

FILE NAME: G:\14 Jobs\14-013 Djbouti - Fuel Storage Facility - NAVFAC LANTCOM AutoCAD\C-001 ABBREVIATIONS, LEGEND AND NOTES.dwg LAYOUT NAME: ABBREVIATIONS, LEGEND AND NOTES PLOTTED: Friday, March 25, 2016 - 8:45am USER: jwherrmann

CIVIL ABBREVIATIONS

AC AFG ALUM APPROX ASP ASTM	ASPHALT CONCRETE ABOVE FINISHED GRADE ALUMINUM APPROXIMATE ASPHALT AMERICAN SOCIETY FOR TESTING AND MATERIALS	E EA EL, ELEV ELEC EMH EP EQ EQUIP ETC EXIST FFE FG FM FH FO GALV L L/S LPM H HDPE HH HORIZ HP HT HW HZ INC INV KPH KSM L LP LPM M MAX MECH MFG	EAST EACH ELEVATION ELECTRICAL ELECTRICAL MANHOLE EDGE OF PAVEMENT EQUAL EQUIPMENT ET CETERA EXISTING FINISHED FLOOR ELEVATION FINISHED GROUND FORCE MAIN FIRE HYDRANT FIBER OPTIC GALVANIZED LITER LITER/SECOND LITERS PER MINUTE HEIGHT OR HORIZON HIGH DENSITY POLYETHYLENE PIPE HANDHOLE HORIZONTAL HORSEPOWER HEIGHT HEADWALL HERTZ INCORPORATED INVERT ELEVATION KILOMETER PER HOUR KILO-NEWTONS PER SQUARE METER LENGTH LIGHT POLE LITER PER MINUTE METER MAXIMUM MECHANICAL MANUFACTURER	MH MIN MPa N NOM STR OC OD OL OPS OWS PE PC PIV PL PT PVC PVI PVMF R RCP REINF REQD SAN SHT S SCH SD SQ ST STA STD STR SUE SW TC TE TELE	MANHOLE MINIMUM MEGAPASCAL NORTH OR NAIL NOMINAL STRUCTURE ON CENTER OUTER DIAMETER OVERALL LENGTH OPERATIONS OIL/WATER SERPARATOR PARKING EDGE POINT OF CURVATURE POST INDICATOR VALVE PLATE POINT OF TANGENCY POLYVINYL CHLORIDE POINT VERTICAL INTERSECTION PAVEMENT RADIUS OR RAMP REINFORCED CONCRETE PIPE REINFORCING REQUIRED SANITARY SHEET SOUTH SCHEDULE STORM DRAIN SQUARE STORM OR STREET STATION STANDARD STRUCTURE SUBSURFACE UTILITY EXPLORATION SIDEWALK TOP OF CURB THICKENED EDGE JOINT TELEPHONE	TEMP TDH THH THK TMH TOC TOS TPED TP TYP UG UNK UT UP UON VAR VC VERT W W/O # # # ±	TEMPORARY TOTAL DYNAMIC HEAD TELEPHONE HANDHOLE THICK TELEPHONE MANHOLE TOP OF CONTAINMENT TOP OF SLAB TELEPHONE PEDESTAL TRAVERSE POINT TYPICAL UNDERGROUND UNKNOWN UTILITY UNDERGROUND TELEPHONE UNDERGROUND POWER UNLESS OTHERWISE NOTED VARIES VERTICAL CURVE VERTICAL WATER LINE WEST, WATER OR WIDTH WITH WITHOUT AT DIAMETER/PHASE NUMBER PERCENT PLUS/MINUS (APPROXIMATE)
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CIVIL LEGEND

EXISTING	PROPOSED	EXISTING	PROPOSED	
				SANITARY SEWER
				STORM MAIN
				WATER
				MINOR CONTOURS (0.25/M INTERVAL)
				MAJOR CONTOURS (1/M INTERVAL)
				UNDERGROUND ELECTRIC
				UNDERGROUND UTILITY (SEE ABBREVIATIONS)
				ABOVEGROUND FUEL PIPELINE
				FENCE
				ABOVEGROUND PIPE SUPPORTS
				CONCRETE CURB
				DITCH OR SWALE/DIRECTION OF FLOW
				CULVERT PIPE WITH ENDWALL/HEADWALL
				SPOT ELEVATION (FEET)
				CATCH BASIN
				MANHOLE OR HANDHOLE (AS INDICATED)
				COMBINATION POWER/COMMUNICATION MANHOLE
				COMMUNICATION PEDESTAL
				CLEANOUT
				FIRE HYDRANT W/VALVE
				POST INDICATOR VALVE
				WATER VALVE W/BOX
				DRAINAGE STRUCTURE CALL OUT
				SANITARY MANHOLE
				TRANSFORMER
				LIGHT POLE
				SILT FENCE
				FOD BARRIER
				LIMITS OF DISTURBANCE
				CONNECT TO EXISTING
				SURVEY BENCH MARK
				TRENCH DRAIN
				EYEWASH/SHOWER
				BOLLARD
				ELECTRICAL MANHOLE
				BUILDING
				BITUMINOUS CONCRETE
				CONCRETE (PLAN)
				CONCRETE (SECTION)
				GRAVEL DRIVE
				ABANDON IN PLACE
				DEMOLISH IN ITS ENTIRETY BY REMOVAL
				COMPACTED SUBGRADE
				AGGREGATE BASE COURSE

CONTRACTOR'S OPERATIONS

- CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING DAMAGE TO HAUL ROADS AND PARKING LOTS CAUSED BY HIS/HER ACTIVITIES. CONTRACTOR SHALL PHOTOGRAPH AND DOCUMENT CONDITION OF HAUL ROADS PRIOR TO BEGINNING CONSTRUCTION AND SHALL PROVIDE COPY OF DOCUMENTATION TO CONTRACTING OFFICER.
- PIPE SECTIONS AND MATERIALS REQUIRED FOR CONSTRUCTION OF THE PIPELINES MAY BE STRUNG OUT ALONG THE PIPELINE ALIGNMENT SHORTLY IN ADVANCE OF PIPELINE CONSTRUCTION. THE PIPELINE ALIGNMENT SHALL NOT BE USED FOR LONG TERM STORAGE OF PIPING AND OTHER MATERIALS.
- ENVIRONMENTAL:
 - ALL EROSION CONTROL SHALL ADHERE TO THE EROSION AND SEDIMENT CONTROL PLANS.
 - ALL STORMWATER DISCHARGE FROM CONSTRUCTION AREAS SHALL COMPLY WITH UFC 3-460-01 - DESIGN PETROLEUM FACILITIES. ALSO, THE STORMWATER DISCHARGE SHALL ADHERE TO ENERGY INDEPENDENCE AND SECURITY ACT SEC. 438 TO THE MAXIMUM EXTENT PRACTICABLE.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR STABILIZING DISTURBED AREAS NOT TO BE PAVED.
 - THE CONTRACTOR SHALL INSPECT AND MAINTAIN THE INTEGRITY AND FUNCTION OF ALL TEMPORARY EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE DEVELOPMENT PROCESS. TO ASSURE PROPER FUNCTION, SILTATION BARRIERS SHALL BE MAINTAINED IN GOOD CONDITION AND REINFORCED, EXTENDED, REPAIRED OR REPLACED AS NECESSARY. WASHOUTS SHALL IMMEDIATELY BE REPAIRED, AND PROTECTED FROM FURTHER EROSION. ALL ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF AS DIRECTED BY THE BASE.
 - FOR AREAS OF DISTURBANCE LESS THAN 2 HECTARES, EROSION CONTROL MEASURES SHALL BE INSPECTED ONCE EVERY 7 DAYS AND IMMEDIATELY AFTER A RUNOFF PRODUCING STORM EVENT. IF CONSTRUCTION IS SUSPENDED FOR MORE THAN 30 DAYS, THE MEASURES SHALL BE INSPECTED ONCE EVERY 30 DAYS.
 - THERE ARE NO SURFACE WATERS TO BE PROTECTED.
 - STOCKPILES AND STAGING AREAS SHALL BE PLACED AS INDICATED BY THE BASE AND SHALL BE PROTECTED BY SILT FENCE AT ALL TIMES.

CIVIL DRAWING AND SURVEY NOTES

- THE SITE TOPOGRAPHICAL SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF THOMAS A. CONDREY, LS FROM AN ACTUAL GROUND SURVEY MADE UNDER MY (THOMAS A. CONDREY, LS) SUPERVISION; THAT THE ORIGINAL DATA WAS OBTAINED IN APRIL 2014, AND THAT THIS MEETS MINIMUM ACCURACY STANDARDS. OTHER EXISTING DATA WAS PROVIDED TO BROCKENBROUGH FROM THE BASE THROUGH AS-BUILT PLANS AND PREVIOUSLY PREPARED DESIGN PLANS AND THE SUBSURFACE UTILITIES WERE PROVIDED TO BROCKENBROUGH BY STANLEY CONSULTANTS FROM INFORMATION OBTAINED DURING MARCH AND APRIL 2014.
- CONTRACTOR SHALL ESTABLISH TEMPORARY BENCHMARKS AND HORIZONTAL CONTROL POINTS AT VARIOUS LOCATIONS AS REQUIRED.
- UTILITIES ARE SHOWN BASED ON INFORMATION AVAILABLE. ADDITIONAL UTILITIES MAY BE ENCOUNTERED. CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING HIS/HER OWN UTILITY LOCATIONS AND SHALL DIG TEST PITS TO LOCATE ALL EXISTING UTILITIES PRIOR TO ANY EXCAVATION ACTIVITIES. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL DIG PERMITS. THE CONTRACTOR SHALL COORDINATE WITH UTILITIES, AND THE CONTRACTING OFFICER TO LOCATE EXISTING UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH THE BASE UTILITIES LOCATOR, CONTRACTING OFFICER AND THE DRAWINGS. CONTRACTOR SHALL NOTIFY CONTRACTING OFFICER IMMEDIATELY IN THE EVENT OF CONFLICT. THE CONTRACTOR SHALL ALSO CONTACT THE FIRE DEPARTMENT AND OBTAIN A HOT WORK PERMIT PRIOR TO PERFORMING ANY HOT WORK.
- HAND EXCAVATE WITHIN 0.6m OF EXISTING UTILITIES THAT ARE TO REMAIN.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES AND GOVERNMENT PROPERTY, AND EQUIPMENT RESULTING FROM HIS/HER ACTIVITIES. ANY DAMAGE TO A UTILITY OR INTERRUPTION OF SERVICE CAUSED BY THE CONTRACTOR OR SUBCONTRACTORS, THE CONTRACTOR SHALL IMMEDIATELY BEGIN REPAIR OF THE UTILITY AND PROCEED CONTINUOUSLY (NON-STOP ALL DAY AND ALL NIGHT) UNTIL SERVICE IS RESTORED.
- NOTIFY CONTRACTING OFFICER IMMEDIATELY IF DEMOLITION WILL AFFECT UTILITY SERVICE TO OTHER FACILITIES.
- COORDINATE WITH CONTRACTING OFFICER FOR ALL DISRUPTIONS OF UTILITIES AS A RESULT OF REQUIRED DEMOLITION AND NEW WORK ASSOCIATED WITH THE PROJECT. A 14-DAY NOTIFICATION IS REQUIRED PRIOR TO ALL WATER AND OTHER UTILITY OUTAGES. AS PART OF GRANTING DISRUPTION APPROVAL AND IN THE SOLE OPINION OF THE CONTRACTING OFFICER, THE CONTRACTING OFFICER MAY IMPOSE RESTRICTIONS AND REQUIREMENTS AT NO ADDITIONAL COST TO THE GOVERNMENT.
- HORIZONTAL LOCATIONS OF UTILITIES ARE SHOWN ON PLAN DRAWINGS. THE VERTICAL LOCATION SHOWN IN THE PROFILE IS BASED ON STRAIGHT LINE SLOPE BETWEEN STRUCTURES FOR GRAVITY LINES, SUE PERFORMED BY STANLEY CONSULTANTS, AND OTHER AVAILABLE INFORMATION OR STANDARD COVER OF SPECIFIC UTILITY LINES. ACTUAL ELEVATIONS SHALL BE VERIFIED BY CONTRACTOR. CONTRACTOR SHALL NOTIFY CONTRACTING OFFICER IMMEDIATELY IN THE EVENT OF CONFLICT.
- CENTERLINE OF NEW UTILITY LINES ARE SHOWN ON PLAN CIVIL SHEETS. DIMENSIONS ARE SHOWN TO CENTERLINE UNLESS INVERT ELEVATIONS ARE INDICATED.

APPR	DATE
DESCRIPTION	DATE
SYN	DATE




Austin
Brockenbrough
ENGINEERING - CONSULTING

APPROVED
EMAIL BY ANDREA LEMON
FOR COMMANDER NAVFAC 04/04/2016

SATISFACTORY TO DATE

DES: JDP | DRW: JDP | CHK: CBL
LET/RRR

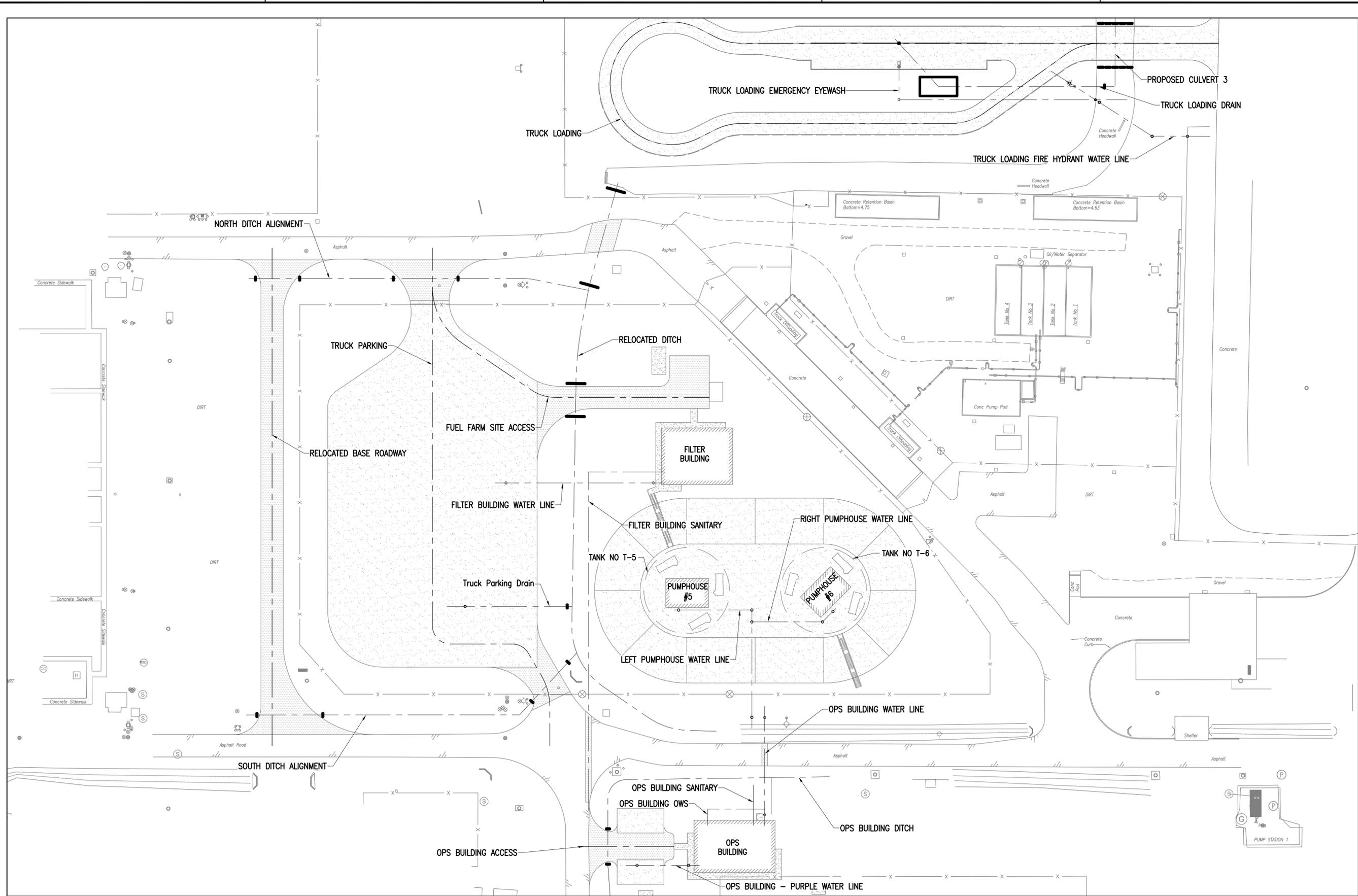
BRANCH MANAGER
CHIEF ENG/ARCH: EJJ

NAVFACILITIES ENGINEERING COMMAND
NAVFACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA
DIBOUTI, AFRICA
CAMP LEMONNIER

DESC 1701/P-1701
CONSTRUCT FUEL STORAGE FACILITIES
ABBREVIATIONS, LEGEND AND NOTES

SCALE: AS NOTED
PROJECT NO.:
WORK ORDER NO.:
NAVFAC DRAWING NO.:
SHEET 9 OF 186
C-001
DRAWING REVISION: 10 MARCH 2009

FILE NAME: G:\14 Jobs\14-013 Djibouti - Fuel Storage Facility - NAVFAC LANT\CAD AutoCAD\C-003 CIVIL OVERALL ALIGNMENT PLAN.dwg LAYOUT NAME: CIVIL OVERALL ALIGNMENT PLAN PLOTTED: Friday, March 25, 2016 - 8:46am USER: wherrmann



PLAN NORTH
OVERALL ALIGNMENT PLAN
 SCALE: 1: 500



SYN	DESCRIPTION	DATE	APPR

NAVFAC
 COMMONWEALTH OF VIRGINIA
 JONATHAN PICKRAL
 Lic. No. 038856
 PROFESSIONAL ENGINEER

Austin
Brockenbrough
 ENGINEERING • CONSULTING

APPROVED _____ A/E INFO

FOR COMMANDER NAVFAC

ACTIVITY _____

SATISFACTORY TO _____ DATE _____

DES: JDP DRW: JDP CHK: CBL

<<PM/DM>>

BRANCH MANAGER _____

CHIEF ENG/ARCH _____

<<<CS>>

DEPARTMENT OF THE NAVY
 ATLANTIC DIVISION
 CAMP LEMONNIER

NAVAL FACILITIES ENGINEERING COMMAND
 NORFOLK, VIRGINIA

DUBOUTI, AFRICA

DESC 1701/P-1701
CONSTRUCT FUEL STORAGE FACILITIES
 CIVIL OVERALL ALIGNMENT PLAN

SCALE: AS NOTED

PROJECT NO.: _____

WORK ORDER NO. _____

NAVFAC DRAWING NO. 14046975

SHEET 11 OF 186

C-003

DRAWING REVISION: 10 MARCH 2009

FILE NAME: G:\14 Jobs\14-013 Djibouti - Fuel Storage Facility - NAVFAC LANTCOM AutoCAD\C-004 ALIGNMENT DATA PLAN.dwg LAYOUT NAME: ALIGNMENT DATA PLAN PLOTTED: Friday, March 25, 2016 - 8:46am USER: wherrmann

Alignment: Ditch Alignment - North of Parking

Description:			
Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+00.000	1276792.877	299208.712
End:	10+15.668	1276795.879	299193.334
Tangent Data			
Parameter	Value	Parameter	Value
Length:	15.668	Course:	N 78° 57' 19.2145" W
Curve Point Data			
Description	Station	Northing	Easting
PC:	10+15.668	1276795.879	299193.334
RP:		1276786.064	299191.418
PT:	10+17.596	1276796.064	299191.418
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	11° 02' 40.7855" Type:	Type:	LEFT
Radius:	10.000		
Length:	1.928	Tangent:	0.967
Mid-Ord:	0.046	External:	0.047
Chord:	1.925	Course:	N 84° 28' 39.6072" W
Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+17.596	1276796.064	299191.418
End:	10+93.284	1276796.064	299115.730
Tangent Data			
Parameter	Value	Parameter	Value
Length:	75.688	Course:	N 90° 00' 00.0000" W

Alignment: Ditch Alignment - South of Parking

Description:			
Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+00.000	1276693.836	299205.545
End:	10+23.089	1276676.896	299189.856
Tangent Data			
Parameter	Value	Parameter	Value
Length:	23.089	Course:	S 42° 48' 20.1396" W
Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+23.089	1276676.896	299189.856
End:	10+97.882	1276676.850	299115.063
Tangent Data			
Parameter	Value	Parameter	Value
Length:	74.792	Course:	S 89° 57' 52.2013" W

Alignment: Filter Building Sanitary

Description:			
Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+00.000	1276650.755	299208.739
End:	10+92.490	1276743.245	299208.739
Tangent Data			
Parameter	Value	Parameter	Value
Length:	92.490	Course:	N 00° 00' 00.0000" E
Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+92.490	1276743.245	299208.739
End:	11+13.329	1276743.245	299229.578
Tangent Data			
Parameter	Value	Parameter	Value
Length:	20.839	Course:	S 90° 00' 00.0000" E

Alignment: Filter Building Water Line

Description:			
Tangent Data			
Description	PT Station	Northing	Easting
Start:	0+00.000	1276740.245	299183.157
End:	0+46.421	1276740.245	299229.578
Tangent Data			
Parameter	Value	Parameter	Value
Length:	46.421	Course:	N 90° 00' 00.0000" E

Alignment: Fuel Farm Site Access

Description:			
Curve Point Data			
Description	Station	Northing	Easting
PC:	50+00.000	1276793.779	299166.011
RP:		1276793.779	299184.571
PT:	50+18.141	1276778.392	299174.192
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	55° 00' 03.4644" Type:	Type:	LEFT
Radius:	18.560		
Length:	18.141	Tangent:	9.869
Mid-Ord:	2.173	External:	2.461
Chord:	17.427	Course:	S 28° 00' 01.7322" E

Tangent Data			
Description	PT Station	Northing	Easting
Start:	50+18.141	1276778.392	299174.192
End:	50+40.976	1276765.623	299193.124
Tangent Data			
Parameter	Value	Parameter	Value
Length:	22.835	Course:	S 56° 00' 03.4644" E
Curve Point Data			
Description	Station	Northing	Easting
PC:	50+40.976	1276765.623	299193.124
RP:		1276775.571	299199.834
PT:	50+48.097	1276765.571	299199.834
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	33° 59' 57.8343" Type:	Type:	LEFT
Radius:	12.000		
Length:	7.121	Tangent:	3.669
Mid-Ord:	0.524	External:	0.548
Chord:	7.017	Course:	S 73° 00' 02.3816" E
Tangent Data			
Description	PT Station	Northing	Easting
Start:	50+48.097	1276765.571	299199.834
End:	50+90.055	1276763.571	299241.793
Tangent Data			
Parameter	Value	Parameter	Value
Length:	41.959	Course:	N 89° 59' 58.7013" E

Alignment: Left Pumphouse Waterline

Description:			
Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+00.000	1276673.182	299253.447
End:	10+32.343	1276705.524	299253.447
Tangent Data			
Parameter	Value	Parameter	Value
Length:	32.343	Course:	N 00° 00' 00.0000" E
Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+32.343	1276705.524	299253.447
End:	10+53.632	1276705.524	299232.158
Tangent Data			
Parameter	Value	Parameter	Value
Length:	21.289	Course:	N 90° 00' 00.0000" W

Alignment: OPS Building - Purple Waterline

Description:			
Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+00.000	1276635.789	299218.972
End:	10+20.197	1276635.773	299239.169
Tangent Data			
Parameter	Value	Parameter	Value
Length:	20.197	Course:	S 89° 57' 20.4676" E

Alignment: Ops Building Access

Description:			
Tangent Data			
Description	PT Station	Northing	Easting
Start:	70+00.000	1276640.955	299205.724
End:	70+26.397	1276640.955	299232.121
Tangent Data			
Parameter	Value	Parameter	Value
Length:	26.397	Course:	N 90° 00' 00.0000" E

Alignment: OPS Building Ditch

Description:			
Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+00.000	1276659.974	299274.698
End:	10+55.692	1276659.193	299219.011
Tangent Data			
Parameter	Value	Parameter	Value
Length:	55.692	Course:	S 89° 11' 50.4367" W
Curve Point Data			
Description	Station	Northing	Easting
PC:	10+55.692	1276659.193	299219.011
RP:		1276654.194	299219.081
PT:	10+63.476	1276654.194	299214.081
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	89° 11' 50.4367" Type:	Type:	LEFT
Radius:	5.000		
Length:	7.784	Tangent:	4.930
Mid-Ord:	1.440	External:	2.022
Chord:	7.021	Course:	S 44° 35' 55.2183" W
Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+63.476	1276654.194	299214.081
End:	10+81.975	1276635.695	299214.081

Tangent Data				
Description	Parameter	Value	Parameter	Value
Start:	Length:	18.499	Course:	S 00° 00' 00.0000" E
Curve Point Data				
Description	Station	Northing	Easting	
PC:	10+81.975	1276635.695	299214.081	
RP:		1276635.695	299219.081	
PT:	10+82.335	1276635.336	299214.094	
Circular Curve Data				
Parameter	Value	Parameter	Value	
Delta:	04° 07' 13.6583" Type:	Type:	LEFT	
Radius:	5.000			
Length:	0.360	Tangent:	0.180	
Mid-Ord:	0.003	External:	0.003	
Chord:	0.360	Course:	S 02° 03' 36.8292" E	
Tangent Data				
Description	PT Station	Northing	Easting	
Start:	10+82.335	1276635.336	299214.094	
End:	11+00.215	1276617.502	299215.379	
Tangent Data				
Parameter	Value	Parameter	Value	
Length:	17.880	Course:	S 04° 07' 13.6584" E	

Alignment: OPS Building OWS

Description:			
Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+00.000	1276651.164	299256.918
End:	10+08.41	01276651.166	299248.508
Tangent Data			
Parameter	Value	Parameter	Value
Length:	8.410	Course:	N 89° 59' 19.1180" W
Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+08.410	1276651.166	299248.508
End:	10+15.576	1276651.168	299241.342
Tangent Data			
Parameter	Value	Parameter	Value
Length:	7.166	Course:	N 89° 59' 19.1180" W
Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+15.576	1276651.168	299241.342
End:	10+20.072	1276646.671	299241.342
Tangent Data			
Parameter	Value	Parameter	Value
Length:	4.496	Course:	S 00° 00' 00.0000" W

Alignment: Ops Building Sanitary

Description:			
Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+00.000	1276657.702	299253.919
End:	10+11.033	1276646.669	299253.918
Tangent Data			
Parameter	Value	Parameter	Value
Length:	11.033	Course:	S 00° 00' 31.4361" W

Alignment: Ops Building Water Line

Description:			
Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+00.000	1276679.220	299256.971
End:	10+32.647	1276646.572	299256.966
Tangent Data			
Parameter	Value	Parameter	Value
Length:	32.647	Course:	S 00° 00' 31.4361" W

Alignment: Proposed Culvert 3

Description:			
Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+00.000	1276870.782	299352.949
End:	10+22.000	1276848.783	299352.909
Tangent Data			
Parameter	Value	Parameter	Value
Length:	22.000	Course:	S 00° 06' 15.8001" W

Alignment: Relocated Base Roadway

Description:			
Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+00.000	1276804.413	299122.110
End:	11+35.965	1276668.448	299122.110
Tangent Data			
Parameter	Value	Parameter	Value
Length:	135.965	Course:	S 00° 00' 00.0000" W

Alignment: Relocated Ditch

Description:			
Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+00.000	1276822.305	299216.838
End:	10+29.112	1276794.272	299208.984
Tangent Data			
Parameter	Value	Parameter	Value
Length:	29.112	Course:	S 15° 39' 06.0493" W
Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+29.112	1276794.272	299208.984
End:	10+38.728	1276784.835	299207.142
Tangent Data			
Parameter	Value	Parameter	Value
Length:	9.615	Course:	S 11° 02' 40.7855" W
Curve Point Data			
Description	Station	Northing	Easting
PC:	10+38.728	1276784.835	299207.142
RP:		1276765.678	299305.290
PT:	10+56.290 1	276767.392	299205.304
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	10° 03' 45.1711" Type:	Type:	LEFT
Radius:	100.000		
Length:	17.562	Tangent:	8.804
Mid-Ord:	0.385	External:	0.387
Chord:	17.540	Course:	S 06° 00' 48.1999" W
Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+56.290	1276767.392	299205.304
End:	11+22.323	1276701.369	299204.173
Tangent Data			
Parameter	Value	Parameter	Value
Length:	66.033	Course:	S 00° 58' 55.6144" W
Curve Point Data			
Description	Station	Northing	Easting
PC:	11+22.323	1276701.369	299204.173
RP:		1276701.026	299224.170
PT:	11+42.096	1276684.511	299212.889
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	56° 38' 51.1222" Type:	Type:	LEFT
Radius:	20.000		
Length:	19.774	Tangent:	10.780
Mid-Ord:	2.394	External:	2.720
Chord:	18.978	Course:	S 27° 20' 29.9467" E
Tangent Data			
Description	PT Station	Northing	Easting
Start:	11+42.096	1276684.511	299212.889
End:	11+56.947	1276676.135	299225.152
Tangent Data			
Parameter	Value	Parameter	Value
Length:	14.850	Course:	S 55° 39' 55.5079" E
Curve Point Data			
Description	Station	Northing	Easting
PC:	11+56.947	1276676.135	299225.152
RP:		1276692.650	299236.432
PT:	11+68.654	1276672.652	299236.155
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	33° 32' 25.1847" Type:	Type:	LEFT
Radius:	20.000		
Length:	11.708</		

FILE NAME: G:\14 Jobs\14-013 Djbouti - Fuel Storage Facility - NAVFAC LANTCOM AutoCAD\C-005 ALIGNMENT DATA PLAN.dwg LAYOUT NAME: ALIGNMENT DATA PLAN PLOTTED: Friday, March 25, 2016 - 8:47am USER: wherrmann

Alignment: Right Pumphouse Waterline

Description:
Tangent Data

Description	PT Station	Northing	Easting
Start:	10+00.000	1276702.299	299253.447
End:	10+19.351	1276702.299	299272.798

Tangent Data

Parameter	Value	Parameter	Value
Length:	19.351	Course:	N 90° 00' 00.0000" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	10+19.351	1276702.299	299272.798
End:	10+24.599	1276706.009	299276.509

Tangent Data

Parameter	Value	Parameter	Value
Length:	5.248	Course:	N 45° 00' 00.0000" E

Alignment: Truck Loading

Description:
Tangent Data

Description	PT Station	Northing	Easting
Start:	60+00.000	1276860.350	299381.222
End:	61+30.605	1276860.350	299250.617

Tangent Data

Parameter	Value	Parameter	Value
Length:	130.605	Course:	S 89° 59' 59.9919" W

Curve Point Data

Description	Station	Northing	Easting
PC:	61+30.605	1276860.350	299250.617
RP:		1276876.140	299250.617
PT:	61+38.048	1276862.072	299243.446

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	27° 00' 30.8763"	Type:	RIGHT
Radius:	15.790		
Length:	7.443	Tangent:	3.792
Mid-Ord:	0.437	External:	0.449
Chord:	7.375	Course:	N 76° 29' 44.5699" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	61+38.048	1276862.072	299243.446
End:	61+43.018	1276864.329	299239.018

Tangent Data

Parameter	Value	Parameter	Value
Length:	4.970	Course:	N 62° 59' 29.1318" W

Curve Point Data

Description	Station	Northing	Easting
PC:	61+43.018	1276864.329	299239.018
RP:		1276849.405	299231.412
PT:	62+11.427	1276834.480	299239.014

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	234° 00' 04.4543"	Type:	LEFT
Radius:	16.750		
Length:	68.409	Tangent:	32.873
Mid-Ord:	24.355	External:	53.644
Chord:	29.849	Course:	S 00° 00' 28.6411" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	62+11.427	1276834.480	299239.014
End:	62+16.383	1276836.729	299243.430

Tangent Data

Parameter	Value	Parameter	Value
Length:	4.956	Course:	N 63° 00' 26.4140" E

Curve Point Data

Description	Station	Northing	Easting
PC:	62+16.383	1276836.729	299243.430
RP:		1276822.660	299250.597
PT:	62+23.821	1276838.450	299250.597

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	26° 59' 33.5860"	Type:	RIGHT

Radius: 15.790
Length: 7.439
Mid-Ord: 0.436
Chord: 7.370

Tangent: 3.790
External: 0.448
Course: N 76° 30' 13.2070" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	62+23.821	1276838.450	299250.597
End:	62+81.373	1276838.450	299308.149

Tangent Data

Parameter	Value	Parameter	Value
Length:	57.552	Course:	N 90° 00' 00.0000" E

Curve Point Data

Description	Station	Northing	Easting
PC:	62+81.373	1276838.450	299308.149
RP:		1276853.750	299308.149
PT:	62+90.876	1276841.307	299317.052

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	35° 35' 09.8879"	Type:	LEFT
Radius:	15.300		
Length:	9.503	Tangent:	4.910
Mid-Ord:	0.732	External:	0.769
Chord:	9.351	Course:	N 72° 12' 25.0561" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	62+90.876	1276841.307	299317.052
End:	63+18.689	1276857.492	299339.671

Tangent Data

Parameter	Value	Parameter	Value
Length:	27.813	Course:	N 54° 24' 50.1121" E

Curve Point Data

Description	Station	Northing	Easting
PC:	63+18.689	1276857.492	299339.671
RP:		1276845.050	299348.574
PT:	63+28.192	1276860.350	299348.574

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	35° 35' 09.8499"	Type:	RIGHT
Radius:	15.300		
Length:	9.503	Tangent:	4.910
Mid-Ord:	0.732	External:	0.769
Chord:	9.351	Course:	N 72° 12' 25.0371" E

Alignment: Truck Loading Drain

Description:
Tangent Data

Description	PT Station	Northing	Easting
Start:	10+00.000	1276848.530	299352.684
End:	10+37.329	1276848.530	299315.355

Tangent Data

Parameter	Value	Parameter	Value
Length:	37.329	Course:	N 89° 59' 59.9919" W

Curve Point Data

Description	Station	Northing	Easting
PC:	10+37.329	1276848.530	299315.355
RP:		1276848.530	299304.547
PT:	10+48.136	1276848.530	299304.547

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	10.807	Course:	N 89° 59' 59.9919" W

Tangent Data

Description	PT Station	Northing	Easting
Start:	10+48.136	1276848.530	299304.547
End:	10+65.677	1276861.469	299292.705

Tangent Data

Parameter	Value	Parameter	Value
Length:	17.541	Course:	N 42° 27' 52.7037" W

Alignment: Truck Loading Emergency Eyewash

Description:
Tangent Data

Description	PT Station	Northing	Easting
Start:	10+00.000	1276844.930	299356.164
End:	10+62.427	1276844.930	299293.737

Tangent Data

Parameter	Value	Parameter	Value
Length:	62.427	Course:	N 89° 59' 59.9858" W

Curve Point Data

Description	Station	Northing	Easting
PC:	10+62.427	1276844.930	299293.737
RP:		1276855.778	299293.737
PT:	10+73.275	1276855.778	299293.737

Tangent Data

Parameter	Value	Parameter	Value
Length:	10.848	Course:	N 00° 00' 01.0492" W

Alignment: Truck Loading Fire Hydrant Water Line

Description:
Tangent Data

Description	PT Station	Northing	Easting
Start:	10+00.000	1276834.917	299378.832
End:	10+15.798	1276834.936	299363.034

Tangent Data

Parameter	Value	Parameter	Value
Length:	15.798	Course:	N 89° 55' 44.2879" W

Curve Point Data

Description	Station	Northing	Easting
PC:	10+15.798	1276834.936	299363.034
RP:		1276852.747	299335.337
PT:	10+48.728	1276852.747	299335.337

Tangent Data

Parameter	Value	Parameter	Value
Length:	32.930	Course:	N 57° 15' 24.2624" W

Alignment: Truck Parking - Center

Description:
Tangent Data

Description	PT Station	Northing	Easting
Start:	20+00.000	1276804.448	299166.011
End:	21+03.222	1276701.227	299166.011

Tangent Data

Parameter	Value	Parameter	Value
Length:	103.222	Course:	S 00° 00' 00.0000" W

Curve Point Data

Description	Station	Northing	Easting
PC:	21+03.222	1276701.227	299166.011
RP:		1276701.227	299171.011
PT:	21+11.076	1276696.227	299171.011

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	90° 00' 00.0000"	Type:	LEFT
Radius:	5.000		
Length:	7.854	Tangent:	5.000
Mid-Ord:	1.464	External:	2.071
Chord:	7.071	Course:	S 45° 00' 00.0000" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	21+11.076	1276696.227	299171.011
End:	21+28.020	1276696.227	299187.955

Tangent Data

Parameter	Value	Parameter	Value
Length:	16.944	Course:	N 90° 00' 00.0000" E

Curve Point Data

Description	Station	Northing	Easting
PC:	21+28.020	1276696.227	299187.955
RP:		1276691.227	299187.955
PT:	21+33.237	1276693.743	299192.276

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	59° 47' 25.0674"	Type:	RIGHT
Radius:	5.000		

Length: 5.218
Mid-Ord: 0.665
Chord: 4.984

Tangent: 2.875
External: 0.767
Course: S 60° 06' 17.4663" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	21+33.237	1276693.743	299192.276
End:	21+40.326	1276687.616	299195.843

Tangent Data

Parameter	Value	Parameter	Value
Length:	7.089	Course:	S 30° 12' 34.9326" E

Curve Point Data

Description	Station	Northing	Easting
PC:	21+40.326	1276687.616	299195.843
RP:		1276679.063	299181.151
PT:	21+49.290	1276679.063	299198.151

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	30° 12' 34.9326"	Type:	RIGHT
Radius:	17.000		
Length:	8.963	Tangent:	4.588
Mid-Ord:	0.587	External:	0.608
Chord:	8.860	Course:	S 15° 06' 17.4663" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	21+49.290	1276679.063	299198.151
End:	21+59.900	1276668.452	299198.151

Tangent Data

Parameter	Value	Parameter	Value
Length:	10.610	Course:	S 00° 00' 00.0000" W

Alignment: Truck Parking Drain

Description:
Tangent Data

Description	PT Station	Northing	Easting
Start:	10+00.000	1276706.513	299204.261
End:	10+34.296	1276706.513	299169.965

Tangent Data

Parameter	Value	Parameter	Value
Length:	34.296	Course:	N 90° 00' 00.0000" W

DATE	DESCRIPTION



APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES: JDP DRW: JDP CHK: CBL

BRANCH MANAGER

CHIEF ENG/ARCH

<<<<<<

DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
NAVFAC LANTCOM
NAVFACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA
DUBOULT, AFRICA
CAMP LEMONNIER

DESC 1701/P-1701
CONSTRUCT FUEL STORAGE FACILITIES
ALIGNMENT DATA PLAN

SCALE: AS NOTED

PROJECT NO.:

WORK ORDER NO.:

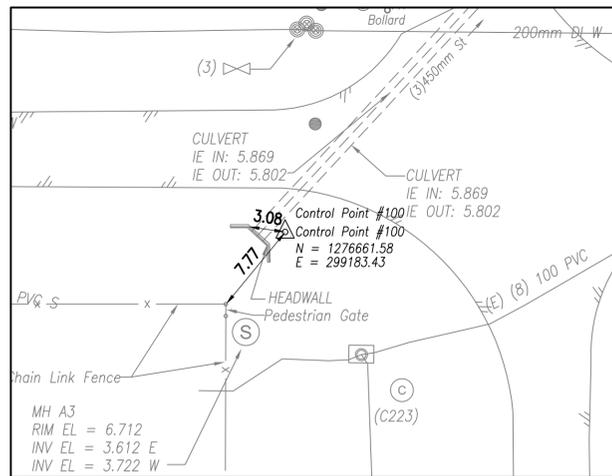
NAVFAC DRAWING NO. 14046977

SHEET 13 OF 186

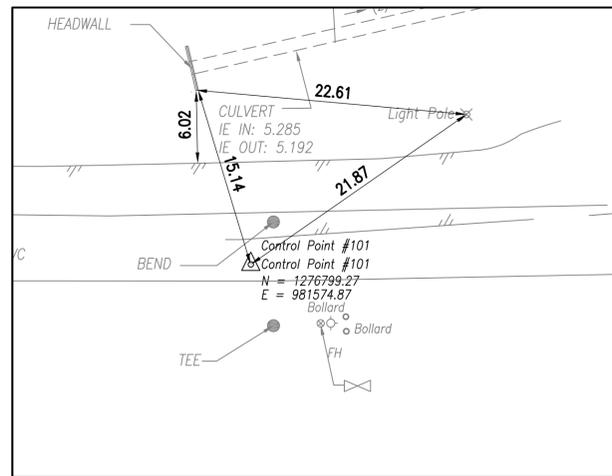
C-005

DRAWING REVISION: 10 MARCH 2009

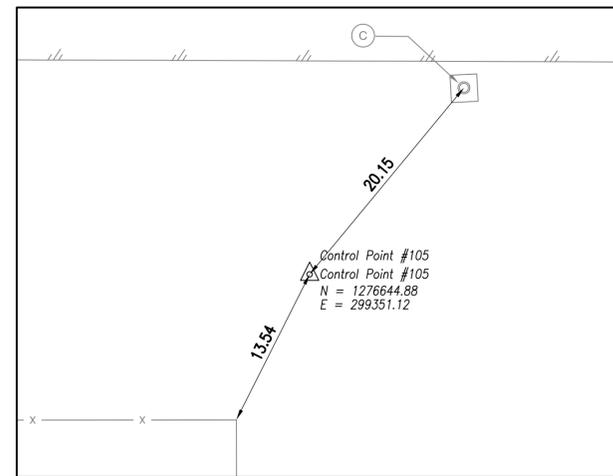
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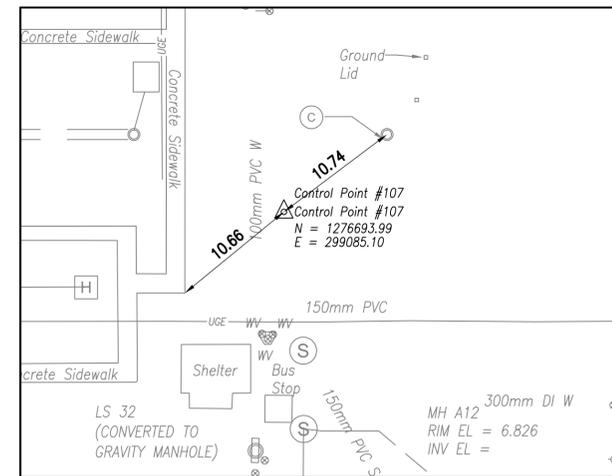
PLAN NORTH
CONTROL POINT #100
 SCALE: 1:300



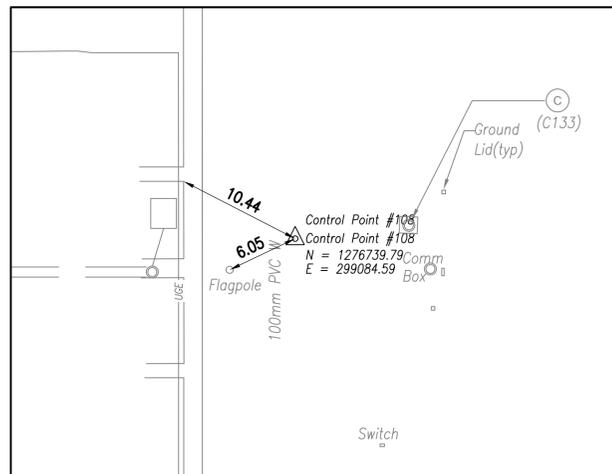
PLAN NORTH
CONTROL POINT #101
 SCALE: 1:300



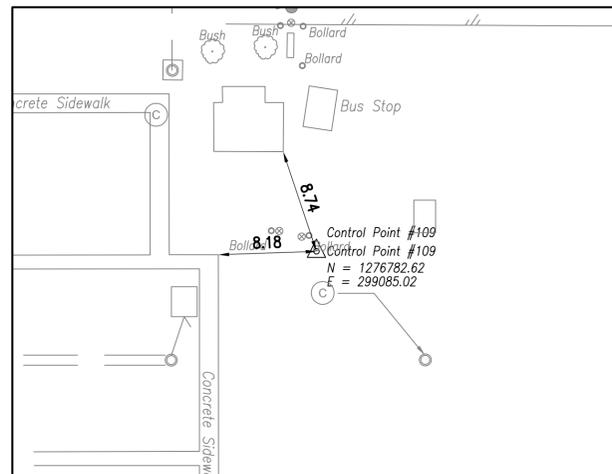
PLAN NORTH
CONTROL POINT #105
 SCALE: 1:300



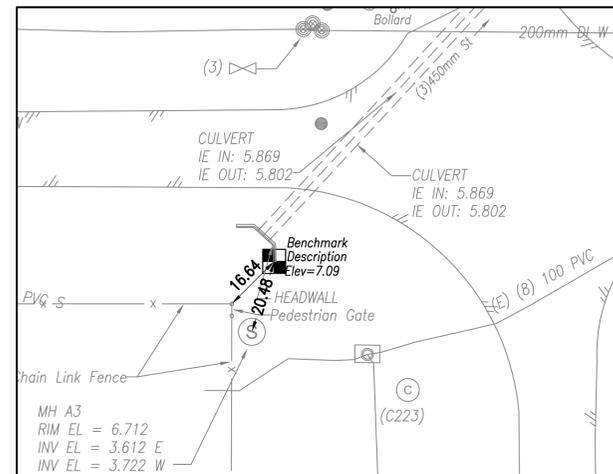
PLAN NORTH
CONTROL POINT #107
 SCALE: 1:300



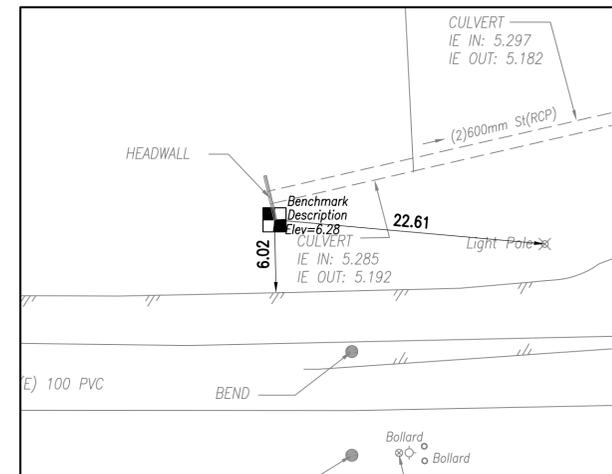
PLAN NORTH
CONTROL POINT #108
 SCALE: 1:300



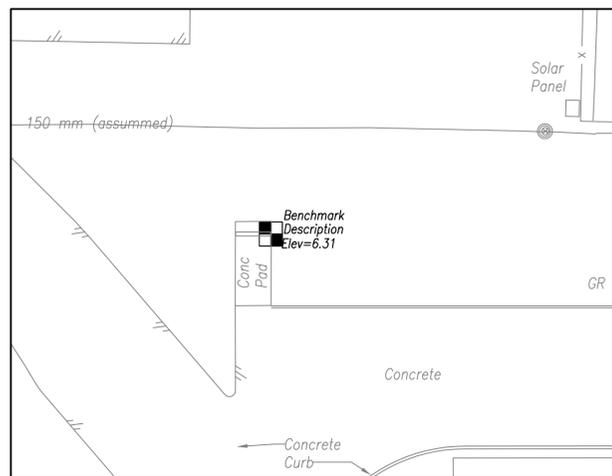
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CONTROL POINT #109
 SCALE: 1:300



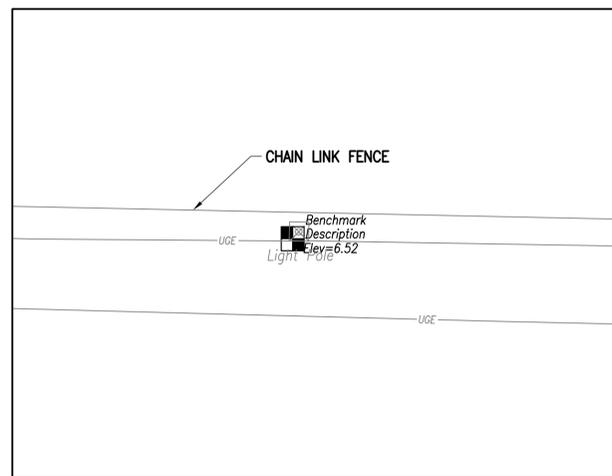
PLAN NORTH
BENCHMARK
 SCALE: 1:300



PLAN NORTH
BENCHMARK
 SCALE: 1:300



PLAN NORTH
BENCHMARK
 SCALE: 1:300

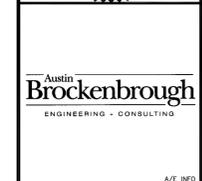
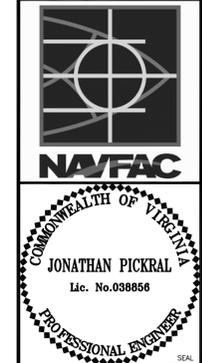


PLAN NORTH
BENCHMARK
 SCALE: 1:300

GRAPHIC SCALE(S):



SYN	DESCRIPTION	DATE	APPR



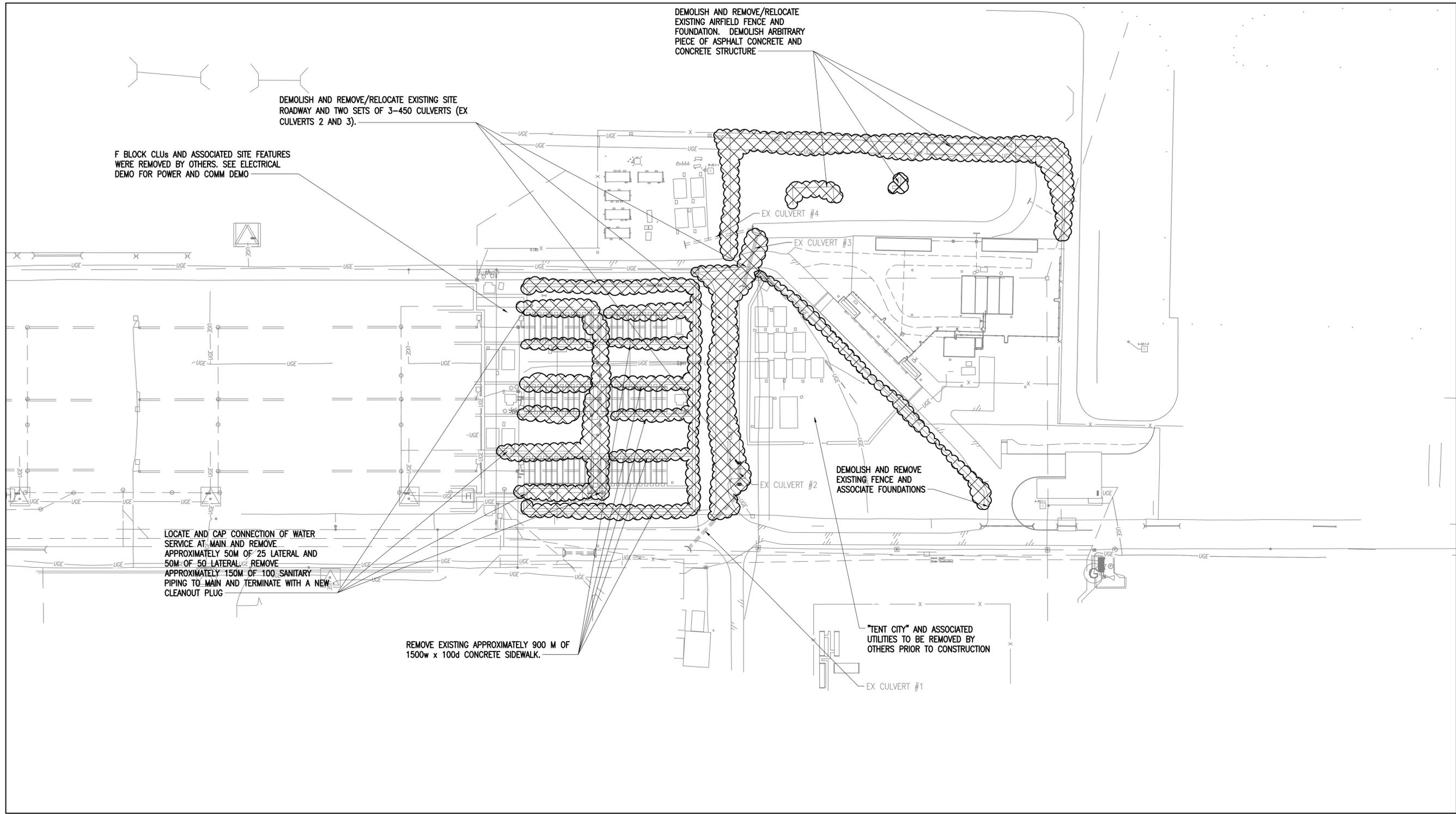
APPROVED	DATE
FOR COMMANDER NAVFAC	ACTIVITY
SATISFACTORY TO	DATE
DES: JDP	DRW: JDP
CHK: CBL	
BRANCH MANAGER	
CHIEF ENG/ARCH	
<<<<<<	

DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 NAVAL FACILITIES ENGINEERING COMMAND
 NORFOLK, VIRGINIA
 DUBOITI AFRICA
 CAMP LEMONNIER
DESC 1701/P-1701
CONSTRUCT FUEL STORAGE FACILITIES
 CONTROL POINTS

SCALE:	AS NOTED
PROJECT NO.:	
WORK ORDER NO.:	
NAVFAC DRAWING NO.:	14046978
SHEET	14 OF 186
C-006	

DRAWING REVISION: 10 MARCH 2009

FILE NAME: G:\14 Jobs\14-013 Djibouti - Fuel Storage Facility - NAVFAC LANT\CAD AutoCAD\CD101 DEMOLITION SITE PLANNING LAYOUT NAME: DEMOLITION SITE PLAN PLOTTED: Friday, March 25, 2016 - 8:47am USER: wherrmann



DEMOLISH AND REMOVE/RELOCATE EXISTING SITE ROADWAY AND TWO SETS OF 3-450 CULVERTS (EX CULVERTS 2 AND 3).

F BLOCK CLUs AND ASSOCIATED SITE FEATURES WERE REMOVED BY OTHERS. SEE ELECTRICAL DEMO FOR POWER AND COMM DEMO

DEMOLISH AND REMOVE/RELOCATE EXISTING AIRFIELD FENCE AND FOUNDATION. DEMOLISH ARBITRARY PIECE OF ASPHALT CONCRETE AND CONCRETE STRUCTURE

LOCATE AND CAP CONNECTION OF WATER SERVICE AT MAIN AND REMOVE APPROXIMATELY 50M OF 25 LATERAL AND 50M OF 50 LATERAL REMOVE APPROXIMATELY 150M OF 100 SANITARY PIPING TO MAIN AND TERMINATE WITH A NEW CLEANOUT PLUG

REMOVE EXISTING APPROXIMATELY 900 M OF 1500w x 100d CONCRETE SIDEWALK.

DEMOLISH AND REMOVE EXISTING FENCE AND ASSOCIATE FOUNDATIONS

"TENT CITY" AND ASSOCIATED UTILITIES TO BE REMOVED BY OTHERS PRIOR TO CONSTRUCTION



PLAN NORTH
DEMOLITION SITE PLAN
SCALE: 1:1000



SYN	DESCRIPTION	DATE	APPR



APPROVED

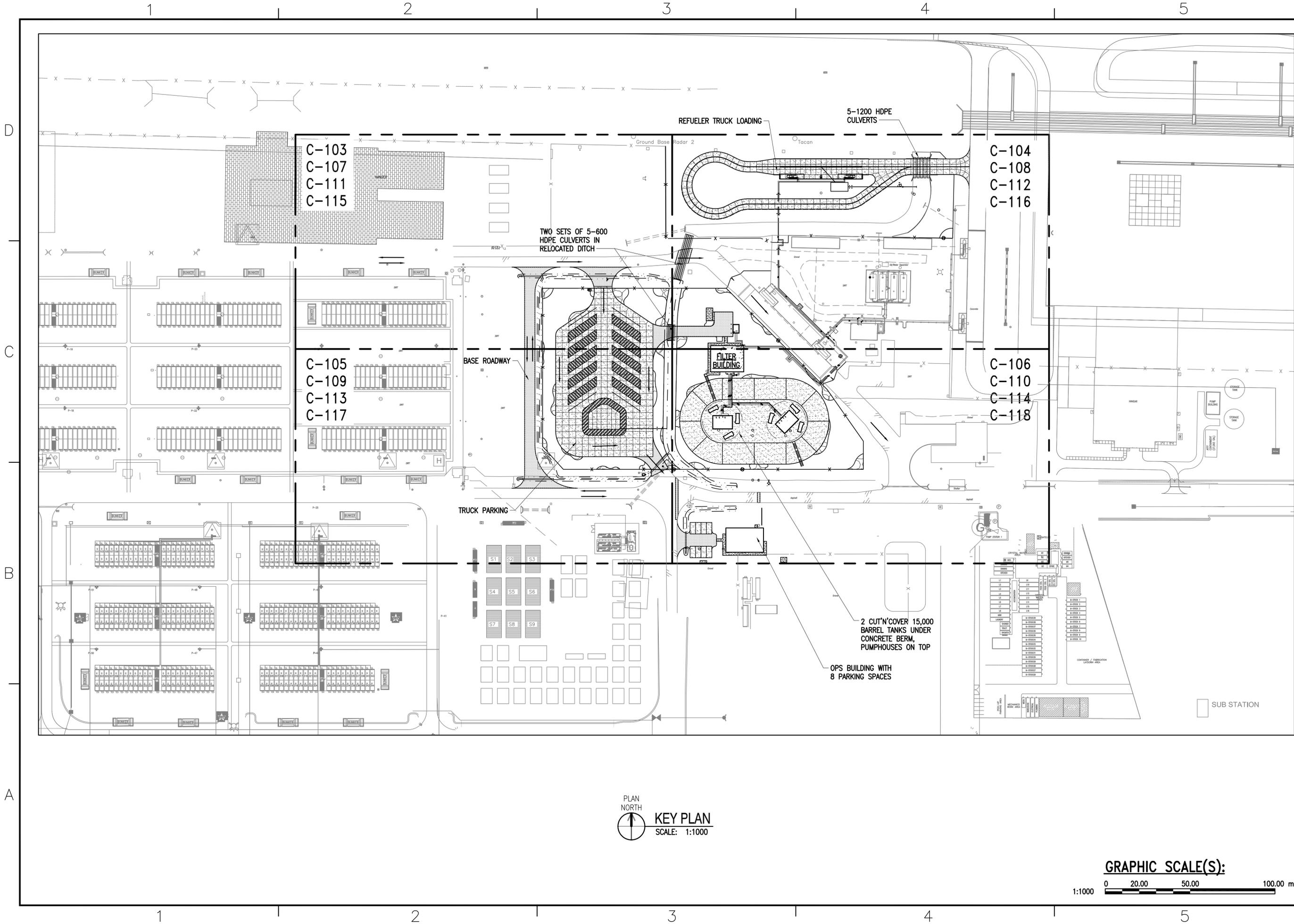
FOR COMMANDER NAVFAC ACTIVITY

SATISFACTORY TO DATE
DES: JDP DRW: JDP CHK: CBL
BRANCH MANAGER
CHIEF ENG/ARCH
<<<CR>>

DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
CAMP LEMONNIER
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA
DIBOUTI AFRICA
DESC 1701/P-1701
CONSTRUCT FUEL STORAGE FACILITIES
DEMOLITION SITE PLAN

SCALE: AS NOTED
PROJECT NO.:
WORK ORDER NO.:
NAVFAC DRAWING NO.:
SHEET 15 OF 186
CD101
DRAWING REVISION: 10 MARCH 2009

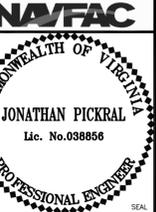
FILE NAME: G:\14_Jobs\14-013_Dibouti - Fuel Storage Facility - NAVFAC LANT\CAD AutoCAD\C-102_KEY_PLAN.dwg LAYOUT NAME: KEY PLAN PLOTTED: Friday, March 25, 2016 - 8:48am USER: whermann



PLAN NORTH
KEY PLAN
 SCALE: 1:1000



SYN	DESCRIPTION	DATE	APPR



Austin
Brockenbrough
 ENGINEERING - CONSULTING

APPROVED
 FOR COMMANDER NAVFAC

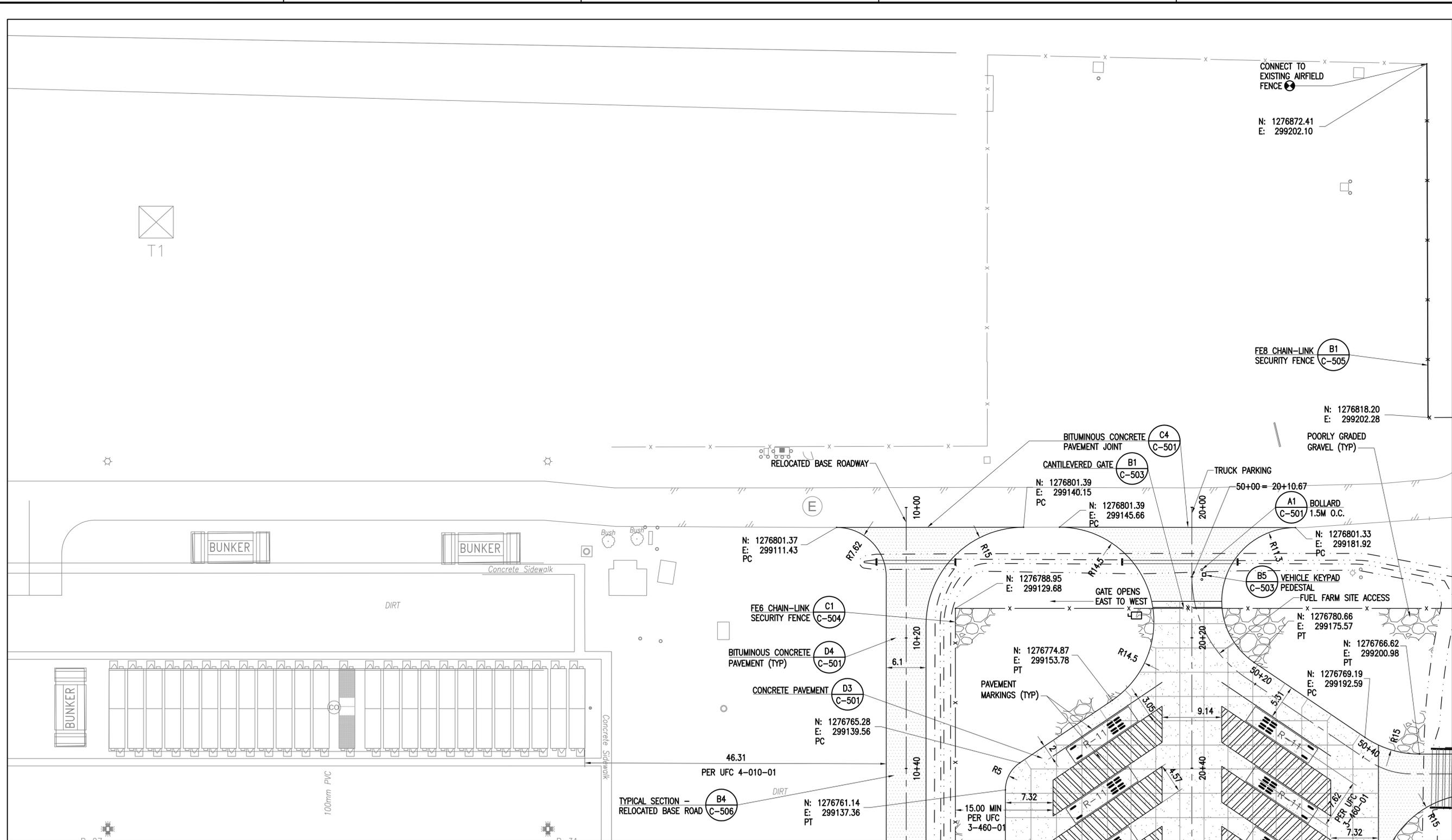
ACTIVITY
 SATISFACTORY TO DATE
 DES: JDP DRW: JDP CHK: CBL
 BRANCH MANAGER
 CHIEF ENG/ARCH

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

SCALE: AS NOTED
 PROJECT NO.:
 WORK ORDER NO.:
 NAVFAC DRAWING NO.: 14046980
 SHEET 16 OF 186
C-102

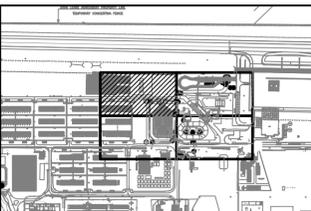
DRAWING REVISION: 10 MARCH 2009

FILE NAME: G:\14 Jobs\14-013 Djbouti - Fuel Storage Facility - NAVFAC LANT/CAD AutoCAD\C-103 LAYOUT PLAN.dwg LAYOUT NAME: LAYOUT PLAN PLOTTED: Friday, March 25, 2016 - 8:49am USER: whermann



- NOTE:**
- SEE STRUCTURAL DWGS FOR CONCRETE PAVEMENT JOINT DETAILS.
 - PAVEMENT MARKINGS SHALL BE WHITE, 100 WIDE. INTERIOR STRIPING IS WHITE, 100 WIDE, 1M OC, AT 42' TO THE CENTER LINE OF THE ALIGNMENT "TRUCK PARKING".
 - POORLY GRADED GRAVEL SHALL BE INTERIOR TO ALL FENCES, BETWEEN FENCE AND DEVELOPED AREA. DEPTH SHALL BE 100, GRAVEL SIZE SHALL BE 50 MIN.

PLAN NORTH
LAYOUT PLAN
 SCALE: 1:300

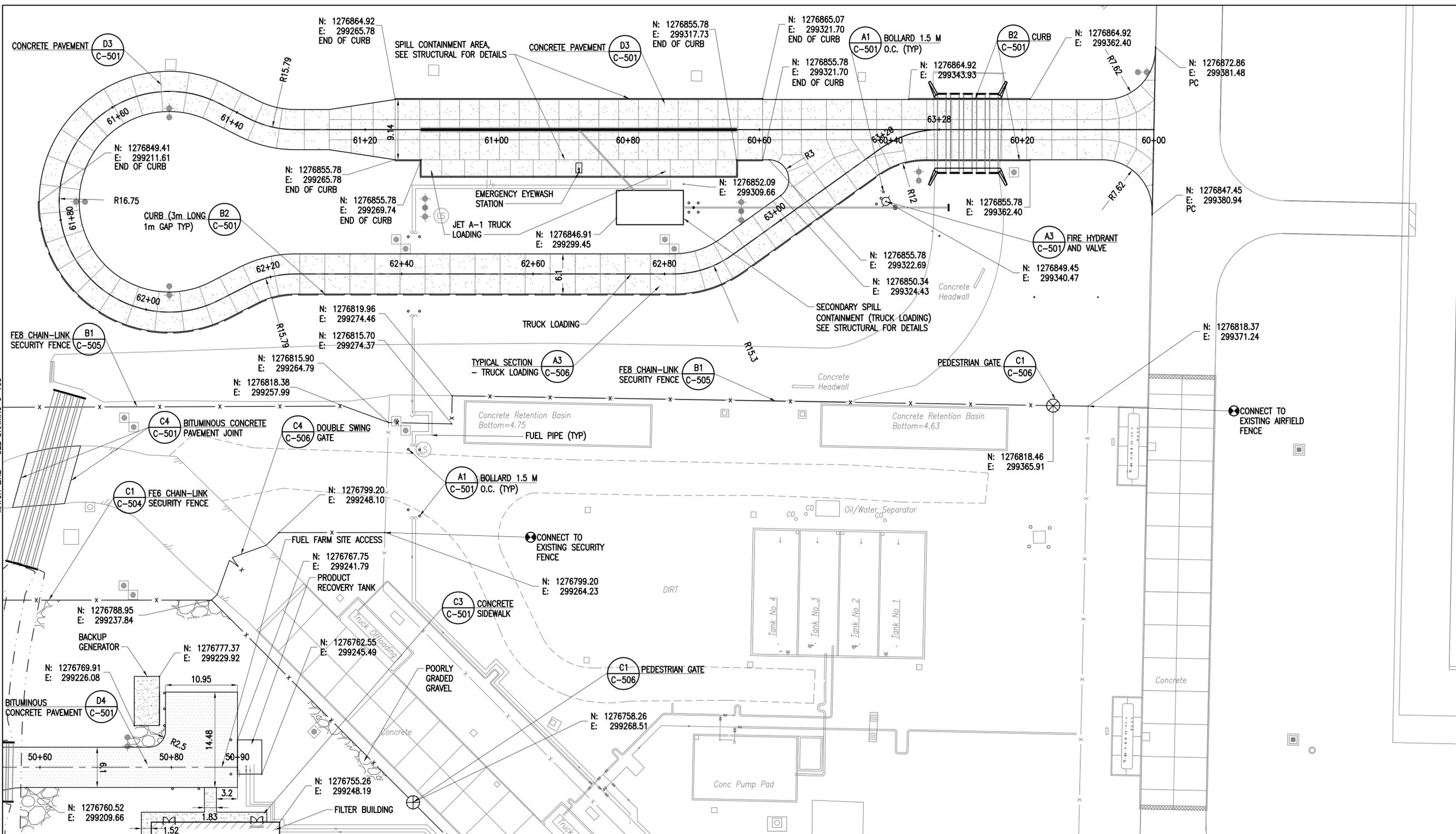


KEY PLAN
 SCALE: NONE



APPR	DATE
SYN	DESCRIPTION
 NAVFAC COMMONWEALTH OF VIRGINIA JONATHAN PICKRAL Lic. No. 038856 PROFESSIONAL ENGINEER	
Austin Brockenbrough ENGINEERING - CONSULTING	
APPROVED	A/E INFO
FOR COMMANDER NAVFAC	ACTIVITY
SATISFACTORY TO	DATE
DES JDP	DRW JDP
CHK CBL	
BRANCH MANAGER	
CHIEF ENG/ARCH	
NAVAL FACILITIES ENGINEERING COMMAND	DUBOULT AFRICA
NAVAL FACILITIES ENGINEERING COMMAND	NORFOLK, VIRGINIA
ATLANTIC DIVISION	
CAMP LEMONNIER	
DESC 1701/P-1701 CONSTRUCT FUEL STORAGE FACILITIES LAYOUT PLAN	
SCALE:	AS NOTED
PROJECT NO.:	
WORK ORDER NO.:	
NAVFAC DRAWING NO.:	14046981
SHEET	17 OF 186
C-103	
DRAWFORM REVISION: 10 MARCH 2009	

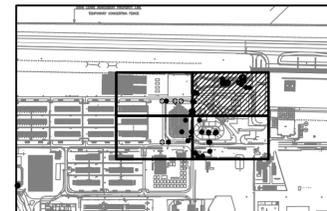
FILE NAME: G:\14 Jobs\14-013 Djibouti - Fuel Storage Facility - NAVFAC LANTCOM AutoCAD\C-104 LAYOUT PLAN.dwg LAYOUT NAME: LAYOUT PLAN PLOTTED: Friday, March 25, 2016 - 8:50am USER: wherrmann



- NOTE:**
- SEE STRUCTURAL DWGS FOR CONCRETE PAVEMENT JOINT DETAILS.
 - PAVEMENT MARKINGS SHALL BE WHITE, 100 WIDE. INTERIOR STRIPING IS WHITE, 100 WIDE, 1M OC, AT 42' TO THE CENTER LINE OF THE ALIGNMENT "TRUCK PARKING".
 - POORLY GRADED GRAVEL SHALL BE INTERIOR TO ALL FENCES, BETWEEN FENCE AND DEVELOPED AREA. DEPTH SHALL BE 100, GRAVEL SIZE SHALL BE 50 MIN.

PLAN NORTH

LAYOUT PLAN
 SCALE: 1:300



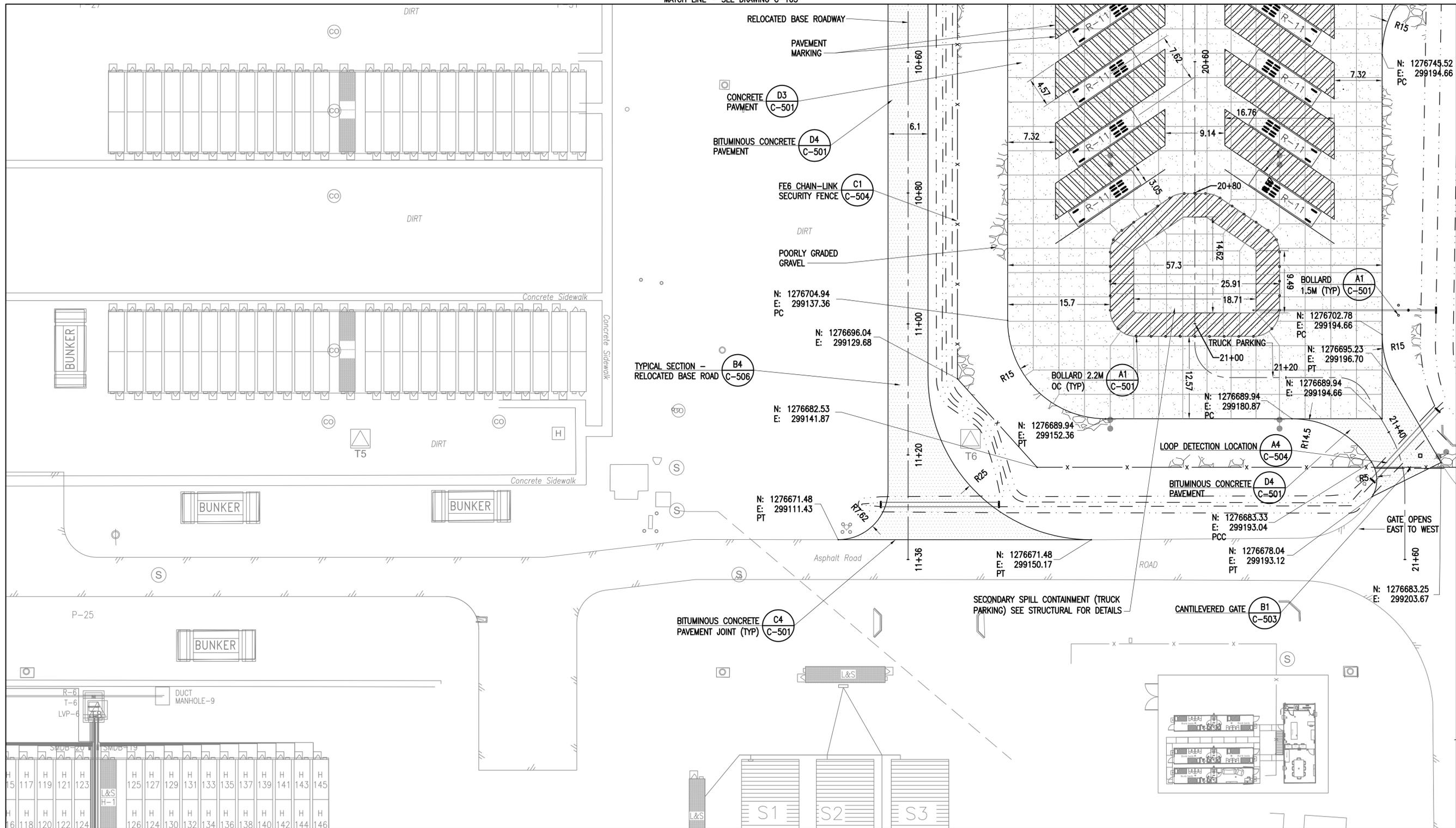
KEY PLAN
 SCALE: NONE



APPR	
DATE	
SYN	DESCRIPTION
 NAVFAC COMMONWEALTH OF VIRGINIA JONATHAN PICKRAL Lic. No. 038856 PROFESSIONAL ENGINEER	
 Austin Brockenbrough ENGINEERING - CONSULTING	
APPROVED	A/E INFO
FOR COMMANDER NAVFAC ACTIVITY	
SATISFACTORY TO	DATE
DES JDP	DRW JDP
CHK	CBL
BRANCH MANAGER	
CHIEF ENG/ARCH	
C-104	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA DIBOUTI AFRICA CAMP LEMONNIER DESC 1701/P-1701 CONSTRUCT FUEL STORAGE FACILITIES LAYOUT PLAN	
SCALE:	AS NOTED
PROJECT NO.:	
WORK ORDER NO.:	
NAVFAC DRAWING NO.:	14046982
SHEET	18 OF 186
C-104	
DRAWING REVISION: 10 MARCH 2009	

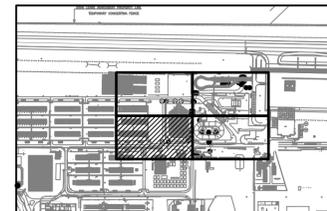
FILE NAME: G:\14 Jobs\14-013 Dhhout\ - Fuel Storage Facility - NAVFAC LANTCOM AutoCAD\C-105 LAYOUT PLAN.dwg LAYOUT NAME: LAYOUT PLAN PLOTTED: Friday, March 25, 2016 - 8:50am USER: wherrmann

MATCH LINE - SEE DRAWING C-103



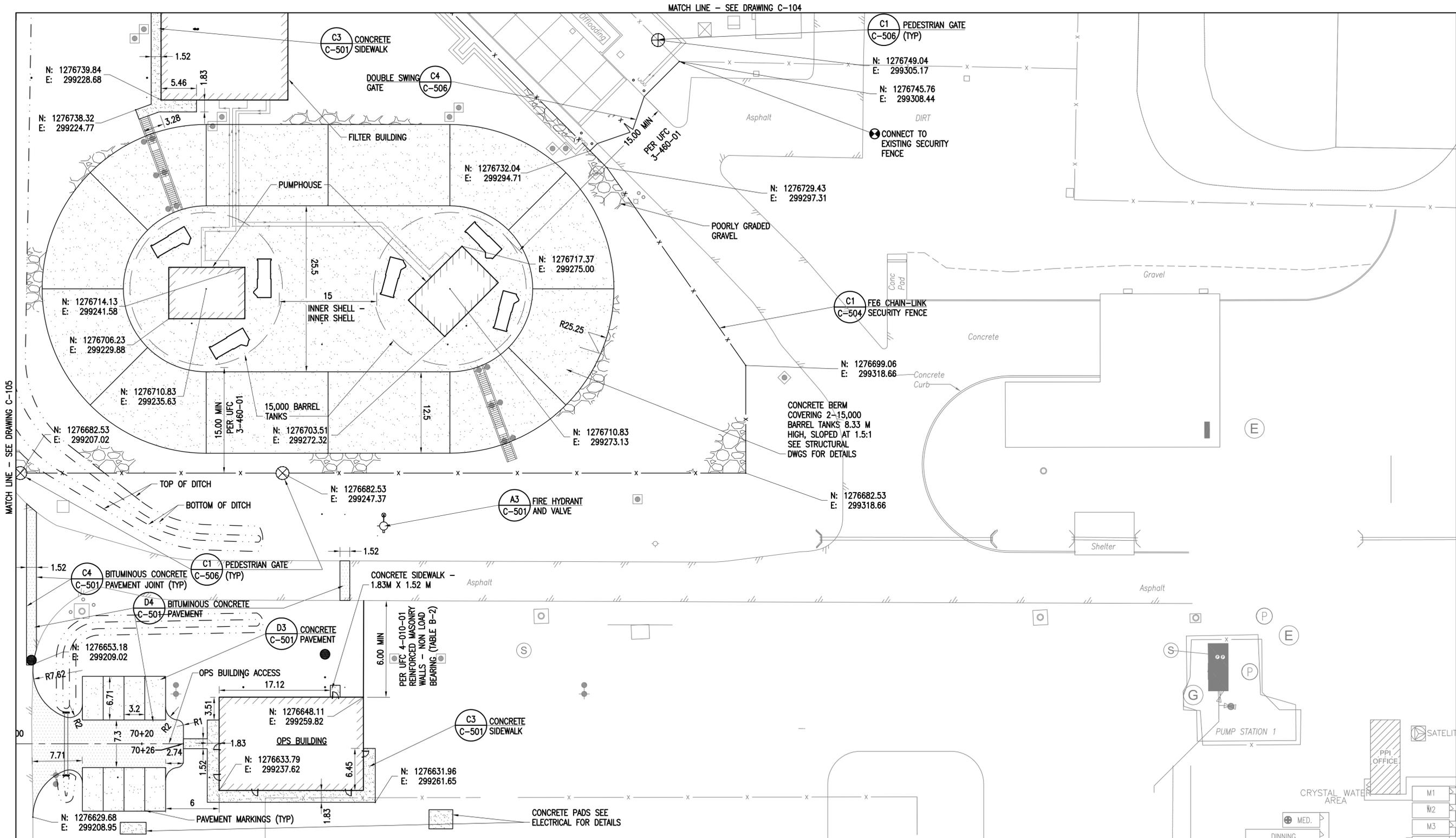
- NOTE:**
- SEE STRUCTURAL DWGS FOR CONCRETE PAVEMENT JOINT DETAILS.
 - PAVEMENT MARKINGS SHALL BE WHITE, 100 WIDE. INTERIOR STRIPING IS WHITE, 100 WIDE, 1M OC, AT 42' TO THE CENTER LINE OF THE ALIGNMENT "TRUCK PARKING".
 - POORLY GRADED GRAVEL SHALL BE INTERIOR TO ALL FENCES, BETWEEN FENCE AND DEVELOPED AREA. DEPTH SHALL BE 100, GRAVEL SIZE SHALL BE 50 MIN.

PLAN NORTH
LAYOUT PLAN
 SCALE: 1:300



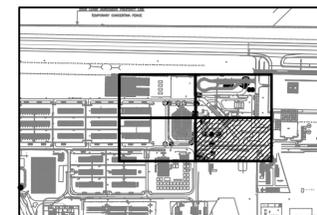
APPR	DATE
SYN	DESCRIPTION
 NAVFAC COMMONWEALTH OF VIRGINIA JONATHAN PICKRAL Lic. No. 038856 PROFESSIONAL ENGINEER	
 Austin Brockenbrough ENGINEERING - CONSULTING	
APPROVED	A/E INFO
FOR COMMANDER NAVFAC ACTIVITY	
SATISFACTORY TO	DATE
DES JDP	DRW JDP
CHK CBL	
BRANCH MANAGER	
CHIEF ENG/ARCH	
<<CR>>	
NAVAL FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA DUBOULT AFRICA CAMP LEMONNIER	
DESC 1701/P-1701 CONSTRUCT FUEL STORAGE FACILITIES LAYOUT PLAN	
SCALE:	AS NOTED
PROJECT NO.:	
WORK ORDER NO.:	
NAVFAC DRAWING NO.:	14046983
SHEET	19 OF 186
C-105 <small>DRAWFORM REVISION: 10 MARCH 2009</small>	

FILE NAME: G:\14 Jobs\14-013 Djibouti - Fuel Storage Facility - NAVFAC LANTCOM AutoCAD\C-106 LAYOUT PLAN.dwg LAYOUT NAME: LAYOUT PLAN PLOTTED: Friday, March 25, 2016 - 8:55 am USER: wherrmann



- NOTE:**
- SEE STRUCTURAL DWGS FOR CONCRETE PAVEMENT JOINT DETAILS.
 - PAVEMENT MARKINGS SHALL BE WHITE, 100 WIDE. INTERIOR STRIPING IS WHITE, 100 WIDE, 1M OC, AT 42' TO THE CENTER LINE OF THE ALIGNMENT "TRUCK PARKING".
 - POORLY GRADED GRAVEL SHALL BE INTERIOR TO ALL FENCES, BETWEEN FENCE AND DEVELOPED AREA. DEPTH SHALL BE 100, GRAVEL SIZE SHALL BE 50 MIN.
 - ALL LABELED RADII ON NORTH SIDE OF OPS BUILDING PARKING IS THE SAME ON SOUTH SIDE.

PLAN NORTH
LAYOUT PLAN
 SCALE: 1:300

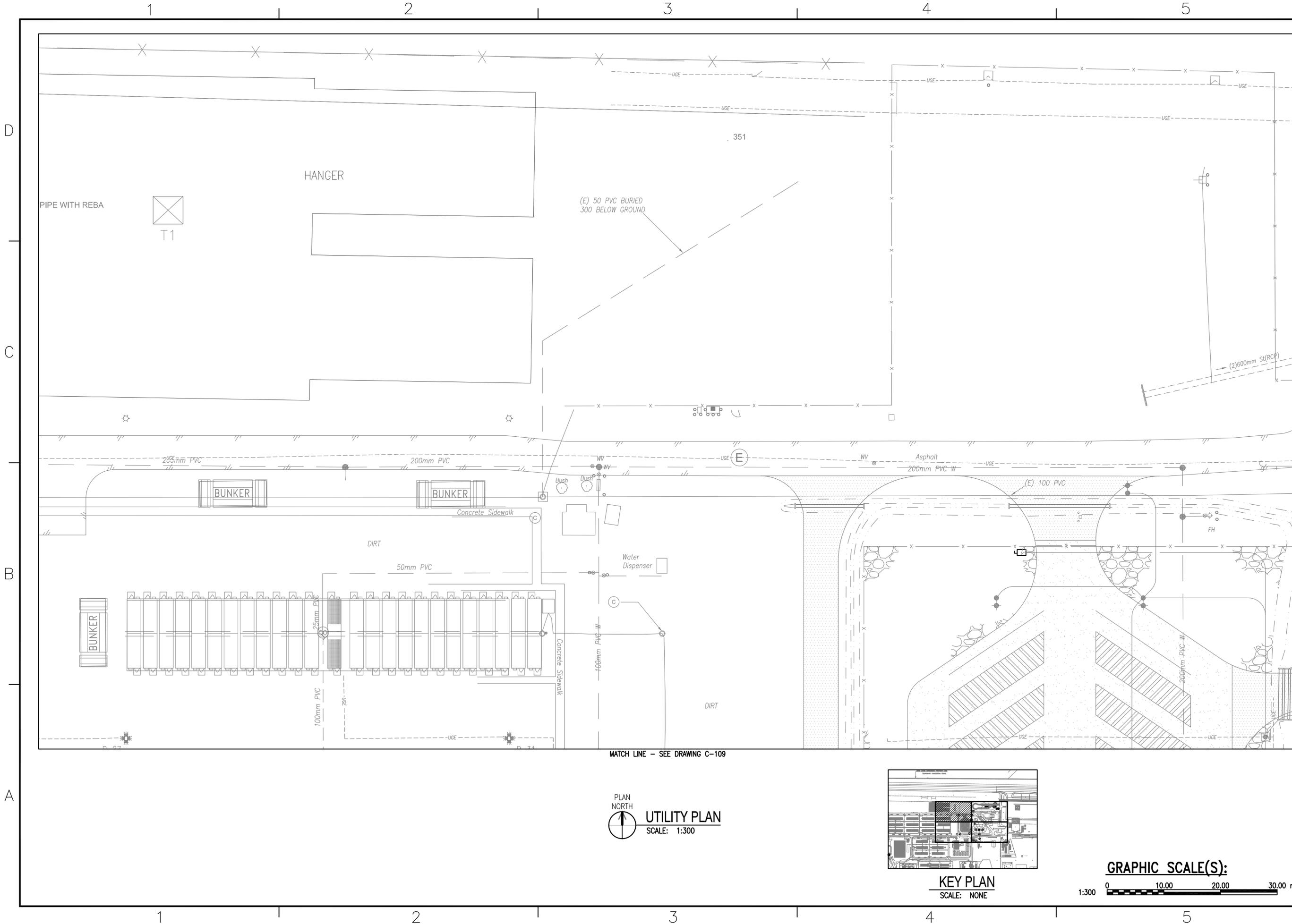


KEY PLAN
 SCALE: NONE



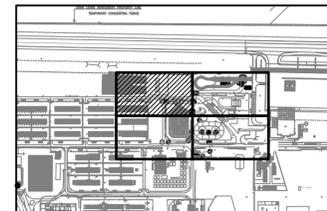
APPR	DATE
SYN	DESCRIPTION
 NAVFAC COMMONWEALTH OF VIRGINIA JONATHAN PICKRAL Lic. No. 038856 PROFESSIONAL ENGINEER	
Austin Brockenbrough ENGINEERING - CONSULTING	
APPROVED	
FOR COMMANDER NAVFAC ACTIVITY	
SATISFACTORY TO DATE	
DES JDP	DRW JDP
CHK CBL	
BRANCH MANAGER	
CHIEF ENG/ARCH	
NAVAL FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA DUBOULT AFRICA CAMP LEMONNIER DESC 1701/P-1701 CONSTRUCT FUEL STORAGE FACILITIES LAYOUT PLAN	
SCALE: AS NOTED	
PROJECT NO.:	
WORK ORDER NO.:	
NAVFAC DRAWING NO. 14046984	
SHEET 20 OF 186	
C-106	
DRAWFORM REVISION: 10 MARCH 2009	

FILE NAME: G:\14 Jobs\14-013 Djibouti - Fuel Storage Facility - NAVFAC LANT\CAD AutoCAD\VC-107 UTILITY PLAN.dwg LAYOUT NAME: UTILITY PLAN PLOTTED: Friday, March 25, 2016 - 8:53am USER: whiermann



PLAN NORTH

UTILITY PLAN
 SCALE: 1:300



KEY PLAN
 SCALE: NONE



APPR	
DATE	
DESCRIPTION	
SYN	




Brockenbrough
 ENGINEERING - CONSULTING

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES: JDP DRW: JDP CHK: CBL

BRANCH MANAGER

CHIEF ENG/ARCH

NAVAL FACILITIES ENGINEERING COMMAND
 NORFOLK, VIRGINIA

NAVAL FACILITIES ENGINEERING COMMAND
 DIBOUTI, AFRICA

CAMP LEMONNIER

DESC 1701/P-1701
CONSTRUCT FUEL STORAGE FACILITIES
 UTILITY PLAN

SCALE: AS NOTED

PROJECT NO.:

WORK ORDER NO.:

NAVFAC DRAWING NO. 14046985

SHEET 21 OF 186

C-107

DRAWFORM REVISION: 10 MARCH 2009

MATCH LINE - SEE DRAWING C-108

MATCH LINE - SEE DRAWING C-109

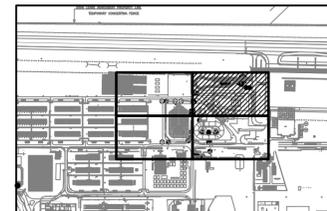
FILE NAME: G:\14 Jobs\14-013 Djibouti - Fuel Storage Facility - NAVFAC LANT\CAD AutoCAD\C-108 UTILITY PLAN.dwg LAYOUT NAME: UTILITY PLAN PLOTTED: Friday, March 25, 2016 - 8:53am USER: whiermann

MATCH LINE - SEE DRAWING C-107

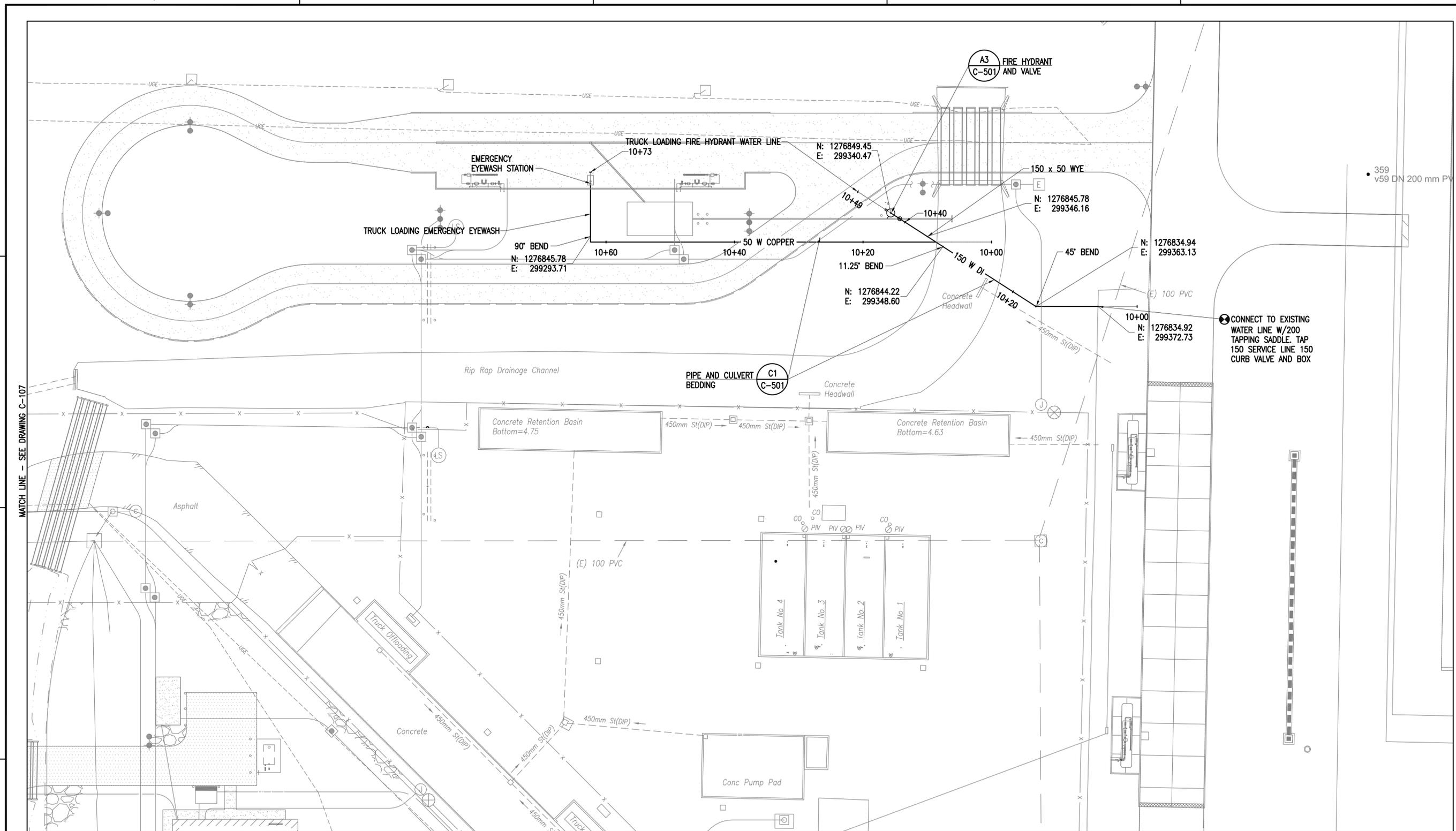
MATCH LINE - SEE DRAWING C-110

PLAN NORTH

UTILITY PLAN
 SCALE: 1:300

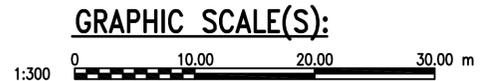
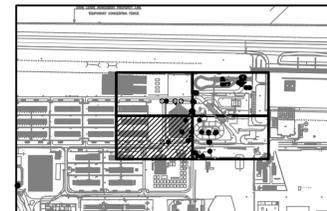
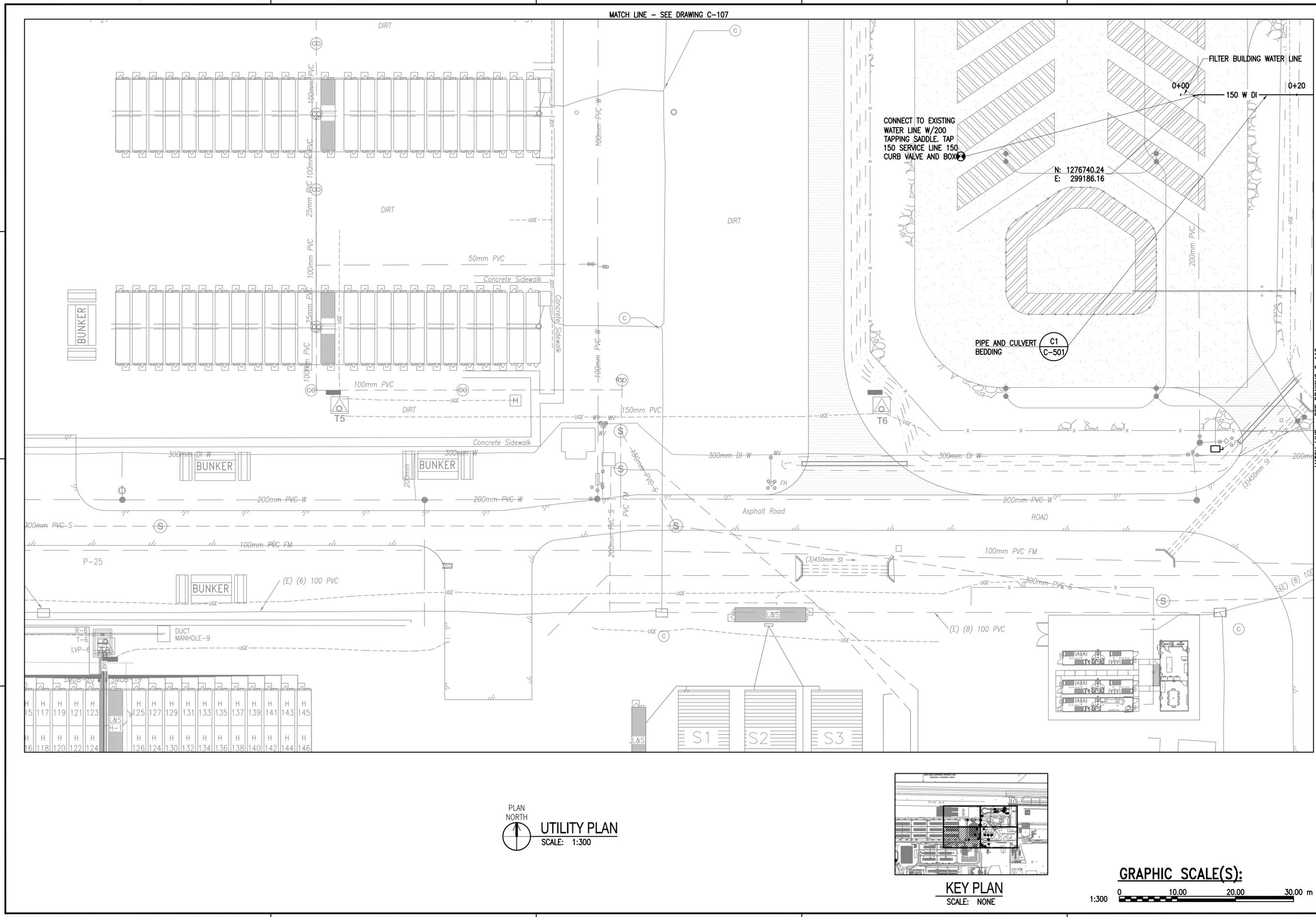


KEY PLAN
 SCALE: NONE



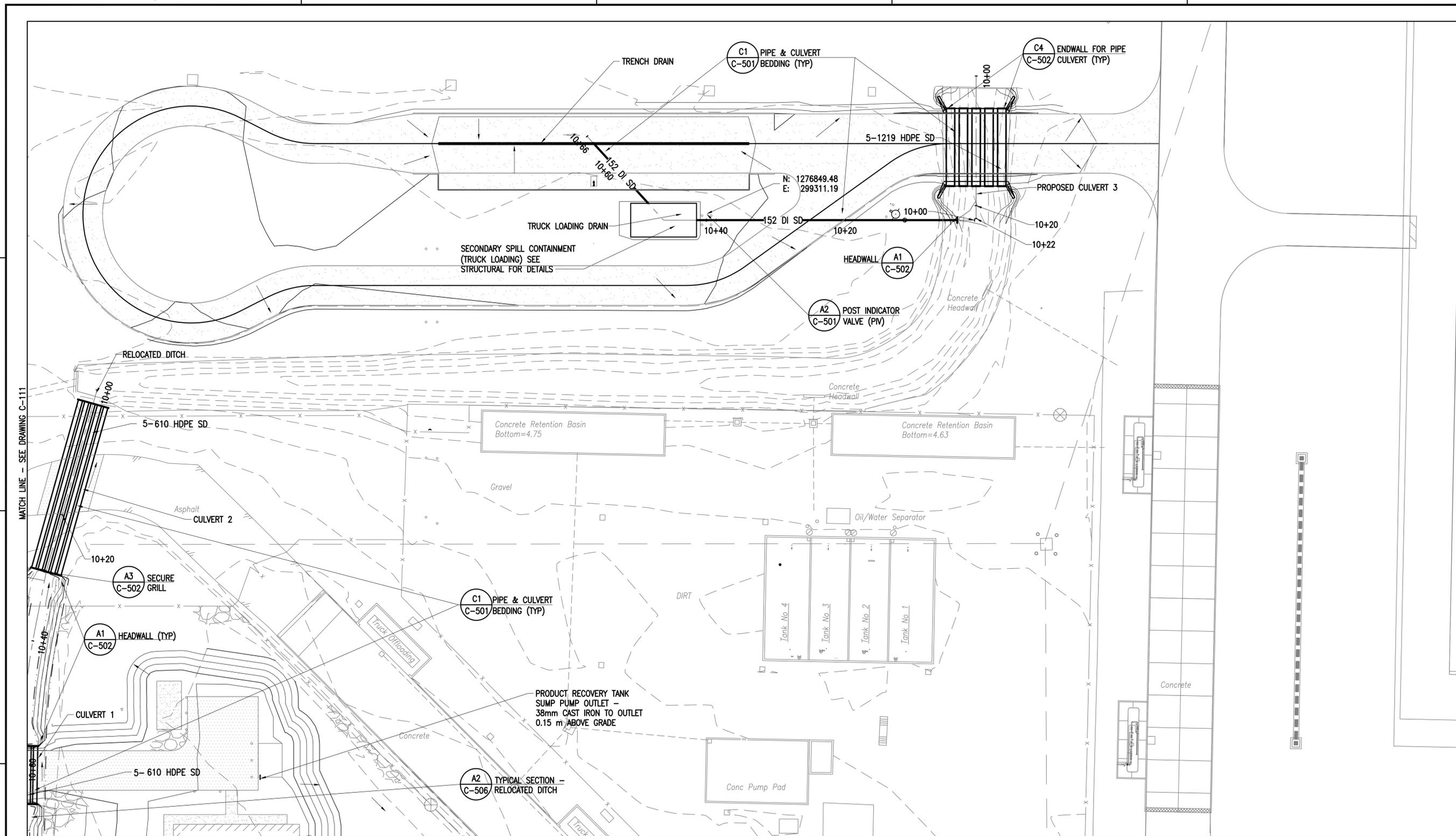
APPR	DATE
SYN	DESCRIPTION
 NAVFAC  JONATHAN PICKRAL Lic. No. 038856 PROFESSIONAL ENGINEER	
 Austin Brockenbrough ENGINEERING - CONSULTING	
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO DATE	
DES: JDP	DRW: JDP CHK: CBL
<<PM/DM>>	
BRANCH MANAGER	
CHIEF ENG/ARCH	
<<CR>>	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND NAVAL FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA DIBOUTI AFRICA CAMP LEMONNIER	
DESC 1701/P-1701 CONSTRUCT FUEL STORAGE FACILITIES UTILITY PLAN	
SCALE: AS NOTED	
PROJECT NO.:	
WORK ORDER NO.:	
NAVFAC DRAWING NO. 14046986	
SHEET 22 OF 186	
C-108	
DRAWING REVISION: 10 MARCH 2009	

FILE NAME: G:\14 Jobs\14-013 Djbouti - Fuel Storage Facility - NAVFAC LANTCOM AutoCAD\C-109 UTILITY PLAN.dwg LAYOUT NAME: UTILITY PLAN PLOTTED: Friday, March 25, 2016 - 8:53am USER: whiermann

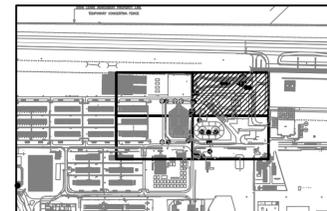


APPR	DATE	DESCRIPTION	SYN
APPROVED			
FOR COMMANDER NAVFAC			
ACTIVITY			
SATISFACTORY TO DATE			
DES	JDP	DRW	CBL
<<PM/DM>>			
BRANCH MANAGER			
CHIEF ENG/ARCH			
<<CR>>			
DEPARTMENT OF THE NAVY NAVY FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA DUBOULT AFRICA CAMP LEMONNIER			
DESC 1701/P-1701 CONSTRUCT FUEL STORAGE FACILITIES UTILITY PLAN			
SCALE: AS NOTED			
PROJECT NO.:			
WORK ORDER NO.:			
NAVFAC DRAWING NO.: 14046987			
SHEET 23 OF 186			
C-109			
DRAWFORM REVISION: 10 MARCH 2009			

FILE NAME: G:\14_jobs\14-013_Djibouti - Fuel Storage Facility - Fuel Storage Facility - Fuel Storage Facility - NAVFAC LANT/CAD AutoCAD\C-112_DRAINAGE PLAN.dwg LAYOUT NAME: DRAINAGE PLAN PLOTTED: Friday, March 25, 2016 - 8:55am USER: wherrmann



PLAN NORTH
DRAINAGE PLAN
 SCALE: 1:300



KEY PLAN
 SCALE: NONE



SYN	DESCRIPTION	DATE	APPR



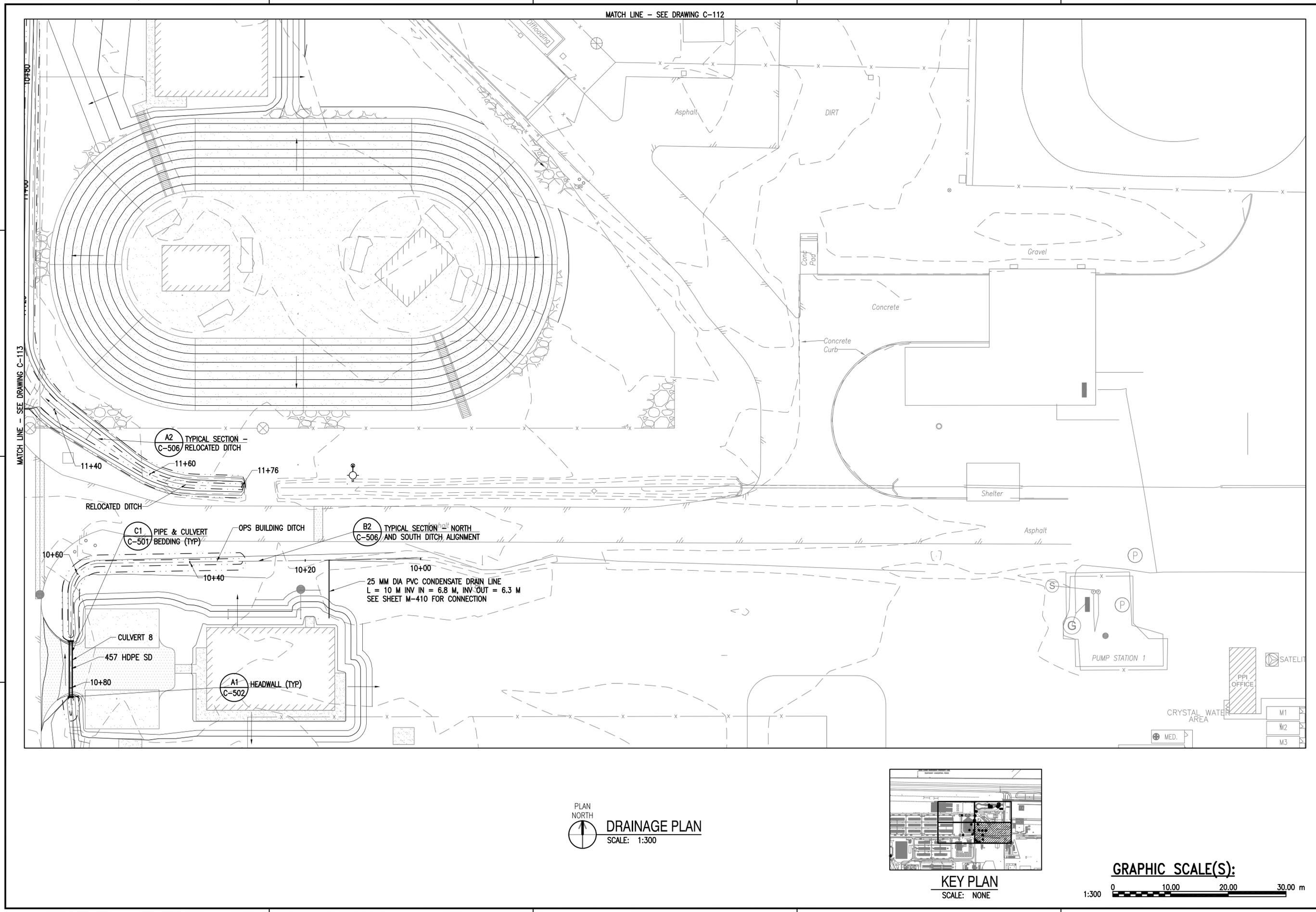
APPROVED	A/E INFO
FOR COMMANDER NAVFAC	ACTIVITY
SATISFACTORY TO	DATE
DES JDP	DRW JDP
CHK CBL	
BRANCH MANAGER	
CHIEF ENG/ARCH	

DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 NAVAL FACILITIES ENGINEERING COMMAND
 NORFOLK, VIRGINIA
 DIBOUTI, AFRICA
 CAMP LEMONNIER
DESC 1701/P-1701
CONSTRUCT FUEL STORAGE FACILITIES
 DRAINAGE PLAN

SCALE:	AS NOTED
PROJECT NO.:	
WORK ORDER NO.:	
NAVFAC DRAWING NO.:	14046990
SHEET	26 OF 186
C-112	

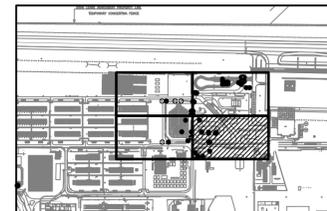
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: G:\14 Jobs\14-013 Djibouti - Fuel Storage Facility - NAVFAC LANT\CAD AutoCAD\C-114 DRAINAGE PLAN.dwg LAYOUT NAME: DRAINAGE PLAN PLOTTED: Friday, March 25, 2016 - 8:56am USER: wherrmann



PLAN NORTH

DRAINAGE PLAN
 SCALE: 1:300



KEY PLAN
 SCALE: NONE



SYN	DESCRIPTION	DATE	APPR

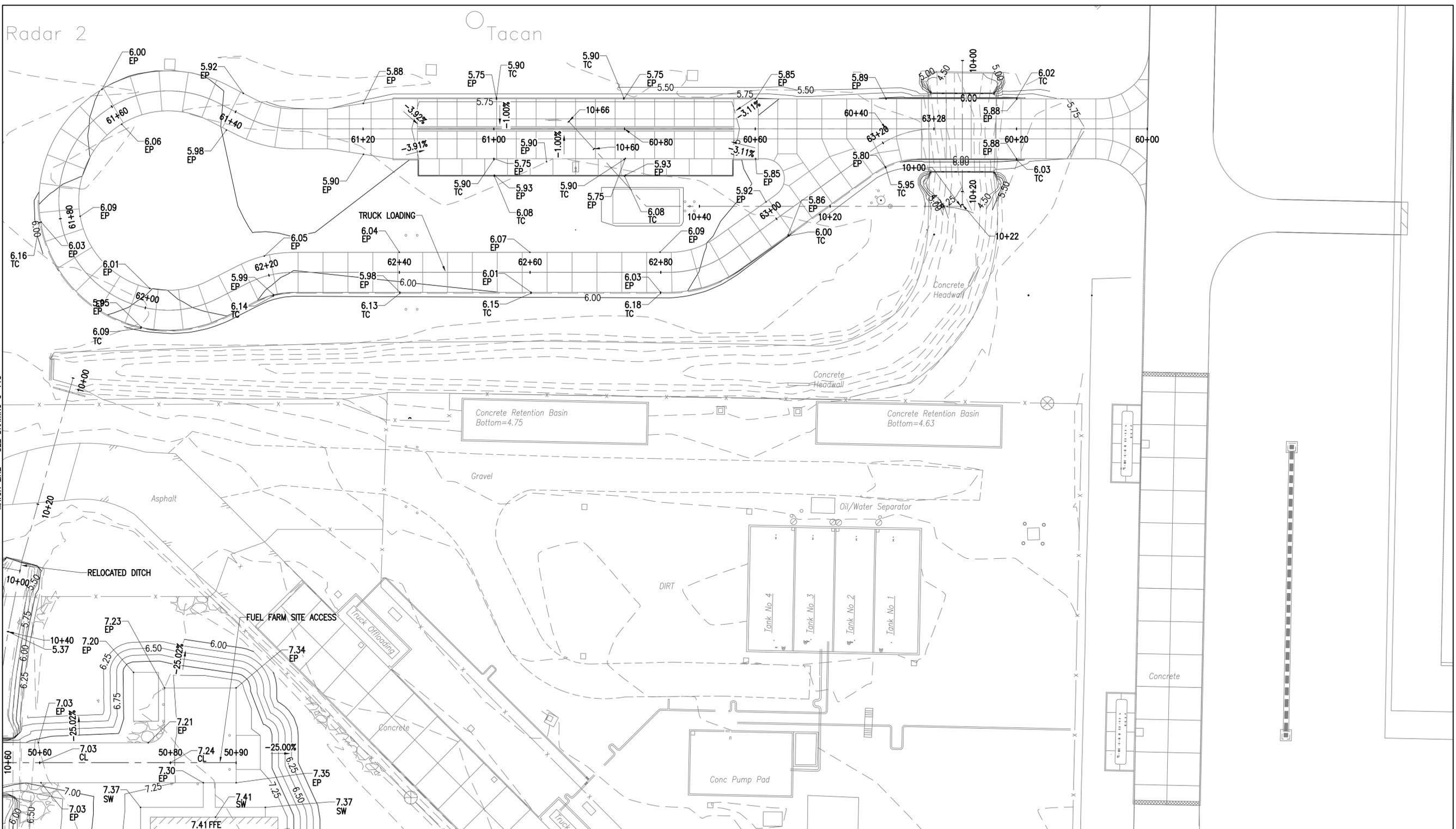


Austin
Brockenbrough
 ENGINEERING - CONSULTING

APPROVED
 FOR COMMANDER NAVFAC
 ACTIVITY
 SATISFACTORY TO DATE
 DES: JDP DRW: JDP CHK: CBL
 <<PM/IMP>>
 BRANCH MANAGER
 CHIEF ENG/ARCH
 <<CR>>

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

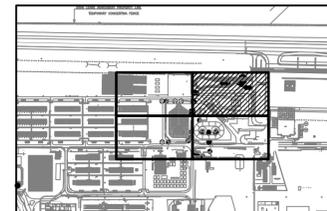
SCALE: AS NOTED
 PROJECT NO.:
 WORK ORDER NO.:
 NAVFAC DRAWING NO.:
14046992
 SHEET **28** OF **186**
C-114
DRAWFORM REVISION: 10 MARCH 2009



NOTE:
 SEE SHEET C-201 FOR RELOCATED DITCH PROFILE
 SEE SHEET C-204 FOR TRUCK LOADING PROFILE

- BC = BOTTOM OF CURB
- BOC = BOTTOM OF CONTAINMENT
- CL = CENTER LINE
- CPI = CONCRETE/PAVEMENT INTERFACE
- EP = EDGE OF PAVEMENT/PARKING
- HP = HIGH POINT
- PE = PARKING EDGE
- TC = TOP OF CURB
- TOC = TOP OF CONTAINMENT

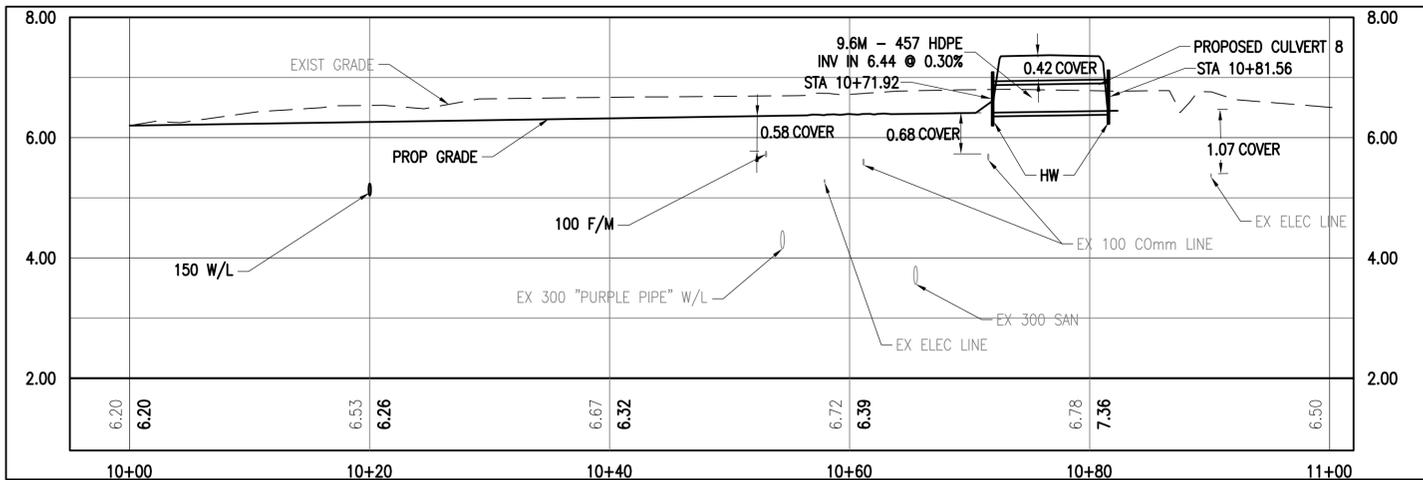
PLAN NORTH
GRADING PLAN
 SCALE: 1:300



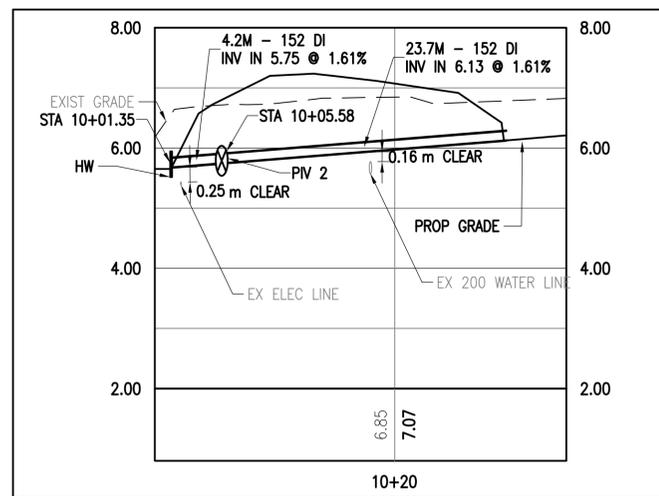
KEY PLAN
 SCALE: NONE

GRAPHIC SCALE(S):
 1:300 0 10.00 20.00 30.00 m

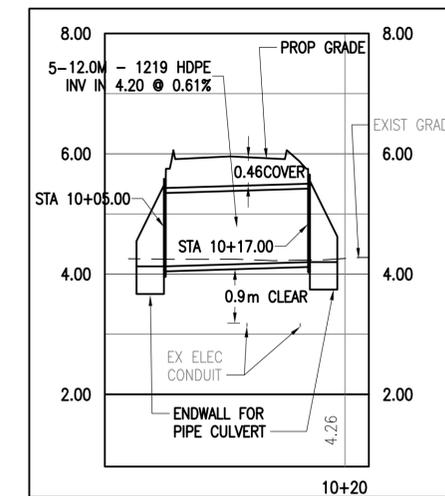
 NAVFAC  JONATHAN PICKRAL Lic. No. 038856 PROFESSIONAL ENGINEER	APPROVED _____ DATE _____ SYN _____ DESCRIPTION _____ APRR _____
Austin Brockenbrough ENGINEERING - CONSULTING A/E INFO	
FOR COMMANDER NAVFAC ACTIVITY _____ SATISFACTORY TO DATE _____ DES: JDP DRW: JDP CHK: CBL BRANCH MANAGER _____ CHIEF ENG/ARCH _____	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION CAMP LEMONNIER NAVAL FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA DUBOULT AFRICA CONSTRUCT FUEL STORAGE FACILITIES GRADING PLAN	
SCALE: AS NOTED PROJECT NO.: _____ WORK ORDER NO. _____ NAVFAC DRAWING NO.: 14046994 SHEET 30 OF 186 C-116 <small>DRAWING REVISION: 10 MARCH 2009</small>	



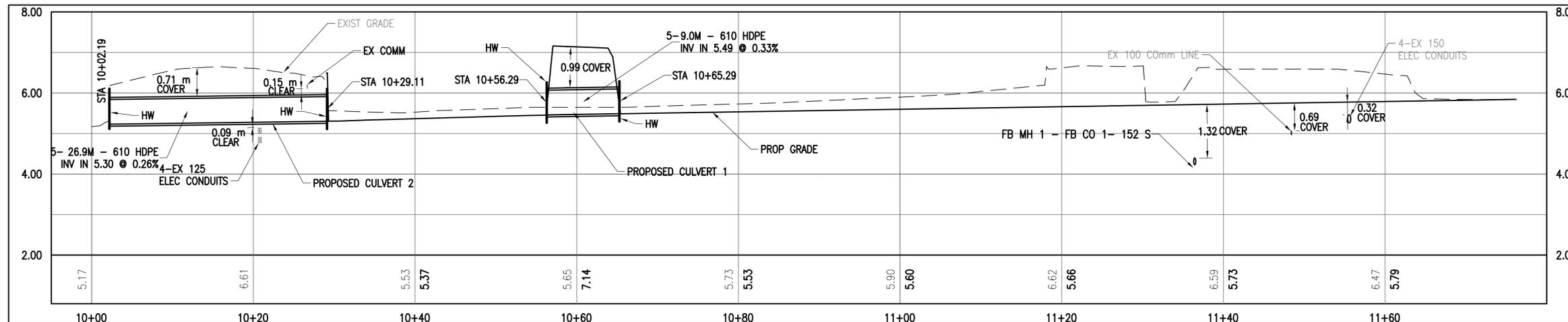
OPS BUILDING DITCH
SCALE: HORIZ 1:300
VERT 1:5



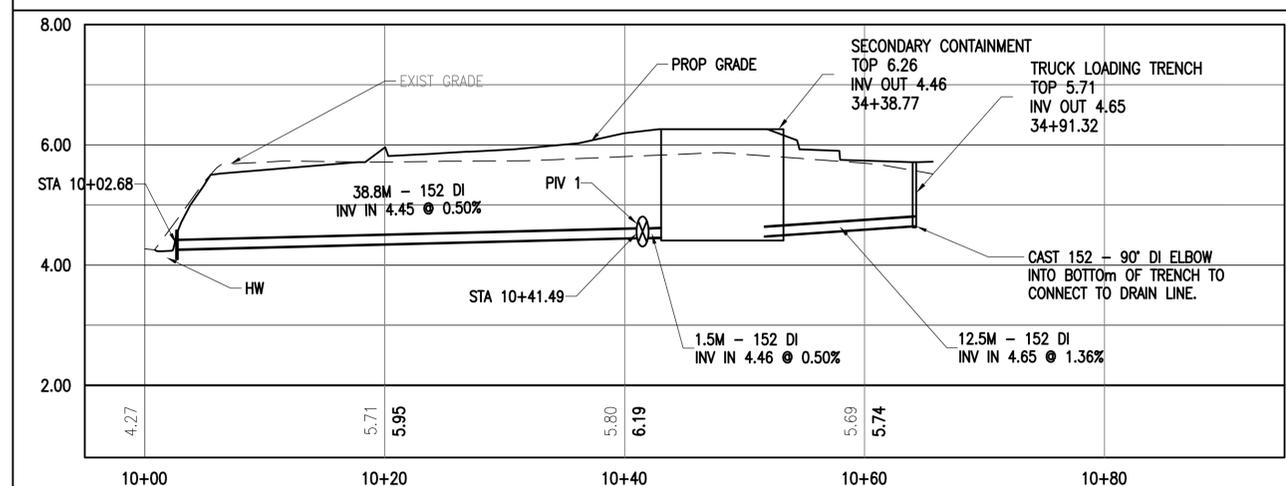
TRUCK PARKING DRAIN
SCALE: HORIZ 1:300
VERT 1:5



PROPOSED CULVERT 3
SCALE: HORIZ 1:300
VERT 1:5

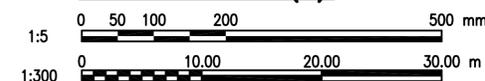


RELOCATED DITCH
SCALE: HORIZ 1:300
VERT 1:5



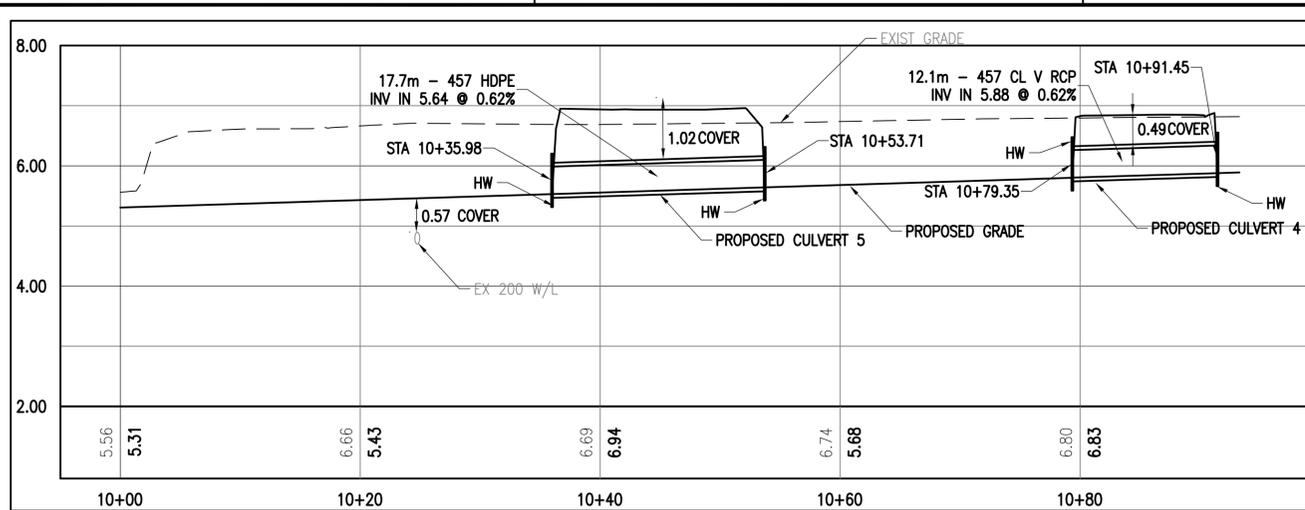
TRUCK LOADING DRAIN
SCALE: HORIZ 1:300
VERT 1:5

GRAPHIC SCALE(S):

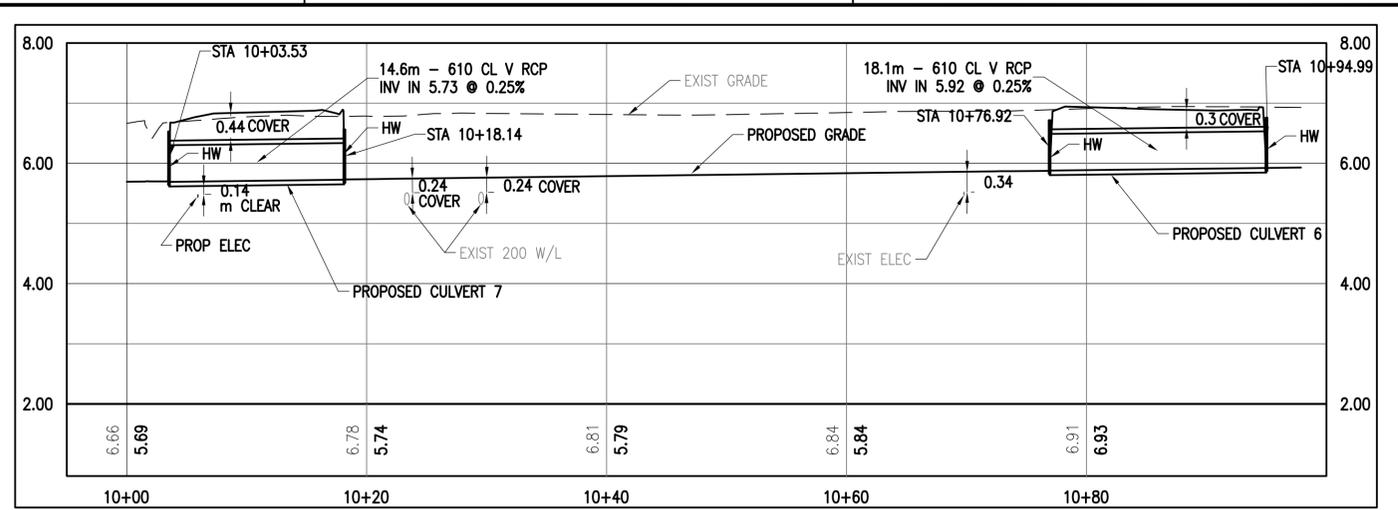


APPR	
DATE	
SYN	DESCRIPTION
APPROVED	A/E INFO
FOR COMMANDER NAVFAC	ACTIVITY
SATISFACTORY TO	DATE
DES JDP	DRW JDP
<<PM/DM>>	CHK CBL
BRANCH MANAGER	
CHIEF ENG/ARCH	
<<CR>>	
DEPARTMENT OF THE NAVY	NAVFACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION	NAVFACILITIES ENGINEERING COMMAND
CAMP LEMONNIER	INRFOLEK, VIRGINIA
	DJIBOUTI, AFRICA
DESC 1701/P-1701	
CONSTRUCT FUEL STORAGE FACILITIES	
DRAINAGE PROFILE	
SCALE:	AS NOTED
PROJECT NO.:	
WORK ORDER NO.	
NAVFAC DRAWING NO.	14046997
SHEET	33 OF 186
C-201	
<small>DRAWING REVISION: 10 MARCH 2009</small>	

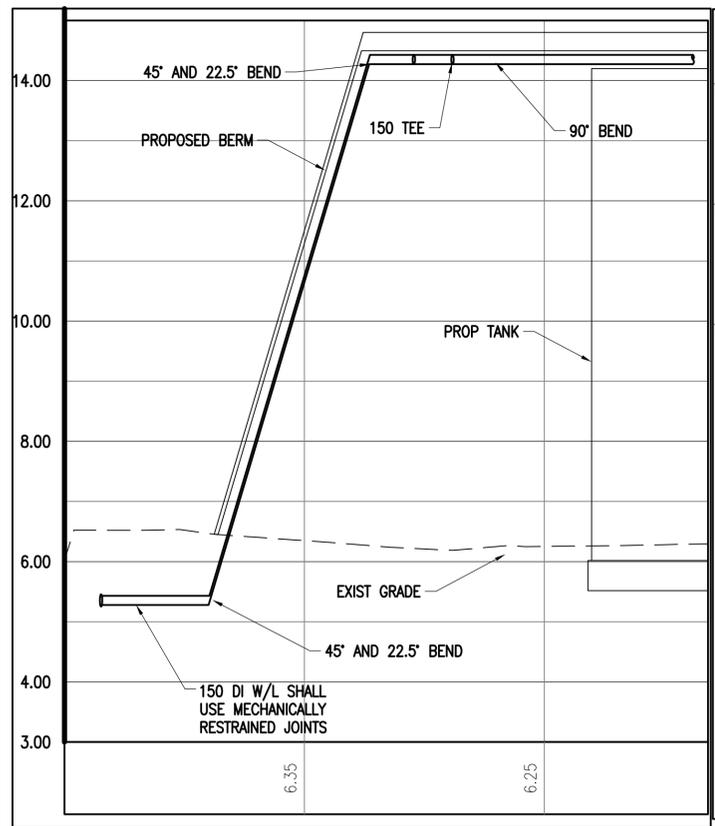
FILE NAME: G:\14 Jobs\14-013 Djibouti - Fuel Storage Facility - NAVFAC LANTCOM AutoCAD\C-201 DRAINAGE PROFILE.dwg LAYOUT NAME: DRAINAGE PROFILE PLOTTED: Friday, March 25, 2016 - 8:59am USER: whermann



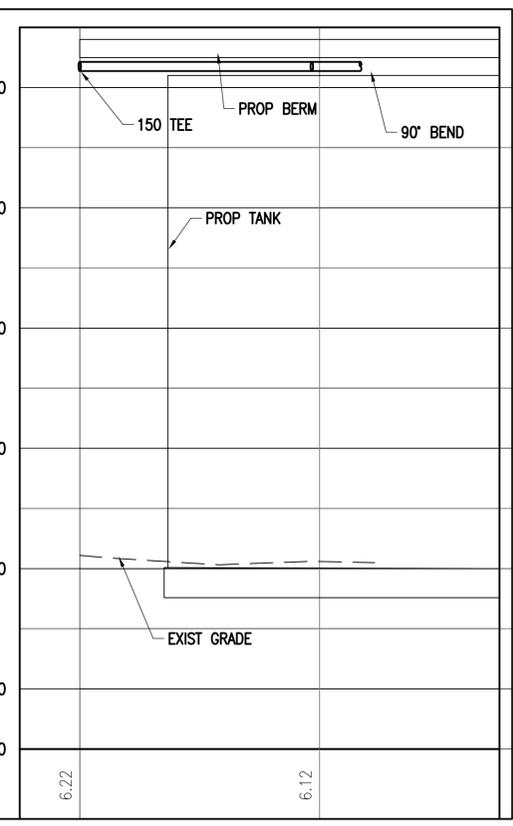
NORTH DITCH ALIGNMENT
SCALE: HORIZ 1:300
VERT 1:5



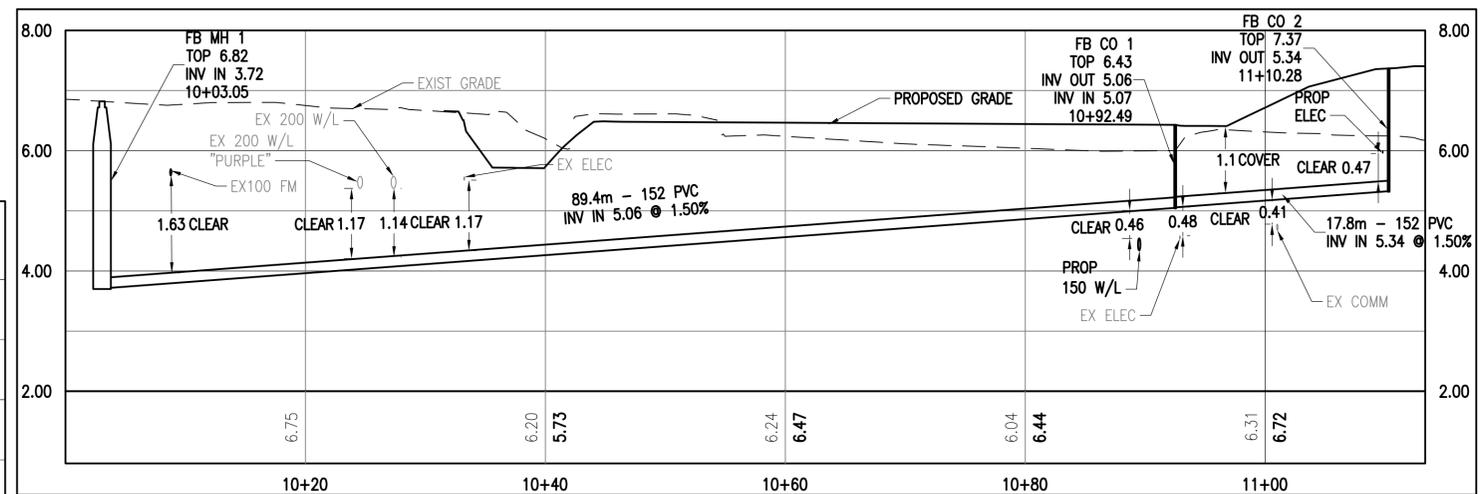
SOUTH DITCH ALIGNMENT
SCALE: HORIZ 1:300
VERT 1:5



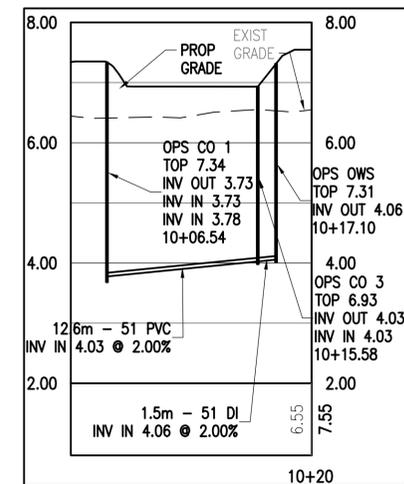
LEFT PUMPHOUSE WATER LINE
SCALE: HORIZ 1:300
VERT 1:5



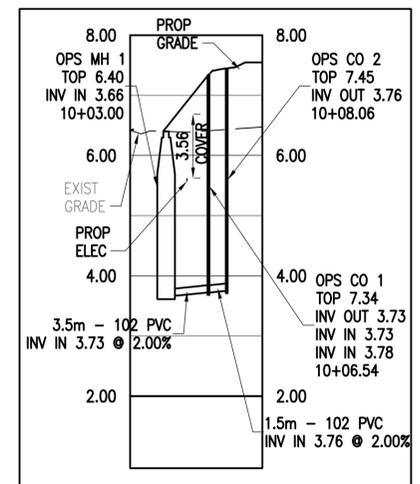
RIGHT PUMPHOUSE WATER LINE
SCALE: HORIZ 1:300
VERT 1:5



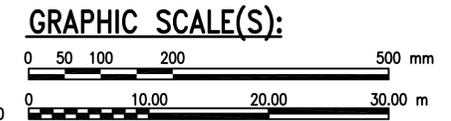
FILTER BUILDING SANITARY
SCALE: HORIZ 1:300
VERT 1:5



OPS BUILDING OWS
SCALE: HORIZ 1:300
VERT 1:5



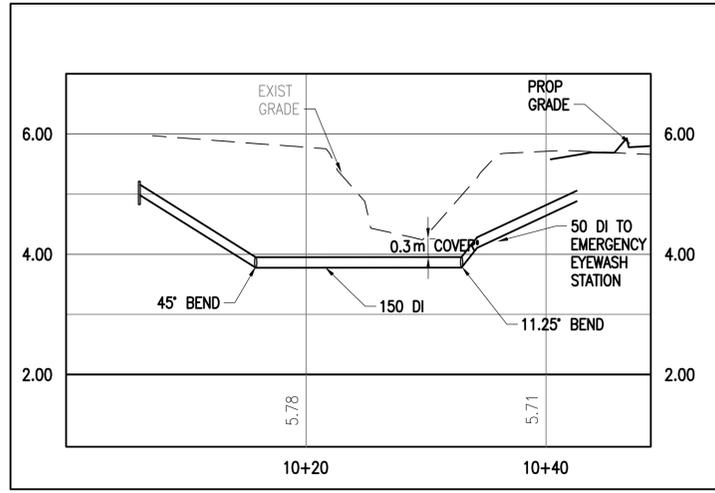
OPS BUILDING SANITARY
SCALE: HORIZ 1:300
VERT 1:5



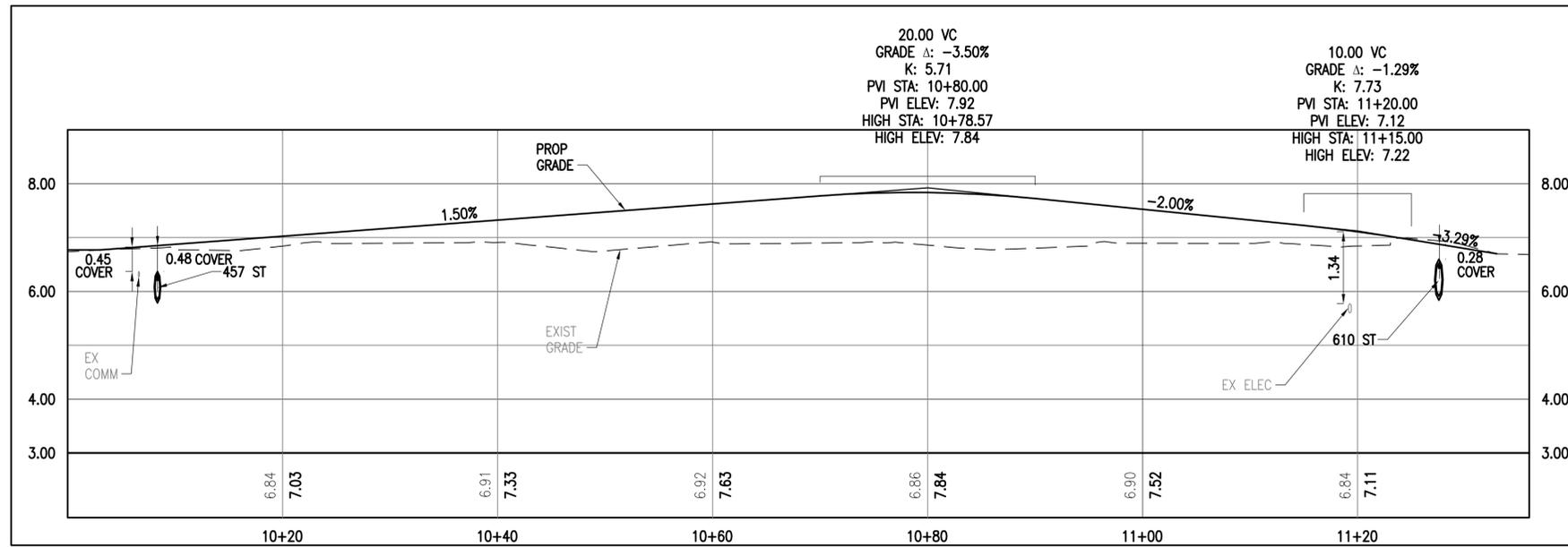
APPROVED: _____ DATE: _____
 SYN: _____ DESCRIPTION: _____

 COMMONWEALTH OF VIRGINIA
 JONATHAN PICKRAL
 Lic. No. 038856
 PROFESSIONAL ENGINEER
 Austin
 Brockenbrough
 ENGINEERING - CONSULTING
 APPROVED: _____ A/E INFO: _____
 FOR COMMANDER NAVFAC
 ACTIVITY: _____
 SATISFACTORY TO: _____ DATE: _____
 DES: JDP DRW: JDP CHK: CBL
 BRANCH MANAGER: _____
 CHIEF ENG/ARCH: _____
 DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 ATLANTIC DIVISION
 CAMP LEMONIER
 NAVFAC LANT/DA0404/C-202, DRAINAGE & UTILITY PROFILE, PLOTTED: Friday, March 25, 2016 - 9:00am USER: whermann
 FILE NAME: G:\14 Jobs\14-013 Dibuout - Fuel Storage Facility - NAVFAC LANT/DA0404/C-202, DRAINAGE & UTILITY PROFILE.dwg
 SCALE: AS NOTED
 PROJECT NO.: 14046998
 WORK ORDER NO.:
 NAVFAC DRAWING NO.: 14046998
 SHEET 34 OF 186
 C-202
 DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 DUBOULT, AFRICA
 DESC 1701/P-1701
 CONSTRUCT FUEL STORAGE FACILITIES
 DRAINAGE & UTILITY PROFILE
 SCALE: AS NOTED
 PROJECT NO.: 14046998
 WORK ORDER NO.:
 NAVFAC DRAWING NO.: 14046998
 SHEET 34 OF 186
 C-202
 DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 ATLANTIC DIVISION
 CAMP LEMONIER
 NAVFAC LANT/DA0404/C-202, DRAINAGE & UTILITY PROFILE, PLOTTED: Friday, March 25, 2016 - 9:00am USER: whermann
 FILE NAME: G:\14 Jobs\14-013 Dibuout - Fuel Storage Facility - NAVFAC LANT/DA0404/C-202, DRAINAGE & UTILITY PROFILE.dwg

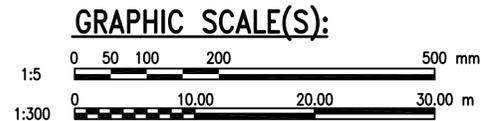
FILE NAME: G:\14 Jobs\14-013 Djibouti - Fuel Storage Facility - NAVFAC LANT\DWG AutoCAD\C-203 UTILITY & ROADWAY PROFILE.dwg LAYOUT NAME: UTILITY & ROADWAY PROFILE PLOTTED: Friday, March 25, 2016 - 9:00am USER: whermann



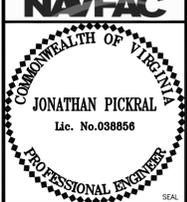
TRUCK LOADING FIRE HYDRANT WATER LINE
 SCALE: HORIZ 1:300
 VERT 1:5



RELOCATED BASE ROADWAY
 SCALE: HORIZ 1:300
 VERT 1:5



SYN	DESCRIPTION	DATE	APPR



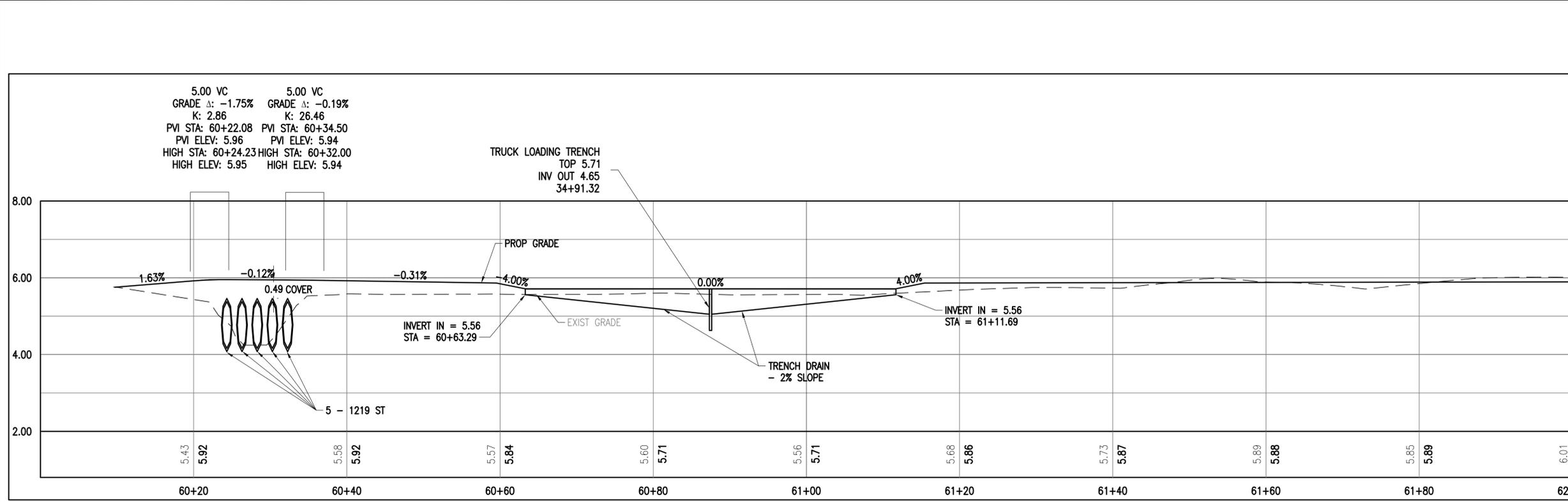
APPROVED
 FOR COMMANDER NAVFAC
 ACTIVITY

SATISFACTORY TO DATE
 DES: JDP DRW: JDP CHK: CBL
 <<PM/DM>>
 BRANCH MANAGER
 CHIEF ENG/ARCH
 <<CR>>

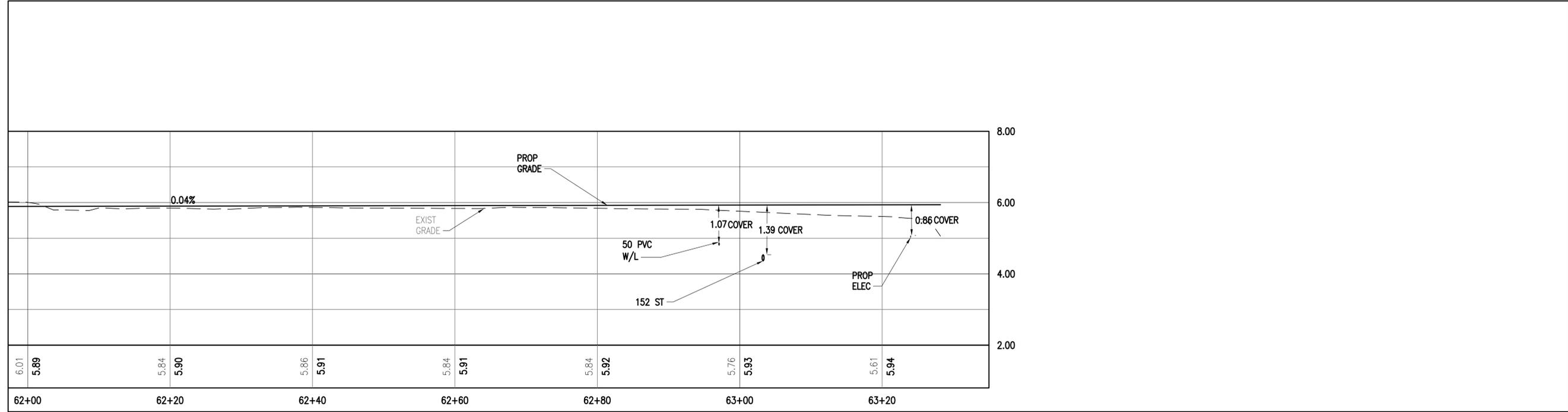
DEPARTMENT OF THE NAVY
 ATLANTIC DIVISION
 CAMP LEMONNIER
 NAVAL FACILITIES ENGINEERING COMMAND
 NAVAL FACILITIES ENGINEERING COMMAND
 NORFOLK, VIRGINIA
 DIBOUTI AFRICA
DESC 1701/P-1701
CONSTRUCT FUEL STORAGE FACILITIES
 UTILITY & ROADWAY PROFILE

SCALE: AS NOTED
 PROJECT NO.:
 WORK ORDER NO.:
 NAVFAC DRAWING NO.: 14046999
 SHEET 35 OF 186
C-203
DRAWING REVISION: 10 MARCH 2009

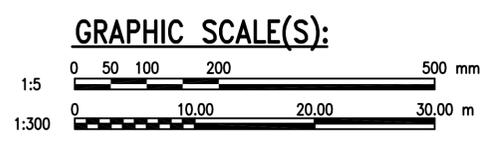
FILE NAME: G:\14 Jobs\14-013 Djibouti - Fuel Storage Facility - NAVFAC LANT\040 AutoCAD\C-204 ROADWAY PROFILE.dwg LAYOUT NAME: ROADWAY PROFILE PLOTTED: Friday, March 25, 2016 - 9:00am USER: whermann



TRUCK LOADING
SCALE: HORIZ 1:300
VERT 1:5



TRUCK LOADING
SCALE: HORIZ 1:300
VERT 1:5



APPR	DATE
SYN	DESCRIPTION

Brockenbrough
ENGINEERING - CONSULTING

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES: JDP DRW: JDP CHK: CBL

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<CR>>

DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
CAMP LEMONNIER

NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA

DJIBOUTI AFRICA

DESC 1701/P-1701
CONSTRUCT FUEL STORAGE FACILITIES
ROADWAY PROFILE

SCALE: AS NOTED

PROJECT NO.:

WORK ORDER NO.

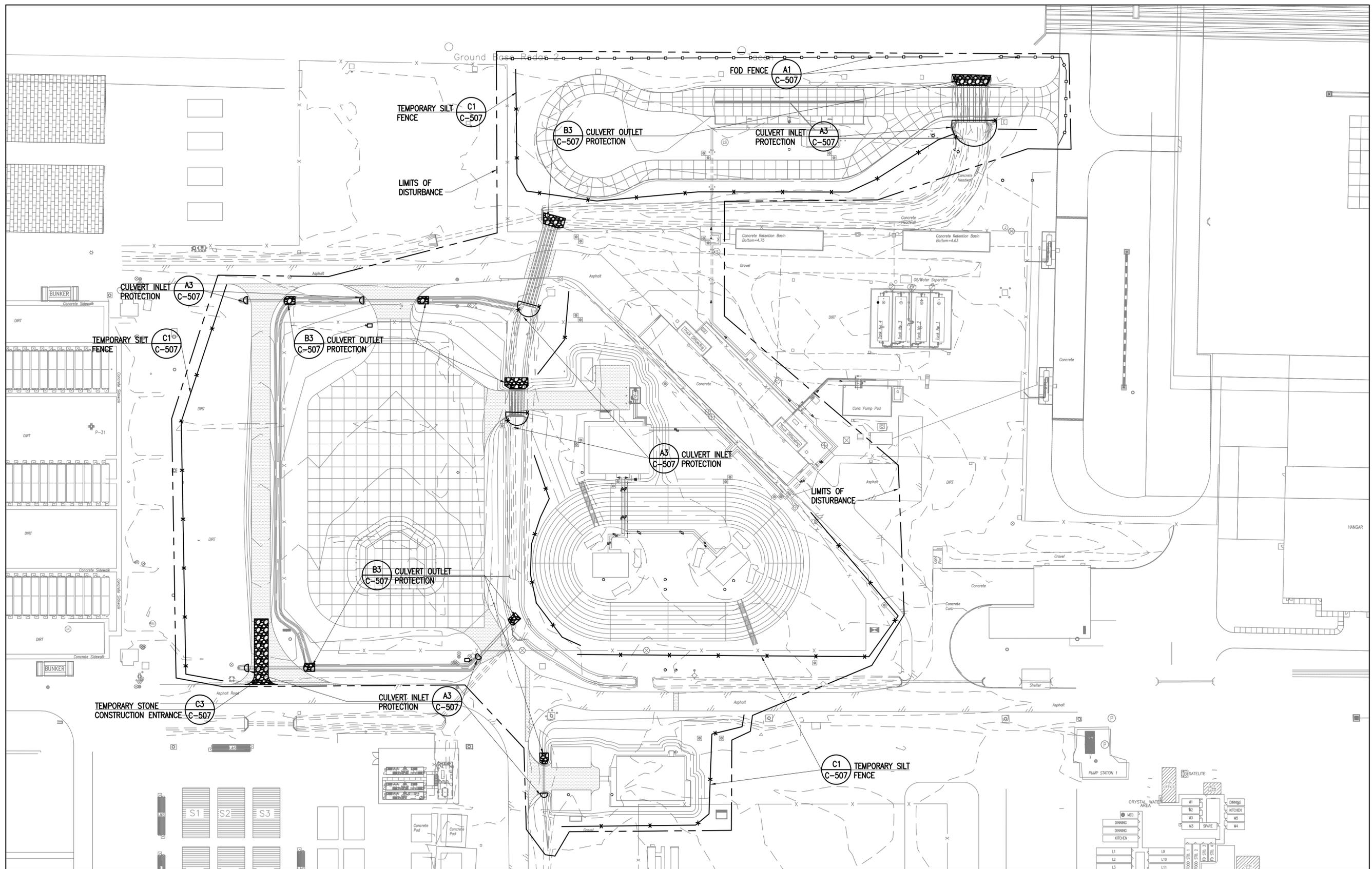
NAVFAC DRAWING NO. 14047000

SHEET 36 OF 186

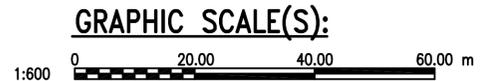
C-204

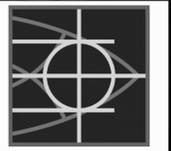
DRAWING REVISION: 10 MARCH 2009

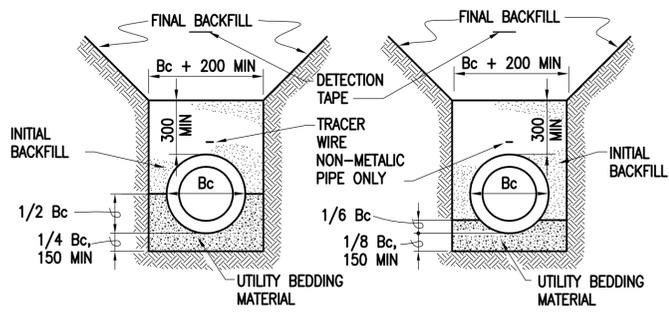
FILE NAME: G:\14 Jobs\14-013 Djibouti - Fuel Storage Facility - NAVFAC LANT\DWG AutoCAD\C-401 EROSION AND SEDIMENT CONTROL.dwg LAYOUT NAME: EROSION AND SEDIMENT CONTROL PLOTTED: Friday, March 25, 2016 - 9:01am USER: whermann



PLAN NORTH
EROSION AND SEDIMENT CONTROL
SCALE: 1:600



APPR	DATE
SYN	DESCRIPTION
 NAVFAC	
 JONATHAN PICKRAL Lic. No. 038856 PROFESSIONAL ENGINEER	
 Austin Brockenbrough ENGINEERING - CONSULTING	
APPROVED	A/E INFO
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO DATE	
DES JDP	DRW JDP
CBL	
BRANCH MANAGER	
CHIEF ENG/ARCH	
<<<<<<>>>>>	
NAVAL FACILITIES ENGINEERING COMMAND	
NAVFAC LANT/DAV Norfolk, Virginia	
DIBOUTI AFRICA	
DESC 1701/P-1701	
CONSTRUCT FUEL STORAGE FACILITIES	
EROSION AND SEDIMENT CONTROL	
SCALE: AS NOTED	
PROJECT NO.:	
WORK ORDER NO.:	
NAVFAC DRAWING NO. 14047001	
SHEET 37 OF 186	
C-401	
DRAWING REVISION: 10 MARCH 2009	

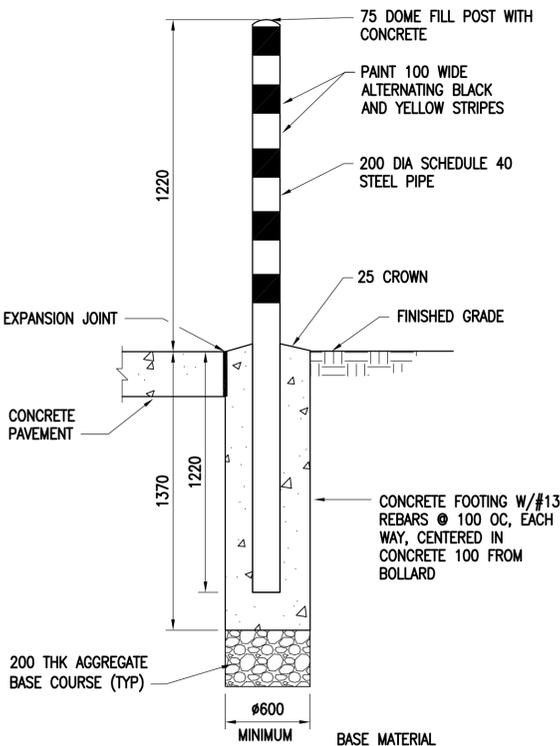


COPPER & HDPE **DUCTILE IRON & CONCRETE**

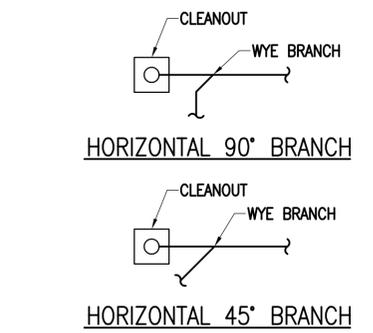
- LEGEND:**
 Bc = OUTSIDE PIPE DIAMETER
 D = INSIDE PIPE DIAMETER
- NOTES:**
- SEE SPECIFICATIONS FOR MATERIAL AND COMPACTION REQUIREMENTS.
 - MAXIMUM PARTICLE SIZE IN INITIAL BACKFILL SHALL BE 15 FOR ALL TYPES OF PIPE.
 - FOR TRENCHES WITH MULTIPLE FUEL PIPES, 300 SEPARATION REQUIRED BETWEEN OUTER DIAMETER (Bc) OF PIPES. FOR DRAIN PIPE, 300 SEPARATION BETWEEN Bc OF PIPES, UP TO 600 PIPE, 600 SEPARATION BETWEEN Bc OF PIPES LARGER THAN 600
 - TRENCHES CONTAINING HDPE PIPE, BACKFILL TRENCH WITH WELL GRADED AGGREGATE BASE COURSE.

PIPE & CULVERT BEDDING (C1)
 SCALE: NONE C-108, C-109, C-110, C-111, C-112, C-113, C-114

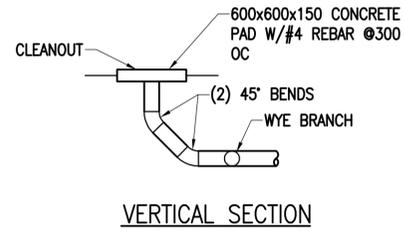
- GENERAL NOTES:**
- EXCAVATION AND TRENCHING SHALL BE IN ACCORDANCE WITH SECTION 011400 SPECIAL SAFETY REQUIREMENTS OF THE SPECIFICATIONS AND WILL COMPLY WITH SAFETY ISSUES OF EM 385-1-1 SAFETY AND HEALTH REQUIREMENTS SECTION 25, SEPTEMBER 2008 EDITION.
 - ALL PIPING SHALL BE PROTECTED BY A MINIMUM OF 600 OF COVER PRIOR TO PERMITTING HEAVY CONSTRUCTION EQUIPMENT TO PASS OVER THEM DURING CONSTRUCTION. CLASS B BEDDING SHALL BE REQUIRED.



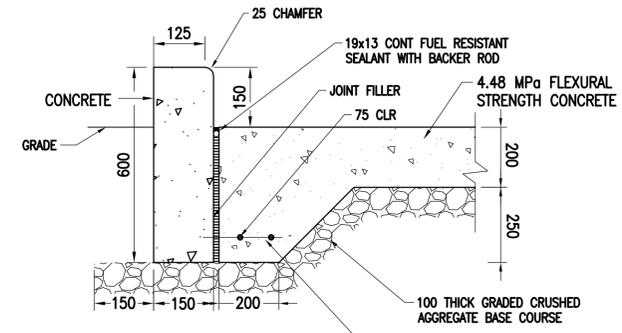
BOLLARD (A1)
 SCALE: NONE C-103, C-104, C-105, C-503, M-501



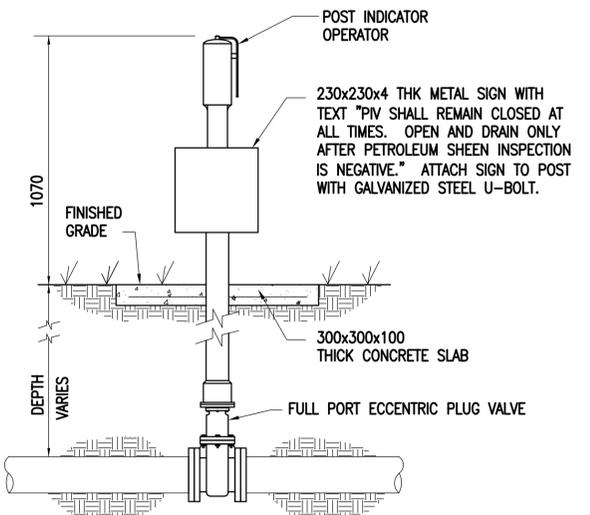
HORIZONTAL 90° BRANCH
HORIZONTAL 45° BRANCH



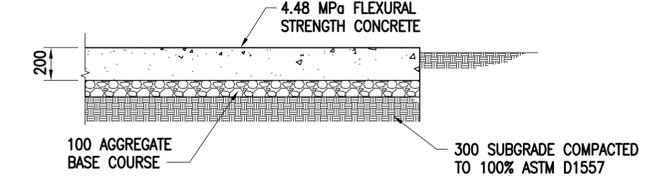
Ø100 CLEANOUT (C2)
 SCALE: NONE C-110



CURB (B2)
 SCALE: NONE C-104

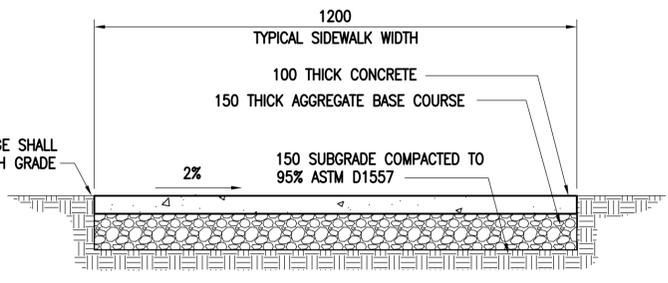


POST INDICATOR VALVE (PIV) (A2)
 SCALE: NONE C-112, C-113



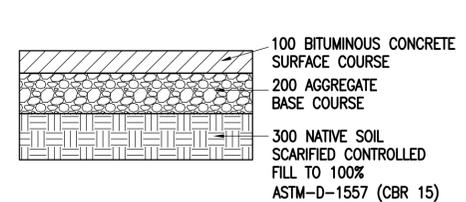
NOTE: SEE STRUCTURAL DETAILS FOR CONCRETE PAVEMENT JOINT DETAILS.

CONCRETE PAVEMENT (D3)
 SCALE: NONE C-103, C-104, C-105, C-106

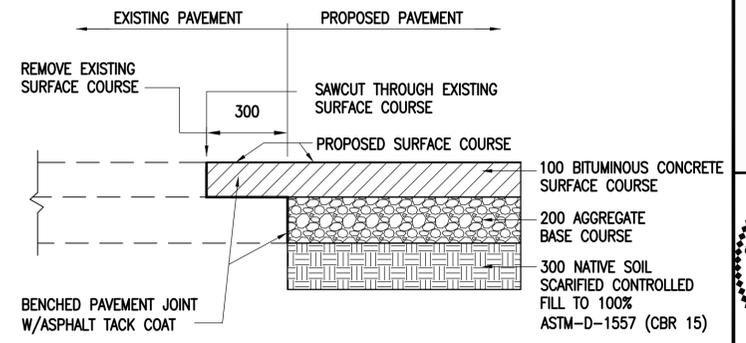


NOTE: SIDEWALK CONTROL OR SIDEWALK EXPANSION JOINTS SHALL BE PLACED EVERY 1500, WITH EVERY 4TH JOINT BEING A SIDEWALK EXPANSION JOINT.

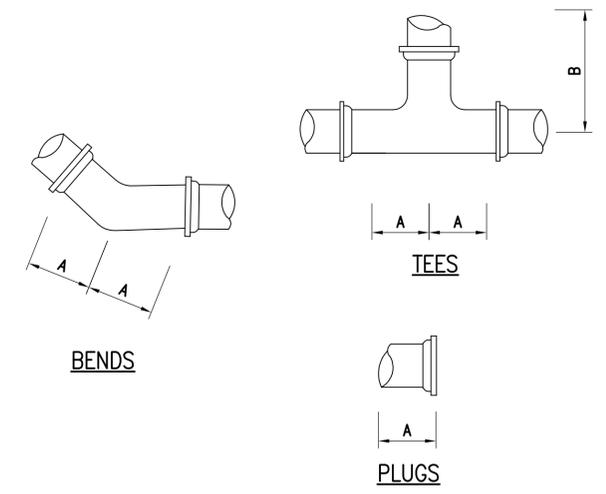
CONCRETE SIDEWALK (C3)
 SCALE: NONE C-104, C-106



BITUMINOUS CONCRETE PAVEMENT (D4)
 SCALE: NONE C-103, C-104, C-105, C-106



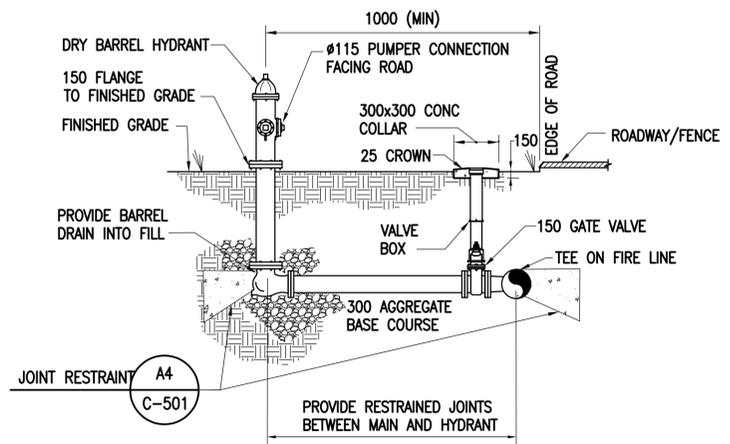
BITUMINOUS CONCRETE PAVEMENT JOINT (C4)
 SCALE: NONE C-103, C-104, C-105, C-106



JOINT RESTRAINT (A4)
 SCALE: NONE C-501

SIZE	90° BENDS	45° BENDS	22.5° BENDS	TEES	PLUGS
	A	A	A	A B	A
50	3300	1500	900	900 300	12000
100	3900	1800	900	900 300	14400
150	5700	2400	1200	900 4200	20400

NOTE: RESTRAINTS SHALL BE INSTALLED AT ALL BENDS, TEES AND PLUGS.



FIRE HYDRANT AND VALVE (A3)
 SCALE: NONE C-104, C-106, C-108, C-110

APPROVED: _____ DATE: _____

SYN DESCRIPTION: _____

NAVFAC
 COMMONWEALTH OF VIRGINIA
 JONATHAN PICKRAL
 Lic. No. 038856
 PROFESSIONAL ENGINEER

Austin
Brockenbrough
 ENGINEERING - CONSULTING

APPROVED: _____ A/E INFO: _____

FOR COMMANDER NAVFAC
 ACTIVITY: _____

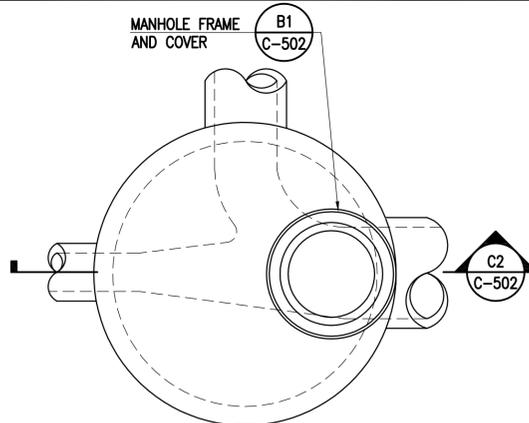
SATISFACTORY TO: _____ DATE: _____
 DES: JDP DRW: JDP CHK: CBL
 <<PM/IMP>>
 BRANCH MANAGER: _____
 CHIEF ENG/ARCH: _____
 <<CR>>

DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 ATLANTIC DIVISION
 NAVAL FACILITIES ENGINEERING COMMAND
 NORFOLK, VIRGINIA
 CIVIL DETAILS
 DUBOULT, AFRICA
 CAMP LEMONIER/CIVIL DETAILS
 DESC 1701/P-1701
CONSTRUCT FUEL STORAGE FACILITIES

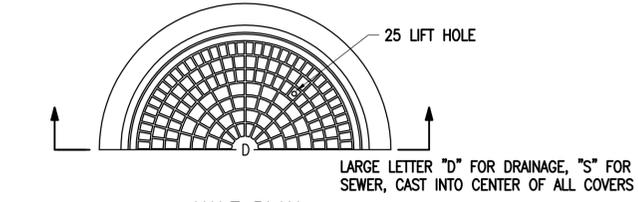
SCALE: AS NOTED
 PROJECT NO.: _____
 WORK ORDER NO.: _____

NAVFAC DRAWING NO.: 14047002
 SHEET 38 OF 186
C-501
 DRAWING REVISION: 10 MARCH 2009

FILE NAME: G:\14 Jobs\14-013 Djbouti - Fuel Storage Facility - NAVFAC LANT/CAD AutoCAD\C-501 CIVIL DETAILS.dwg LAYOUT NAME: CIVIL DETAILS PLOTTED: Friday, March 25, 2016 - 9:07am USER: wherrmann

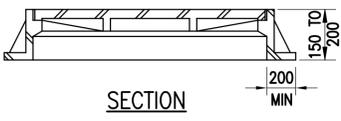


PLAN VIEW



HALF PLAN

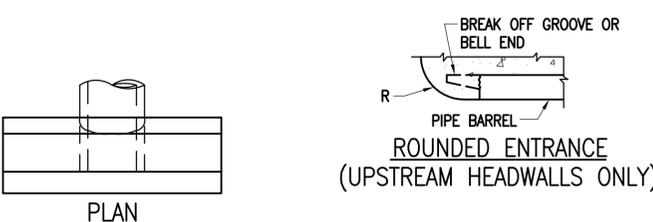
LARGE LETTER "D" FOR DRAINAGE, "S" FOR SEWER, CAST INTO CENTER OF ALL COVERS



SECTION

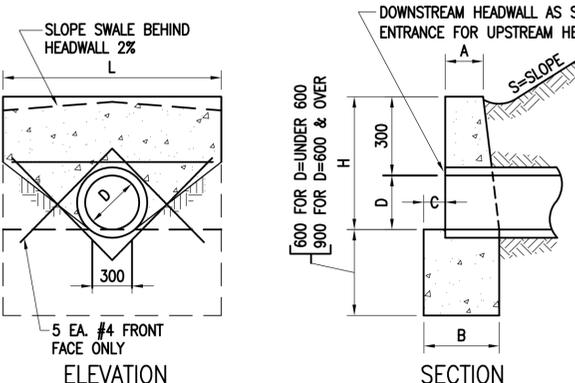
NOTE: FRAME & COVER DESIGNED TO H-25 ASSHTO HIGHWAY LOADING.

MANHOLE FRAME AND COVER B1 C-502



PLAN

ROUNDED ENTRANCE (UPSTREAM HEADWALLS ONLY)

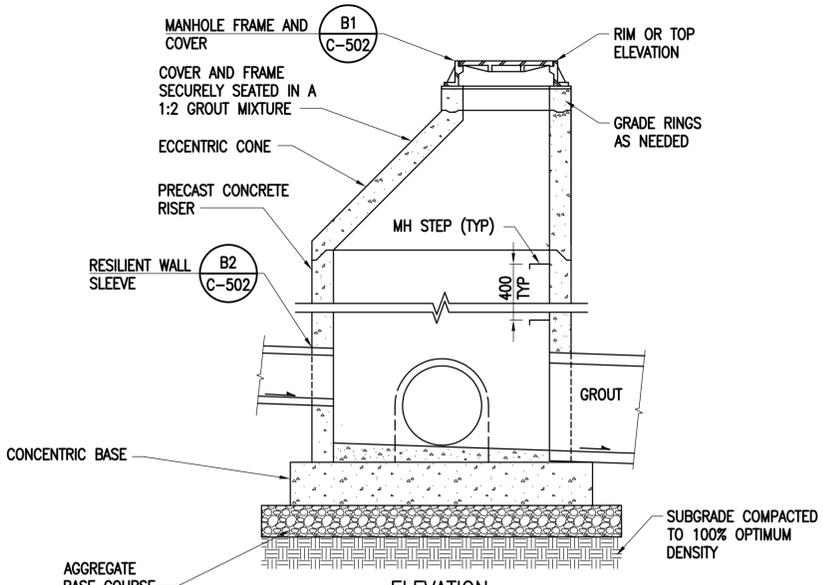


ELEVATION

SECTION

HEADWALL

SCALE: NONE C-111 C-112 C-113 C-114 A1

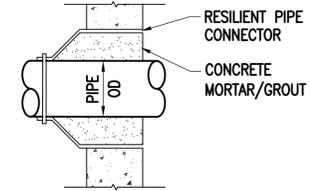


ELEVATION

TYPICAL DOG HOUSE CONCRETE MANHOLE C2 C-110

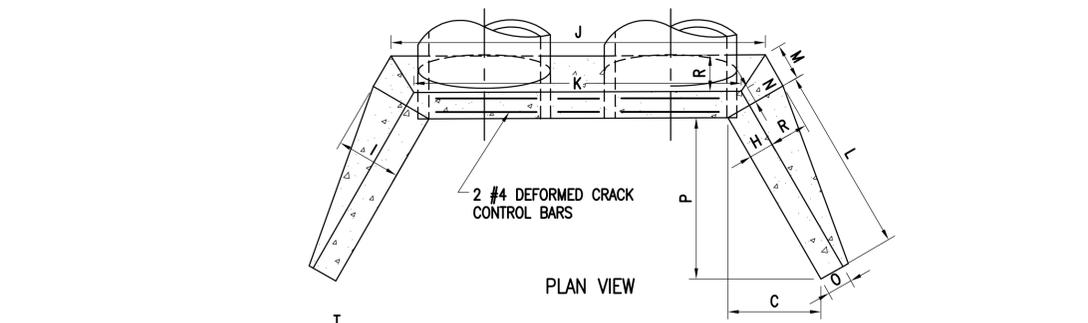
NOTE: ALL MANHOLES SHALL BE COATED WITH A SULFURIC ACID RESISTANT COATING AND DESIGNED TO HANDLE 100,000 LB/SQ FT OF PERPENDICULAR FORCE AND SHALL HAVE A MINIMUM WALL THICKNESS OF 150.

SCALE: NONE

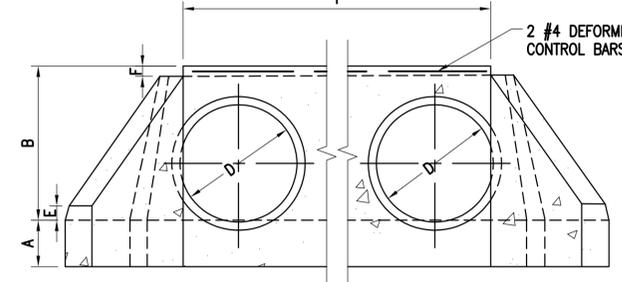


RESILIENT WALL SLEEVE B2 C-502

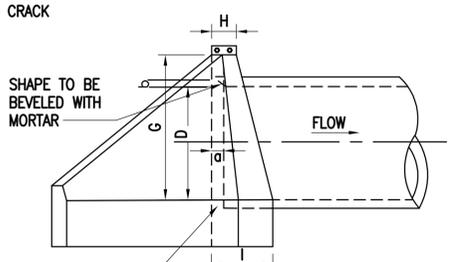
SCALE: NONE



PLAN VIEW



FRONT VIEW



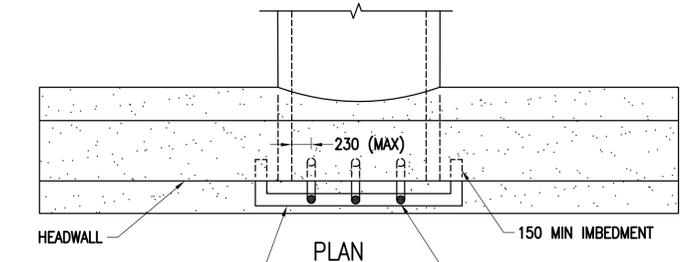
SIDE VIEW

TABLE OF ENDWALL DIMENSIONS FOR CIRCULAR PIPE CULVERTS

DIMENSION	DIAMETER OF PIPE CULVERTS										
	A	B	C	T	E	F	G	H	I	J	K
1.22M	0.22M	1.63M	1.14M	8.86M	0.15M	0.15M	1.47M	0.25M	0.62M	1.94M	1.51M
DIMENSION	L	M	N	O	P	R	S	CM PIPE	a	b	
1.22M	2.29M	0.36M	0.15M	0.29M	1.98M	0.37M	1.96M	3.58M ³	0.13M	0.10M	

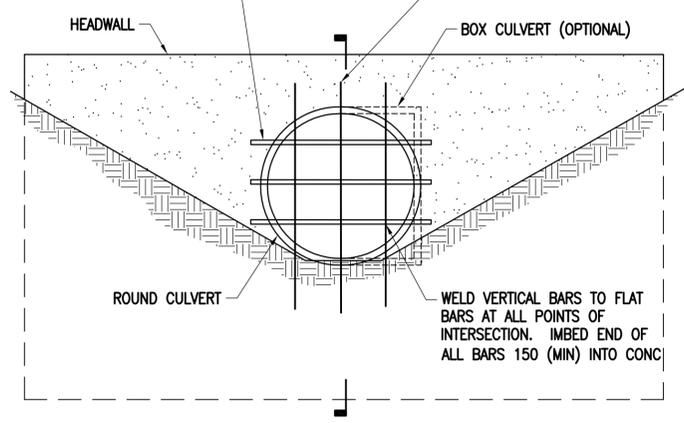
ENDWALL FOR PIPE CULVERT C4 C-112

SCALE: NONE



PLAN

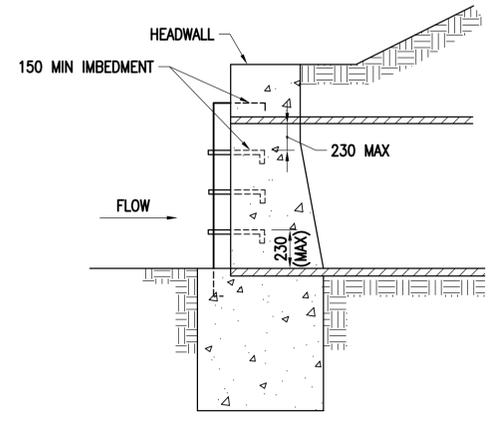
57 FLAT HORIZ BARS @ 230 OC W/Ø22 HOLES @ 230 OC



ELEVATION

SECURE GRILL

SCALE: NONE C-111 C-112 A3

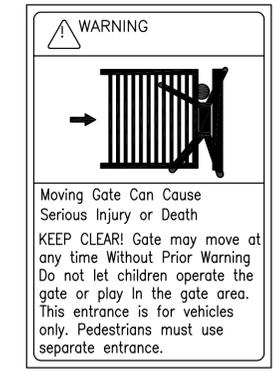
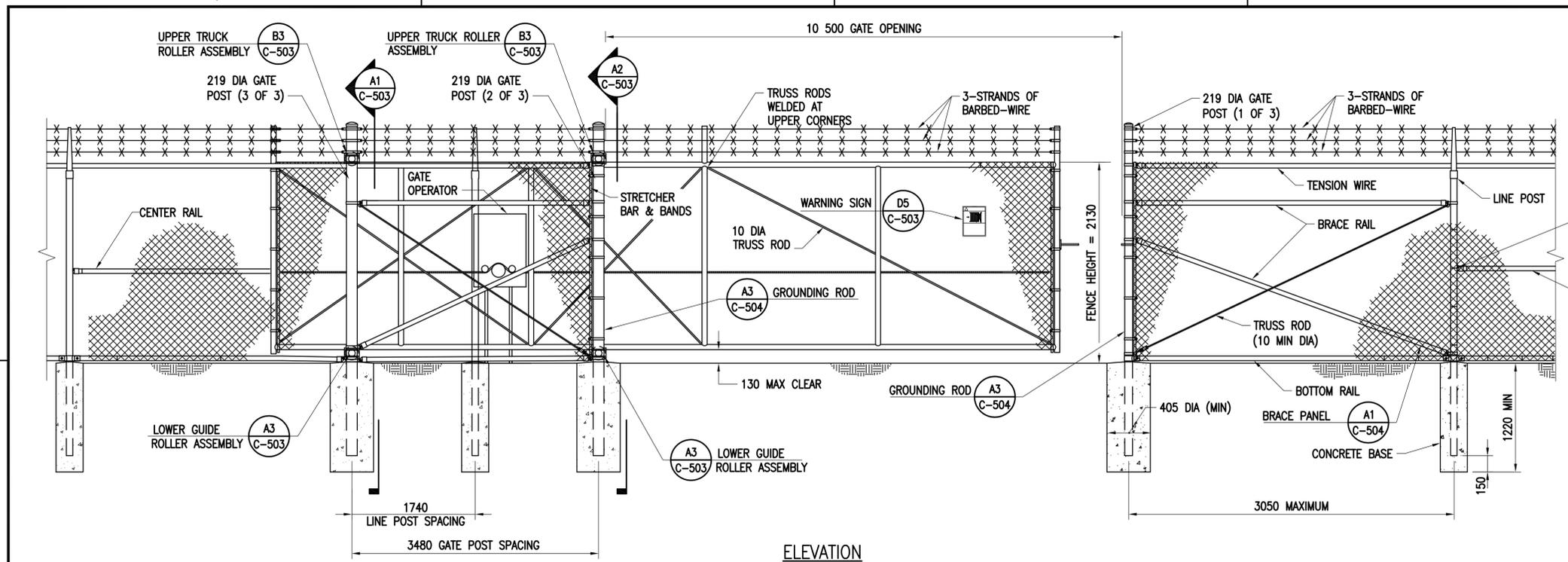


SECTION

APPROVED	DATE	APPR
SYN	DESCRIPTION	SYN
APPROVED	A/E INFO	
FOR COMMANDER NAVFAC	ACTIVITY	
SATISFACTORY TO	DATE	
DES JDP	DRW JDP	CHK CBL
<<PM/DM>>		
BRANCH MANAGER		
CHIEF ENG/ARCH		
<<CR>>		
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	CIVIL DETAILS
ATLANTIC DIVISION	NAVFAC LANT/COM	
CAMP LEMONIER	DESC 1701/P-1701	
	CONSTRUCT FUEL STORAGE FACILITIES	
PROJECT NO.:		
WORK ORDER NO.		
NAVFAC DRAWING NO.	14047003	
SHEET	39 OF 186	
C-502		
DRAWING REVISION: 10 MARCH 2009		

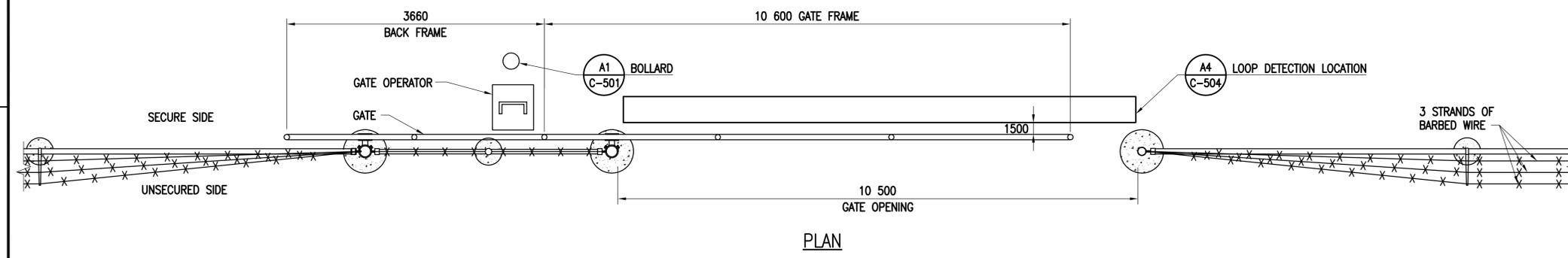
FILE NAME: G:\14 Jobs\14-013 Dhhout - Fuel Storage Facility - NAVFAC LANT/COM AutoCAD\C-502 CIVIL DETAILS.dwg LAYOUT NAME: CIVIL DETAILS PLOTTED: Friday, March 25, 2016 - 9:02am USER: wherrmann

FILE NAME: G:\14 Jobs\14-013 Djbouti - Fuel Storage Facility - NAVFAC LANT\DWG AutoCAD\C-503 FENCE DETAILS.dwg LAYOUT NAME: FENCE DETAILS PLOTTED: Friday, March 25, 2016 - 9:02am USER: whermann

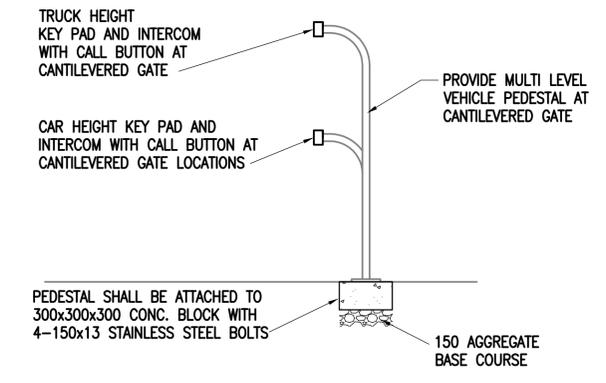


WARNING SIGN
SCALE: NONE C-503 D5

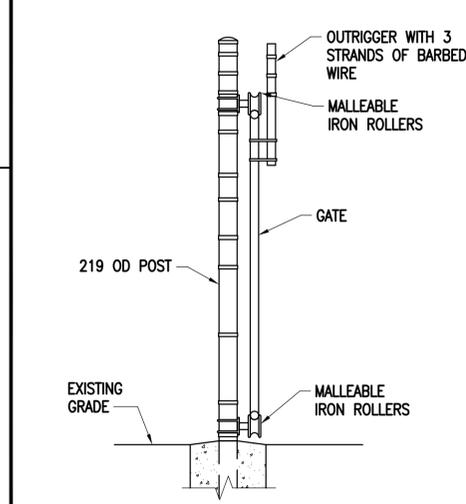
- NOTES:**
- CANTILEVERED SLIDE GATES SHALL CONFORM TO ASTM F1184.
 - GATE FRAMES SHALL BE EITHER ZINC-COATED STEEL OR ALUMINUM ALLOY.
 - ROLLERS SHALL BE EITHER INTERNAL OR EXTERNAL.
 - DETAILS SHOWN ARE TO CLARIFY REQUIREMENTS AND ARE NOT INTENDED TO LIMIT OTHER TYPES OF GATE SECTIONS AND METHODS OF INSTALLATION.
 - FABRIC ON GATE TO MATCH FENCE FABRIC.
 - FENCE SHALL CONFORM TO UFC 4-022-03 FENCES AND GATES.



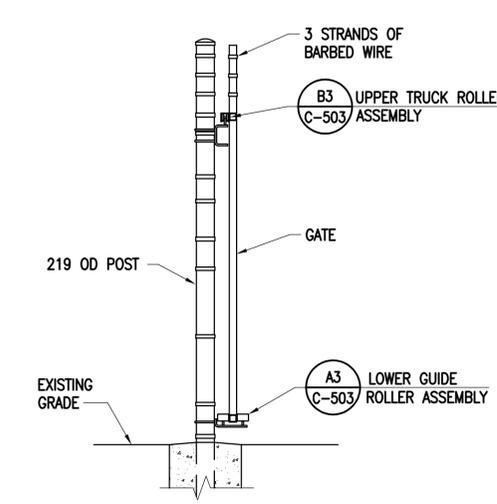
CANTILEVERED GATE
SCALE: NONE C-103 C-105 B1



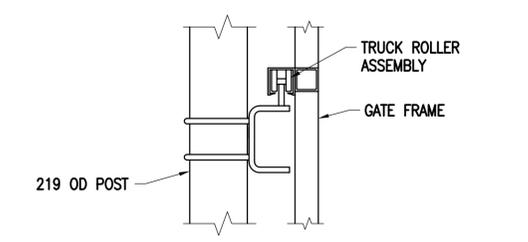
VEHICLE KEYPAD PEDESTAL
SCALE: NONE C-103 B5



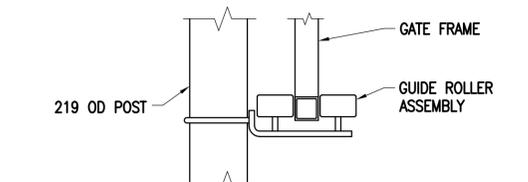
SECTION A1
SCALE: NONE C-503



SECTION A2
SCALE: NONE C-503



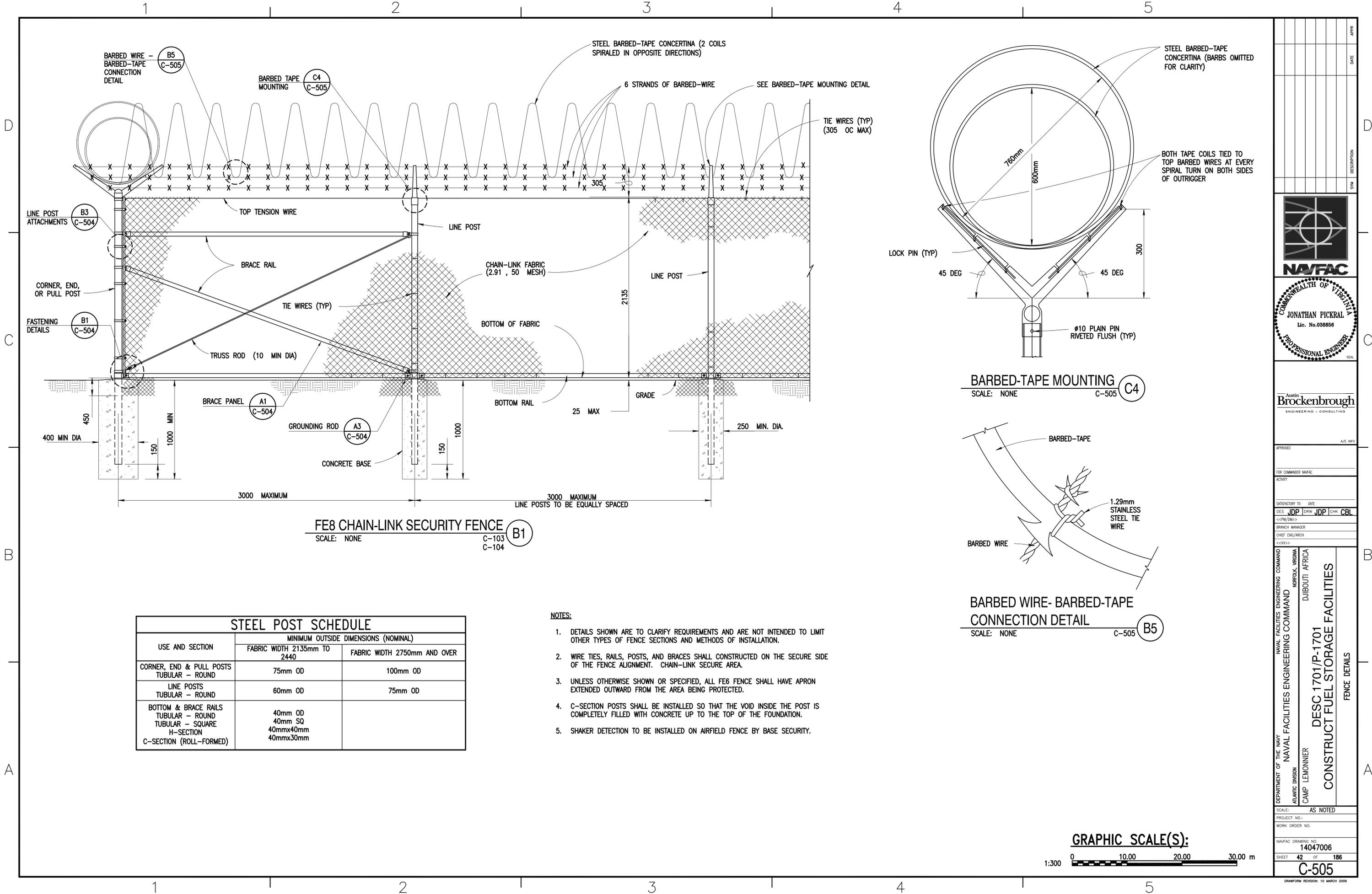
UPPER TRUCK ROLLER ASSEMBLY
SCALE: NONE C-503 B3



LOWER GUIDE ROLLER ASSEMBLY
SCALE: NONE C-503 A3

APPROVED	DATE	APPR
SYN	DESCRIPTION	DATE
APPROVED	A/E INFO	
FOR COMMANDER NAVFAC		
ACTIVITY		
SATISFACTORY TO	DATE	
DES JDP	DRW JDP	CHK CBL
<<PM/IMP>>		
BRANCH MANAGER		
CHIEF ENG/ARCH		
<<CR>>		
NAVAL FACILITIES ENGINEERING COMMAND NAVAL FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA DUBOULTI AFRICA CAMP LEMONNIER DESC 1701/P-1701 CONSTRUCT FUEL STORAGE FACILITIES FENCE DETAILS		
SCALE:	AS NOTED	
PROJECT NO.:		
WORK ORDER NO.:		
NAVFAC DRAWING NO.:	14047004	
SHEET	40	OF 186
C-503		
DRAWFORM REVISION: 10 MARCH 2009		

FILE NAME: G:\14 Jobs\14-013 Djbouti - Fuel Storage Facility - NAVFAC LANT\1404 AutoCAD\C-505 FENCE DETAILS LAYOUT NAME: FENCE DETAILS.dwg LAYOUT: FENCE DETAILS PLOTTED: Friday, March 25, 2016 - 9:02am USER: wherrmann



FE8 CHAIN-LINK SECURITY FENCE (B1)
SCALE: NONE C-103 C-104

BARBED-TAPE MOUNTING (C4)
SCALE: NONE C-505

BARBED WIRE- BARBED-TAPE CONNECTION DETAIL (B5)
SCALE: NONE C-505

USE AND SECTION	MINIMUM OUTSIDE DIMENSIONS (NOMINAL)	
	FABRIC WIDTH 2135mm TO 2440	FABRIC WIDTH 2750mm AND OVER
CORNER, END & PULL POSTS TUBULAR - ROUND	75mm OD	100mm OD
LINE POSTS TUBULAR - ROUND	60mm OD	75mm OD
BOTTOM & BRACE RAILS TUBULAR - ROUND TUBULAR - SQUARE H-SECTION C-SECTION (ROLL-FORMED)	40mm OD 40mm SQ 40mmx40mm 40mmx30mm	

NOTES:

1. DETAILS SHOWN ARE TO CLARIFY REQUIREMENTS AND ARE NOT INTENDED TO LIMIT OTHER TYPES OF FENCE SECTIONS AND METHODS OF INSTALLATION.
2. WIRE TIES, RAILS, POSTS, AND BRACES SHALL CONSTRUCTED ON THE SECURE SIDE OF THE FENCE ALIGNMENT. CHAIN-LINK SECURE AREA.
3. UNLESS OTHERWISE SHOWN OR SPECIFIED, ALL FE6 FENCE SHALL HAVE APRON EXTENDED OUTWARD FROM THE AREA BEING PROTECTED.
4. C-SECTION POSTS SHALL BE INSTALLED SO THAT THE VOID INSIDE THE POST IS COMPLETELY FILLED WITH CONCRETE UP TO THE TOP OF THE FOUNDATION.
5. SHAKER DETECTION TO BE INSTALLED ON AIRFIELD FENCE BY BASE SECURITY.

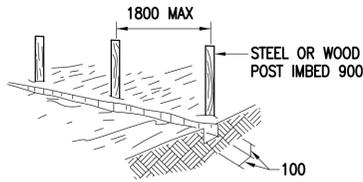
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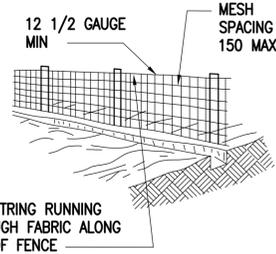
APPROVED	DATE	APPR
SYN	DESCRIPTION	DATE
APPROVED	A/E INFO	
FOR COMMANDER NAVFAC	ACTIVITY	
SATISFACTORY TO	DATE	
DES JDP	DRW JDP	CHK CBL
<<PM/IMP>>		
BRANCH MANAGER		
CHIEF ENG/ARCH		
<<CR>>		
NAVAL FACILITIES ENGINEERING COMMAND	NAVFAC AFRICA	
NAVFAC AFRICA	DJIBOUTI	
NAVFAC AFRICA	DJIBOUTI	
DESC 1701/P-1701	CONSTRUCT FUEL STORAGE FACILITIES	
CAMP LEMONNIER	FENCE DETAILS	
SCALE:	AS NOTED	
PROJECT NO.:		
WORK ORDER NO.:		
NAVFAC DRAWING NO.:	14047006	
SHEET	42 OF 186	
C-505		
DRAWING REVISION: 10 MARCH 2009		

FILE NAME: G:\14 Jobs\14-013 Djbouti - Fuel Storage Facility - NAVFAC LANTCOM Amd64\C-507 EROSION CONTROL DETAILS.dwg LAYOUT NAME: EROSION CONTROL DETAILS PLOTTED: Friday, March 25, 2016 - 9:03am USER: whiermann

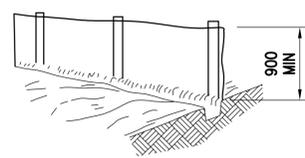
1. SET POSTS AND EXCAVATE A 100x100 TRENCH UPSLOPE ALONG THE LINE OF POSTS.



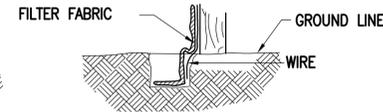
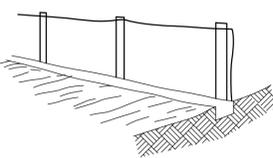
2. STAPLE WIRE FENCING TO THE POSTS.



3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.



4. BACKFILL AND COMPACT THE EXCAVATED SOIL.



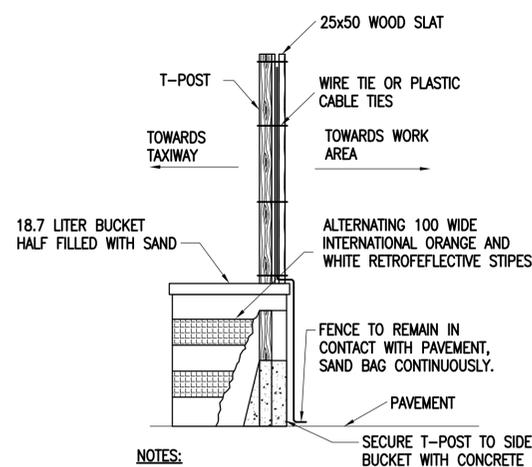
EXTENSION OF FABRIC AND WIRE INTO THE TRENCH

TEMPORARY SILT FENCE

SCALE: NONE

C-401

C1



NOTES:

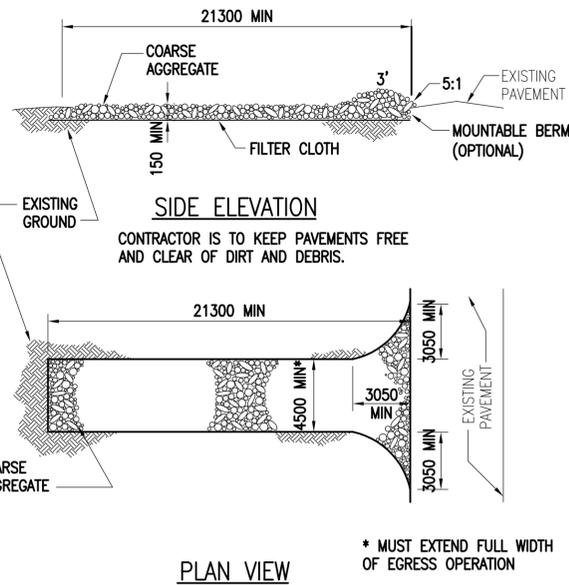
- FOD = FOREIGN OBJECTS AND DEBRIS.
- BUCKETS SHALL BE PROVIDED WITH 12 VOLT, FLASHING RED LIGHTS SECURED TO THE LID. LID AND LIGHT BASE SHALL BE SEALED TO PREVENT WATER FROM ENTERING BUCKET.
- BUCKETS SHALL BE SPACED AT 6M MAX.

FOD FENCE

SCALE: NONE

C-401

A1

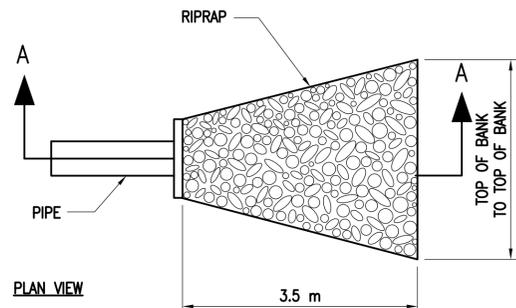


TEMPORARY STONE CONSTRUCTION ENTRANCE

SCALE: NONE

C-401

C3



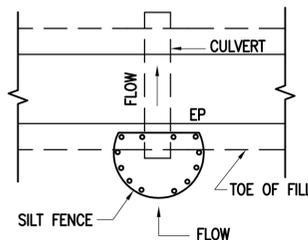
SECTION A-A

CULVERT OUTLET PROTECTION

SCALE: NONE

C-401

B3



CULVERT INLET PROTECTION

SCALE: NONE

C-401

A3

ENVIRONMENTAL NARRATIVE:

THIS PROJECT WILL PROVIDE 2-15,000 BARREL CUT AND COVER FUEL TANKS WITH PUMP HOUSES AND A FILTER BUILDING, REFUELER TRUCK PARKING FOR 12 TRUCKS, TWO TRUCK LOADING STATIONS, AND A NEW OPS BUILDING, AS WELL AS RELOCATE AN EXISTING BASE ROADWAY. THE EXISTING SITE HAS A FUEL FARM AND PREVIOUSLY CONTAINED CLUs AND CANVAS TENTS. THE CLUs AND TENTS HAVE BEEN REMOVED. THE PROJECT AREA IS CONTAINED WITHIN CLDJ AND WILL NOT IMPACT OFFSITE AREAS. THE AREA IS DESERT AND VERY DRY. THE SOIL IS VERY CORROSIVE TOWARDS METALS AND CONCRETE. THE AREA IS VERY FLAT, SO CONSTRUCTION ENTRANCES, SILT FENCE, AND CULVERT INLET PROTECTION WILL BE THE EROSION CONTROL MEASURES USED. VEGETATION DOES NOT GROW, SO POORLY GRADED GRAVEL WILL BE UTILIZED FOR STABILIZATION WITHIN FENCED AREAS. IT WILL NOT BE USED AT THE TRUCK LOADING AREA, BECAUSE OF FOD ISSUES. ALL PROPOSED CULVERTS AND DITCHES ARE DESIGNED TO HANDLE THE 10 YEAR STORM EVENT, WITH DRAINAGE STRUCTURES PLACED IN EXISTING CHANNELS MATCHING THE CURRENT HYDRAULIC SECTION OF THE CHANNEL.

ENVIRONMENTAL SEQUENCE:

- INSTALL CULVERT INLET PROTECTION AT EXISTING CULVERTS, AND SILT FENCE AT LOCATIONS INDICATED ON THE EROSION CONTROL PLANS AROUND THE LIMITS OF DISTURBANCE. THE CONSTRUCTION ENTRANCES WILL BE PLACED AS DIRECTED BY THE CONSTRUCTION OFFICER. THIS MAY CHANGE THROUGHOUT THE DURATION OF THE PROJECT AND THE CONTRACTOR AND BASE DETERMINE THEIR LOCATIONS AS TO ENSURE THAT SEDIMENT IS NOT TRACKED ONTO THE PAVEMENT.
- ONCE THE INITIAL MEASURES ARE IN PLACE, BEGIN SITE DEMOLITION.
- AS THE NEW STORM SEWER SYSTEM AND CULVERTS ARE INSTALLED, PLACE INLET PROTECTION AROUND THEM.
- ONCE ALL AREAS ARE STABILIZED, AND INSPECTED, ALL TEMPORARY PRACTICES SHALL BE REMOVED WITHIN 30 DAYS AFTER BASE APPROVAL.
- THE TOTAL DISTURBED ACREAGE OF THIS PROJECT IS 4.54 hectares.

STAGING AREA:

- THE BASE WILL ULTIMATELY DETERMINE THE LOCATION FOR THE STAGING AREA, STOCKPILE, MATERIAL AND EQUIPMENT STORAGE. AN IMPENETRABLE MEMBRANE SHALL BE PLACED UNDER THE STOCKPILE SO AS TO NOT STAIN THE PAVEMENT, AND EROSION MEASURES SHALL BE PLACED AROUND IT.
- ALL CONSTRUCTION MATERIALS SHALL BE STORED AT HIGHER ELEVATIONS ON THE SITE TO MINIMIZE CONTACT WITH SURFACE RUNOFF AND STANDING WATER. ANY MATERIALS THAT CAN CONTAMINATE STORM WATER RUNOFF SHALL BE PROTECTED FROM RAIN AND HIGH WINDS (WINDS EXCEEDING 34 KPH) WITH PLASTIC SHEETING OR OTHER MEANS TO PREVENT MATERIAL FROM COMING INTO CONTACT WITH STORM WATER RUNOFF.
- ANY LIQUID MATERIAL STORED ON SITE SHALL BE STORED PROPERLY WITHIN THEIR CONTAINERS AND NOT USED IN EXPOSED AREAS DURING PERIODS OF RAIN.
- CARE SHALL BE TAKEN TO AVOID ANY SPILLS OF SOLID MATERIALS THAT WILL DISSOLVE IN WATER, OR LIQUID MATERIAL THAT WILL BE CARRIED AWAY WITH STORM RUNOFF.
- ACCIDENTAL SPILLS SHALL BE PROPERLY MITIGATED, IMMEDIATELY, TO THE POINT WHERE WATER CONTAMINATION IS MINIMIZED, IF NOT ELIMINATED.
- VEHICLES, BOTH PASSENGER AND CONSTRUCTION, SHALL BE PROPERLY MAINTAINED TO PREVENT LEAKAGE OF PETROLEUM DISTILLATES, ANTIFREEZE, OR OTHER VEHICLE FLUIDS.
- ANY VEHICLES THAT LEAK SUCH MATERIALS SHALL BE IMMEDIATELY REPAIRED AND ALL CONTAMINATED MATERIALS PROTECTED AND REMOVED PER THE PROCEDURE OUTLINED ABOVE.
- CARE SHALL BE TAKEN DURING ONSITE REFUELING OF VEHICLES TO PREVENT SPILLS OF FUEL. ACCIDENTAL SPILLS SHALL BE MITIGATED PER THE PROCEDURE OUTLINED ABOVE.
- ALL VEHICLES LEFT ON SITE OVERNIGHT WILL UTILIZE DRIP PANS.
- SOILS OR OTHER EXPOSED MATERIALS ACCIDENTALLY CONTAMINATED DURING EQUIPMENT FAILURES, SERVICING, OR REPAIR, SHALL BE REMOVED IMMEDIATELY FROM THE SITE AND PROPERLY DISPOSED OF OFF SITE.
- TOXIC MATERIALS INCLUDING, BUT NOT LIMITED TO, PAINTS AND SOLVENTS, SHALL BE HANDLED WITH CARE SO AS NOT TO CONTAMINATE EXPOSED SOILS OR OTHER CONSTRUCTION MATERIALS. ACCIDENTAL SPILLS SHALL BE MITIGATED PER THE PROCEDURE OUTLINED ABOVE. SIMILAR MATERIALS TEMPORARILY STORED ELSEWHERE ON THE SITE SHALL BE ADJACENT TO THE IMMEDIATE AREA OF WORK AND SHALL BE PROTECTED IN A SIMILAR MANNER.
- NO CONSTRUCTION MATERIALS THAT CAN POTENTIALLY CONTAMINATE THE SITE STORM WATER RUNOFF SHALL BE DISPOSED OF ON THE SITE. THIS INCLUDES, BUT IS NOT LIMITED TO, PAINTS, SOLVENTS, AND OTHER SIMILAR MATERIALS. DISPOSAL OF CONSTRUCTION MATERIALS SHALL BE PERFORMED OFFSITE IN ACCORDANCE WITH LOCAL AND FEDERAL REGULATIONS.

APPROVED	DATE	APPR
FOR COMMANDER NAVFAC	ACTIVITY	DESCRIPTION
SATISFACTORY TO	DATE	SYN
DES JDP	DRW JDP	CHK CBL
<<PM/IMP>>		
BRANCH MANAGER		
CHIEF ENG/ARCH		
<<CR>>		
NAVAL FACILITIES ENGINEERING COMMAND	NAVFAC	
ATLANTIC DIVISION		
CAMP LEMONNIER		
NAVFAC LANTCOM Amd64		
C-507		
DESC 1701/P-1701		
CONSTRUCT FUEL STORAGE FACILITIES		
EROSION CONTROL DETAILS		
SCALE: AS NOTED		
PROJECT NO.:		
WORK ORDER NO.		
NAVFAC DRAWING NO.	14047008	
SHEET	44	OF 186
C-507		
DRAWFORM REVISION: 10 MARCH 2009		