

ENGINEER'S OFFICE
 1. MARK SWENSON, A REGISTERED PROFESSIONAL ENGINEER
 NORTH DAKOTA, HEREBY CERTIFIES THAT HE HAS SUPERVISED AND IS CORRECT AS TO THE KNOWLEDGE AND BELIEF.

APPROVAL OF CITY ENGINEER
 I, TOM LITTLE, CITY ENGINEER FOR THE CITY OF MANDAN, NORTH DAKOTA, HEREBY APPROVE THIS PLAN FOR SEWER AND WATER IMPROVEMENT PROJECT 99-13 MANDAN, NORTH DAKOTA, AS SHOWN.

THOMAS LITTLE, P.E.
 REGISTERED PROFESSIONAL ENGINEER
 CITY ENGINEER - MANDAN, ND

WARRANTY/DISCLAIMER
 THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING. HOWEVER, NEITHER THE ENGINEER NOR HIS PERSONNEL CAN OR DO WARRANTY THESE DESIGNS OR THE PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY ON THE BASIS OF THE DESIGN.

CONTRACTOR: WEISS AND SONS
 CONSTRUCTED SUMMER OF 99
WATERMAIN - PVC C900 CL150
HYDRANTS - WATEROUS PACER (6")
SAN. SWR. - PVC ASTM D3024 SPR 35

NOTICE TO CONTRACTOR
 THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES CAUSED BY OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. UNDERGROUND UTILITY BE MADE BY USING THE "ONE CALL" NUMBER 1-800-795-0555.

CONSTRUCTION NOTES

- BACKFILL SHALL BE CLASS B FILL ALL AREAS EXCEPT UNDER EXISTING ASPHALT PAVED AREAS. IN PAVED AREAS THE COMPACTOR SHALL BE USED TO OTHER BID ITEMS. PROTECT AND PRESERVE EXISTING SEWER AND WATER MAINS. THE CONTRACTOR SHALL VERIFY TO THE ENGINEER THE LABELED CONNECTION POINT INVERT AND LOCATION A MINIMUM OF 4 HOURS PRIOR TO STARTING LAYING WATERMAIN.
- WATERMAIN SHALL BE ANNA C900 CLASS 150. FITTINGS SHALL BE DUCTILE IRON.
- ROCK EXCAVATION SHALL BE CONSIDERED INCIDENTAL.
- TURN HYDRANTS SO THAT THE PUMPER CONNECTION FACES 46TH AVE.
- UTILITIES OR OTHER IMPROVEMENTS LABELED AS PROPOSED WILL NOT BE CONSTRUCTED AS PART OF THIS CONTRACT. CONSTRUCTION OF OTHER CONTRACTS WILL BE OCCURRING CONCURRENT WITH THIS PROJECT ON THE TRAIL SITE. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH OTHER CONTRACTORS.
- THE BIKE TRAIL WILL NOT BE CONSTRUCTED AT THE TIME OF CONSTRUCTION FOR THIS CONTRACT.
- CONTOURS REPRESENT EXISTING ELEVATIONS. ELEVATIONS WITH TICKS IN BOXED ELEVATIONS REPRESENT FINISHED (BLACK DIRTY) GRADES OF THE DITCH. OTHERWISE UNSUITABLE SOILS FROM THE DITCH AND STOCKPILE ON THE SITE. FILL THE DITCH TO 4" SHORT OF THE ELEVATION TICKS. THE FINAL MATERIAL (EXCEPT THE FINAL 4") SHALL BE SUITABLE FOR ROAD SUBGRADE CONSTRUCTION AND SHALL MEET THE SPECIFICATIONS REQUIREMENTS OF SUITABLE MATERIAL. NO SEEDING SHALL BE REQUIRED.
- REMOVE TREES FROM THE SITE BETWEEN THE ROAD EDGE TO THE RIGHT OF WAY. REMOVE AND REPLACE SOD AND SIDEWALK.

APPROXIMATE QUANTITIES

Import Fill	1 LS
Pitrun Gravel	100 TON
Subcut Gravel	50 TON
Rock Excavation	INCIDENTAL
8" Watermain	178 LF
12" Watermain	742.4 LF
6" Gate Valve & Box	2 EA
12" Gate Valve & Box	2 EA
6" Hydrant	2 EA
Ductile Iron Fittings	INCIDENTAL
Tree Removal	1 LS
Asphalt Removal & Replacement	2 EA
(Or Boring)	(Water)
Sidewalk removal and replacement	1 LS
Sod removal and replacement	1 LS
Plug Culvert	1 LS
8" San. Sewer	114.1 LF
Concrete Manhole	1 EA
Breakout Manhole	1 LS
Asphalt Removal And Replacement	1 LS

SWENSON, HAGEN & CO. INC.
 PLANNING CIVIL ENGINEERING SURVEYING
 SITE DESIGN CONSTRUCTION MANAGEMENT
 909 BASH AVENUE P.O. BOX 1156 (701) 283-8100
 BISMARCK, N.D. 58504 FAX (701) 283-8100
 E-mail: shc@shc.com

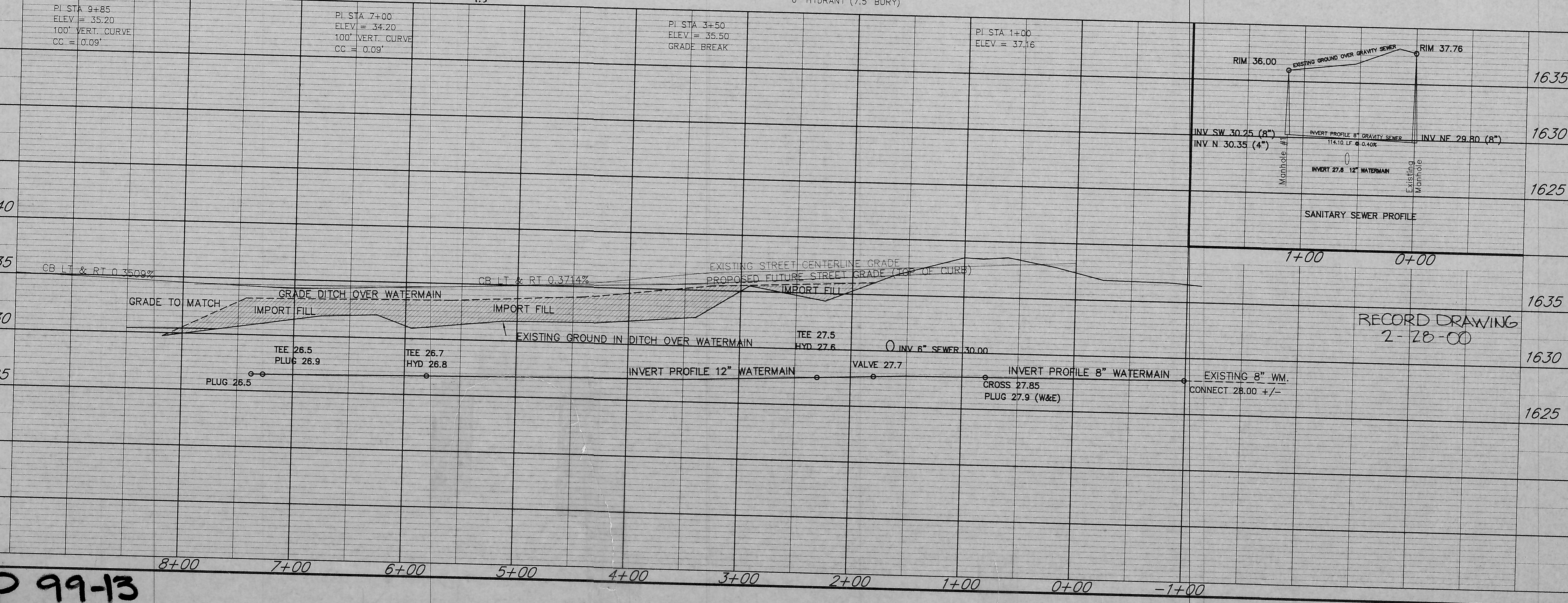
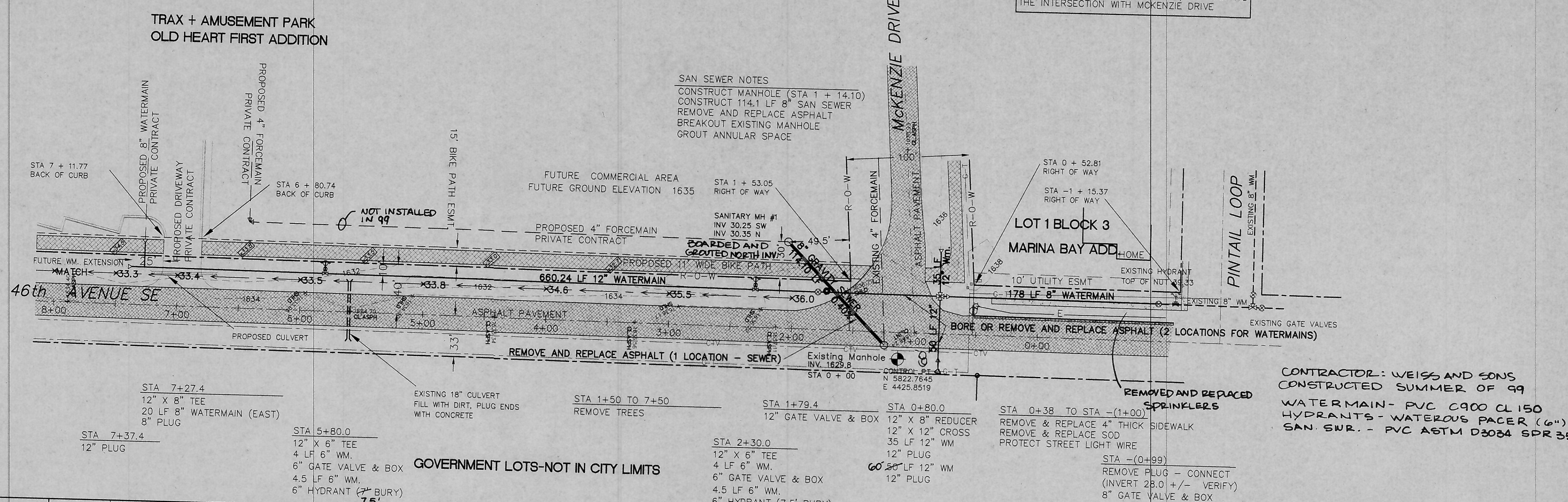
46TH AVE SE
 FROM ONE LOT SOUTH OF MCKENZIE DRIVE
 DRIVE TO 650' NORTH OF MCKENZIE DRIVE

WATER AND SEWER IMPROVEMENT PROJECT 99-13
 12" WATERMAIN AND RELATED IMPROVEMENTS
 SHEET NO. 1 OF 1 SHEETS
 MANDAN, ND MAY 14, 1999

DESIGN: MARK SWENSON DRAFT: TERRY FUGERE

SCALE 1" = 50'

STATIONING IS ALONG CENTERLINE OF STREET
 STATION 1 + 00 (46TH AVE SE) REPRESENTS
 THE INTERSECTION WITH MCKENZIE DRIVE



P 99-13

8+00 7+00 6+00 5+00 4+00 3+00 2+00 1+00 0+00 -1+00