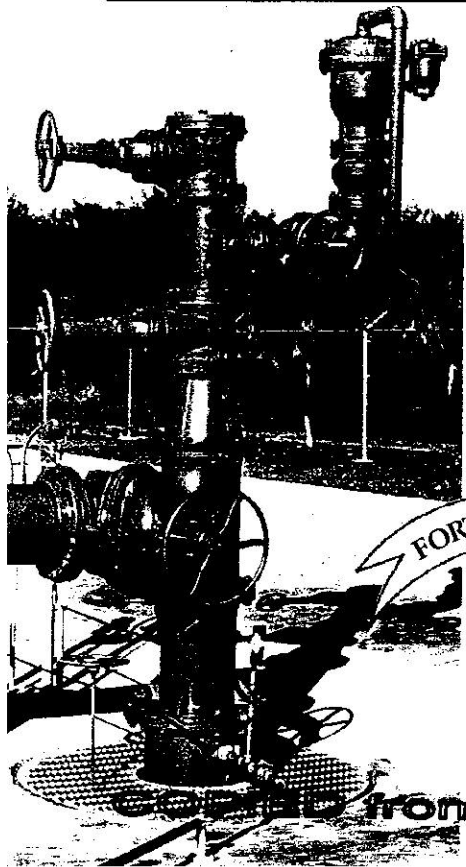


Class I Test/Injection Well Construction and Testing Permit Application

for the
**Fort Myers Water Treatment Plant
Deep Injection Well**



Prepared for:



Prepared by:



January 2000
155336

155336 IW 60 8/02

J2002TPA



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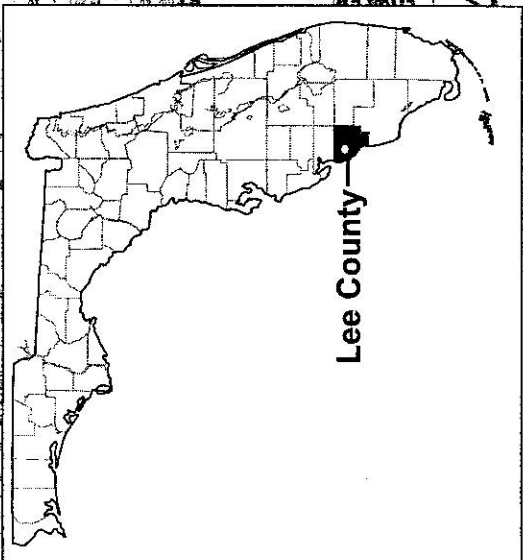
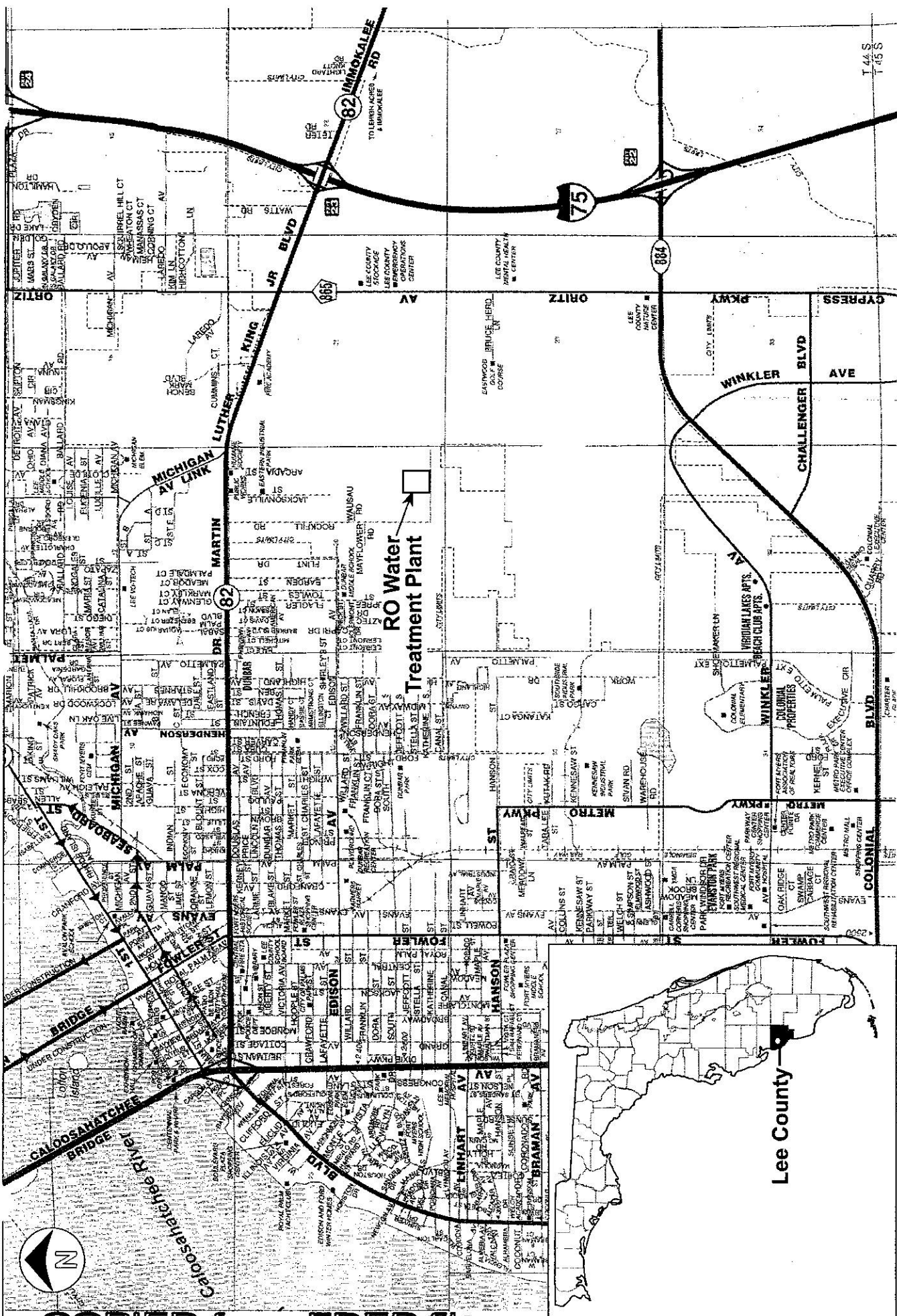
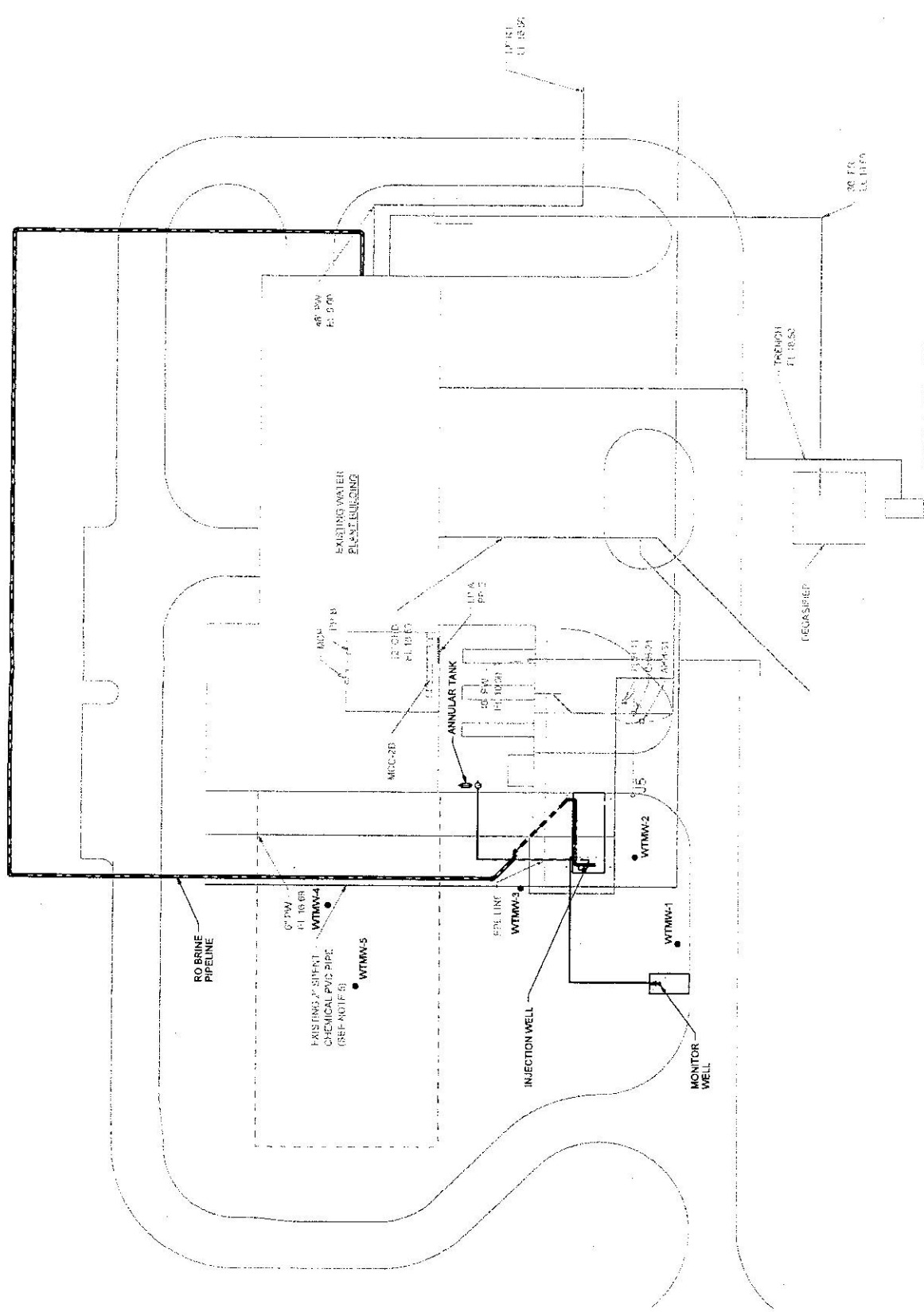
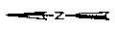


FIGURE 1-1
City of Fort Myers RO WTP Location Map

CH2MHILL



Three concentric steel casings were used to construct IW-1 (36-inch, 28-inch, and 18-inch outside diameters). Table 2-1 summarizes the casing depths and the types and quantities of cement used during the construction of IW-1. Figure 2-3 depicts the completion details diagram of IW-1. The casing mill certificates for each of the casing strings are provided in Appendix D.

TABLE 2-1
 Summary of Casing Setting Depths and Cement Quantities; Deep Injection Well (IW-1)
 City of Fort Myers ROWTP Deep Injection Well and Facilities Completion Report

Casing	Casing Material	Outside Diameter (in)	Inside Diameter (in)	Casing Thickness (in)	Casing Depth (ft bls)	Date	Cement Stage	Type of Cement	Quantity of Cement (ft3)	
Shallow	Steel	36.00	25.25	0.375	450	11/10/2001	#1	Neat	645	
						Remarks	Pressure grout from bottom of casing			
						11/10/2001	#1	6% bentonite	701	
						Remarks	Pressure grout from bottom of casing			
						11/10/2001	#2	6% bentonite	320	
						Remarks	Tremied into annulus from 90 ft bls			
Intermediate	Steel	28.00	27.00	0.500	1,650	12/20/2001	#1	Neat	315	
						Remarks	Pressure grout from bottom of casing			
						12/20/2001	#1	4% bentonite	805	
						Remarks	Pressure grout from bottom of casing			
						12/21/2001	#2	4% bentonite	1,570	
						Remarks	Tremied into annulus from 1,270 ft bls			
Final	Steel	18.00	17.00	0.500	2,305	02/15/2002	#1	Neat	224	
						Remarks	Tremied into annulus from 2,305 ft bls			
						02/15/2002	#2	4% bentonite	353	
						Remarks	Tremied into annulus from 2,202 ft bls			
						02/16/2002	#3	4% bentonite	314	
						Remarks	Tremied into annulus from 2,190 ft bls.			
Final	Steel	18.00	17.00	0.500	2,305	02/16/2002	#4	4% bentonite	174	
						Remarks	Tremied into annulus from 2,131 ft bls.			
						02/16/2002	#5	8% bentonite	303	

TABLE 2-1
 Summary of Casing Setting Depths and Cement Quantities; Deep Injection Well (IW-1)
 City of Fort Myers ROWTP Deep Injection Well and Facilities Completion Report

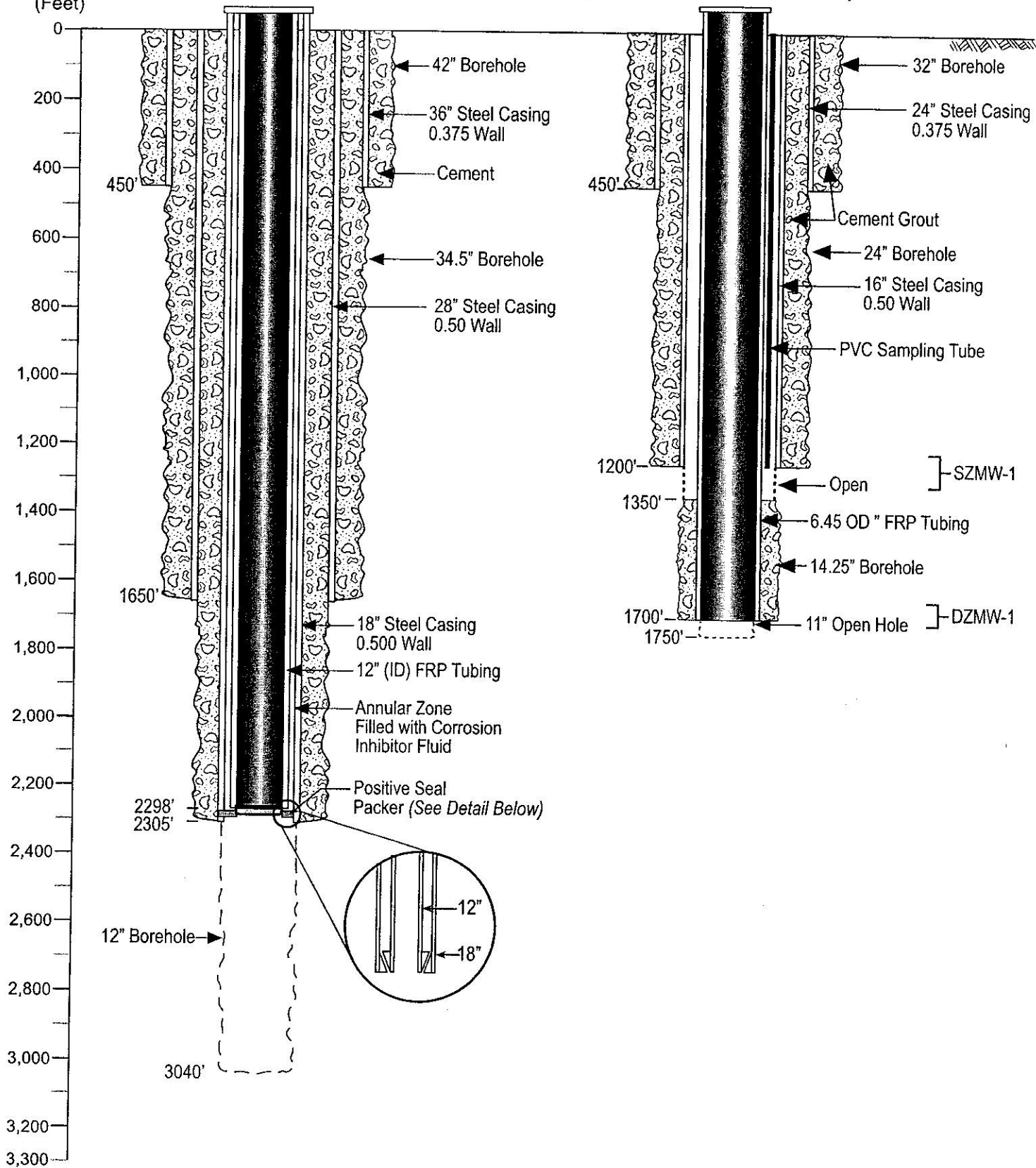
Casing	Casing Material	Outside Diameter (in)	Inside Diameter (in)	Casing Thickness (in)	Casing Depth (ft bls)	Date	Cement Stage	Type of Cement	Quantity of Cement (ft3)
						Remarks	Tremied into annulus from 2,113 ft bls.		
						02/17/2002	#6	4% bentonite	392
						Remarks	Tremied into annulus from 2,068 ft bls.		
Final	Steel	18.00	17.00	0.500	2,305	02/17/2002	#7	4% bentonite	448
						Remarks	Tremied into annulus from 2,040 ft bls		
						02/17/2002	#8	4% bentonite	730
						Remarks	Tremied into annulus from 1,894 ft bls.		
						02/18/2002	#9	4% bentonite	880
						Remarks	Tremied into annulus from 1,633 ft bls.		
						02/18/2002	#10	4% bentonite	953
						Remarks	Tremied into annulus from 1,249 ft bls.		
						02/18/2002	#11	4% bentonite	1,015
						Remarks	Tremied into annulus from 836 ft bls.		
						02/21/2002	#12	4% bentonite	143
						Remarks	Tremied into annulus from 373 ft bls.		
Final Tubing	FRP	13.21	12.00	0.605	2298	02/26/2002	N/A	N/A	N/A
						Remarks	FRP tubing was installed by representatives of Tubular Fiberglass.		
						Total Volume Neat:	1,184 ft3		
						Total Volume 4%:	10,734 ft3		
						Total Volume 6%:	1,021 ft3		
						Total Volume 8%:	730 ft3		

Notes:
 in = inches
 ft - feet
 bls = below land surface
 FRP = Fiberglass Reinforced Plastic

Depth Below
Pad Level
(Feet)

Injection Well (RO IW-1)

Dual Zone Monitor Well (SZMW-1 and DZMW-1)



Not to Scale

TABLE 2-2

Summary of Casing Setting Depths and Cement Quantities; Dual Zone Monitor Well (SZMW-1 and DZMW-1)

City of Fort Myers – RO Injection Well and Facilities Completion Report

Casing	Casing Material	Outside Diameter (in)	Inside Diameter (in)	Casing Thickness (in)	Casing Depth (ft bls)	Date	Cement Stage	Type of Cement	Quantity of Cement (ft ³)	
Surface	Steel	24.00	23.25	0.375	450	3/13/2002	#1	Neat	471	
						Remarks	Pressure grouted from 450 ft bls			
							#1	6% Bentonite	1,122	
						Remarks	Pressure grouted from 450 ft bls			
Intermediate	Steel	16.00	15.00	0.500	1250	3/23/2002	#1	Neat	286	
						Remarks	Pressure grouted from 1,250 ft bls			
							#1	4% Bentonite	1,570	
						Remarks	Pressure grouted from 1,250 ft bls			
						3/23/2002	#2	4% Bentonite	533	
						Remarks	Tremied into annulus from 383 ft bls			
						Final	FRP	6.45	5.43	0.51
						Remarks	Tremied into annulus			
						4/3/2002	#2	Neat	5.6	
						Remarks	Tremied into annulus			
						4/3/2002	#3	Neat	84	
						Remarks	Tremied into annulus			
						4/3/2002	#4	Neat	253	
						Remarks	Tremied into annulus			
						4/4/2002	#5	Neat	107	
						Remarks	Tremied into annulus			
									Total Volume Neat:	1,212 ft ³
									Total Volume 6%:	1,122 ft ³
									Total Volume 4%:	2,103 ft ³

Notes:
in = inches
ft = feet
bls = below land surface

Following pressure testing activities the Dual Zone Monitor Well wellhead construction was finalized. The wellhead is completed with a 16-inch stainless steel flange 1.2 ft above pad