

SCALE - 1"=50'

CONSTRUCTION NOTES (THIS SHEET)

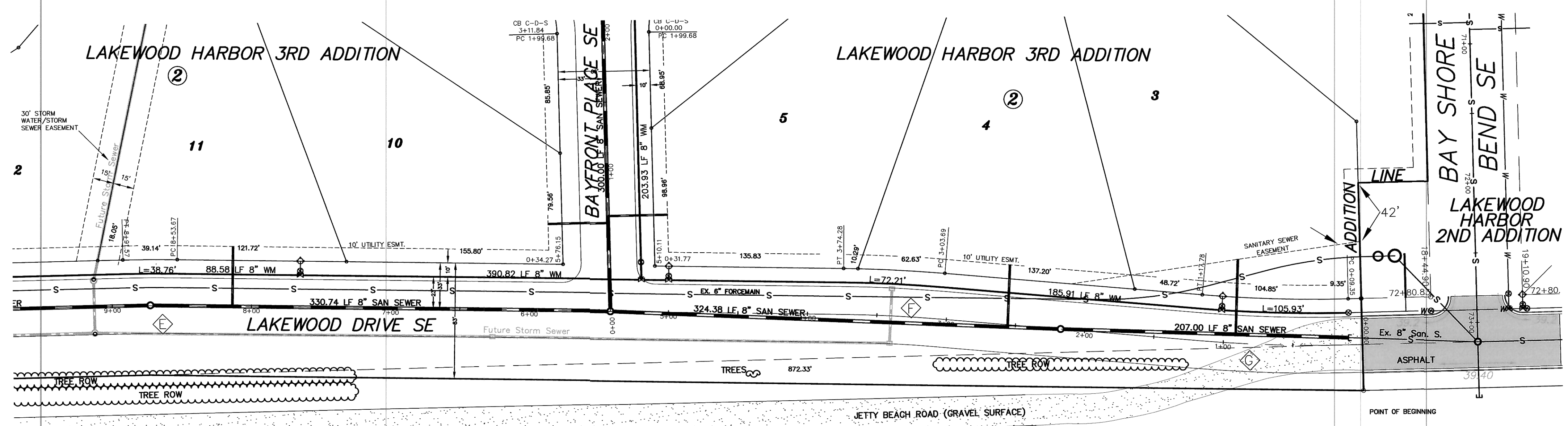
- BACKFILL SHALL BE CLASS 'A'.
- THE PROFILE SHOWS THE EXISTING GROUND CENTERLINE OF THE STREETS. THE PLAN VIEW SHOWS THE EXISTING GROUND CONTOURS. THIS WILL BE THE CONDITION AT THE TIME OF CONSTRUCTION. UPON COMPLETION OF THE CONSTRUCTION OF THE WATER/SEWER THE EARTHWORK CONTRACTOR WILL BUILD THE STREETS UP TO THE PROPOSED CURB GRADES.
- 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. IT IS EXPECTED THAT DEWATERING WILL BE REQUIRED TO STABILIZE THE TRENCH FOR THE CONSTRUCTION OF THE DEEPER PORTIONS OF THE SEWERMAINS.
- 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 CONTRACTOR SHALL PROVIDE ALL SIGNAGE AND TRAFFIC CONTROL AS NECESSARY TO CONSTRUCT THE SANITARY SEWER AND WATERMAIN. THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE RESIDENCE SOUTHWEST OF THE PROJECT AT ALL TIMES. REMOVE, SALVAGE AND REPLACE THE GRAVEL SURFACING AT THE END OF THE PAVEMENT ON LAKEWOOD DRIVE AFTER THE CONNECTIONS TO THE WATER AND SEWER ARE MADE AT THIS LOCATION. SAID WORK SHALL BE CONSIDERED INCIDENTAL TO OTHER BID ITEMS.
- ALL HYDRANTS SHALL HAVE 8.5' BURY DEPTH AND THE HYDRANT NOZZLE SHALL BE 18" ABOVE THE FINAL PLAN GROUND ELEVATION.
- THERE ARE A NUMBER OF CROSSINGS OF THE EXISTING 6" SANITARY SEWER FORCEMAIN. PROVIDE ADDITIONAL CAUTION NOT TO DAMAGE THIS LINE.
- REMOVE THE CAP ON THE EXISTING 8" SANITARY SEWER LINE, VERIFY LOCATION AND ELEVATION AND CONNECT THE NEW SEWER LINE.
- REMOVE AND SALVAGE THE EXISTING HYDRANT, 1 LF OF 6" PVC WATERMAIN AND THE 8" X 6" REDUCER. VERIFY ELEVATION AND CONNECT WITH A NEW 8" GATE VALVE.
- PROTECT THE EXISTING PAVING, CURB AND GUTTER WHEN MAKING CONNECTIONS. SHOULD A PORTION OF PAVING NEED TO BE REMOVED, SAW CUT THE PAVEMENT AND REMOVE AND DISPOSE OFFSITE. SAID WORK SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID FOR "8" SANITARY SEWER".
- SEE SHEET 2 FOR THE DROP MANHOLE DETAIL FOR MANHOLE NO. 2.

Sta. 8+72.62 Cl. 0.18' Rt. Bk. 3+30.74 Bk. 0+00.00 Ahd.
=San. Sewer Sta. 3
=San. Manhole No. 3

Sta. 5+41.88 Cl. 3+24.38 Bk. 0+00.00 Ahd.
=San. Sewer Sta. 2
=San. Manhole No. 2

Sta. 2+17.33 Cl. 2+07.00 Bk. 0+00.00 Ahd.
=San. Sewer Sta. 1
=San. Manhole No. 1

Sta. 0+09.86 Cl. 5.16' Rt. Bk. 0+00.00 Ahd.
=San. Sewer Sta. 8
=San. Cap



Sta. 7+65.10
8" x 6" Tee
3.00 LF 6" WM
6" Gate Valve & Box
7.00 LF 6" WM
6" Hydrant

End Watermain Quantities
Sta. 7+65.10

End San. Sewer Quantities
Sta. 8+72.62 0.18' Rt.

Sta. 5+19.73
8" x 8" Tee

Sta. 5+00.10
8" x 6" Tee
3.00 LF 6" WM
6" Gate Valve & Box
7.00 LF 6" WM
6" Hydrant

Sta. 1+02.57
8" x 6" Tee
3.00 LF 6" WM
6" Gate Valve & Box
7.00 LF 6" WM
6" Hydrant

Sta. 0+09.35
Remove & Salvage
6" Hydrant
1 LF 6" WM
8" x 6" Reducer
Connect 8" Gate Valve & Box

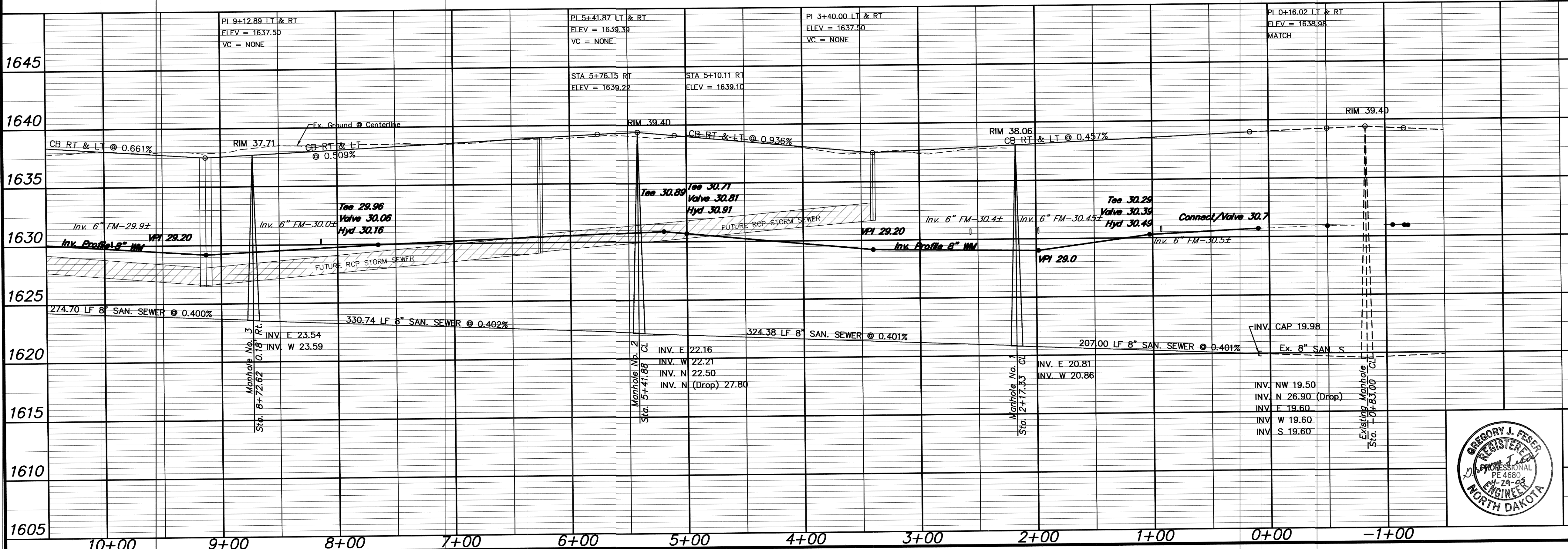
Lot	Block	# Sewer Service	4" x 22 1/2" Bend	4" x 45" Bend	6" x 4" Wye Branch	4" Tee	1" Cap	Water Service Invert	Water Service Pipe	7" Ball Valve	Curb Stop & 1 1/2" Box
3	2	53.9	1	1	28.00						
4	2	44.7	1	1	28.00						
11	2	43.0	1	1	28.00						
TOTAL		141.6	3	3							

APPROXIMATE WYE LOCATIONS

STATION	DIRECTION	LOT	BLOCK
FROM EX. PLUG TO MANHOLE NO. 1			
0+81	N	3	2
FROM MANHOLE NO. 1 TO MANHOLE NO. 2			
0+38	N	4	2
FROM MANHOLE NO. 2 TO MANHOLE NO. 3			
2+72	N	11	2

Manhole Number	1	2	3
Casting Elev.	38.06	39.40	37.71
Top P.C. Section	37.02	38.36	36.67
Invert Elev. (a)	20.81	22.16	23.54
Invert Elev. (b)	20.86	22.21	23.59
Invert Elev. (drop)		27.80	
Length P.C. Section	16.21	16.20	13.13

NOTE:
ALL WATER MAIN IS 23.00' RIGHT OF CENTERLINE UNLESS OTHERWISE STATED



CURVE DATA

CURVE	RADIUS	LENGTH	TANGENT	DELTA
E	1000.00'	37.89'	18.95'	02°10'16"
F	1000.00'	70.59'	35.31'	04°02'40"
G	1000.00'	108.43'	54.27'	06°12'45"

APPROXIMATE QUANTITIES

San. Sewer Items	Quantity
8" Sanitary Sewer	862 LF
8" x 4" Wye Branch	3 EA
Subcut Gravel	500 TON
Concrete Manhole	2 EA
4" Sewer Service Pipe	142 LF
4" 45" Bend	3 EA
Concrete Drop Manhole	1 EA

Watermain Items	Quantity
6" PVC Watermain	30 LF
8" PVC Watermain	755 LF
6" Hydrant	3 EA
6" Gate Valve & Box	3 EA
8" Gate Valve & Box	1 EA
Ductile Iron Fittings	(incidental)



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LAKEWOOD DRIVE SE
FROM THE INTERSECTION OF BAY SHORE BEND SE
WEST TO 330' WEST OF BAYFRONT PLACE SE

WATER AND SEWER IMPROVEMENT PROJECT 2005-17
SHEET NO. 2 OF 8
MANDAN, ND APRIL 22, 2005