

STATE OF NORTH DAKOTA

UTILITY COMPANIES

GAS:

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

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

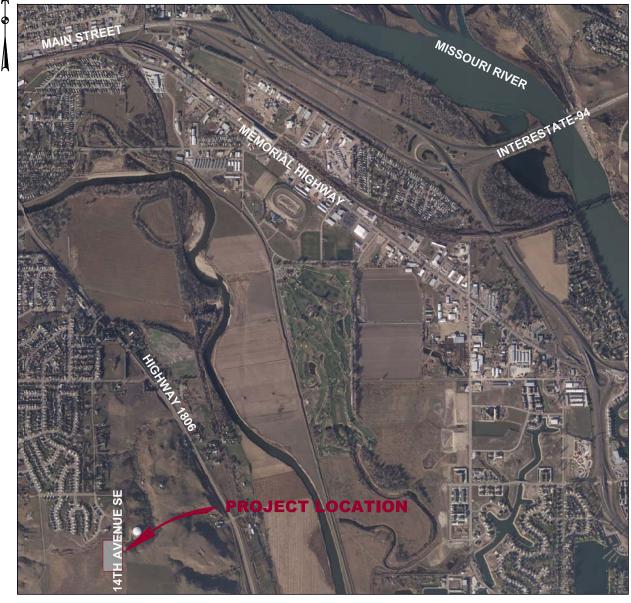
CABLE: MIDCONTINENT COMMUNICATIONS 719 MEMORIAL HIGHWAY BISMARCK, ND 58501 1-800-888-1300

PHONE: CENTURYLINK 1101 16TH STREET NE MANDAN, ND 58554 701-222-6820 CITY OF MANDAN PUBLIC WORKS DEPARTMENT 411 6TH AVENUE SW MANDAN, ND 58554 PH: 701-667-3240 JEFF WRIGHT

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

AUGUST 2012

MANDAN, NORTH DAKOTA



VICINITY MAP NO SCALE

ONE CALL BEFORE DIGGING 1-800-795-0555

BASIS OF SURVEY

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

MITZEL BUILDE 2401 46TH AV MANDAN, ND PH: 701.224.

INDEX OF SHEETS

- 1 COVER SHEET
- 2 LEGEND, ALIGNMENT & CONTROL POINT TABLES
- 3 BASIS OF ESTIMATE & ESTIMATED QUANTITIES
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- 12 SHIRES DRIVE SE PLAN & PROFILE
- 13 SUFFOLK DRIVE SE PLAN & PROFILE

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: . |
|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| issued an Mohsenza Number P 2012 a document Kadrmas, Bismarck, media sho | ment(s) was originally ad sealed by Ahmad adeh, Registration E-8103 on August 21, and the original as are stored at Lee & Jackson, North Dakota. This puld not be considered document. | |
| RS, INC. VE SE 58554 .8083 | 128 SOO LINE DRIVE BISMARCK, ND 58501 PH: 701.355.8400 FAX: 701.355.8781 www.kljeng.com KL&J PROJECT NO. 1612153 | Kadrmas Lee & Jackson Engineers Surveyors Planners |

LEGEND

| LEGEND | | | | |
|----------------------|-----------------------------|-------------|--|--|
| EXISTING | ITEM | PROPOSED | | |
| w | WATER MAIN | w | | |
| 4 | FIRE HYDRANT | - | | |
| \otimes | GATE VALVE | 8 | | |
| × | CURB STOP | × | | |
| Ŋ | BEND | > | | |
| \mathbb{X} | TEE | | | |
| × | CROSS | × | | |
| X | REDUCER | | | |
| | WATER MANHOLE | ()) | | |
| Ø | SPRINKLER HEAD | 8 | | |
| Ŵ | WATER METER | | | |
| s | SANITARY SEWER MAIN | > | | |
| S | SANITARY MANHOLE | | | |
| • | CLEANOUT | • | | |
| ST | STORM SEWER MAIN | > | | |
| (ST) | STORM SEWER MANHOLE | ஏ | | |
| | CURB INLET | | | |
| | CATCH BASIN | | | |
| Е | UNDER GROUND ELECTRIC | | | |
| E(0) | OVERHEAD ELECTRIC | | | |
| -0- | POWER POLE | - | | |
| | GUY WIRE | <u> </u> | | |
| ` ☆ | LIGHT POLE | ¥ | | |
| | ELECTRICAL JUNCTION BOX | <u> </u> | | |
| Ē | ELECTRICAL METER | - D | | |
| | ELECTRICAL OUTLET/PLUG-IN | • | | |
| T | UNDERGROUND TELEPHONE | | | |
| Ū | TELEPHONE MANHOLE | | | |
| | TELEPHONE PEDESTAL | | | |
| F0 | UNDERGROUND FIBER OPTIC | — | | |
| | UNDERGROUND CABLE TV | | | |
| | CABLE TV PEDESTAL | | | |
| <u> </u> | | | | |
| G | GAS LINE | | | |
| G | NATURAL GAS LINE | | | |
| FUEL | FUEL LINE | | | |
| © ======= | GAS METER | © | | |
| | CONCRETE CURB & GUTTER | | | |
| | EDGE OF ASPHALT SURFACE | | | |
| | EDGE OF GRAVEL SURFACE | | | |
| | BITUMINOUS/CONCRETE SURFACE | | | |
| | BUILDING | | | |
| | CHAIN LINK FENCE | o | | |
| | WOOD FENCE | | | |
| <u> </u> | BARB WIRE FENCE | X | | |
| * | TREES CONIFEROUS/ DECIDUOUS | | | |
| £ | BUSH | ٤3 | | |
| DE = = = = = = = = = | CULVERT | | | |
| ~~ | DRAINAGE DIRECTION | | | |
| þ | SIGN | 여 | | |
| | MAIL BOX | | | |
| ۲ | PROPERTY PIN | Ø | | |
| + | CONTROL POINT | | | |

BOUNDARY/PROPERTY LEGEND

P-RIGHT-OF-WAY OR BLOCK LINE

P-LOT-DIM

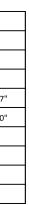
– – — – – P-CL-DIM

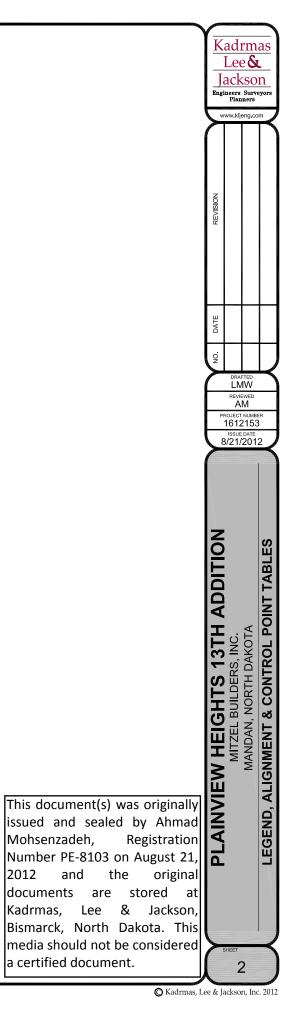
P-EASEMENT

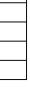
| HORIZONTAL ALIGNMENT | | | | | | |
|----------------------|----------------|------------|-------------|------------------|--|--|
| PNT | STATION | NORTHING | EASTING | BEARING | | |
| | 14TH AVENUE SE | | | | | |
| BP | 38+00.00 | 412519.791 | 1875679.739 | N01° 00' 57.96"E | | |
| EP | 49+00.00 | 411419.956 | 1875698.899 | NOI 00 37.30 E | | |
| | | | | | | |
| | | SHIRES DR | IVE SE | | | |
| BP-PC | 20+00.00 | 412056.729 | 1875156.123 | N28° 52' 45.11"E | | |
| PI1 | 22+70.19 | 412293.320 | 1875286.616 | N28 52 45.11 E | | |
| РТ | 24+89.90 | 412298.112 | 1875556.765 | N88° 59' 02.04"E | | |
| EP | 26+16.62 | 412298.112 | 1875556.765 | 1188 39 02.04 E | | |
| | - | | | | | |
| SUFFOLK DRIVE SE | | | | | | |
| BP | 30+00.00 | 411738.042 | 1875320.683 | N75° 34' 12.81"E | | |
| PC | 32+53.83 | 411801.294 | 1875566.505 | N75 54 12.81 E | | |
| PI2 | 33+00.70 | 411812.974 | 1875611.897 | | | |
| РТ | 33+47.15 | 411813.844 | 1875658.760 | N88° 56' 12.26"E | | |
| EP | 33+83.77 | 411814.524 | 1875695.381 | | | |
| | | | | | | |

| 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 | | |
| т | 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 |







BASIS OF ESTIMATE

PIPE BEDDING:

8" WATER MAIN = 0.2616 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

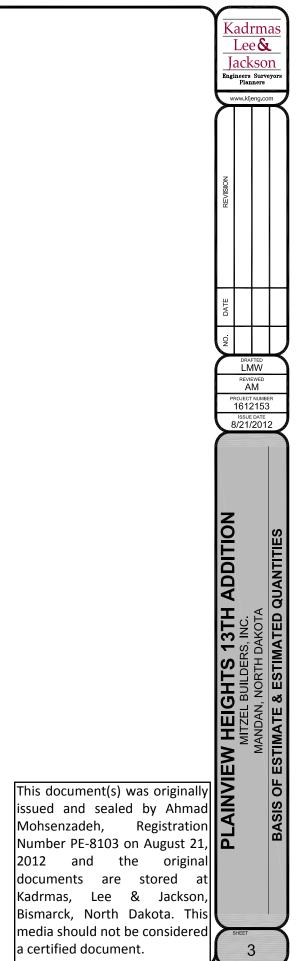
8" SANITARY SEWER = 0.138 TONS/LF

SUBCUT GRAVEL:

0.020 TON/LF OF PIPE

ESTIMATED QUANTITIES

| Item | Spec. | | | |
|------|-------|----------------------------------|------|----------|
| No. | No. | ltem | Unit | Quantity |
| 1 | SP | MOBILIZATION | LS | 1 |
| 2 | 801 | PIPE BEDDING | TON | 959 |
| 3 | 801 | SUBCUT GRAVEL | TON | 111 |
| 4 | 801 | 8" SDR-35 PVC SANITARY SEWER | LF | 2,026 |
| 5 | 801 | 8" SANITARY SEWER CAP | EA | 3 |
| 6 | 801 | TELEVISE SEWER MAIN | LF | 2,026 |
| 7 | 900 | 6" PVC C-900 HYDRANT LEAD | LF | 101 |
| 8 | 900 | 8" PVC C-900 WATER MAIN | LF | 1,696 |
| 9 | 900 | REMOVE & REPLACE 6" HYDRANT | EA | 1 |
| 10 | 900 | 6" FIRE HYDRANT | EA | 6 |
| 11 | 900 | 8" X 6" REDUCER | EA | 3 |
| 12 | 900 | 6" GATE VALVE AND BOX | EA | 4 |
| 13 | 900 | 8" GATE VALVE AND BOX | EA | 5 |
| 14 | 1205 | 48" SANITARY SEWER MANHOLES | EA | 8 |
| 15 | 1209 | 4" SDR-35 PVC SEWER SERVICE | LF | 834 |
| 16 | 1209 | 8" X 4" SEWER SERVICE CONNECTION | EA | 25 |
| 17 | 1209 | 1" WATER SERVICE | LF | 894 |
| 18 | 1209 | 1" CURB STOP AND BOX | EA | 25 |
| 19 | 1209 | 8" X 1" WATER SERVICE CONNECTION | EA | 25 |
| 20 | 1211 | TRAFFIC CONTROL | LS | 1 |



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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.
- THESE NOTES ARE FOR GENERAL REFERENCE IN CONJUNCTION WITH AND AS A SUPPLEMENT TO THE WRITTEN SPECIFICATIONS, 3. 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.
- THIS PLAN SET HAS A LIST OF GENERAL ABBREVIATIONS AND SYMBOLS AND MATERIALS LEGENDS LISTED ON IT. SOME SYMBOLS, 7. MATERIALS AND ABBREVIATIONS MAY NOT BE UTILIZED ON THIS SPECIFIC PROJECT.
- THE CONTRACTOR SHALL PROVIDE A ONE (1) WEEK NOTICE TO THE ENGINEER, OWNER AND THE CITY OF MANDAN PRIOR TO 8. BEGINNING ANY CONSTRUCTION
- ALL DITCH GRADES, CONTOURS AND CROSS SECTIONS REPRESENT THE FINISHED GRADE (TOP OF THE TOPSOIL). IN AREAS 9. 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 FUL 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 Kadrmas USE PROPER FITTINGS TO SUIT THE ACTUAL CONDITIONS ENCOUNTERED. FITTINGS NECESSARY TO MAKE ALL CONNECTIONS Lee & SHALL BE INCIDENTAL. Jackson 20. THE CONTRACTOR IS TO PROVIDE AND MAINTAIN ADEQUATE DEWATERING EQUIPMENT TO REMOVE AND DISPOSE OF ANY ngineers Survey Planners 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 www.kliena 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 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. 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 25. THE CONTRACTOR SHALL MAINTAIN TEMPORARY DETOUR ROADS UNTIL DETOUR IS NO LONGER NECESSARY. MAINTENANCE 26. THE CONTRACTOR SHALL FOLLOW THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS AND GUIDES FOR LMW 27. THE CONTRACTOR SHALL FOLLOW NORTH DAKOTA DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS WHEN SETTING UP THE TRAFFIC CONTROL DEVICES. 1612153 ISSUE DATE 8/21/2012 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 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. HEIGHTS 13TH ADDITION AITZEL BUILDERS, INC. ANDAN, NORTH DAKOTA 30. THE CONTRACTOR IS RESPONSIBLE FOR MINIMIZING TRACKING OF SOIL AND DEBRIS ONTO ADJACENT PROPERTIES AND 31. THE CONTRACTOR SHALL BE REQUIRED TO CLEAN STREETS AND SIDEWALKS AND REPAIR TO THE CONDITION THEY WERE IN PRIOR 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 ≥ E AINVI This document(s) was originally issued and sealed by Ahmad Mohsenzadeh, Registration Number PE-8103 on August 21, ۵ 2012 and the original documents are stored at Kadrmas, Lee & Jackson Bismarck, North Dakota. This media should not be considered a certified document.

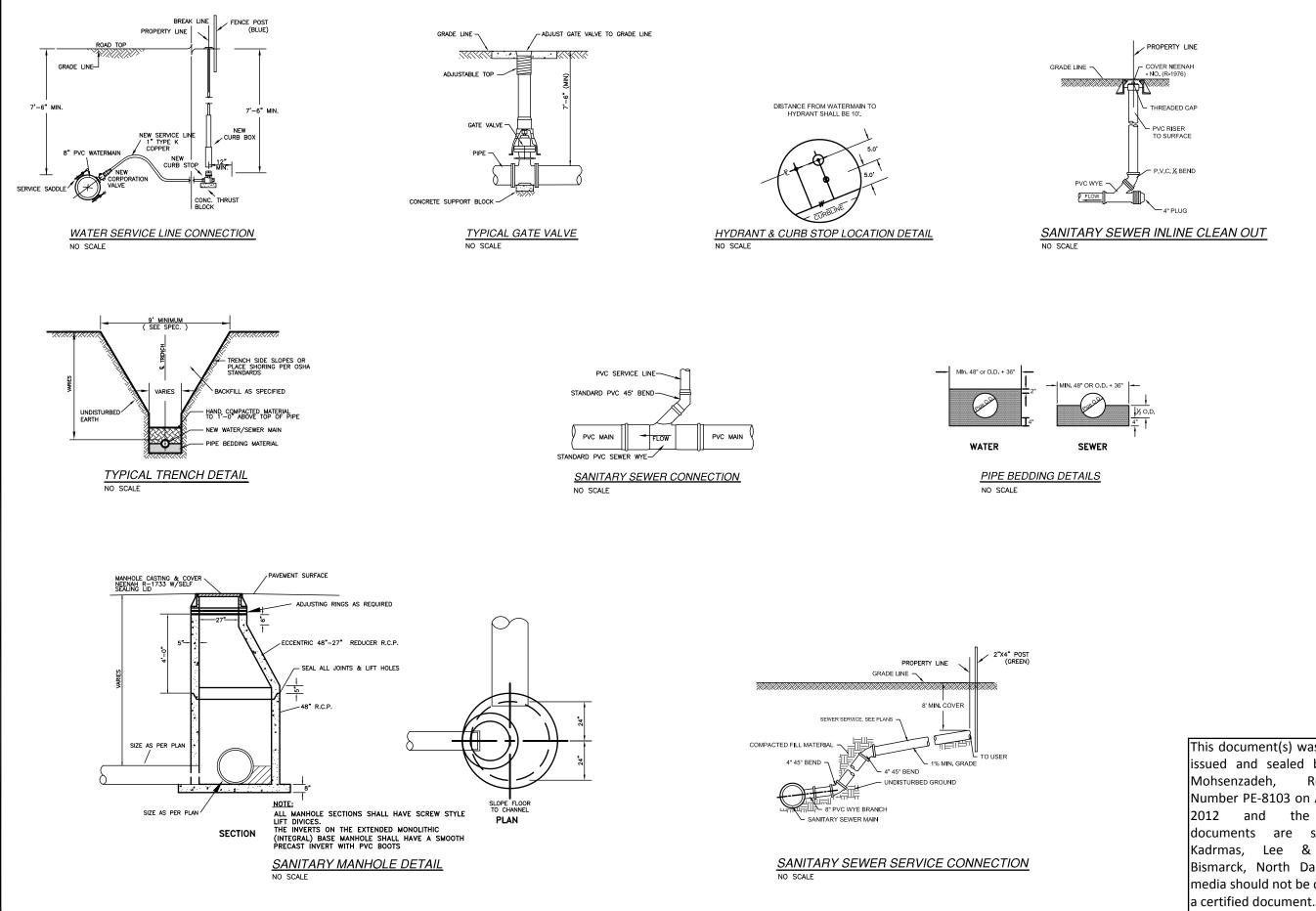
- OBTAINED BY THE CONTRACTOR.
- SPECIFIED SEPARATIONS.

TRAFFIC CONTROL AND SIGNAGE

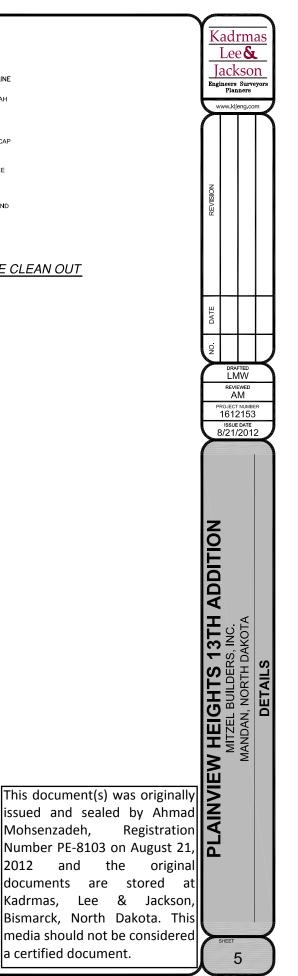
- MINIMUM.
- COSTS SHALL BE INCIDENTAL TO THE CONTRACT.
- TRAFFIC CONTROL FOR STREET AND HIGHWAY CONSTRUCTION.

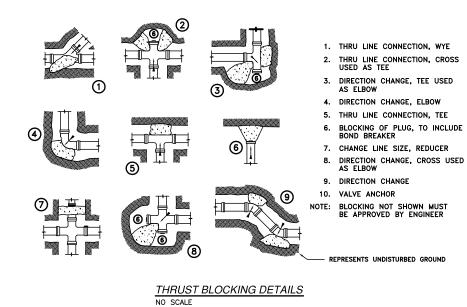
STORM WATER POLLUTION PREVENTION

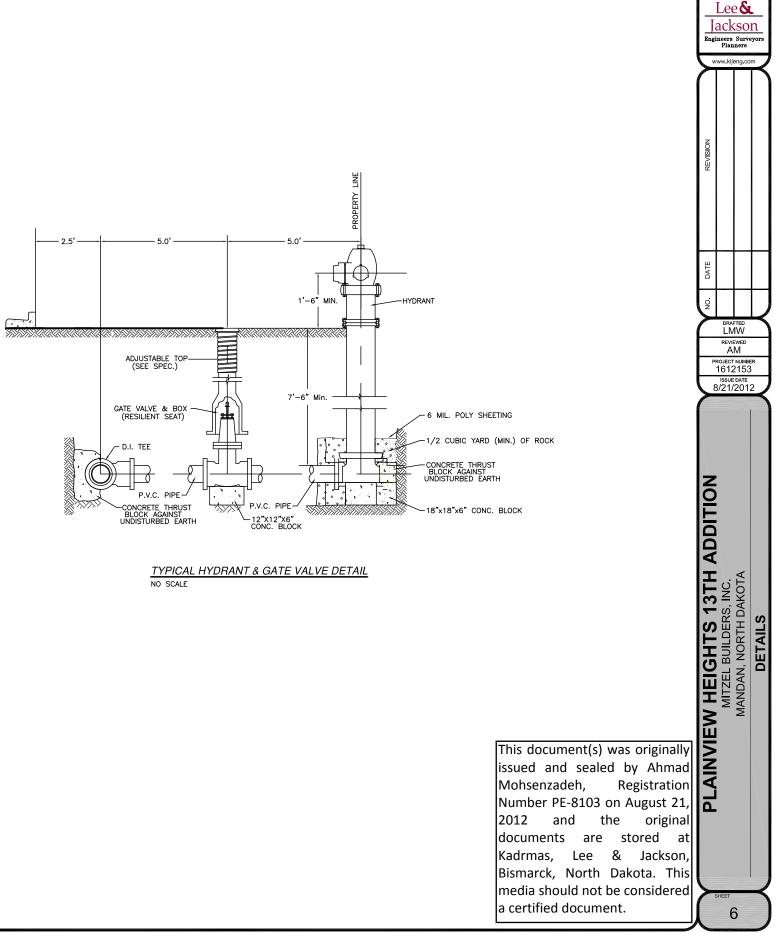
- THE NORTH DAKOTA DEPARTMENT OF HEALTH AT 701-328-5210.
- ROADWAYS. TRACKING MUST BE REMOVED BY THE END OF EACH DAY.
- TO THE START OF CONSTRUCTION BEFORE OPENING UP TO TRAFFIC.
- WATER COLLECTION SYSTEM.



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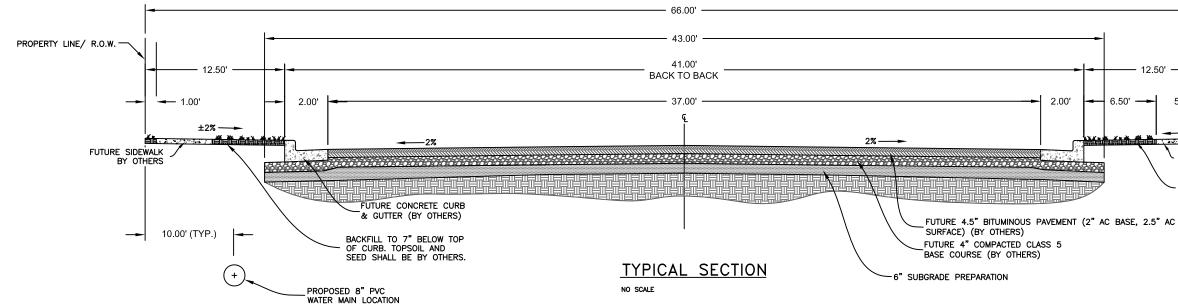


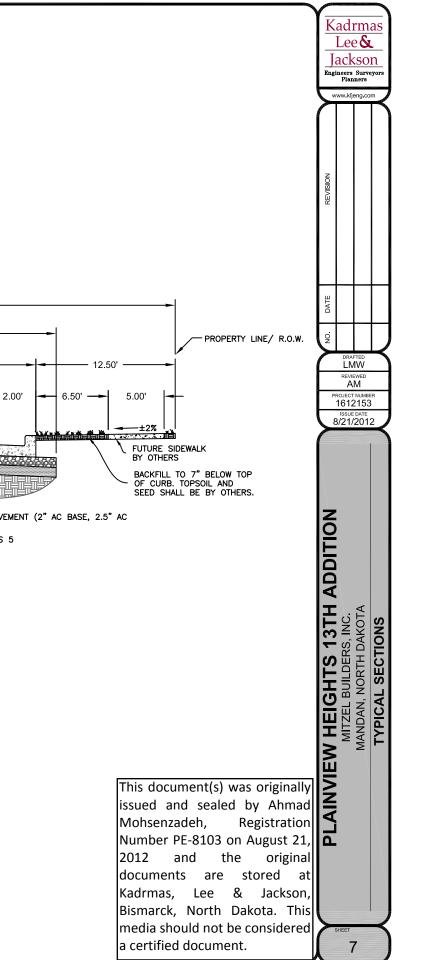


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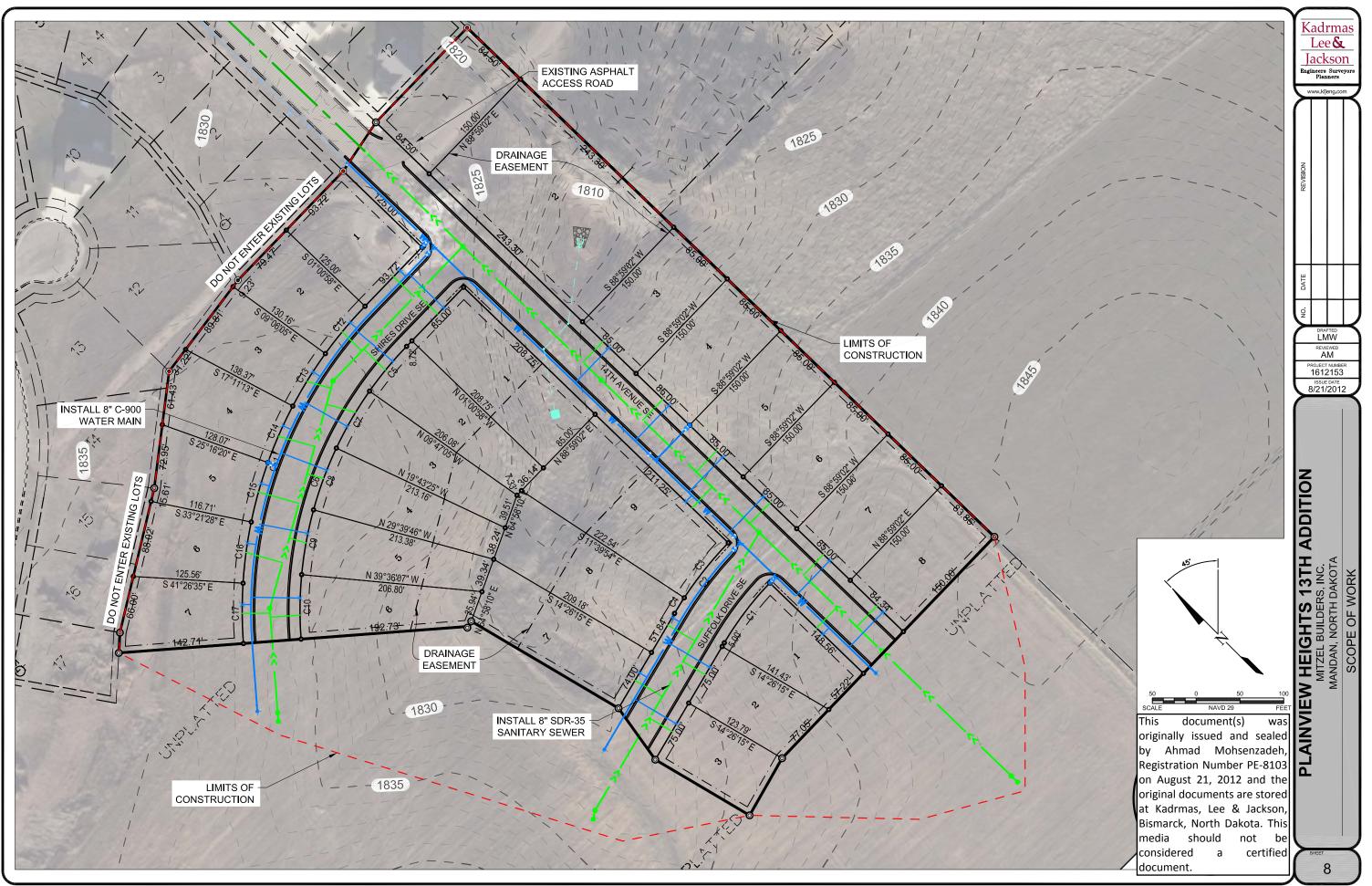
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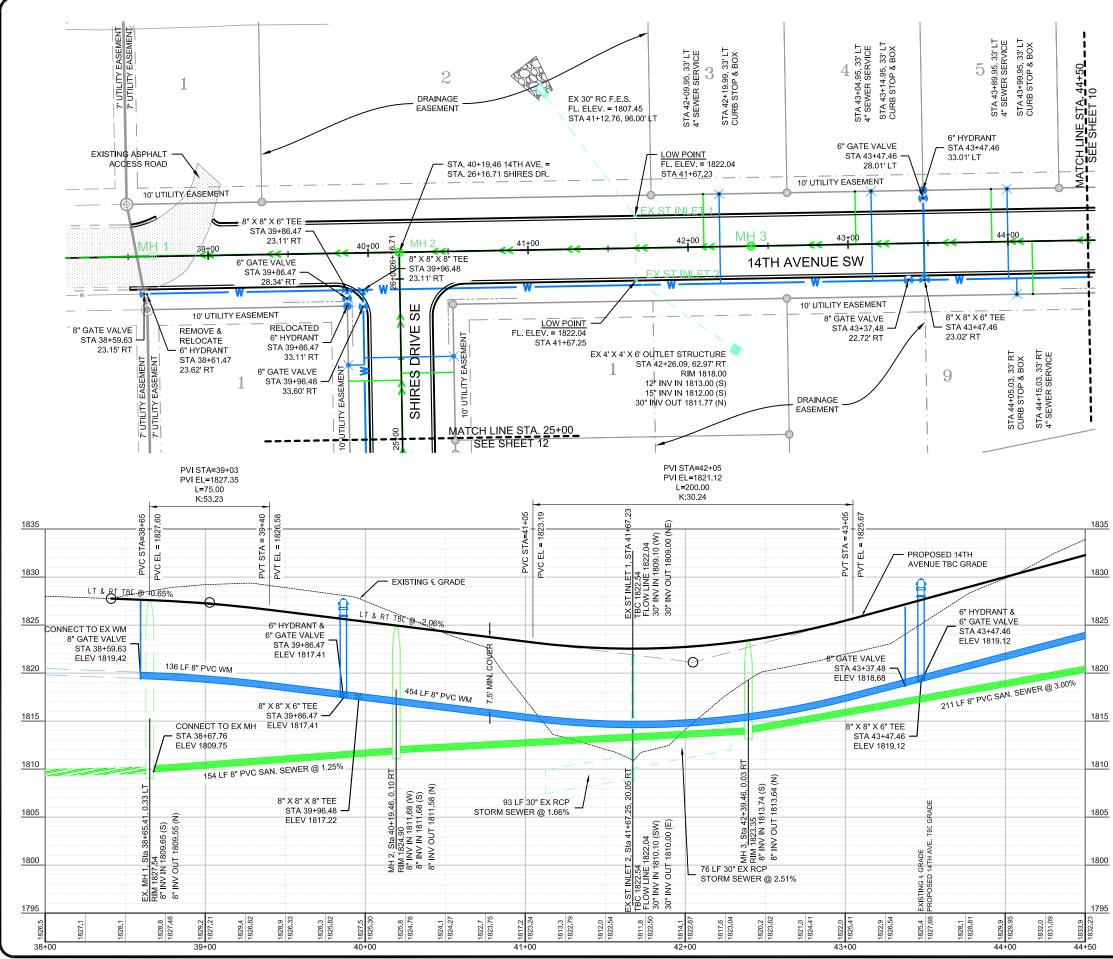




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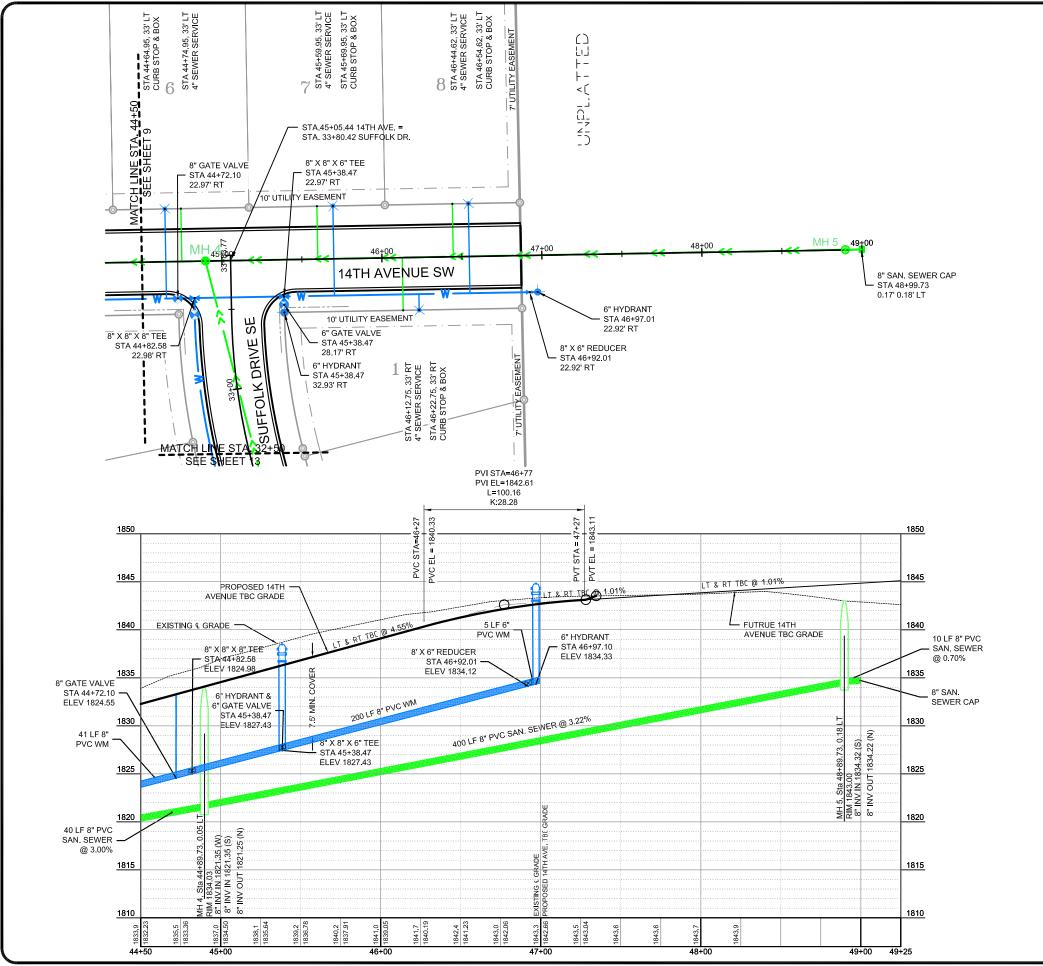


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| QUANTITIES THIS SHEET | | Kadrmas |
| | - | Lee& |
| 8" X 8" X 6" TEE | 2 EA | Jackson |
| 8" X 8" X 8" TEE | 1 EA | Engineers Surveyor Planners |
| | | www.kljeng.com |
| 6" PVC C-900 HYDRANT LEAD | 66 LF | |
| 8" PVC C-900 WATER MAIN | 590 LF | |
| REMOVE & RELOCATE HYDRANT | 1 EA | |
| 6" FIRE HYDRANT | 1 EA | |
| 6" GATE VALVE & BOX | 2 EA | z |
| 8" GATE VALVE & BOX | 2 EA | REVISION |
| 1" WATER SERVICE | 178 LF | 8 |
| 1" CURB STOP & BOX | 4 EA | |
| 8" X 1" WATER SERVICE CONNECTION | 4 EA | |
| SANITARY SEWER | | |
| 48" SANITARY SEWER MANHOLE | 2 EA | |
| 8" SDR-35 PVC SANITARY SEWER | 585 LF | $\mathbf{H} \rightarrow \mathbf{H}$ |
| 4" SDR-35 PVC SEWER SERVICE | 132 LF | DATE |
| 8" X 4" SEWER SERVICE CONNECTION | 4 EA | |
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| NOTE: | | |
| 1. ALL STORM SEWER PIPES AND | | |
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| 8" X 8" X 8" TEE | 1 EA | | kso | |
| 3" X 6" REDUCER | 1 EA | Engineer Pla | s Surve nners | eyors |
| | | www.k | ljeng.co | m |
| 6" PVC C-900 HYDRANT LEAD | 15 LF | | | |
| 3" PVC C-900 WATER MAIN | 241 LF | | | |
| 6" FIRE HYDRANT | 2 EA | | | |
| 6" GATE VALVE & BOX | 1 EA | | | |
| 3" GATE VALVE & BOX | 1 EA | NOIS | | |
| " WATER SERVICE | 178 LF | REVISION | | |
| " CURB STOP & BOX | 4 EA | | | |
| 3" X 1" WATER SERVICE CONNECTION | 4 EA | | | |
| SANITARY SEWER | | | | |
| 48" SANITARY SEWER MANHOLE | 2 EA | | | |
| 3" SDR-35 PVC SANITARY SEWER | 450 LF | | | |
| 3" SANITARY SEWER CAP | 1 EA | DATE | | |
| 4" SDR-35 PVC SEWER SERVICE | 132 LF | DA | | |
| 3" X 4" SEWER SERVICE CONNECTION | 4 EA | ġ | | |
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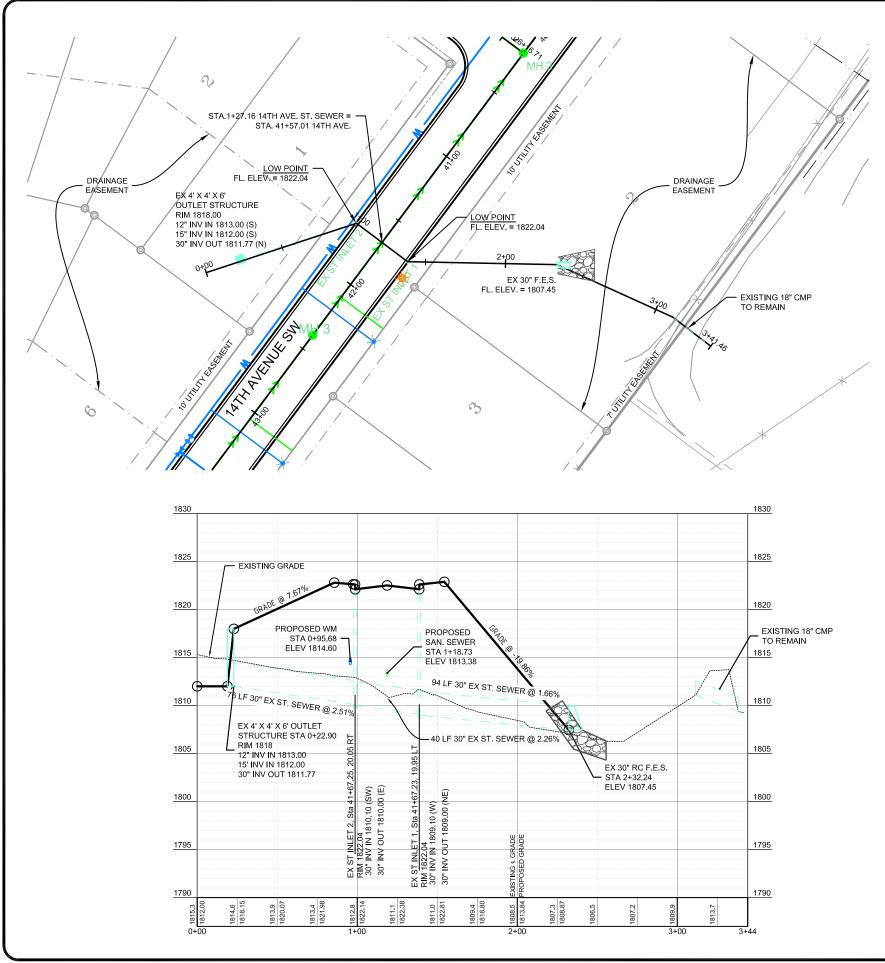
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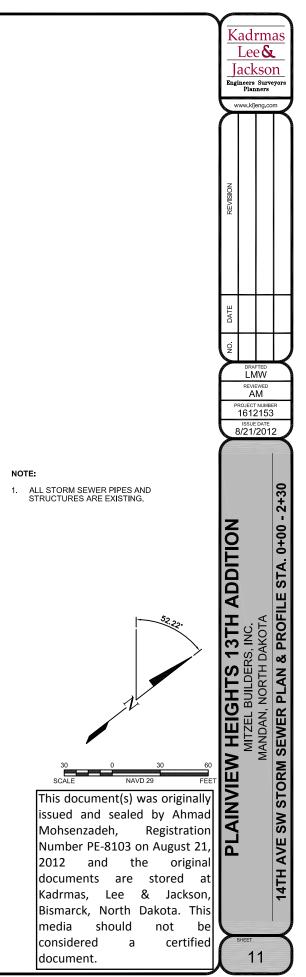
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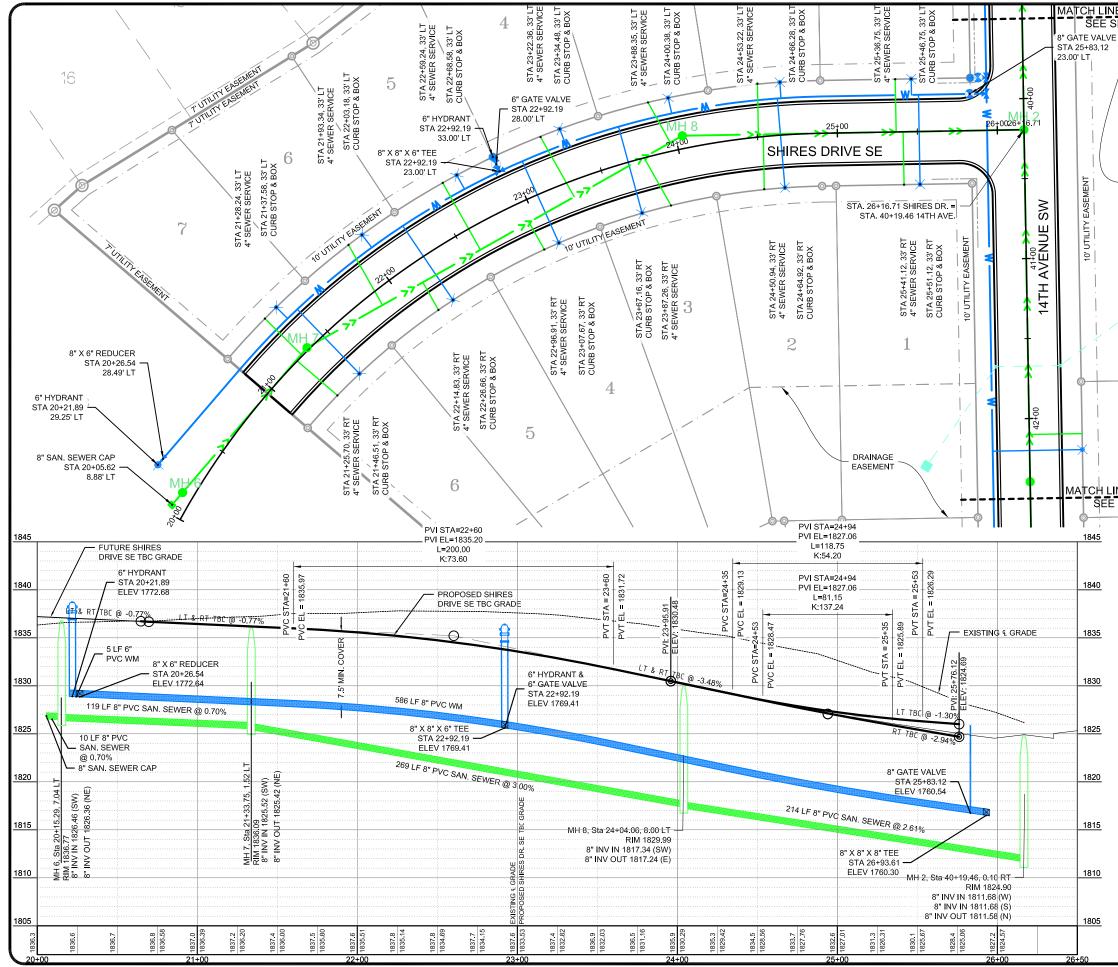
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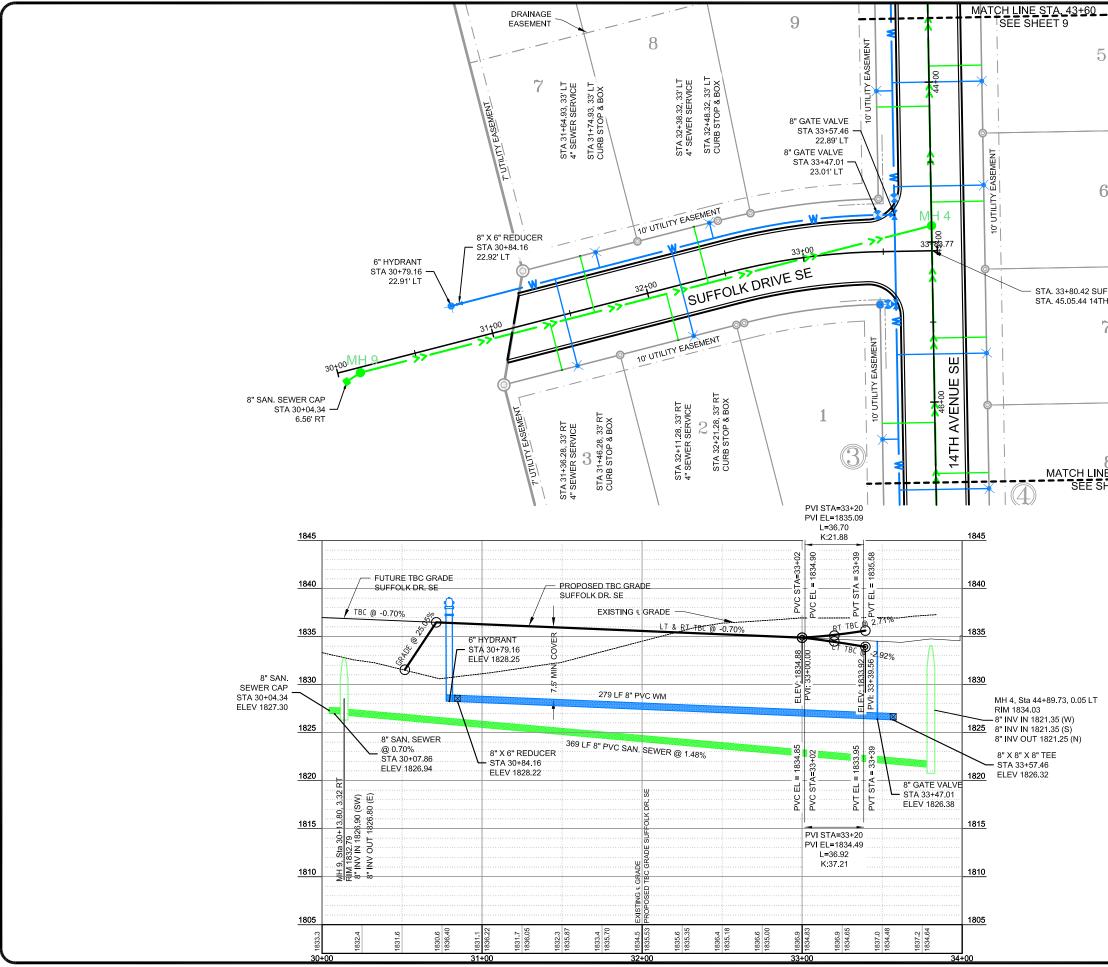
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| SHEET 9 | DUCTILE IRON WATERMAIN FITTINGS | _ | | rmas |
| = / | 8" X 8" X 6" TEE | — 1 EA | _Le | e& |
| | 8" X 6" REDUCER | 1 EA | Jac | <u>kson</u> |
| / | | - | Engineer Pla | s Surveyors inners |
| / | 6" PVC C-900 HYDRANT LEAD | 15 LF | www.k | ljeng.com |
| | 8" PVC C-900 WATER MAIN | 586 LF | $(\top$ | \Box |
| | 6" FIRE HYDRANT | 2 EA | | |
| | 6" GATE VALVE & BOX | 1 EA | | |
| | 8" GATE VALVE & BOX | 1 EA | | |
| _ drainage _ 2 | 1" WATER SERVICE | 406 LF | N | |
| EASEMENT | 1" CURB STOP & BOX | 13 EA | REVISION | |
| | 8" X 1" WATER SERVICE CONNECTION | 13 EA | R | |
| | | 13 LA | | |
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| | 48" SANITARY SEWER MANHOLE | 3 EA | | |
| | 8" SDR-35 PVC SANITARY SEWER | 612 LF | | |
| Bart | 8" SANITARY SEWER CAP | 1 EA | | ┼┼┨ |
| | 4" SDR-35 PVC SEWER SERVICE | 438 LF | DATE | |
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| J | WATER MAIN | | ACKSON Engineers Surveyors |
| | 6" PVC C-900 HYDRANT LEAD | 5 LF | Planners |
| | 8" PVC C-900 WATER MAIN | 279 LF | www.kljeng.com |
| | 6" FIRE HYDRANT | 1 EA | () |
| | 8" GATE VALVE & BOX | 1 EA | |
| | 1" WATER SERVICE | 132 LF | |
| | 1" CURB STOP & BOX | 4 EA | |
| 6 | 8" X 1" WATER SERVICE CONNECTION | 4 EA | REVISION |
| 0 | SANITARY SEWER | | REV |
| | 48" SANITARY SEWER MANHOLE | 1 EA | |
| | 8" SDR-35 PVC SANITARY SEWER | 379 LF | |
| | 8" SANITARY SEWER CAP | 1 EA | |
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