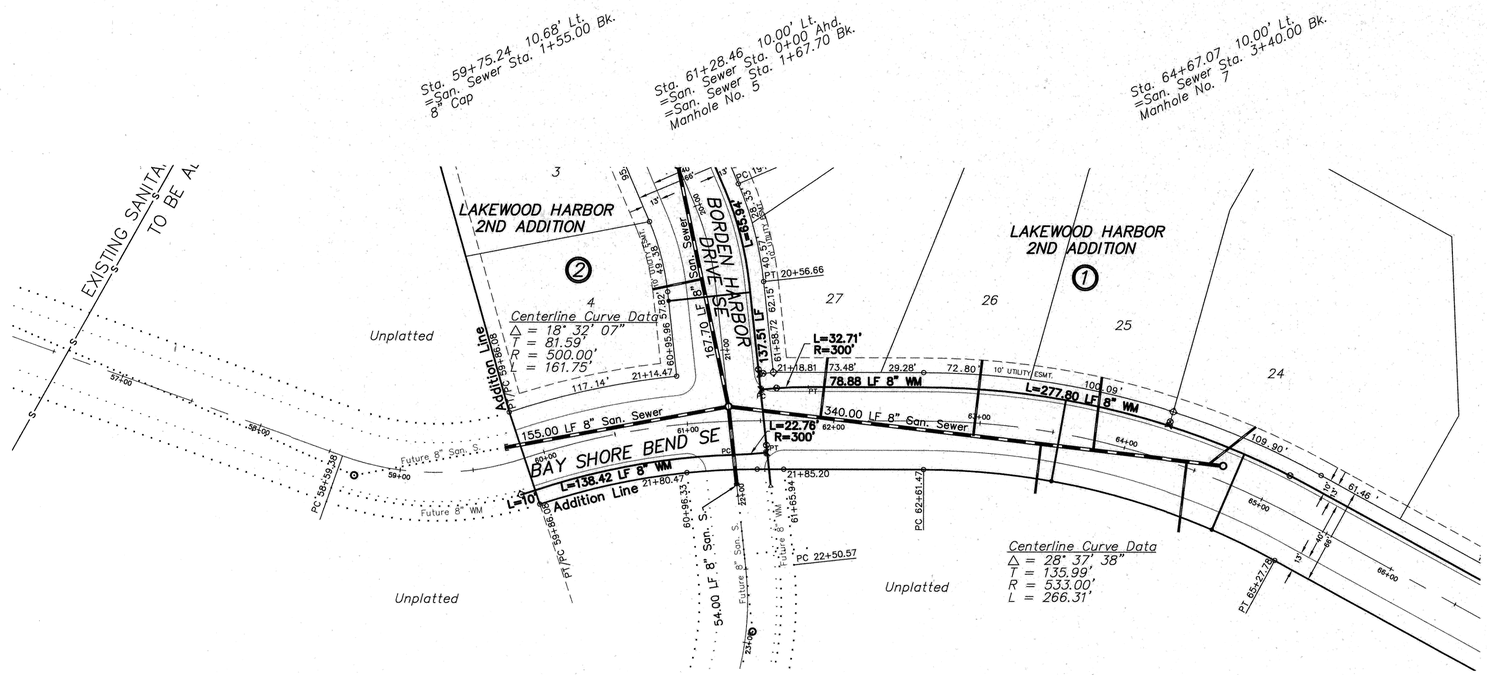
SCALE – 1"=50'



CONSTRUCTION NOTES (THIS SHEET)

1. BACKFILL SHALL BE CLASS 'A'.
2. GRADING SHALL BE BY OTHERS, PRIOR TO CONSTRUCTION.
3. 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.
4. THE STORM SEWER IS NOT PART OF THIS CONTRACT.
5. PROTECT ALL SURVEY MONUMENTS. MONUMENTS DISTURBED OR DESTROYED SHALL BE REPLACED BY THE OWNER'S REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.

APPROXIMATE WYE LOCATIONS

STATION	DIRECTION	LOT	BLOCK
FROM MANHOLE NO. 5 TO MANHOLE NO. 7			
0+63	NE	27	1
1+68	NE	26	1
2+15	SW	UNPLATTED	
2+50	NE	25	1
3+15	SW	UNPLATTED	
3+30	SE	24	1

Lot	Block	4" Sewer Service	4" 45° Bend	8" x 4" Wye Branch	Sewer Service Invert At The Cap	1" Copper Water Service Pipe	1" Water Service Connection	1" Ball Valve Curb Stop & 1 1/2" Box
27	1	41	1	1	29.34	—	—	—
26	1	52	1	1	29.90	—	—	—
UNPLATTED		34	1	1	29.87	56	1	1
25	1	50	1	1	30.21	—	—	—
UNPLATTED		48	1	1	30.45	56	1	1
24	1	41	—	1	30.42	—	—	—
TOTAL		266	5	6	NA	112	2	2

Manhole Number	7
Casting Elev.	40.70
Top P.C. Section	39.66
Invert Elev. (a)	29.75
Invert Elev. (b)	
Length P.C. Section	9.91

8"

Sta. 59+77.15
Reset Hydrant
8"x6"
1 LF 6" WM
6" Hydrant

Begin Watermain Quantities
Sta. 59+77.15

Begin San. Sewer Quantities
Sta. 59+75.24

Sta. 61+49.95 21.22' Lt.
8" x 8" Tee

Sta. 61+54.64 21.64' Rt.
8" x 8" Tee

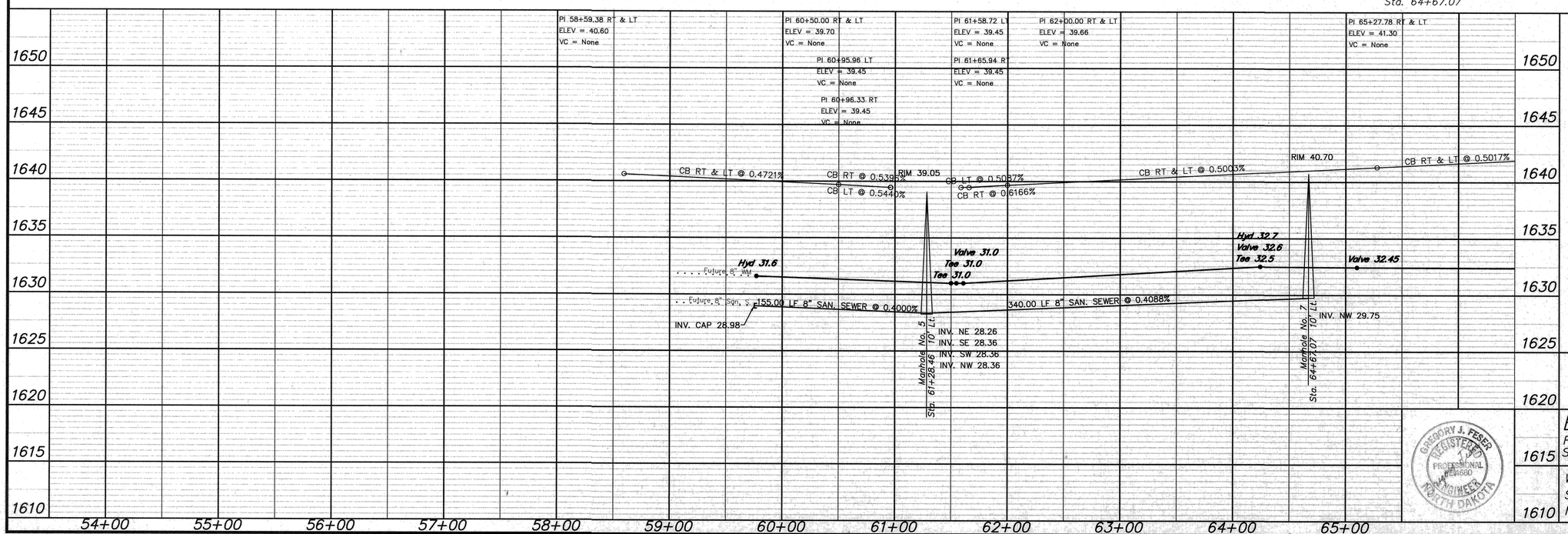
Sta. 61+60.91 22.22' Lt.
8" Gate Valve & Box

Sta. 64+24.28
8" x 6" Tee
3.00 LF 6" WM
6" Gate Valve & Box
7.00 LF 6" WM
6" Hydrant

Sta. 65+10.00
8" Gate Valve & Box

End Watermain Quantities
Sta. 65+27.78

End San. Sewer Quantities
Sta. 64+67.07



APPROXIMATE QUANTITIES

San. Sewer Items	Quantity
8" Sanitary Sewer	495 LF
8" x 4" Wye Branch	6 EA
Subcut Gravel	20 TON
Concrete Manhole	1 EA
4" Sewer Service Pipe	266 LF
4" 45° Bend	5 EA

Watermain Items	Quantity
6" PVC Watermain	~~10~~ 11 LF
8" PVC Watermain	538 LF
6" Hydrant	~~2~~ 1 EA
6" Gate Valve & Box	1 EA
8" Gate Valve & Box	2 EA
Ductile Iron Fittings	(incidental)
1" Water Copper Serv. Pipe	112 LF
1" Water Serv. Connection	2 EA
1" Ball Valve Curb Stop And 1 1/2" Box	2 EA

SWENSON, HAGEN & CO. P.C.
PLANNING CIVIL ENGINEERING SURVEYING
SITE DESIGN CONSTRUCTION MANAGEMENT
909 BASIN AVE P.O. BOX 1135 (701) 223-2600
BISMARCK, N.D. 58504 FAX (701) 223-2606
E-mail: sheng@swensonhagen.com

GREGORY J. FESER REGISTERED PROFESSIONAL ENGINEER PE-4680 NORTH DAKOTA

BAYSHORE BEND SE

FROM THE NORTHWEST ADDITION LINE
SOUTH TO STA. 65+27.78

WATER AND SEWER IMPROVEMENT PROJECT 2002-15
SHEET NO. 4 OF 8
MANDAN, ND APRIL 25, 2003

P:\Mandan\Lakewood\Lakewood Harbor 2nd\WS.dwg, 04/25/2003 04:23:04 PM, gregf