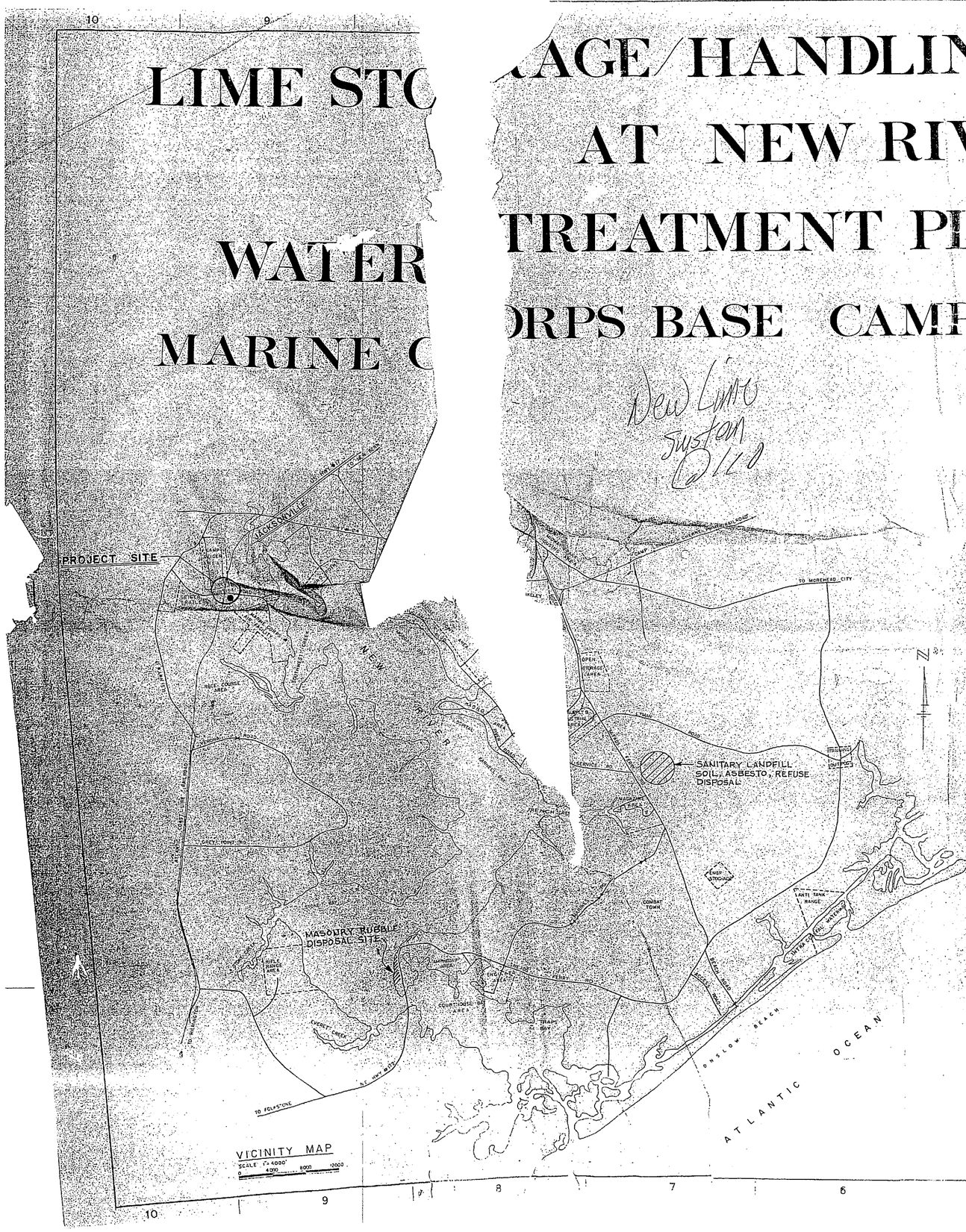
LIME STO[illegible]AGE/HANDLING EQUIPMEN[illegible]
AT NEW RIVER
WATER [illegible]TREATMENT PLANT AS-110
MARINE C[illegible]ORPS BASE CAMP LEJEUNE, N. C.

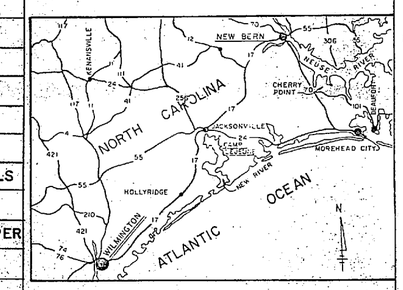
New Lime System @ 110



VICINITY MAP

SCALE 1" = 4000'

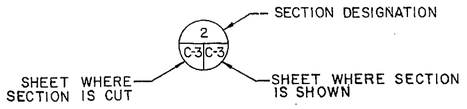
INDEX OF DRAWINGS				
SHEET NO.		EFD NO.	NAVFAC NO.	TITLE
1	C-1	179796	4079796	TITLE SHEET
2	C-2	179797	4079797	PLANS & BORING LOG
3	C-3	179798	4079798	PLAN, SECTIONS & PIPING DIAGRAMS
4	C-4	179799	4079799	MISCELLANEOUS DETAILS
5	S-1	179800	4079800	SILO FOUNDATION, PLANS, SECTIONS AND DETAILS
6	S-2	179801	4079801	EXISTING CONDITION BLDG AS-110
7	S-3	179802	4079802	BUILDING SECTIONS AND DETAILS – NEW HOPPER
8	E-1	179803	4079803	SITE PLAN, LEGEND, NOTES & SCHEMATICS
9	E-2	179804	4079804	PARTIAL FLOOR PLAN, DETAILS, SCHEDULE, DIAGRAMS



LOCATION MAP

SCALE OF MILES

1. THE NEW LIME STORAGE/HANDLING EQUIPMENT SHALL BE FIELD TESTED BY CONTRACTOR. LIME REQUIRED FOR THE TEST SHALL BE PROVIDED BY THE GOVERNMENT.
2. WHERE FLANGES ARE USED FOR CONNECTIONS OR MOUNTINGS, A 1/4" THICK NEOPRENE GASKET SHALL BE PROVIDED.
3. FIELD PAINT METAL SURFACES IN ACCORDANCE WITH SPECIFICATIONS.



SECTION KEY

C-1

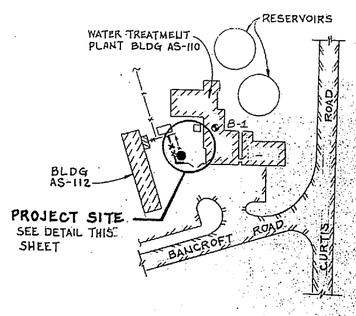
179796
94 TF 2161
C.C. SHU
C.C.S DFT

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.
MARINE CORPS BASE — CAMP LEJEUNE, N. C.
LIME STORAGE/HANDLING EQUIPMENT AT NEW RIVER
WATER TREATMENT PLANT AS-110
TITLE SHEET

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4079796
		CONSTR. CONTR. NO. N62470-82-B-2161
SCALE	SPEC. 05-82-2161	SHEET 1 OF 9

FB 523

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



SITE PLAN - WATER TREATMENT PLANT @ NEW RIVER

SCALE: 1" = 80'

BORING NO. B-1 (ORIG. GROUND ELEV. 18.0)

DEPTH FT.	DESCRIPTION	BLOWS
0.0	TOPSOIL TO [illegible] FT	
	[illegible] POSSIBLE FILL	11, 3
10.0	SAND, GRAY SILTY FINE	5
	SAND, LIGHT GRAY FINE TO MEDIUM	20
20.0	SAND, GREENISH GRAY CLAYEY FINE	3
	SAND, GREENISH GRAY SILTY FINE	4
30.0	SAND, LIGHT GRAY CLAYEY, AND SHELL FRAGMENTS, PARTIALLY CEMENTED	19, 27
40.0		20
		32
50.0	SAND, GREENISH GRAY SILTY, TRACE OF SHELLS	25
	BORING TERMINATED	

WATER DATA:
7.0 FT AT COMPLETION
4.0 FT AFTER 24 HOURS

BORING LOG

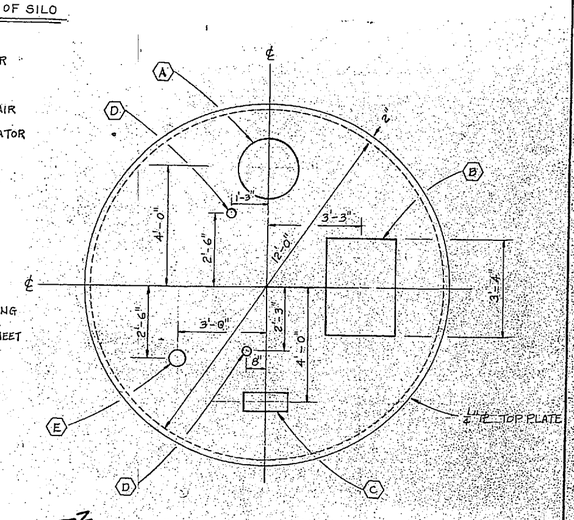
SCALE: 1" = 10'

BORING NOTES

1. BORING MADE BY MEANS OF CONTINUOUS-FLIGHT, HOLLOW-STEM AUGER.
2. BLOWS COLUMN INDICATES DEPTH OF SAMPLE AND NUMBER OF BLOWS REQUIRED TO DRIVE A 2" O.D. SPLIT SPOON SAMPLER ONE FOOT INTO UNDISTURBED SOIL WITH A 140 LB. HAMMER FALLING 30" AS PER ASTM TEST D-1586-67.
3. ALL DEPTHS AND LOCATIONS ARE APPROXIMATE.
4. BORING DRILLED BY FROEHLING & ROBERTSON, INC. MAY 23, 1973.

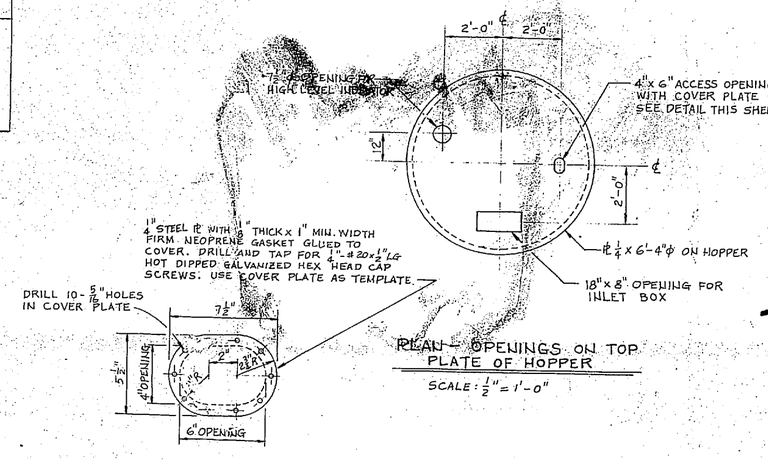
OPENINGS ON TOP PLATE OF SILO

(A) 24"φ FOR MANHOLE
(B) 3'-4" x 2'-4" FOR DUST COLLECTOR
(C) 18" x 8" FOR INLET BOX
(D) 4"φ FOR AIR VENT & RETURN AIR
(E) 7½"φ FOR HIGH LEVEL INDICATOR



SILO TOP PLAN

SCALE: ½" = 1'-0"



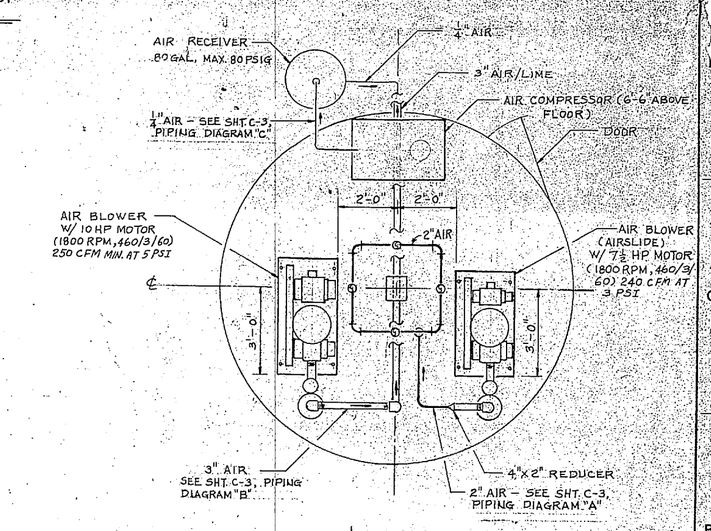
4" STEEL ℄ WITH ⅛" THICK x 1" MIN. WIDTH FIRM NEOPRENE GASKET GLUED TO COVER. DRILL AND TAP FOR ¼"-#20 x ½" LG HOT DIPPED GALVANIZED HEX HEAD CAP SCREWS. USE COVER PLATE AS TEMPLATE.

PLAN - OPENINGS ON TOP PLATE OF HOPPER

SCALE: ½" = 1'-0"

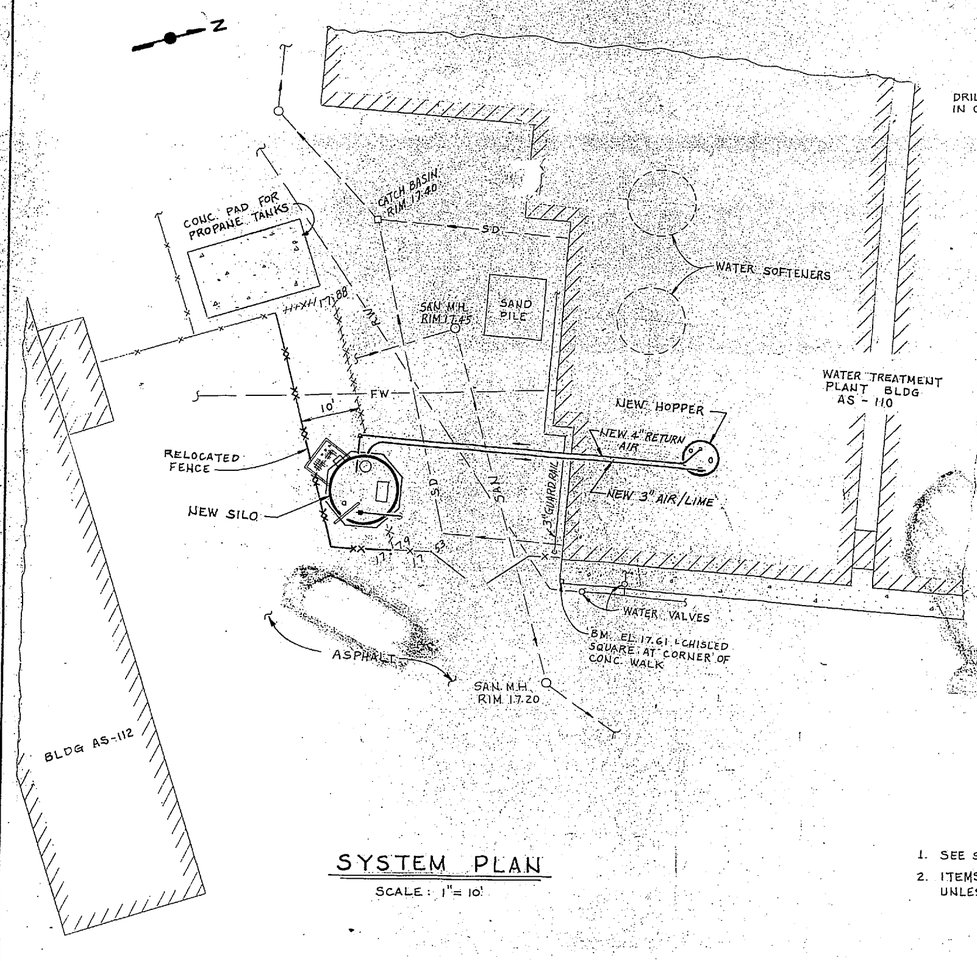
DETAILS OF ACCESS OPENING AND COVER PLATE ON HOPPER

SCALE: 3" = 1'-0"



SILO BASE PLAN

SCALE: ½" = 1'-0"



SYSTEM PLAN

SCALE: 1" = 10'

LEGEND

17.79	SPOT ELEVATION
—X—X—	EXISTING FENCE (7' CHAIN LINK)
—XXXXXX—	" FENCE TO BE RELOCATED
—XX—XX—	RELOCATED FENCE
	EXISTING ROAD
	" BUILDING
FW	" FRESH WATER
RW	" RAW WATER
SAN	" SANITARY DRAIN
SD	" STORM DRAIN
B-X No.	SOIL BORING

NOTES FOR SHT. C-2

1. SEE SHT. C-1 FOR GENERAL NOTES.
2. ITEMS ON "SYSTEM PLAN" ARE EXISTING UNLESS NOTED AS NEW

GRAPHIC SCALES

1" = 80' (80' 0 80' 160' 240')
1" = 10' (10' 0 10' 20' 30')
½" = 1'-0" (2" 0 1' 2' 3' 4' 5' 6' 7')
3" = 1'-0" (0 3" 6" 9" 12")

C-2

EFD DWG. NO.	179797
WORK REQ. NO.	94 TF 2161
DES.	C. C. SHU
DRWN.	C.C.S.
TR.	
CHK.	
DR. MGR.	
DES. DIR.	
SATISFACTORY TO	/DATE
APPROVED	DATE
FOR EFD FOR COMMANDER NAVFAC	

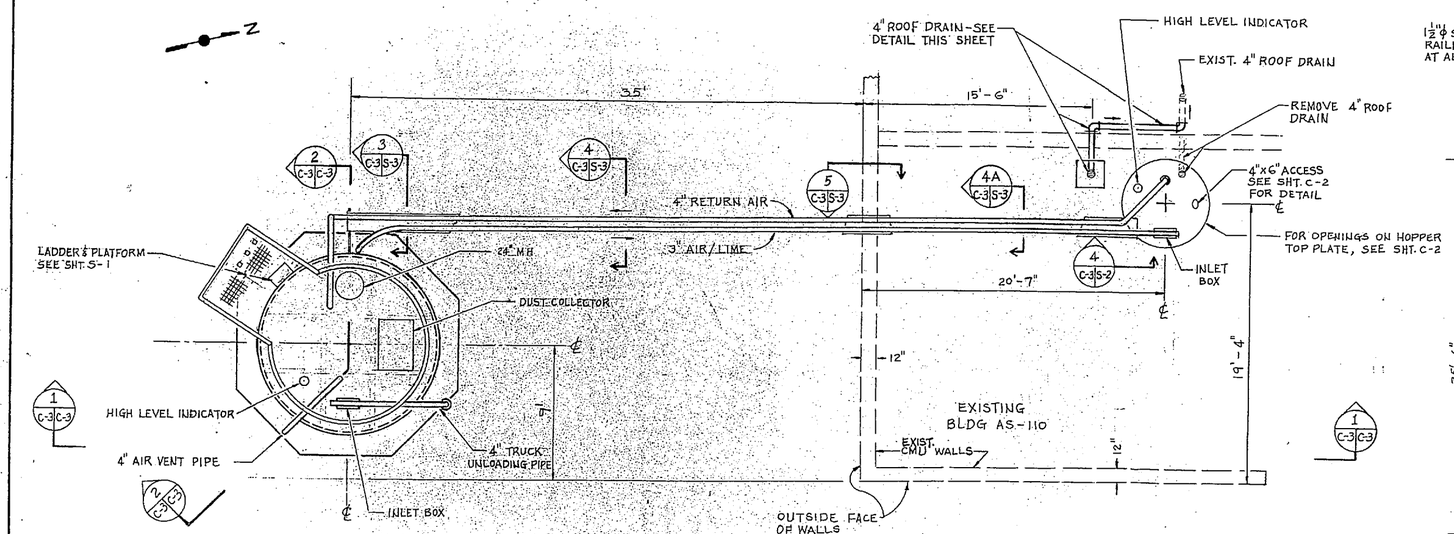
DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.
MARINE CORPS BASE — CAMP LEJEUNE, N.C.

LIME STORAGE/HANDLING EQUIPMENT AT NEW RIVER, WATER TREATMENT PLANT AS-110
PLANS & BORING LOG

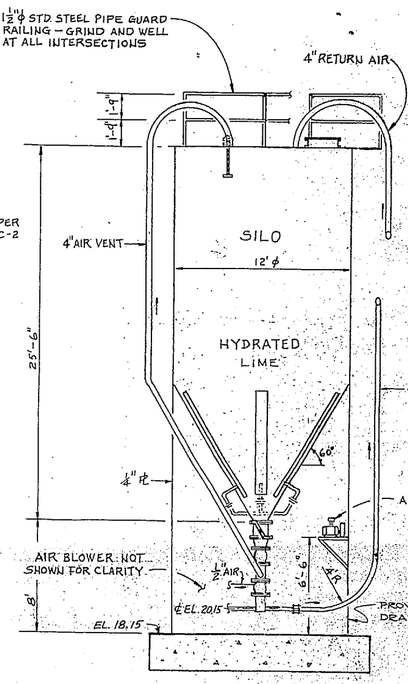
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	407979
		CONTR. CONTR. NO. N62470-82-B-2161

SCALE AS NOTED — SPEC. 05-82-2161 — SHEET 2 OF 9

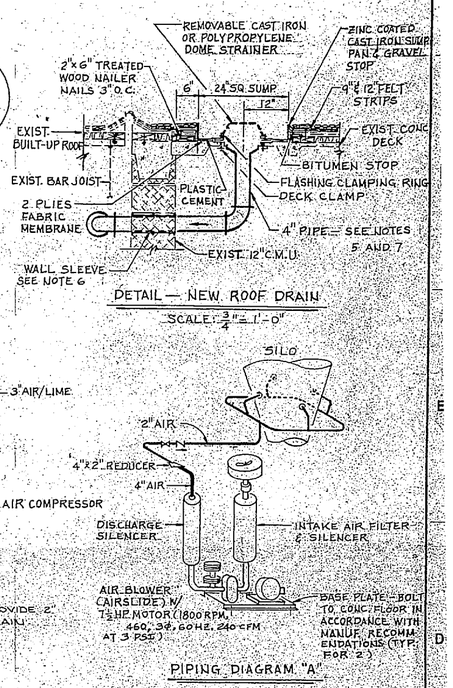
REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED



PLAN
SCALE: 1/4" = 1'-0"



SECTION 2 C-3 C-3
SCALE: 1/4" = 1'-0"



DETAIL — NEW ROOF DRAIN
SCALE: 3/4" = 1'-0"

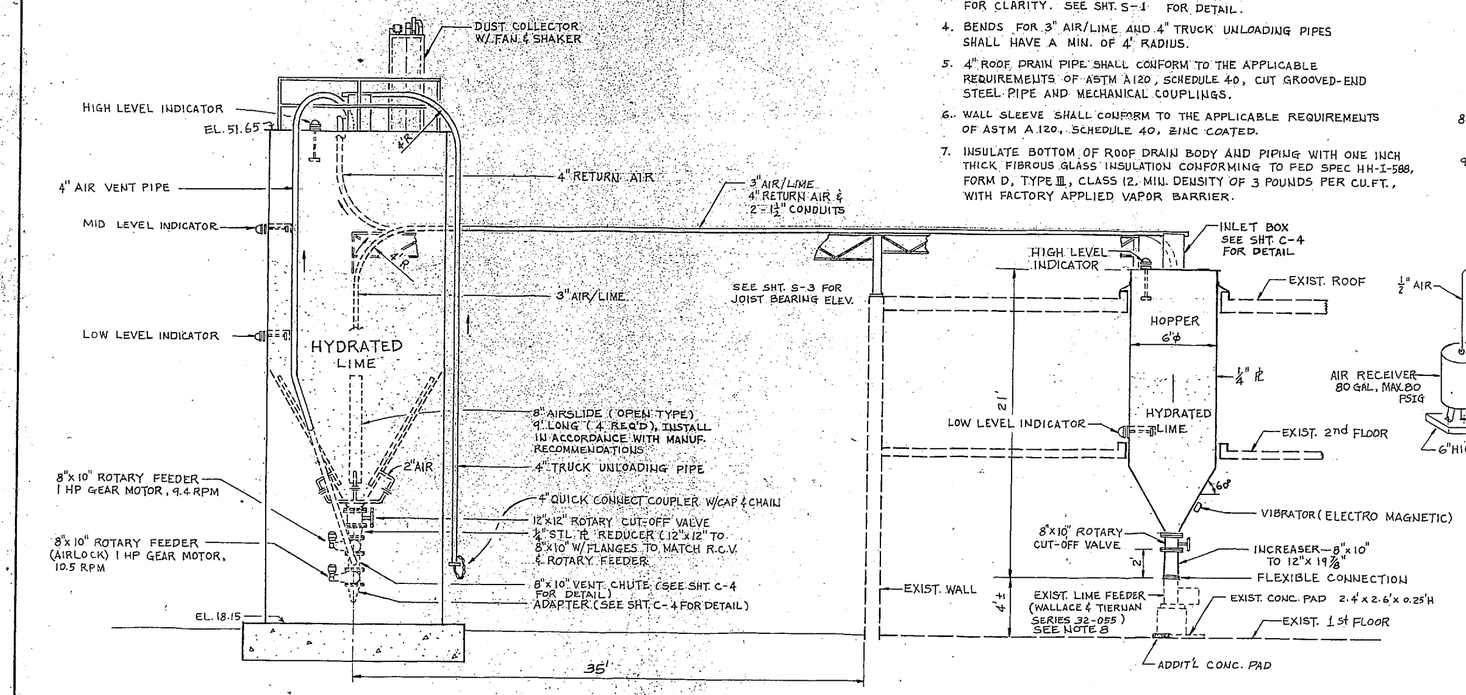
PIPING DIAGRAM "A"
NOT TO SCALE

NOTES FOR SHT. C-3

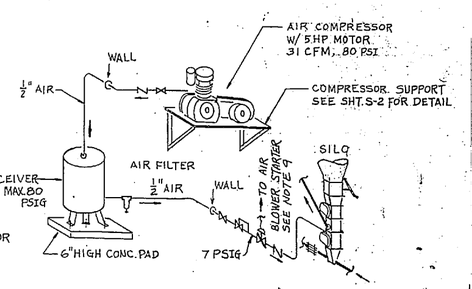
1. SEE SHT. C-1 FOR GENERAL NOTES.
2. ITEMS SHOWN ARE NEW UNLESS NOTED AS EXISTING.
3. LADDER AND PLATFORM ARE NOT SHOWN ON SECTIONS FOR CLARITY. SEE SHT. S-1 FOR DETAIL.
4. BENDS FOR 3" AIR/LIME AND 4" TRUCK UNLOADING PIPES SHALL HAVE A MIN. OF 4' RADIUS.
5. 4" ROOF DRAIN PIPE SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF ASTM A120, SCHEDULE 40, CUT GROOVED-END STEEL PIPE AND MECHANICAL COUPLINGS.
6. WALL SLEEVE SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF ASTM A120, SCHEDULE 40, ZINC COATED.
7. INSULATE BOTTOM OF ROOF DRAIN BODY AND PIPING WITH ONE INCH THICK FIBROUS GLASS INSULATION CONFORMING TO FED SPEC HH-I-558, FORM D, TYPE III, CLASS 12, MIN. DENSITY OF 3 POUNDS PER CU.FT., WITH FACTORY APPLIED VAPOR BARRIER.
8. MOVE EXISTING LIME FEEDER APPROXIMATELY 1' SOUTH. PROVIDE ADDITIONAL 1' WIDE CONCRETE PAD TO SUPPORT THE LIME FEEDER.
9. SOLENOID VALVE SHALL BE IN THE OPEN POSITION WHEN THE 10HP AIR BLOWER SYSTEM IS ENERGIZED.

SYMBOLS

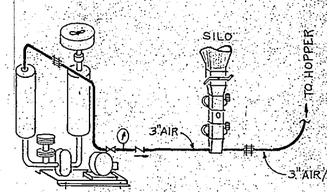
- SOLENOID VALVE
- CHECK VALVE
- GATE VALVE
- PRESSURE REGULATOR (TO 7 PSIG)
- DRESSER COUPLING
- PRESSURE GAGE (0-15 PSI TYP.)
- UNION



SECTION 1 C-3 C-3
SCALE: 1/4" = 1'-0"



PIPING DIAGRAM "C"
NOT TO SCALE

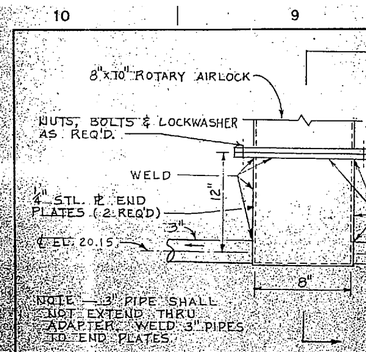


PIPING DIAGRAM "B"
NOT TO SCALE

GRAPHIC SCALE
1/4" = 1'-0" 5' 4' 3' 2' 1' 0 5' 10'

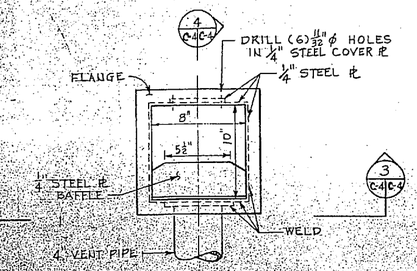
C-3

EFD DWG. NO. 179798	DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
WORK REQ. NO. 94TF2161	ATLANTIC DIVISION
DES. C. C. SHU	NAVAL STATION — NORFOLK, VA.
DRWN. C.C.S.	MARINE CORPS BASE — CAMP LEJEUNE, N. C.
TR.	LIME STORAGE/HANDLING EQUIPMENT AT NEW RIVER
CHK. D.J.B. F.P. DMW	WATER TREATMENT PLANT AS-110
BR. MGR.	PLAN, SECTIONS & PIPING DIAGRAM
DES. DIR.	SIZE F — CODE IDENT. NO. 80091 — NAVFAC DRAWING NO. 4079798
SATISFACTORY TO — DATE	CONTR. CONTR. NO. N62470-82-B-2161
APPROVED — DATE	

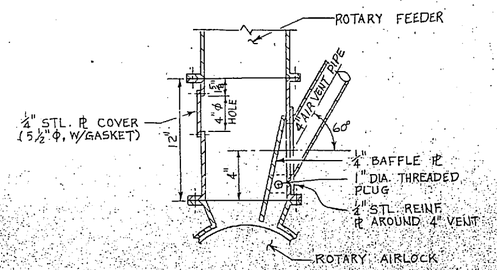


ADAPTER DETAIL

NOT TO SCALE



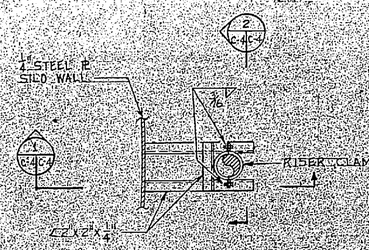
PLAN



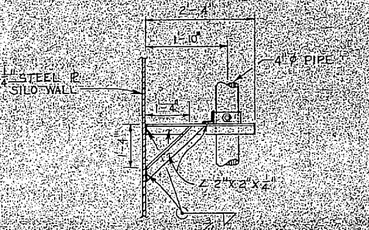
SECTION

VENT CHUTE DETAIL

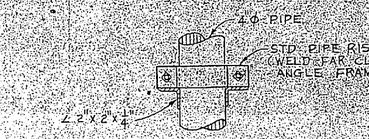
NOT TO SCALE



PLAN



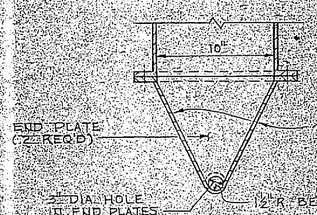
ELEVATION



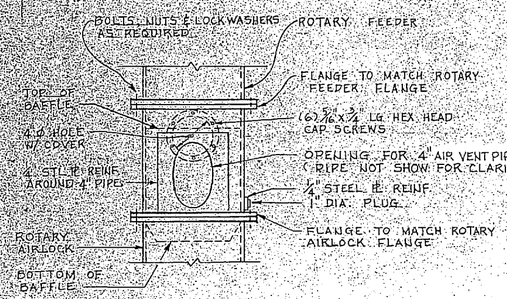
SECTION

DETAILS - PIPE SUPPORT BRACKETS ON SILO FOR 4" AIR VENT & TRUCK UNLOADING PIPES

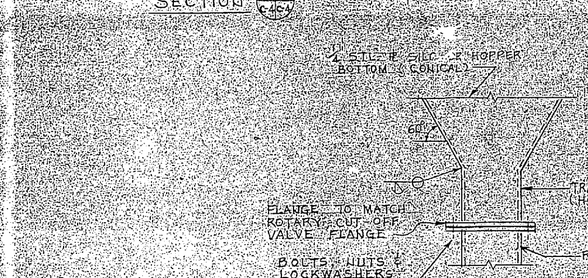
NOT TO SCALE



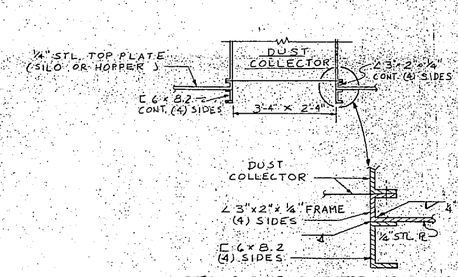
SECTION



SECTION

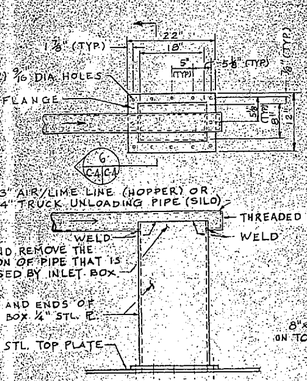


DETAIL A



DETAILS - DUST COLLECTOR MOUNTING TYPICAL

NOT TO SCALE

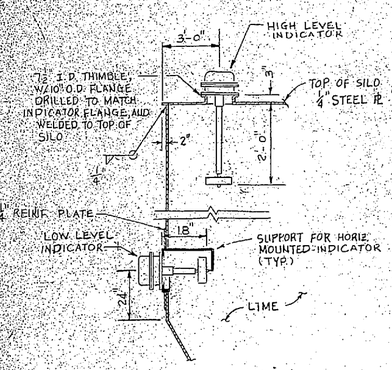


INLET BOX DETAIL

NOT TO SCALE

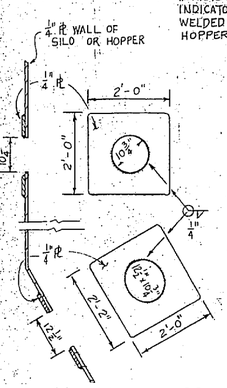
SECTION

NOT TO SCALE



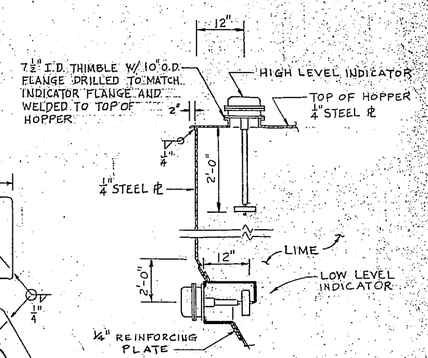
DETAIL - LEVEL INDICATORS @ SILO

NOT TO SCALE



TYP. LEVEL INDICATOR OPENING REINFORCING

NOT TO SCALE



DETAIL - LEVEL INDICATORS @ HOPPER

NOT TO SCALE

NOTES FOR SHT. C-4

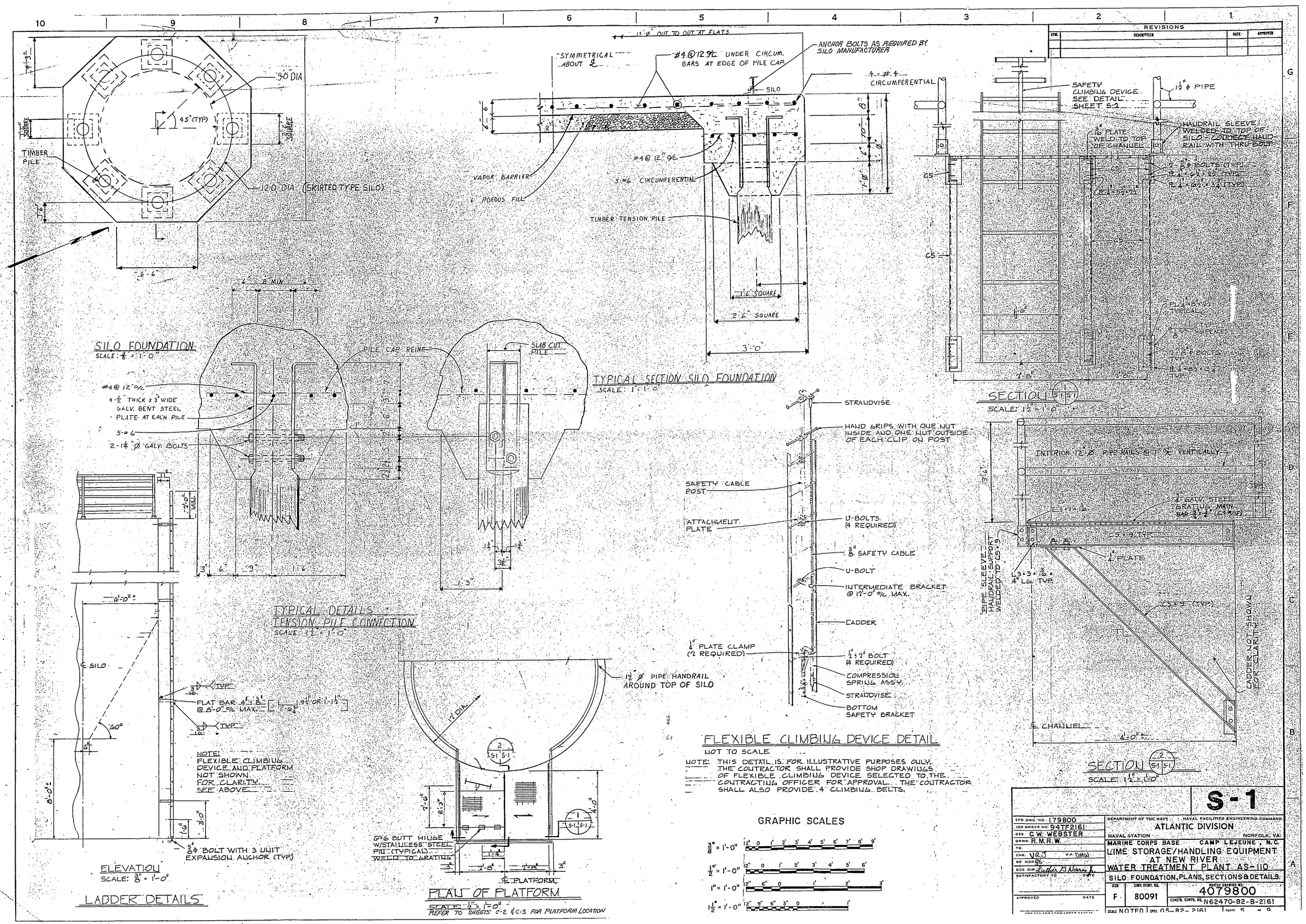
1. SEE SHT. C-1 FOR GENERAL NOTES.

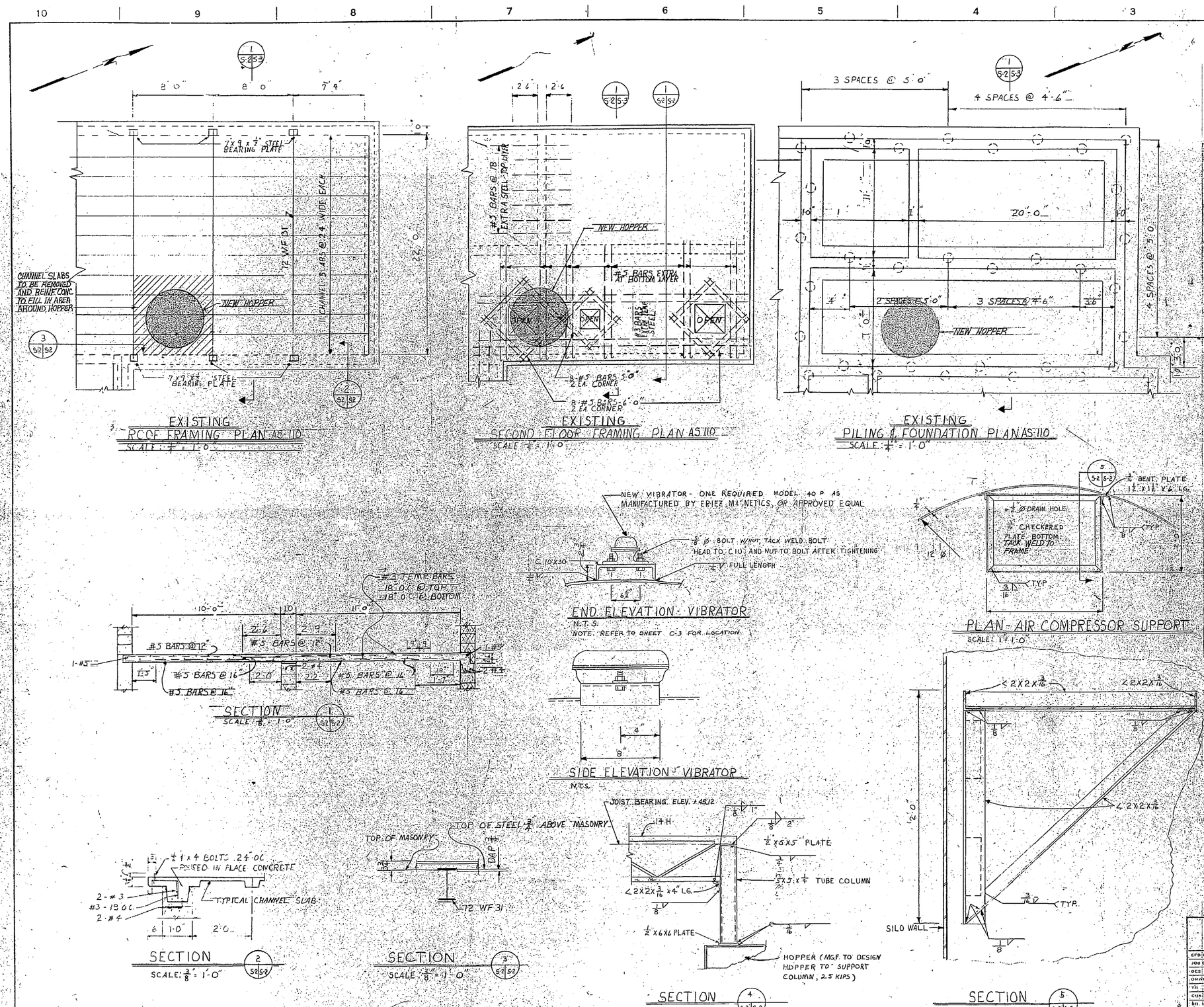
REVISIONS

SYM.	DESCRIPTION	DATE	APPROVED

C-4

E/O-DWG. NO. 179799	DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
JOB ORDER NO. 94TF2161	ATLANTIC DIVISION
DES. C.C. SHU	NAVAL STATION — NORFOLK, VA.
DRWN. C.C.S.	MARINE CORPS BASE — CAMP LEJEUNE, N. C.
TR.	LIME STORAGE/HANDLING EQUIPMENT AT NEW RIVER WATER TREATMENT PLANT AS-110
CHK.	MISCELLANEOUS DETAILS
DR. MGR.	SIZE F — CODE IDENT. NO. 80091 — NAVFAC DRAWING NO. 4079799
DES. DIR.	CONTR. CONTR. NO. N62470-82-B-2161
SATISFACTORY TO — DATE	SCALE AS NOTED — SPEC. 05-82-2161 — SHEET 4 OF 9
APPROVED — DATE	
FOR E/O FOR COMMANDER NAVFAC	


REVISIONS
SYM. DESCRIPTION DATE APPROVED
9'-0" DIA
45° (TYP)
TIMBER PILE
12'-0" DIA (SKIRTED TYPE SILO)
6'-6"
15'-0" OUT TO OUT AT FLATS
SYMMETRICAL ABOUT ℄
#4 @ 12" O/C UNDER CIRCUM. BARS AT EDGE OF PILE CAP
ANCHOR BOLTS AS REQUIRED BY SILO MANUFACTURER
4 - #4 CIRCUMFERENTIAL
SILO
#4 @ 12" O/C
5-#6 CIRCUMFERENTIAL
VAPOR BARRIER
6" POROUS FILL
TIMBER TENSION PILE
1'-6" SQUARE
2'-6" SQUARE
3'-0"
SILO FOUNDATION
SCALE: 3/8" = 1'-0"
PILE CAP REINF
SLAB CUT PILE
#4 @ 12" O/C
4 1/2" THICK x 3" WIDE GALV. BENT STEEL PLATE AT EACH PILE
5-#6
2-1/2" Ø GALV. BOLTS
TYPICAL SECTION SILO FOUNDATION
SCALE: 1" = 1'-0"
TYPICAL DETAILS TENSION PILE CONNECTION
SCALE: 1 1/2" = 1'-0"
SAFETY CLIMBING DEVICE SEE DETAIL SHEET S-2
1 1/2" Ø PIPE
HANDRAIL SLEEVE WELDED TO TOP OF SILO - COUPLED HANDRAIL WITH THRU-BOLT
3/16" PLATE WELD TO TOP OF CHANNEL
2 - 5/8 Ø BOLTS (TYP)
PL 4 x 6 x 1/4 (TYP)
PL 4 x 6 x 1/4 x 3 1/2 (TYP)
PL 4 x 6 x 1/4 TYPICAL
1/4" PLACES
2 - 5/8 Ø BOLTS TYP
SECTION 1 S-1
SCALE: 1 1/2" = 1'-0"
STRAUDVISE
HAND GRIPS WITH ONE NUT INSIDE AND ONE NUT OUTSIDE OF EACH CLIP ON POST
SAFETY CABLE POST
ATTACHMENT PLATE
U-BOLTS (4 REQUIRED)
3/8" SAFETY CABLE
U-BOLT
INTERMEDIATE BRACKET @ 12'-0" O/C MAX.
LADDER
1/4" PLATE CLAMP (2 REQUIRED)
1/2" x 2" BOLT (4 REQUIRED)
COMPRESSION SPRING ASSY.
STRAUDVISE
BOTTOM SAFETY BRACKET
FLEXIBLE CLIMBING DEVICE DETAIL
NOT TO SCALE
NOTE: THIS DETAIL IS FOR ILLUSTRATIVE PURPOSES ONLY. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF FLEXIBLE CLIMBING DEVICE SELECTED TO THE CONTRACTING OFFICER FOR APPROVAL. THE CONTRACTOR SHALL ALSO PROVIDE 4' CLIMBING BELTS.
INTERIOR 1 1/2" Ø PIPE RAILS @ 1'-7" O/C VERTICALLY
1/4" GALV. STEEL GRATING MAIN BAR 3/8 x 1 1/2 (6:1 SP)
1/4" PLATE
3 x 3 x 1/16 x 4" LG. TYP.
PIPE SLEEVE HANDRAIL SUPPORT WELDED TO 6S-9
CHANNEL
4'-0"
SECTION 2 S-1
SCALE: 1 1/2" = 1'-0"
6'-0" ±
℄ SILO
FLAT BAR 4" x 3/8" @ 8'-0" O/C MAX.
60°
NOTE: FLEXIBLE CLIMBING DEVICE AND PLATFORM NOT SHOWN FOR CLARITY SEE ABOVE
5/8 Ø BOLT WITH 3 UNIT EXPANSION ANCHOR (TYP)
ELEVATION
SCALE: 3/8" = 1'-0"
LADDER DETAILS
1 1/2" Ø PIPE HANDRAIL AROUND TOP OF SILO
12' DIA
6-#6 BUTT HINGE W/STAINLESS STEEL PIN (TYPICAL) WELD TO GRATING
℄ PLATFORM
PLAN OF PLATFORM
SCALE: 1/2" = 1'-0"
REFER TO SHEETS C-2 & C-3 FOR PLATFORM LOCATION
GRAPHIC SCALES
3/8" = 1'-0"
1/2" = 1'-0"
1" = 1'-0"
1 1/2" = 1'-0"
S-1
EFD DWG. NO. 179800
JOB ORDER NO. 94TF2161
DES C.W. WEBSTER
DRWN R.M.R.W.
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VA.
MARINE CORPS BASE CAMP LEJEUNE, N.C.
LIME STORAGE/HANDLING EQUIPMENT AT NEW RIVER WATER TREATMENT PLANT AS-110
SILO FOUNDATION, PLANS, SECTIONS & DETAILS
SIZE F
CODE IDENT. NO. 80091
NAVFAC DRAWING NO. 4079800
CONTR. CONTR. NO. N62470-82-B-2161
SCALE NOTED
SPEC. 05-82-2161
SHEET 5 OF 9



REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED

GENERAL NOTES (STRUCTURAL)

1. THE SILO PORTION OF THE STRUCTURE SHALL BE FOUNDED ON TREATED TIMBER PILES WITH A BID LENGTH OF 34 FEET AND A BEARING CAPACITY OF 20 TONS. THE MINIMUM TIP DIAMETER OF THE PILES SHALL BE 8 INCHES.
2. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 29 DAYS. MAXIMUM SIZE OF AGGREGATE FOR FLOOR SLAB AND FOUNDATION CONCRETE SHALL BE ONE INCH. MAXIMUM SIZE AGGREGATE FOR ROOF AND SECOND FLOOR SLABS SHALL BE 3/4 INCH.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60. REINFORCING STEEL MARKED (CONT.) SHALL BE LAPPED 40 X BAR DIAMETER AT SPLICES.
4. STRUCTURAL STEEL SHALL CONFORM TO ASTM A-36. FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH CURRENT AISC SPECIFICATIONS.
5. DESIGN, FABRICATION AND ERECTION OF STEEL JOISTS SHALL BE IN ACCORDANCE WITH CURRENT STANDARD SPECIFICATIONS OF THE STEEL JOIST INSTITUTE.
6. ALL WELDS SHALL BE MADE USING E70XX ELECTRODES.
7. LIVE LOADS

ROOF	20 PSF
FLOOR (PLATFORM)	100 PSF
WIND	115 MPH
SEISMIC	ZONE 1
TIMBER PILE CAPACITY	20 TONS
HANDRAIL	50 P/F HORIZONTAL

WIND FORCES GOVERNED THE DESIGN OF THE FACILITY.

8. SILO AND HOPPER SHALL BE PROVIDED BY A COMPANY WITH EXTENSIVE EXPERIENCE IN DESIGN ENGINEERING AND MANUFACTURING OF THESE ITEMS. THESE STRUCTURES SHALL BE DESIGNED FOR LOADS GIVEN IN NOTE ABOVE AND IN ADDITION SHALL BE ABLE TO SUPPORT PLATFORMS, LADDERS, ETC., AS SHOWN BY THE PLANS. SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED TO THE CONTRACTING OFFICER TO SHOW COMPLIANCE.
9. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH CIVIL AND ELECTRICAL DRAWINGS. CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF THE WORK OF OTHER TRADES AS TO SLEEVES, INSERTS, ANCHORS, HOLES, ETC., TO BE PROVIDED OR SET IN STRUCTURAL WORK.

GRAPHIC SCALES

1/4" = 1'-0"
3/8" = 1'-0"
1" = 1'-0"
3" = 1'-0"

S-2

EFD DWG. NO.	79801
JOB ORDER NO.	94TF2161
DES.	C.W. WEBSTER
DRWN.	R.M.R.W.
YR.	
CHKD.	W.R.J.
F.P.	DMW
DIR. HGN	
DES. DIR.	
SATISFACTORY TO	DATE
APPROVED	DATE

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.
MARINE CORPS BASE — CAMP LEJEUNE, N.C.
LIME STORAGE/HANDLING EQUIPMENT AT NEW RIVER WATER TREATMENT PLANT AS-110
EXISTING CONDITIONS BLDG. AS-110

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4079801
		CONTR. CONTR. NO. N62470-82-B-2161

SCALE: NOTED | SPEC. 05-82-2161 | SHEET 6 OF 9

REVISIONS

SYM.	DESCRIPTION	DATE	APPROVED

REMOVE 4 P/C 6" SLABS BTWN BEAMS TO INSTALL NEW HOPPER

24" WIDE CHANNEL SLAB TYPICAL

12 WF 31

SAW CUT 1" DEEP AND REMOVE SLAB. LEAVE 6" MIN. LENGTH REINFORCING TO TIE INTO NEW CONC. CURB

EXISTING 6" REINFORCED CONC. SLAB

BREAK OUT 1'-4" x 2'-0" OPENING IN EXISTING 12" CMU WALL FOR BEAM BEARING ON EXIST. GRADE BEAM. REFER TO SECTION 6/S-3, S-3

10'-0"

SECTION 1 (S-2, S-3)
SCALE: 1/2" = 1'-0"

3'-8"
3'-2" RAD.
3'-6" TYPICAL
WOOD BLOCKING
6" CURB AROUND HOPPER

5" @ WALL ONLY, INCREASE TO 6" AS CLEARANCE ALLOWS

NEW 6'-0" HOPPER TO BE INSTALLED IN EXISTING BUILDING

6" CURB AROUND HOPPER

EXIST. BEAM

EXISTING SLAB REINFORCING EXTENDED INTO NEW CURB

12'-8"

4'-3"

BEARING PLATES AND BOLTS PROVIDED BY MANUFACTURER

SEE BRACKET DETAIL THIS SHEET

5/8" Ø EXP. BOLTS 4 1/2" MIN EMBEDMENT

3/8" STIFFENER PLATES 4 PER LEG TYPICAL

W 8X18

6 (S-3, S-3)

ELEVATION-NEW HOPPER
SCALE: 1/2" = 1'-0"

D = 4.5 OR 3.5

9/16" DIA. HOLE

PLAN VIEW

ELEVATION
PIPE BRACKET
SCALE: 6" = 1'-0"

NOTE: WHEN USED ON SILO WELD 3/8" Ø THREADED STUDS TO SIDE OF SILO.

℄ HOPPER

W 8X18

HOPPER ABOVE

SECTION 2 (S-3, S-3)
SCALE: 1/4" = 1'-0"

BREAK OUT 2'-0" x 1'-4" OPENING IN CMU FOR BEAM BEARING. AFTER BEAM IS FIXED IN POSITION FILL OPENING WITH CONCRETE

EXISTING 12" CMU WALL

2 5/8" Ø EXP. BOLTS 5/8" x 10" Ø BASE PLATE

1/2" NON SHRINK GROUT

SECTION 6 (S-3, S-3)
SCALE: 2" = 1'-0"

3" Ø PIPE

1/2" Ø THREADED STUD WELD TO C 15 (TYP)

4" Ø PIPE

PIPE BRACKETS AT 6'-0" O.C. MAX. EACH SIDE (TYP)

C 15 x 33.9

1 1/2" Ø CONDUIT SUPPORT @ 6'-0" O/C MAX SPACING W/ STANDARD CONDUIT FITTINGS

2-1 1/2" Ø ELECT. CONDUITS

L 1 1/2 x 1 1/2 x 1/8 @ 8'-0" MAX TO MATCH UP W/ JOIST PANEL POINTS

SECTION 4 (S-3, S-3)
SCALE: 2" = 1'-0"
JOIST 20 LH05

SECTION 4A (S-3, S-3)
SCALE: 2" = 1'-0"
JOIST 14 H4

PIPES AND CHANNEL NOT SHOWN FOR CLARITY

JOIST BEARING ELEV. 45.00

TYP. 3 PLACES

L 4 x 4 x 1/4

BOTTOM CHORD OF JOIST EXTENDED

L 2 x 2 x 3/16

L 2 x 2 x 1/16

3'-0"

SILO MANUFACTURER MUST DESIGN SILO TO SUPPORT BRACKET (ASSUME JOIST LOAD ON TOP OF BRACKET TO BE 4 KIPS)

NOTE: USE 1/4" FILLET WELDS TO CONNECT 4x4 ANGLES AND 3/16" FILLET WELDS TO MAKE THE REMAINDER OF THE CONNECTIONS. NOT SPECIFIED.

SECTION 3 (S-3, S-3)
SCALE: 1" = 1'-0"

1/2" CAP PLATE WELDED TO TUBE COLUMN

14 H

20 LH

JOIST BRG. ELEV. 45.00

DIST. ELEV. 45.12

L 2 1/2 x 1/16 x 0'-6"

L 2 x 2 x 1/16 x 0'-7"

8 x 8 x 1/2 TUBE COL

REPAIR ROOFING W/ STD. PITCH POCKET AFTER COL. SET. 4-5/8" Ø BOLTS 7" MIN EM. CONCRETE DRILL HOLES AND GROUT W/ EPOXY

1/2" PLATE 10" x 12"

1" NON SHRINK GROUT

EXISTING BLDG.

SECTION 5 (S-3, S-3)
SCALE: 1" = 1'-0"

GRAPHIC SCALES

1/4" = 1'-0"
1/2" = 1'-0"
1" = 1'-0"
2" = 1'-0"
6" = 1'-0"

2 1/2" Ø HOLES

FRONT ELEVATION

SIDE ELEVATION

BRACKET DETAIL
SCALE: NTS

S-3

EFD DWG. NO. 179802	DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
JOB ORDER NO. 94TF2161	ATLANTIC DIVISION
DES. C.W. WEBSTER	NAVAL STATION — NORFOLK, VA.
DRWN. R.M.R.W.	MARINE CORPS BASE — CAMP LEJEUNE, N.C.
TR.	LIME STORAGE/HANDLING EQUIPMENT AT NEW RIVER
CHK. VRO	WATER TREATMENT PLANT AS-110
DR. MGN 96	BUILDING SECTIONS & DETAILS-NEW HOPPER
DES. DIR. Richard L. Harris Jr.	
SATISFACTORY TO — DATE	
APPROVED — DATE	SIZE F — CODE IDENT. NO. 80091 — NAVFAC DRAWING NO. 4079802
FOR OFFICIAL USE ONLY	CONTR. CONTR. NO. N62470-82-B-2161
	SCALE NOTED — SPEC. 05-82-2161 — SHEET 7 OF 9