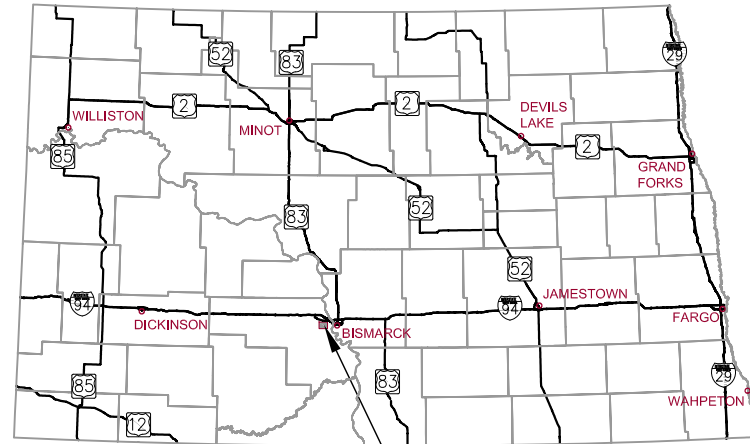


RECORD DRAWINGS FOR PLAINVIEW HEIGHTS 13TH ADDITION WATER & SEWER IMPROVEMENTS MANDAN, NORTH DAKOTA

SEPTEMBER 2012 (DECEMBER 2012-RECORD DRAWINGS)



STATE OF NORTH DAKOTA PROJECT LOCATION



MANDAN, NORTH DAKOTA



VICINITY MAP

NO SCALE

INDEX OF SHEETS

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UTILITY COMPANIES

GAS:
MONTANA-DAKOTA UTILITIES CO.
308 1ST STREET NW
MANDAN, ND 58554
PH: 701-663-8713

CITY OF MANDAN
PUBLIC WORKS DEPARTMENT
411 6TH AVENUE SW
MANDAN, ND 58554
PH: 701-667-3240
JEFF WRIGHT

ELECTRIC:
MOR-GRAN-SOU ELECTRIC COOP. INC.
2816 37TH ST. NW
MANDAN, ND 58554
701-663-0297

CABLE:
MIDCONTINENT COMMUNICATIONS
719 MEMORIAL HIGHWAY
BISMARCK, ND 58501
1-800-888-1300

PHONE:
CENTURYLINK
1101 16TH STREET NE
MANDAN, ND 58554
701-222-6820

CERTIFICATION

I HEREBY CERTIFY THAT THE ATTACHED PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF NORTH DAKOTA.

DATE: _____

RECORD DRAWINGS

FIELD CHANGES NOTED ARE FROM MARK-UP DRAWINGS PROVIDED BY THE CONTRACTOR AND WERE NOT VERIFIED BY KLJ. THIS DRAWING SHALL NOT BE CONSIDERED A CERTIFIED DOCUMENT AS TO THE ORIGINAL DESIGN, BUT ONLY AS TO THE RECORD DRAWING CHANGES.



BASIS OF SURVEY

ALL CONTOURS AND ELEVATIONS FOR THE PROJECT ARE BASED ON DATUM NAVD 29.

MITZEL BUILDERS, INC.
2401 46TH AVE SE
MANDAN, ND 58554
PH: 701.224.8083

128 SOO LINE DRIVE
BISMARCK, ND 58501
PH: 701.355.8400
FAX: 701.355.8781
www.kljeng.com



KLJ PROJECT NO. 1612153



www.kljeng.com

NO.	DATE	REVISION
1	9-11-2012	REVISED PER CITY OF MANDAN COMMENTS
2	12-11-2012	MADE REDLINE RECORD DRAWING COMMENTS

DRAFTED LMW
REVIEWED AM
PROJECT NUMBER 1612153
ISSUE DATE 9/19/2012

PLAINVIEW HEIGHTS 13TH ADDITION
 MITZEL BUILDERS, INC.
 MANDAN, NORTH DAKOTA
LEGEND, ALIGNMENT & CONTROL POINT TABLES

LEGEND

EXISTING	ITEM	PROPOSED
	WATER MAIN	
	FIRE HYDRANT	
	GATE VALVE	
	CURB STOP	
	BEND	
	TEE	
	CROSS	
	REDUCER	
	WATER MANHOLE	
	SPRINKLER HEAD	
	WATER METER	
	SANITARY SEWER MAIN	
	SANITARY MANHOLE	
	CLEANOUT	
	STORM SEWER MAIN	
	STORM SEWER MANHOLE	
	CURB INLET	
	CATCH BASIN	
	UNDER GROUND ELECTRIC	
	OVERHEAD ELECTRIC	
	POWER POLE	
	GUY WIRE	
	LIGHT POLE	
	ELECTRICAL JUNCTION BOX	
	ELECTRICAL METER	
	ELECTRICAL OUTLET/PLUG-IN	
	UNDERGROUND TELEPHONE	
	TELEPHONE MANHOLE	
	TELEPHONE PEDESTAL	
	UNDERGROUND FIBER OPTIC	
	UNDERGROUND CABLE TV	
	CABLE TV PEDESTAL	
	GAS LINE	
	NATURAL GAS LINE	
	FUEL LINE	
	GAS METER	
	CONCRETE CURB & GUTTER	
	EDGE OF ASPHALT SURFACE	
	EDGE OF GRAVEL SURFACE	
	BITUMINOUS/CONCRETE SURFACE	
	BUILDING	
	CHAIN LINK FENCE	
	WOOD FENCE	
	BARB WIRE FENCE	
	TREES CONIFEROUS/ DECIDUOUS	
	BUSH	
	CULVERT	
	DRAINAGE DIRECTION	
	SIGN	
	MAIL BOX	
	PROPERTY PIN	
	CONTROL POINT	

BOUNDARY/PROPERTY LEGEND

	P-RIGHT-OF-WAY OR BLOCK LINE
	P-LOT-DIM
	P-CL-DIM
	P-EASEMENT

HORIZONTAL ALIGNMENT				
PNT	STATION	NORTHING	EASTING	BEARING
14TH AVENUE SE				
BP	38+00.00	412519.791	1875679.739	N01° 00' 57.96"E
EP	49+00.00	411419.956	1875698.899	
SHIRES DRIVE SE				
BP-PC	20+00.00	412056.729	1875156.123	N28° 52' 45.11"E
PI1	22+70.19	412293.320	1875286.616	
PT	24+89.90	412298.112	1875556.765	N88° 59' 02.04"E
EP	26+16.62	412298.112	1875556.765	
SUFFOLK DRIVE SE				
BP	30+00.00	411738.042	1875320.683	N75° 34' 12.81"E
PC	32+53.83	411801.294	1875566.505	
PI2	33+00.70	411812.974	1875611.897	N88° 56' 12.26"E
PT	33+47.15	411813.844	1875658.760	
EP	33+83.77	411814.524	1875695.381	
PUMP STATION WATER MAIN				
BP	0+00.00	412443.760	1875637.943	N88° 57' 56.66"E
PI3	2+52.62	412448.320	1875890.517	
EP	4+45.00	412640.673	1875887.143	N1° 00' 17.90"W

ALIGNMENT CURVE DATA		
ARC DEFINITION		
	C1	C2
PI STA	22+70.19	32+86.17
DELTA	60° 06' 16.9301"	13° 25' 17.2357"
DA	12° 16' 08.0531"	14° 19' 26.2020"
R	467	400
T	270.192	74.065
L	489.895	93.699
LC	467.739	93.485

SURVEY CONTROL POINTS				
PNT	NORTHING	EASTING	ELEV	DESCRIPTION
19000	413482.779	1875845.271	1780.153	CSEC CENTER SEC 2IN PIPE
19001	410851.66	1875892.041	1839.714	SQCOR 2IN PIPE
19002	410799.647	1873249.89	1822.68	SWSEC 1IN PIPE

RECORD DRAWINGS
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BASIS OF ESTIMATE

PIPE BEDDING:

8" WATER MAIN = 0.2616 TONS/LF
 16" WATER MAIN = 0.4077 TONS/LF
 HYDRANT = 2.5 TONS/EA
 WATER SERVICE LINE = 0.1000 TONS/LF
 MANHOLES = 5.0 TONS/EA
 4" SEWER SERVICE = 0.108 TONS/LF
 8" SANITARY SEWER = 0.138 TONS/LF

SUBCUT GRAVEL:

0.020 TON/LF OF PIPE

ESTIMATED QUANTITIES

Item No.	Spec. No.	Item	Unit	Quantity
1	SP	MOBILIZATION	LS	1
2	801	PIPE BEDDING	TON	1,260 1479.44
3	801	SUBCUT GRAVEL	TON	121 0
4	801	8" SDR-35 PVC SANITARY SEWER	LF	2,026
5	801	8" SANITARY SEWER CAP	EA	3
6	801	TELEWISE SEWER MAIN	LF	2,026
7	900	6" PVC C-900 HYDRANT LEAD	LF	147 142
8	900	8" PVC C-900 WATER MAIN	LF	870 868
9	900	16" PVC C-900 WATER MAIN	LF	1,237 1,242
10	900	16" WATER MAIN CAP	EA	1 0
11	900	REMOVE & REPLACE 6" HYDRANT	EA	1
12	900	6" FIRE HYDRANT	EA	6
13	900	8" X 6" REDUCER	EA	2
14	900	16" X 6" REDUCER	EA	1
15	900	16" X 8" REDUCER	EA	1
16	900	20" X 16" REDUCER	EA	1
17	900	6" GATE VALVE AND BOX	EA	4
18	900	8" GATE VALVE AND BOX	EA	3 2
19	900	16" GATE VALVE AND BOX	EA	5
20	1205	48" SANITARY SEWER MANHOLES	EA	8
21	1209	4" SDR-35 PVC SEWER SERVICE	LF	834
22	1209	8" X 4" SEWER SERVICE CONNECTION	EA	25
23	1209	1" WATER SERVICE	LF	940
24	1209	1" CURB STOP AND BOX	EA	25
25	1209	8" X 1" WATER SERVICE CONNECTION	EA	19
26	1209	16" X 1" WATER SERVICE CONNECTION	EA	6
27	1211	TRAFFIC CONTROL	LS	1



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PLAINVIEW HEIGHTS 13TH ADDITION
 MITZEL BUILDERS, INC.
 MANDAN, NORTH DAKOTA
BASIS OF ESTIMATE & ESTIMATED QUANTITIES

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GENERAL

1. ALL CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS; THE CITY OF MANDAN STANDARD SPECIFICATIONS AND DETAILS; AND THE CONSTRUCTION DOCUMENTS TITLED PLAINVIEW 13TH ADDITION WATER & SEWER IMPROVEMENTS, MANDAN, NORTH DAKOTA.
2. THESE NOTES APPLY TO THE ENTIRE PROJECT EXCEPT AS INDICATED OTHERWISE. CONTRACTOR SHOULD NOTE THAT ADDITIONAL CONSTRUCTION NOTES ARE INCLUDED ON INDIVIDUAL DRAWINGS.
3. THESE NOTES ARE FOR GENERAL REFERENCE IN CONJUNCTION WITH AND AS A SUPPLEMENT TO THE WRITTEN SPECIFICATIONS, DETAILS, ADDENDA AND CHANGE ORDERS ASSOCIATED WITH THE CONTRACT DOCUMENTS.
4. REQUESTS BY THE CONTRACTOR OR OWNER SHALL BE APPROVED IN WRITING BY THE ENGINEER AND CITY PRIOR TO IMPLEMENTATION.
5. ANY ERRORS OR OMISSIONS DISCOVERED BY THE CONTRACTOR IN THE PLAN SET SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER WHEN DISCOVERED. THE CONTRACTOR SHALL ALLOW TIME FOR CLARIFICATION.
6. ITEMS NOT INCLUDED IN THE PLANS AS A PAY ITEM BUT INCLUDED ELSEWHERE IN THE PLANS SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER AND SHALL BE CONSIDERED INCIDENTAL ITEMS.
7. THIS PLAN SET HAS A LIST OF GENERAL ABBREVIATIONS AND SYMBOLS AND MATERIALS LEGENDS LISTED ON IT. SOME SYMBOLS, MATERIALS AND ABBREVIATIONS MAY NOT BE UTILIZED ON THIS SPECIFIC PROJECT.
8. THE CONTRACTOR SHALL PROVIDE A ONE (1) WEEK NOTICE TO THE ENGINEER, OWNER AND THE CITY OF MANDAN PRIOR TO BEGINNING ANY CONSTRUCTION.
9. ALL DITCH GRADES, CONTOURS AND CROSS SECTIONS REPRESENT THE FINISHED GRADE (TOP OF THE TOPSOIL). IN AREAS WHERE TOPSOIL IS TO BE PLACED, THE GRADING SHALL BE COMPLETED BY CUTTING OR FILLING EARTHWORK TO A POINT 7 INCHES BELOW THE FINAL GRADE; WITH TOPSOIL BRINGING THE GRADING TEMPLATE TO FINISHED GRADE ELEVATIONS. THE EARTHWORK SHALL BE CONSTRUCTED TO THE LINES AND GRADES AS SHOWN ON THE PLANS.

PROTECTION OF EXISTING UTILITIES AND MONUMENTS

10. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR IT'S REPRESENTATIVES, THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. UNDERGROUND LOCATES MAY BE MADE USING THE "ONE CALL" NUMBER 1-800-795-0555 OR 811.
11. WHERE EXISTING UTILITY WIRES (TELEPHONE, ELECTRIC) ARE LOCATED ADJACENT TO OR ABOVE THE PROPOSED WATER OR SEWER MAIN, THE CONTRACTOR SHALL TEMPORARILY SUPPORT EXISTING WIRES AND INSTALL MAIN PIPING UNDER EXISTING WIRES. ANY DECISION TO HAVE THE EXISTING UTILITIES MOVED WILL BE AT THE CONTRACTORS EXPENSE.
12. THE CONTRACTOR SHALL PROTECT ALL SURVEY MONUMENTS. MONUMENTS DISTURBED OR DESTROYED SHALL BE REPLACED BY THE OWNER'S REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.

REMOVALS

13. MISCELLANEOUS ITEMS SUCH AS AND NOT LIMITED TO: MAILBOXES, STREET LIGHTS, TRAFFIC LIGHTS, SIGNS, FENCES, POLES, ETC. SHALL BE PROTECTED OR REMOVED AND REINSTALLED BY THE CONTRACTOR WITH THE OWNER'S AND PROPERTY OWNER'S PERMISSION, AND THIS WORK SHALL BE INCIDENTAL TO THE CONTRACT.
14. ANY EXISTING STRUCTURES DISTURBED BY CONSTRUCTION ARE TO BE RESTORED TO THEIR ORIGINAL LOCATION AND CONDITION. ALL STRUCTURES SUCH AS CURB AND GUTTER, CONCRETE AND BITUMINOUS SIDEWALKS, PAVING BRICKS, FENCING, RETAINING WALLS, ETC., CROSSED BY THE PROPOSED WATER, SEWER, CULVERTS AND ROADWAYS MAY NOT BE INDICATED.
15. EXCESS EXCAVATED MATERIAL INCLUDING PIPE, STUMPS, ROOTS, SOIL MATERIALS AND ANY OTHER ITEMS THE OWNER DOES NOT WISH TO SALVAGE SHALL BECOME THE CONTRACTOR'S PROPERTY AND SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY, INCIDENTAL TO THE CONTRACT. ASPHALT AND CONCRETE SHALL BE DISPOSED OF OFFSITE AT A LICENSED LANDFILL, INCIDENTAL TO THE CONTRACT.

GRADING NOTES

16. SILT FENCING OR APPROPRIATE EROSION CONTROL MEASURES SHALL BE INSTALLED ON DOWNSTREAM SIDES OF STOCKPILES TO PROTECT RECEIVING WATERS FROM SEDIMENTATION. TOPSOIL STOCKPILES THAT WILL REMAIN FOR PERIODS IN EXCESS OF 60 DAYS SHOULD BE STABILIZED WITH TEMPORARY VEGETATION.
17. IF EXCESS FILL MATERIAL IS PRESENT FOLLOWING APPROVAL OF EMBANKMENT COMPACTION THE CONTRACTOR SHALL CONTACT THE ENGINEER TO DETERMINE A SUITABLE LOCATION FOR EXCESS FILL DISPOSAL.
18. ALL UTILITY TRENCHES ARE TO BE BACKFILLED & COMPACTED TO THE PROPOSED GRADE.

WATER AND SEWER

19. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION, ELEVATION, MATERIAL AND SIZE OF THE EXISTING WATER AND SEWER MAIN AT THE POINTS OF CONNECTION. CONNECTIONS BETWEEN NEW AND EXISTING PIPES SHALL USE PROPER FITTINGS TO SUIT THE ACTUAL CONDITIONS ENCOUNTERED. FITTINGS NECESSARY TO MAKE ALL CONNECTIONS SHALL BE INCIDENTAL.

20. THE CONTRACTOR IS TO PROVIDE AND MAINTAIN ADEQUATE DEWATERING EQUIPMENT TO REMOVE AND DISPOSE OF ANY SURFACE AND GROUNDWATER ENTERING THE TRENCH. ALL COSTS ASSOCIATED WITH WELLPOINT DEWATERING, AND OTHER PUMP SYSTEMS, SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. PERMITS REQUIRED FOR DEWATERING SHALL BE OBTAINED BY THE CONTRACTOR.
21. ALL SEWER MANHOLES SHALL HAVE A MONOLITHIC BASE WITH PRECAST INVERTS.
22. DEPTH OF COVER FOR ALL WATERLINES SHALL BE A MINIMUM OF 7 FEET 6 INCHES MEASURED FROM THE GROUND SURFACE TO THE TOP OF PIPE. MAINS SHALL BE LOWERED, AS REQUIRED, TO AVOID CONFLICTS WITH EXISTING UTILITIES AND TO MAINTAIN SPECIFIED SEPARATIONS.
23. WATER MAIN DEFLECTIONS FROM A STRAIGHT LINE OR GRADE ARE TO BE MADE WITH FITTINGS, DEFLECTED JOINTS, SHORTER PIPE SECTIONS OR A COMBINATION OF THESE METHODS TO CONFORM TO THE ALIGNMENT AND PROFILE INDICATED ON THE DRAWINGS AND SPECIFICATIONS. DEFLECTED JOINTS SHALL NOT EXCEED THE PIPE MANUFACTURERS RECOMMENDATION.

TRAFFIC CONTROL AND SIGNAGE

24. THE CONTRACTOR SHALL MAINTAIN INGRESS/EGRESS ACCESS TO INDIVIDUAL PROPERTY OWNERS AT ALL TIMES. THE CONTRACTOR SHALL COORDINATE DETOURS AND ANY TEMPORARY CLOSURES WITH EACH PROPERTY OWNER AND THE CITY OF MANDAN ENGINEERING DEPARTMENT. THE CONTRACTOR SHALL KEEP THE DURATION OF ALL CLOSURES AND DETOURS TO A MINIMUM.
25. THE CONTRACTOR SHALL MAINTAIN TEMPORARY DETOUR ROADS UNTIL DETOUR IS NO LONGER NECESSARY. MAINTENANCE COSTS SHALL BE INCIDENTAL TO THE CONTRACT.
26. THE CONTRACTOR SHALL FOLLOW THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS AND GUIDES FOR TRAFFIC CONTROL FOR STREET AND HIGHWAY CONSTRUCTION.
27. THE CONTRACTOR SHALL FOLLOW NORTH DAKOTA DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS WHEN SETTING UP THE TRAFFIC CONTROL DEVICES.

STORM WATER POLLUTION PREVENTION

28. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A GENERAL PERMIT (NPDES) FROM THE NORTH DAKOTA DEPARTMENT OF HEALTH. AN APPLICATION PACKAGE WITH ALL RELATED AND SUBSEQUENT REQUIREMENTS MAY BE ACQUIRED BY CONTACTING THE NORTH DAKOTA DEPARTMENT OF HEALTH AT 701-328-5210.
29. THE CONTRACTOR SHALL NOT DISTURB EXISTING SILT FENCE AND WEIGHTED FIBER ROLL. IF SILT FENCE OR WEIGHTED FIBER ROLL HAS BEEN DISTURBED OR HAS DETERIORATED THE CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT. THE COST OF REPLACING SILT FENCE AND WEIGHTED FIBER ROLL SHALL BE INCIDENTAL TO THE CONTRACT.
30. THE CONTRACTOR IS RESPONSIBLE FOR MINIMIZING TRACKING OF SOIL AND DEBRIS ONTO ADJACENT PROPERTIES AND ROADWAYS. TRACKING MUST BE REMOVED BY THE END OF EACH DAY.
31. THE CONTRACTOR SHALL BE REQUIRED TO CLEAN STREETS AND SIDEWALKS AND REPAIR TO THE CONDITION THEY WERE IN PRIOR TO THE START OF CONSTRUCTION BEFORE OPENING UP TO TRAFFIC.
32. THE CONTRACTOR SHALL INSTALL A CENTRAL CONCRETE WASHOUT LOCATION AND PROVIDE A SIGN TO IDENTIFY THE CONCRETE WASHOUT AREA. THE CONTRACTOR SHALL CONSTRUCT A PIT TO PREVENT WASHOUT WATER FROM FLOWING TO THE STORM WATER COLLECTION SYSTEM.

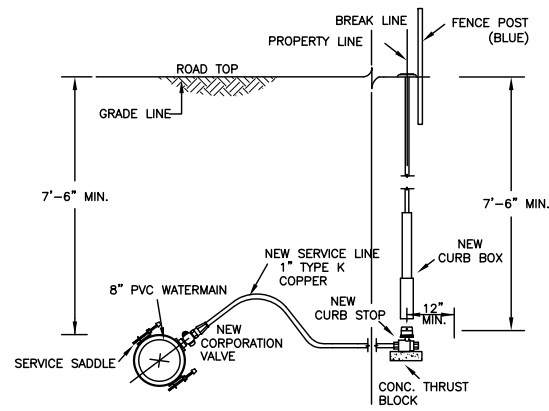
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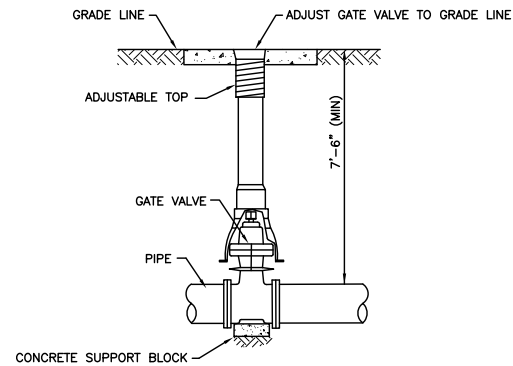
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 MITZEL BUILDERS, INC.
 MANDAN, NORTH DAKOTA
GENERAL NOTES

RECORD DRAWINGS

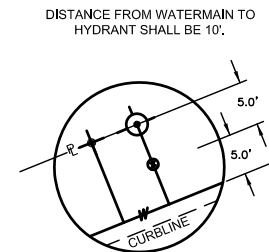
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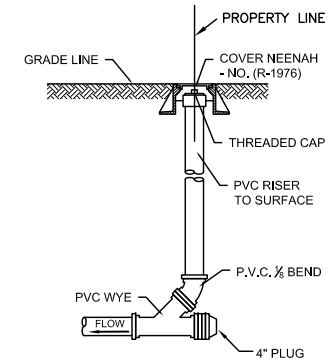
WATER SERVICE LINE CONNECTION
NO SCALE



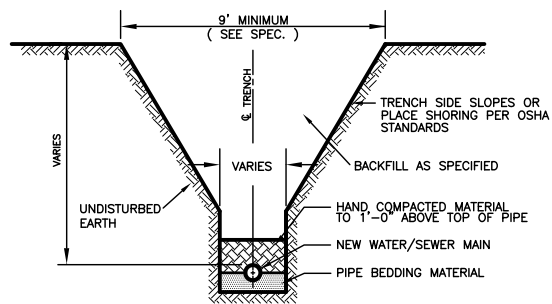
TYPICAL GATE VALVE
NO SCALE



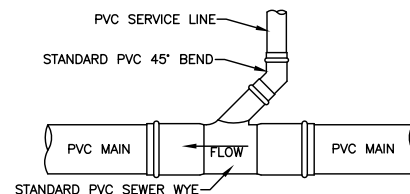
HYDRANT & CURB STOP LOCATION DETAIL
NO SCALE



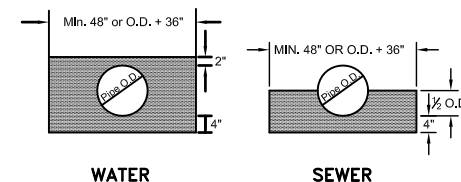
SANITARY SEWER INLINE CLEAN OUT
NO SCALE



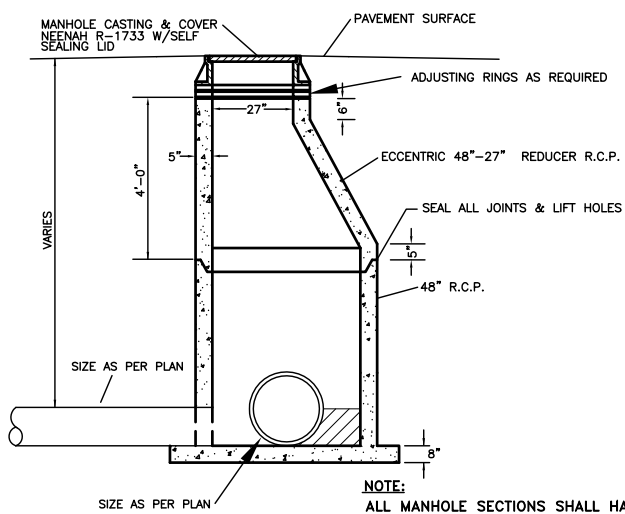
TYPICAL TRENCH DETAIL
NO SCALE



SANITARY SEWER CONNECTION
NO SCALE

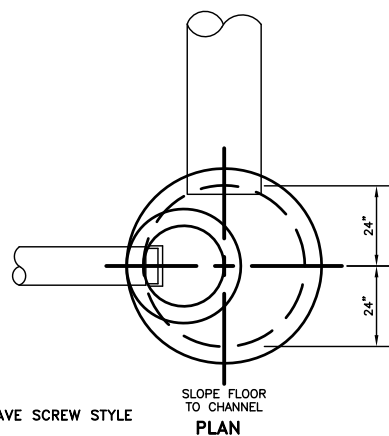


PIPE BEDDING DETAILS
NO SCALE

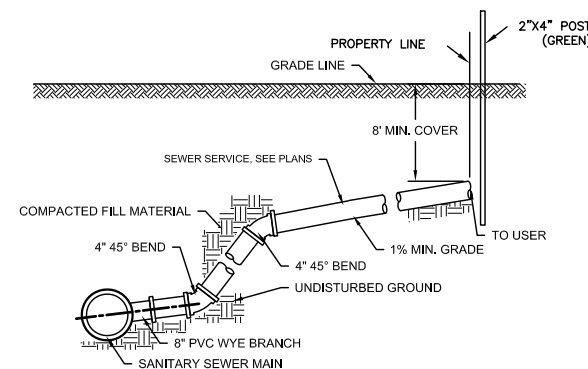


NOTE:
ALL MANHOLE SECTIONS SHALL HAVE SCREW STYLE LIFT DEVICES.
THE INVERTS ON THE EXTENDED MONOLITHIC (INTEGRAL) BASE MANHOLE SHALL HAVE A SMOOTH PRECAST INVERT WITH PVC BOOTS

SANITARY MANHOLE DETAIL
NO SCALE



SLOPE FLOOR TO CHANNEL



SANITARY SEWER SERVICE CONNECTION
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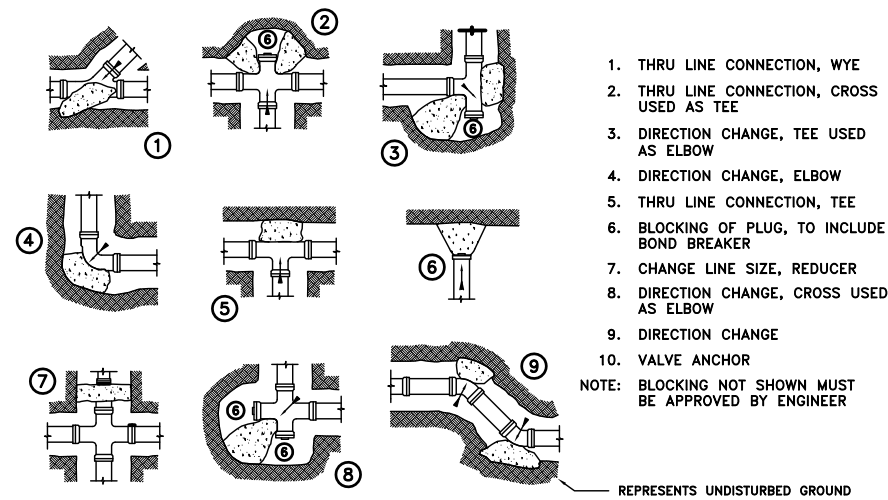
DETAILS

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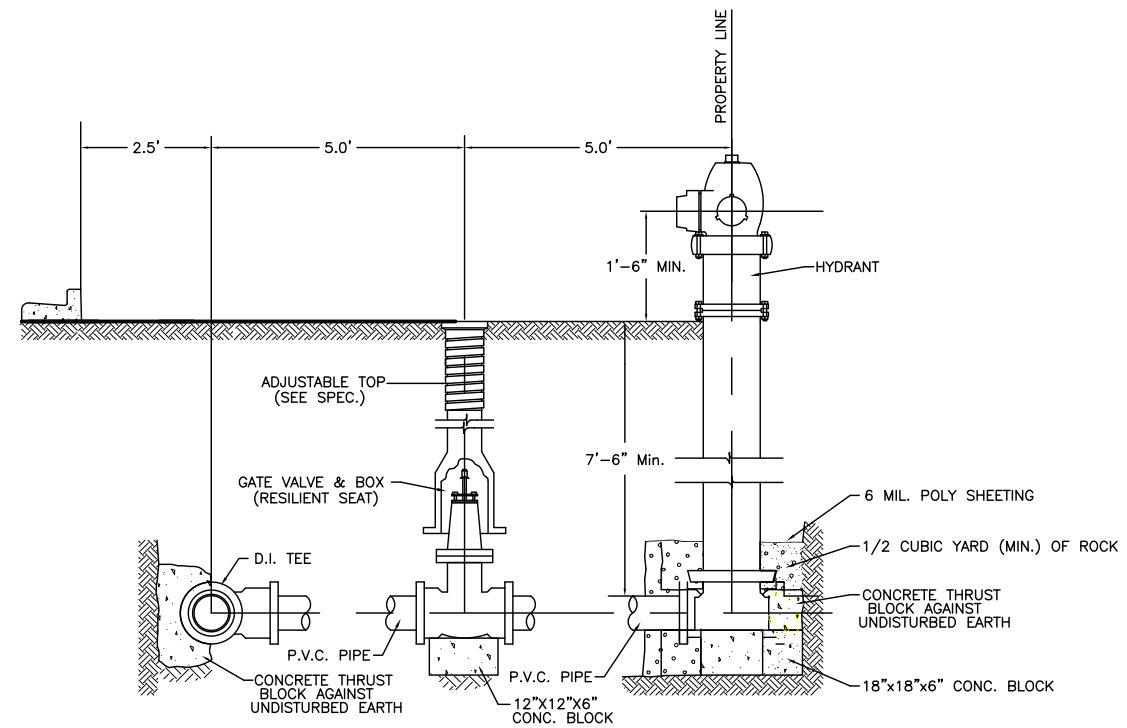
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THRUST BLOCKING DETAILS
NO SCALE



TYPICAL HYDRANT & GATE VALVE DETAIL
NO SCALE

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DETAILS

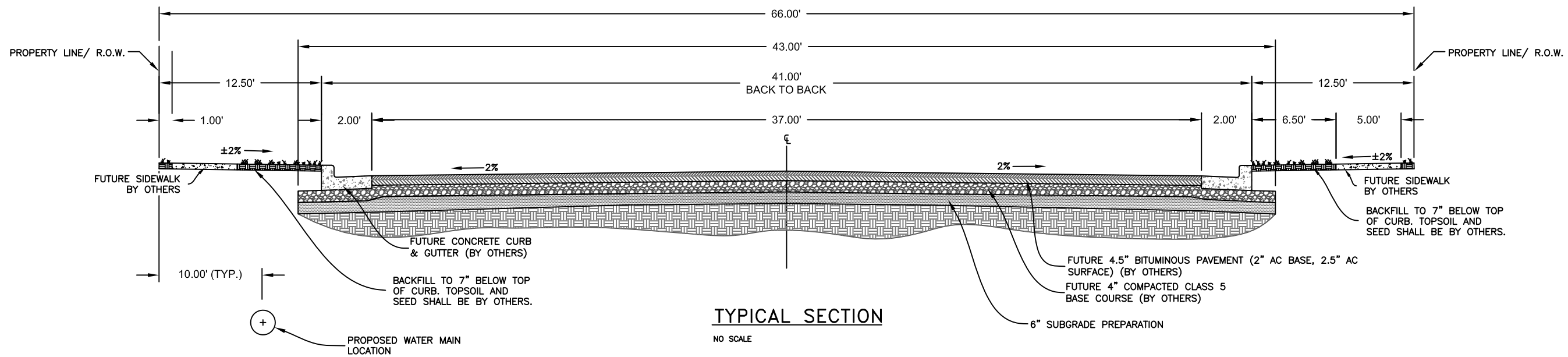
SHEET

6

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TYPICAL SECTIONS

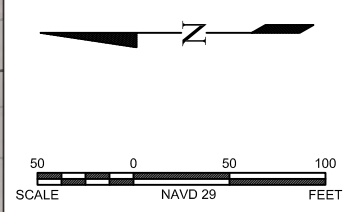
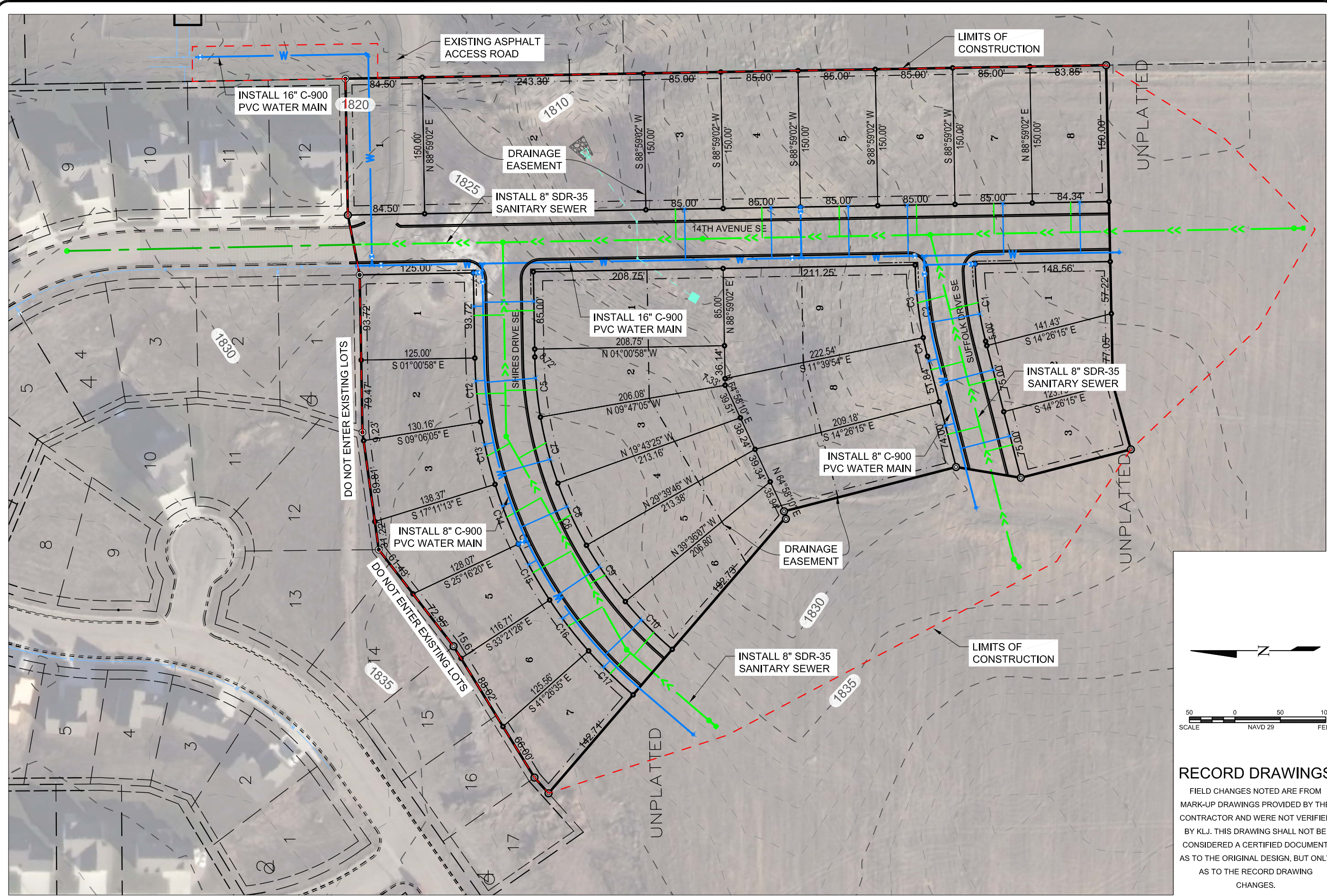


RECORD DRAWINGS
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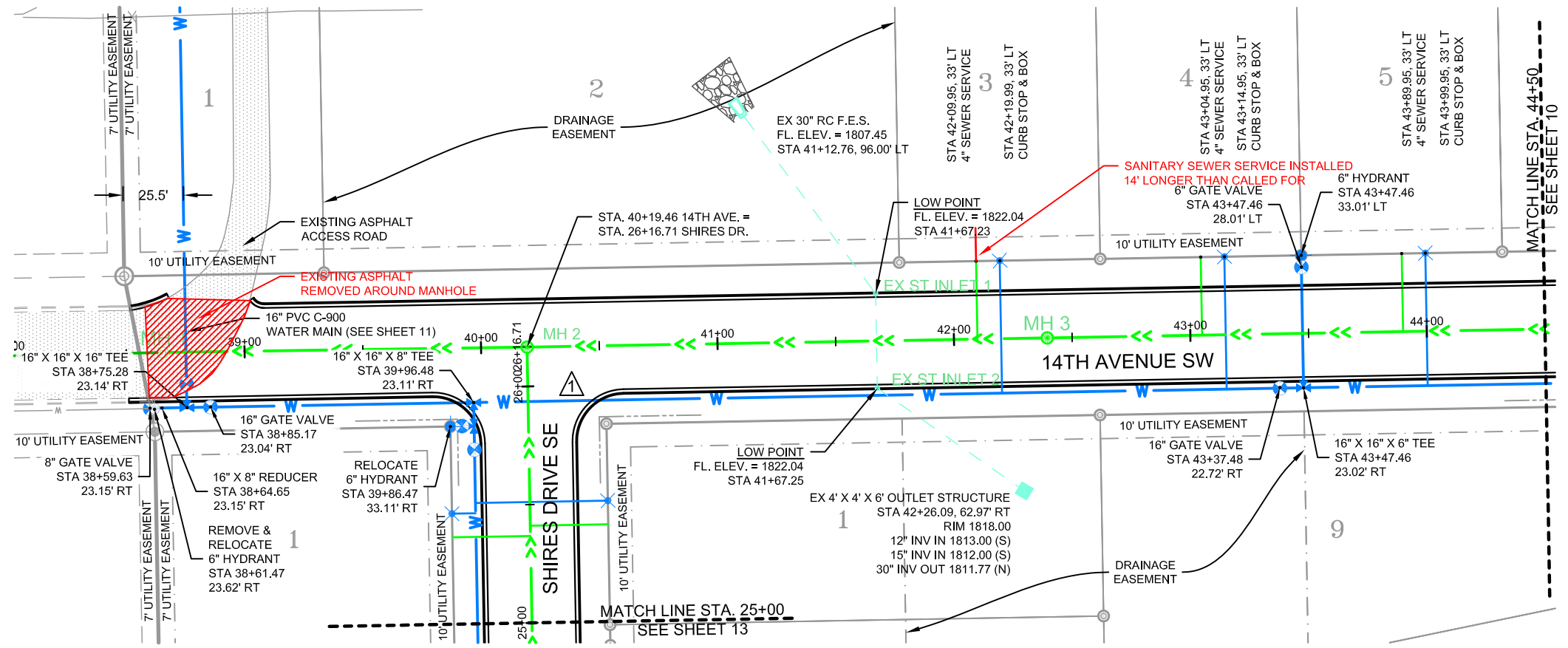
NO.	DATE	REVISION
1	9-11-2012	REVISED PER CITY OF MANDAN COMMENTS
2	12-11-2012	MADE REDLINE RECORD DRAWING COMMENTS

DRAFTED
LMW
REVIEWED
AM
PROJECT NUMBER
1612153
ISSUE DATE
9/19/2012

PLAINVIEW HEIGHTS 13TH ADDITION
MITZEL BUILDERS, INC.
MANDAN, NORTH DAKOTA
SCOPE OF WORK



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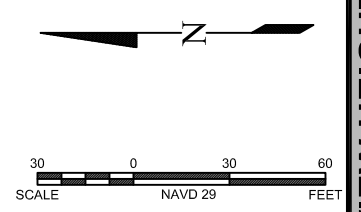
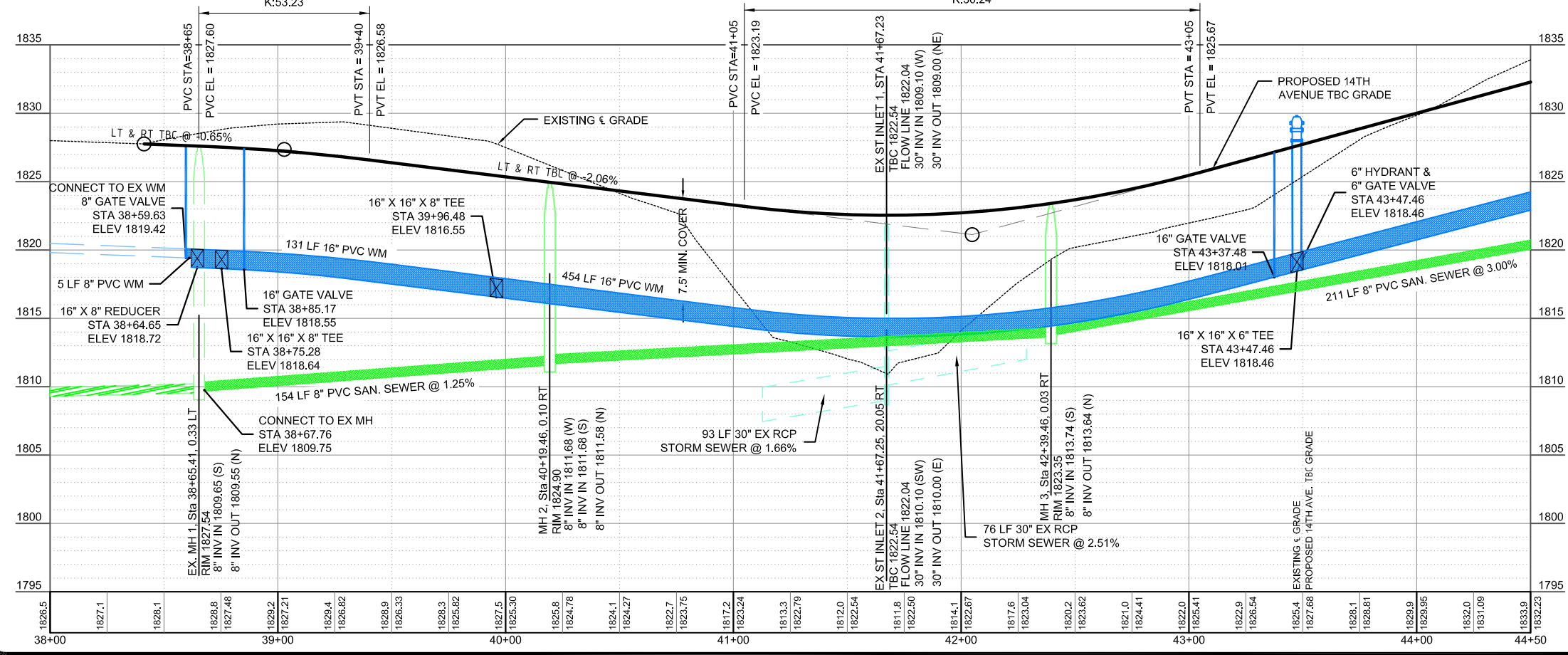


QUANTITIES THIS SHEET

DUCTILE IRON WATER MAIN FITTINGS	
16" X 16" X 6" TEE	1 EA
16" X 16" X 8" TEE	1 EA
16" X 16" X 16" TEE	1 EA
16" X 8" REDUCER	1 EA
WATER MAIN	
6" PVC C-900 HYDRANT LEAD	56 LF
8" PVC C-900 WATER MAIN	5 LF
16" PVC C-900 WATER MAIN	585 LF
16" WATER MAIN CAP	1 EA
REMOVE & RELOCATE HYDRANT	1 EA
6" FIRE HYDRANT	1 EA
6" GATE VALVE & BOX	1 EA
8" GATE VALVE & BOX	1 EA
16" GATE VALVE & BOX	2 EA
1" WATER SERVICE	168 LF
1" CURB STOP & BOX	3 EA
16" X 1" WATER SERVICE CONNECTION	3 EA
SANITARY SEWER	
48" SANITARY SEWER MANHOLE	2 EA
8" SDR-35 PVC SANITARY SEWER	585 LF
4" SDR-35 PVC SEWER SERVICE	99 LF
8" X 4" SEWER SERVICE CONNECTION	3 EA

NOTE:

- ALL STORM SEWER PIPES AND STRUCTURES ARE EXISTING.



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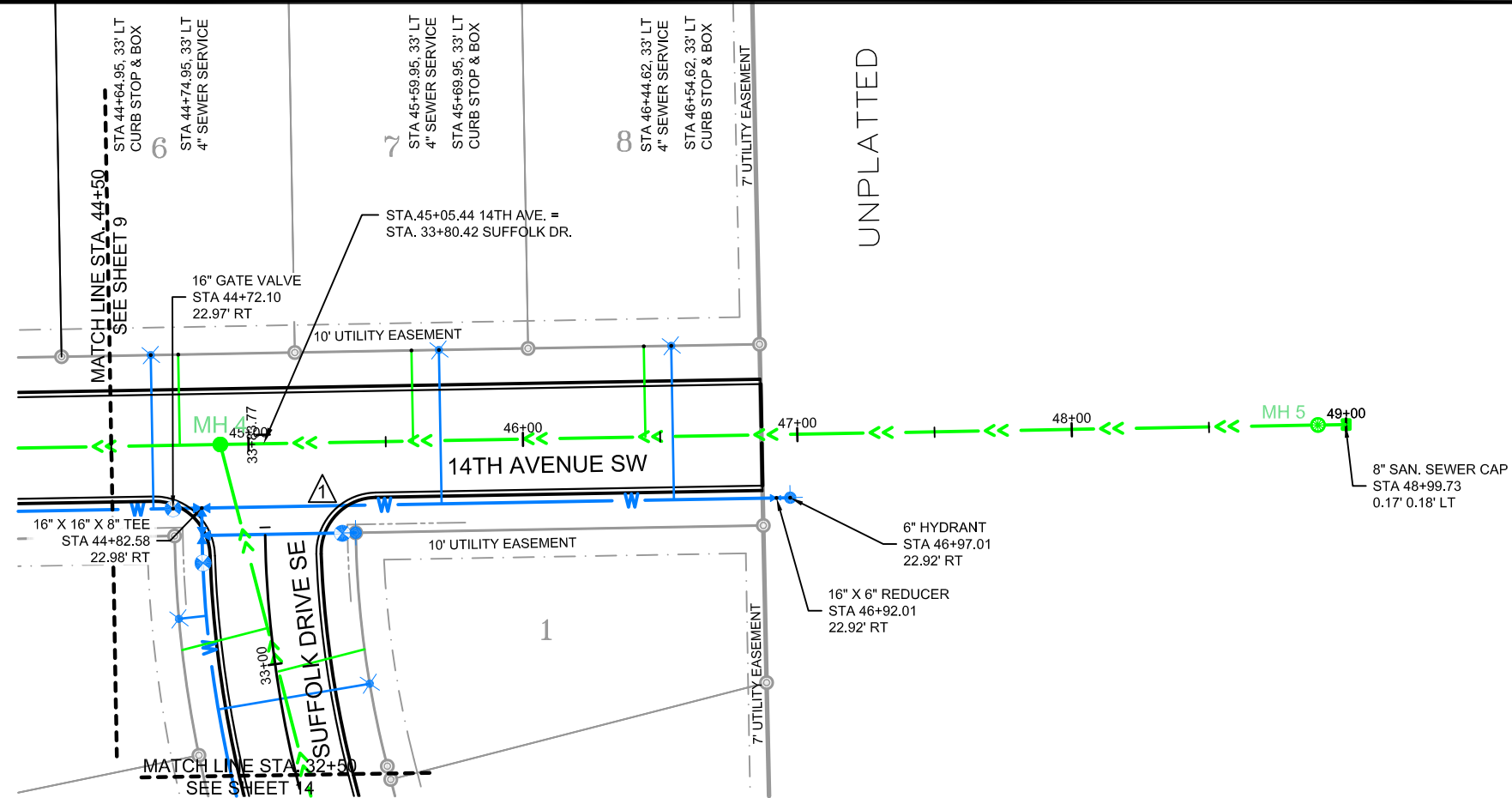
REVIEWED
AM

PROJECT NUMBER
1612153

ISSUE DATE
9/19/2012

PLAINVIEW HEIGHTS 13TH ADDITION
MITZEL BUILDERS, INC.
MANDAN, NORTH DAKOTA

14TH AVE SW PLAN & PROFILE STA. 38+00 - 44+50



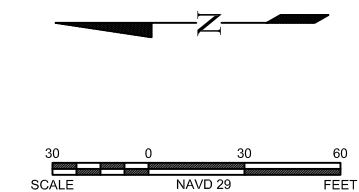
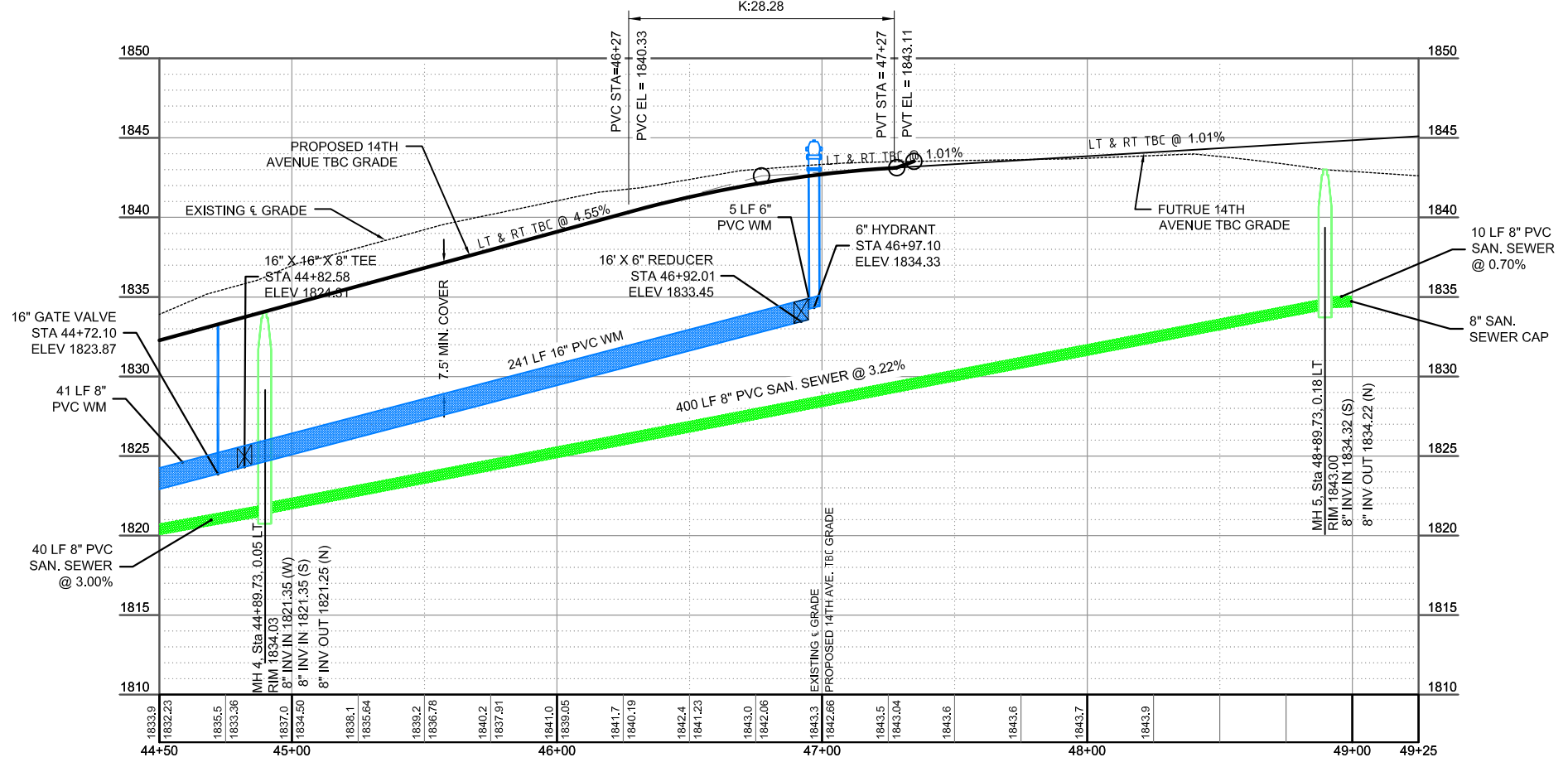
QUANTITIES THIS SHEET

DUCTILE IRON WATERMAIN FITTINGS	
16" X 16" X 8" TEE	1 EA
16" X 6" REDUCER	1 EA
WATER MAIN	
6" PVC C-900 HYDRANT LEAD	5 LF
16" PVC C-900 WATER MAIN	241 LF
6" FIRE HYDRANT	1 EA
16" GATE VALVE & BOX	1 EA
1" WATER SERVICE	168 LF
1" CURB STOP & BOX	3 EA
16" X 1" WATER SERVICE CONNECTION	3 EA
SANITARY SEWER	
48" SANITARY SEWER MANHOLE	2 EA
8" SDR-35 PVC SANITARY SEWER	450 LF
8" SANITARY SEWER CAP	1 EA
4" SDR-35 PVC SEWER SERVICE	99 LF
8" X 4" SEWER SERVICE CONNECTION	3 EA

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NO.	DATE	REVISION
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PROJECT NUMBER
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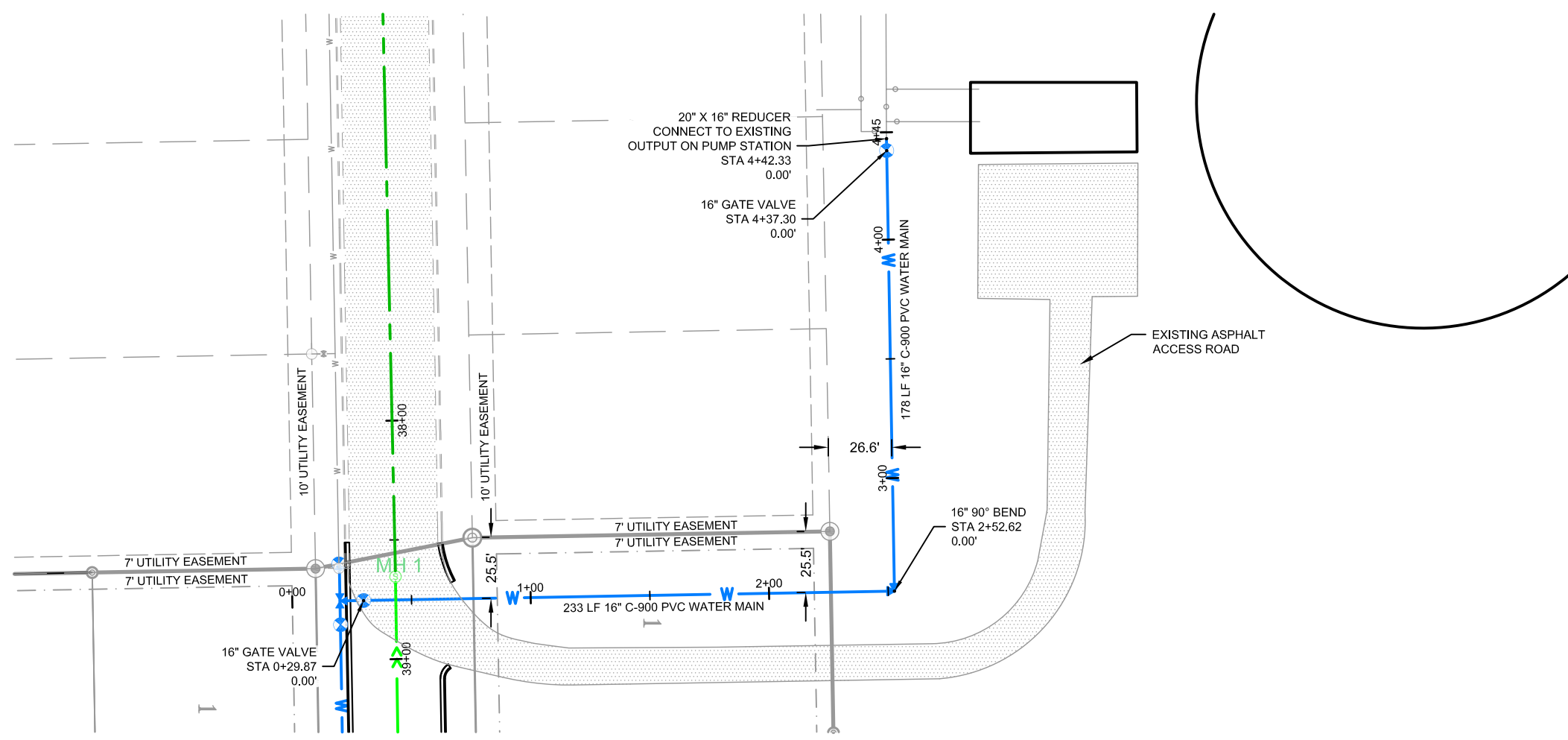
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PLAINVIEW HEIGHTS 13TH ADDITION
MITZEL BUILDERS, INC.
MANDAN, NORTH DAKOTA

14TH AVE SW PLAN & PROFILE STA. 44+50 - 49+00

SHEET
10



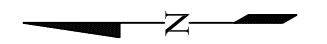
QUANTITIES THIS SHEET

DUCTILE IRON WATER MAIN FITTINGS	
16" 90° BEND	1 EA
20" X 16" REDUCER	1 EA
WATER MAIN	
16" PVC C-900 WATER MAIN	411 LF
16" GATE VALVE & BOX	2 EA



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ISSUE DATE 9/19/2012



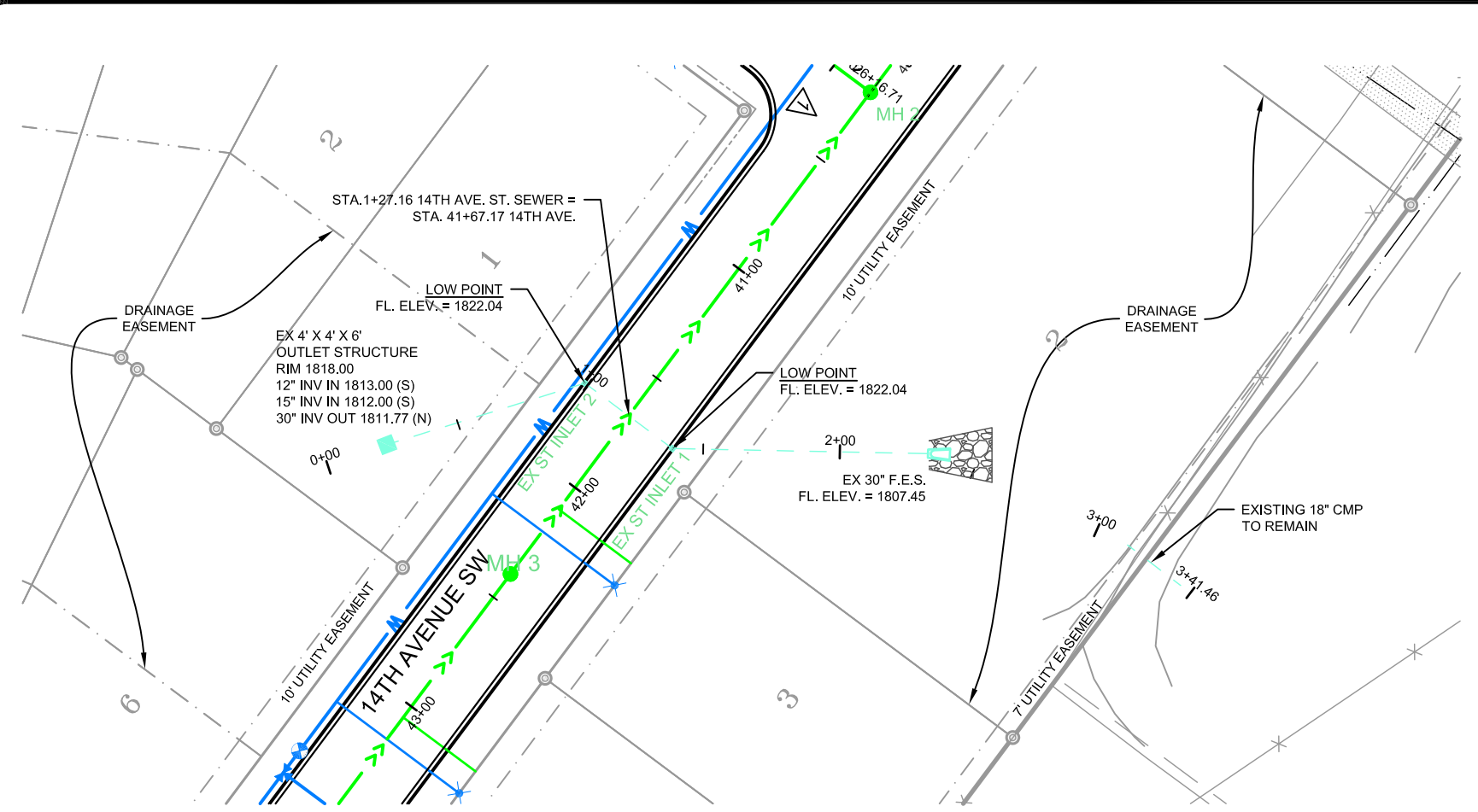
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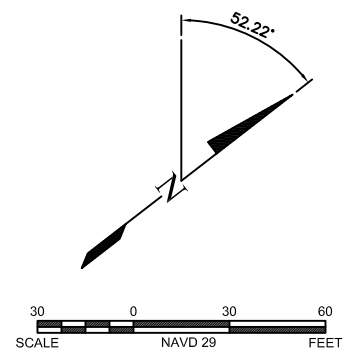
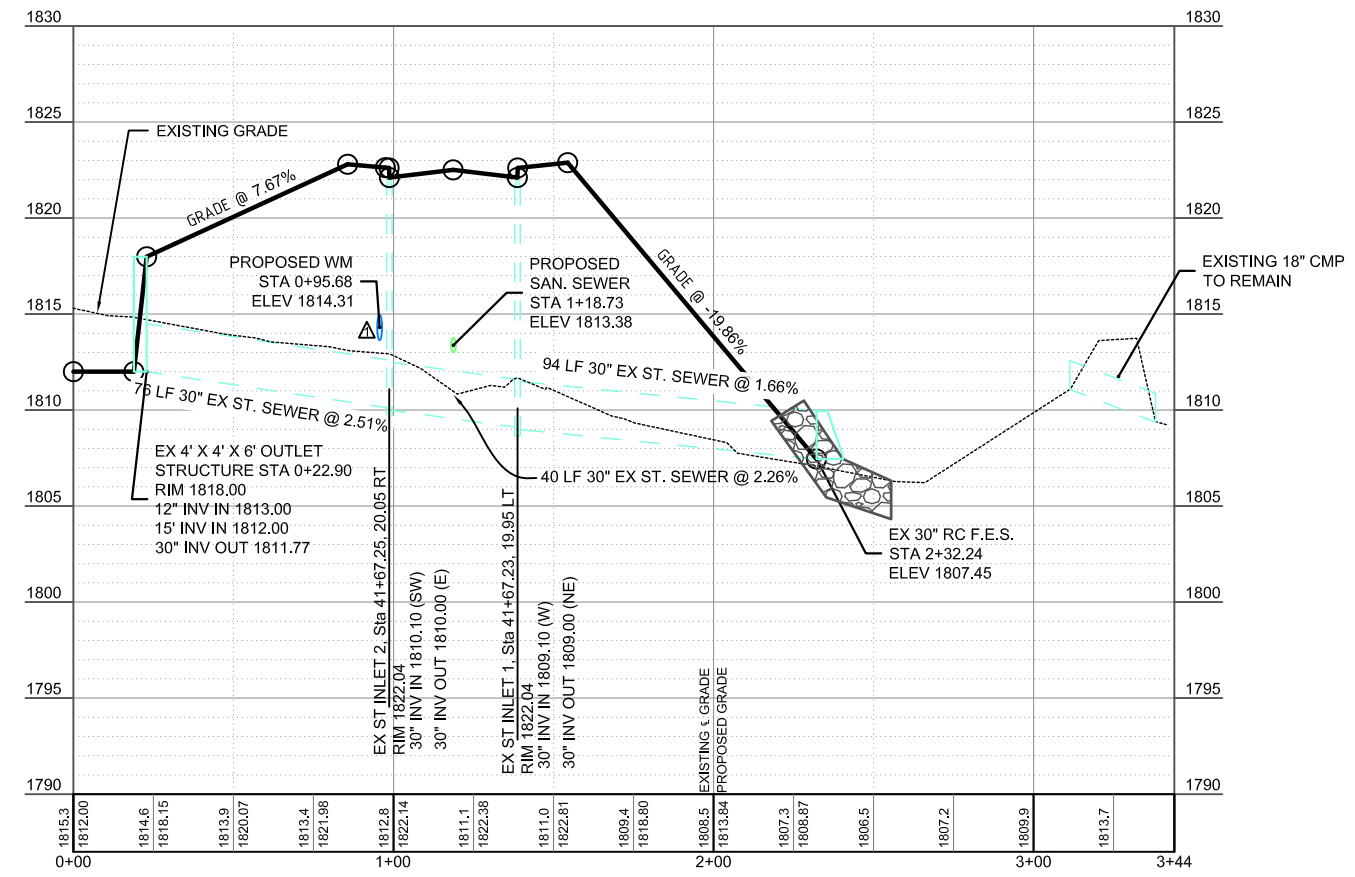
PLAINVIEW HEIGHTS 13TH ADDITION
 MITZEL BUILDERS, INC.
 MANDAN, NORTH DAKOTA
WATER MAIN TO PUMP STATION

NO.	DATE	REVISION
1	9-11-2012	REVISED PER CITY OF MANDAN COMMENTS
2	12-11-2012	MADE REDLINE RECORD DRAWING COMMENTS

DRAFTED	LMW
REVIEWED	AM
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ISSUE DATE	9/19/2012



NOTE:
1. ALL STORM SEWER PIPES AND STRUCTURES ARE EXISTING.



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PLAINVIEW HEIGHTS 13TH ADDITION
MITZEL BUILDERS, INC.
MANDAN, NORTH DAKOTA
14TH AVE SW STORM SEWER PLAN & PROFILE STA. 0+00 - 2+30



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NO.	DATE	REVISION
1	12-11-2012	MADE REDLINE RECORD DRAWING COMMENTS

DRAFTED	LMW
REVIEWED	AM
PROJECT NUMBER	1612153
ISSUE DATE	8/21/2012

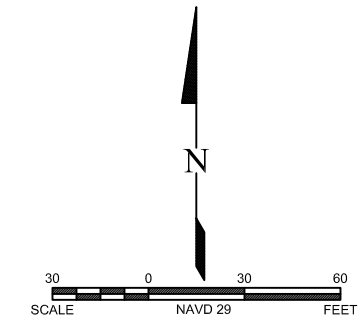
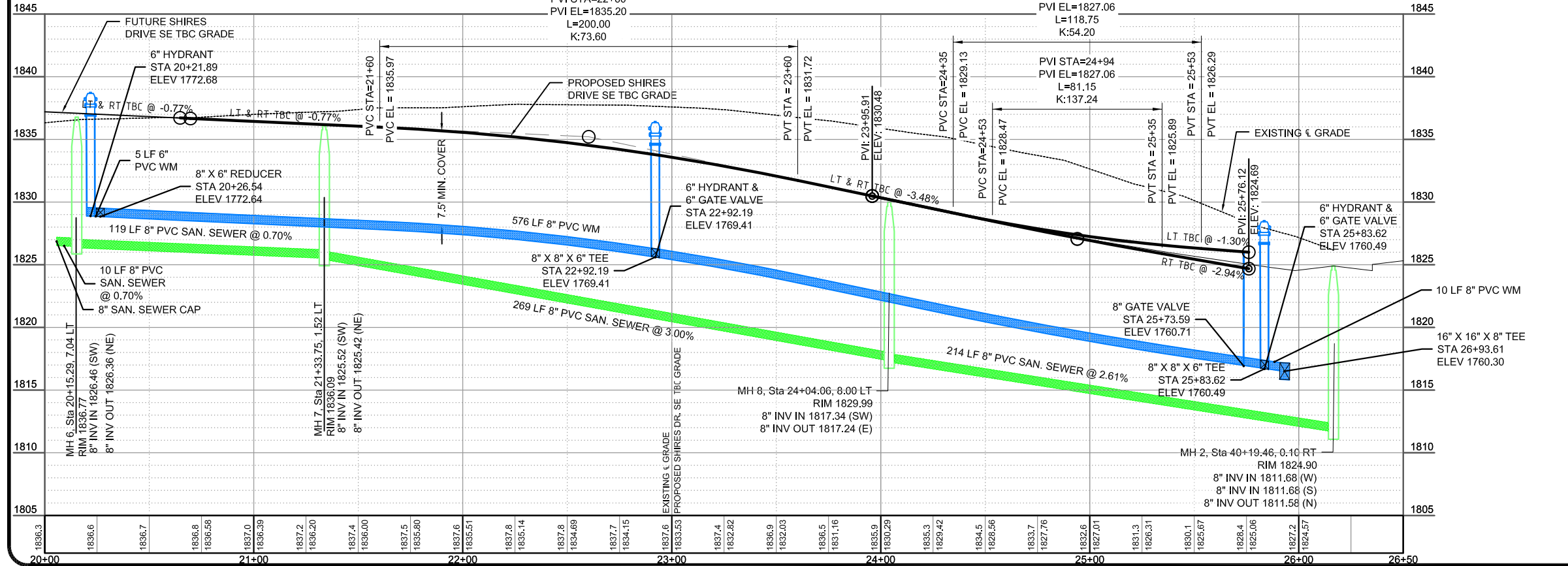
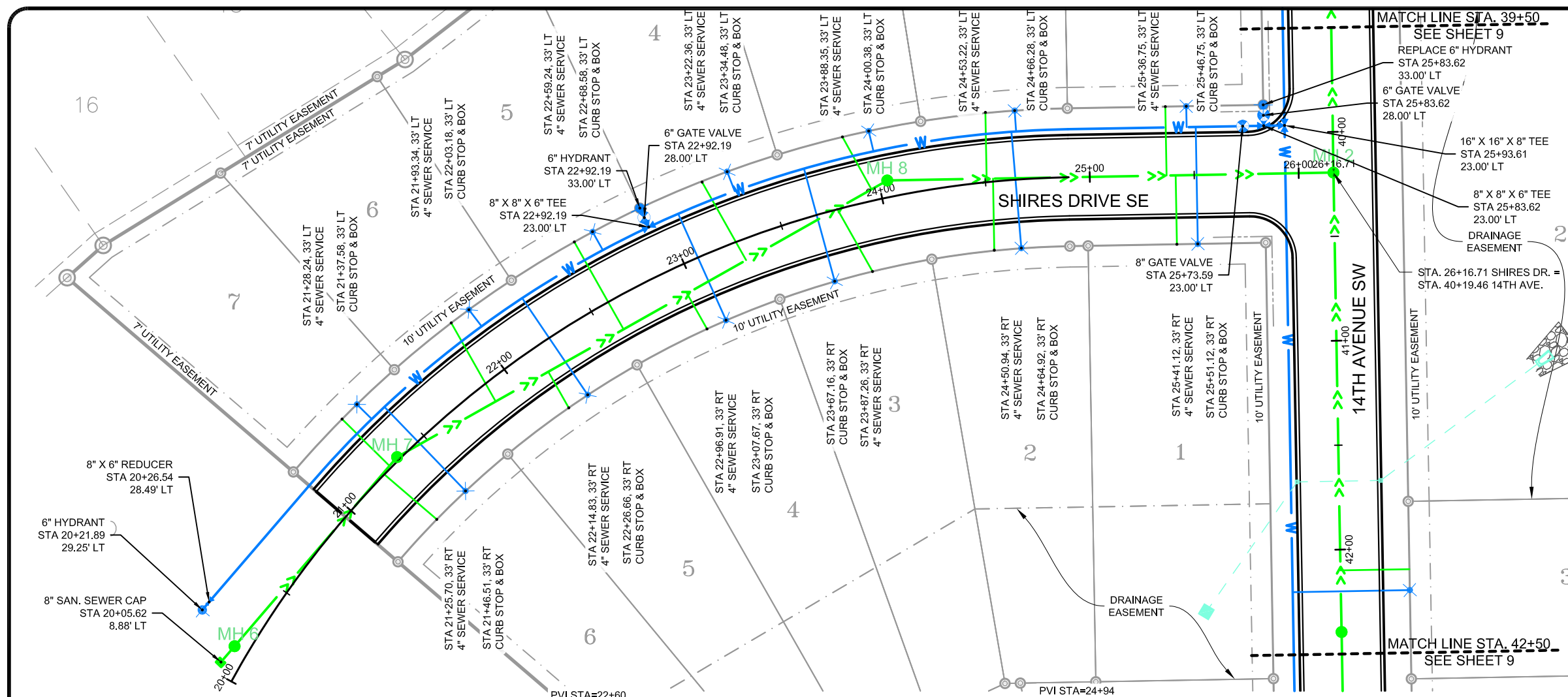
PLAINVIEW HEIGHTS 13TH ADDITION
MITZEL BUILDERS, INC.
MANDAN, NORTH DAKOTA

SHIRES DRIVE SE PLAN & PROFILE STA. 20+00 - 26+17

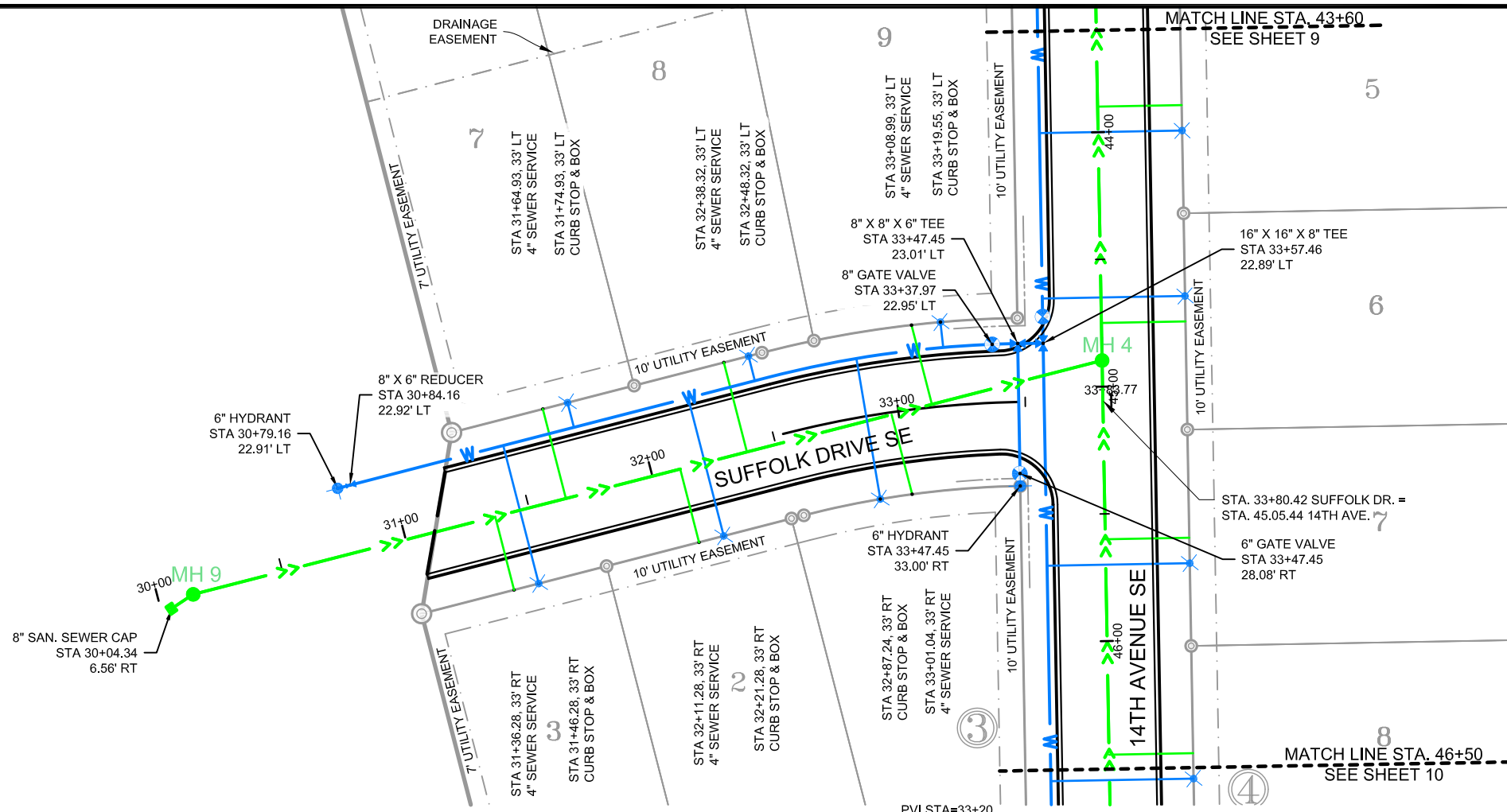
QUANTITIES THIS SHEET

DUCTILE IRON WATERMAIN FITTINGS	
8" X 8" X 6" TEE	2 EA
8" X 6" REDUCER	1 EA
WATER MAIN	
6" PVC C-900 HYDRANT LEAD	25 LF
8" PVC C-900 WATER MAIN	586 LF
6" FIRE HYDRANT	2 EA
6" GATE VALVE & BOX	2 EA
8" GATE VALVE & BOX	1 EA
1" WATER SERVICE	406 LF
1" CURB STOP & BOX	13 EA
8" X 1" WATER SERVICE CONNECTION	13 EA
SANITARY SEWER	
48" SANITARY SEWER MANHOLE	3 EA
8" SDR-35 PVC SANITARY SEWER	612 LF
8" SANITARY SEWER CAP	1 EA
4" SDR-35 PVC SEWER SERVICE	438 LF
8" X 4" SEWER SERVICE CONNECTION	13 EA

NOTE
1. ALL STORM SEWER PIPE AND STRUCTURES ARE EXISTING.

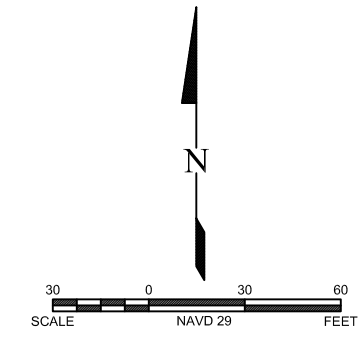
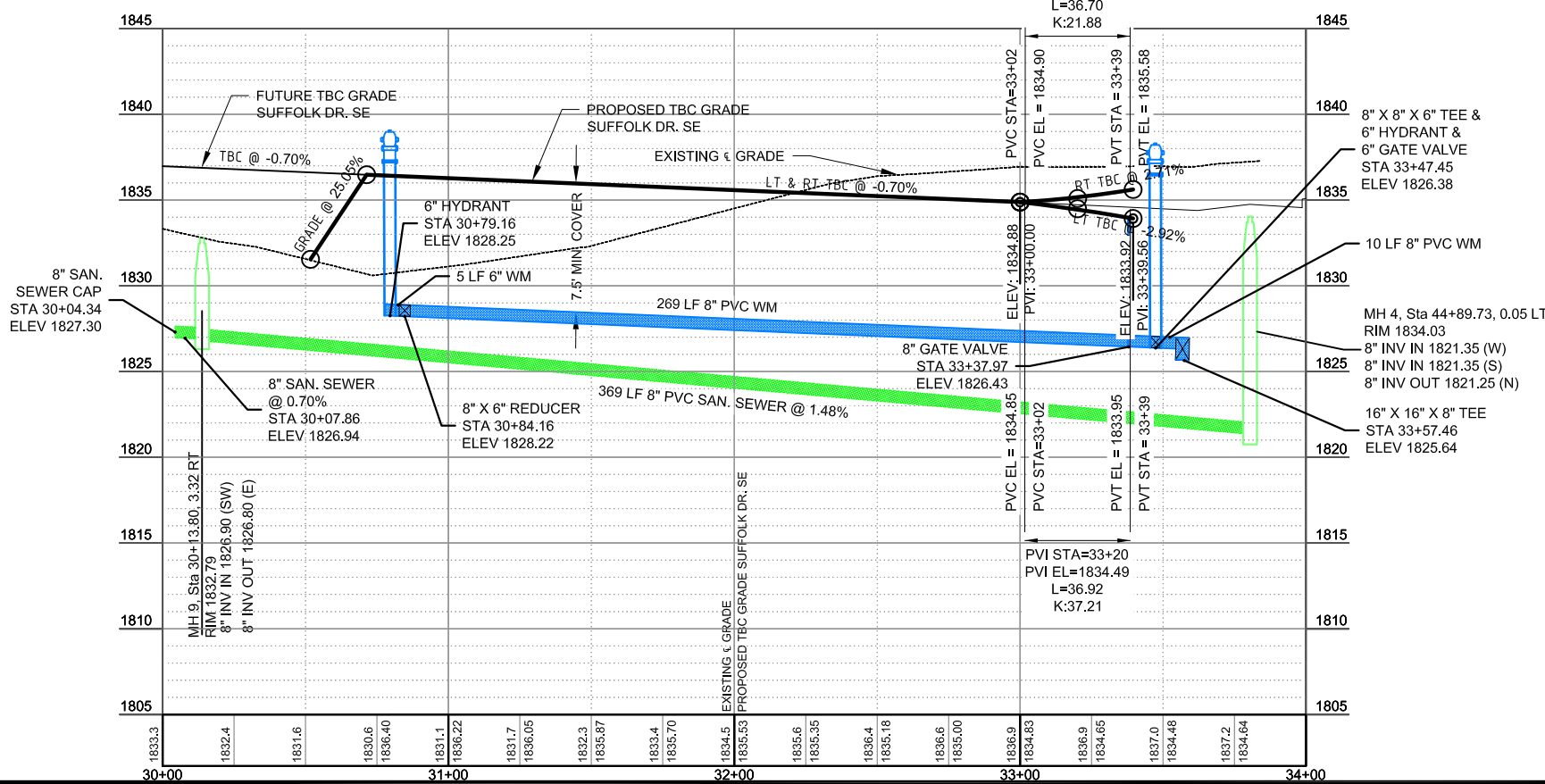


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QUANTITIES THIS SHEET

DUCTILE IRON WATER MAIN FITTINGS	
8" X 6" REDUCER	1 EA
8" X 8" X 6" TEE	1 EA
WATER MAIN	
6" PVC C-900 HYDRANT LEAD	61 LF
8" PVC C-900 WATER MAIN	279 LF
6" FIRE HYDRANT	2 EA
6" GATE VALVE & BOX	1 EA
8" GATE VALVE & BOX	1 EA
1" WATER SERVICE	198 LF
1" CURB STOP & BOX	6 EA
8" X 1" WATER SERVICE CONNECTION	6 EA
SANITARY SEWER	
48" SANITARY SEWER MANHOLE	1 EA
8" SDR-35 PVC SANITARY SEWER	379 LF
8" SANITARY SEWER CAP	1 EA
4" SDR-35 PVC SEWER SERVICE	198 LF
8" X 4" SEWER SERVICE CONNECTION	6 EA



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DRAFTED: LMW
REVIEWED: AM
PROJECT NUMBER: 1612153
ISSUE DATE: 8/21/2012

PLAINVIEW HEIGHTS 13TH ADDITION
MITZEL BUILDERS, INC.
MANDAN, NORTH DAKOTA

SUFFOLK DRIVE SE PLAN & PROFILE STA. 30+00 - 33+83.77

SHEET 14