



LIFT STATION MANHOLE

VALVE VAULT MANHOLE

PUMP CONTROL ELEVATIONS	
LOW LEVEL ALARM	---
PUMP OFF	---
LEAD PUMP ON	---
LAC PUMP ON	---
HIGH LEVEL ALARM	---

1 SECTION
LS2 NTS

KEYNOTES:

- 1 PRECAST CONCRETE COVER WITH #4 @ 9" E.W. TOP AND #5 @ 4 1/2" E.W. BOTTOM, REINFORCING GRADE 60
- 2 30" X 30" ALUMINUM HATCH WITH POSITIVE LOCK @ 90° OPENING. SEE PLAN AT GRADE FOR COVER HINGE ORIENTATION
- 3 30" X 48" ALUMINUM HATCH WITH UPPER GUIDE BRACKET, CHAIN HOOK CABLE HOLDER, AND POSITIVE LOCK @ 90° OPENING. SEE PLAN AT GRADE FOR COVER HINGE ORIENTATION
- 4 VENT PIPE - SEE DETAIL 5403
- 5 PRECAST COVER CONNECTION - SEE DETAIL 5403
- 6 ELECTRICAL CABLE HOLDER
- 7 RIGID PVC CONDUIT @ ELEVATION ----- CORE DRILL & INSTALL WATER-TIGHT SEAL AROUND CONDUIT. ROUTE UNDERGROUND. SEE ELECTRICAL SITE PLAN
- 8 CORE DRILL FOR ELEC CONDUIT AND SEAL WITH NON-SHRINK GROUT
- 9 PUMP GUIDE RAILS
- 10 PRECAST JOINT WITH BUTYL RUBBER JOINT SEAL (KENT, RAMNEK, OR CONSEAL) (TYPICAL)
- 11 ON-SITE MATERIAL (SEE NOTE #3 FOR COMPACTION)
- 12 PIPE SEAL GASKET - SEE DETAIL 5403 (TYP)
- 13 PIPE CONNECTION - SEE DETAIL 5403 (TYP)
- 14 CORE DRILL AND SEAL WITH LINK SEAL (TYP)
- 15 3" PVC SCH 40 VALVE MANHOLE DRAIN - FASTEN PIPE TO WALL IN WET WELL WITH 316 STAINLESS STEEL STRAPS AND 316 STAINLESS STEEL ANCHOR BOLTS, NUTS AND WASHERS.
- 16 DIP PUMP DISCHARGE TO VALVE MANHOLE (TYP OF 2)
- 17 GROUT CIRCLE AS RECOMMENDED BY PUMP MANUFACTURER
- 18 CONCRETE BASE SLAB CONNECTION - SEE DETAIL 5403
- 19 12" THICK CONCRETE SLAB WITH #6 @ 12" E.W. BOTTOM AND #6 @ 6" E.W. TOP, REINFORCING GRADE 60
- 20 PUMP CONTROL LEVEL FLOATS
- 21 SUBMERSIBLE PUMP (2 REQUIRED) INSTALL PER MANUFACTURER. GROUT CIRCLE AS RECOMMENDED BY PUMP MANUFACTURER
- 22 MANHOLE STEPS @ 12" ON CENTER
- 23 EXTEND BELOW PUMP SHUTOFF ELEVATION
- 24 RUBBER FLAPPER CHECK VALVE (2 REOD)
- 25 GATE VALVE WITH LEVER OPERATOR (2 REOD)
- 26 FLANGED TEE WITH BLIND FLANGE
- 27 PIPE SUPPORT FROM FLOOR (4) - SEE DETAIL 5403
- 28 GROUT BOTTOM OF MANHOLE - SLOPE TO DRAIN PIPE
- 29 S.S. CHAINS AND SHACKLES
- 30 MJ PLUG VALVE WITH GEAR OPERATOR, EXTENSION AND VALVE BOX TO GRADE (SEE DETAIL 5403)
- 31 MJ GATE VALVE WITH GEAR OPERATOR, EXTENSION AND VALVE BOX TO GRADE (SEE DETAIL 5403)
- 32 MJ REDUCER
- 33 POLY WRAP DIP
- 34 CLASS 5 MATERIAL - SEE GENERAL NOTE NO. 2
- 35 MNDOT 3733 TYPE 5 GEOTEXTILE FABRIC
- 36 PRESSURE GAUGES (2)
- 37 UNEXCAVATED SOILS
- 38 PUMP CONTROLS AND POWER CABLES, S.S. FLOAT CABLES AND PRESSURE TRANSDUCER WITH 2 FLOAT BACKUPS
- 39 FIBERGLASS FALL PROTECTION GRATING
- 40 BUTYL JOINT WRAP

GENERAL NOTES:

1. AT LEAST ONE SOIL BORING AND ACCOMPANYING GEOTECHNICAL REPORT IS REQUIRED AT THE LIFT STATION SITE
2. DESIGN ALLOWABLE NET SOIL BEARING PRESSURE : 2500 PSF (ASSUMED)
3. COMPACT BACKFILL TO 100% STANDARD PROCTOR ABOVE AND BELOW PIPES
4. PARTS OF SECTION VIEW OF DRAWING ARE ROTATED FOR CLARITY
5. SEE PLAN VIEW AND SITE PLAN FOR ORIENTATION OF PIPES
6. CONTRACTOR TO VERIFY EXISTING CONDITIONS
7. PAINT ALL INTERIOR MANHOLE CONCRETE AND PIPING WITH (2) COATS OF EPOXY PAINT
8. COMPACT BACKFILL TO 100% OF STANDARD PROCTOR DRY DENSITY BELOW VALVE MANHOLE AT A MIN OF 1:1 OVERSIZING WITHIN THE ZONE PREVIOUSLY EXCAVATED FOR INSTALLATION OF THE LIFT STATION.
9. BED AND BACKFILL PIPE TRENCHES TO 1 FOOT ABOVE FORCEMAIN AND ALL OTHER NEW SANITARY LINES WITH GRANULAR MATERIAL. SEE DETAIL 5403
10. ELEVATION OF PIPING IN VALVE VAULT MUST BE AT LOWEST ELEVATION, OTHERWISE AN AIR RELEASE VALVE SHALL BE INSTALLED IN THE VAULT

FILE NAME: 06:VENG(SPECS)5402A

ENGINEERING DEPARTMENT

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PLATE: 5402-A

LIFT STATION AND VALVE STANDARD DETAIL (ELEVATION)

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