

**CONSTRUCTION NOTES (THIS SHEET)**

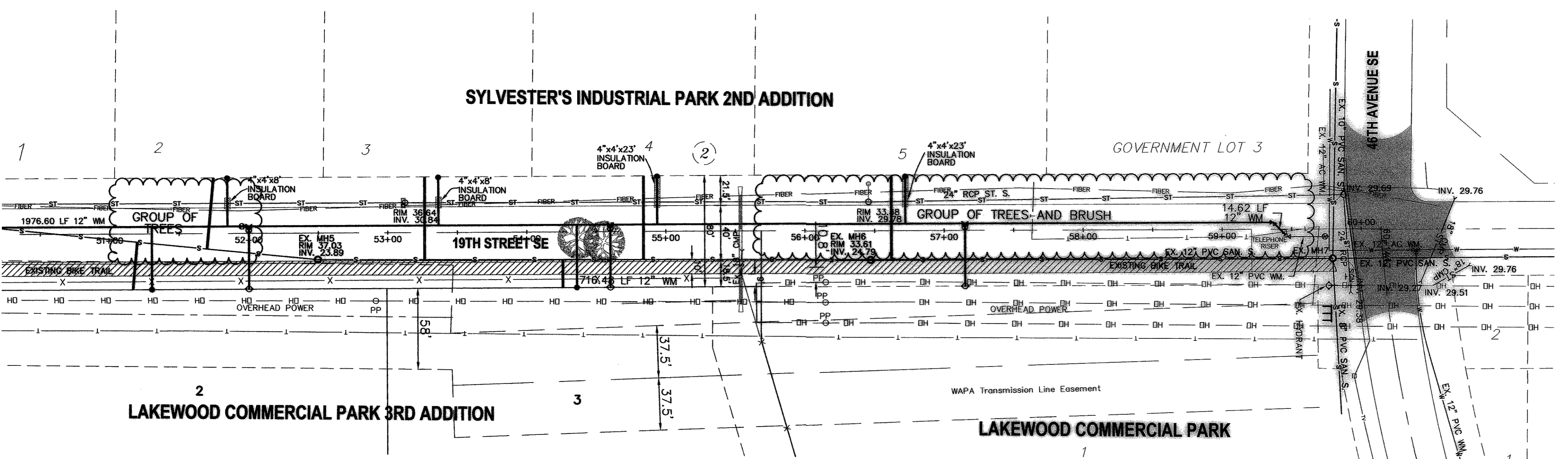
- BACKFILL SHALL BE CLASS 'A'.
- THE EXISTING GROUND PROFILE FOR THE CENTER OF THE ROAD IS SHOWN TO REPRESENT THE EXISTING GROUND ELEVATION AT THE TIME OF CONSTRUCTION. THE STREETS WILL BE BUILT UP TO FINISHED GRADE BY THE PAVING CONTRACTOR AFTER THE COMPLETION OF THIS PROJECT.
- THE CONTRACTOR SHALL 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.
- PROTECT EXISTING UTILITIES AND MINIMIZE AREAS DISTURBED. THERE IS A UTILITY RISER AT APPROXIMATELY STA. 59+45. COORDINATE THE RELOCATION OF THIS RISER WITH THE APPROPRIATE UTILITY COMPANY.
- REMOVE AND DISPOSE OF OFFSITE THE BARB WIRE FENCE ON THE SOUTH SIDE OF 19TH STREET SE AS REQUIRED TO CONSTRUCT THE IMPROVEMENTS. SAID WORK SHALL BE CONSIDERED INCIDENTAL TO THE "12" PVC WATERMAIN" BID ITEM.
- REMOVE AND DISPOSE OF OFFSITE THE ASPHALT BIKE TRAIL, RECYCLED ASPHALT BASE, TRENCH DRAIN AND SECTION OF CONCRETE TRAIL AS REQUIRED TO CONSTRUCT THE 12" WATERMAIN AND ANY OF THE SERVICE LINES. AT THE TIME THAT DISRUPTION TO THE BIKE PATH BEGINS THE CONTRACTOR SHALL SET "BIKE PATH CLOSED" SIGNS AT BOTH ENDS OF THE PROJECT AND SHALL NOTIFY THE MANDAN PARKS AND RECREATION DISTRICT. REMOVE AND SALVAGE THE EXISTING SIGNS ALONG THE BIKE TRAIL. A LOCATION TO STORE THEM THROUGHOUT THE DURATION OF THE PROJECT WILL BE DETERMINED DURING CONSTRUCTION.
- THE CONTRACTOR SHALL COORDINATE WORK AROUND THE EXISTING POWER POLES ON THE SOUTH SIDE OF 19TH STREET SE WITH THE APPROPRIATE UTILITY COMPANY. ALL EXPENSES INCURRED FROM PROTECTING AND TEMPORARILY SUPPORTING THE POWER POLES IF REQUIRED SHALL BE BORNE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL REMOVE AND STOCKPILE ANY TOPSOIL ALONG 40TH AVENUE SE AND 19TH STREET SE IN AREAS TO BE DISTURBED. TWO STOCKPILE LOCATIONS WILL BE ALLOWED ON THE WEST SIDE OF 40TH AVENUE SE AND WILL BE DETERMINED AT THE TIME OF CONSTRUCTION. THE TOPSOIL WILL BE REPLACED BY THE PAVING CONTRACTOR.
- THE 12" X 6" WYES TO BE CONSTRUCTED ALONG 19TH STREET SE SHALL BE A STRAP ON SADDLE TYPE WITH A MINIMUM OF 2 STAINLESS STEEL MOUNTING STRAPS.
- RESTRAIN THE BENDS AND THE PIPE SECTIONS FROM STA. 59+36.65 TO STA. 59+46.97. SAID WORK SHALL BE CONSIDERED INCIDENTAL TO THE "12" PVC WATERMAIN" BID ITEM.
- CONSTRUCT A 4" THICK INSULATION BOARD 6" ABOVE THE TOP OF THE 2" WATER SERVICE LINES AT ALL CROSSINGS OF THE EXISTING STORM SEWER ON THE NORTH SIDE OF 19TH STREET SE AS SHOWN AT EACH LOCATION. WHERE THE MORE THAN AN 8' SHEET IS USED, OVERLAP THE JOINTS BY 6".
- REMOVE AND DISPOSE OF OFFSITE ALL TREES WITHIN THE RIGHT OF WAY OF 19TH STREET SE FROM 40TH AVENUE SE TO 46TH AVENUE SE.
- REMOVE THE EXISTING 12" PLUG AT STA. 59+46.97 AND CONNECT TO THE EXISTING 12" WATERMAIN. THIS EXISTING LINE AND GATE VALVE WERE CONSTRUCTED IN MAY 2005. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE "12" PVC WATERMAIN" BID ITEM.

SCALE - 1"=50'

Sta. 52+49.53 18.92 Rt.  
=San. Sewer Sta. 3+41.69 Bk.  
=San. Sewer Sta. 0+00 And.  
Ex. Manhole No. 5

Sta. 56+47.08 20.60 Rt.  
=San. Sewer Sta. 3+97.55 Bk.  
=San. Sewer Sta. 0+00 And.  
Ex. Manhole No. 6

Sta. 59+79.51 20.76 Rt.  
=San. Sewer Sta. 3+32.43 Bk.  
=San. Sewer Sta. 0+00 And.  
Ex. Manhole No. 7



Begin Watermain Quantities  
Sta. 51+00.00

Sta. 52+00.00  
12" x 8" Tee  
3.00 LF 8" WM  
8" Gate Valve  
42.00 LF 8" WM  
8" Hydrant

Sta. 54+60.00  
12" x 8" Tee  
3.00 LF 8" WM  
8" Gate Valve  
42.00 LF 8" WM  
8" Hydrant

Sta. 57+15.00  
12" x 8" Tee  
3.00 LF 8" WM  
8" Gate Valve  
42.00 LF 8" WM  
8" Hydrant

Sta. 59+36.65  
12" 45° Bend

Sta. 59+46.97 5.36 Rt.  
Remove Plug/Connect  
12" 45° Bend

End Watermain Quantities  
Sta. 59+46.97

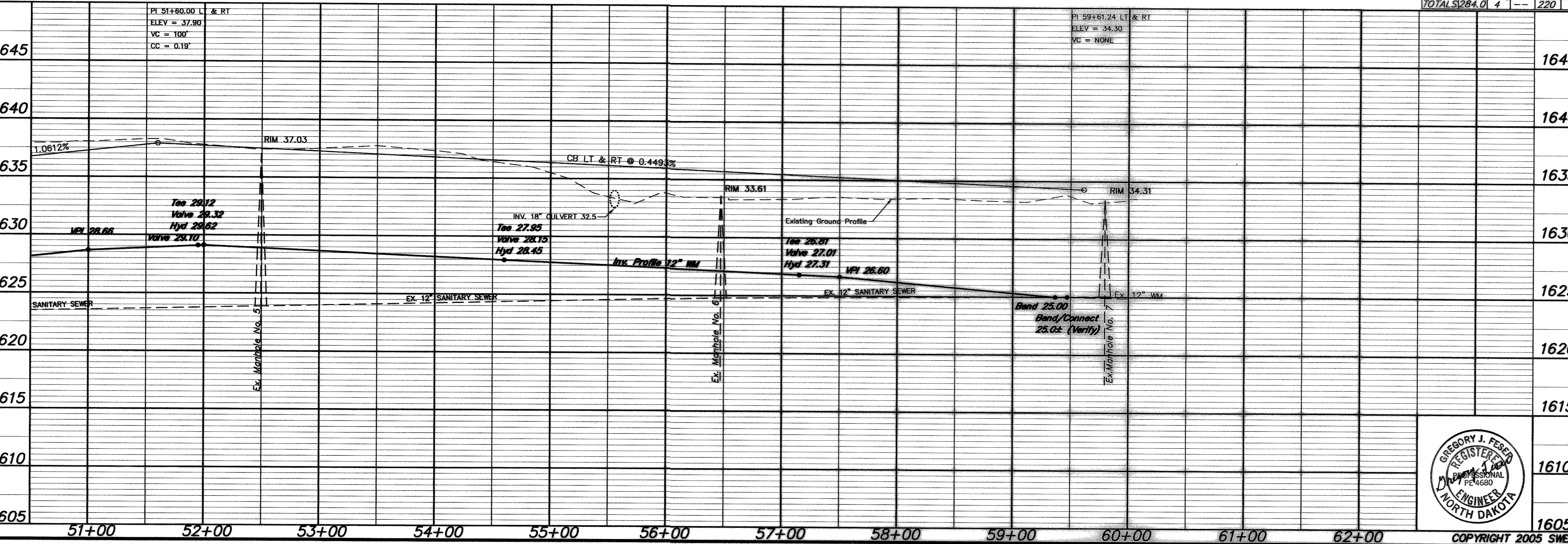
End San. Sewer Quantities  
Sta. 54+83.89

Lot	Block	6" Sewer Service	12" x 6" Wye Branch	At The Cap	1" Copper	2" Water Service Pipe	2" Ball Valve	Water Service Invert	2" Box	Water Service Invert	2" Box
3	2	59.1	1	23.00	35.0	1	1	29.50			
3	1	20.0	1	23.00	45.0	1	1	29.00			
4	2	59.8	1	25.00	35.0	1	1	28.80			
5	2	60.0	1	25.00	35.0	1	1	27.90			
2	1	34.1	1	25.00	45.0	1	1	30.00			
2	2	51.0	1	25.00	35.0	1	1	30.00			
<b>TOTALS</b>		<b>284.0</b>	<b>4</b>	<b>220</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>---</b>	<b>---</b>	<b>---</b>	<b>---</b>

**APPROXIMATE WYE LOCATIONS**

STATION	DIRECTION	LOT	BLOCK
FROM EX. MANHOLE 4 TO EXISTING MANHOLE 5			
2+11	SW	2	1
2+62	NE	2	2
FROM EX. MANHOLE 5 TO EXISTING MANHOLE 6			
0+77	N	3	2
1+76	S	3	1
2+34	N	4	2
FROM EX. MANHOLE 6 TO EXISTING MANHOLE 7			
0+15	N	5	2

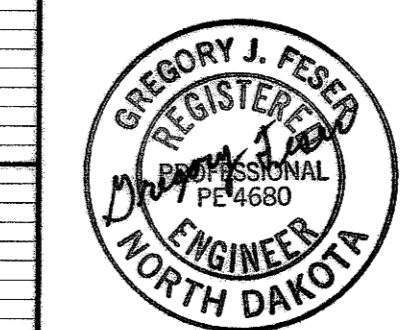
NOTE:  
ALL WATER MAIN  
IS 3.00' LEFT  
OF CENTERLINE  
UNLESS OTHERWISE  
STATED



**APPROXIMATE QUANTITIES**

Item	Quantity
<b>San. Sewer Items</b>	
12" x 6" Wye Branch	6 EA
6" Sewer Service Pipe	284 LF
6" 45° Bend	6 EA
<b>Watermain Items</b>	
12" PVC Watermain	851 LF
8" PVC Watermain	135 LF
8" Hydrant	3 EA
12" Gate Valve & Box	1 EA
8" Gate Valve & Box	3 EA
Ductile Iron Fittings	(incidental)
2" Water Copper Serv. Pipe	220 LF
2" Water Serv. Connection	6 EA
2" Ball Valve Curb Stop	6 EA
And 2" Box	
4" Insulation Board	248 SF
Remove Bike Trail	8013 SF
Remove Trees (Per C. O. #1)	1 LS
Remove & Stockpile Topsoil	1 LS

**SWENSON, HAGEN & COMPANY P.C.**  
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**19TH STREET SE**  
 FROM 300' EAST OF 43RD AVENUE SE EAST  
 TO 46TH AVENUE SE

**1610**

WATER AND SEWER IMPROVEMENT DISTRICT 47  
 SHEET NO. 6 OF 6 PROJECT 2005-14  
**1605** MANDAN, ND MAY 11, 2005 (JUNE 9, 2005)