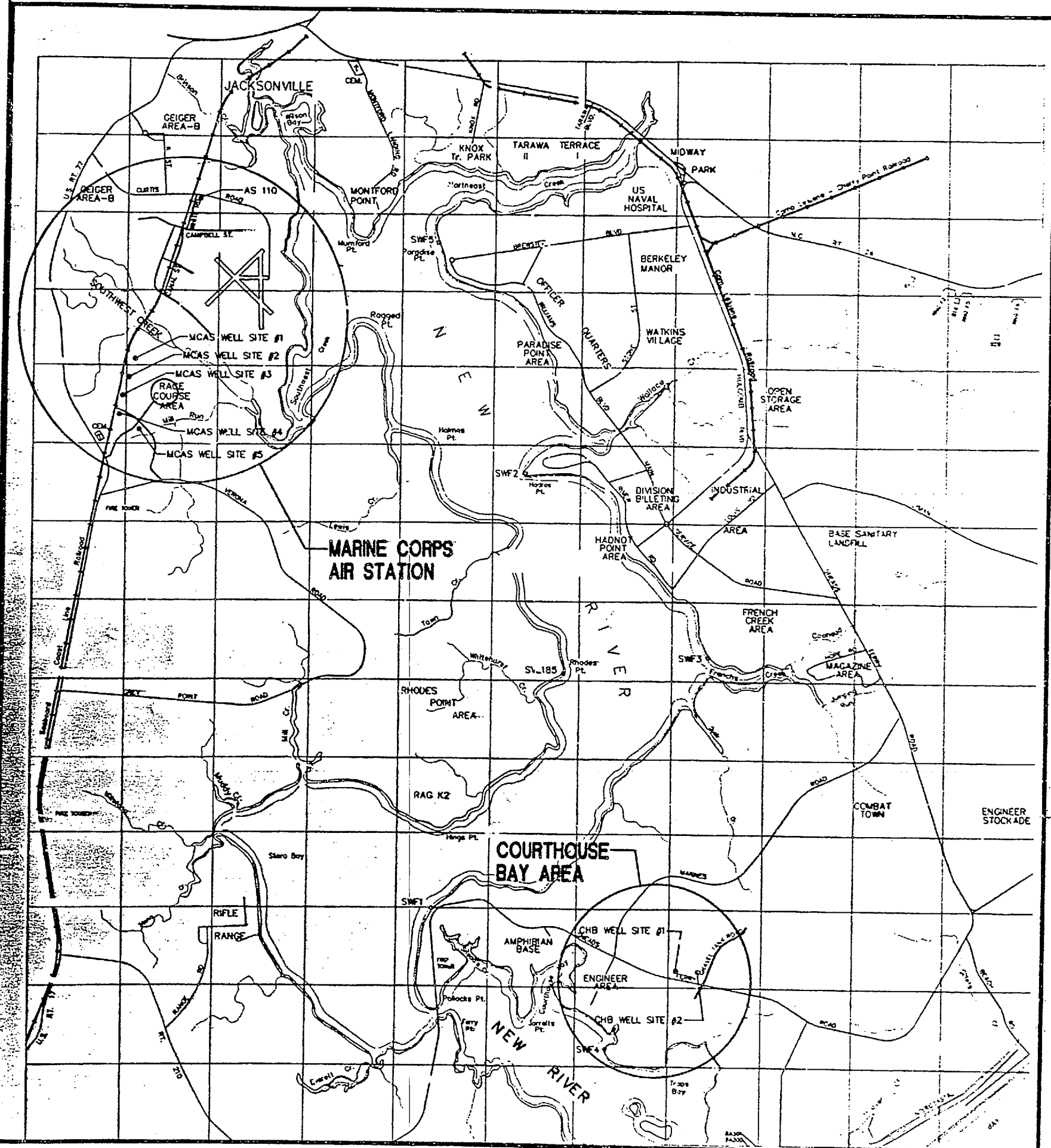


SYM	REVISIONS DESCRIPTION	DATE	APPROVED

# INSTALL WELLS AT MCAS AND CHB DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION NEW RIVER, JACKSONVILLE, NORTH CAROLINA



VICINITY MAP

### LEGEND

	NEW RAW WATER MAIN
	EXISTING RAW WATER MAIN
	EXISTING SEWAGE FORCE MAIN
	UNDERGROUND TELEPHONE
	EXISTING CONTOUR
	SPOT ELEVATION
	CLEARING LIMITS
	NEW FENCE
	DRAINAGE SHALE (GRASS)
	CHECK DAM
	SILT FENCE
	NEW WELL
	EXISTING WELL

### DRAWING INDEX

C-1	LOCATION AND VICINITY MAPS, DRAWING INDEX
C-2	MCAS WELL SITES #1 AND #2
C-3	MCAS WELL SITES #3 AND #4
C-4	MCAS WELL SITE #5 AND MCB AND CHB WELL DETAIL
C-5	CHB WELL SITES #1 AND #2
C-6	MCAS 16" RAW WATER MAIN
C-7	MCAS 16" RAW WATER MAIN
C-8	MCAS 16" RAW WATER MAIN
C-9	MCAS 16" RAW WATER MAIN, AND DETAIL
C-10	CHB 8" RAW WATER MAIN
C-11	MISCELLANEOUS DETAILS
C-12	WELL PIPING AND WELL SITE DETAILS
C-13	WELL HOUSE AND EQUIPMENT PAD DETAILS
E-1	ELECTRICAL SITE PLAN
E-2	FIBERGLASS BUILDING AND ELECTRICAL DETAILS

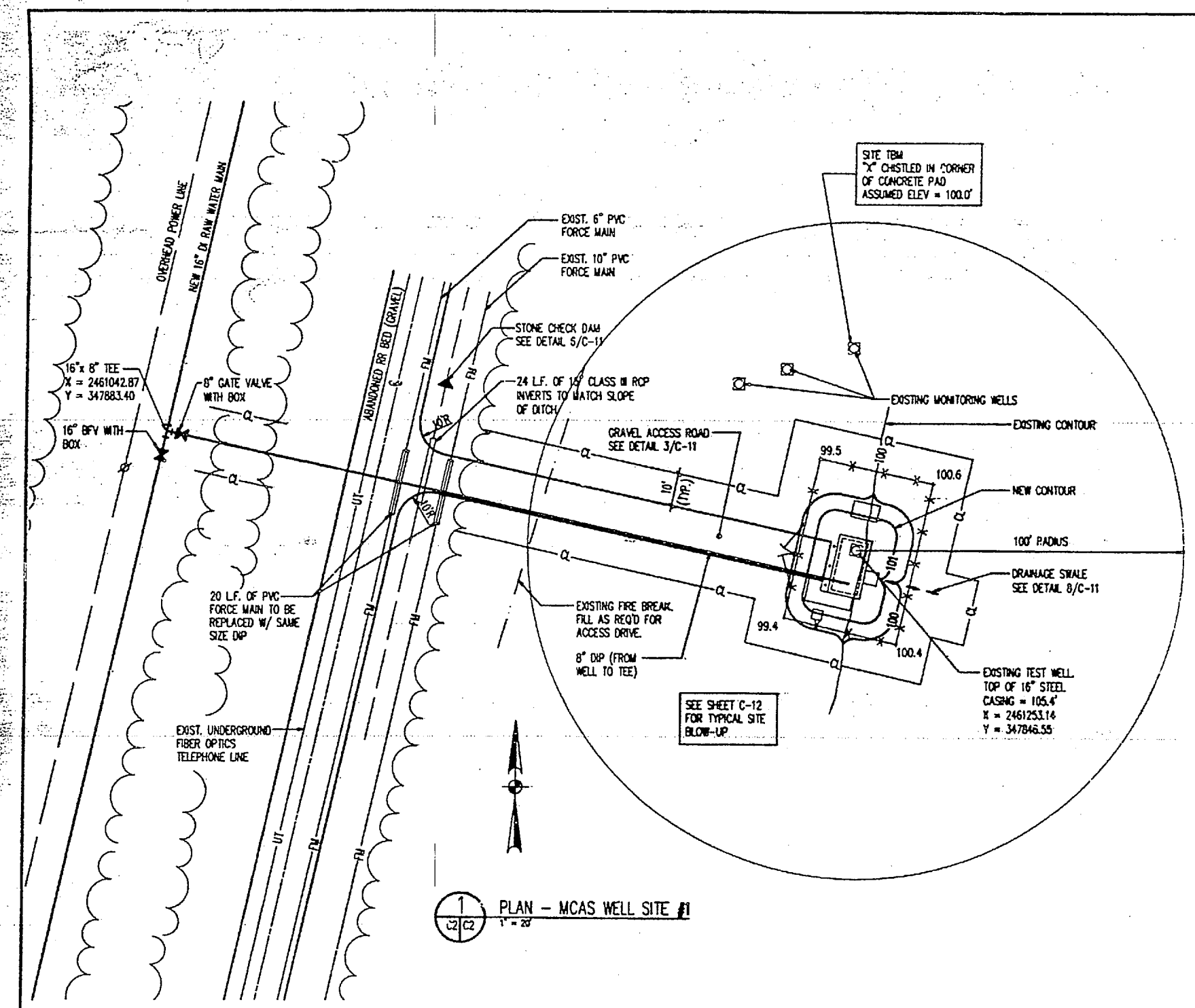
- ### GENERAL NOTES
- CONTRACTOR SHALL GRADE EACH WELL SITE TO PROVIDE POSITIVE DRAINAGE, WITHOUT PONDING, AWAY FROM EACH WELL HOUSE.
  - PROVIDE 36" MINIMUM COVER OVER WATER MAINS UNLESS NOTED OTHERWISE.
  - MAINTAIN SEPARATION OF WATER MAINS AND SEWER LINES IN ACCORDANCE WITH NORTH CAROLINA ADMINISTRATIVE CODE T15A 18C.0906 -- "RELATION OF WATER MAINS TO SEWERS".
  - THE SURVEY TOPO OF EACH WELL SITE IS BASED ON AN ARBITRARY, INDEPENDENT DATUM. SEE SITE PLAN FOR TEMPORARY BENCH MARK LOCATIONS. WELL SITES ARE TIED TOGETHER WITH AN X,Y COORDINATE SYSTEM BASED ON AN ARBITRARY REFERENCE. MCAS COORDINATES ARE NOT TIED TO CHB COORDINATES. SEE WATERLINE SHEETS FOR RE-STANDING REFERENCES.
  - THE SIZE AND LOCATION OF ALL EXISTING UNDERGROUND UTILITIES WERE DETERMINED FROM THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF ALL EXISTING UNDERGROUND UTILITIES.

QUALITY CONTROL REVIEW Signature: <i>[Signature]</i> Date: <i>[Date]</i>		C-1
<b>Piedmont Osen Hensley</b> ENGINEERS-ARCHITECTS-PLANNERS		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
<b>MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA</b>		INSTALL WELLS AT MCAS AND CHB LOCATION AND VICINITY MAPS, DRAWING INDEX
DATE: T. HOPPEL	DATE: I. HOPPEL	DATE: J. BATHARD
DESIGNED BY:	CHECKED BY:	DATE:
APPROVED FOR ORG. USE:	DATE:	DATE:
SATISFACTORY TO:	DATE:	DATE:
F 80091		4320629
SCALE: AS NOTED		DATE: 06-04-84

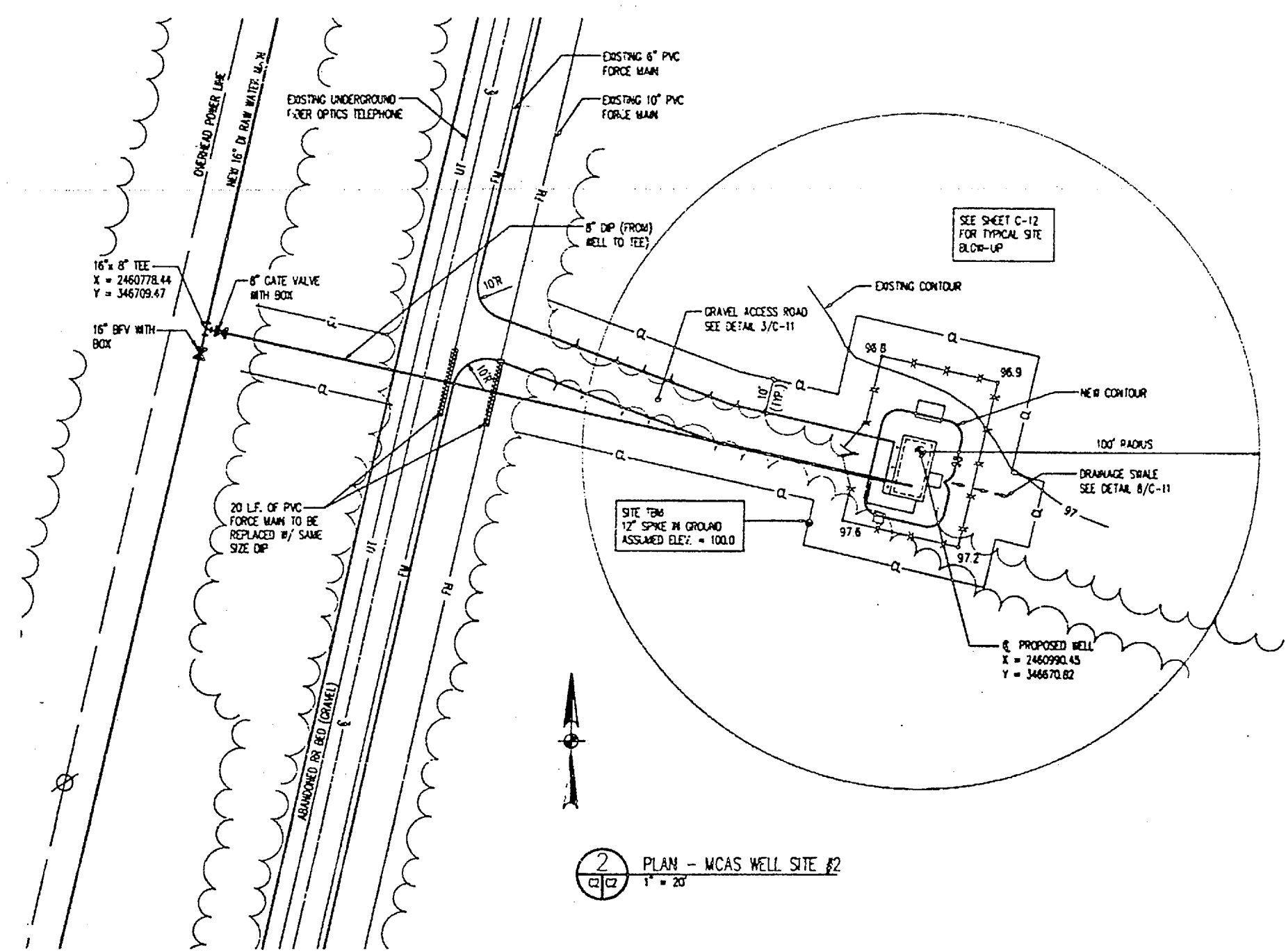
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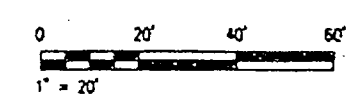
BY	REVISION	DATE	APPROVED



PLAN - MCAS WELL SITE #1  
1" = 20'



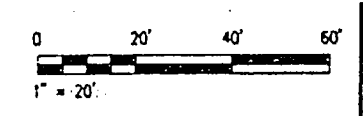
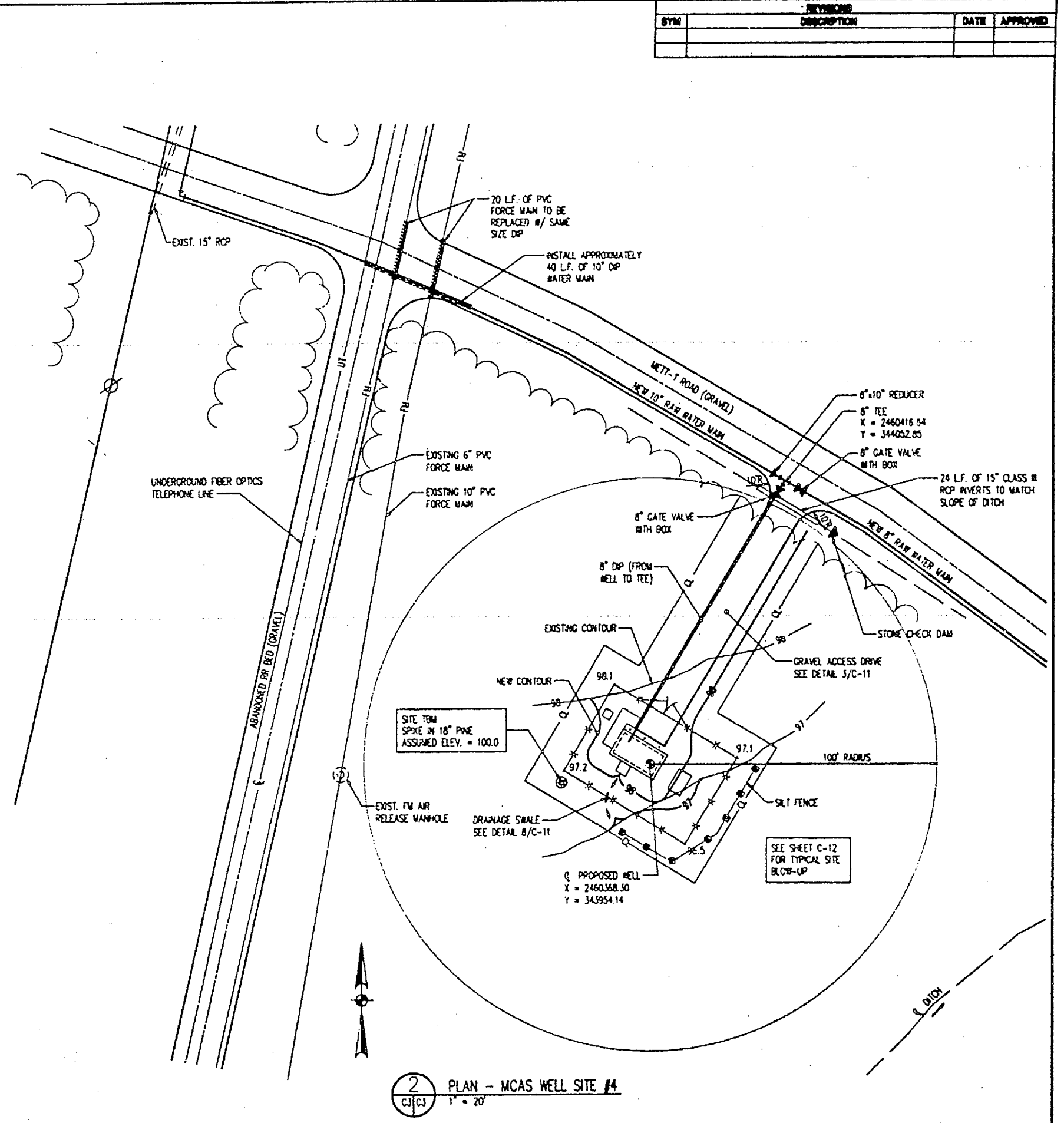
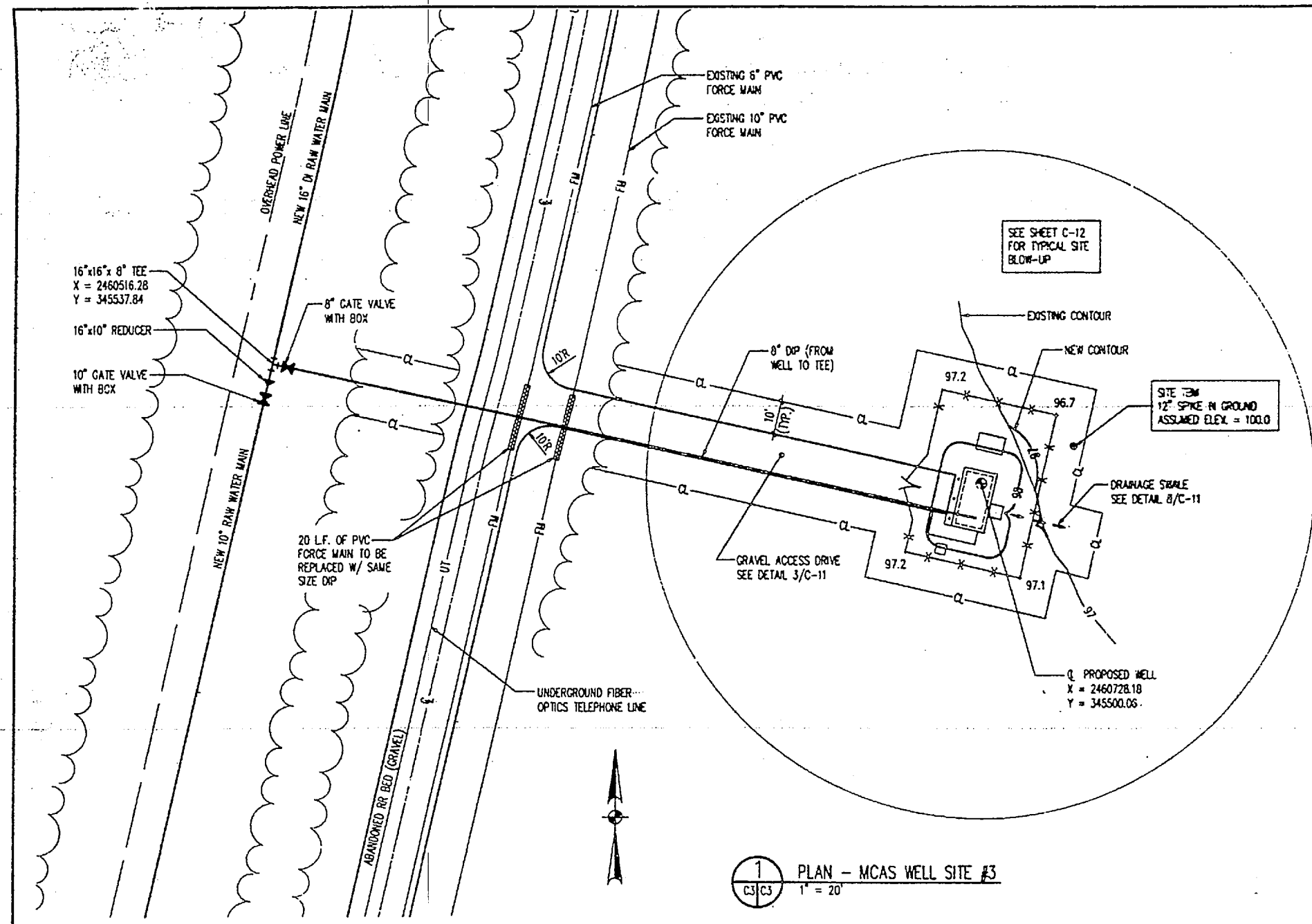
PLAN - MCAS WELL SITE #2  
1" = 20'



		<b>Piedmont-Ober-Hensley</b> ENGINEERS/ARCHITECTS/PLANNERS		<b>C-2</b>	
DEPARTMENT OF THE ARMY <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA					
<b>INSTALL WELLS AT MCAS AND CHB</b> <b>MCAS WELL SITES #1 AND #2</b>					
DESIGNED BY: E. HENSLEY	CHECKED BY: J. HENNING	DATE: 8/00/01	DRAWING NO.: 4320630	SCALE: AS NOTED	SHEET NO.: 2 OF 6



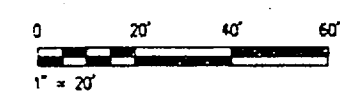
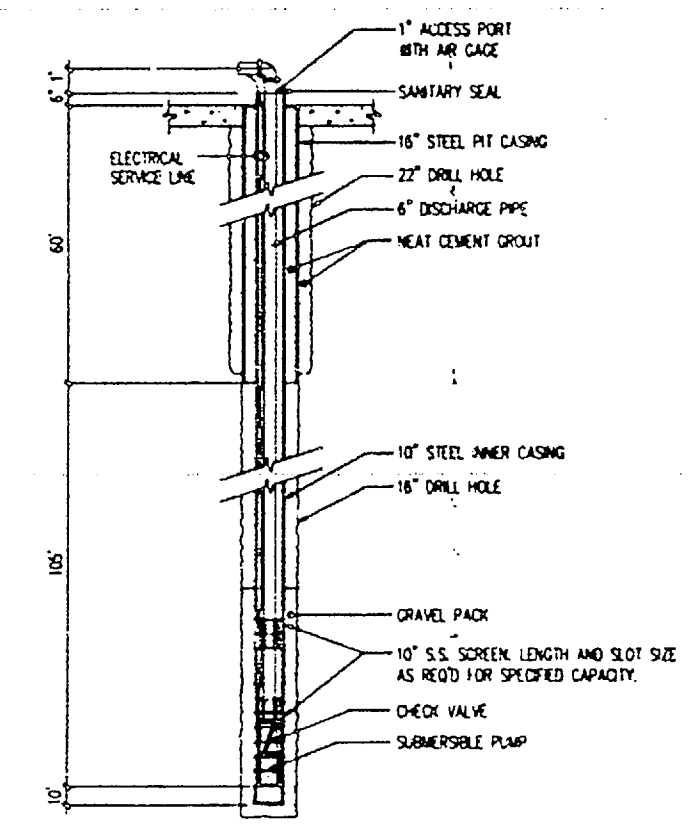
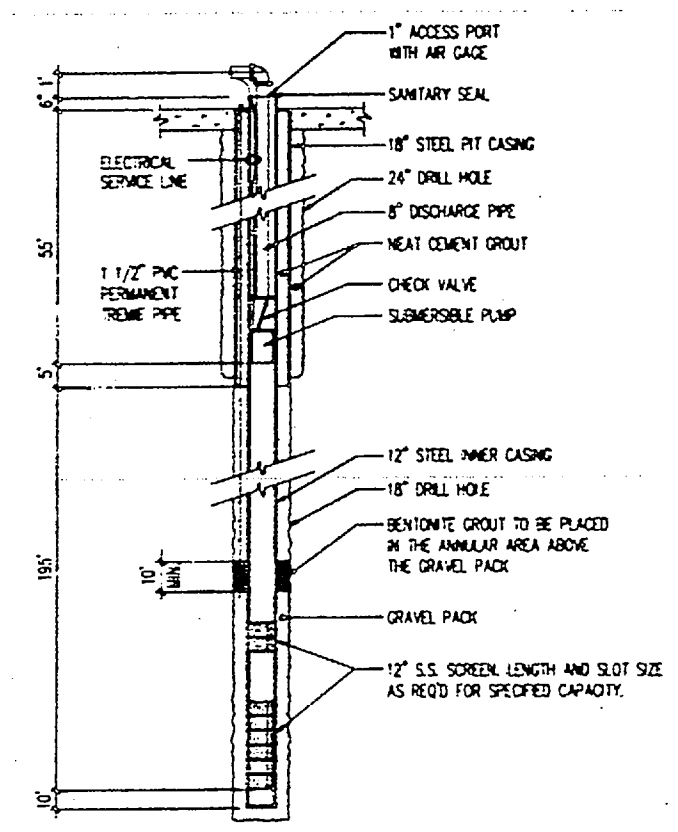
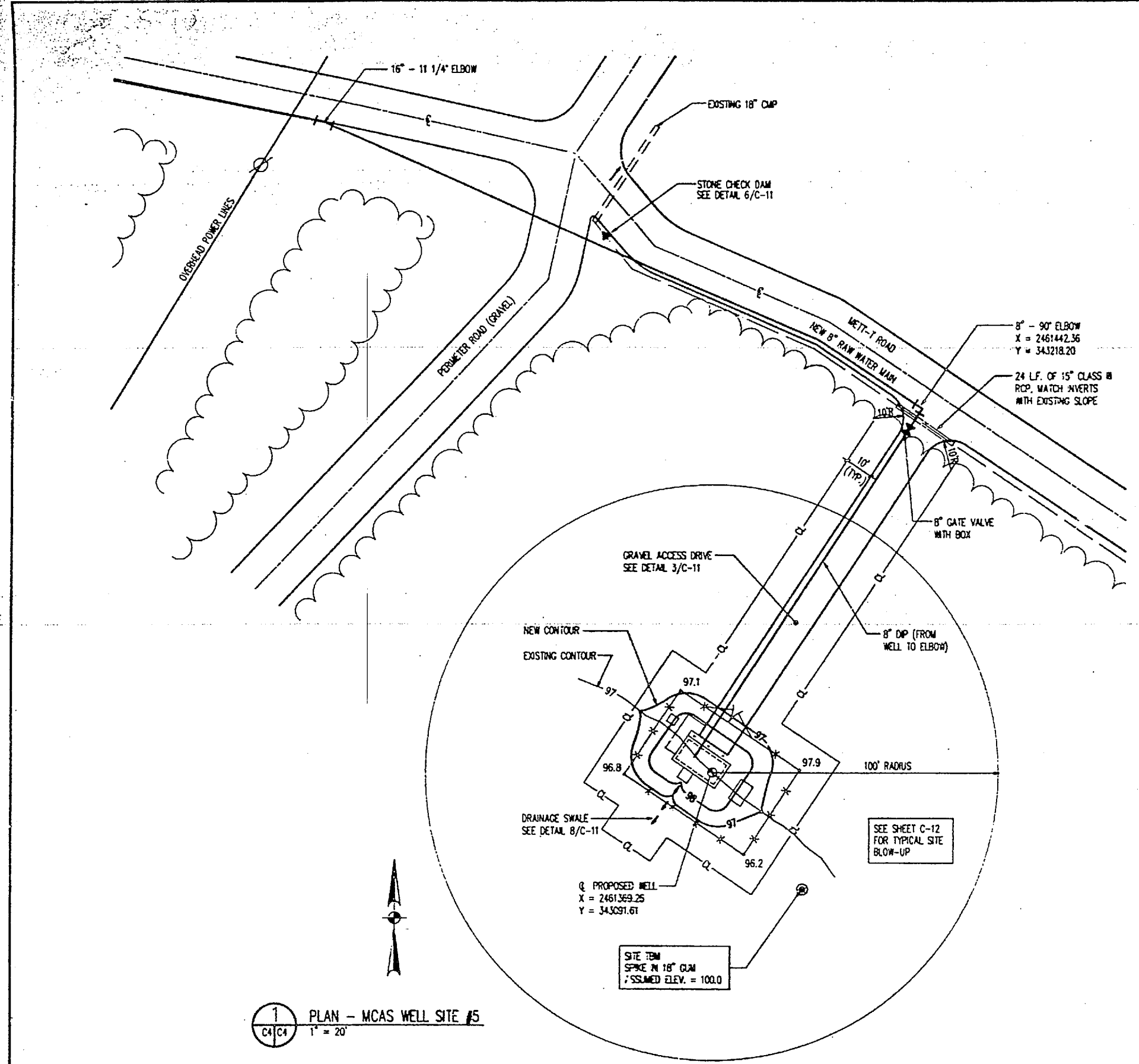
BY	REVISION DESCRIPTION	DATE	APPROVED



		<b>Piedmont Oser Hensley</b> ENGINEERS/ARCHITECTS/PLANNERS		<b>C-3</b>	
DEPARTMENT OF THE ARMY <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA					
<b>INSTALL WELLS AT MCAS AND CHS</b> <b>MCAS WELL SITES #3 AND #4</b>					
DESIGNED BY: T. HENSLEY CHECKED BY: K. HENSLEY DRAWN BY: J. MATTHEW DATE: 08/05/08	PROJECT NO.: 80091 DATE: 08/05/08	DRAWING NUMBER: 4320631 SHEET NO. OF 12	SCALE AS NOTED SHEET 08-04-004		



SYM	REVISION	DATE	APPROVED

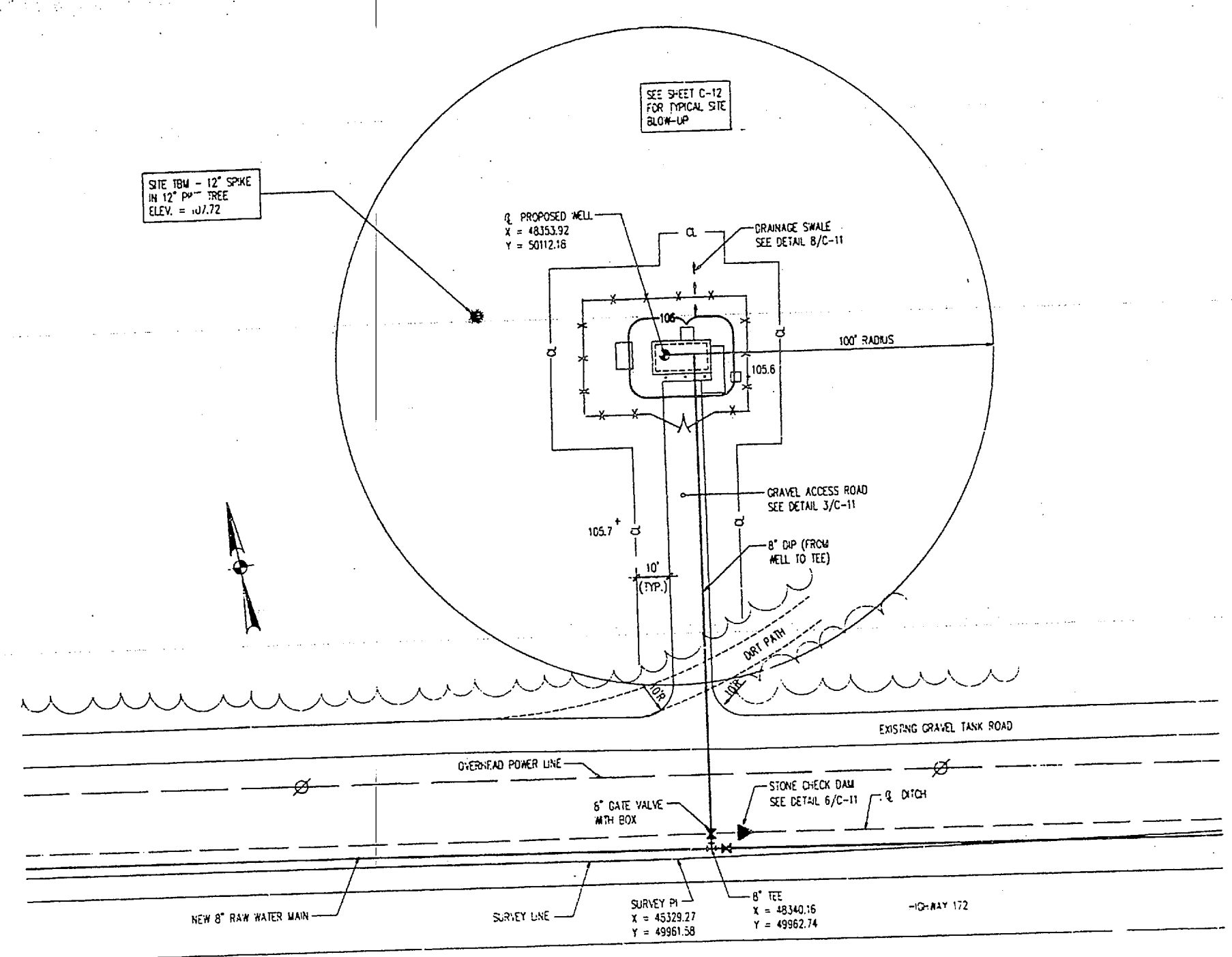


		<b>Piedmont Oser-Hensley</b> ENGINEERS/ARCHITECTS/PLANNERS		<b>C-4</b>	
DEPARTMENT OF THE ARMY <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA					
<b>INSTALL WELLS AT MCAS AND CHB</b> <b>MCAS WELL SITE #5</b> <b>AND MCAS AND CHB WELL DETAILS</b>					
DESIGNED BY: T. HENSEL	CHECKED BY: J. BAYNE	DRAWN BY: F. 80091	DATE: 8/20/82	PROJECT NUMBER: 4320832	SHEET NUMBER: 4320832
APPROVED FOR OR ON BEHALF OF: DATE:	AUTHORITY: DATE:	SCALE AS NOTED:	SPEC. NO.:	SHEET NO.:	OF 12

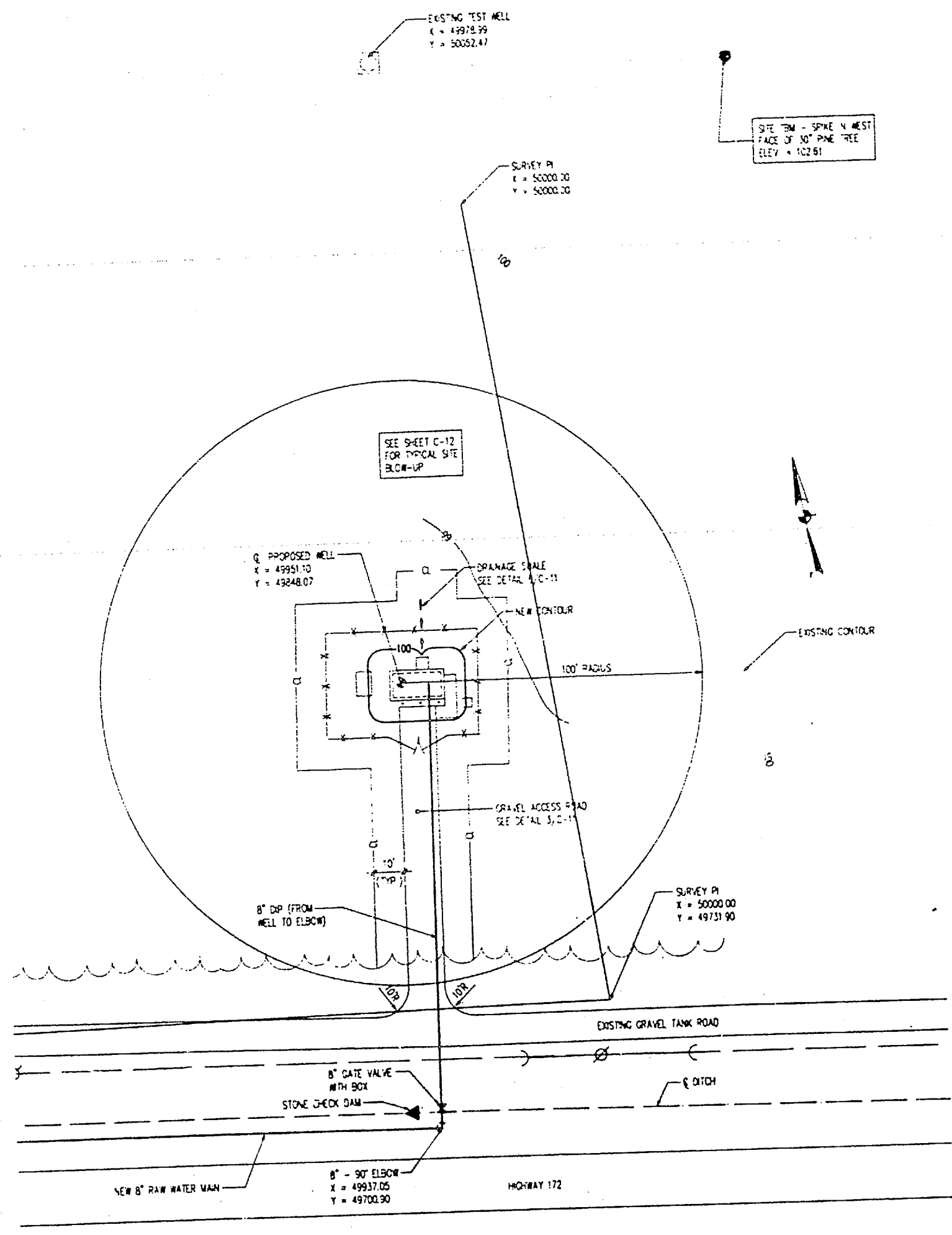




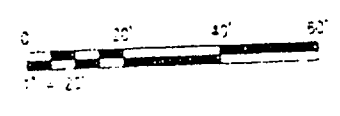
SYM	REVISION DESCRIPTION	DATE	APPROVED



1 PLAN - CHB WELL SITE #1  
SCALE 1" = 20'



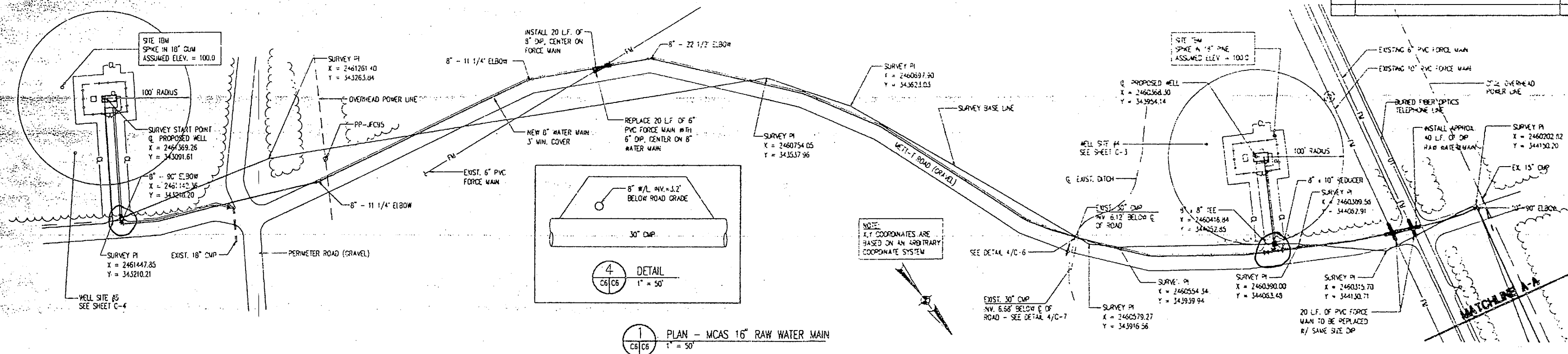
2 PLAN - CHB WELL SITE #2  
SCALE 1" = 20'



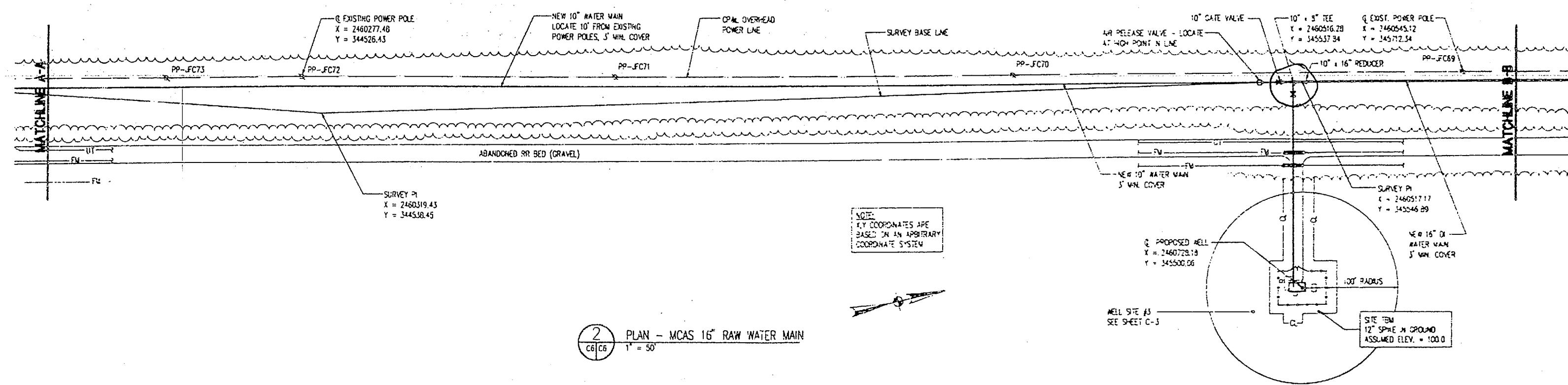
		<b>Piedmont Overhensley</b> ENGINEERS/ARCHITECTS/PLANNERS		<b>C-5</b>	
DEPARTMENT OF THE ARMY <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA <b>INSTALL WELLS AT MCAS AND CHB</b> <b>CHB WELL SITES #1 AND #2</b>					
SUBMITTED BY: T. HOSPELL DATE:	CHECKED BY: J. MAYNARD DATE:	PROJECT NO. <b>80091</b>	DRAWING NO. <b>4320833</b>	SCALE AS NOTED	SHEET 6 OF 16



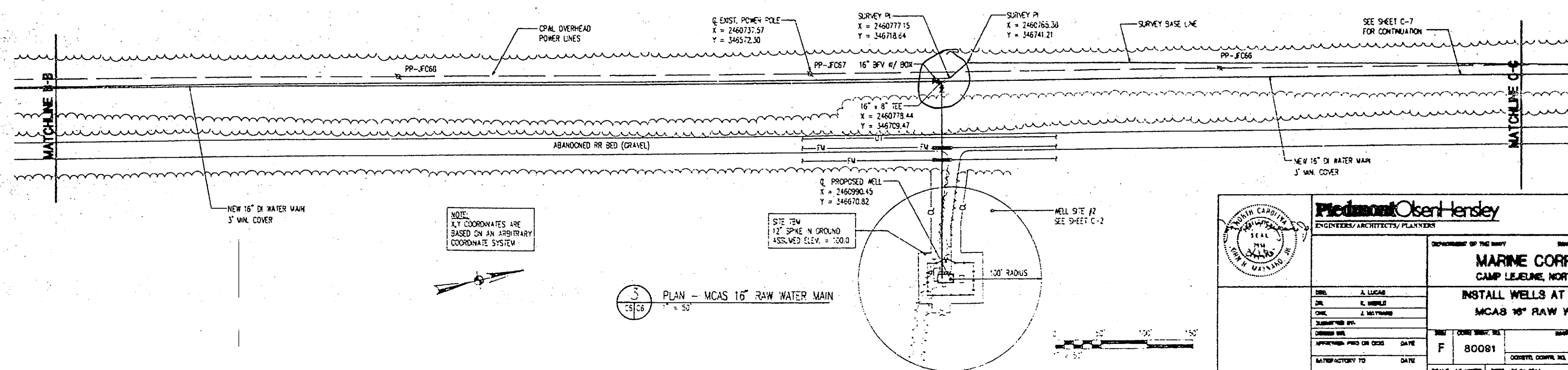
BYM	DESCRIPTION	DATE	APPROVED



1 PLAN - MCAS 16" RAW WATER MAIN  
1" = 50'



2 PLAN - MCAS 16" RAW WATER MAIN  
1" = 50'



3 PLAN - MCAS 16" RAW WATER MAIN  
1" = 50'

	<b>PiedmontOverHensley</b> ENGINEERS/ARCHITECTS/PLANNERS		<b>C-8</b>
	DEPARTMENT OF THE NAVY <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA <b>INSTALL WELLS AT MCAS AND CHB</b> <b>MCAS 16" RAW WATER MAIN</b>		
DESIGNED BY: A. LUCAS DRAWN BY: K. WHEELS CHECKED BY: J. MATHIAS DATE:  /  /  /	SHEET NO.: 80081 DATE:  /  /  /	PROJECT NO.: 4320634 SHEET NO.:  /  /  /	SCALE: AS NOTED SHEET 2 OF 11





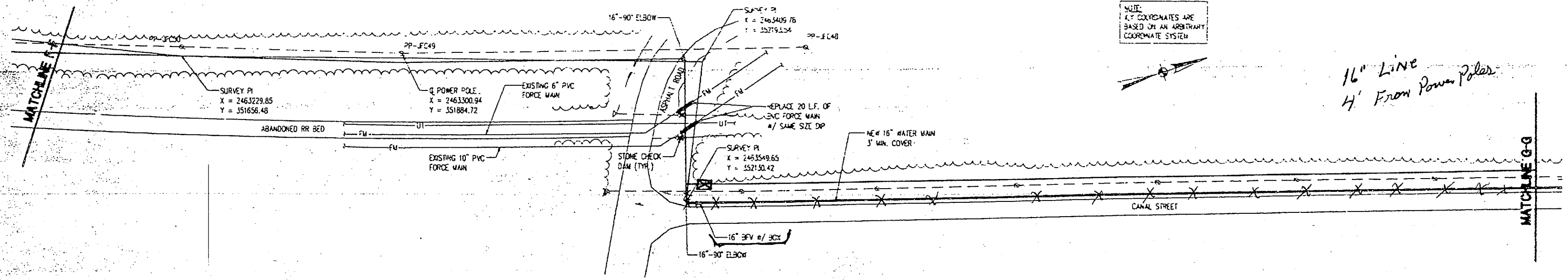
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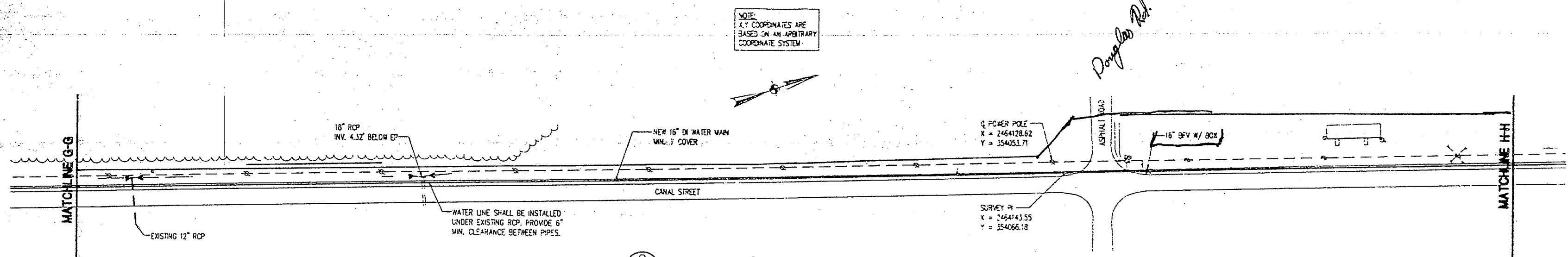
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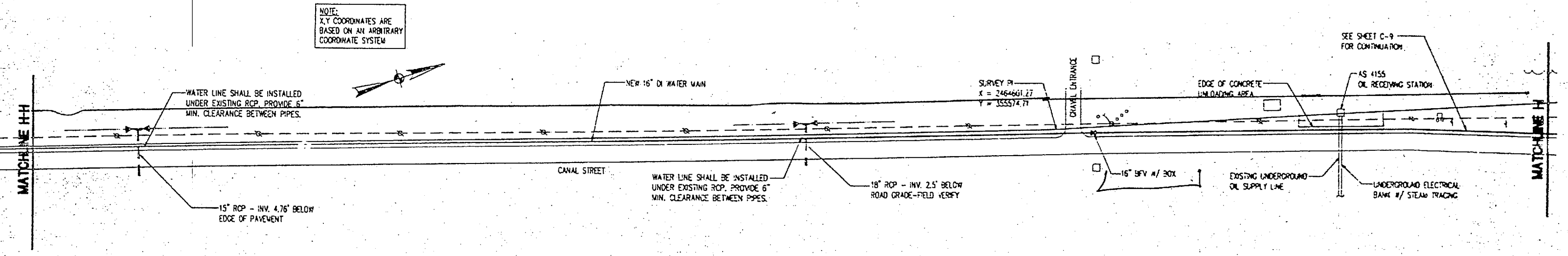
REV	DESCRIPTION	DATE	APPROVED



1 PLAN - MCAS 16" RAW WATER MAIN  
1" = 50'

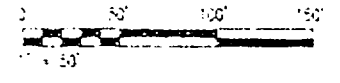


2 PLAN - MC 16" RAW WATER MAIN  
1" = 50'



3 PLAN - MCAS 16" RAW WATER MAIN  
1" = 50'

	<b>Piedmont Oser-Hensley</b> ENGINEERS/ARCHITECTS/PLANNERS		<b>C-8</b>
	DEPARTMENT OF THE ARMY MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA INSTALL WELLS AT MCAS AND CHE MCAS 16" RAW WATER MAIN		
DESIGNED BY A. LUCAS	DRAWN BY J. SHIBBLE	CHECKED BY J. WATKINS	SHEET NO. 80091
SUBMITTED BY APPROVED FOR OR ON BEHALF OF DATE	DATE	CONTROL COPY NO. 4320638	SHEET # OF #
SATISFACTORY TO DATE	SCALE AS NOTED	SHEET NO. 08-88-0044	SHEET # OF #



1

2

3

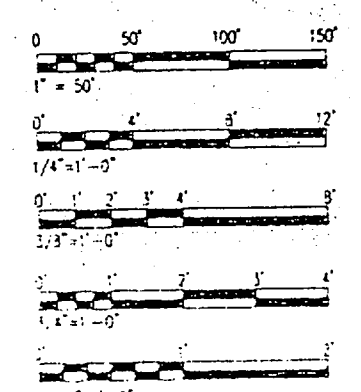
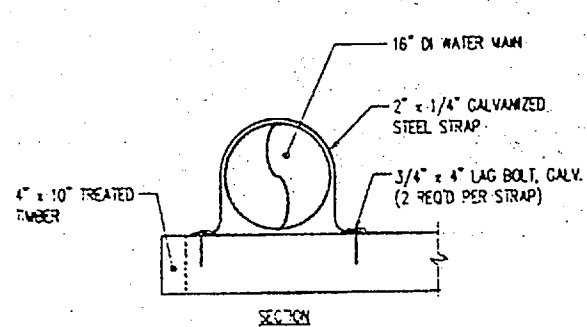
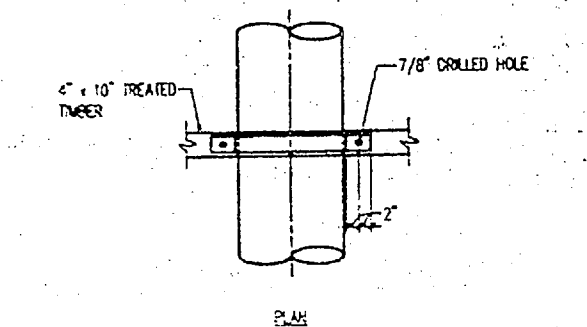
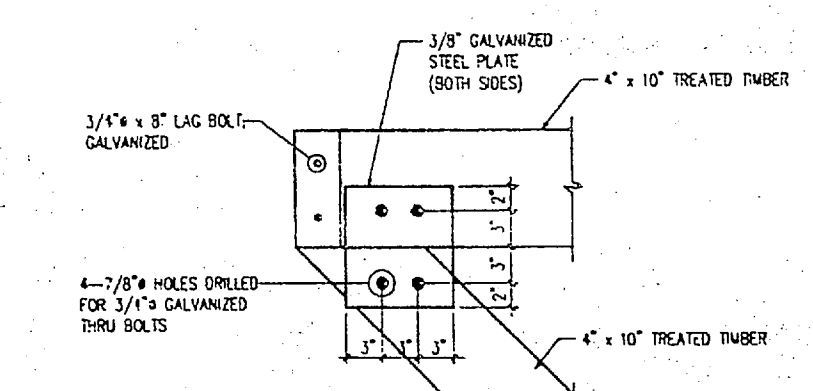
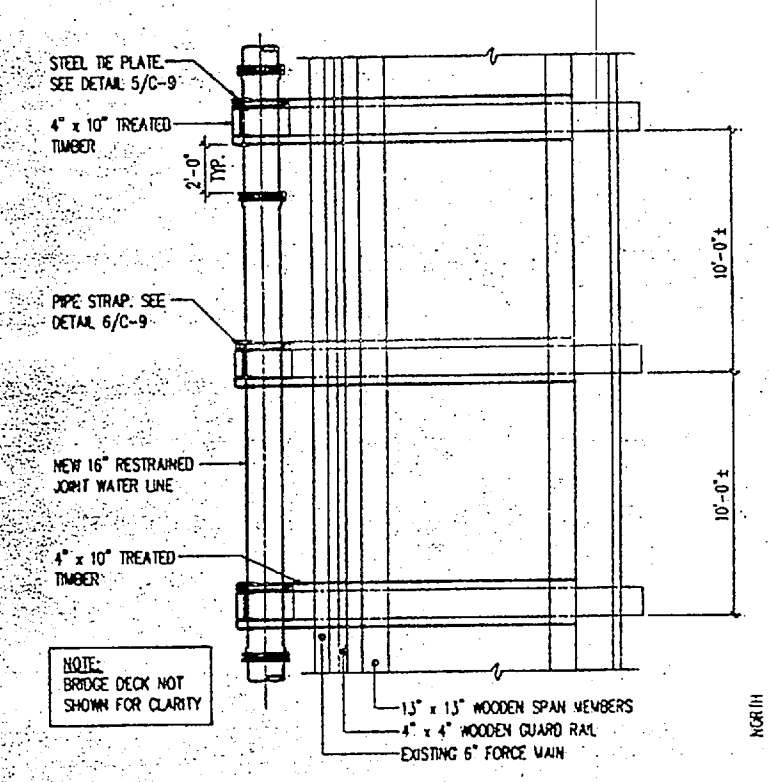
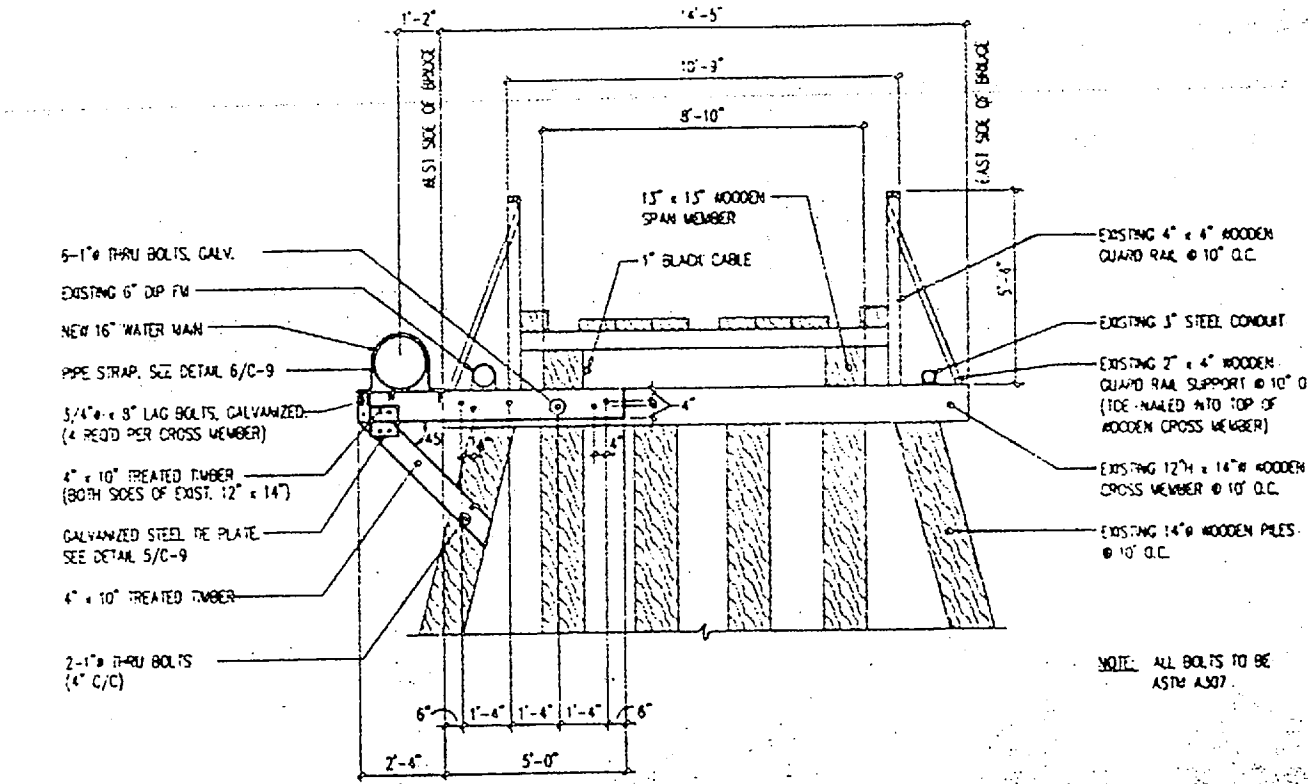
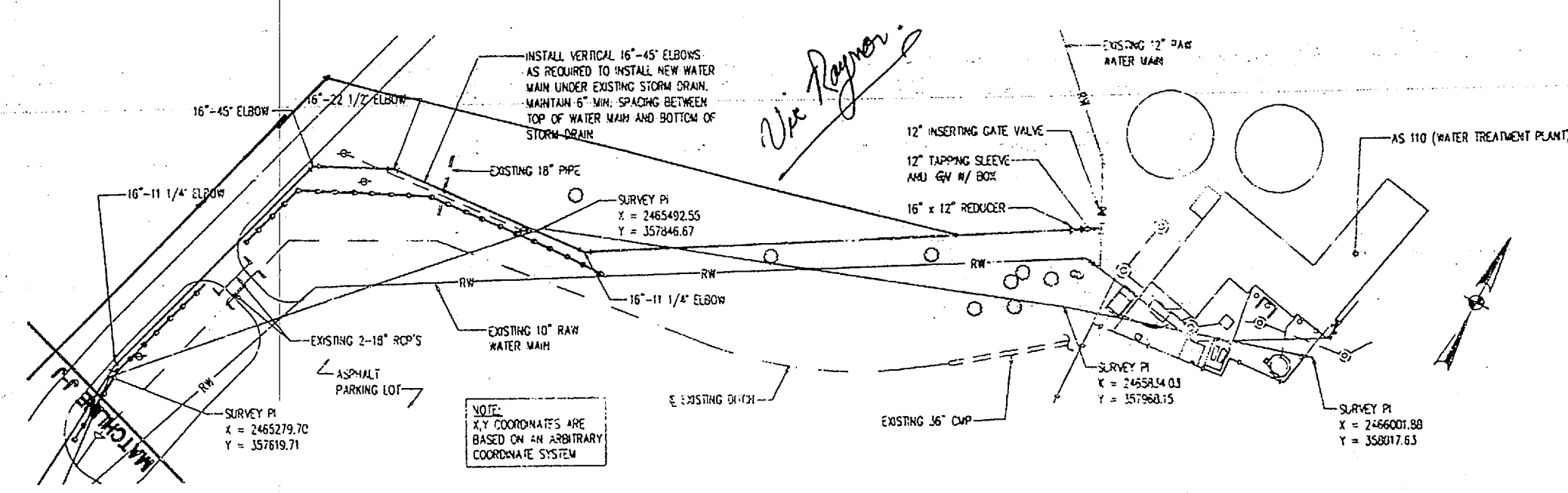
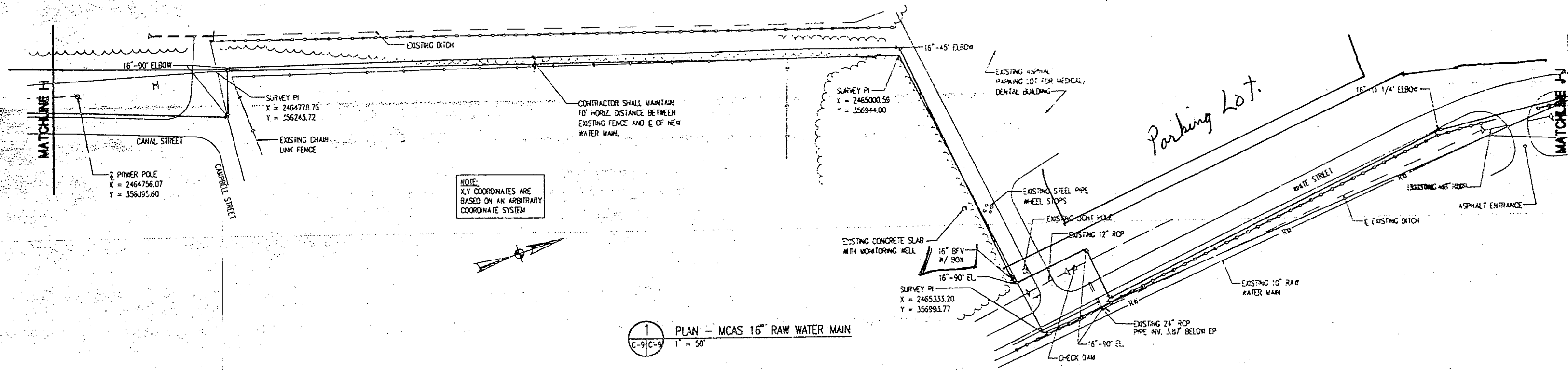
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5

6



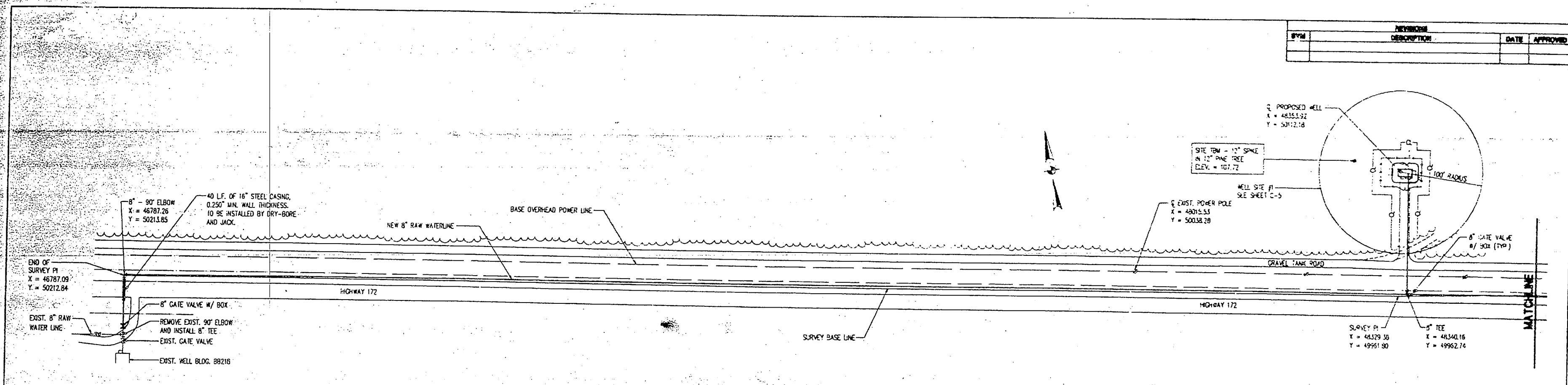
BY	REVISION DESCRIPTION	DATE	APPROVED



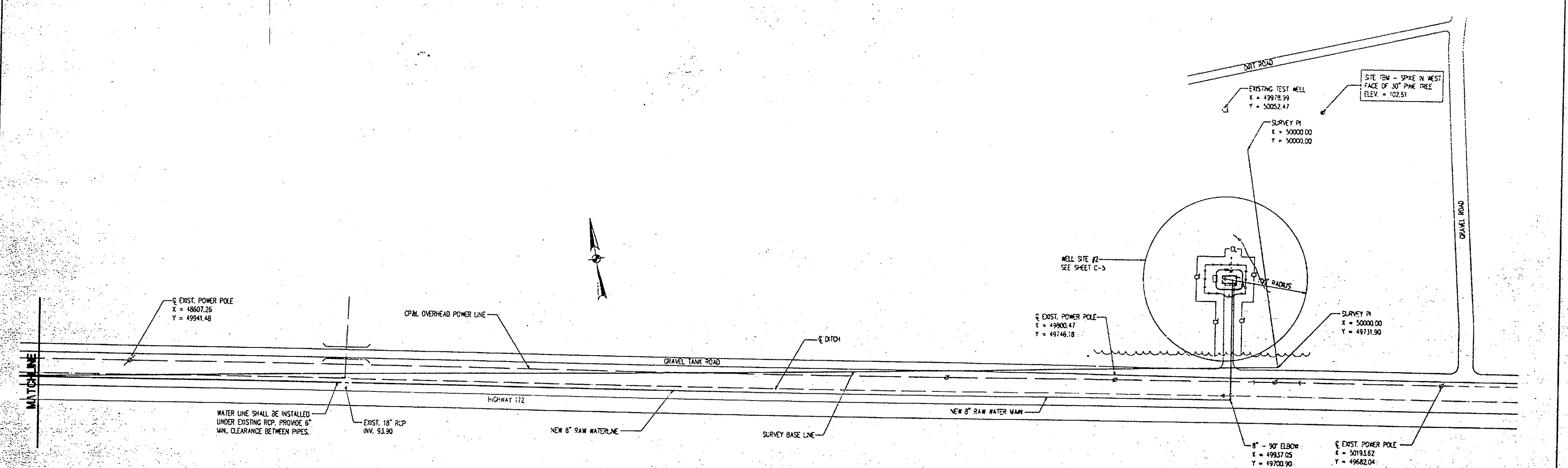
		<b>Piedmont Over Hensley</b> ENGINEERS/ARCHITECTS/PLANNERS		<b>C-9</b>	
DEPARTMENT OF THE NAVY MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA					
INSTALL WELLS AT MCAS AND CHB MCAS 16" RAW WATER MAIN					
DESIGNED BY: A. LUCAS CHECKED BY: E. HENSLEY DATE: 1/13/09	DRAWING NO.: 4320637	SCALE: AS NOTED SHEET: 9 OF 10			



BY WH	REVISION	DATE	APPROVED



1 PLAN - CHB 8" RAW WATER MAIN  
1" = 50'

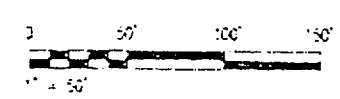


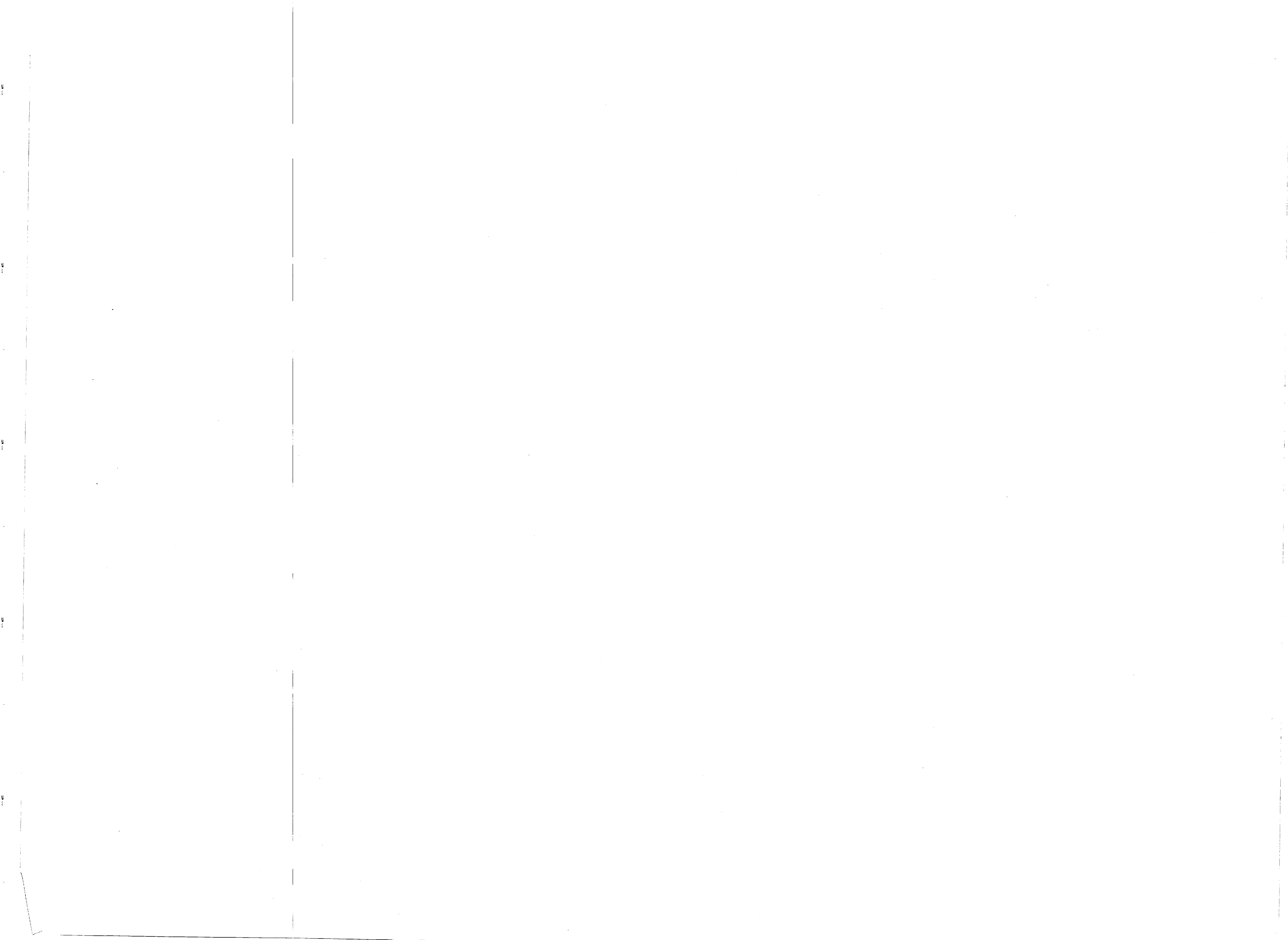
2 PLAN - CHB 8" RAW WATER MAIN  
1" = 50'

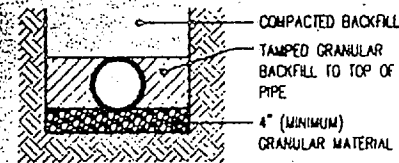
**Piedmont Oser-Hensley**  
ENGINEERS/ARCHITECTS/PLANNERS

**C-10**

DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND	
<b>MARINE CORPS BASE</b>			
CAMP LEJUNE, NORTH CAROLINA			
<b>INSTALL WELLS AT MCAS AND CHB</b>			
<b>CHB 8" RAW WATER MAIN</b>			
DESIGNED BY T. HENFELL	DATE FEBRUARY 1981	PROJECT NUMBER 4320638	SCALE AS NOTED
CHECKED BY J. W. HENFELL	DATE FEBRUARY 1981	CONTRACT NUMBER NAVFAC-80-0-0044	SHEET 10 OF 10
APPROVED FOR CONSTRUCTION DATE	DATE		
SATISFACTORY TO DATE	DATE		



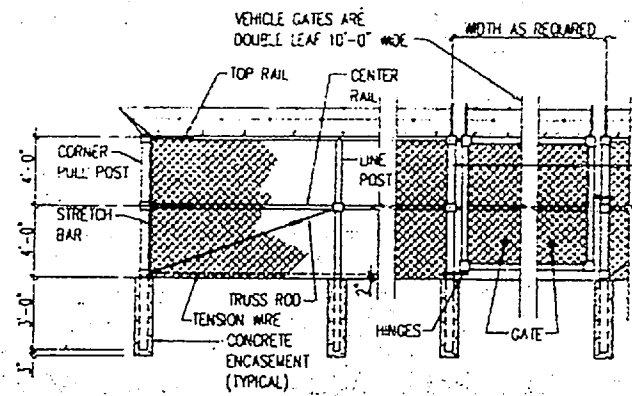




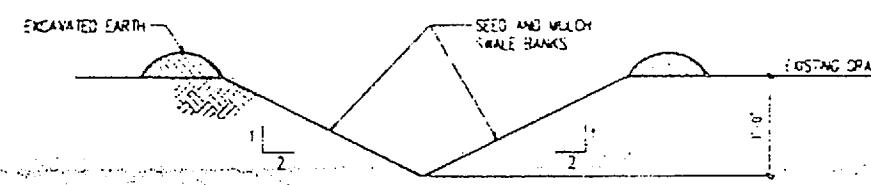
**GENERAL NOTES:**

1. USE SUITABLE TAMP RODS TO ENSURE BEDDING IS THOROUGHLY TAMPED UNDER THE PIPE.
2. TRENCH CONSTRUCTION SHALL COMPLY WITH ALL OSHA REGULATIONS, LATEST REVISIONS.
3. GRANULAR MATERIAL SHALL BE CRUSHED STONE, CLEAN SAND, OR OTHER GRANULAR, FREELY DRAINING MATERIAL.

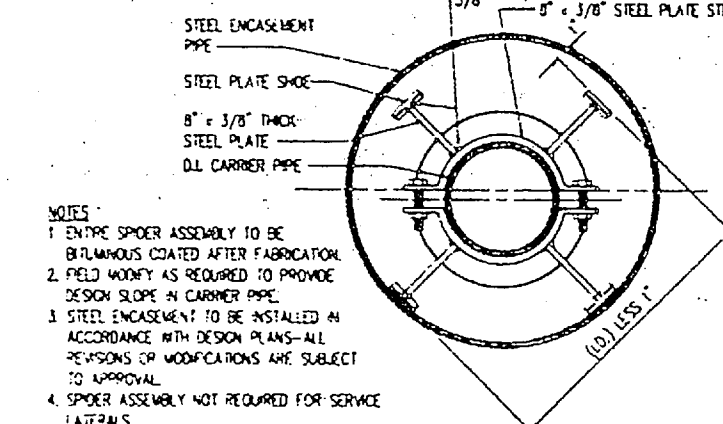
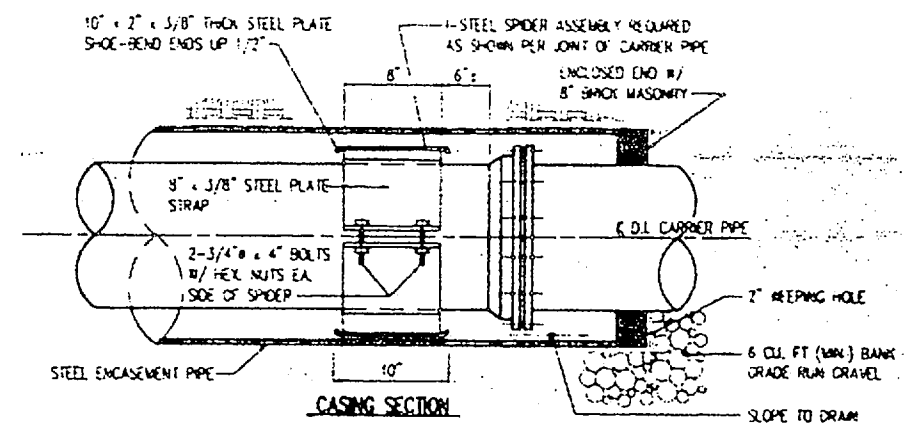
**1 PIPE BEDDING**  
C11  
NO SCALE



**5 CHAIN LINK FENCE**  
C-2, C-3, C-4, C-5, C-12  
C11  
NO SCALE

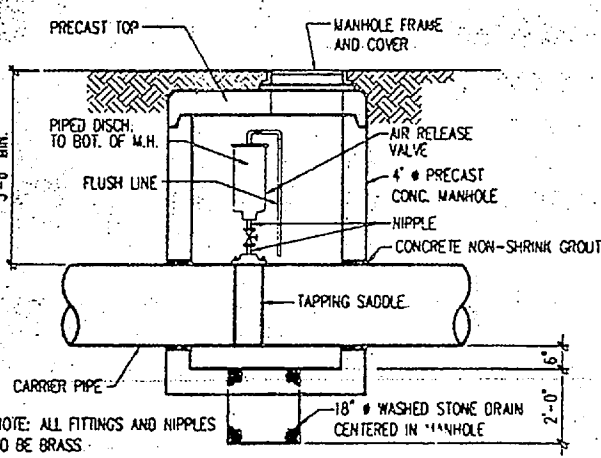


**8 DRAINAGE SWALE**  
C-2, C-3, C-4, C-5, C-12  
C11  
1" = 1'-0"

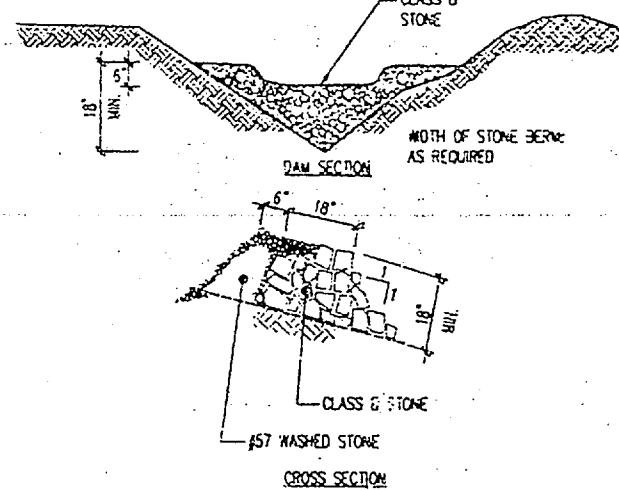


- NOTES:**
1. ENTIRE SPOON ASSEMBLY TO BE BITUMINOUS COATED AFTER FABRICATION.
  2. FIELD JOINTS AS REQUIRED TO PROVIDE DESIGN SLOPE IN CARRIER PIPE.
  3. STEEL ENCASUREMENT TO BE INSTALLED IN ACCORDANCE WITH DESIGN PLANS—ALL REVISIONS OR MODIFICATIONS ARE SUBJECT TO APPROVAL.
  4. SPOON ASSEMBLY NOT REQUIRED FOR SERVICE LATERALS.

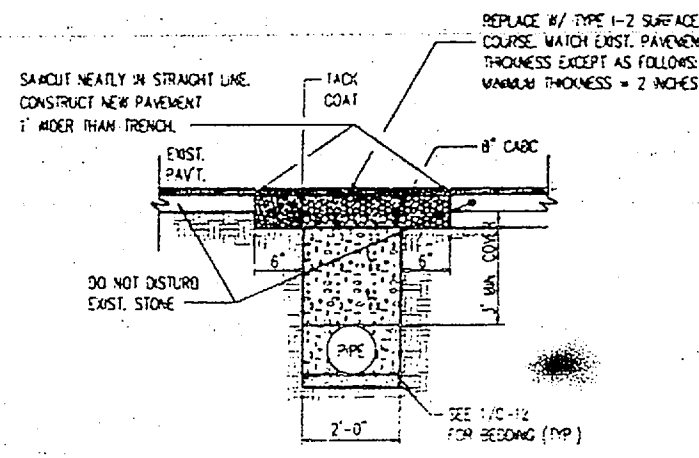
**11 END ELEVATION STEEL ENCASUREMENT PIPE**  
C11  
NO SCALE



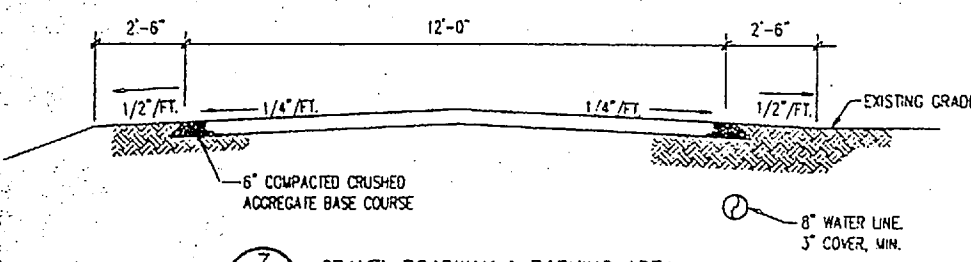
**2 AIR RELEASE MANHOLE**  
C11  
NO SCALE



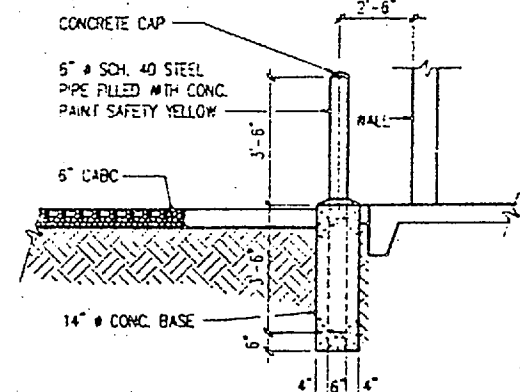
**6 TEMPORARY CHECK DAM**  
C11  
NO SCALE



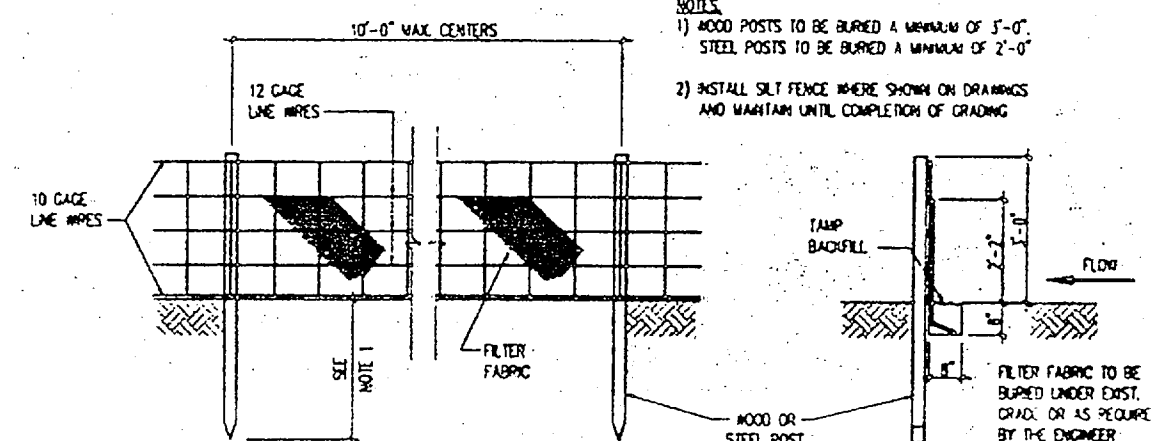
**9 ASPHALT PAVEMENT CUT AND REPAIR**  
C11  
NO SCALE



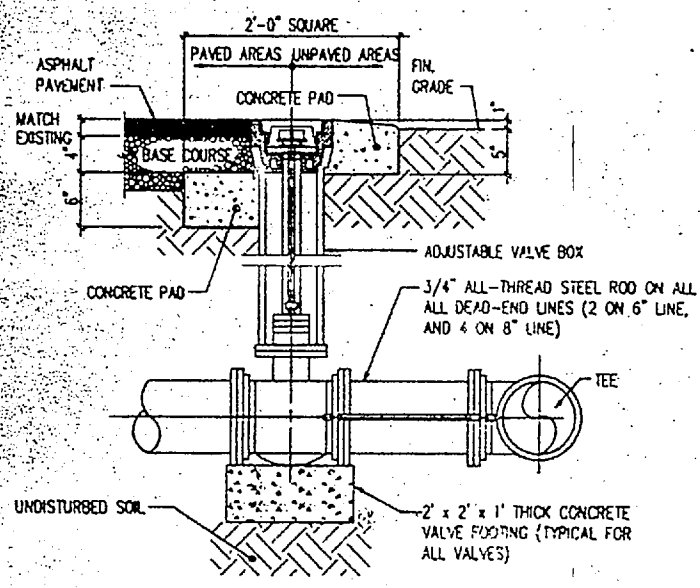
**3 GRAVEL ROADWAY & PARKING AREA**  
C-2, C-3, C-4, C-5, C-12  
C11  
NO SCALE



**10 GUARD POST**  
C12/C11  
3/8" = 1'-0"

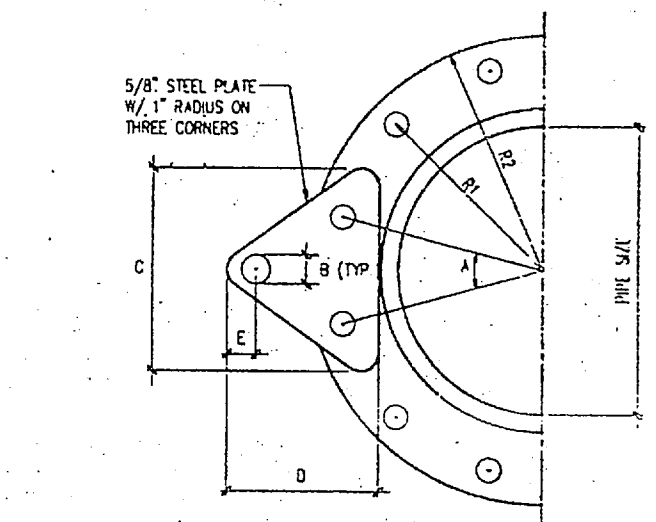


**12 SILT FENCE**  
C11  
NO SCALE



- NOTE:**
1. STEEL RODS AND BOLTS SHALL BE COATED WITH BITUMINOUS PAINT.
  2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL FITTINGS.

**4 VALVE SETTING AND VALVE BOX DETAIL**  
C11  
NO SCALE



**7 TIE ROD AND BRACKET**  
C11  
NO SCALE

PIPE SIZE	TIE ROD BRACKET							NO.	DIA.
	R1	R2	A	B	C	D	E		
6"	4 3/4"	5 1/2"	45"	7/8"	5 3/4"	3 7/8"	1"	4	3/4"
8"	5 7/8"	6 3/4"	45"	7/8"	6 3/4"	4 3/8"	1"	4	3/4"
10"	7 1/8"	8"	30"	1"	6 7/8"	4 7/8"	1"	4	7/8"
12"	8 1/2"	9 1/2"	30"	1"	8"	5"	1"	4	7/8"

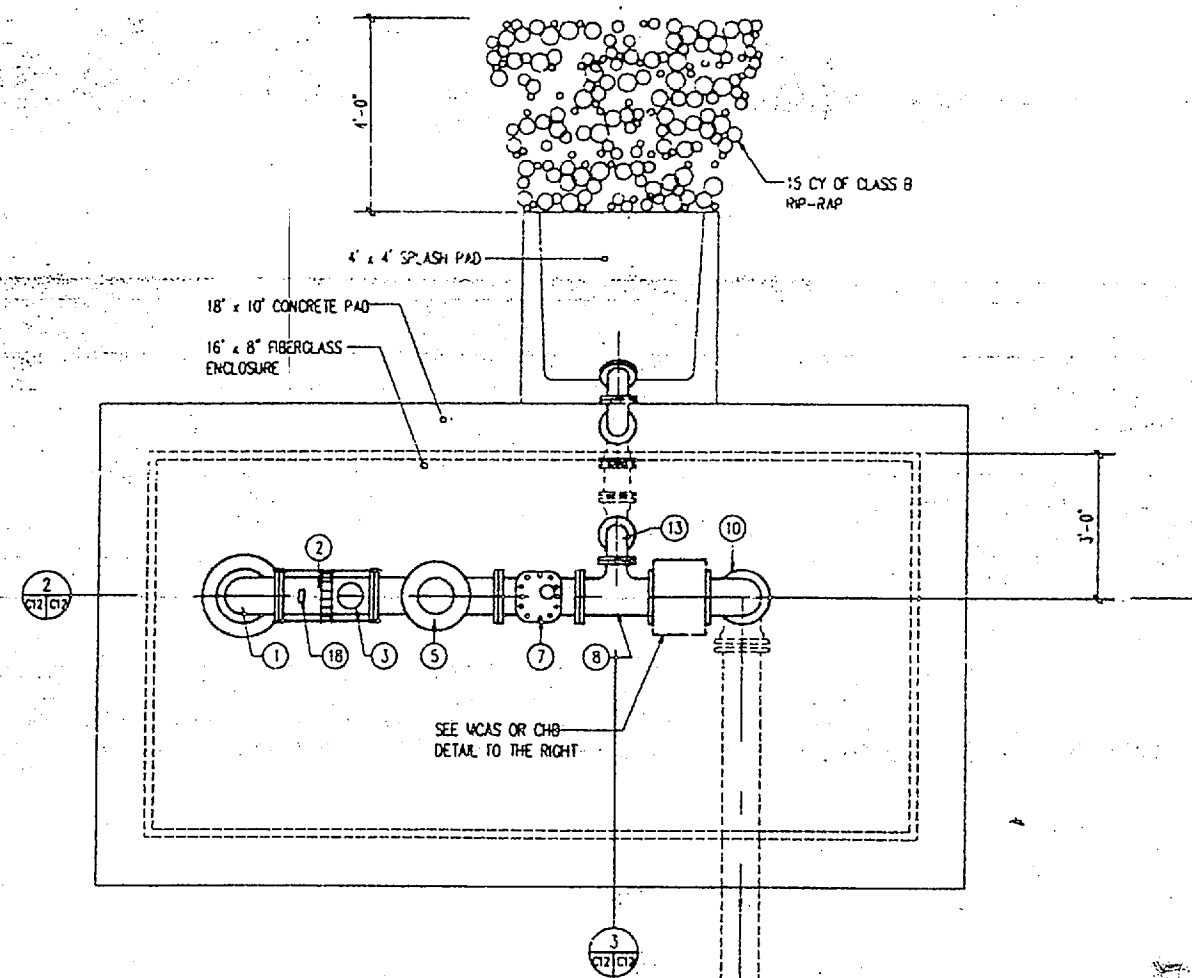
DATE	DESCRIPTION	DATE	APPROVED

		<b>Piedmont Oser-Hensley</b> ENGINEERS/ARCHITECTS/PLANNERS		<b>C-11</b>	
DEPARTMENT OF THE ARMY MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA INSTALL WELLS AT MCAS AND CHB MISCELLANEOUS DETAILS					
DESIGNED BY: DRAWN BY: CHECKED BY: APPROVED BY:	DATE: DATE: DATE: DATE:	SHEET NO.: <b>F 80091</b>	SHEET DESIGN NUMBER: 4320839	CONSTRUCTION NUMBER: 4320839	SHEET NO. OF 10

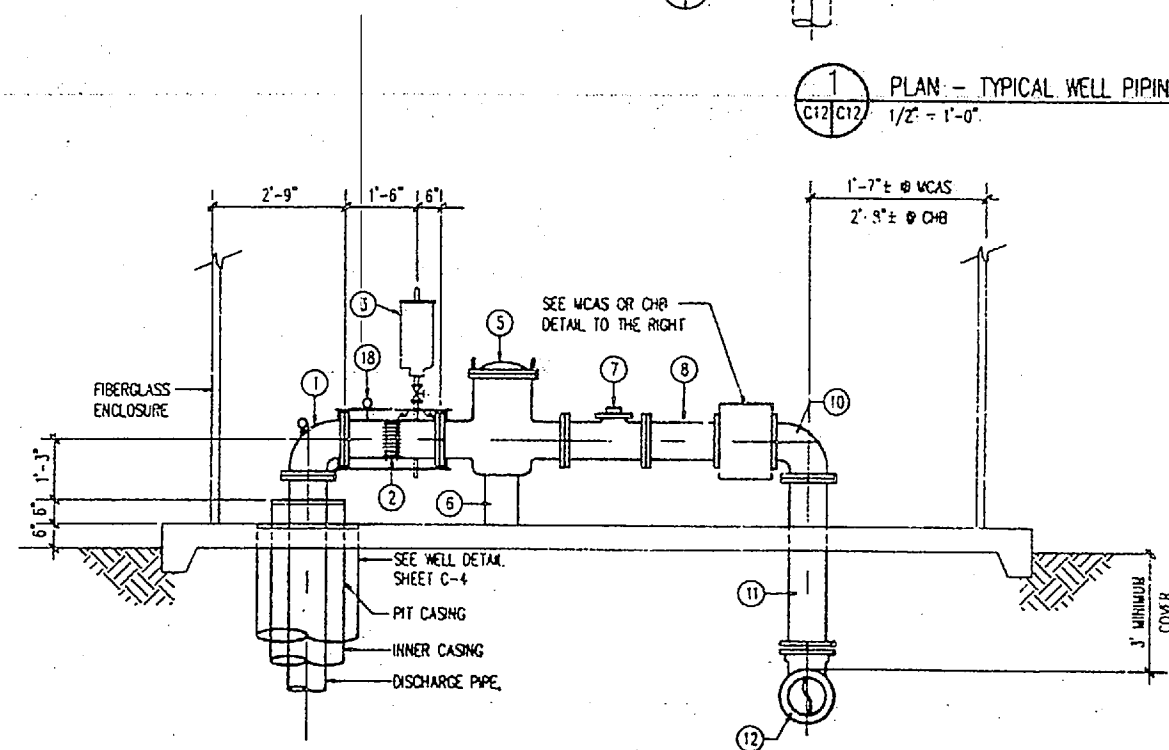




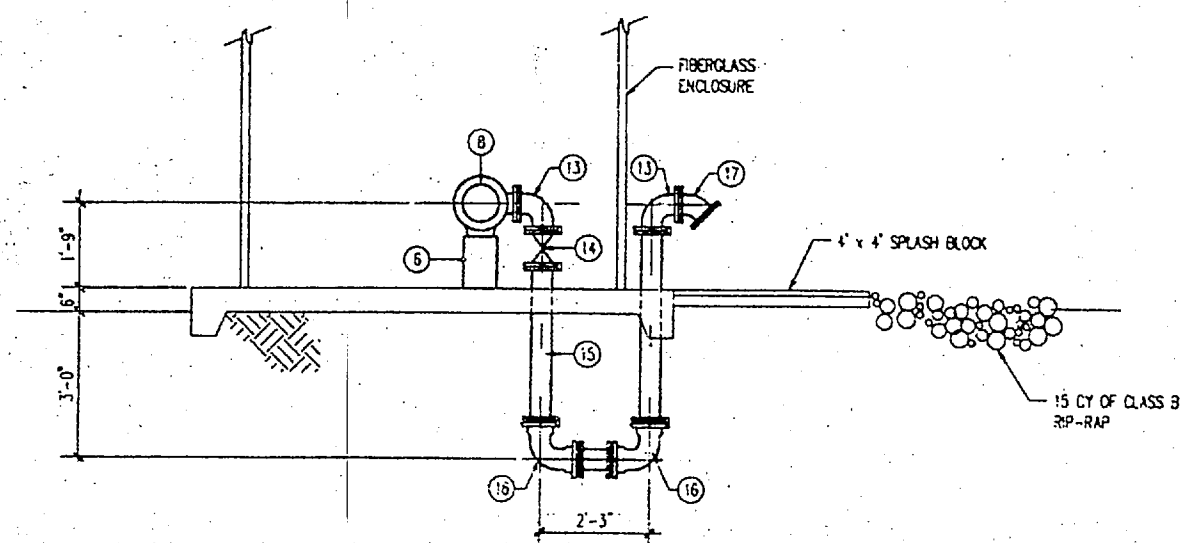
SYM	REVISION		DATE	APPROVED
	DESCRIPTION			



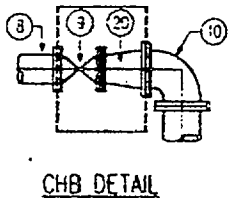
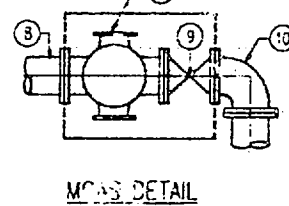
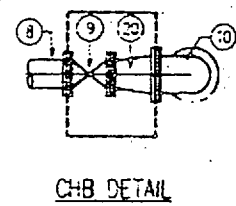
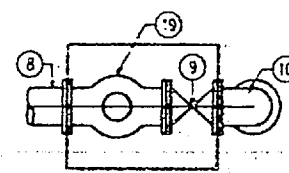
1 PLAN - TYPICAL WELL PIPING LAYOUT  
1/2" = 1'-0"



2 SECTION - TYPICAL WELL PIPING LAYOUT  
1/2" = 1'-0"

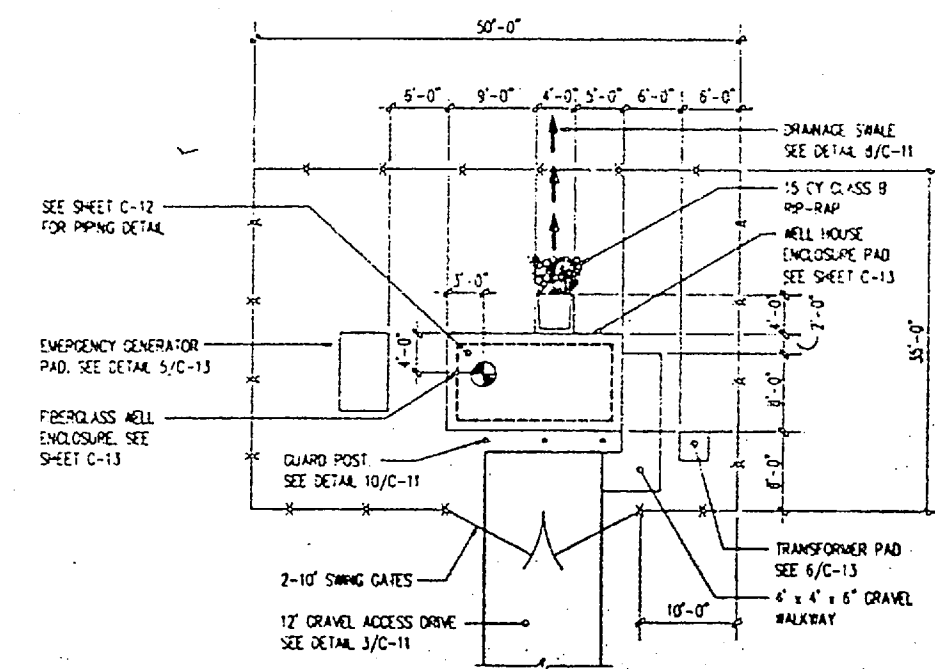


3 SECTION - TYPICAL WELL PIPING LAYOUT  
1/2" = 1'-0"



○ SYMBOL TABLE

ID	DESCRIPTION	SIZE	
		MCAS	CHB
1	90° DISCHARGE ELBOW #/ LISTING LUG	8"	6"
2	RODDED COUPLING	8"	6"
3	AIR RELEASE VALVE	1"	1"
4	NOT USED		
5	STRAINER	8"	6"
6	CONCRETE SUPPORT		
7	ORBITAL WELDER	8"	6"
8	TEE	8" x 4"	6" x 4"
9	GATE VALVE	8"	6"
10	90° ELBOW (FL)	8"	6"
11	SPOOL PIECE	8"	6"
12	90° ELBOW (ML)	8"	6"
13	90° ELBOW (FL)	4"	4"
14	GATE VALVE	4"	4"
15	SPOOL PIECE	4"	4"
16	90° ELBOW (ML)	4"	4"
17	45° ELBOW (FL) #/ INSECT SCREEN	4"	4"
18	DISCHARGE PRESSURE GAUGE	0-100 PSI	0-100 PSI
19	PRESSURE REGULATING VALVE	8"	N/A
20	REDUCER	N/A	8" x 6"



4 PLAN - TYPICAL WELL SITE  
1" = 10'

	<b>Piedmont Oser-Hensley</b> ENGINEERS/ARCHITECTS/PLANNERS		<b>C-12</b>	
	DEPARTMENT OF THE NAVY MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA			
TITLE: T. HENSLY DRN: T. HENSLY CIVIL: J. SAFFORD		INSTALL WELLS AT MCAS AND CHB WELL PIPING AND WELL SITE DETAILS		
DRAWING NO. F 80091 APPROVED PWD OR CDD: DATE:		SHEET NO. 4320840 SHEET 11 OF 11		
SATISFACTORY TO: DATE:		SCALE: AS NOTED SHEET: 04-00-1040		

