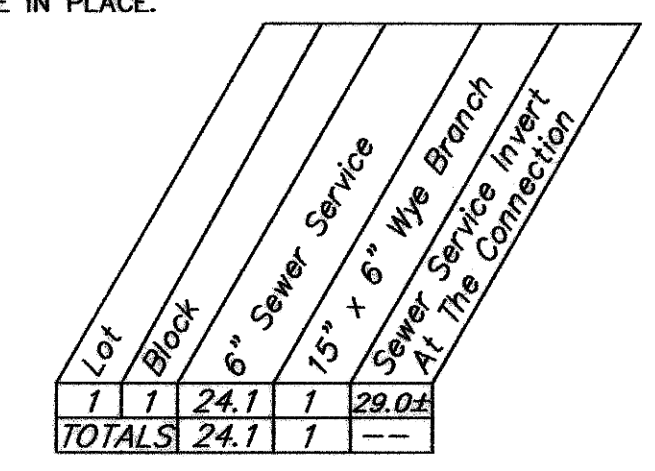
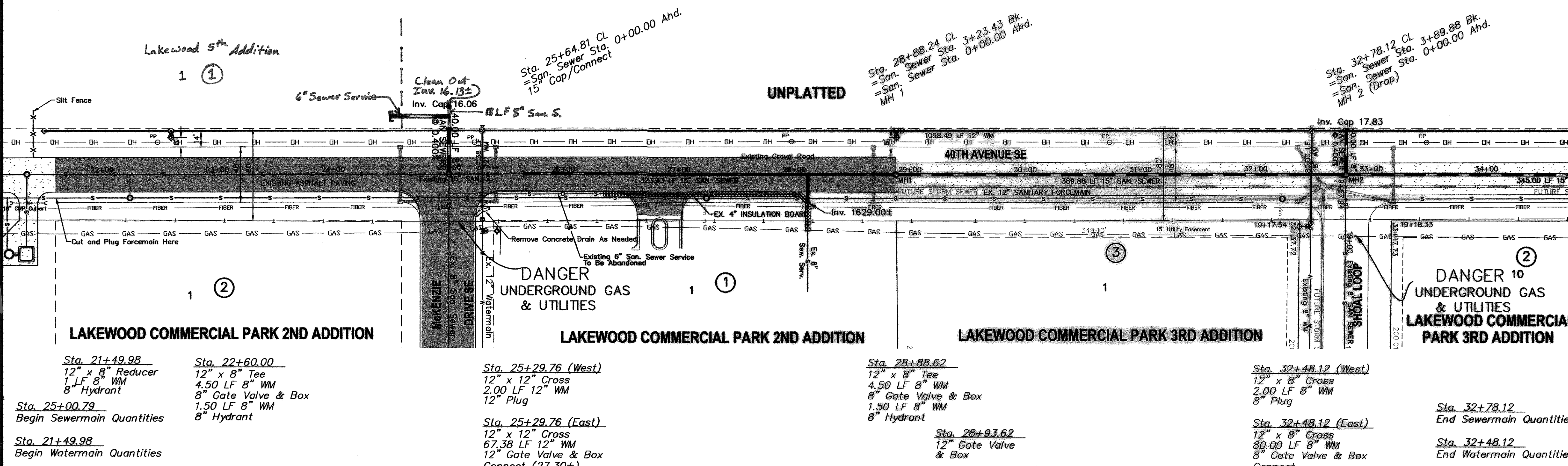


SCALE - 1"=50'

**CONSTRUCTION NOTES (THIS SHEET)**

- BACKFILL SHALL BE CLASS 'A'.
- THE CONTRACTOR SHALL CLOSE 40TH AVENUE SE AS REQUIRED TO CONSTRUCT THE IMPROVEMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SIGNAGE, TRAFFIC CONTROL AND NOTIFICATION TO THE APPROPRIATE AGENCIES. TYPE III "ROAD CLOSED" BARRICADES AT THE NORTH AND SOUTH ENDS OF THE PROJECT SHALL BE MAINTAINED UNTIL THE PAVING CONTRACTOR TAKES OVER CONTROL OF THE SITE. SAID WORK SHALL BE CONSIDERED INCIDENTAL TO THE "15" SANITARY SEWER" BID ITEM.
- 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.
- REMOVE AND DISPOSE OF OFFSITE THE BARB WIRE FENCE ON EITHER SIDE OF THE ROADS AS REQUIRED TO CONSTRUCT THE IMPROVEMENTS. SAID WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM REQUIRING THE WORK.
- CONNECT TO THE EXISTING SANITARY SEWER MANHOLE AT STA. 25+00.79. REMOVE THE SHORT PIECE OF 8" SANITARY SEWER FROM THE BOOT IN THE MANHOLE AND START WITH A NEW FULL LENGTH SECTION OF SEWER. SAID WORK SHALL BE CONSIDERED INCIDENTAL TO THE "8" SANITARY SEWER" BID ITEM.
- THE 8" SANITARY SEWER IN SHOAL LOOP HAS BEEN CONSTRUCTED TO THE CENTERLINE OF 40TH AVENUE SE. THE CONTRACTOR SHALL CONNECT THIS SEWER LINE TO MANHOLE NO. 2 AS REQUIRED.
- REMOVE AND DISPOSE OF OFFSITE ASPHALT AS REQUIRED TO MAKE THE CONNECTIONS TO THE EXISTING SANITARY SEWER AND WATERMAIN AND TO CONSTRUCT THE NEW IMPROVEMENTS. CONSTRUCT A 4" TEMPORARY GRAVEL PATCH IN THESE LOCATIONS. A GRAVEL PATCH WILL NOT BE REQUIRED BETWEEN STA. 25+50 AND STA. 28+90.
- THE CONTRACTOR SHALL COORDINATE WORK AROUND THE EXISTING POWER POLES ON THE WEST SIDE OF 40TH AVENUE SE WITH THE APPROPRIATE UTILITY COMPANY. ALL EXPENSES INCURRED FROM PROTECTING AND TEMPORARILY SUPPORTING THE POWER POLES SHALL BE BORNE BY THE CONTRACTOR.
- CONSTRUCT A NEW 6" SANITARY SEWER SERVICE AT APPROXIMATELY STA. 28+11 TO CONNECT TO THE EXISTING 6" SEWER SERVICE. ABANDON AND CAP THE REMAINING SERVICE LINE BACK TO THE MAIN LINE ON MCKENZIE DRIVE SE.
- REMOVE AND DISPOSE OF OFFSITE THE CASTING, ADJUSTING RINGS, COVER AND TOP SECTION OF THE CHECK VALVE MANHOLES AT APPROXIMATELY STA. 22+24, 27+25, 32+24, 37+24, 42+24 AND 46+98. CUT A HOLE IN THE BASE OR THE BOTTOM OF ONE SIDE OF THE REMAINING MANHOLES SO THAT THEY DO NOT HOLD WATER. FILL THE REMAINING MANHOLES WITH ON-SITE MATERIAL AND COMPACT IN 18" MAXIMUM LIFTS. SAID WORK SHALL BE CONSIDERED INCIDENTAL TO THE "ABANDON CHECK VALVE MANHOLE" BID ITEM.
- 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.
- MAINTAIN TRAFFIC AND THE ASPHALT SURFACE ON 40TH AVENUE SE FROM MCKENZIE DRIVE SE TO THE SOUTH.
- ALL MANHOLES SHALL HAVE THE 15" SEWER PIPE RUN THROUGH THE MANHOLES. CUT OFF THE TOP HALF OF THE PIPE WITHIN THE MANHOLE AND GROUT THE PIPE IN PLACE.



**APPROXIMATE WYE LOCATIONS**

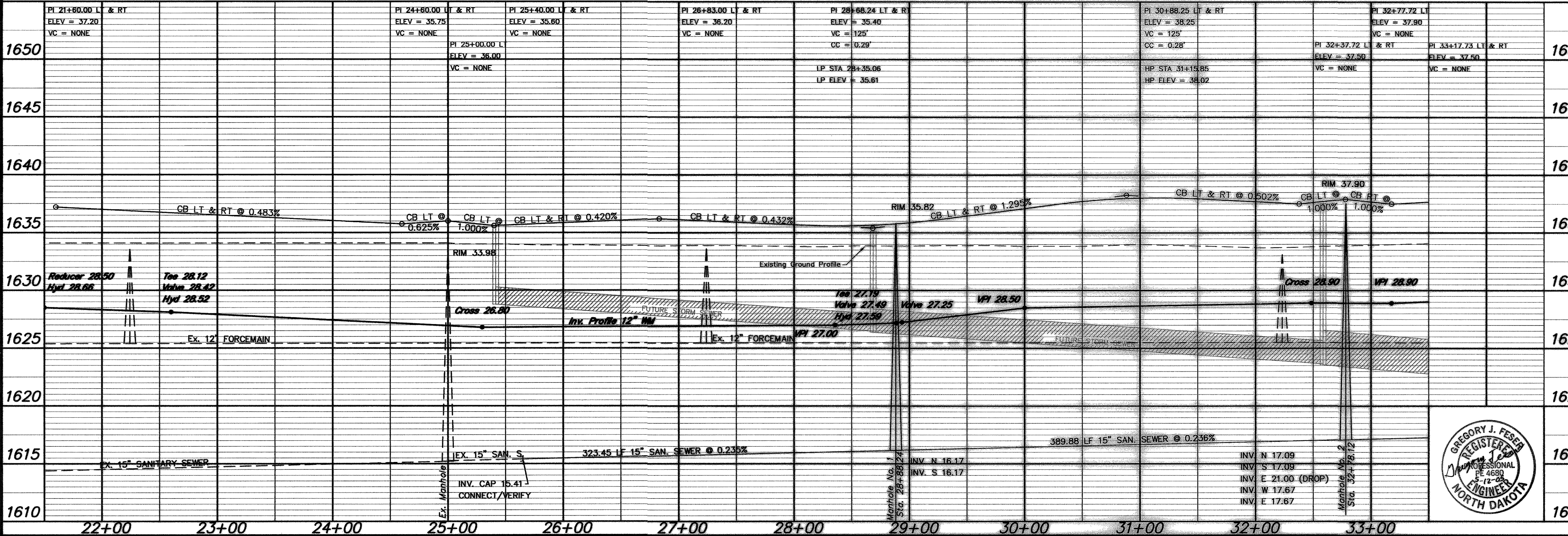
STATION	DIRECTION	LOT	BLOCK
FROM EX. MANHOLE TO MANHOLE NO. 1			
3+12	E	1	1

**Manhole Number**

Manhole Number	1	2
Casting Elev.	35.82	37.90
Top P.C. Section	34.78	36.86
Invert Elev. (a)	16.17	17.09
Invert Elev. (b)	16.17	17.09
Invert Elev. (c)	---	17.67
Invert Elev. (d)	---	17.67
Invert Elev. (drop)	---	21.00
Length P.C. Section	18.61	19.72

- Sta. 21+49.98: 12" x 8" Reducer, 1 LF 8" WM, 8" Hydrant
- Sta. 22+60.00: 12" x 8" Tee, 4.50 LF 8" WM, 8" Gate Valve & Box, 1.50 LF 8" WM, 8" Hydrant
- Sta. 25+00.79: Begin Sewermain Quantities
- Sta. 21+49.98: Begin Watermain Quantities
- Sta. 25+29.76 (West): 12" x 8" Tee, 4.50 LF 8" WM, 8" Gate Valve & Box, 1.50 LF 8" WM, 8" Hydrant
- Sta. 25+29.76 (East): 12" x 12" Cross, 67.38 LF 12" WM, 12" Gate Valve & Box, Connect (27.30±)
- Sta. 28+88.62: 12" x 8" Tee, 4.50 LF 8" WM, 8" Gate Valve & Box, 1.50 LF 8" WM, 8" Hydrant
- Sta. 28+93.62: 12" Gate Valve & Box, Connect
- Sta. 32+48.12 (West): 12" x 8" Cross, 2.00 LF 8" WM, 8" Plug
- Sta. 32+48.12 (East): 12" x 8" Cross, 80.00 LF 8" WM, 8" Gate Valve & Box, Connect
- Sta. 32+78.12: End Sewermain Quantities
- Sta. 32+48.12: End Watermain Quantities

NOTE: ALL WATER MAIN IS 36.00' LEFT OF CENTERLINE UNLESS OTHERWISE STATED



**APPROXIMATE QUANTITIES**

San. Sewer Items	Quantity
8" Sanitary Sewer	80 LF
15" Sanitary Sewer	713 LF
6" Sewer Service Pipe	24 LF
Subcut Gravel	420 TON
Concrete Manhole	1 EA
Concrete Drop Manhole	1 EA
Remove Asphalt/Class V Gravel	1 LS
Abandon Check Valve Manhole	3 EA
15" x 6" Wye Branch	1 EA

Watermain Items	Quantity
8" PVC Watermain	164 LF
12" PVC Watermain	1098 LF
8" Hydrant	3 EA
8" Gate Valve & Box	3 EA
12" Gate Valve & Box	1 EA
Ductile Iron Fittings	Incidental
Remove Asphalt/Class V Gravel	1 LS
Remove & Stockpile Topsoil	1 LS

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Surveying  
Hydrology  
Land Planning  
Civil Engineering  
Landscape & Site Design  
Construction Management

**40TH AVENUE**  
FROM 350' SOUTH OF MCKENZIE DRIVE SE NORTH TO SHOAL LOOP

WATER AND SEWER IMPROVEMENT DISTRICT 47  
SHEET NO. 2 OF 6 PROJECT 2005-14  
MANDAN, ND MAY 11, 2005

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