N00213.AR.000472
NAS KEY WEST
5090.3a

MONITORING WELL INVENTORY FOR UNDERGROUND STORAGE TANK SITES NAS KEY WEST FL

8/1/2000

BLASLAND, BOUCK AND LEE

0157

REPORT

Monitoring Well Inventory

UST Sites
NAS Key West, Florida

Department of the Navy
Key West, Florida 33040

August 2000

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

TECHNICAL REPORT

Monitoring Well Inventory

UST Sites
NAS Key West, Florida

Department of the Navy
Key West, Florida 33040

August 2000

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

3350 Buschwood Park Drive, Suite 100
Tampa, Florida 33618-4447
(813) 933-0697

Boca Chica Sites

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

A-126 PWD Equipment Storage Area

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

SITE ASSESSMENT REPORT
FDEP FACILITY ID # 449400048
SITE A-126, PWD EQUIPMENT STORAGE AREA BOCA CHICA
NAS KEY WEST, FLORIDA

PREPARED BY:

NAVY PUBLIC WORKS CENTER
NAS ENVIRONMENTAL DEPARTMENT, BUILDING 1754
PENSACOLA, FLORIDA 32508-6500

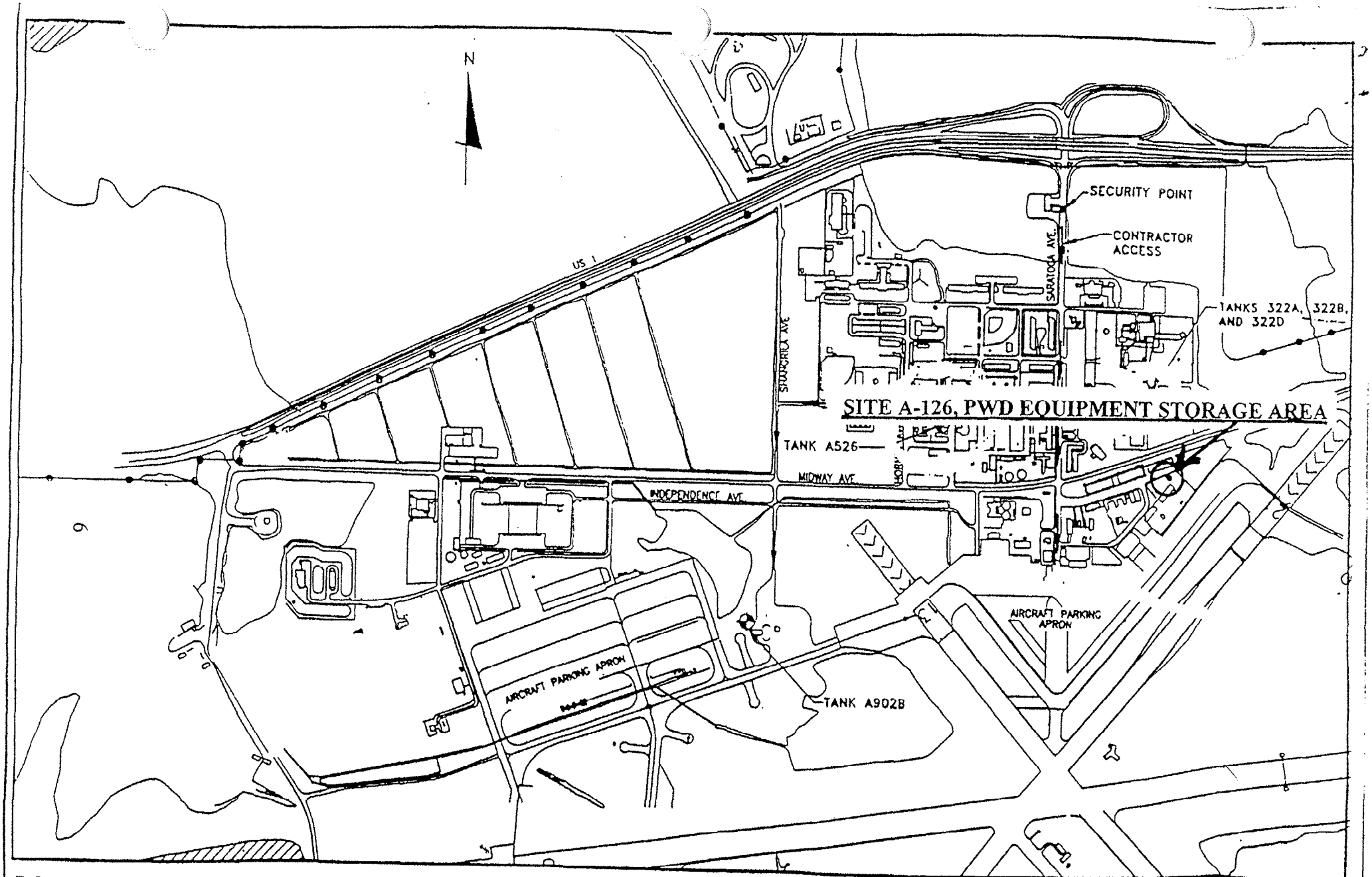
AUTHOR: GREG CAMPBELL, P.E.

MAY 1999

PREPARED FOR:

NAVY PUBLIC WORKS DEPARTMENT
BUILDING A-629 BOCA CHICA FIELD
NAVAL AIR STATION, KEY WEST
KEY WEST, FLORIDA 33040

JIM SIMMEN, CODE 1883JS
ENVIRONMENTAL PROTECTION SPECIALIST



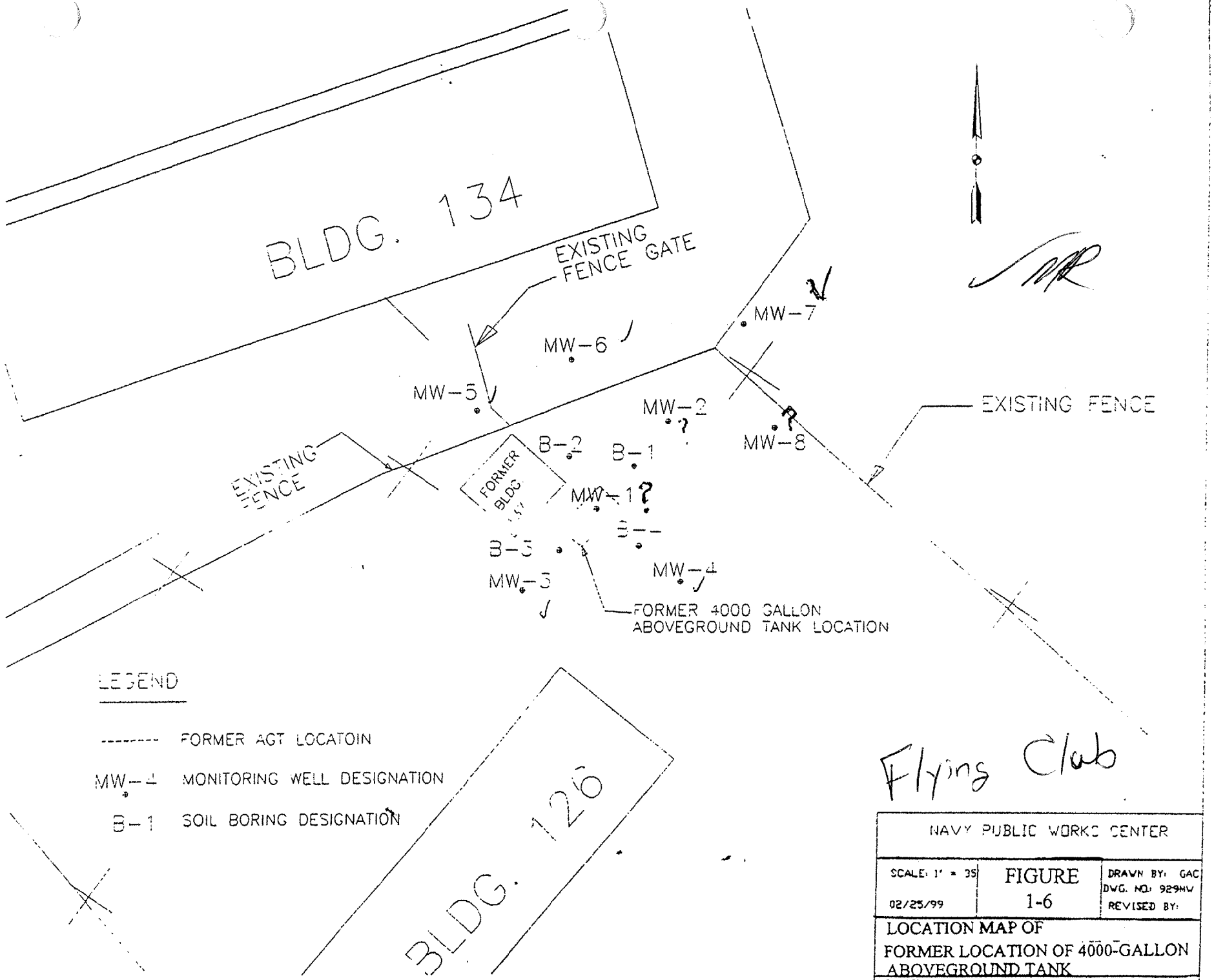
BOCA CHICA AREA PLAN

(TANKS A244, 322A, 322B, 322C, 322D, A526, AND A902B)

NAVY PUBLIC WORKS CENTER
PENSACOLA, FLORIDA

CLIENT: PUBLIC WORKS DEPT., NAVAL AIR STATION
KEY WEST, FLORIDA

FIGURE 1-5
SITE A-126, VICINITY MAP
PWD EQUIPMENT STORAGE AREA BOCA CHICA
KEY WEST, FLORIDA



NAVY PUBLIC WORKS CENTER		
SCALE: 1" = 35 02/25/99	FIGURE 1-6	DRAWN BY: GAC DWG. NO: 929HV REVISED BY:
LOCATION MAP OF FORMER LOCATION OF 4000-GALLON ABOVEGROUND TANK		
CLIENT: PWD KEY WEST		

NPWC

ENVIRONMENTAL

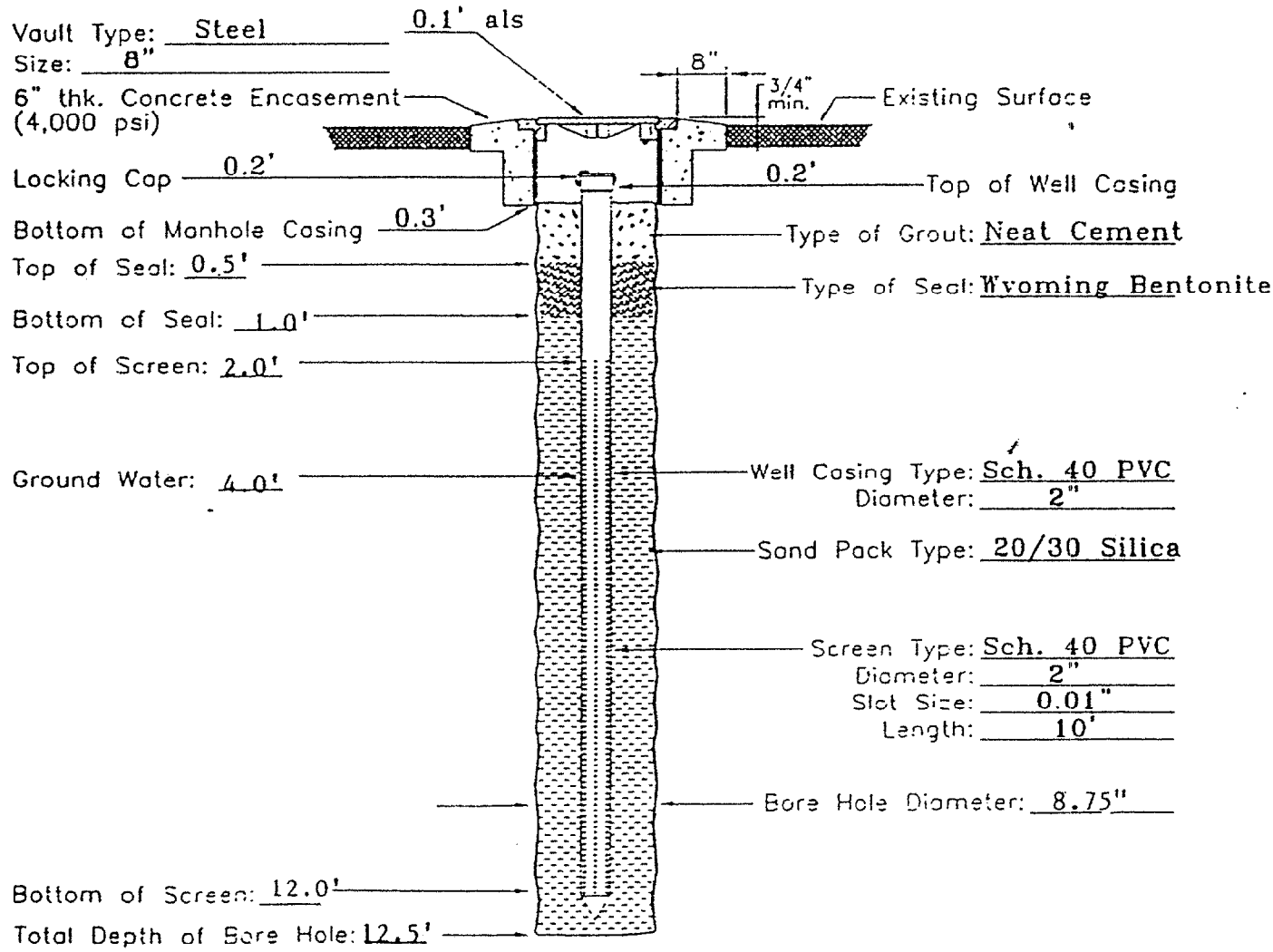
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUST
DRILLER'S NAME:
WELL NUMBER: MW-1

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE A-126
JOB NUMBER:
DATE Start: 7/22/97 Finish: 7/22/97
TIME Start: 1030 Finish: 1100

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

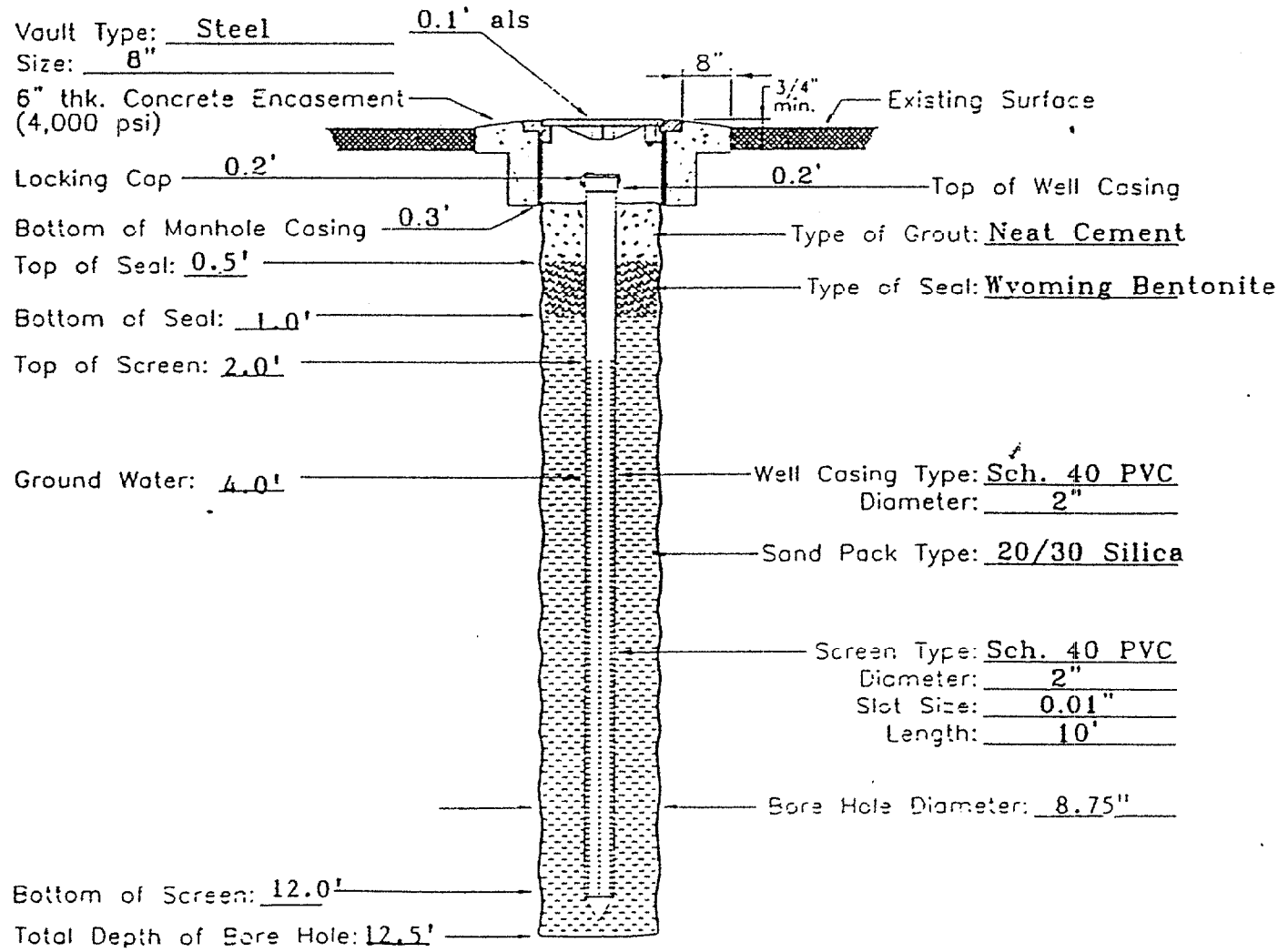
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GFA, International,
DRILLER'S NAME:
WELL NUMBER: MW-2

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE A-126
JOB NUMBER:
DATE Start: 10/9/97 Finish: 10/9/97
TIME Start: 1015 Finish: 1035

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

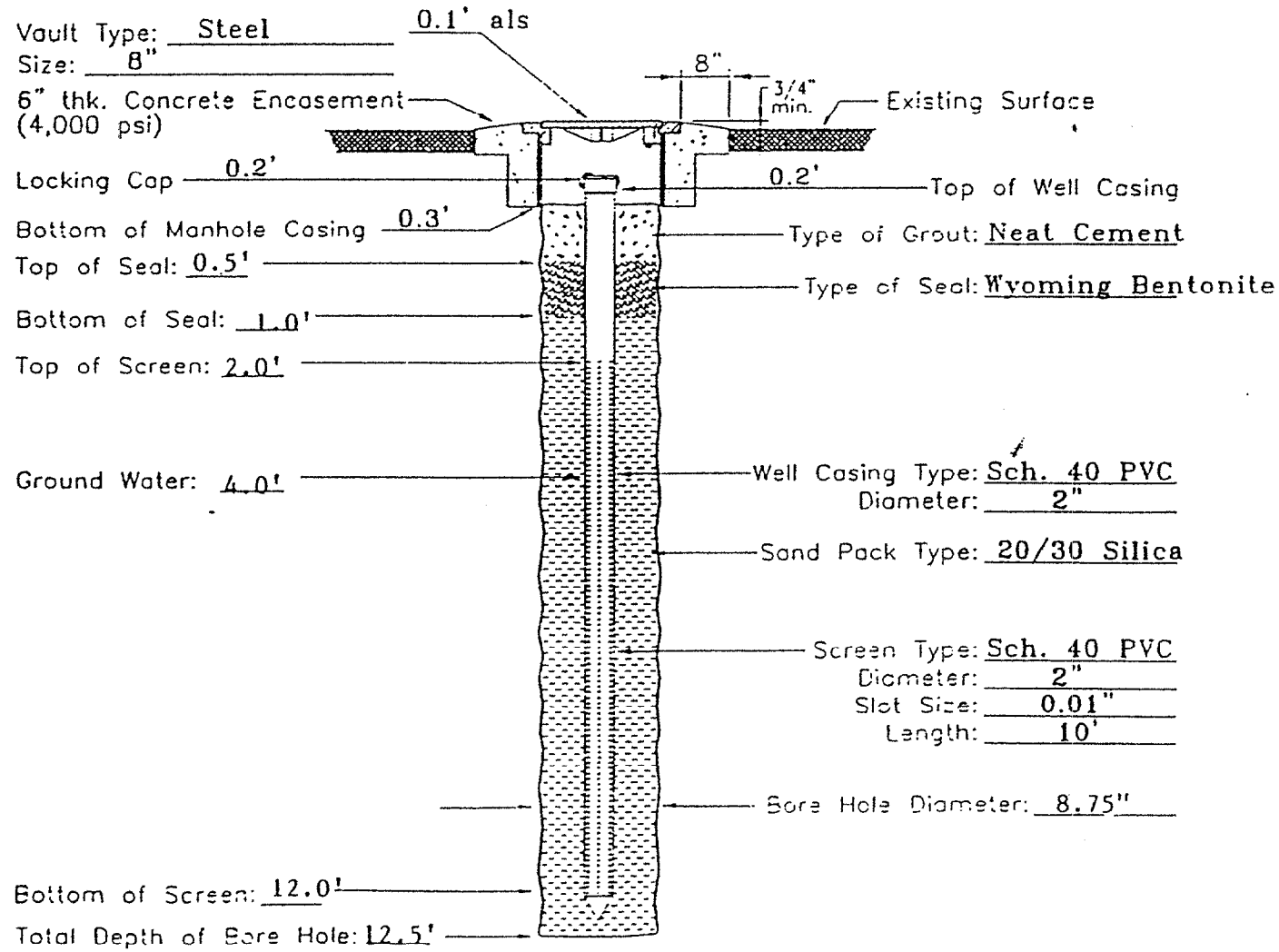
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GFA, International, Inc.
DRILLER'S NAME:
WELL NUMBER: MW-3

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE A-126
JOB NUMBER:
DATE Start: 10/9/97 Finish: 10/9/97
TIME Start: 1045 Finish: 1125

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (BLS)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

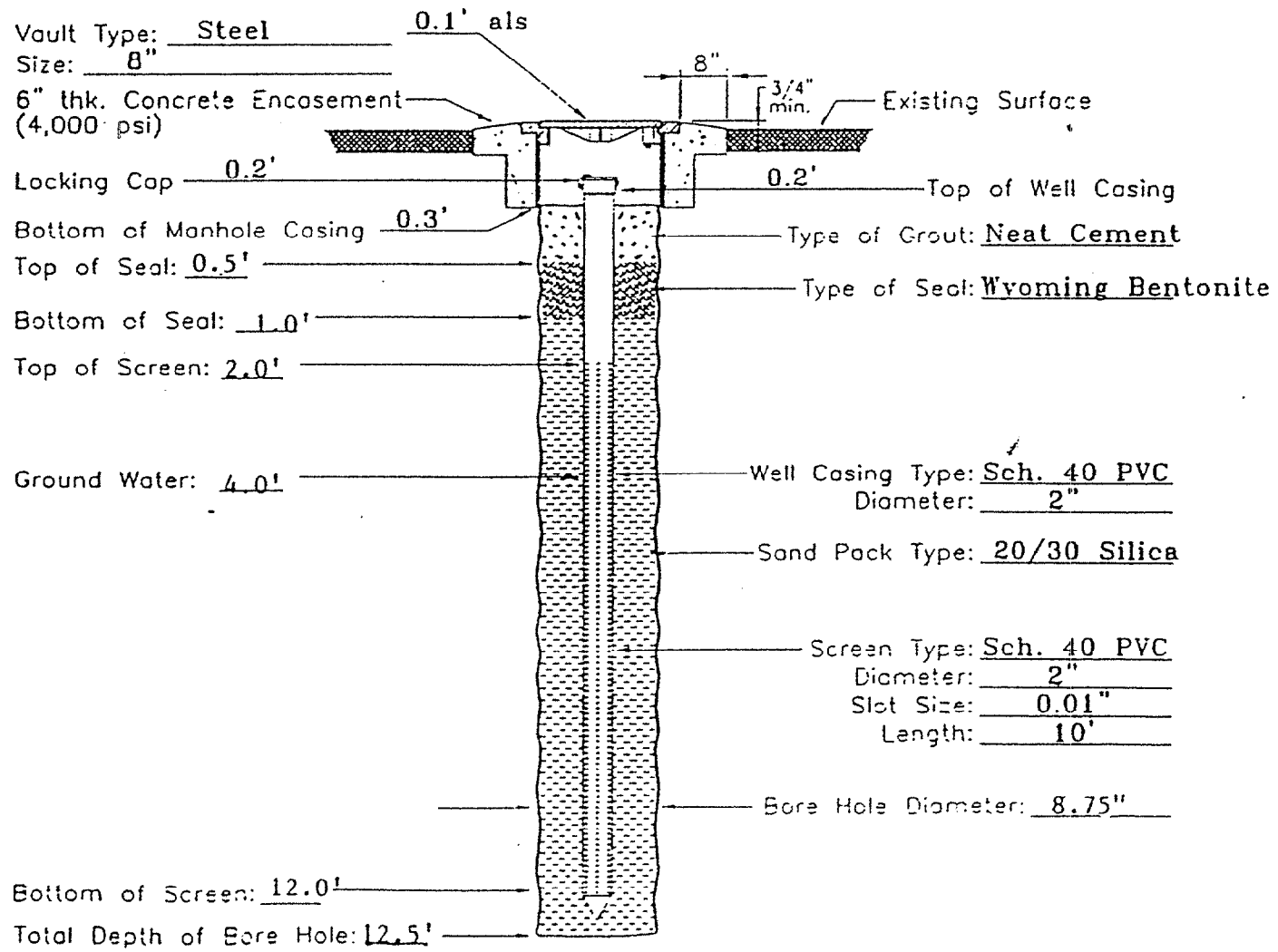
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GFA, International
DRILLER'S NAME:
WELL NUMBER: MW-4

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE A-126
JOB NUMBER:
DATE Start: 10/9/97 Finish: 10/9/97
TIME Start: 1130 Finish: 1220

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

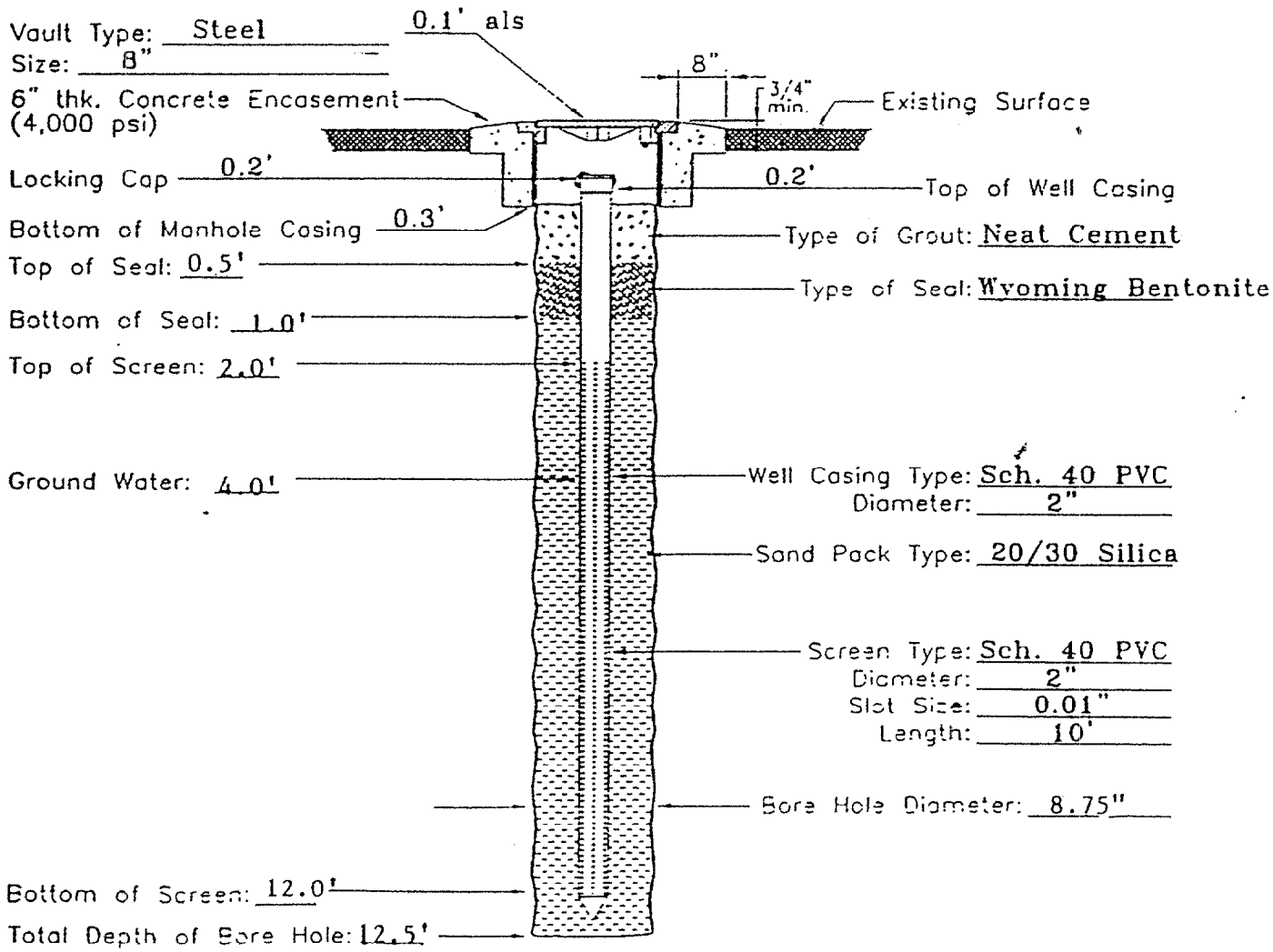
ENVIRONMENTAL

MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GEA, International
DRILLER'S NAME:
WELL NUMBER: MW-5
CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE A-126
JOB NUMBER:
DATE Start: 10/9/97 Finish: 10/9/97
TIME Start: 1230 Finish: 1250

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

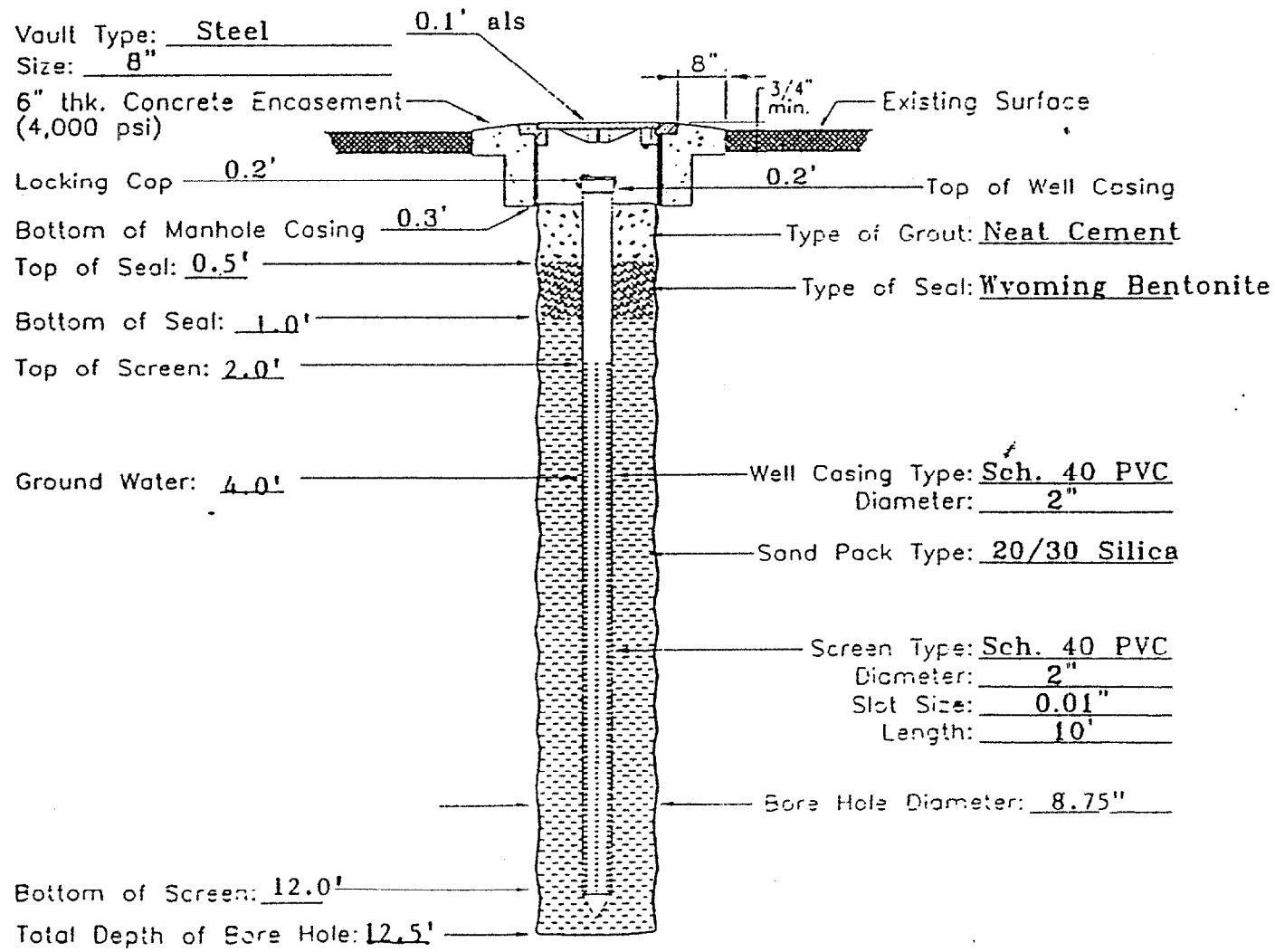
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GEA, International, LOC
DRILLER'S NAME:
WELL NUMBER: MW-6

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE A-126
JOB NUMBER:
DATE Start: 10/9/97 Finish: 10/9/97
TIME Start: 1300 Finish: 1325

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

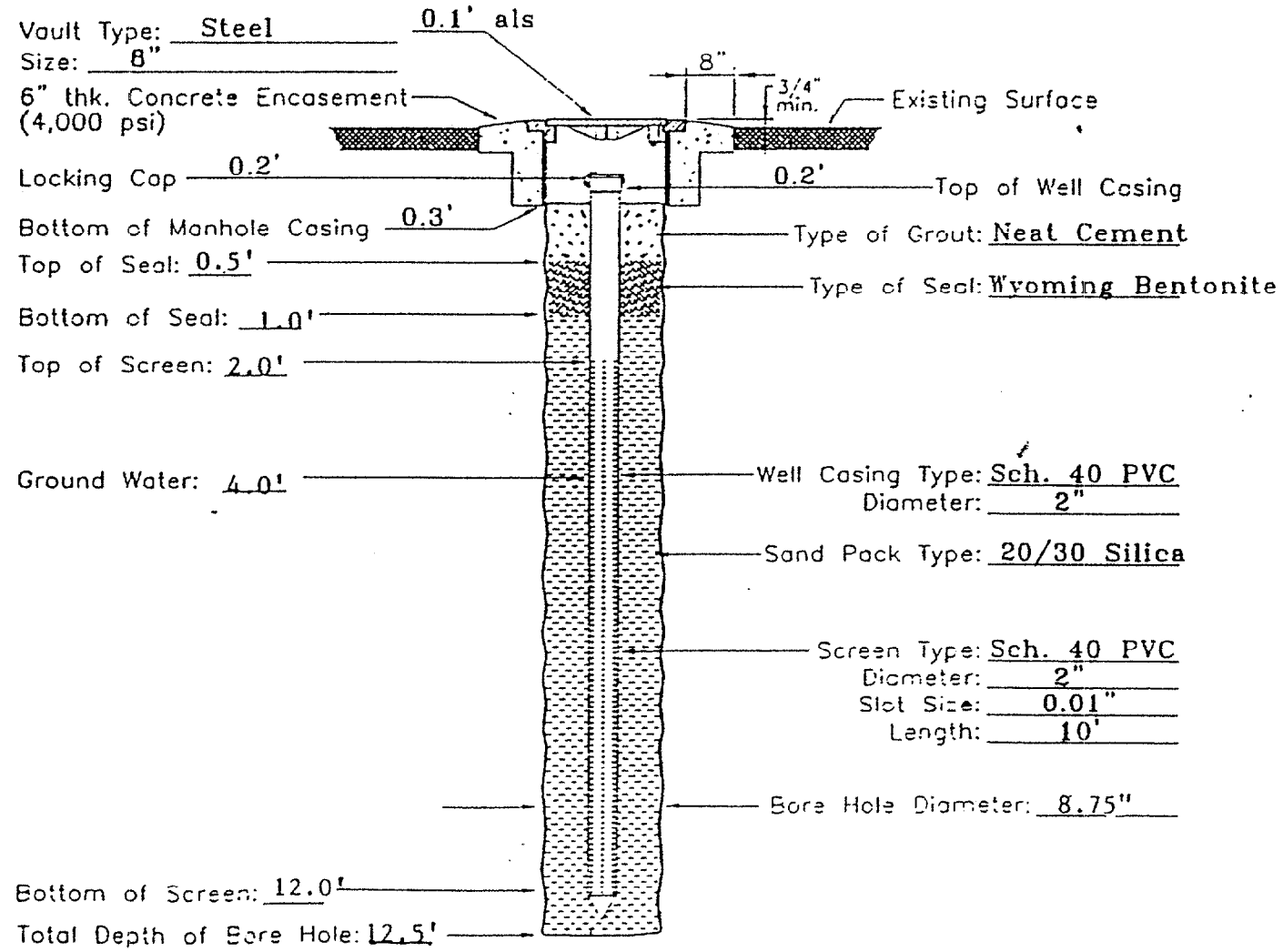
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GEA, International,
DRILLER'S NAME:
WELL NUMBER: MW-7

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE A-126
JOB NUMBER:
DATE Start: 10/9/97 Finish: 10/9/97
TIME Start: 1330 Finish: 1355

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

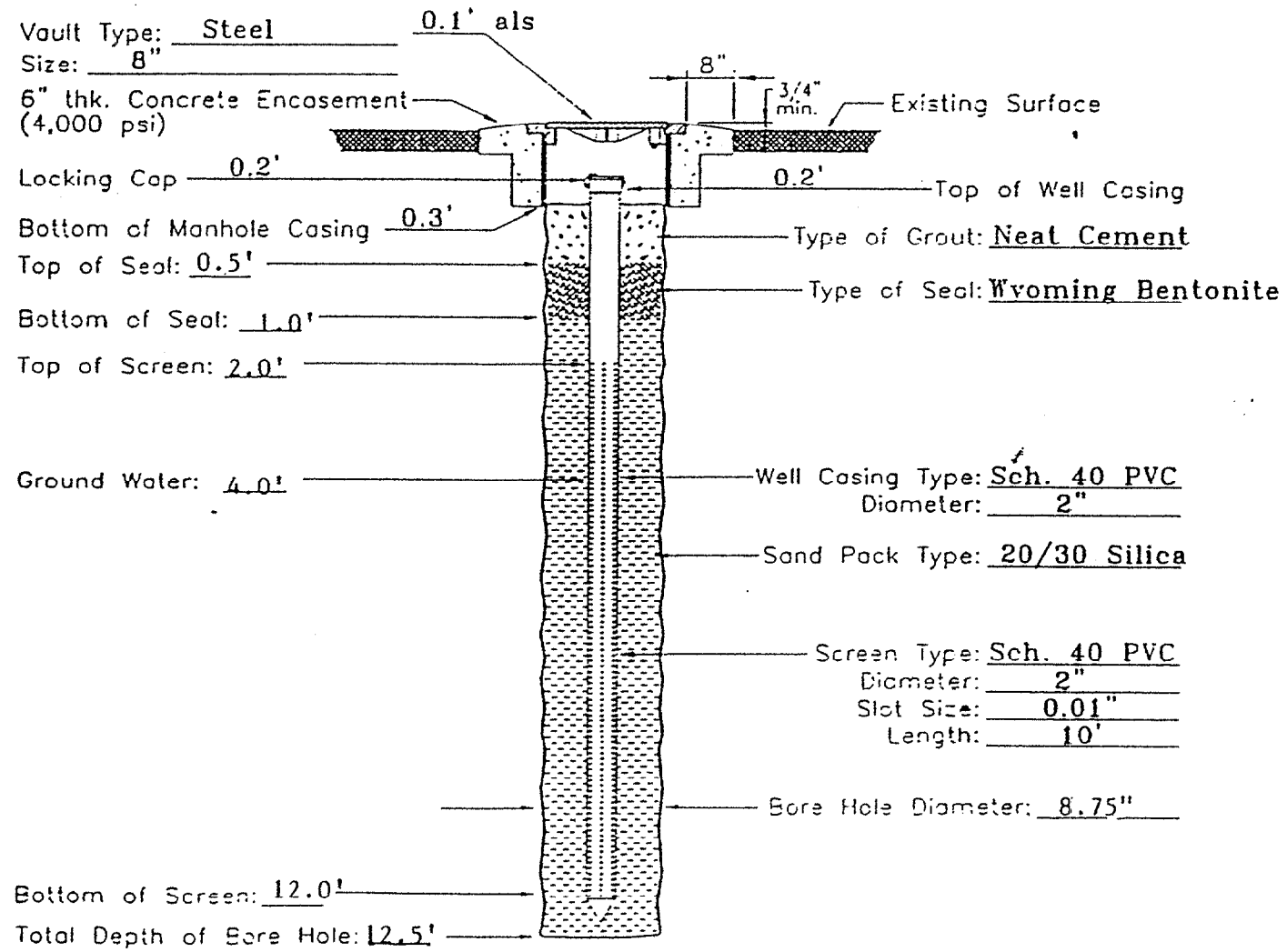
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GEA, International, INC.
DRILLER'S NAME:
WELL NUMBER: MW-8

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE A-126
JOB NUMBER:
DATE Start: 10/9/97 Finish: 10/9/97
TIME Start: 1400 Finish: 1425

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

Site A-126
Equipment Shop, Boca Chica
Key West, Florida
ONITORING WELL NO.: MW7

LOGGED BY: Greg Campbell, P. E
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc
Start Date: 10/09/97
Start Time: 1330
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 10/09/97
Finish Time: 1355

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES NET
POST				100%	0	0-2"; Asphalt 2"-8"; Sand/Clay Fill			
						8"-4'; Sand, Brown, Medium Courie Sand with Gravel Fragments	9.0	NA	9.0
HOLE			Water Table @ approx. 4' bls		4	4'-12.5'; White, Fine Grain, Oolite Limeston	4.7	NA	4.7
				100%	8				
HSA				100%	12				
						End of Boring @ 12.5' BLS			
HA					16				
					20				

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P E
Florida Professional Engineer, No. 0038572

Date

Site A-126
Equipment Shop, Boca Chica
Key West, Florida
ONITORING WELL NO.: MW8

LOGGED BY Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 10/09/97
Start Time: 1400
Contract No

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig Mobile
Completed: 10/09/97
Finish Time: 1425

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES NET
POST				100%	0	0-4'; Fill Dirt, Medium Grain, Light Brown Sand and Fragments of Oolite	18.0	0.0	18.0
HOLE			Water Table @ approx. 4' bls		4	4'-12.5'; White, Fine Grain, Oolite Limeston	2.0	NA	2.0
				100%	8				
HSA				100%	12				
						End of Boring @ 12.5' BLS			
HA					16				
					20				

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date

APPENDIX E

LITHOLOGIC LOGS

Site A-126
Equipment Shop, Boca Chica
Key West, Florida
MONITORING WELL NO.: MW1

LOGGED BY: Greg Campbell, P E
Contractor: NPWC, Pensacola, FL
Driller: MWI
Start Date: 07/22/97
Start Time: 1030
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr Rig: Mobile
Completed: 07/22/97
Finish Time: 1100

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST HOLE HSA HA				100%	0	0-3'; Light Brown, Medium Grain, Oolite Limestone	0	N/A	0	
						3'-12.5'; White, Fine Grain, Limestone	0	N/A	0	
			Water Table @ approx. 4.5' bls		4		580.0	3.0	577.0	
				100%	8					
				100%	12					
						End of Boring @ 12.5' BLS				
					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date

Site A-126
Equipment Shop, Boca Chica
Key West, Florida
MONITORING WELL NO.: MW2

LOGGED BY: Greg Campbell, P E
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc
Start Date: 10/09/97
Start Time: 1015
Contract No

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 10/09/97
Finish Time: 1035

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST HOLE HSA HA				100%	0	0-4'; Fill Dirt, Medium Grain, Light Brown Sand and Fragments of Oolite	14.0	0 2	13.8	
			Water Table @ approx. 4' bls		4	4'-12.5'; White, Fine Grain, Oolite Limeston	40 0	0.0	40 0	
				100%	8					
				100%	12					
						End of Boring @ 12.5' BLS				
					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues

Prepared by Greg Campbell, P E.
Florida Professional Engineer, No 0038572

Date

Site A-126
Equipment Shop, Boca Chica
Key West, Florida
MONITORING WELL NO.: MW3

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 10/09/97
Start Time: 1045
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 10/09/97
Finish Time: 1125

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST HOLE				100%	0	0-4'; Fill Dirt, Medium Grain, Light Brown Sand and Fragments of Oolite	19.0	0.0	19.0	
			Water Table @ approx. 4' bls		4	4'-12.5'; White, Fine Grain, Oolite Limeston	0.0	NA	0.0	
				100%	8					
HSA				100%	12					
						End of Boring @ 12.5' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date

Site A-126
Equipment Shop, Boca Chica
Key West, Florida
MONITORING WELL NO.: MW4

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 10/09/97
Start Time: 1130
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 10/09/97
Finish Time: 1220

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES NET
POST HOLE HSA HA				100%	0	0-4'; Fill Dirt, Medium Grain, Light Brown Sand and Fragments of Oolite	1.7	NA	1.7
			Water Table @ approx. 4' bls		4	4'-12.5'; White, Fine Grain, Oolite Limeston	11.0	0.0	11.0
				100%	8				
				100%	12				
						End of Boring @ 12.5' BLS			
					16				
					20				

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date

Site A-126
Equipment Shop, Boca Chica
Key West, Florida
MONITORING WELL NO.: MW5

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 10/09/97
Start Time: 1230
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 10/09/97
Finish Time: 1250

TYPE	NUMB	BLOW	SAMP. INTV. (FT)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST HOLE HSA HA				100%	0	0-4'; Fill Dirt, Medium Grain, Light Brown Sand and Fragments of Oolite	20.0	0.0	20.0	
			Water Table @ approx. 4' bls		4	4'-12.5'; White, Fine Grain, Oolite Limeston	20.0	0.0	20.0	
				100%	8					
				100%	12					
						End of Boring @ 12.5' BLS				
					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date

Site A-126
Equipment Shop, Boca Chica
Key West, Florida
MONITORING WELL NO.: MW6

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 10/09/97
Start Time: 1300
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 10/09/97
Finish Time: 1325

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST HOLE HSA				100%	0	0-2"; Asphalt 2"-8"; Sand/Clay Fill				
						8"-4'; Sand, Brown, Medium Courie Sand with Gravel Fragments	4.9	NA	4.9	
			Water Table @ approx. 4' bls		4	4'-12.5'; White, Fine Grain, Oolite Limeston	17.0	0.0	17.0	
				100%	8					
				100%	12	End of Boring @ 12.5' BLS				
					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date

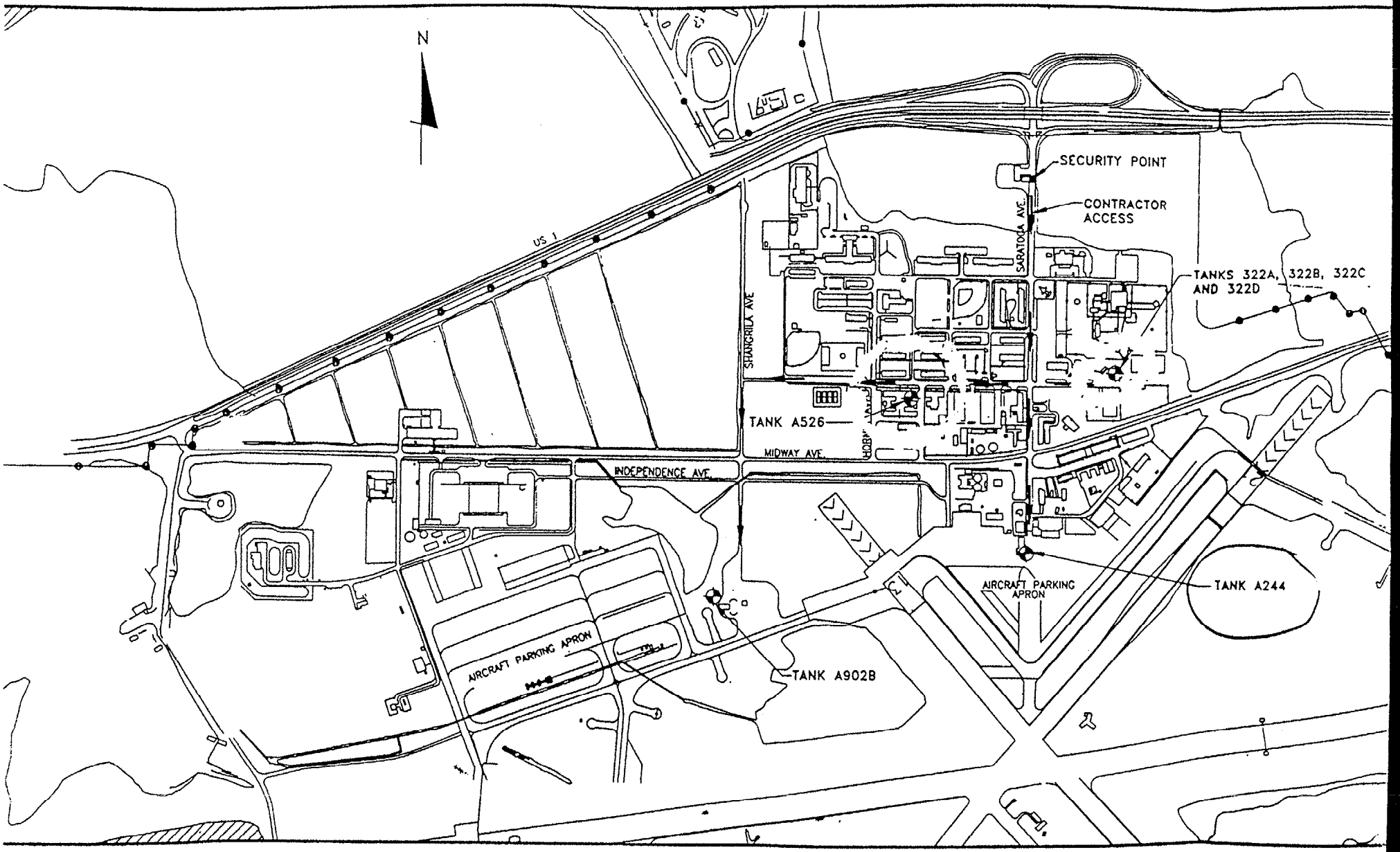
no AST / UST
or wells

OMEGA ENVIRONMENTAL SERVICES, INC.

UST CLOSURE REPORT
TANK A244
NAVAL AIR STATION, KEY WEST, FLORIDA
CONTRACT NUMBER N62467-93-C-0645

OMEGA ENVIRONMENTAL SERVICES, INC.

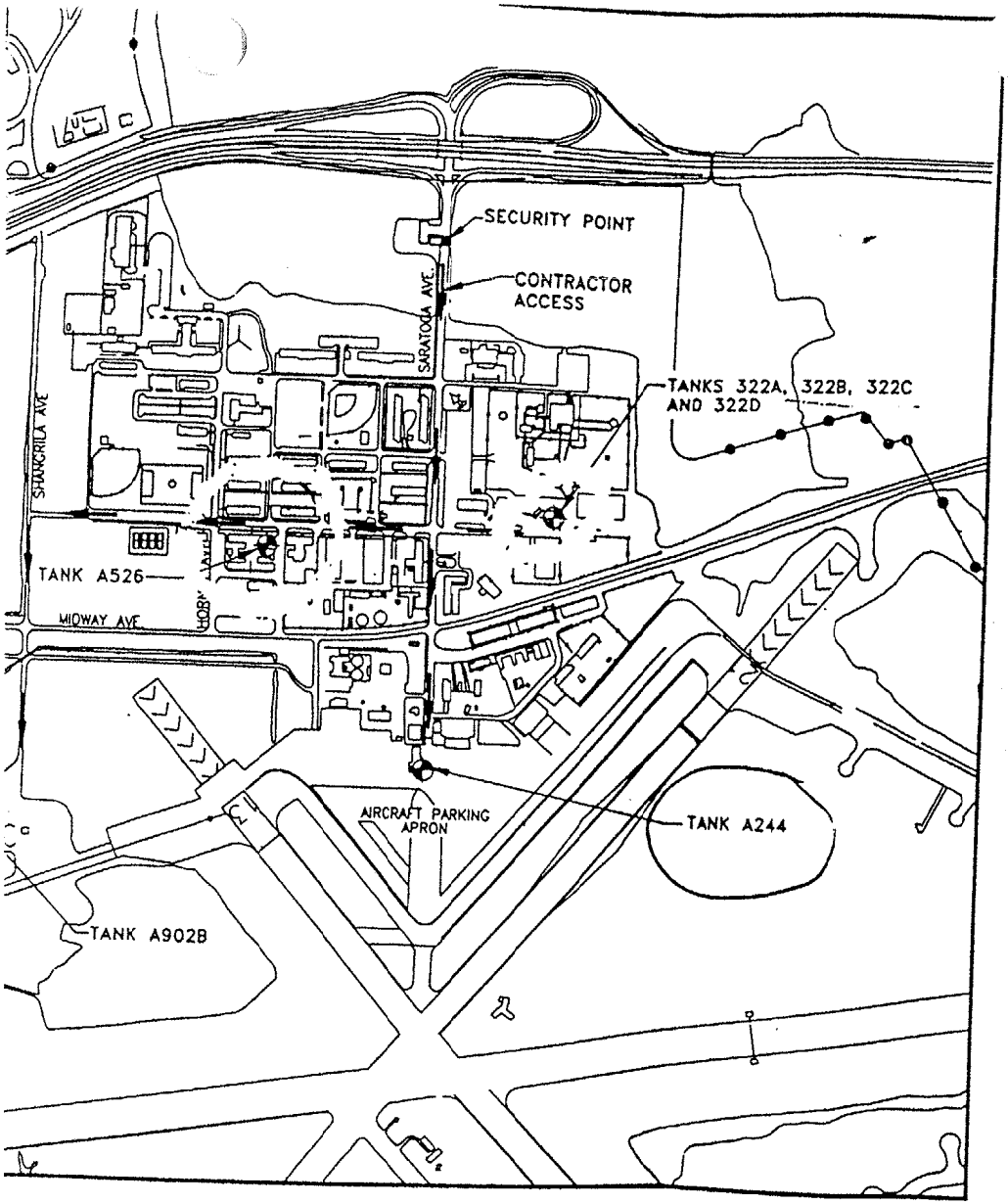
Prepared By
Omega Environmental Services, Inc.
4661 Hammermill Rd., Ste. B
Tucker, Georgia 30084



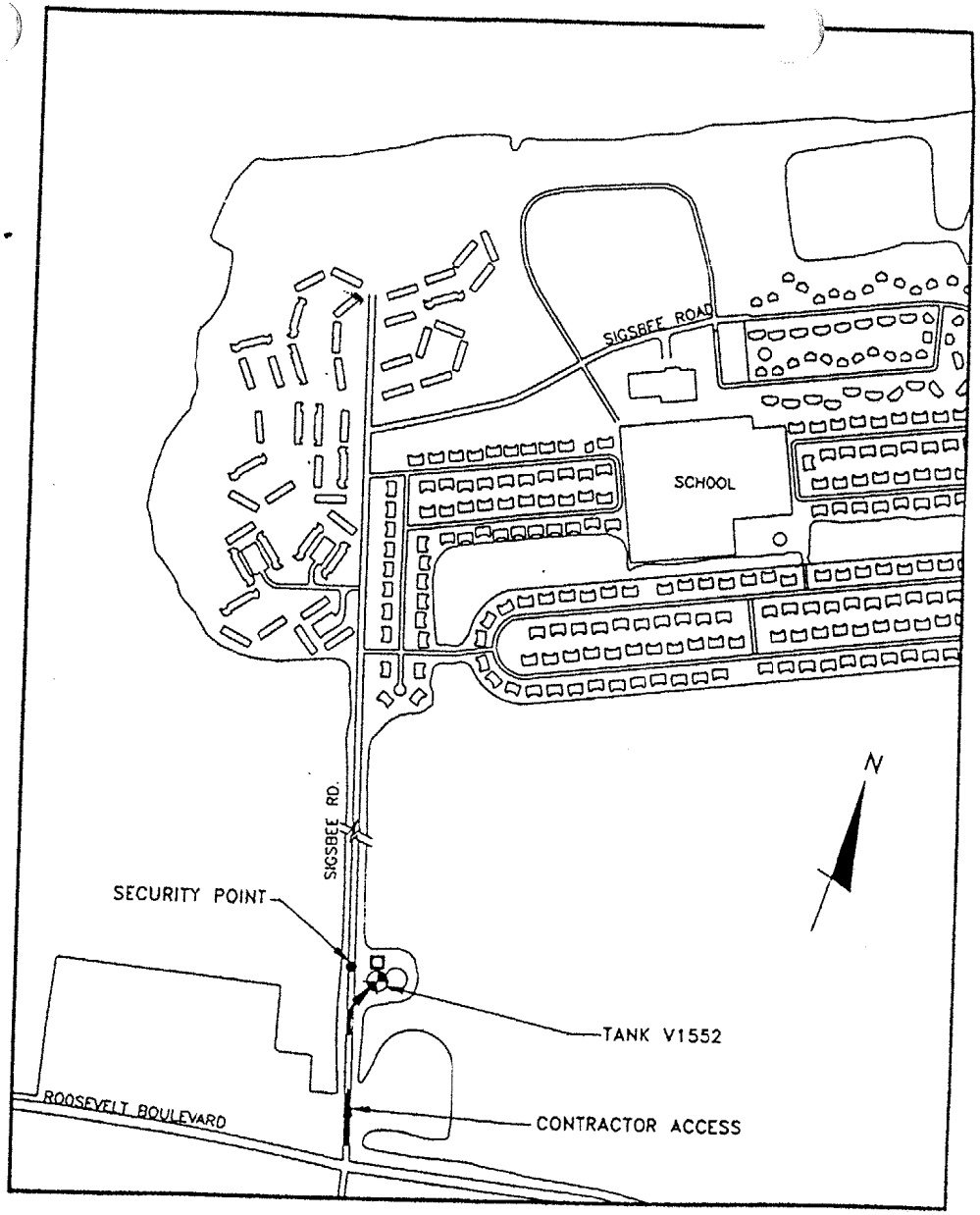
CA CHICA AREA PLAN

IKS A244, 322A, 322B, 322C, 322D, A526, AND A902B)

SCALE: 1" = 5

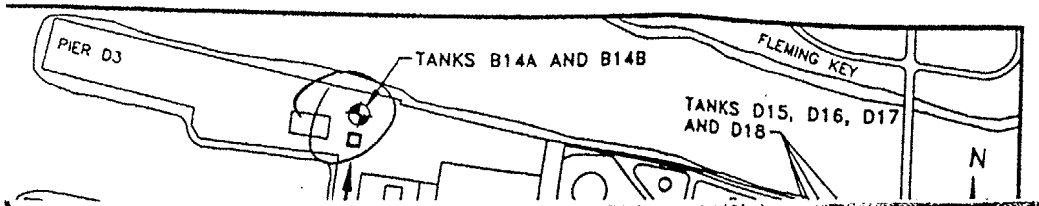


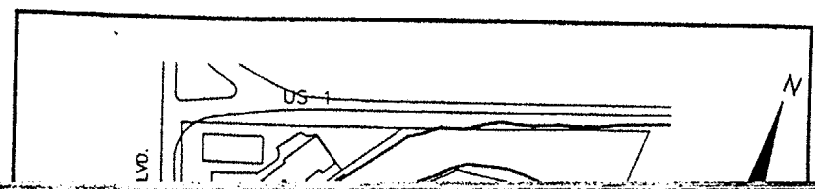
SCALE: 1"= 500'-0"

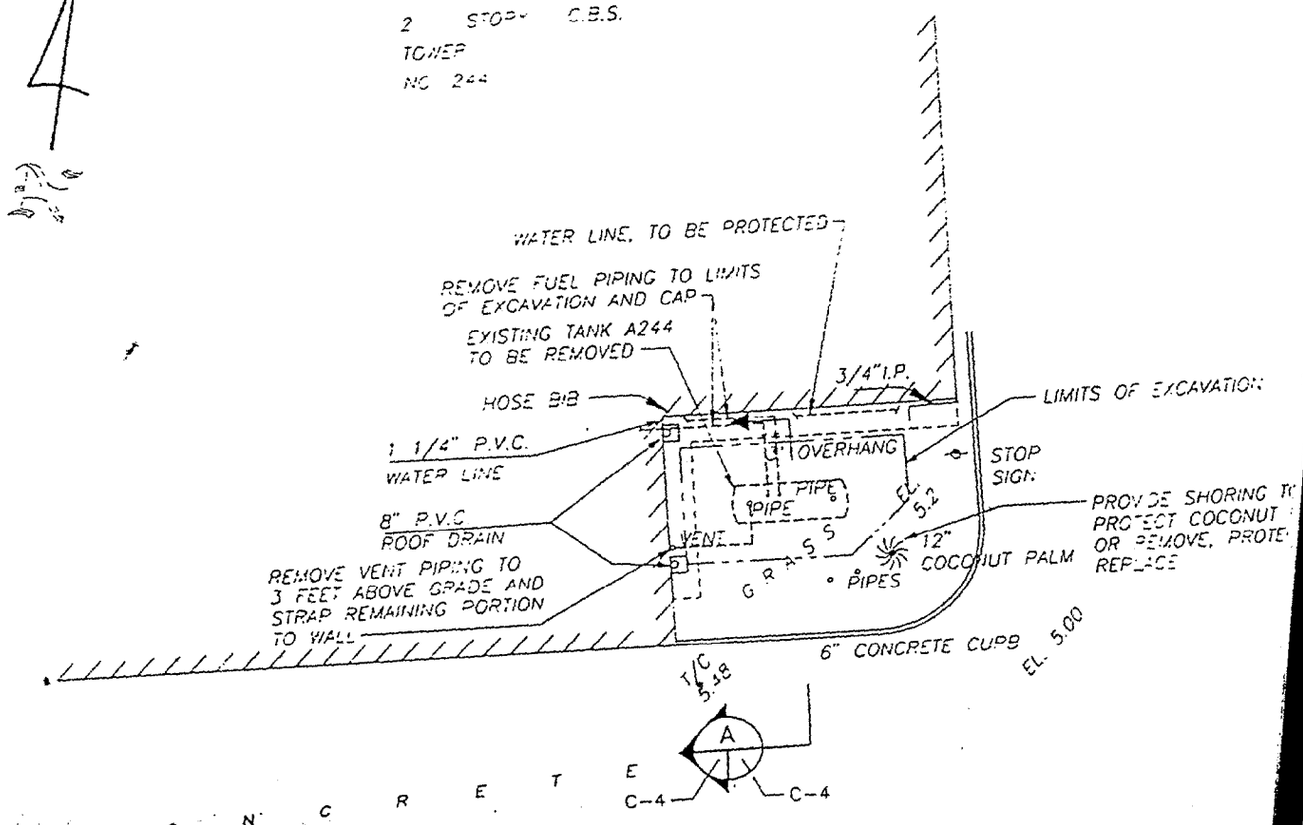


SIGSBEE AREA PLAN
(TANK V1552)

SCALE: 1"= 500'-0"

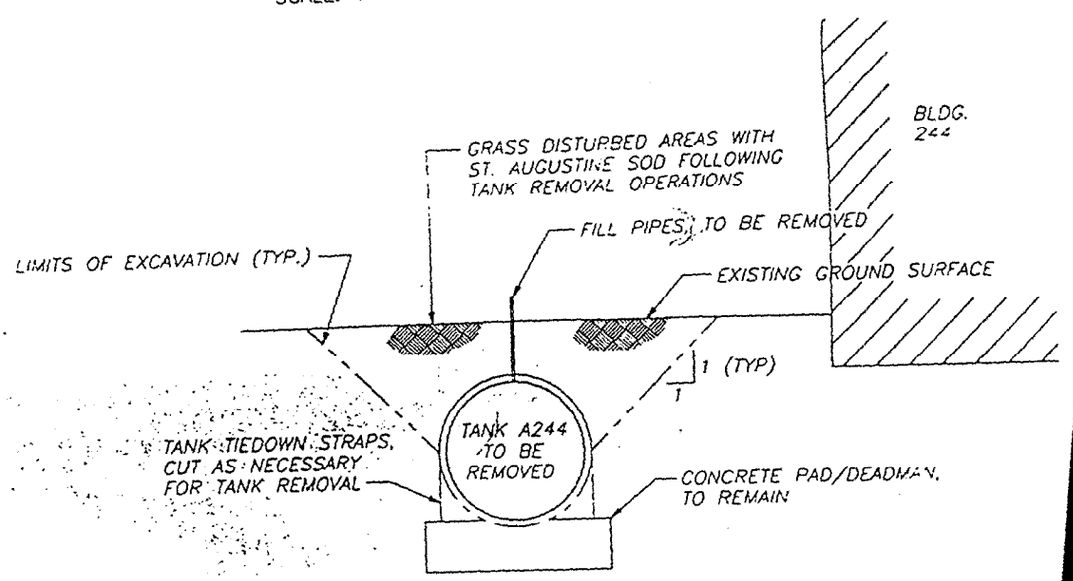






TANK A244 AREA PLAN

SCALE: 1"=10'-0"



SECTION

SCALE: 1"=3'-0"

A

C-4 C-4

A-244 Boca Chica Airfield Control Tower

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

SITE ASSESSMENT REPORT
FDEP FACILITY ID # 449400051

SITE A-244, BOCA CHICA AIRFIELD CONTROL TOWER
NAS KEY WEST, FLORIDA

PREPARED BY:

NAVY PUBLIC WORKS CENTER
BUILDING 458
PENSACOLA, FLORIDA 32508-6500

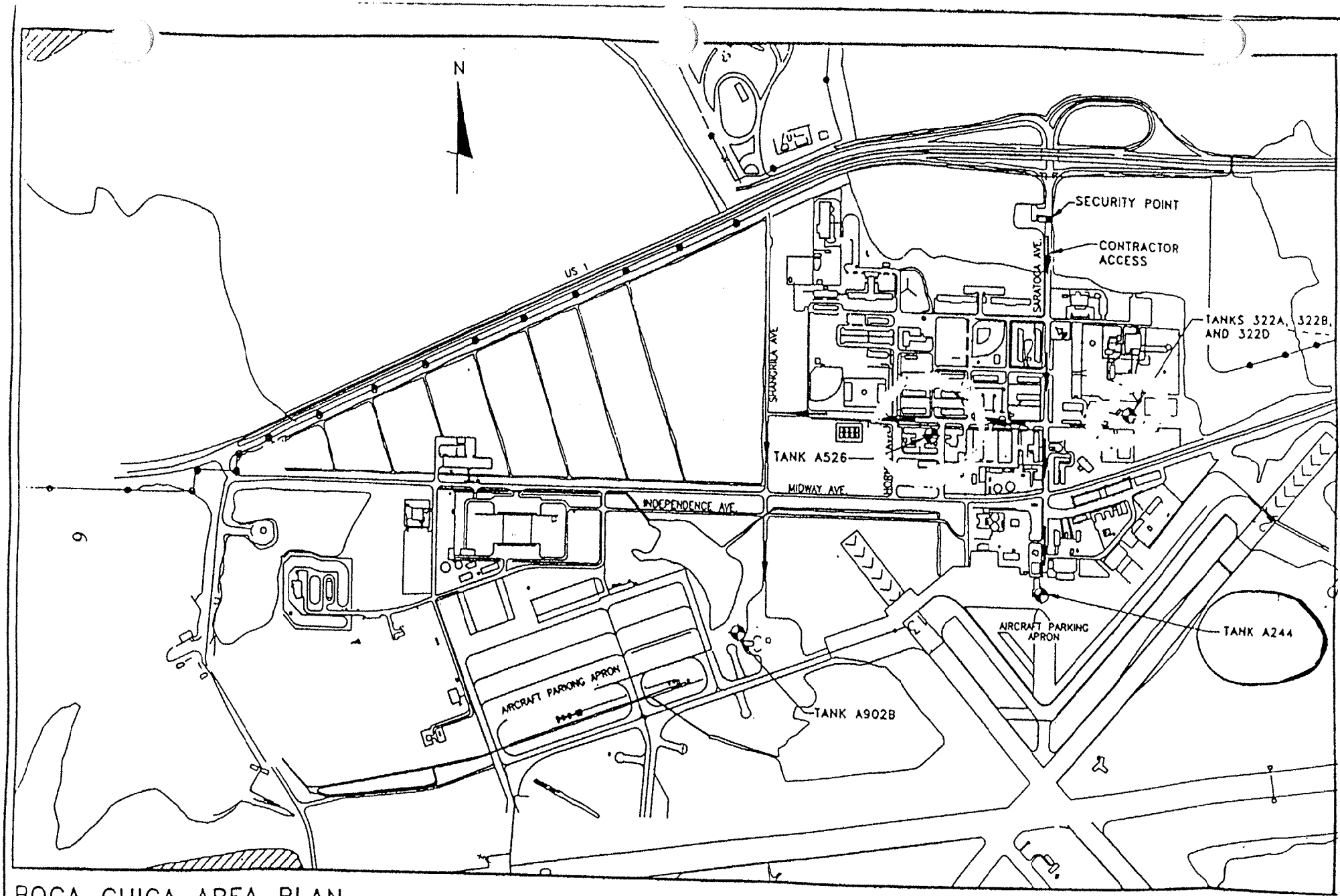
AUTHOR: GREG CAMPBELL, P.E.

JULY 1998

PREPARED FOR:

NAVY PUBLIC WORKS DEPARTMENT
BUILDING A-629 BOCA CHICA FIELD
NAVAL AIR STATION, KEY WEST
KEY WEST, FLORIDA 33040

JIM SIMMEN, CODE 1883JS
ENVIRONMENTAL PROTECTION SPECIALIST

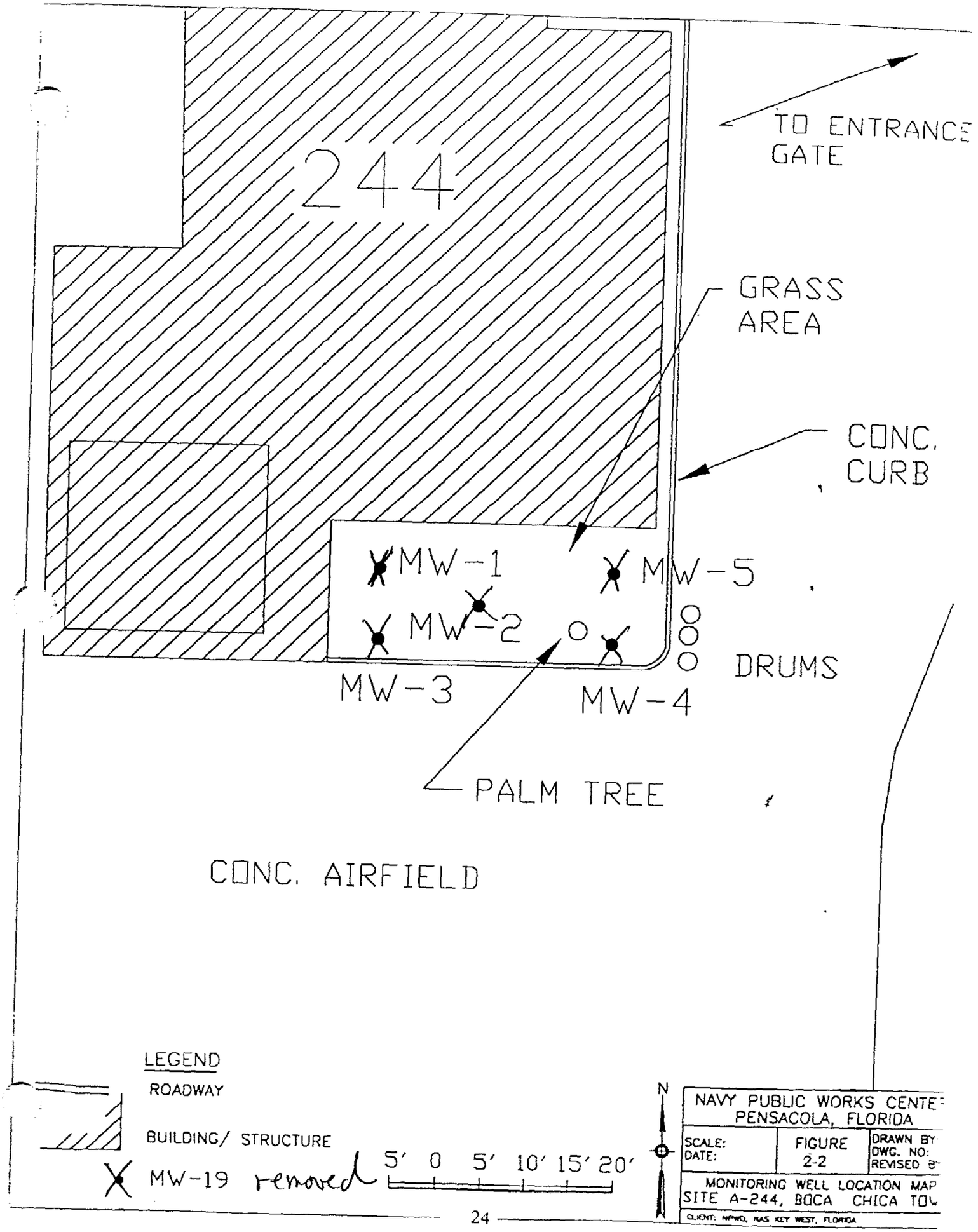


BOCA CHICA AREA PLAN

(TANKS A244, 322A, 322B, 322C, 322D, A526, AND A902B)

SCALE:

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA	FIGURE 1-5 BOCA CHICA AIRFIELD CONTROL TOWER VICINITY MAP SITE A-244, BOCA CHICA AIRFIELD CONTROL TOWER KEY WEST, FLORIDA
CLIENT: PUBLIC WORKS DEPT., NAVAL AIR STATION KEY WEST, FLORIDA	


244
TO ENTRANCE GATE
GRASS AREA
CONC. CURB
MW-1
MW-5
MW-2
MW-3
MW-4
DRUMS
PALM TREE
CONC. AIRFIELD
LEGEND
ROADWAY
BUILDING/ STRUCTURE
MW-19 removed
5' 0 5' 10' 15' 20'
N
NAVY PUBLIC WORKS CENTE
PENSACOLA, FLORIDA
SCALE:
DATE:
FIGURE 2-2
DRAWN BY
DWG. NO:
REVISED B
MONITORING WELL LOCATION MAP
SITE A-244, BOCA CHICA TOW
CLIENT: NPWC, NAS KEY WEST, FLORIDA

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 CONCLUSIONS

- The source of the discharge has been eliminated and the approximate number of gallons of diesel released is unknown.

- Volatile organic vapors detected in the soil samples collected from soil boring SB-1 and monitoring wells MW-2 thru MW-5 using OVA analysis were below the FDEP regulatory limits of 50 ppm for soil contaminated by the kerosene analytical group.

- Five shallow groundwater monitoring wells (MW-1 thru MW-5) were installed at the site and groundwater samples were collected from each well and analyzed for the kerosene analytical group listed in FDEP Rule 62-770.600(8)(b).

- No free-phase petroleum hydrocarbons were detected in any of the monitoring wells.

- No VOAs, PAHs, TPHs, EDBs, or Total Lead were detected in the groundwater samples collected from monitoring wells MW-1 thru MW-5.

3.2 RECOMMENDATIONS

PWC Pensacola recommends, based upon the findings and conclusions contained in this report, that "no further action" be required for both the soil and groundwater at the site.

APPENDIX A

MONITORING WELL CONSTRUCTION DIAGRAMS

NPWC

ENVIRONMENTAL

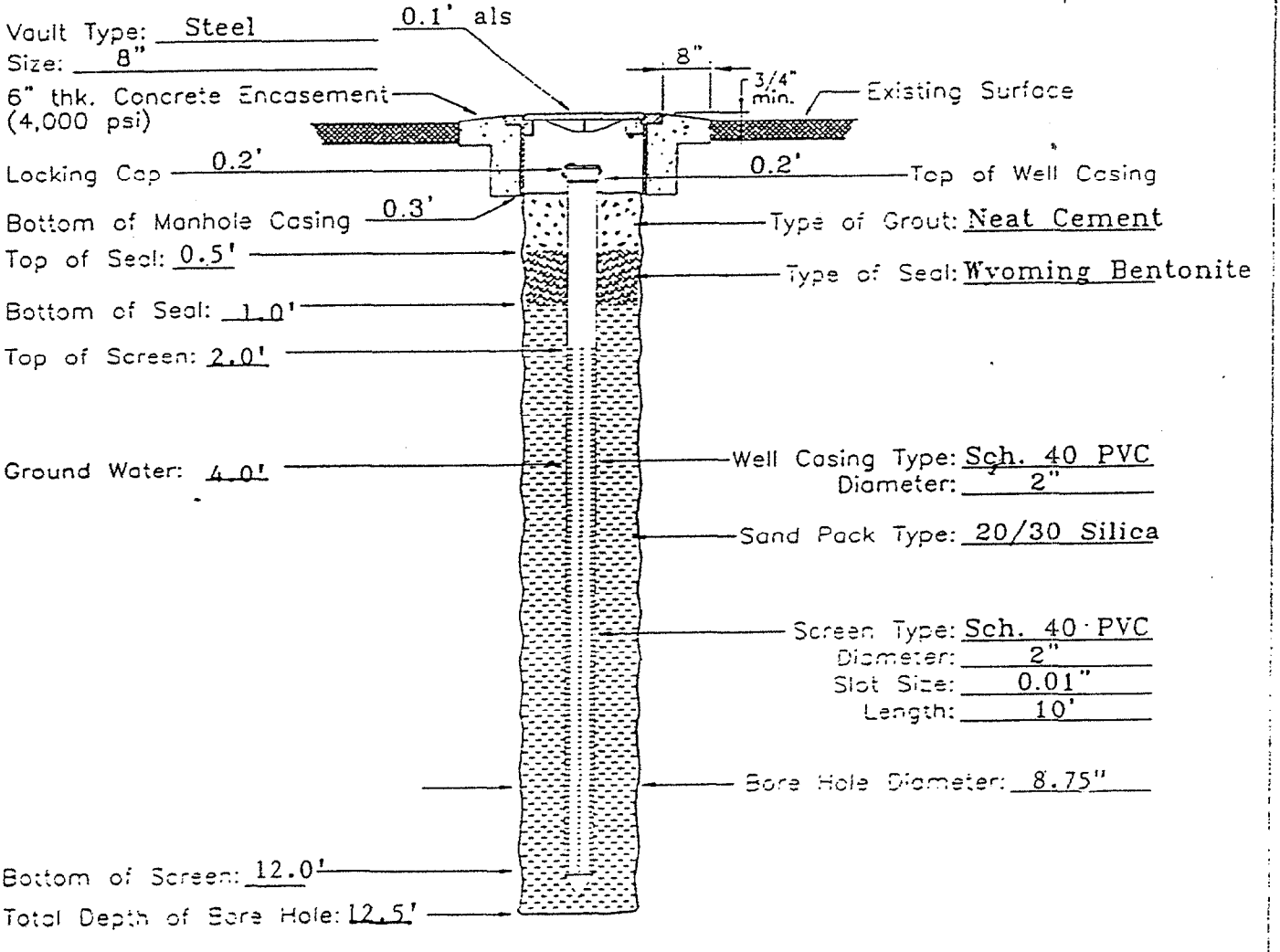
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTR
DRILLER'S NAME:
WELL NUMBER: MW-1

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE A-244, BOCA CHICA AIRFIELD CONTROL TOWER
JOB NUMBER:
DATE Start: 7/21/97 Finish: 7/21/97
TIME Start: 1525 Finish: 1550

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

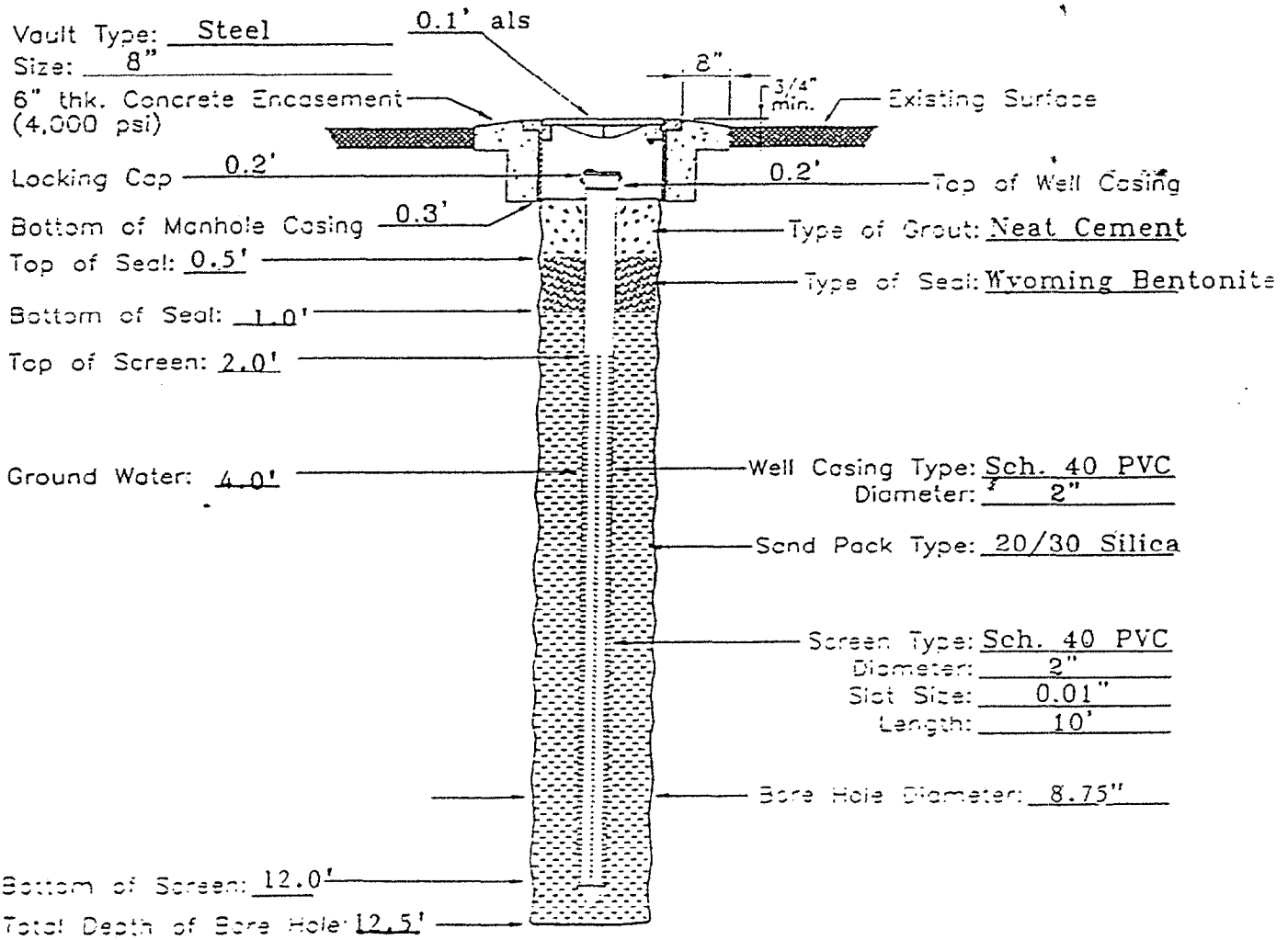
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRY
DRILLER'S NAME:
WELL NUMBER: MW-2

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WES
LOCATION: SITE A-244, BOCA CHICA AIRFIELD
JOB NUMBER: CONTROL TOWER
DATE Start: 7/21/97 Finish: 7/21/97
TIME Start: 1600 Finish: 1630

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

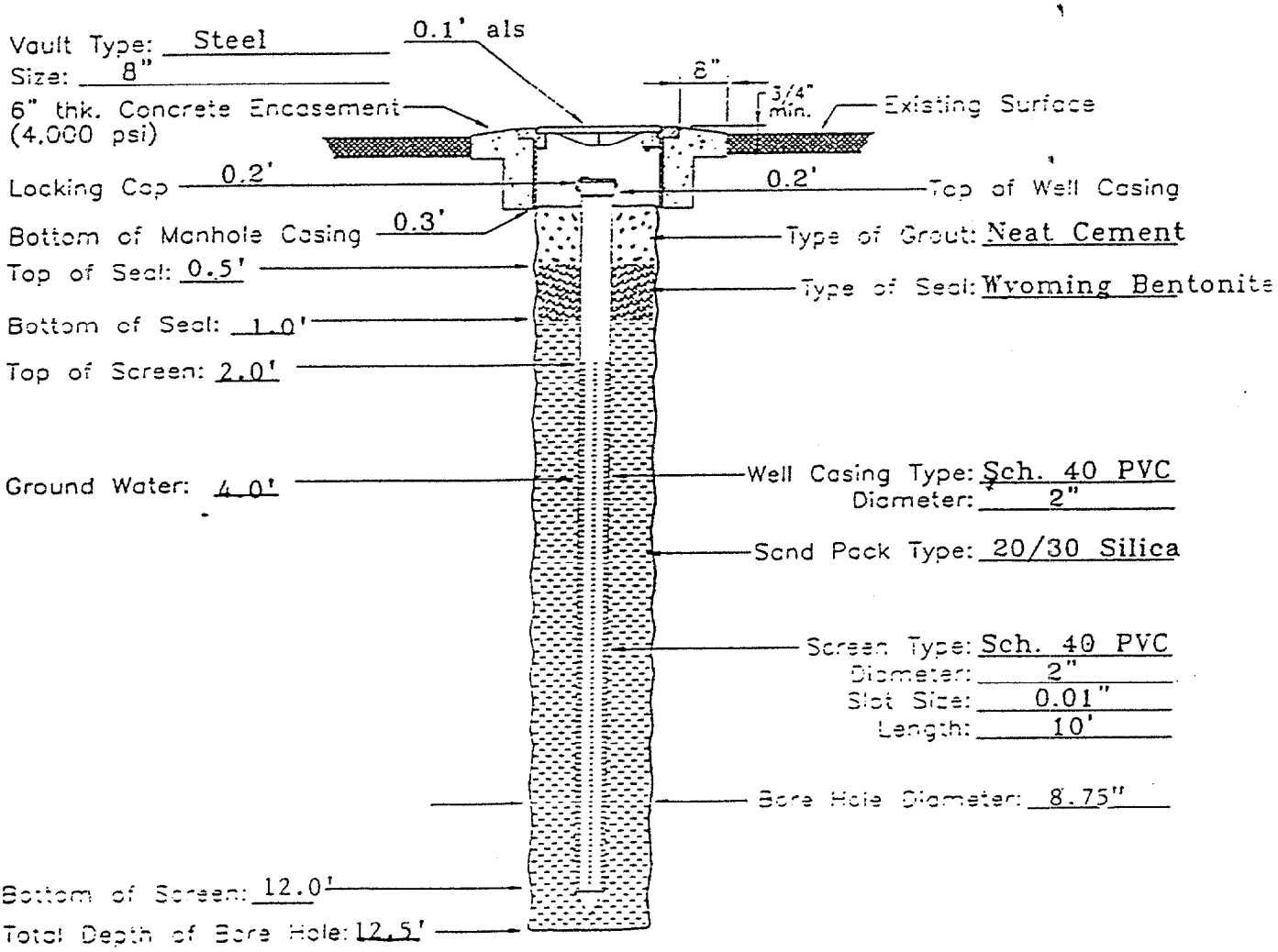
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRIES
DRILLER'S NAME:
WELL NUMBER: MW-3

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WES
LOCATION: SITE A-244, BOCA CHICA AIRFIELD CONTROL TOWER
JOB NUMBER:
DATE Start: 7/22/97 Finish: 7/22/97
TIME Start: 0800 Finish: 0820

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

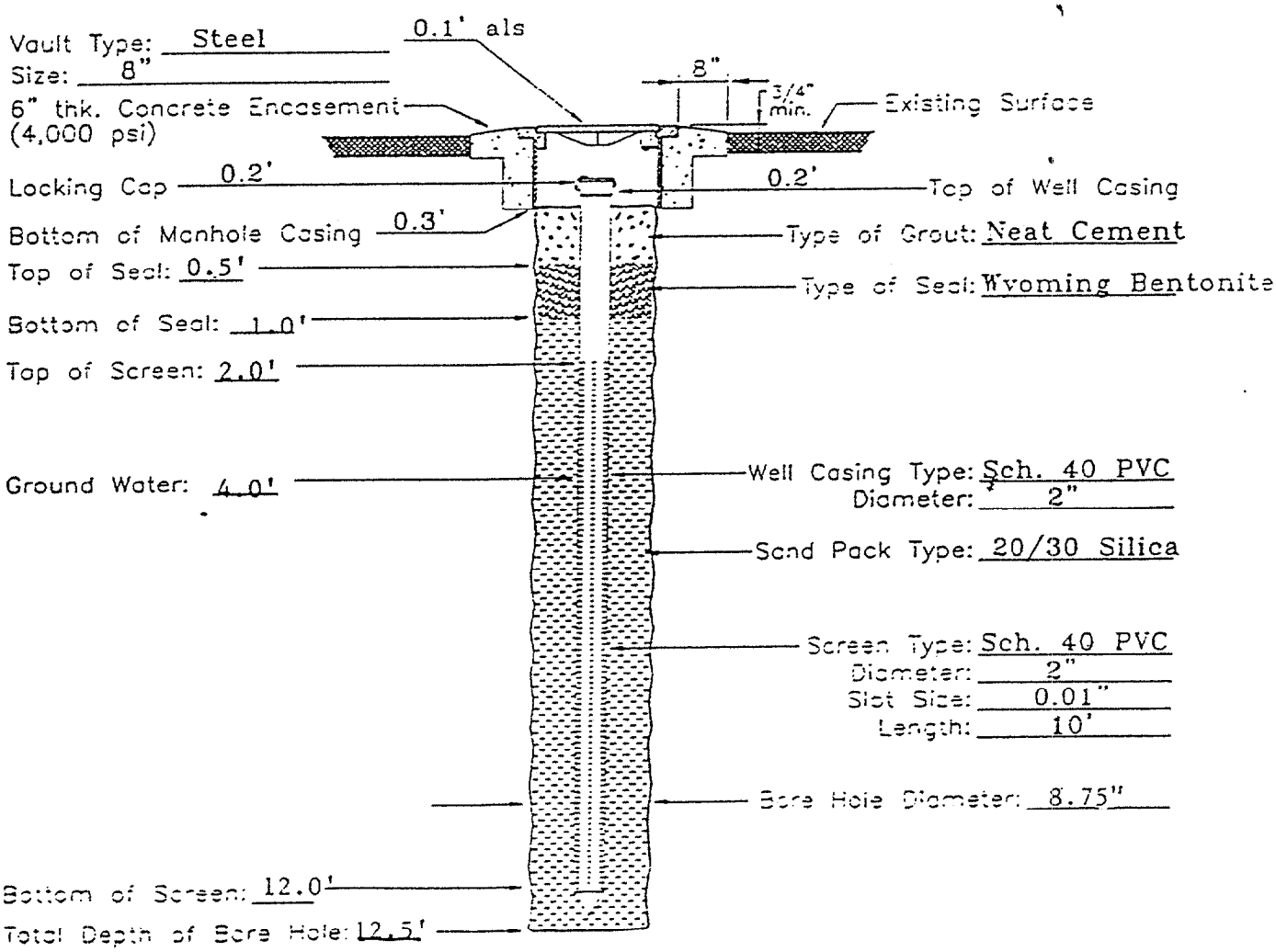
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRY
DRILLER'S NAME:
WELL NUMBER: MW-4

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WES
LOCATION: SITE A-244, BOCA CHICA AIRFIELD
JOB NUMBER: CONTROL TOWER
DATE Start: 7/22/97 Finish: 7/22/97
TIME Start: 0833 Finish: 0900

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

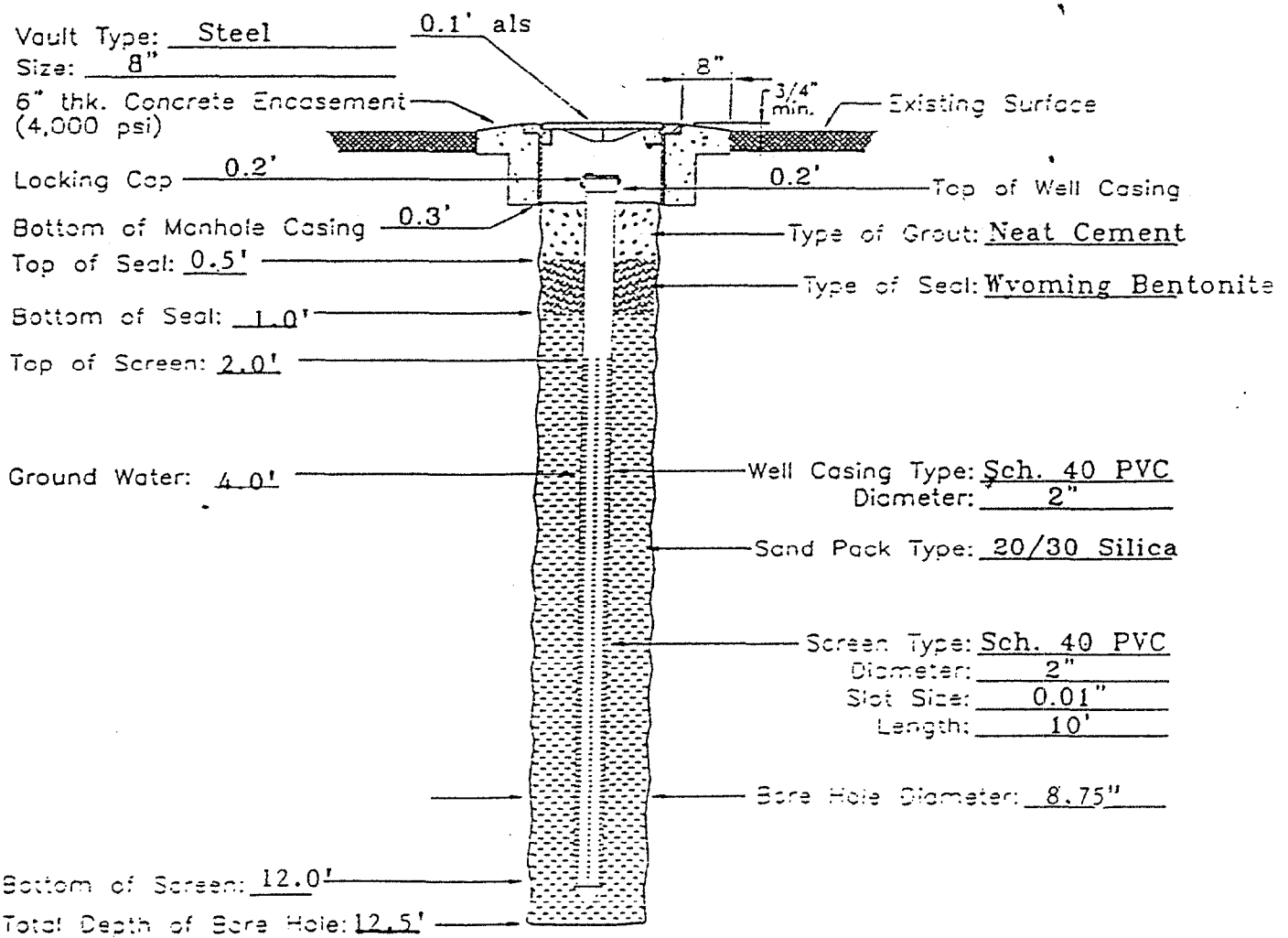
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTR
DRILLER'S NAME:
WELL NUMBER: MW-5

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WES
LOCATION: SITE A-244, BOCA CHICA AIRFIELD CONTROL TOWER
JOB NUMBER:
DATE Start: 7/22/97 Finish: 7/22/97
TIME Start: 0915 Finish: 0945

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

A-317 Public Works Motor Pool

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

SITE ASSESSMENT REPORT
FDEP FACILITY ID NUMBER 449400049
SITE A-317
PUBLIC WORKS DEPARTMENT MOTOR POOL
BOCA CHICA, FLORIDA

PREPARED BY:

NAVY PUBLIC WORKS CENTER
NAS ENVIRONMENTAL DEPARTMENT, BUILDING 1754
PENSACOLA, FLORIDA 32508-6500

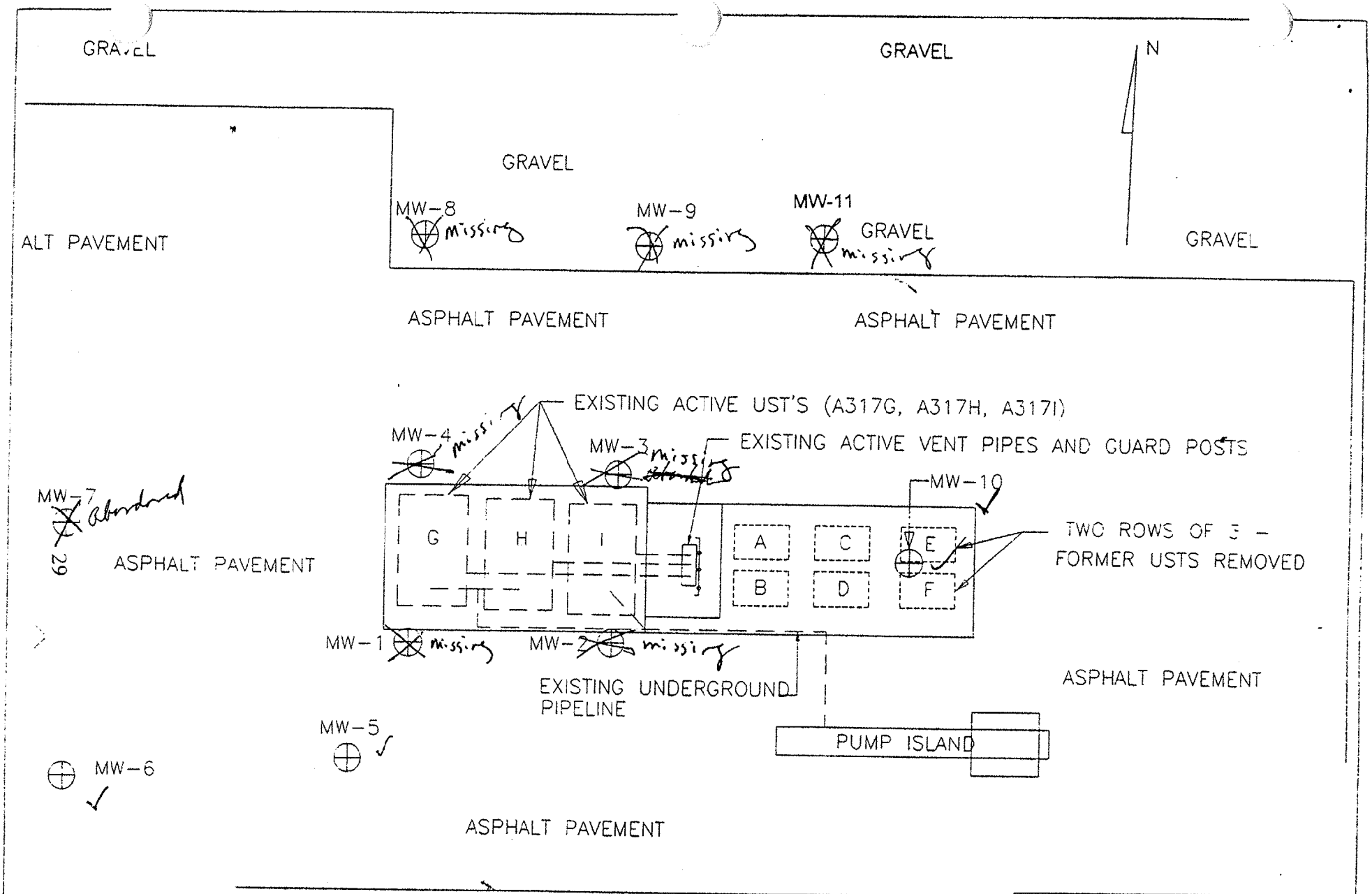
AUTHOR: GREG CAMPBELL, P.E.

MAY 1999

PREPARED FOR:

NAVY PUBLIC WORKS DEPARTMENT
BUILDING A-629 BOCA CHICA FIELD
NAVAL AIR STATION, KEY WEST
KEY WEST, FLORIDA 33040

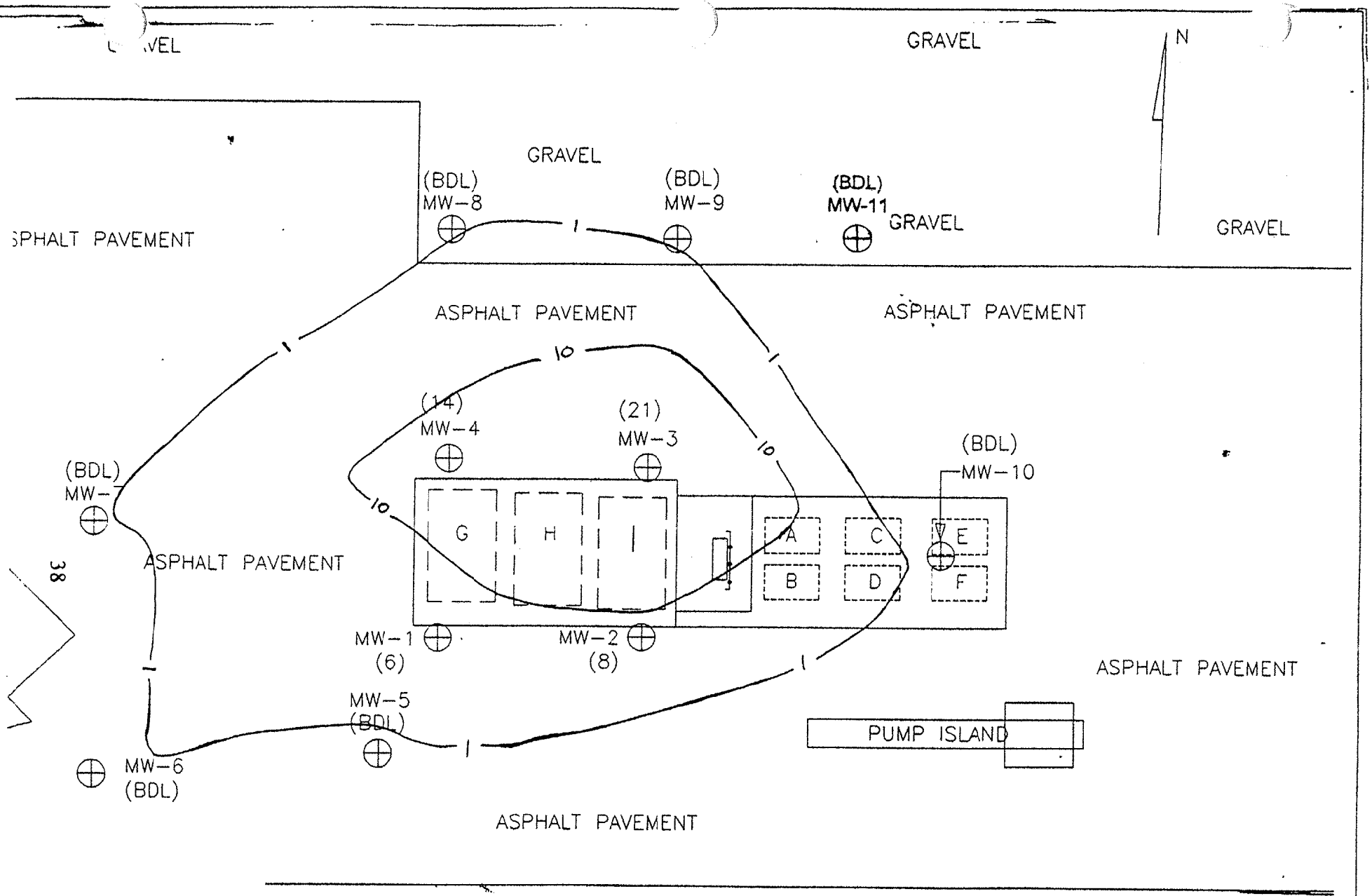
JIM SIMMEN, CODE 1883JS
ENVIRONMENTAL PROTECTION SPECIALIST



LEGEND

MW-4 ⊕ MONITORING WELL DESIGNATION/ LOCATION

NAVY PUBLIC WORKS CENTER		
SCALE: 1" = 20' 02/25/99	FIGURE 2-1	DRAWN BY: GAC DWG. NO: 929MV REVISED BY:
MONITORING WELL LOCATION MAP SITE A317A, NAS KEY WEST		
CLIENT: PWD KEY WEST		



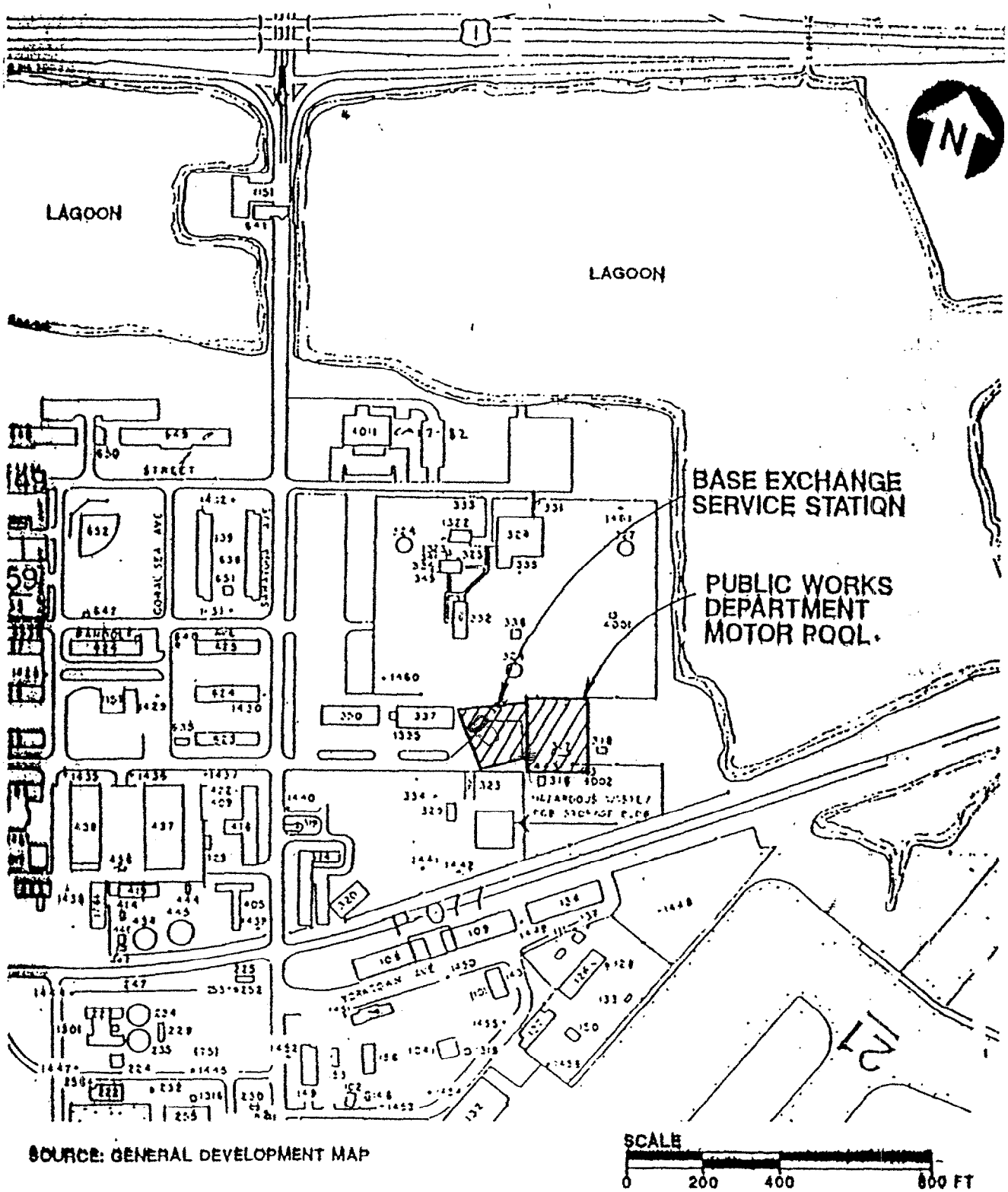
38

LEGEND

(21) MW-8 ⊕ BENZENE CONCENTRATION (PPB) / GW WELL NUMBER/LOCATION

1 — ISOCONCENTRATION CONTOUR (1 PPB)

NAVY PUBLIC WORKS CENTER		
SCALE: 1" = 20' 02/25/99	FIGURE 2-4	DRAWN BY: GAC DWG. NO.: 929MW REVISED BY:
BENZENE CONTAMINATION DISTRIBUTION MAP - SITE A317		
CLIENT: PWD KEY WEST		



SOURCE: GENERAL DEVELOPMENT MAP

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE: 1" = 400'	FIGURE 1-5	DRAWN BY: DWG. NO: REVISED BY:
SITE SPECIFIC MAP – PWD MOTOR POOL NAS KEY WEST, BOCA CHICA, FL		
CLIENT: PWD ENVIRONMENTAL DEPARTMENT, KEY WEST		

APPENDIX B

Monitoring Well Construction Diagrams

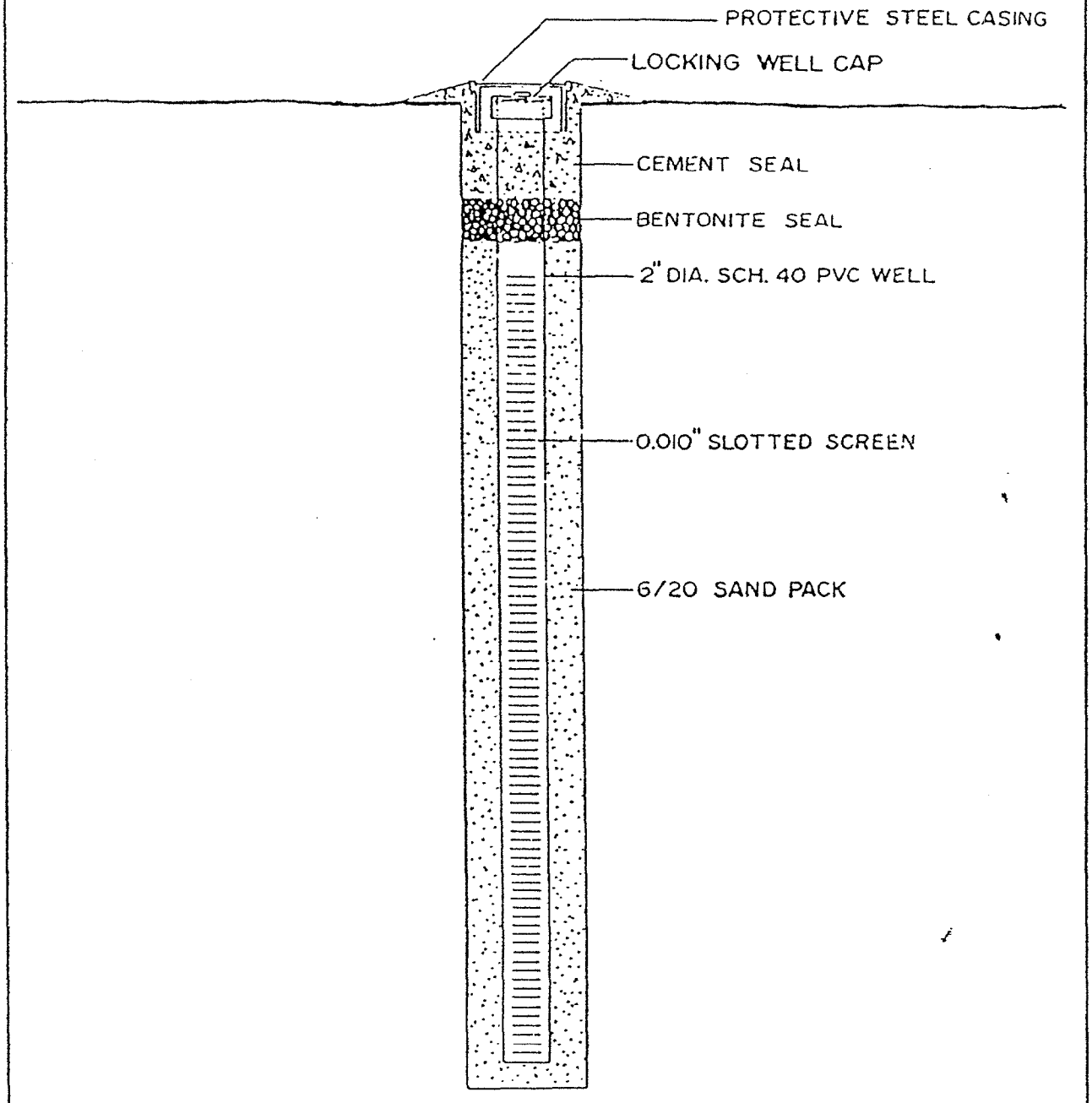


FIGURE C-1
TYPICAL MONITORING WELL
CONSTRUCTION DIAGRAM FOR
MW-1 thru MW-10
BLDG A-317, PWD MOTOR POOL

CONTAMINATION
ASSESSMENT REPORT

BOCA CHICA FIELD
NAVAL AIR STATION
KEY WEST, FLORIDA

NPWC

ENVIRONMENTAL

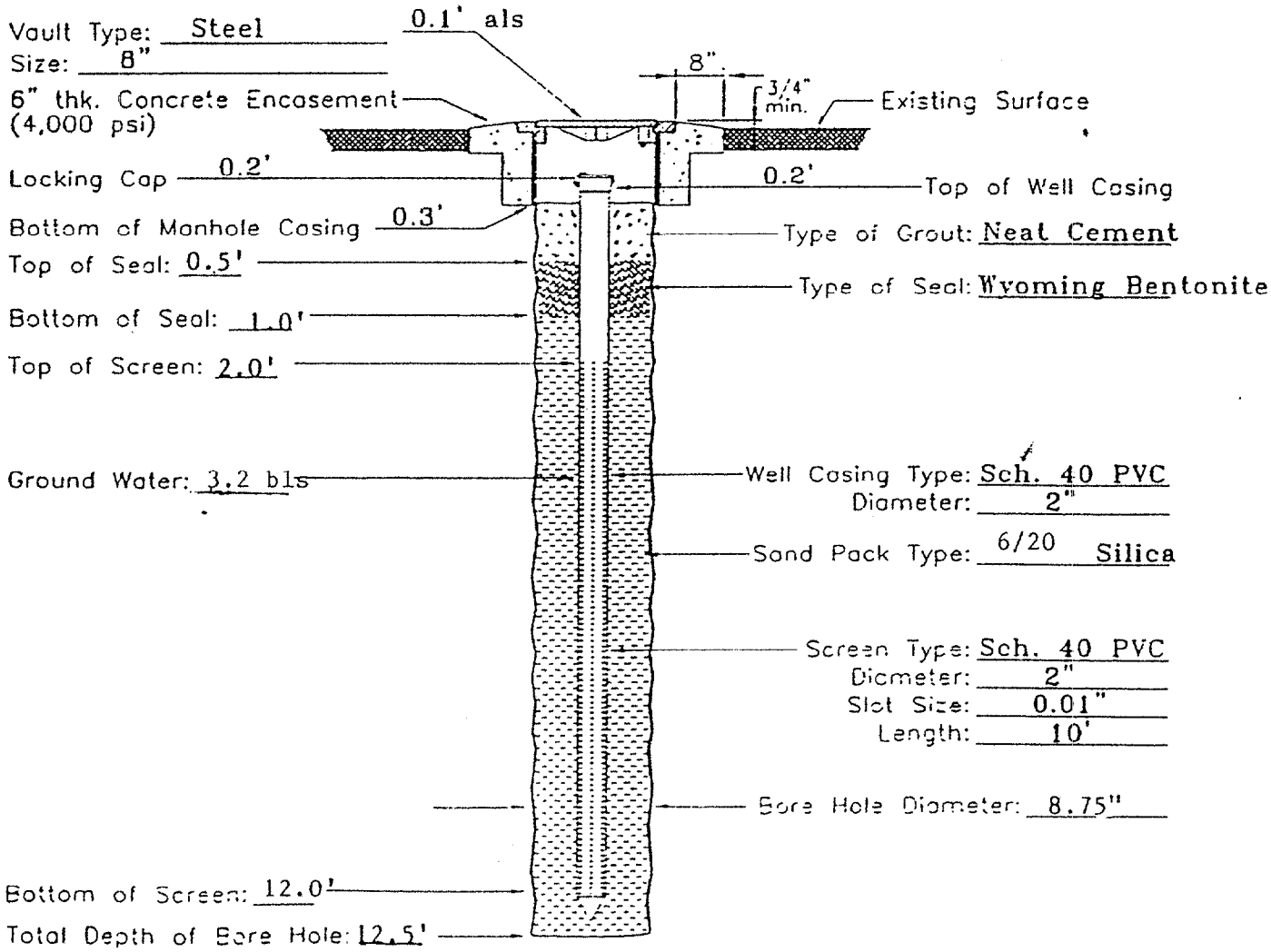
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GFA International
DRILLER'S NAME:
WELL NUMBER: MW-11

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE A-317, PWD Motor Pool
JOB NUMBER:
DATE Start: 3/26/99 Finish: 3/26/99
TIME Start: 815 Finish: 847

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

APPENDIX C

Lithologic Logs

TITLE: NAS Key West, Boca Chica Field	LOG of WELL: KYW-A317-1		BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7519-30
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 7/12/91	COMPLTD: 7/12/91
METHOD: HSA	CASE SIZE: 2 inch	SCREEN INT.: 1.3' to 11.3'	PROTECTION LEVEL: D
TOC ELEV.: 8.56 FT.	MONITOR INST.: OVA	TOT DPTH: 13FT.	DPTH TO ∇ 1.72 FT.
LOGGED BY: A. DeSandro	WELL DEVELOPMENT DATE: 7/15/91		SITE: Public Works Motor Pool

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			1.5/2	G.C.				8,11,13,8	
					Limestone: White, hard, highly weathered. Strong organic (septic tank) odor.				
10			1.5/2	G.C.				11,18,13,18	
					Split spoon sample taken to assess the extent of downward contamination.				
15			1.2/2	G.C.				11,18,13,18	
20									

TITLE: NAS Key West, Boca Chica Field		LOG of WELL: KYW A317-2	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7519-30
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 7/12/91	COMPLTD: 7/12/91
METHOD: HSA	CASE SIZE: 2 inch	SCREEN INT.: 1.5' to 11.5'	PROTECTION LEVEL: D
TOC ELEV.: 3.81 FT.	MONITOR INST.: OVA	TOT DPTH: 13FT.	DPTH TO ∇ :5.4 FT.
LOGGED BY: A. DeSandro	WELL DEVELOPMENT DATE: 7/15/91		SITE: Public Works Motor Pool

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			0.6/2	G.C.				11,7,6,9	
10			1.2/2	G.C.	Limestone: White mostly weathered, with some to many hard limestone fragments.			7,16,15,13	
15			1.6/2	G.C.	Split spoon sample taken to assess the extent of downward contamination.			13,10,8,15	
20									

TITLE: NAS Key West, Boca Chica Field	LOG of WELL: KYW A317-3		BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7519-30
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 7/15/91	COMPLTD: 7/15/91
METHOD: HSA	CASE SIZE: 2 inch	SCREEN INT.: 1.3' to 11.3'	PROTECTION LEVEL: D
TOC ELEV.: 3.41 FT.	MONITOR INST.: OVA	TOT DPTH: 12FT.	DPTH TO ∇ 1.63 FT.
LOGGED BY: A. DeSandro	WELL DEVELOPMENT DATE: 7/15/91		SITE: Public Works Motor Pool

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			1.2/2	G.C.	Limestone: White, hard, moderately to highly weathered. Some grey sandy silt (possibly fill).			8,13,50/3"	
10			1/2	G.C.	Limestone: White to very light grey, hard, slightly to moderately weathered.			11,10,8,15	
15									

TITLE: NAS Key West, Boca Chica Field	LOG of WELL: KYW A317-4	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7519-30
CONTRACTOR: Groundwater Protection Inc.	DATE STARTED: 7/15/91	COMPLTD: 7/15/91
METHOD: HSA	CASE SIZE: 2 inch	SCREEN INT.: 1.3' to 11.3'	PROTECTION LEVEL: D
TOC ELEV.: 3.75 FT.	MONITOR INST.: OVA	TOT DPTH: 12FT.	DPTH TO ▽ 1.88 FT.
LOGGED BY: A. DeSandro	WELL DEVELOPMENT DATE: 7/16/91	SITE: Public Works Motor Pool

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			1.4/2	G.C.	Limestone: White, hard, moderately to highly weathered.			18,22,25,25	
10			2/2	G.C.				11,13,11,23	
15									

TITLE: NAS Key West, Boca Chica Field	LOG of WELL: KYW A317-5	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7519-30
CONTRACTOR: Groundwater Protection Inc.	DATE STARTED: 7/15/91	COMPLTD: 7/15/91
METHOD: HSA	CASE SIZE: 2 inch	SCREEN INT.: 1.3' to 11.3'	PROTECTION LEVEL: D
TOC ELEV.: 3.64 FT.	MONITOR INST.: OVA	TOT DPTH: 12FT.	DPTH TO ∇ 1.79 FT.
LOGGED BY: A. DeSandro	WELL DEVELOPMENT DATE: 7/16/91	SITE: Public Works Motor Pool

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			1.5/2	G.C.				10,9,8,11	
					Limestone: White, hard, moderately weathered.				
10			0.6/2	G.C.				18,55/5"	
15									

TITLE: NAS Key West, Boca Chica Field	LOG of WELL: KYW A317-B	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-30
CONTRACTOR: Groundwater Protection Inc.	DATE STARTED: 7/15/91	COMPLTD: 7/15/91
METHOD: HSA	CASE SIZE: 2 inch	SCREEN INT.: 1.3' to 11.3'	PROTECTION LEVEL: D
TOC ELEV.: 3.75 FT.	MONITOR INST.: OVA	TOT DPTH: 12FT.	DPTH TO ▽ 1.98 FT.
LOGGED BY: A. DeSandro	WELL DEVELOPMENT DATE: 7/17/91	SITE: Public Works Motor Pool

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			1.6/2	G.C.				13,35,35,38	
					Limestone: White, hard, moderately to highly weathered.				
10			1.5/2	G.C.				30,38,28,50	
15									

Site A-317
PWD Motor Pool, Boca Chica
Key West, Florida
MONITORING WELL NO.: MW11

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA International, Inc.
Start Date: 03/26/99
Start Time: 815
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 03/26/99
Finish Time: 847

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA: OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES: NET
POST					0	0-10'; White Sand with Clay	0	0	0
			Water Table @ approx. 3.2' bls				0	0	0
HOLE					4				
					8				
HSA						10'-12.5; Oolitelimestone			
					12				
						End of Boring @ 12.5' BLS			
HA					16				
					20				

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date

A-322 Base Exchange Service Station

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

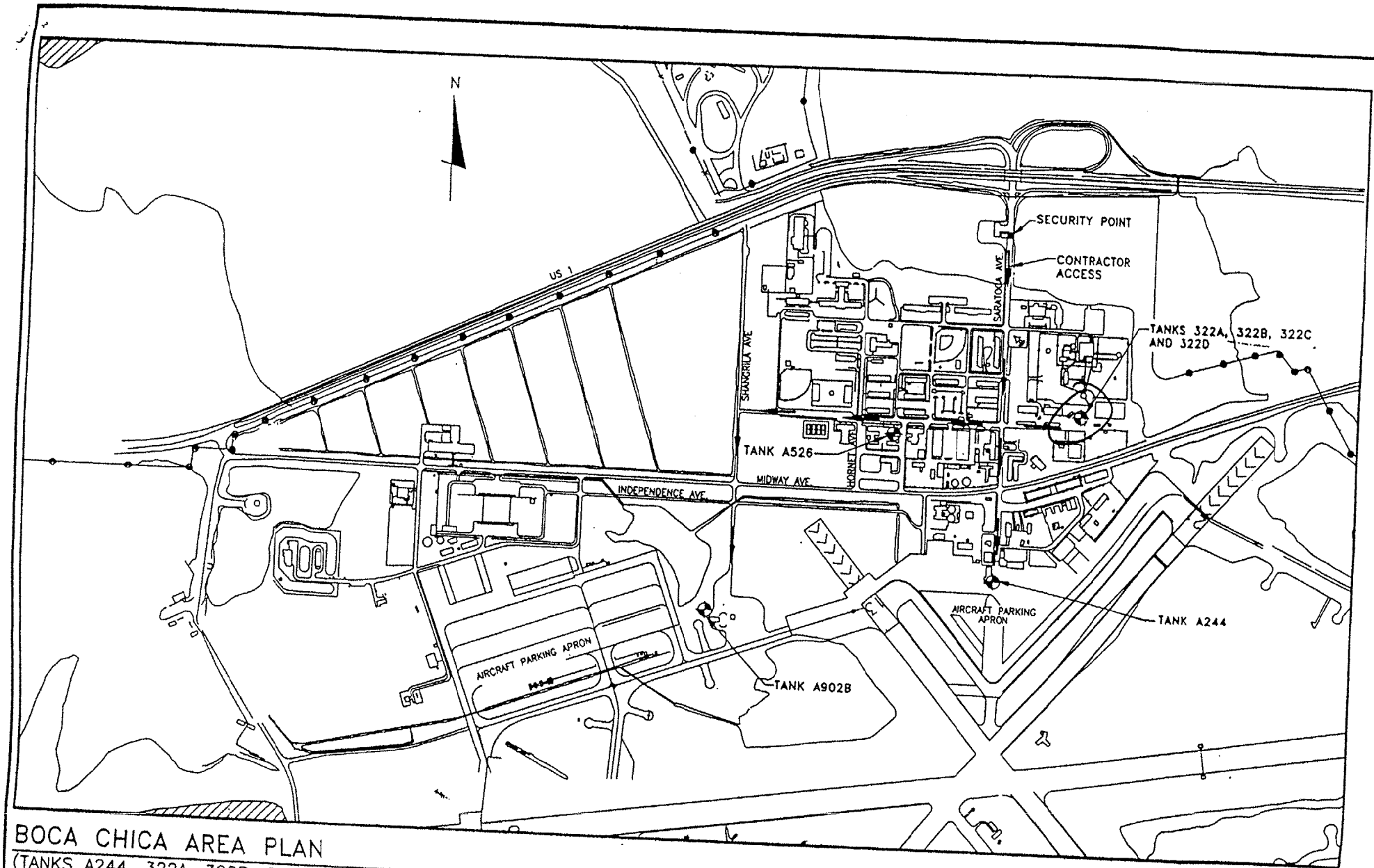
OMEGA ENVIRONMENTAL SERVICES, INC.

All wells / AST / UST gone

UST CLOSURE REPORT
TANKS 322A, 322B, 322C
NAVAL AIR STATION, KEY WEST, FLORIDA
CONTRACT NUMBER N62467-93-C-0645

OMEGA ENVIRONMENTAL SERVICES, INC.

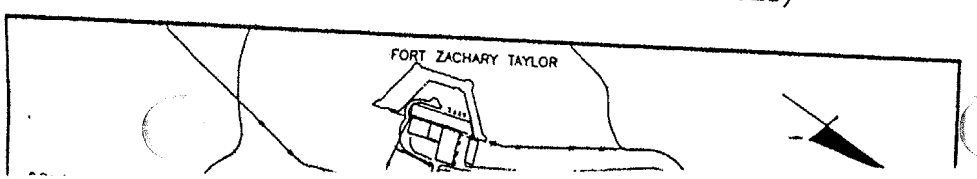
Prepared By
Omega Environmental Services, Inc.
4661 Hammermill Rd., Ste. B
Tucker, Georgia 30084

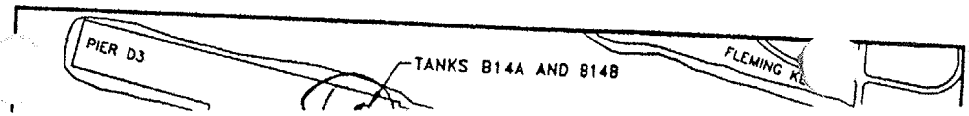


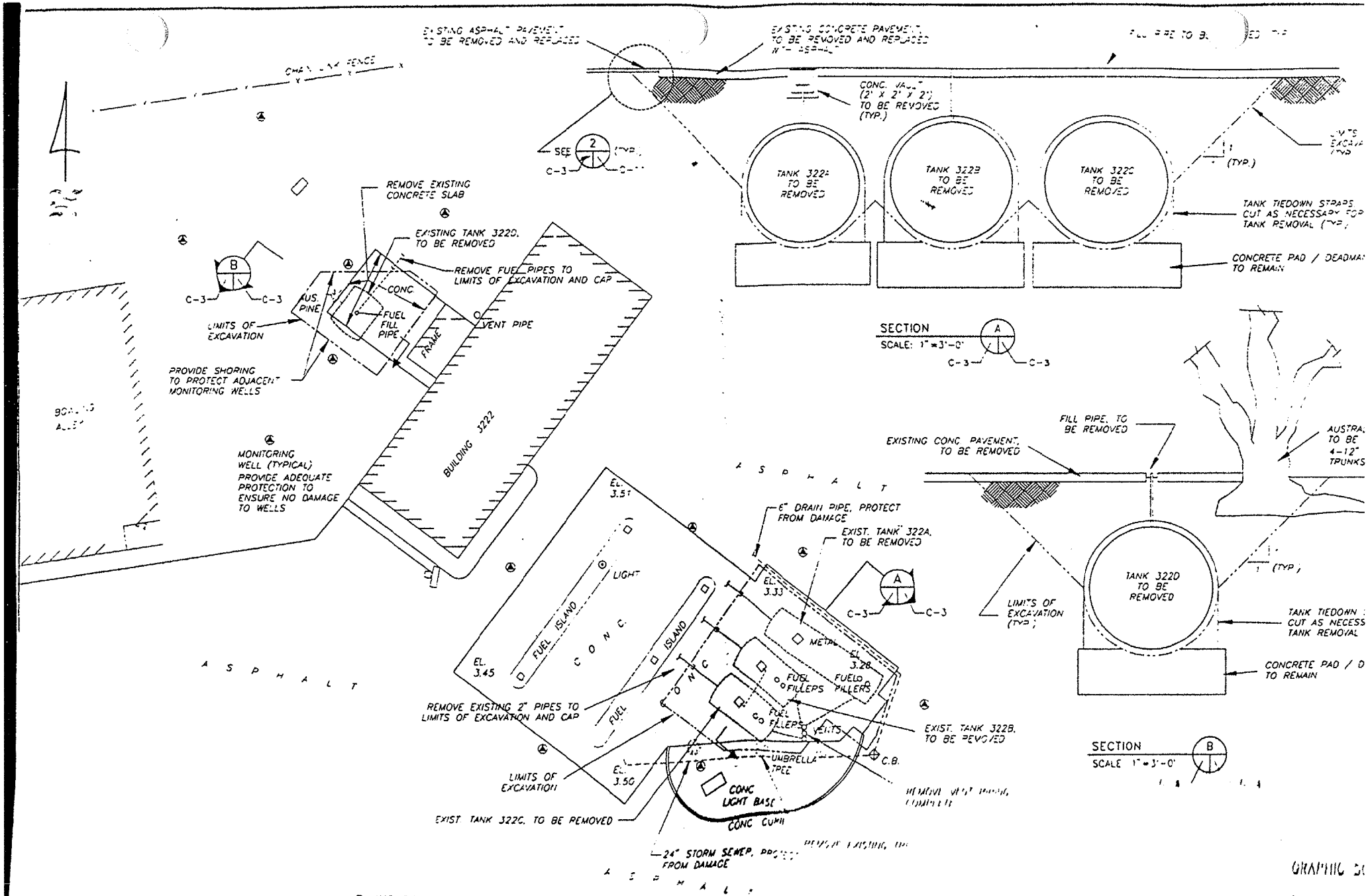
BOCA CHICA AREA PLAN

(TANKS A244, 322A, 322B, 322C, 322D, A526, AND A902B)

SCALE: 1" = 500'-0"





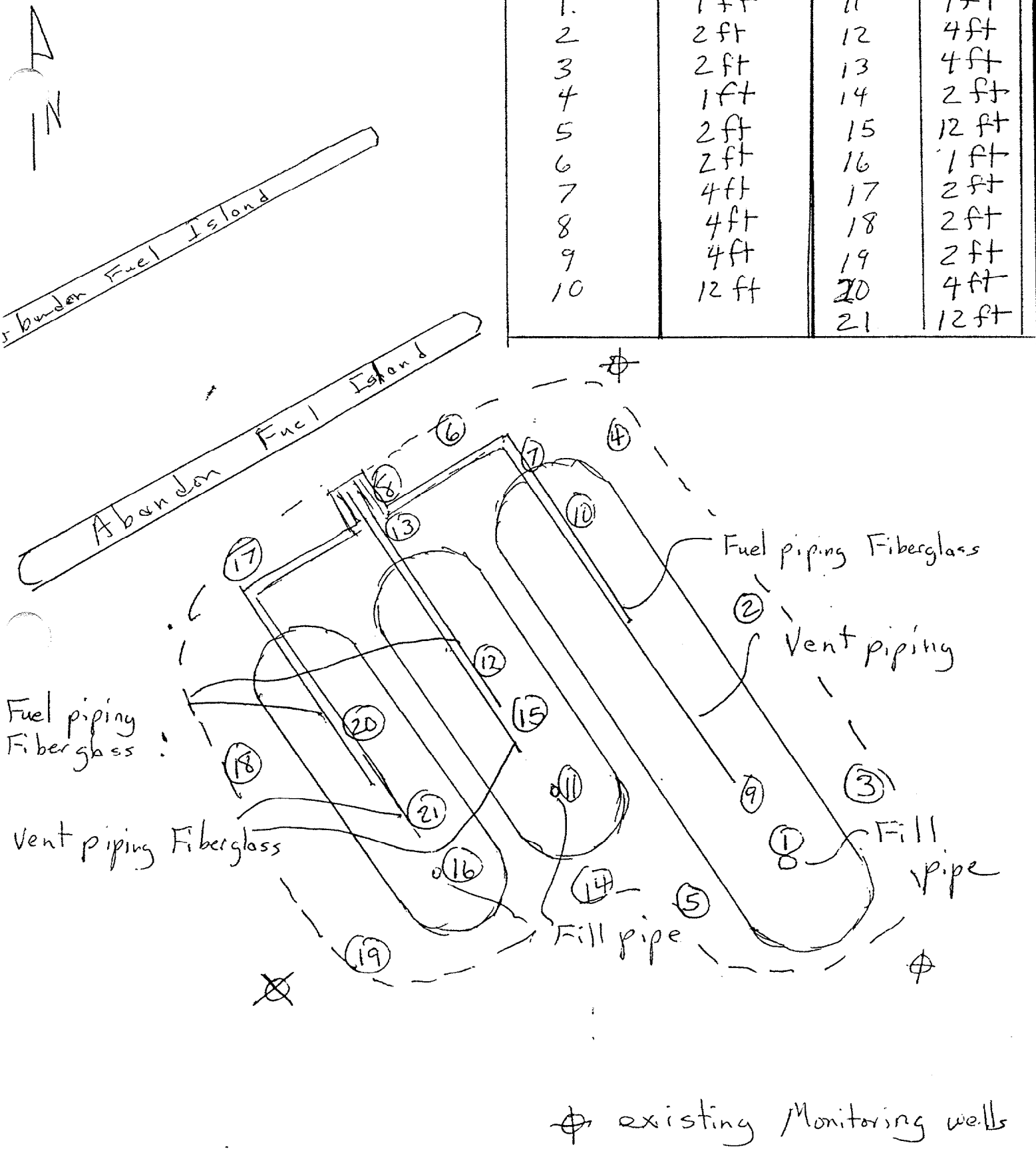


TANKS 322A, 322B, 322C AND 322D AREA PLAN

SCALE 1"=10'-0"

REDUCED DRAWIN

Sample #	Depth BGS	Sample #	Depth BGS
1.	1 ft	11	1 ft
2	2 ft	12	4 ft
3	2 ft	13	4 ft
4	1 ft	14	2 ft
5	2 ft	15	12 ft
6	2 ft	16	1 ft
7	4 ft	17	2 ft
8	4 ft	18	2 ft
9	4 ft	19	2 ft
10	12 ft	20	4 ft
		21	12 ft



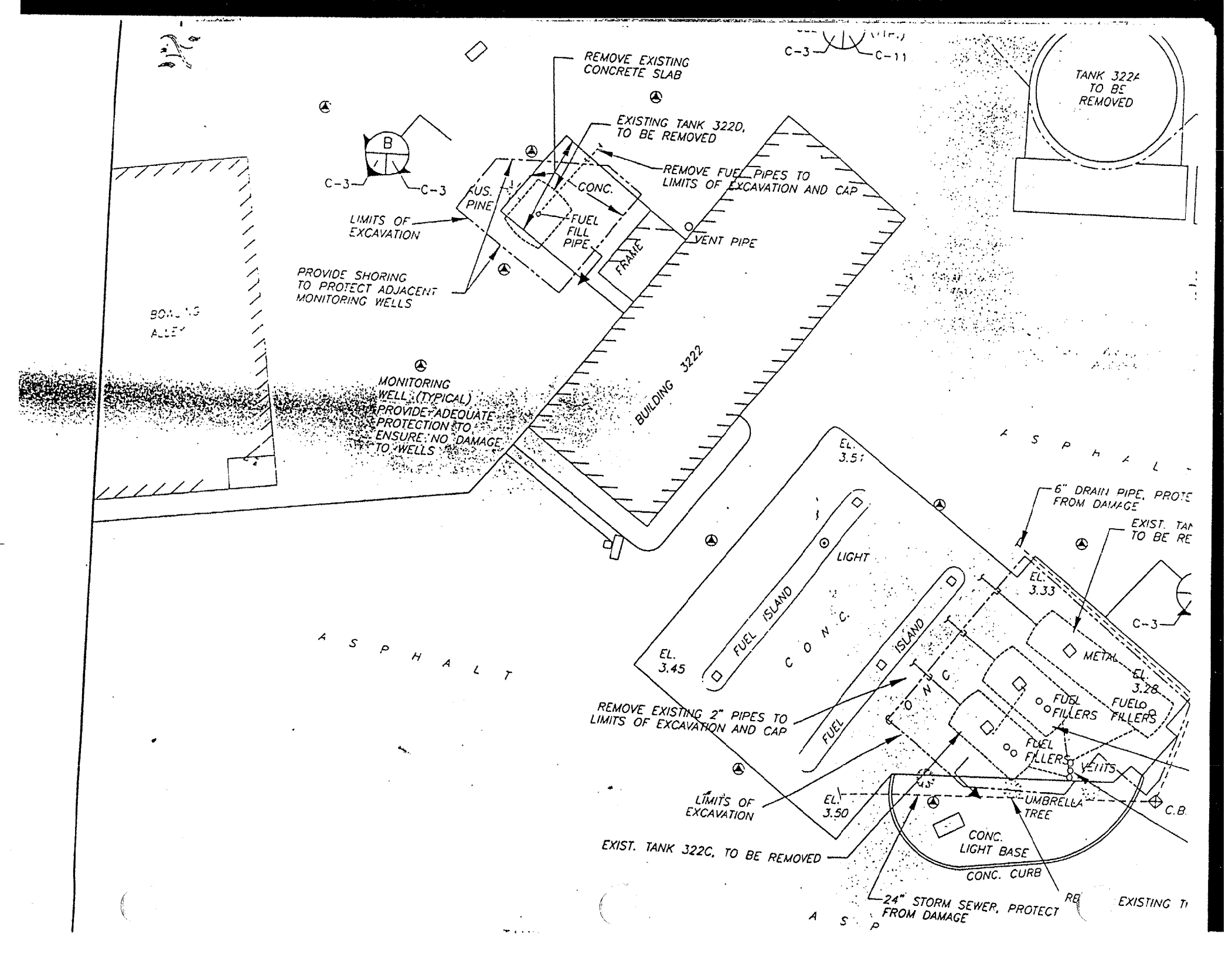
OMEGA ENVIRONMENTAL SERVICES, INC.

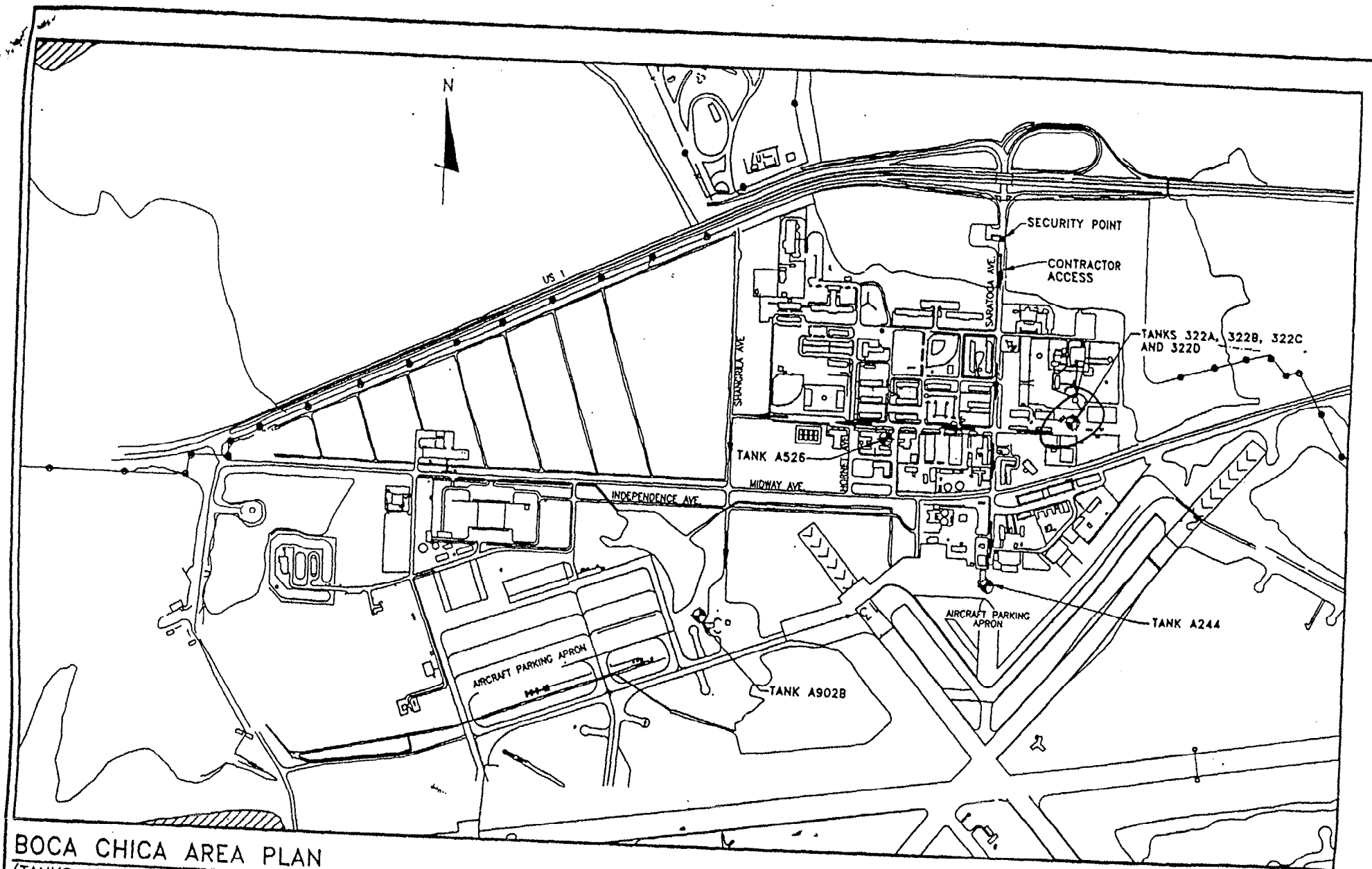
all gone

UST CLOSURE REPORT
TANK 322D
NAVAL AIR STATION, KEY WEST, FLORIDA
CONTRACT NUMBER N62467-93-C-0645

OMEGA ENVIRONMENTAL SERVICES, INC.

Prepared By
Omega Environmental Services, Inc.
4661 Hammermill Rd., Ste. B
Tucker, Georgia 30084


REMOVE EXISTING CONCRETE SLAB
EXISTING TANK 322D, TO BE REMOVED
REMOVE FUEL PIPES TO LIMITS OF EXCAVATION AND CAP
TANK 322A TO BE REMOVED
C-3
C-11
B
C-3
C-3
CONC.
FUEL FILL PIPE
FRAME
VENT PIPE
LIMITS OF EXCAVATION
PROVIDE SHORING TO PROTECT ADJACENT MONITORING WELLS
BOWLING ALLEY
MONITORING WELL (TYPICAL) PROVIDE ADEQUATE PROTECTION TO ENSURE NO DAMAGE TO WELLS
BUILDING 3222
ASPHALT
EL. 3.51
6" DRAIN PIPE, PROTE FROM DAMAGE
EXIST. TAN TO BE RE
LIGHT
EL. 3.33
C-3
FUEL ISLAND
CONC.
EL. 3.45
ISLAND
METAL
EL. 3.28
FUEL FILLERS
FUEL FILLERS
FUEL FILLERS
VENTS
REMOVE EXISTING 2" PIPES TO LIMITS OF EXCAVATION AND CAP
FUEL
CONC
LIMITS OF EXCAVATION
EL. 3.50
UMBRELLA TREE
C.B.
CONC. LIGHT BASE
EXIST. TANK 322C, TO BE REMOVED
CONC. CURB
24" STORM SEWER, PROTECT FROM DAMAGE
EXISTING T



BOCA CHICA AREA PLAN

(TANKS A244, 322A, 322B, 322C, 322D, A526, AND A902B)

SCALE: 1" = 500'-0"

CONTAMINATION ASSESSMENT REPORT ADDENDUM

BASE EXCHANGE SERVICE STATION
BUILDING A-322
BOCA CHICA FIELD
NAVAL AIR STATION KEY WEST
KEY WEST, FLORIDA

UNIT IDENTIFICATION CODE (UIC): N00213
NAVY CLEAN - DISTRICT I
CONTRACT NO. 62467-89D-0317

SEPTEMBER 1993

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORTH CHARLESTON, SOUTH CAROLINA
29419-9010

PRINTED ON RECYCLED PAPER

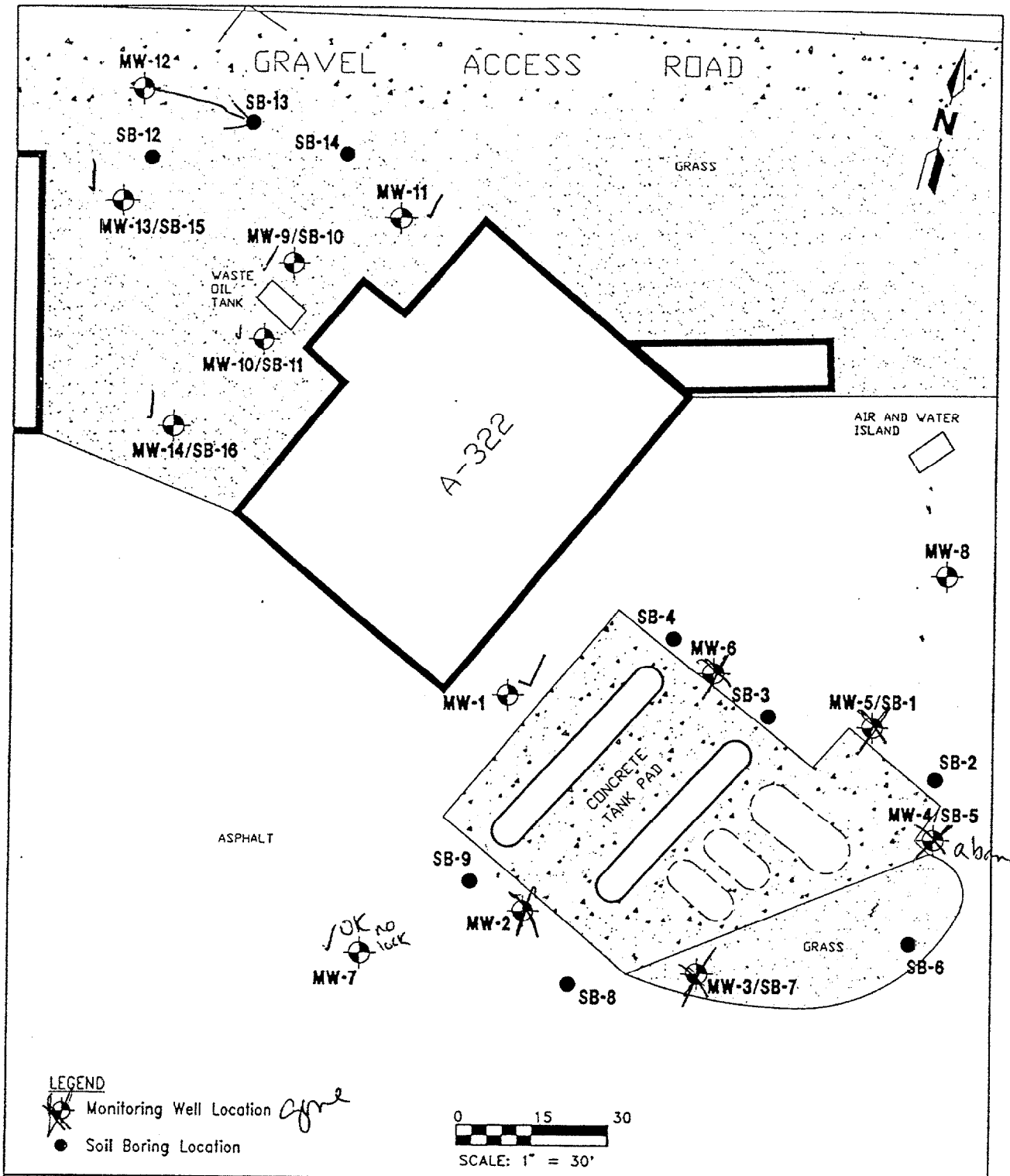


FIGURE 2-1
SITE PLAN SHOWING SOIL BORING AND MONITORING WELL LOCATIONS

CONTAMINATION ASSESSMENT REPORT ADDENDUM
BUILDING A-322
BOCA CHICA FIELD
NAVAL AIR STATION KEY WEST
KEY WEST, FLORIDA

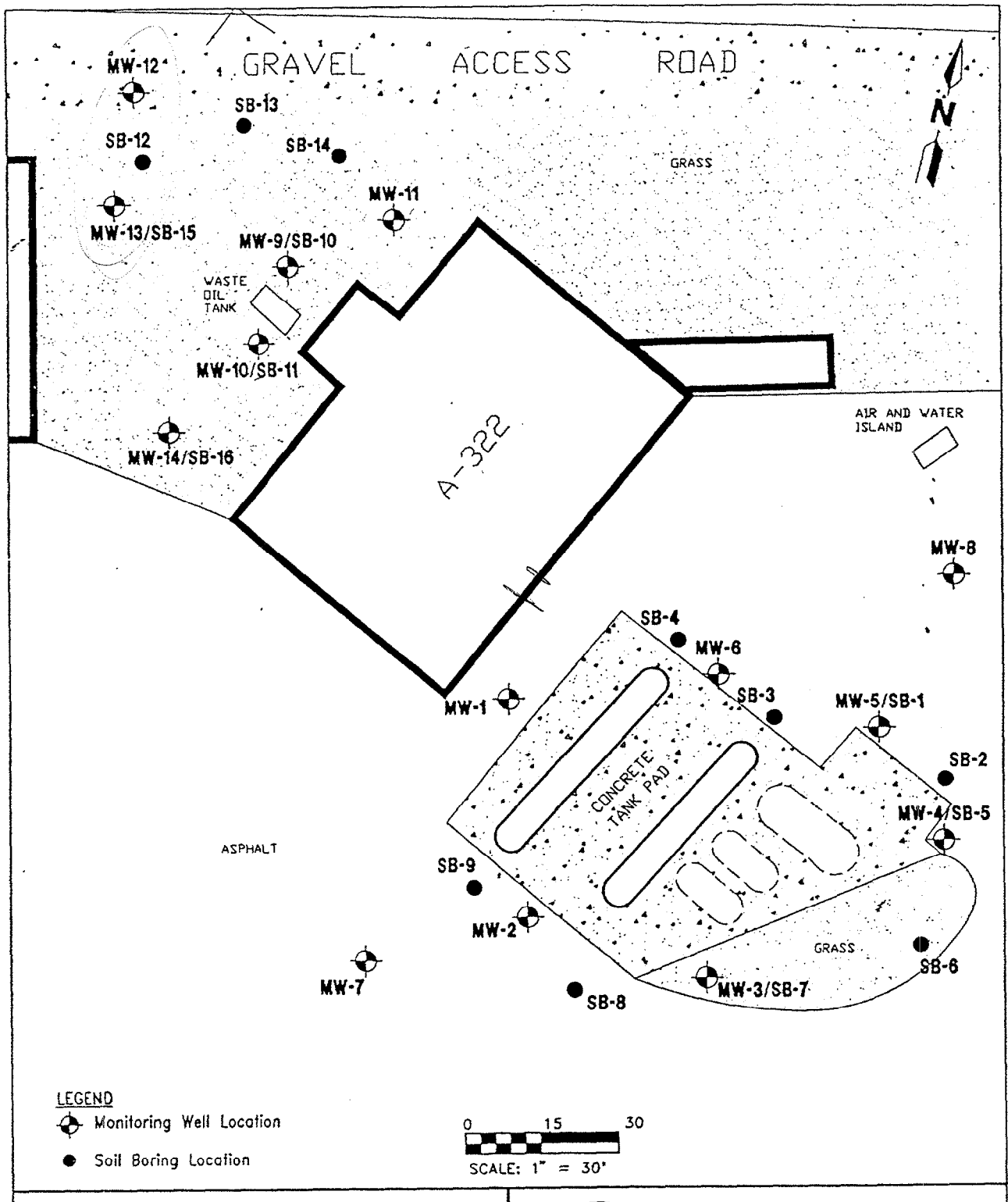
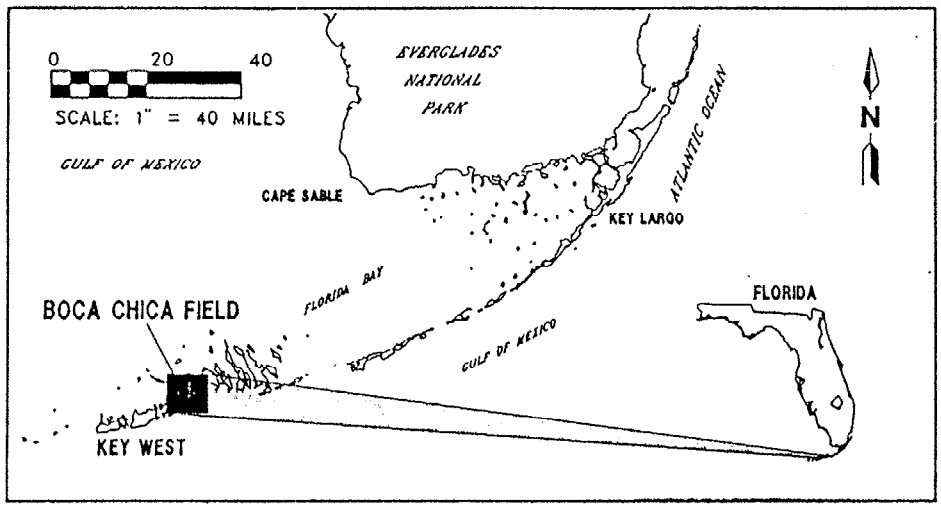
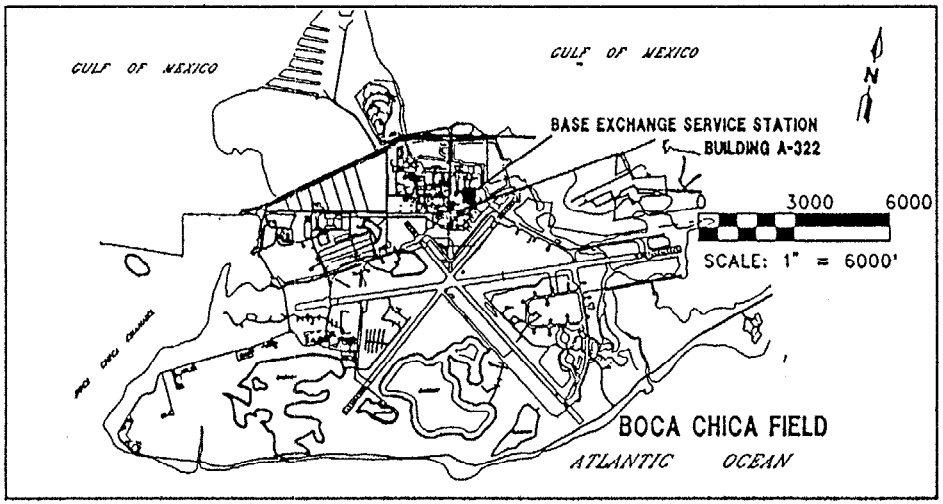


FIGURE 2-1
SITE PLAN SHOWING SOIL BORING AND MONITORING WELL LOCATIONS

CONTAMINATION ASSESSMENT REPORT ADDENDUM
BUILDING A-322
BOCA CHICA FIELD
NAVAL AIR STATION KEY WEST
KEY WEST, FLORIDA





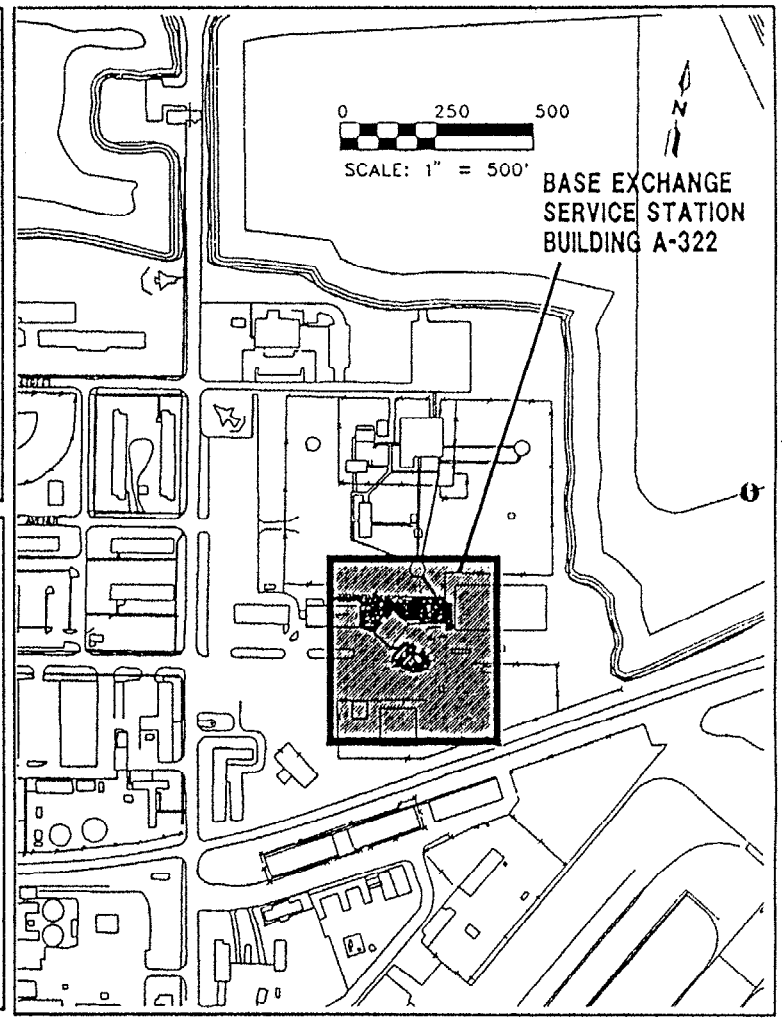


FIGURE 1-1
FACILITY LOCATION MAP

CONTAMINATION ASSESSMENT
BASE EXCHANGE SERVICE STATION

BOCA CHICA FIELD
NAVAL AIR STATION KEY WEST
KEY WEST, FLORIDA

BI OGA322/KGP/08/24/93

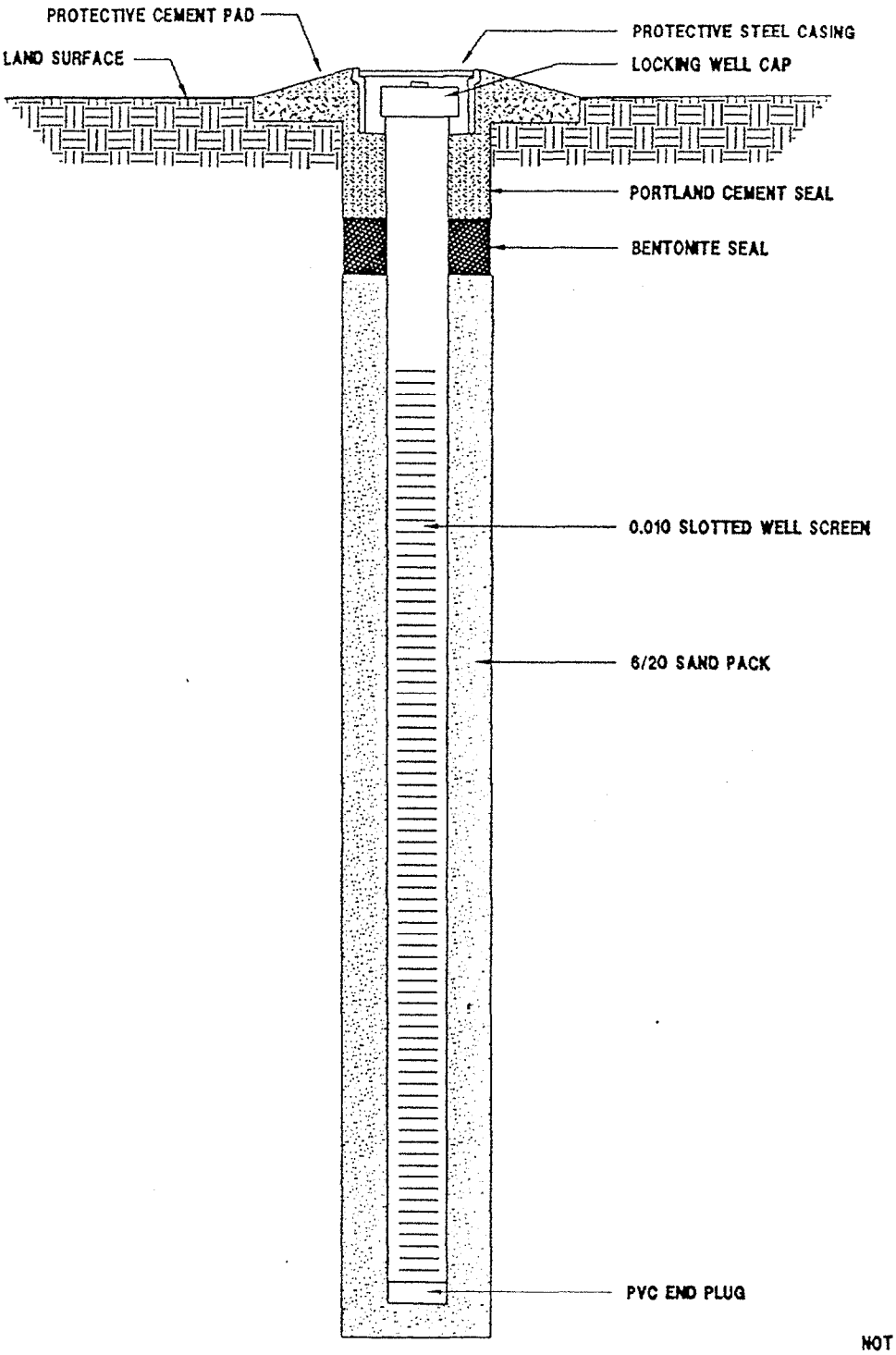


FIGURE 3-1
TYPICAL MONITORING WELL
INSTALLATION DETAIL

CONTAMINATION ASSESSMENT
REPORT ADDENDUM
BUILDING A-322
BOCA CHICA FIELD
NAVAL AIR STATION KEY WEST
KEY WEST, FLORIDA

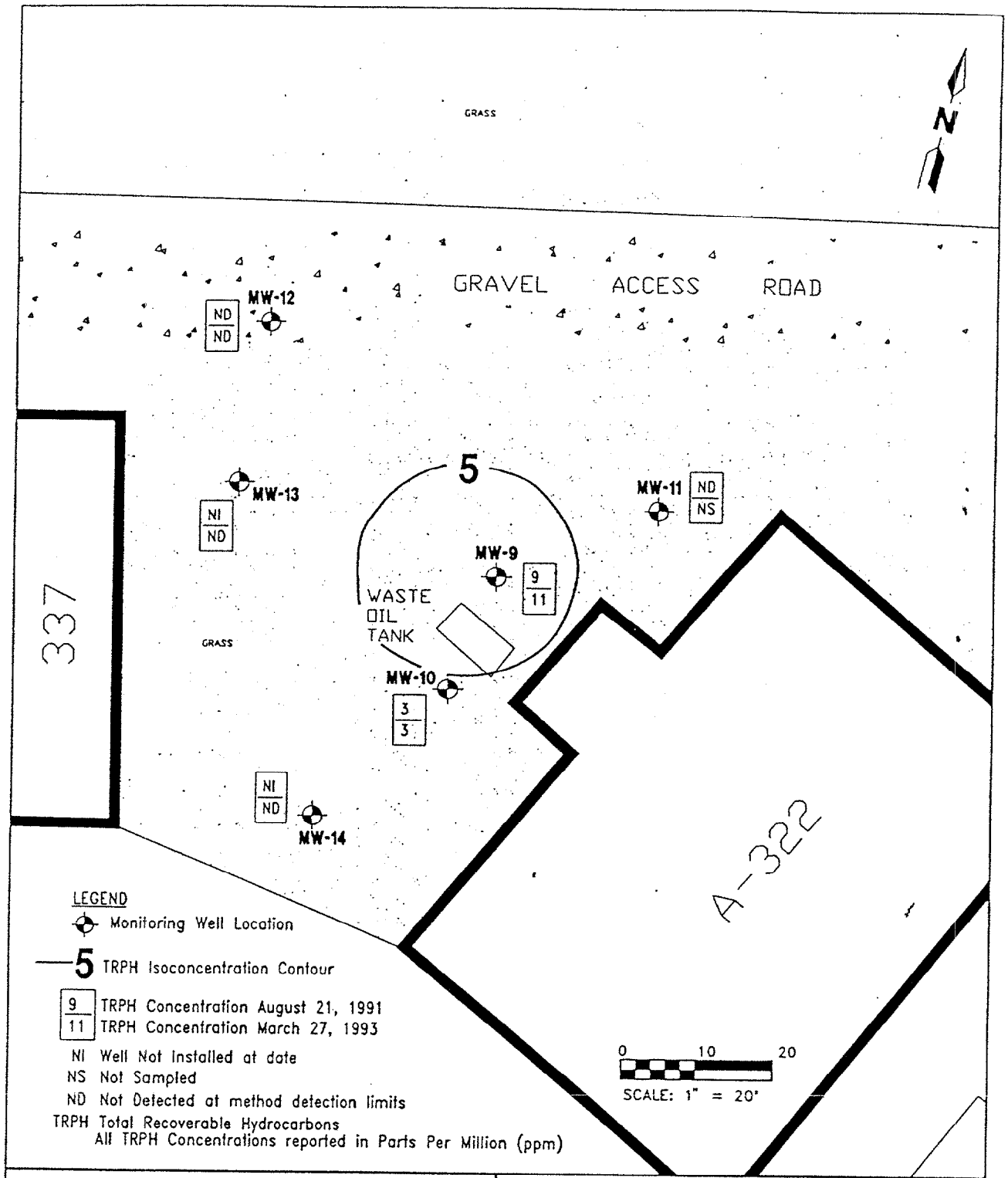


FIGURE 3-5
TOTAL RECOVERABLE HYDROCARBON (TRPH), GROUNDWATER CONTAMINATION DISTRIBUTION MAP, AUGUST 21, 1991, AND MARCH 27, 1993

CONTAMINATION ASSESSMENT REPORT ADDENDUM
BUILDING A-322
BOCA CHICA FIELD
NAVAL AIR STATION KEY WEST
KEY WEST, FLORIDA

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

TO: Eric S. Nuzie, Federal Facilities Coordinator

THROUGH: Dr. James J. Crane, PGIII/Administrator
Technical Review Section JJC

FROM: Jorge R. Caspary P.G., Base Coordinator
Technical Review Section J.R.C.

DATE: March 30, 1991

SUBJECT: Review of Draft Contamination Assessment Reports for Base Exchange Service Station Building A-322, PHMRON Maintenance Ramp Building 352, Public Works Motor Pool Building A-317, and Berthing Wharf Building 189. Key West Naval Air Station.

I have reviewed the aforementioned documents and offer the following comments for your consideration:

Base Exchange Service Station Bldg A-322

1- Two additional, permanent wells should be installed as follows:

A water table well located approximately 20 feet southwest of KYWA322-10 and another water table well located twenty feet southwest of KYWA322-12.

2- After installation of the supplemental monitoring wells, they should be sampled and analyzed for EPA Methods 624/625 (unknown peaks larger than 10 ppb should be identified), 418.1, and priority metals.

3- A complete round of sampling and analysis should be conducted at wells being influenced either by the gasoline or the waste oil tanks. Note, additional monitoring wells should be installed if significant contaminant concentrations are detected at any well.

4- The soil data from the tank excavations should accompany the final, revised document

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

TO: Eric S. Nuzie, Federal Facilities Coordinator
Bureau of Waste Cleanup

THROUGH: Dr. James J. Crane, PGIII/Administrator JJC
Technical Review Section

FROM: Jorge R. Caspary P.G., Base Coordinator J.R.C.
Technical Review Section

DATE: April 22, 1992

SUBJECT: Meeting with ABB Environmental Services, Inc. on Contamination Assessment Reports for Base Exchange Station Bldg. A-322, PHMRON Maintenance Ramp Bldg. 352, Public Works Motor Pool Bldg. A-317, and Berthing Wharf Bldg. 189. Key West Naval Air Station

As agreed during an April 17th meeting with an ABB Environmental Services, Inc. representative, and followed by a confirmatory telephone conversation on April 21st, the following comments are issued on a site specific basis.

Base Exchange Service Station Bldg. A-322

As accorded with the ABB project manager, comments 1 and 2 of the March 30th interoffice memorandum are left as optional. However, it must be noted that if significant contaminant concentrations are detected at wells KYWA322- 9, 10, and 11, the previously asked water table monitoring wells will be required.

Comment 3 is rescinded. Only wells number 9, 10, and 12 will be required to be sampled and analyzed. Said wells should be analyzed for EPA Methods 624 and 625 for listed compounds. Non Priority Pollutants with peaks larger than 10 ppb should also be identified. In addition, a confirmatory analysis for Sulfur in groundwater should be implemented.

PHMRON Maintenance Ramp Bldg. 352

An additional well is needed downgradient of the underground storage tank. Well KYW352-1 is lateral to the groundwater flow.

TITLE: NAS Key West, Truman Annex		LOG of WELL: KYW-A322-MW14	BORING NO. KYW-A322-SB16
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7519-30
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/23/93	COMPLTD: 3/23/93
METHOD: 4.25" HSA	CASE SIZE: 2 inch	SCREEN INT.: 1.5-11.5 FT	PROTECTION LEVEL: D
TOC ELEV.: 5.37 FT.	MONITOR INST.: OVA	TOT DPTH: 11.5FT.	DPTH TO ▽ 3.83 FT.
LOGGED BY: R. Durham	WELL DEVELOPMENT DATE: 3/23/93		SITE: Bldg. A322, Filling Station

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5				0	SAND: light tan, very fine-grained to silty, mixed with limerock.		SM		
10									
15									
20									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAS Key West, Truman Annex	LOG of WELL: KYW-A322-MW13		BORING NO. KYW-A322-SB15
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7519-30
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/23/93	COMPLTD: 3/23/93
METHOD: 4.25" HSA	CASE SIZE: 2 inch	SCREEN INT.: 1.5-11.5 FT	PROTECTION LEVEL: D
TOC ELEV.: 5.95 FT.	MONITOR INST.: OVA	TOT DPTH: 11.5FT.	DPTH TO ▽ 4.50 FT.
LOGGED BY: R. Durham	WELL DEVELOPMENT DATE: 3/23/93		SITE: Bldg. A322, Filling Station

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5				0	SAND: light tan, very fine-grained to silty, mixed with gray and tan limerock.		SM		
10									
15									
20									

MONITORING ONLY PLAN
BASE EXCHANGE SERVICE STATION
BUILDING A-322
BOCA CHICA FIELD

NAVAL AIR STATION KEY WEST
KEY WEST, FLORIDA

NAVY CLEAN - DISTRICT I
CONTRACT NO. N62467-89-D-0317

JANUARY 1994

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORTH CHARLESTON, SOUTH CAROLINA
29419-9010

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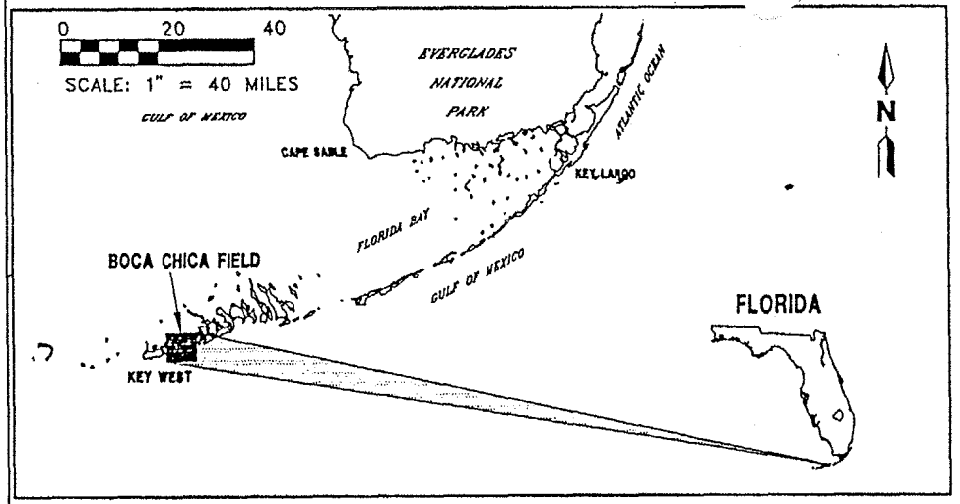
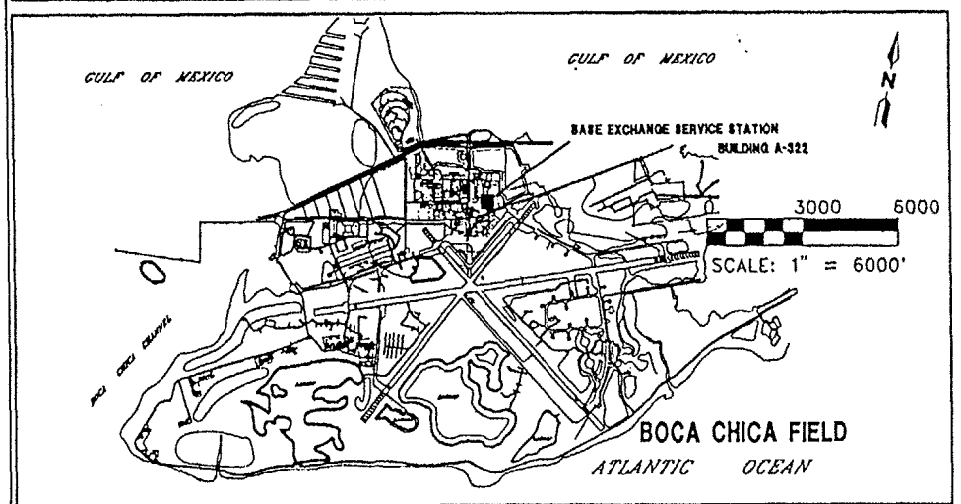




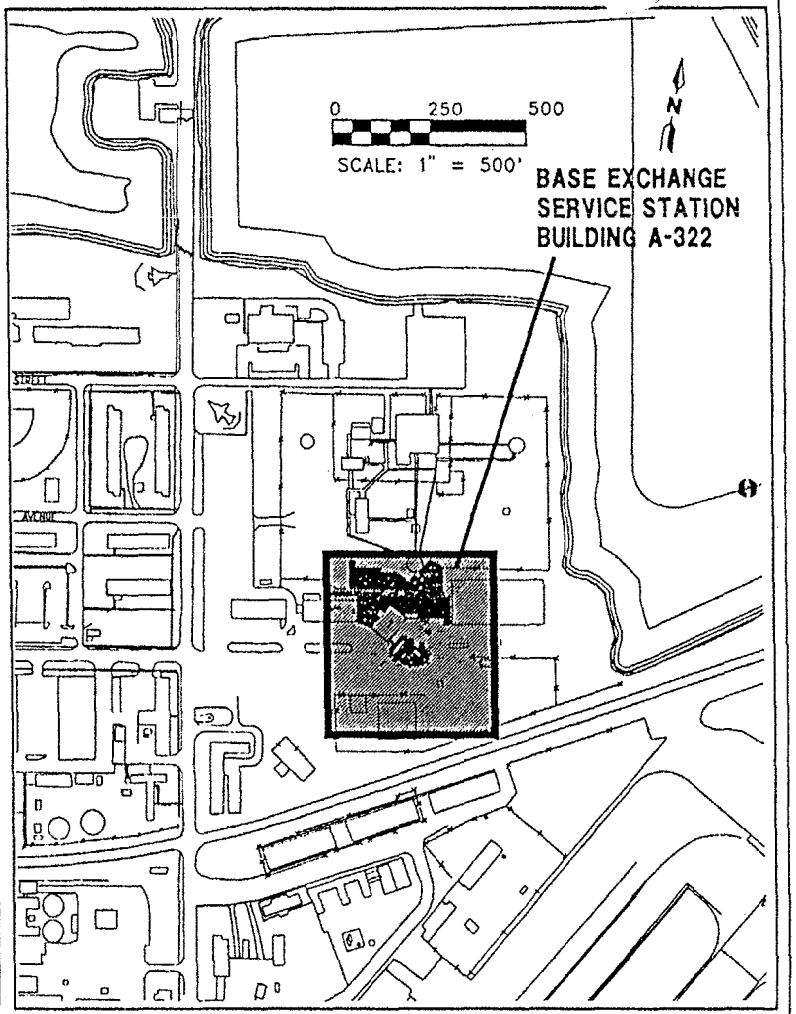


FIGURE 1-1
FACILITY LOCATION MAP

MONITORING ONLY PLAN
BUILDING A-322

BOCA CHICA FIELD
NAVAL AIR STATION KEY WEST
KEY WEST, FLORIDA

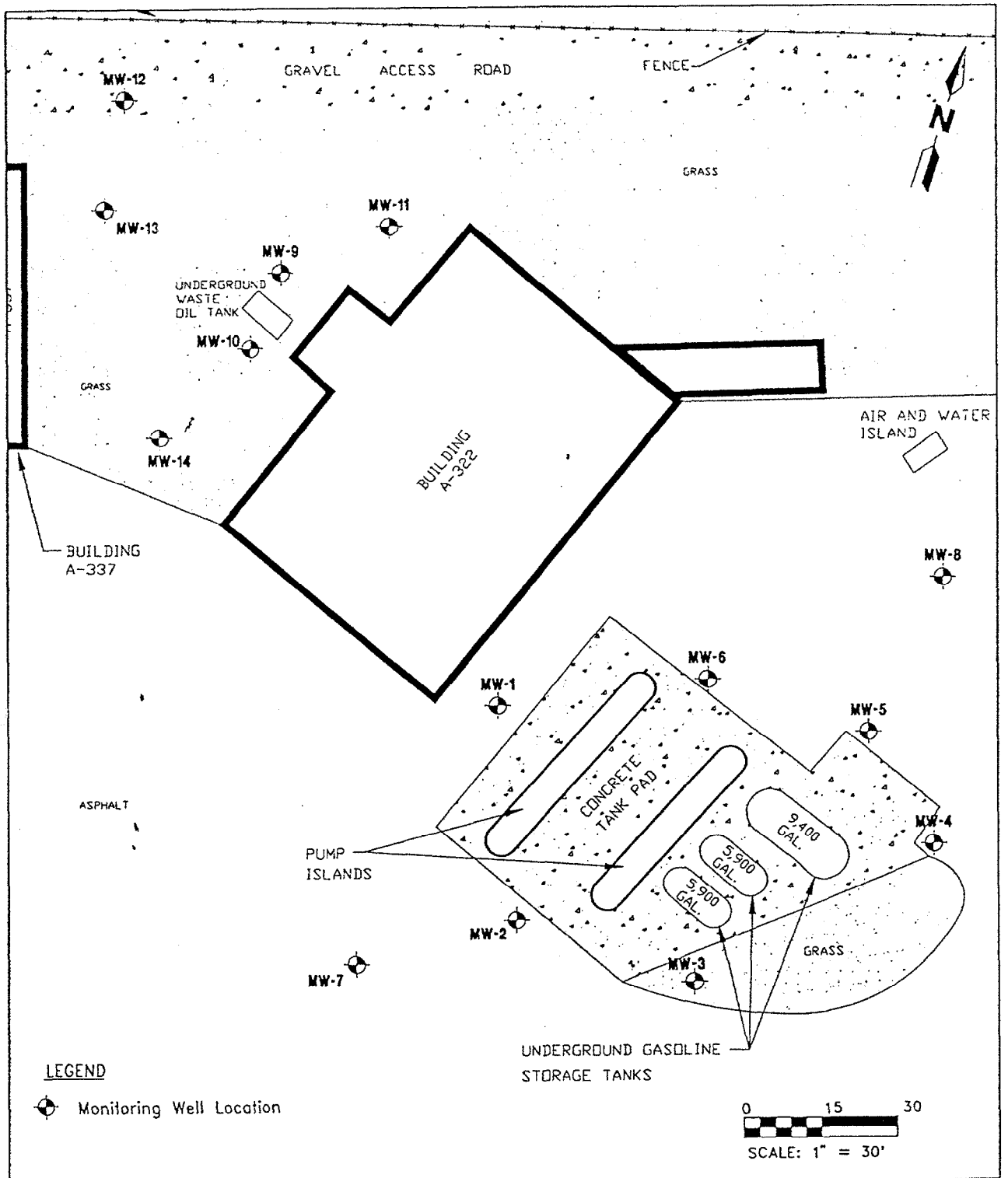


FIGURE 2-1
SITE PLAN SHOWING MONITORING WELL LOCATIONS

MONITORING ONLY PLAN
BUILDING A-322

BOCA CHICA FIELD
NAVAL AIR STATION KEY WEST
KEY WEST, FLORIDA

A-325

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

CLOSURE ASSESSMENT REPORT
ABOVEGROUND STORAGE TANK
BUILDING A-325

Well #

NAVAL AIR STATION
KEY WEST, FLORIDA

Unit Identification Code: N00213

Prepared by:

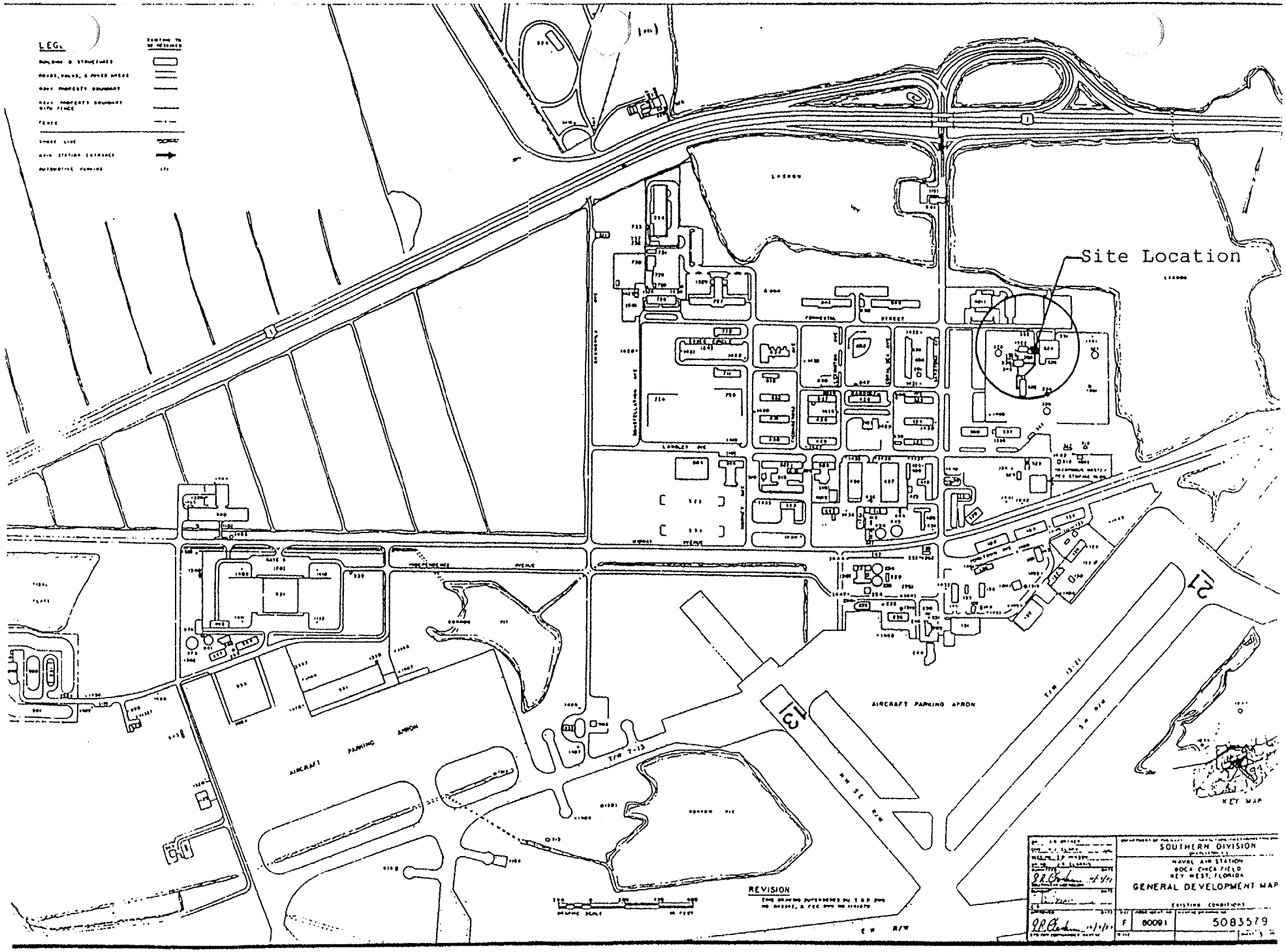
Navy Public Works Center
Environmental Department
310 John Tower Road
Pensacola, Florida, 32508

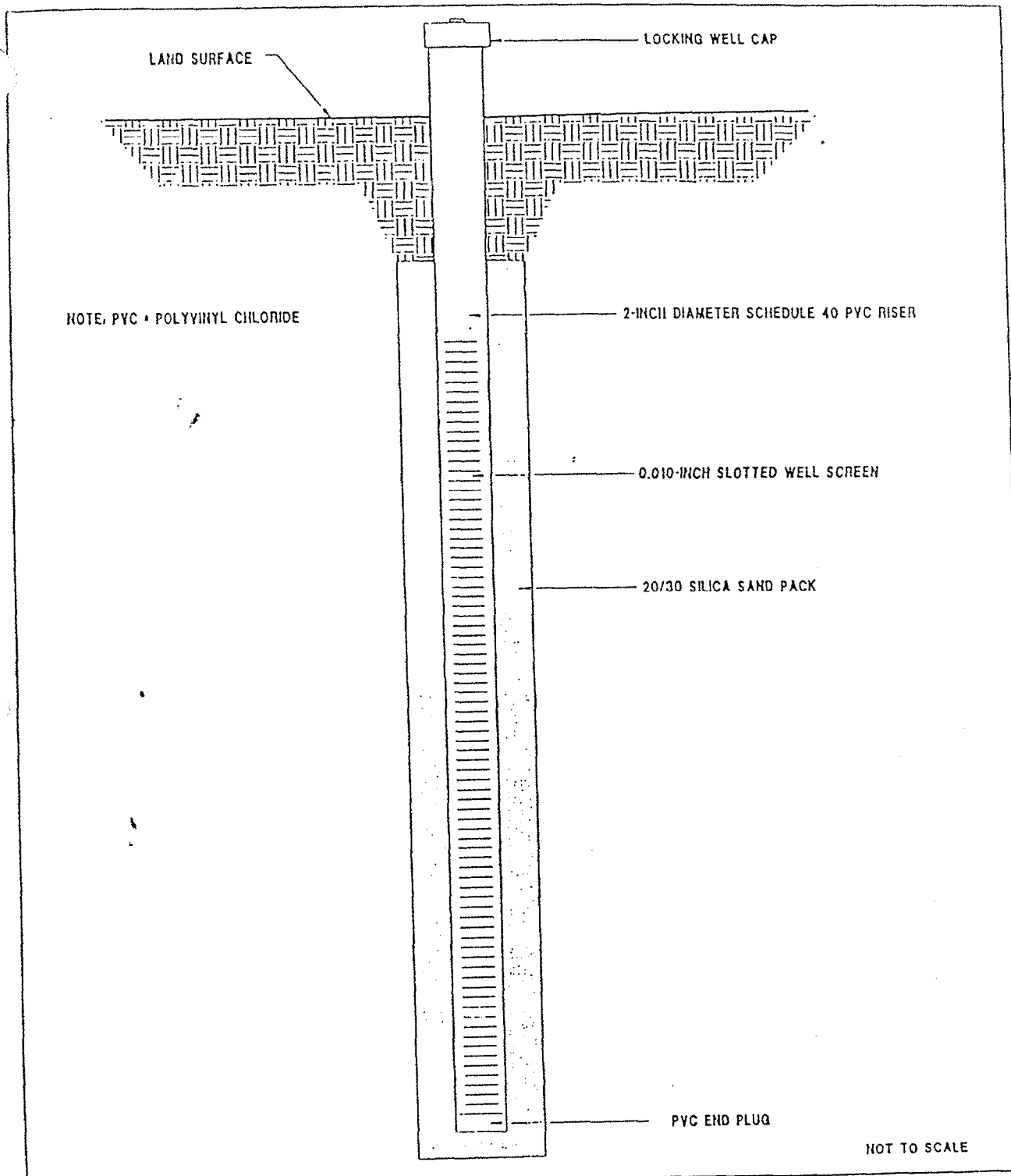
Prepared for:

Commanding Officer, Naval Air Station
Public Works Department, Building A-629
Naval Air Station Key West
Key West, Florida 33040

Mr. Jim Simmen, Code 1883JS
Environmental Protection Specialist

August 1998


Site Location
AIRCRAFT PARKING APRON
AIRCRAFT PARKING APRON
13
21
KEY MAP
REVISION
SOUTHERN DIVISION
NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA
GENERAL DEVELOPMENT MAP
EXISTING CONDITIONS
F
80091
5083579



TYPICAL TEMPORARY MONITORING WELL
INSTALLATION DETAIL

A-328

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

CLOSURE ASSESSMENT REPORT
ABOVEGROUND STORAGE TANK
BUILDING A-328

NAVAL AIR STATION
KEY WEST, FLORIDA

Unit Identification Code: N00213

Prepared by:

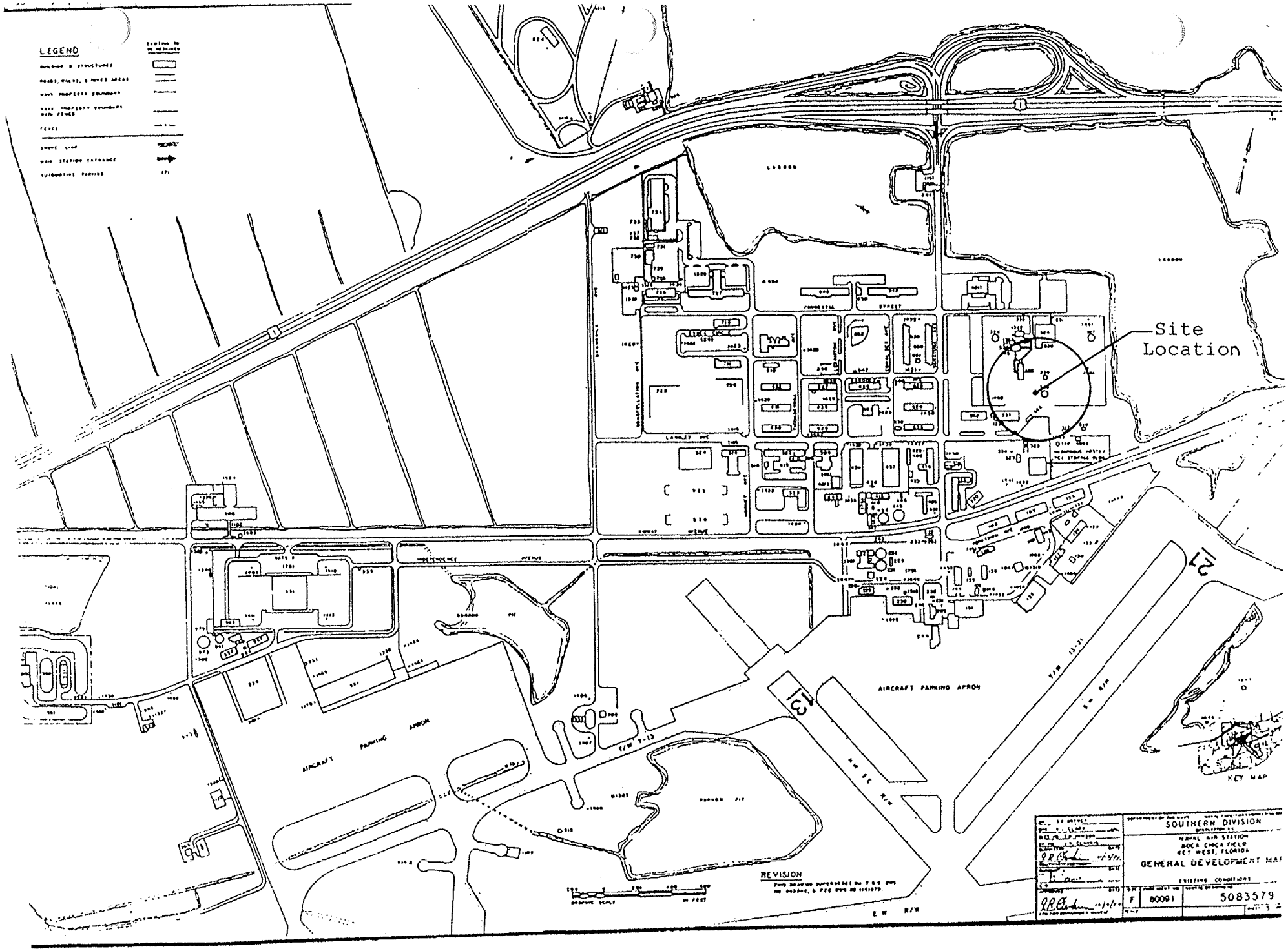
Navy Public Works Center
Environmental Department
310 John Tower Road
Pensacola, Florida, 32508

Prepared for:

Commanding Officer, Naval Air Station
Public Works Department, Building A-629
Naval Air Station Key West
Key West, Florida 33040

Mr. Jim Simmen, Code 1883JS
Environmental Protection Specialist

July 1998


LEGEND
Site Location
AIRCRAFT PARKING APRON
AIRCRAFT PARKING APRON
REVISION
KEY MAP
SOUTHERN DIVISION
NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA
GENERAL DEVELOPMENT MAP
EXISTING CONDITIONS
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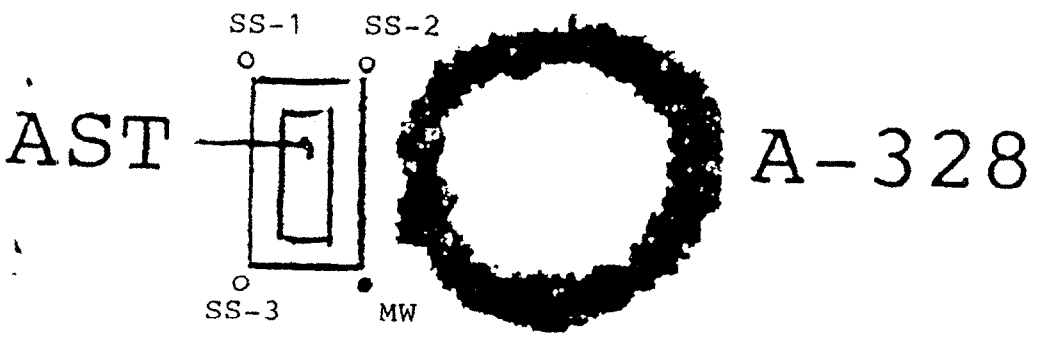
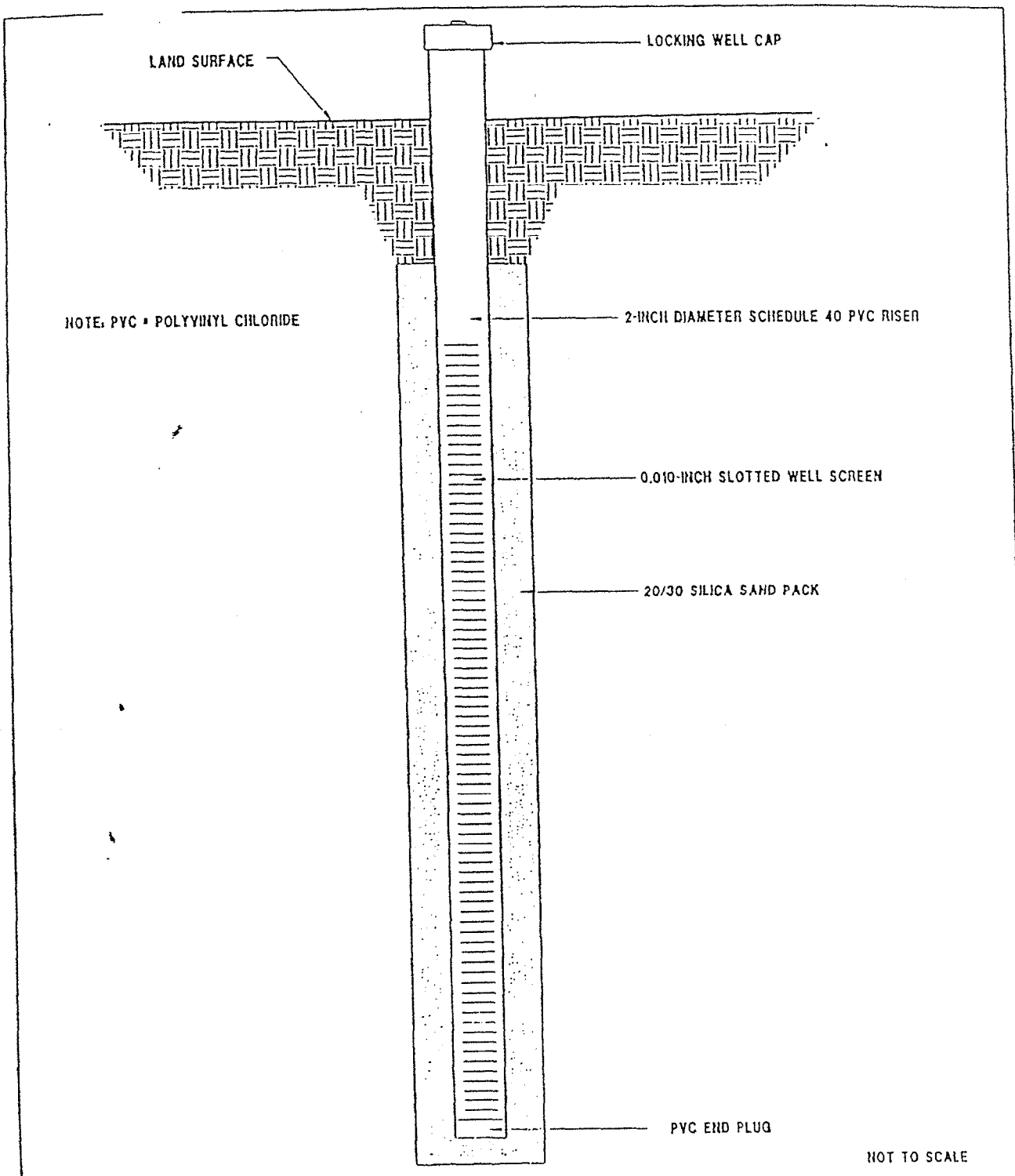

SS-1
SS-2
AST
A-328
SS-3
MW



TYPICAL TEMPORARY MONITORING WELL
INSTALLATION DETAIL

CLOSURE ASSESSMENT REPORT
ABOVEGROUND STORAGE TANK
BUILDING A-328

NAVAL AIR STATION
KEY WEST, FLORIDA

Unit Identification Code: N00213

Prepared by:

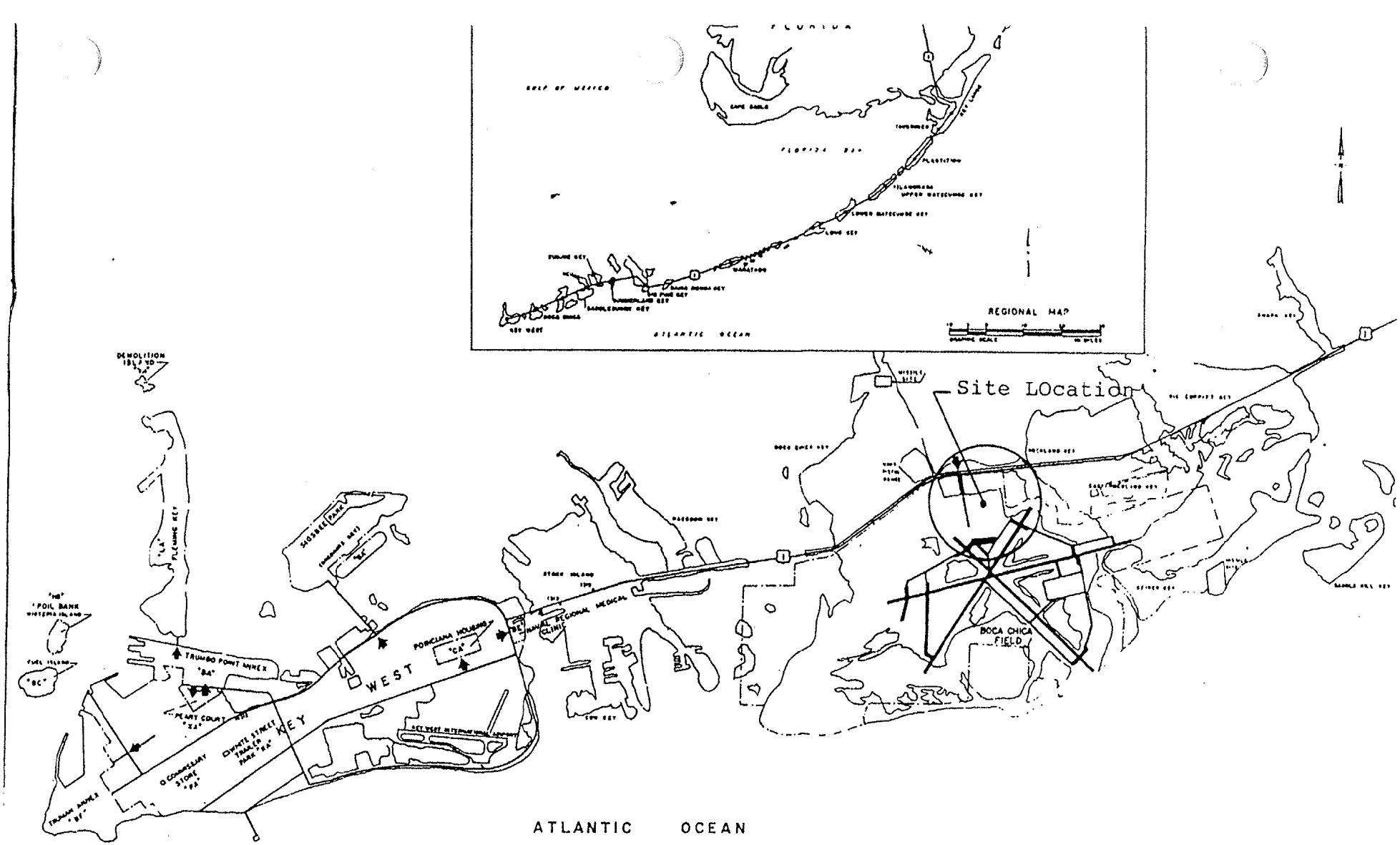
Navy Public Works Center
Environmental Department
310 John Tower Road
Pensacola, Florida, 32508

Prepared for:

Commanding Officer, Naval Air Station
Public Works Department, Building A-629
Naval Air Station Key West
Key West, Florida 33040

Mr Jim Simmen, Code 1883JS
Environmental Protection Specialist

July 1998



NOTES

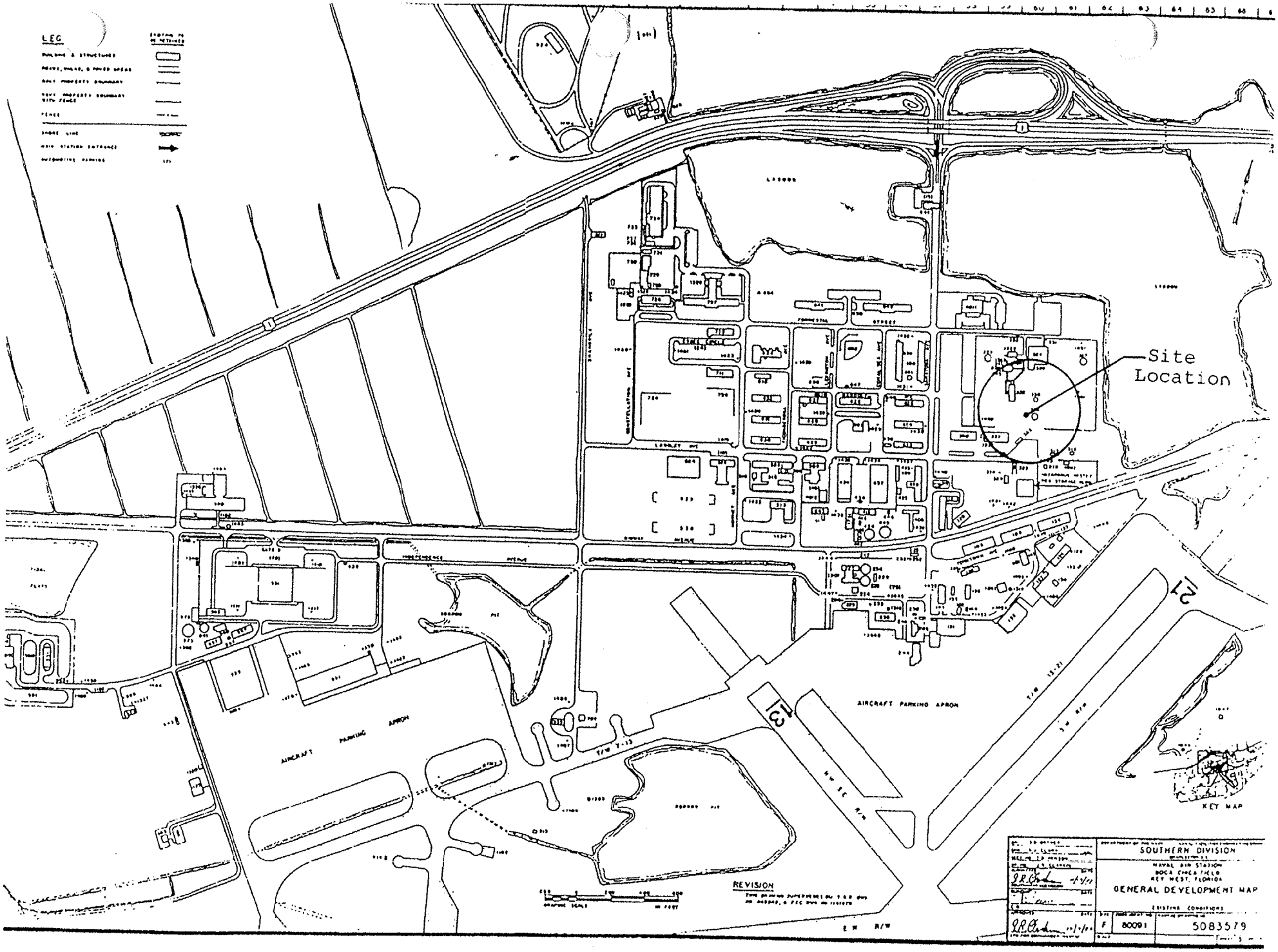
REVISION

SOUTHERN DIVISION

NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA

GENERAL DEVELOPMENT MAP
REGIONAL AND VICINITY
EXISTING CONDITIONS

F | 80091 | 5083575


Site Location
AIRCRAFT PARKING APRON
AIRCRAFT PARKING APRON
13
21
KEY MAP
REVISION
SOUTHERN DIVISION
NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA
GENERAL DEVELOPMENT MAP
EXISTING CONDITIONS
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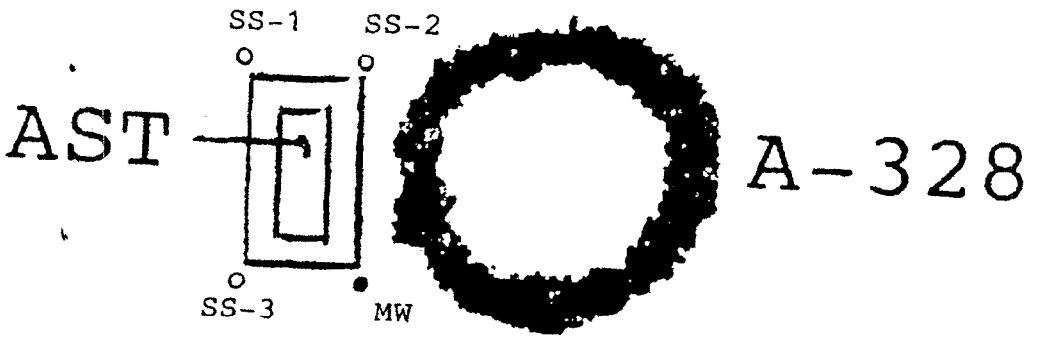
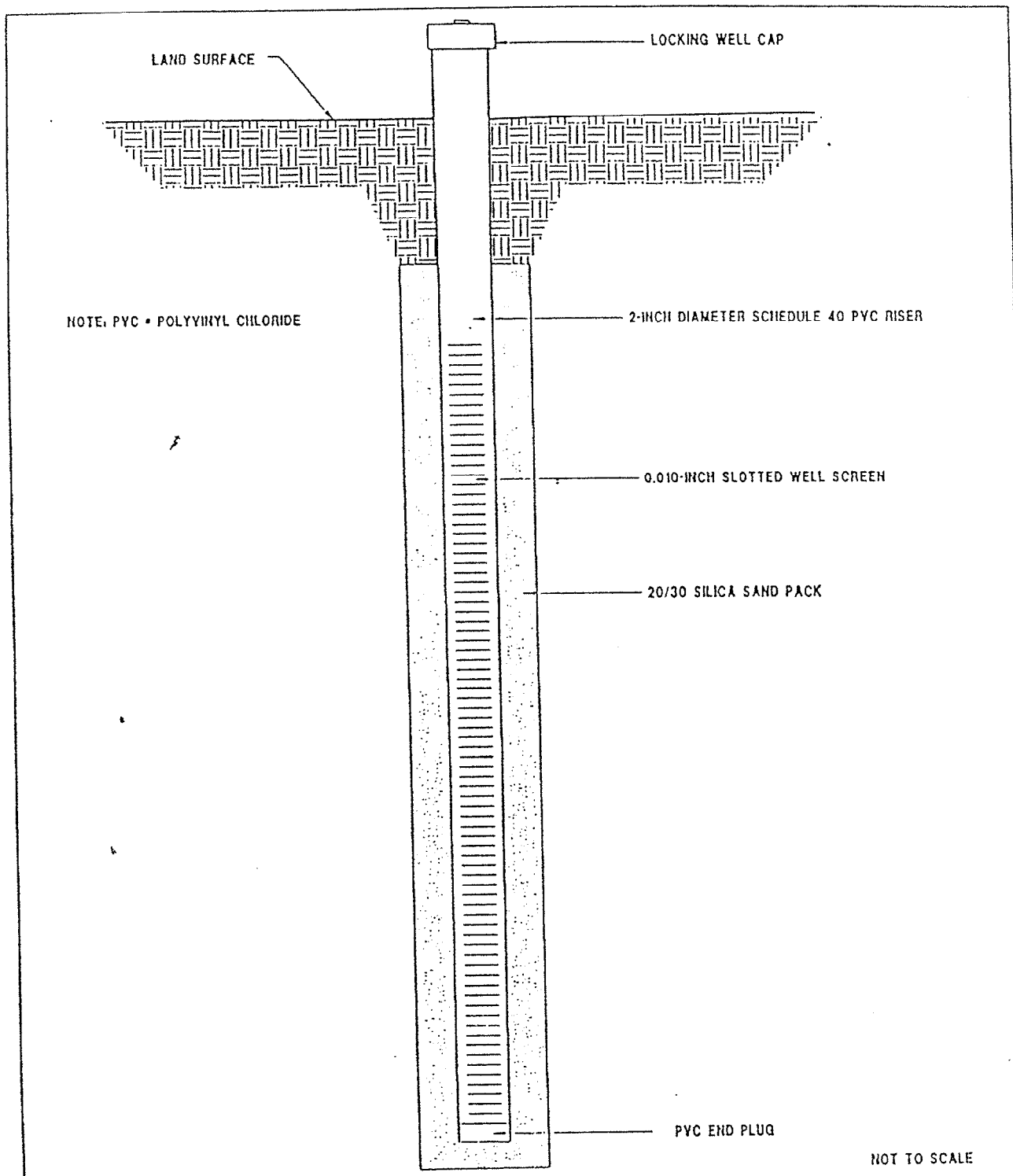
5083579


SS-1
SS-2
AST
A-328
SS-3
MW

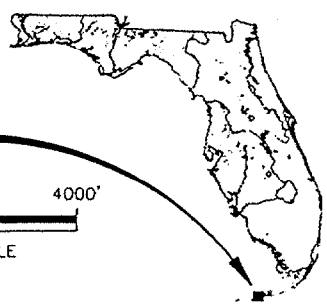


TYPICAL TEMPORARY MONITORING WELL
INSTALLATION DETAIL

A-419 Former Power Plant

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

SOURCE: USGS 7.5 MIN. TOPOGRAPHIC
QUADRANGLE: BOCA CHICA KEY
REVISION: 1971
COUNTY: MONROE
TOWNSHIP: 67S
RANGE: 26E
SECTION: 29



0 2000' 4000'

APPROXIMATE GRAPHIC SCALE

X: NAS-TP.JPG
P: STD-PC2\AP
4/3/00 TAN-54-JAR
880\88017\88017N01.DWG

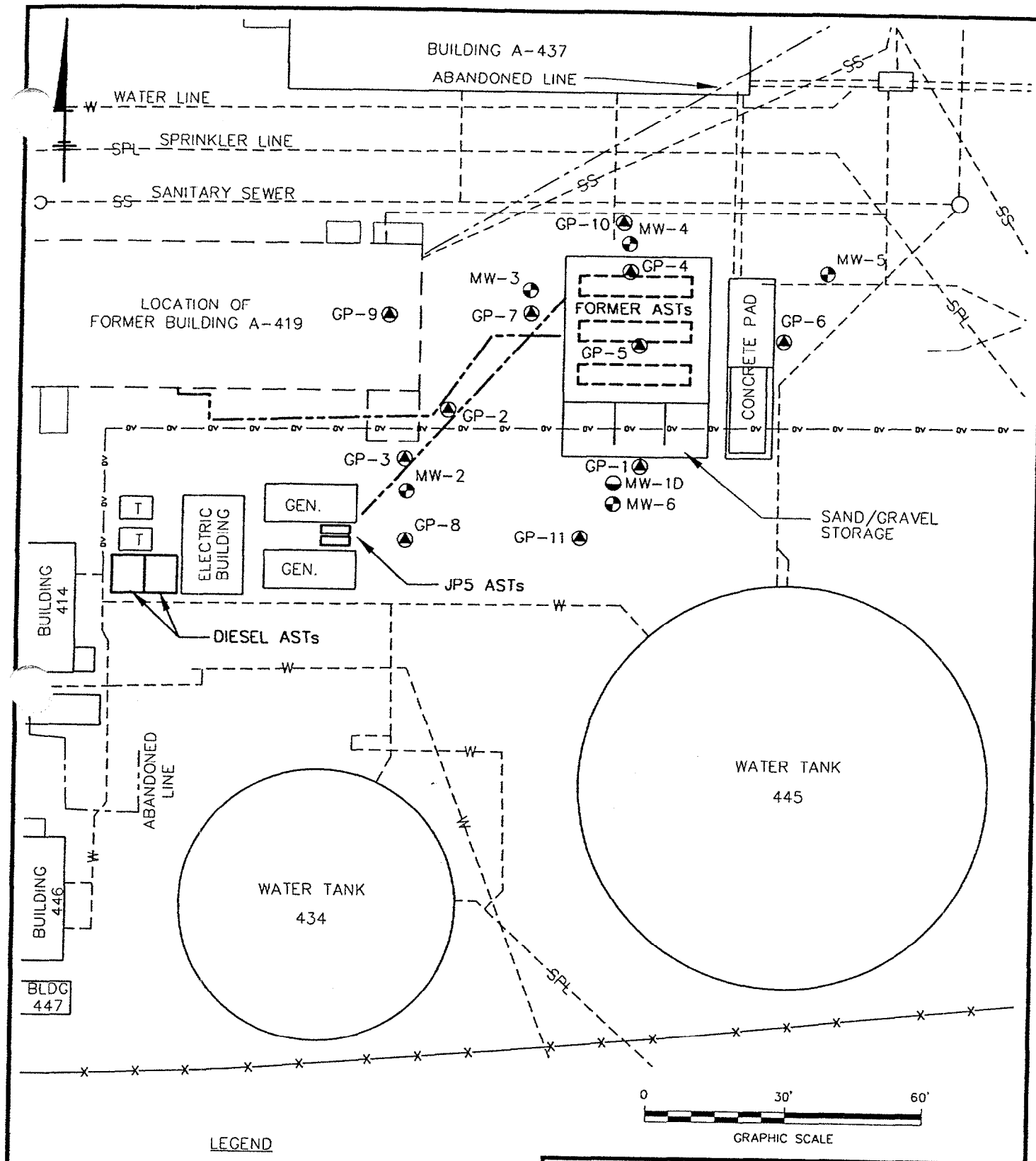
NAVAL AIR STATION KEY WEST
BOCA CHICA KEY, FLORIDA

FORMER AST BUILDING A-419

SITE LOCATION

BBL BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE
1-1



LEGEND

- FENCE
- OVERHEAD ELECTRIC
- PIPING (UNDERGROUND)
- ABANDONED FUEL LINE
- MW-1D DEEP MONITORING WELL
- MW-6 SHALLOW MONITORING WELL
- GP-2 GEOPROBE LOCATION

X: 88017X01.DWG
P: STD-PC2\AP
5/22/00 TAM-54-JAR
880\88017\88017B01.DWG

NAVAL AIR STATION KEY WEST
BOCA CHICA, FLORIDA

FORMER AST BUILDING A-419

SITE MAP

BBL BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE
1-2

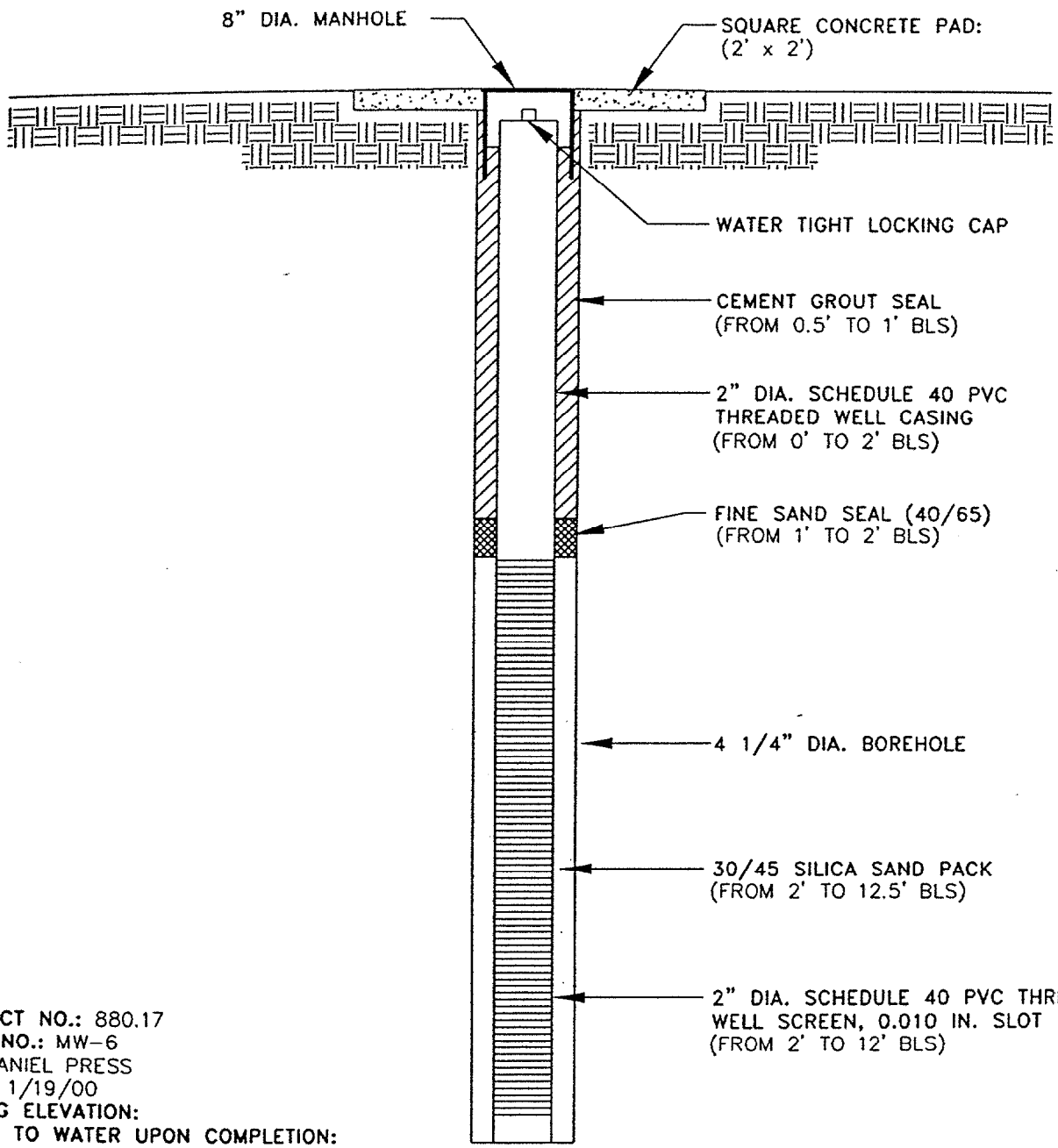
Table 2-1

Monitoring Well Completion Summary

Former ASTs at Building A-419
Boca Chica
NAS Key West, Florida

Well No.	Date Installed	Purpose	Total Well Depth (ft BLS)	Surface Casing Length (ft)	Well Casing Length (ft)	Screen Length (ft)	Screen Slot Size (in)	Sand Pack	Screen Interval (ft BLS)	Completion
MW-1D	1/18-1/19/00	Source/Vertical	25	18	20	5	0.010	30/45	20-25	Flush
MW-2	1/18/00	Source	12	NA	2	10	0.010	30/45	2-12	Flush
MW-3	1/18/00	Perimeter	12	NA	2	10	0.010	30/45	2-12	Flush
MW-4	1/19/00	Source/Perimeter	12	NA	2	10	0.010	30/45	2-12	Flush
MW-5	1/19/00	Perimeter	12	NA	2	10	0.010	30/45	2-12	Flush
MW-6	1/19/00	Source/Perimeter	12	NA	2	10	0.010	30/45	2-12	Flush

Notes:
ft = feet
ft BLS = feet below land surface
in = inches
All monitoring wells are 2 inches in diameter and constructed of Schedule 40 PVC
Source: Blasland, Bouck & Lee, Inc. (BBL), 2000
50601130.WB2



PROJECT NO.: 880.17
WELL NO.: MW-6
BY: DANIEL PRESS
DATE: 1/19/00
CASING ELEVATION:
DEPTH TO WATER UPON COMPLETION:
UNIT MONITORED:

DRILLER: PRECISION DRILLING
DRILLING METHOD: HOLLOW STEM AUGER
TOTAL DEPTH: 12 FEET
SAMPLE TYPE:
SAMPLE INTERVAL:

(DRAWING NOT TO SCALE)

NAVAL AIR STARION KEY WEST
BOCA CHICA, FLORIDA

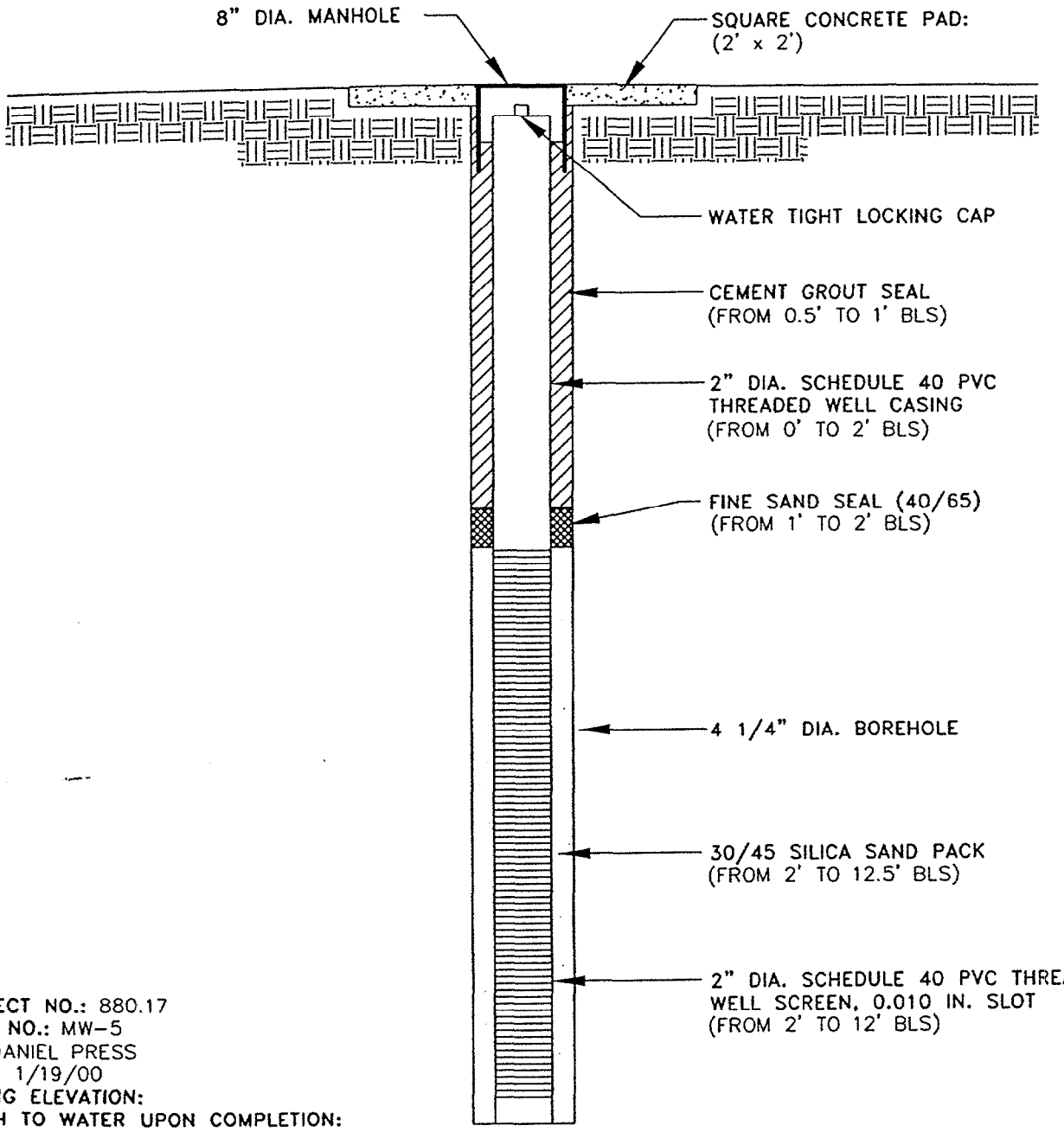
FORMER AST BUILDING A-419

SHALLOW MONITORING WELL CONSTRUCTION DETAIL

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

APPENDIX D

P: STD-PC2/AP
4/10/00 TAM-54-JAR
880\88017\88017N07.DWG



PROJECT NO.: 880.17
WELL NO.: MW-5
BY: DANIEL PRESS
DATE: 1/19/00
CASING ELEVATION:
DEPTH TO WATER UPON COMPLETION:
UNIT MONITORED:

DRILLER: PRECISION DRILLING
DRILLING METHOD: HOLLOW STEM AUGER
TOTAL DEPTH: 12 FEET
SAMPLE TYPE:
SAMPLE INTERVAL:

(DRAWING NOT TO SCALE)

NAVAL AIR STARION KEY WEST
BOCA CHICA, FLORIDA
FORMER AST BUILDING A-419

SHALLOW MONITORING WELL CONSTRUCTION DETAIL

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

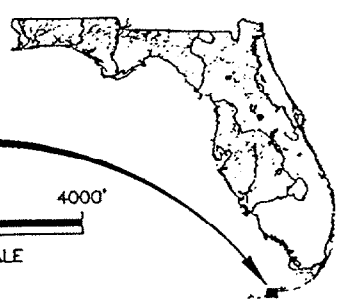
APPENDIX D

P: STD-PC2/AP
4/10/00 TAM-54-JAR
880\88017\88017N06.DWG

A-422 Admin. Bldg. (Bldg. A-418)

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

SOURCE: USGS 7.5 MIN. TOPOGRAPHIC
QUADRANGLE: BOCA CHICA KEY
REVISION: 1971
COUNTY: MONROE
TOWNSHIP: 67S
RANGE: 26E
SECTION: 29



0 2000' 4000'

APPROXIMATE GRAPHIC SCALE

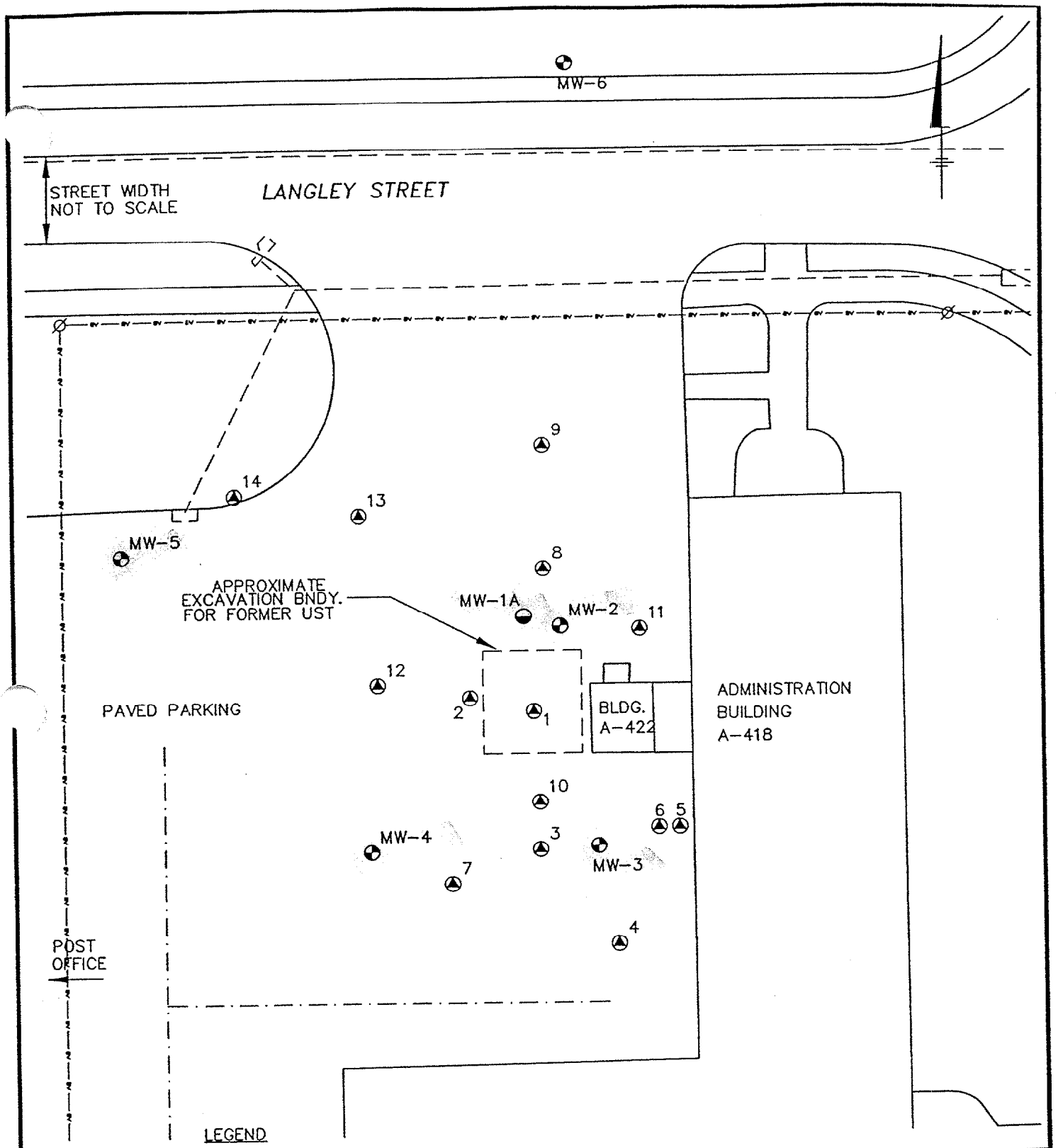
X: NAS-TP.JPG
P: STD-PC2\AP
10/18/99 TAM-54-JAR
660\65015\65015N01.DWG

US NAVAL AIR STATION
BOCA CHICA, KEY WEST, FLORIDA
FORMER UST BUILDING A-422

SITE LOCATION

BBL BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE
1-1



US NAVAL AIR STATION
BOCA CHICA, KEY WEST, FLORIDA

FORMER UST BUILDING A-422

SITE MAP

BBL BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE
1-2

P: STD-PC2\AP
10/18/99 TAM-54-JAR
880\88015\88015B02.DWG

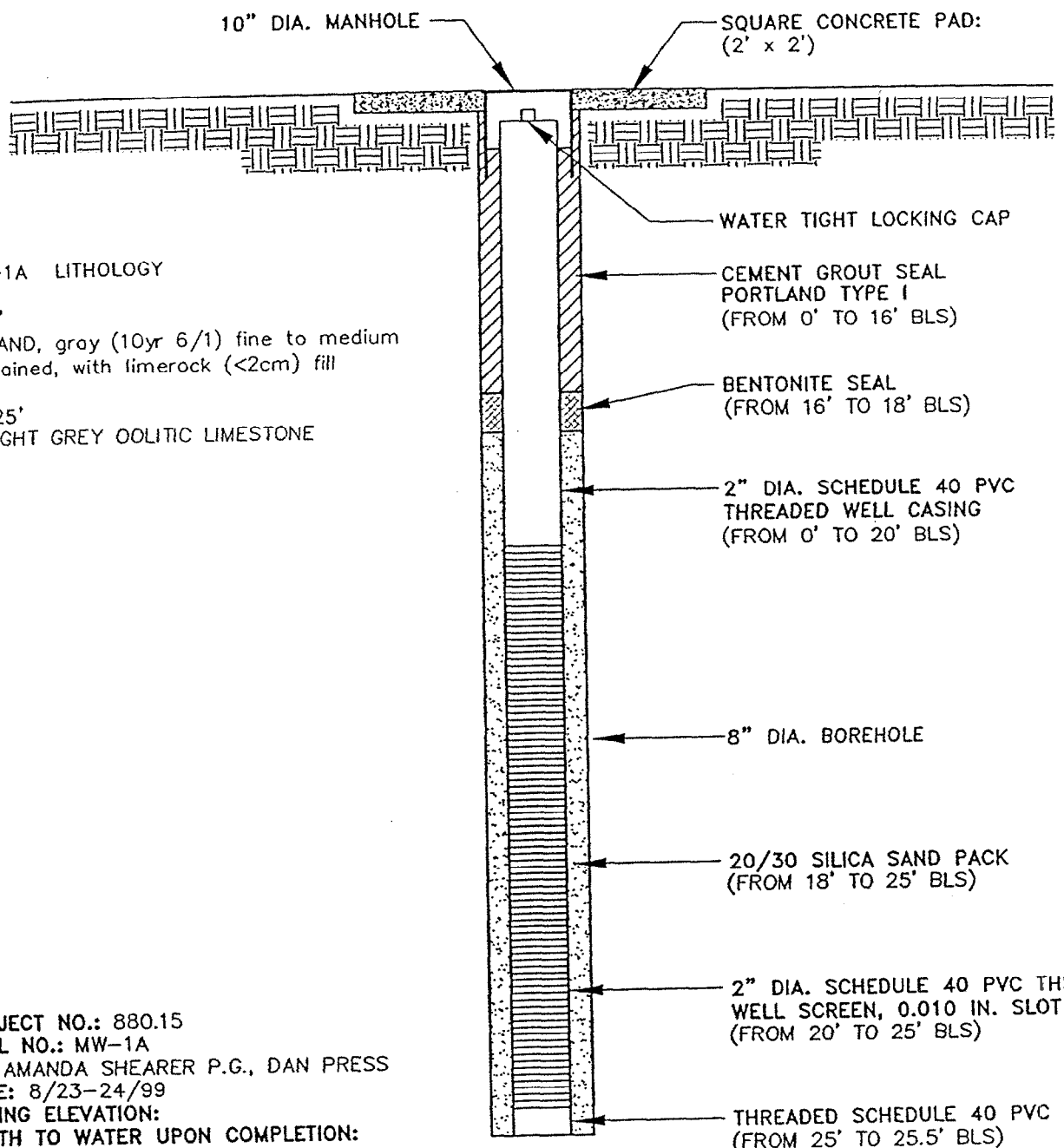
Table 2-5

Monitoring Well Completion Summary

Former UST at Building A-422
Boca Chica
NAS Key West, Florida

Well	Date Installed	Purpose	Total Well Depth (ft BLS)	Surface Casing Length (ft)	Well Casing Length (ft)	Screen Length (ft)	Screen Slot Size (in)	Sand Pack	Screen Interval (ft BLS)	Completion
MW-1A	8/23-8/24/99	Source/ Vertical	25	15	20	5	0.010	20/30	20-25	flush
MW-2	8/23-8/24/99	Source	12	NA	2	10	0.010	20/30	2-12	flush
MW-3	8/23-8/24/99	Perimeter	12	NA	2	10	0.010	20/30	2-12	flush
MW-4	8/23-8/24/99	Upgradient	12	NA	2	10	0.010	20/30	2-12	flush
MW-5	8/23-8/24/99	Perimeter	12	NA	2	10	0.010	20/30	2-12	flush
MW-6	8/23-8/24/99	Downgradient	12	NA	2	10	0.010	20/30	2-12	flush

Notes:
All monitoring wells are 2 inches in diameter and constructed of Schedule 40 PVC.
BLS = below land surface, In = inches, Ft = feet
--- = information not available.
Source: Blasland, Bouck, & Lee, Inc., 1999



MW-1A LITHOLOGY

0-3'
SAND, gray (10yr 6/1) fine to medium grained, with limerock (<2cm) fill

3'-25'
LIGHT GREY OOLITIC LIMESTONE

(DRAWING NOT TO SCALE)

PROJECT NO.: 880.15
WELL NO.: MW-1A
BY: AMANDA SHEARER P.G., DAN PRESS
DATE: 8/23-24/99
CASING ELEVATION:
DEPTH TO WATER UPON COMPLETION:
UNIT MONITORED:

DRILLER: PRECISION DRILLING
DRILLING METHOD: MUD ROTARY
TOTAL DEPTH: 25 FEET
SAMPLE TYPE:
SAMPLE INTERVAL:

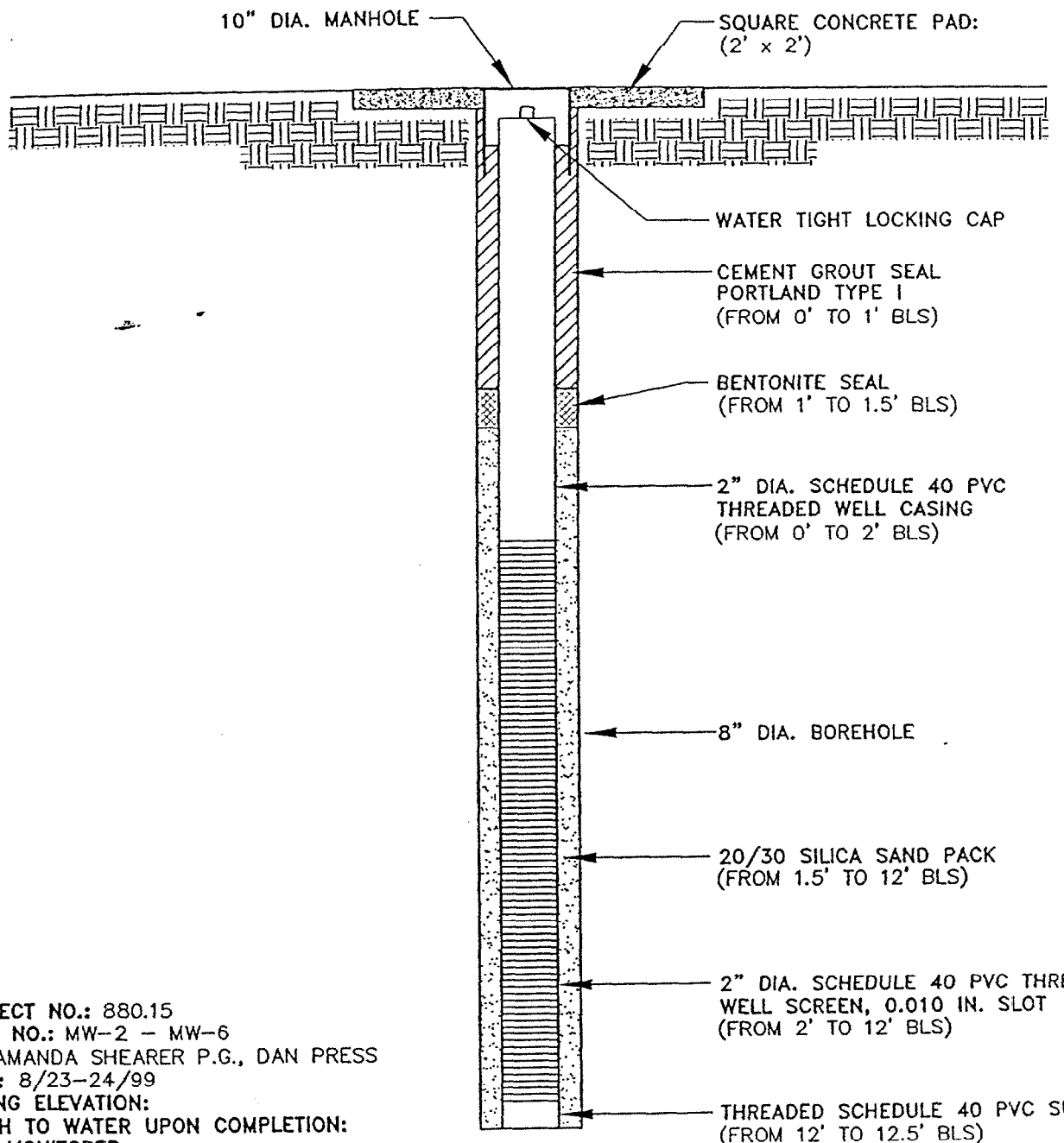
US NAVAL AIR STATION
BOCA CHICA, KEY WEST, FLORIDA
FORMER UST BUILDING A-422

DEEP MONITORING WELL CONSTRUCTION DETAIL

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

APPENDIX D

P: STD-PC2\AP
11/03/99 TAM-54-JAR
880\88015\88015N02.DWG



(DRAWING NOT TO SCALE)

PROJECT NO.: 880.15
WELL NO.: MW-2 – MW-6
BY: AMANDA SHEARER P.G., DAN PRESS
DATE: 8/23-24/99
CASING ELEVATION:
DEPTH TO WATER UPON COMPLETION:
UNIT MONITORED:

DRILLER: PRECISION DRILLING
DRILLING METHOD: HOLLOW STEM AUGER
TOTAL DEPTH: 12 FEET
SAMPLE TYPE:
SAMPLE INTERVAL:

US NAVAL AIR STATION
BOCA CHICA, KEY WEST, FLORIDA
FORMER UST BUILDING A-422

SHALLOW MONITORING WELL CONSTRUCTION DETAIL

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

APPENDIX D

P: STD-PC2\AP
11/03/99 TAM-54-JAR
880\88015\88015C03.DWG

A-526 Galley

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

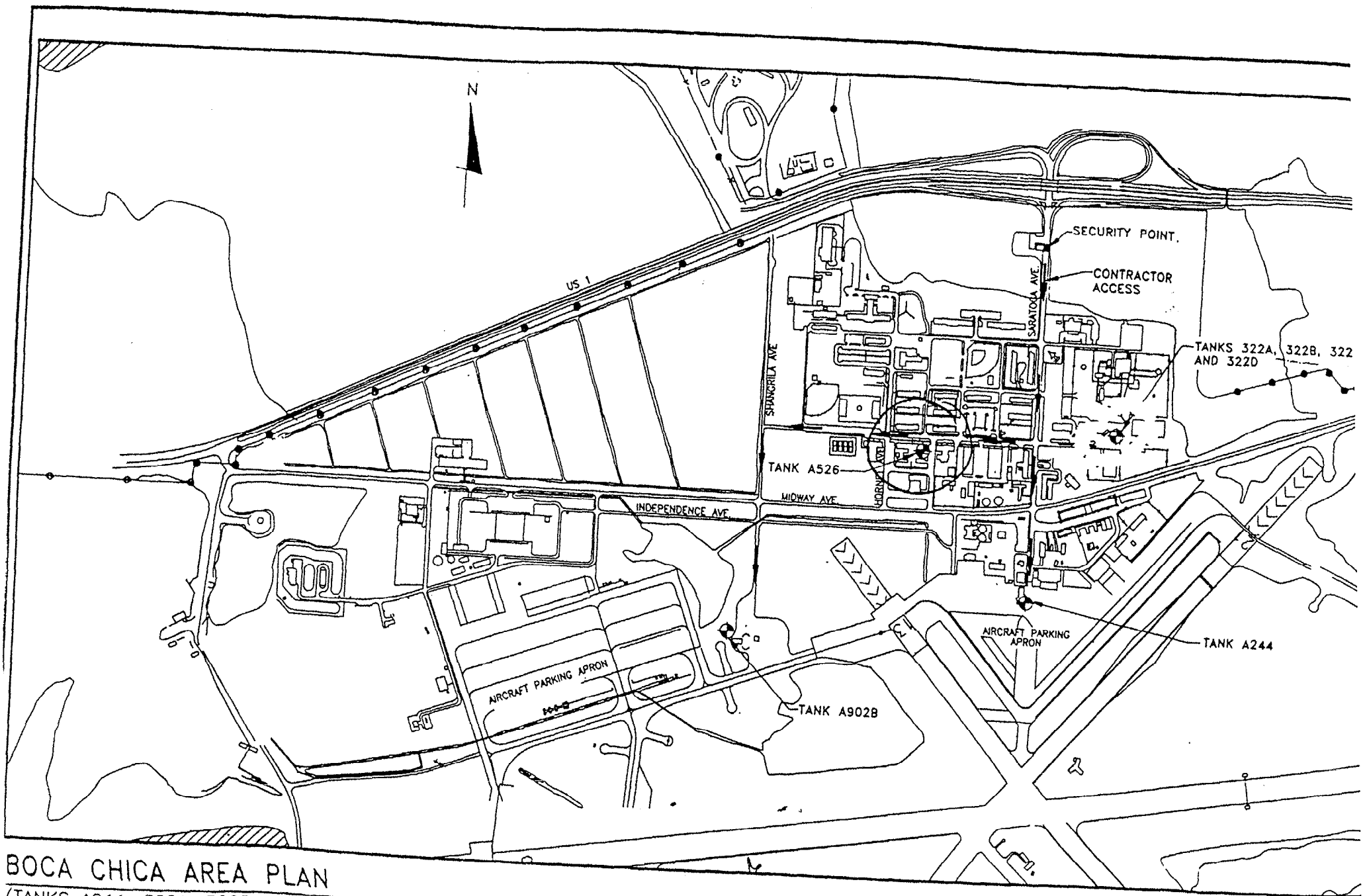
OMEGA ENVIRONMENTAL SERVICES, INC.

No wells

UST CLOSURE REPORT
TANK A526
NAVAL AIR STATION, KEY WEST, FLORIDA
CONTRACT NUMBER N62467-93-C-0645

OMEGA ENVIRONMENTAL SERVICES, INC.

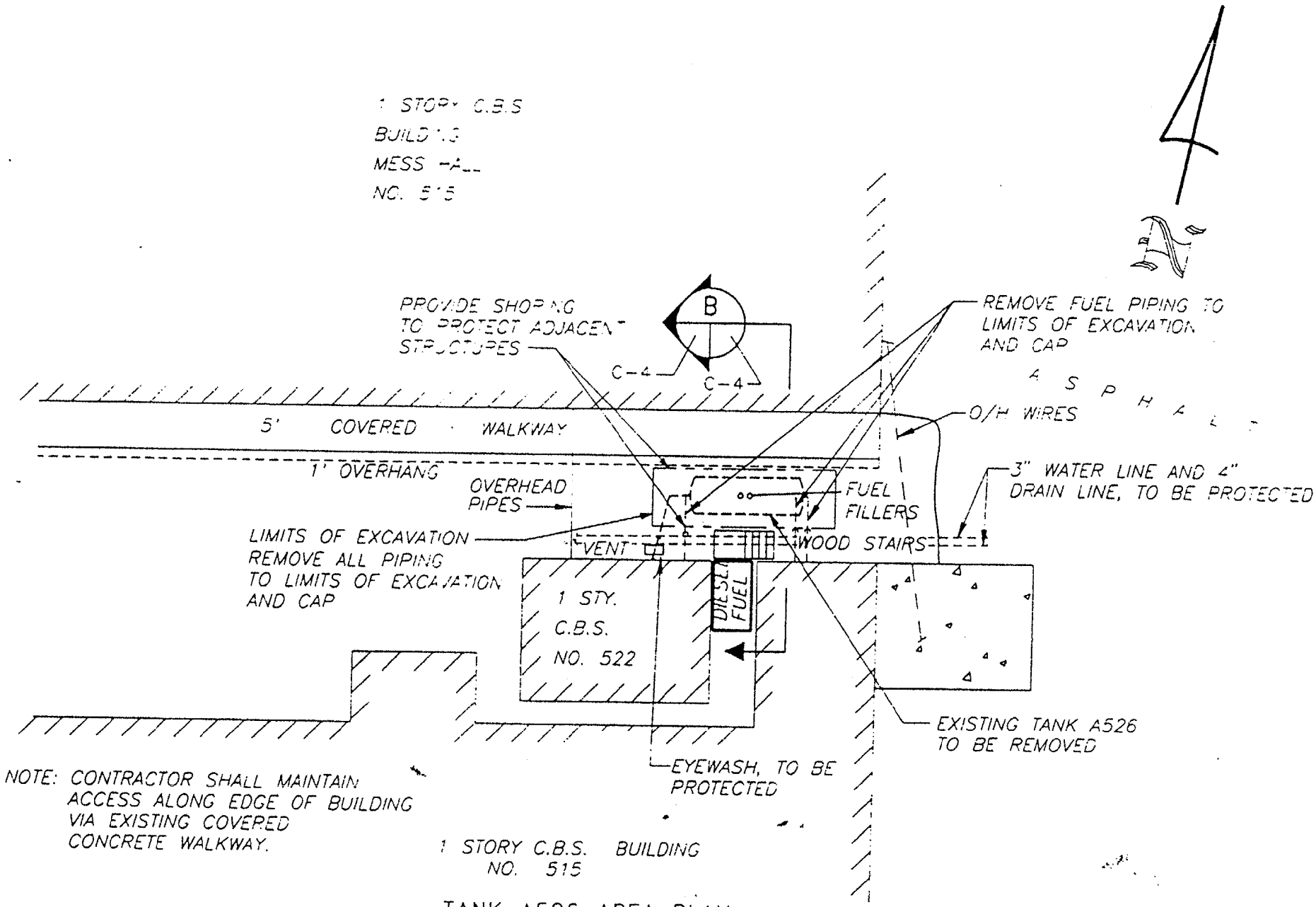
Prepared By
Omega Environmental Services, Inc.
4661 Hammermill Rd., Ste. B
Tucker, Georgia 30084



BOCA CHICA AREA PLAN

(TANKS A244, 322A, 322B, 322C, 322D, A526, AND A902B)

SCALE: 1" = 50



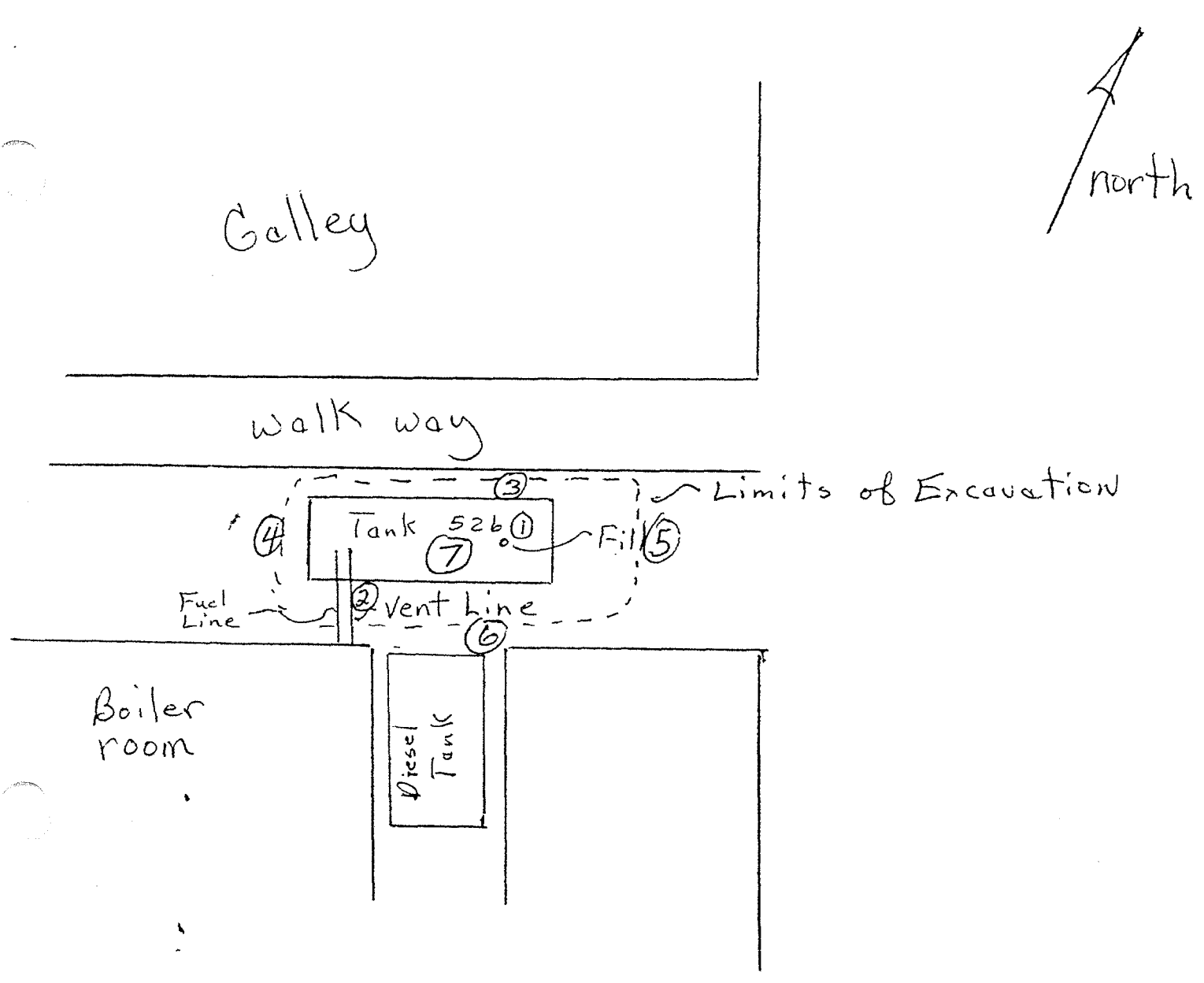
TANK A526 AREA PLAN

SCALE: 1" = 10'

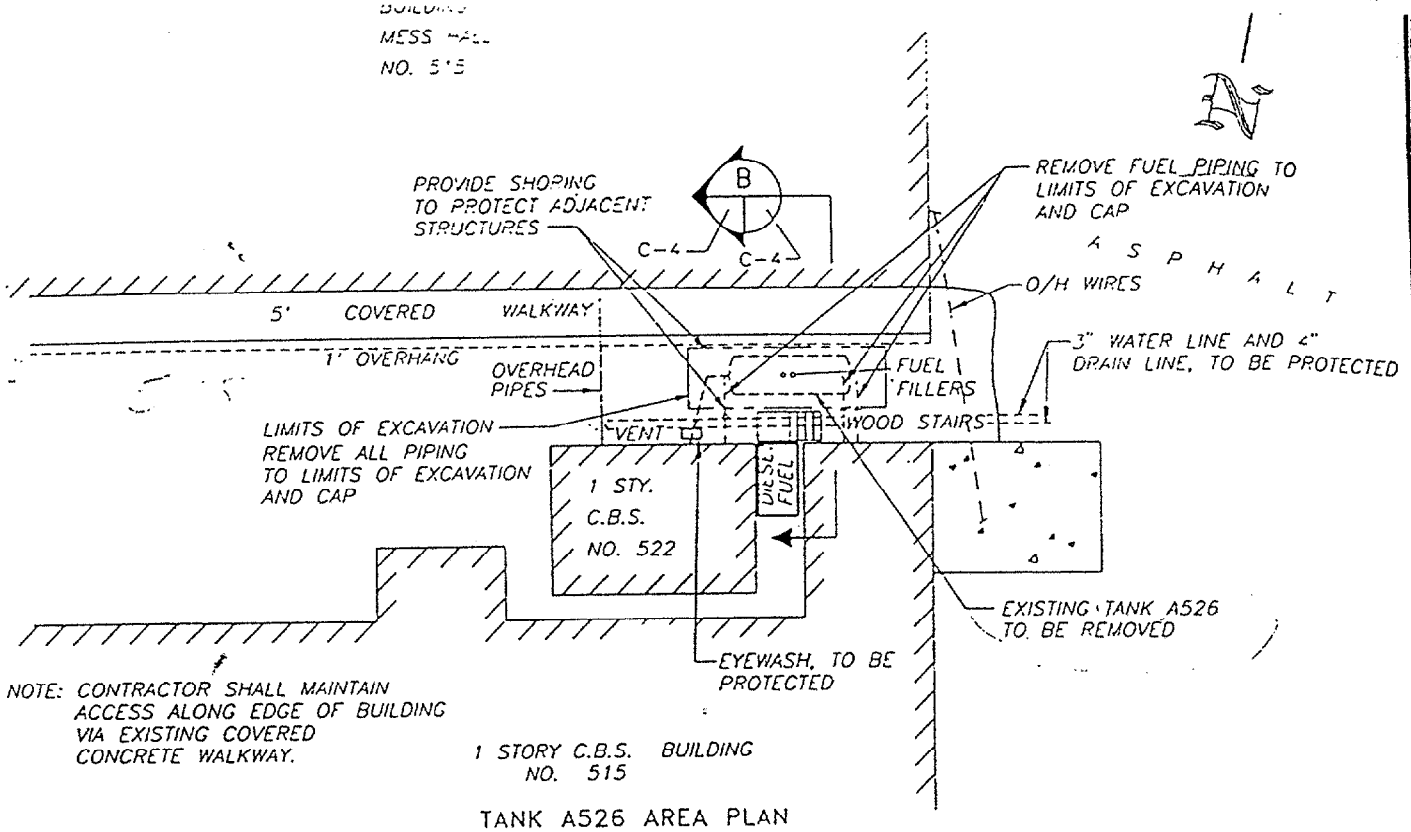
GREINER, INC.

PREP BY DATE APPRVD

REV. DESCRIPTION

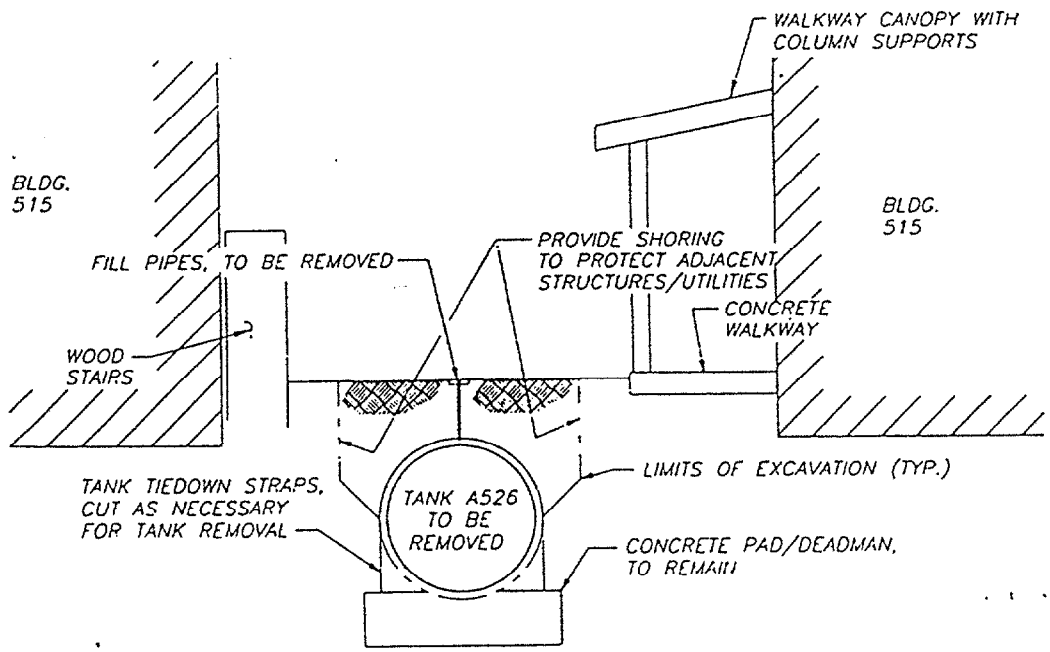


Sample	Depth BGS
1	1 ft
2	3 ft
3	4 ft
4	4 ft
5	6 ft
6	4 ft
7	10 ft



TANK A526 AREA PLAN

SCALE: 1" = 10'-0"



SECTION B

SCALE: 1" = 3'-0"

C-4 C-4

GRAPHIC SCALE

3' 0 3'

1" = 3'-0"

10' 0 10'

1" = 10'-0"

REDUCED DRAWING

PREP BY DATE APPRVD DEV DESCRIPTION

A-630

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

CLOSURE ASSESSMENT
ABOVEGROUND STORAGE TANK
BUILDING A-630

Bldg / wells gone

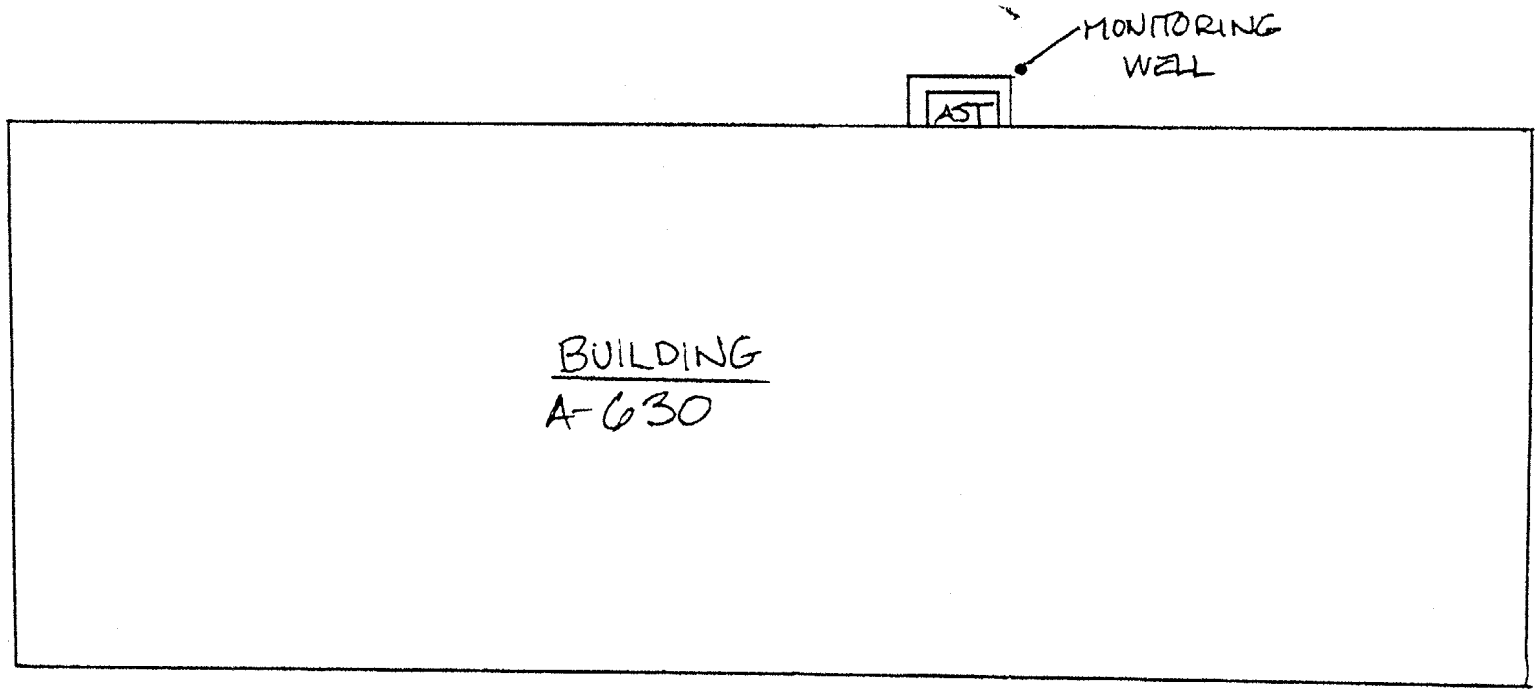
NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA

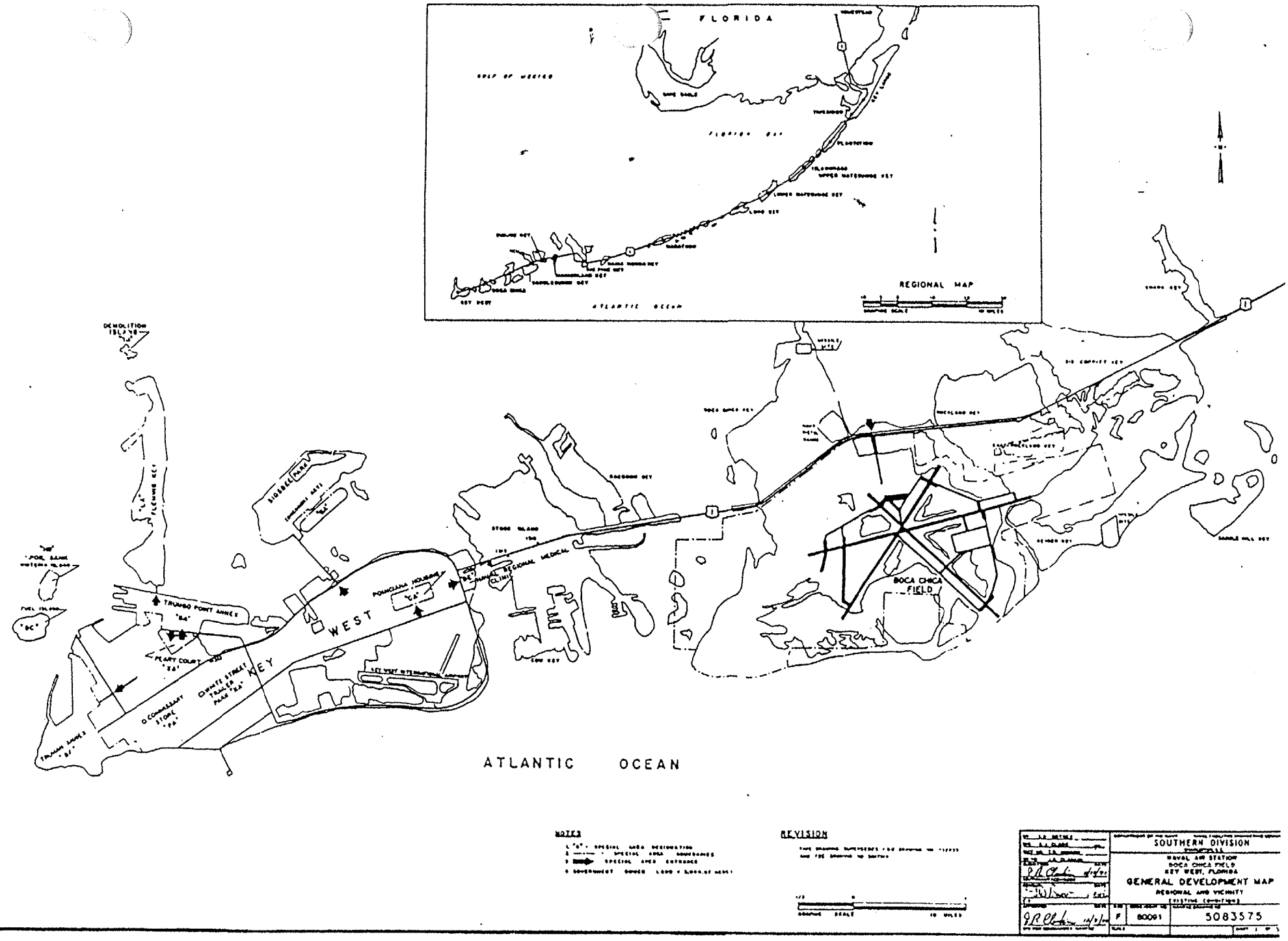
Unit Identification Code: N00213

Prepared by:

Navy Public Works Center
Environmental Department
310 John Tower Road
Pensacola, Florida 32508

July 1997


MONITORING
WELL
AST
BUILDING
A-630



NOTES

1. "S" - SPECIAL AREA DESIGNATION
2. ——— - SPECIAL AREA BOUNDARIES
3. ⟹ SPECIAL AREA ENTRANCE
4. GOVERNMENT OWNED LAND & BODIES OF WATER

REVISION

SOUTHERN DIVISION

NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA

GENERAL DEVELOPMENT MAP
REGIONAL AND VICINITY
(EXISTING CONDITIONS)

F 80091

5083575

CLOSURE ASSESSMENT
ABOVEGROUND STORAGE TANK
BUILDING A-630

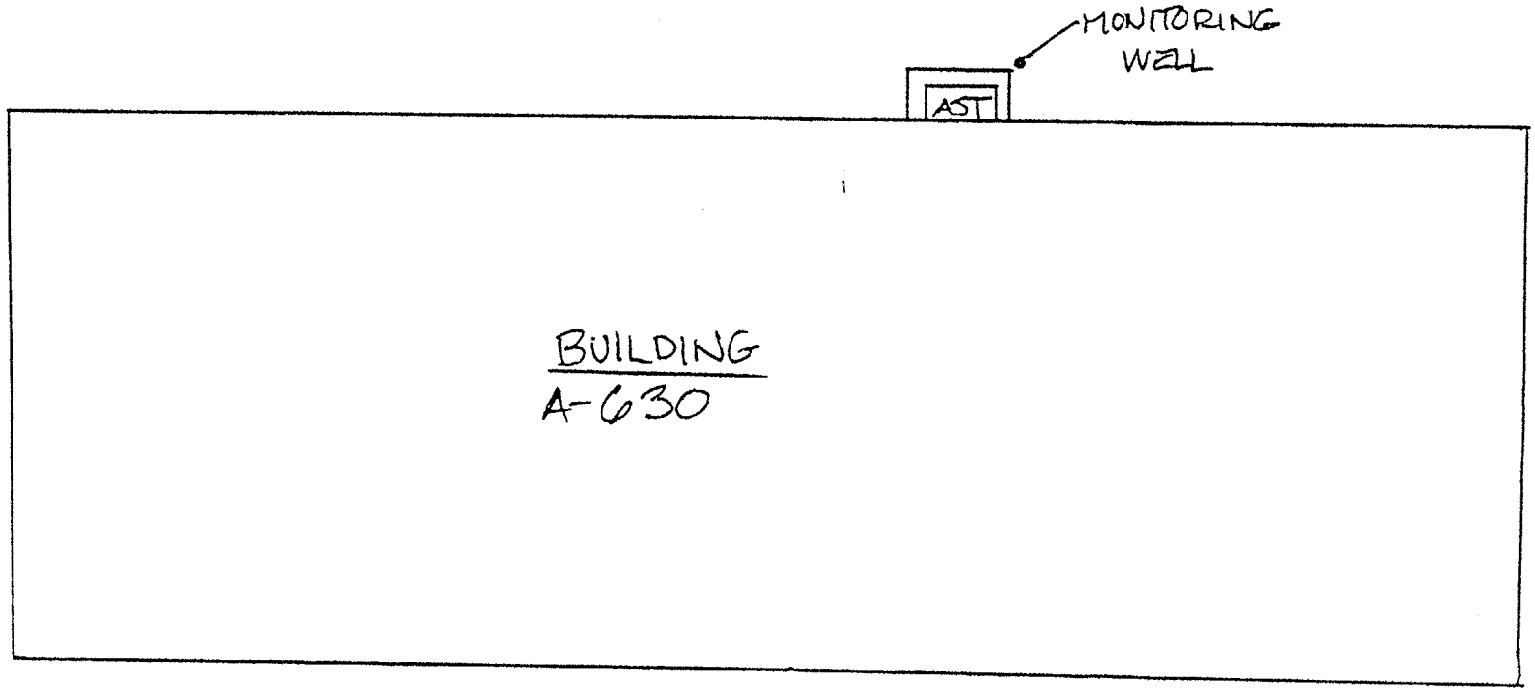
NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA

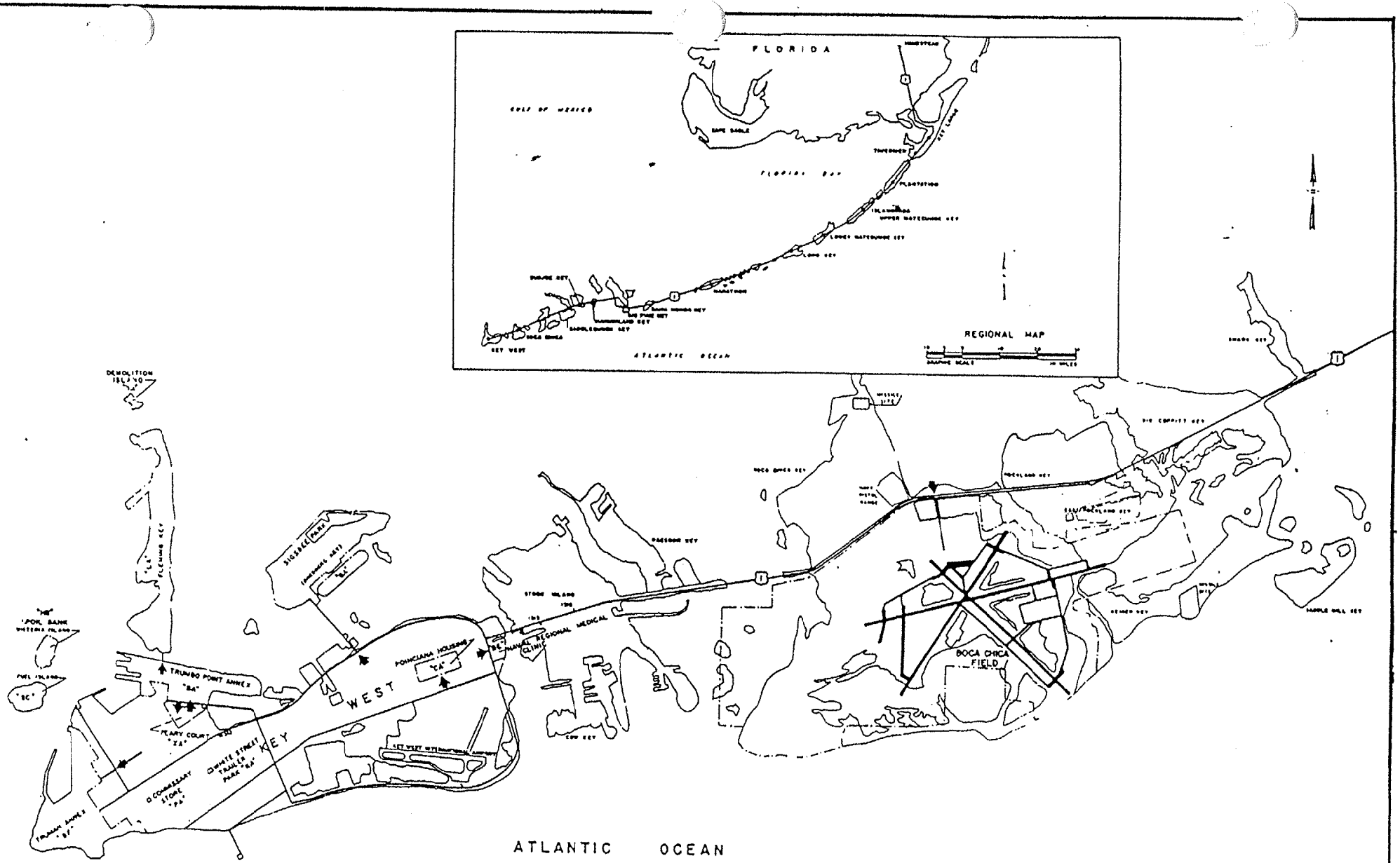
Unit Identification Code: N00213

Prepared by:

Navy Public Works Center
Environmental Department
310 John Tower Road
Pensacola, Florida 32508

July 1997


MONITORING
WELL
AST
BUILDING
A-630



NOTES

1. "A" - SPECIAL AREA DESIGNATION
2. - SPECIAL AREA BOUNDARIES
3. SPECIAL AREA ENTRANCE
4. GOVERNMENT OWNED LAND - SLOPE OF ACRES

REVISION

THIS DRAWING SUPERSEDES AND DRAWING NO. 1[illegible] AND FOR DRAWING NO. [illegible]

GRAPHIC SCALE IN MILES

SOUTHERN DIVISION

NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA

GENERAL DEVELOPMENT MAP

REGIONAL AND VICINITY
EXISTING CONDITIONS

F	80091	5083575

A-631

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

CLOSURE ASSESSMENT
ABOVEGROUND STORAGE TANK
BUILDING A-631

Bldg / wells

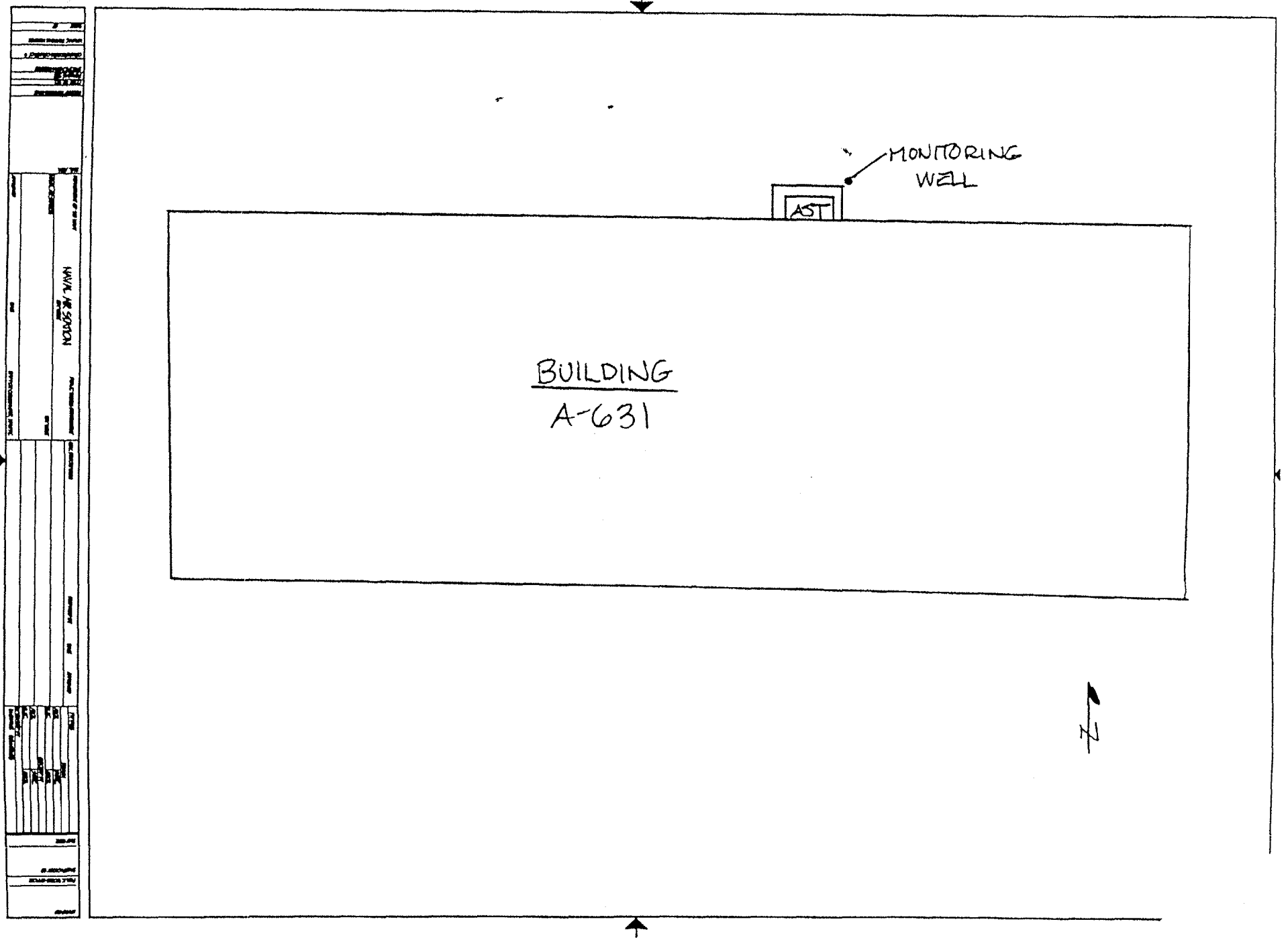
NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA

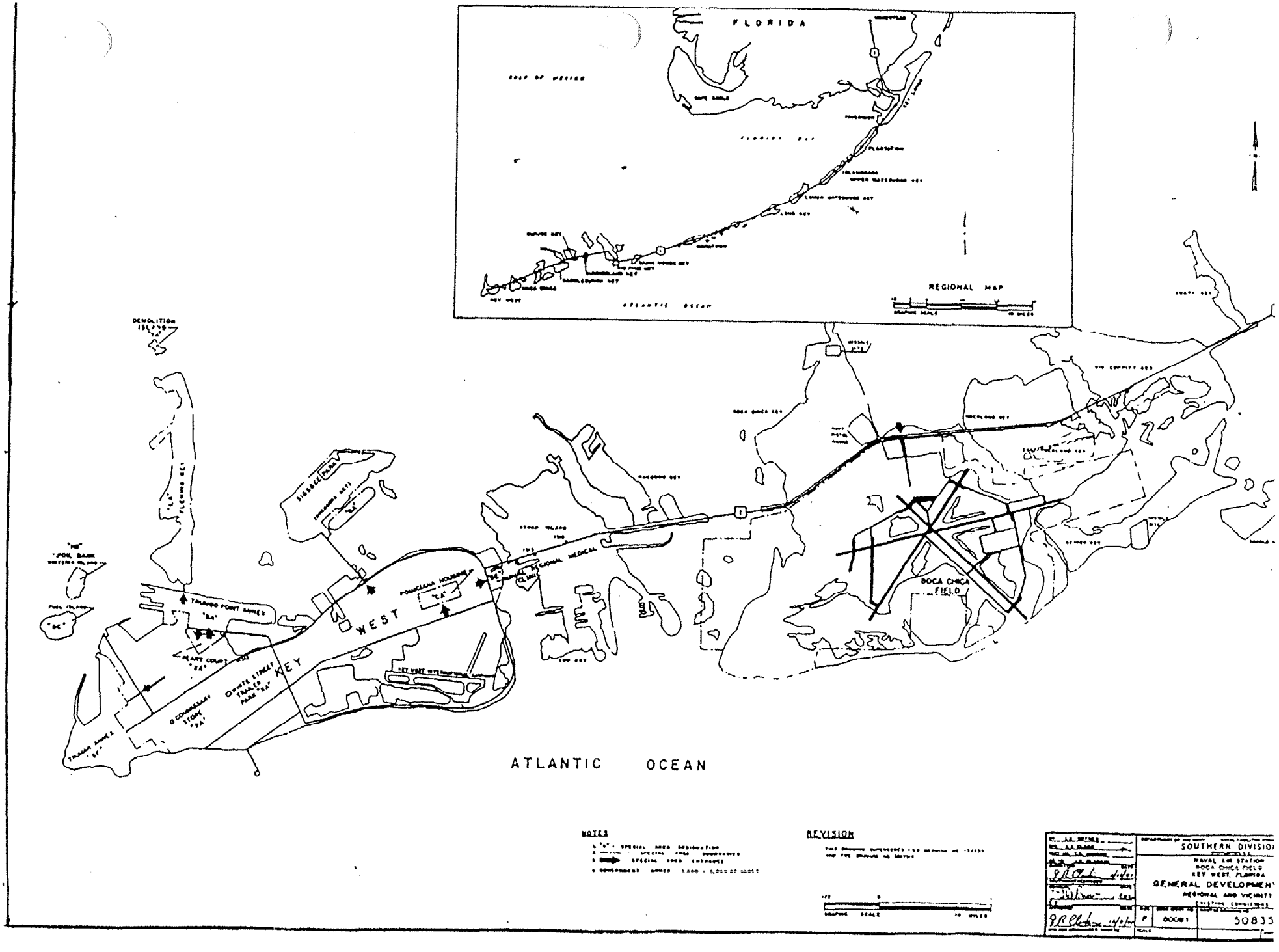
Unit Identification Code: N65928

Prepared by:

Navy Public Works Center
Environmental Department
310 John Tower Road
Pensacola, Florida, 32508

July 1997


MONITORING WELL
AST
BUILDING
A-631
N


FLORIDA
REGIONAL MAP
DEMOLITION ISLAND
FLEMING KEY
SIGSBEE PARK
TRUMBO POINT ANNEX
PEARY COURT
COMMISSARY STORE
WHITE STREET TRAILER PARK
KEY WEST
POINCIANA HOUSING
NAVAL REGIONAL MEDICAL CLINIC
BOCA CHICA FIELD
ATLANTIC OCEAN
NOTES
REVISION
SOUTHERN DIVISION
NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA
GENERAL DEVELOPMENT
REGIONAL AND VICINITY
50835

CLOSURE ASSESSMENT
ABOVEGROUND STORAGE TANK
BUILDING A-631

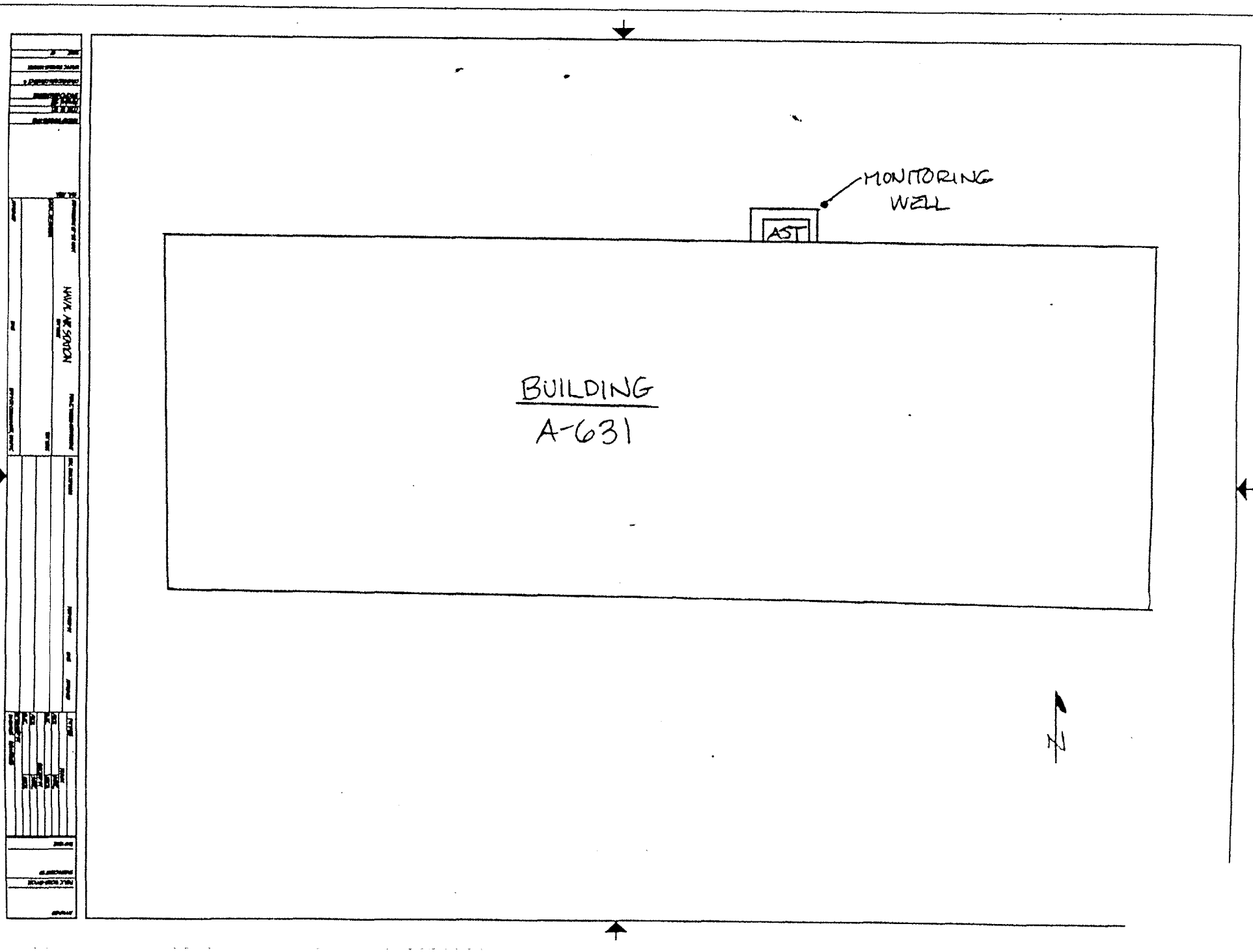
NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA

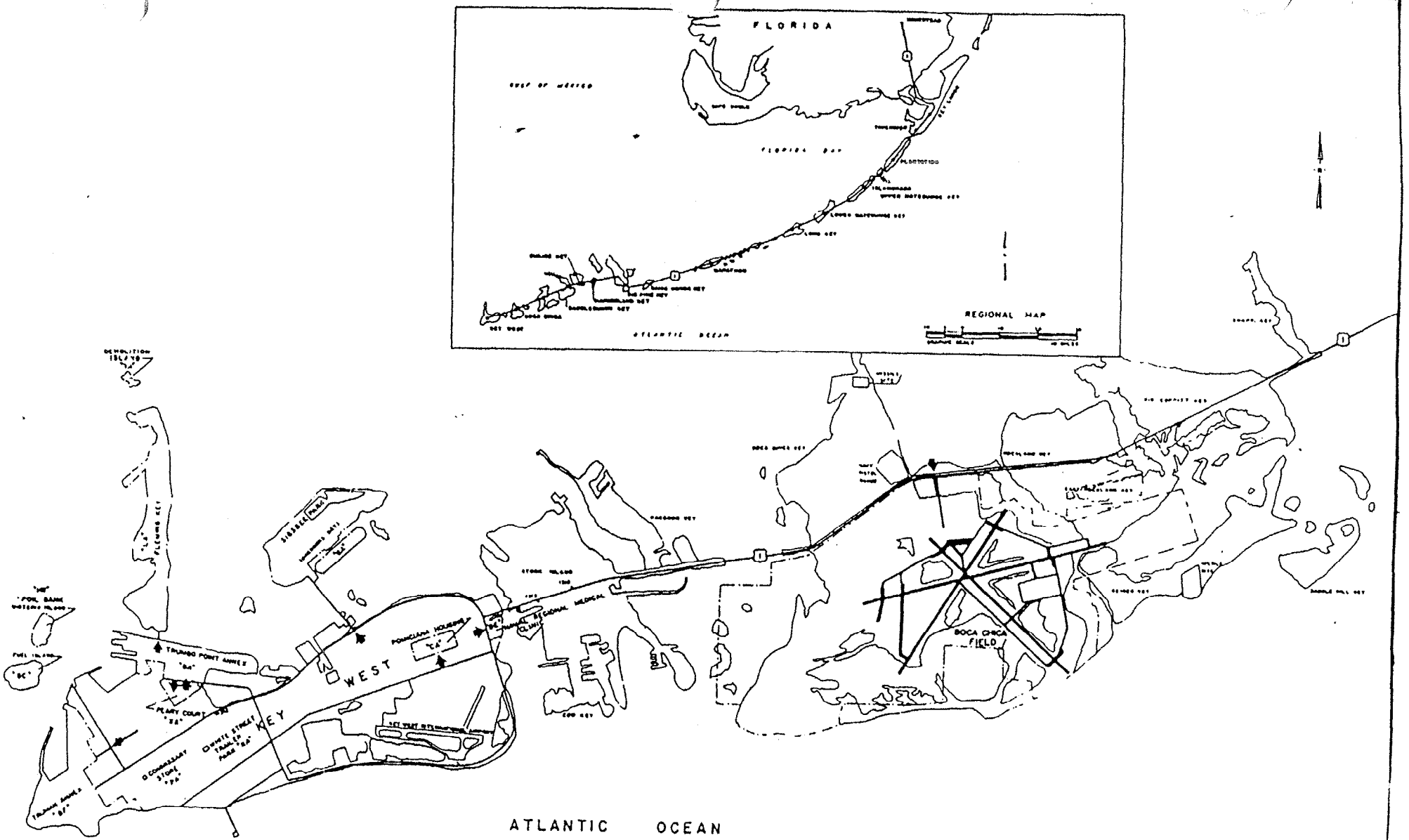
Unit Identification Code: N65928

Prepared by:

Navy Public Works Center
Environmental Department
310 John Tower Road
Pensacola, Florida, 32508

July 1997


MONITORING WELL
AST
BUILDING
A-631



NOTES

REVISION

SOUTHERN DIVISION

NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA

GENERAL DEVELOPMENT MAP

REGIONAL AND VICINITY

	80091	5083575

A-632

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

CLOSURE ASSESSMENT
ABOVEGROUND STORAGE TANK
BUILDING A-632

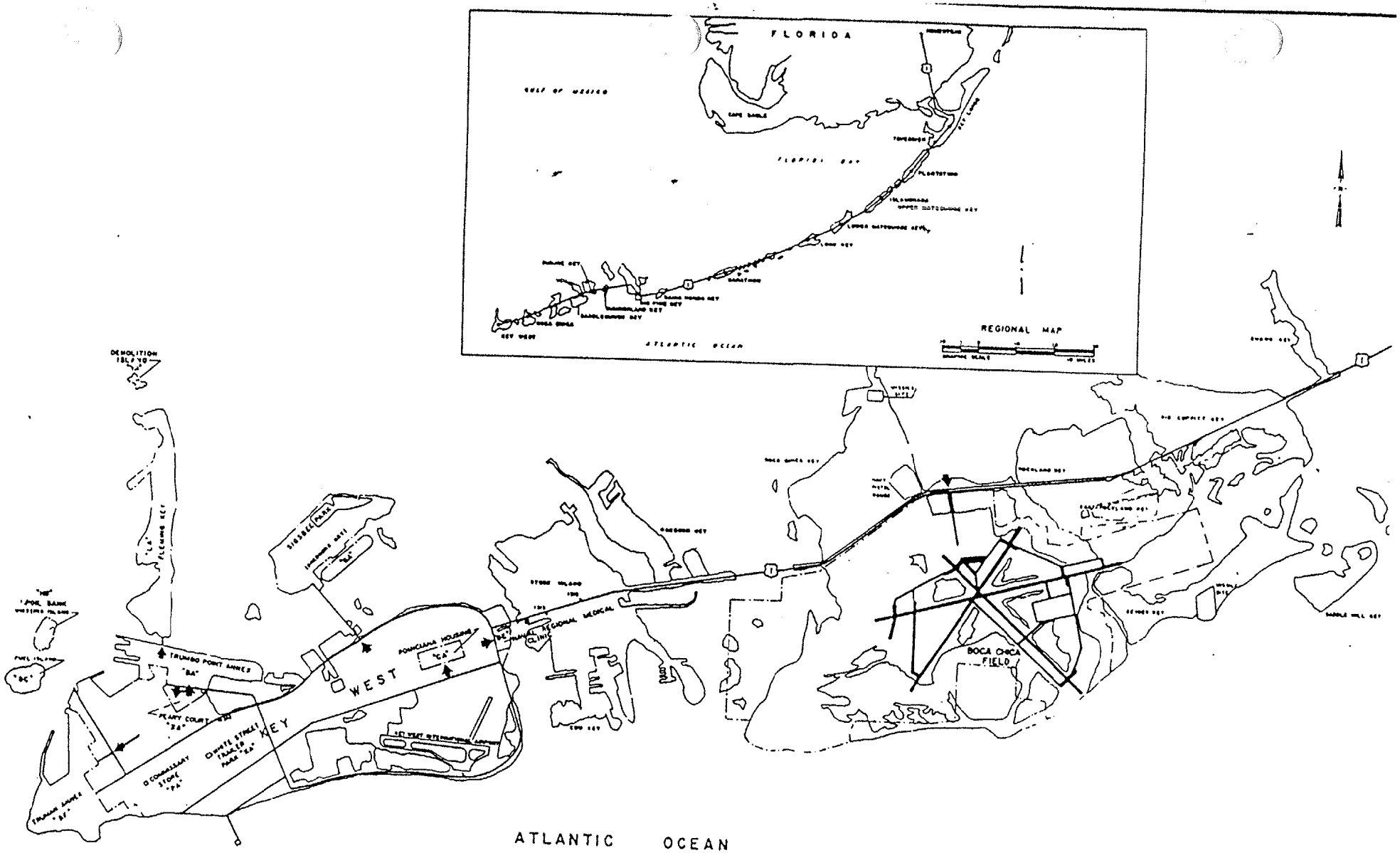
NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA

Unit Identification Code: N00213

Prepared by:

Navy Public Works Center
Environmental Department
310 John Tower Road
Pensacola, Florida, 32508

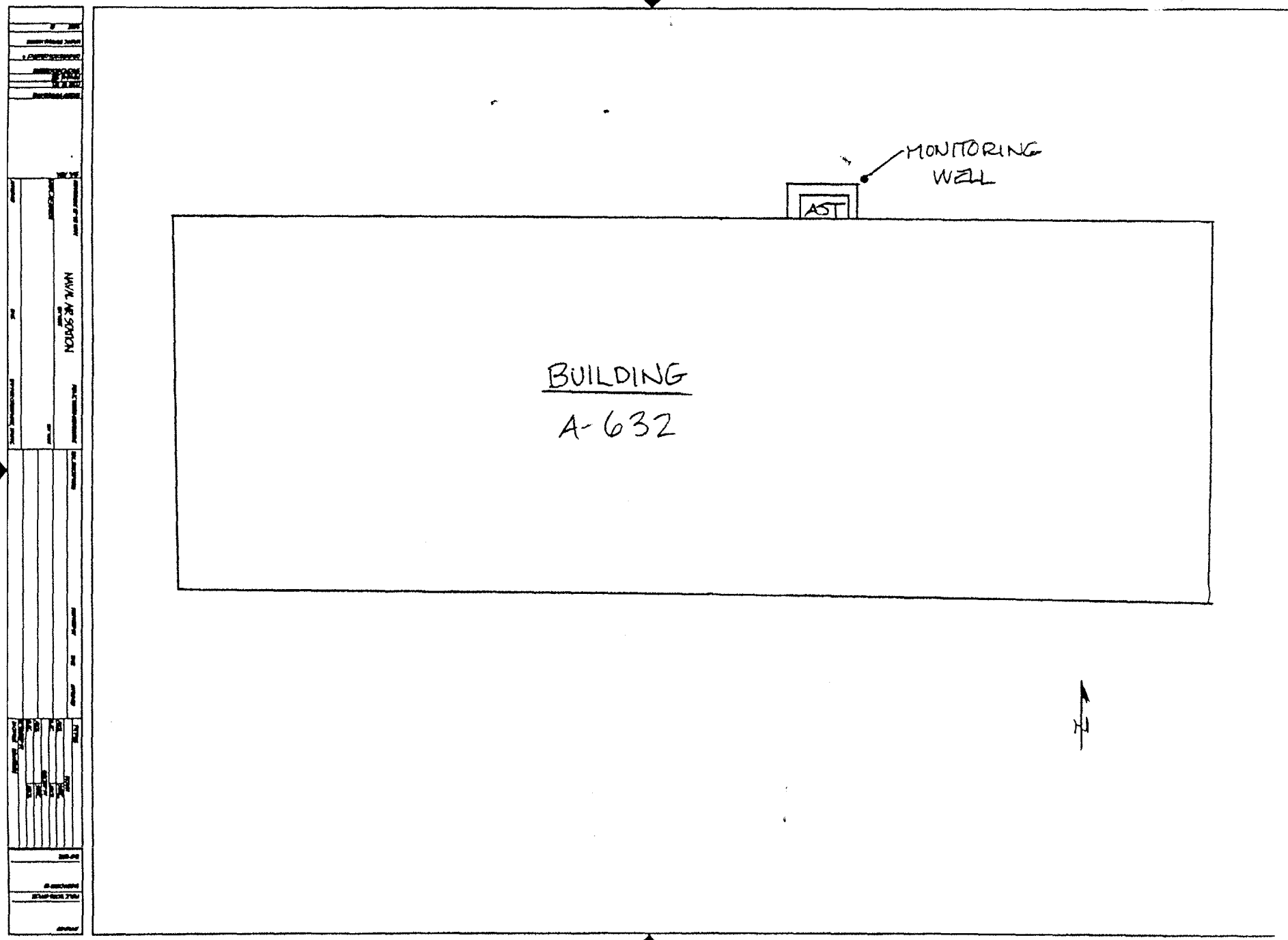
July 1997



NOTES

REVISION

SOUTHERN DIVISION			
NAVAL AIR STATION BOCA CHICA FIELD KEY WEST, FLORIDA			
GENERAL DEVELOPMENT MAP REGIONAL AND VICINITY EXISTING CONDITIONS			
	F	80091	5083575


MONITORING
WELL
AST
BUILDING
A-632
N

CLOSURE ASSESSMENT
ABOVEGROUND STORAGE TANK
BUILDING A-632

NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA

Unit Identification Code: N00213

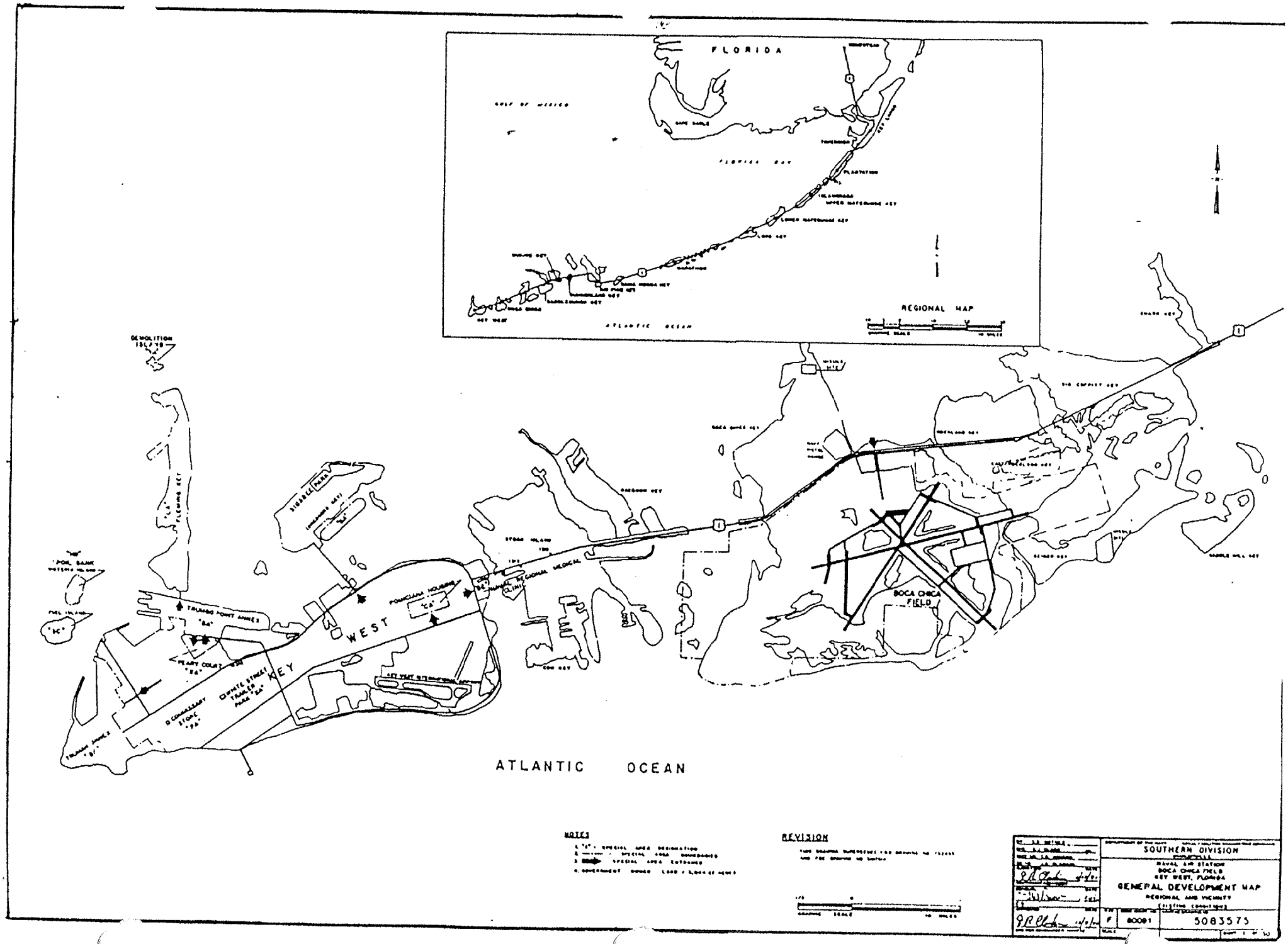
Prepared by:

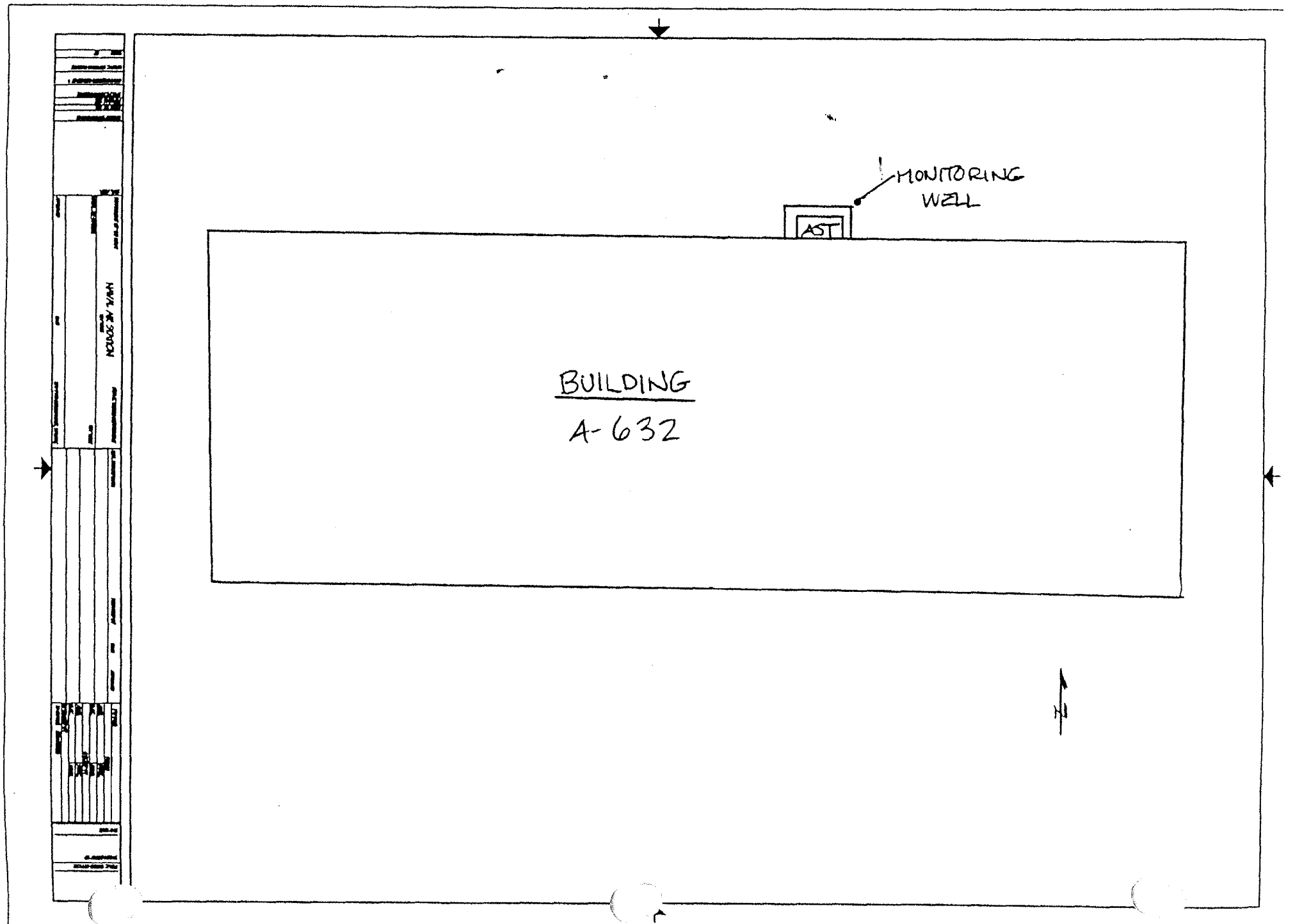
Navy Public Works Center
Environmental Department
310 John Tower Road
Pensacola, Florida, 32508

Not updated

Return to Jim

July 1997


FLORIDA
REGIONAL MAP
DEMOLITION ISLAND
FLEMING KEY
POIL BANK
TRUMBO POINT ANNEX
PEARY COURT
KEY WEST
POINCIANA HOUSING
NAVAL REGIONAL MEDICAL CLINIC
BOCA CHICA FIELD
ATLANTIC OCEAN
NOTES
REVISION
SOUTHERN DIVISION
NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA
GENERAL DEVELOPMENT MAP
REGIONAL AND VICINITY
80091
5083575


MONITORING
WELL
AST
BUILDING
A-632
N

A-994 Hurricane Shelter

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

CLOSURE ASSESSMENT REPORT
ABOVEGROUND STORAGE TANK
BUILDING A-994

NAVAL AIR STATION
KEY WEST, FLORIDA

Unit Identification Code: N00213

Prepared by:

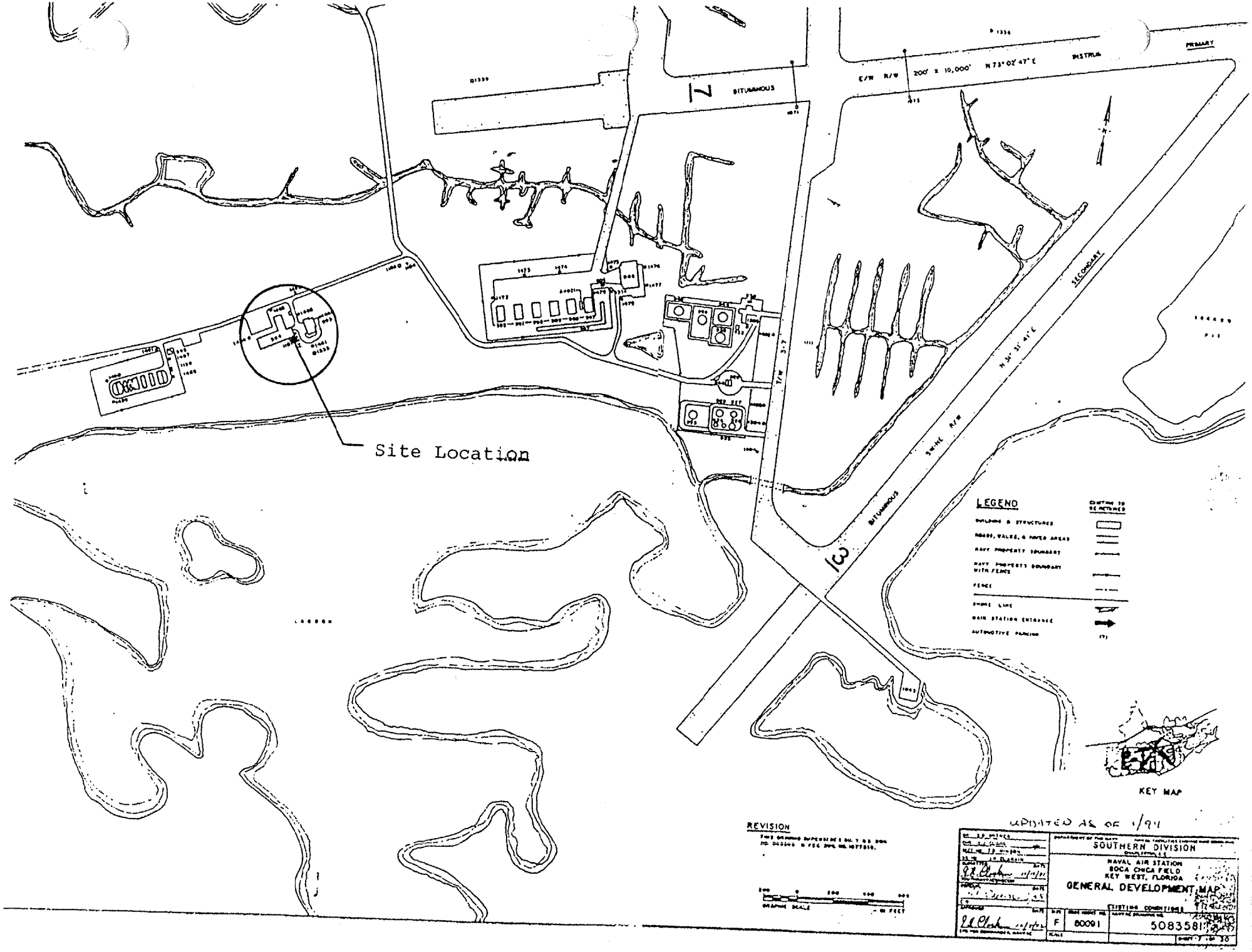
Navy Public Works Center
Environmental Department
310 John Tower Road
Pensacola, Florida, 32508

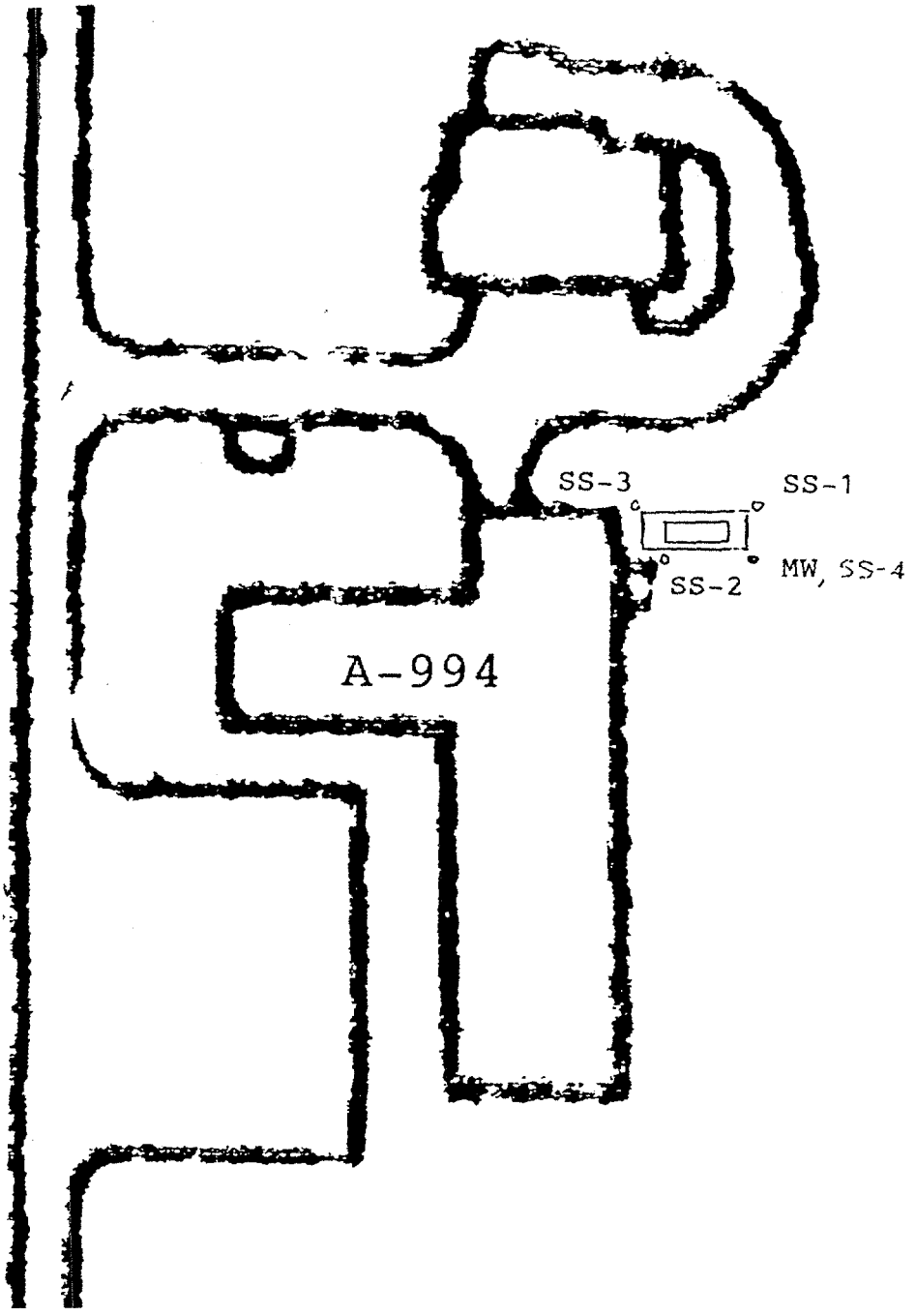
Prepared for:

Commanding Officer, Naval Air Station
Public Works Department, Building A-629
Naval Air Station Key West
Key West, Florida 33040

Mr. Jim Simmen, Code 1883JS
Environmental Protection Specialist

July 1998


Site Location
LEGEND
KEY MAP
REVISION
UPDATED AS OF 1/91
SOUTHERN DIVISION
NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA
GENERAL DEVELOPMENT MAP
EXISTING CONDITIONS
F
80091
5083581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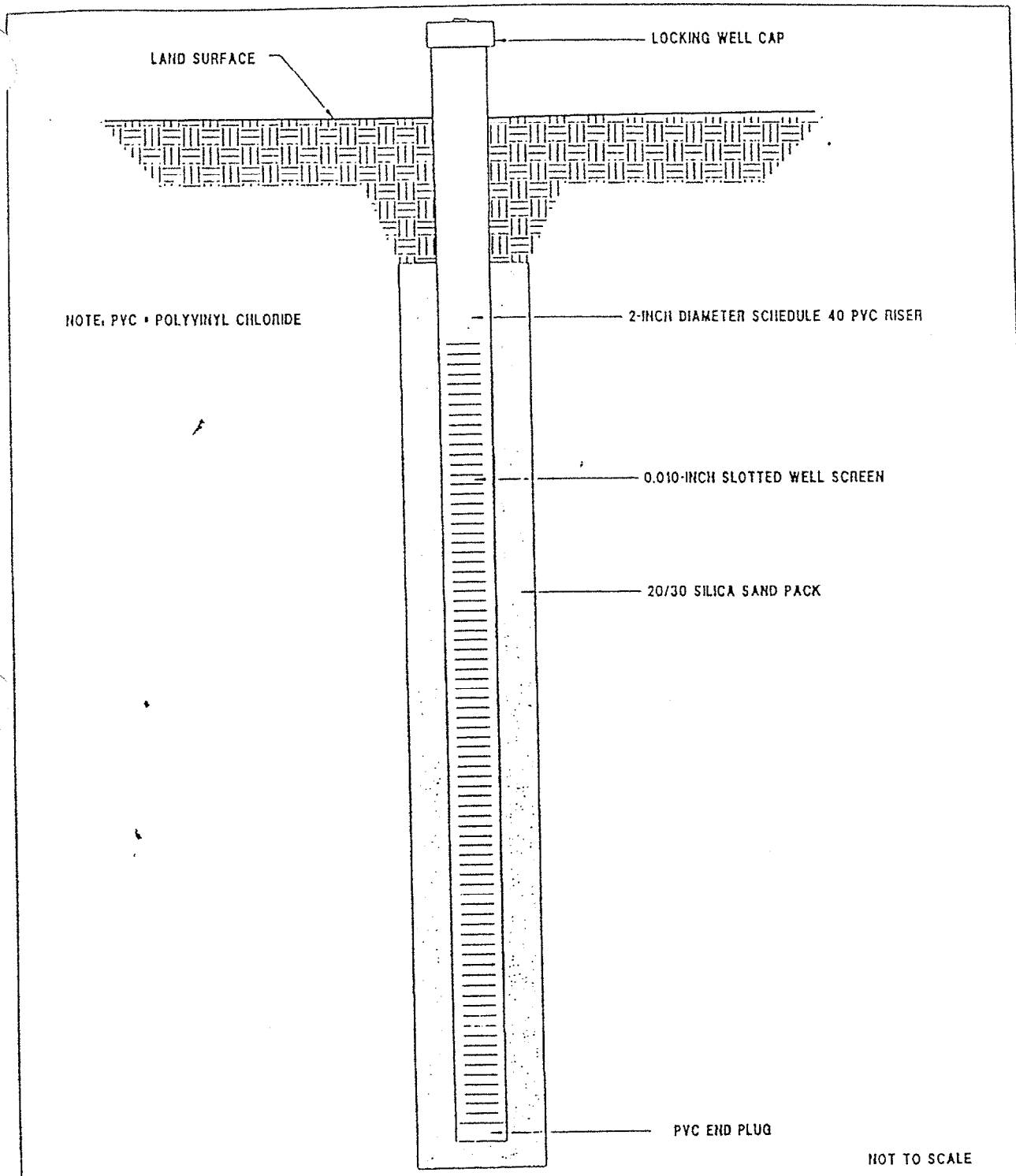
SS-1
SS-2
MW, SS-4
A-994



TYPICAL TEMPORARY MONITORING WELL
INSTALLATION DETAIL

CLOSURE ASSESSMENT
ABOVEGROUND STORAGE TANK
BUILDING A-995

AST's/wells gone

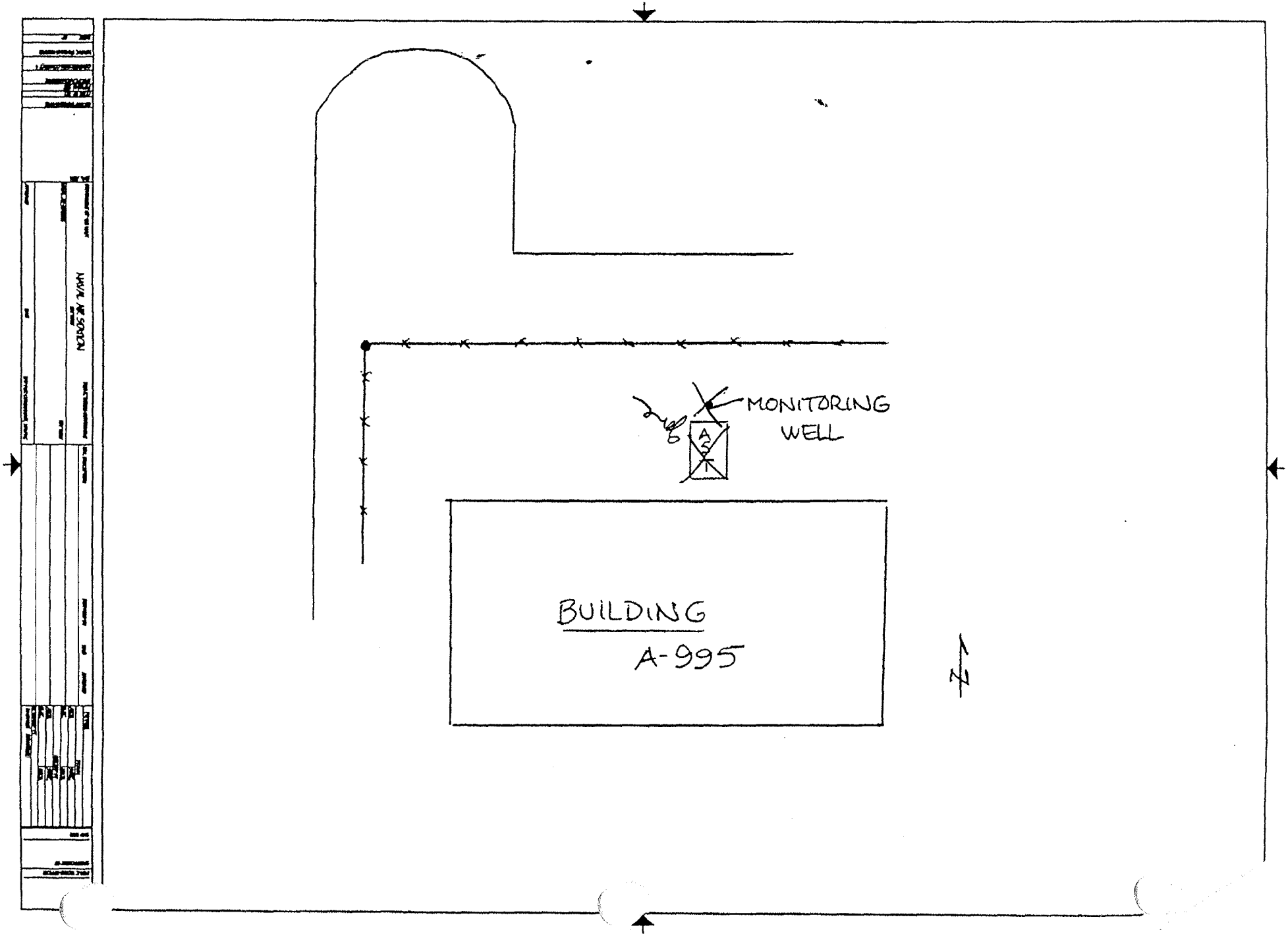
NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA

Unit Identification Code: N00213

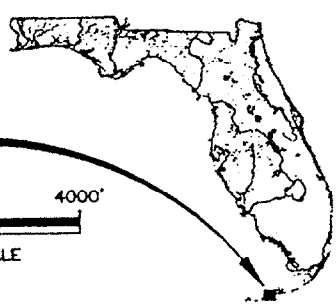
Prepared by:

Navy Public Works Center
Environmental Department
310 John Tower Road
Pensacola, Florida, 32508

July 1997


MONITORING
WELL
BUILDING
A-995

SOURCE: USGS 7.5 MIN. TOPOGRAPHIC
QUADRANGLE: BOCA CHICA KEY
REVISION: 1971
COUNTY: MONROE
TOWNSHIP: 67S
RANGE: 26E
SECTION: 29



0 2000' 4000'

APPROXIMATE GRAPHIC SCALE

X: NAS-TP.JPG
P: STD-PCZ\AP
9/21/98 TAM-54-JAR
880\88013\88013N01.DWG

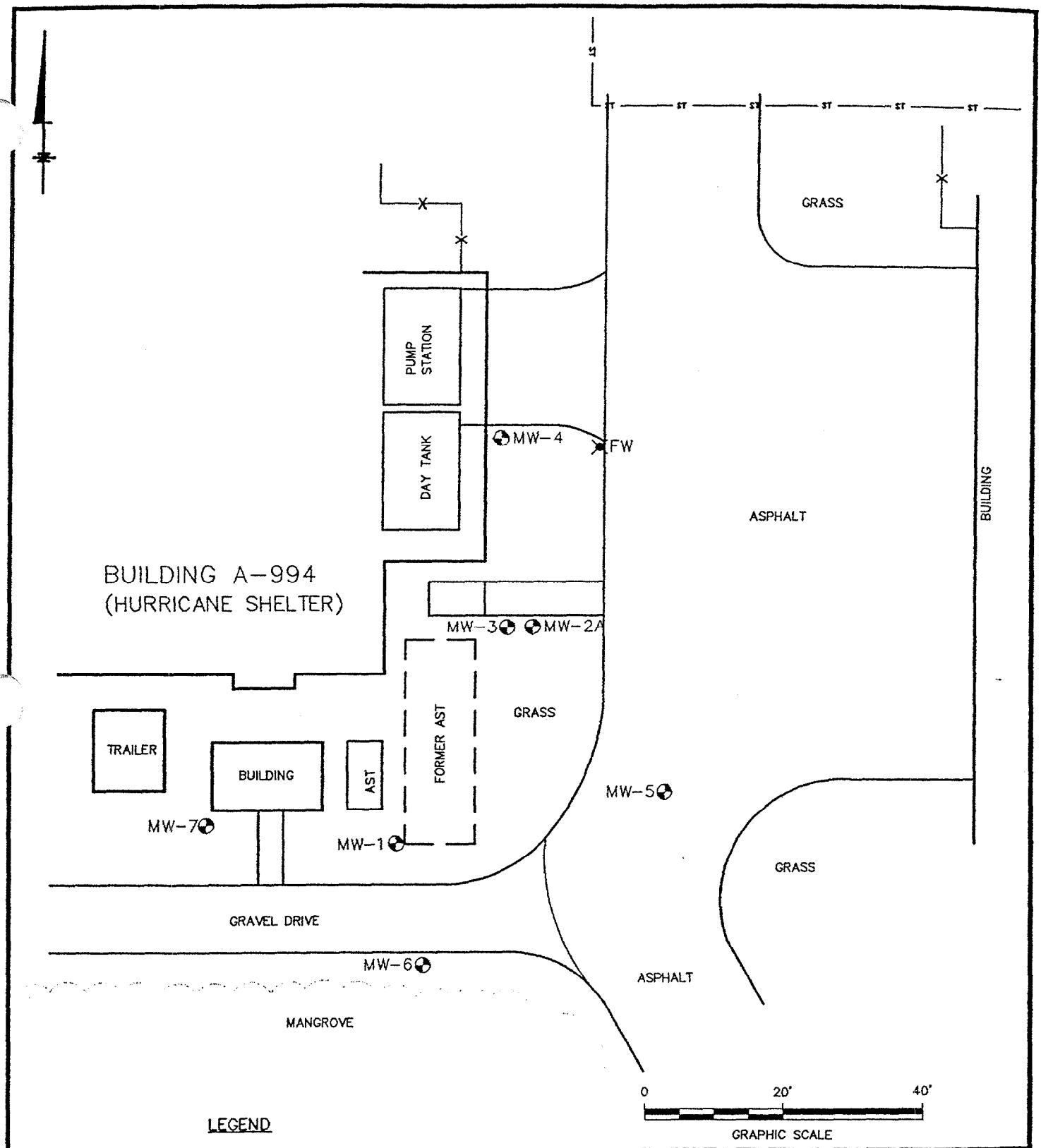
NAVAL AIR STATION KEY WEST
BOCA CHICA KEY, FLORIDA

FORMER AST BUILDING A-994

SITE LOCATION

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE
1-1



LEGEND

MW ◔ MONITORING WELL

FW ✕ FIRE WELL

ST ——— ST ——— APPROX. LOCATION OF SEWER LINE

NAVAL AIR STATION KEY WEST
BOCA CHICA KEY, FLORIDA

FORMER AST BLDG A-994

SITE MAP

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE **1-2**

P: STD-PC2\AP
5/30/99 TAM-54-JAR
880\88013\88013801.DWG

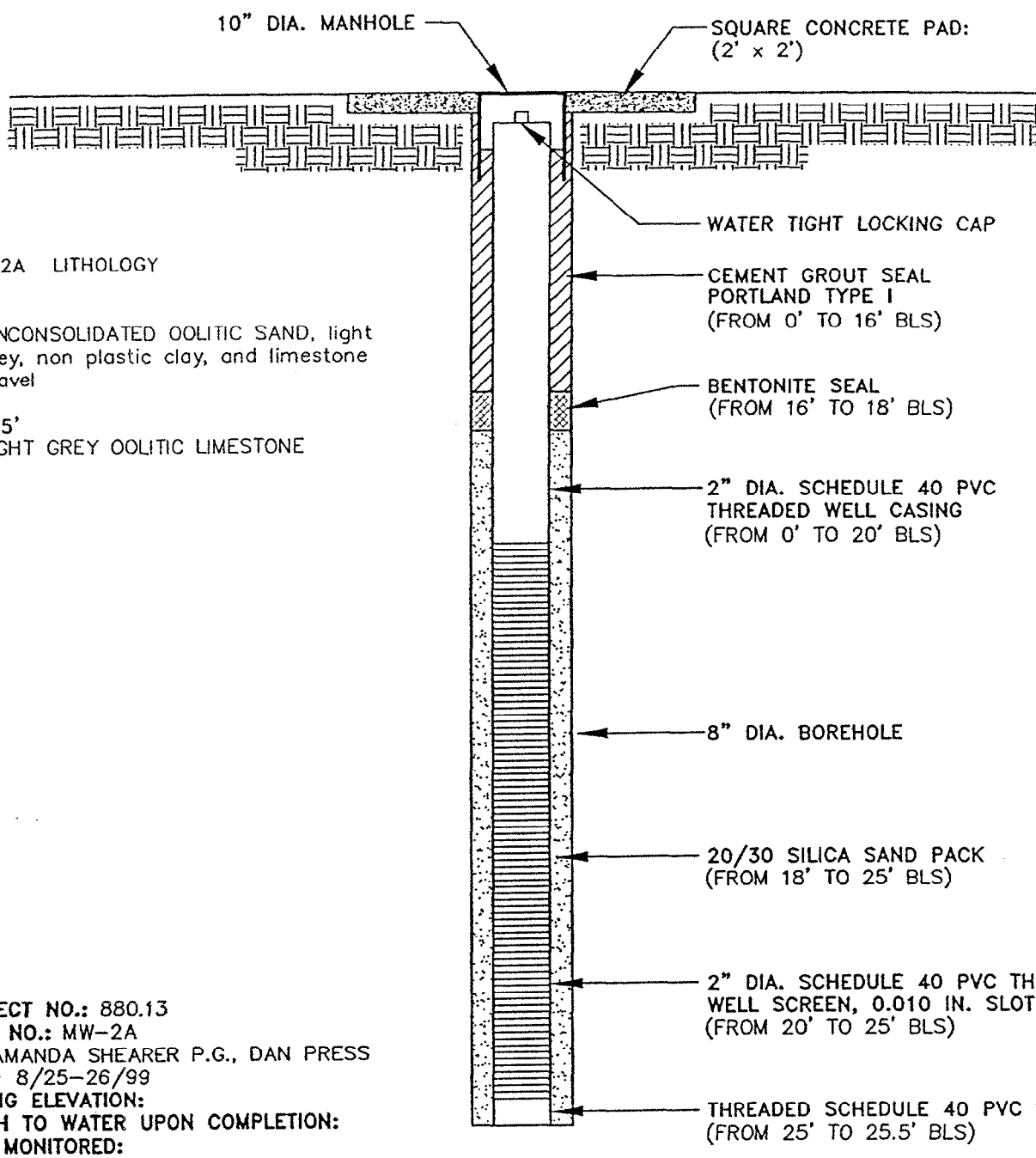
Table 2-5

Monitoring Well Completion Summary

Former AST at Building A-994
Boca Chica
NAS Key West, Florida

Well	Date Installed	Purpose	Total Well Depth (ft BLS)	Surface Casing Length (ft)	Well Casing Length (ft)	Screen Length (ft)	Screen Slot Size (in)	Sand Pack	Screen Interval (ft BLS)	Completion
MW-1	4/6/98	Source	13	NA	3	10	0.010	---	3-13	flush
MW-2A	8/25-8/26/99	Source/ Vertical	25	15	20	5	0.010	20/30	20-25	flush
MW-3	8/25-8/26/99	Source	12	NA	2	10	0.010	20/30	2-12	flush
MW-4	8/25-8/26/99	Perimeter	12	NA	2	10	0.010	20/30	2-12	flush
MW-5	8/25-8/226/99	Down-gradient	12	NA	2	10	0.010	20/30	2-12	flush
MW-6	8/25-8/26/99	Perimeter	12	NA	2	10	0.010	20/30	2-12	flush
MW-7	8/25-8/26/99	Perimeter	12	NA	2	10	0.010	20/30	2-12	flush

Notes:
All monitoring wells are 2 inches in diameter and constructed of Schedule 40 PVC.
BLS = below land surface, In = inches, Ft = feet
--- = information not available.
Source: Blasland, Bouck, & Lee, Inc., 1999; Navy Public Works Center, Closure Assessment Report, July 1998.



MW-2A LITHOLOGY

0-3'
UNCONSOLIDATED OOLITIC SAND, light grey, non plastic clay, and limestone gravel

3'-25'
LIGHT GREY OOLITIC LIMESTONE

(DRAWING NOT TO SCALE)

PROJECT NO.: 880.13
WELL NO.: MW-2A
BY: AMANDA SHEARER P.G., DAN PRESS
DATE: 8/25-26/99
CASING ELEVATION:
DEPTH TO WATER UPON COMPLETION:
UNIT MONITORED:

DRILLER: PRECISION DRILLING
DRILLING METHOD: MUD ROTARY
TOTAL DEPTH: 25 FEET
SAMPLE TYPE:
SAMPLE INTERVAL:

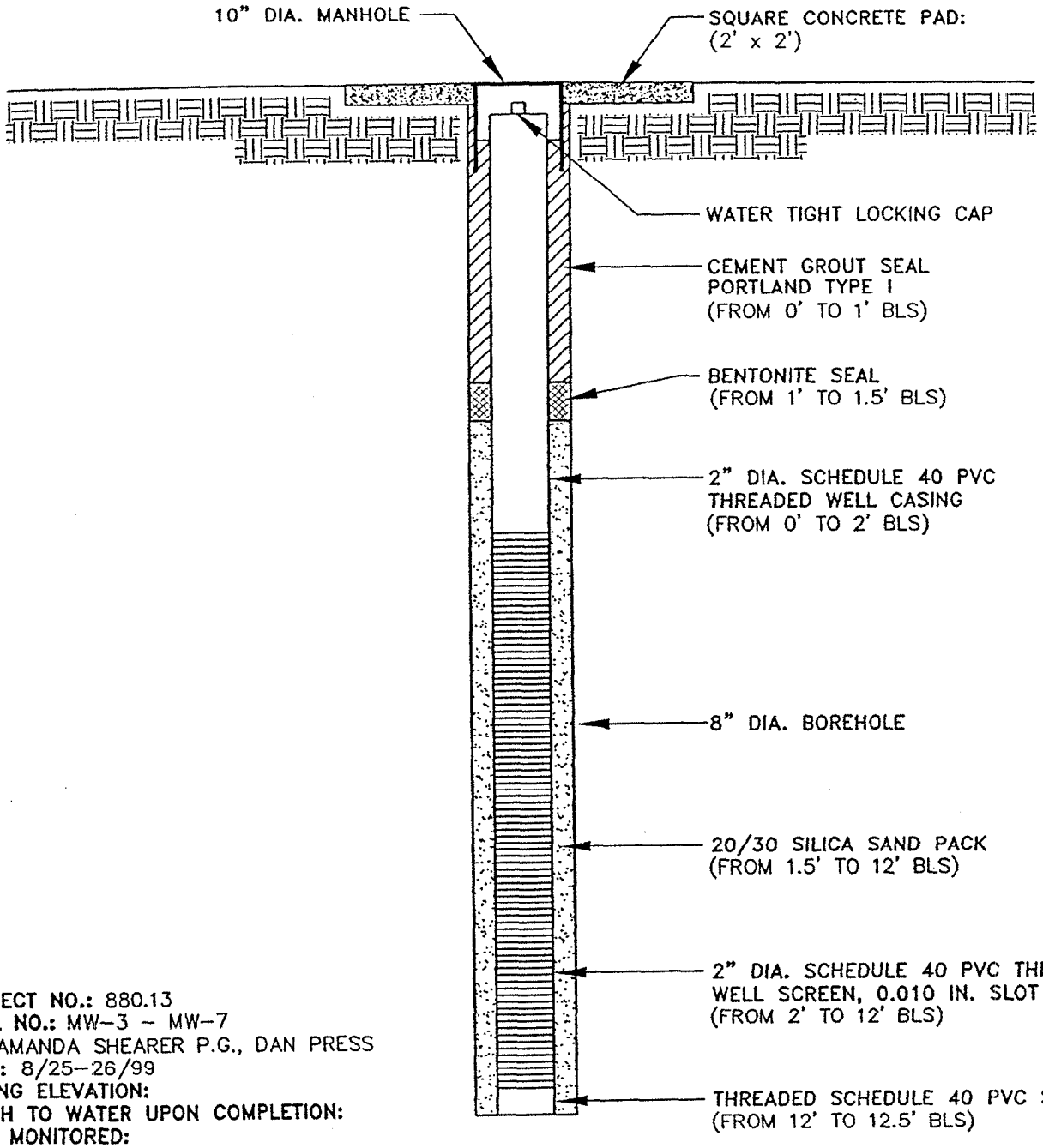
NAVAL AIR STATION KEY WEST
BOCA CHICA KEY, FLORIDA
FORMER AST BUILDING A-994

DEEP MONITORING WELL CONSTRUCTION DETAIL

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

APPENDIX C

P: STD-PCP\AP
10/1/99 TAM-54-JAR
880\88013\88013N01.DWG



(DRAWING NOT TO SCALE)

PROJECT NO.: 880.13
WELL NO.: MW-3 - MW-7
BY: AMANDA SHEARER P.G., DAN PRESS
DATE: 8/25-26/99
CASING ELEVATION:
DEPTH TO WATER UPON COMPLETION:
UNIT MONITORED:

DRILLER: PRECISION DRILLING
DRILLING METHOD: HOLLOW STEM AUGER
TOTAL DEPTH: 12 FEET
SAMPLE TYPE:
SAMPLE INTERVAL:

NAVAL AIR STATION KEY WEST
BOCA CHICA KEY, FLORIDA

FORMER AST BUILDING A-994

SHALLOW MONITORING WELL CONSTRUCTION DETAIL

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

APPENDIX C

P: STD-PCP\AP
10/1/99 TAM-54-JAR
880\88013\88013N01.DWG

A-995

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

CLOSURE ASSESSMENT
ABOVEGROUND STORAGE TANK
BUILDING A-995

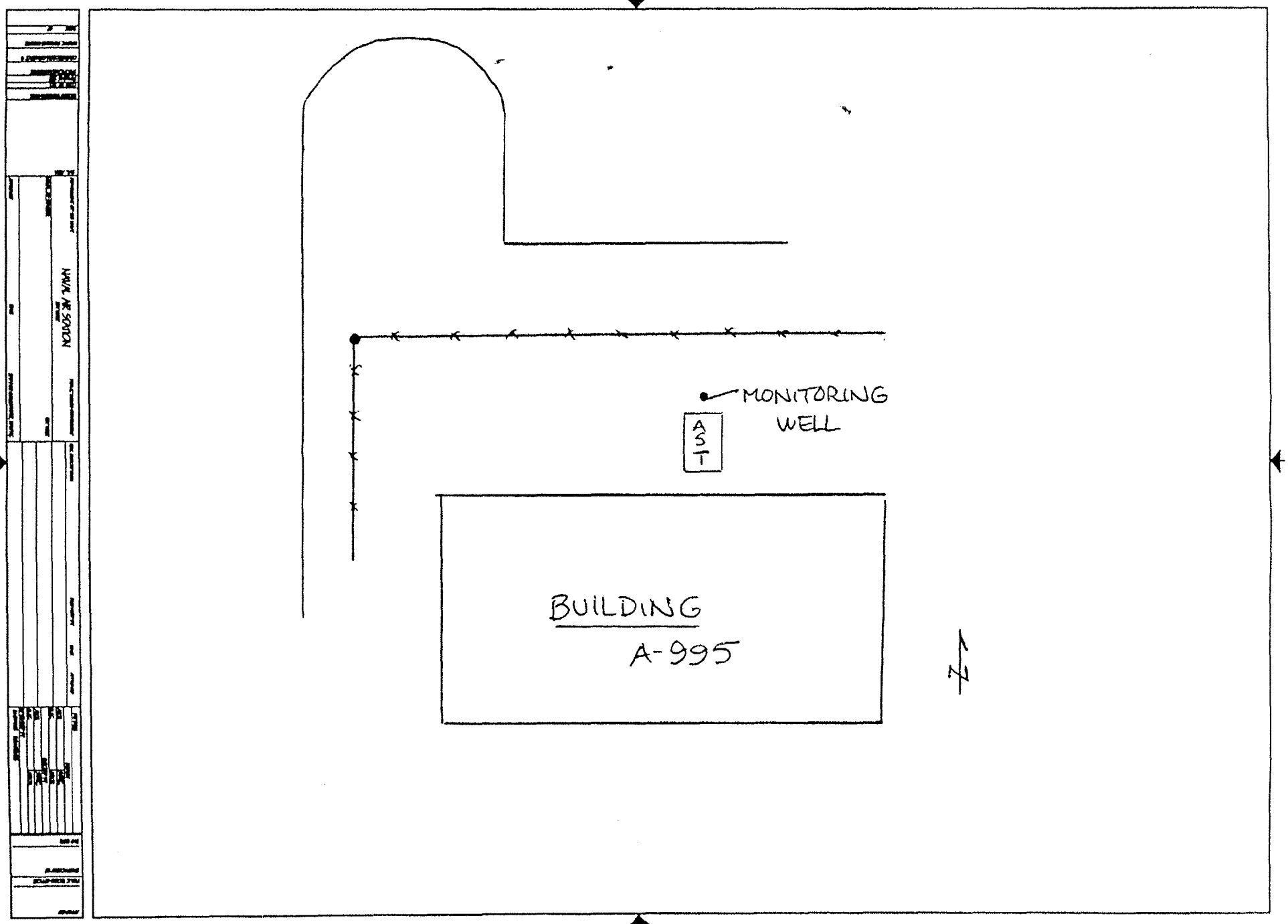
NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA

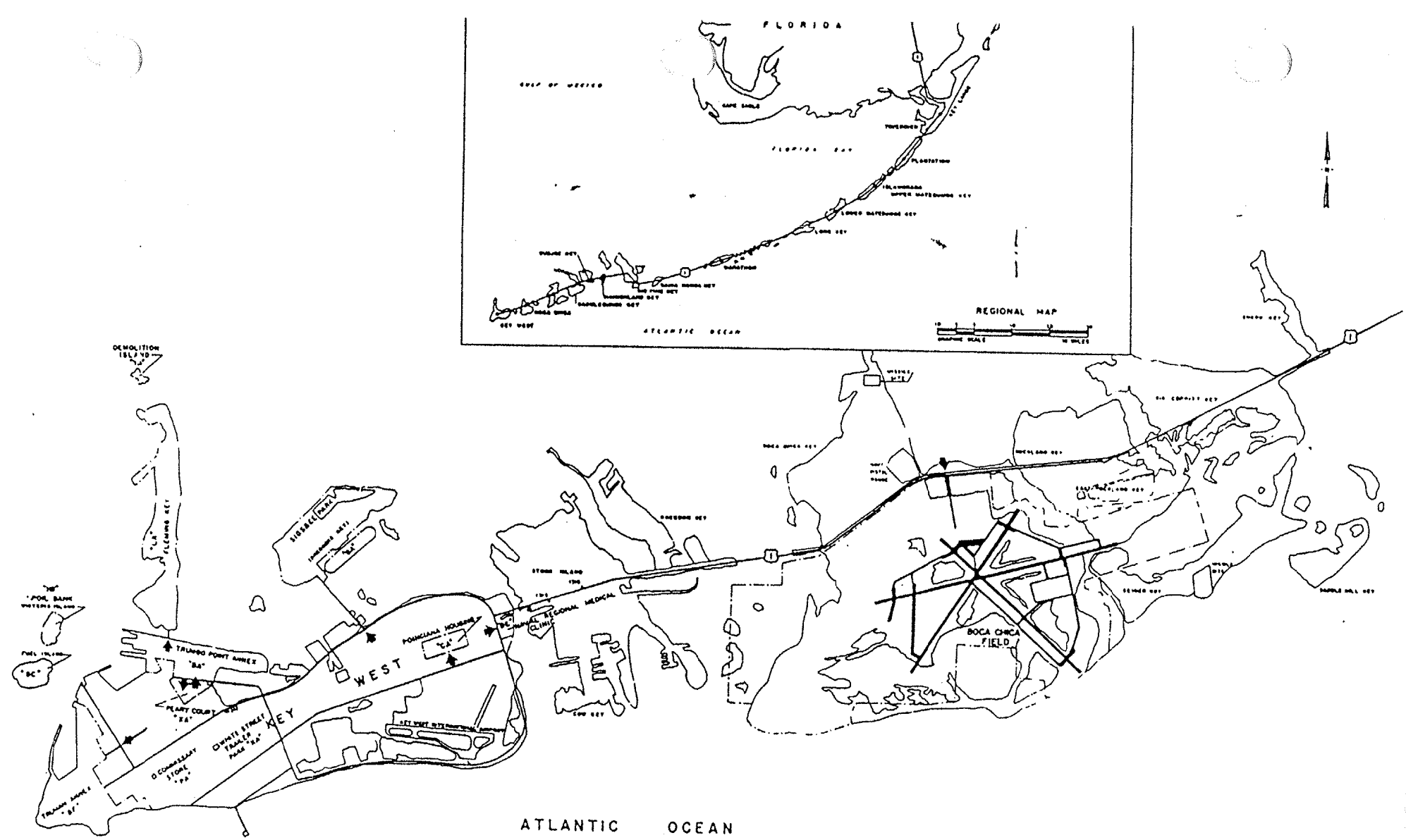
Unit Identification Code: N00213

Prepared by:

Navy Public Works Center
Environmental Department
310 John Tower Road
Pensacola, Florida, 32508

July 1997


MONITORING
WELL
AST
BUILDING
A-995



NOTES

REVISION

		SOUTHERN DIVISION	
		NAVAL AIR STATION BOCA CHICA FIELD KEY WEST, FLORIDA	
		GENERAL DEVELOPMENT MAP REGIONAL AND VICINITY (EXISTING CONDITIONS)	
		SIZE: F	DRAWING NO: 80091
			5083575

A-1025

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

CLOSURE ASSESSMENT REPORT
UNDERGROUND PIPELINE
BUILDING A-1025

has AST
- no wells

NAVAL AIR STATION KEY WEST
KEY WEST, FLORIDA

Unit Identification Code: N00213

Prepared by:

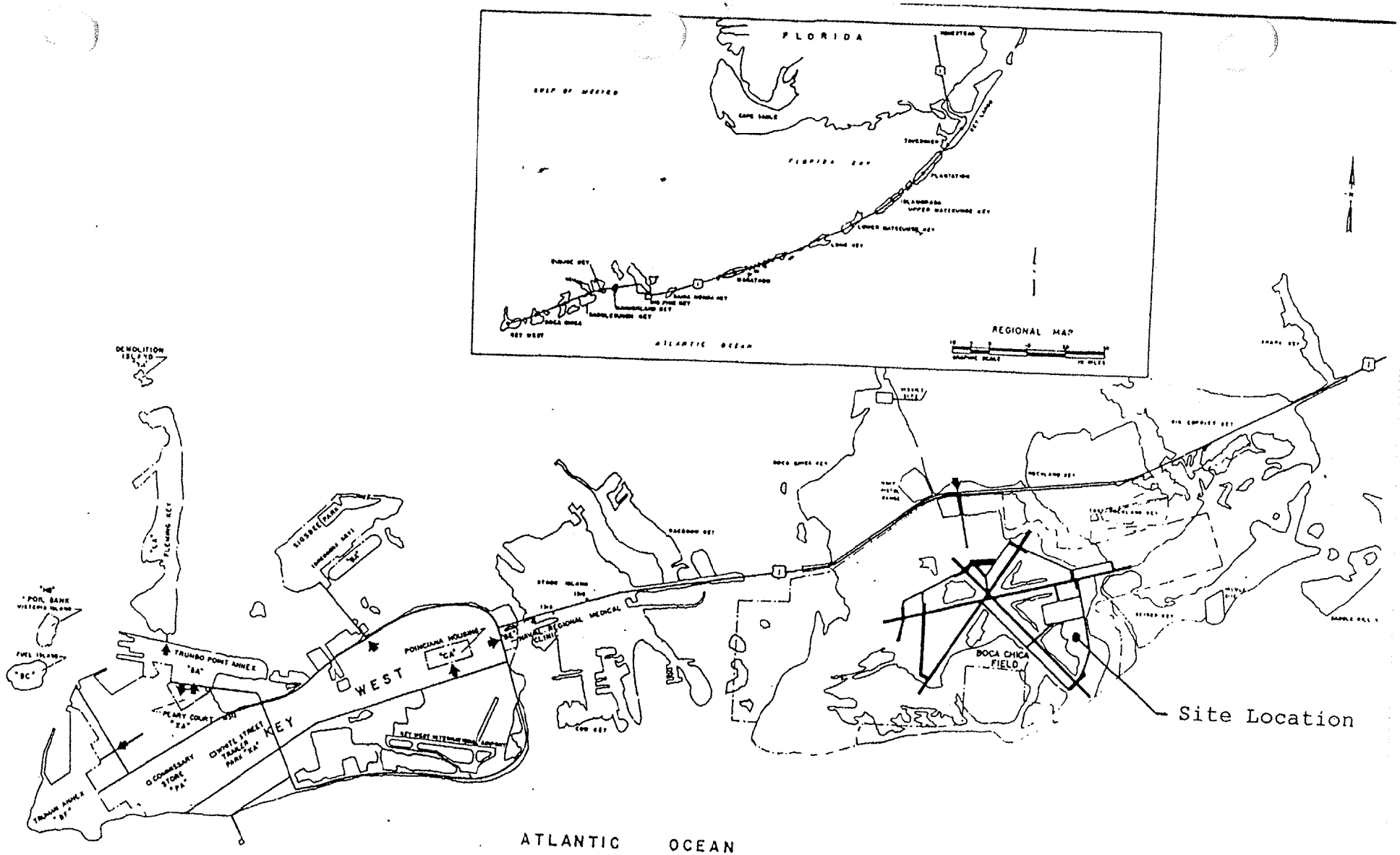
Navy Public Works Center
Environmental Department
310 John Tower Road
Pensacola, Florida, 32508

Prepared for:

Navy Public Works Department
Building A-629, Naval Air Station Key West
Key West, Florida 33040

Mr Jim Simmen, Code 1883JS
Environmental Protection Specialist

August 1998



NOTES

REVISION

SOUTHERN DIVISION

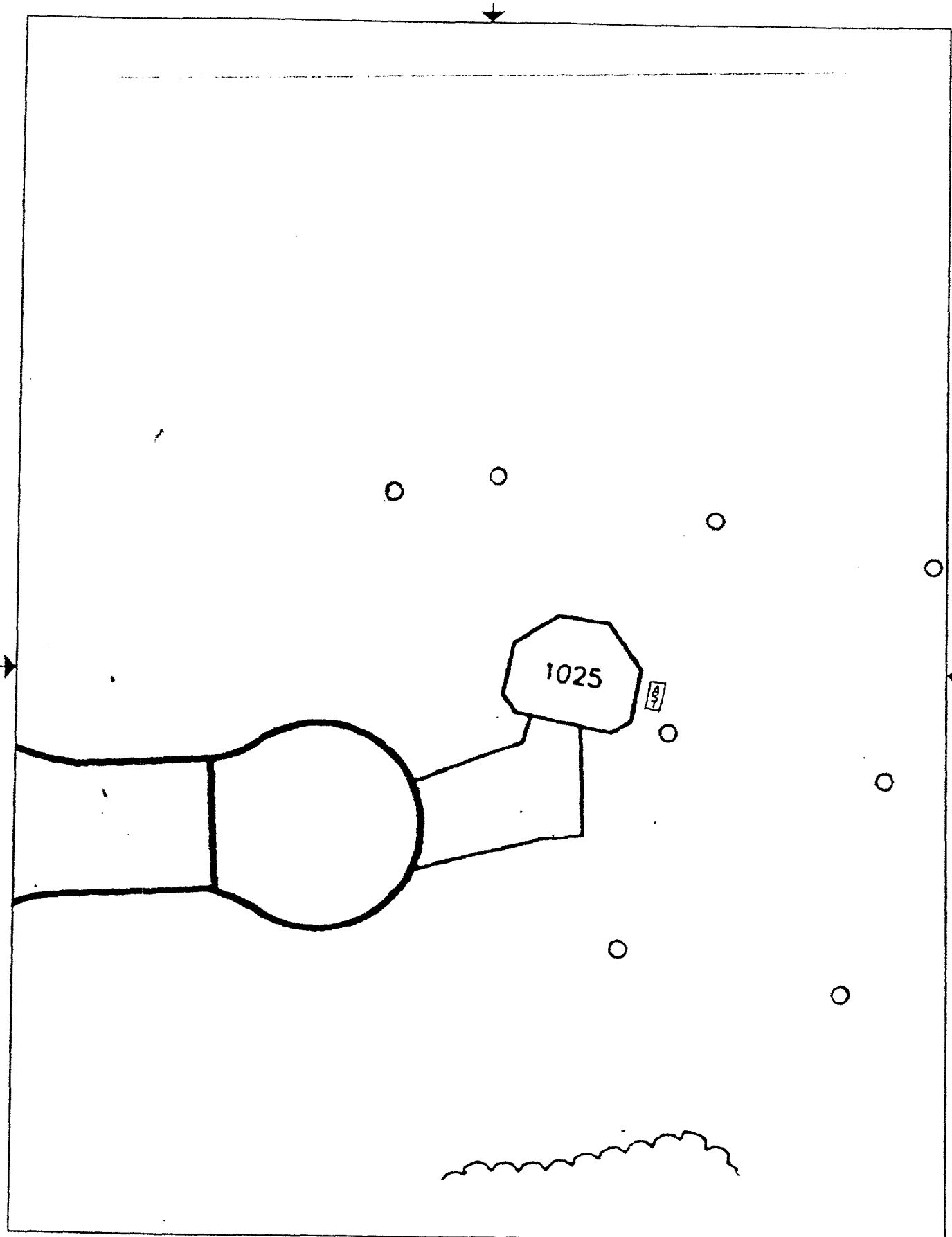
NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA

GENERAL DEVELOPMENT M

REGIONAL AND VICINITY

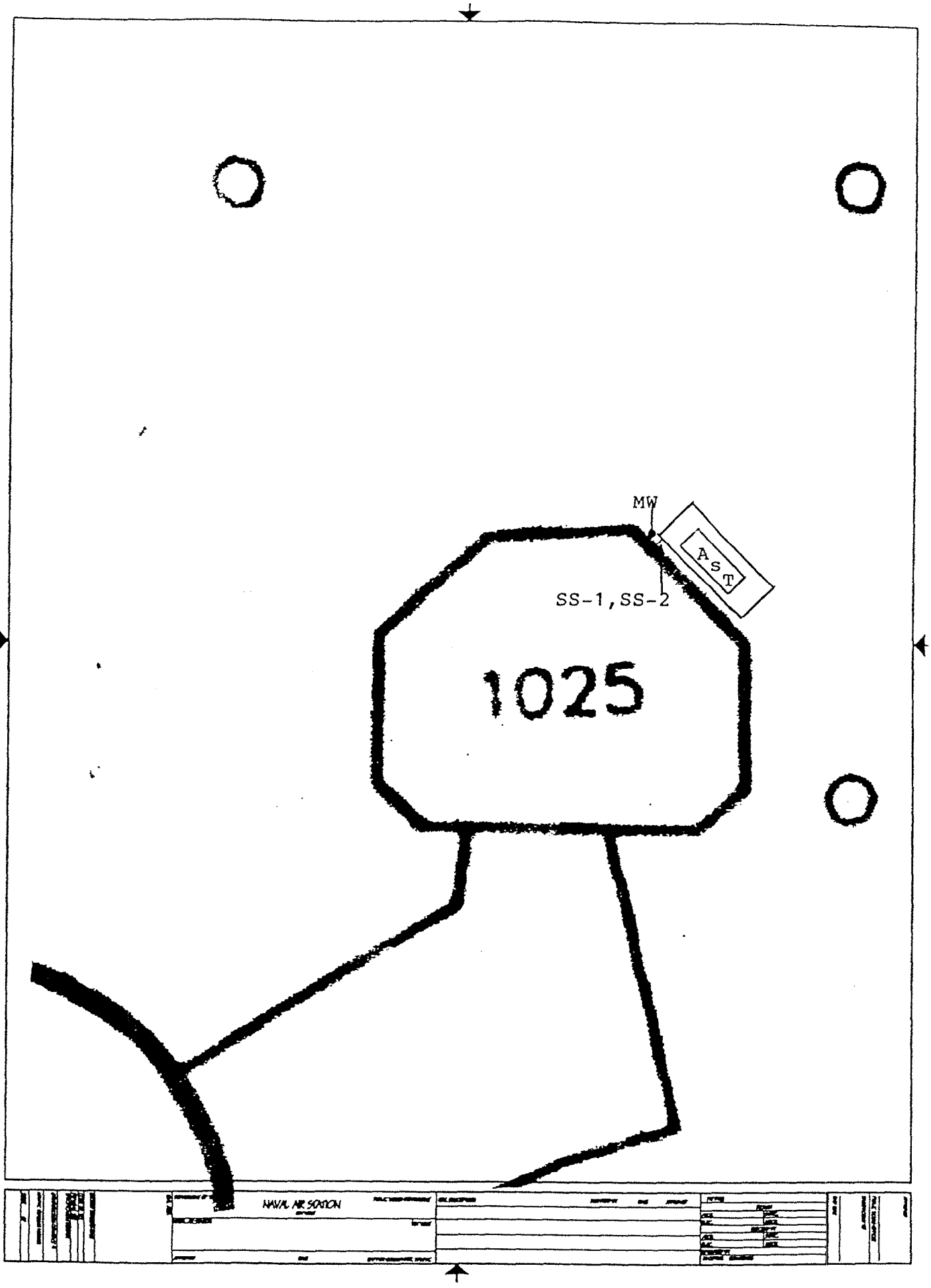
EXISTING CONDITIONS

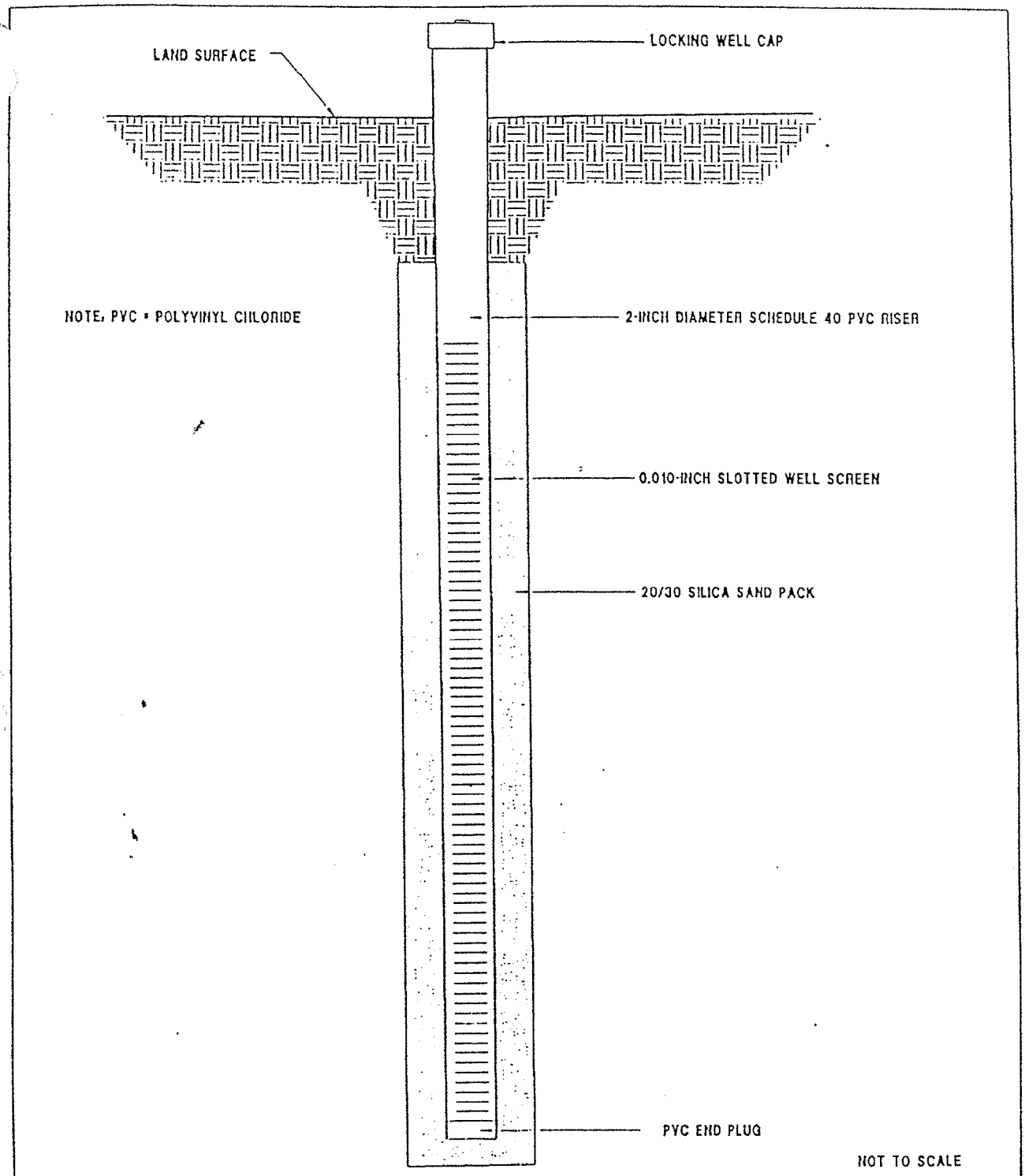
F 80091 5083575



NAVAL AIR STATION

Site Map


MW
AST
SS-1, SS-2
1025
NAVAL AIR STATION



TYPICAL TEMPORARY MONITORING WELL
INSTALLATION DETAIL

A-1103

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

CLOSURE ASSESSMENT REPORT
ABOVEGROUND STORAGE TANK
BUILDING A-1103

NAVAL AIR STATION
KEY WEST, FLORIDA

Unit Identification Code: N00213

Prepared by:

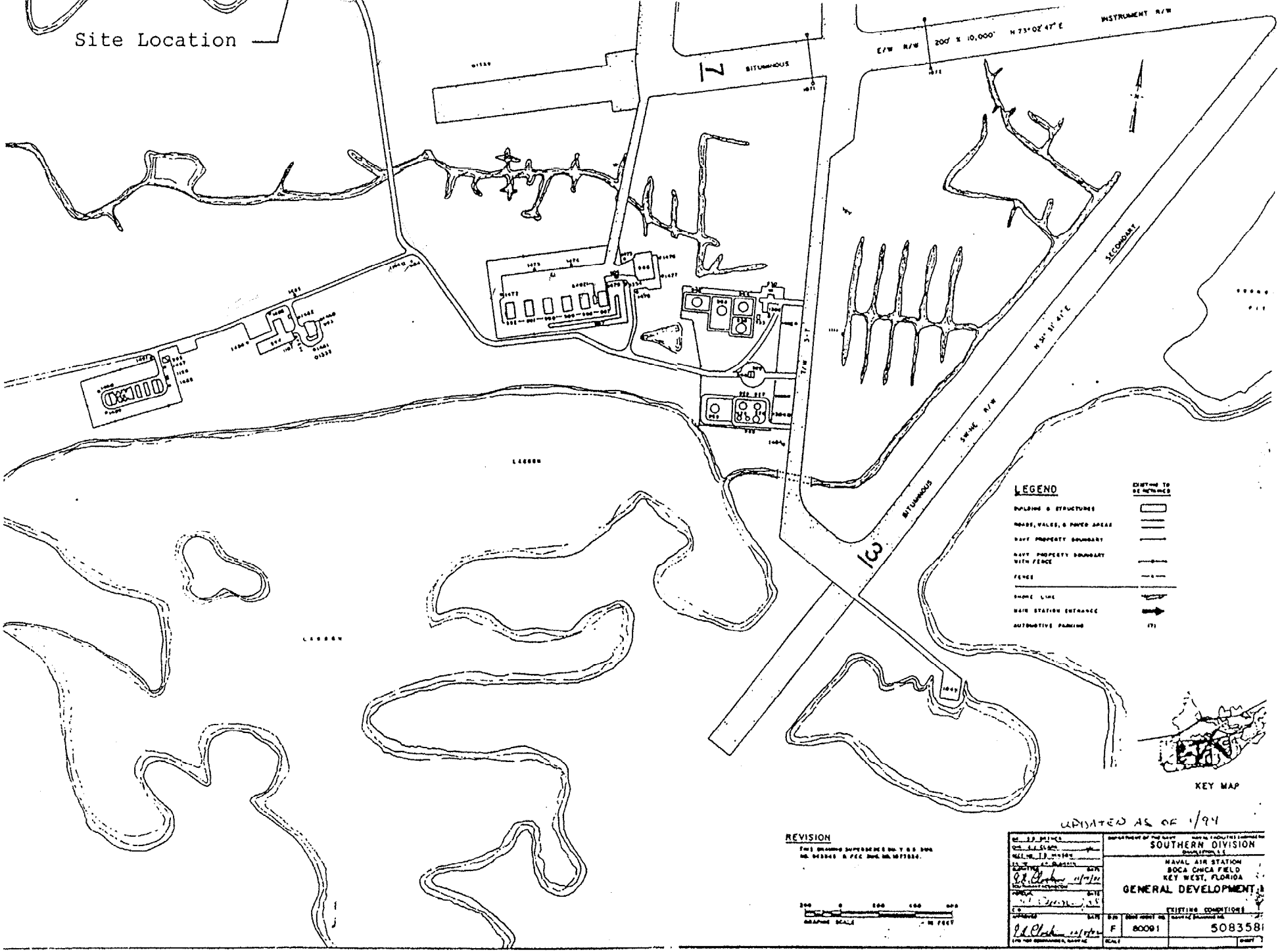
Navy Public Works Center
Environmental Department
310 John Tower Road
Pensacola, Florida, 32508

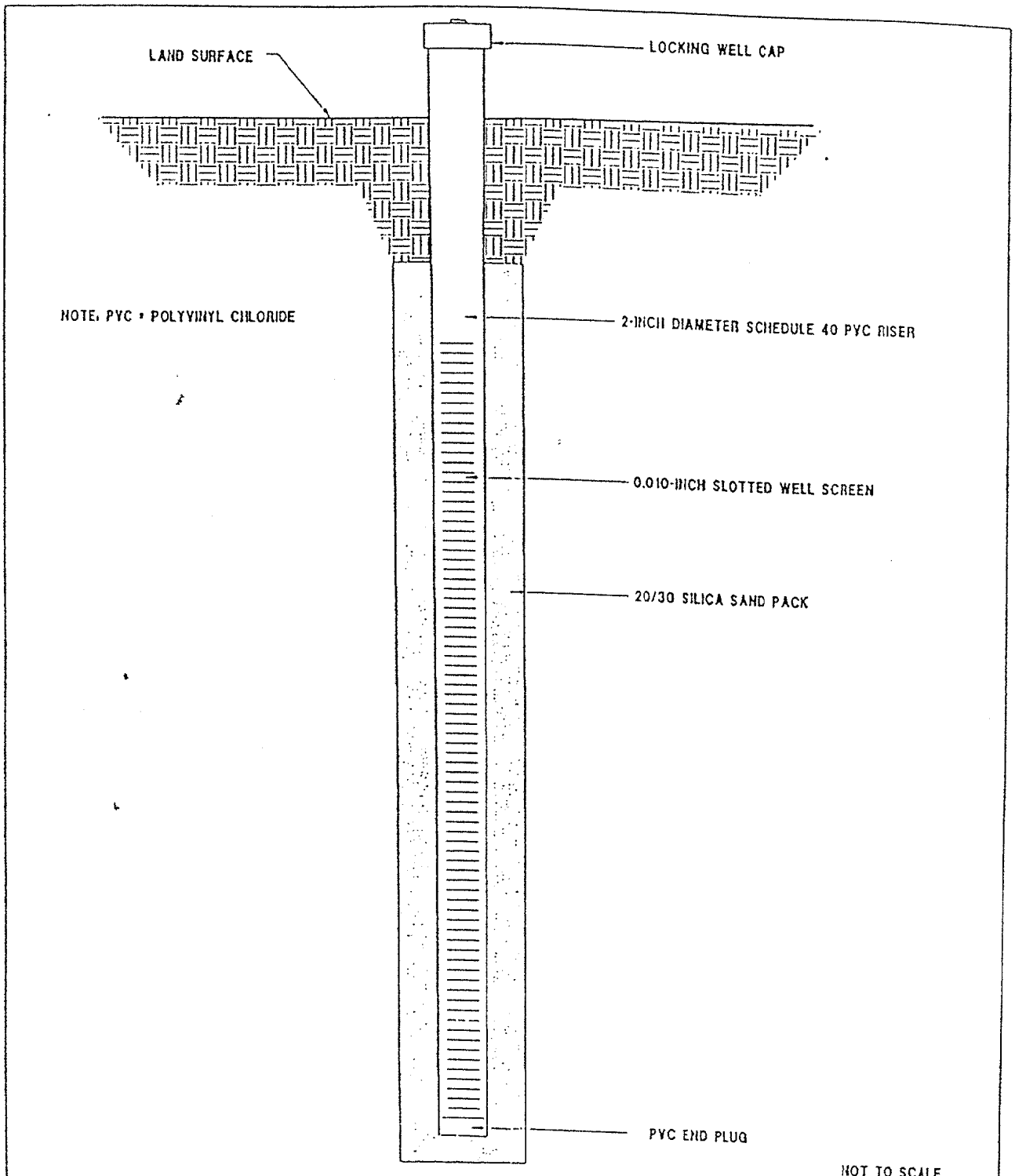
Prepared for:

Commanding Officer, Naval Air Station
Public Works Department, Building A-629
Naval Air Station Key West
Key West, Florida 33040

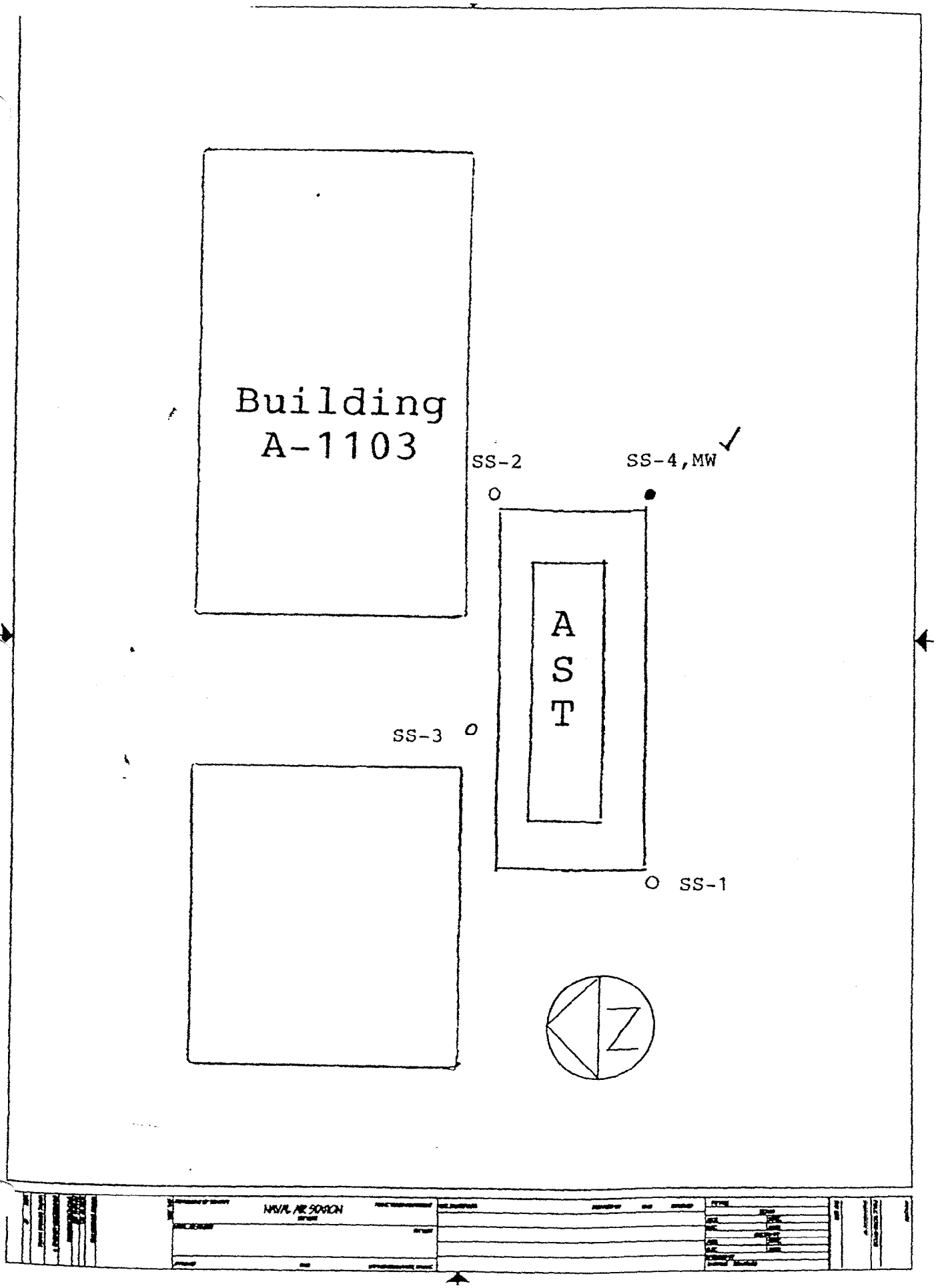
Mr Jim Simmen, Code 1883JS
Environmental Protection Specialist

August 1998


Site Location
LEGEND
KEY MAP
REVISION
UPDATED AS OF 1/94
SOUTHERN DIVISION
NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA
GENERAL DEVELOPMENT
EXISTING CONDITIONS
F
80091
5083581



TYPICAL TEMPORARY MONITORING WELL
INSTALLATION DETAIL


Building
A-1103
SS-2
SS-4,MW
A
S
T
SS-3
SS-1
N

A-4165

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

CLOSURE ASSESSMENT REPORT
ABOVEGROUND STORAGE TANK
BUILDING A-4165

well gone (kids on top?) no AST/UST

NAVAL AIR STATION
KEY WEST, FLORIDA

Unit Identification Code: N00213

Prepared by:

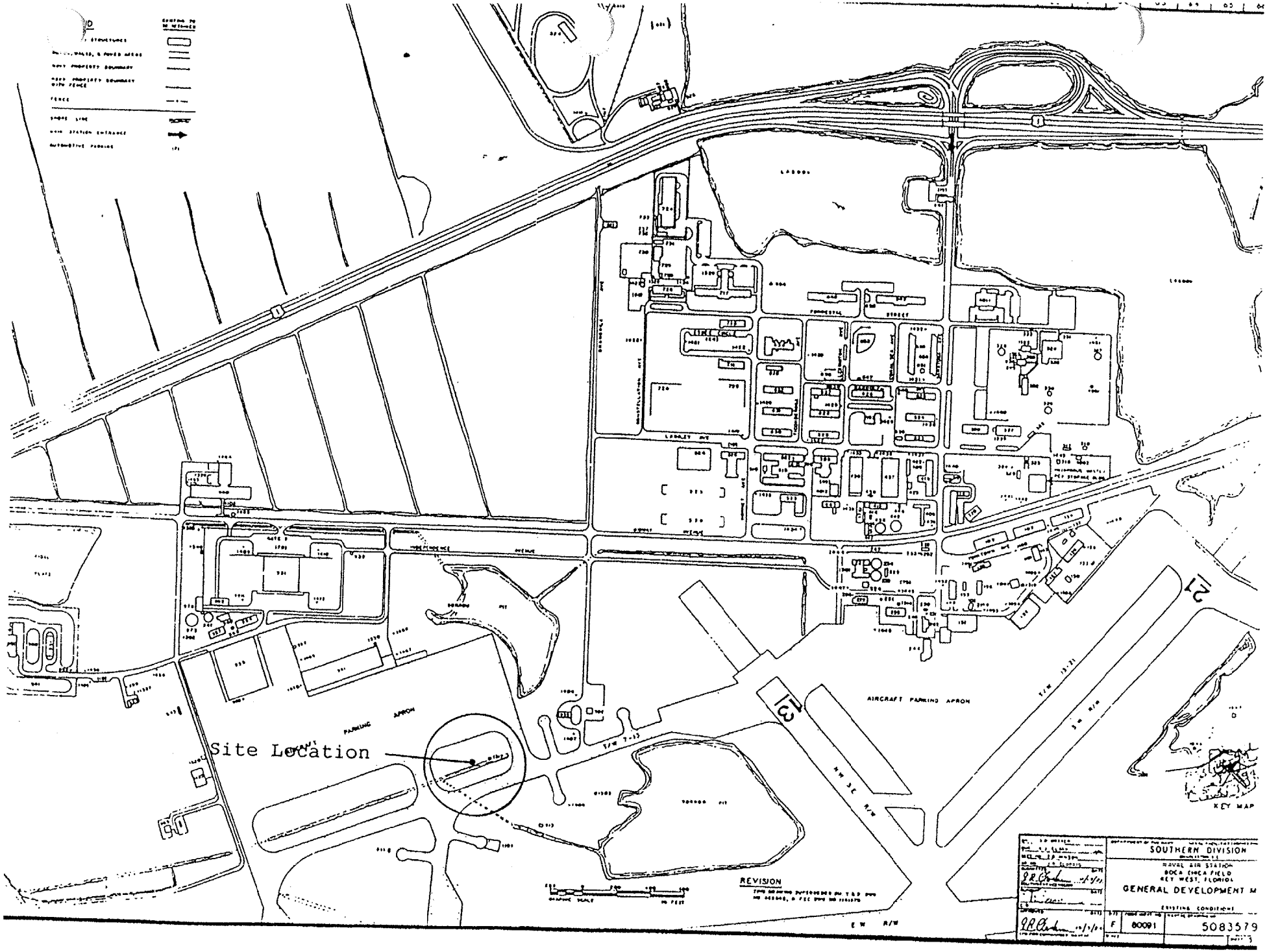
Navy Public Works Center
Environmental Department
310 John Tower Road
Pensacola, Florida, 32508

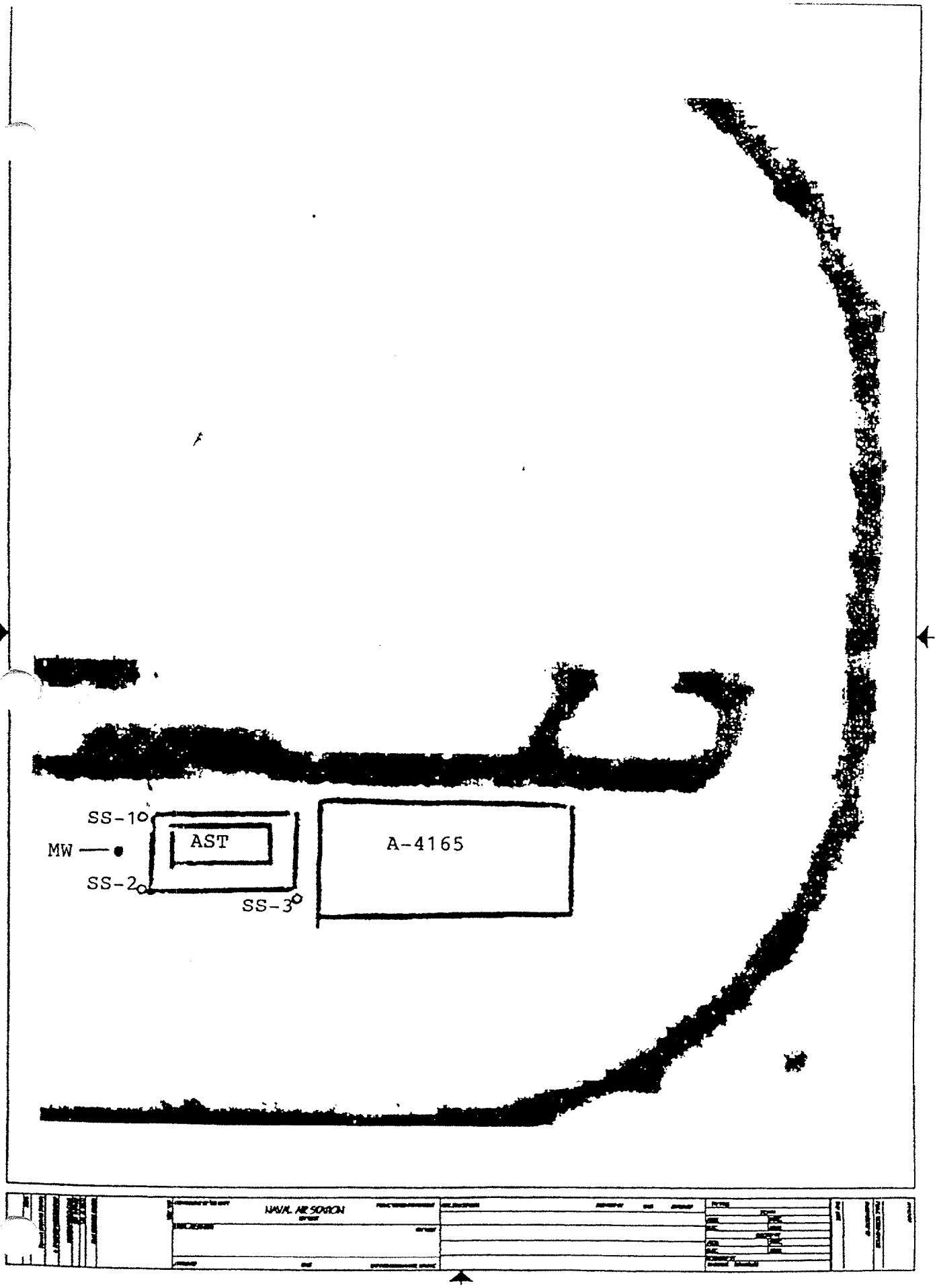
Prepared for:

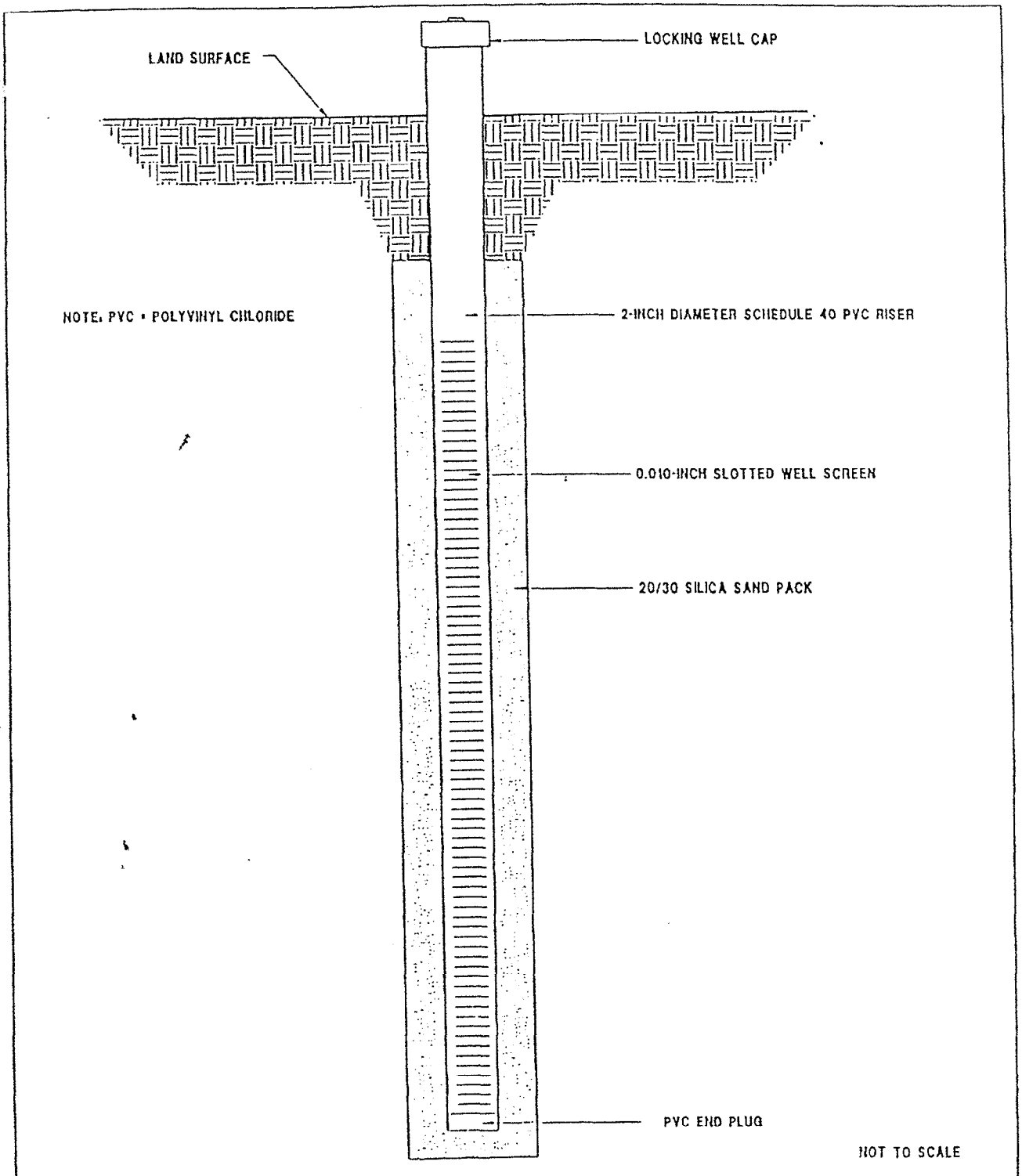
Commanding Officer, Naval Air Station
Public Works Department, Building A-629
Key West, Florida 33040

Mr Jim Simmen, Code 1883JS
Environmental Protection Specialist

July 1998


Site Location
AIRCRAFT PARKING APRON
REVISION
KEY MAP
SOUTHERN DIVISION
NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA
GENERAL DEVELOPMENT M
EXISTING CONDITIONS
F
80091
5083579


SS-1
MW
AST
SS-2
SS-3
A-4165



TYPICAL TEMPORARY MONITORING WELL
INSTALLATION DETAIL

CLOSURE ASSESSMENT REPORT
ABOVEGROUND STORAGE TANK
BUILDING A-4165

NAVAL AIR STATION
KEY WEST, FLORIDA

Unit Identification Code: N00213

Prepared by:

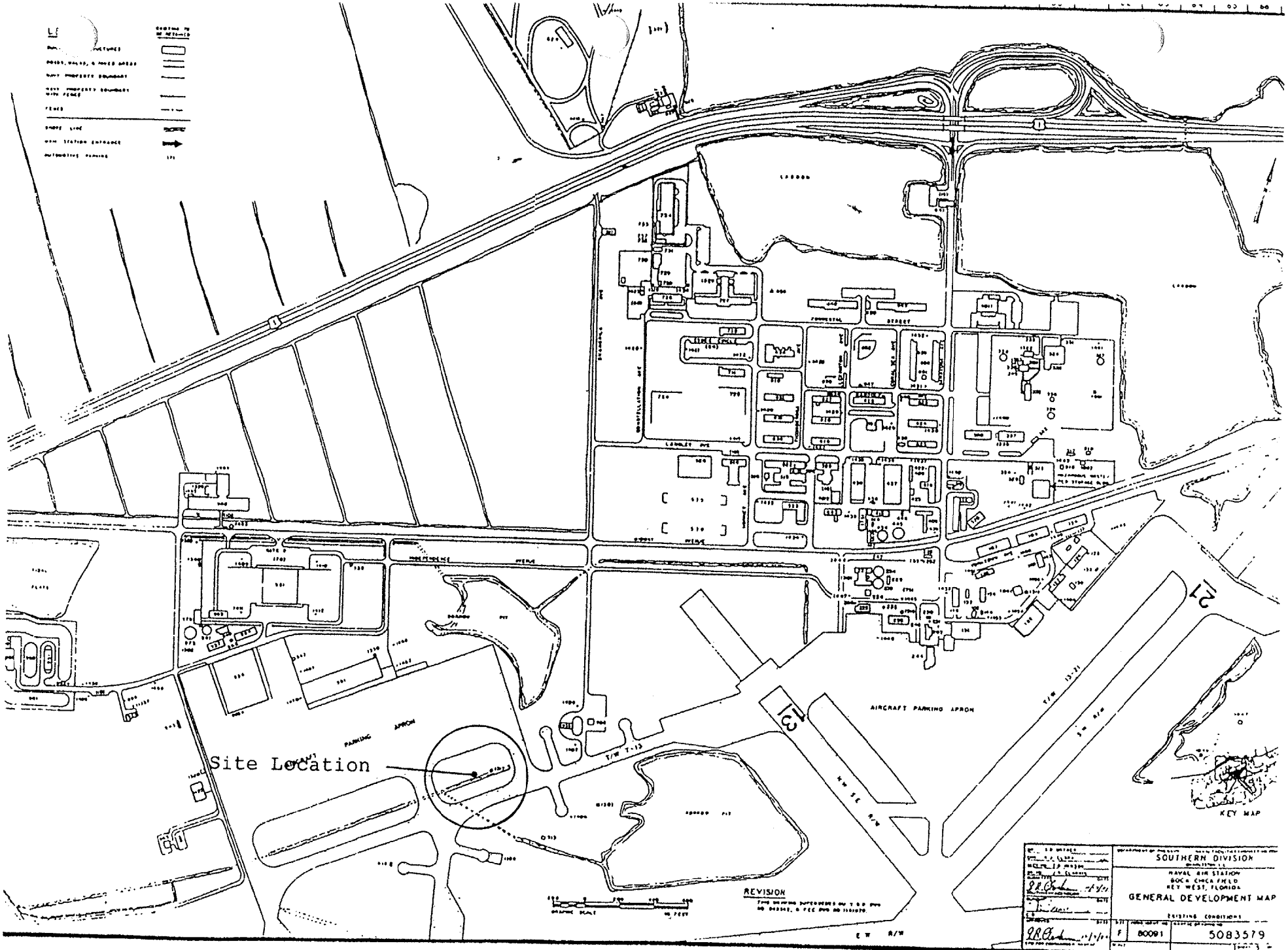
Navy Public Works Center
Environmental Department
310 John Tower Road
Pensacola, Florida, 32508

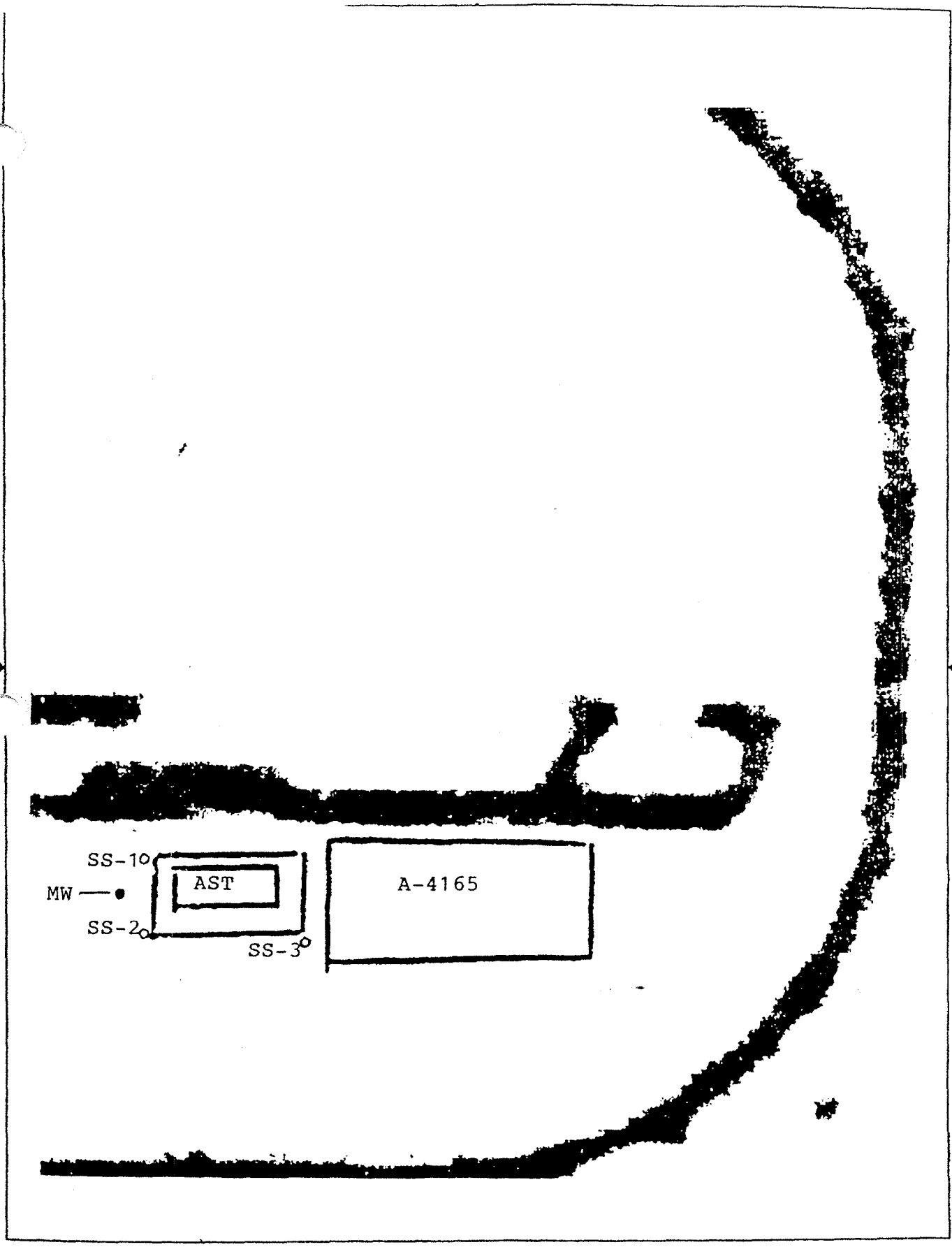
Prepared for:

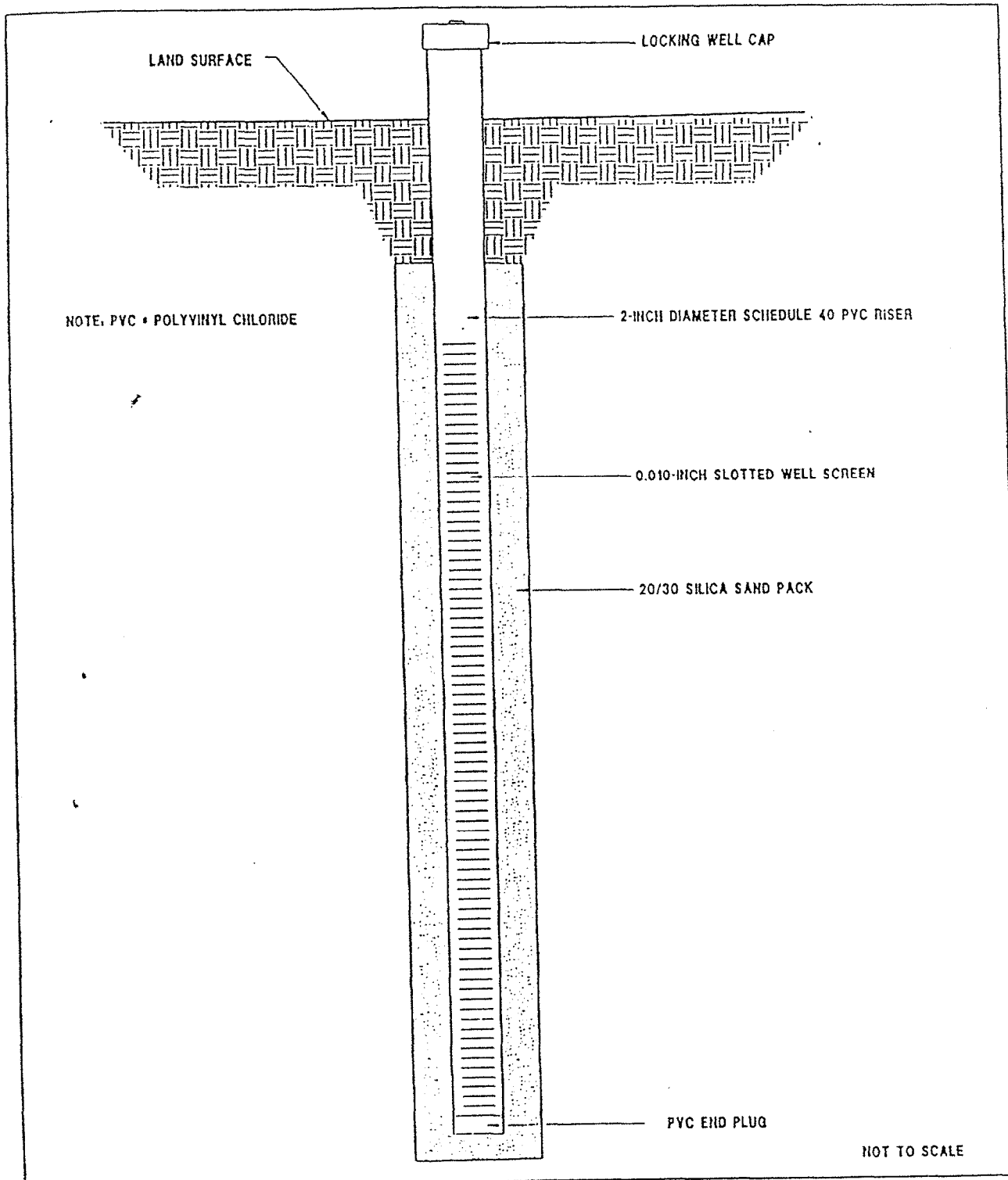
Commanding Officer, Naval Air Station
Public Works Department, Building A-629
Naval Air Station Key West
Key West, Florida 33040

Mr. Jim Simmen, Code 1883JS
Environmental Protection Specialist

July 1998


Site Location
AIRCRAFT PARKING APRON
PARKING APRON
13
21
KEY MAP
REVISION
SOUTHERN DIVISION
NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA
GENERAL DEVELOPMENT MAP
EXISTING CONDITIONS
80091
5083579

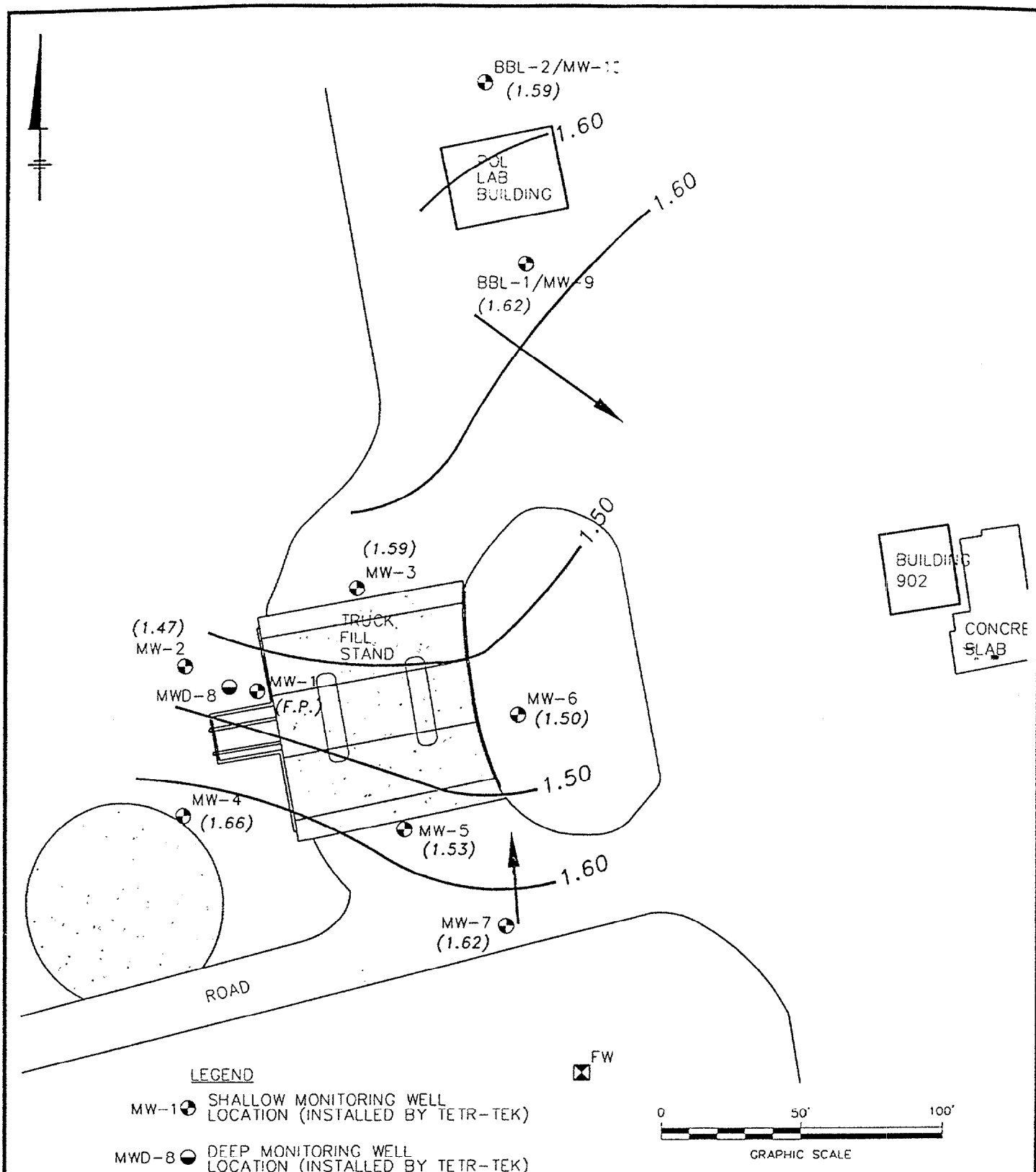

SS-1
MW
AST
SS-2
SS-3
A-4165



TYPICAL TEMPORARY MONITORING WELL
INSTALLATION DETAIL

POL Lab Building (at Truck Fill Stand)

BLASLAND, BOUCK & LEE, INC.
engineers & scientists



NAVAL AIR STATION KEY WEST
BOCA CHICA, FLORIDA

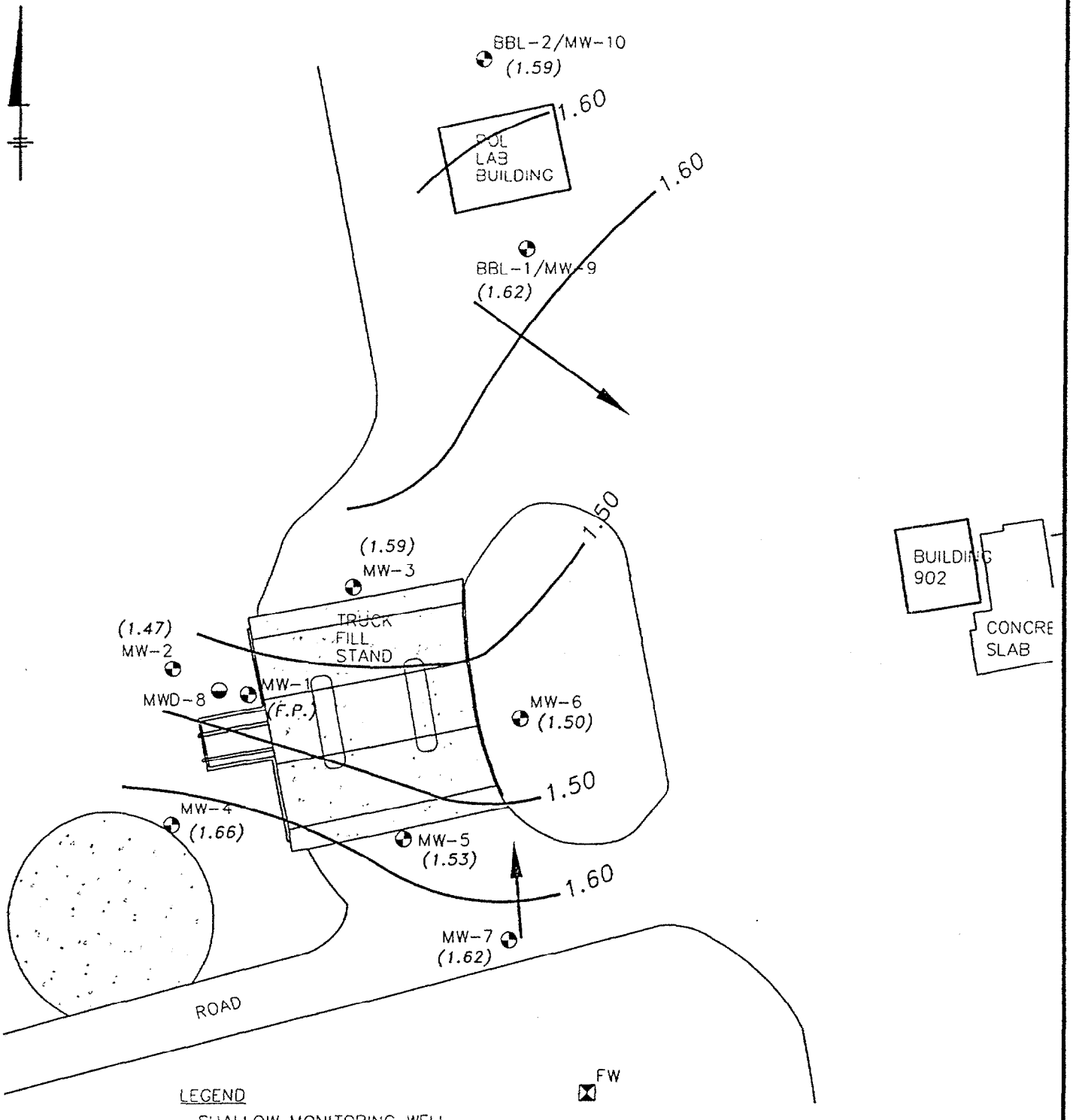
POL LAB BUILDING

HYDRAULIC GRADIENT
3/29/00 4:00 PM (HIGH TIDE)

BBL BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE 2

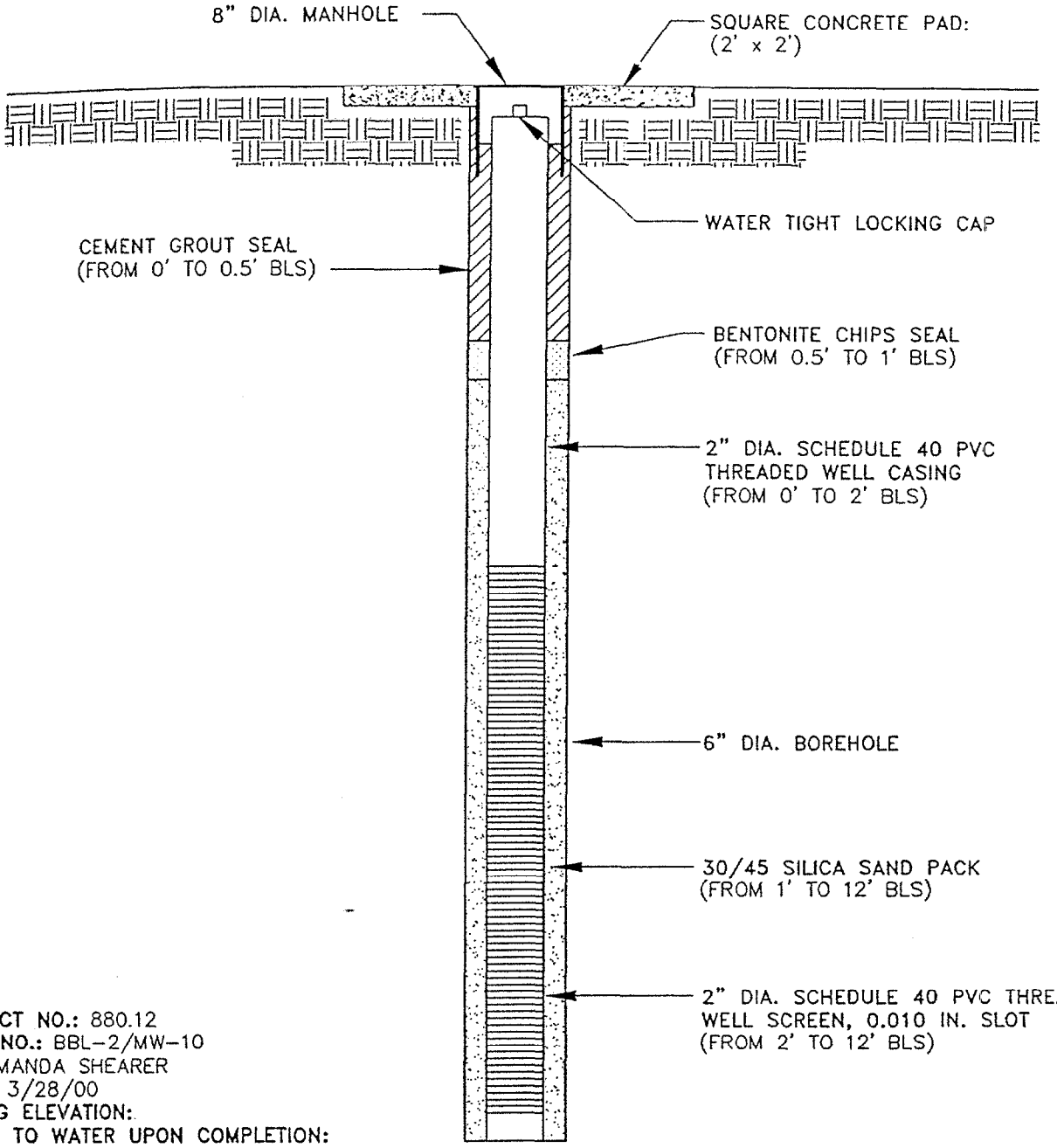
P: STO-PC2\AP
5/4/00 TAM-54-JAR
880\88012\POL\88012W01.DWG



NAVAL AIR STATION KEY WEST
BOCA CHICA, FLORIDA
POL LAB BUILDING

HYDRAULIC GRADIENT
3/29/00 4:00 PM (HIGH TIDE)

PLASLAND, ROUCK & LEE, INC. | FIGURE



PROJECT NO.: 880.12
WELL NO.: BBL-2/MW-10
BY: AMANDA SHEARER
DATE: 3/28/00
CASING ELEVATION:
DEPTH TO WATER UPON COMPLETION:
UNIT MONITORED:

DRILLER: PRECISION DRILLING
DRILLING METHOD: HOLLOW STEM AUGER
TOTAL DEPTH: 12 FEET
SAMPLE TYPE:
SAMPLE INTERVAL:

(DRAWING NOT TO SCALE)

NAVAL AIR STARION KEY WEST
BOCA CHICA, FLORIDA

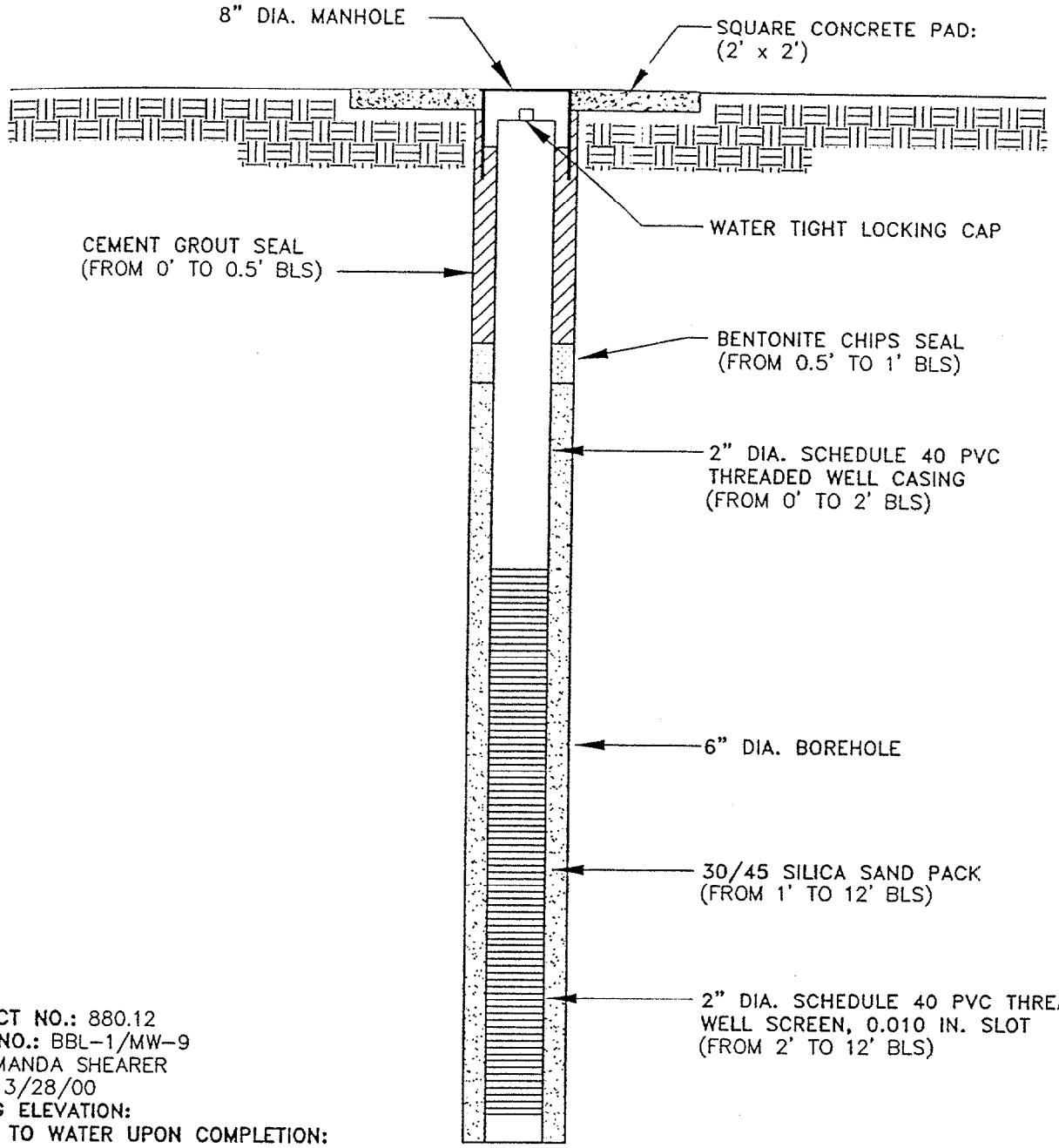
POL LAB BUILDING

SHALLOW MONITORING WELL CONSTRUCTION DETAIL

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

APPENDIX A

P: STD-PC2/AP
5/4/00 TAM-54-JAR
880\88012\POL\88012N02.DWG



PROJECT NO.: 880.12
WELL NO.: BBL-1/MW-9
BY: AMANDA SHEARER
DATE: 3/28/00
CASING ELEVATION:
DEPTH TO WATER UPON COMPLETION:
UNIT MONITORED:

DRILLER: PRECISION DRILLING
DRILLING METHOD: HOLLOW STEM AUGER
TOTAL DEPTH: 12 FEET
SAMPLE TYPE:
SAMPLE INTERVAL:

(DRAWING NOT TO SCALE)

NAVAL AIR STARION KEY WEST
BOCA CHICA, FLORIDA

POL LAB BUILDING

SHALLOW MONITORING WELL CONSTRUCTION DETAIL

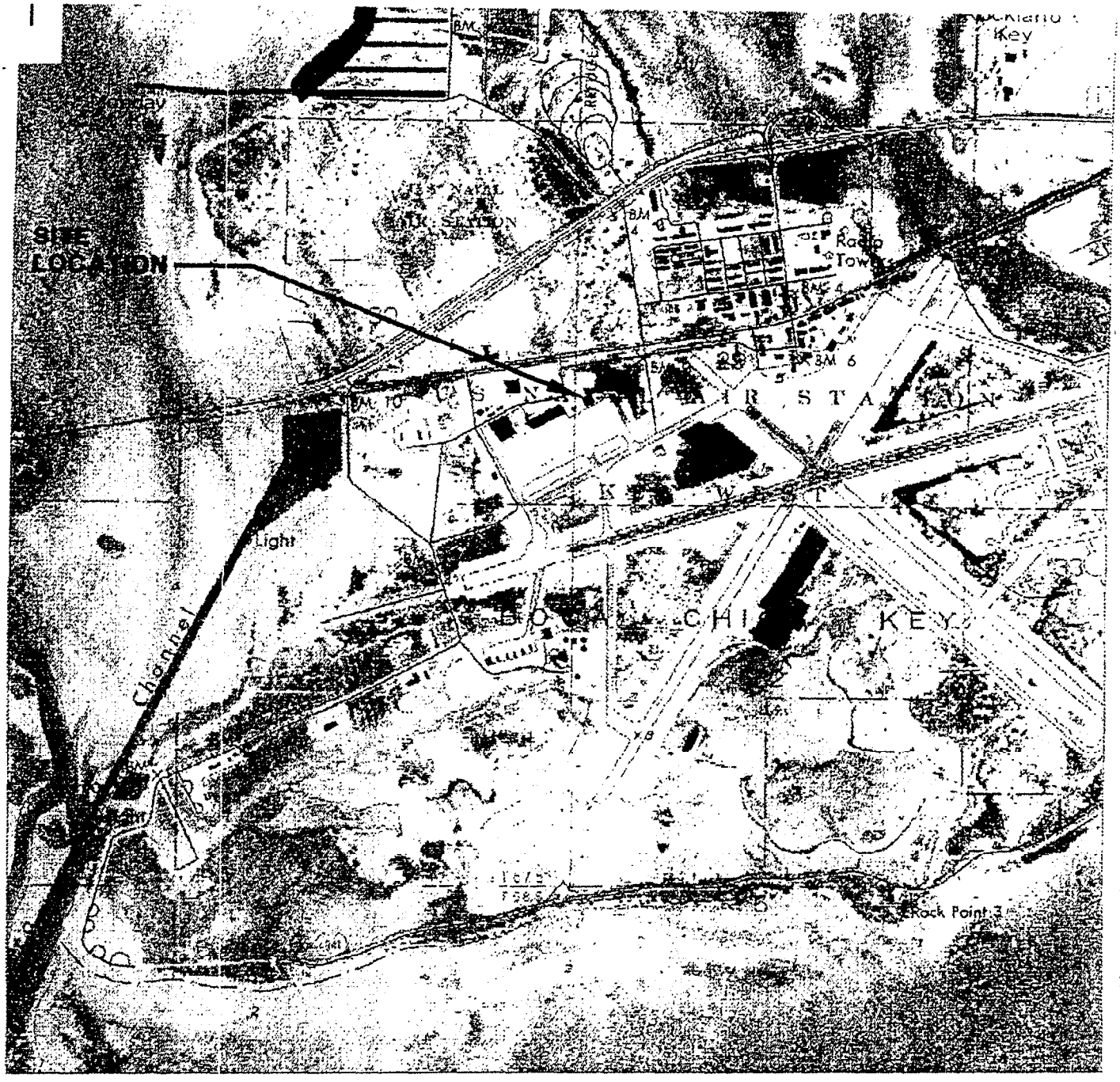
BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

APPENDIX **A**

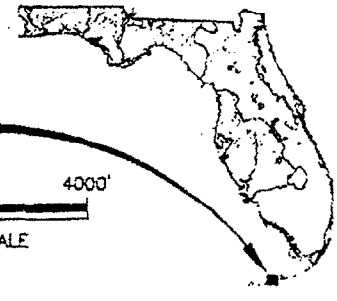
P: STD-PC2/AP
5/4/00 TAM-54-JAR
880\88012\POL\88012N01.DWG

A-902C (Near Truck Fill Stand)

BLASLAND, BOUCK & LEE, INC.
engineers & scientists



SOURCE: USGS 7.5 MIN. TOPOGRAPHIC
QUADRANGLE: BOCA CHICA KEY
REVISION: 1971
COUNTY: MONROE
TOWNSHIP: 67S
RANGE: 26E
SECTION: 29



0 2000' 4000'

APPROXIMATE GRAPHIC SCALE

x: 88012TP.JPG
a: STD-PC2\AP
7/8/98 TAM-54-JAR
88012\88012N01.DWG

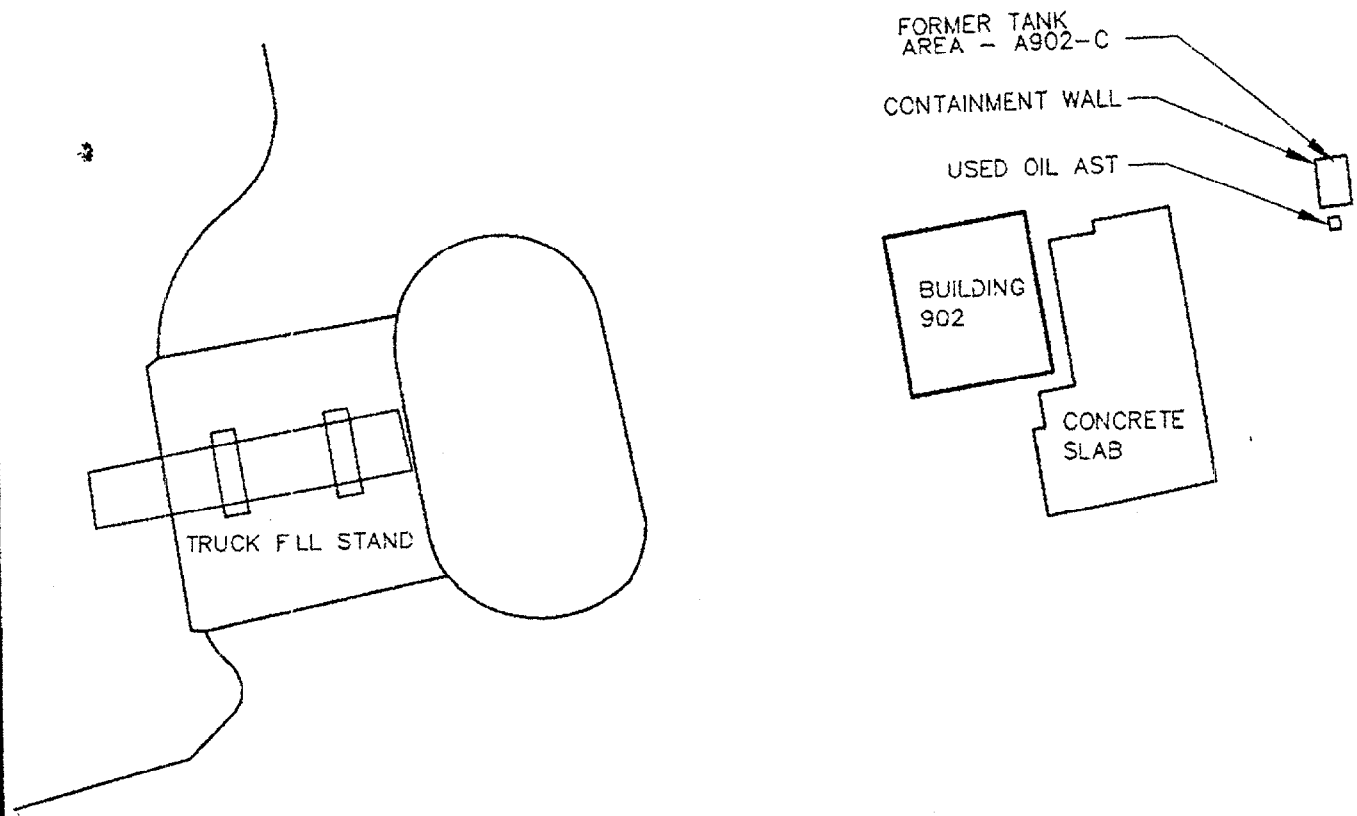
BOCA CHICA TRUCK FILL STAND TANK A-902C
NAS KEY WEST, FLORIDA

LIMITED SITE ASSESSMENT REPORT

SITE LOCATION

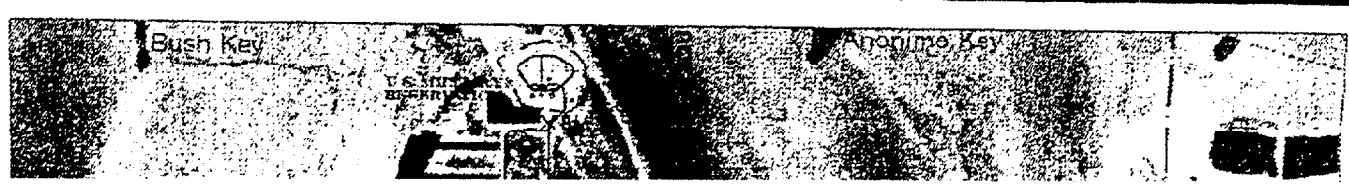
BBL BLASLAND, BOUCK & LEE, INC.
engineers & scientists

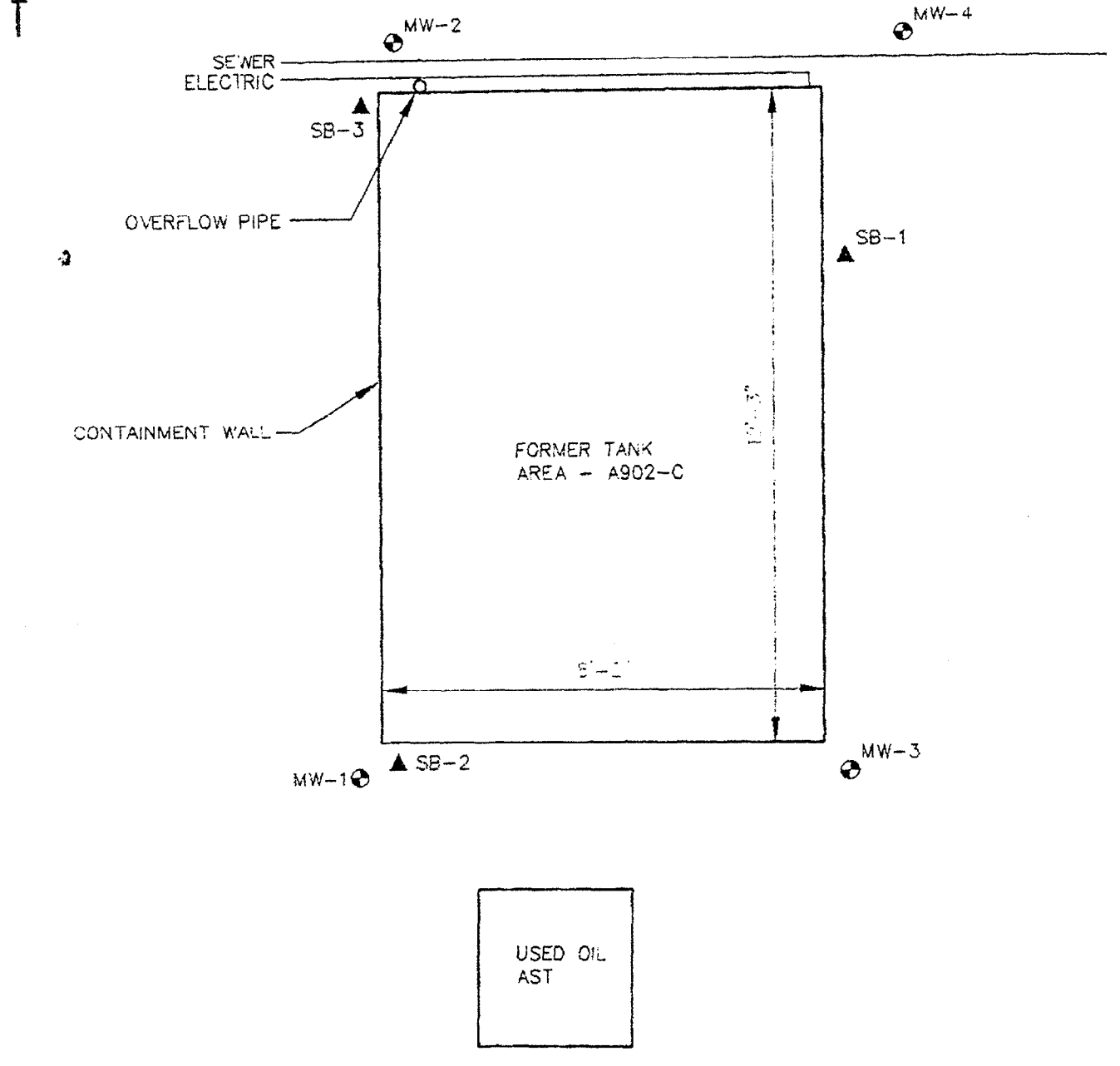
FIGURE 1



BOCA CHICA TRUCK FILL STAND TANK A–902C
NAS KEY WEST, FLORIDA

LIMITED SITE ASSESSMENT REPORT





USED OIL
AST

LEGEND

MW-1 ⊕ MONITORING WELL LOCATION

SB-2 ▲ SOIL BORING LOCATION (BBL)

BOCA CHICA TRUCK FILL STAND TANK A-902C
NAS KEY WEST, FLORIDA

LIMITED SITE ASSESSMENT REPORT

SAMPLING LOCATIONS

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE 3

P: STD-PC2\AF
7/8/99 TAM-54-JAR
88012\88012B02.DWG

CLOSURE ASSESSMENT
ABOVEGROUND STORAGE TANK
BUILDING A-902

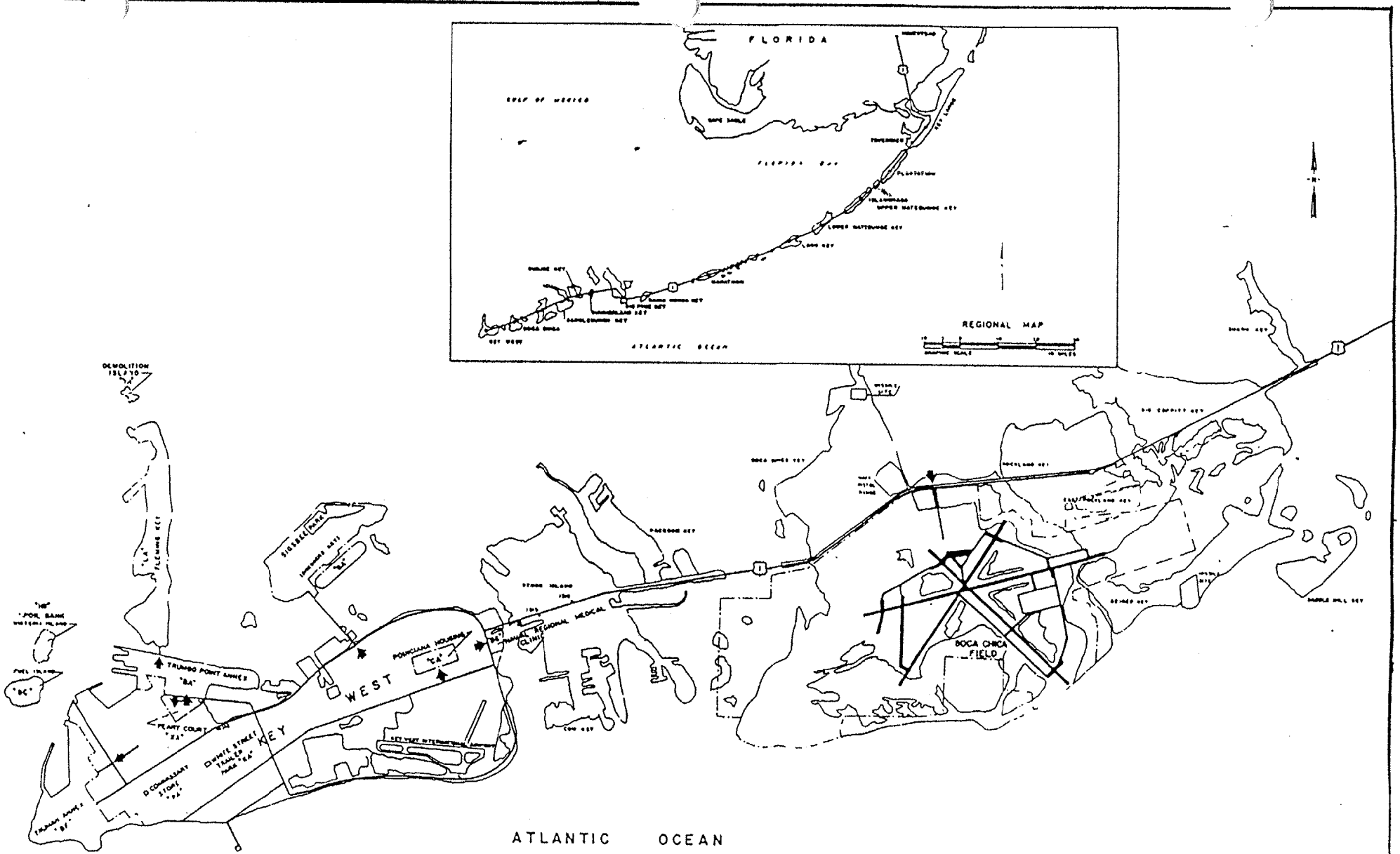
NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA

Unit Identification Code: N00213

Prepared by:

Navy Public Works Center
Environmental Department
310 John Tower Road
Pensacola, Florida, 32508

July 1997



NOTES

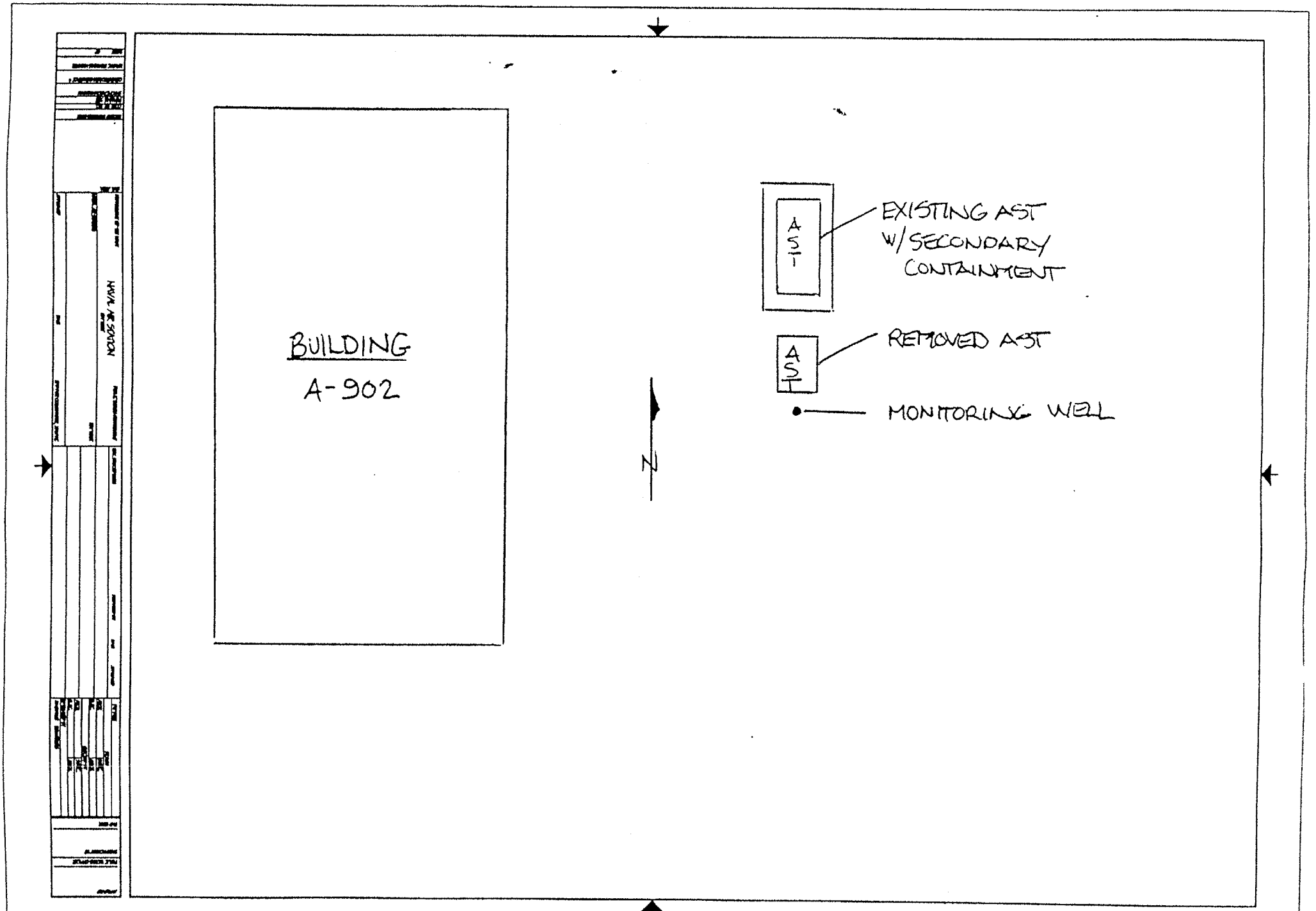
REVISION

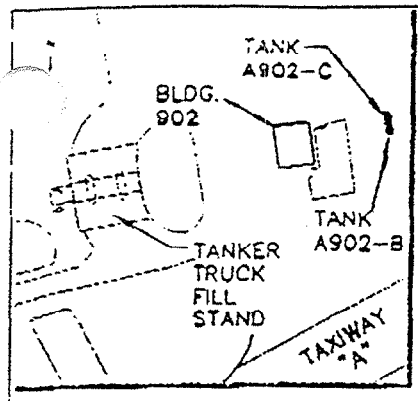
SOUTHERN DIVISION

NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA

GENERAL DEVELOPMENT MAP
REGIONAL AND VICINITY
(EXISTING CONDITIONS)

F 80091 5083575


BUILDING
A-902
AST
EXISTING AST
W/SECONDARY
CONTAINMENT
AST
REMOVED AST
MONITORING WELL
N



VICINITY MAP
SCALE: 1"=200'

N

CONTAINMENT DRAIN

ABOVE GROUND SUPPLY PIPING W/ DISPENSER

MW-2

MW-4

TANK A902-C
800 GALLON AST
UNLEADED GASOLINE
FUEL TANK
6'-4" x 6'-4"
x 4'-8" DEEP

CONCRETE SECONDARY CONTAINMENT

MW-1

MW-3

LAMP POST (TYP.)

BUILDING 902

TANK A902-B
800 GALLON AST
USED OIL TANK
6'-4" x 6'-4"
x 4'-8" DEEP

CONCRETE SLAB

ASPHALT PAVEMENT

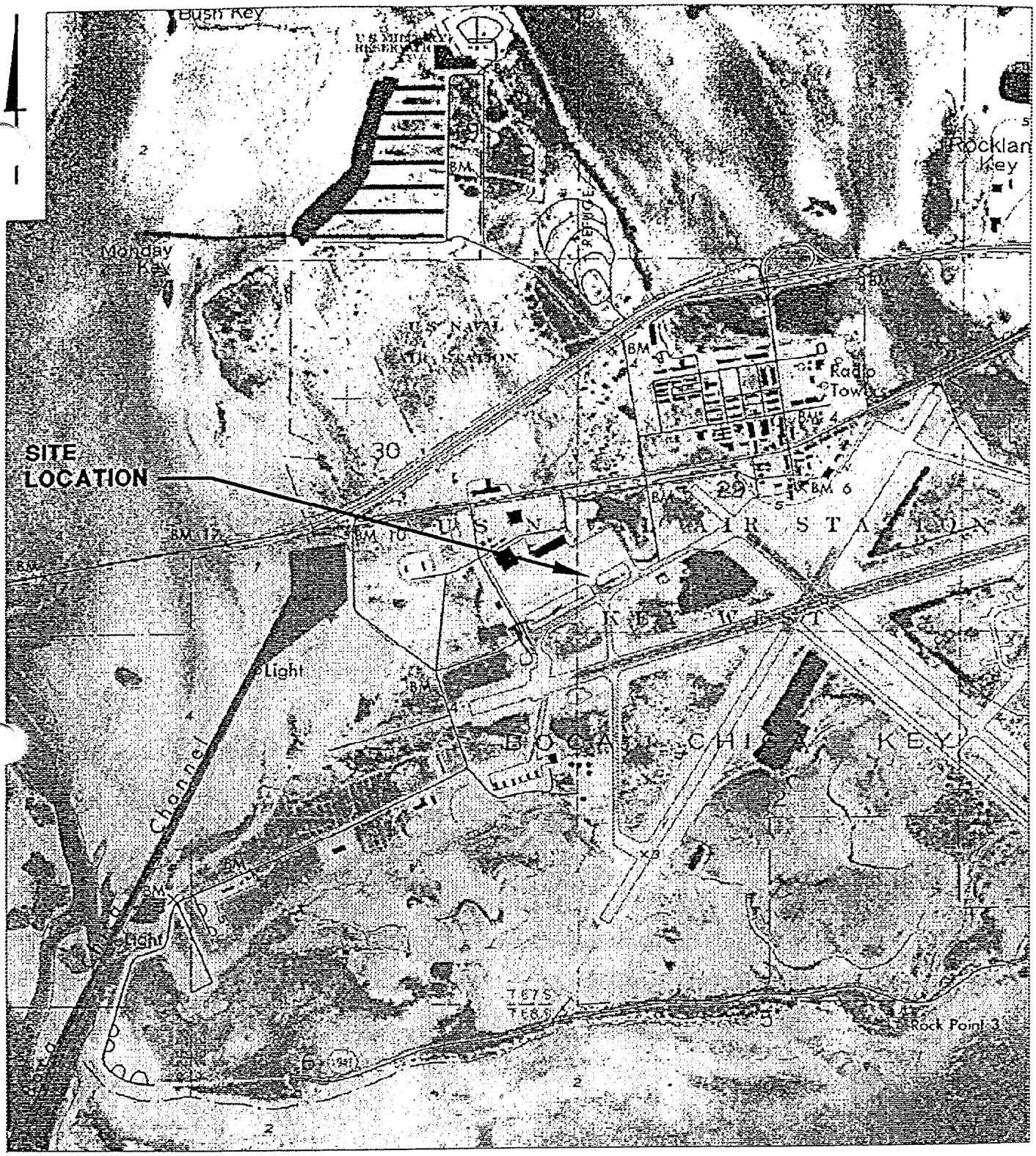
20' 0 20'
SCALE 1"=20' FEET

LEGEND

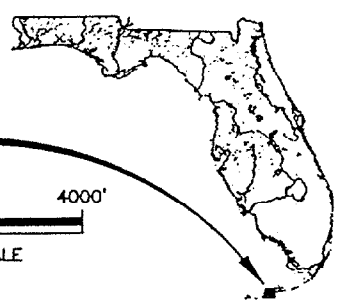
~~~→ APPROXIMATE DIRECTION OF SURFACE WATER FLOW

⊙ MW-1 MONITORING WELL LOCATION / DESIGNATION

PUBLIC WORKS CENTER ENGINEERING PENSACOLA, FLORIDA		
SCALE: 1" = 20' DATE: 11/17/97	FIGURE 1	DRAWN BY: GAC DWG. NO.: SITE REVISED BY:
SITE SPECIFIC AND GROUNDWATER MONITORING WELL LOCATION MAP - SITE A902C. NAS KEY WEST		
CLIENT: PWD KEY WEST (CODE 1883JS)		
~~~

Valve Pit No. 8

BLASLAND, BOUCK & LEE, INC.
engineers & scientists



SOURCE: USGS 7.5 MIN. TOPOGRAPHIC
QUADRANGLE: BOCA CHICA KEY
REVISION: 1971
COUNTY: MONROE
TOWNSHIP: 67S
RANGE: 26E
SECTION: 29



0 2000' 4000'

APPROXIMATE GRAPHIC SCALE

X: NAS-TP.JPG
P: STD-PC2\AP
10/5/98 TAM-54-JAR
860\86014\86014N01.DWG

NAVAL AIR STATION KEY WEST
BOCA CHICA KEY, FLORIDA

VALVE PIT NO. 8

SITE LOCATION

BBL BLASLAND, BOUCK & LEE, INC.
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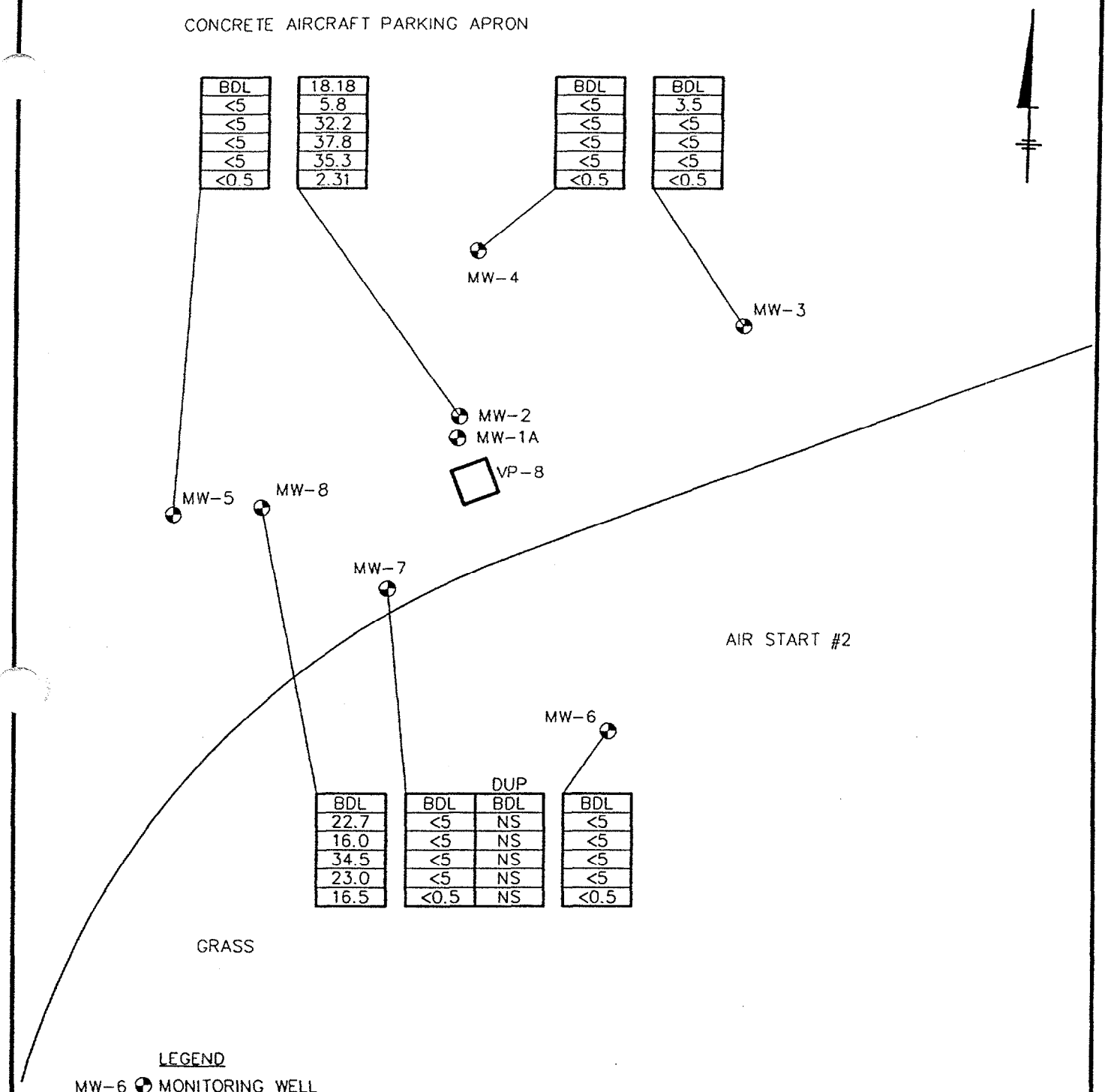
FIGURE 1



LEGEND

MW-6 ◔ MONITORING WELL

SAMPLE DATE 3/29/00 FOR MW-2 – MW-7
SAMPLE DATE 5/10/00 FOR MW-8

BDL	TOTAL VOAs(μg/L)
<1	TOTAL PAHs(μg/L)
<1	NAPHTHALENE(μg/L)
<1	1-METHYLNAPHTHALENE(μg/L)
<1	2-METHYLNAPHTHALENE(μg/L)
<1	TRPH (mg/L)

(μg/L) = MICROGRAMS PER LITER

(mg/L) = MILLIGRAMS PER LITER

BDL = BELOW DETECTION LIMITS
NS = NOT SAMPLED

0 20' 40'

GRAPHIC SCALE

NAVAL AIR STATION KEY WEST
BOCA CHICA KEY, FLORIDA

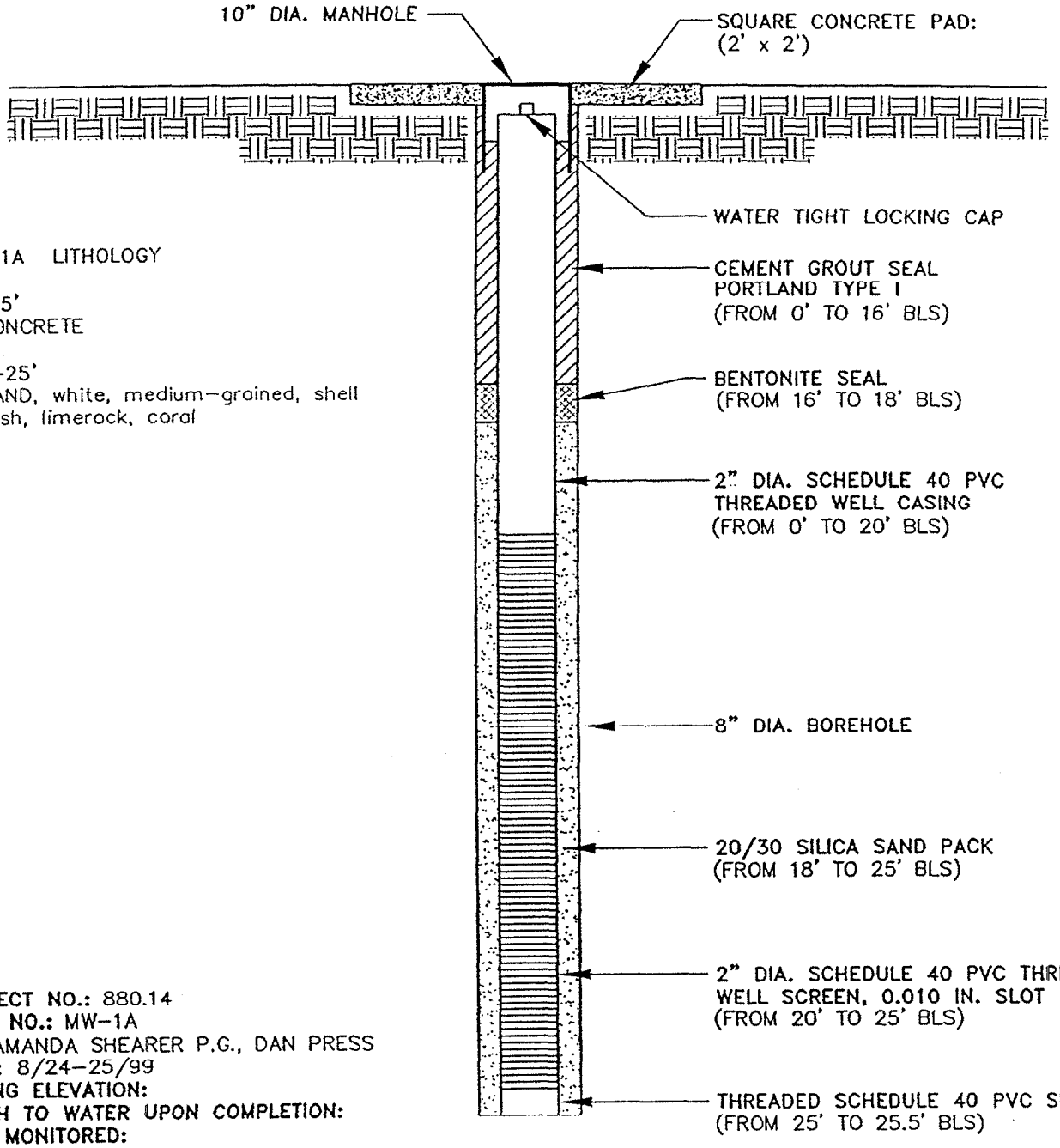
VALVE PIT NO. 8

GROUND WATER ANALYTICAL RESULTS

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE 1

P: STD-PC2\AP
5/26/00 TAM-54-JAR
880\88014\002\88014C01.DWG



MW-1A LITHOLOGY

0-1.5'
CONCRETE

1.5'-25'
SAND, white, medium-grained, shell hash, limerock, coral

(DRAWING NOT TO SCALE)

PROJECT NO.: 880.14
WELL NO.: MW-1A
BY: AMANDA SHEARER P.G., DAN PRESS
DATE: 8/24-25/99
CASING ELEVATION:
DEPTH TO WATER UPON COMPLETION:
UNIT MONITORED:

DRILLER: PRECISION DRILLING
DRILLING METHOD: MUD ROTARY
TOTAL DEPTH: 25 FEET
SAMPLE TYPE:
SAMPLE INTERVAL:

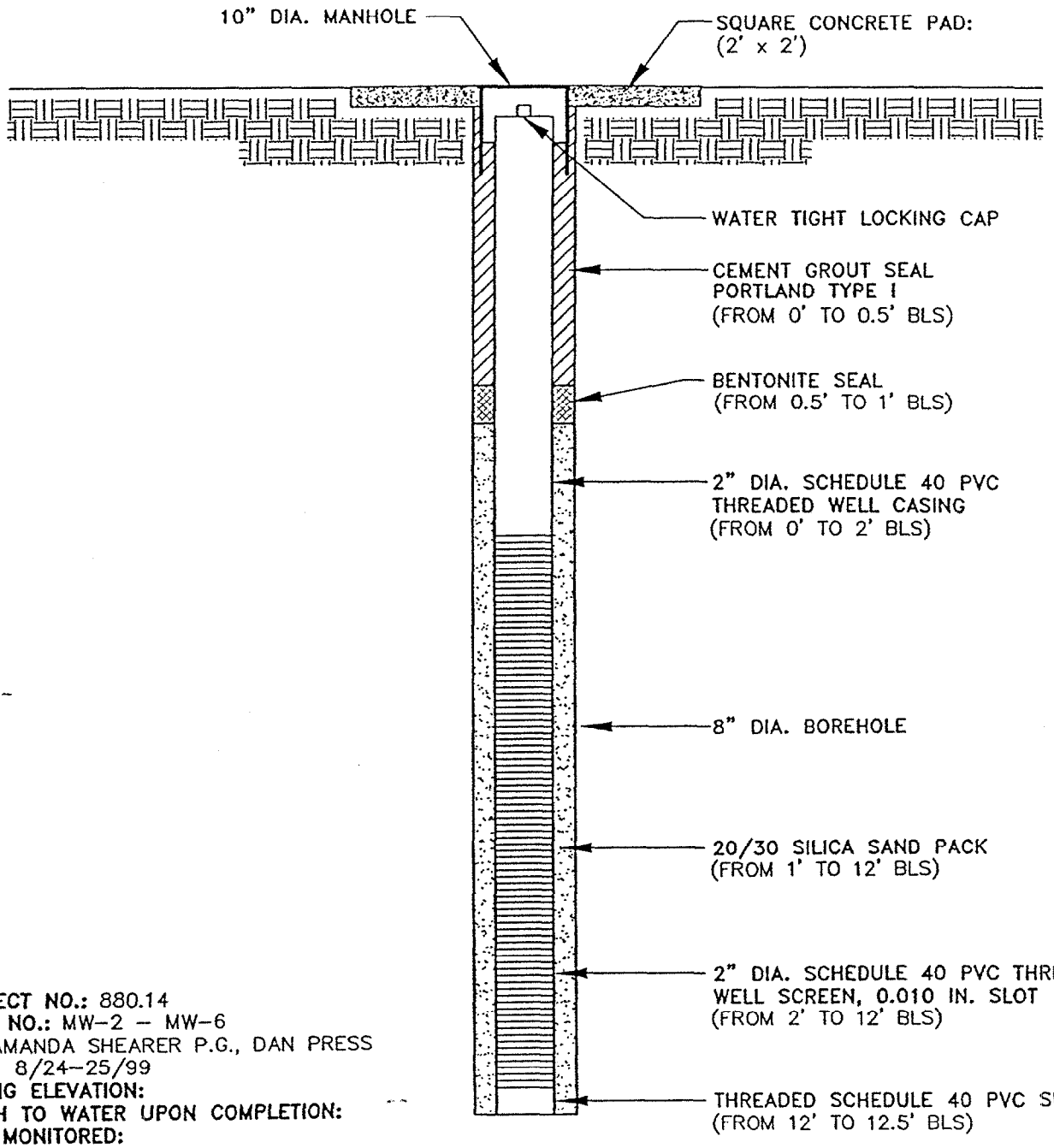
NAVAL AIR STATION KEY WEST
BOCA CHICA KEY, FLORIDA
VALVE PIT NO. 8

DEEP MONITORING WELL CONSTRUCTION DETAIL

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

APPENDIX C

P: STD-PC2\AP
10/29/99 TAM-54-JAR
880\88014\88014N02.DWG



PROJECT NO.: 880.14
WELL NO.: MW-2 – MW-6
BY: AMANDA SHEARER P.G., DAN PRESS
DATE: 8/24-25/99
CASING ELEVATION:
DEPTH TO WATER UPON COMPLETION:
UNIT MONITORED:

DRILLER: PRECISION DRILLING
DRILLING METHOD: HOLLOW STEM AUGER
TOTAL DEPTH: 12 FEET
SAMPLE TYPE:
SAMPLE INTERVAL:

(DRAWING NOT TO SCALE)

NAVAL AIR STATION KEY WEST
BOCA CHICA KEY, FLORIDA

VALVE PIT NO. 8

SHALLOW MONITORING WELL CONSTRUCTION DETAIL

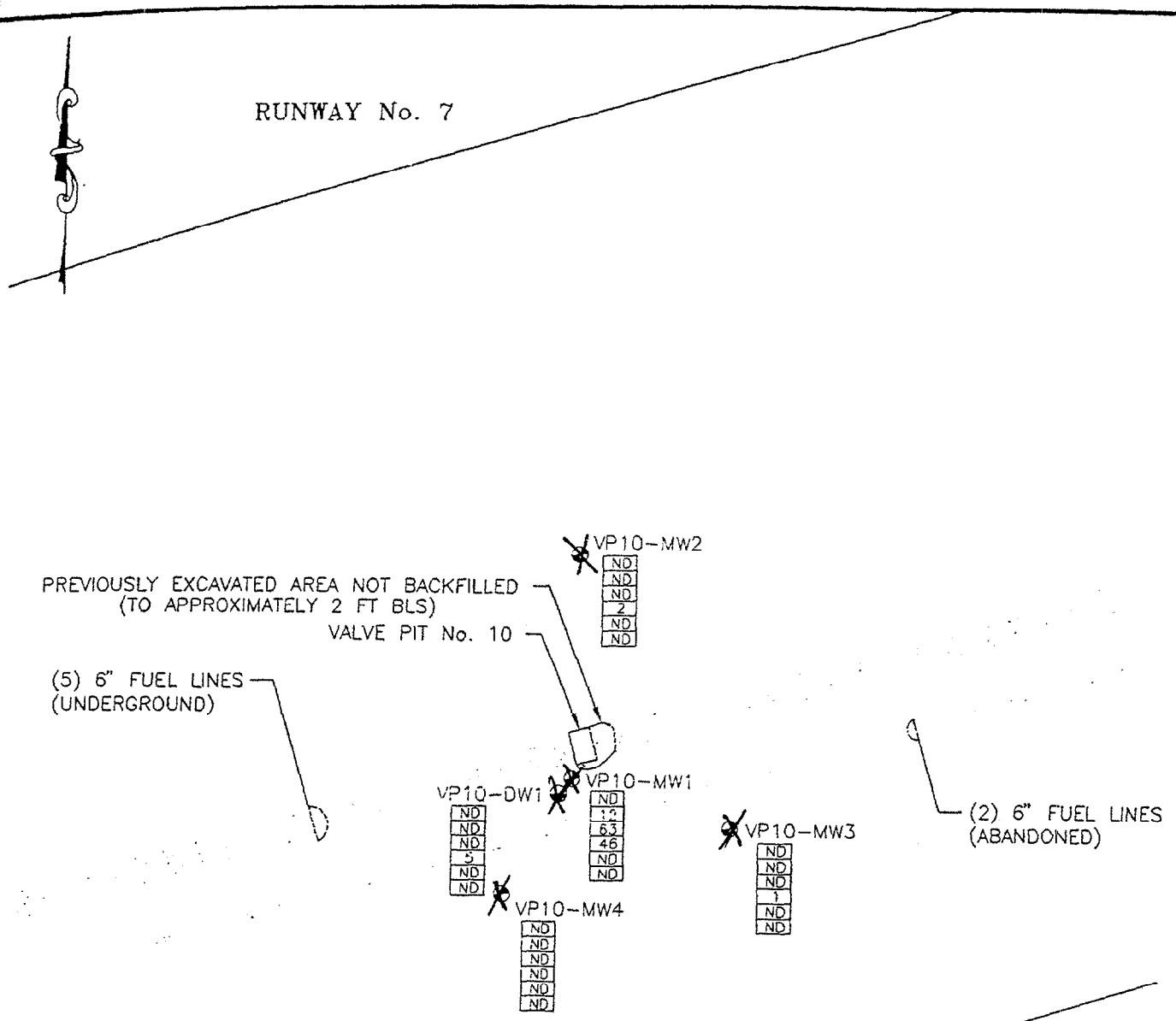
BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

APPENDIX C

P: STD-PC2\AP
10/29/99 TAM-S4-JAR
880\88014\88014C03.DWG

Valve Pit No. 10

BLASLAND, BOUCK & LEE, INC.
engineers & scientists



LEGEND

VP10-MW2 — MONITOR WELL LOCATION (abandoned (grouted))

VP10-DW1 — DEEP MONITOR WELL LOCATION

ND	BENZENE CONCENTRATION, (ug/L)
12	VOA's CONCENTRATION, (ug/L)
63	TOTAL NAPHTHALENES (ug/L)
46	PAH (ug/L)
ND	TRPH (mg/L)
ND	LEAD (ug/L)

(ug/L) = MICROGRAMS PER LITER

(mg/L) = MILLOGRAMS PER LITER

VOA's = SUM OF BENZENE, TOLUENE, ETHYL-BENZENE, AND XYLENES BY USEPA METHOD 602

PAH = POLYNUCLEAR AROMATIC HYDROCARBONS (EXCLUDING NAPHTHALENES)

TRPH = TOTAL RECOVERABLE HYDROCARBONS BY USEPA METHOD 418.1

ND = NOT DETECTED

NOTE: SAMPLES COLLECTED ON NOV. 14, 1995

0 40' 80'

SCALE: 1"=40'

LAYER: MWE,GWAR
1/31/96 27 JHD
8800307R/88003G07.DWG

Source: BBL Inc., 1995

BBL

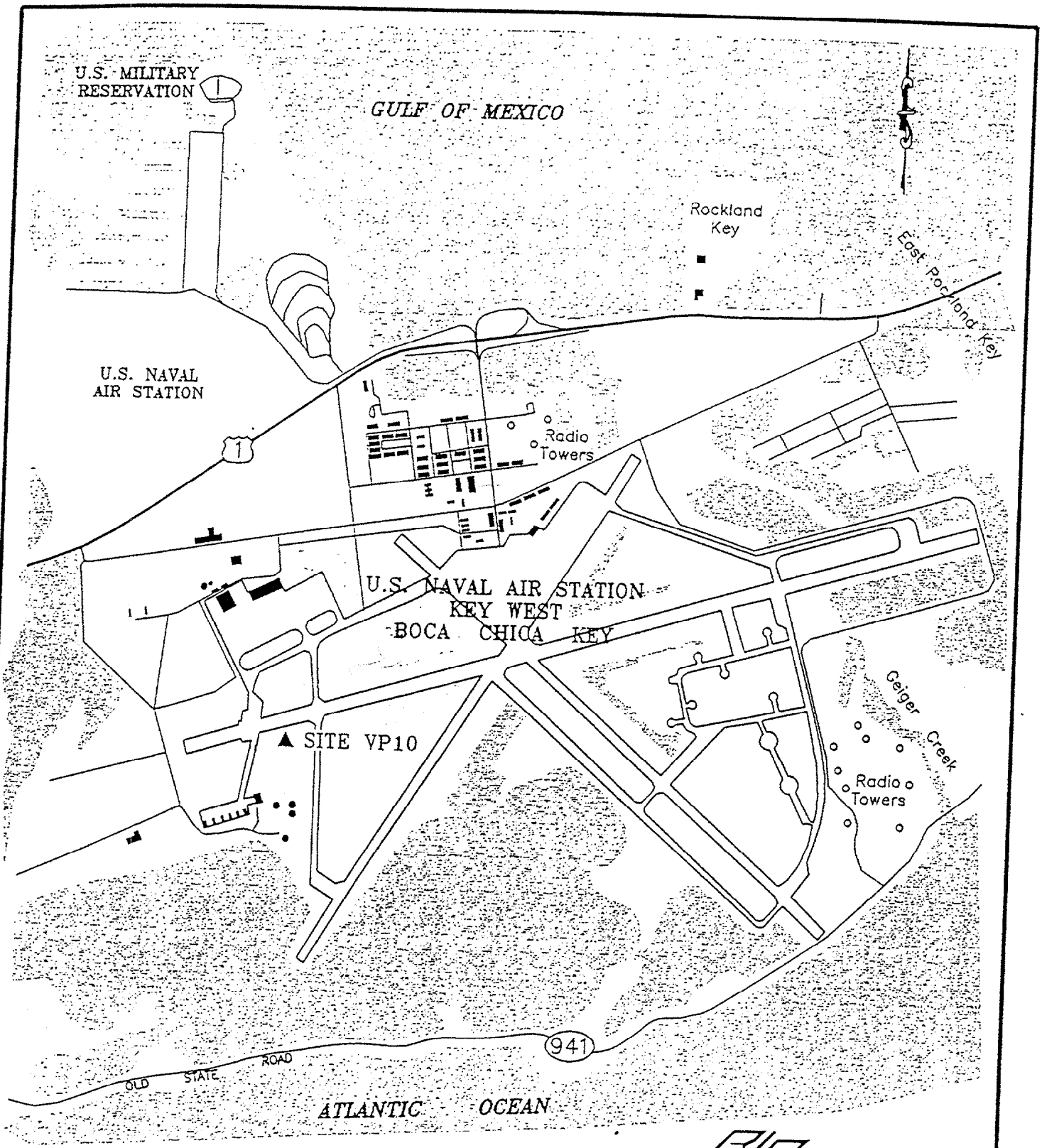
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

NAVAL AIR STATION KEY WEST
BOCA CHICA KEY, FLORIDA

VALVE PIT No. 10

GROUNDWATER ANALYTICAL RESULTS

FIGURE 2-11



2000 1000 0 2000

(IN FEET)
1 INCH = 2000 FT.

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

NAVAL AIR STATION KEY WEST
BOCA CHICA KEY, FLORIDA

VALVE PIT No. 10

SITE LOCATION

FIGURE **1-1**

LAYER:PIT10
1/2/96 27 JHD
B6003307R/B6003GC2.DWG

SOURCE:
U.S.G.S. BOCA CHICA KEY QUADRANGLE AND BBL, 1995

TABLE 2-2
MONITORING WELL COMPLETION SUMMARY

Valve Pit No. 10
Naval Air Station Key West
Key West, Florida

Well	Date Installed	Purpose	Total Well Depth (ft BLS)	TOC Elevation (ft Above MSL)	Well Casing Length (ft)	Screen Length (ft)	Screen Slot Size (in)	Screen Interval (ft BLS)	Type of Completion
VP10-DW1	11/10/95	vertical extent	30[1]	5.29	25	5	0.010	25-30	Flush with bolt-down manhole cover
VP10-MW1	11/10/95	source	11	5.46	1	10	0.010	1-11	Flush with bolt down manhole cover
VP10-MW2	11/10/95	upgradient horizontal extent	11	5.00	1	10	0.010	1-11	Flush with bolt down manhole cover
VP10-MW3	11/10/95	downgradient horizontal extent	11	5.65	1	10	0.010	1-11	Flush with bolt down manhole cover
VP10-MW4	11/10/95	downgradient horizontal extent.	11	5.84	1	10	0.010	1-11	Flush with bolt down manhole cover

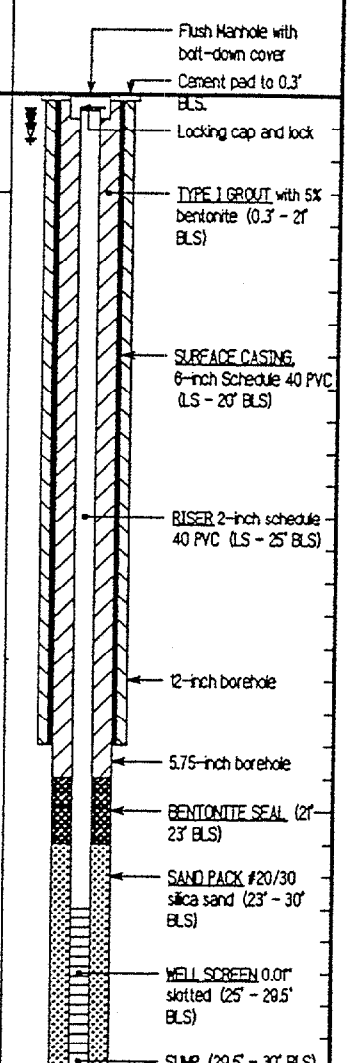
Notes: All monitoring wells are 2 inches in diameter and constructed of Schedule 40 PVC.
[1] Well VP10-DW1 is installed inside a 6-inch diameter schedule 40 PVC surface casing to 20 feet BLS. The casing was installed to prevent transferring contaminated soil and groundwater to the screened interval at 25 to 30 feet BLS.
BLS = below land surface
MSL = mean sea level
in = inches
ft = feet
TOC = top of casing
NA = not applicable

Source: BBL, Inc., 1995.

1295852 tn

Date Start/Finish: 11-9-95 / 11-10-95 **Drilling Company:** Groundwater Protection **Driller's Name:** Robert Miller **Drilling Method:** Direct Mud-Rotary **Bit Size:** 5.75-in. **Auger Size :** 12-in. **Rig Type:** Diedrich 120 **Spoon Size:** 1.5-in.	**Northing:** 1106.68 **Easting:** 1066.40 **Well Casing Elev.:** 4.65 ft. **Corehole Depth:** 32 ft. **Borehole Depth:** 30 ft. **Ground Surface Elev.:** 4.65 ft. **Geologist:** Darin Hinton	**Well No.** VP10-DW1 **Client:** U.S. Navy **Location:** NAS Key West Valve Pit 10

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	FID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 4.65 ft										GROUND SURFACE	
										SOIL - Oolitic sand, limestone gravel, and minor clay	
5	0	1		36 45 40 68		2.0	0				
10	-5	2		25 27 34 33		2.0	0				
15	-10	3		15 27 61 48		2.0	0			Oolitic LIMESTONE, white	
20	-15	4		35 44 65 ref		2.0	0				
25	-20	5		ref		2.0	0				
30	-25										



BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Remarks:

Borehole drilled with hollow-stem auger to 20' for surface casing installation, then by mud-rotary to 30' for well installation. ref = Refusal - rock too compitent for split-spoon penetration.

Saturated Zones

Date / Time	Elevation	Depth
11-15-95 / 0509	3.74	0.91 ▼
11-15-95 / 0850	3.26	1.39 ▼
11-15-95 / 1553	3.57	1.08 ▽

Project: 880.03 Script: nbblwell Date: 01/05/98

Date Start/Finish: 11-10-95 / 11-10-95
Drilling Company: Groundwater Protection
Driller's Name: Mike Brent
Drilling Method: Hollow Stem Auger
Bit Size: N/A-in. **Auger Size :** 8-in.
Rig Type: Diedrich 120
Spoon Size: 1.5-in.

Northing: 1090.05
Easting: 1038.33
Well Casing Elev.: 4.19 ft.
Corehole Depth: n/a ft.
Borehole Depth: 11 ft.
Ground Surface Elev.: 4.19 ft.

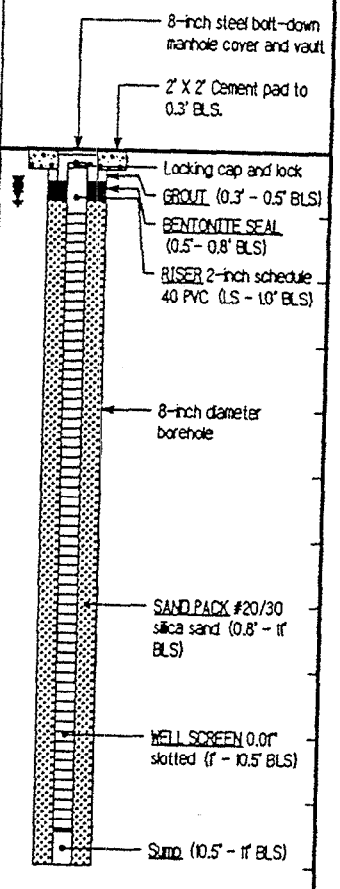
Geologist: Darin Hinton

Well No. VP10-MW4

Client:
U.S. Navy

Location:
NAS Key West
Valve Pit 10

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	FID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description
gs elevation 4.19 ft.									GROUND SURFACE
0	1					0			SOIL - Oolitic sand, limestone gravel, and minor clay
	2					0			
	3					0			
5	4		n/a		n/a	0			Oolitic limestone, white
-5									
10									Bottom of borehole at 11' BLS
-10									
15									



BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Remarks:

Headspace samples were saturated and were collected from auger cuttings.

Saturated Zones

Date / Time	Elevation	Depth
11-15-95 / 0515	3.52	0.67
11-15-95 / 0853	3.37	0.82
11-15-95 / 1557	3.41	0.78

Project: 880.03
Script: nbbiwell
Date: 01/05/98

Date Start/Finish: 11-10-95 / 11-10-95
Drilling Company: Groundwater Protection
Driller's Name: Mike Brent
Drilling Method: Hollow Stem Auger
Bit Size: N/A-in. **Auger Size :** 8-in.
Rig Type: Diedrich 120
Spoon Size: 1.5-in.

Northing: 1145.09
Easting: 1054.70
Well Casing Elev.: 4.45 ft.
Corehole Depth: n/a ft.
Borehole Depth: 11 ft.
Ground Surface Elev.: 4.45 ft.

Geologist: Darin Hinton

Well No. VP10-MW3

Client:
U.S. Navy

Location:
NAS Key West
Valve Pit 10

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	FID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 4.45 ft									GROUND SURFACE	8-inch steel bolt-down manhole cover and vault; 2' X 2' Cement pad to 0.3' BLS.
0	1					0			SOIL - Oolitic sand, limestone gravel, and minor clay	Locking cap and lock; GROUT (0.3' - 0.5' BLS); BENTONITE SEAL (0.5' - 0.8' BLS); RISER 2-inch schedule 40 PVC (LS - 10' BLS)
	2					0				
	3					0				
-5	4		n/a		n/a	0			Oolitic limestone, white	8-inch diameter borehole; SAND PACK #20/30 silica sand (0.8' - 11' BLS); WELL SCREEN 0.01" slotted (1' - 10.5' BLS); Sump (10.5' - 11' BLS)
-10									Bottom of borehole at 11' BLS	

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Remarks:
Headspace samples were saturated and were collected from auger cuttings.

Saturated Zones

Date / Time	Elevation	Depth
11-15-95 / 0513	3.67	0.78 ▼
11-15-95 / 0852	3.34	1.11 ▼
11-15-95 / 1556	3.52	0.93 ▼

Date Start/Finish: 11-10-95 / 11-10-95
Drilling Company: Groundwater Protection
Driller's Name: Robert Miller
Drilling Method: Hollow Stem Auger
Bit Size: N/A-in. **Auger Size :** 8-in.
Rig Type: Diedrich 120
Spoon Size: 1.5-in.

Northing: 1107.58
Easting: 1120.56
Well Casing Elev.: 5.00 ft.
Corehole Depth: n/a ft.
Borehole Depth: 11 ft.
Ground Surface Elev.: 5.00 ft.

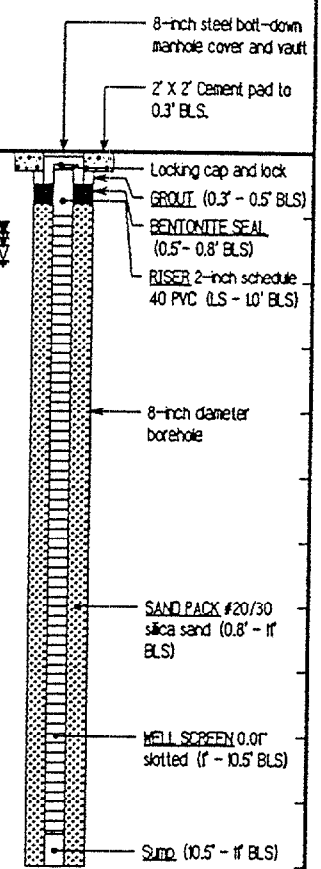
Geologist: Darin Hinton

Well No. VP10-MW2

Client:
U.S. Navy

Location:
NAS Key West
Valve Pit 10

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	FID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description
gs elevation 5.00 ft.										
5										GROUND SURFACE
		1					0			SOIL - Oolitic sand, limestone gravel, and minor clay
		2					0			
		3					0			
5	0	4		n/a		n/a	0			Oolitic limestone, white
10	-5									
15	-10									Bottom of borehole at 11' BLS



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engineers & scientists

Remarks:
Headspace samples were saturated and were collected from auger cuttings.

Saturated Zones

Date / Time	Elevation	Depth
11-15-95 / 0511	3.67	1.33
11-15-95 / 0852	3.31	1.69
11-15-95 / 1555	3.51	1.49

Date Start/Finish: 11-10-95 / 11-10-95
Drilling Company: Groundwater Protection
Driller's Name: Robert Miller
Drilling Method: Hollow Stem Auger
Bit Size: N/A-in. **Auger Size :** 8-in.
Rig Type: Diedrich 120
Spoon Size: 1.5-in.

Northing: 1107.58
Easting: 1068.40
Well Casing Elev.: 4.56 ft.
Corehole Depth: n/a ft.
Borehole Depth: 11 ft.
Ground Surface Elev.: 4.56 ft.

Geologist: Darin Hinton

Well No. VP10-MW1

Client:
U.S. Navy

Location:
NAS Key West
Valve Pit 10

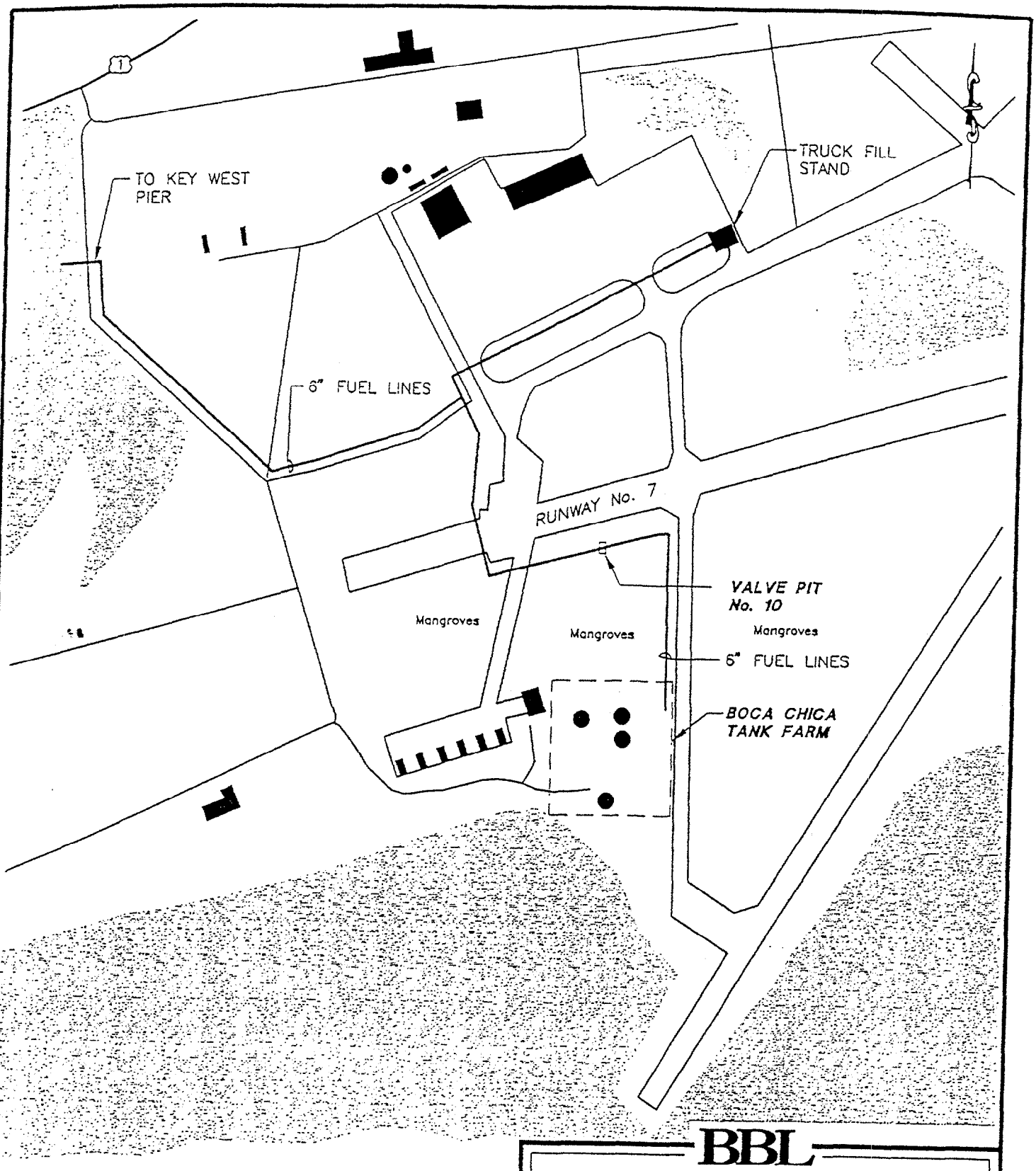
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	FID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 4.56 ft										GROUND SURFACE	8-inch steel bolt-down manhole cover and vault; 2' X 2' Cement pad to 0.3' BLS.
		1					594			SOIL - Oolitic sand, limestone gravel, and minor clay	Locking cap and lock; GROUT (0.3' - 0.5' BLS); BENTONITE SEAL (0.5' - 0.8' BLS); RISER 2-inch schedule 40 PVC (LS - 10' BLS)
		2					294				
		3					94				
0		4		n/a		n/a	0			Oolitic limestone, white	8-inch diameter borehole; SAND PACK #20/30 silica sand (0.8' - 11' BLS); WELL SCREEN 0.01" slotted (1' - 10.5' BLS); Sump (10.5' - 11' BLS)
5											
-5											
10											
-10										Bottom of borehole at 11' BLS	
15											

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Remarks:
Headspace samples were saturated and were collected from auger cuttings.

Saturated Zones

Date / Time	Elevation	Depth
11-15-95 / 0507	3.73	0.83 ▼
11-15-95 / 0850	2.87	1.69 ▽
11-15-95 / 1554	3.58	0.98 ▽



800 400 0 800

(IN FEET)
1 INCH = 800 FT.

SOURCE: U.S.G.S. BOCA CHICA KEY 7.5 MINUTE SERIES (TOPOGRAPHIC) QUADRANGLE DATED 1971

1/3/96 ZT JHD
8600307R/86003G08.DWG

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

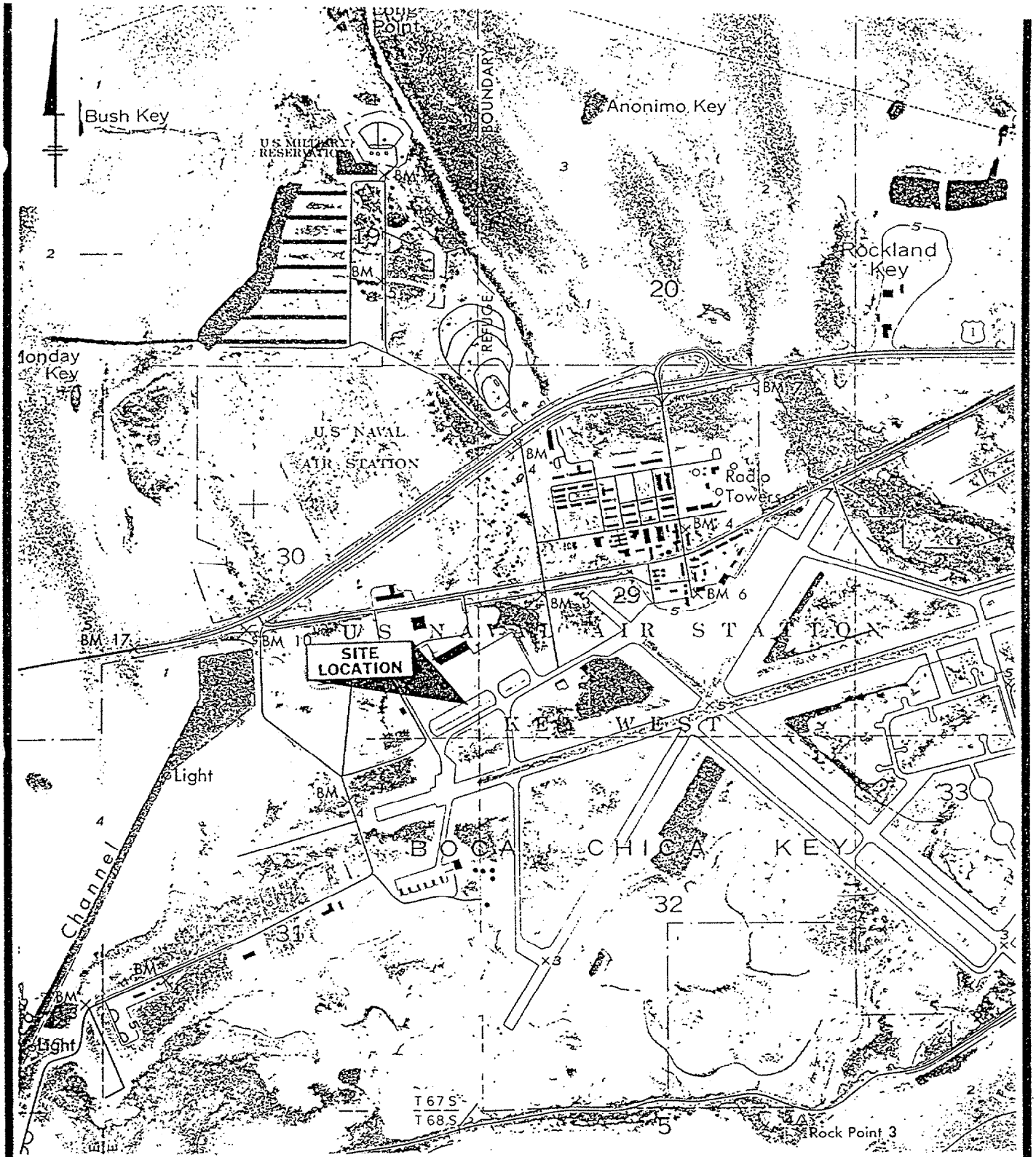
NAVAL AIR STATION KEY WEST
BOCA CHICA KEY, FLORIDA
VALVE PIT No. 10

SITE VICINITY

FIGURE
1-2

Air Start System

BLASLAND, BOUCK & LEE, INC.
engineers & scientists



SOURCE: USGS 7.5 MIN. TOPOGRAPHIC
QUADRANGLE: BOCA CHICA KEY
REVISION: 1971
COUNTY: MONROE
TOWNSHIP: 67S
RANGE: 26E
SECTION: 30

SITE LOCATION

0 2000' 4000'

APPROX. SCALE: 1"=2000'

P: STD-PCP\AP
7.29.97 TAM-54 JAR
88010/88010TP.DWG

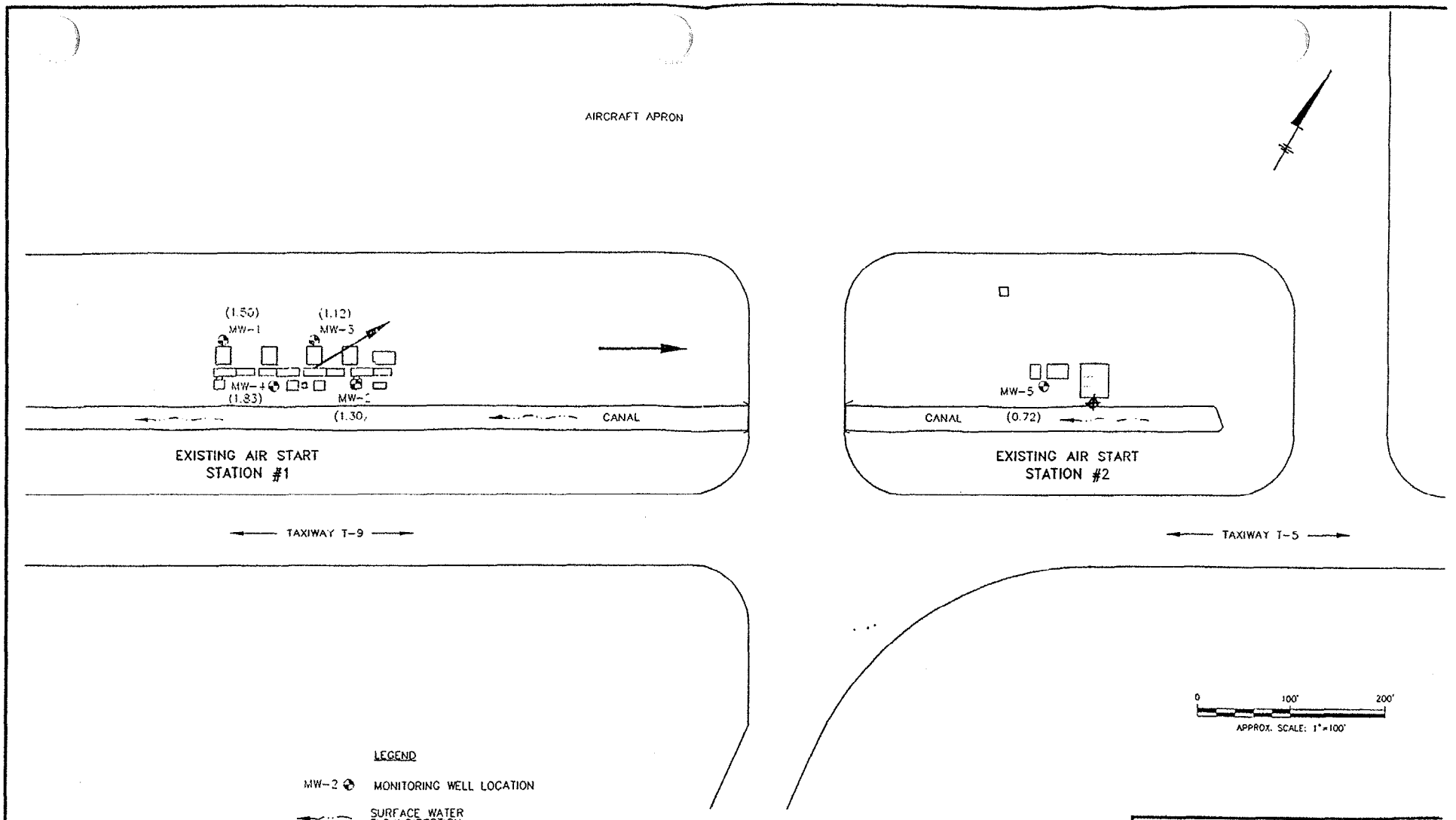
BOCA CHICA AIR START SYSTEM
NAS KEY WEST, FLORIDA

CONTAMINATION ASSESSMENT

SITE LOCATION MAP

BBL BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE 1-1



L: CW-98-2-16-H
X: X88010.DWG
P: 88010.PCP
4/27/98 TAM-54 JAR
c80/10/SA/88010C01.DWG

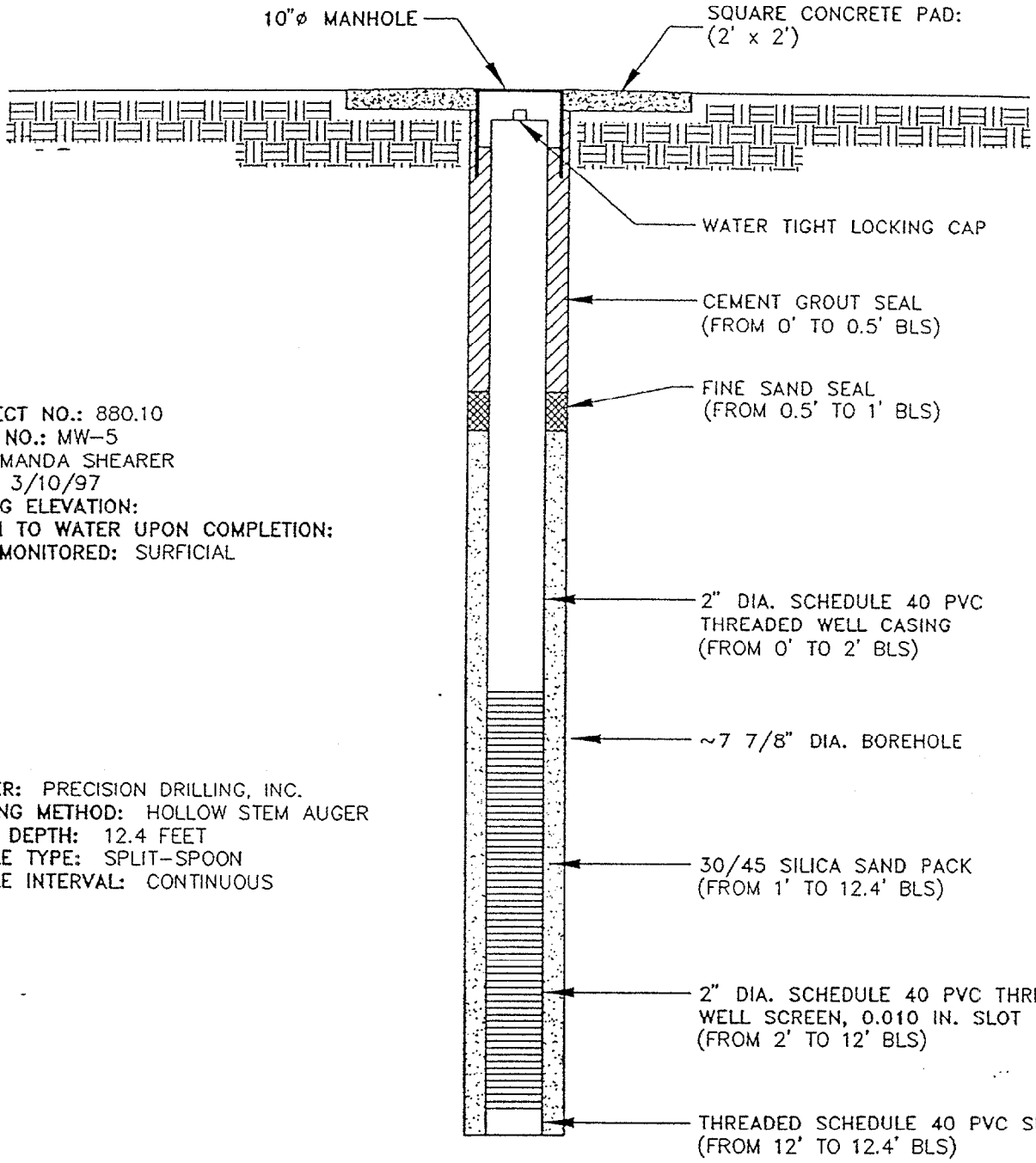
BOCA CHICA AIR START SYSTEM
NAS KEY WEST, FLORIDA
SUPPLEMENTAL ASSESSMENT

GROUNDWATER ELEVATION (2/18/98) HIGH TIDE

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGUR 8

SHALLOW MONITORING WELL



PROJECT NO.: 880.10
WELL NO.: MW-5
BY: AMANDA SHEARER
DATE: 3/10/97
CASING ELEVATION:
DEPTH TO WATER UPON COMPLETION:
UNIT MONITORED: SURFICIAL

DRILLER: PRECISION DRILLING, INC.
DRILLING METHOD: HOLLOW STEM AUGER
TOTAL DEPTH: 12.4 FEET
SAMPLE TYPE: SPLIT-SPOON
SAMPLE INTERVAL: CONTINUOUS

(DRAWING NOT TO SCALE)

BOCA CHICA AIR START SYSTEM
NAS KEY WEST, FLORIDA
CONTAMINATION ASSESSMENT

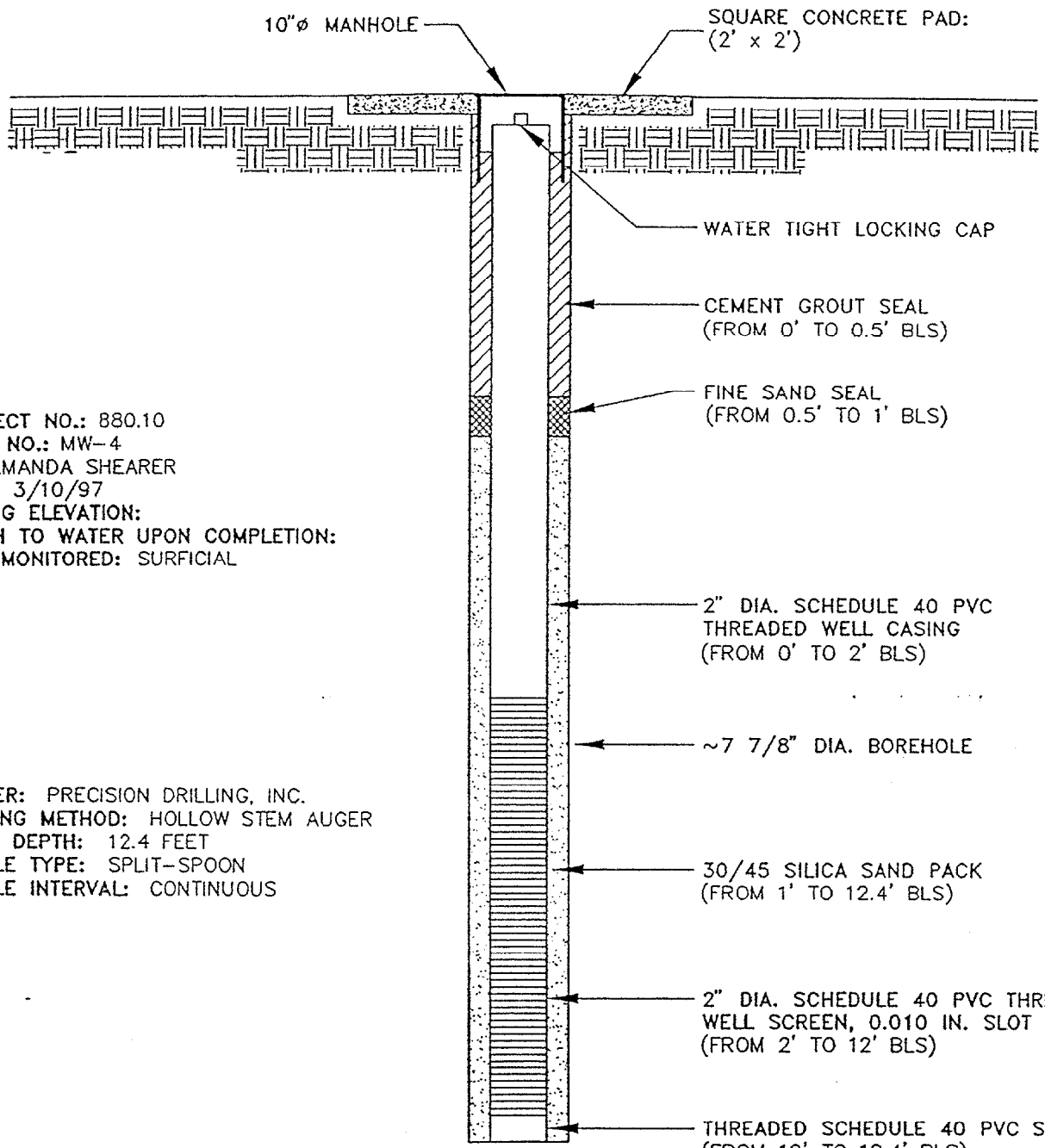
WELL CONSTRUCTION DETAIL

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE A-5

P: STD-PCP\AP
7.29.97 TAM-54 JAR
88010/88010WL5.DWG

SHALLOW MONITORING WELL



PROJECT NO.: 880.10
WELL NO.: MW-4
BY: AMANDA SHEARER
DATE: 3/10/97
CASING ELEVATION:
DEPTH TO WATER UPON COMPLETION:
UNIT MONITORED: SURFICIAL

DRILLER: PRECISION DRILLING, INC.
DRILLING METHOD: HOLLOW STEM AUGER
TOTAL DEPTH: 12.4 FEET
SAMPLE TYPE: SPLIT-SPOON
SAMPLE INTERVAL: CONTINUOUS

(DRAWING NOT TO SCALE)

BOCA CHICA AIR START SYSTEM
NAS KEY WEST, FLORIDA
CONTAMINATION ASSESSMENT

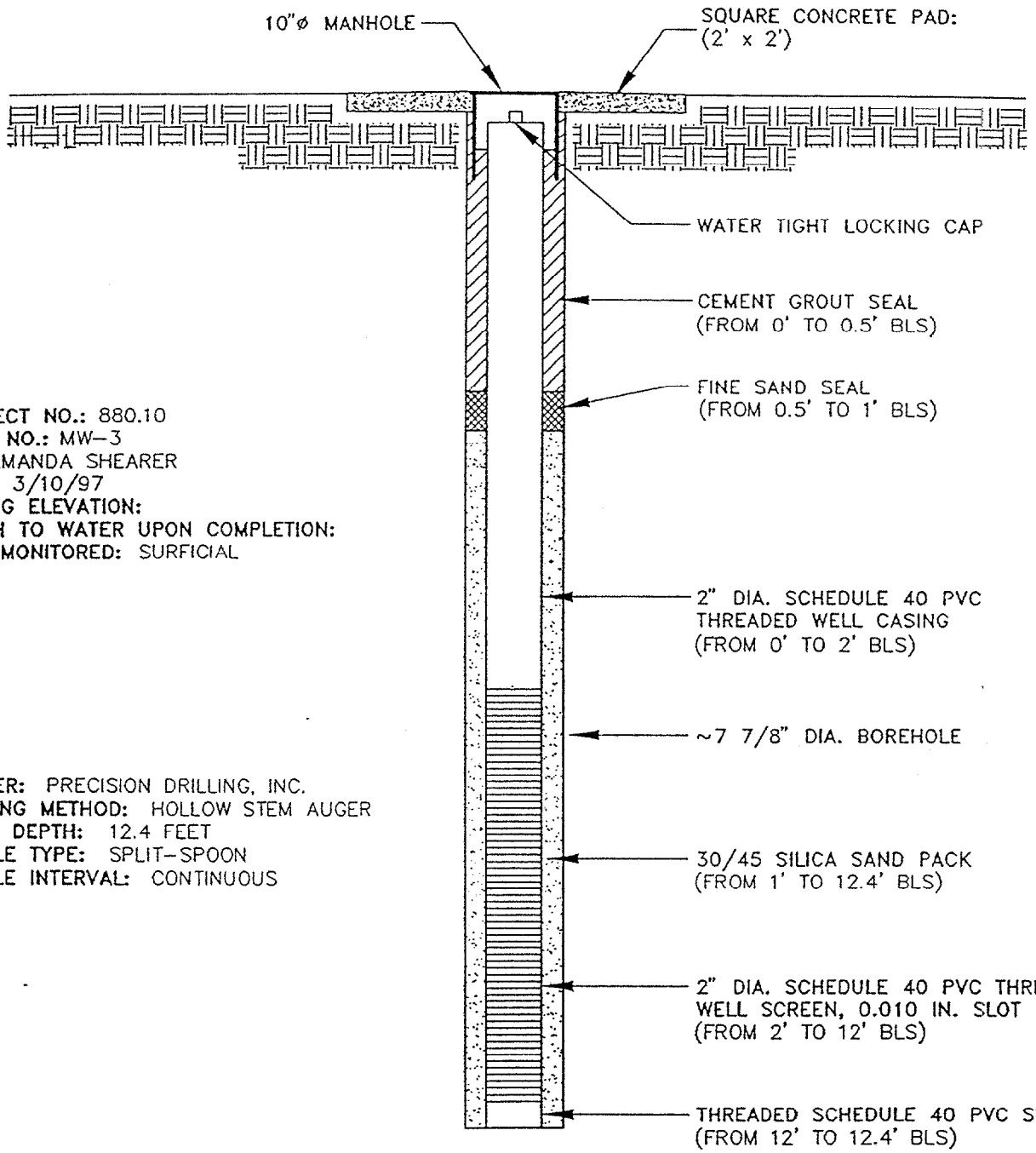
WELL CONSTRUCTION DETAIL

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE A-4

P: STD-PCP\AP
7.29.97 TAM-54 JAR
88010/88010WL4.DWG

SHALLOW MONITORING WELL



PROJECT NO.: 880.10
WELL NO.: MW-3
BY: AMANDA SHEARER
DATE: 3/10/97
CASING ELEVATION:
DEPTH TO WATER UPON COMPLETION:
UNIT MONITORED: SURFICIAL

DRILLER: PRECISION DRILLING, INC.
DRILLING METHOD: HOLLOW STEM AUGER
TOTAL DEPTH: 12.4 FEET
SAMPLE TYPE: SPLIT-SPOON
SAMPLE INTERVAL: CONTINUOUS

(DRAWING NOT TO SCALE)

BOCA CHICA AIR START SYSTEM
NAS KEY WEST, FLORIDA
CONTAMINATION ASSESSMENT

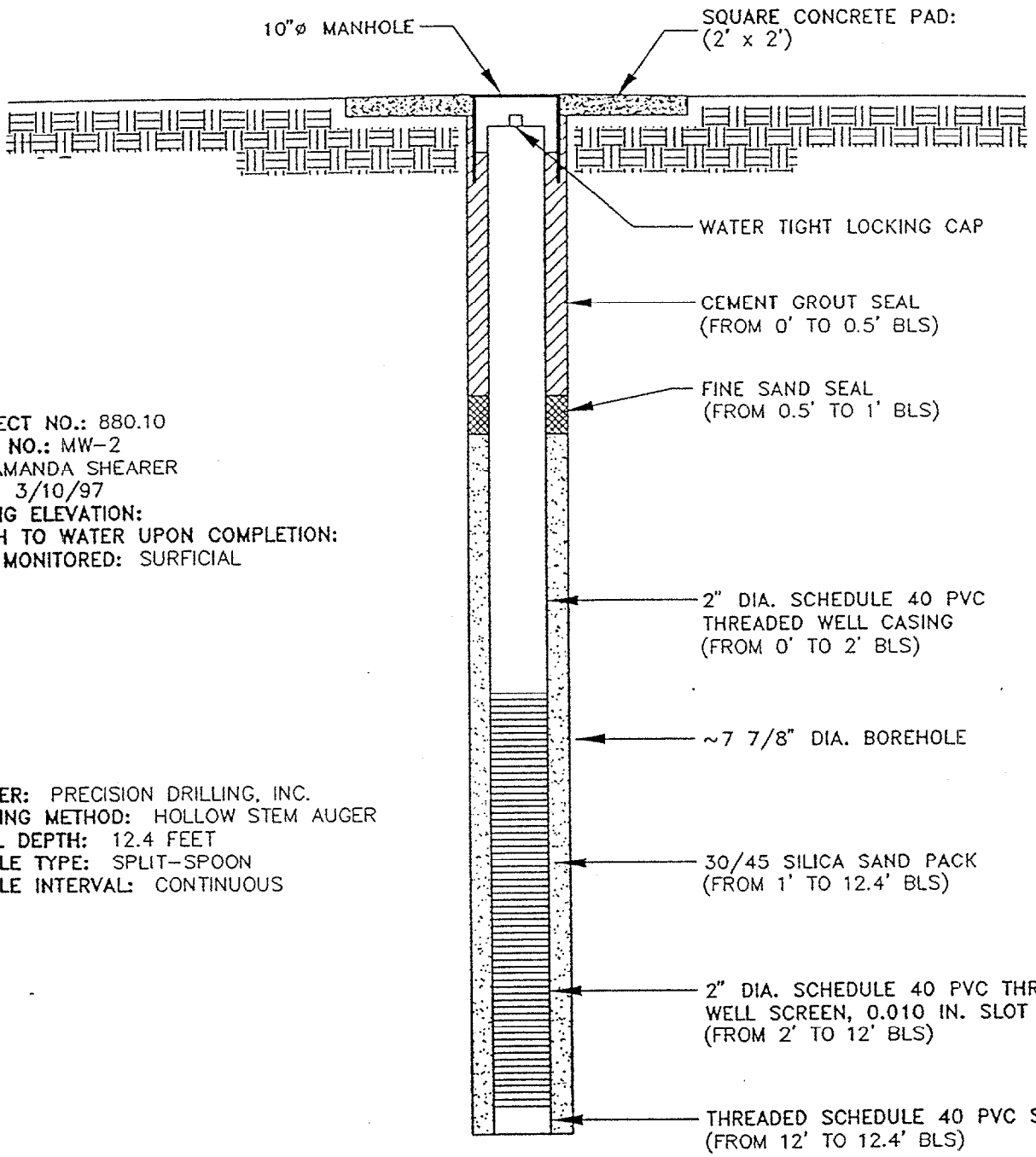
WELL CONSTRUCTION DETAIL

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE A-3

P: STD-PCP\AP
7.29.97 TAM-S4 JAR
88010/88010WL3.DWG

SHALLOW MONITORING WELL



PROJECT NO.: 880.10
WELL NO.: MW-2
BY: AMANDA SHEARER
DATE: 3/10/97
CASING ELEVATION:
DEPTH TO WATER UPON COMPLETION:
UNIT MONITORED: SURFICIAL

DRILLER: PRECISION DRILLING, INC.
DRILLING METHOD: HOLLOW STEM AUGER
TOTAL DEPTH: 12.4 FEET
SAMPLE TYPE: SPLIT-SPOON
SAMPLE INTERVAL: CONTINUOUS

(DRAWING NOT TO SCALE)

BOCA CHICA AIR START SYSTEM
NAS KEY WEST, FLORIDA
CONTAMINATION ASSESSMENT

WELL CONSTRUCTION DETAIL

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE A-2

P: STD-PCP\AP
7.29.97 TAM-54 JAR
88010/88010WL2.DWG

BLASLAND, BOUCK & LEE
ENGINEERS & GEOSCIENTISTS

SAMPLE/CORE LOG

Boring/Well MW-1 SPT-1 Project/No. 880.10 Page 1 of 1

Site Location Boca Chica Air Start Drilling Started 3/10/97 Drilling Completed 3/10/97

Total Depth Drilled 12 feet Hole Diameter ____ inches Type of Sample/ Coring Device ____

Length and Diameter of Coring Device 24" x 2' Sampling Interval ____ feet

Land-Surface Elev. ____ feet ☐ Surveyed ☐ Estimated Datum ____

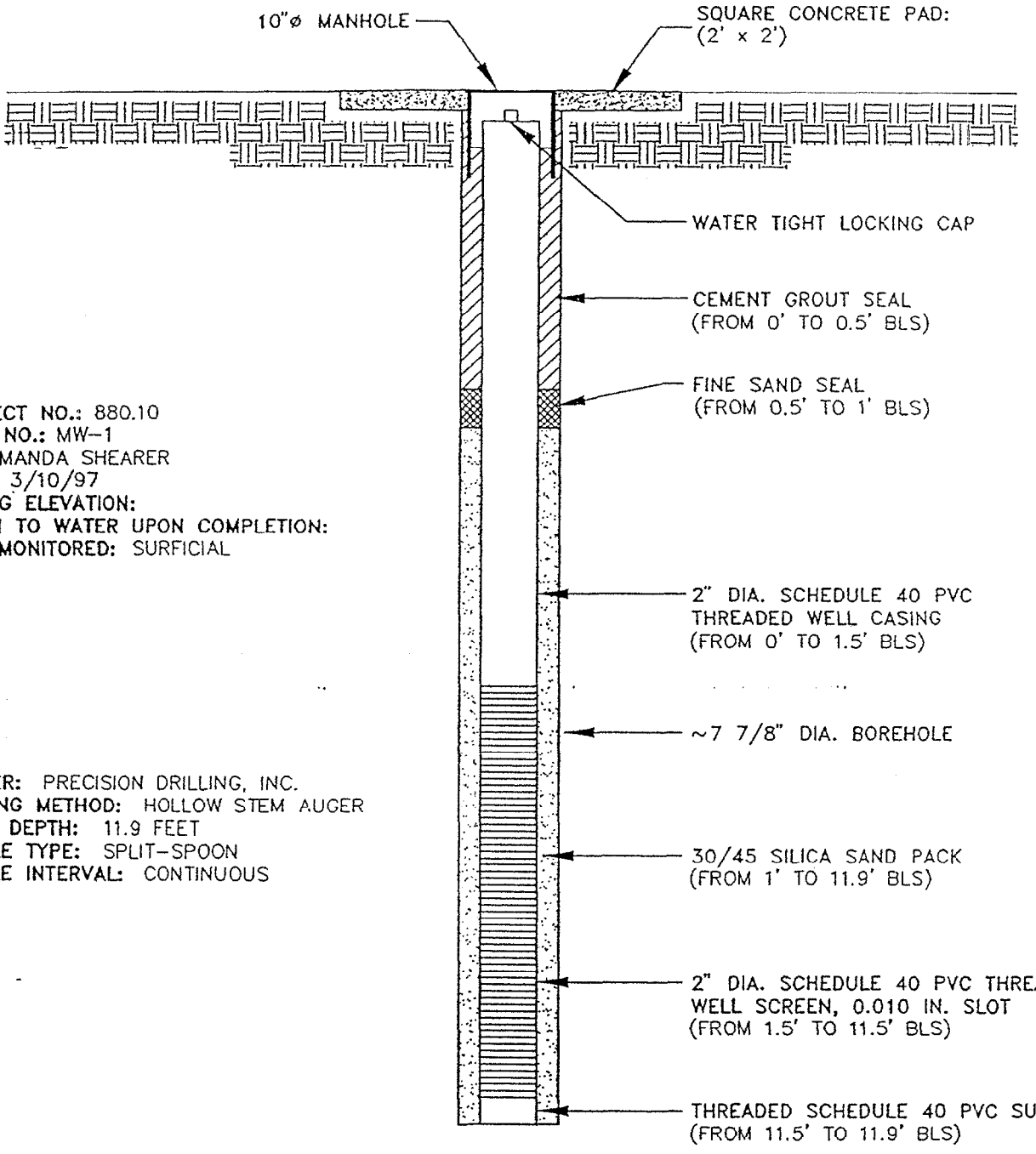
Drilling Fluid Used ____ Drilling Method Hollow Stem

Drilling Contractor Precision Drilling Driller Robert Miller Helper ____

Prepared By Amanda Shearer Hammer Weight ____ Hammer Drop ____ inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	2	Hand Auger		8/1, white oolitic lime sand 10 yr, petro odor
2	4	6"	3,1,2,1	VOID from 2.5 to 3.5, 4',8/1, 10 yr, oolitic lime sand and clay, petro odor
4	6	100%	1,2,2,1	5' change to 4/3, 10 yr, brown silt mixed with consolidated rocks of oolitic lime sand organics, petro odor.
6	8	100%	1,1,1,3	At 7' organic rich silty clay with oolitic lime sand, petro sand
8	10	100%	9,8,10,12	8/1, 10 yr, white oolitic lime sand, petro odor
10	12	100%	10,10, 22,22	Same

SHALLOW MONITORING WELL



PROJECT NO.: 880.10
WELL NO.: MW-1
BY: AMANDA SHEARER
DATE: 3/10/97
CASING ELEVATION:
DEPTH TO WATER UPON COMPLETION:
UNIT MONITORED: SURFICIAL

DRILLER: PRECISION DRILLING, INC.
DRILLING METHOD: HOLLOW STEM AUGER
TOTAL DEPTH: 11.9 FEET
SAMPLE TYPE: SPLIT-SPOON
SAMPLE INTERVAL: CONTINUOUS

(DRAWING NOT TO SCALE)

BOCA CHICA AIR START SYSTEM
NAS KEY WEST, FLORIDA
CONTAMINATION ASSESSMENT

WELL CONSTRUCTION DETAIL

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE A-1

P: STD-PCP\AP
7.29.97 TAM-54 JAR
88010/88010WL1.DWG

TABLE 2-1

Boca Chica Air Start
Naval Air Station Key West, Florida

MONITORING WELL COMPLETION SUMMARY

Well	Date Installed	Purpose	Total Well Depth (ft BLS)	Well Casing Length (ft)	Screen Length (ft)	Screen Slot Size (in)	Sand Pack	Screen Interval (ft BLS)	Type of Completion
MW-1	3/10/97	source	11.5	1.5	10	0.010	30/45	1.5-11.5	flush
MW-2	3/10/97	source	12	2	10	0.010	30/45	2-12	flush
MW-3	3/10/97	source	12	2	10	0.010	30/45	2-12	flush
MW-4	3/10/97	source	12	2	10	0.010	30/45	2-12	flush
MW-5	3/10/97	source	12	2	10	0.010	30/45	2-12	flush

Notes: All monitoring wells are 2 inches in diameter and constructed of Schedule 40 PVC.
BLS = below land surface
in = inches
ft = feet
Source: Blasland, Bouck Lee, Inc., 1997.

Small Arms Rifle Range

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

TABLE 2-3

MONITORING WELL COMPLETION SUMMARY

Small Arms Rifle Range
NAS Key West

Monitor Well	Date Installed	TOC Elevation (ft Above MSL)	Total Well Depth (ft BLS)	Well Casing Length (ft)	Screen Length (ft)	Screen Interval (ft BLS)	Screen Slot Size (in)	6/20 Silica Sand Pack (ft. BLS)	Type of Completion
MW-1	6/11/96	5.05	15	5	10	5 - 15	.020	4-15	Flush Mount
MW-2	6/11/96	4.89	15	5	10	5 - 15	.020	4-15	Flush Mount
MW-3	6/11/96	3.57	15	5	10	5 - 15	.020	4-15	Flush Mount
MW-4	6/11/96	4.02	15	5	10	5 - 15	.020	4-15	Flush Mount
MW-5	6/11/96	5.00	15	5	10	5 - 15	.020	4-15	Flush Mount
MW-6	6/11\96	5.05	15	5	10	5 - 15	.020	4-15	Flush Mount

Notes: All monitoring wells are 2 inches in diameter and constructed of Schedule 40 PVC.
BLS = Below Land Surface MSL = Mean Sea Level (approximate) TOC = Top of Casing ft = feet in = inches

Source: Blasland, Bouck & Lee, Inc., 1996

Date Start/Finish: 6-11-96 / 6-12-96
Drilling Company: Groundwater Protection
Driller's Name: Mark Scanlon
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: 4.25 in.
Rig Type: Diedrich 120
Spoon Size: 1.5 in.

Borehole Depth: 15.2 ft.

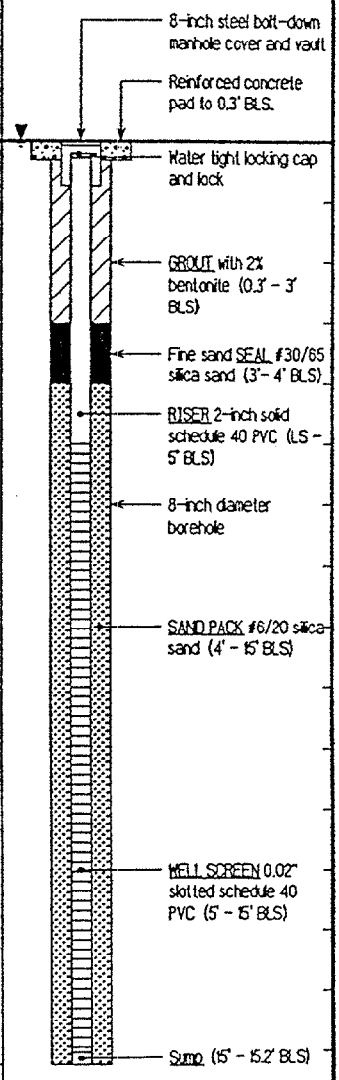
Geologist: Amanda Sheerer

Well No: MW1 - MW6 and SPT1

Client:
NAS Key West

Location:
Small Arms Rifle Range

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	FID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description
									GROUND SURFACE
	1		n/a		n/a				Limestone fill with organics
									Limestone fill
5	2		22 30 44 45		1.6				Oolitic LIMESTONE, silty, white to light buff.
	3		40 50 54 50		2.0				
10	4		40 85 ref.		2.0				Oolitic LIMESTONE, silty, with consolidated 0.5 - 1-inch diameter oolitic gravel, white to light buff.
	5		>60 ref.		0				
	6		ref.		1.6				
16									



BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

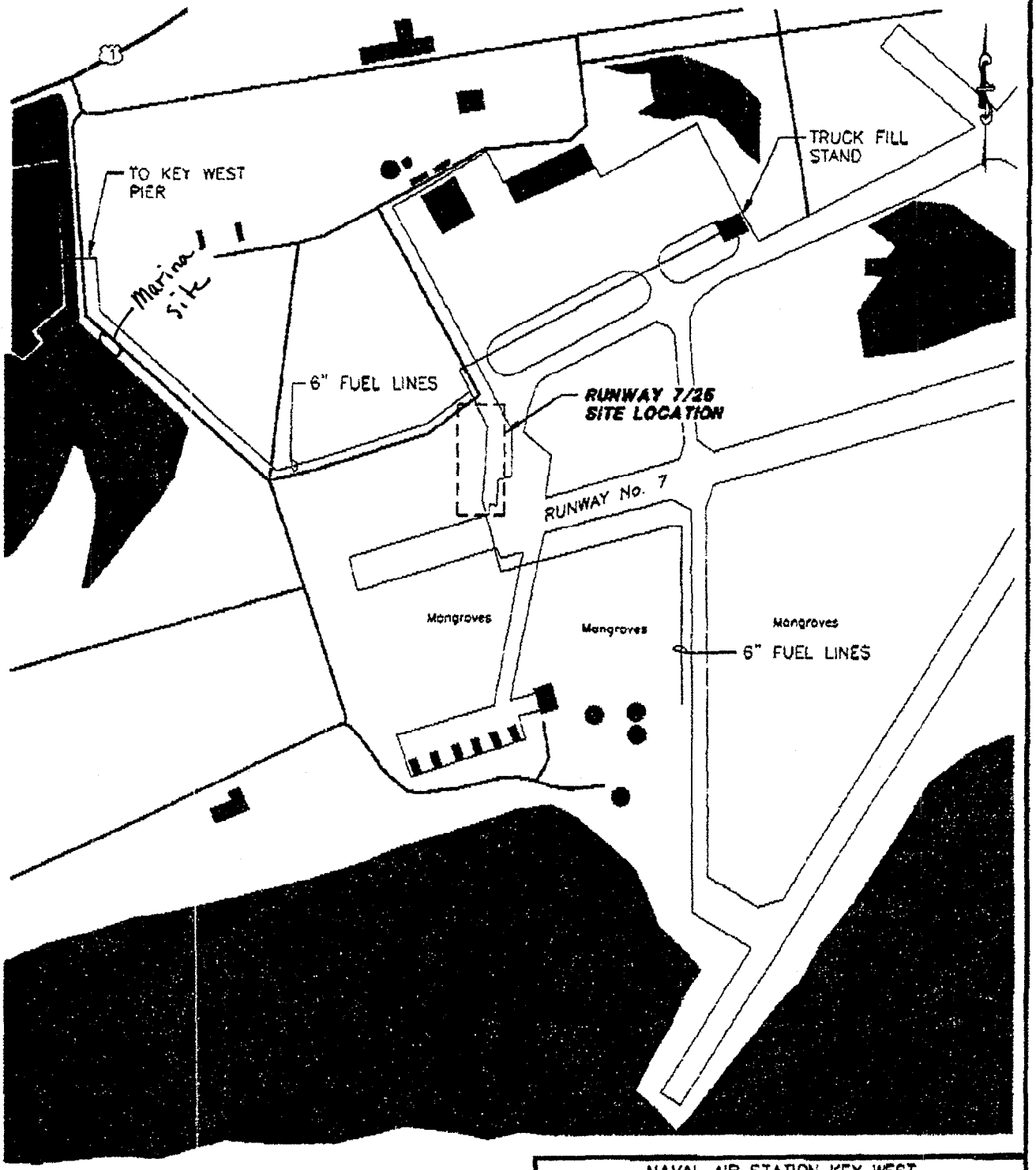
MONITOR WELLS MW-1 - MW-6

FIGURE
2-2

8/96 TAM-54 JAR, 8800401R/88004G06.DWG

Boca Chica Pipeline - Runway 7/25 Site

BLASLAND, BOUCK & LEE, INC.
engineers & scientists



NAVAL AIR STATION KEY WEST
BOCA CHICA KEY, FLORIDA
RUNWAY 7/25 SITE

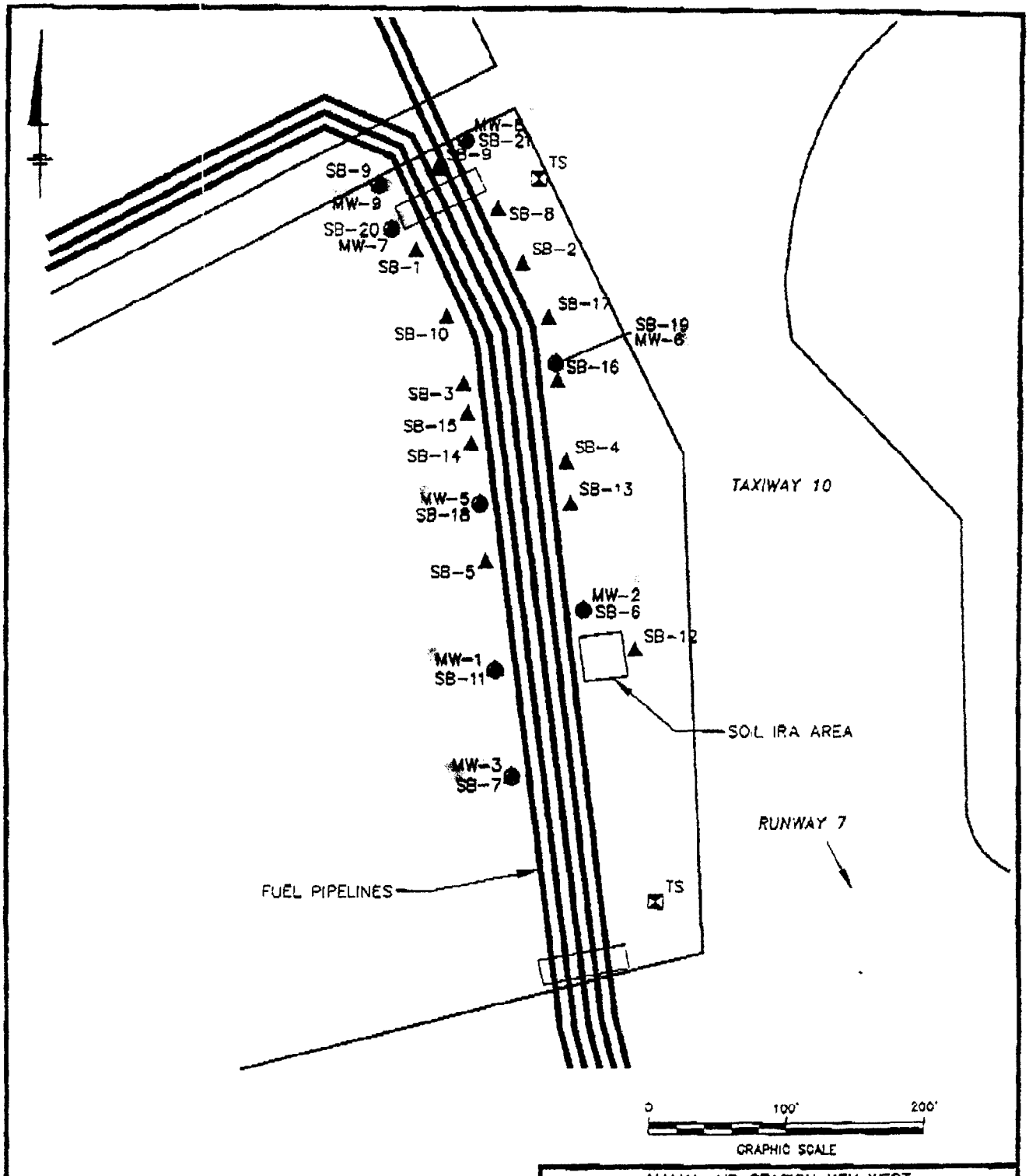
SITE VICINITY MAP

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 1-2

P: STD-FC2\AP
7/14/00 CRL-54-JNO TAM-54-JAR
BBC\85021\001\85021901.DWG

SOURCE: U.S.G.S. BOCA CHICA KEY 7.5 MINUTE SERIES (TOPOGRAPHIC) QUADRANGLE DATED 1971



NAVAL AIR STATION KEY WEST
BOCA CHICA KEY, FLORIDA

TAXIWAY 10 SITE

UTILITY MAP

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

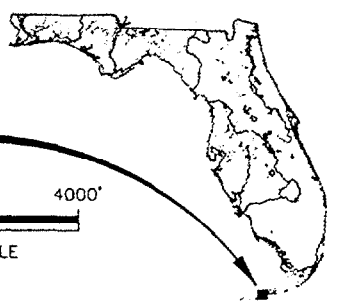
FIGURE 1-3

P: STD-PSZ\AP
7/17/00 TAM-54-JAR
680\66021\pc1\66021802.DWG

Boca Chica Pipeline - Marina Site

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

SOURCE: USGS 7.5 MIN. TOPOGRAPHIC
QUADRANGLE: BOCA CHICA KEY
REVISION: 1971
COUNTY: MONROE
TOWNSHIP: 67S
RANGE: 26E
SECTION: 30



0 2000' 4000'

APPROXIMATE GRAPHIC SCALE

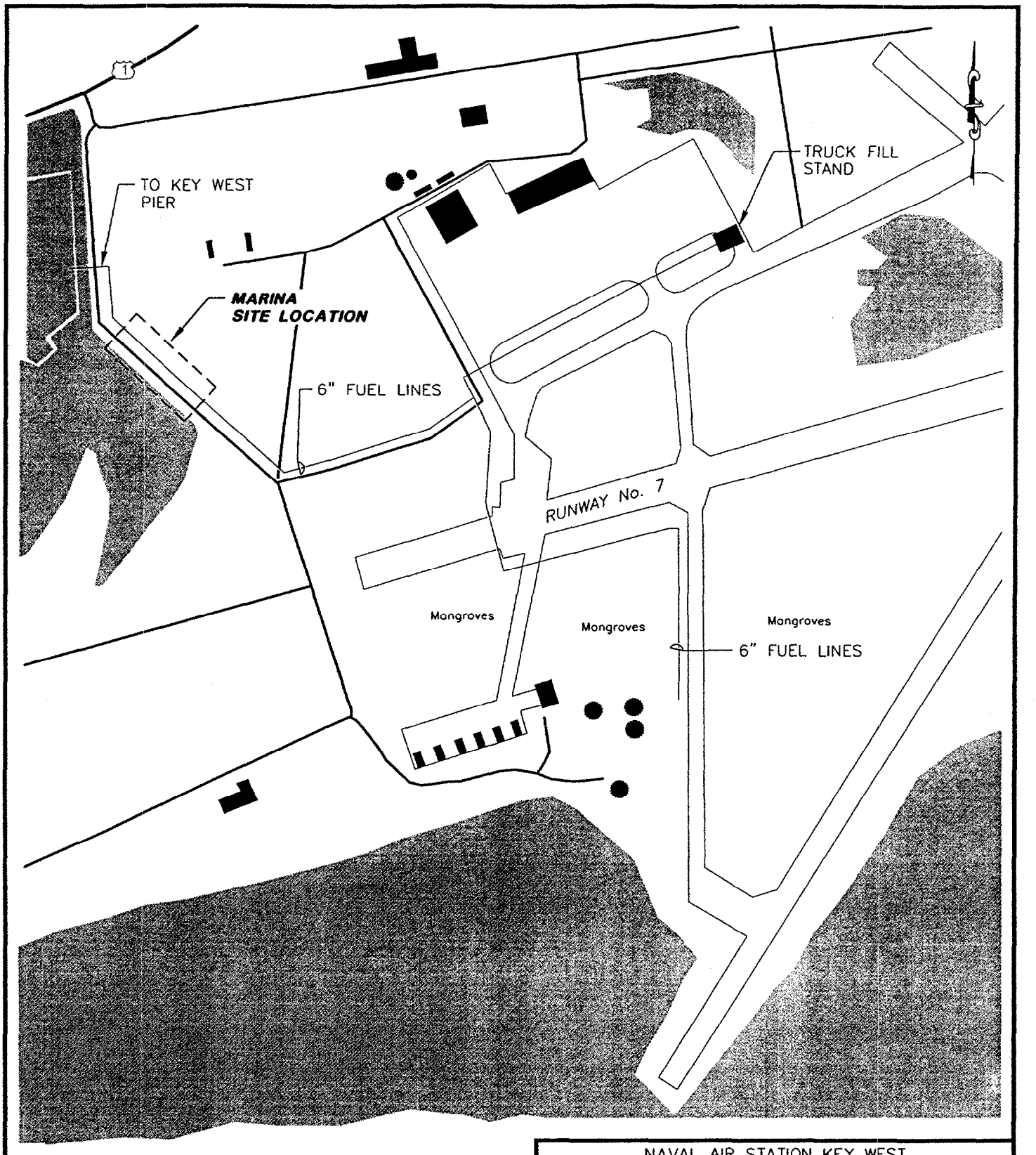
X: NAS-TP.JPG
P: STD-PC2\AP
7/14/00 TAM-54-JAR
880\88021\002\88021N01.DWG

NAVAL AIR STATION KEY WEST
BOCA CHICA KEY, FLORIDA
MARINA SITE

SITE LOCATION

BBL BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE
1-1



NAVAL AIR STATION KEY WEST
BOCA CHICA KEY, FLORIDA

MARINA SITE

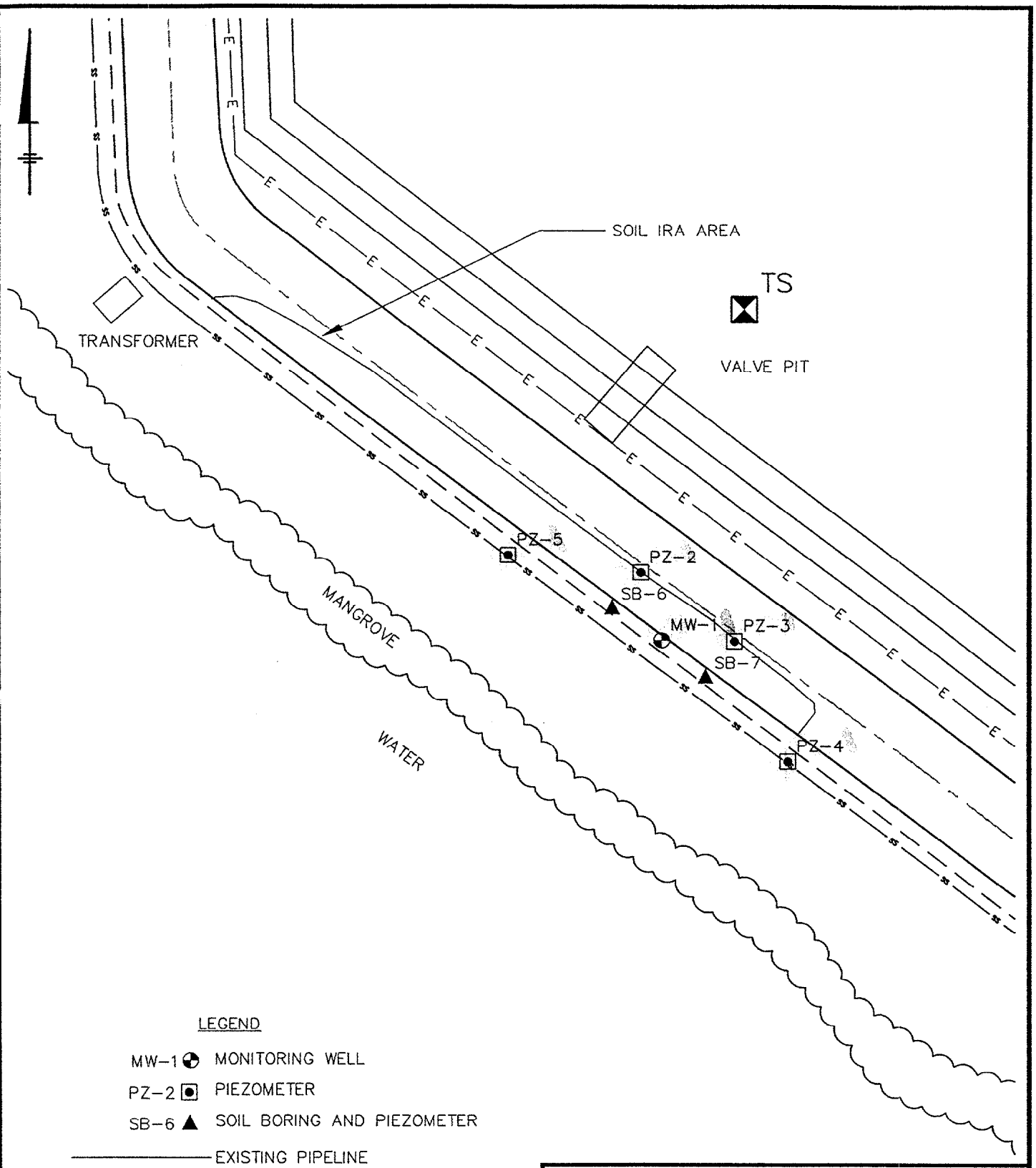
SITE VICINITY MAP

BBL BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE 1-2

P: STD-PC2\AP
7/14/00 ORL-54-JHD TAM-54-JAR
880\88021\002\88021801.DWG

SOURCE: U.S.G.S. BOCA CHICA KEY
7.5 MINUTE SERIES (TOPOGRAPHIC)
QUADRANGLE DATED 1971



X: NAS-TP.JPG
P: STD-PC2\AP
7/14/00 TAM-54-JAR
880\88021\002\88021N01.DWG

NAVAL AIR STATION KEY WEST
BOCA CHICA KEY, FLORIDA

BOCA CHICA PIPELINE SAR

UTILITY MAP
MARINA SITE

BBL BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE
1-4

Trumbo Point Sites

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

C-12 Trumbo Point Annex

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

wells abandoned/grouted no AST/UST

SITE ASSESSMENT REPORT
FDEP FACILITY ID NUMBER 44/9400070

SITE C-12, TRUMBO POINT ANNEX
FORMER SITE OF NAVAL EXCHANGE SERVICE STATION
KEY WEST, FLORIDA

PREPARED BY:

NAVY PUBLIC WORKS CENTER
BUILDING 458
PENSACOLA, FLORIDA 32508-6500

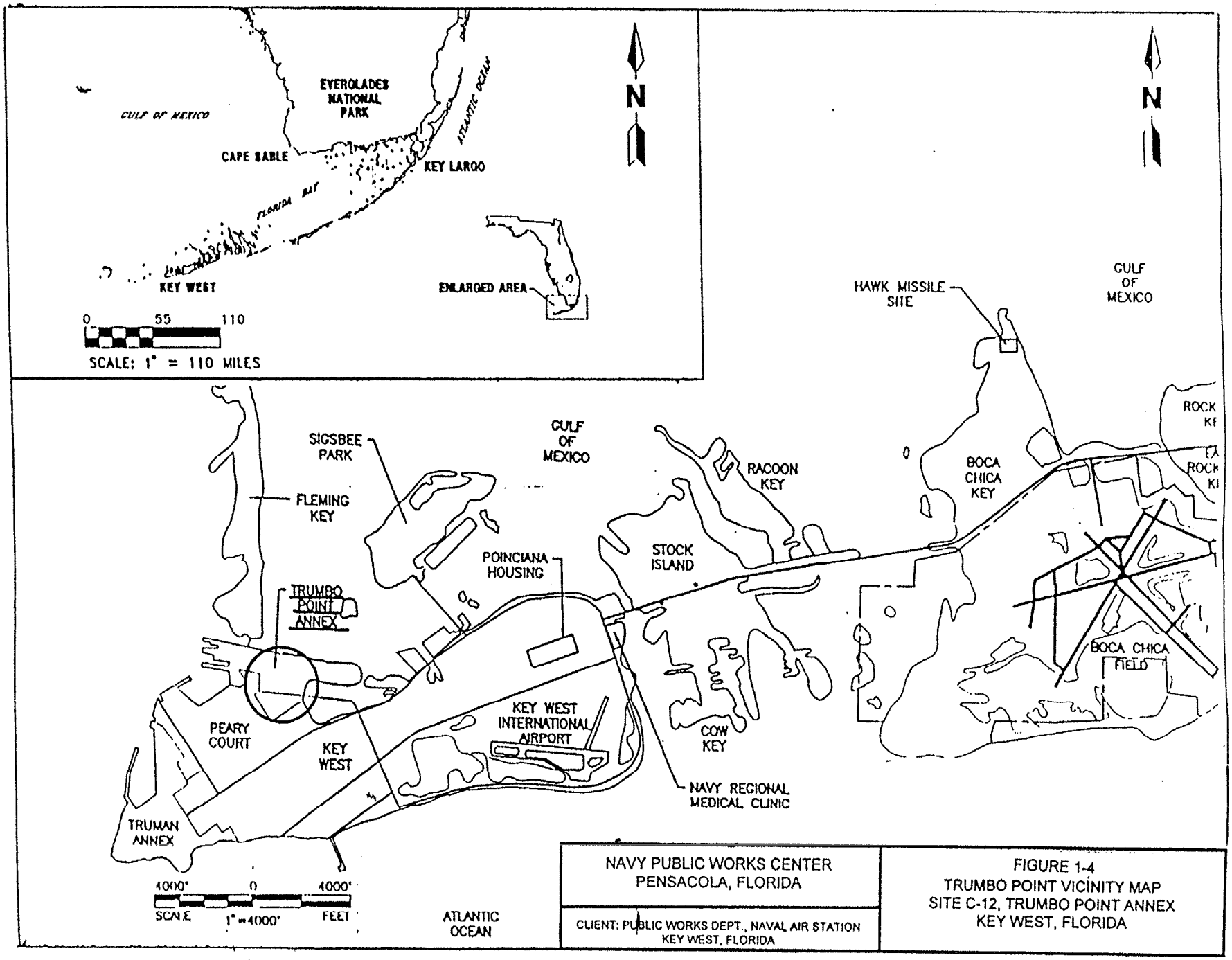
AUTHOR: GREG CAMPBELL, P.E.

JULY 1998

PREPARED FOR:

NAVY PUBLIC WORKS DEPARTMENT
BUILDING A-629 BOCA CHICA FIELD
NAVAL AIR STATION, KEY WEST
KEY WEST, FLORIDA 33040

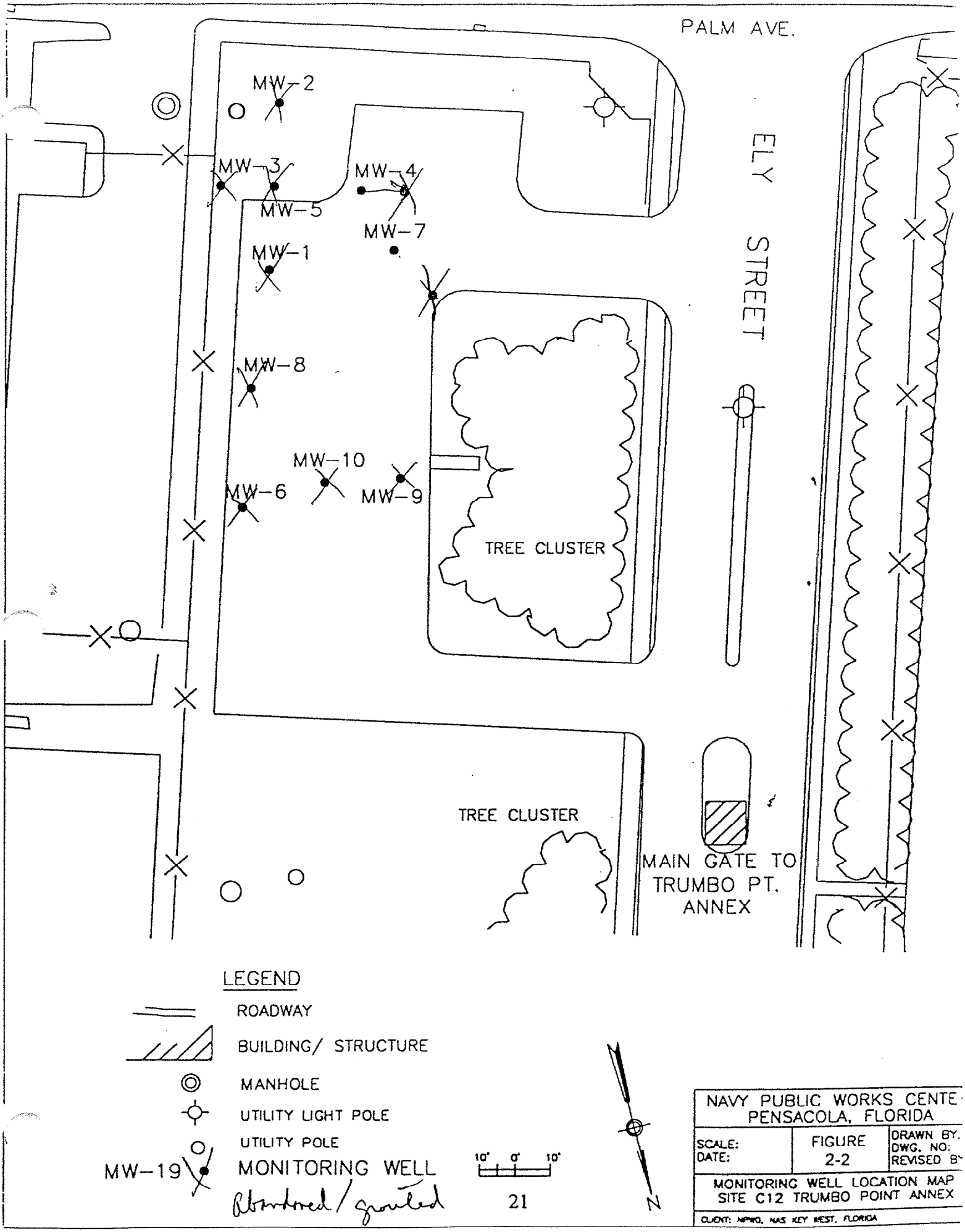
JIM SIMMEN, CODE 1883JS
ENVIRONMENTAL PROTECTION SPECIALIST



NAVY PUBLIC WORKS CENTER
PENSACOLA, FLORIDA

CLIENT: PUBLIC WORKS DEPT., NAVAL AIR STATION
KEY WEST, FLORIDA

FIGURE 1-4
TRUMBO POINT VICINITY MAP
SITE C-12, TRUMBO POINT ANNEX
KEY WEST, FLORIDA

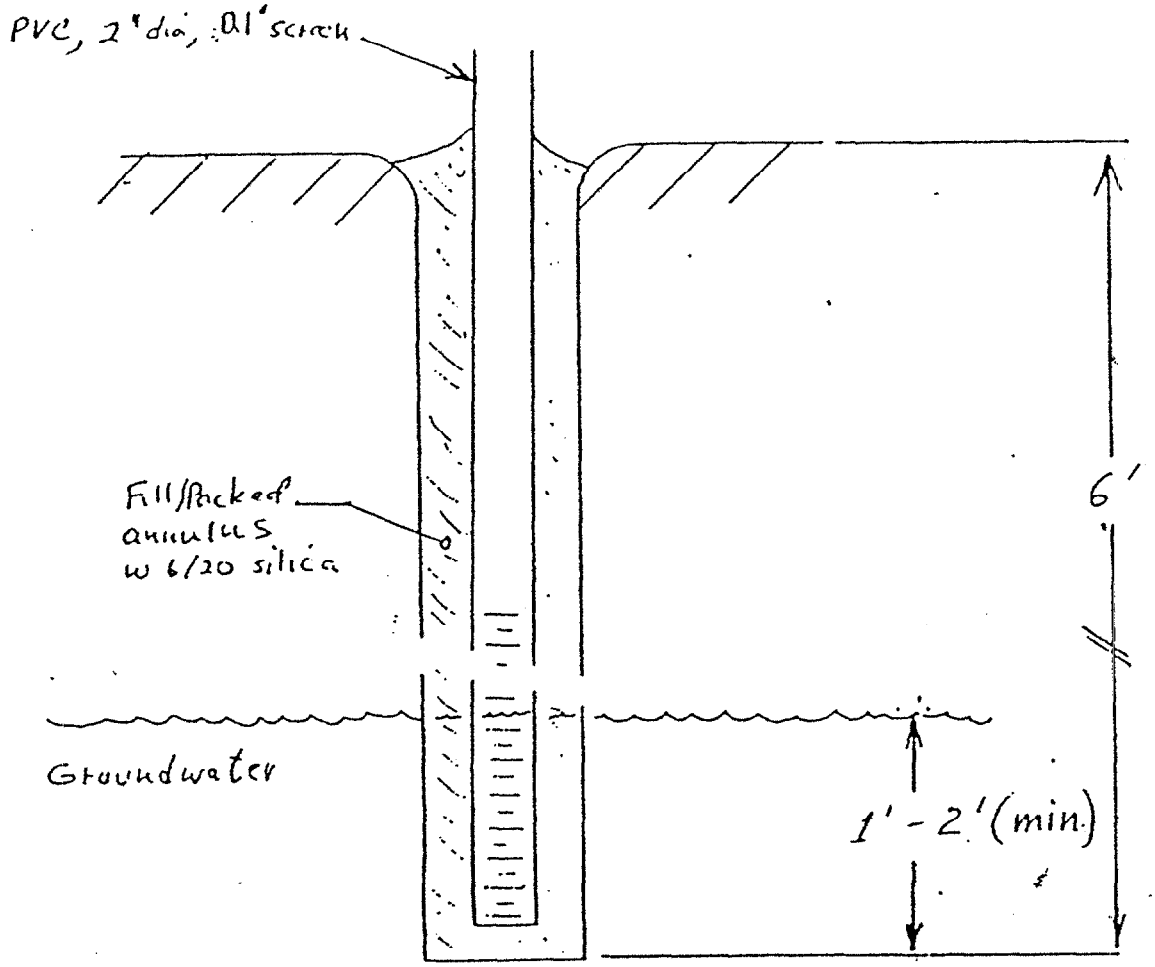

PALM AVE.
ELY STREET
MW-2
MW-3
MW-4
MW-5
MW-7
MW-1
MW-8
MW-10
MW-6
MW-9
TREE CLUSTER
TREE CLUSTER
MAIN GATE TO TRUMBO PT. ANNEX
LEGEND
ROADWAY
BUILDING/ STRUCTURE
MANHOLE
UTILITY LIGHT POLE
UTILITY POLE
MW-19
MONITORING WELL
Abandoned/grouted
10' 0' 10'
21
N
NAVY PUBLIC WORKS CENTE
PENSACOLA, FLORIDA
SCALE:
DATE:
FIGURE
2-2
DRAWN BY:
DWG. NO:
REVISED B
MONITORING WELL LOCATION MAP
SITE C12 TRUMBO POINT ANNEX
CLIENT: NPWC, NAS KEY WEST, FLORIDA

APPENDIX A

MONITORING WELL CONSTRUCTION DIAGRAMS

TEMPORARY

GROUNDWATER MONITORING WELL



NPWC

ENVIRONMENTAL

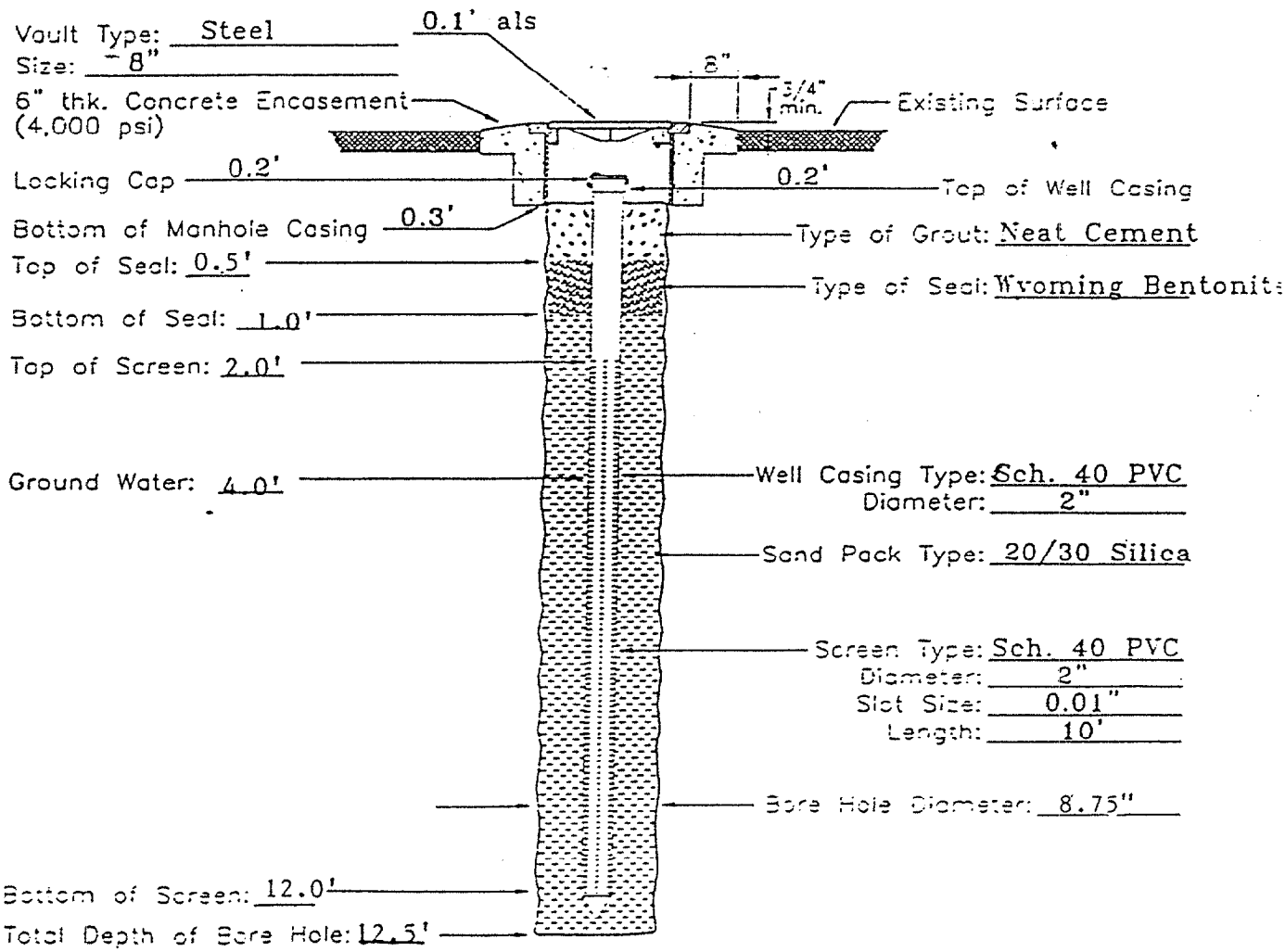
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRY
DRILLER'S NAME:
WELL NUMBER: MW-1

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WE
LOCATION: SITE C-12
JOB NUMBER:
DATE Start: 7/11/97 Finish: 7/11/97
TIME Start: 0947 Finish: 1010

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (BLS)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

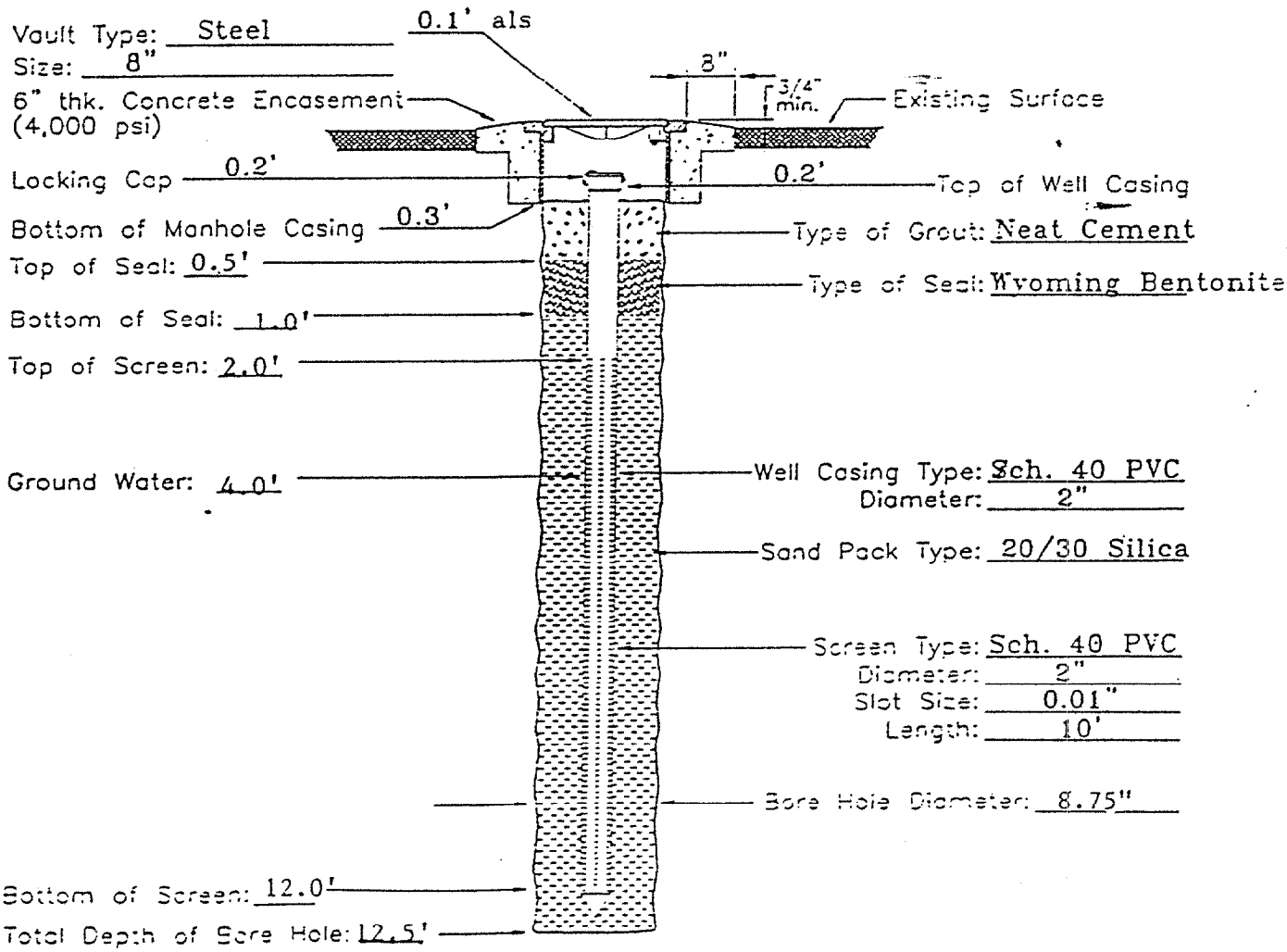
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRY
DRILLER'S NAME:
WELL NUMBER: MW-2

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WES
LOCATION: SITE C-12
JOB NUMBER:
DATE Start: 7/11/97 Finish: 7/11/97
TIME Start: 1025 Finish: 1050

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

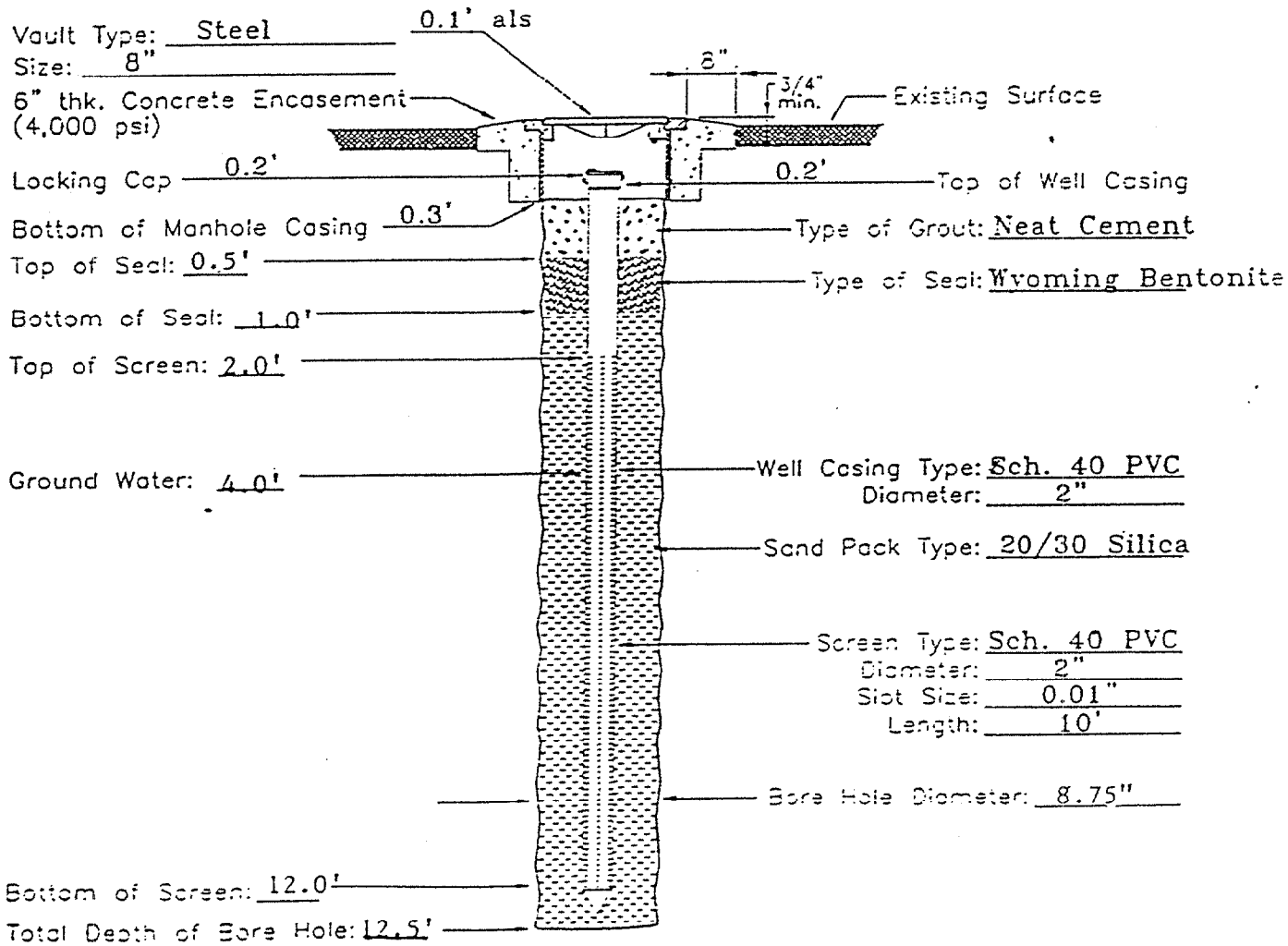
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRY
DRILLER'S NAME:
WELL NUMBER: MW-3

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WES
LOCATION: SITE C-12
JOB NUMBER:
DATE Start: 7/11/97 Finish: 7/11/97
TIME Start: 1055 Finish: 1115

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

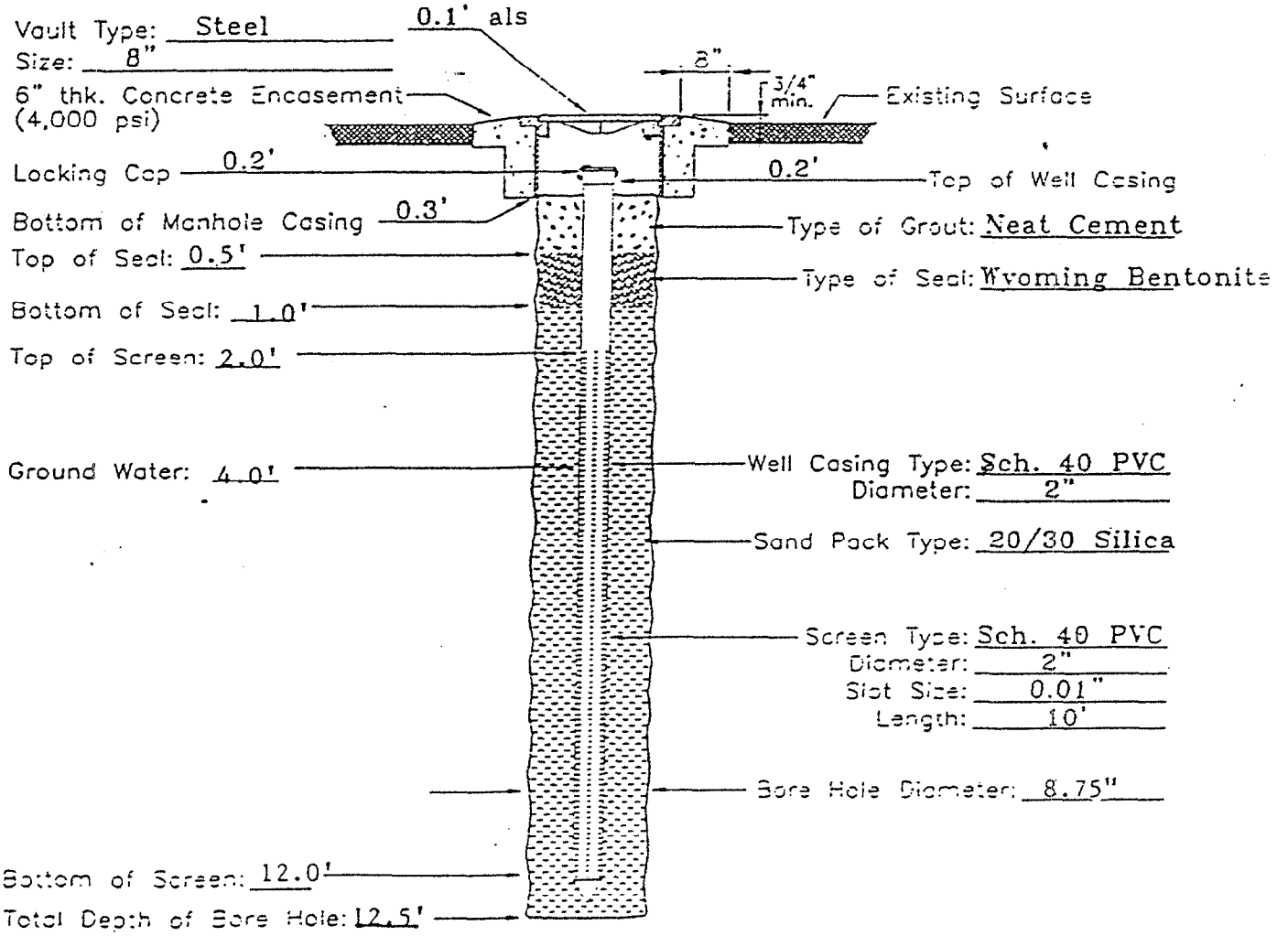
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRY
DRILLER'S NAME:
WELL NUMBER: MW-4

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WES
LOCATION: SITE C-12
JOB NUMBER:
DATE Start: 7/11/97 Finish: 7/11/97
TIME Start: 1130 Finish: 1200

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

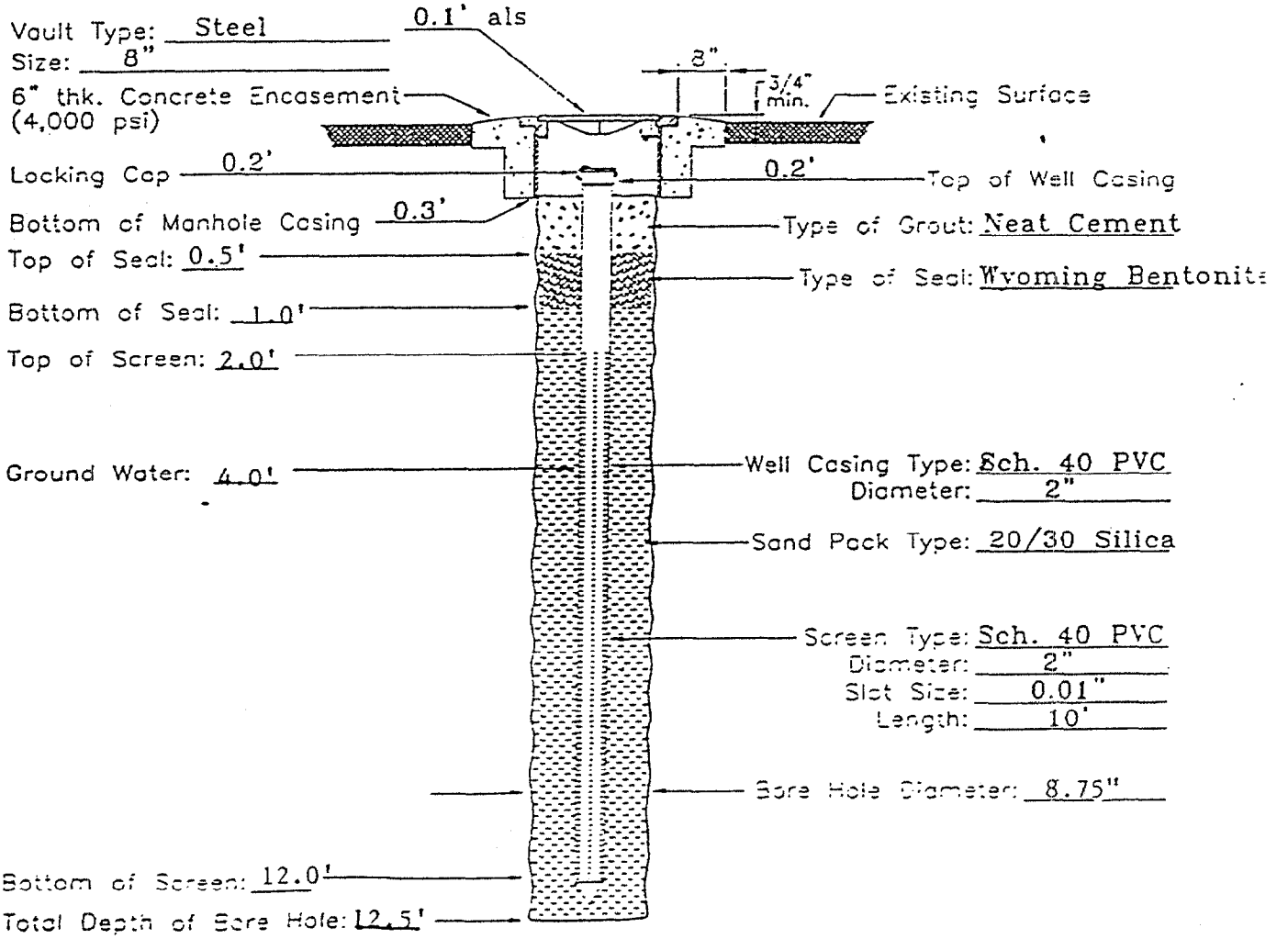
ENVIRONMENTAL

MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRY
DRILLER'S NAME:
WELL NUMBER: MW-5
CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WES
LOCATION: SITE C-12
JOB NUMBER:
DATE Start: 7/14/97 Finish: 7/14/97
TIME Start: 0800 Finish: 0855

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

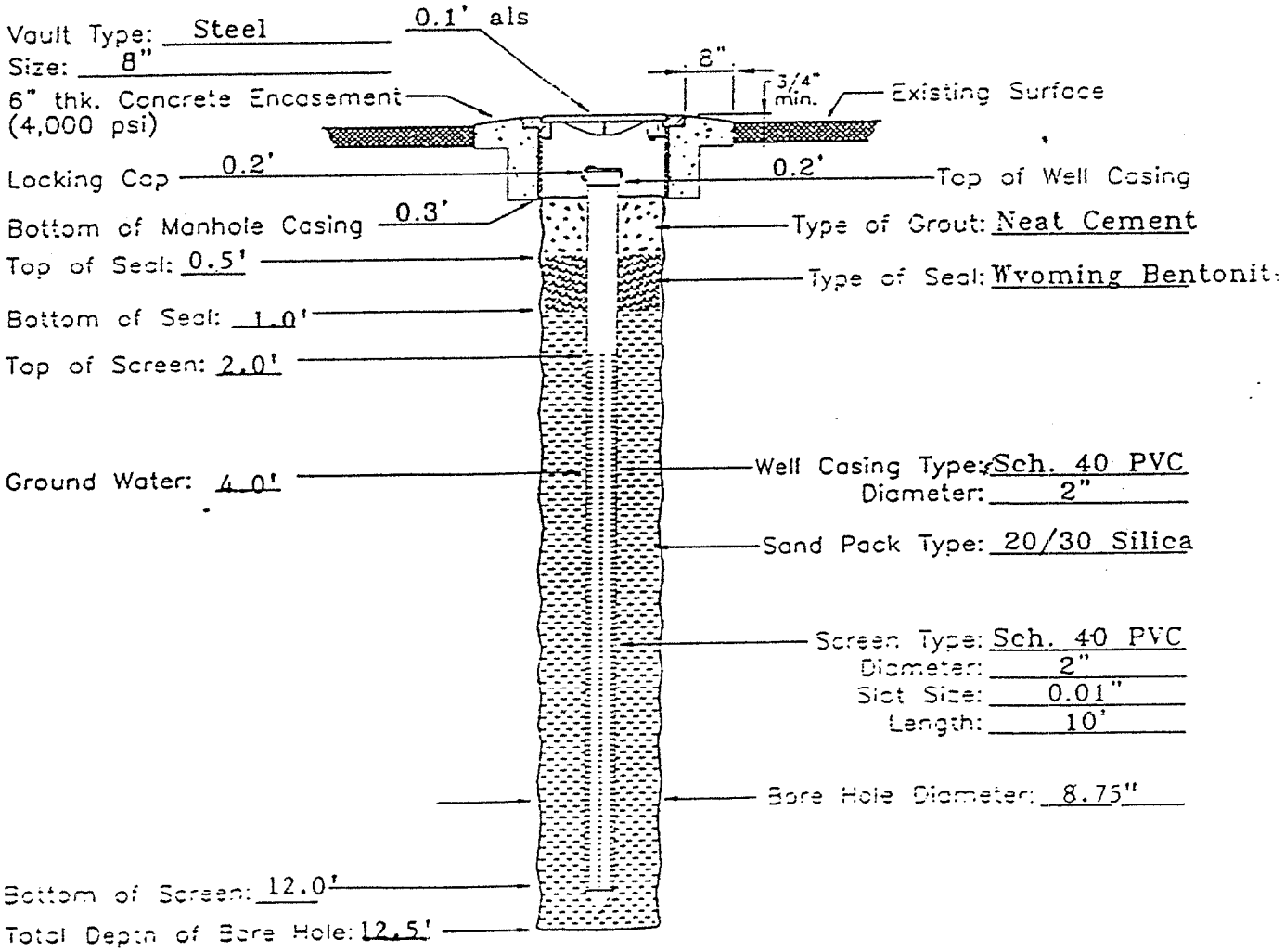
310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

MONITOR WELL CONSTRUCTION DETAIL

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRY
DRILLER'S NAME:
WELL NUMBER: MW-6

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WE
LOCATION: SITE C-12
JOB NUMBER:
DATE Start: 7/14/97 Finish: 7/14/97
TIME Start: 1220 Finish: 1250

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

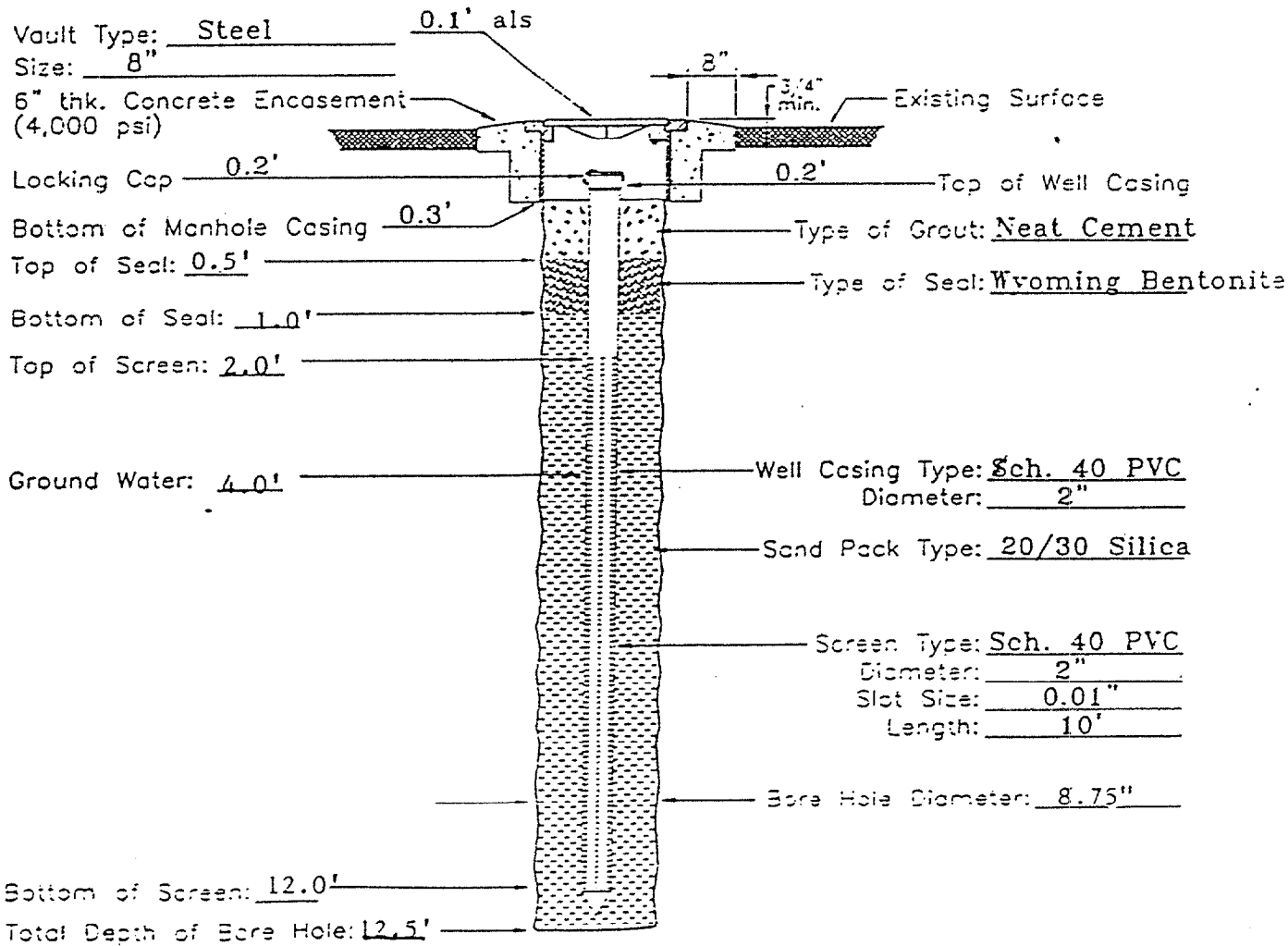
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRY
DRILLER'S NAME:
WELL NUMBER: MW-7

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WES
LOCATION: SITE C-12
JOB NUMBER:
DATE Start: 7/14/97 Finish: 7/14/97
TIME Start: 1300 Finish: 1330

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

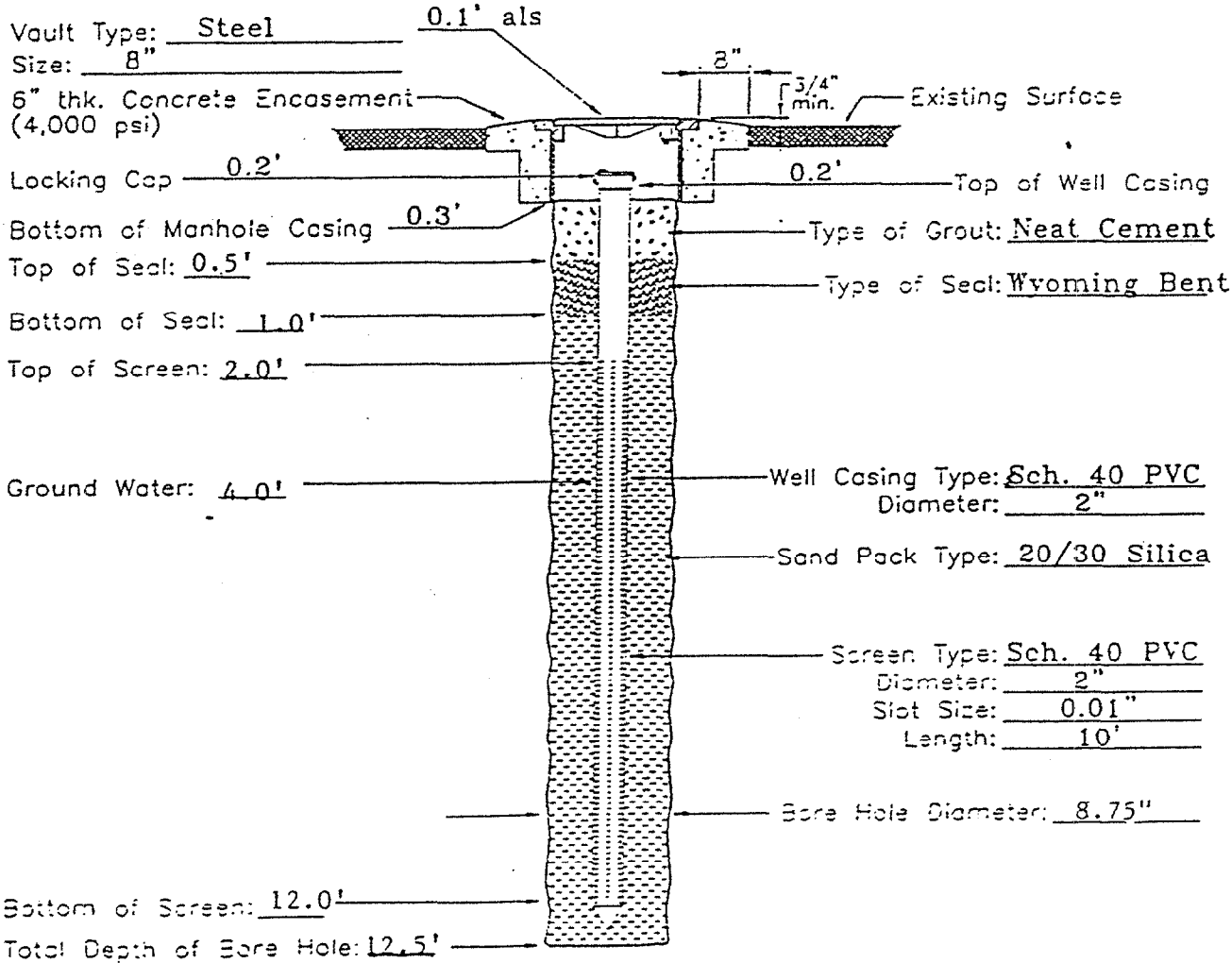
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRY
DRILLER'S NAME:
WELL NUMBER: MW-8

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WES
LOCATION: SITE C-12
JOB NUMBER:
DATE Start: 7/14/97 Finish: 7/14/97
TIME Start: 1335 Finish: 1350

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

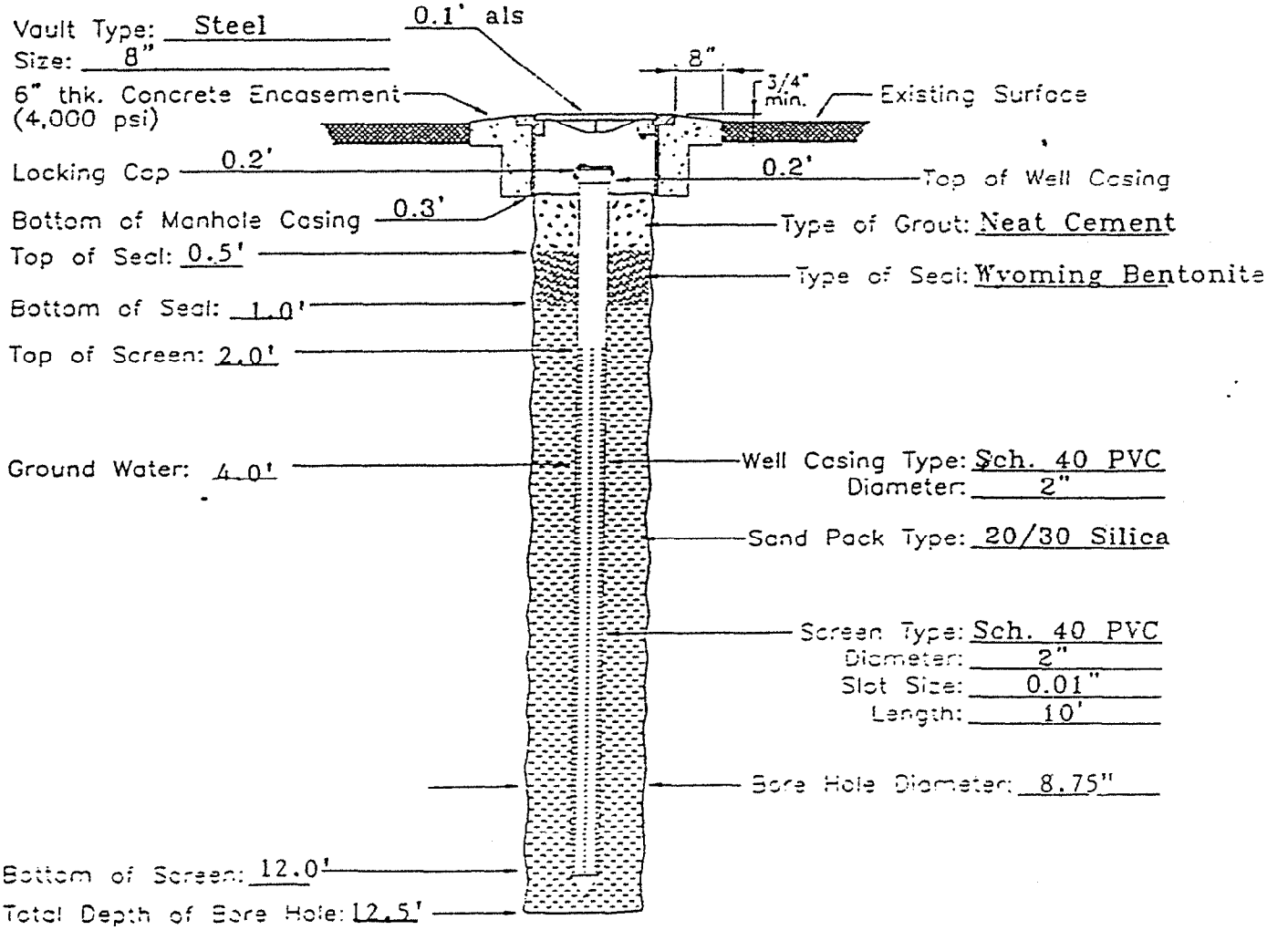
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRY
DRILLER'S NAME:
WELL NUMBER: MW-9

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WES
LOCATION: SITE C-12
JOB NUMBER:
DATE Start: 7/14/97 Finish: 7/14/97
TIME Start: 1440 Finish: 1504

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

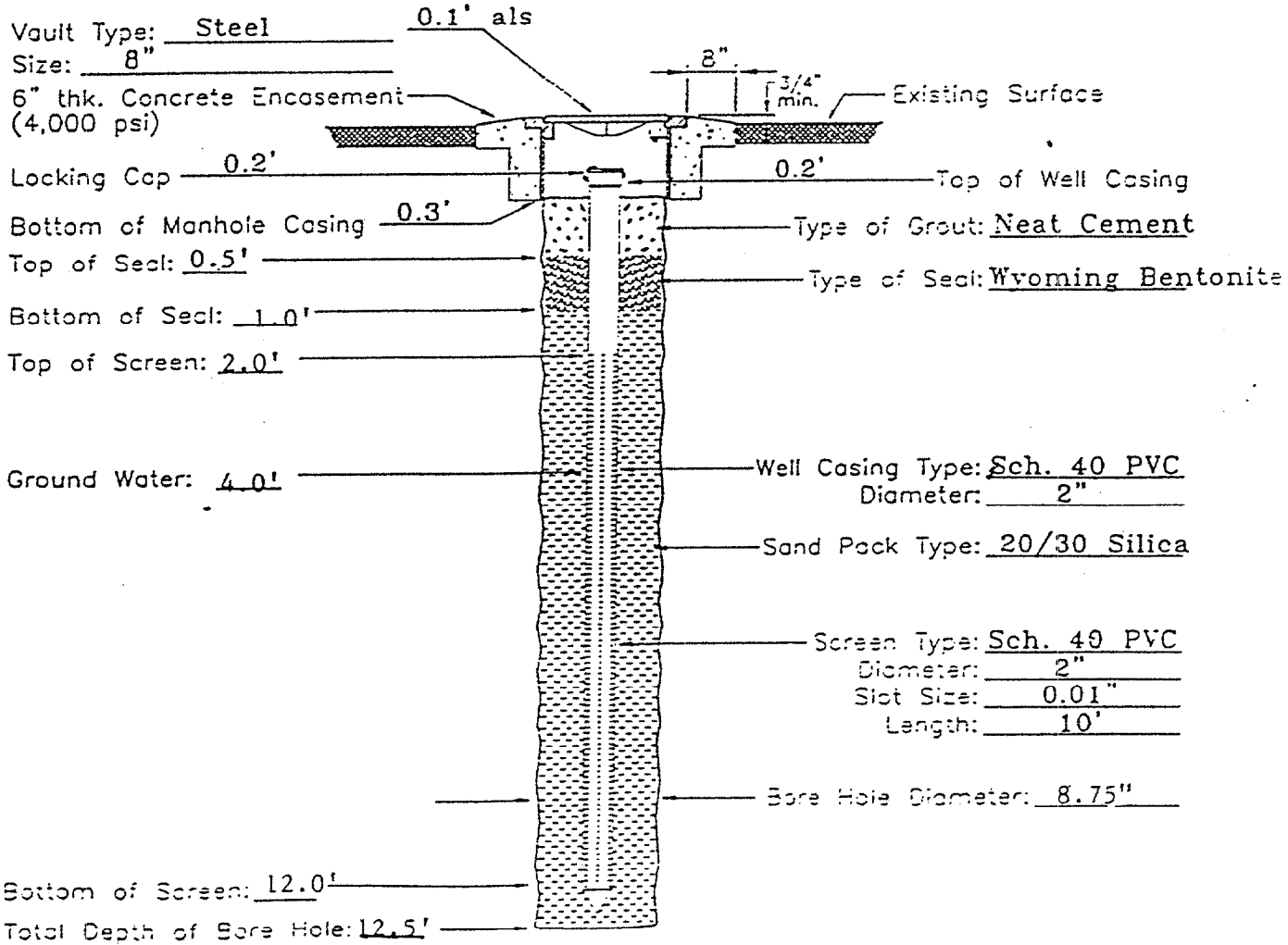
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRY
DRILLER'S NAME:
WELL NUMBER: MW-10

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WES
LOCATION: SITE C-12
JOB NUMBER:
DATE Start: 7/14/97 Finish: 7/14/97
TIME Start: 1510 Finish: 1530

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (BLS)

DRAWING ABOVE IS NOT TO SCALE

APPENDIX B

LITHOLOGIC LOGS

Site C-12
Trumbo Point Annex
Key West, Florida
MONITORING WELL NO.: MW1

LOGGED BY: Greg Campbell, P. E. | SHEET 1 OF 1
Contractor: NPWC, Pensacola, FL | Dr. Method: HSA
Driller: MWI | Dr. Rig: Mobile
Start Date: 07/11/97 | Completed: 07/11/97
Start Time: 947 | Finish Time: 1010
Contract No.

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA: OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST HOLE HSA				100%	0	0"-6"; Asphalt				
						6"-3'; Light Brown, Medium Grain Oolite Limestone	3.6	0	3.6	
			Water Table @ approx. 4' bls			3'-8'; Light Grey, Medium Grain Oolite Clay Consistency	9.8	0	9.8	
					4		2	0	2	
				100%	8	8'-12'; White, Fine Grain, Limestone				
				100%	12	End of Boring @ 12.0' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

Site C-12
Trumbo Point Annex
Key West, Florida
MONITORING WELL NO.: MW2

LOGGED BY: Greg Campbell, P. E. SHEET 1 OF 1
Contractor: NPWC, Pensacola, FL Dr. Method: HSA
Driller: MWI Dr. Rig: Mobile
Start Date: 07/11/97 Completed: 07/11/97
Start Time: 1025 Finish Time: 1050
Contract No.

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST HOLE HSA HA				100%	0	0'-3'; Light Brown, Medium Grain Oolite Limestone	1	0	1	
			Water Table @ approx. 4' bls		4	3'-8'; Light Grey, Medium Grain Oolite	0.2	0	0.2	
				100%	8	Clay Consistency	0.1	0	0.1	
						8'-12'; White, Fine Grain, Limestone				
				100%	12	End of Boring @ 12.0' BLS				
					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

Site C-12
Trumbo Point Annex
Key West, Florida
MONITORING WELL NO.: MW3

LOGGED BY: Greg Campbell, P. E. | SHEET 1 OF 1
Contractor: NPWC, Pensacola, FL | Dr. Method: HSA
Driller: MWI | Dr. Rig: Mobile
Start Date: 07/11/97 | Completed: 07/11/97
Start Time: 1055 | Finish Time: 1115
Contract No.

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES NET
POST				100%	0	0'-3'; Light Brown, Medium Grain Oolite Limestone	2.3	0	2.3
			Water Table @ approx. 4' bls			3'-8'; Light Grey, Medium Grain Oolite Clay Consistency	0.4	0	0.4
HOLE					4		0.4	0	0.4
				100%	8	8'-12'; White, Fine Grain, Limestone			
HSA				100%	12	End of Boring @ 12.0' BLS			
HA					16				
					20				

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

Site C-12
Trumbo Point Annex
Key West, Florida
MONITORING WELL NO.: MW4

LOGGED BY: Greg Campbell, P E
Contractor: NPWC, Pensacola, FL
Driller: MWI
Start Date: 07/11/97
Start Time: 1130
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 07/11/97
Finish Time: 1200

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST HOLE HSA HA				100%	0	0"-6"; Asphalt				
						6"-3'; Light Brown, Medium Grain Oolite Limestone	0.7	0	0.7	
			Water Table @ approx. 4' bls			3'-8'; Light Grey, Medium Grain Oolite	0	0	0	
					4	Clay Consistency	0	0	0	
				100%	8	8'-12'; White, Fine Grain, Limestone				
				100%	12	End of Boring @ 12.0' BLS				
					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

Site C-12
Trumbo Point Annex
Key West, Florida
MONITORING WELL NO.: MW5

LOGGED BY: Greg Campbell, P. E. SHEET 1 OF 1
Contractor: NPWC, Pensacola, FL Dr. Method: HSA
Driller: MWI Dr. Rig: Mobile
Start Date: 07/14/97 Completed: 07/14/97
Start Time: 800 Finish Time: 855
Contract No.

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST HOLE HSA				100%	0	0'-3'; Light Brown, Medium Grain Oolite Limestone	0	0	0	
			Water Table @ approx. 4' bls		4	3'-8'; Light Grey, Medium Grain Oolite Clay Consistency	0	0	0	
				100%	8	8'-12'; White, Fine Grain, Limestone				
				100%	12	End of Boring @ 12.0' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

Site C-12	LOGGED BY: Greg Campbell, P. E.	SHEET 1 OF 1
Trumbo Point Annex	Contractor: NPWC, Pensacola, FL	Dr. Method: HSA
Key West, Florida	Driller: MWI	Dr. Rig: Mobile
MONITORING WELL NO.: MW6	Start Date: 07/14/97	Completed: 07/14/97
	Start Time: 1220	Finish Time: 1250
	Contract No.	CONTAMINATION DATA

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES NET
POST HOLE HSA				100%	0	0"-6"; Alphalt			
						6"-3'; Light Brown, Medium Grain Oolite Limestone	2.5	0	2.5
			Water Table @ approx. 4' bls			3'-8'; Light Grey, Medium Grain Oolite	1	0	1
					4	Clay Consistency	1	0	1
				100%	8	8'-12'; White, Fine Grain, Limestone			
				100%	12	End of Boring @ 12.0' BLS			
HA					16				
					20				

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

Site C-12	LOGGED BY: Greg Campbell, P. E.	SHEET 1 OF 1	
Trumbo Point Annex	Contractor: NPWC, Pensacola, FL	Dr. Method:	HSA
Key West, Florida	Driller: MWI	Dr. Rig:	Mobile
MONITORING WELL NO.: MW7	Start Date: 07/14/97	Completed:	07/14/97
	Start Time: 1300	Finish Time:	1330
	Contract No.	CONTAMINATION DATA	

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER W/O	OVA RESULTS (PPM) CARBON FILTER WITH	OVA RESULTS (PPM) CARBON FILTER NET	NOTES
POST				100%	0	0"-6"; Asphalt				
						0"-3'; Light Brown, Medium Grain Oolite Limestone	0	0	0	
			Water Table @ approx. 4' bls			3'-8'; Light Grey, Medium Grain Oolite	0	0	0	
HOLE					4	Clay Consistency	0	0	0	
				100%	8	8'-12'; White, Fine Grain, Limestone				
HSA				100%	12	End of Boring @ 12.0' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

Site C-12	LOGGED BY: Greg Campbell, P. E.	SHEET 1 OF 1	
Trumbo Point Annex	Contractor: NPWC, Pensacola, FL	Dr. Method:	HSA
Key West, Florida	Driller: MWI	Dr. Rig:	Mobile
MONITORING WELL NO.: MW8	Start Date: 07/14/97	Completed:	07/14/97
	Start Time: 1335	Finish Time:	1350
	Contract No.	CONTAMINATION DATA	

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0"-6"; Asphalt				
						6"-3'; Light Brown, Medium Grain Oolite Limestone	0	0	0	
			Water Table @ approx. 4' bls			3'-8'; Light Grey, Medium Grain Oolite Clay Consistency	0	0	0	
HOLE					4		0	0	0	
				100%	8	8'-12'; White, Fine Grain, Limestone				
HSA				100%	12					
						End of Boring @ 12.0' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

Site C-12
Trumbo Point Annex
Key West, Florida
MONITORING WELL NO.: MW9

LOGGED BY: Greg Campbell, P. E. | SHEET 1 OF 1
Contractor: NPWC, Pensacola, FL | Dr. Method: HSA
Driller: MWI | Dr. Rig: Mobile
Start Date: 07/14/97 | Completed: 07/14/97
Start Time: 1440 | Finish Time: 1504
Contract No.

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0"-6"; Asphalt				
						6"-3'; Light Brown, Medium Grain Oolite Limestone	0	0	0	
			Water Table @ approx. 4' bls			3'-8'; Light Grey, Medium Grain Oolite Clay Consistency	0	0	0	
HOLE					4		0	0	0	
				100%	8	8'-12'; White, Fine Grain, Limestone				
HSA				100%	12	End of Boring @ 12.0' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

Site C-12
Trumbo Point Annex
Key West, Florida
MONITORING WELL NO.: MW10

LOGGED BY: Greg Campbell, P. E. SHEET 1 OF 1
Contractor: NPWC, Pensacola, FL Dr. Method: HSA
Driller: MWI Dr. Rig: Mobile
Start Date: 07/14/97 Completed: 07/14/97
Start Time: 1510 Finish Time: 1530
Contract No.

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0"-6"; Asphalt				
						6"-3'; Light Brown, Medium Grain Oolite Limestone	0	0	0	
			Water Table @ approx. 4' bls			3'-8'; Light Grey, Medium Grain Oolite Clay Consistency	0	0	0	
HOLE					4		0	0	0	
				100%	8	8'-12'; White, Fine Grain, Limestone				
HSA				100%	12	End of Boring @ 12.0' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

C-80

SITE ASSESSMENT REPORT

SITE C-80, TRUMBO POINT ANNEX
KEY WEST, FLORIDA

FDEP FACILITY ID NUMBER 449400070

PREPARED BY:

NAVY PUBLIC WORKS CENTER
BUILDING 458
PENSACOLA, FLORIDA 32508-6500

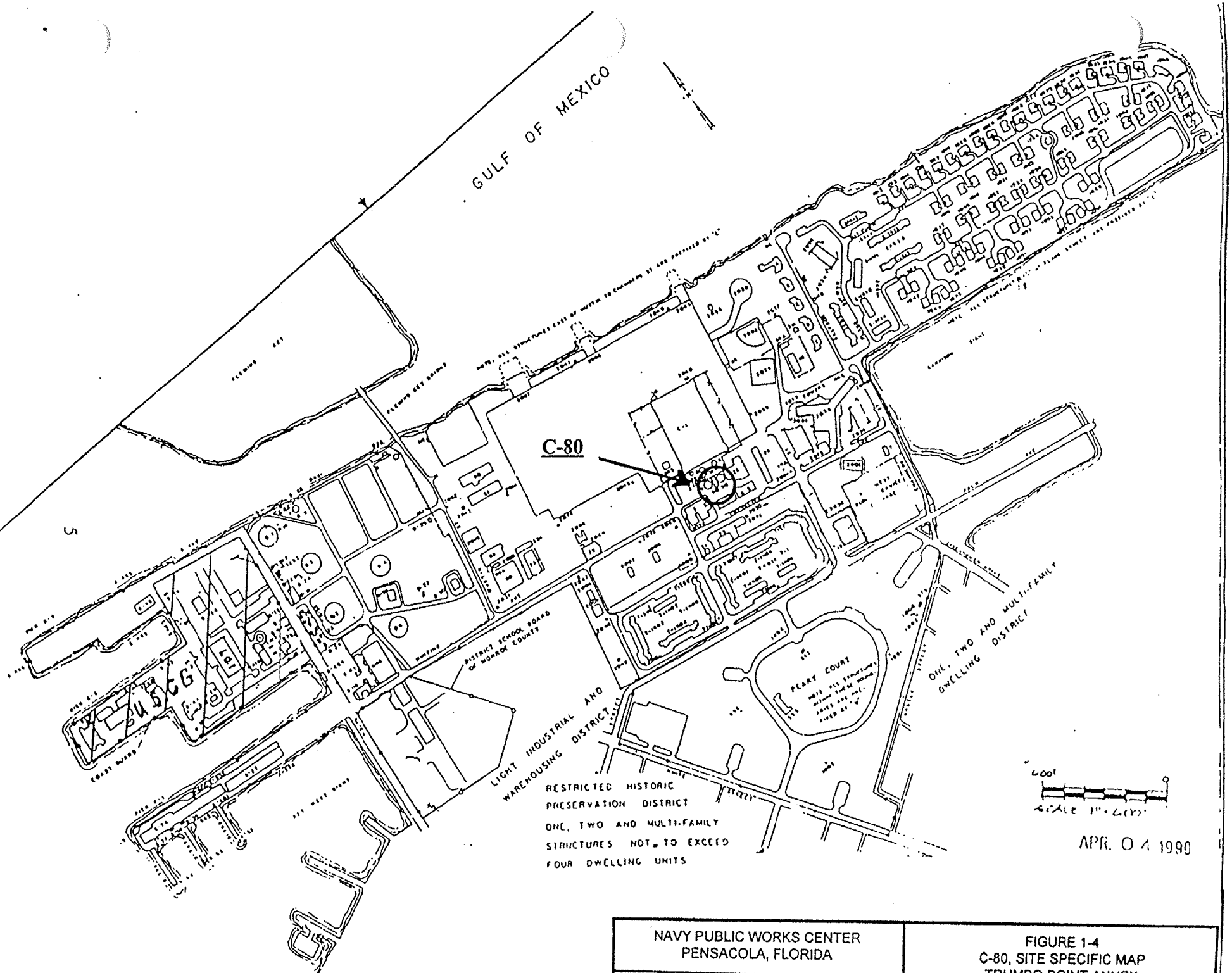
AUTHOR: GREG CAMPBELL, P.E.

JULY 1998

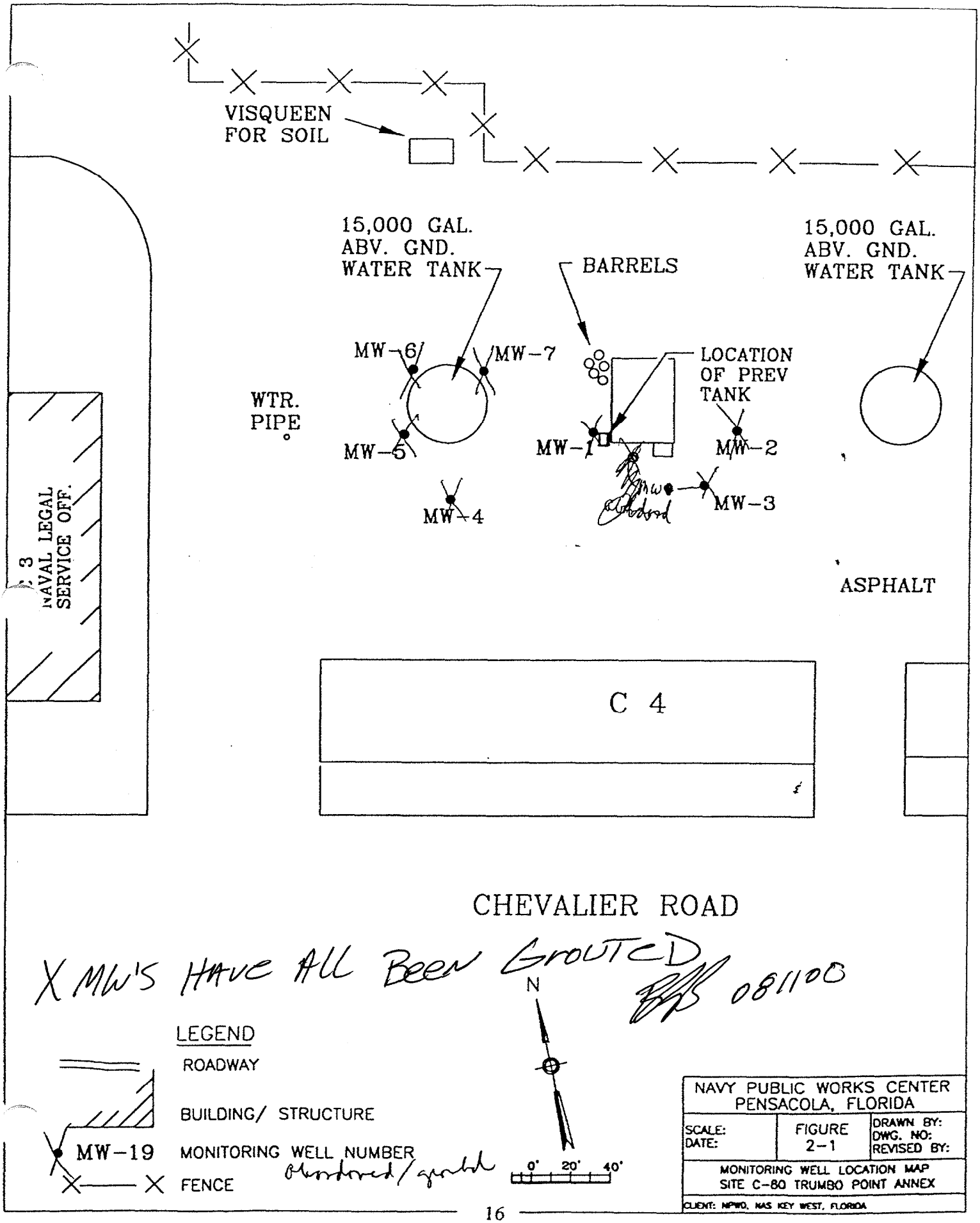
PREPARED FOR:

NAVY PUBLIC WORKS DEPARTMENT
BUILDING A-629 BOCA CHICA FIELD
NAVAL AIR STATION, KEY WEST
KEY WEST, FLORIDA 33040

JIM SIMMEN, CODE 1883JS
ENVIRONMENTAL PROTECTION SPECIALIST



NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA	FIGURE 1-4 C-80, SITE SPECIFIC MAP TRUMBO POINT ANNEX GENERAL DEVELOPMENT MAP
CLIENT: PUBLIC WORKS DEPT., NAVAL AIR STATION	



X MW's Have All Been Grouted 081100

LEGEND

ROADWAY

BUILDING/ STRUCTURE

MW-19 MONITORING WELL NUMBER

FENCE

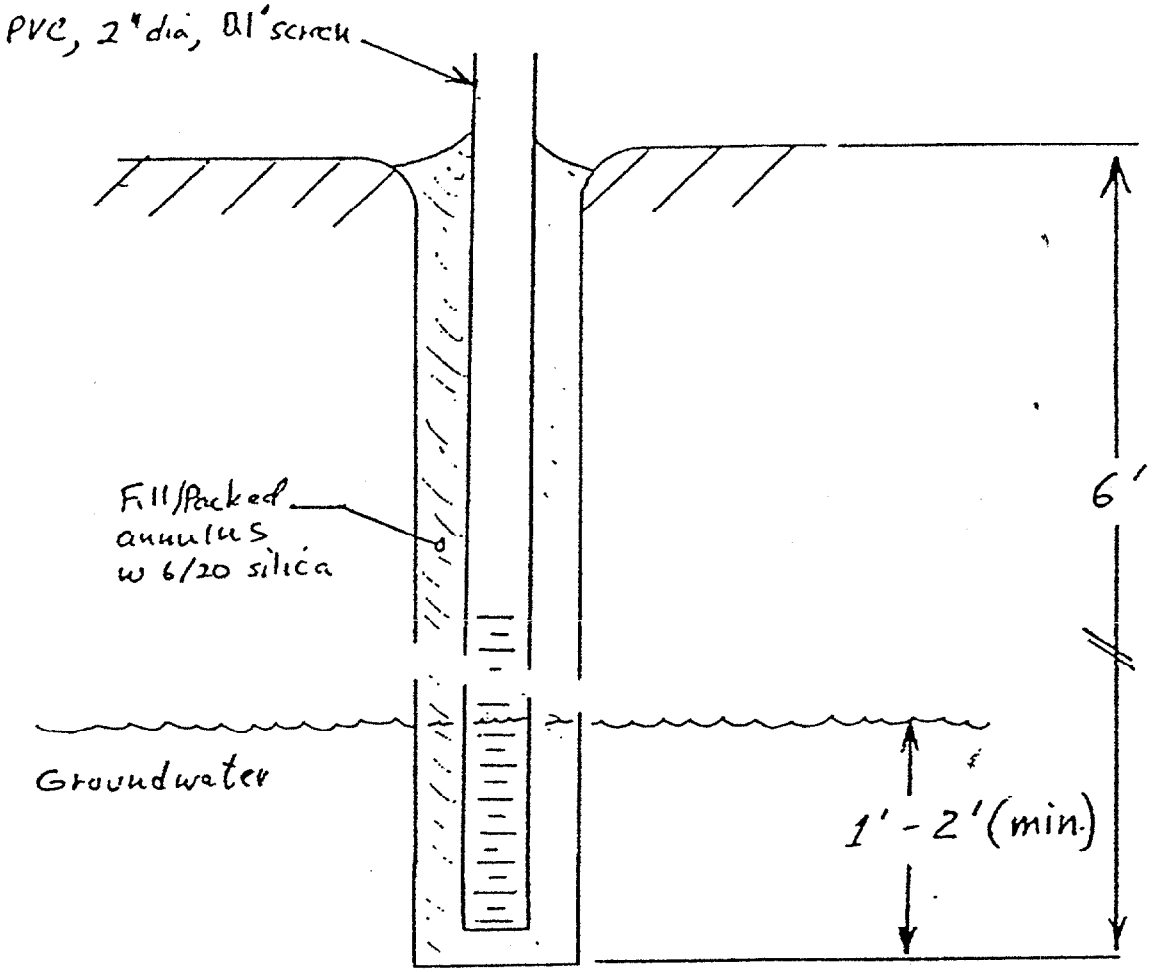
Abandoned/grouted

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE: DATE:	FIGURE 2-1	DRAWN BY: DWG. NO: REVISED BY:
MONITORING WELL LOCATION MAP SITE C-80 TRUMBO POINT ANNEX		
CLIENT: NPWD, NAS KEY WEST, FLORIDA		

APPENDIX A

MONITORING WELL CONSTRUCTION DIAGRAMS

SPECIAL TEMPORARY WELL for AST CLOSURES
at NAS KEY WEST 1996



NPWC

ENVIRONMENTAL

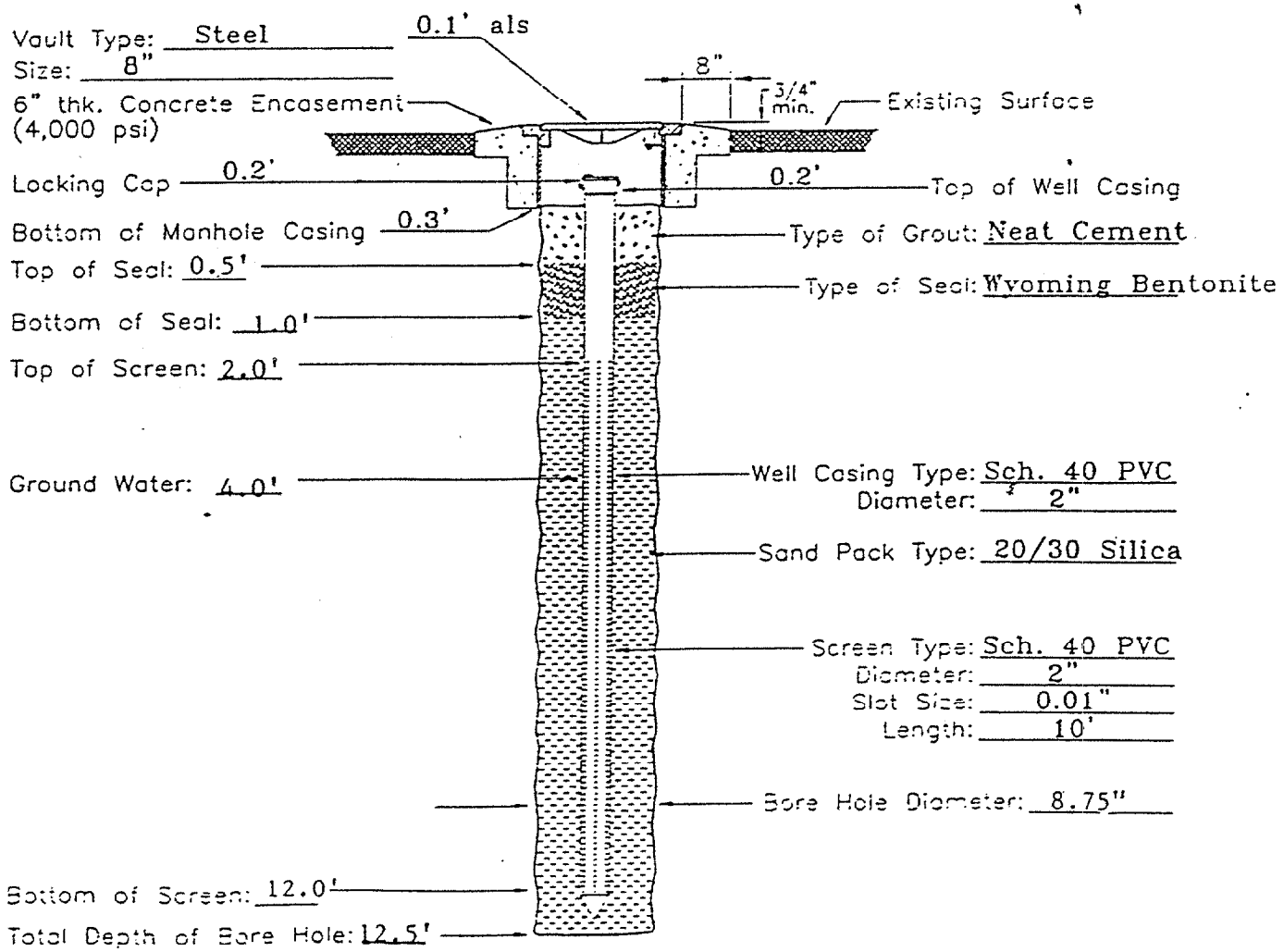
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRY
DRILLER'S NAME:
WELL NUMBER: MW-1

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-80
JOB NUMBER:
DATE Start: 7/15/97 Finish: 7/15/97
TIME Start: 0950 Finish: 1010

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

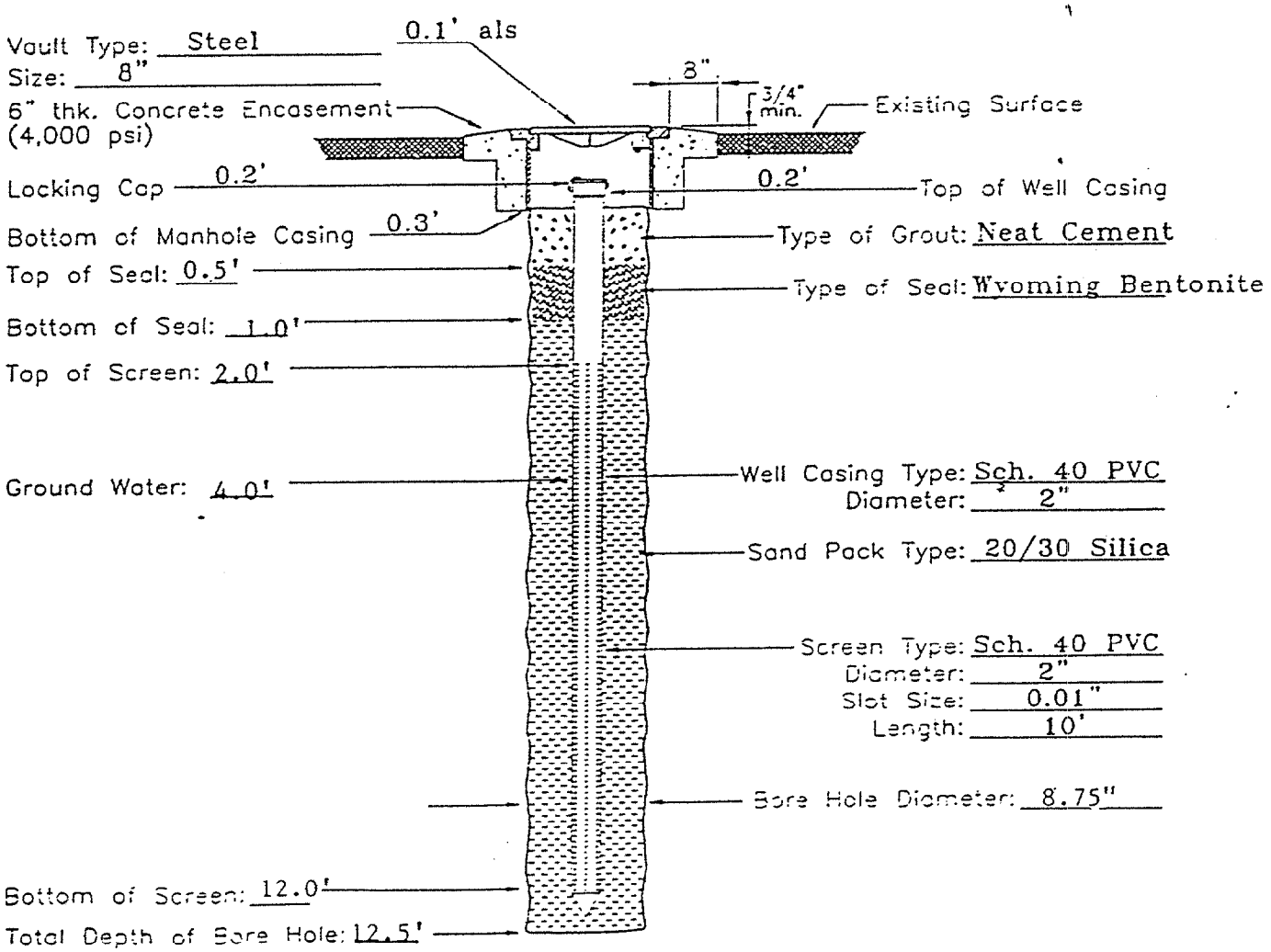
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRY
DRILLER'S NAME:
WELL NUMBER: MW-2

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-80
JOB NUMBER:
DATE Start: 7/15/97 Finish: 7/15/97
TIME Start: 1020 Finish: 1045

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

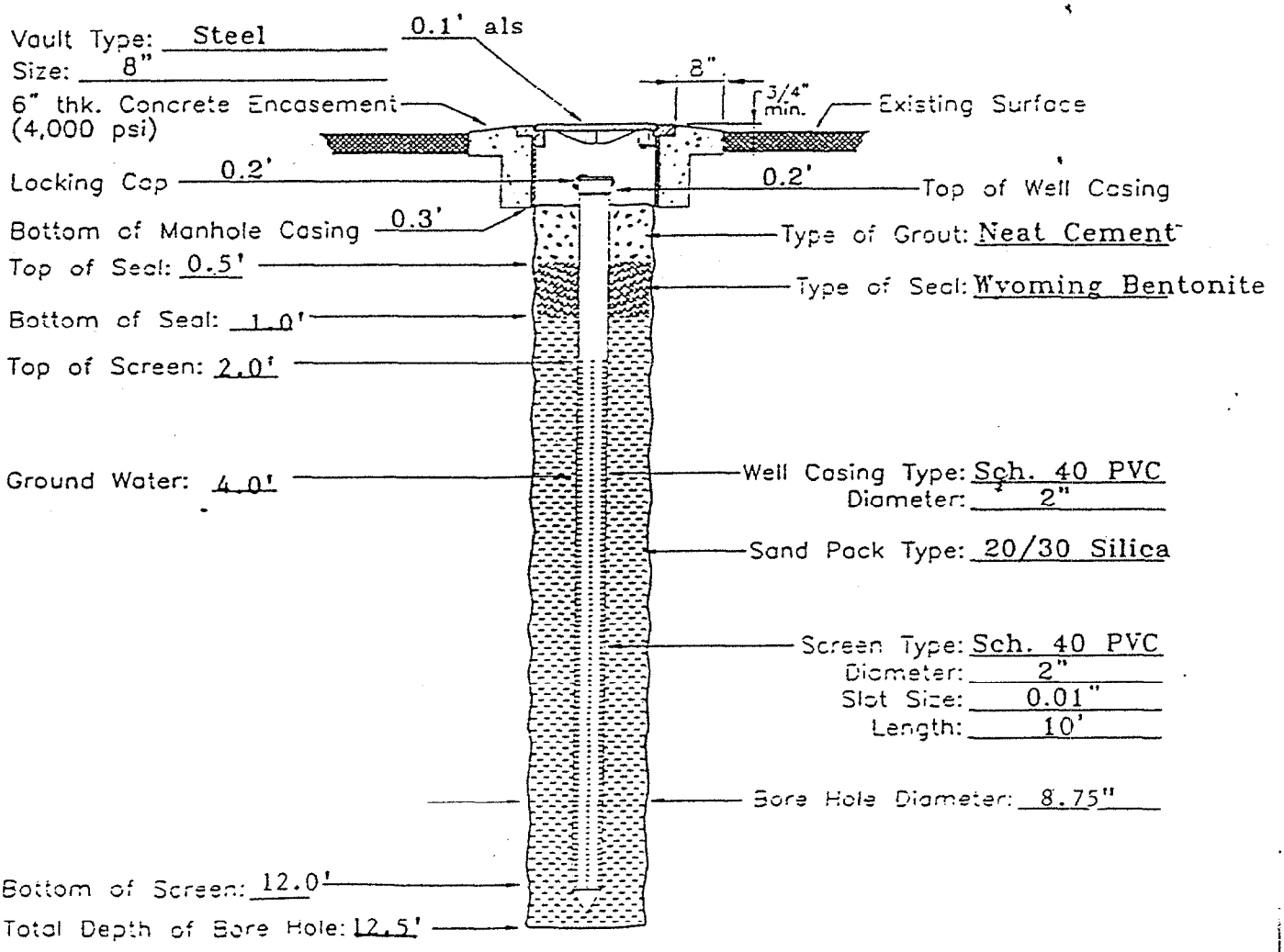
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRY
DRILLER'S NAME:
WELL NUMBER: MW-3

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-80
JOB NUMBER:
DATE Start: 7/15/97 Finish: 7/15/97
TIME Start: 1055 Finish: 1115

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

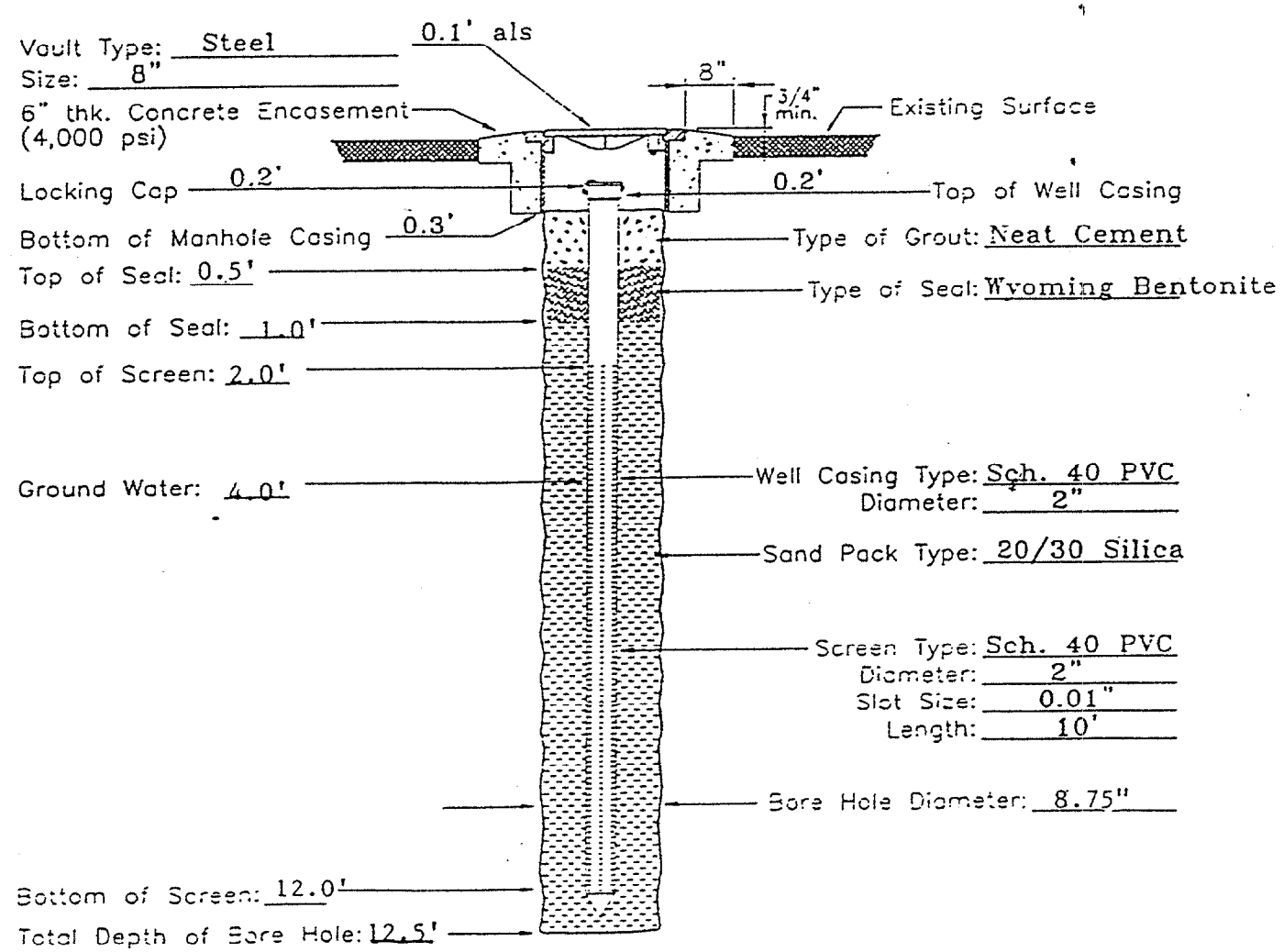
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRY
DRILLER'S NAME:
WELL NUMBER: MW-4

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-80
JOB NUMBER:
DATE Start: 7/15/97 Finish: 7/15/97
TIME Start: 1235 Finish: 1300

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

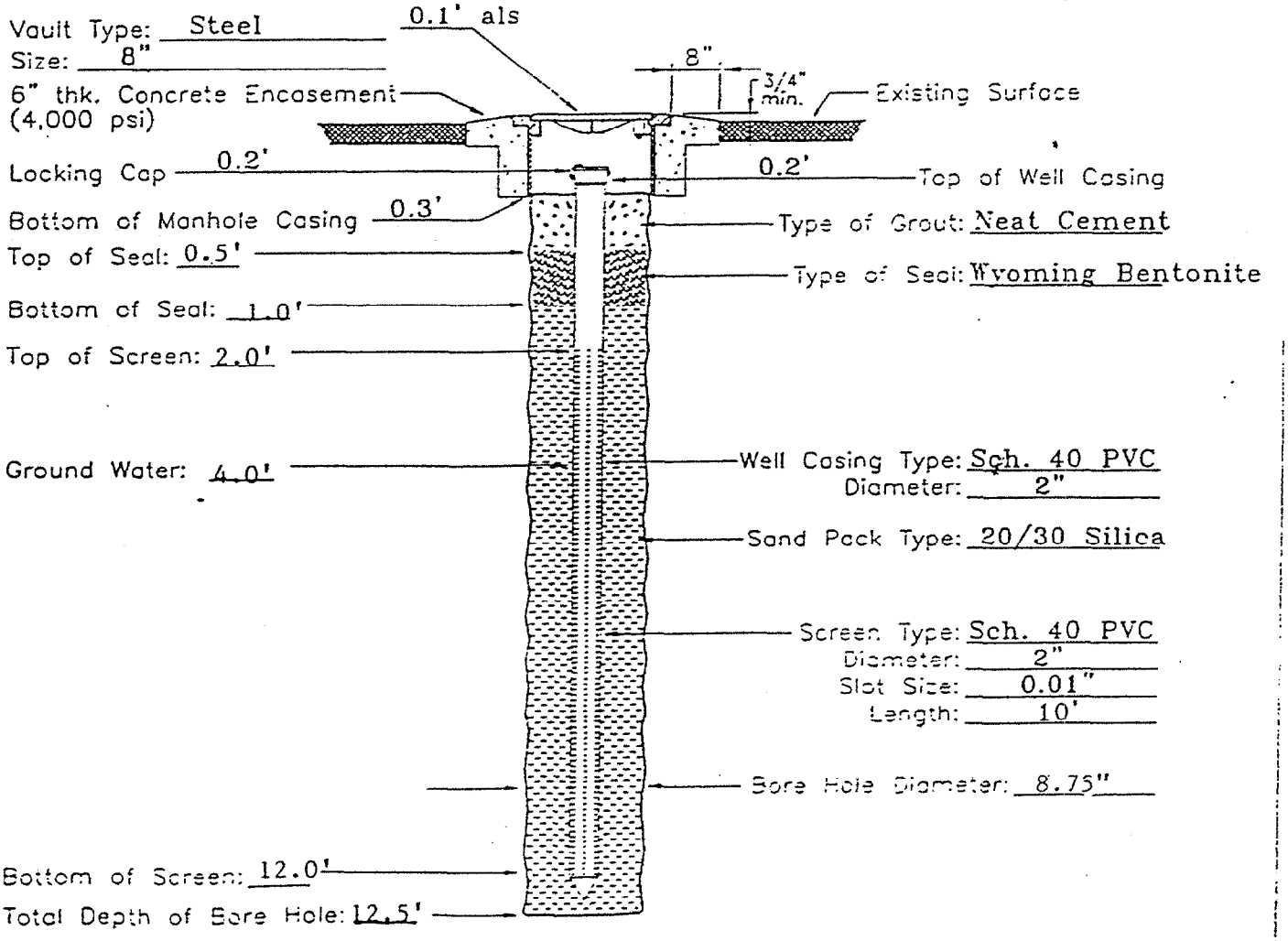
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRY
DRILLER'S NAME:
WELL NUMBER: MW-5

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-80
JOB NUMBER:
DATE Start: 7/15/97 Finish: 7/15/97
TIME Start: 1330 Finish: 1410

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

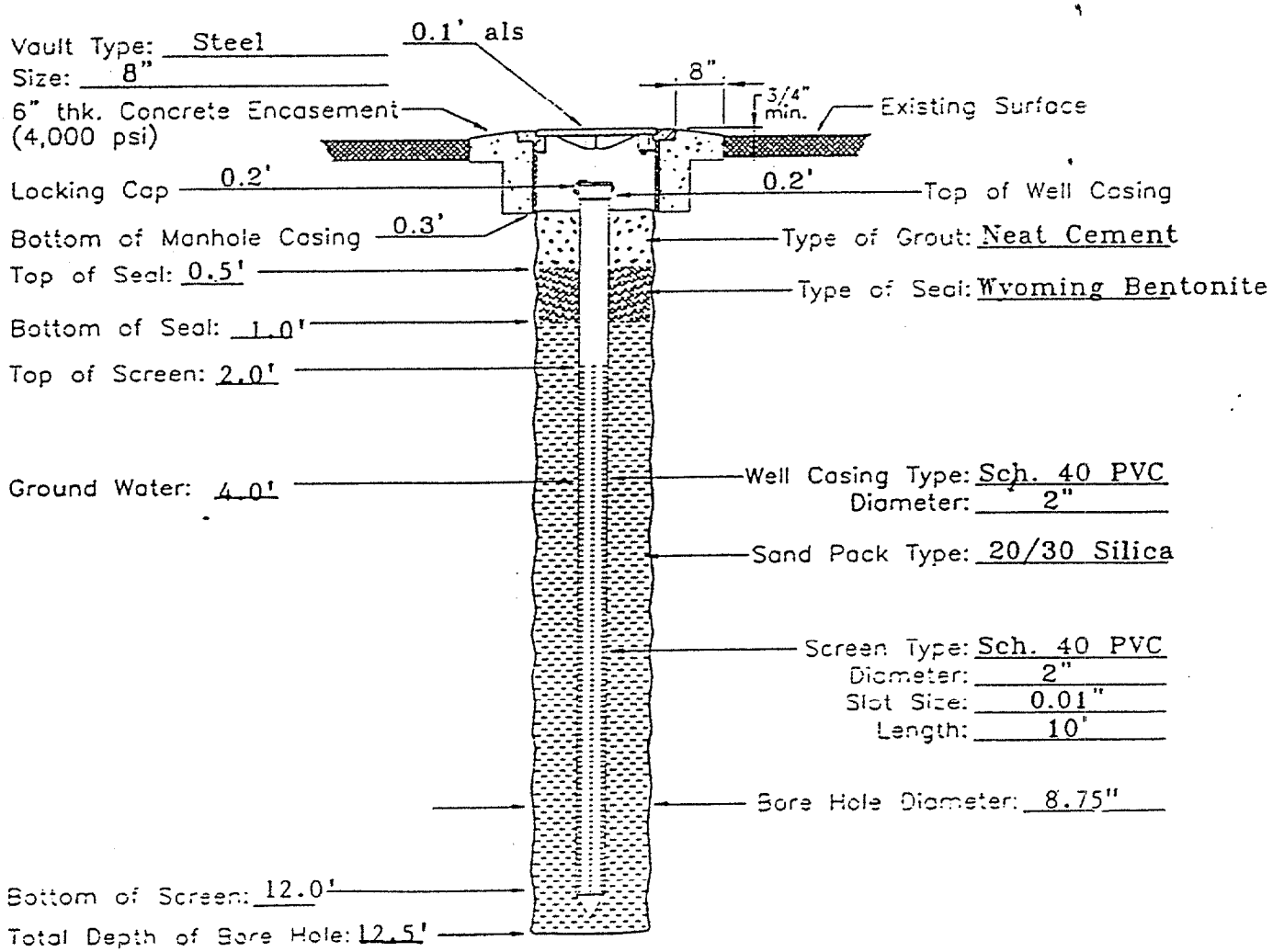
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTR
DRILLER'S NAME:
WELL NUMBER: MW-6

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C80
JOB NUMBER:
DATE Start: 7/15/97 Finish: 7/15/97
TIME Start: 1500 Finish: 1530

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

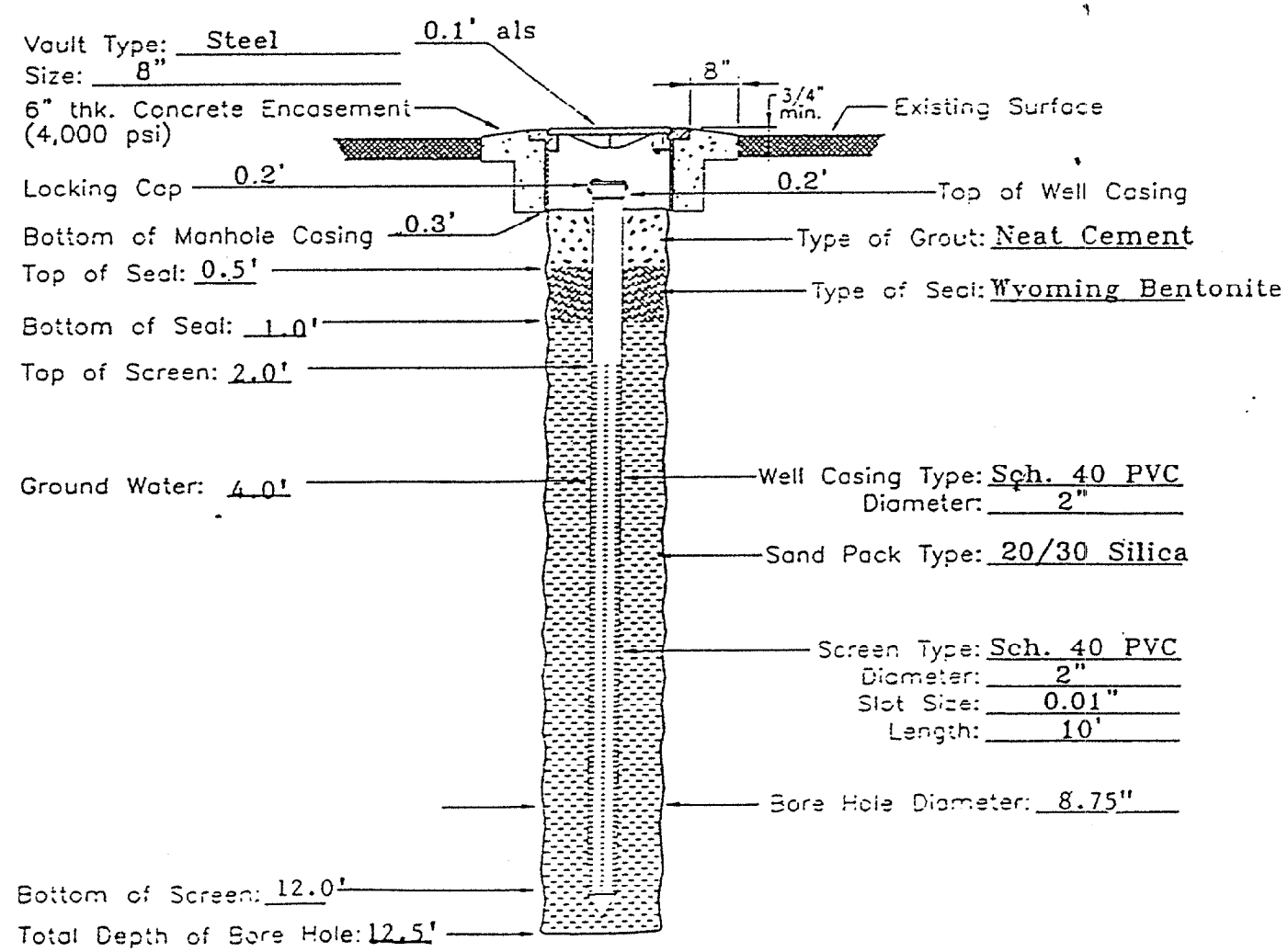
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRY
DRILLER'S NAME:
WELL NUMBER: MW-7

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-80
JOB NUMBER:
DATE Start: 7/15/97 Finish: 7/15/97
TIME Start: 1540 Finish: 1600

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (BLS)

DRAWING ABOVE IS NOT TO SCALE

Site C-80
Trumbo Point Annex
Key West, Florida
MONITORING WELL NO.: MW4

LOGGED BY: Greg Campbell, P. E. | SHEET 1 OF 1
Contractor: NPWC, Pensacola, FL | Dr. Method: HSA
Driller: MWI | Dr. Rig: Mobile
Start Date: 07/15/97 | Completed: 07/15/97
Start Time: 1235 | Finish Time: 1300
Contract No.

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0"-6"; Asphalt				
						6"-3'; Light Brown, Medium Grain Oolite Limestone	0	0	0	
			Water Table @ approx. 3.5' - 4' bls			3'-10'; Light Grey, Medium Grain Oolite	0	0	0	
HOLE					4		0	0	0	
				100%	8					
HSA						10'-12'; White, Fine Grain, Limestone				
				100%	12					
						End of Boring @ 12.0' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

B-4

Site C-80
Trumbo Point Annex
Key West, Florida
MONITORING WELL NO.: MW5

LOGGED BY: Greg Campbell, P. E. SHEET 1 OF 1
Contractor: NPWC, Pensacola, FL Dr. Method: HSA
Driller: MWI Dr. Rig: Mobile
Start Date: 07/15/97 Completed: 07/15/97
Start Time: 1330 Finish Time: 1410
Contract No.

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0"-6"; Asphalt				
						6"-3'; Light Brown, Medium Grain Oolite Limestone	0	0	0	
			Water Table @ approx. 3.5' - 4' bls			3'-4'; Light Grey, Medium Grain Oolite	0	0	0	
HOLE					4	4'-5'; Medium Grey, Medium G Oolite Limestone	1	0	1	
						5'-10'; Light Grey, Medium Grai Oolite Limestone				
				100%	8					
HSA						10'-12'; White, Fine Grain, Limestone				
				100%	12					
						End of Boring @ 12.0' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

Site C-80
Trumbo Point Annex
Key West, Florida
MONITORING WELL NO.: MW6

LOGGED BY: Greg Campbell, P. E. | SHEET 1 OF 1
Contractor: NPWC, Pensacola, FL | Dr. Method: HSA
Driller: MWI | Dr. Rig: Mobile
Start Date: 07/15/97 | Completed: 07/15/97
Start Time: 1500 | Finish Time: 1530
Contract No.

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST HOLE				100%	0	0"-6"; Asphalt				
						6"-3'; Light Brown, Medium Grain Oolite Limestone	0	0	0	
			Water Table @ approx. 3.5' - 4' bls			3'-4'; Light Grey, Medium Grain Oolite	0	0	0	
					4	4'-5'; Medium Grey, Medium G Oolite Limestone	0	0	0	
						5'-10'; Light Grey, Medium Grai Oolite Limestone				
				100%	8					
HSA						10'-12'; White, Fine Grain, Limestone				
				100%	12					
						End of Boring @ 12.0' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

B-6

Site C-80
Trumbo Point Annex
Key West, Florida
MONITORING WELL NO.: MW7

LOGGED BY: Greg Campbell, P. E. SHEET 1 OF 1
Contractor: NPWC, Pensacola, FL Dr. Method: HSA
Driller: MWI Dr. Rig: Mobile
Start Date: 07/15/97 Completed: 07/15/97
Start Time: 1540 Finish Time: 1600
Contract No.

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST HOLE HSA				100%	0	0"-6"; Asphalt				
						6"-3'; Light Brown, Medium Grain Oolite Limestone	0	0	0	
			Water Table @ approx. 3.5' - 4' bls			3'-4'; Light Grey, Medium Grain Oolite	0	0	0	
					4	4'-5'; Medium Grey, Medium G	0	0	0	
						Oolite Limestone				
						5'-10'; Light Grey, Medium Grai				
						Oolite Limestone				
				100%	8					
						10'-12'; White, Fine Grain, Limestone				
				100%	12					
						End of Boring @ 12.0' BLS				
					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Flor da Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

B-7

C-2076 Trumbo Point BOQ

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

SITE ASSESSMENT REPORT

SITE C-2076, TRUMBO POINT BOQ
NAS KEY WEST, FLORIDA

PREPARED BY:

NAVY PUBLIC WORKS CENTER
NAS ENVIRONMENTAL DEPARTMENT, BUILDING 1754
PENSACOLA, FLORIDA 32508-6500

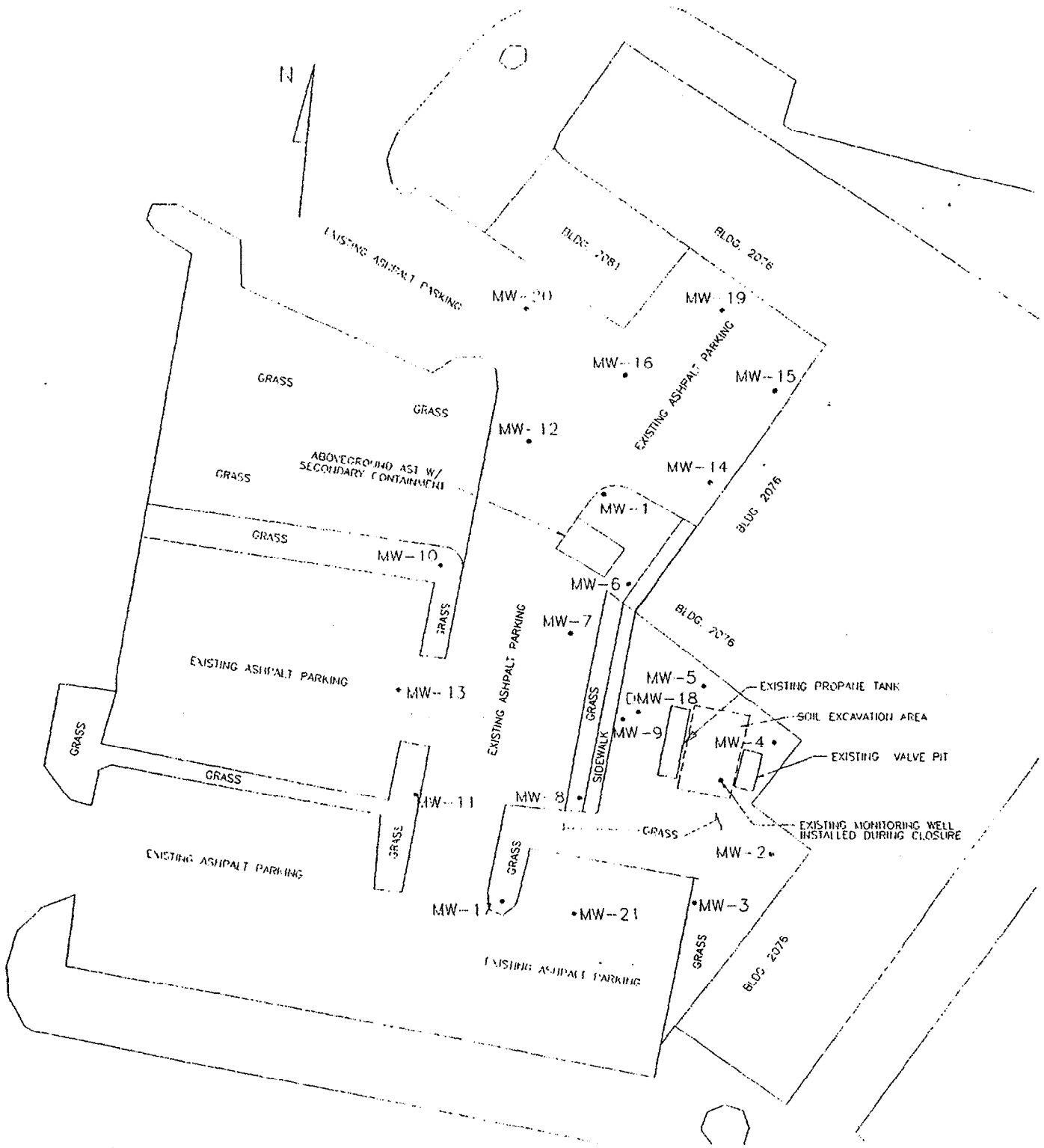
AUTHOR: GREG CAMPBELL, P.E.

JUNE 1999

PREPARED FOR:

NAVY PUBLIC WORKS DEPARTMENT
BUILDING A-629 BOCA CHICA FIELD
NAVAL AIR STATION, KEY WEST
KEY WEST, FLORIDA 33040

JIM SIMMEN, CODE 1883JS
ENVIRONMENTAL PROTECTION SPECIALIST



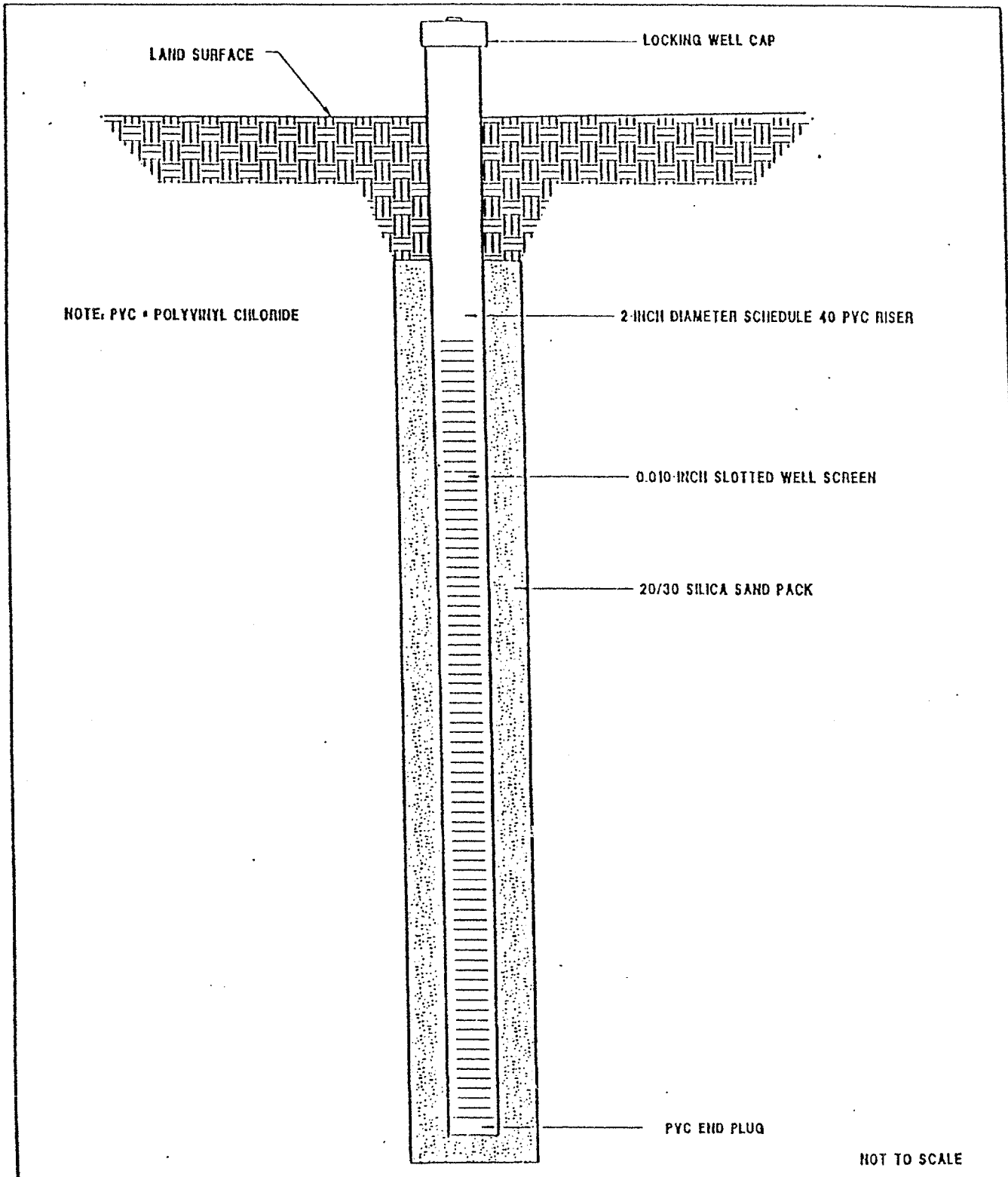
LEGEND

MW-8. ⊕ MONITORING WELL NUMBER/LOCATION

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE 1"=40'	FIGURE 2-1	DRAWN BY: DWG. NO. REVISED BY:
MONITORING WELL LOCATION MAP SITE C2076, TRUMBO POINT, KEY WEST		
CLIENT: PWD ENVIRONMENTAL DEPARTMENT, KEY WEST		

APPENDIX A

MONITORING WELL CONSTRUCTION DIAGRAMS



TYPICAL TEMPORARY MONITORING WELL INSTALLATION DETAIL

NPWC

ENVIRONMENTAL

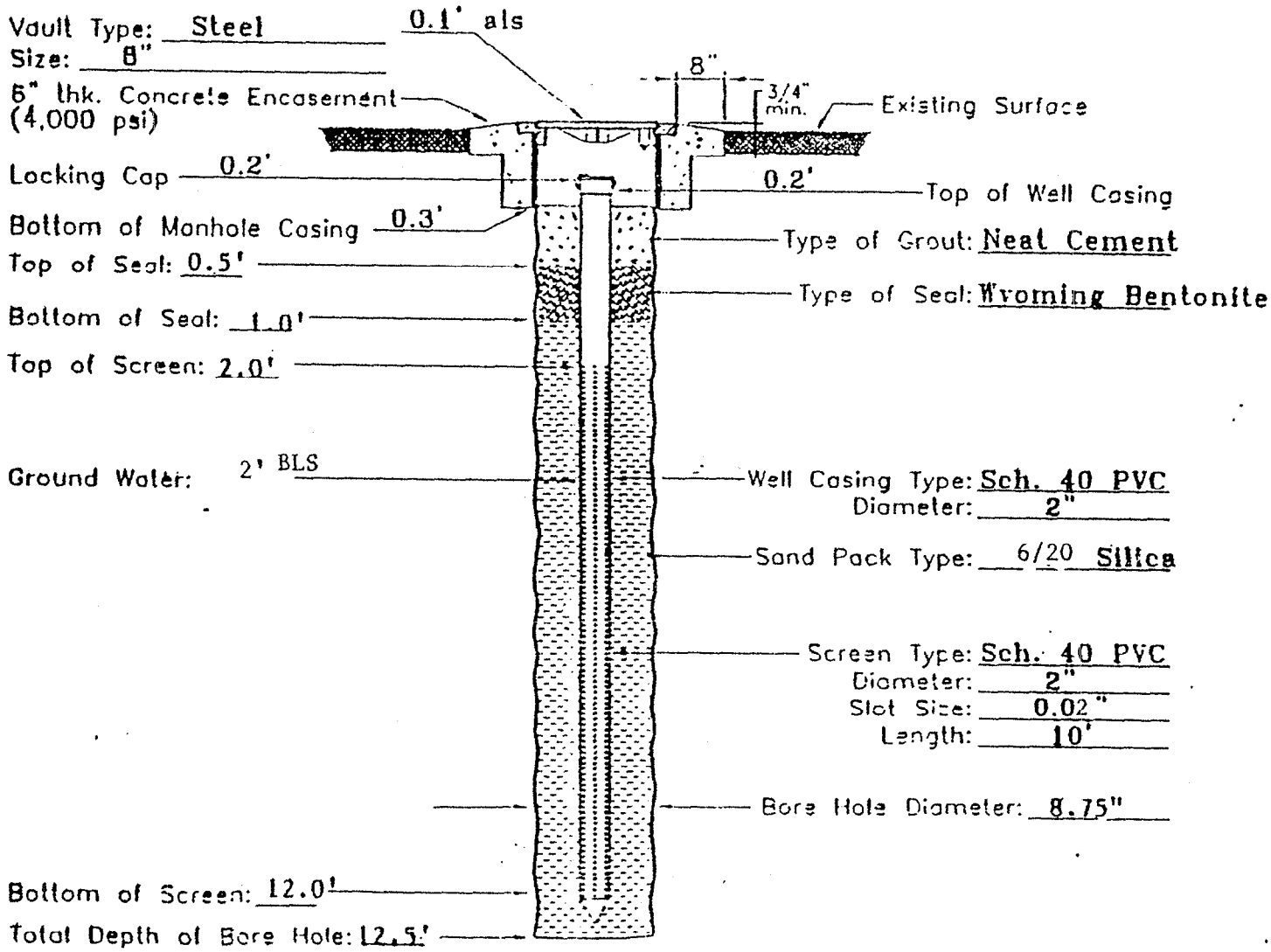
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GFA, International, Inc.
DRILLER'S NAME:
WELL NUMBER: MW-1

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-2076
JOB NUMBER:
DATE Start: 6/22/98 Finish: 6/22/98
TIME Start: 1030 Finish: 1110

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (BLS)

A-2

DRAWING ABOVE IS NOT TO SCALE

NPWC

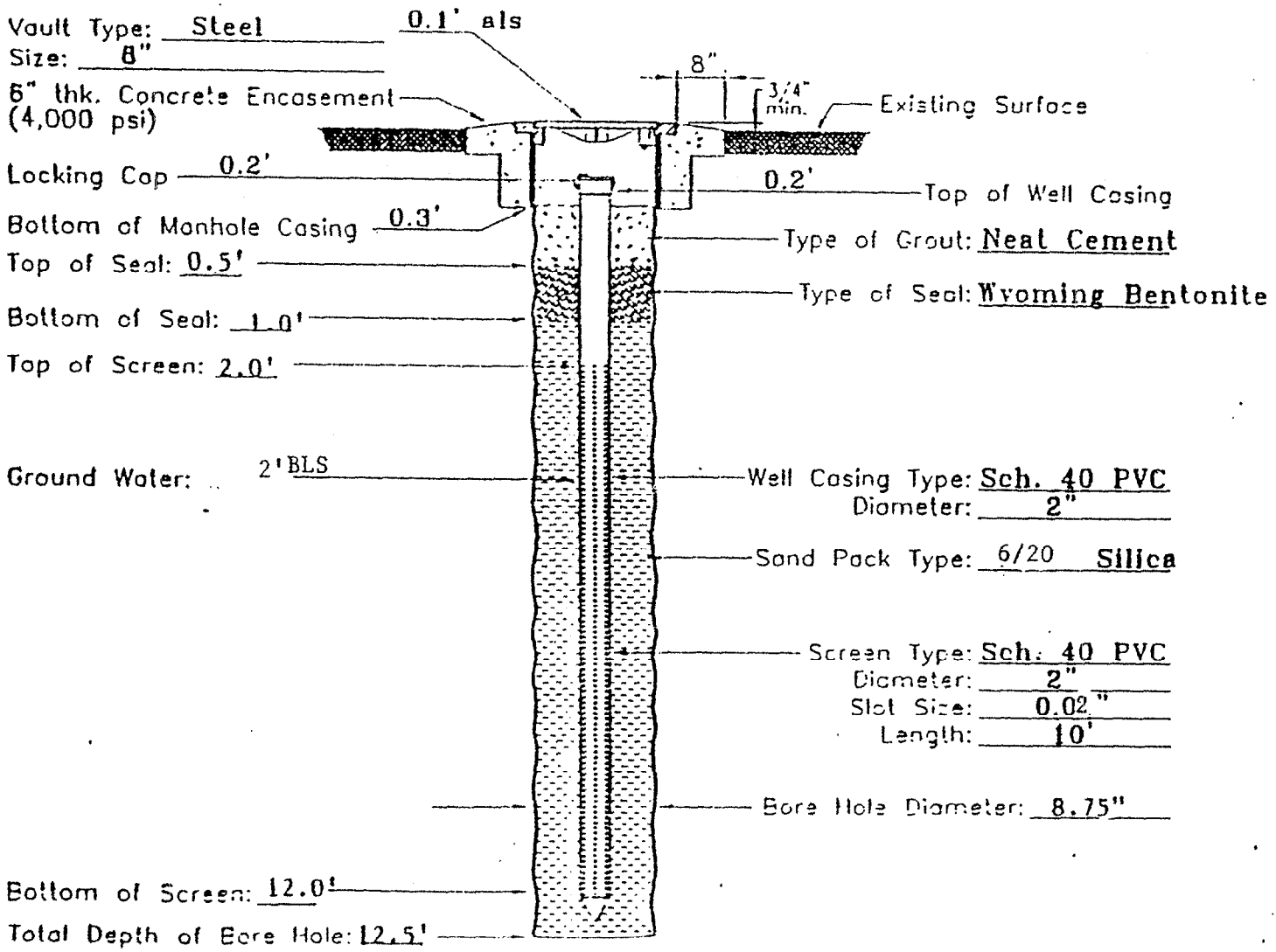
ENVIRONMENTAL

MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GFA, International, LOCATION: SITE C2076
DRILLER'S NAME:
WELL NUMBER: MW-2
CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
JOB NUMBER:
DATE Start: 6/22/98 Finish: 6/22/98
TIME Start: 1143 Finish: 1200

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (BLS)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

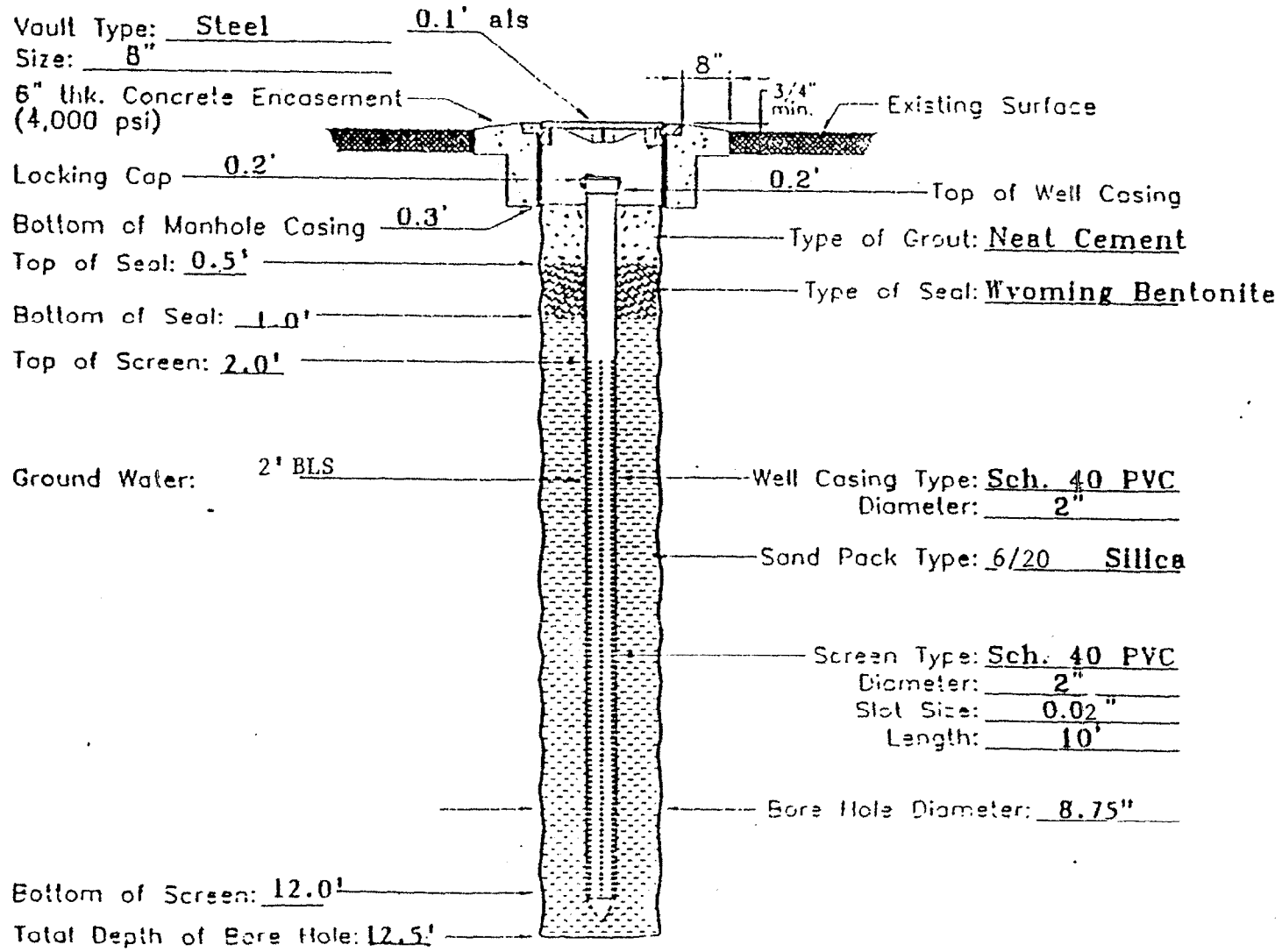
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GFA, International, Inc.
DRILLER'S NAME:
WELL NUMBER: MW-3

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C2076
JOB NUMBER:
DATE Start: 6/22/98 Finish: 6/22/98
TIME Start: 1330 Finish: 1410

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

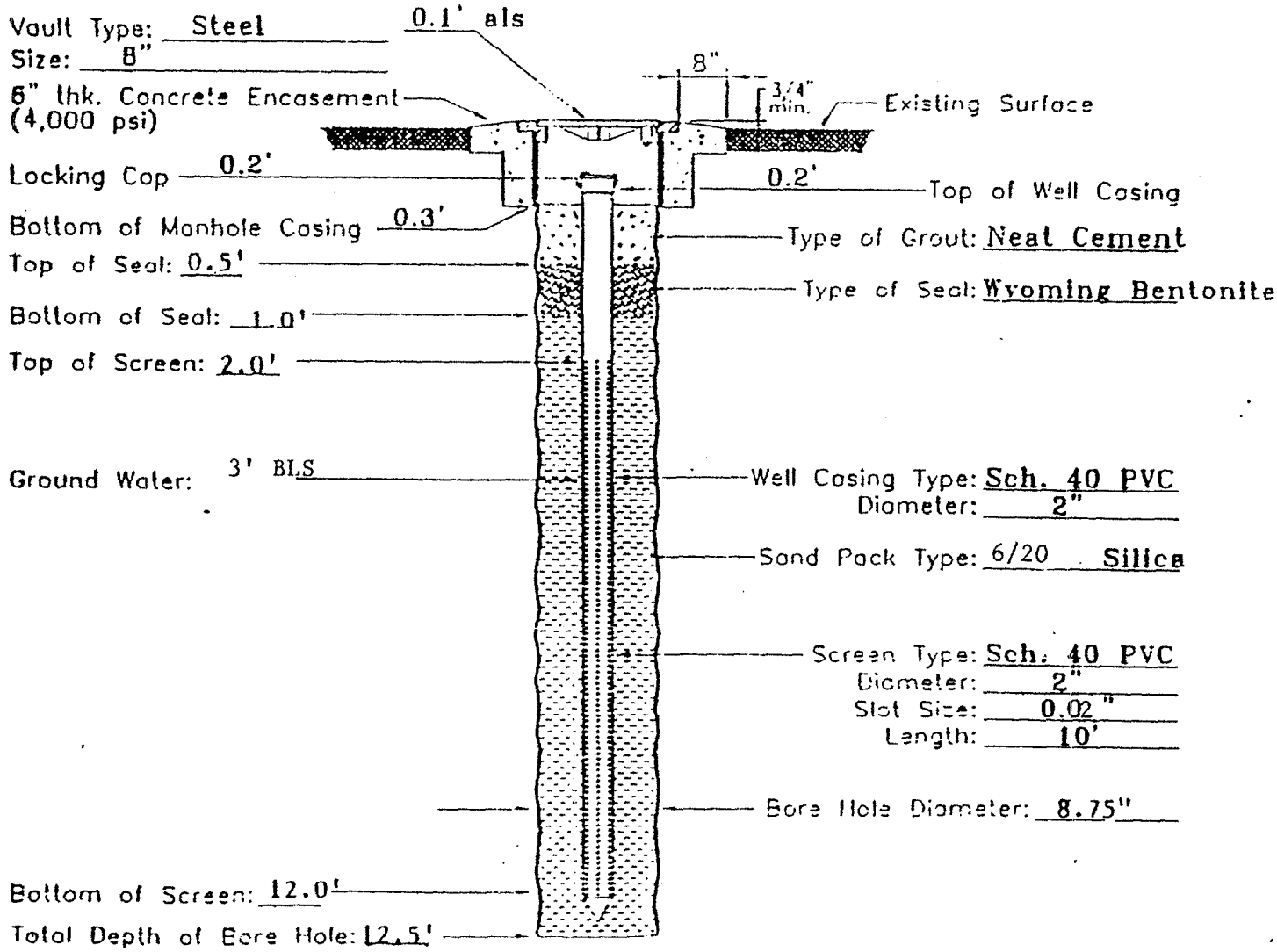
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GFA, International
DRILLER'S NAME:
WELL NUMBER: MW-4

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-2076
JOB NUMBER:
DATE Start: 6/22/98 Finish: 6/22/98
TIME Start: 1430 Finish: 1500

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



A-5

NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (BLS)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

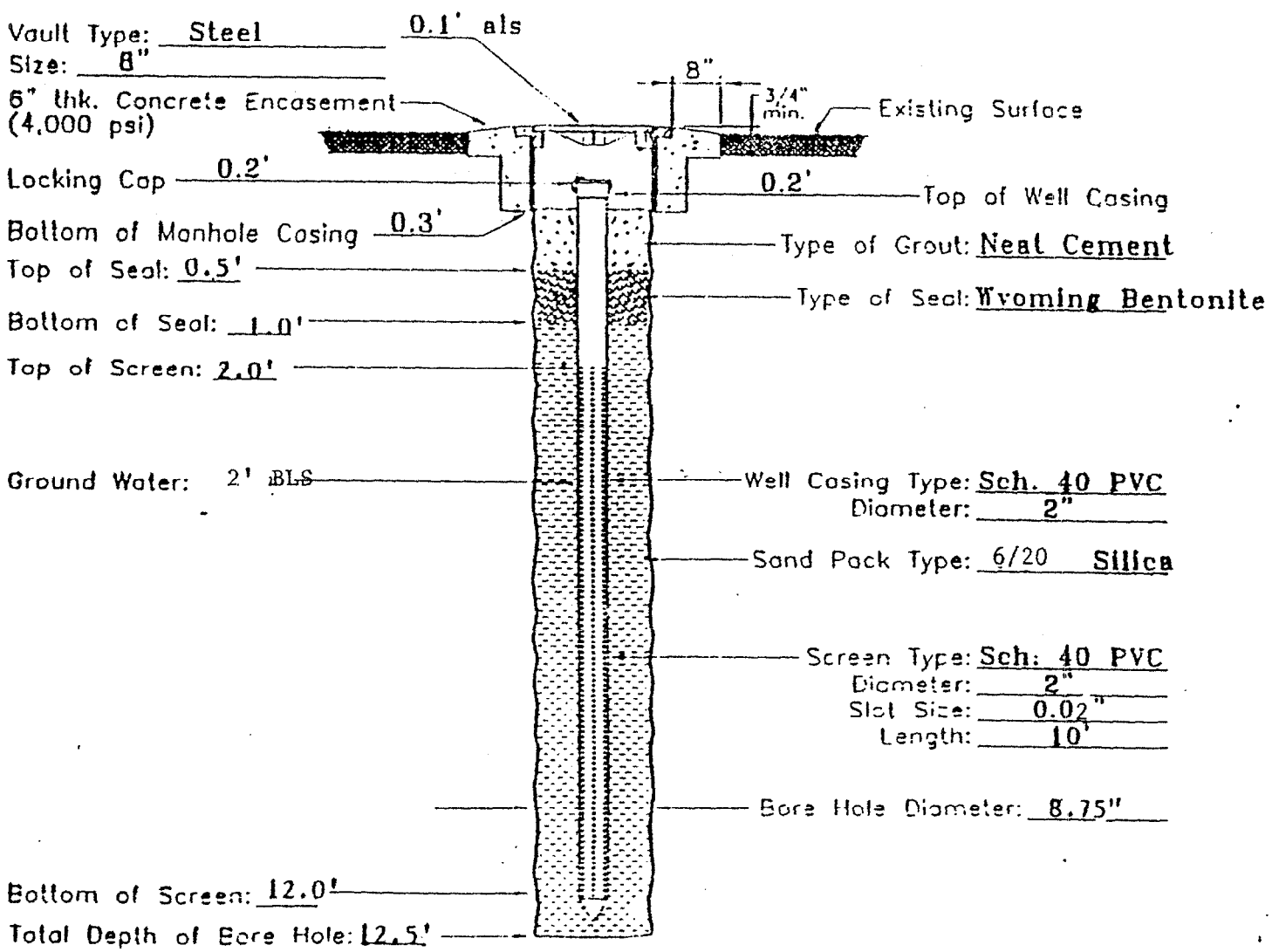
310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

MONITOR WELL CONSTRUCTION DETAIL

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GEA, International,
DRILLER'S NAME:
WELL NUMBER: MW-5

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WES
LOCATION: SITE C-2076
JOB NUMBER:
DATE Start: 6/22/98 Finish: 6/22/98
TIME Start: 1530 Finish: 1600

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

A-6

DRAWING ABOVE IS NOT TO SCALE

NPWC

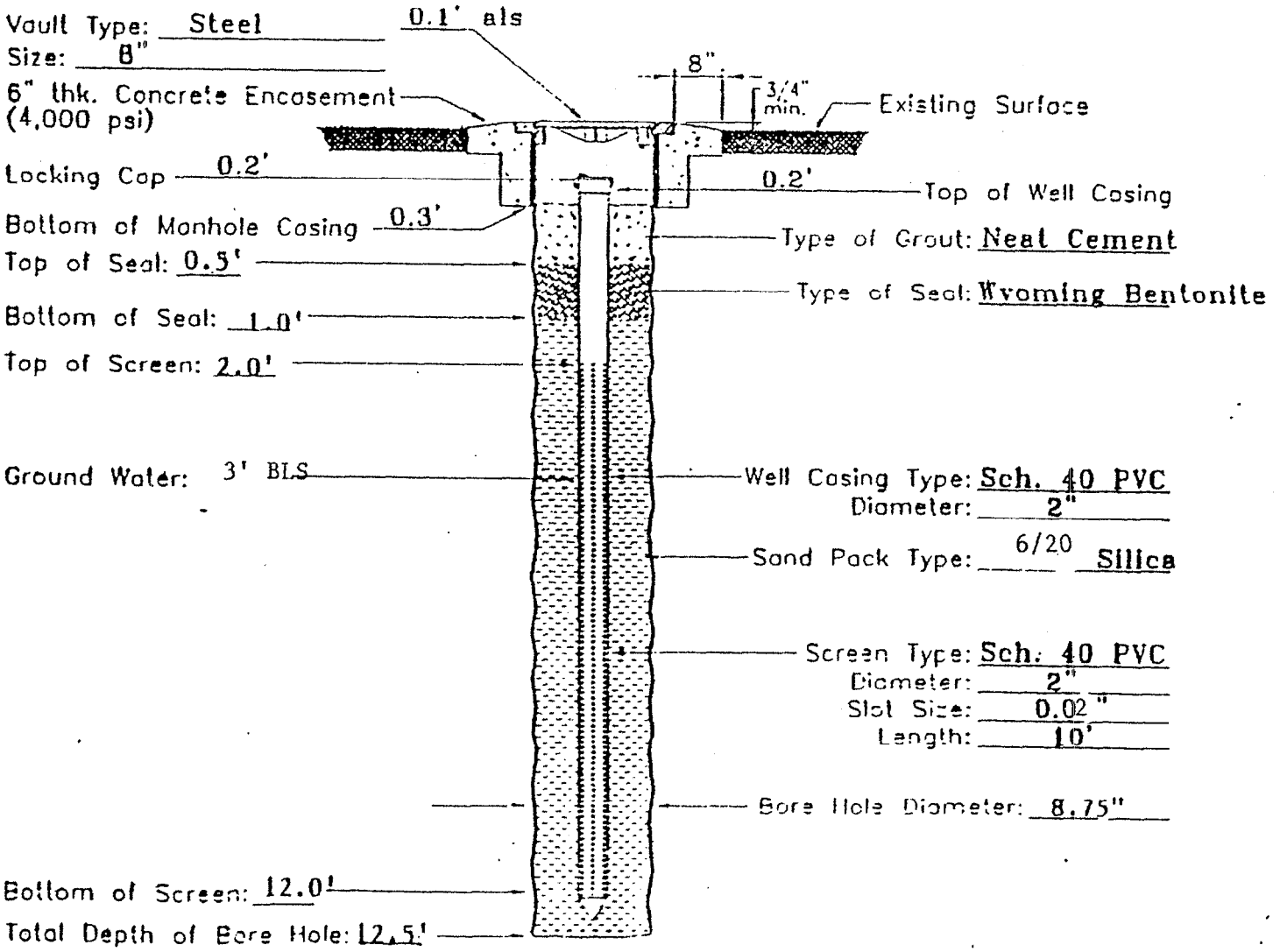
ENVIRONMENTAL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

MONITOR WELL CONSTRUCTION DETAIL

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GEA, International, Inc.
DRILLER'S NAME:
WELL NUMBER: MW-6
CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-2076
JOB NUMBER:
DATE Start: 6/22/98 Finish: 6/22/98
TIME Start: 1643 Finish: 1730

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

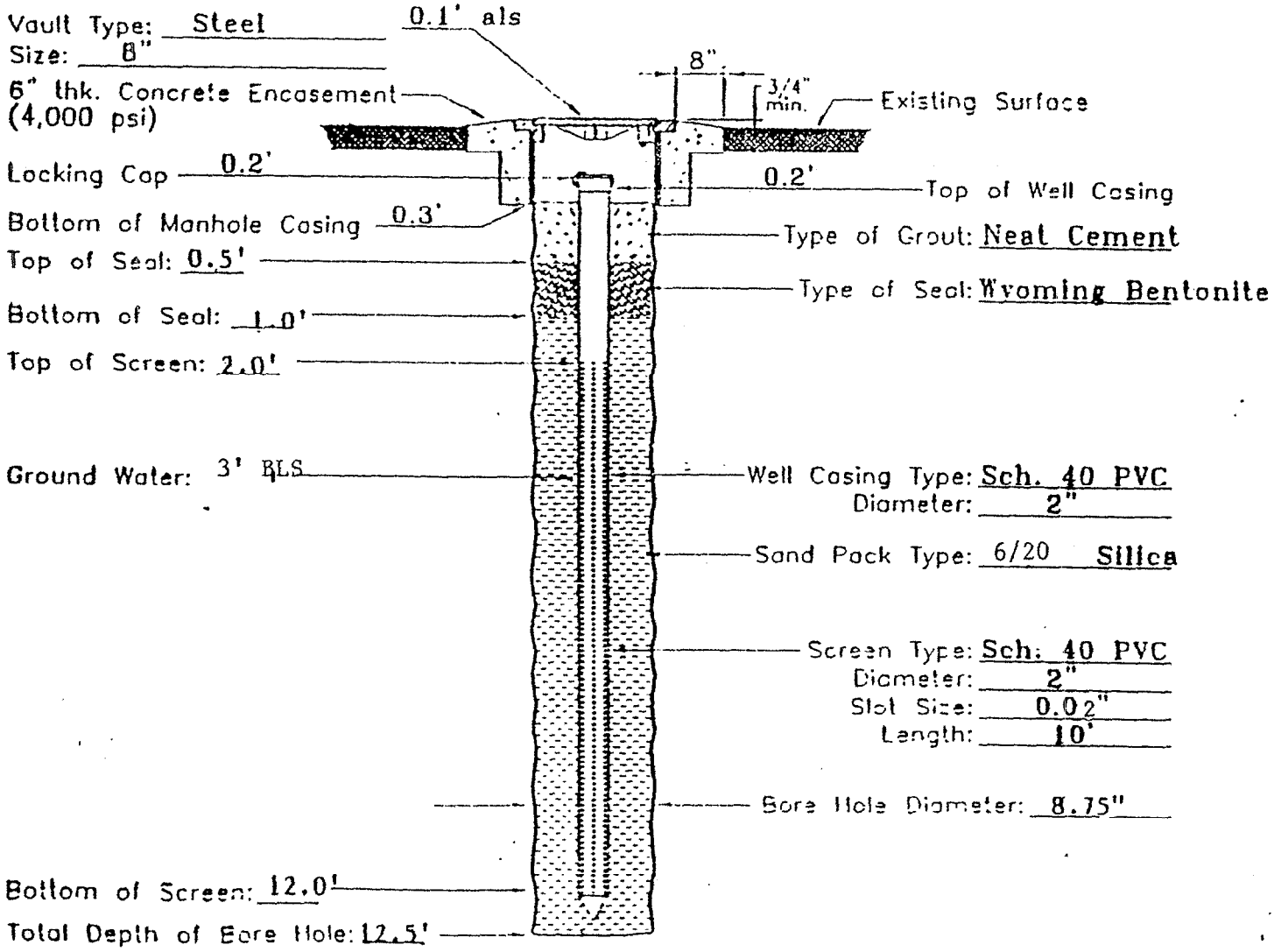
310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

MONITOR WELL CONSTRUCTION DETAIL

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GFA, International,
DRILLER'S NAME:
WELL NUMBER: MW-7

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WES
LOCATION: SITE C-2076
JOB NUMBER:
DATE Start: 6/22/98 Finish: 6/22/98
TIME Start: 1750 Finish: 1810

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

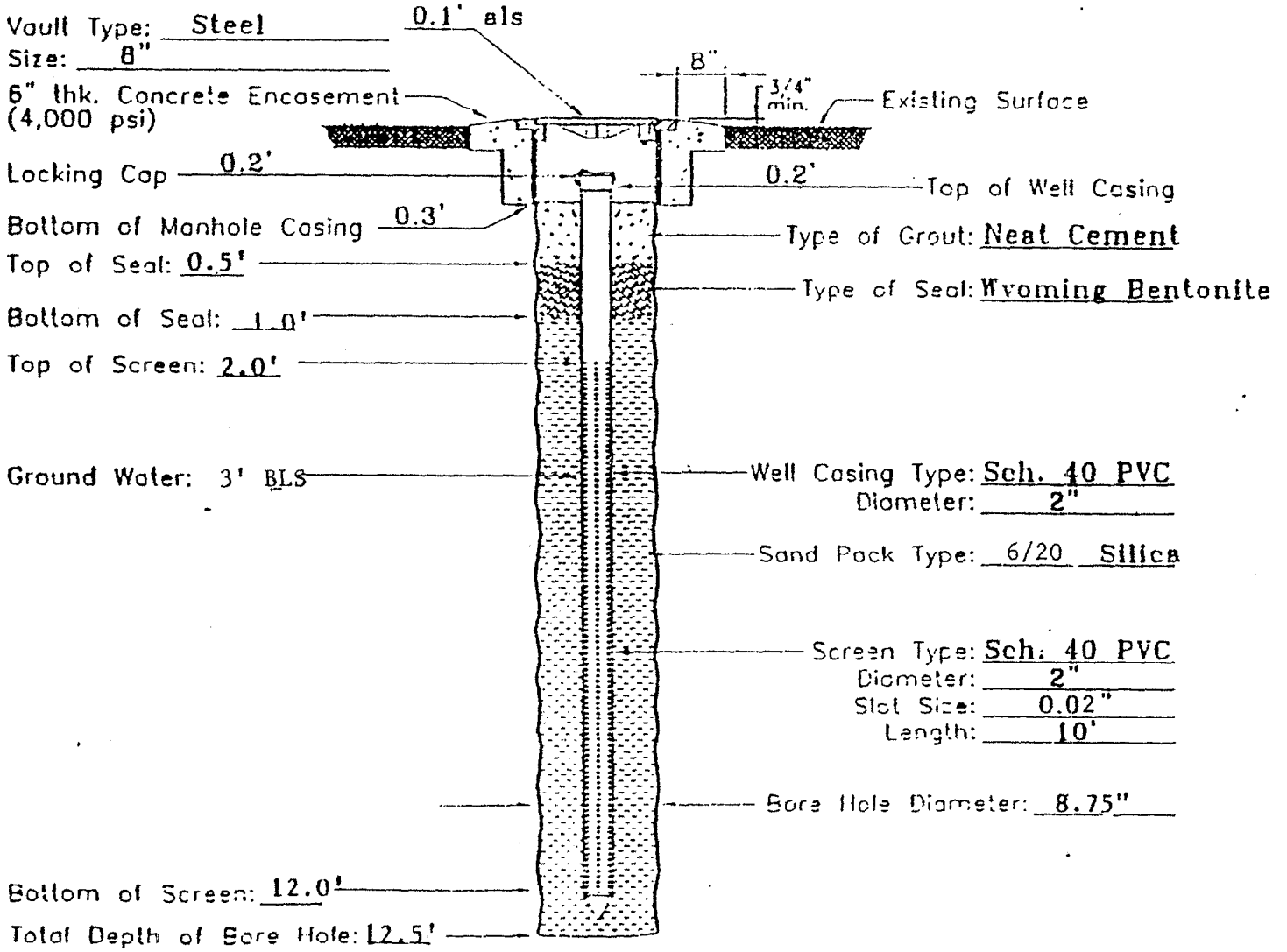
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GEA, International, Inc.
DRILLER'S NAME:
WELL NUMBER: MW-8

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-2076
JOB NUMBER:
DATE Start: 6/23/98 Finish: 6/23/98
TIME Start: 0800 Finish: 0945

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

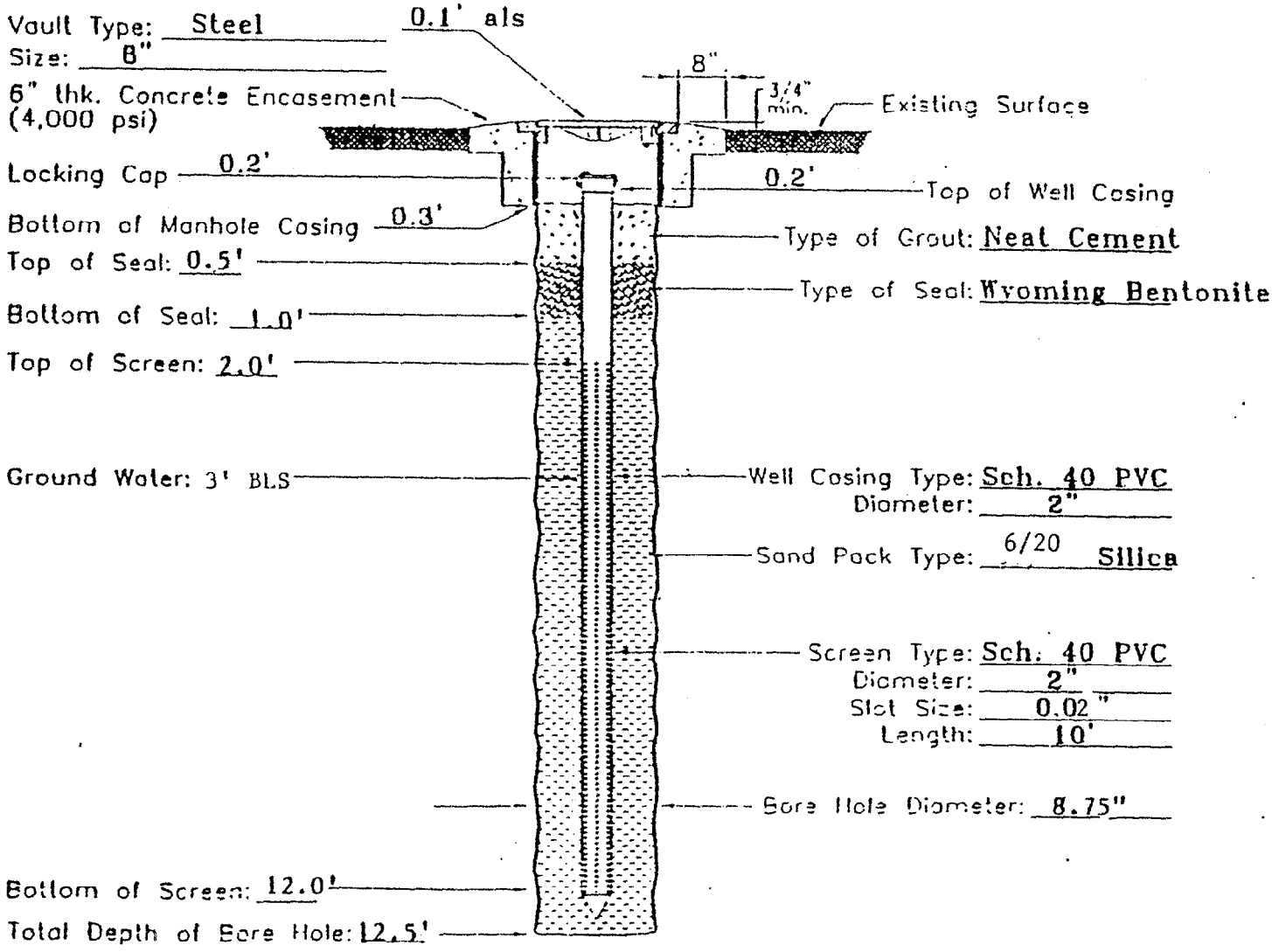
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GEA, International,
DRILLER'S NAME:
WELL NUMBER: MW-9

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-2076
JOB NUMBER:
DATE Start: 6/23/98 Finish: 6/23/98
TIME Start: 1000 Finish: 1030

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

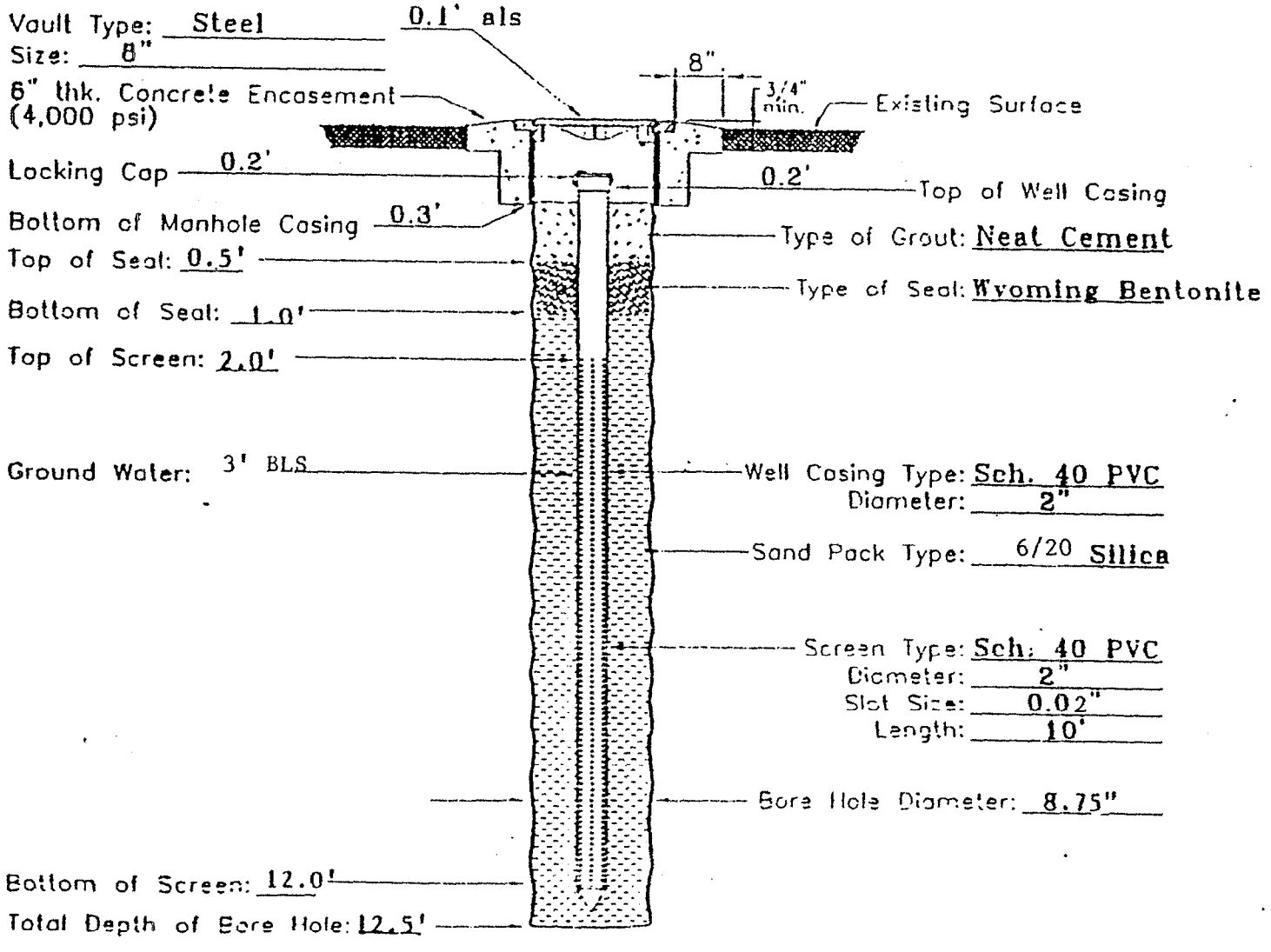
310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

MONITOR WELL CONSTRUCTION DETAIL

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GEA, International
DRILLER'S NAME:
WELL NUMBER: MW-10

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-2076
JOB NUMBER:
DATE Start: 6/23/98 Finish: 6/23/98
TIME Start: 1050 Finish: 1110

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



A-11

NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

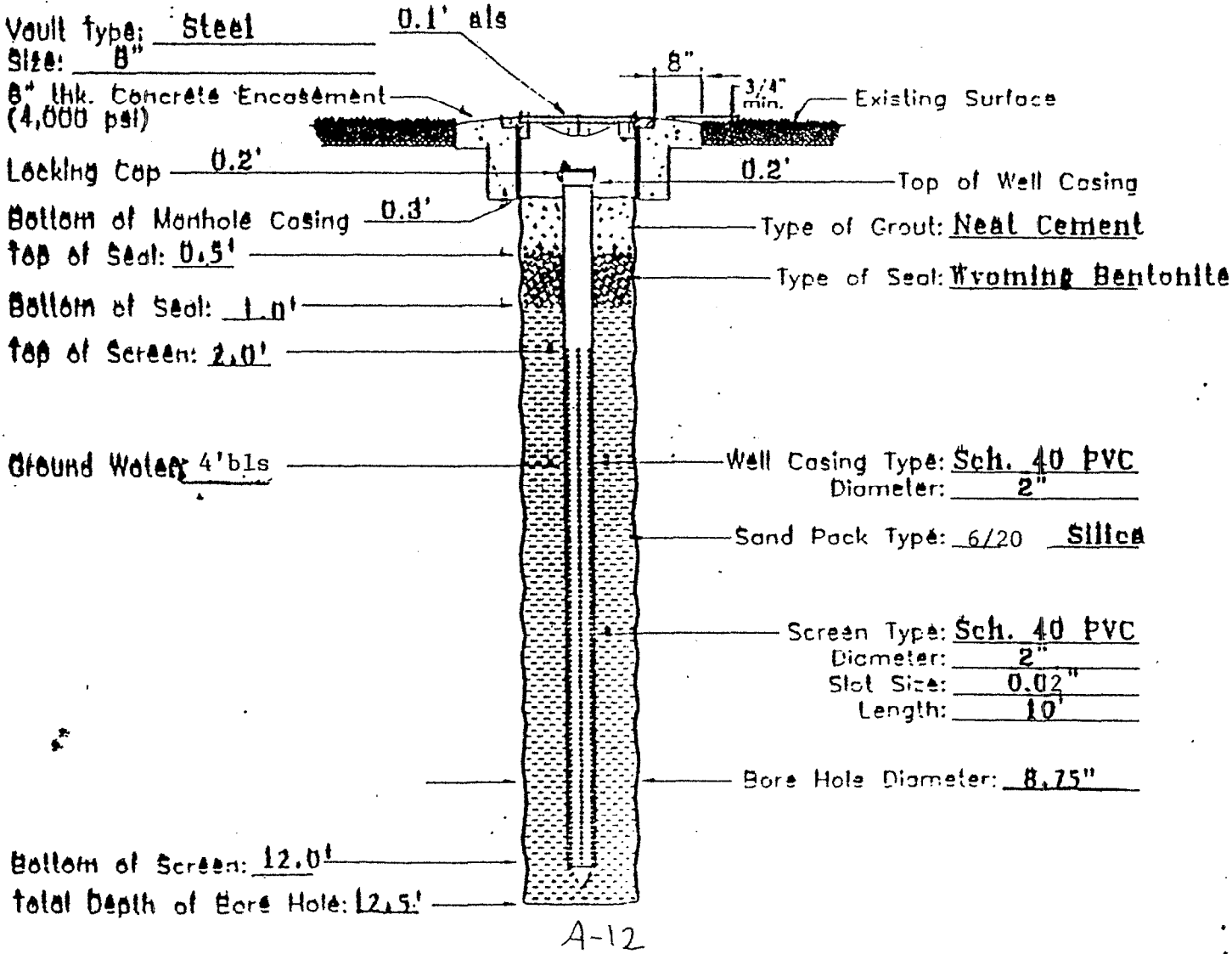
310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5135 FAX

MONITOR WELL CONSTRUCTION DETAIL

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GFA International
DRILLER'S NAME:
WELL NUMBER: MW-11

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-2076 BOQ Trumbo Point
JOB NUMBER:
DATE Start: 3/22/99 Finish: 3/22/99
TIME Start: 745 Finish: 815

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



A-12

NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (BLS)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

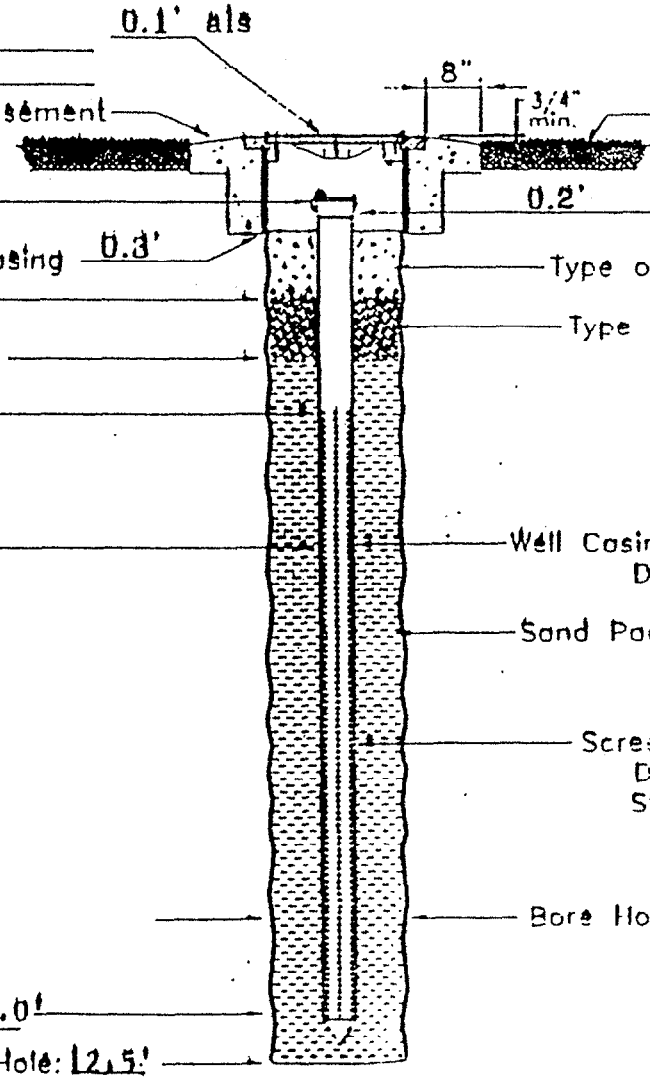
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5138 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GEA International
DRILLER'S NAME:
WELL NUMBER: MW-12

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-2076 Trumbo Point BOQ
JOB NUMBER:
DATE Start: 3/22/99 Finish: 3/22/99
TIME Start: 905 Finish: 920

COMMENTS: (Lost circulation interval, water level changes, hole collapse interval, etc.):



A-13

NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (BLS)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

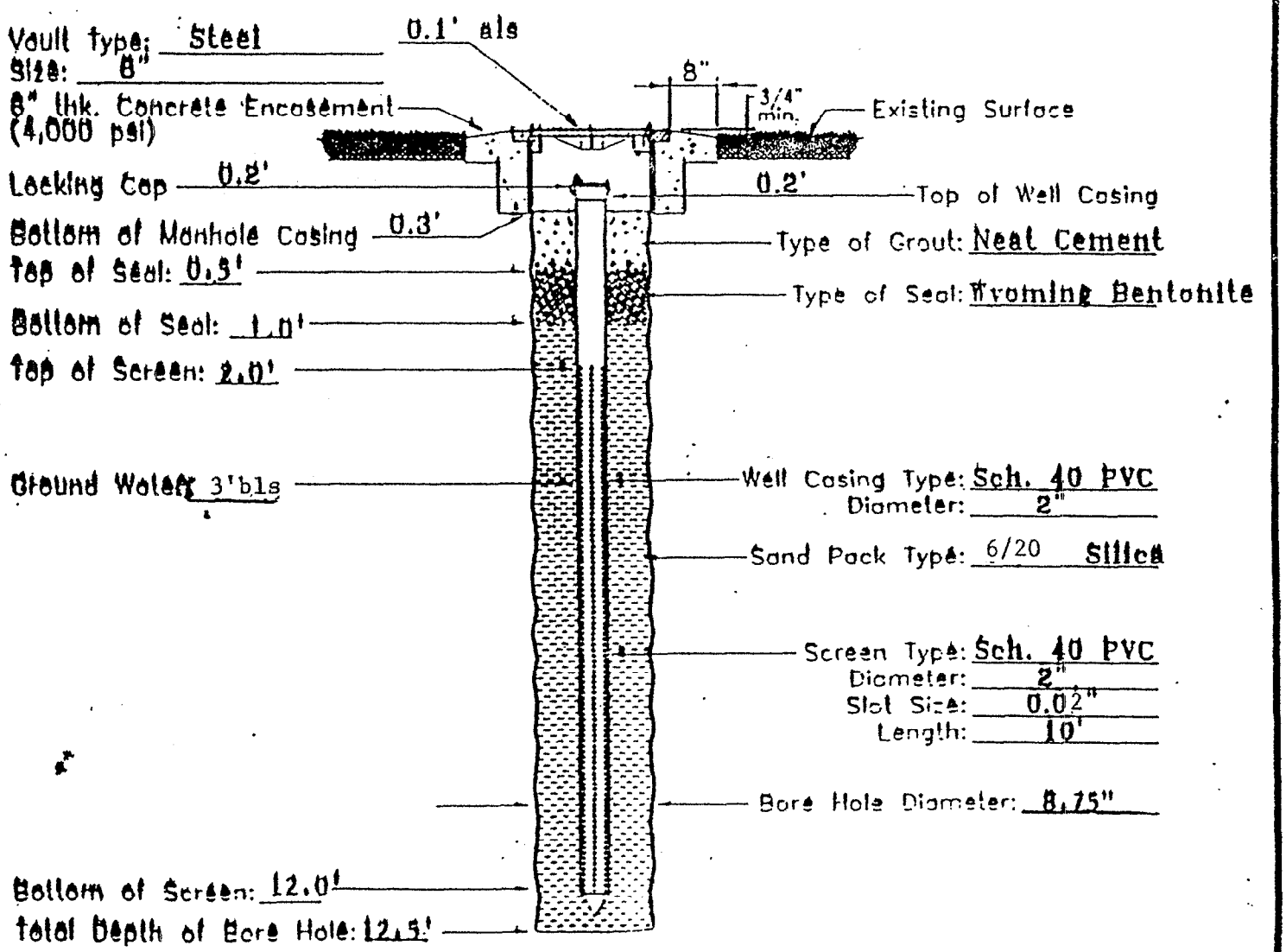
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GEA International
DRILLER'S NAME:
WELL NUMBER: MW-13

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-2076 Trumbo Point BOQ
JOB NUMBER:
DATE Start: 3/22/99 Finish: 3/22/99
TIME Start: 935 Finish: 1040

COMMENTS: (Lost circulation interval, water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (BLS)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

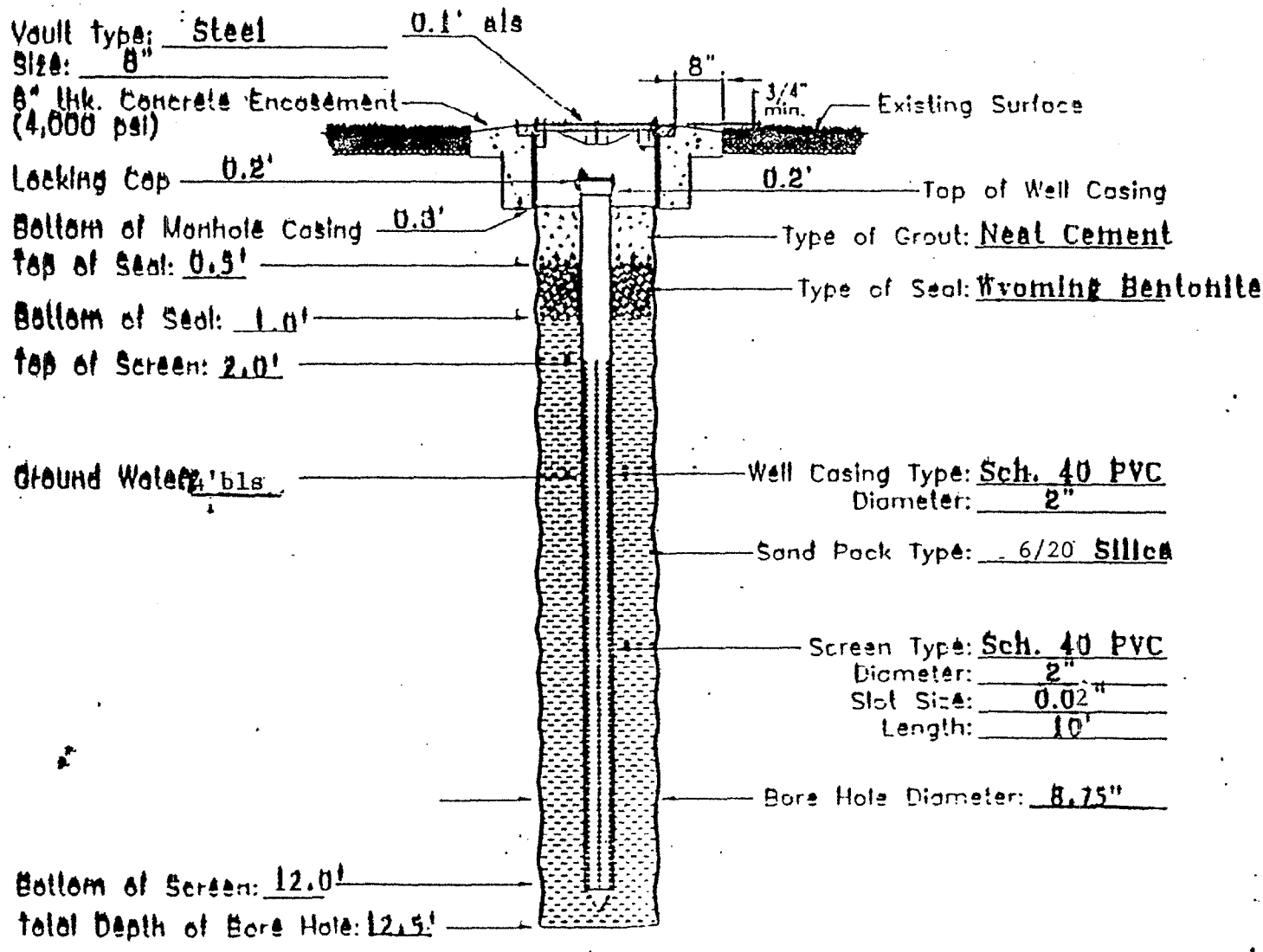
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GFA International
DRILLER'S NAME:
WELL NUMBER: MW-14

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-2076, Trumbo Point BOQ
JOB NUMBER:
DATE Start: 3/22/99 Finish: 3/22/99
TIME Start: 1048 Finish: 1109

COMMENTS: (Lost circulation interval, water level changes, hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

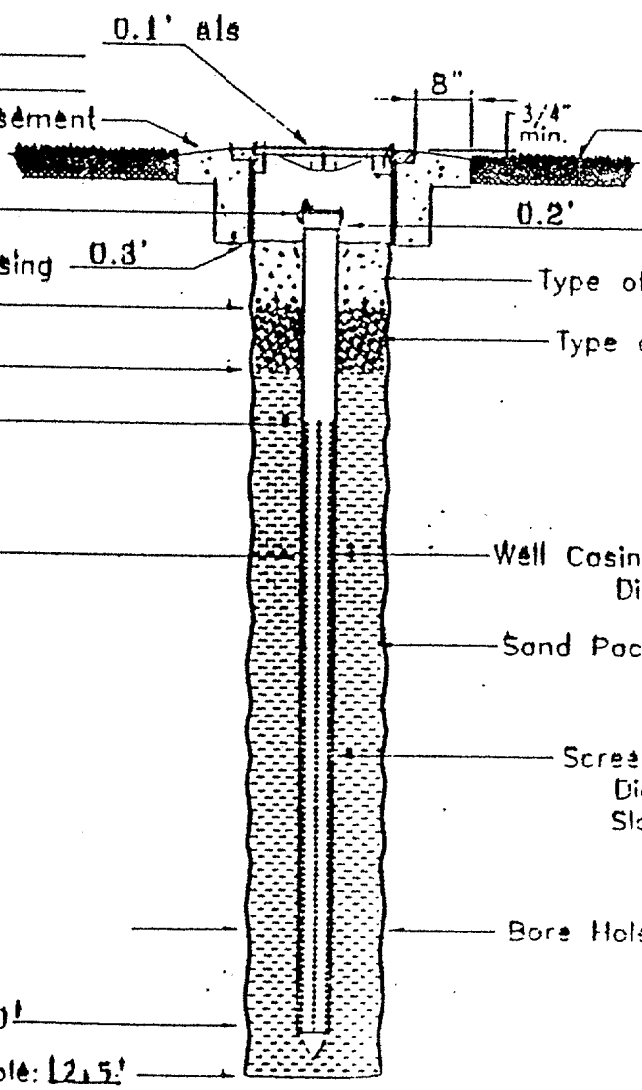
310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

MONITOR WELL CONSTRUCTION DETAIL

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GEA International
DRILLER'S NAME:
WELL NUMBER: MW-15

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-2076, Trumbo Point BOQ
JOB NUMBER:
DATE Start: 3/22/99 Finish: 3/22/99
TIME Start: 1245 Finish: 1312

COMMENTS: (Lost circulation interval, water level changes, Hole collapse interval, etc.):



A-16

NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

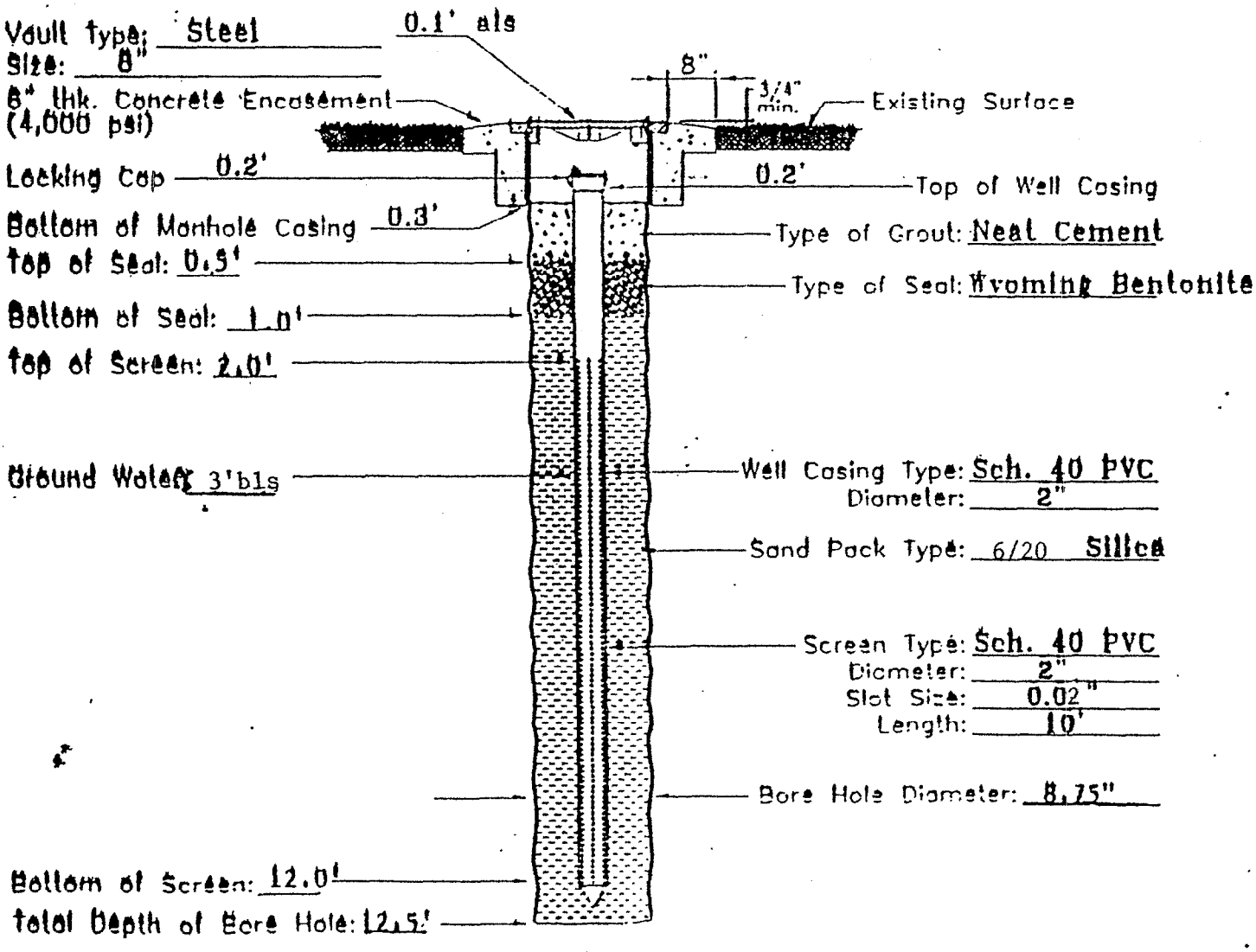
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GFA International
DRILLER'S NAME:
WELL NUMBER: MW-16

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-2076, Trumbo Point BOQ
JOB NUMBER:
DATE Start: 3/22/99 Finish: 3/22/99
TIME Start: 1436 Finish: 1442

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

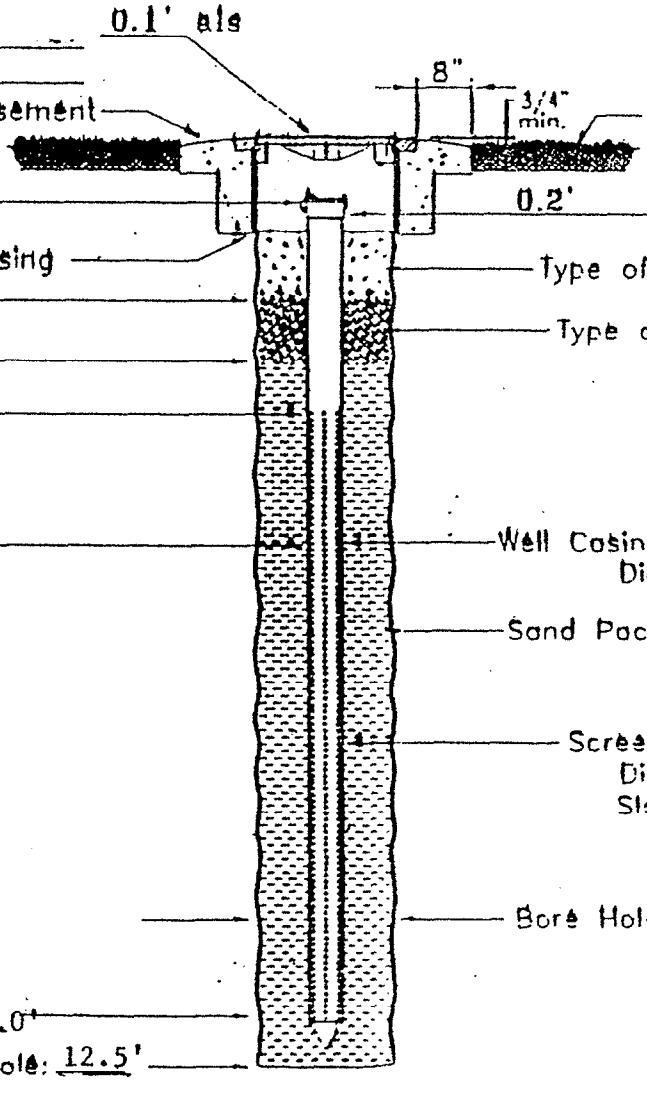
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GEA International
DRILLER'S NAME:
WELL NUMBER: MW-17

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-2076, Trumbo Point BOQ
JOB NUMBER:
DATE Start: 3/22/99 Finish: 3/22/99
TIME Start: 1522 Finish: 1615

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (BLS)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

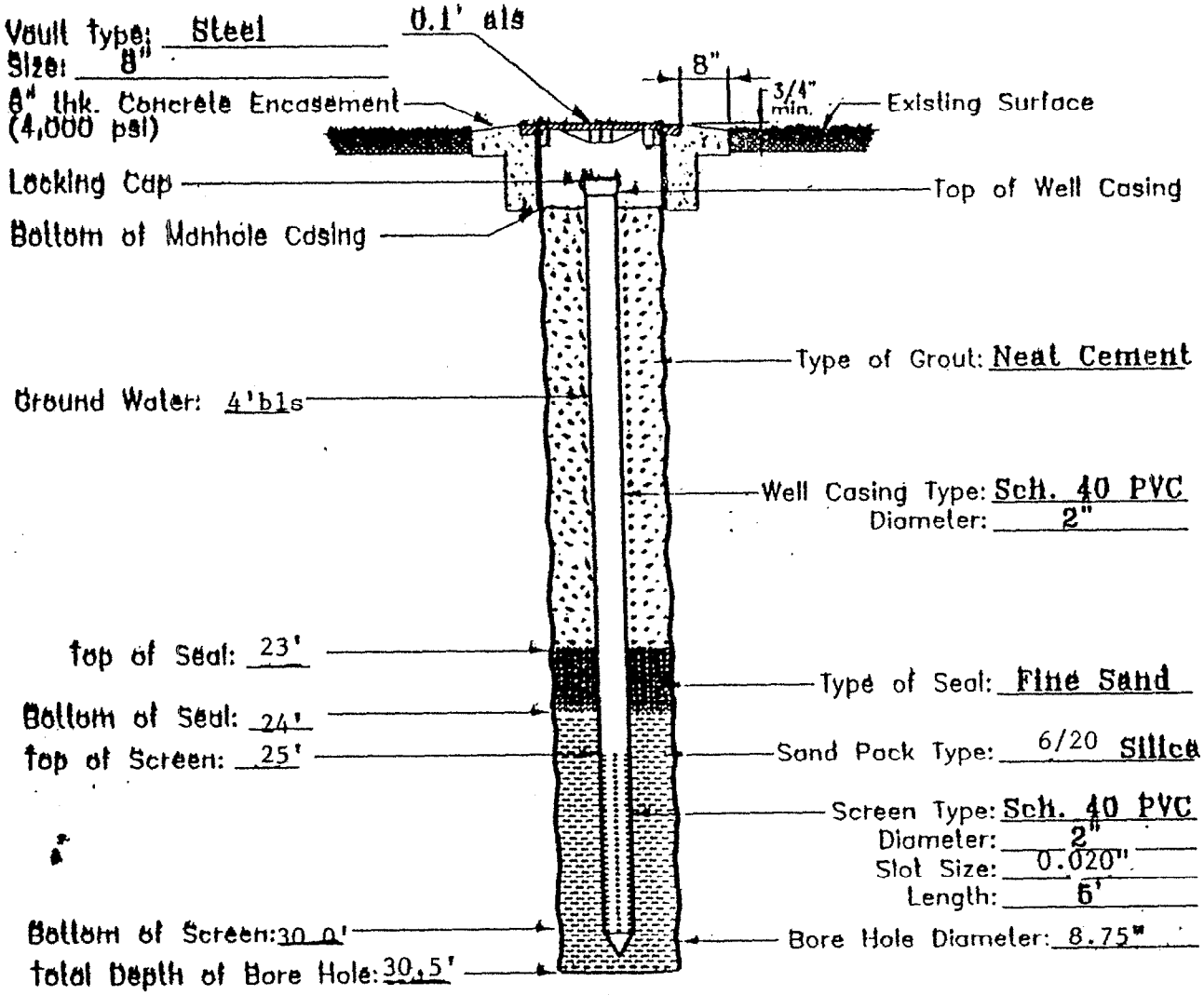
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GFA International
DRILLER'S NAME:
WELL NUMBER: BMW-18

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-2076, Trumbo Point BOQ
JOB NUMBER:
DATE Start: 3/23/99 Finish: 3/23/99
TIME Start: 0915 Finish: 0935

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



A-19

NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

CAD FILE STATUS: O:\AQADR13\MW-DETL1.DWG STA3-19951128.1143

NPWC

ENVIRONMENTAL

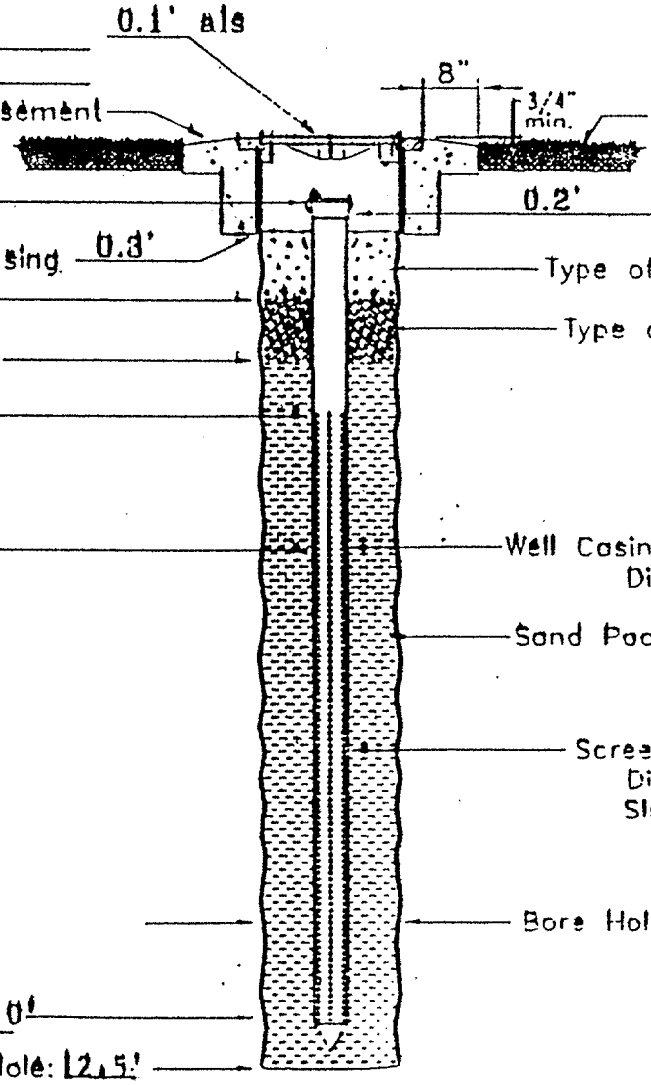
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GEA International
DRILLER'S NAME:
WELL NUMBER: MW-19

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-2076, Trumbo Point BOQ
JOB NUMBER:
DATE Start: 3/26/99 Finish: 3/26/99
TIME Start: 0958 Finish: 1038

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

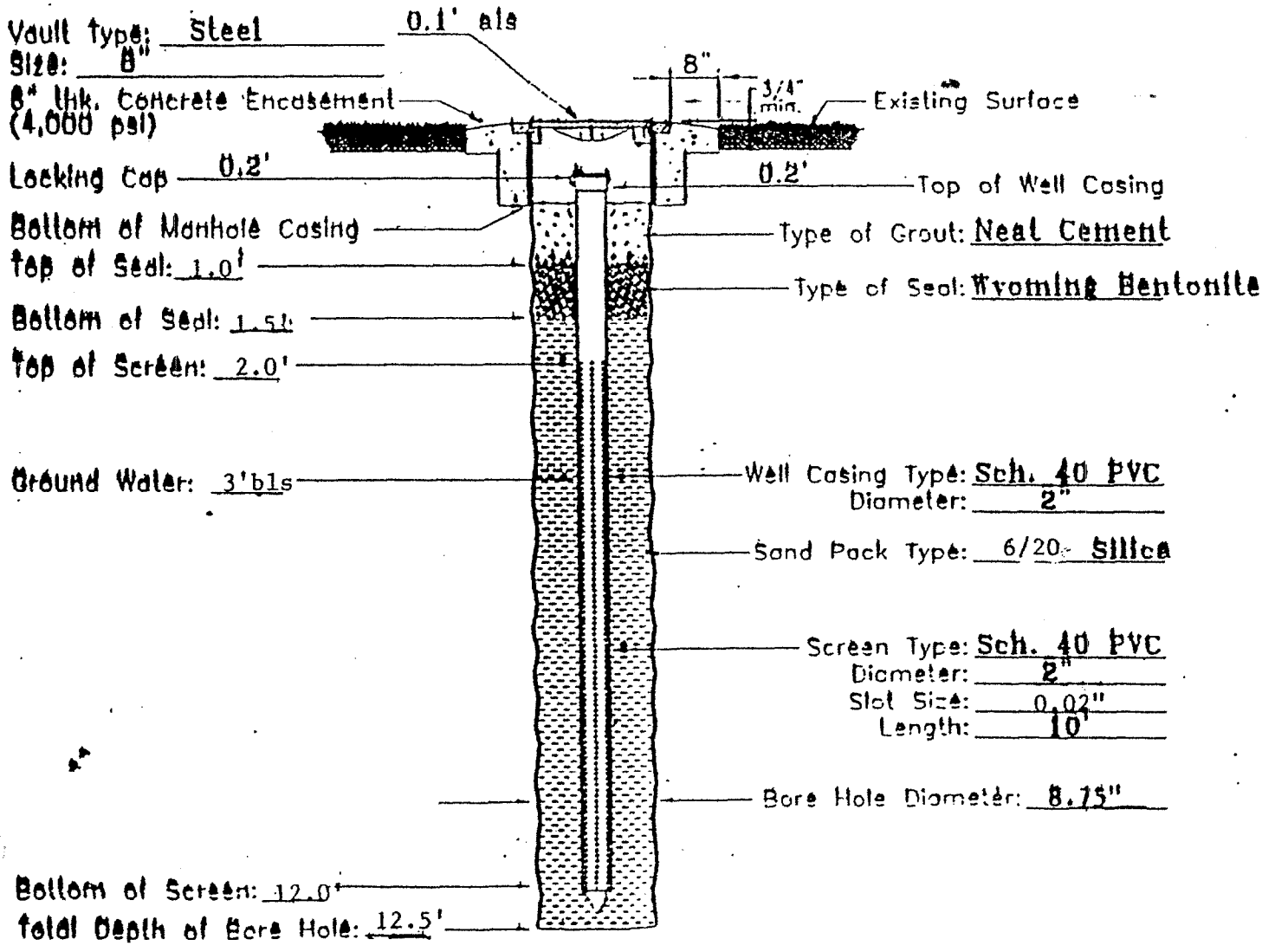
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GEA International
DRILLER'S NAME:
WELL NUMBER: MW-20

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITE C-2076, Trumbo Point BOQ
JOB NUMBER:
DATE Start: 3/26/99 Finish: 3/26/99
TIME Start: 1053 Finish: 1126

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

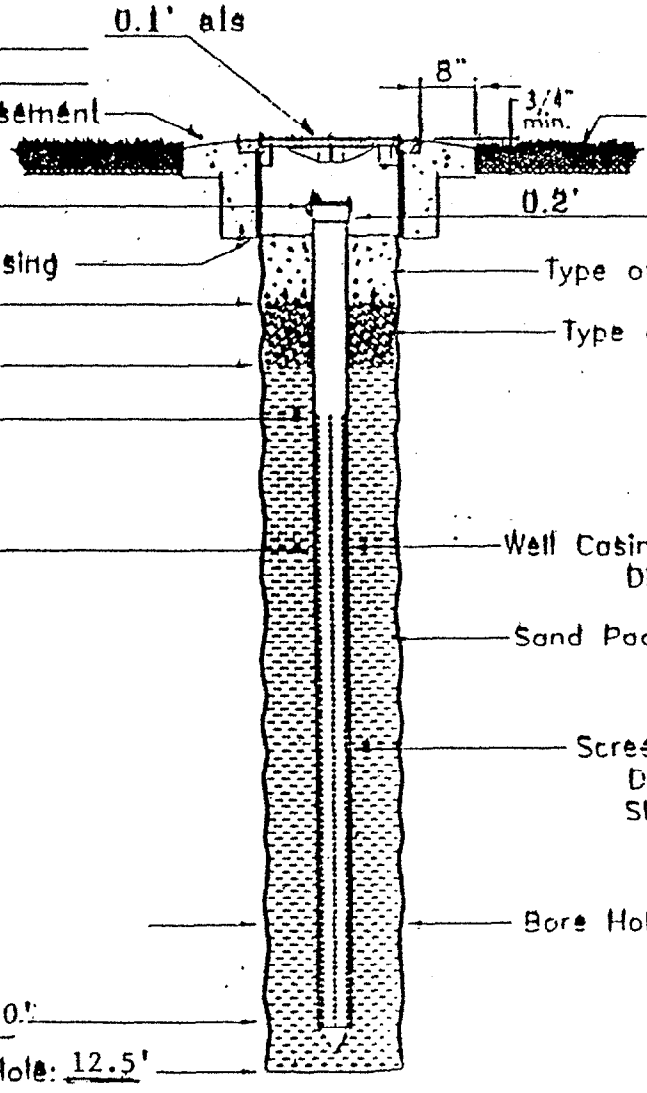
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4611 ext 113
(850) 452-5136 FAX

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: GFA International
DRILLER'S NAME:
WELL NUMBER: MW-21

CLIENT: PUBLIC WORKS DEPARTMENT, NAS KEY WEST
LOCATION: SITEC-2076, Trumbo Point BOQ
JOB NUMBER:
DATE Start: 3/26/99 Finish: 3/26/99
TIME Start: 1247 Finish: 1334

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



A-22

NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (BLS)

DRAWING ABOVE IS NOT TO SCALE

APPENDIX B

LITHOLOGIC LOGS

Site C-2076
Trumbo Point BOQ
Key West, Florida
MONITORING WELL NO.: MW1

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International
Start Date: 06/22/98
Start Time: 1030
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 06/22/98
Finish Time: 1110

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0'-1.5'; Black Top Soil, Few Rocks and Gravel	0	N/A	0	
			Water Table @ approx. 2' bls							
HOLE					4	2'-8'; Grey Sludge, Clayey consistency	180	14	166	
				100%	8	8'-10'; White Oolite				
HSA						10'-12.5'; Limestone. Slight petro odor at 10-12'bls				
				100%	12					
						End of Boring @ 12.5' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date

B-1

Site C-2076
Trumbo Point BOQ
Key West, Florida
MONITORING WELL NO.: MW2

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 06/22/98
Start Time: 1143
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 06/22/98
Finish Time: 1200

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES NET
POST				100%	0	0'-.5'; Dark Brown Top Soil			
						0.5'-3'; Med Grey to light brown sand, med grain, with small rocks	0.0	0.0	0.0
			Water Table @ approx. 2' bls						
						3'-8'; Grey sludge, sticky, clayey	0.0	0.0	0.0
HOLE					4				
				100%	8	8'-12.5'; White, Fine Grain, Oolite Limestone			
HSA						10'-12; Light Petro Odor			
				100%	12				
						End of Boring @ 12.5' BLS			
HA					16				
					20				

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date

B-2

Site C-2076
Trumbo Point BOQ
Key West, Florida
MONITORING WELL NO.: MW3

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 06/22/98
Start Time: 1330
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 06/22/98
Finish Time: 1410

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA: OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST HOLE HSA HA				100%	0	0'-1'; Dark Top Soil				
			Water Table @ approx. 2' bls			1'-3'; Med Grey to Light Brown Sand w/small rocks	0.0	N/A	0.0	
					4	3'-10'; Greg Sludge, sticky, clayey	0.0	N/A	0.0	
				100%	8					
						10'-12.5'; White, Fine Grain, Oolite Limestone, Light Petro Odor				
				100%	12					
						End of Boring @ 12.5' BLS				
					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date

Site C-2076
Trumbo Point BOQ
Key West, Florida
MONITORING WELL NO.: MW4

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 06/22/98
Start Time: 1430
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 06/22/98
Finish Time: 1500

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0'-.5'; Dark Brown Top Soil				
						0.5'-3'; Med Grey to light brown sand, med grain, with small rocks	0.0	NA	0.0	
			Water Table	@ approx. 3' bls		3'-8'; Grey sludge, sticky, clayey	850.0	0.2	849.8	
HOLE					4					
				100%	8	8'-12.5'; White, Fine Grain, Oolite Limestone				
HSA						10'-12; Light Petro Odor				
				100%	12					
						End of Boring @ 12.5' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date

Site C-2076
Trumbo Point BOQ
Key West, Florida
MONITORING WELL NO.: MW5

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 06/22/98
Start Time: 1530
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 06/22/98
Finish Time: 1600

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0'-1'; Dark Top Soil				
						1'-3'; Med Grey to Light Brown Sand w/small rocks	0.0	N/A	0.0	
T			Water Table @ approx. 2' bls			3'-10'; Greg Sludge, sticky, clayey	24.0	6.0	18.0	
HOLE					4					
				100%	8					
HSA						10'-12.5'; White, Fine Grain, Oolite Limestone, Light Petro Odor				
				100%	12					
						End of Boring @ 12.5' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date

Site C-2076
Trumbo Point BOQ
Key West, Florida
MONITORING WELL NO.: MW6

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 06/22/98
Start Time: 1643
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 06/22/98
Finish Time: 1730

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST HOLE HSA HA				100%	0	0'-8.5'; Light Grey, White, Silty Clay w/some gravel (0-1")	0	N/A	0	
			Water Table @ approx. 3' bls		4	3'; Strong petro odor @ GW	160.0	30.0	130.0	
				100%	8	8.5'-12.5'; White, Fine Grain, Oolite Limestone				
				100%	12					
						End of Boring @ 12.5' BLS				
					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date

B-6

Site C-2076
Trumbo Point BOQ
Key West, Florida
MONITORING WELL NO.: MW7

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 06/22/98
Start Time: 1750
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 06/22/98
Finish Time: 1810

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST HOLE HSA				100%	0	0-2"; Asphalt 2"-8"; Sand/Clay Road Base 8"-4'; Light Brown to White Silt w/ some clay and small shell fragments	0	N/A	0	
			Water Table @ approx. 3' bls		4		0.8	0.8	0.0	
				100%	8	8'-12.5'; White, Fine Grain, Oolite Limestone				
				100%	12					
HA					16	End of Boring @ 12.5' BLS				
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date

B-7

Site C-2076
Trumbo Point BOQ
Key West, Florida
MONITORING WELL NO.: MW8

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 06/23/98
Start Time: 800
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 06/23/98
Finish Time: 945

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0-6"; Top Soil & Grass				
						6"-2'; Light Brown Compact Fine Grain Sand w/small rocks	0.0	N/A	0.0	
			Water Table @ approx. 3' bls							
HOLE					4	2'-8'; Light Grey Silt with some clay and shell fragments	0.0	N/A	0.0	
				100%	8	8'-12.5'; White, Fine Grain, Oolite Limestone				
HSA				100%	12					
						End of Boring @ 12 5' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date

B-8

Site C-2076
Trumbo Point BOQ
Key West, Florida
MONITORING WELL NO.: MW-9

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 06/23/98
Start Time: 1000
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 06/23/98
Finish Time: 1030

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0-6"; Top Soil & Grass				
						6"-2'; Light Brown Compact Fine Grain Sand w/small rocks	0.3	0.3	0.0	
			Water Table @ approx. 3' bls							
HOLE					4	2'-8', Light Grey Silt with some clay and shell fragments	8.0	1.5	6.5	
				100%	8	8'-12.5'; White, Fine Grain, Oolite Limestone				
HSA				100%	12					
						End of Boring @ 12.5' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date

B 9

Site C-2076
Trumbo Point BOQ
Key West, Florida
MONITORING WELL NO.: MW-10

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 06/23/98
Start Time: 1050
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 06/23/98
Finish Time: 1110

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0-6"; Top Soil & Grass				
						6"-3.5'; Light Brown Compact Fine Grain Sand w/small rocks	0.0	0.0	0.0	
			Water Table @ approx. 3' bls			3.5'-8'; Light Grey Silt with some clay and shell fragments	0.0	0.0	0.0	
HOLE					4					
				100%	8	8'-12.5'; White, Fine Grain, Oolite Limestone				
HSA				100%	12					
						End of Boring @ 12.5' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date

B-10

Site C-2076
Trumbo Point BOQ
Key West, Florida
MONITORING WELL NO.: MW-11

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 03/22/99
Start Time: 745
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 03/22/99
Finish Time: 815

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0'-8.5'; Light Grey, White, Silty Clay w/some gravel (0-1")	0.2	0.0	0.2	
			Water Table @ approx. 4' bls				0.1	0.0	0.1	
HOLE					4					
				100%	8	8.5'-12.5'; White, Fine Grain, Oolite Limestone				
HSA				100%	12					
						End of Boring @ 12.5' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

B-11

Site C-2076
Trumbo Point BOQ
Key West, Florida
MONITORING WELL NO.: MW-12

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 03/22/99
Start Time: 905
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 03/22/99
Finish Time: 920

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA: OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST HOLE HSA			Water Table @ approx. 4' bls	100%	0	0'-8.5'; Light Grey, White, Silty Clay w/some gravel (0-1")	0.6	0.1	0.5	
					4		0.2	0.0	0.2	
				100%	8	8.5'-12.5'; White, Fine Grain, Oolite Limestone				
				100%	12	End of Boring @ 12.5' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

B-12

Site C-2076
Trumbo Point BOQ
Key West, Florida
MONITORING WELL NO.: MW-13

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 03/22/99
Start Time: 935
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 03/22/99
Finish Time: 1040

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA: OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0'-8.5'; Light Grey, White, Silty Clay w/some gravel (0-1")	9.5	0.0	9.5	
			Water Table @ approx. 3' bls			3'; Strong Petroleum Odor	3.0	0.0	3.0	
HOLE					4					
				100%	8	8.5'-12.5'; White, Fine Grain, Oolite Limestone				
HSA				100%	12					
						End of Boring @ 12.5' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

B-13

Site C-2076
Trumbo Point BOQ
Key West, Florida
MONITORING WELL NO.: MW-14

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 03/22/99
Start Time: 1048
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 03/22/99
Finish Time: 1109

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0'-8.5'; Light Grey, White, Silty Clay w/some gravel (0-1")	>1000	0.0	>1000	
							>1000	0.0	>1000	
HOLE			Water Table @ approx. 4' bls		4					
				100%	8	8.5'-12.5'; White, Fine Grain, Oolite Limestone				
HSA				100%	12					
						End of Boring @ 12.5' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

Site C-2076
Trumbo Point BOQ
Key West, Florida
MONITORING WELL NO.: MW-15

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 03/22/99
Start Time: 1245
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 03/22/99
Finish Time: 1312

TYPE	NUMB	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA: OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST			100%	0	0'-8.5'; Light Grey, White, Silty Clay w/some gravel (0-1")	860.0	0.0	860.0	
		Water Table @ approx. 3' bls			3'; Extra Strong Petroleum Odor	820.0	0.0	820.0	
HOLE				4					
			100%	8	8.5'-12.5'; White, Fine Grain, Oolite Limestone				
HSA			100%	12					
					End of Boring @ 12.5' BLS				
HA				16					
				20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date

B-15

Site C-2076
Trumbo Point BOQ
Key West, Florida
MONITORING WELL NO.: MW-16

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 03/22/99
Start Time: 1436
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 03/22/99
Finish Time: 1442

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0'-8.5'; Light Grey, White, Silty Clay w/some gravel (0-1")	>1000	0.0	>1000	
			Water Table @ approx. 3' bls			3'; Extra Strong Petroleum Odor	>1000	0.0	>1000	
HOLE					4					
				100%	8	8.5'-12.5'; White, Fine Grain, Oolite Limestone				
HSA				100%	12					
						End of Boring @ 12.5' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date

B-16

Site C-2076
Trumbo Point BOQ
Key West, Florida
MONITORING WELL NO.: MW-17

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 03/22/99
Start Time: 1522
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 03/22/99
Finish Time: 1615

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0'-8.5'; Light Grey, White, Silty Clay w/some gravel (0-1")	0.0	0.0	0.0	
							0.0	0.0	0.0	
HOLE			Water Table @ approx. 4' bls		4					
				100%	8	8.5'-12.5'; White, Fine Grain, Oolite Limestone				
HSA				100%	12					
						End of Boring @ 12.5' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date

B-17

Site C-2076
Trumbo Point BOQ
Key West, Florida
MONITORING WELL NO.: DMW-18

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 03/23/99
Start Time: 915
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 03/23/99
Finish Time: 935

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0'-8.5'; Light Grey, White, Silty Clay w/some gravel (0-1")	0.0	0.0	0.0	
							0.0	0.0	0.0	
HOLE			Water Table @ approx. 4' bls		4					
				100%	8	8.5'-30.5'; White, Fine Grain, Oolite Limestone				
HSA				100%	12					
HA					16					
					20					
					30	End of Boring @ 30.5' BLS				

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

B-18

Site C-2076
Trumbo Point BOQ
Key West, Florida
MONITORING WELL NO.: MW-19

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 03/26/99
Start Time: 958
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 03/26/99
Finish Time: 1038

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA: OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0'-8'; Sand with Some Clay	280.0	53.0	227.0	
			Water Table @ approx. 3' bls				>1000	54.0	>946	
HOLE					4					
				100%	8	8'-12.5'; White, Fine Grain, Oolite Limestone				
HSA				100%	12					
						End of Boring @ 12.5' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

B-19

Site C-2076
Trumbo Point BOQ
Key West, Florida
MONITORING WELL NO.: MW-20

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 03/26/99
Start Time: 1053
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 03/26/99
Finish Time: 1126

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA: OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0'-8'; Sand with Some Clay	0.0	0.0	0.0	
			Water Table @ approx. 3' bls				0.0	0.0	0.0	
HOLE					4					
				100%	8	8'-12.5'; White, Fine Grain, Oolite Limestone				
HSA				100%	12					
						End of Boring @ 12.5' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

B-20

Site C-2076
Trumbo Point BOQ
Key West, Florida
MONITORING WELL NO.: MW-21

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: GFA, International, Inc.
Start Date: 03/26/99
Start Time: 1247
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 03/26/99
Finish Time: 1334

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA: OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES: NET
POST				100%	0	0'-8'; Sand with Some Clay	0.0	0.0	0.0
			Water Table @ approx. 3' bls				0.0	0.0	0.0
HOLE					4				
				100%	8	8'-12.5'; White, Fine Grain, Oolite Limestone			
HSA				100%	12				
						End of Boring @ 12.5' BLS			
HA					16				
					20				

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

B-21

Truman Annex Sites

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Tanks 290 and 290A

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Florida Department of Environmental Regulation
Twin Towers Office Bldg • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Form Title: Closure Assessment Form
Effective Date: December 10, 1990
DER Application No. _____ (Filled in by DER)

Closure Assessment Form

Owners of storage tank systems that are replacing, removing or closing in place storage tanks shall use this form to demonstrate that a st system closure assesment was performed in accordance with Rule 17-761 or 17-762, Florida Administrative Code. Eligible Early Detection I tive (EDI) and Reimbursement Program sites do not have to perform a closure assessment.

Please Print or Type
Complete All Applicable Blanks

1 Date 11/17/97

2 DER Facility ID Number: 44940058 3. County: Monroe

4 Facility Name: U. S. Navy, Truman Annex J1ATFE (Tanks 290 and 290A)

5 Facility Owner: Commanding Officer, J1ATFE - 1882PG

6 Facility Address: Building 290, Truman Annex

7 Mailing Address: P. O. Box 9051

8 Telephone Number: (305) 293-5248 9. Facility Operator: Presley Gainey

10 Are the Storage Tank(s): **(Circle one or both)** (A. Aboveground) or B. Underground

11 Type of Product(s) Stored: Diesel fuel

12 Were the Tank(s): **(Circle one)** A. Replaced (B. Removed) C. Closed in Place D. Upgraded (aboveground tanks

13 Number of Tanks Closed: 2 14. Age of Tanks: 20 years

Facility Assessment Information

Yes	No	Not Applicable	
[ ]	[X]		1. Is the facility participating in the Florida Petroleum Liability Insurance and Restoration Program (FPLIRP)?
[ ]	[X]		2. Was a Discharge Reporting Form submitted to the Department? If yes, When: _____ Where: _____
[X]	[ ]		3. Is the depth to ground water less than 20 feet?
[X]	[ ]	[ ]	4. Are monitoring wells present around the storage system? If yes, specify type: [X] Water monitoring [ ] Vapor monitoring
[ ]	[X]	[ ]	5. Is there free product present in the monitoring wells or within the excavation?
[ ]	[X]	[ ]	6. Were the petroleum hydrocarbon vapor levels in the soils greater than 500 parts per million for gasoline? Specify sample type: [ ] Vapor Monitoring wells [ ] Soil sample(s)
[ ]	[X]	[ ]	7. Were the petroleum hydrocarbon vapor levels in the soils greater than 50 parts per million for diesel/kero Specify sample type: [ ] Vapor Monitoring wells [ ] Soil sample(s)
[ ]	[X]	[ ]	8. Were the analytical laboratory results of the ground water sample(s) greater than the allowable state target (See target levels on reverse side of this form and supply laboratory data sheets)
[ ]	[ ]	[X]	9. If a used oil storage system, did a visual inspection detect any discolored soil indicating a release?
[ ]	[X]		10. Are any potable wells located within ¼ of a mile radius of the facility?
[X]	[ ]		11. Is there a surface water body within ¼ mile radius of the site? If yes, indicate distance: 700

Northwest District
Northwest Florida Center
Pensacola, Florida 32501-5794
904 436-8300

Northeast District
7825 Baymeadows Way, Suite B 200
Jacksonville, Florida 32207
904 798-4200

Central District
3319 Maguire Blvd. Suite 232
Orlando, Florida 32803-3767
407 894-7555

Southwest District
4520 Oak Fair Blvd
Tampa, Florida 33610-7347
813-623 5561

South District
2269 Bay St
Fort Myers, Florida 33901-2896
813 332-6975

Southeast District
1900 S Congress Ave
West Palm Beach, Florida
407-433 2650

CLOSURE ASSESSMENT SUPPLEMENT - TANKS 290 & 290A

(A) Introduction/Background

The Navy Public Works Center (NPWC) Pensacola was contracted by Navy Public Works Department (PWD) Key West, Boca Chica Field to perform a closure assessment for a 700 and 750 gallon, aboveground tanks designated as 290 and 290A. The tanks, which were installed in 1970 and removed in 1997, were used to store diesel fuel for emergency generators.

(B) Soil Sampling and Analysis

One soil boring was installed at the center of the former location of tank 290. The soil boring was installed during the installation of monitoring well MW-1. Figure 1 depicts the location of the monitoring wells. The soil boring was installed using a hollow stem auger. Soil samples were collected from the borehole at 1, 3 and 4 feet below land surface (bls). The groundwater table was encountered at approximately 4 feet bls. The soil samples were analyzed for organic vapor concentrations using OVA headspace screening techniques. A Foxboro Century OVA 128 with a Flame Ionization Detector was used to perform the OVA headspace analysis. No volatile organic vapors were detected in the soil samples collected from the borehole.

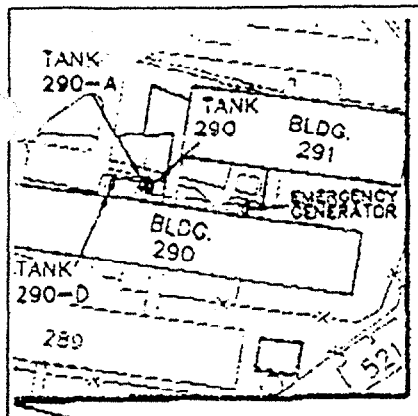
(C) Groundwater Sampling and Analysis

One groundwater monitoring well (MW-1) was installed at the center of the former location of tank 290. The location of the monitoring wells is shown in Figure 1. The monitoring wells consist of a 2-inch diameter by 10 feet of 0.010 inch slotted schedule 40 PVC screen, threaded to 2.0 feet of 2-inch diameter solid schedule 40 PVC riser casing. The sand filter pack consisted of course silica sand (sand pack mesh size 20-30) just above the PVC screen. A 0.5 foot bentonite seal was placed above the sand pack with the remaining annular spaced filled with cement grout. The top of PVC riser casing was installed approximately 2-3 inches below land surface. A steel manhole casing was place in the borehole around the PVC riser casing and set with neat cement grout.

Groundwater samples were collected from monitoring well MW-1 by PWC Pensacola laboratory personnel on August 28 1997. The groundwater samples were collected in accordance with PWC's Comprehensive Quality Assurance Plan No. 920121G. The groundwater samples were analyzed for Polynuclear Aromatic Hydrocarbons (PAHs) using EPA Method 8270. The laboratory analytical results are shown in enclosure 1. No PAHs were detected in the groundwater samples collected from monitoring well MW-1.

(D) Initial Remedial Action

No initial remedial action was performed at the site during tank removal or this contamination assessment.



VICINITY MAP
SCALE: 1"=100'

SIDEWALK

TANK 290
750 GALLON AST
EMERGENCY GENERATOR
DIESEL FUEL TANK
4'ø x 8'

TANK 290-D
35 GALLON AST
EMERGENCY GENERATOR
DIESEL FUEL TANK
2' x 2' x 1' DEEP

TANK 290-A
700 GALLON AST
EMERGENCY GENERATOR
DIESEL FUEL TANK
4'ø x 7'

CONCRETE SECONDARY CONTAINMENT

SIDEWALK

GENERATOR

ABOVE GROUND SUPPLY/RETURN PIPING

ABOVE GROUND SUPPLY/RETURN PIPING

APPROX. LOCATION OF UNDERGROUND SUPPLY RETURN PIPING TO EMERGENCY GENERATOR TANK 290-C

CONTAINMENT DRAINS

BUILDING 290

10' 0 10'
SCALE 1"=10' FEET

LEGEND

APPROXIMATE DIRECTION OF SURFACE WATER FLOW

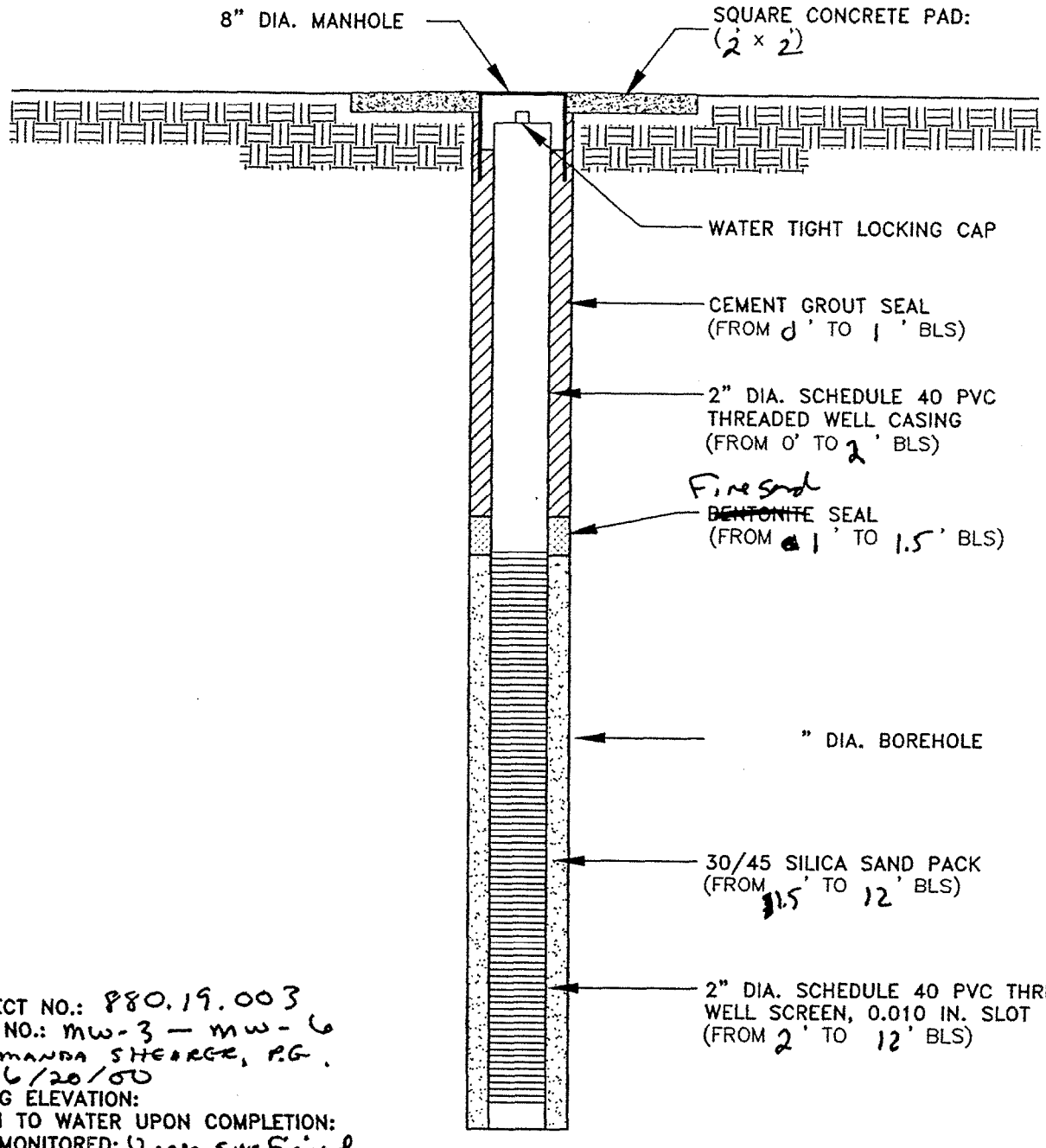
MONITORING WELL LOCATION / DESIGNATION

PUBLIC WORKS CENTER ENGINEERING PENSACOLA, FLORIDA		
SCALE: 1" = 20' DATE: 11/17/97	FIGURE 1	DRAWN BY: GAC CHG. NO.: SITE REVISED BY:
SITE SPECIFIC AND GROUNDWATER MONITORING WELL LOCATION MAP - SITE 290, NAS KEY WEST		
CLIENT: PWD KEY WEST (CODE 1883JS)		

Building 1280 JIATF-East

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Site Location
Bldg 1280
Truman Annex



PROJECT NO.: 880.19.003
WELL NO.: MW-3 — MW-6
BY: AMANDA SHEARER, P.G.
DATE: 6/20/00
CASING ELEVATION:
DEPTH TO WATER UPON COMPLETION:
UNIT MONITORED: Upper surficial

DRILLER: Precision Drilling
DRILLING METHOD: Hollow Stem Auger
TOTAL DEPTH: 12
SAMPLE TYPE:
SAMPLE INTERVAL:

(DRAWING NOT TO SCALE)

Building - 1280
JIATF-East - Truman Annex
NAS Key West, FL

SHALLOW MONITORING WELL CONSTRUCTION DETAIL

BBL ENVIRONMENTAL SERVICES, INC.
Remedial Action·Management and Construction

FIGURE 4

P: STD-PC2/AP
01/03/2000 TAM-54-JAR
.DWG

Building 352 PHMRON Maintenance Ramp

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

CONTAMINATION ASSESSMENT REPORT ADDENDUM

BUILDING 352, PHMRON MAINTENANCE RAMP
TRUMAN ANNEX
NAVAL AIR STATION KEY WEST
KEY WEST, FLORIDA

UIC: N00213

Contract No. 62467-89-D-0317

Prepared by:

ABB Environmental Services, Inc.
2590 Executive Center Circle, East
Tallahassee, Florida 32301

Authors:

Pamela J. Wagner
Roger Durham

Prepared for:

Department of the Navy, Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
Charleston, South Carolina 29411-0068

Luis Vazquez, Code 1843, Engineer-in-Charge

June 1993

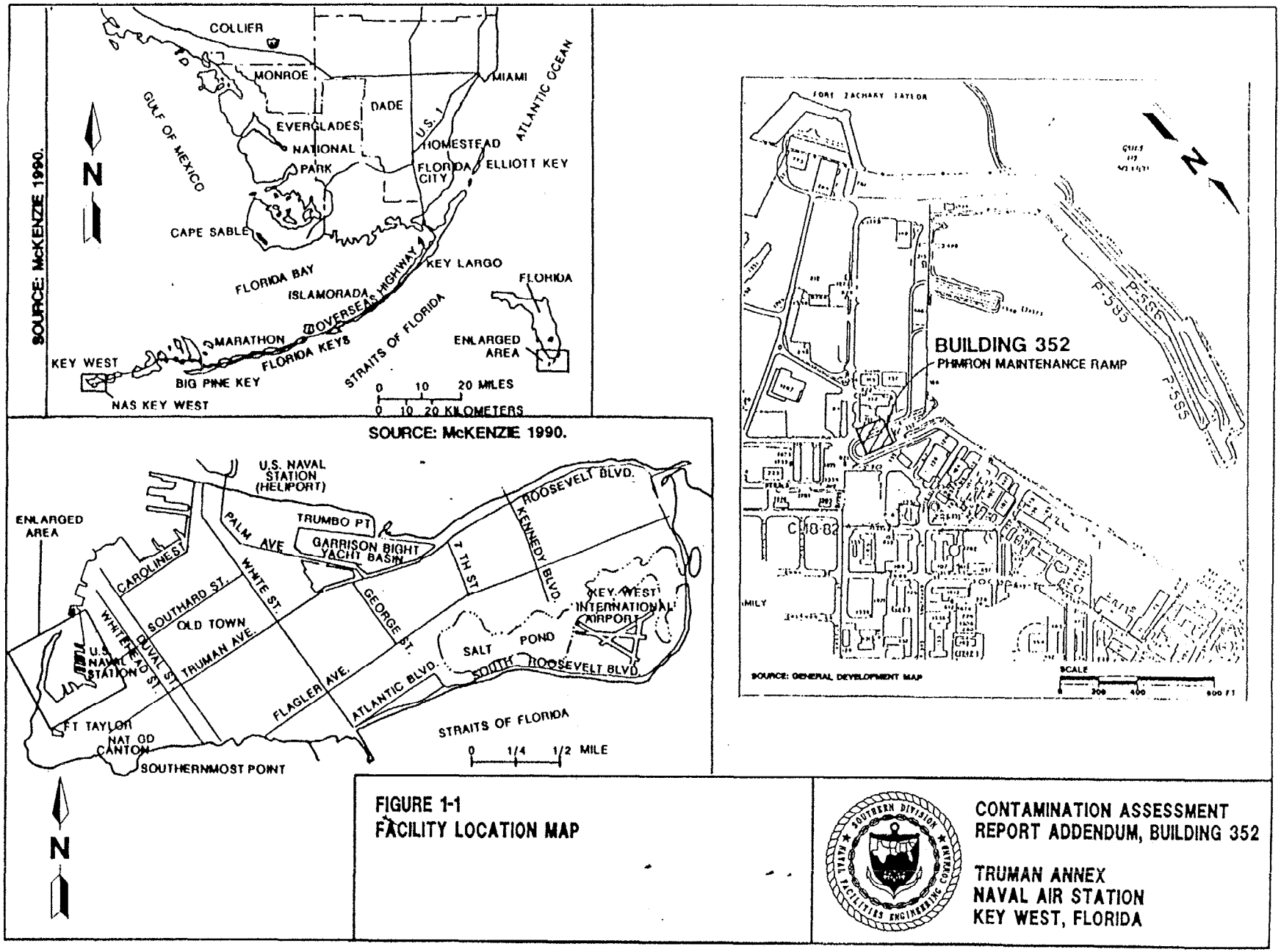


FIGURE 1-1
FACILITY LOCATION MAP

CONTAMINATION ASSESSMENT
REPORT ADDENDUM, BUILDING 352

TRUMAN ANNEX
NAVAL AIR STATION
KEY WEST, FLORIDA

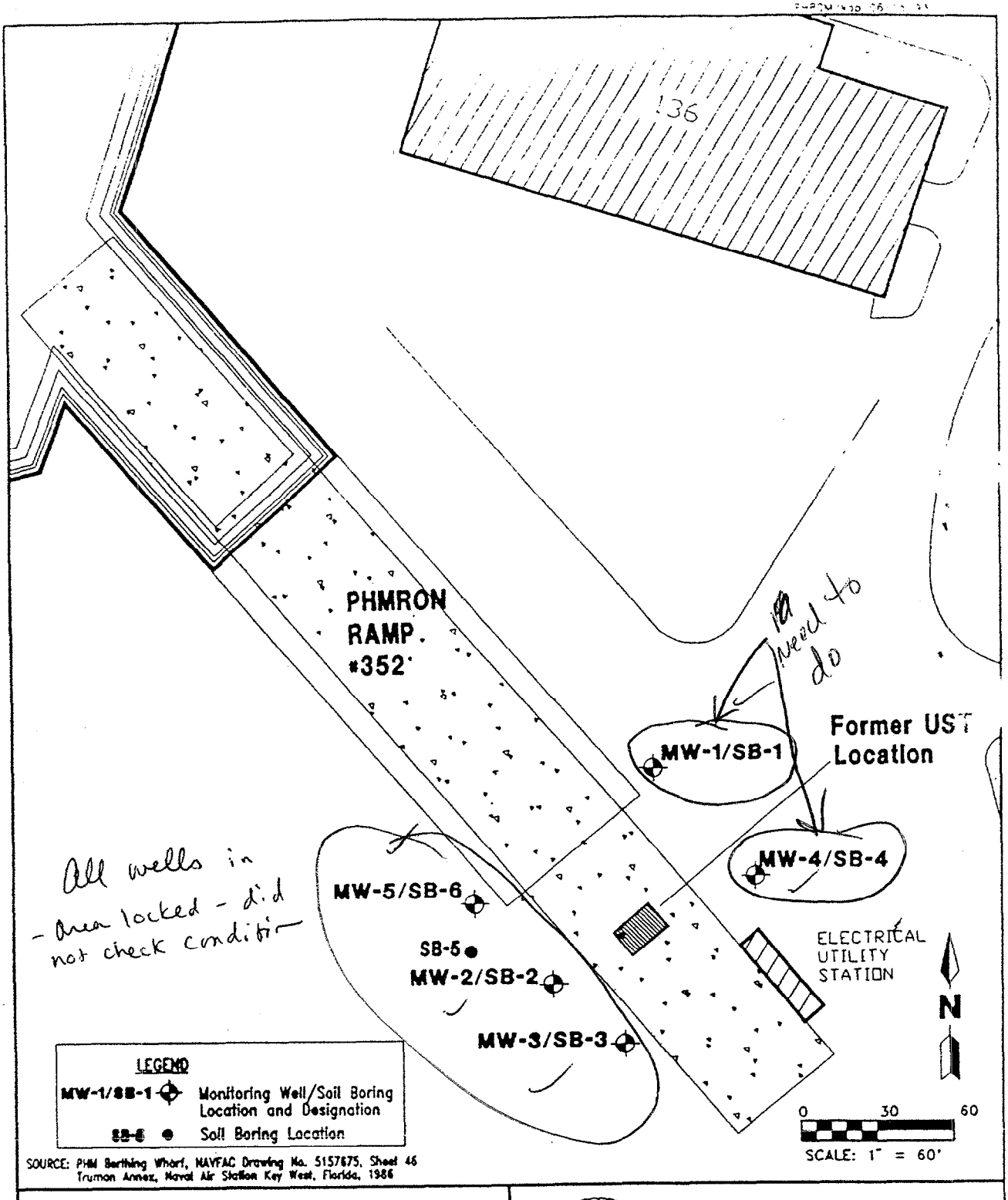


FIGURE 2-1
SITE PLAN SHOWING
MONITORING WELL AND SOIL BORING LOCATIONS

CONTAMINATION ASSESSMENT REPORT ADDENDUM, BUILDING 352

TRUMAN ANNEX
NAVAL AIR STATION
KEY WEST, FLORIDA

TITLE: [illegible]

LOG of WELL: [illegible] BORING NO. SB4

CLIENT: [illegible] PROJECT NO. [illegible]

CONTRACTOR: Groundwater Protection Inc DATE STARTED: 3/23/93 COMPLTD: [illegible]

METHOD: 4.25" HSA CASE SIZE: [illegible] SCREEN INT.: 3 - 13 FT PROTECTION LEVEL: D

TOC ELEV.: 9.64 FT MONITOR INST.: OVA TOT DPTH: 13FT DPTH TO ▽ 5.96 FT

LOGGED BY: R. Durham WELL DEVELOPMENT DATE: 3/23/93 SITE: Bldg 352, P-MRON, Alameda

DEPTH FT	LABORATORY SAMPLE ID	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				<1	ASPHALT				
				<1					
5					LIME FILL: light tan to gray, silty, loose				
10									
15									
20									

TITLE: NAS Key West, Truman Annex	LOG of WELL: [illegible]-352-MW5	BORING NO. SB6
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: [illegible]
CONTRACTOR: Groundwater Protection Inc	DATE STARTED: 3/23/93	COMPLTD: 3/23/93
METHOD: 4.25" HSA	CASE SIZE: 2 inch	SCREEN INT.: 3 - 13 FT	PROTECTION LEVEL: D
TOC ELEV.: 9.59 FT	MONITOR INST.: OVA	TOT DPTH: 13 FT	DPTH TO ∇ 6.19 FT
LOGGED BY: R. Durham	WELL DEVELOPMENT DATE: 3/23/93	SITE: Bldg 352, PHMRON Ramp

DEPTH FT	LABORATORY SAMPLE ID	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				<1	ASPHALT				
				<1					
				<1					
5									
					CLAYEY SAND: light brown, mixed with limerock				∇
10									
15									
20									

Tank 1276C

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

OMEGA ENVIRONMENTAL SERVICES, INC.

no wells
no leaks

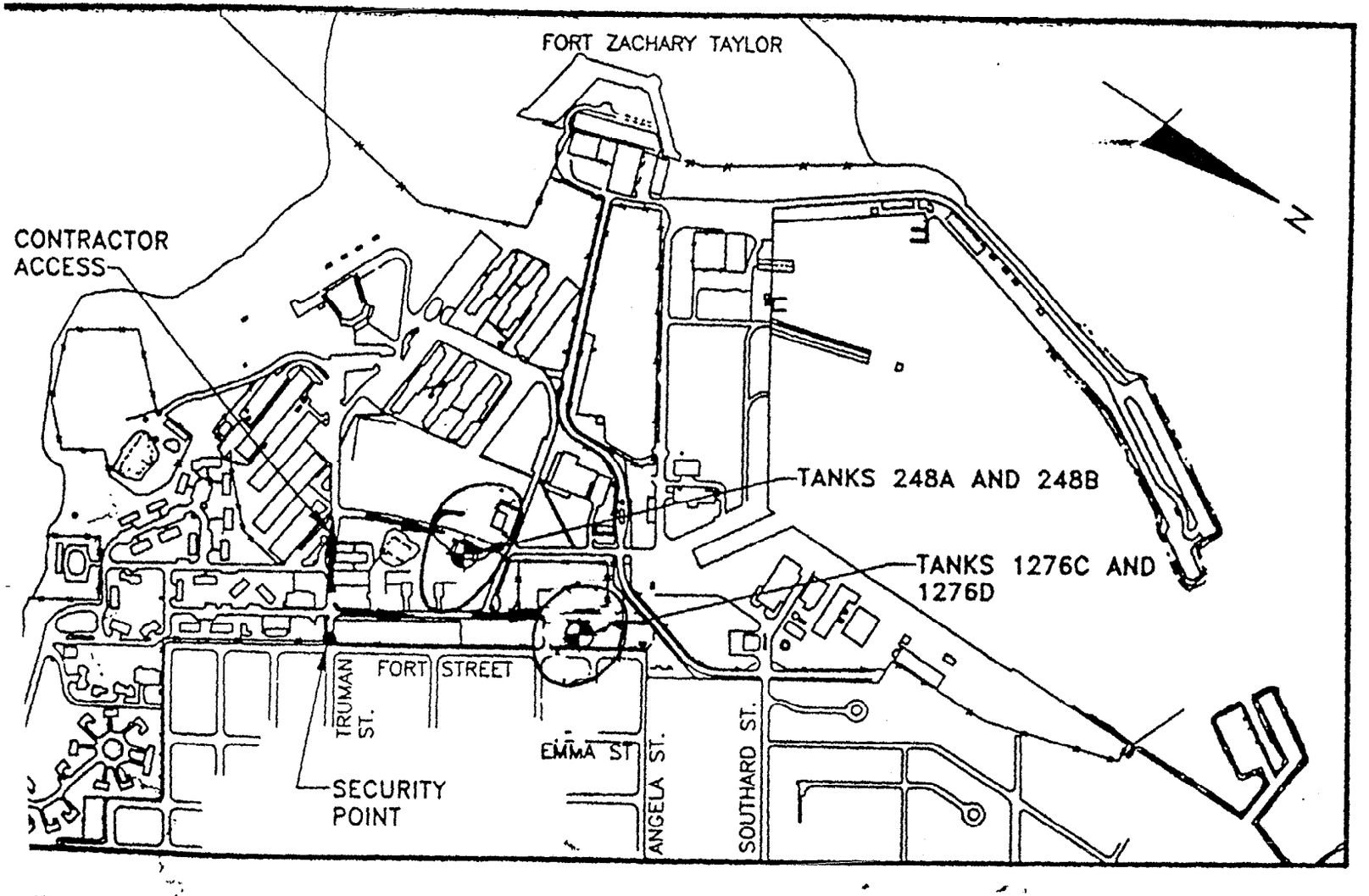
UST CLOSURE REPORT
TANK 1276C
NAVAL AIR STATION, KEY WEST, FLORIDA
CONTRACT NUMBER N62467-93-C-0645

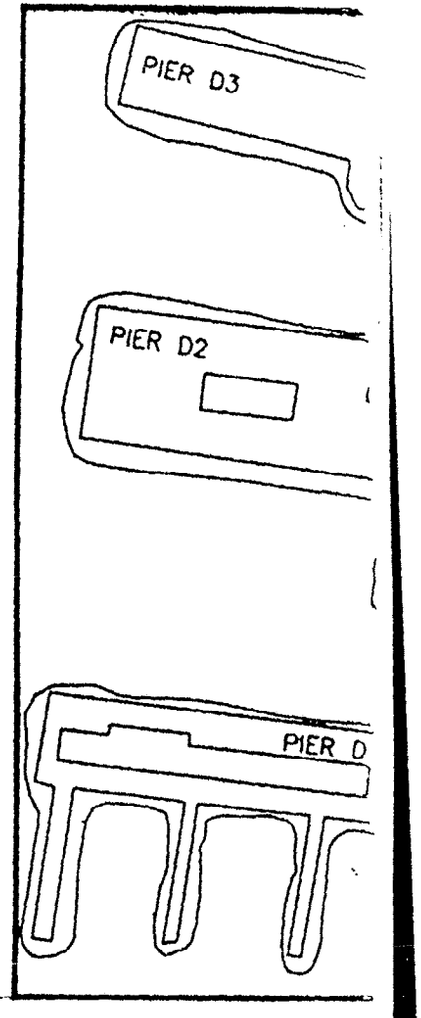
OMEGA ENVIRONMENTAL SERVICES, INC.

Prepared By
Omega Environmental Services, Inc.
4661 Hammermill Rd., Ste. B
Tucker, Georgia 30084

BOCA CHICA AREA PLAN

TANKS A244, 322A, 322B, 322C, 322D, A526, AND A902B)





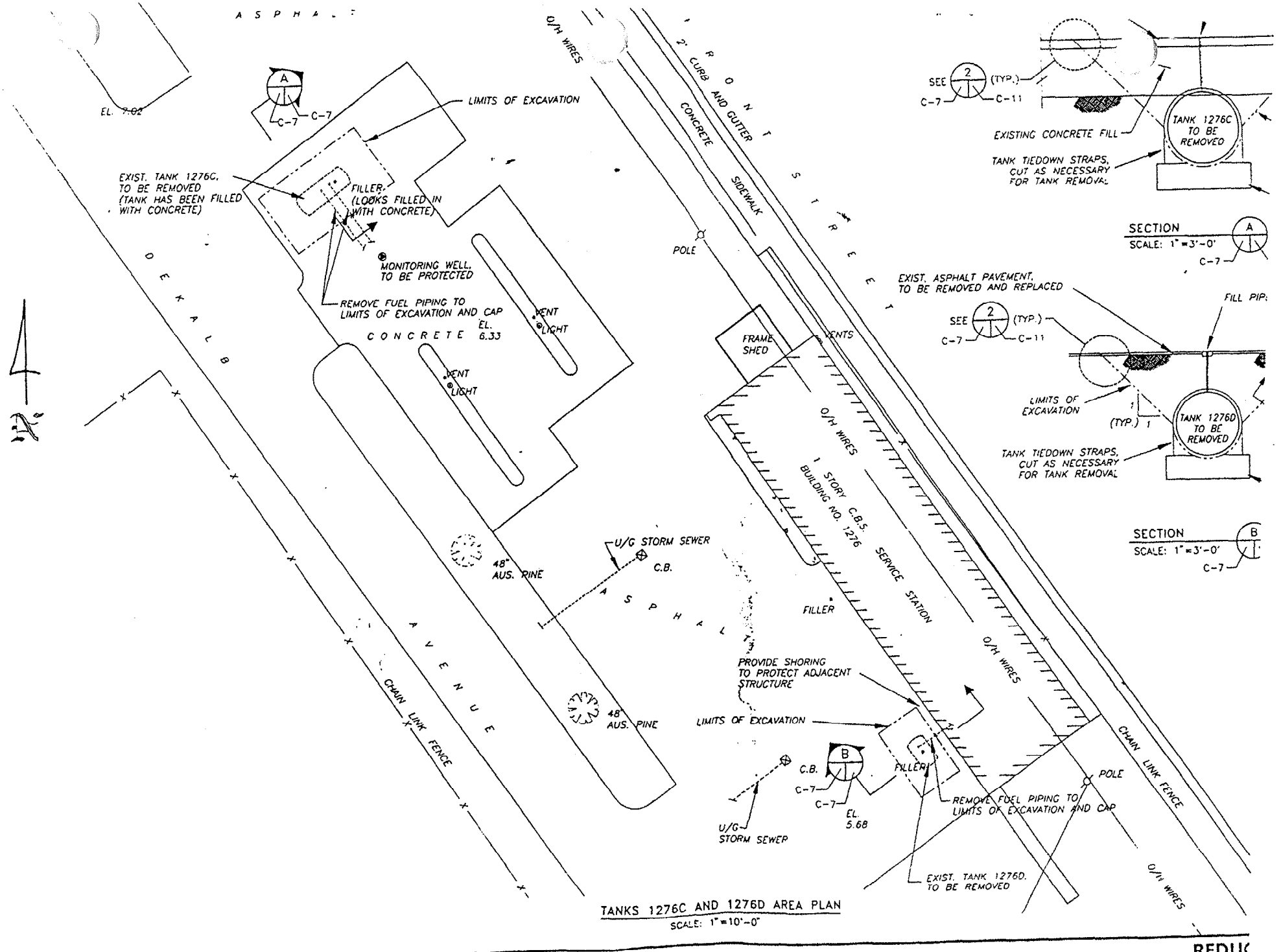
RUMAN ANNEX AREA PLAN

ANKS 248A, 248B, 1276C, AND 1276D)

SCALE: 1" = 500'-0"

TRUMBO PO

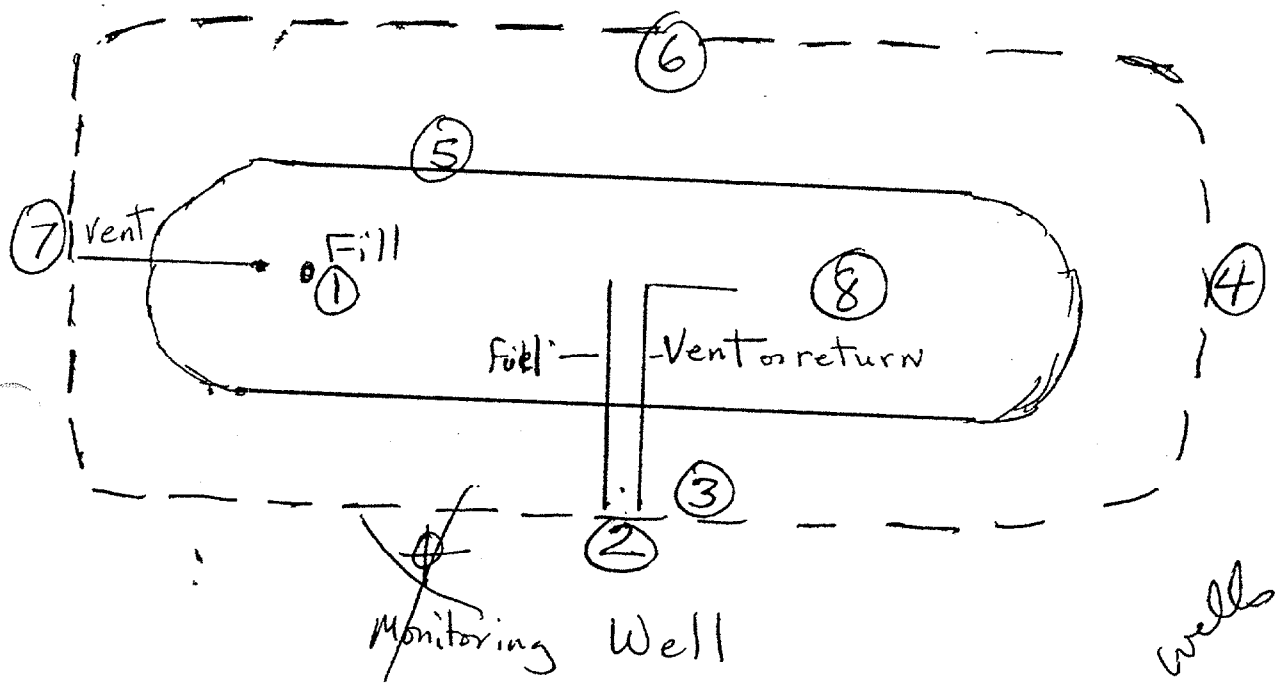
(TANKS B14A, B



TANKS 1276C AND 1276D AREA PLAN
SCALE: 1"=10'-0"

REDUC

North



X10 wells

Sample #	Depth BGS
1	6 Inches
2	1 ft.
3	5 ft
4	5 ft
5	12 ft
6	6 ft
7	6 ft
8	12 ft

Tank 1276D

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

OMEGA ENVIRONMENTAL SERVICES, INC.

UST CLOSURE REPORT
TANK 1276D
NAVAL AIR STATION, KEY WEST, FLORIDA
CONTRACT NUMBER N62467-93-C-0645

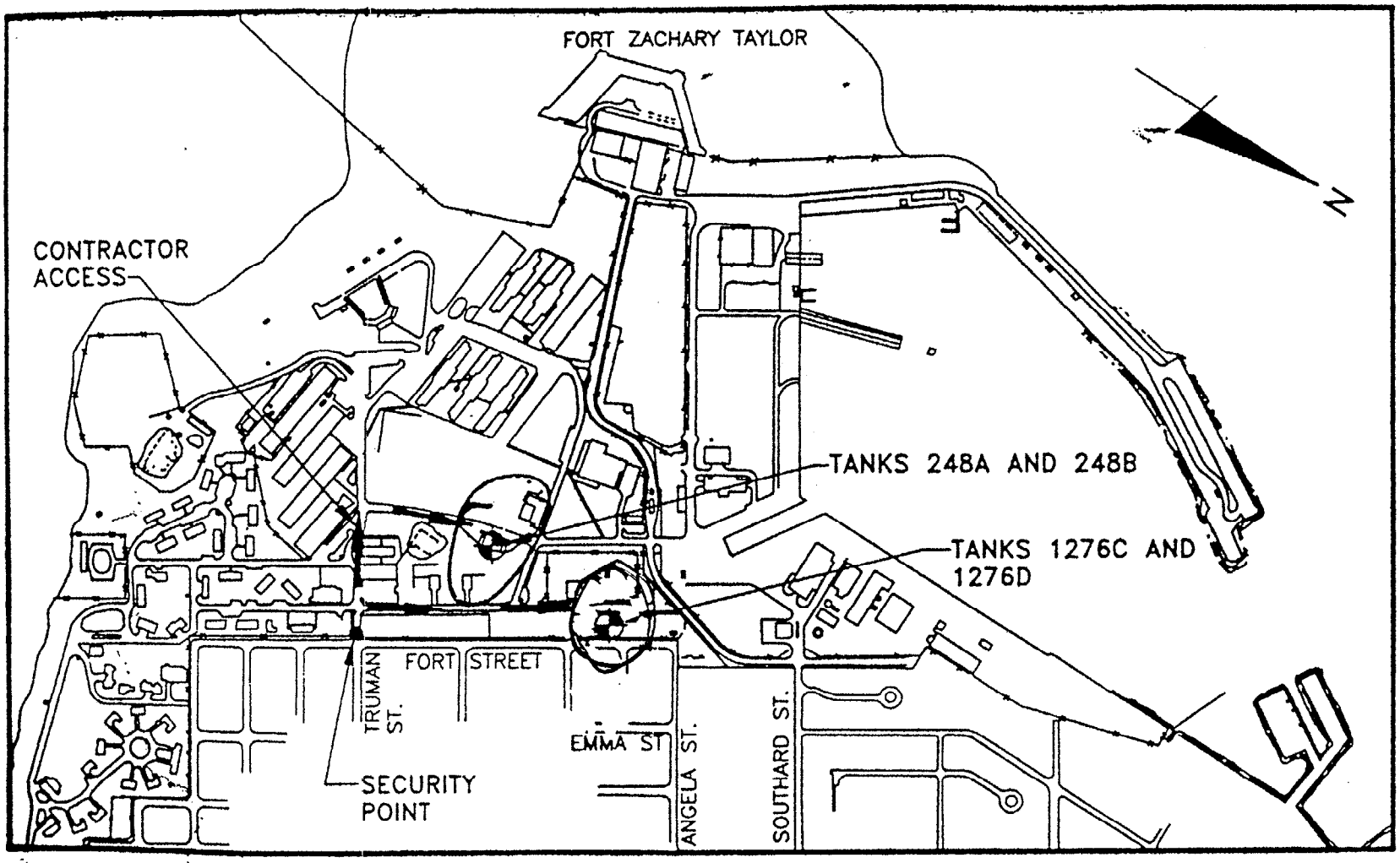
no well
no tanks

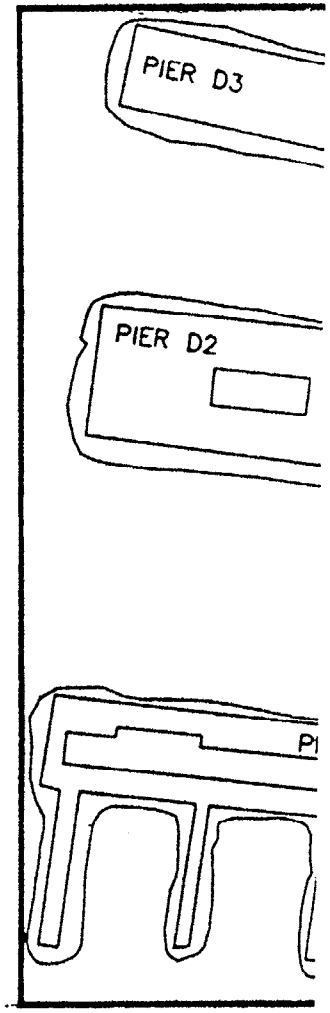
OMEGA ENVIRONMENTAL SERVICES, INC.

Prepared By
Omega Environmental Services, Inc.
4661 Hammermill Rd., Ste. B
Tucker, Georgia 30084

BOCA CHICA AREA PLAN

(TANKS A244, 322A, 322B, 322C, 322D, A926, AND A902B)





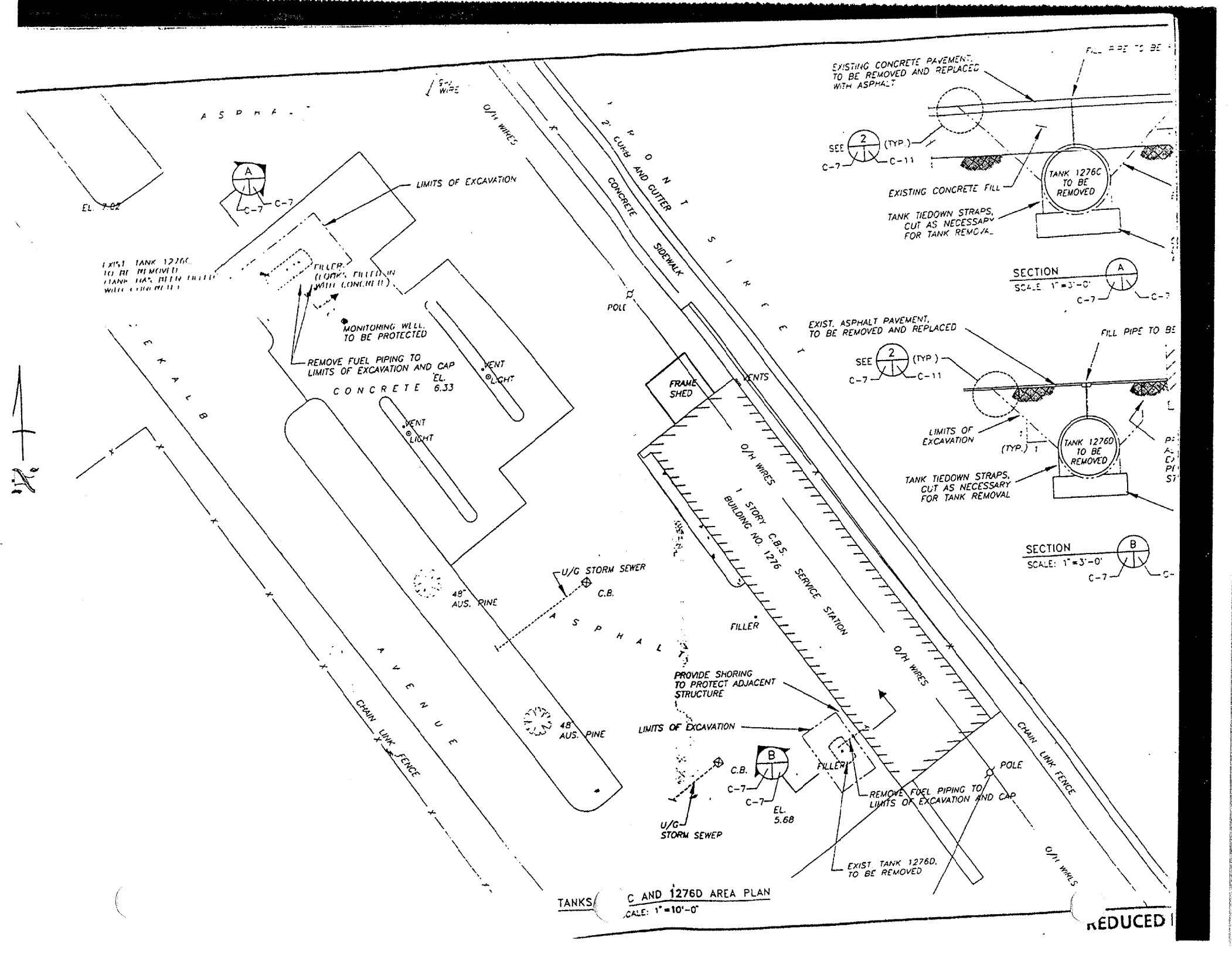
TRUMAN ANNEX AREA PLAN

(TANKS 248A, 248B, 1276C, AND 1276D)

SCALE: 1"= 500'-0"

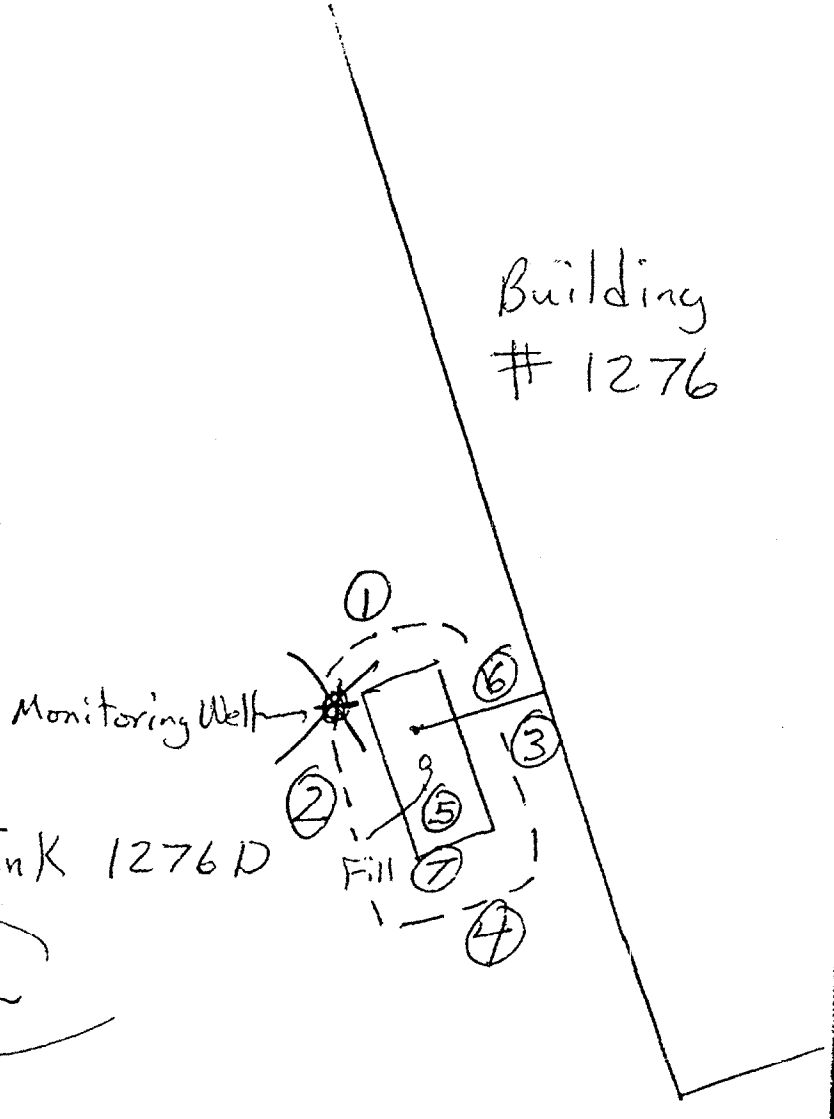
TRUMBO

(TANKS B14A


EXISTING CONCRETE PAVEMENT TO BE REMOVED AND REPLACED WITH ASPHALT
SEE 2 (TYP.) C-7 C-11
TANK 1276C TO BE REMOVED
EXISTING CONCRETE FILL
TANK TIEDOWN STRAPS, CUT AS NECESSARY FOR TANK REMOVAL
SECTION A SCALE 1"=3'-0" C-7 C-7
EXIST. ASPHALT PAVEMENT, TO BE REMOVED AND REPLACED
FILL PIPE TO BE
SEE 2 (TYP.) C-7 C-11
LIMITS OF EXCAVATION
(TYP.)
TANK 1276D TO BE REMOVED
TANK TIEDOWN STRAPS, CUT AS NECESSARY FOR TANK REMOVAL
SECTION B SCALE: 1"=3'-0" C-7
A S P H A L T
A V E N U E
EXIST TANK 1276C TO BE REMOVED TANK HAS BEEN FILLED WITH CONCRETE
FILLER (LOOKS FILLED IN WITH CONCRETE)
MONITORING WELL TO BE PROTECTED
REMOVE FUEL PIPING TO LIMITS OF EXCAVATION AND CAP
EL. 6.33
VENT
LIGHT
CONCRETE
EL. 7.02
A C-7 C-7
LIMITS OF EXCAVATION
O/H WIRES
2' CURB AND GUTTER
CONCRETE SIDEWALK
POLE
F R O N T S T R E E T
FRAME SHED
VENTS
1 STORY C.B.S. BUILDING NO. 1276 SERVICE STATION
FILLER
U/G STORM SEWER
C.B.
48" AUS. PINE
48" AUS. PINE
PROVIDE SHORING TO PROTECT ADJACENT STRUCTURE
LIMITS OF EXCAVATION
B C-7 C-7
C.B.
EL. 5.68
U/G STORM SEWER
FILLER
POLE
REMOVE FUEL PIPING TO LIMITS OF EXCAVATION AND CAP
CHAIN LINK FENCE
EXIST. TANK 1276D, TO BE REMOVED
O/H WIRES
CHAIN LINK FENCE
TANKS 1276C AND 1276D AREA PLAN
SCALE: 1"=10'-0"
REDUCED

North

Sample #	Depth BGS
1	4 ft
2	4 ft
3	4 ft
4	4 ft
5	8 ft
6	4 ft
7	8 ft



X no well

Site 1287

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

SITE ASSESSMENT REPORT
SITE 1287, TRUMAN POINT ANNEX
KEY WEST, FLORIDA

PREPARED BY:

NAVY PUBLIC WORKS CENTER
BUILDING 458
PENSACOLA, FLORIDA 32508-6500

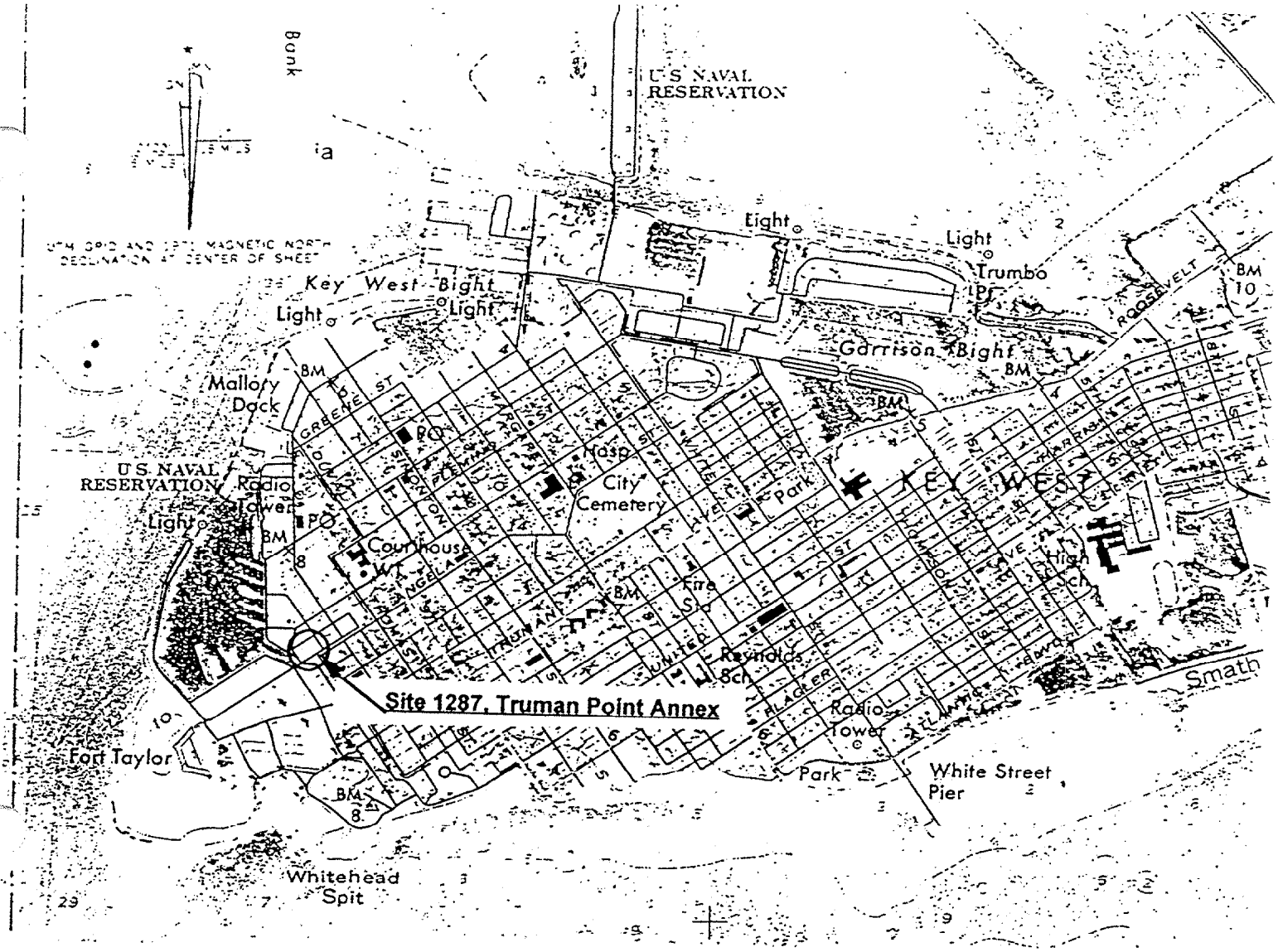
AUTHOR: GREG CAMPBELL, P.E.

JULY 1998

PREPARED FOR:

NAVY PUBLIC WORKS DEPARTMENT
BUILDING A-629 BOCA CHICA FIELD
NAVAL AIR STATION, KEY WEST
KEY WEST, FLORIDA 33040

JIM SIMMEN, CODE 1883JS
ENVIRONMENTAL PROTECTION SPECIALIST



SCALE 1:24000

1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 5 0 1 KILOMETER

CONTOUR INTERVAL 5 FEET

NATIONAL GEODETIC VERTICAL DATUM OF 1929

DEPTH CURVES AND SOUNDINGS IN FEET—DATUM IS MEAN LOW WATER

THE MEAN RANGE OF TIDE IS APPROXIMATELY 1.3 FEET

QUADRANGLE LOCATION

KEY WEST, FLA.

N2430—W8145/7.5

1971

AMS 4633 III SE—SERIES V847

ROAD CLASSIFICATION

Primary highway hard surface

Secondary highway hard surface

Light-duty road, hard or improved surface

Unimproved road

Trails

Interstate Route U.S. Route State Route

FIGURE 1-3 USGS TOPOGRAPHIC MAP SITE 1287, TRUMAN POINT ANNEX KEY WEST, FLORIDA
NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA
CLIENT: PUBLIC WORKS DEPT., NAVAL AIR STATION KEY WEST, FLORIDA

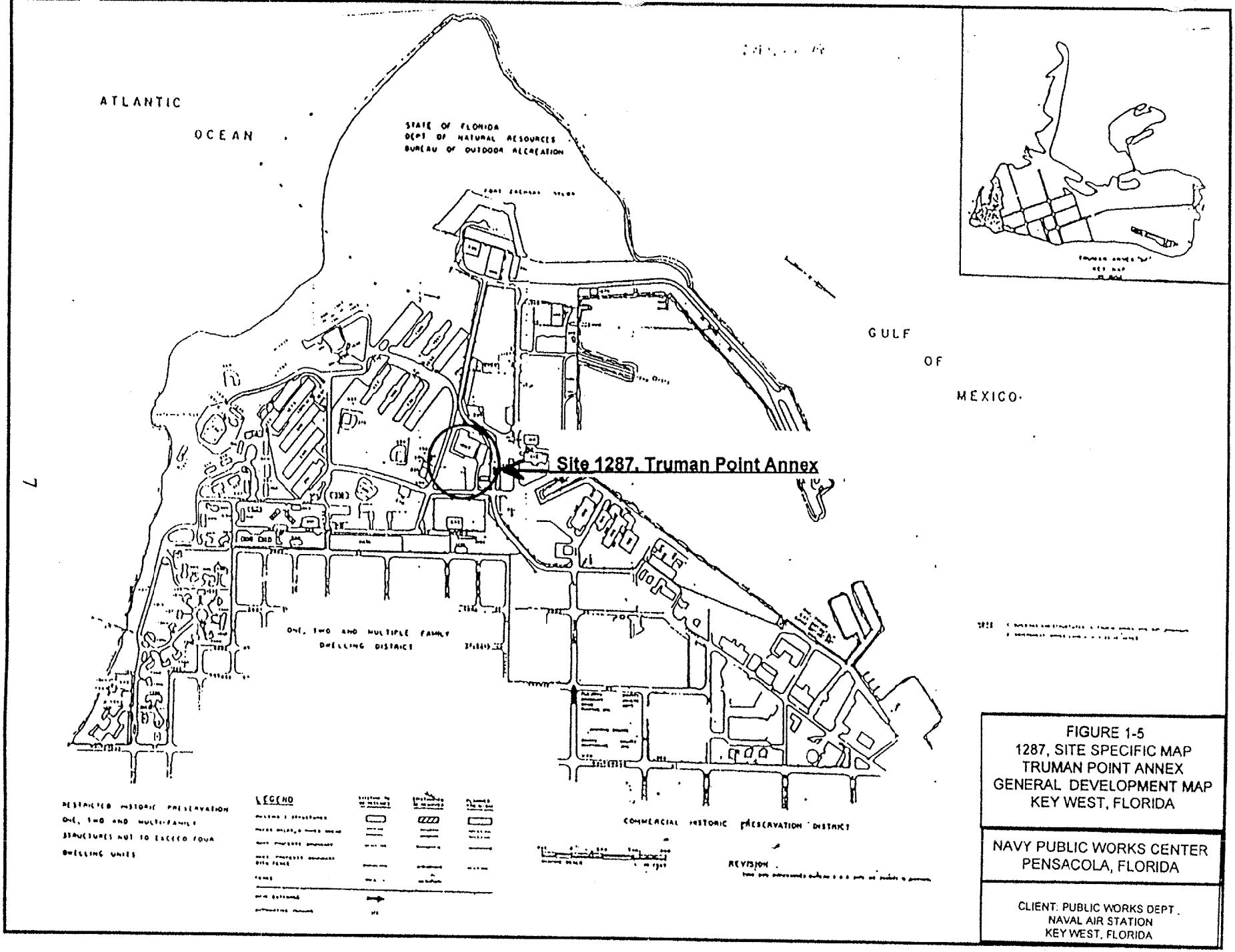
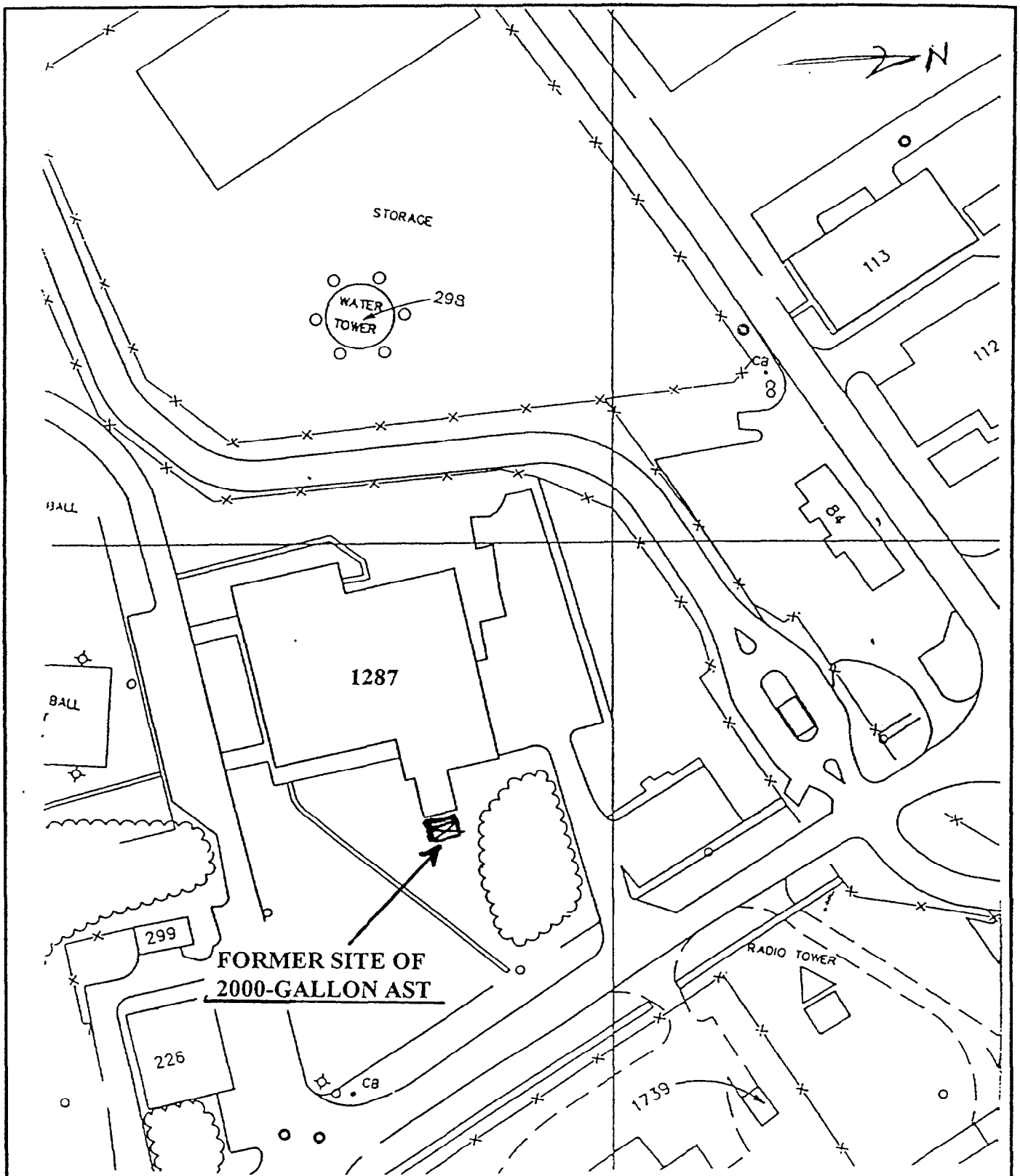


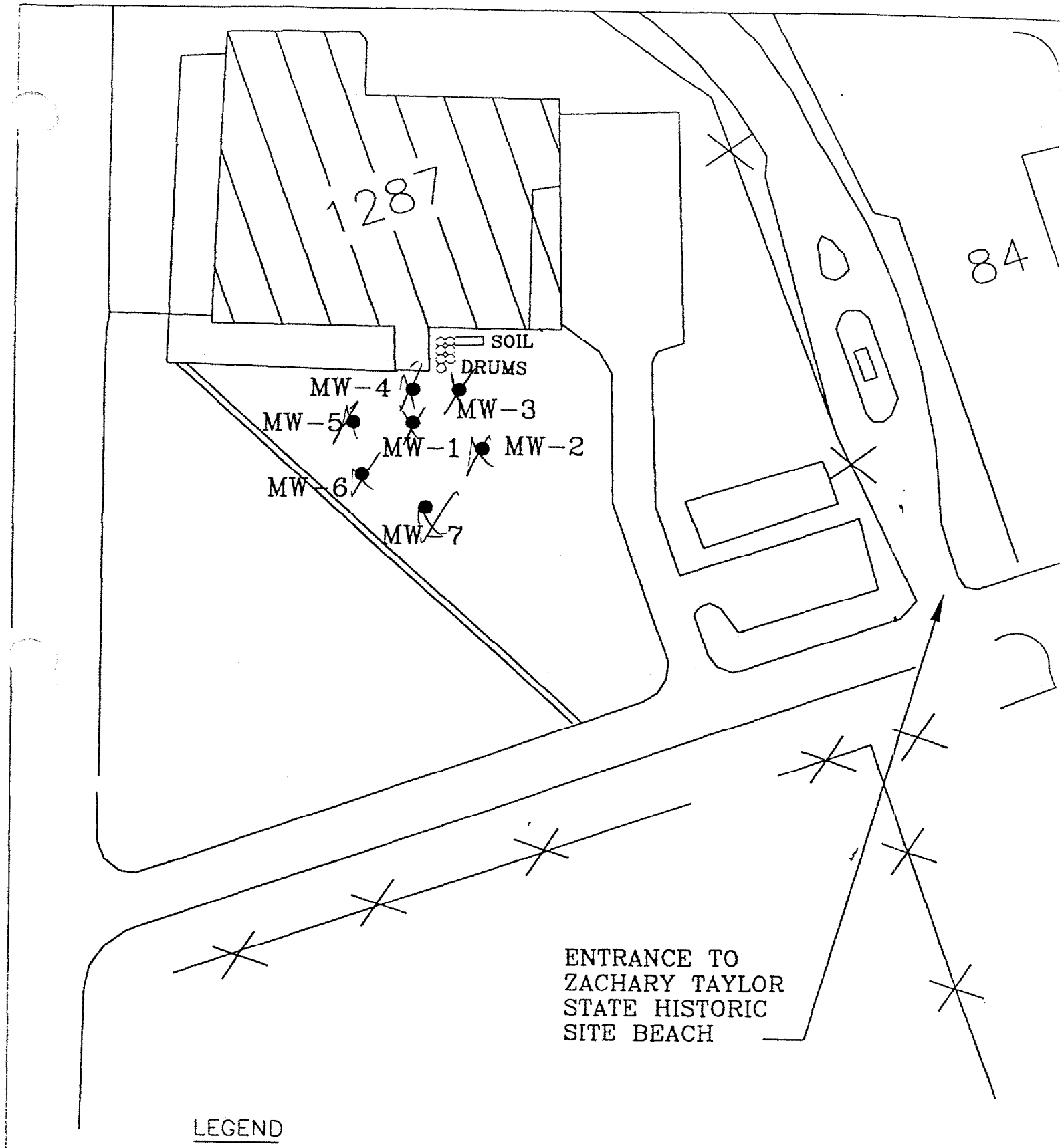
FIGURE 1-5
1287, SITE SPECIFIC MAP
TRUMAN POINT ANNEX
GENERAL DEVELOPMENT MAP
KEY WEST, FLORIDA

NAVY PUBLIC WORKS CENTER
PENSACOLA, FLORIDA

CLIENT: PUBLIC WORKS DEPT.
NAVAL AIR STATION
KEY WEST, FLORIDA



NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA	FIGURE 1-6 AST SITE MAP SITE1287, TRUMAN POINT ANNEX KEY WEST, FLORIDA
CLIENT PUBLIC WORKS DEPT., NAVAL AIR STATION KEY WEST, FLORIDA	



LEGEND

ROADWAY

BUILDING/ STRUCTURE

MW-19 MONITORING WELL NUMBER

grouted / could not open manhole cover

N

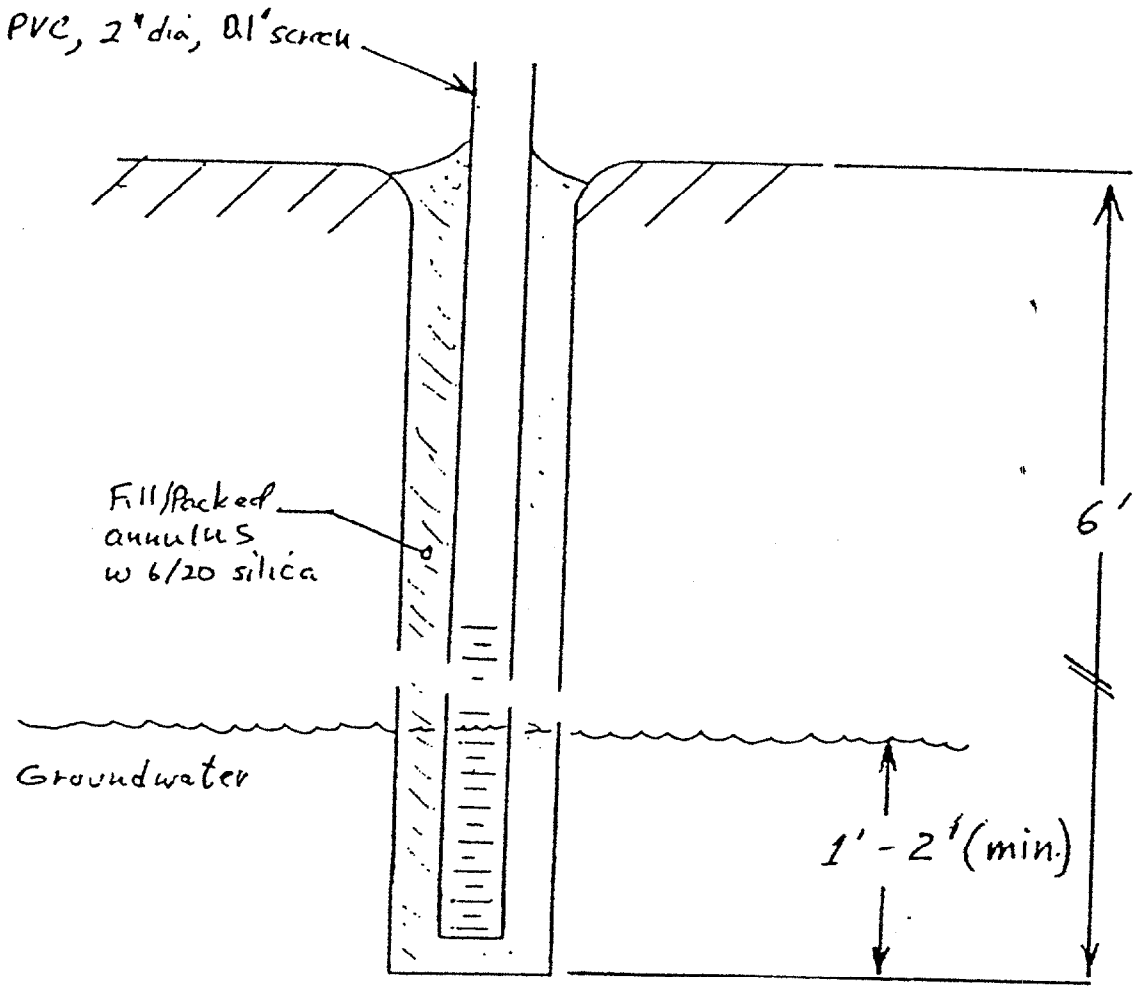
0' 20' 40'

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE: DATE:	FIGURE 2-1	DRAWN BY: DWG. NO: REVISED BY:
MONITORING WELL LOCATION MAP SITE 1287 TRUMAN ANNEX		
CLIENT: NPWD, NAS KEY WEST, FLORIDA		

APPENDIX A

MONITORING WELL CONSTRUCTION DIAGRAMS

SPECIAL TEMPORARY WELL for AST CLOSURES
at NAS KEY WEST 1996



NPWC

ENVIRONMENTAL

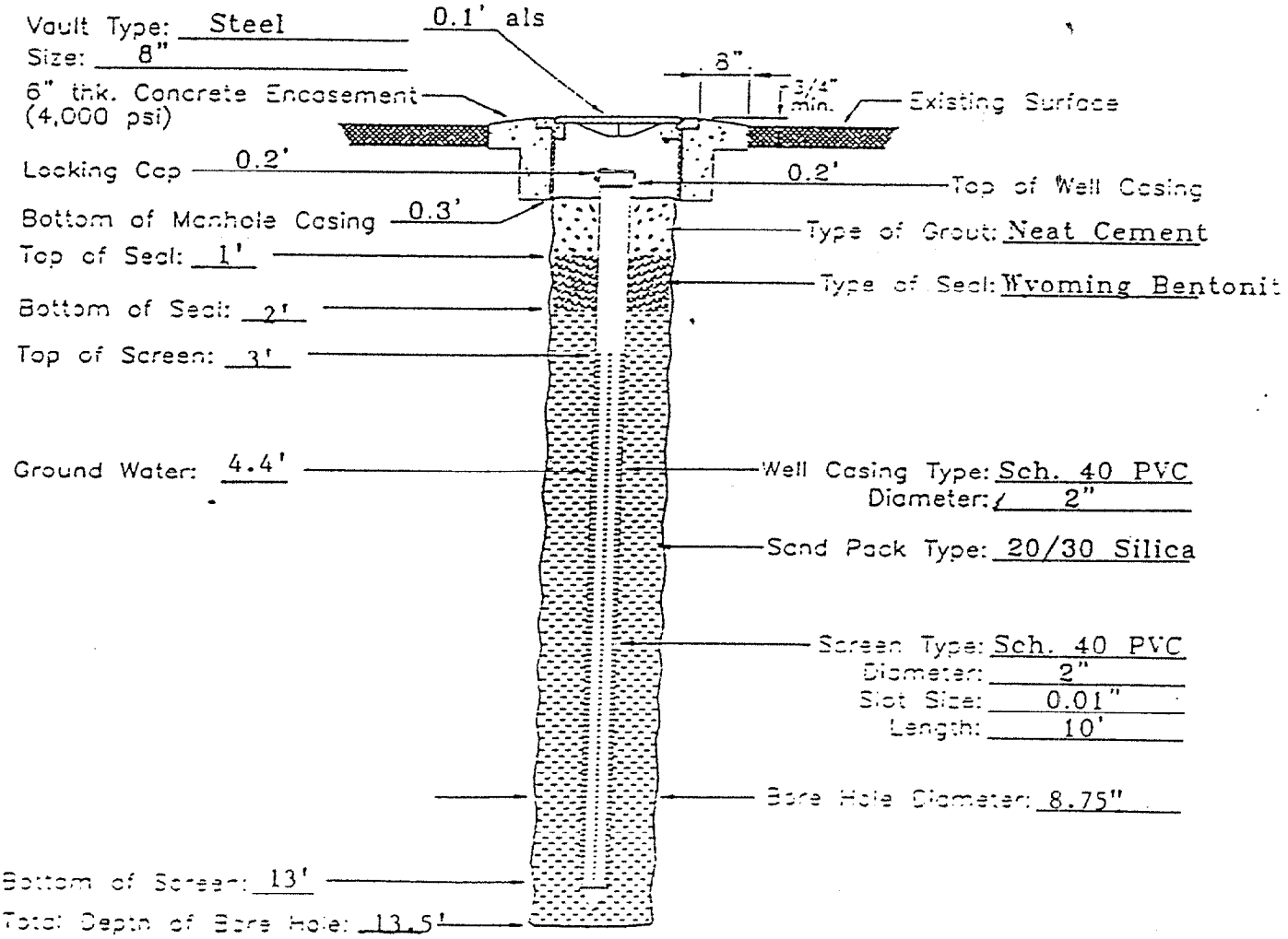
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRIES
DRILLER'S NAME:
WELL NUMBER: MW-1

CLIENT: PUBLIC WORKS DEPT. NAS KEY WEST
LOCATION: SITE 1287, TRUMAN POINT ANNEX
JOB NUMBER:
DATE Start: 7/18/97 Finish: 7/18/97
TIME Start: 0845 Finish: 0910

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

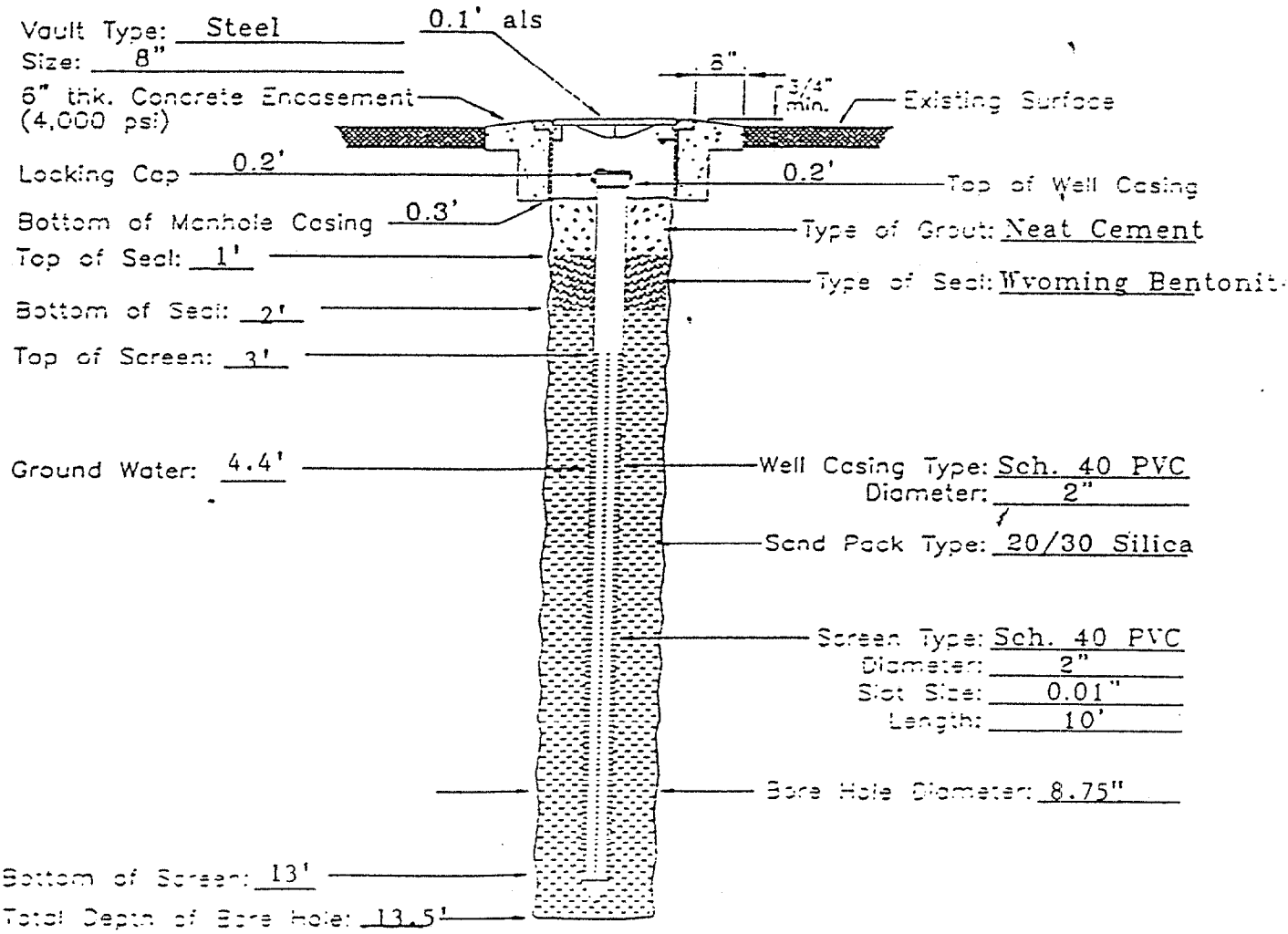
310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

MONITOR WELL CONSTRUCTION DETAIL

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUST
DRILLER'S NAME:
WELL NUMBER: MW-2

CLIENT: PUBLIC WORKS DEPT, NAS KEY WEST
LOCATION: SITE 1287, TRUMAN POINT ANNEX
JOB NUMBER:
DATE Start: 7/18/97 Finish: 7/18/97
TIME Start: 0920 Finish: 0940

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

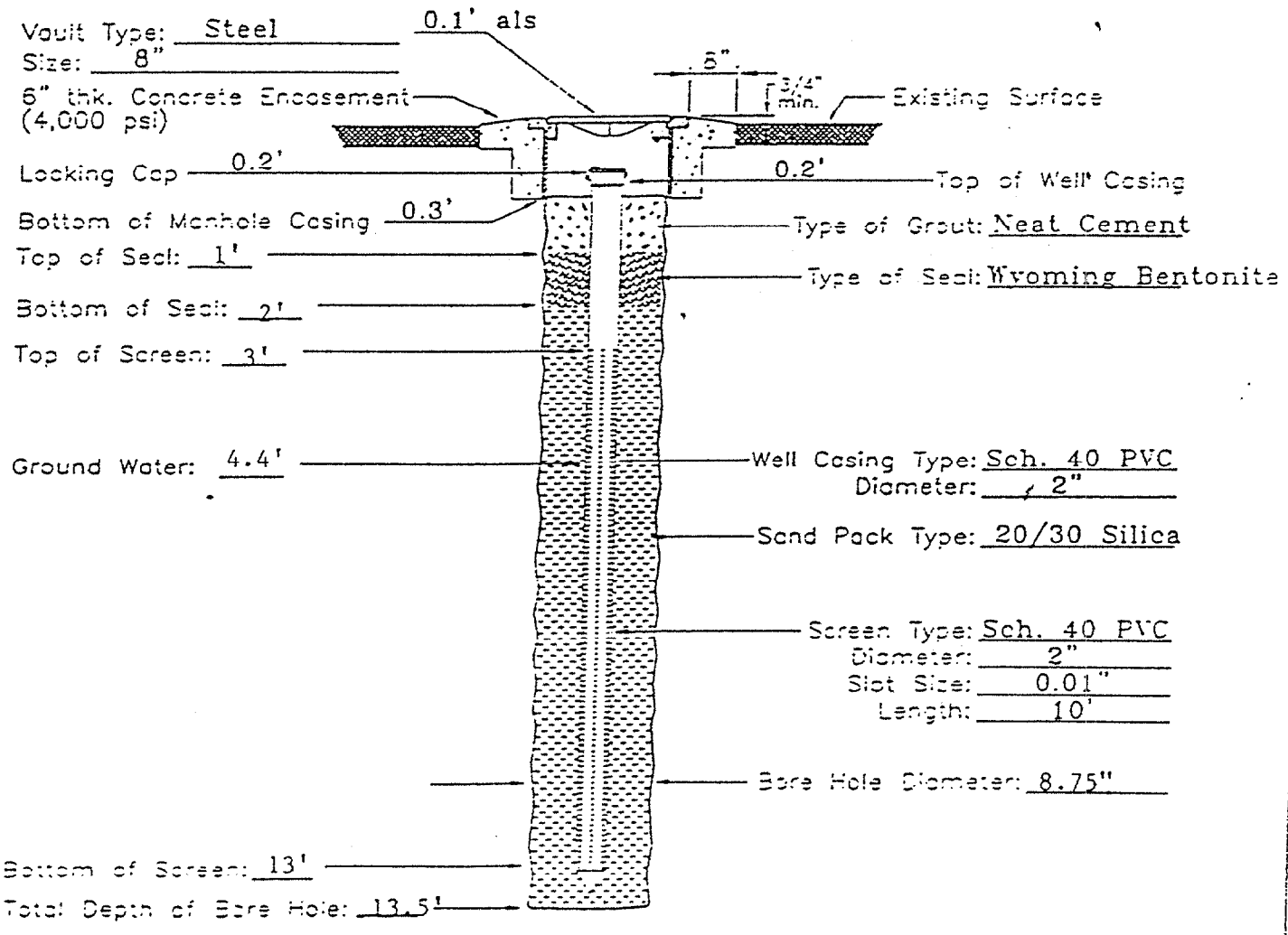
ENVIRONMENTAL

MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTR
DRILLER'S NAME:
WELL NUMBER: MW-3
CLIENT: PUBLIC WORKS DEPT. NAS KEY WEST
LOCATION: SITE 1287, TRUMAN POINT ANNEX
JOB NUMBER:
DATE Start: 7/18/97 Finish: 7/18/97
TIME Start: 1000 Finish: 1040

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

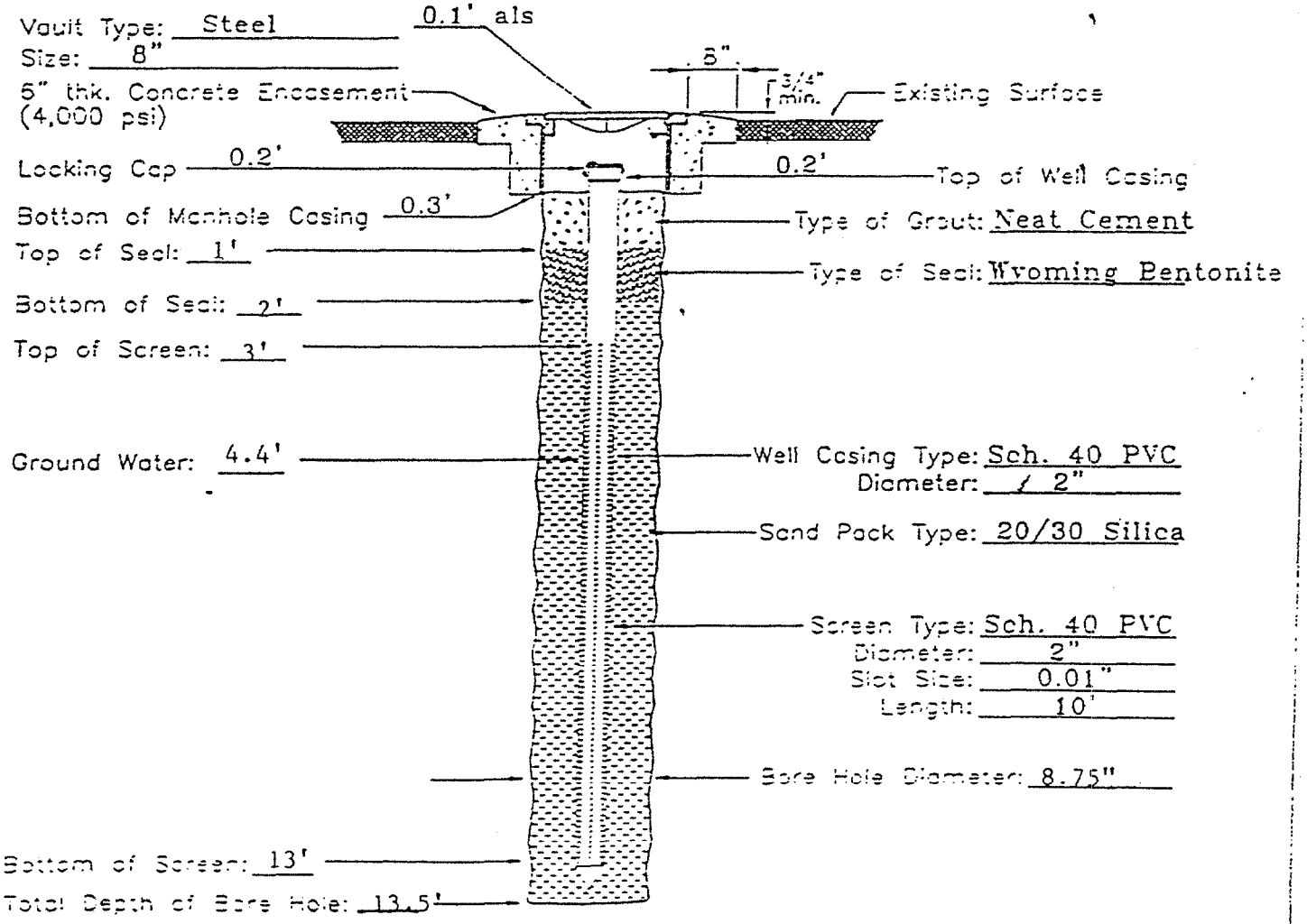
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRIES
DRILLER'S NAME:
WELL NUMBER: MW-4

CLIENT: PUBLIC WORKS DEPT. NAS KEY WEST
LOCATION: SITE 1287, TRUMAN POINT ANNEX
JOB NUMBER:
DATE Start: 7/18/97 Finish: 7/18/97
TIME Start: 1100 Finish: 1130

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

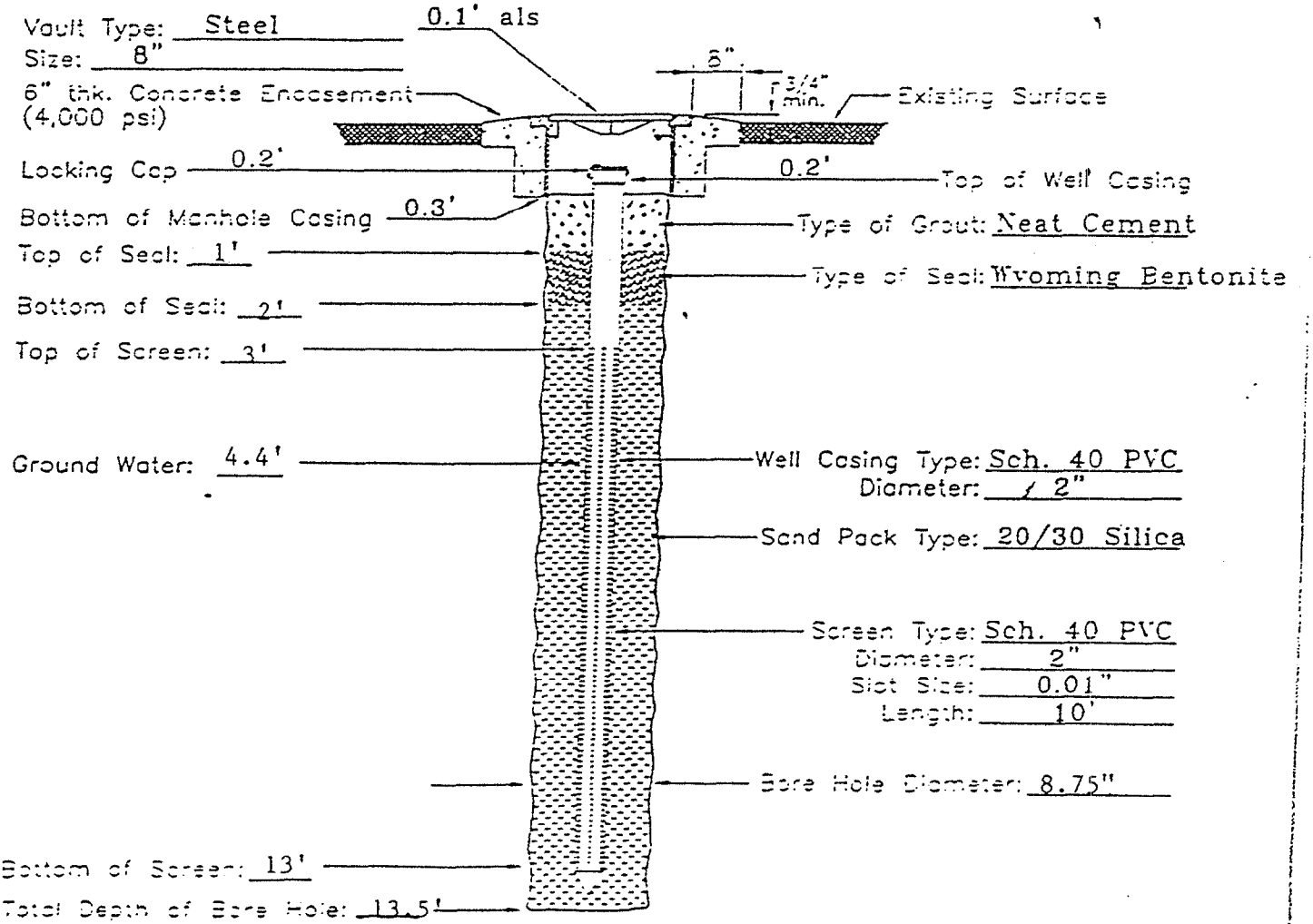
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRIES
DRILLER'S NAME:
WELL NUMBER: MW-5

CLIENT: PUBLIC WORKS DEPT. NAS KEY WEST
LOCATION: SITE 1287, TRUMAN POINT ANNEX
JOB NUMBER:
DATE Start: 7/18/97 Finish: 7/18/97
TIME Start: 1230 Finish: 1300

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

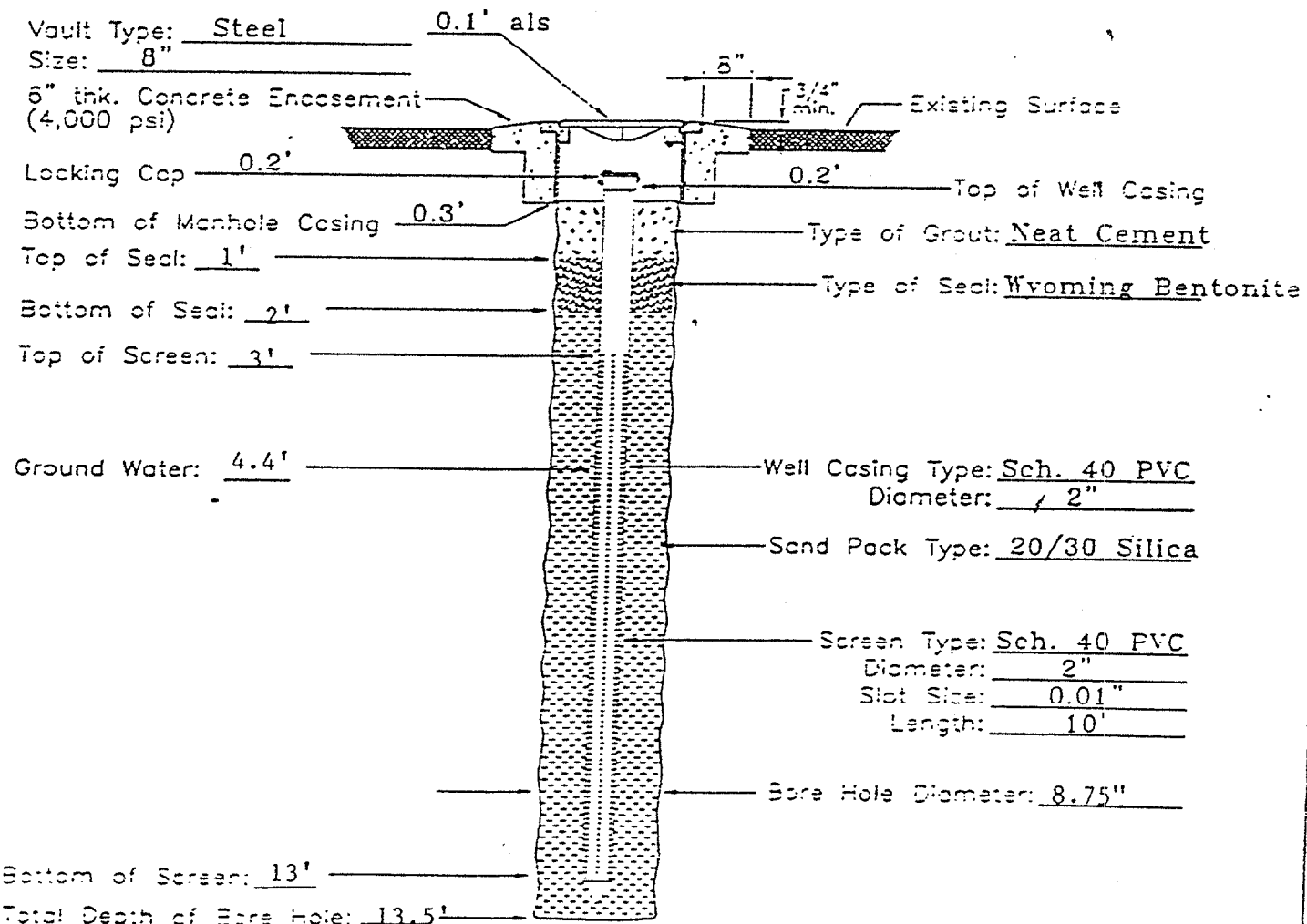
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRIES
DRILLER'S NAME:
WELL NUMBER: MW-6

CLIENT: PUBLIC WORKS DEPT, NAS KEY WEST
LOCATION: SITE 1287, TRUMAN POINT ANNEX
JOB NUMBER:
DATE Start: 7/18/97 Finish: 7/18/97
TIME Start: 1330 Finish: 1400

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

NPWC

ENVIRONMENTAL

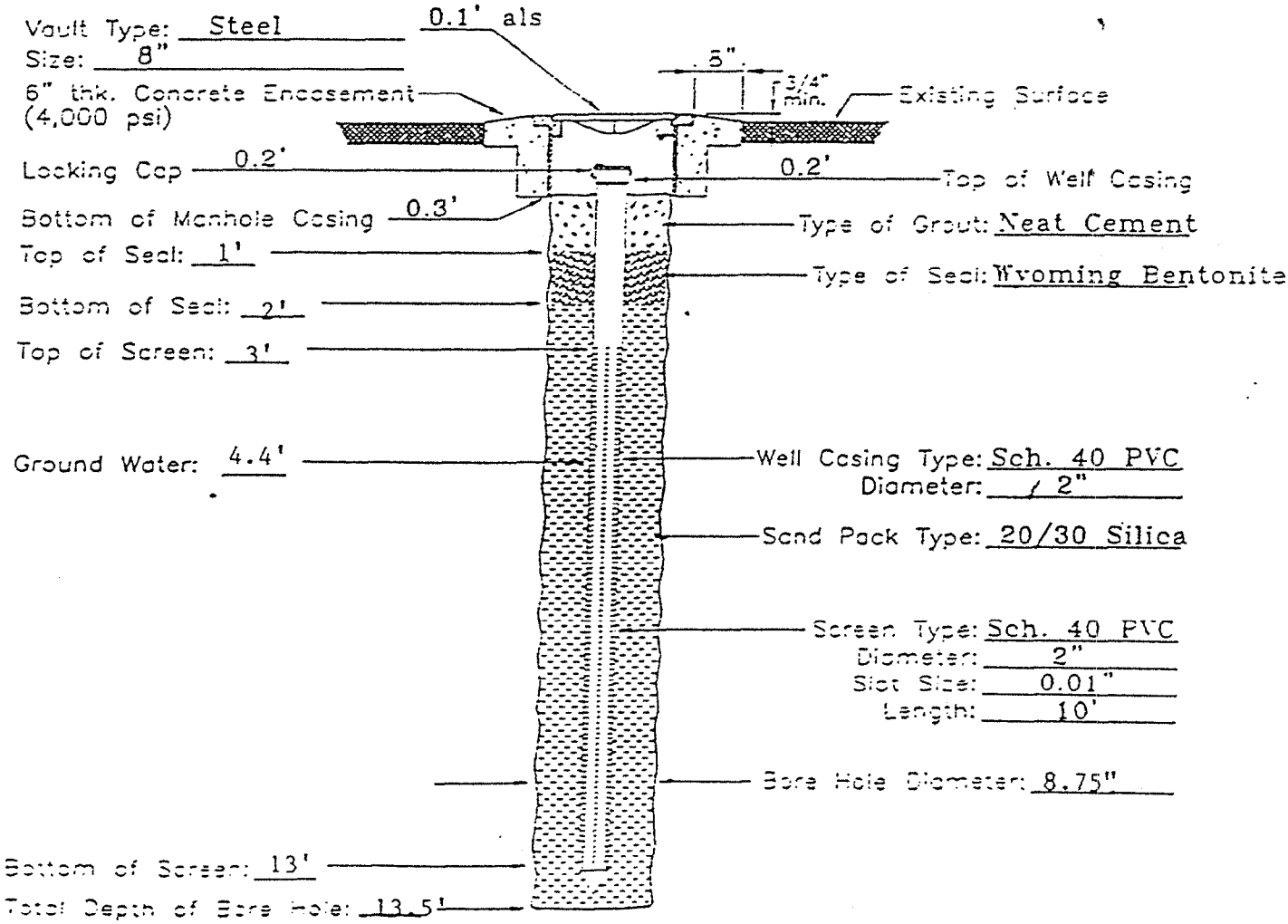
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MOVING WATER INDUSTRIES
DRILLER'S NAME:
WELL NUMBER: MW-7

CLIENT: PUBLIC WORKS DEPT, NAS KEY WEST
LOCATION: SITE 1287, TRUMAN POINT ANNEX
JOB NUMBER:
DATE Start: 7/18/97 Finish: 7/18/97
TIME Start: 1445 Finish: 1530

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

Building 4163

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

CLOSURE ASSESSMENT REPORT
ABOVEGROUND STORAGE TANK
BUILDING 4163

NAVAL AIR STATION
TRUMAN ANNEX
KEY WEST, FLORIDA

no wells/
no AST

Unit Identification Code: N00213

Prepared by:

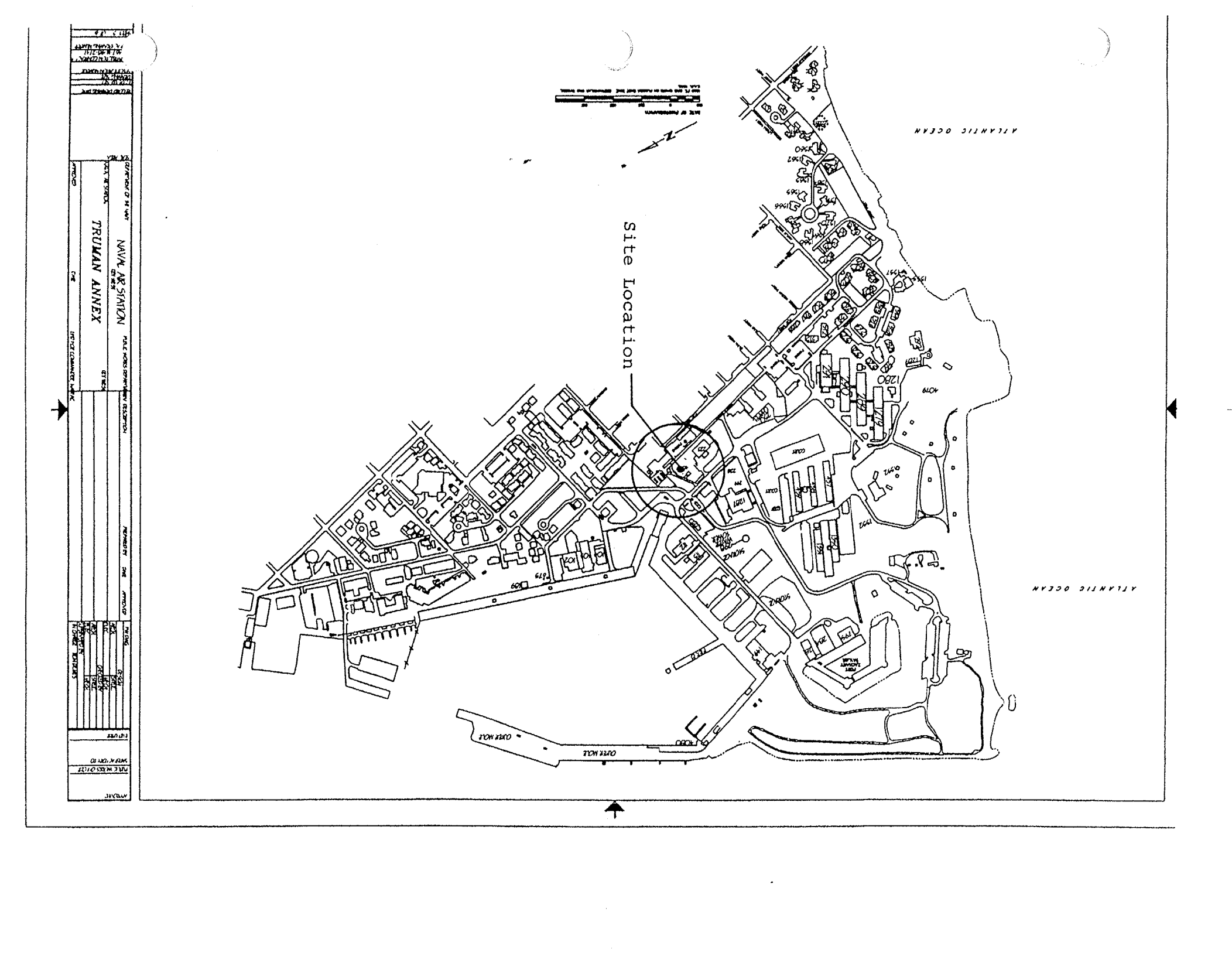
Navy Public Works Center
Environmental Department
310 John Tower Road
Pensacola, Florida, 32508

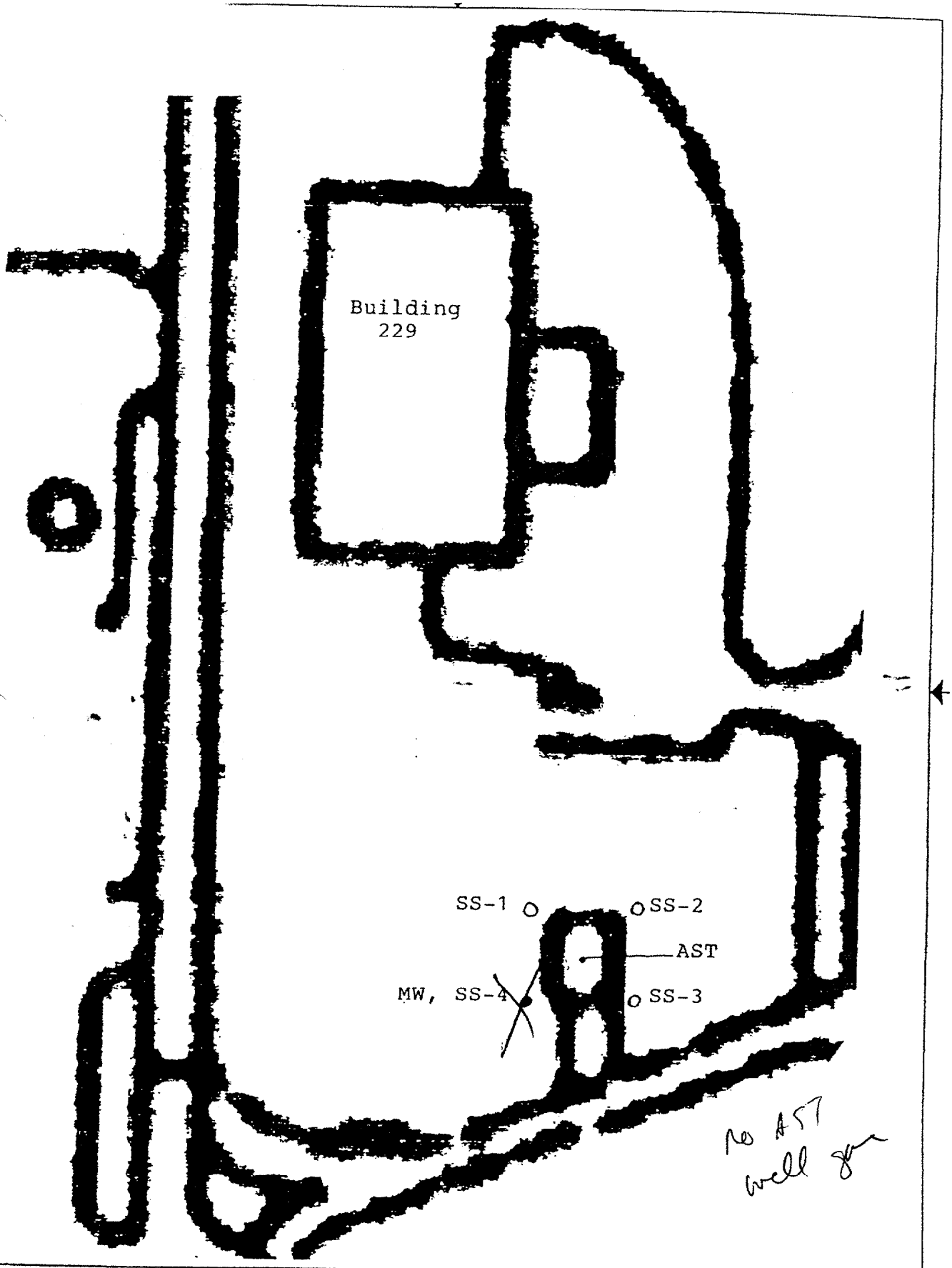
Prepared for:

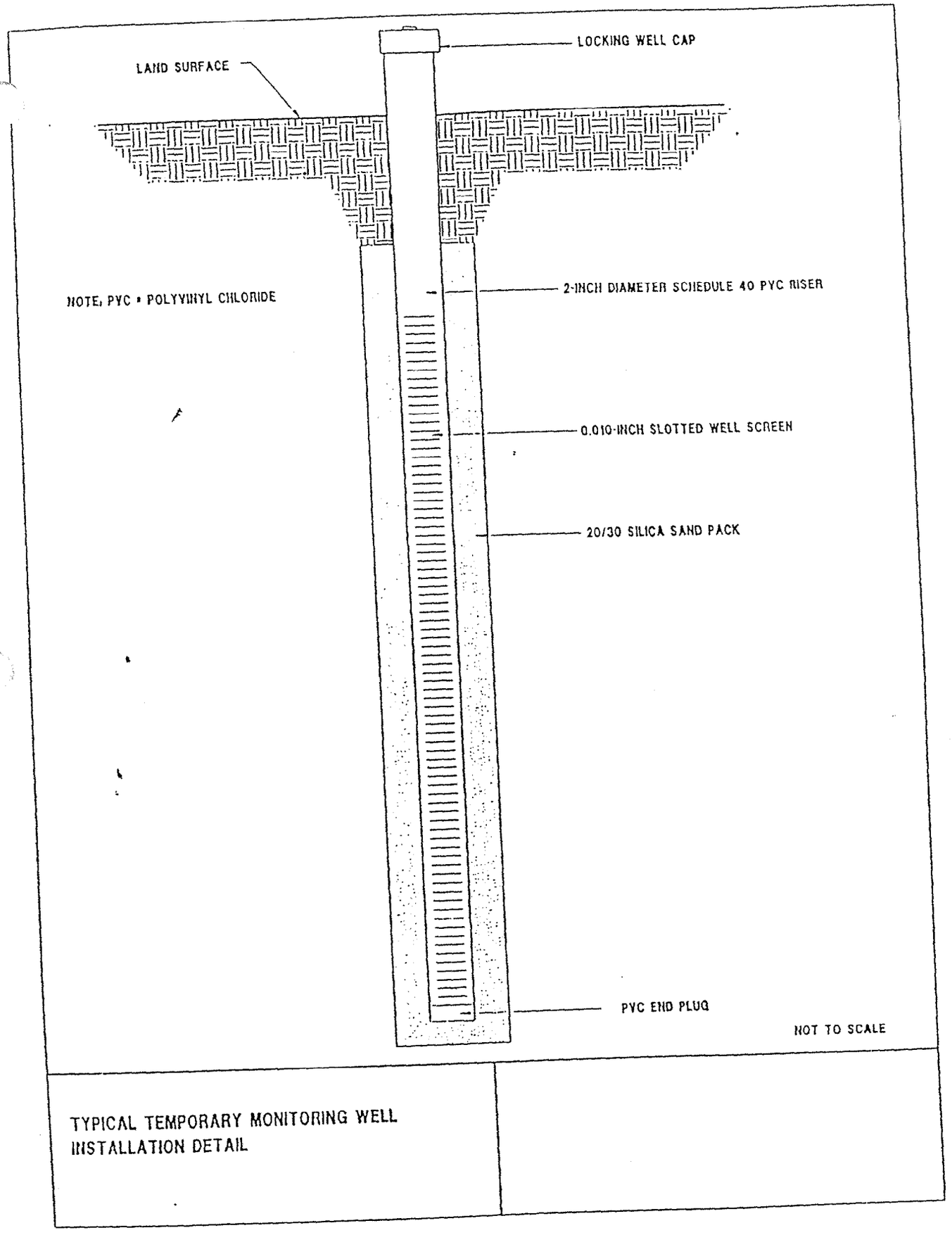
Commanding Officer, Naval Air Station Key West
Public Works Department, Building A-629
Key West, Florida 33040

Mr Jim Simmen, Code 1883JS
Environmental Protection Specialist

July 1998


Site Location
ATLANTIC OCEAN
ATLANTIC OCEAN
DUKE NOLE
TRUMAN ANNEX
NAVAL AIR STATION


Building
229
SS-1
SS-2
AST
MW, SS-4
SS-3
no AST
well



TYPICAL TEMPORARY MONITORING WELL
INSTALLATION DETAIL

Inner (Near Bldg. 102) Mole Pier

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Outer Mole Pier

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

CLOSURE ASSESSMENT REPORT
UNDERGROUND STORAGE TANKS
INNER AND OUTER MOLE PIERS

NAVAL AIR STATION
TRUMAN ANNEX
KEY WEST, FLORIDA

TT needs to validate
Gate locked at 102 (Inner mole)
Outer mole well is there but abandoned (grouted)

Unit Identification Code: N00213

Prepared by:

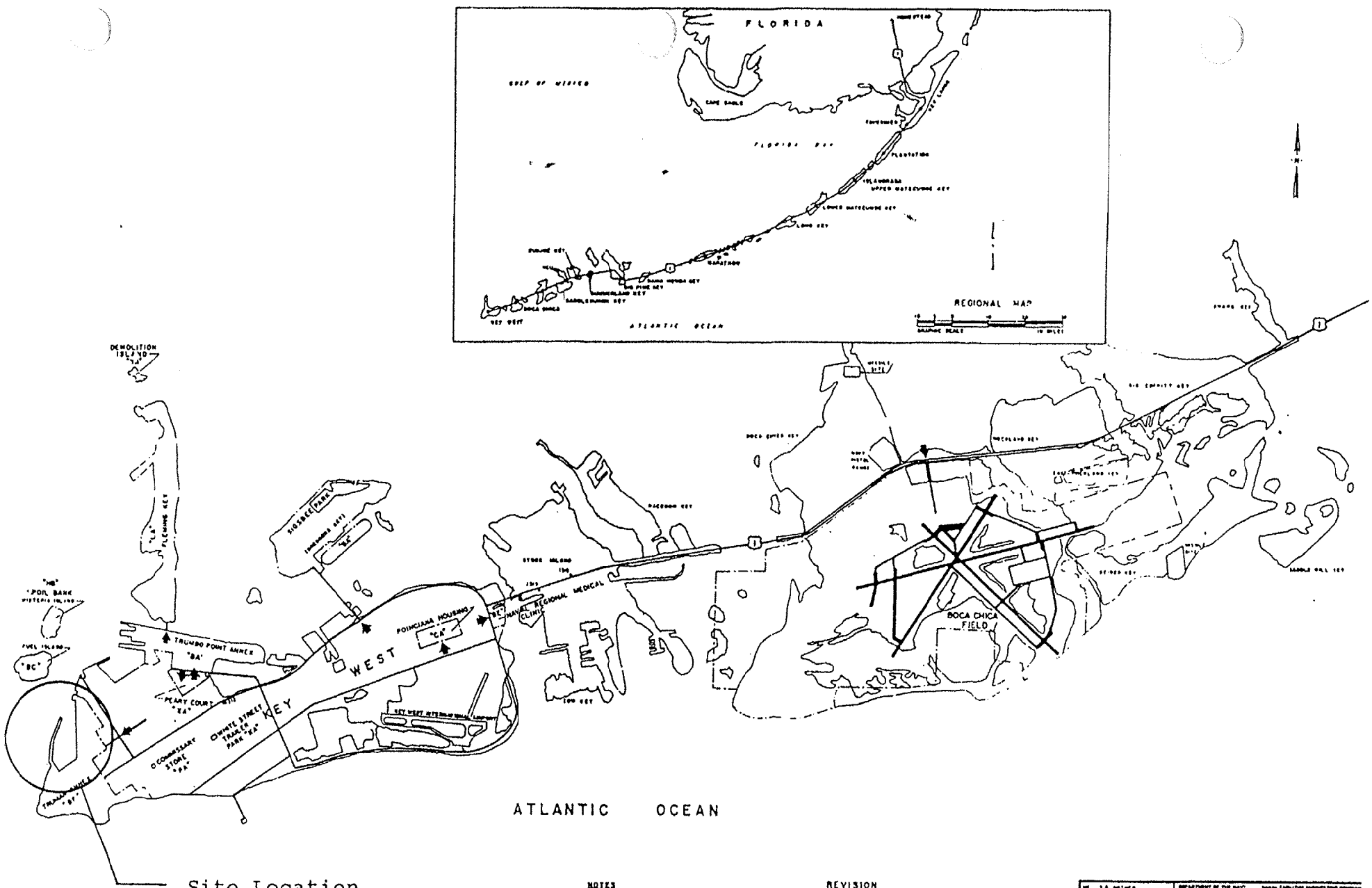
Navy Public Works Center
Environmental Department
310 John Tower Road
Pensacola, Florida, 32508

Prepared for:

Navy Public Works Department
Building 629, Naval Air Station Key West
Key West, Florida 33040

Mr Jim Simmen, Code 1883JS
Environmental Protection Specialist

May 1998



NOTES

1. "A" = SPECIAL AREA DESIGNATION
2. ——— = SPECIAL AREA BOUNDARIES
3. ▬▬ = SPECIAL AREA ENTRANCE
4. GOVERNMENT OWNED LAND = 5,000.00 ACRES

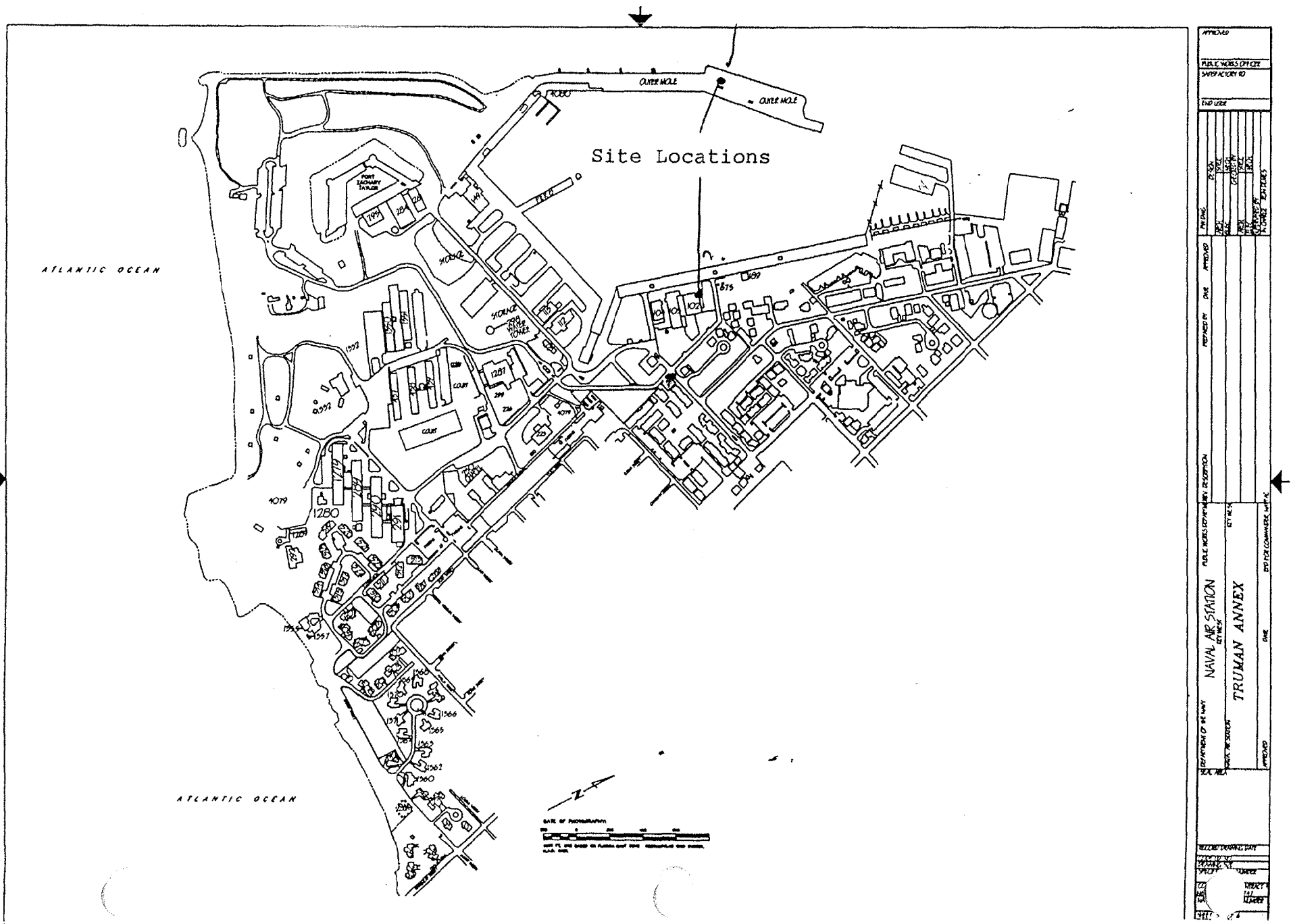
REVISION

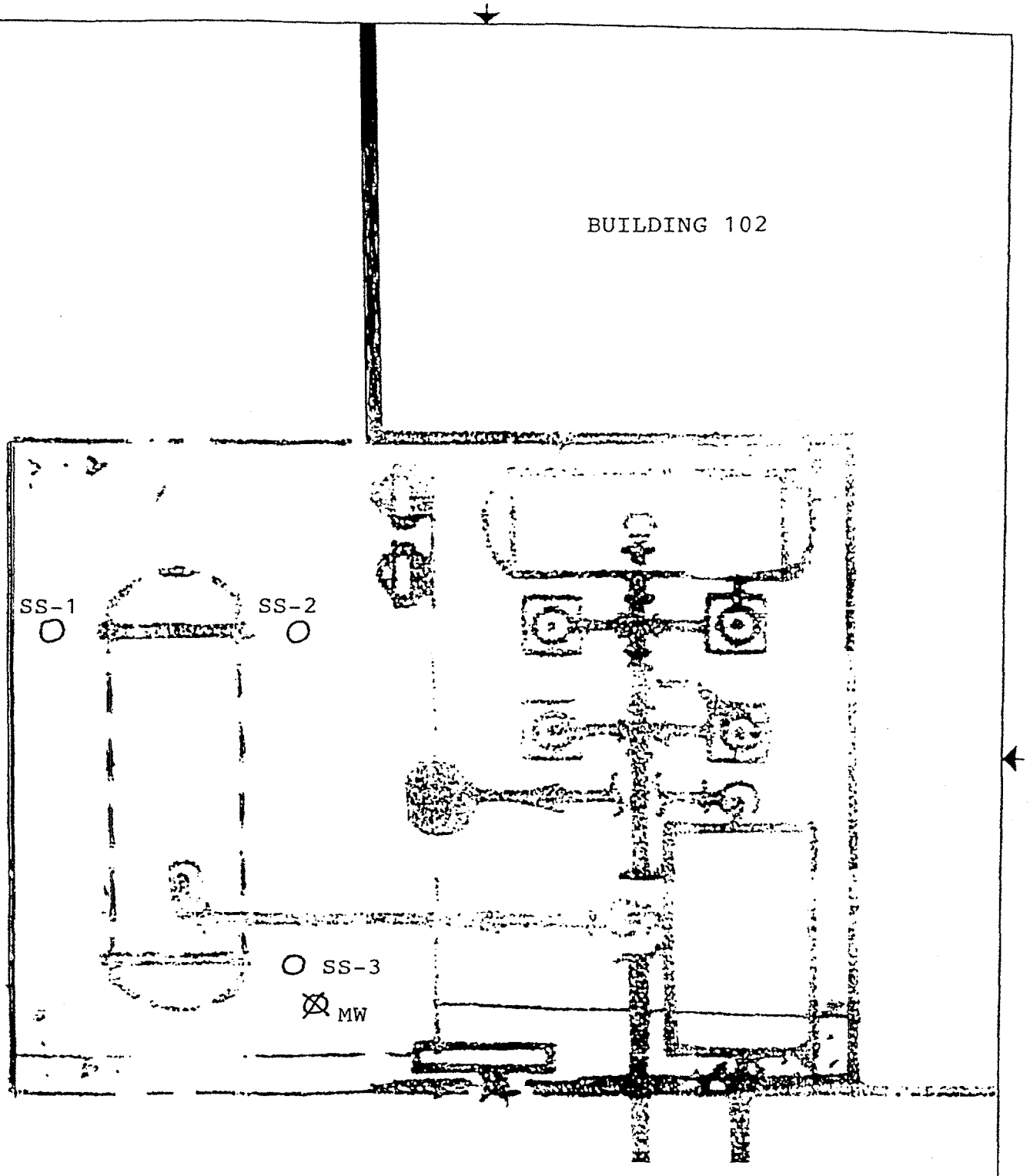
SOUTHERN DIVISION

NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA

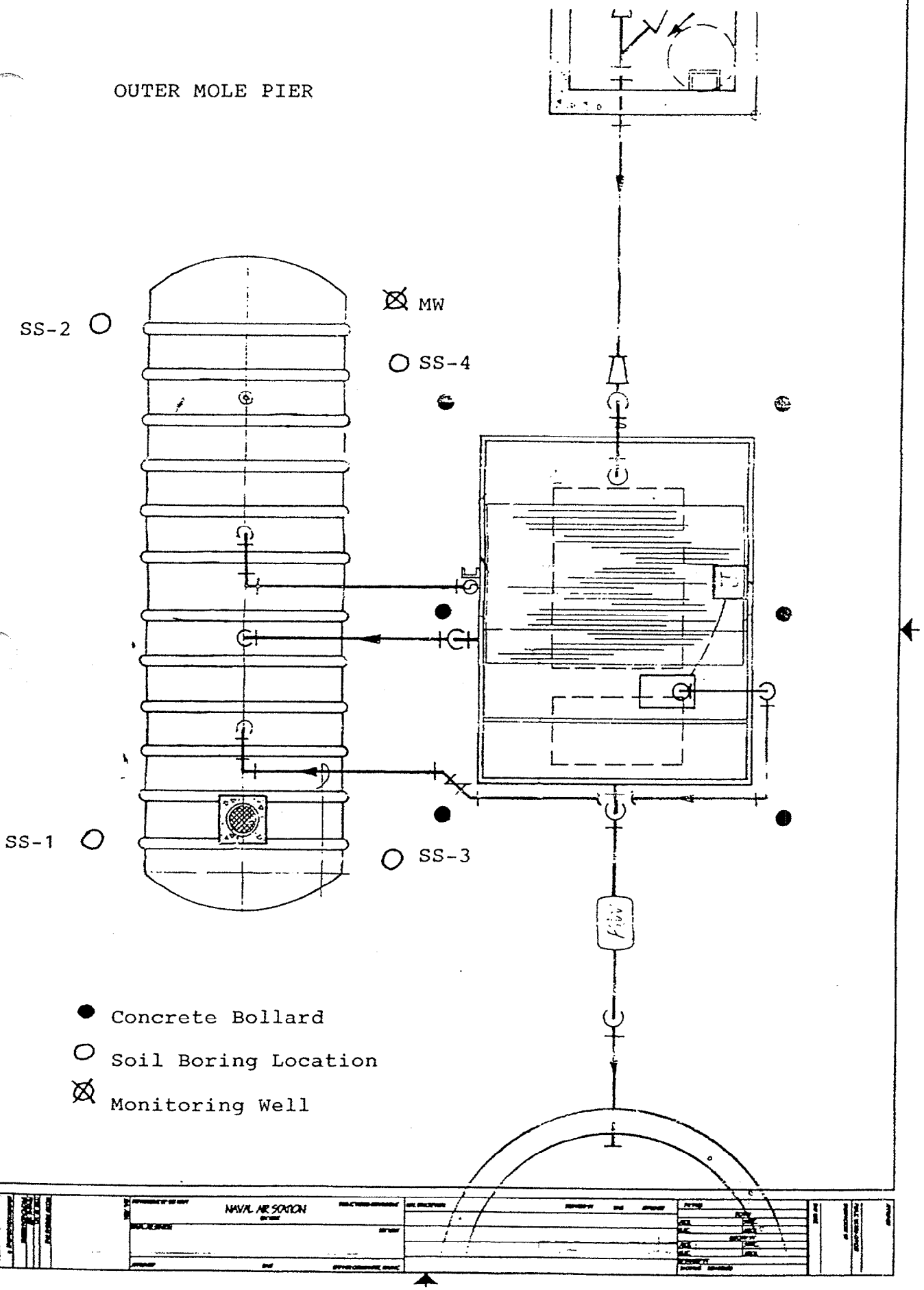
GENERAL DEVELOPMENT MAP
REGIONAL AND VICINITY
EXISTING CONDITIONS

F | 80091 | 5083575


Site Locations
ATLANTIC OCEAN
ATLANTIC OCEAN
OUTER MOLE
OUTER MOLE
PORT ZACHARY TAYLOR
STORAGE
STORAGE
COURT
COURT
1280
4079
1552
1552
1287
1566
1565
1562
1560
1557
APPROVED
PUBLIC WORKS OFFICER
SATISFACTORY TO
END USER
NAVAL AIR STATION
KEY WEST
TRUMAN ANNEX
DEPARTMENT OF THE NAVY
PUBLIC WORKS DEPARTMENT
REV DESCRIPTION
DATE
APPROVED
SEAL AREA
RECORD DRAWING DATE
SPECIFY NUMBER
NUMBER


BUILDING 102
SS-1
SS-2
SS-3
MW
INNER MOLE PIER
Soil Boring Location
Monitoring Well

OUTER MOLE PIER

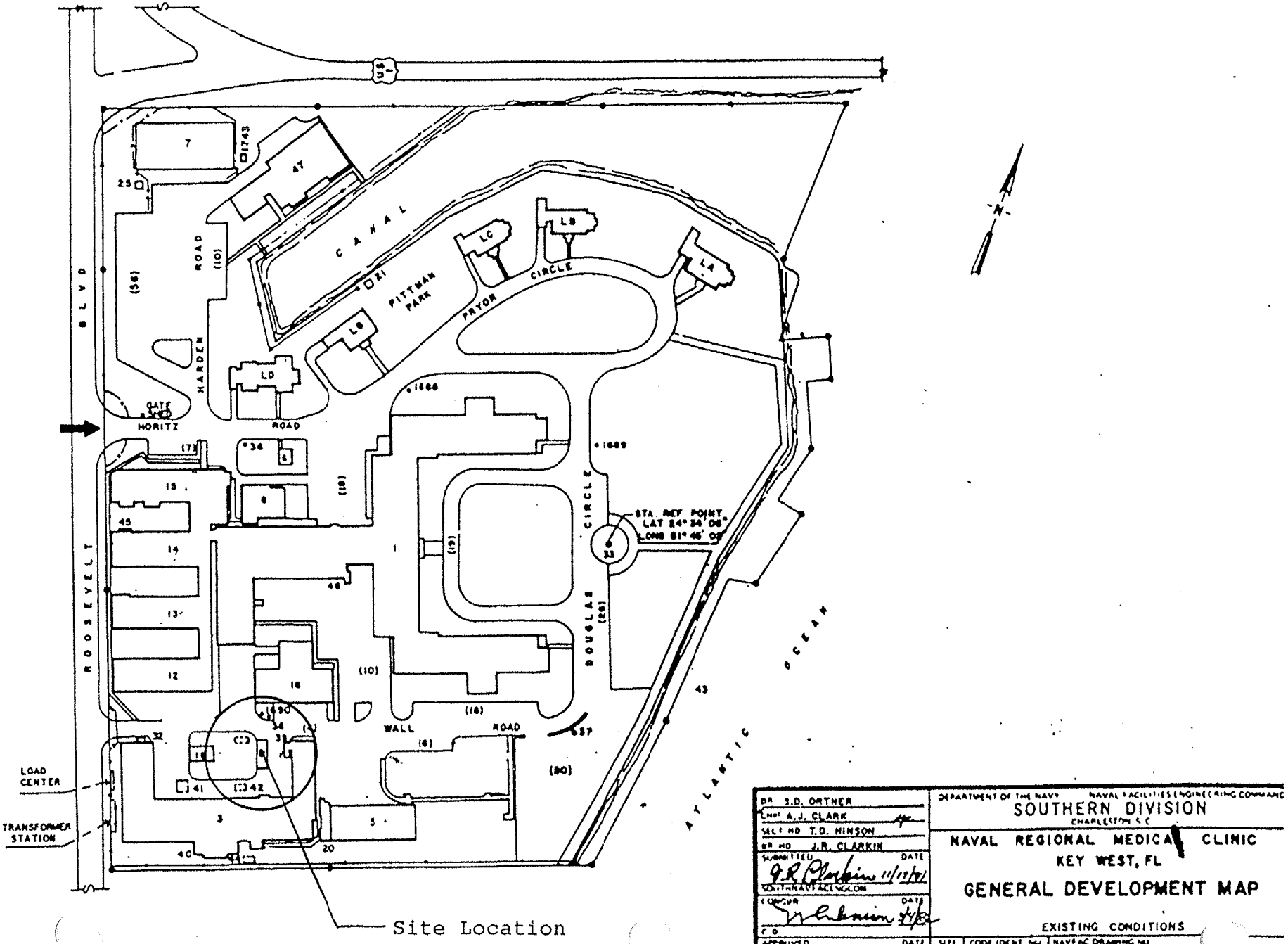


Sigsbee Park Sites

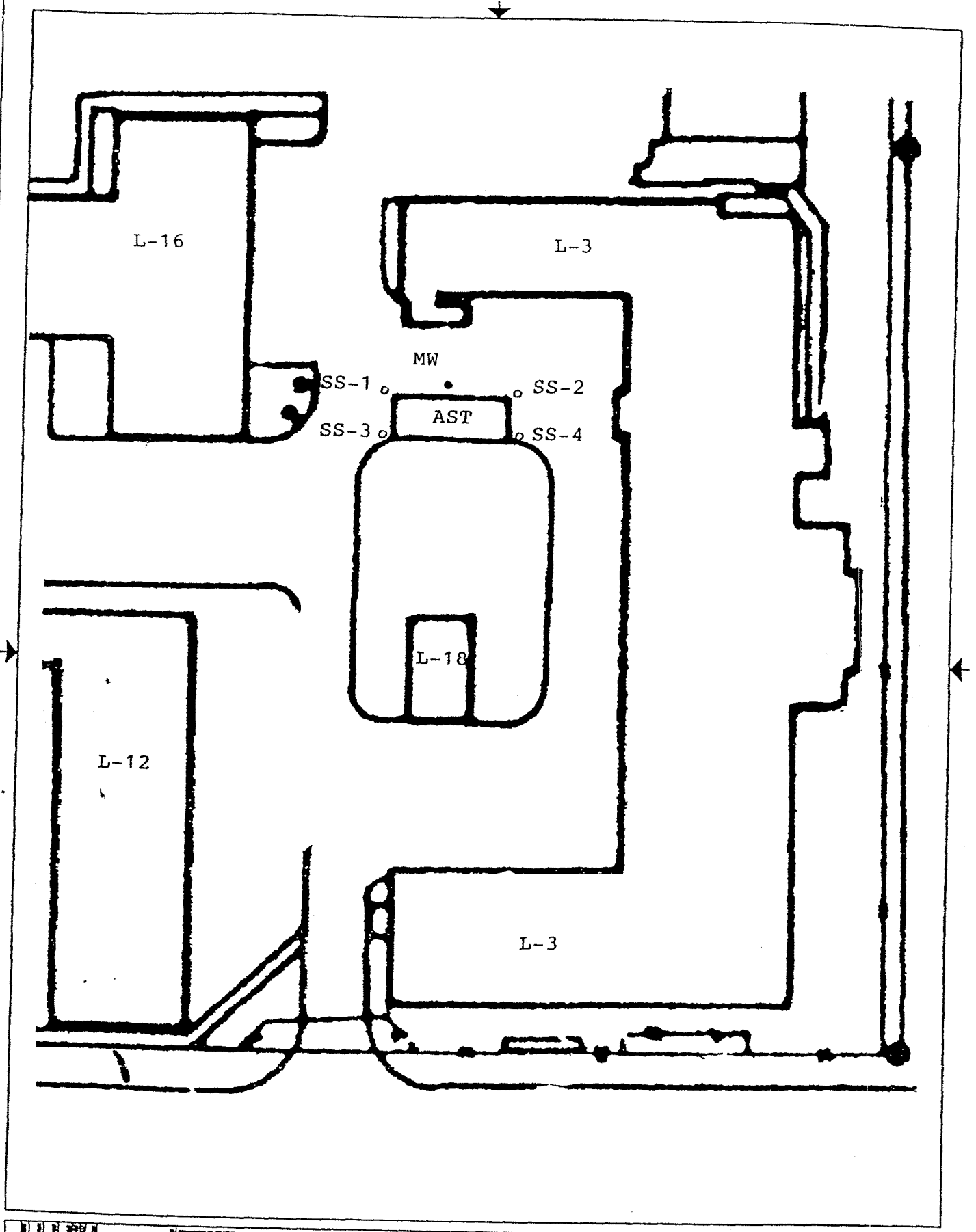
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Naval Branch Medial Clinic Sites

BLASLAND, BOUCK & LEE, INC.
engineers & scientists



DR S.D. ORTNER	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND	
CHIEF A.J. CLARK	SOUTHERN DIVISION	
SECT HD T.D. HINSON	CHARLESTON S.C.	
BR HD J.R. CLARKIN	NAVAL REGIONAL MEDICAL CLINIC	
SUBMITTED DATE 11/13/81	KEY WEST, FL	
SOUTHNAVFACENGCOM	GENERAL DEVELOPMENT MAP	
CONCUR DATE 11/18/81	EXISTING CONDITIONS	
CO		
APPROVED DATE 12/5/81	SIZE F	CODE IDENT NO 80091
	NAVFAC DRAWING NO 5083533	


L-16
L-3
MW
SS-1
SS-2
AST
SS-3
SS-4
L-18
L-12
L-3

Tank L3

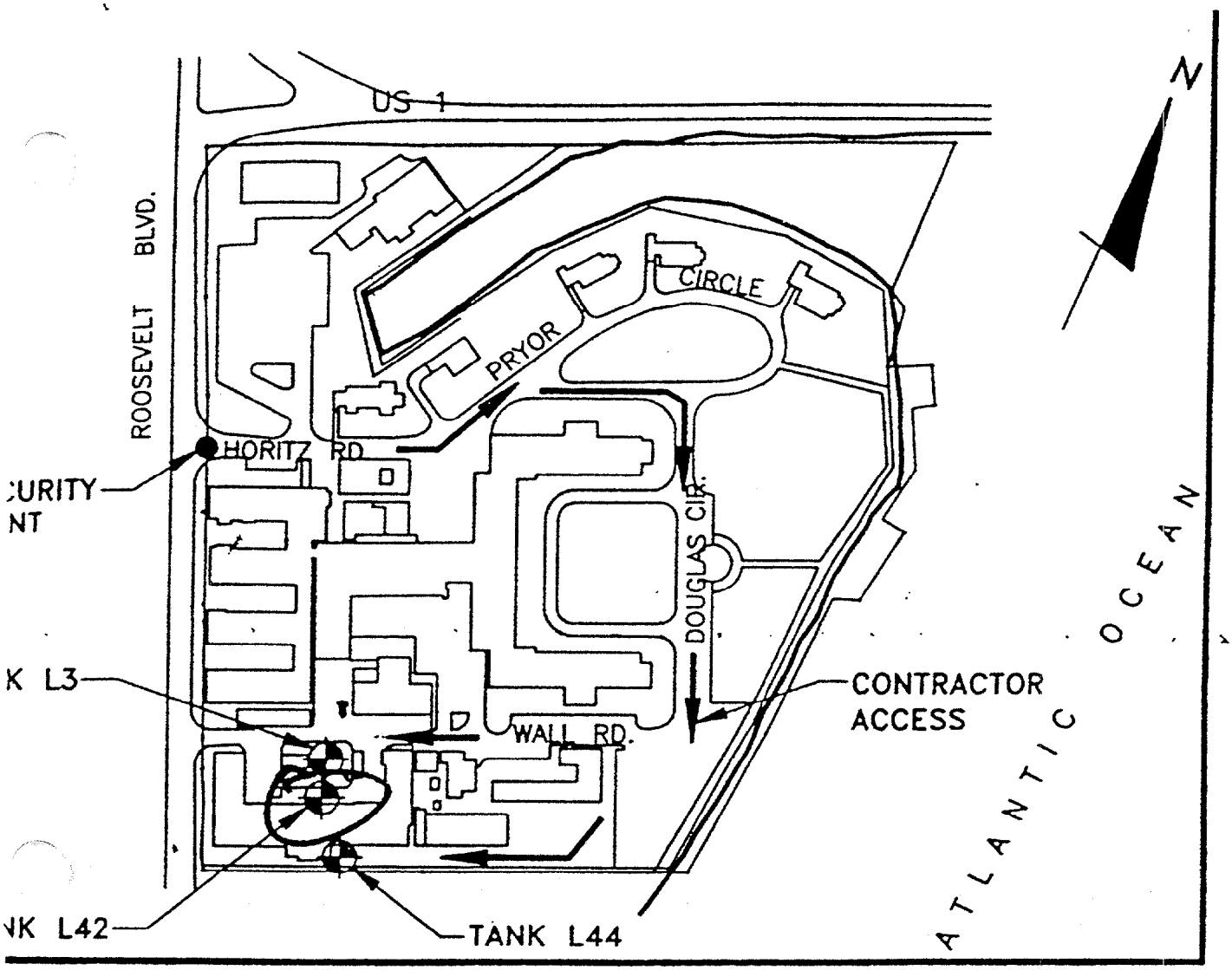
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

OMEGA ENVIRONMENTAL SERVICES, INC.

UST CLOSURE REPORT
TANK L3
NAVAL AIR STATION, KEY WEST, FLORIDA
CONTRACT NUMBER N62467-93-C-0645

OMEGA ENVIRONMENTAL SERVICES, INC.

Prepared By
Omega Environmental Services, Inc.
4661 Hammermill Rd., Ste. B
Tucker, Georgia 30084



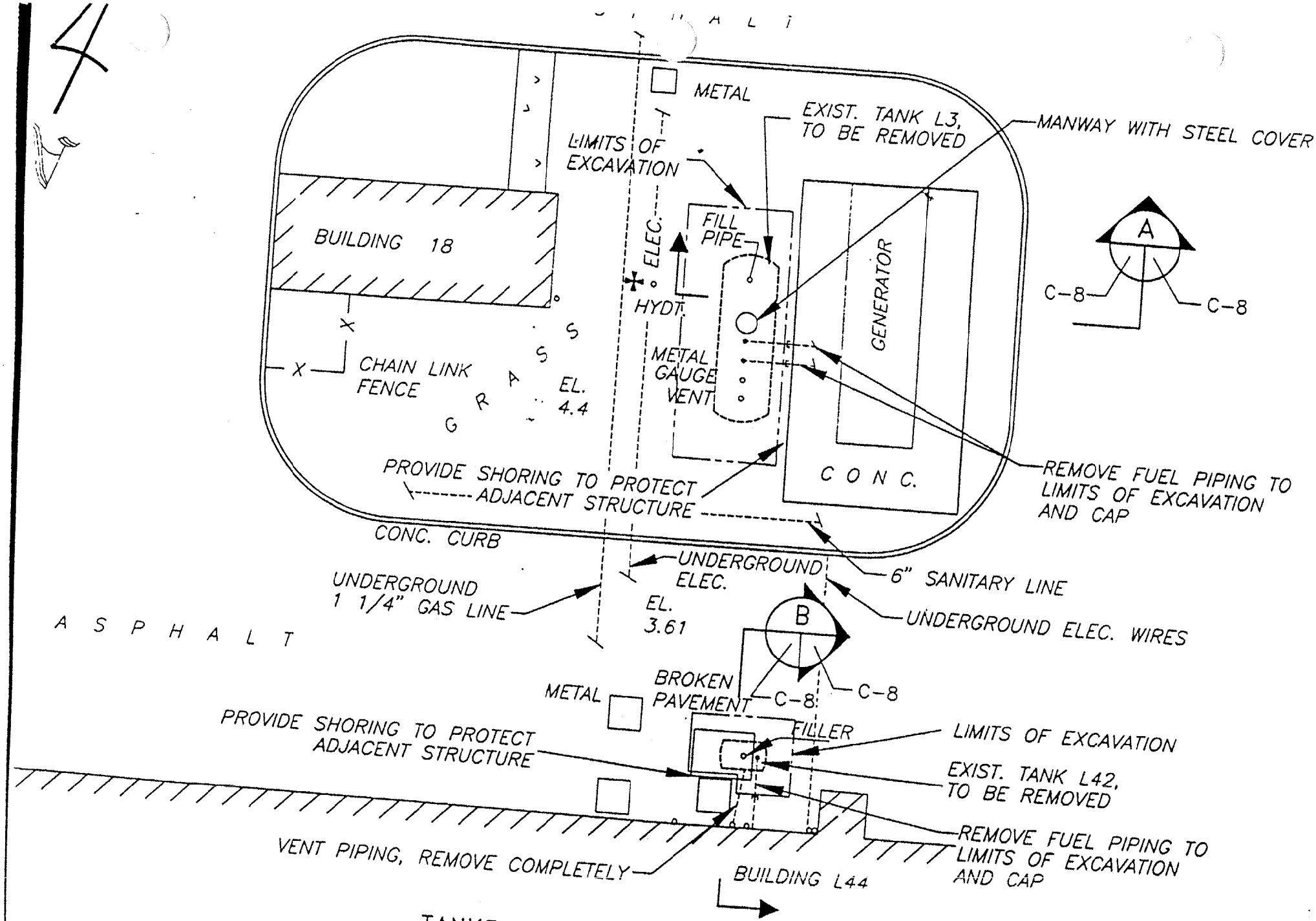
VAL MEDICAL CENTER AREA PLAN

NKS L3, L42, & L44)

SCALE: 1" =

REDUCED

4



TANKS L3 AND L42 AREA PLAN

SCALE: 1"=10'-0"

CLOSURE ASSESSMENT REPORT
ABOVEGROUND STORAGE TANK
BUILDING L-3

BRANCH MEDICAL CLINIC
KEY WEST, FLORIDA

Unit Identification Code: N00232

Prepared by:

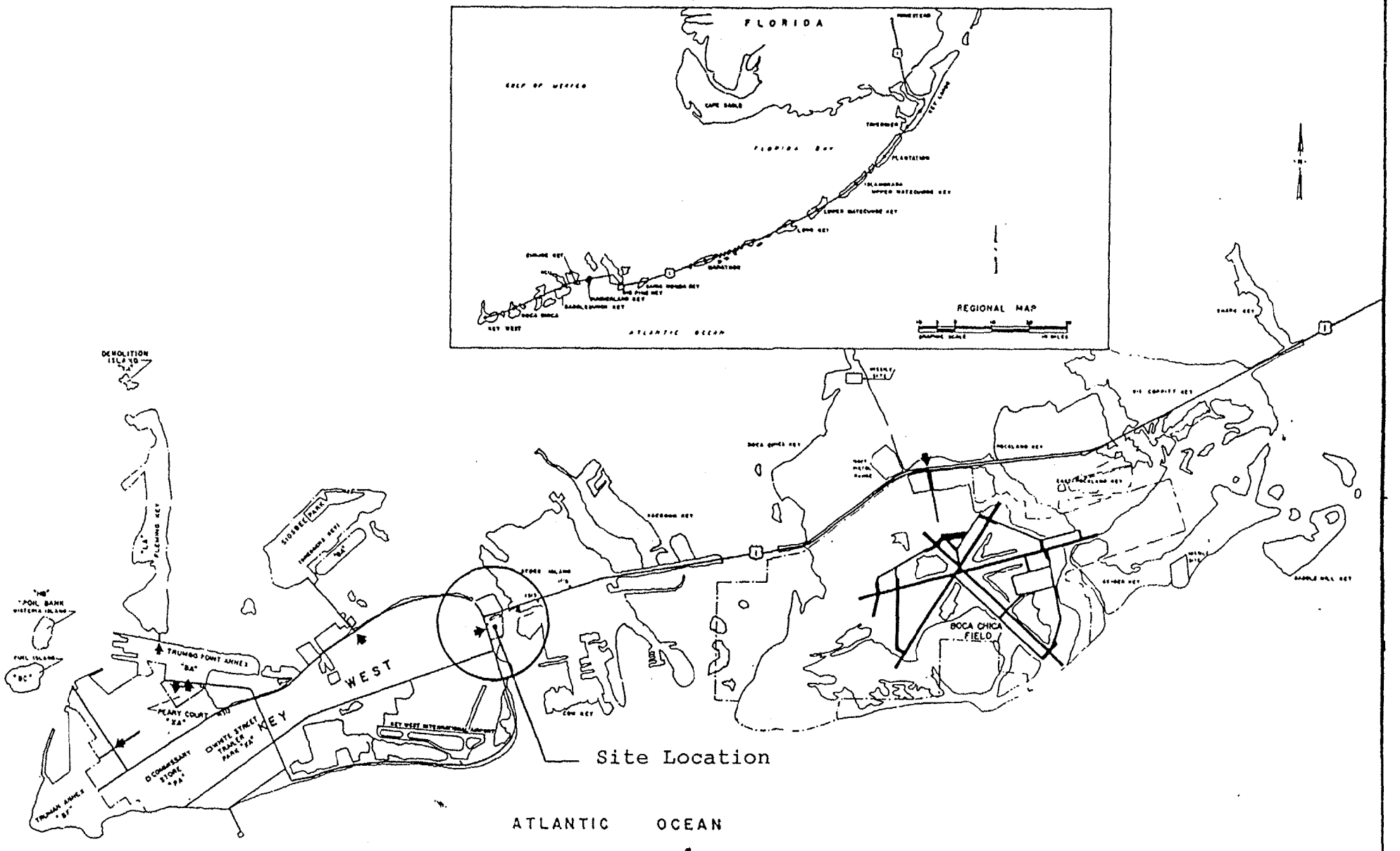
Navy Public Works Center
Environmental Department (Code 423)
310 John Tower Road
Pensacola, Florida, 32508

Prepared for:

Commanding Officer, Naval Hospital Jacksonville
2080 Child Street, Facilities Management Department (Code 0104)
Jacksonville, Florida 32214-5104

Mr Paul E. Friend III, PE
Environmental Engineer

June 1998



NOTES

REVISION

SOUTHERN DIVISION

NAVAL AIR STATION
BOCA CHICA FIELD
KEY WEST, FLORIDA

GENERAL DEVELOPMENT MAP
REGIONAL AND VICINITY

F 80091 083575

L-39

SITE ASSESSMENT REPORT
SITE L-39, NAVAL BRANCH MEDICAL CLINIC
KEY WEST, FLORIDA

FDEP FACILITY ID NUMBER 449200284

PREPARED BY:

NAVY PUBLIC WORKS CENTER
BUILDING 458
PENSACOLA, FLORIDA 32508-6500

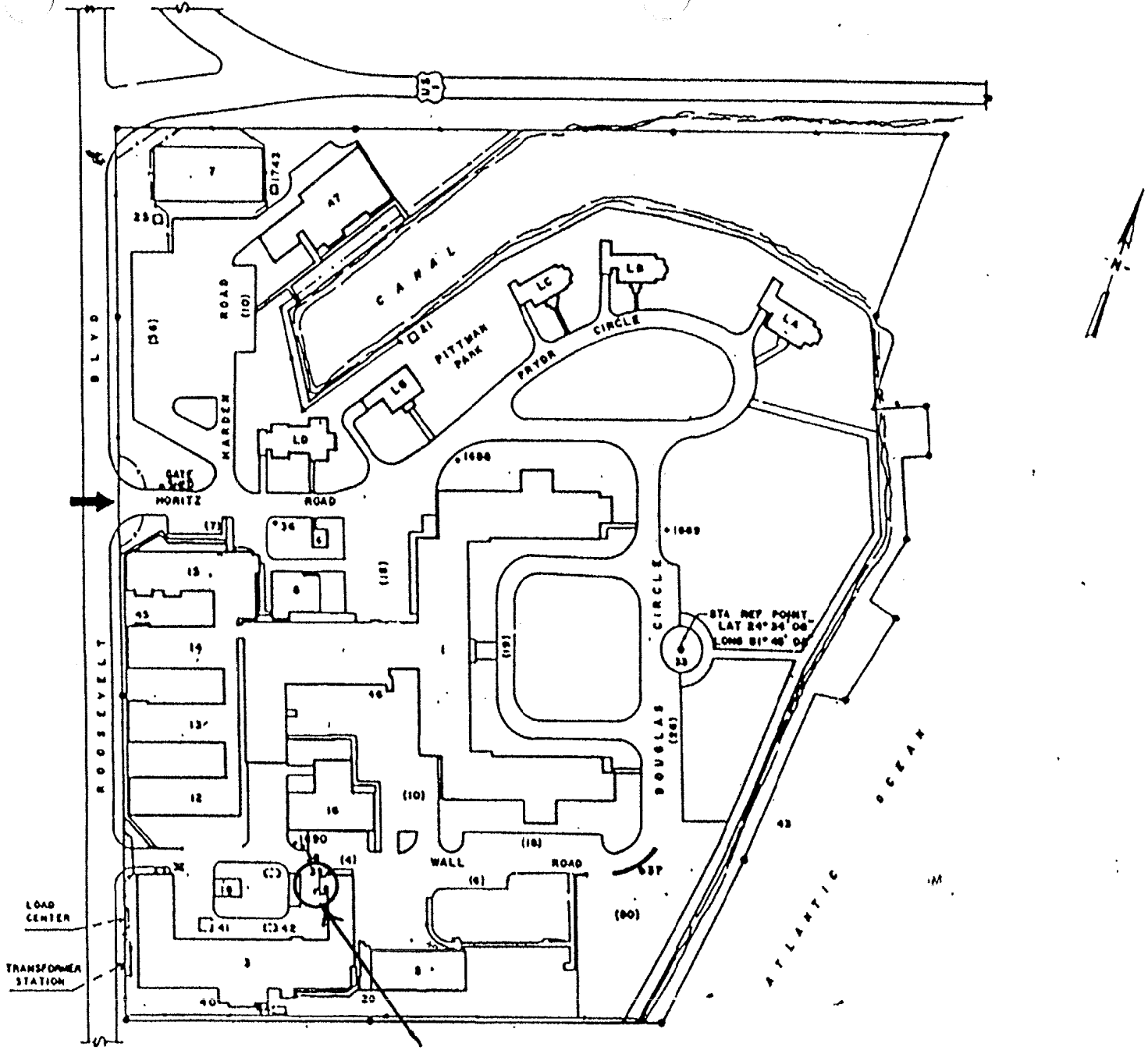
AUTHOR: GREG CAMPBELL, P.E.

JULY 1998

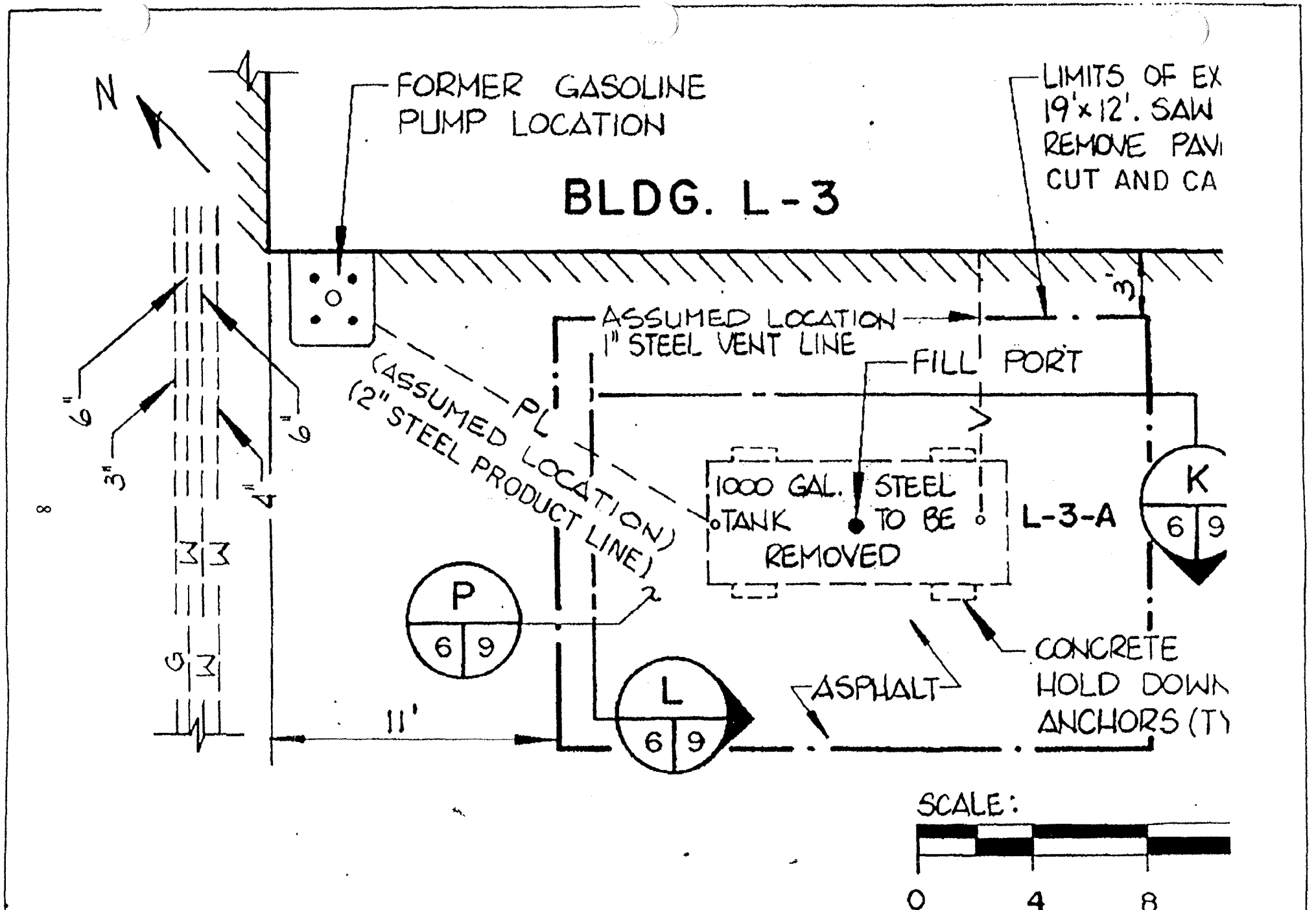
PREPARED FOR:

NAVY PUBLIC WORKS DEPARTMENT
BUILDING A-629 BOCA CHICA FIELD
NAVAL AIR STATION, KEY WEST
KEY WEST, FLORIDA 33040

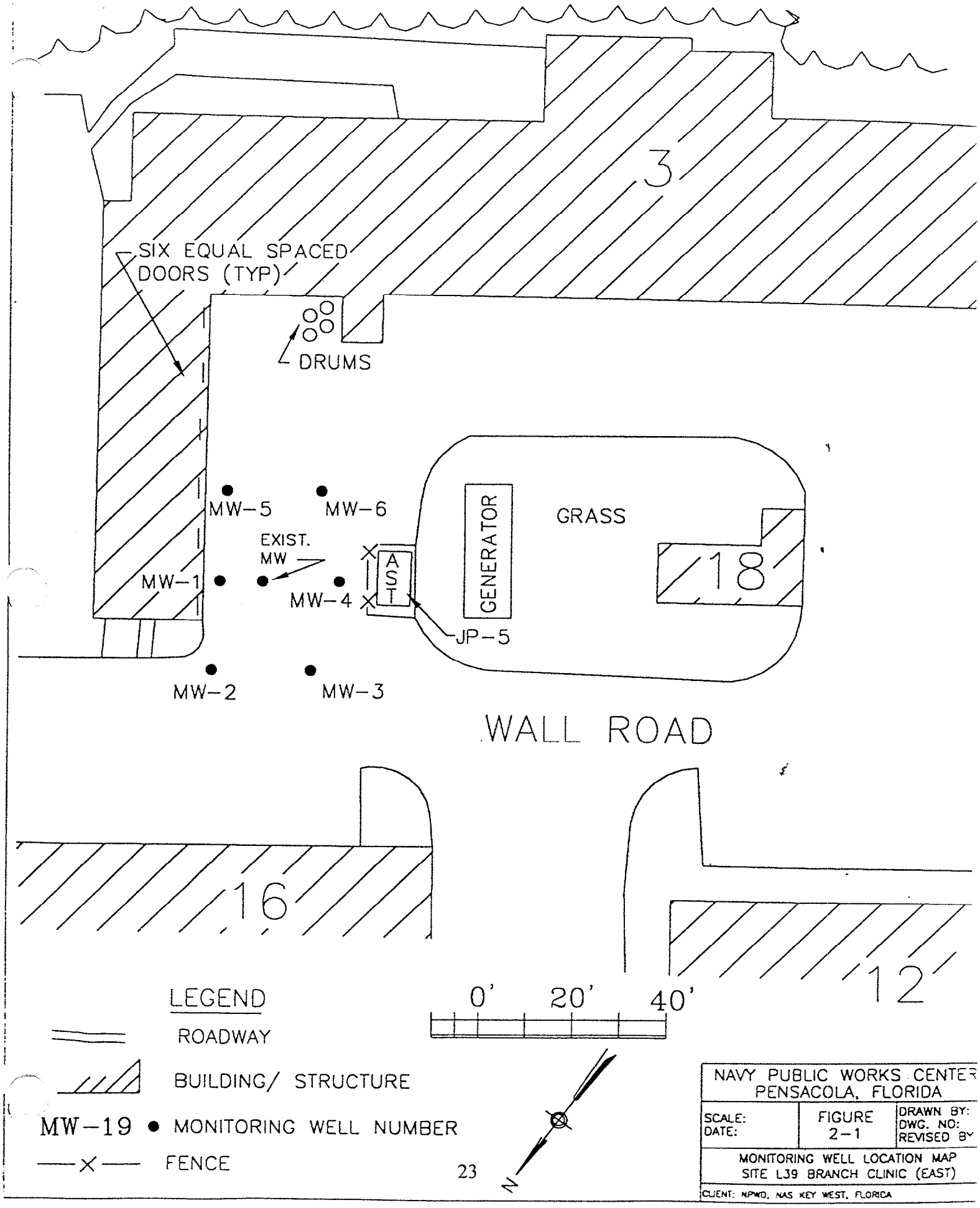
JIM SIMMEN, CODE 1883JS
ENVIRONMENTAL PROTECTION SPECIALIST



NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA	FIGURE 1-5 NBMC GENERAL DEVELOPMENT MAP SITE L-39, NAVAL BRANCH MEDICAL CLINIC KEY WEST, FLORIDA
CLIENT: PUBLIC WORKS DEPT., NAVAL AIR STATION KEY WEST, FLORIDA	



NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA	FIGURE 1-6 TANK REMOVAL SITE MAP SITE L-39, NAVAL BRANCH MEDICAL CLINIC KEY WEST, FLORIDA
CLIENT: PUBLIC WORKS DEPT., NAVAL AIR STATION KEY WEST, FLORIDA	



NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE: DATE:	FIGURE 2-1	DRAWN BY: DWG. NO: REVISED BY
MONITORING WELL LOCATION MAP SITE L39 BRANCH CLINIC (EAST)		
CLIENT: NPWD, NAS KEY WEST, FLORIDA		

APPENDIX A

MONITORING WELL CONSTRUCTION DIAGRAMS

NPWC

ENVIRONMENTAL

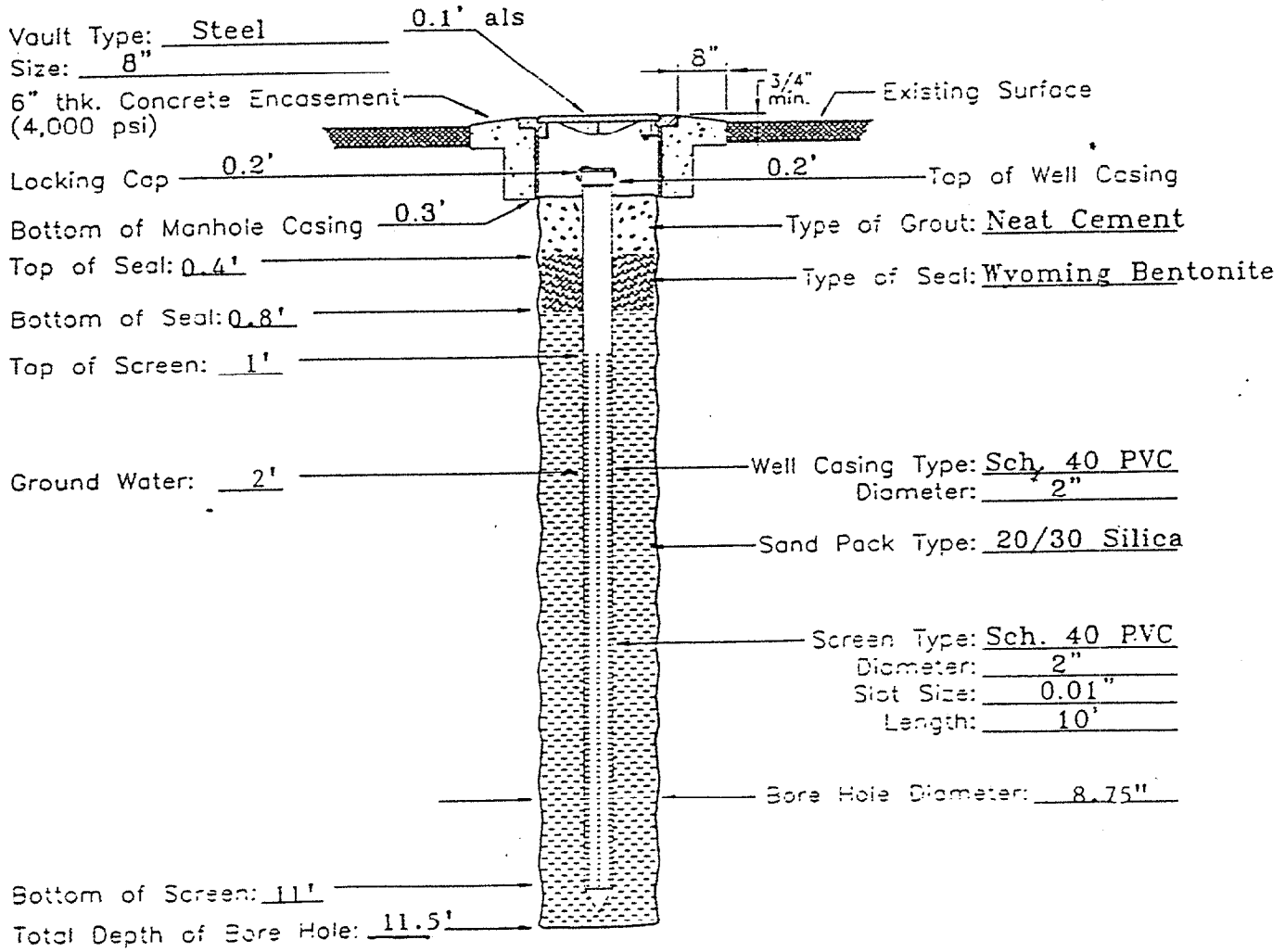
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MWI
DRILLER'S NAME:
WELL NUMBER: MW-1

CLIENT: PUBLIC WORKS DEPT. NAS KEY WEST, FL
LOCATION: Site L-39, NRMC, NAS Key West, FL
JOB NUMBER:
DATE Start: 7/16/97 Finish: 7/16/97
TIME Start: 0915 Finish: 0945

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

CAD FILE @STA3> C:\ACADR13\MW-DETL1.DWG STA3-[illegible]

NPWC

ENVIRONMENTAL

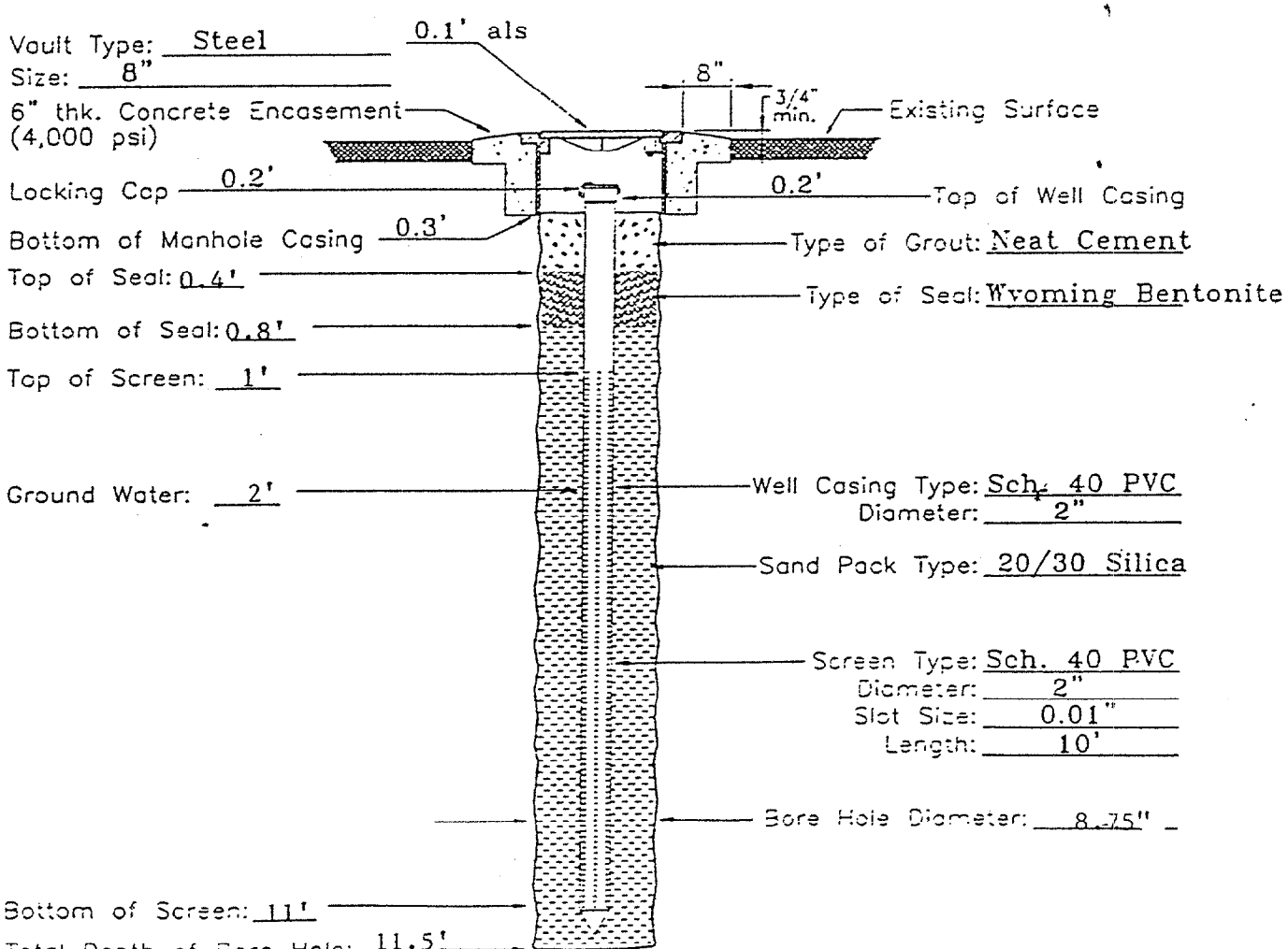
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MWI
DRILLER'S NAME:
WELL NUMBER: MW-2

CLIENT: PUBLIC WORKS DEPT. NAS KEY WEST, FL
LOCATION: Site L-39, NRMC, NAS Key West, FL
JOB NUMBER:
DATE Start: 7/16/97 Finish: 7/16/97
TIME Start: 0950 Finish: 1010

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

CAD FILE @STA3> C:\ACADR13\MW-DETL1.DWG

NPWC

ENVIRONMENTAL

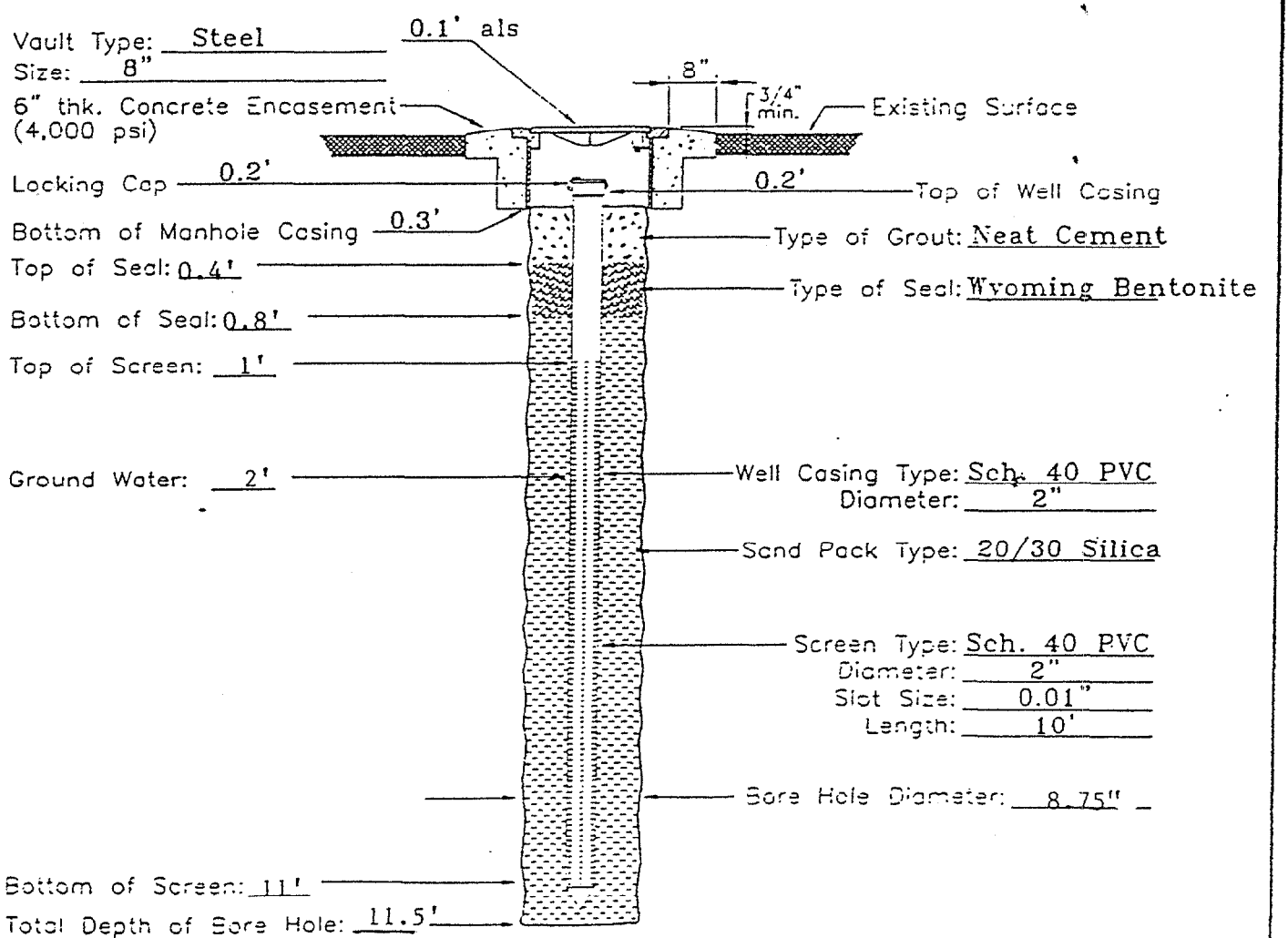
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MWI
DRILLER'S NAME:
WELL NUMBER: MW-3

CLIENT: PUBLIC WORKS DEPT. NAS KEY WEST, FL
LOCATION: Site L-39, NRMC, NAS Key West, FL
JOB NUMBER:
DATE Start: 7/16/97 Finish: 7/16/97
TIME Start: 1015 Finish: 1030

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

CAD FILE @STA3> C:\ACADR13\MW-DETL1.DWG STA3-[illegible]

A-3

NPWC

ENVIRONMENTAL

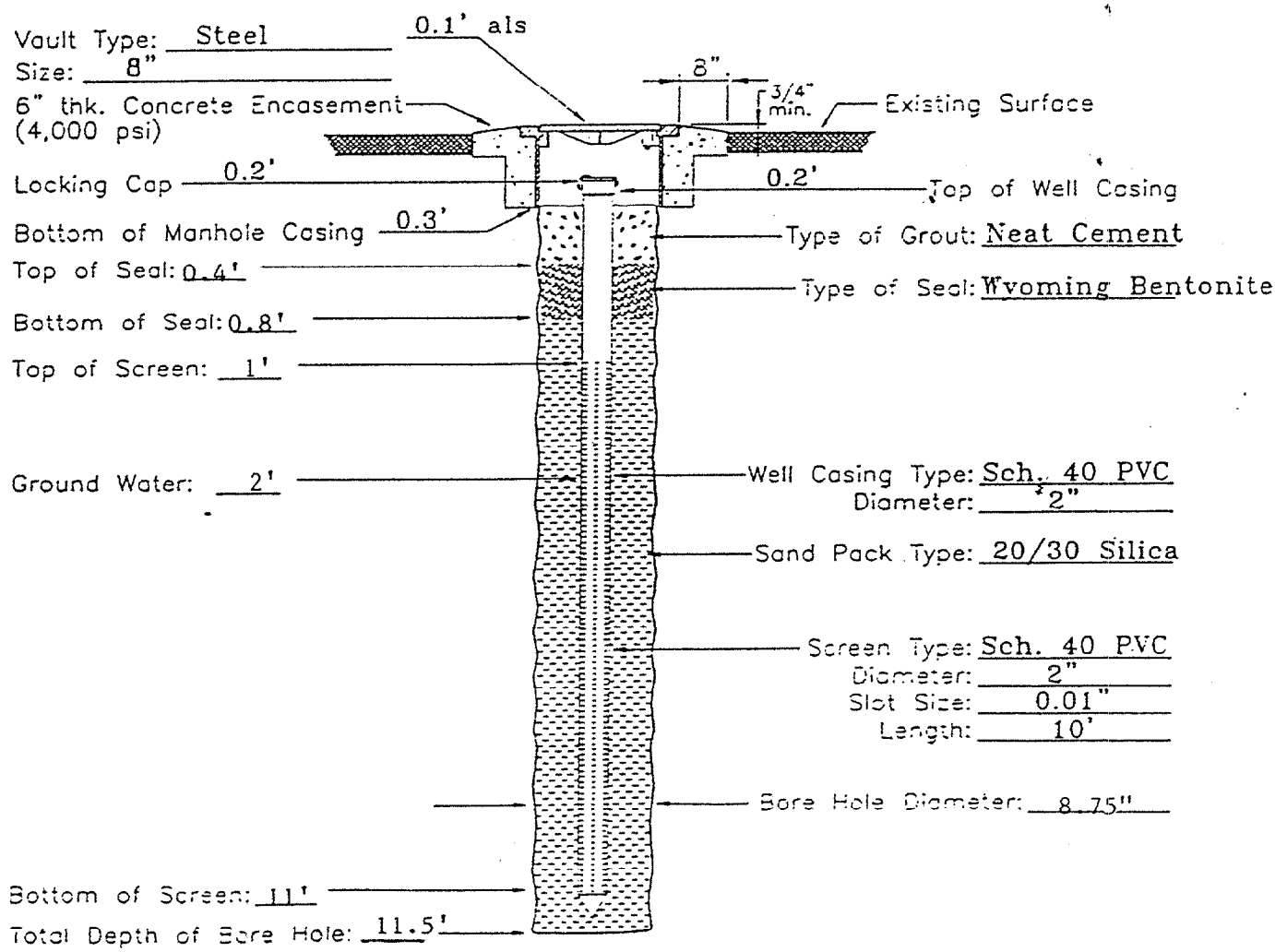
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MWI
DRILLER'S NAME:
WELL NUMBER: MW-4

CLIENT: PUBLIC WORKS DEPT. NAS KEY WEST, FL
LOCATION: Site L-39, NRMC, NAS Key West, FL
JOB NUMBER:
DATE Start: 7/16/97 Finish: 7/16/97
TIME Start: 1055 Finish: 1115

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

CAD FILE @STA3> C:\ACADR13\MW-DETL1.DWG

NPWC

ENVIRONMENTAL

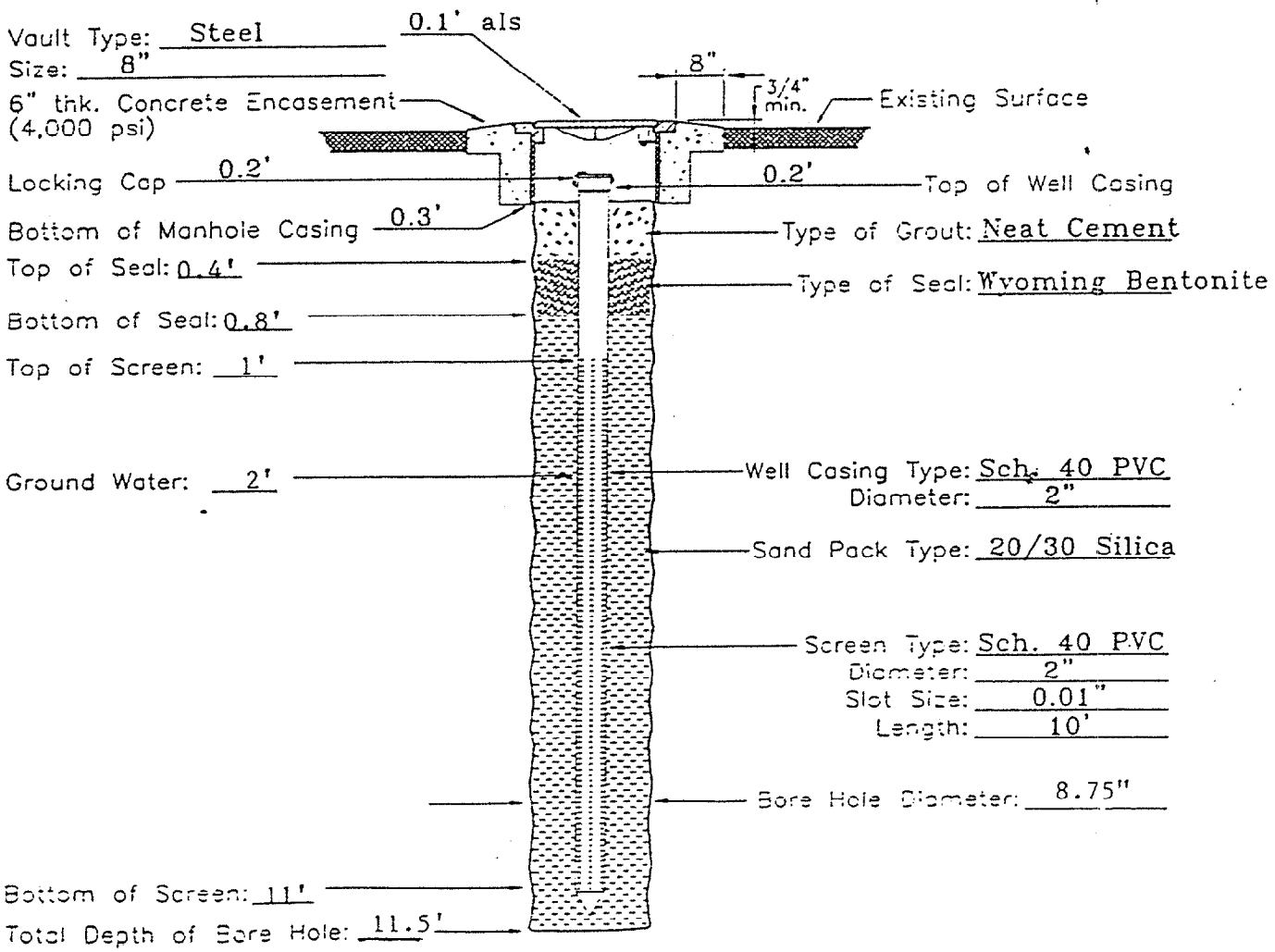
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MWI
DRILLER'S NAME:
WELL NUMBER: MW-5

CLIENT: PUBLIC WORKS DEPT. NAS KEY WEST, FL
LOCATION: Site L-39, NRMC, NAS Key West, FL
JOB NUMBER:
DATE Start: 7/16/97 Finish: 7/16/97
TIME Start: 1245 Finish: 1310

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

CAD FILE @STA3> C:\ACADR13\MW-DETL1.DWG STA3-[illegible]

A5

NPWC

ENVIRONMENTAL

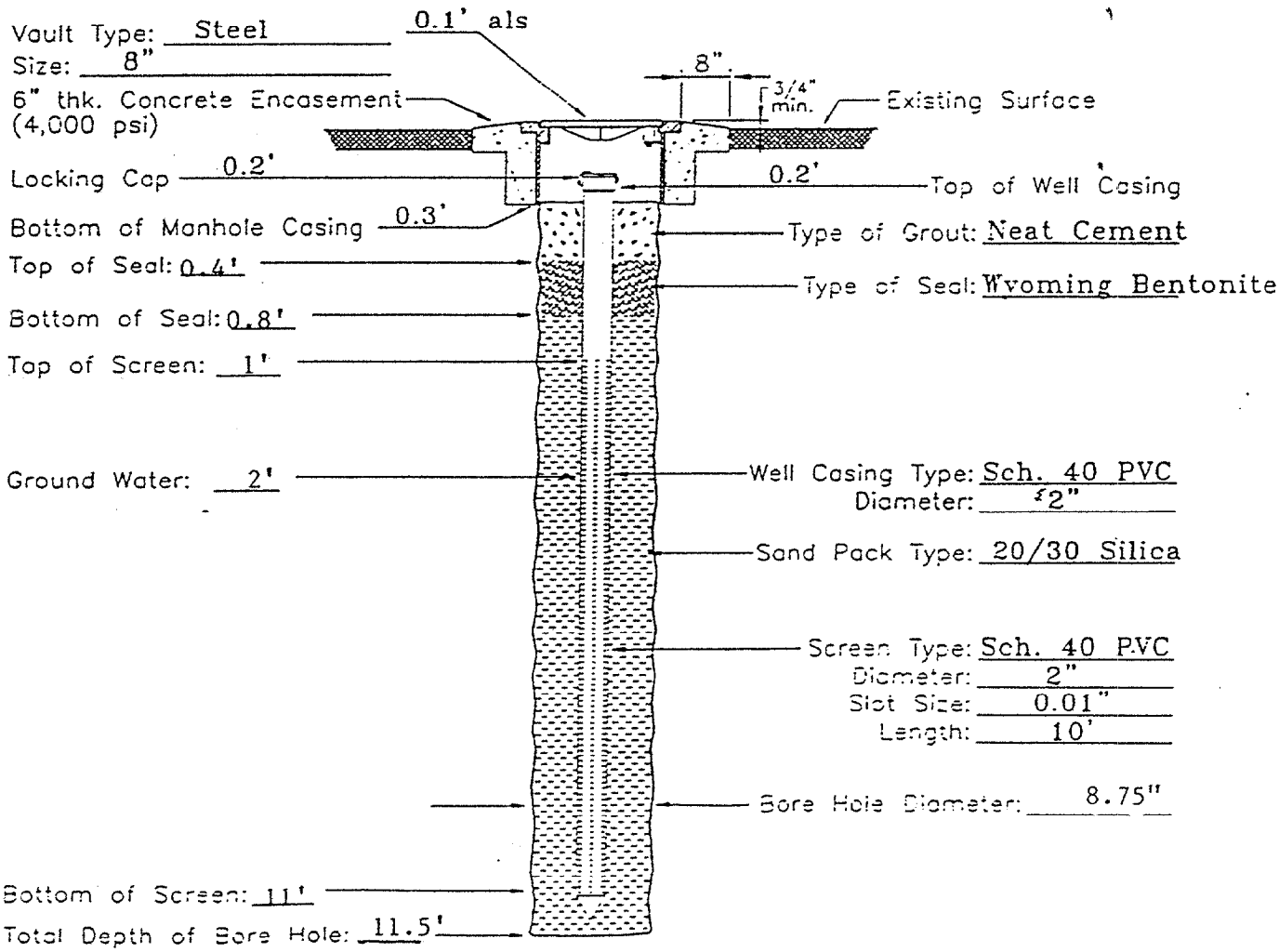
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MWI
DRILLER'S NAME:
WELL NUMBER: MW-6

CLIENT: PUBLIC WORKS DEPT, NAS KEY WEST, FL
LOCATION: Site L-39, NRMC, NAS Key West, FL
JOB NUMBER:
DATE Start: 7/16/97 Finish: 7/16/97
TIME Start: 1315 Finish: 1330

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

CAD FILE @STA3> C:\ACADR13\MW-DETL1.DWG STA3= 995108 1143

APPENDIX B

LITHOLOGIC LOGS

Sit L-39
Navy Regional Medical Clinic
Key West, Florida
MONITORING WELL NO.: MW1

LOGGED BY: Greg Campbell, P. E. | SHEET 1 OF 1
Contractor: NPWC, Pensacola, FL | Dr. Method: HSA
Driller: MWI | Dr. Rig: Mobile
Start Date: 07/16/97 | Completed: 07/16/97
Start Time: 915 | Finish Time: 945
Contract No.

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0'-6"; Asphalt Top				
			Water Table @ approx. 2' bls			6"-3'; Light Brown, Medium Grain Oolite Limestone	0			
HOLE				100%	4	3'-4'; Medium Grey, Medium Grain Oolite Limestone	0			
						4'-11'; White, Fine Grain, Limestone				
				100%	8					
HSA				100%	12	End of Boring @ 11.0' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

Sit L-39
Navy Regional Medical Clinic
Key West, Florida
MONITORING WELL NO.: MW2

LOGGED BY: Greg Campbell, P. E. SHEET 1 OF 1
Contractor: NPWC, Pensacola, FL Dr. Method: HSA
Driller: MWI Dr. Rig: Mobile
Start Date: 07/16/97 Completed: 07/16/97
Start Time: 950 Finish Time: 1010
Contract No.

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0'-6"; Asphalt Top				
						6"-2'; Light Brown, Medium Grain Oolite	0	0	0	
			Water Table @ approx. 2' bls			Limestone				
						2'-4'; Coal Tar	1	0	1	
HOLE				100%	4		0	0	0	
						4'-11'; White, Fine Grain, Limestone				
				100%	8					
HSA				100%	12	End of Boring @ 11.0' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

Sit L-39
Navy Regional Medical Clinic
Key West, Florida
MONITORING WELL NO.: MW3

LOGGED BY: Greg Campbell, P. E. | SHEET 1 OF 1
Contractor: NPWC, Pensacola, FL | Dr. Method: HSA
Driller: MWI | Dr. Rig: Mobile
Start Date: 07/16/97 | Completed: 07/16/97
Start Time: 1015 | Finish Time: 1030
Contract No.

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA: OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0'-6"; Asphalt Top				
						6"-4'; Light Brown, Medium Grain Oolite	0	0	0	
			Water Table @ approx. 2' bls			Limestone				
							0	0	0	
HOLE				100%	4	4'-11'; White, Fine Grain, Limestone	3	0	3	
				100%	8					
HSA				100%	12	End of Boring @ 11.0' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

B-3

Sit L-39
Navy Regional Medical Clinic
Key West, Florida
MONITORING WELL NO.: MW4

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: MWI
Start Date: 07/16/97
Start Time: 1055
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 07/16/97
Finish Time: 1115

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST HOLE HSA HA				100%	0	0'-6"; Asphalt Top				
						6"-4'; Light Brown, Medium Grain Oolite	1	0	1	
			Water Table @ approx. 2' bls			Limestone				
							0	0	0	
				100%	4	4'-11'; White, Fine Grain, Limestone	7	0	7	
				100%	8					
				100%	12	End of Boring @ 11.0' BLS				
					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

Sit L-39
Navy Regional Medical Clinic
Key West, Florida
MONITORING WELL NO.: MW5

LOGGED BY: Greg Campbell, P. E. SHEET 1 OF 1
Contractor: NPWC, Pensacola, FL Dr. Method: HSA
Driller: MWI Dr. Rig: Mobile
Start Date: 07/16/97 Completed: 07/16/97
Start Time: 1245 Finish Time: 1310
Contract No.

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES NET
POST HOLE HSA				100%	0	0'-6"; Asphalt Top			
						6"-4'; Light Brown, Medium Grain Oolite Limestone	0		
			Water Table @ approx. 2' bls				0		
				100%	4	4'-11'; White, Fine Grain, Limestone			
				100%	8				
				100%	12	End of Boring @ 11.0' BLS			
HA					16				
					20				

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

Sit L-39
Navy Regional Medical Clinic
Key West, Florida
MONITORING WELL NO.: MW6

LOGGED BY: Greg Campbell, P. E. | SHEET 1 OF 1
Contractor: NPWC, Pensacola, FL | Dr. Method: HSA
Driller: MWI | Dr. Rig: Mobile
Start Date: 07/16/97 | Completed: 07/16/97
Start Time: 1315 | Finish Time: 1330
Contract No.

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES NET
POST				100%	0	0'-6"; Asphalt Top			
						6"-4'; Light Brown, Medium Grain Oolite	0		
			Water Table @ approx. 2' bls			Limestone	0		
HOLE				100%	4	4'-11'; White, Fine Grain, Limestone			
				100%	8				
HSA				100%	12	End of Boring @ 11.0' BLS			
HA					16				
					20				

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

L-41

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

SITE ASSESSMENT REPORT
SITE L-41, NAVAL BRANCH MEDICAL CLINIC
KEY WEST, FLORIDA

FDEP FACILITY ID NUMBER 449200284

PREPARED BY:

NAVY PUBLIC WORKS CENTER
BUILDING 458
PENSACOLA, FLORIDA 32508-6500

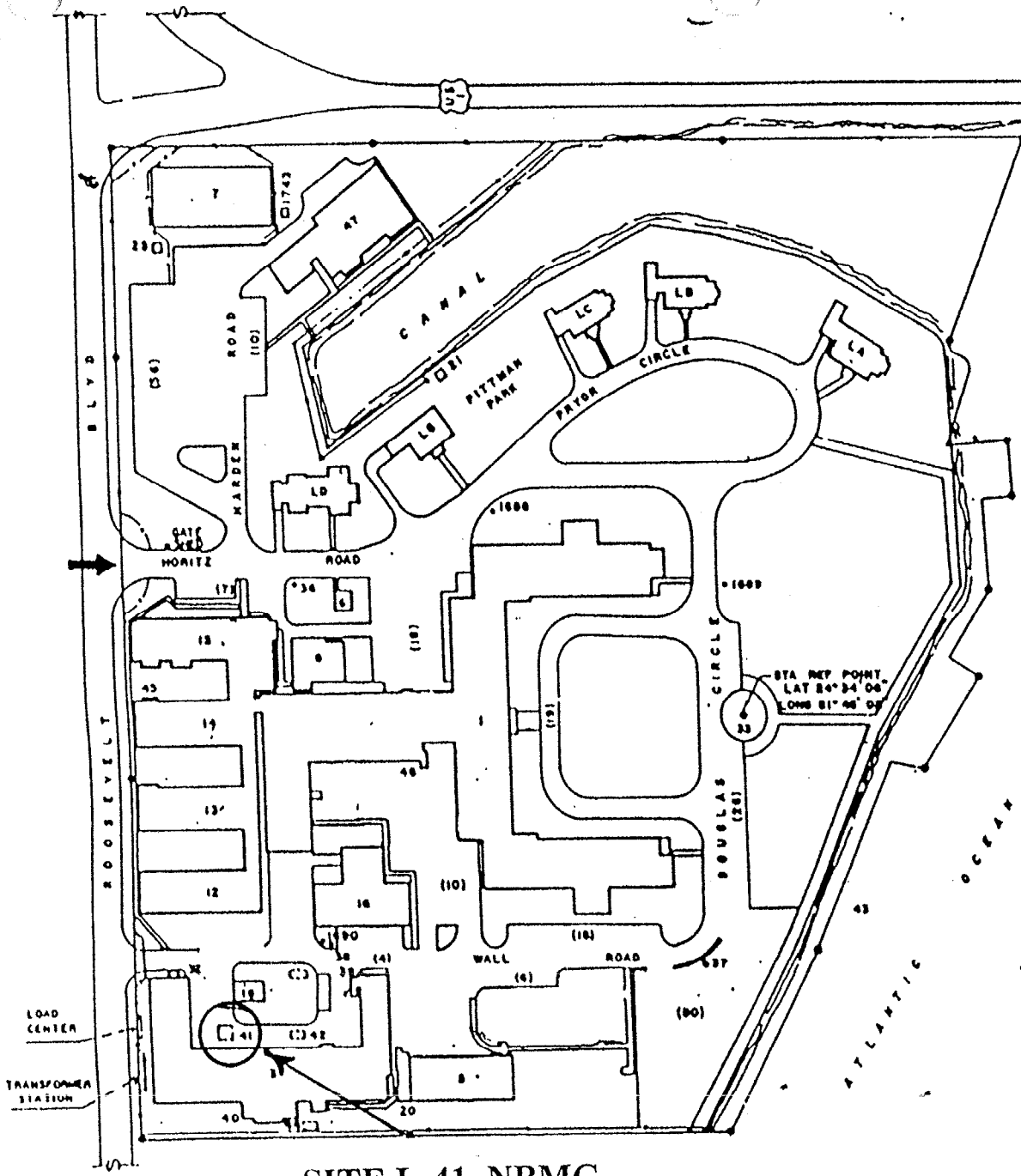
AUTHOR: GREG CAMPBELL, P.E.

JULY 10, 1998

PREPARED FOR:

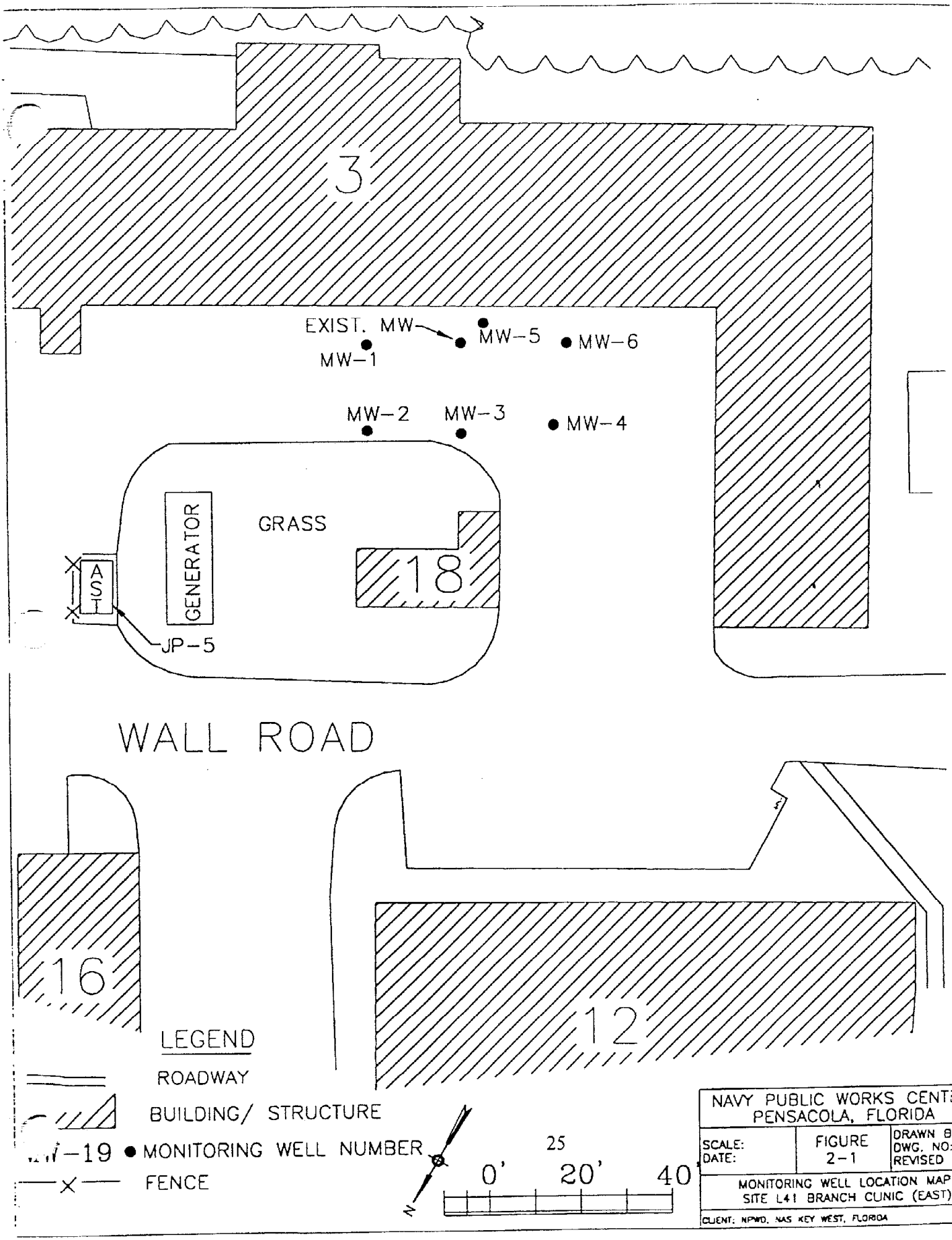
NAVY PUBLIC WORKS DEPARTMENT
BUILDING A-629 BOCA CHICA FIELD
NAVAL AIR STATION, KEY WEST
KEY WEST, FLORIDA 33040

JIM SIMMEN, CODE 1883JS
ENVIRONMENTAL PROTECTION SPECIALIST



SITE L-41, NBMC

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA	FIGURE 1-5 NBMC GENERAL DEVELOPMENT MAP SITE L-41, NAVAL BRANCH MEDICAL CLINIC KEY WEST, FLORIDA
CLIENT: PUBLIC WORKS DEPT., NAVAL AIR STATION	


3
EXIST. MW
MW-5
MW-6
MW-1
MW-2
MW-3
MW-4
GENERATOR
GRASS
18
AST
JP-5
WALL ROAD
16
12
LEGEND
ROADWAY
BUILDING/ STRUCTURE
MW-19 MONITORING WELL NUMBER
FENCE
25
0'
20'
40'
N
NAVY PUBLIC WORKS CENTER
PENSACOLA, FLORIDA
SCALE:
DATE:
FIGURE
2-1
DRAWN BY:
DWG. NO:
REVISED BY:
MONITORING WELL LOCATION MAP
SITE L41 BRANCH CUNIC (EAST)
CLIENT: NPWD, NAS KEY WEST, FLORIDA

APPENDIX A

MONITORING WELL CONSTRUCTION DIAGRAMS

NPWC

ENVIRONMENTAL

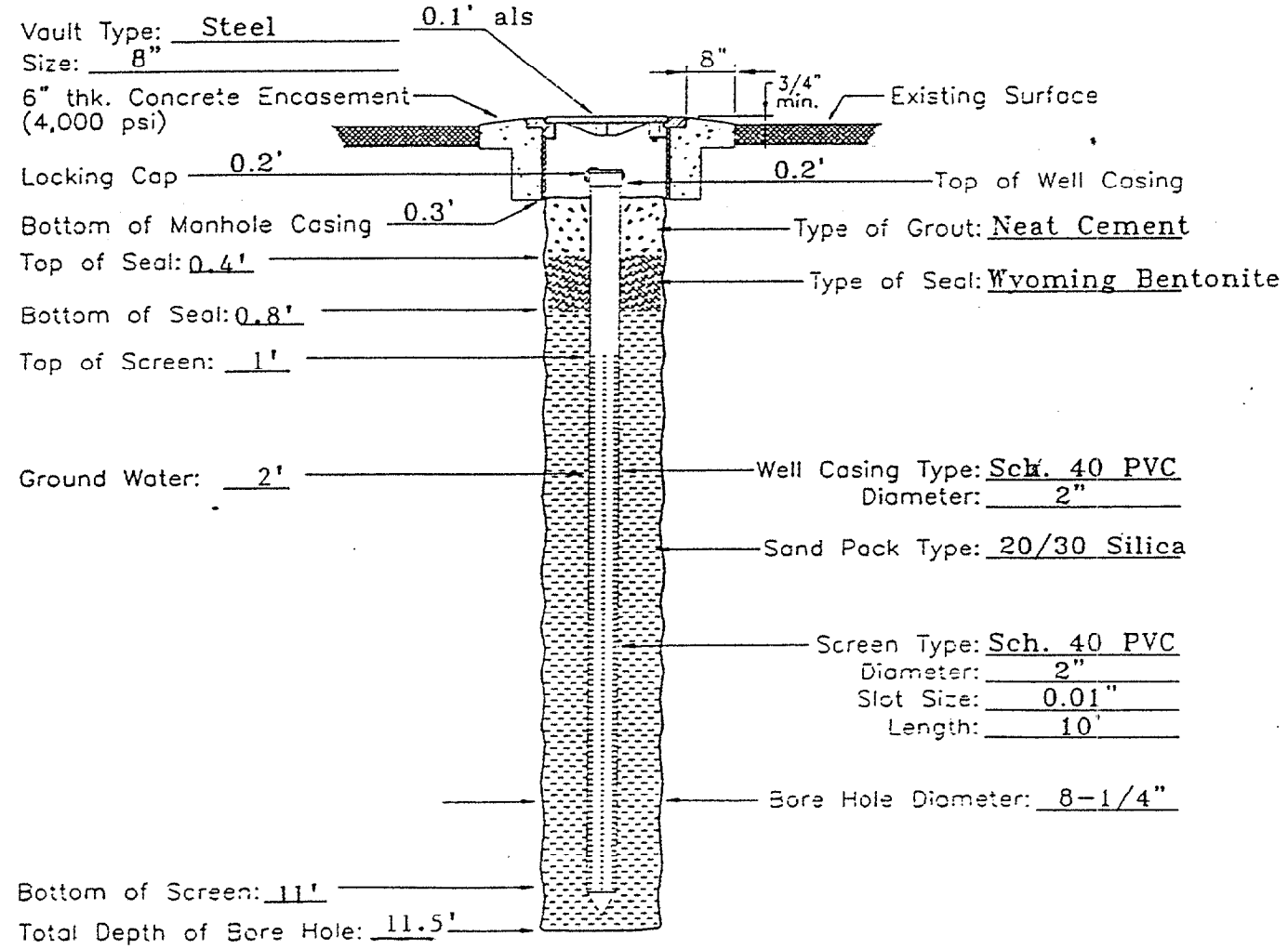
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MWI
DRILLER'S NAME:
WELL NUMBER: MW-1

CLIENT: PUBLIC WORKS DEPT. NAS KEY WEST, FL
LOCATION: Site L-41, NRMC, NAS Key West, FL
JOB NUMBER:
DATE Start: 7/17/97 Finish: 7/17/97
TIME Start: 0840 Finish: 0850

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

CAD FILE @STA3> C:\ACADR13\MW-DETL1.DWG STA3-1995-08-1143

NPWC

ENVIRONMENTAL

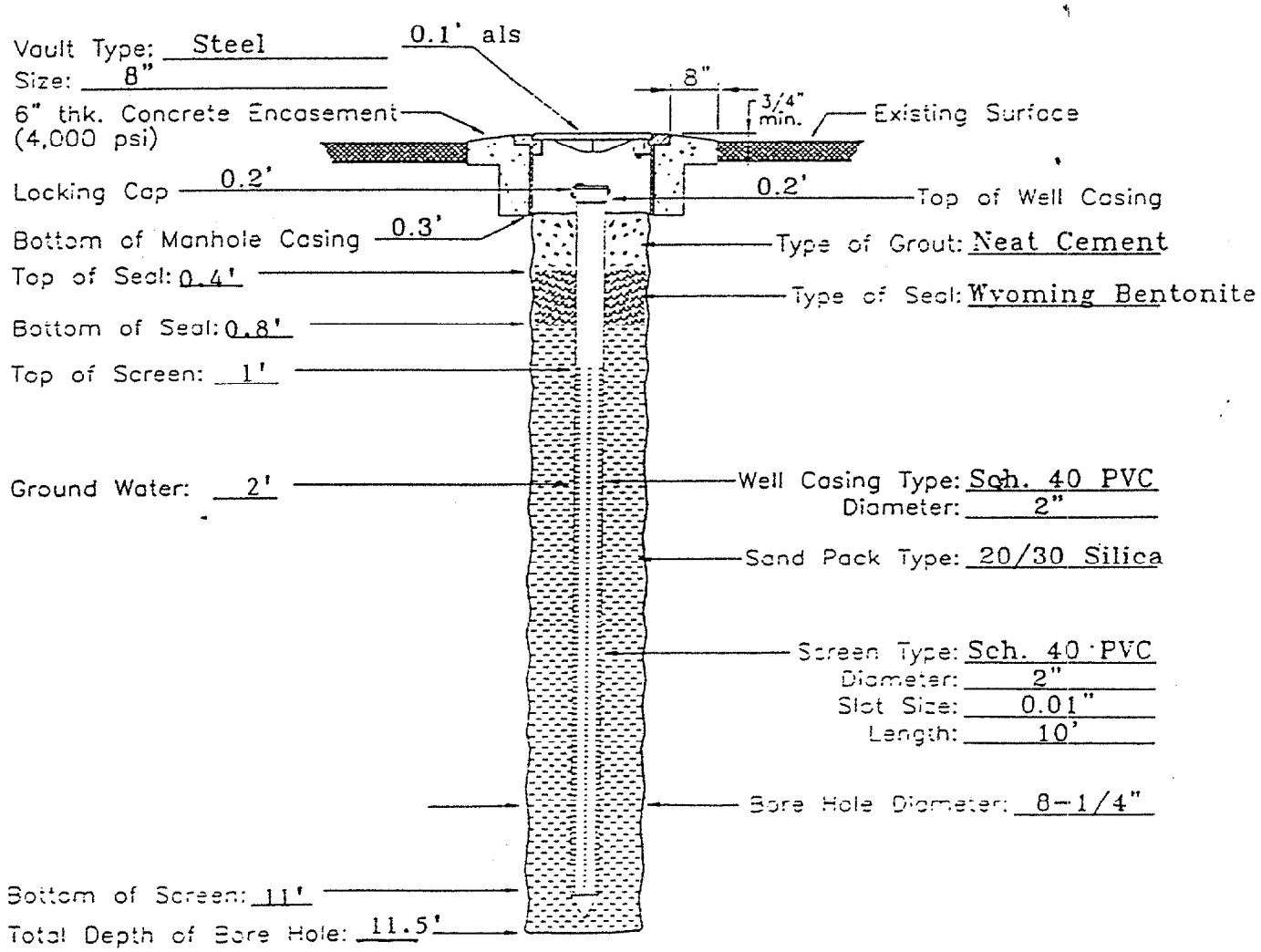
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MWI
DRILLER'S NAME:
WELL NUMBER: MW-2

CLIENT: PUBLIC WORKS DEPT, NAS KEY WEST, FL
LOCATION: Site L-41, NRMC, NAS Key West, FL
JOB NUMBER:
DATE Start: 7/17/97 Finish: 7/17/97
TIME Start: 0900 Finish: 0930

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (BLS)

DRAWING ABOVE IS NOT TO SCALE

CAD FILE <STA3> C:\ACADR13\MW-DETL1.DWG STA3-1996-08-1143

NPWC

ENVIRONMENTAL

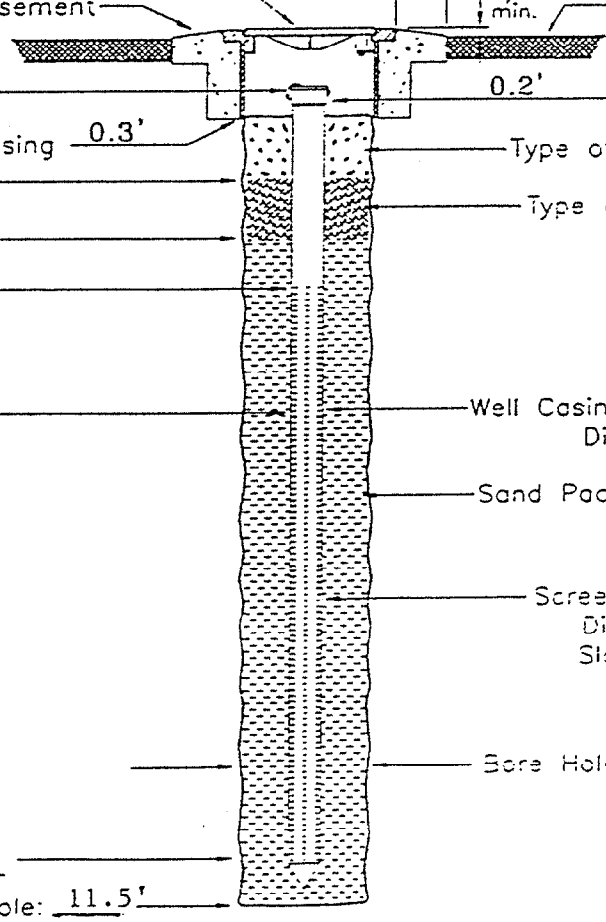
310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

MONITOR WELL CONSTRUCTION DETAIL

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MWI
DRILLER'S NAME:
WELL NUMBER: MW-3

CLIENT: PUBLIC WORKS DEPT. NAS KEY WEST, FL
LOCATION: Site L-41, NRMC, NAS Key West, FL
JOB NUMBER:
DATE Start: 7/17/97 Finish: 7/17/97
TIME Start: 0940 Finish: 1000

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



Vault Type: Steel
Size: 8"
6" thk. Concrete Encasement (4,000 psi)
Locking Cap 0.2'
Bottom of Manhole Casing 0.3'
Top of Seal: 0.4'
Bottom of Seal: 0.8'
Top of Screen: 1'
Ground Water: 2'
Bottom of Screen: 11'
Total Depth of Bore Hole: 11.5'

Top of Well Casing
Type of Grout: Neat Cement
Type of Seal: Wyoming Bentonite
Well Casing Type: Sch. 40 PVC
Diameter: 2"
Sand Pack Type: 20/30 Silica
Screen Type: Sch. 40 PVC
Diameter: 2"
Slot Size: 0.01"
Length: 10'
Bore Hole Diameter: 8-1/4"

NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

CAD FILE @STA3> C:\ACADR13\MW-DETL1.DWG STA3-19951128 1143

NPWC

ENVIRONMENTAL

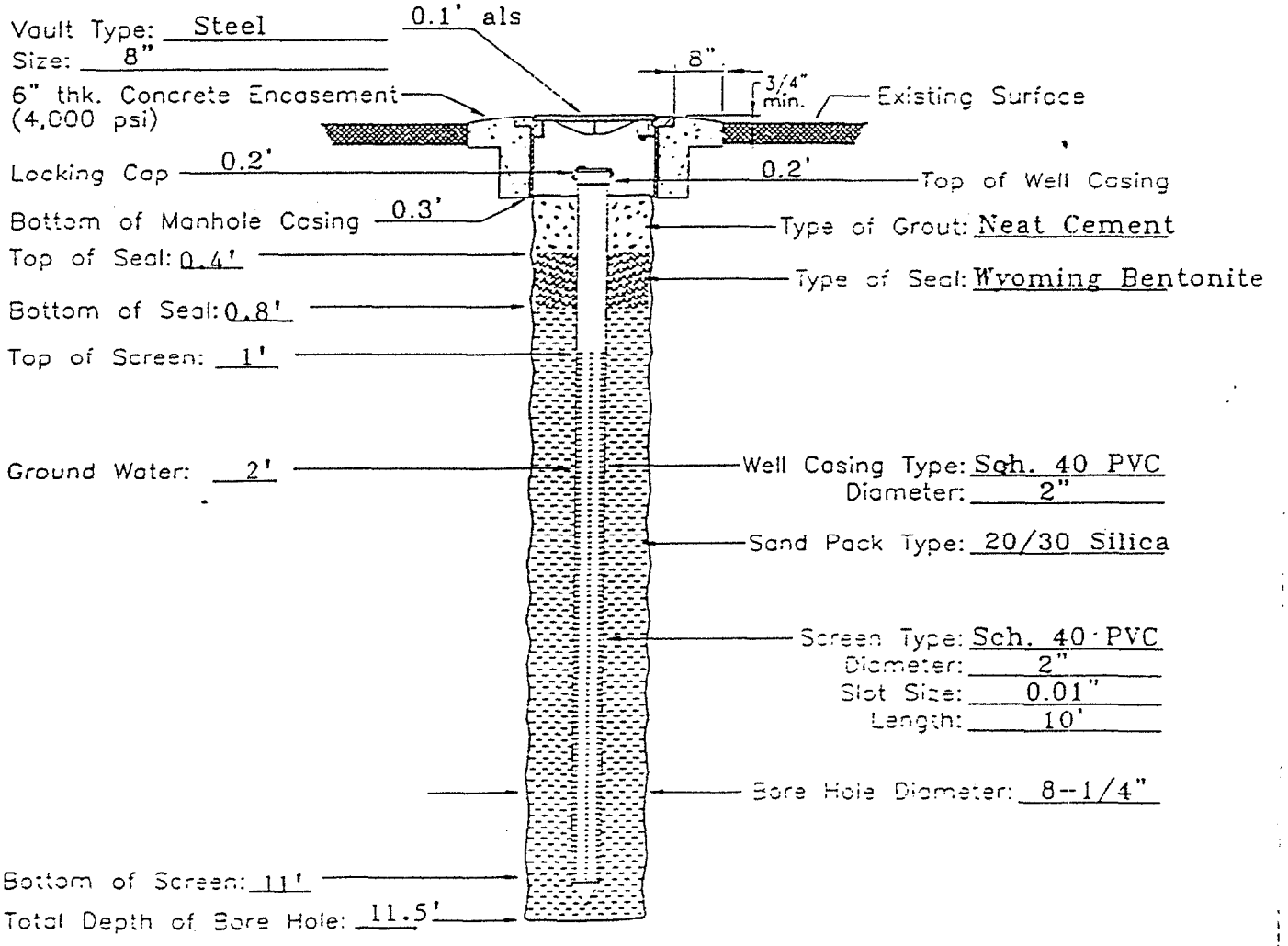
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MWI
DRILLER'S NAME:
WELL NUMBER: MW-4

CLIENT: PUBLIC WORKS DEPT. NAS KEY WEST, FL
LOCATION: Site L-41, NRMC, NAS Key West, FL
JOB NUMBER:
DATE Start: 7/17/97 Finish: 7/17/97
TIME Start: 1005 Finish: 1015

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

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NPWC

ENVIRONMENTAL

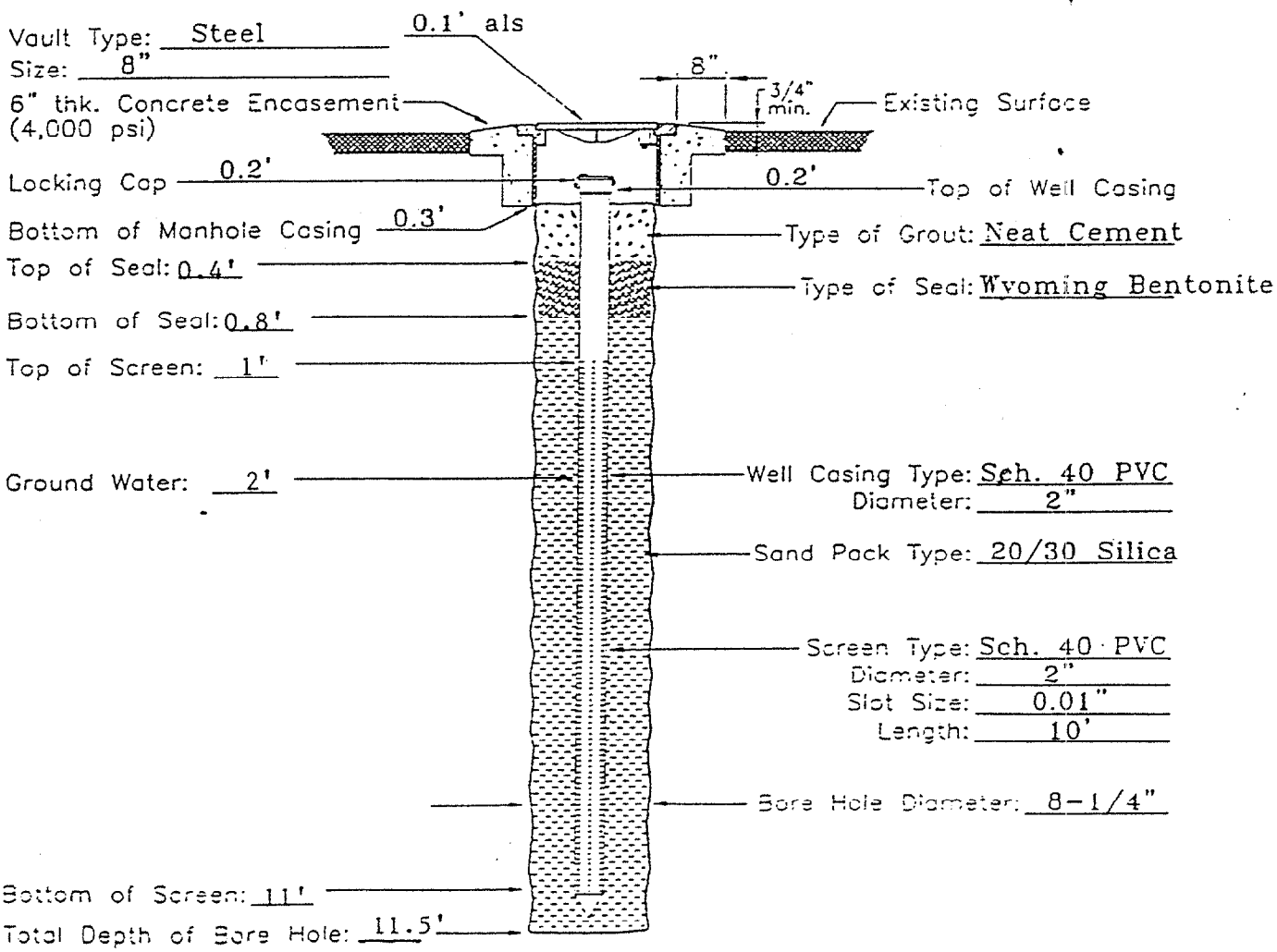
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MWI
DRILLER'S NAME:
WELL NUMBER: MW-5

CLIENT: PUBLIC WORKS DEPT. NAS KEY WEST, FL
LOCATION: Site L-41, NRMC, NAS Key West, FL
JOB NUMBER:
DATE Start: 7/17/97 Finish: 7/17/97
TIME Start: 1030 Finish: 1045

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

CAD FILE @STA3> C:\ACADR13\MW-DETL1.DWG

NPWC

ENVIRONMENTAL

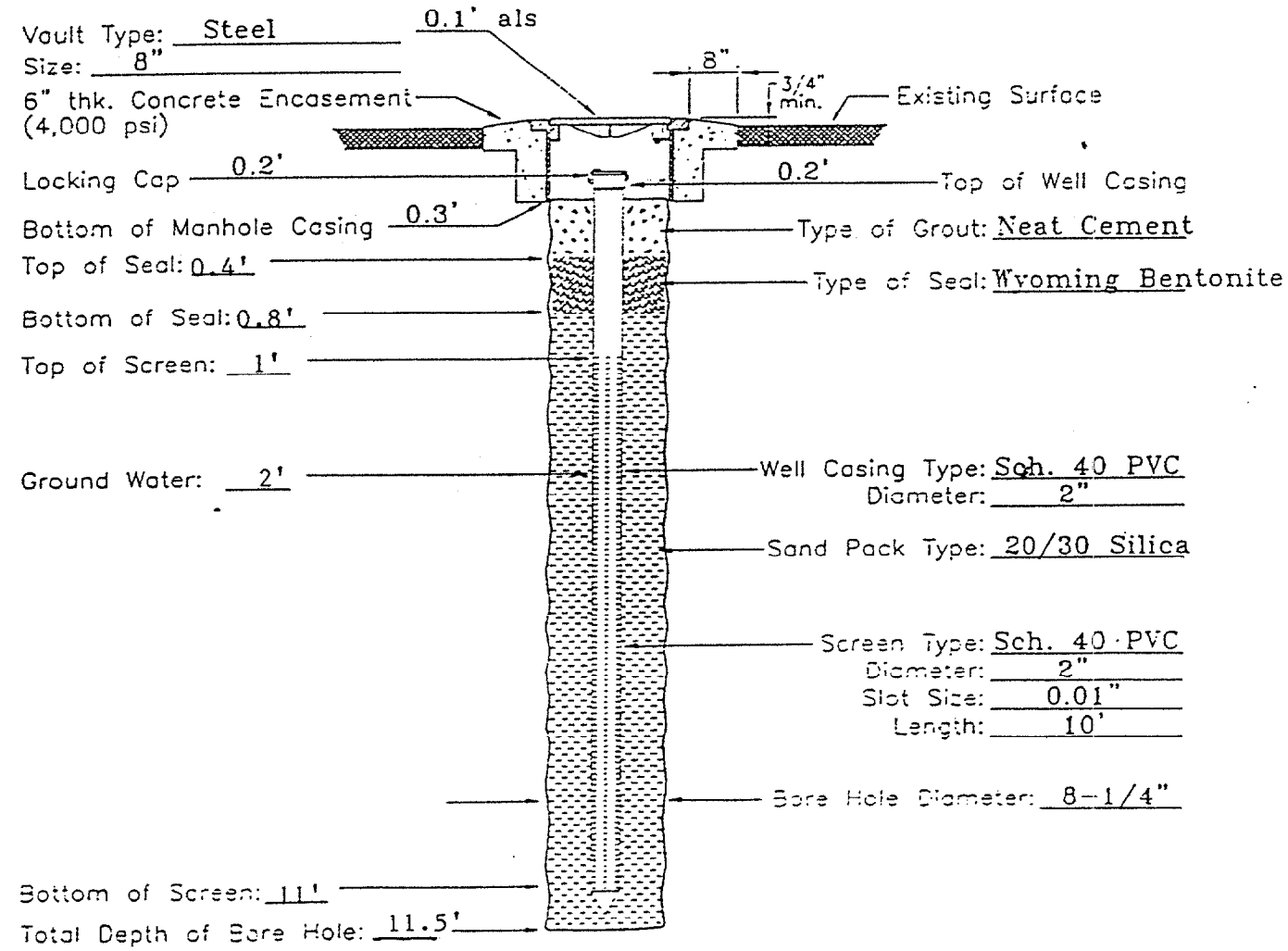
MONITOR WELL CONSTRUCTION DETAIL

310 John Tower Road
Pensacola, Florida 32508-5303
(850) 452-4315
(850) 452-2331 Fax

LOGGED BY: GREG CAMPBELL
DRILLING CONTRACTOR: MWI
DRILLER'S NAME:
WELL NUMBER: MW-6

CLIENT: PUBLIC WORKS DEPT, NAS KEY WEST, FL
LOCATION: Site L-41, NRMC, NAS Key West, FL
JOB NUMBER:
DATE Start: 7/17/97 Finish: 7/17/97
TIME Start: 1100 Finish: 1115

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

CAD FILE @STA3> C:\ACADR13\MW-DETL1.DWG

APPENDIX B

LITHOLOGIC LOGS

Site L-41
Navy Regional Medical Clinic
Key West, Florida
MONITORING WELL NO.: MW1

LOGGED BY: Greg Campbell, P. E. SHEET 1 OF 1
Contractor: NPWC, Pensacola, FL Dr. Method: HSA
Driller: MWI Dr. Rig: Mobile
Start Date: 07/17/97 Completed: 07/17/97
Start Time: 840 Finish Time: 850
Contract No.

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES NET
POST				100%	0	0-6"; Asphalt Top	0		
			Water Table @ approx. 2' bls				0		
HOLE				100%	4	6"-4'; Light Brown, Medium Grain Oolite Limestone 4'-11'; White, Fine Grain, Limestone			
				100%	8				
HSA				100%	12	End of Boring @ 11.0' BLS			
HA					16				
					20				

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

Site L-41
Navy Regional Medical Clinic
Key West, Florida
MONITORING WELL NO.: MW2

LOGGED BY: Greg Campbell, P. E. SHEET 1 OF 1
Contractor: NPWC, Pensacola, FL Dr. Method: HSA
Driller: MWI Dr. Rig: Mobile
Start Date: 07/17/97 Completed: 07/17/97
Start Time: 900 Finish Time: 930
Contract No.

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST HOLE HSA				100%	0	0'-6"; Asphalt Top				
						6"-4'; Light Brown, Medium Grain Oolite	0			
			Water Table @ approx. 2' bls			Limestone	0			
				100%	4	4'-11'; White, Fine Grain, Limestone				
				100%	8					
				100%	12	End of Boring @ 11.0' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

Site L-41
Navy Regional Medical Clinic
Key West, Florida
MONITORING WELL NO.: MW3

LOGGED BY: Greg Campbell, P. E. SHEET 1 OF 1
Contractor: NPWC, Pensacola, FL Dr. Method: HSA
Driller: MWI Dr. Rig: Mobile
Start Date: 07/17/97 Completed: 07/17/97
Start Time: 940 Finish Time: 1000
Contract No.

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0'-6"; Asphalt Top				
						6"-4'; Light Brown, Medium Grain Oolite	1	0	1	
			Water Table @ approx. 2' bls			Limestone	0	0	0	
HOLE				100%	4	4'-11'; White, Fine Grain, Limestone				
				100%	8					
HSA				100%	12	End of Boring @ 11.0' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

Site L-41
Navy Regional Medical Clinic
Key West, Florida
MONITORING WELL NO.: MW4

LOGGED BY: Greg Campbell, P. E. | SHEET 1 OF 1
Contractor: NPWC, Pensacola, FL | Dr. Method: HSA
Driller: MWI | Dr. Rig: Mobile
Start Date: 07/17/97 | Completed: 07/17/97
Start Time: 1005 | Finish Time: 1015
Contract No.

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA: OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST				100%	0	0'-6"; Asphalt Top				
						6"-4'; Light Brown, Medium Grain Oolite	1	0	1	
			Water Table @ approx. 2' bls			Limestone	9.8	6.5	3.3	
HOLE				100%	4	4'-11'; White, Fine Grain, Limestone				
				100%	8					
HSA				100%	12	End of Boring @ 11.0' BLS				
HA					16					
					20					

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

Site L41
Navy Regional Medical Clinic
Key West, Florida
MONITORING WELL NO.: MW5

LOGGED BY: Greg Campbell, P. E.
Contractor: NPWC, Pensacola, FL
Driller: MWI
Start Date: 07/17/97
Start Time: 1030
Contract No.

SHEET 1 OF 1
Dr. Method: HSA
Dr. Rig: Mobile
Completed: 07/17/97
Finish Time: 1045

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA: OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES: NET
POST HOLE HSA				100%	0	0'-6"; Asphalt Top			
						6"-4'; Light Brown, Medium Grain Oolite	0	0	0
			Water Table @ approx. 2' bls			Limestone	9.5	6	3.5
				100%	4	4'-11'; White, Fine Grain, Limestone			
				100%	8				
				100%	12	End of Boring @ 11.0' BLS			
HA					16				
					20				

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

Date _____

Site L-41
Navy Regional Medical Clinic
Key West, Florida
MONITORING WELL NO.: MW6

LOGGED BY: Greg Campbell, P. E. | SHEET 1 OF 1
Contractor: NPWC, Pensacola, FL | Dr. Method: HSA
Driller: MWI | Dr. Rig: Mobile
Start Date: 07/17/97 | Completed: 07/17/97
Start Time: 1100 | Finish Time: 1115
Contract No.

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	CONTAMINATION DATA: OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES: NET
POST				100%	0	0'-6"; Asphalt Top			
						6"-4'; Light Brown, Medium Grain Oolite	0		
			Water Table @ approx. 2' bls			Limestone	0		
HOLE				100%	4	4'-11"; White, Fine Grain, Limestone			
				100%	8				
HSA				100%	12	End of Boring @ 11.0' BLS			
					16				
					20				

I certify that this lithologic log, including geologic and hydrogeologic interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Prepared by: Greg Campbell, P.E.
Florida Professional Engineer, No. 0038572

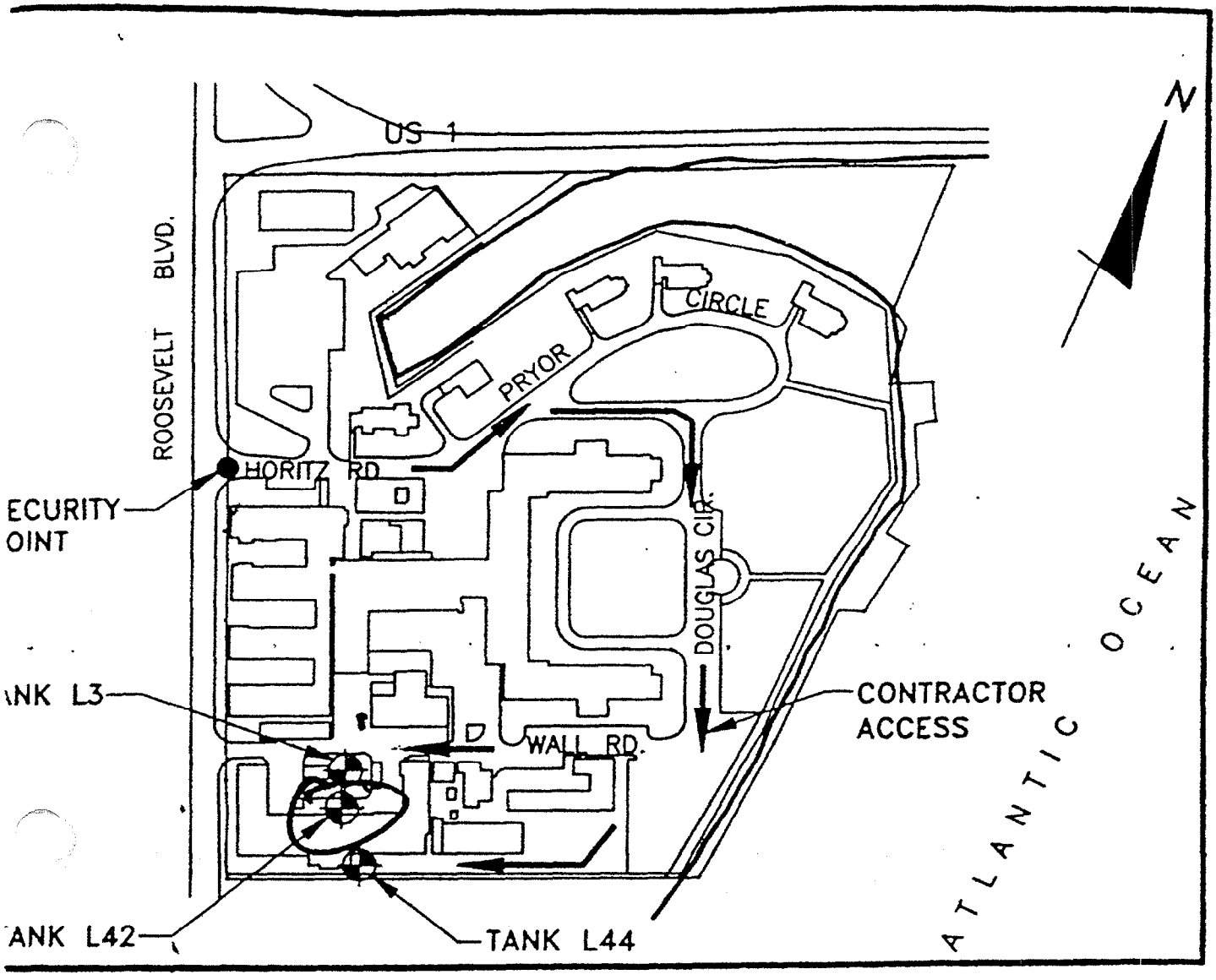
Date _____

OMEGA ENVIRONMENTAL SERVICES, INC.

UST CLOSURE REPORT
TANK L42
NAVAL AIR STATION, KEY WEST, FLORIDA
CONTRACT NUMBER N62467-93-C-0645

OMEGA ENVIRONMENTAL SERVICES, INC.

Prepared By
Omega Environmental Services, Inc.
4661 Hammermill Rd., Ste. B
Tucker, Georgia 30084



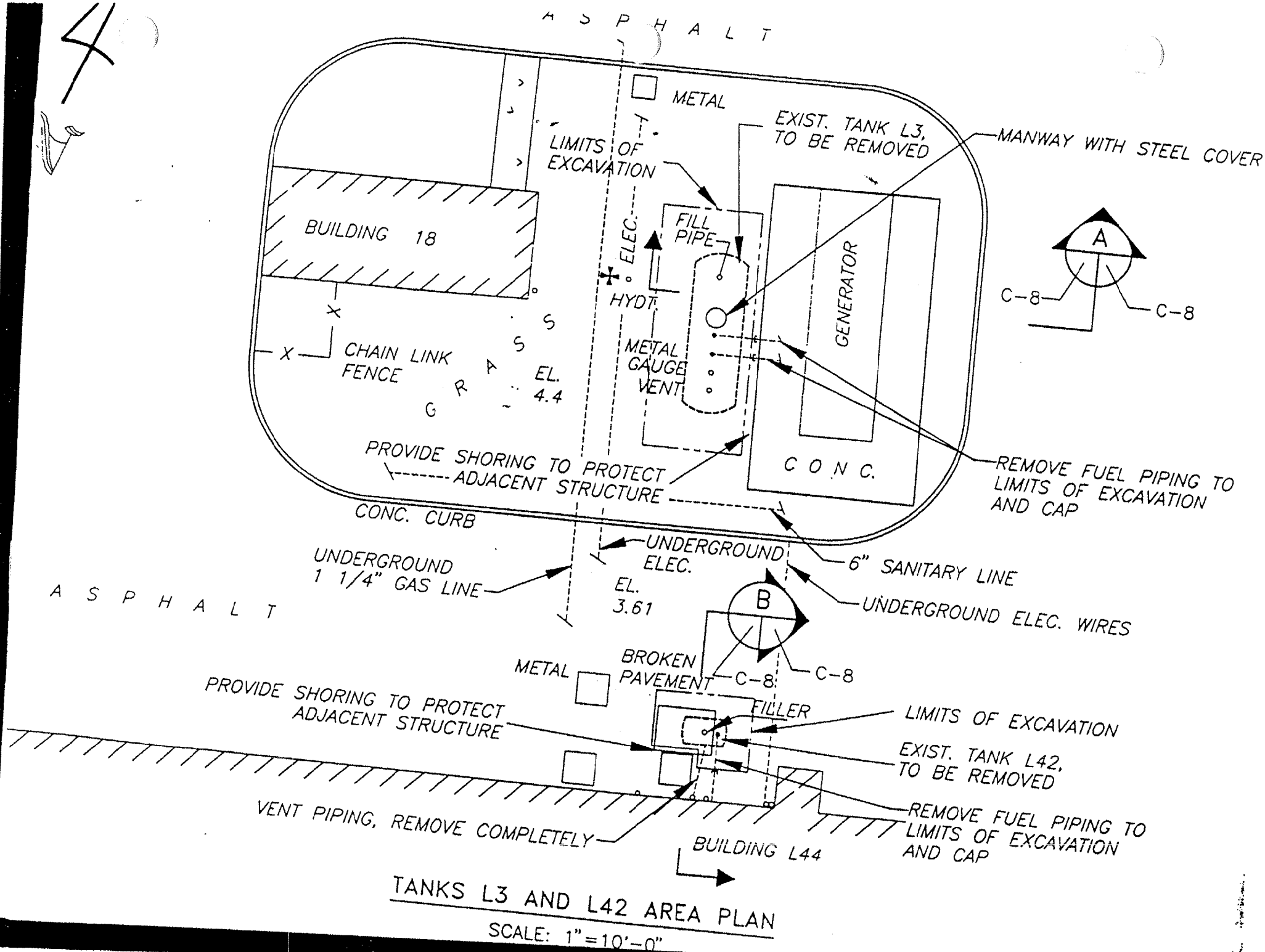
AVAL MEDICAL CENTER AREA PLAN

ANKS L3, L42, & L44)

SCALE: 1" =

REDUCED

4



TANKS L3 AND L42 AREA PLAN

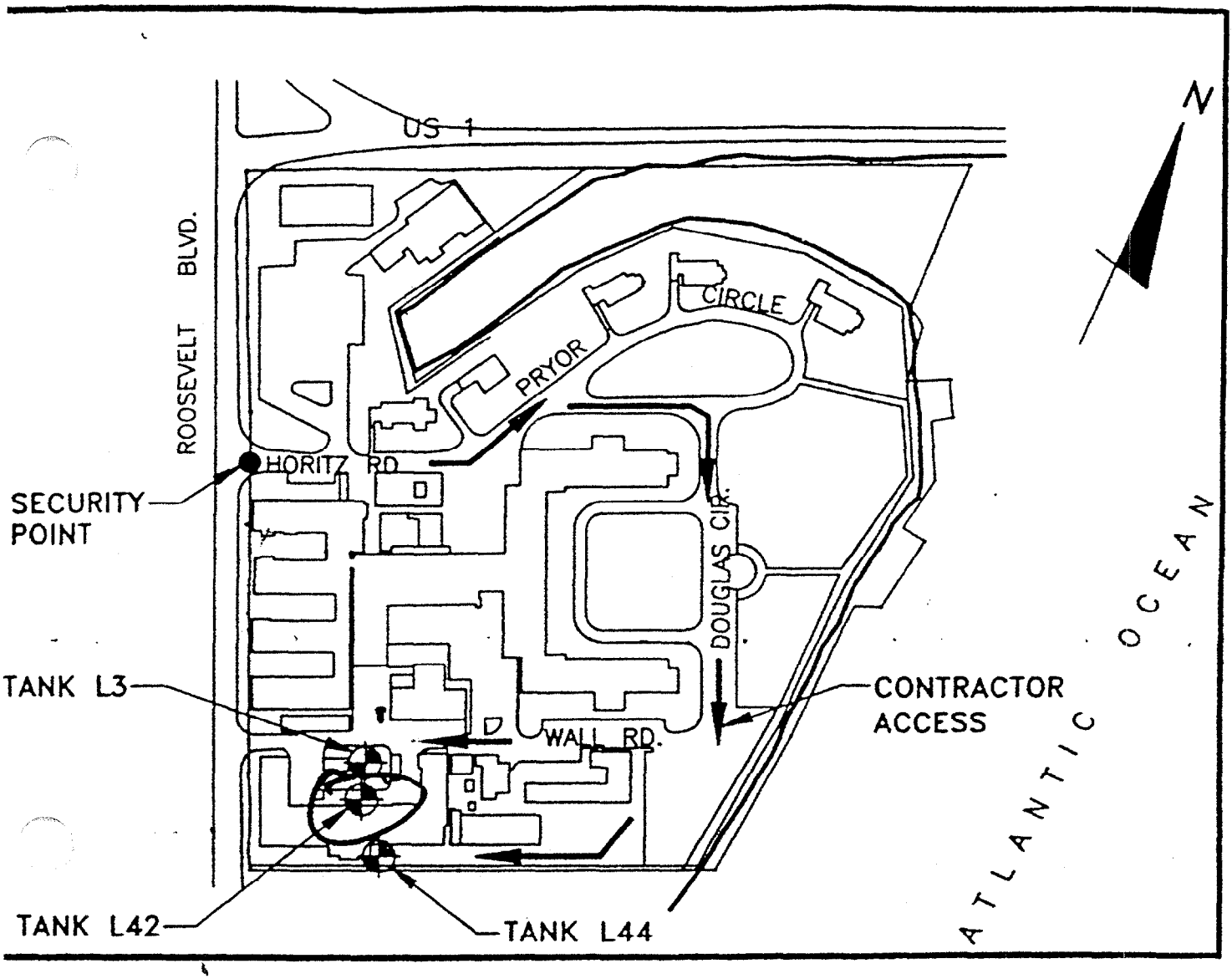
SCALE: 1"=10'-0"

OMEGA ENVIRONMENTAL SERVICES, INC.

UST CLOSURE REPORT
TANK L44
NAVAL AIR STATION, KEY WEST, FLORIDA
CONTRACT NUMBER N62467-93-C-0645

OMEGA ENVIRONMENTAL SERVICES, INC.

Prepared By
Omega Environmental Services, Inc.
4661 Hammermill Rd., Ste. B
Tucker, Georgia 30084

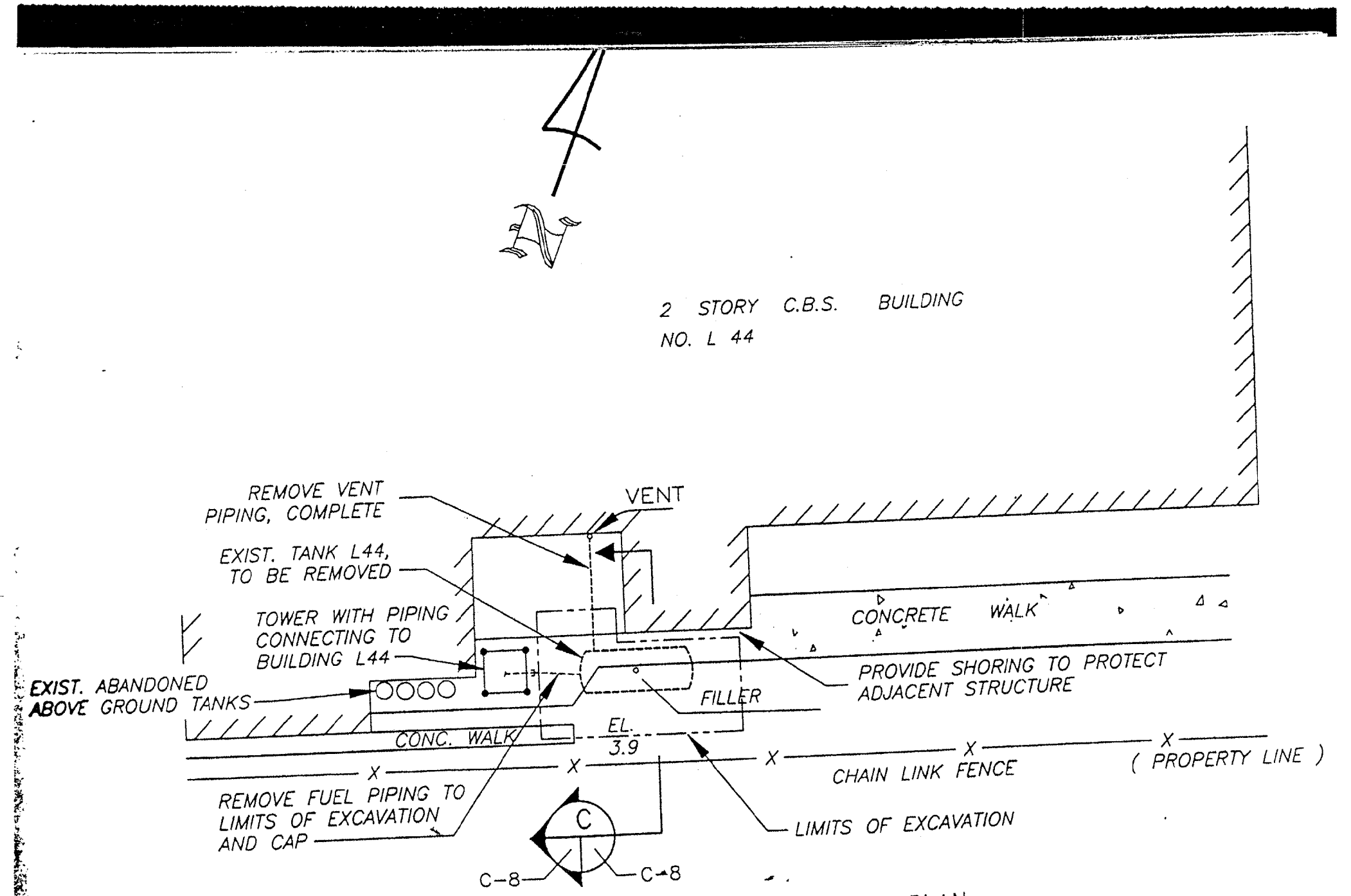


NAVAL MEDICAL CENTER AREA PLAN

TANKS L3, L42, & L44)

SCALE: 1" =

REDUCED



TANKS L44 AREA PLAN

SCALE: 1"=10'-0"