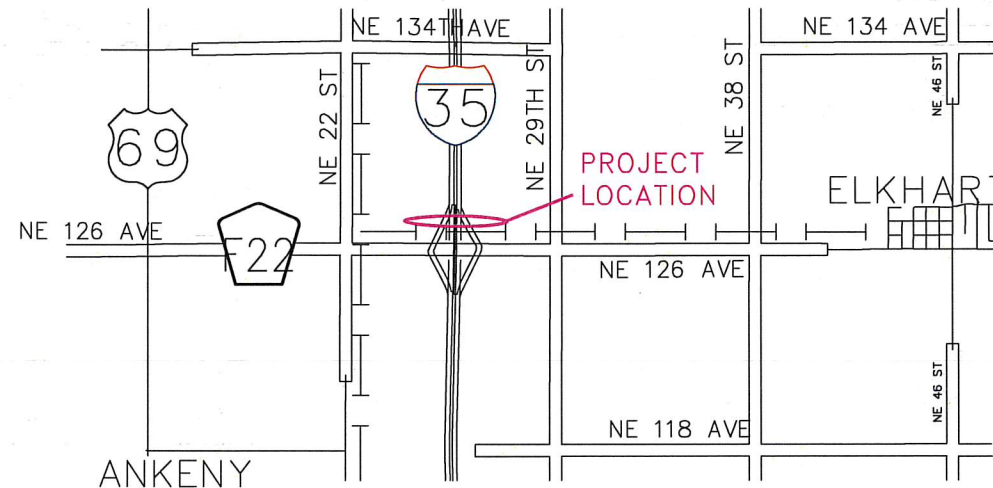
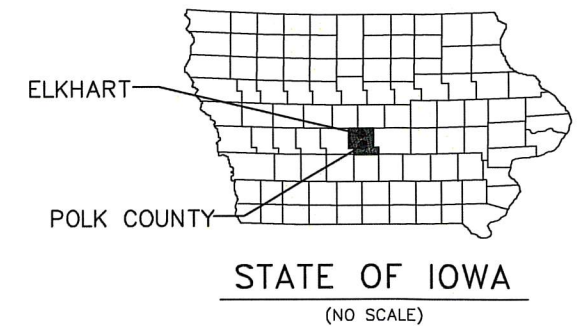


6" NATURAL GAS PIPELINE RE-LOCATION UNDER INTERSTATE 35 BY HDD

SE 1/4 SW FRL 1/4 & SW 1/4 SE 1/4
SEC 30-T81N-R23W
POLK COUNTY, IOWA

INDEX OF SHEETS		
DRAWING NO.	REVISION NUMBER	TITLE
P-200-1		COVER SHEET AND DRAWING INDEX, LOCATION MAP
P-200-2		UTILITY AND GENERAL NOTES
P-200-3		PAN WEST OF HDD
P-200-4		DIRECTIONAL DRILL PLAN AND PROFILE
P-200-5		PLAN EAST OF HDD



LOCATION MAP



TRAFFIC CONTROL PLAN

1. TRAFFIC CONTROL TO BE PROVIDED AND MAINTAINED BY THE CONTRACTOR AS PER MUTCD LATEST EDITION, AND AS REQUIRED BY THE JURISDICTIONAL GOVERNMENTAL AUTHORITY.

CERTIFICATION

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Iowa.

Signature: William J. Claassen, P.E.

Date: 20 License No. 9408

My license renewal date is December 31, 2023

Pages or sheets covered by this seal:

TEST DATA

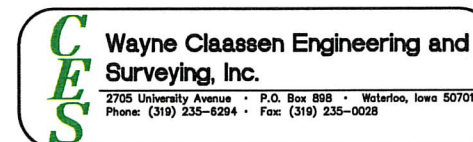
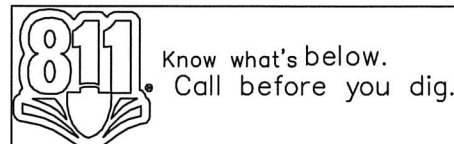
~~TEST MEDIUM - DRY AIR
STABILIZATION - 1 HOUR
HOLD PERIOD - 24 HOURS
TEST PRESSURE - MIN. 300 P.S.I.G.
MAX. 500 P.S.I.G.~~ ?

DESIGN DATA

DESIGN MAOP 200 P.S.I.G.
HORIZONTAL DIRECTIONAL DRILL PIPE: 6.625" O.D. X 0.000" W.T. API 5Lx52, WITH 30 MIL POWERCRETE OVER 12-14 MIL OR EQUIVALENT OVER 12-14 MIL FBE PER MEC SPECIFICATIONS. ?

For Review
3/28/22

Is There A Project No. or Other You Want?



REVISION-DESCRIPTION		MIDAMERICAN ENERGY COMPANIES	
ISSUED FOR REVIEW	By WJC	Date 03-28-22	6" NATURAL GAS PIPELINE RE-LOCATION UNDER INTERSTATE 35 BY HDD COVER SHEET AND DRAWING INDEX SE 1/4 SW FRL 1/4 & SW 1/4 SE 1/4 SEC 30-T81N-R23W POLK COUNTY, IOWA
CADD: MEC-ELKHART22.dwg			
BK: MEC 16, PG-39			
Dr. By mwc	Date	03-25-22	SHEET NO: ELKHART-P-200-01

EXISTING UTILITY NOTES

THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR RECORDS OBTAINED. THERE IS NO GUARANTEE THAT THE UTILITIES OR SUBSURFACE FEATURES SHOWN COMPRISE ALL SUCH ITEMS IN THE AREA, EITHER IN SERVICE OR ABANDONED. THERE IS NO WARRANTY THAT THE UTILITIES OR SUBSURFACE FEATURES SHOWN ARE IN THE EXACT LOCATION INDICATED.

1. DEPICTIONS OF EXISTING STORM SEWER, SANITARY SEWER AND WATER MAIN LINES ARE ASSUMED TO FOLLOW STRAIGHT LINES FROM STRUCTURE TO STRUCTURE.
2. UNDERGROUND PIPE MATERIALS AND SIZES ARE BASED UPON VISIBLE EVIDENCE VIEWED FROM ACCESS MANHOLES/STRUCTURES. DUE TO THE CONFIGURATION AND/OR CONSTRUCTION OF THE STRUCTURE, IT IS DIFFICULT TO ACCURATELY DETERMINE THE PIPE MATERIAL, SIZE AND ELEVATION.
3. BOUNDARY AND RIGHT-OF-WAY LINES SHOWN ON THE EXISTING THIS PLAN ARE TO FACILITATE DESIGN NEEDS AND DO NOT CONSTITUTE A CERTIFIED BOUNDARY SURVEY AND MISSING MONUMENTS WILL NOT BE SET.


*Waiting For
IDOT
Soils
Info.*

GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THESE PLANS, MIDAMERICAN ENERGY COMPANY'S OPERATION AND MAINTENANCE MANUAL AND PIPE JOINING STANDARDS, THE REFERENCE SECTIONS OF SUDAS, DOT PART 192 AND API 1104. ALL WORK MUST COMPLY WITH APPLICABLE JURISDICTIONAL GOVERNMENTAL PERMITS ENGINEERS AND CITY PERMITS.
2. ALL EXCAVATING AND BACKFILLING MUST MEET SUDAS STANDARD SPECIFICATION DIVISION 3 SECTION 3010 TRENCH AND BACKFILL AND MIDAMERICAN BACKFILL SPECIFICATION.
3. CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL FOR THE DURATION OF THIS PROJECT AND SHALL FOLLOW THE REQUIREMENTS OF THE MOST RECENT EDITION OF MUTCD, ALONG WITH THE REQUIREMENTS OF THE CITY OF ELKHART AND POLK COUNTY. ALL ROADS, TRAILS AND DRIVEWAYS ARE TO BE OPEN FOR TRAFFIC QT ALL TIMES DURING THE DURATION OF THIS PROJECT.
4. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE WATER, GAS AND OTHER UTILITIES LOCATED ALONG THE ALIGNMENT OF THE PROPOSED PIPELINE, AS WELL AS OTHER POTENTIAL UTILITIES THAT MAY BE IN THE VICINITY OF THE PROJECT. THE CONTRACTOR SHALL USE SPECIAL PRECAUTIONS IN WORKING AROUND THESE AND ALL OTHER UTILITIES WITHIN THE WORK AREA. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL UTILITIES WITHIN THE WORK AREA FROM DAMAGE BY THE CONTRACTOR'S ACTIVITIES AND TO SATISFACTORILY REPAIR ANY DAMAGE TO SUCH FACILITIES TO THE SATISFACTION OF THEIR RESPECTIVE OWNERS.
5. THE LOCATIONS OF EXISTING AND PROPOSED UTILITIES INDICATED IN THESE PLANS ARE TAKEN FROM EXISTING RECORD INFORMATION AND FIELD OBSERVATIONS AND ARE NOT GUARANTEED BY MIDAMERICAN ENERGY OR THE ENGINEER. THE CONTRACTOR SHALL CONFIRM THE LOCATION AND ELEVATION OF ALL EXISTING UTILITIES AND SERVICES INCLUDING GAS, ELECTRIC, COMMUNICATION, WATER, SANITARY SEWER, STORM SEWER AND OTHER FACILITIES THAT MAY BE WITHIN THIS PROJECT'S WORK AREA PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL EXCAVATE AND/OR POTHOLE SAID EXISTING UTILITIES IN ADVANCE OF CONSTRUCTION ACTIVITIES SO THAT NECESSARY ADJUSTMENTS TO THE PIPELINES HORIZONTAL AND VERTICAL ALIGNMENT MAY BE MADE.
6. THE CONTRACTOR SHALL NOTE THAT SILTS, CLAYS, AND GRANULAR SOILS, LIMESTONE, SHALES AND VOID AREAS ARE EXPECTED TO BE ENCOUNTERED WITHIN THE WORK AREA.
7. FOR DETAILED INFORMATION SEE MIDAMERICAN ENERGY COMPANY (MEC) SPECIFICATIONS IN CONTRACT DOCUMENTS.
8. CONTRACTOR TO FIELD CHECK ALL SIZES, DIMENSIONS, LOCATIONS, AND ELEVATIONS OF EXISTING FACILITIES PRIOR TO CONSTRUCTION.
9. CONTRACTOR SHALL PRESSURE TEST ALL NEW PIPING AS INDICATED IN THE MEC CONTRACT DOCUMENTS. A CHART RECORDER WILL BE REQUIRED TO DOCUMENT PRESSURE TESTS. THE TEST WILL BE A PNEUMATIC TEST USING A COMBINATION OF AIR AND NITROGEN. THE CONTRACTOR WILL FURNISH ALL REQUIRED TEST MATERIAL AND EQUIPMENT NECESSARY TO PERFORM THE TEST INCLUDING ALL NECESSARY CONNECTIONS AND CHART RECORDER.
10. ALL DIRECTIONALLY DRILLED PIPELINE SHALL BE INSTALLED AS PER THE PLAN AND PROFILE ALIGNMENT INCLUDED IN THESE PLANS AS MAY BE MODIFIED TO MISS UNFORESEEN UTILITIES. CHANGES TO THIS ALIGNMENT MUST BE APPROVED BY THE MEC REPRESENTATIVE. THE CONTRACTOR SHALL RECORD THE ASBUILT HORIZONTAL AND VERTICAL LOCATION OF THE BORE PIPE WITH AN ACCURACY OF 12± INCHES. SAID RECORD SHALL BE REFERENCED TO THE DESIGN HORIZONTAL AND VERTICAL DATUM PROVIDED BY THE MEC REPRESENTATIVE SO THAT THE THE ASBUILT LOCATION OF THE INSTALLED PIPELINE CAN BE PLOTTED ALONG WITH THE DESIGN LOCATION ON THE SAME DATUM.
11. THE CONTRACTOR IS RESPONSIBLE FOR COMPLETING THIS PROJECT IN A SAFE MANNER WITHOUT "FRAC-OUTS" OR OTHER ACTIONS THAT MAY CAUSE PERSONAL PROPERTY OR ENVIRONMENTAL DAMAGES. DEVIATIONS FROM THE PLANS, OR MEC REQUIREMENTS MUST RECEIVE WRITTEN PRE-APPROVED FROM MEC IN ADVANCE. THE CONTRACTOR SHALL PREPARE AND SUBMIT THEIR WORK PLAN FOR THE PROJECT THAT INCLUDES CONTRACTOR'S PLAN FOR IDENTIFYING THE HORIZONTAL AND VERTICAL LOCATIONS OF THE EXISTING UTILITIES TO BE CROSSED, DISPOSAL OF DRILLING FLUIDS, TRAFFIC CONTROL, COMPLETION OF THE HDD, THE ASBUILT HORIZONTAL AND VERTICAL LOCATION OF THE INSTALLED STEEL PIPELINE, THEIR PROPOSED EQUIPMENT AND METHODOLOGY FOR THE PROJECT.
12. CONSTRUCTION DEVIATIONS FROM PLANS SHALL REQUIRE PRE-APPROVAL FROM THE MEC REPRESENTATIVE.
13. CONTACT IOWA ONE CALL NOTIFICATION SYSTEM AT 1-800-292-8989 A MINIMUM OF 48 HOURS BEFORE EXCAVATION.
14. MEC SHALL FURNISH HORIZONTAL AND VERTICAL CONTROL AND CENTERLINE STAKING IN LAND AREAS ON BOTH SIDES OF THE RIVER FOR THIS WORK. THE CONTRACTOR SHALL MAINTAIN ALL STAKES AND REPORT ANY DAMAGE TO THE MEC REPRESENTATIVE. THE CONTRACTOR SHALL VERIFY ALL GRADES, LINES, LEVELS AND DIMENSIONS, AS SHOWN ON THE DRAWINGS, AND SHALL REPORT ANY ERRORS OR INCONSISTENCIES TO THE COMPANY REPRESENTATIVE PRIOR TO COMMENCING WORK.
15. SPOIL, DRILLING FLUIDS AND OTHER DEBRIS SHALL NOT BE ALLOWED TO FLOW OFF THE WORK AREA. WATTLES AND/OR OTHER SEDIMENT FILTER DEVICES MUST BE INSTALLED BY THE CONTRACTOR AS NECESSARY TO PREVENT SAID MATERIALS FROM LEAVING THE CONSTRUCTION WORK AREA OR FLOWING INTO DRAINAGEWAYS, CREEKS, ADJACENT PROPERTIES, ROADWAYS OR THE MIDDLE RIVER.
16. CONTRACTOR'S EQUIPMENT SHALL BE LIMITED TO RUBBER-TIRED EQUIPMENT ONLY ON PAVEMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF ALL PAVEMENTS, UTILITIES AND OTHER IMPROVEMENTS DAMAGED BY THEIR OPERATION TO PRE-CONSTRUCTION CONDITION AS APPROVED BY THE AFFECTED PROPERTY OWNERS AND JURISDICTIONAL GOVERNMENTAL AUTHORITY.

GENERAL NOTES

17. ALL OPEN ENDS OF WELDED PIPE, WHETHER INSTALLED OR NOT, SHALL BE SECURELY CLOSED AT THE END OF EACH DAY'S WORK AND SHALL NOT BE REOPENED UNTIL WORK IS RESUMED. OPEN ENDS OF PIPE SHALL BE SUITABLY ENCLOSED TO KEEP WATER AND FOREIGN MATERIALS FROM ENTERING THE PIPELINE. ALL WATER AND FOREIGN MATERIALS FOUND IN THE PIPELINE SHALL BE REMOVED BY THE CONTRACTOR. THIS WORK SHALL BE INCIDENTAL TO THE CONTRACT.
18. ALL WELD JOINTS WILL BE COATED WITH DENSO PORTAL 7200 OR 7125 PER THE MANUFACTURER SPECIFICATIONS. MINIMUM COATING THICKNESS 14MM FOR DIRECT BURY AND 30 MM FOR BORING. FITTINGS WILL BE COATED WITH EITHER DENSO 7200/7125 OR A HOT WRAP.
19. IF CONCRETE IS BEING POURED, CONTRACTOR SHALL ENSURE CONCRETE WASHOUT IS CONTAINED AND NOT ALLOWED TO ENTER ANY NEARBY WATER BODIES, STORM DRAINS OR STREET SURFACES.
20. ALL BORE SLURRY/MUD OR SPOILS WILL BE TAKEN OFF-SITE AT CONTRACTOR'S EXPENSE AND RESPONSIBILITY. SLURRY OR SPOILS WILL NOT BE PLACED OR DISCHARGED INTO WATER BODIES, STREET SURFACES OR STORM INLETS NOR WILL IT BE PUT INTO AREAS THAT WILL ALLOW IT TO BE WASHED BACK INTO WATER BODIES. CONTRACTOR IS RESPONSIBLE FOR DISPOSING OF EXCESS SLURRY/MUD.
21. CONTRACTOR IS RESPONSIBLE FOR RE-ESTABLISHING ANY STORM WATER PROTECTION THAT IS DISTURBED DURING THE CONSTRUCTION OF THE PIPELINE.
22. CONTRACTOR IS RESPONSIBLE FOR ALL EROSION CONTROL AND RESTORATION OF ALL DISTURBED AREAS TO PRE-CONSTRUCTION CONDITIONS, INCLUDING ROAD AND DRIVEWAY SURFACES AS WELL AS VEGETATED AREAS. VEGETATED AREAS SHALL BE SEEDED, FERTILIZED AND MULCHED AS PER IOWA DOT REQUIREMENTS FOR RURAL SEEDING. THERE SHALL BE NO SEPARATE MEASUREMENT OR PAYMENT FOR THIS WORK AND IT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
23. ALL OPEN TRENCHES AND OTHER EXCAVATIONS SHALL BE PROTECTED WITH SUITABLE BARRICADES, SIGNS AND LIGHTS TO THE EXTENT THAT ADEQUATE PROTECTION IS PROVIDED TO THE PUBLIC AGAINST ACCIDENT BY REASON OF SUCH OPEN CONSTRUCTION. OBSTRUCTIONS SUCH AS MATERIAL, PIPES AND EQUIPMENT SHALL BE PROVIDED WITH SIMILAR WARNING SIGNS AND LIGHTS.
24. ALL BARRICADES, SIGNS, WARNING LIGHTS AND OTHER PROTECTIVE DEVICES SHALL BE INSTALLED AND MAINTAINED IN CONFORMANCE WITH APPLICABLE STATUARY REQUIREMENTS AND WHERE IN THE RIGHT-OF-WAYS AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION. TRAFFIC CONTROL SHALL BE INSTALLED PRIOR TO ANY WORK BEING PERFORMED WITHIN THE RIGHT-OF-WAYS. THE CONTRACTOR SHALL MAKE ARRANGEMENTS TO PROVIDE FOR MAINTENANCE OF ALL TRAFFIC CONTROL DEVICES ON A 24 HOUR 7 DAY A WEEK ON-CALL BASIS.
25. TRAFFIC CONTROL WILL BE COORDINATED BY THE CONTRACTOR WITH THE JURISDICTIONAL GOVERNMENTAL AUTHORITY THAT IS RESPONSIBLE FOR THE AFFECTED ROADWAYS TO MAINTAIN ACCEPTABLE TRAFFIC PATTERNS DURING CONSTRUCTION OF THE PROJECT, AS WELL AS ACCESS TO PUBLIC AND PRIVATE PROPERTIES.
26. MEC WILL PROVIDE ALL STEEL PIPE, ELLS, ENDCAPS AND JOINT COATING MATERIAL (EXCLUDING COATING MATERIAL FOR REPAIRING HOLIDAYS) FOR PIPELINE CONSTRUCTION, ANODES, CATHODIC TEST STATIONS AND PIPELINE MARKER POSTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MATERIALS NOT PROVIDED BY MEC INCLUDING COATING FOR REPAIRING HOLIDAYS, WIRE AND APPARATUS FOR CONNECTING CATHODIC PROTECTION TEST STATIONS AND ANODES TO THE PIPELINE, SEED, FERTILIZER, MULCH, SILT FENCE MATERIALS, ROADSTONE AND ALL OTHER MATERIALS NOT CALLED OUT AS BEING PROVIDED BY MEC. MATERIALS PROVIDED BY THE CONTRACTOR SHALL MEET ALL MEC REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRANSPORTING, PROTECTING AND INSTALLING ALL MEC PROVIDED MATERIALS IN ACCORDANCE WITH MEC REQUIREMENTS.
27. OMITTED.
28. PILOT HOLE TOLERANCES: THE PILOT HOLE SHALL BE DRILLED TO THE TOLERANCES LISTED BELOW. HOWEVER, IN ALL CASES, RIGHT-OF-WAY RESTRICTIONS AND CONCERN FOR ADJACENT FACILITIES SHALL TAKE PRECEDENCE OVER THESE TOLERANCES.
 - a). ENTRY POINT: UP TO 3 FEET FORWARD OR 5 FEET BACK FROM THE DESIGNED ENTRY POINT; UP TO 1 FOOT RIGHT OR LEFT OF THE DESIGNED ALIGNMENT
 - b). EXIT POINT: UP TO 5 FEET SHORT OR 15 FEET LONG RELATIVE TO THE DESIGNED EXIT POINT; UP TO 3 FEET RIGHT OR LEFT OF THE DESIGNED ALIGNMENT
 - c). ELEVATION: UP TO 1 FOOT ABOVE AND 15 FEET BELOW THE DESIGNED PROFILE
 - d). ALIGNMENT: UP TO 5 FEET RIGHT OR LEFT OF THE DESIGNED ALIGNMENT
 - e). CURVE RADIUS: NO LESS THAN 800 FEET BASED ON A 3-JOINT AVERAGE (ASSUMING RANGE 2 DRILL PIPE)

REVISION-DESCRIPTION		By WJC	Date 03-28-22
ISSUED FOR REVIEW			
			
6" NATURAL GAS PIPELINE RE-LOCATION UNDER INTERSTATE 35 BY HDD UTILITY AND GENERAL NOTES			
SE 1/4 SW FRL 1/4 & SW 1/4 SE 1/4 SEC 30-T81N-R23W POLK COUNTY, IOWA			
CADD: MEC-ELKHART22.dwg BK: MEC 16, PG-39 Dr. By WJC Date 03-25-22			
SHEET NO: ELKHART-P-200-02			



REVISIONS	
	By Date
ISSUED FOR REVIEW	WJC 03-23-22
CADD: MEC-ELKHART22.dwg	
BK: MEC 1B, PG-39	
DR. BY: MWC	DATE: 03-23-22

MIDAMERICAN ENERGY COMPANIES

6" NATURAL GAS PIPELINE RE-LOCATION UNDER INTERSTATE 35 BY HDD
 PLAN WEST OF HDD
 SE 1/4 SW FRL 1/4 & SW 1/4 SE 1/4
 SEC 30-T81N-R23W
 POLK COUNTY, IOWA

SHEET NO: ELKHART-P-200-03



REVISIONS		
	By	Date
ISSUED FOR REVIEW	WJC	03-23-22
CADD: MEC-ELKHART22.dwg		
BK: MEC 16, PG-39		
DR. BY: MWC	DATE:	03-23-22

MIDAMERICAN ENERGY COMPANIES

6" NATURAL GAS PIPELINE RE-LOCATION UNDER INTERSTATE 35 BY HDD
 PLAN EAST OF HDD
 SE 1/4 SW FRL 1/4 & SW 1/4 SE 1/4
 SEC 30-T81N-R23W
 POLK COUNTY, IOWA

SHEET NO: ELKHART-P-200-05