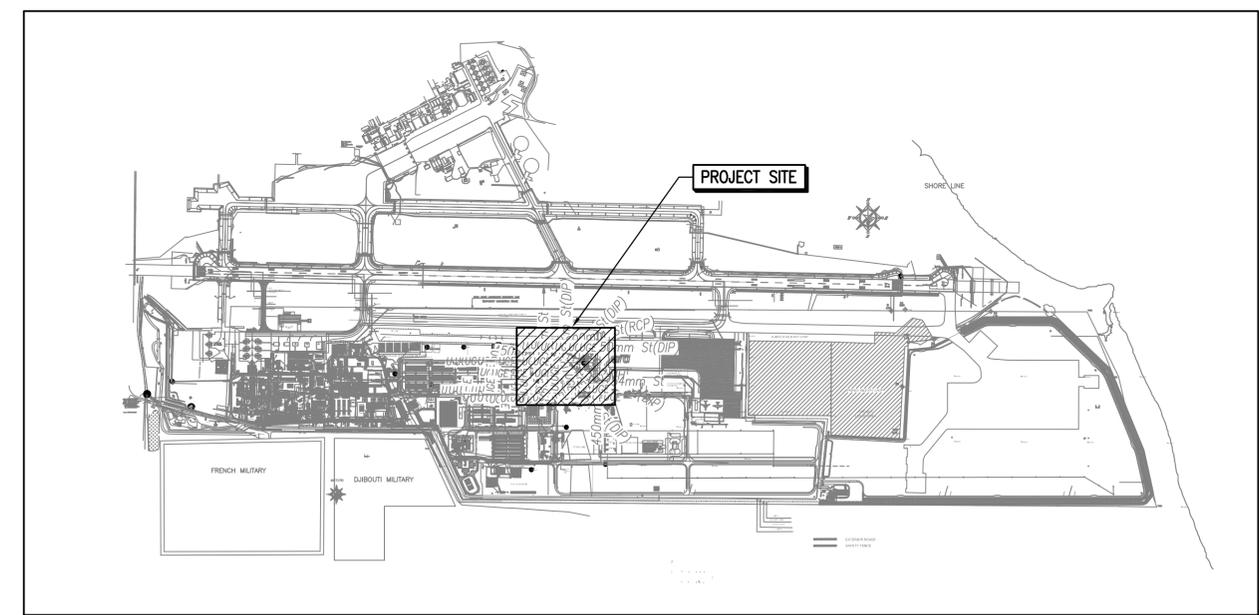
CAMP LEMONNIER, DJIBOUTI



DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 ATLANTIC DIVISION
 NAVAL STATION, NORFOLK, VIRGINIA



PLAN NORTH
 VICINITY MAP
 SCALE: NONE



PLAN NORTH
 LOCATION MAP
 SCALE: NONE

SYN	DESCRIPTION	DATE	APPR



APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

EMAIL BY ANDREA LEMON

SATISFACTORY TO DATE 04/04/2016

DES WRH DRW WMC CHK WVB

<<PM/DM>> LET/RER

BRANCH MANAGER

CHIEF ENG/ARCH EJJ

<<<R>>

DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 ATLANTIC DIVISION
 CAMP LEMONNIER
 NORFOLK, VIRGINIA
 DJIBOUTI, AFRICA
 DESC 1701/P-1701
 CONSTRUCT FUEL STORAGE FACILITIES
 COVER SHEET

SCALE: AS NOTED

PROJECT NO.:

WORK ORDER NO. 1344008

NAVFAC DRAWING NO. 14046965

SHEET 1 OF 186

G-001

FILE NAME: G:\14 Jobs\14-013 Djibouti - Fuel Storage Facility - NAVFAC LANT\040 AutoCAD\G-001 COVER SHEET.dwg LAYOUT NAME: COVER SHEET PLOTTED: Thursday, March 31, 2016 - 9:20am USER: wherrmann

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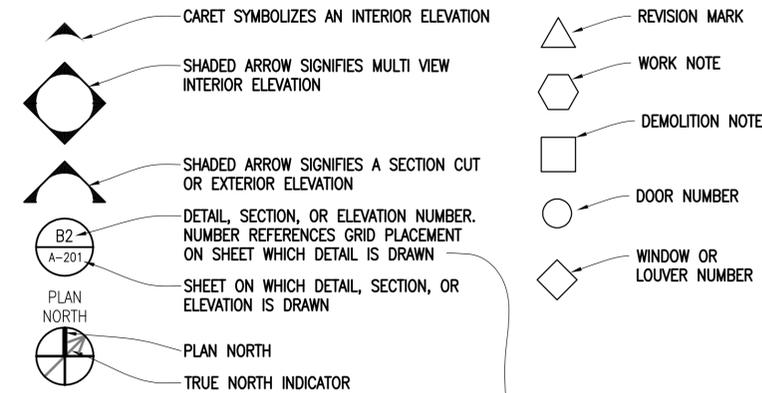
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SYMBOLS



TITLE
SCALE: 1:10
X-YYY B2
SHEET ON WHICH DETAIL, SECTION, OR ELEVATION IS DRAWN

FILE NAME: G:\14 Jobs\14-013 Dribout - Fuel Storage Facility - NAVFAC LANTMAD AutoCAD\G-002 INDEX OF DRAWINGS.dwg LAYOUT NAME: INDEX OF DRAWINGS PLOTTED: Thursday, March 31, 2016 - 9:31am USER: wherrmann

DATE		
DESCRIPTION		
SYN		
APPROVED	A/E INFO	
FOR COMMANDER NAVFAC		
ACTIVITY		
SATISFACTORY TO	DATE	
DES WRH	DRW WMC	CHK WVB
<<PM/DM>>		
BRANCH MANAGER		
CHIEF ENG/ARCH		
<<CR>>		
NAVAL FACILITIES ENGINEERING COMMAND NAVFAC LANTMAD ATLANTIC DIVISION CAMP LEMONIER		
NAVFACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA DUBOULT AFRICA		
DESC 1701/P-1701 CONSTRUCT FUEL STORAGE FACILITIES		
INDEX OF DRAWINGS		
SCALE:	AS NOTED	
PROJECT NO.:		
WORK ORDER NO.:		
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DRAWFORM REVISION: 10 MARCH 2009		

GENERAL NOTES:

- 1. AT THE START OF CONSTRUCTION, THE FACILITY SHALL BE TURNED OVER TO THE CONTRACTOR IN AN OPERATIONAL CONDITION. WHEN TURNED OVER TO THE CONTRACTOR, THE GOVERNMENT RETAINS ALL OPERATIONAL CONTROL AND RESPONSIBILITY FOR THE FACILITY. CONTRACTOR SHALL ASSUME THAT ALL MECHANICAL (PIPING, PUMPS, ETC) AND ELECTRICAL (TRANSFORMERS, MOTOR CONTROL CENTERS, DISTRIBUTION PANELS, LIGHTING, ETC) SYSTEMS ARE INTACT, FULL OF PRODUCT, ENERGIZED AND OPERATIONAL, UNLESS OTHERWISE NOTED. CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR TAKING THESE MECHANICAL AND ELECTRICAL SYSTEMS OUT OF OPERATION TO PERFORM THE INDICATED WORK, AND ALL RESPONSIBILITY FOR RETURNING THE SYSTEM BACK TO OPERATIONAL CONDITION. FOR EXAMPLE, AT THE START OF THE PROJECT THE CONTRACTOR SHALL BE RESPONSIBLE FOR, BUT NOT LIMITED TO, REMOVING FLANGE BOLTS AND GASKETS, REMOVAL AND DISPOSAL OF PRODUCT AS INDICATED, DISCONNECTION OF POWER AND UTILITIES, ETC. AT THE END OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR, BUT NOT LIMITED TO, PROVIDING NEW FLANGE BOLTS AND GASKETS, BOLT-UP OF FLANGES, CONNECTION OF POWER AND UTILITIES, STARTUP AND COMMISSIONING, ETC. NO EXCEPTION SHALL BE PERMITTED, UNLESS OTHERWISE INDICATED.
2. DRAWINGS INDICATE GENERAL DESIGN AND LAYOUT REQUIREMENTS AND SHALL NOT BE CONSIDERED FABRICATION DRAWINGS OR SHOP DRAWINGS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO GENERATE FABRICATION DRAWINGS AND SHOP DRAWINGS WHEN NECESSARY AND/OR SPECIFIED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE CONSTRUCTION BY THE VARIOUS TRADES AND DISCIPLINES EMPLOYED BY THE CONTRACTOR. NO ADDED COMPENSATION SHALL BE PERMITTED FOR VARIATION DUE TO LACK OF COORDINATION BY THE CONTRACTOR BETWEEN TRADES AND DISCIPLINES.
3. DRAWINGS SHOW MECHANICAL, ELECTRICAL, CIVIL, STRUCTURAL, ARCHITECTURAL, AND INSTRUMENTATION SYSTEMS IN DIMENSIONED PLANS, SECTIONS AND ELEVATIONS AS WELL AS IN ISOMETRICS AND SCHEMATICS. THE DRAWINGS DO NOT ATTEMPT TO SHOW EXACT DETAILS OF ALL PIPING, CONDUIT, EQUIPMENT, OFFSETS, FITTINGS, APPURTENANCES, ETC THAT MAY BE REQUIRED TO SUIT COORDINATION WITH SELECTED EQUIPMENT. FIELD VERIFY ALL EXISTING PIPE, CONDUIT, EQUIPMENT SIZES, ELEVATIONS, PENETRATIONS, INTERFACES WITH NEW WORK, ETC, AND VERIFY ALL DIMENSIONS, ELEVATIONS, CONNECTIONS, ETC, THAT ARE DETERMINED BY EQUIPMENT SELECTION. ADJUST SYSTEMS TO ENSURE THAT EQUIPMENT, PIPE, CONDUIT, APPURTENANCES, ETC, CAN BE INSTALLED IN THE ALLOTTED SPACE. NO ADDED COMPENSATION SHALL BE PERMITTED FOR VARIATION DUE TO EQUIPMENT SELECTION.
4. CLEANUP OF ANY FUEL SPILLED AND/OR ANY REQUIRED REMEDIATION OF SOIL OR GROUNDWATER RESULTING FROM A FUEL SPILL DURING THIS PROJECT SHALL BE THE CONTRACTOR'S RESPONSIBILITY. THIS ALSO INCLUDES FUEL AND FLUID SPILLS FROM EQUIPMENT AND VEHICLES. PRECAUTIONS SHALL BE TAKEN TO PRECLUDE SPILLS FROM ENTERING THE ENVIRONMENT SUCH AS PORTABLE TANKS/CONTAINERS FOR PIPELINE/FUEL SYSTEM DRAINING AS WELL AS DRIP PANS FOR EQUIPMENT.
5. THE SUBSURFACE UTILITIES SHOWN ARE BASED ON ABOVEGROUND EVIDENCE OF UTILITY STRUCTURES, AVAILABLE UTILITY MAPS, AND ELECTROMAGNETIC DESIGNATION OF TONEABLE LINES AS PERFORMED BY AUSTIN BROCKENBROUGH & ASSOCIATES, LLP (BROCKENBROUGH). TONEABLE IS DEFINED AS ANY UTILITY CAPABLE OF CARRYING A MAGNETIC TONE. THE TARGETING INFORMATION PERFORMED BY BROCKENBROUGH COMPLIES WITH ASCE 38-02 QUALITY LEVEL B AND BASED ON THE RECOMMENDED MARKING GUIDELINES FOR UNDERGROUND UTILITIES AS ENDORSED BY THE NATIONAL UTILITY LOCATING CONTRACTORS ASSOCIATION (NULCA). THE TARGETING OF SUBSURFACE UTILITIES, ALTHOUGH HIGHLY RELIABLE, IS EXPRESSLY UNDERSTOOD TO REPRESENT AN APPROXIMATE LOCATION OF THE TARGET FACILITY AS MARKED ON THE GROUND SURFACE. THE ACCURACY OF THIS TARGETING IS SUBJECT TO CERTAIN UNCONTROLLABLE FACTORS BEYOND OUR CONTROL SUCH AS LIMITATIONS OF AVAILABLE TECHNOLOGY AND FIELD CONDITIONS THAT MAY INCLUDE, BUT ARE NOT LIMITED TO, DEPTH OF UTILITY, ELECTRICAL CONDUCTIVITY OF UTILITY, SITE CONDITIONS AND ACCESS. THE CONTRACTOR SHALL ON HIS OWN INITIATIVE AND AT NO EXTRA COST TO THE GOVERNMENT LOCATE ALL UNDERGROUND LINES AND STRUCTURES AS NECESSARY. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UNDERGROUND STRUCTURES OR PIPES. HAND EXCAVATE WITHIN 0.90M OF EXISTING UTILITIES.
6. THE SITE PLANS HAVE BEEN PREPARED FROM A FIELD SURVEY PERFORMED BY BROCKENBROUGH IN APRIL, 2013.
7. ALL WORK AND MATERIAL IS NEW AND SHALL BE PROVIDED BY THE CONTRACTOR UNLESS INDICATED OTHERWISE. TEXT AND OBJECTS SHOWN IN A LIGHT LINE WEIGHT SIMILAR TO THIS TEXT SHALL NORMALLY BE CONSIDERED EXISTING. TEXT AND OBJECTS SHOWN IN A DARK LINE WEIGHT SHALL NORMALLY BE CONSIDERED NEW.
8. FOR ADDITIONAL NOTES, LEGENDS AND ABBREVIATIONS, SEE INDIVIDUAL DISCIPLINES.

HAZARDOUS MATERIALS:

- 1. NO ENVIRONMENTAL ASSESSMENT FOR ASBESTOS, LEAD, CADMIUM, CHROMIUM AND PCBs HAS BEEN PERFORMED ON THE SITE BY THE DESIGNER. ANY INFORMATION REGARDING CONTAMINATION, REMEDIATION, REMOVAL AND DISPOSAL, ETC WAS PROVIDED BY THE OWNER. IF SITE CONDITIONS DIFFER FROM THOSE DESCRIBED BY THE CONSTRUCTION DOCUMENTS, CONTRACTOR SHALL NOTIFY THE CONTRACTING OFFICER.
2. NO ENVIRONMENTAL ASSESSMENT OF THE SOIL OR GROUNDWATER HAS BEEN PERFORMED ON THE SITE BY THE DESIGNER. ANY INFORMATION REGARDING CONTAMINATION, REMEDIATION, REMOVAL AND DISPOSAL, ETC WAS PROVIDED BY THE OWNER. IF SITE CONDITIONS DIFFER FROM THOSE DESCRIBED BY THE CONSTRUCTION DOCUMENTS, CONTRACTOR SHALL NOTIFY THE CONTRACTING OFFICER.

SEQUENCE OF CONSTRUCTION:

- 1. PROVISION OF NEW:
A. TWO 15 000 BBL CUT AND COVER UNDERGROUND JET FUEL STORAGE TANKS
B. TWO 76 L/S PUMP VAULTS (ONE ON TOP OF EACH TANK)
C. FILTER BUILDING WITH THREE 38 L/S ISSUE FILTER/SEPARATORS AND AN ATTACHED CONTROL ROOM
D. TWO 38 L/S REFUELER TRUCK LOADING STATIONS LOCATED ON THE FLIGHTLINE
E. REFUELER TRUCK PARKING FOR 12 REFUELER TRUCKS
F. ASSOCIATED ELECTRICAL, STRUCTURAL, ARCHITECTURAL, AND CIVIL WORK AS REQUIRED
G. OPERATIONS BUILDING WITH FUELS LAB
2. THE SEQUENCE OF CONSTRUCTION AS DESCRIBED BELOW IS GIVEN AS A GENERAL GUIDELINE. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING A DETAILED SEQUENCE OF CONSTRUCTION PRIOR TO BEGINNING WORK AND COORDINATING ALL OUTAGES WITH THE CONTRACTING OFFICER. ALL REQUESTS FOR OUTAGES SHALL BE SUBMITTED BY THE CONTRACTOR IN WRITING TO THE CONTRACTING OFFICER, WITH A COPY TO THE FUELS OFFICER, AT LEAST 30 CALENDAR DAYS IN ADVANCE OF THE REQUESTED START DATE.
3. AS THE SCOPE OF THIS PROJECT INVOLVES NEW CONSTRUCTION AND A RELATIVELY UNDEVELOPED SITE, ONLY SHORT OUTAGES WILL BE ALLOWED TO ACCOMPLISH THE FOLLOWING TASKS:
A. PIPING TIE-INS
B. BASE UTILITY TIE-INS: WATER, SANITARY, ELECTRICAL, TELEPHONE/COM SYSTEMS, ETC
C. MOTOR CONTROL CENTER CHANGEOVER
D. PUMP CONTROL PANEL CHANGEOVER
E. SOLENOID VALVE CHANGEOUT
F. ROAD TIE-INS
G. SECURITY SYSTEM TIE-INS
H. SECURITY FENCING TIE-INS
4. THE FUEL PIPING SHALL NOT BE FILLED WITH FUEL WITHOUT COMPLETING THE COATING, PNEUMATIC, RADIOGRAPHIC AND OTHER PIPING TESTS AND APPROVALS. FUEL PIPING WHICH IS COMPLETED, BUT NOT FILLED WITH FUEL, SHALL BE CAPPED AND FILLED WITH NITROGEN.
5. THE CATHODIC PROTECTION SYSTEM ON THE FUEL LINE ROAD CROSSING CASINGS SHALL BE TESTED, COMMISSIONED, AND PLACED IN SERVICE WITHIN 30 DAYS OF BACKFILLING THE FUEL LINE.
6. THE EXISTING FUELING SYSTEM SHALL REMAIN IN OPERATION THROUGHOUT THE PROJECT WITH THE EXCEPTION OF THE SPECIFIC OUTAGES DESCRIBED BELOW. ONLY THOSE SUB-SYSTEMS OF THE OVERALL FUEL SYSTEM SPECIFICALLY DESCRIBED IN EACH OUTAGE WILL BE ALLOWED TO BE TAKEN OUT OF SERVICE.

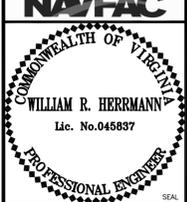
GENERAL SEQUENCE OF CONSTRUCTION:

- 1. OUTAGES DESCRIBED HERE WILL START AT 5:00 PM ON THE FIRST DAY OF THE OUTAGE AND END AT 8:00 AM ON THE LAST OF THE OUTAGE, UNLESS OTHERWISE INDICATED.
2. ALL OUTAGES SHALL BE APPROVED IN WRITING BY THE CONTRACTING OFFICER A MINIMUM OF 14 DAYS PRIOR TO THE PROPOSED OUTAGE START DATE.
3. CONSTRUCT AND COMPLETE THE NEW FUEL SYSTEM TO THE FULLEST EXTENT POSSIBLE WITHOUT AFFECTING THE EXISTING SYSTEM.
4. MAKE BASE UTILITY ELECTRICAL TIE-IN: 20 MINUTE OUTAGE TO THE CONNECT THE NEW PRIMARY ELECTRICAL FEED TO THE EXISTING PADMOUNTED SWITCH USING STACKABLE LOADBREAK BOOTS.
5. MAKE MECHANICAL PIPING TIE-INS: IN A 4 DAY OUTAGE, MAKE THE PIPING AND VALVE TIE-INS AT THE RECEIPT AND ISSUE CONNECTIONS AND PLACE THE EXISTING FUEL FARM BACK INTO OPERATION. PIPING, VALVES, AND FITTINGS SHALL BE VISUALLY INSPECTED FOR CLEANLINESS BEFORE INSTALLATION TO MINIMIZE THE NECESSARY FLUSHING AND CLEANING.
6. MAKE BASE UTILITY TIE-INS:
A. WATER TIE-IN: WET TAP, NO OUTAGE ALLOWED
B. SANITARY TIE-IN: TIE-IN WITHOUT OUTAGES
C. STORMWATER TIE-IN: DRAIN TO CULVERTS AND DITCHES, NO OUTAGE ALLOWED
D. UTILITY ROAD CROSSINGS: TRENCH AND PLATE UTILITIES, NO OUTAGE ALLOWED
E. BASE ROAD TIE-INS: IN A 9 DAY OUTAGE, CLOSE BASE ROADS TO ONE LANE AT TIE-IN LOCATION TO TIE NEW ROADS IN
F. TELEPHONE/COM SYSTEMS: MAKE THE TIE-IN IN A 3 DAY OUTAGE
G. SECURITY SYSTEM TIE-INS: MAKE THE TIE-IN IN A 3 DAY OUTAGE
H. SECURITY FENCING TIE-INS: MAKE THE TIE-IN IN A 3 DAY OUTAGE

- 7. IN A 7 DAY OUTAGE, REMOVE EXISTING AND PROVIDE NEW CONTROLS FOR TRUCK OFF-LOADING SYSTEM 1 AND COMMISSION SAME.
8. REPEAT FOR TRUCK OFF-LOADING SYSTEM 2. FOR TRUCK OFF-LOADING SYSTEM 2, RE-FEED THE ELECTRICAL POWER FROM THE P-1701 SYSTEM.
9. CONNECT TANK T-5 AND T-6 RECEIPT PIPING TO VALVES AT RECEIPT CONNECTION AND RECEIVE FUEL.
10. TEST, START-UP, AND COMMISSION TANK T-5, TANK T-6, THE FILTER BUILDING, REFUELER TRUCK LOADING STATIONS 3 AND 4, THE EMERGENCY GENERATOR AND THE CONNECTING PIPING AND CONTROL SYSTEMS.
11. THE NEW FUEL SYSTEM IS NOW FULLY OPERATIONAL.
12. IN A 90-DAY OUTAGE:
A. MAKE THE MOTOR CONTROL CENTER CHANGEOVER.
B. MAKE THE PUMP CONTROL PANEL CHANGEOVER.
13. CONSTRUCTION OF TRUCK PARKING AND THE OPERATIONS BUILDING MAY BE DONE CONCURRENTLY WITH ANY OF THE ABOVE CONSTRUCTION ACTIVITIES.

FILE NAME: G:\14 Jobs\14-013 Djibouti - Fuel Storage Facility - NAVFAC LANT/CAD Amd64\G-003 SEQUENCE OF CONSTRUCTION, SCHEDULE AND GENERAL NOTES.dwg LAYOUT NAME: SEQUENCE OF CONSTRUCTION, SCHEDULE AND GENERAL NOTES PLOTTED: Thursday, March 31, 2016 - 9:31am USER: wherrmann

Table with columns for DATE, APPR, and SYN.

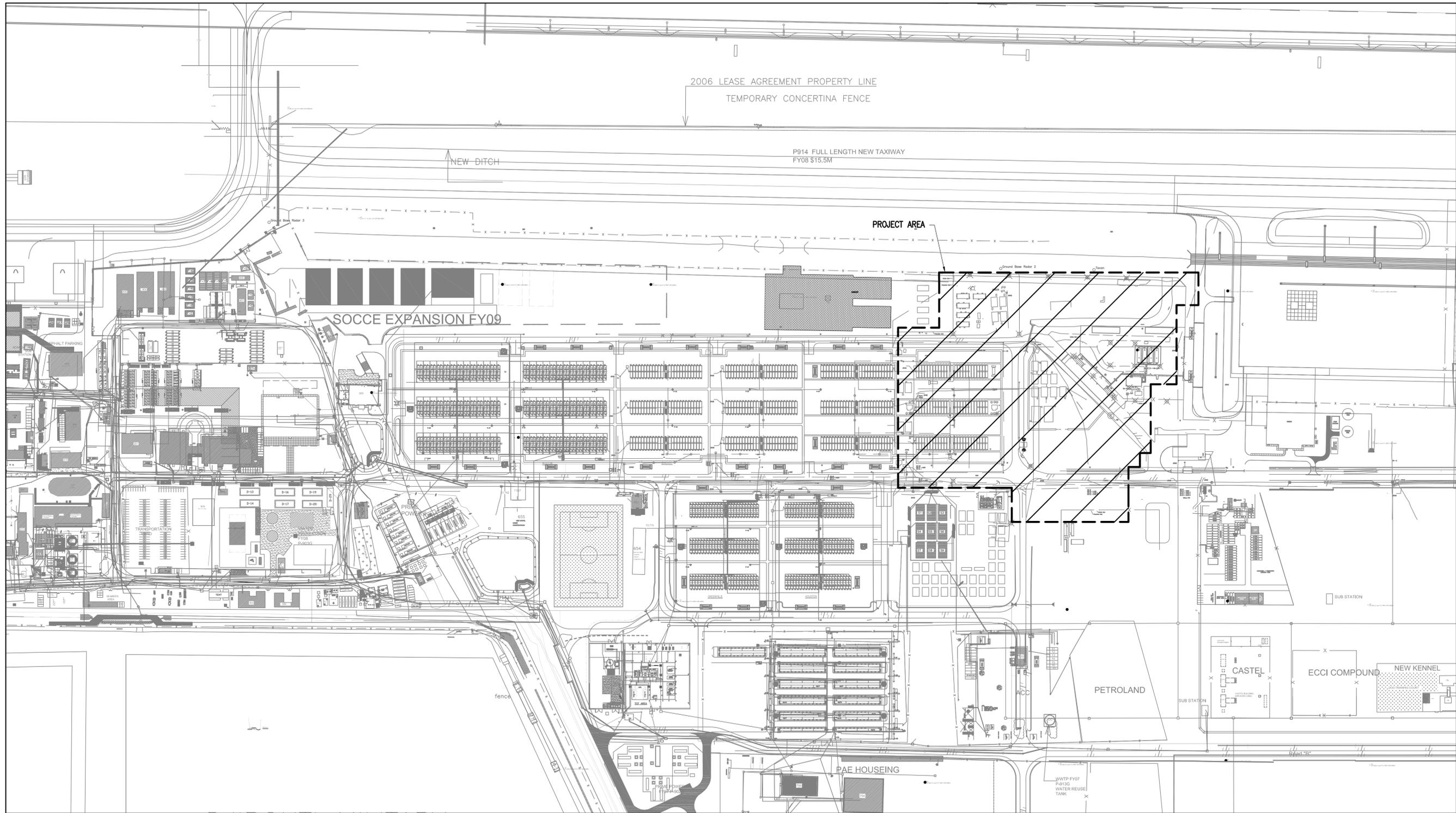


APPROVED FOR COMMANDER NAVFAC ACTIVITY SATISFACTORY TO DATE DES WRH DRW WMG CHK WVB

DEPARTMENT OF THE NAVY ATLANTIC DIVISION CAMP LEMONNIER NAVAL FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA DIBOUTI, AFRICA DESC 1701/P-1701 CONSTRUCT FUEL STORAGE FACILITIES SEQUENCE OF CONSTRUCTION, SCHEDULE AND GENERAL NOTES

SCALE: AS NOTED PROJECT NO.: WORK ORDER NO.: NAVFAC DRAWING NO: 14046967 SHEET 3 OF 186 G-003

FILE NAME: G:\14 Jobs\14-013 Djibouti - NAVFAC LANT\CAD AutoCAD\G-004 OVERALL SITE PLAN - EXISTING.dwg LAYOUT NAME: OVERALL SITE PLAN - EXISTING PLOTTED: Thursday, March 31, 2016 - 9:37am USER: wherrmann



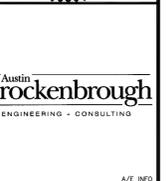
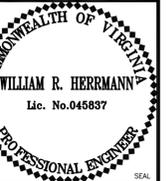
PLAN NORTH
OVERALL SITE PLAN - EXISTING
SCALE: 1:2000



SYN	DESCRIPTION	DATE	APPR



COMMONWEALTH OF VIRGINIA



APPROVED

FOR COMMANDER NAVFAC ACTIVITY

SATISFACTORY TO DATE
DES: WRH | DRW: WMC | CHK: WVB

BRANCH MANAGER
CHIEF ENG/ARCH

NAVAL FACILITIES ENGINEERING COMMAND
NAVFAC LANT
NORFOLK, VIRGINIA

DUBOUTI AFRICA

CAMP LEMONNIER

DESC 1701/P-1701

CONSTRUCT FUEL STORAGE FACILITIES

OVERALL SITE PLAN - EXISTING

SCALE: AS NOTED

PROJECT NO.:
WORK ORDER NO.

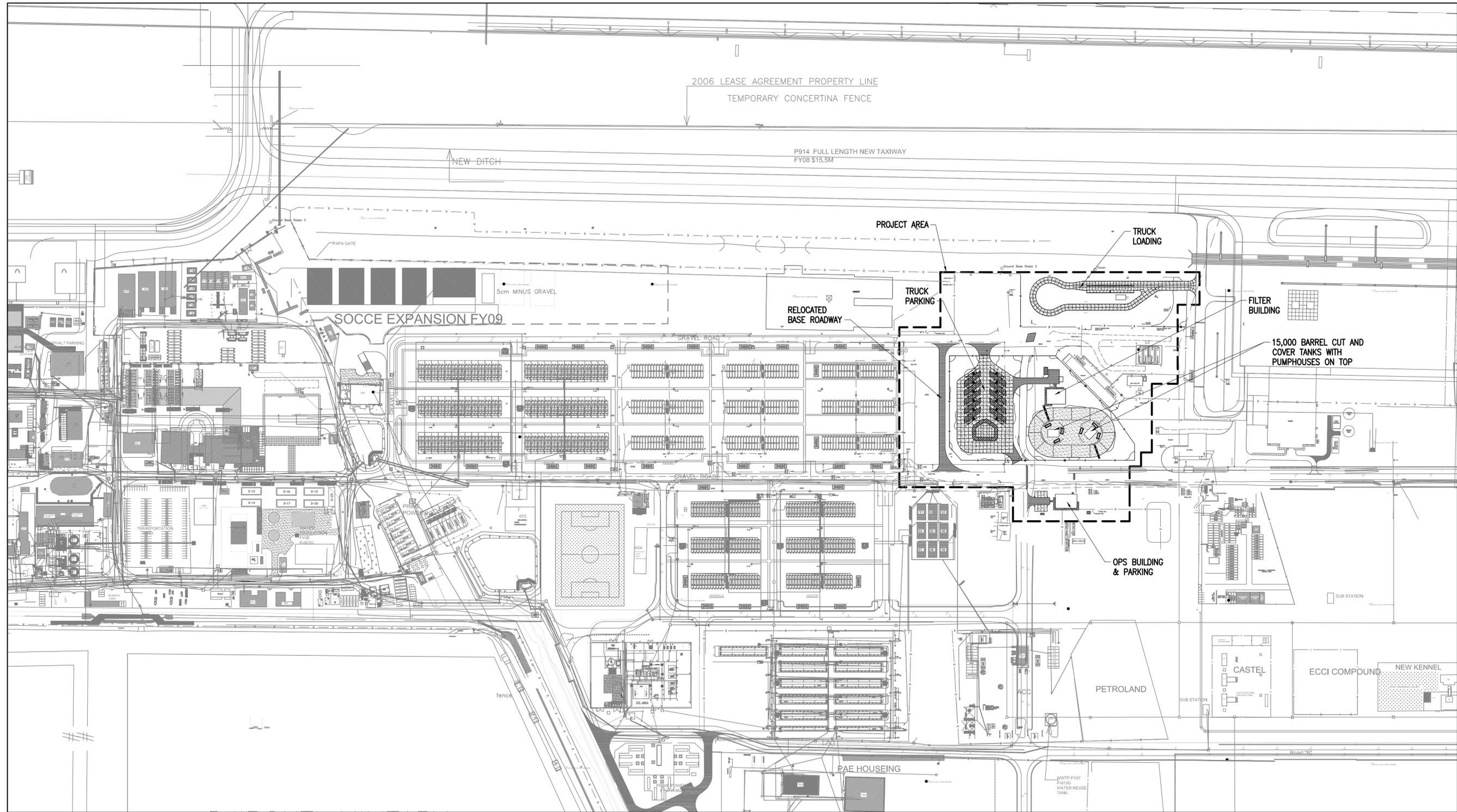
NAVFAC DRAWING NO.: 14046968

SHEET 4 OF 186

G-004

DRAWING REVISION: 10 MARCH 2009

FILE NAME: G:\14_Jobs\14-013_Dibouti - Fuel Storage Facility - NAVFAC LANT\CAD AutoCAD\G-005 OVERALL SITE PLAN - PROPOSED.dwg LAYOUT NAME: OVERALL SITE PLAN - PROPOSED PLOTTED: Thursday, March 31, 2016 - 9:32am USER: wherrmann



PLAN NORTH
OVERALL SITE PLAN - PROPOSED
SCALE: 1:2000



SYN	DESCRIPTION	DATE	APPR

NAVFAC
COMMONWEALTH OF VIRGINIA
WILLIAM R. HERRMANN
Lic. No. 045837
PROFESSIONAL ENGINEER

Austin
Brockenbrough
ENGINEERING - CONSULTING

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES: WRH | DRW: WMC | CHK: WVB

BRANCH MANAGER

CHIEF ENG/ARCH

DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
CAMP LEMONNIER

NAVAL FACILITIES ENGINEERING COMMAND
NAVFAC LANT/COMNAVFACFORV
NAVFAC LANT/COMNAVFACFORV
NAVFAC LANT/COMNAVFACFORV

DUBOUTI AFRICA

DESC 1701/P-1701
CONSTRUCT FUEL STORAGE FACILITIES
OVERALL SITE PLAN - PROPOSED

SCALE: AS NOTED

PROJECT NO.:

WORK ORDER NO.:

NAVFAC DRAWING NO. 14046969

SHEET 5 OF 186

G-005

DRAWING REVISION: 10 MARCH 2009