

LEGEND:

- EXISTING PIPELINE
- - - NEW PIPELINE
- ▭ INDICATES FENCED AREA
- MLV MAIN LINE VALVE
- KLV KICKER LINE VALVE
- SV SCRAPER VALVE
- MOV METER STATION VALVE
- MP MILE POST
- MVAL MANUALLY OPERATED VALVE
- ⊗ EXPANDING GATE VALVE WITH MOTOR OPERATOR
- ⊘ BALL VALVE WITH MOTOR OPERATOR
- ⊘ BALL VALVE

NOTES:

- MP ARE PRELIMINARY, FINAL LOCATIONS TO BE DETERMINED PRIOR TO ISSUE FOR CONSTRUCTION.
- UNTIL POWER AVAILABILITY IS DETERMINED OTHERWISE BY M'S DESIGN, ALL VALVES ARE MARKED AS ELECTRIC MOTOR OPERATED VALVES (MOV).
- HCA INDICATES HIGH CONSEQUENCE AREA, HCA-D (DIRECT) AND HCA-I (INDIRECT).
- ALL HCA (DIRECT AND INDIRECT) ARE PNEUMATIC OPERATED VALVES (POV) EFR07'S.

WOOD GROUP MUSTANG, INC.
DAKOTA ACCESS, LLC
PROJECT NO. 10365700

| ENGINEERING RECORD | |
|--------------------|-----------|
| DRAWN BY | L. GLOVER |
| CHECKED BY | J. MOHE |
| APPROVED BY | S. BRIDEN |
| DATE | 10/13/14 |
| SCALE | NONE |
| OLD DRAWING NO. | |

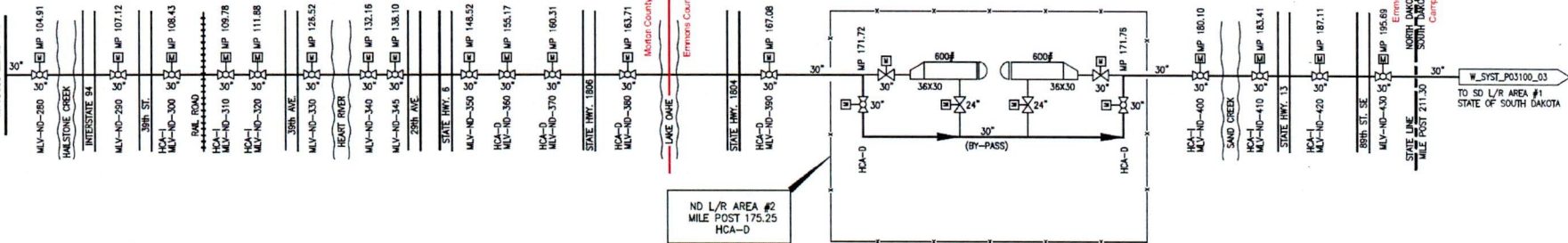
| REV. | DATE | APP# | DESCRIPTION | APPROVAL |
|------|----------|------|----------------------------|----------|
| D | 06/22/15 | N/A | ISSUED FOR DESIGN | MRJ |
| C | 04/29/15 | N/A | ISSUED FOR CLIENT APPROVAL | MRJ |
| B | 02/12/15 | N/A | ISSUED FOR CLIENT REVIEW | JDR |
| A | 01/22/15 | N/A | ISSUED FOR CLIENT REVIEW | JDR |

STATE OF NORTH DAKOTA

PROCESS FLOW DIAGRAM
SYSTEM MAP
DAKOTA ACCESS PIPELINE
SHEET 1 OF 10

DWG. NO. W_SYST_P031000_01
REV. NO. D

MATCH LINE "A"

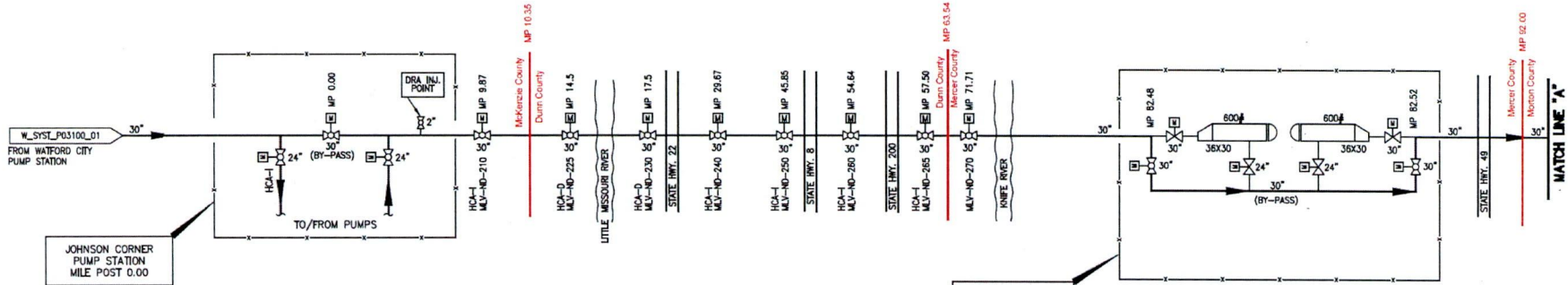


LEGEND:

- EXISTING PIPELINE
- NEW PIPELINE
- - - INDICATES FENCED AREA
- MLV MAIN LINE VALVE
- KLV KICKER LINE VALVE
- SV SCRAPER VALVE
- MSV METER STATION VALVE
- MP MILE POST
- MANUAL MANUALLY OPERATED VALVE
- ⊗ EXPANDING GATE VALVE WITH MOTOR OPERATOR
- ⊞ BALL VALVE WITH MOTOR OPERATOR
- ⊘ BALL VALVE

NOTES:

1. MP ARE PRELIMINARY, FINAL LOCATIONS TO BE DETERMINED PRIOR TO ISSUE FOR CONSTRUCTION.
2. UNTIL POWER AVAILABILITY IS DETERMINED OTHERWISE BY M S BENDOW, ALL VALVES ARE MARKED AS ELECTRIC MOTOR OPERATED VALVES (MOW).
3. HCA INDICATES HIGH CONSEQUENCE AREA. HCA-D (DIRECT) AND HCA-I (INDIRECT).
4. ALL HCA (DIRECT AND INDIRECT) ARE PNEUMATIC OPERATED VALVES (POV) EFRD'S.



JOHNSON CORNER PUMP STATION MILE POST 0.00

ND L/R AREA #1 AT 67th AVE. SW MILE POST 82.50

ND L/R AREA #2 MILE POST 175.25 HCA-D

| ENGINEERING RECORD | |
|--------------------|-----------|
| DRAWN BY | L. GLOVER |
| CHECKED BY | J. REINE |
| APPROVED BY | S. BROWN |
| DATE | 10/13/14 |
| SCALE | NONE |

| REV. | DATE | APP# | DESCRIPTION | APPROVAL |
|------|----------|------|----------------------------|----------|
| D | 05/22/15 | N/A | ISSUED FOR DESIGN | WRH |
| C | 04/29/15 | N/A | ISSUED FOR CLIENT APPROVAL | WRH |
| B | 02/13/15 | N/A | ISSUED FOR CLIENT REVIEW | JDR |
| A | 01/22/15 | N/A | ISSUED FOR CLIENT REVIEW | JDR |

DAKOTA ACCESS, LLC
WOOD GROUP MUSTANG, INC.
 PROJECT NO: 10395700

PROCESS FLOW DIAGRAM
 SYSTEM MAP
 DAKOTA ACCESS PIPELINE
 SHEET 2 OF 10

STATE OF NORTH DAKOTA

OLD DRAWING NO. _____

REV. NO. **D**

W_SYST_P03100_02