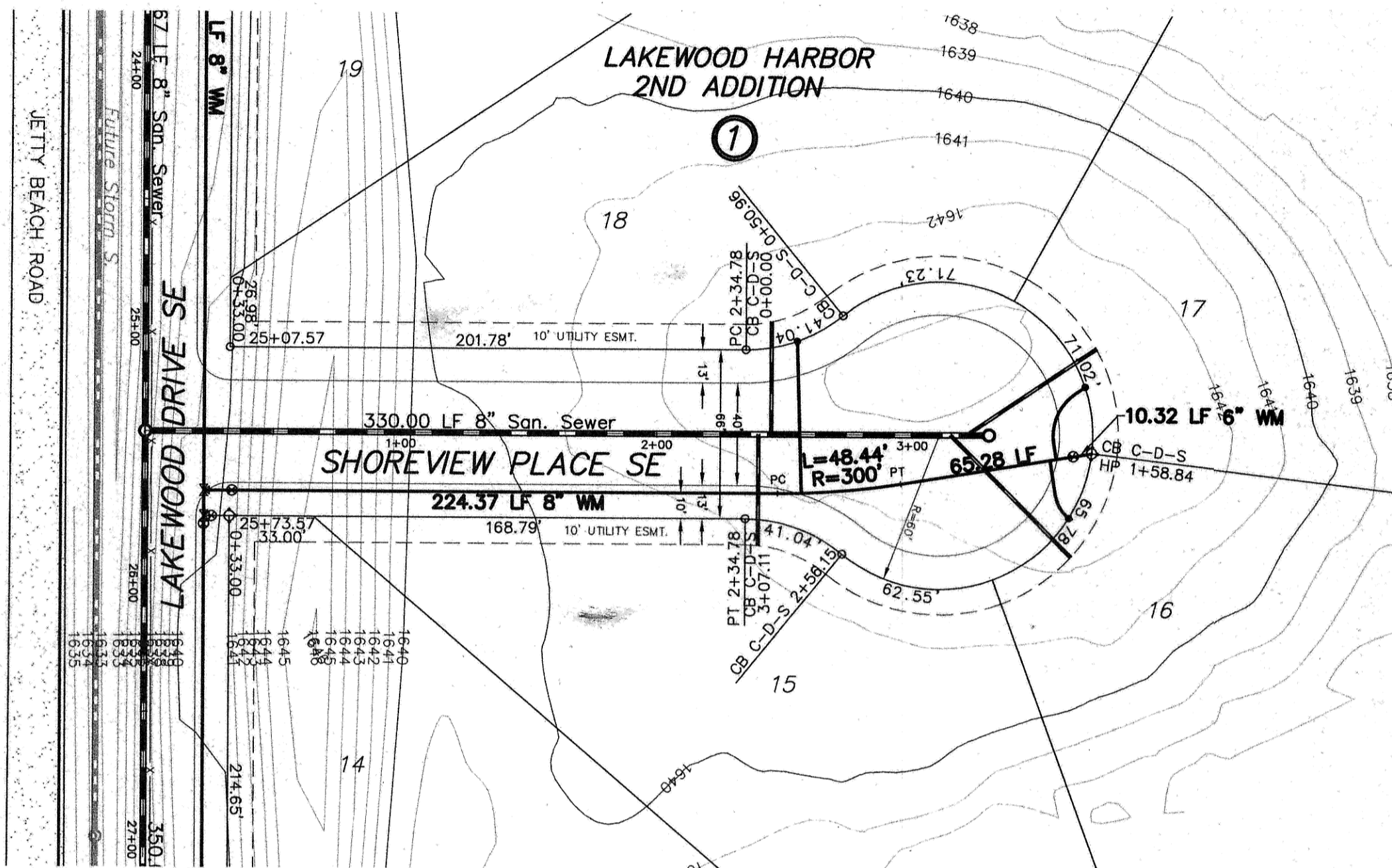


SCALE - 1"=50'

Sta. 0+00.00 CL 0+00 Ahd.
=San. Sewer Sta. 2+62.67 Bk.
=San. Sewer Sta. 11
Manhole No.

Sta. 3+30.00 CL 3+30.00 Bk.
=San. Sewer Sta. 17
Manhole No.



Sta. 0+23.00
8" x 8" Tee

Sta. 3+70.21 6.94' Rt.
6" Hydrant

Sta. 0+34.00
8" Gate Valve & Box

Sta. 3+62.99 8.12' Rt.
6" Gate Valve & Box

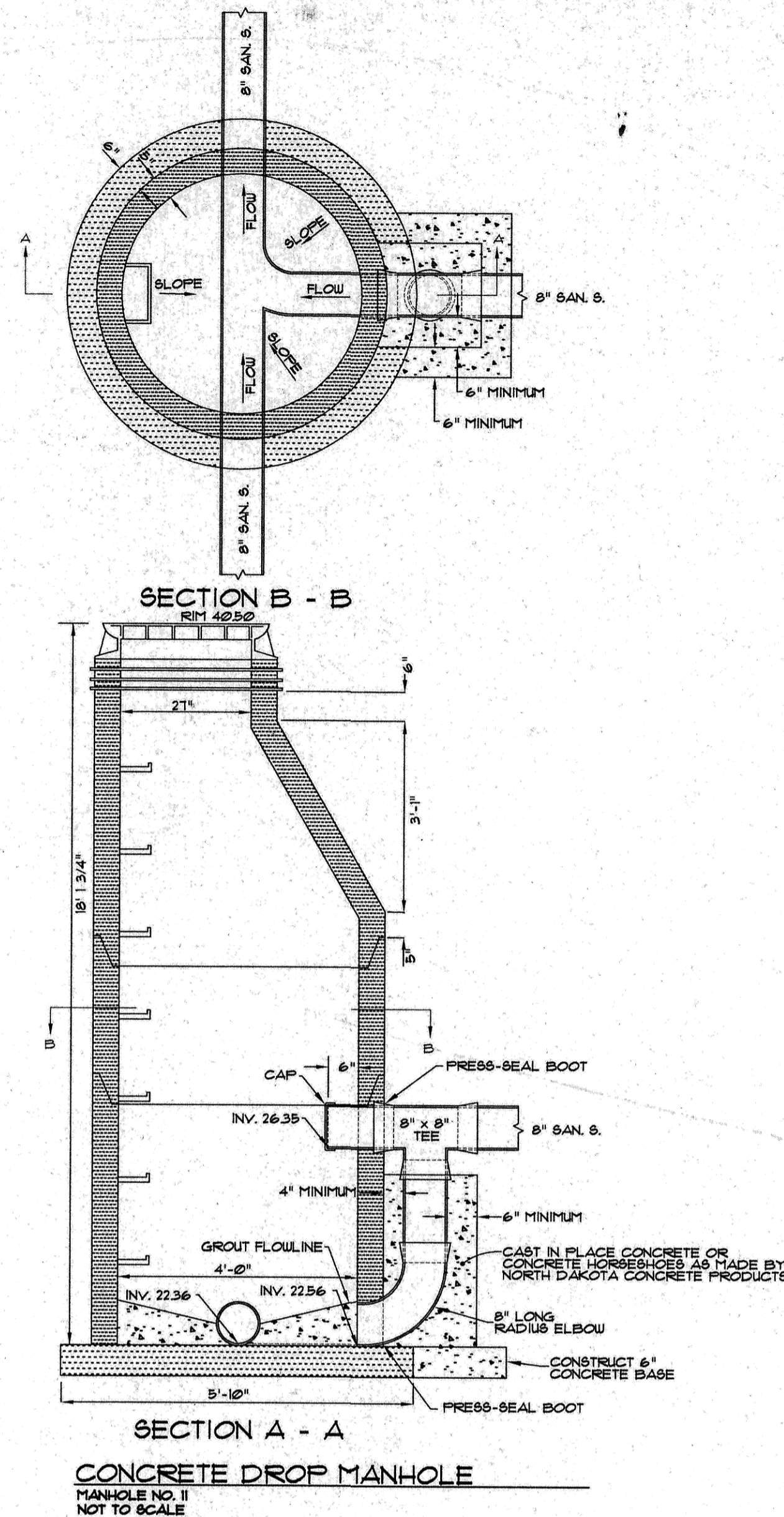
Sta. 3+60.03 8.60' Rt.
8" x 6" Reducer

End Watermain Quantities
Sta. 3+70.21

End San. Sewer Quantities
Sta. 3+30.00

Begin Watermain Quantities
Sta. 0+23.00

Begin San. Sewer Quantities
Sta. 0+00.00



CONSTRUCTION NOTES (THIS SHEET)

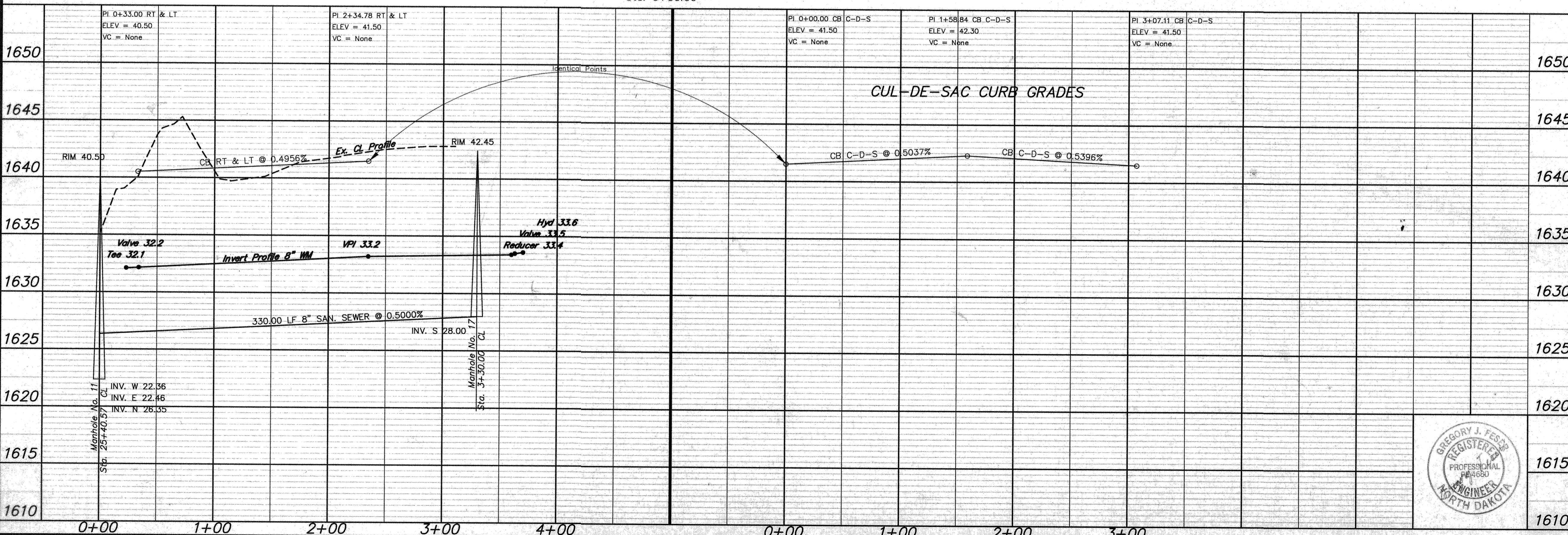
- BACKFILL SHALL BE CLASS 'A'.
- GRADING SHALL BE BY OTHERS, PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL VERIFY THE ELEVATION OF THE GROUND WATER AT THE TIME OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DEWATERING OR SOIL STABILIZATION (OTHER THAN USING SUBCUT GRAVEL) OF THE CONSTRUCTION SITE AS REQUIRED TO INSTALL THE PROPOSED UTILITIES.
- THE STORM SEWER IS NOT PART OF THIS CONTRACT.
- PROTECT ALL SURVEY MONUMENTS. MONUMENTS DISTURBED OR DESTROYED SHALL BE REPLACED BY THE OWNER'S REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
- THE HYDRANT AT STA. 3+70.21 SHALL HAVE A 9.0' BURY DEPTH.
- THE EXISTING CONTOURS ARE SHOWN ALONG LAKEWOOD DRIVE SE. THESE CONTOURS WILL REMAIN LIKE THIS THROUGH THE DURATION OF THIS PROJECT. THIS MATERIAL WILL BE MOVED BY OTHERS TO BUILD UP LAKEWOOD DRIVE AT THE COMPLETION OF THIS PROJECT.

Lot	Block	4" Sewer Service	4" 45° Bend	4" 11 1/4" Bend	8" x 4" Wye Branch	Sewer Service Invert	At The Cap	1" Copper	1" Water Service Pipe	1" Ball Valve	Curb Stop & 1 1/2" Box
15	1	43	1	1	28.29						
18	1	44	1	1	28.33	59	1	1			
16	1	67	1	1	28.97	24	1	1			
17	1	61		1	28.92	33	1	1			
TOTAL		215	3	1	4	116	3	3			

APPROXIMATE WYE LOCATIONS

STATION	DIRECTION	LOT	BLOCK
FROM MANHOLE NO. 11 TO MANHOLE NO. 17			
2+40	E	15	1
2+45	W	18	1
3+15	NE	16	1
3+21	NW	17	1

Manhole Number	17
Casting Elev.	42.45
Top P.C. Section	41.41
Invert Elev. (a)	28.00
Invert Elev. (b)	
Invert Elev. (c)	
Invert Elev. (d)	
Length P.C. Section	13.41



APPROXIMATE QUANTITIES

San. Sewer Items	Quantity
8" Sanitary Sewer	330 LF
8" x 4" Wye Branch	4 EA
Subcut Gravel	20 TON
Concrete Manhole	1 EA
4" Sewer Service Pipe	215 LF
4" 45° Bend	3 EA
4" 11 1/4" Bend	1 EA

Watermain Items	Quantity
6" PVC Watermain	10 LF
8" PVC Watermain	338 LF
6" Hydrant	1 EA
6" Gate Valve & Box	1 EA
8" Gate Valve & Box	1 EA
Ductile Iron Fittings	(Incidental)
1" Water Copper Serv. Pipe	116 LF
1" Water Serv. Connection	3 EA
1" Ball Valve Curb Stop And 1 1/2" Box	3 EA

SWENSON, HAGEN & CO. P.C.
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SITE DESIGN CONSTRUCTION MANAGEMENT
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DICKINSON, N.D. 58504 FAX (701) 223-2806
E-mail: sheng@swensonhagen.com



SHOREVIEW PLACE SE
FROM THE INTERSECTION OF LAKEWOOD DRIVE SE
NORTH TO THE CUL-DE-SAC
WATER AND SEWER IMPROVEMENT PROJECT 2002-15
SHEET NO. 8 OF 8
MANDAN, ND APRIL 25, 2003