

THESE DETAILS REPLACE THE VOIDED DETAILS ON THE GCDC-WWS STANDARD DETAILS.

NOTES

- PLACE 12" OF CRUSHED LIMESTONE 20A (AS) ON THE COMPACTED SAND BACKFILL (AS) FOR ALL DRIVEWAYS, PARKING LOTS OR OTHER HARD SURFACED AREAS.
- THE CONTRACTOR SHALL COMPACT THE SAND BACKFILL (AS) TO 95% OF THE MATERIAL UNIT WEIGHT BY MODIFIED PROCTOR ACROSS ALL ROADWAYS AND DRIVEWAYS PER THE SCHEDULE OF BACKFILLING IN THE SPECIFICATIONS. THIS INCLUDES SERVICE LEADS UNLESS SPORED. THE CONTRACTOR SHALL DO THE TESTING WITH THE RESULTS SUBMITTED TO GDCD-WWS PRIOR TO FINAL TESTING.
- WHERE THE GROUND ELEVATION AT THE TRENCH LINE IS ABOVE THE ELEVATION OF THE CENTERLINE OF THE ROAD, THE CONTRACTOR SHALL INSTALL THE PRESSURE PIPE 6" BELOW THE ELEVATION OF THE ROAD. THE EXTRA DEPTH SHALL BE NOTED ON THE AS-BUILT DRAWINGS.
- FOR ADDITIONAL CONSIDERATION OF PIPE ZONE EMBEDEDMENT CONDITIONS, SEE AVVA C640-99.
- DESIGN ENGINEER SHALL REVIEW AND ADJUST PIPE THICKNESS DESIGN RECOMMENDATIONS IN AVVA C640-99 FOR ADDITIONAL DEPTH OF COVER.

GBT-1 PRESSURE PIPE BEDDING AND BACKFILL

05/01/2004

GBT-6 WATERMAIN BURY AT COUNTY DRAIN, DITCH, OR STREAM

05/01/2006

NOTES

- ALL BORE AND JACK OPERATIONS WITHIN THE ROAD R.O.W. WILL REQUIRE A PERMIT FROM THE AGENCY HAVING AUTHORITY OVER THE ROADWAYS.
- THE CONTRACTOR SHALL ABIDE BY ALL SAFETY PRECAUTIONS INCLUDING THE MEDIAN MANUAL OF LINES, SLOPES, CORNER LOCATIONS, AS REQUIRED BY THE AGENCY HAVING AUTHORITY OVER THE ROADWAYS.
- THE CONTRACTOR SHALL NAME THE AGENCY HAVING AUTHORITY OVER THE ROADWAYS AS AN ADDITIONAL NAMED INSURER FOR CONTINGENT LIABILITY FOR THE PROPOSED CONSTRUCTION.
- THE CONTRACTOR SHALL ABIDE BY ALL CONDITIONS STATED IN THE CONC. MEMO OF 0-1-75 LABELED SANITARY SEWER AND WATERMAIN INSTALLATION, WITHIN THE LIMITS OF JOINTLY JURISDICTION OF THE AGENCY HAVING AUTHORITY OVER THE ROADWAYS.
- THE SHEETING OF THE FRONT FACE OF THE BORE PIT WILL BE REQUIRED IF UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED.
- THE AUSER MUST ALWAYS PROCEED THE CASING PIPE HEAD.
- THE CONTRACTOR SHALL NOTIFY THE AGENCY HAVING AUTHORITY OVER THE ROADWAYS A MINIMUM OF 72 HOURS PRIOR TO BEGINNING CONSTRUCTION.
- THE ENDS OF THE CASING PIPE SHALL BE BULK HEAD WITH AN 8" WATER TIGHT MASONRY BULKHEAD.
- PRESSURE PIPE SHALL HAVE RESTRAINED JOINTS THROUGH THE CASING PIPE.

| PIPE SIZE AND MATERIAL | MIN. CASING DIA. INCHES | MIN. WALL THICKNESS INCHES | MOET |
|----------------------------------|-------------------------|----------------------------|---|
| 8" DIA. PRESSURE PIPE OR SMALLER | 20.00 | 0.375 | 500C |
| 10"-12" DIA. PRESSURE | 20.00 | 0.375 | D=20" FOR TRAFFIC OVER 45 MPH D=22" FOR TRAFFIC UNDER 45 MPH |
| 16" DIA. PRESSURE PIPE | 24.00 | 0.375 | 500C |
| 18"-24" DIA. PRESSURE | 30.00 | 0.408 | 500C |

18" THICK MASONRY BULK HEAD WITH RESTRAINED JOINTS @ PROPERTY LINE (TYP.)

USE CASING SPACERS, MANUFACTURED BY CO PIPELINE (MODEL CSS) CASING WATERWORKS, OR APPROVED EQUAL.

GBT-7 BORE & JACK CONSTRUCTION ON ALL ROADS

05/01/2006

NOTES

- ALL PRESSURE TAPS MUST BE INSTALLED IN A CONCRETE VALVE MANHOLE.
- ALL TAPPING SLEEVES SHALL BE WELDMENT JOINT BY FLANGED OUTLET. ALL STAINLESS STEEL OR CAST IRON, BUILT IN TWO SECTIONS.
- APPROVED WELDMENT JOINT SLEEVES USING ALL 316 STAINLESS STEEL, CLOY, FIBRE, KELLER, H-S&S, AMERICAN MALLON, H-S&S, OR GDCD-WWS APPROVED ALTERNATE.
- THE OUTLET FLANGES IN CLASS 250 ARE SMALL.
- THE TAPPING TEE SHALL HAVE A BUILT-IN TEST PLUG.
- THE GASKET FOR THE TAPPING SHALL BE MADE FOR THE PIPE MATERIAL IN PLACE. BUTYLE BRN CLASS 250-84.
- THE VALVE SHALL BE FLANGED BY RESTRAINED JOINT.
- THE VALVE SHALL HAVE OVER SIZEE BUSH RINGS TO PERMIT CENTER OF THE TAPPING MANHOLE OUTLIES.
- THE VALVE SHALL MEET ALL REQUIREMENTS OF AVVA 059 OR GSS.
- THE TOP OPENING SHALL BE COVERED ON THE VALVE OPERATING END.
- SET MANHOLE FRAME AND COVER ON TOP OF S&S.

GBT-8 PRESSURE TAPPING SLEEVE AND VALVE

05/01/2004

MANHOLE FRAME

PRODUCT NO. 00104010
DIPED

CATALOG NO. 1040Z

REF. PRODUCT DRAWING 104010

EST. WT. FRAME: 230 LBS 104 kg

OPEN AREA N/A

MATL SPEC. FRAME - GRAY IRON ASTM A48 CL35B

LOAD RATING HEAVY DUTY

05/01/2006

STANDARD VALVES IN ROADWAYS

| VALVE SIZE | MIN. BASIN SIZE |
|------------|-----------------|
| 6" | 5' DIA. MH. |
| 8" | 5' DIA. MH. |
| 10" - 12" | 6' DIA. MH. |
| 16" - 20" | 6' DIA. MH. |
| 24" | 6' DIA. MH. |
| 30" - 42" | 6' DIA. MH. |

GBT-9 IN-LINE GATE VALVE

05/01/2006

ALL BURIED VALVES NOT ENCLOSED IN A VALVE VAULT SHALL BE POLYETHYLENE ENCASED. SEE SD-13.

GBT-11 HYDRANT VALVE DETAIL

05/01/2006

NOTES

- WATER SERVICE SHALL BE TUNNELED UNDER EXISTING PAVEMENTS, SEE SD-7.
- A 4"x4" WOODEN MARKER PLACED 4" ABOVE THE FINISHED GRADE AND PAINTED BLUE IS REQUIRED FOR ALL WATER SERVICES NOT CONNECTED TO THE BUILDING.
- THE VALVE BOX SHALL BE EITHER BUTYLE BRN OR CAST IRON AND A MINIMUM OF 6" IN LENGTH. NO PLASTIC CURB BOXES SHALL BE ALLOWED.
- CURB STOPS SHALL BE BALL VALVES FOR 1", 1 1/2", AND 2" DIAMETERS WITH COPPER TO COPPER CONNECTIONS.
- THE CORPORATION SHALL BE FORD, MUELLER, OR BRANIC TYP APPROVED ALTERNATE. USE BRASS DOUBLE SADDLES WITH STAINLESS STEEL BANDS FOR 1 1/2" AND 2" TAPS.
- IF THE PUBLIC WATERMAIN IS ON AN EASEMENT, THE CURB STOP SHALL BE PLACED AT THE EDGE OF THE EASEMENT CLOSEST TO THE BUILDING TO BE SERVED.
- WATER SERVICE IS TO BE PLACED AT THE CENTER OF FRONTAGE, WITH SANITARY SERVICE.

GBT-15 1" TO 2" WATER SERVICE CONNECTIONS (WATERMAIN ONLY)

05/01/2006

NOTES

- THE PUMPER HEADLE SHALL FACE THE BUILDING. PROVIDE A MINIMUM OF 12" CLEARANCE FROM THE HEADLE TO ANY OBSTRUCTION.
- SET THE HYDRANT GRADE LINE AT PROPOSED GRADE OR AS FIELD INDICATES.
- SET THE VALVE BOX COVER FLUSH WITH THE FINISHED GRADE LEVEL.
- ALL WORK FROM THE CENTERLINE OF THE MAIN TO AND INCLUDING THE HYDRANT SHALL BE PAID FOR BY THE UNIT PRICE BID ITEM PER HYDRANT.
- HYDRANT MANHOLE ARE TO BE PAINTED RED. CAPS WILL BE CLEAR COATED TO MATCH. 6" RED, 6" GREEN OR 6" YELLOW, 16" AND 6" BROWN, 24" AND GREATER BLUE.
- NO HYDRANT TEES ARE APPROVED WHERE SPACE REQUIREMENTS ARE LIMITED.
- HYDRANT BRN SHALL BE PERMANENTLY SEALED AT THE FACTORY WITH A BRASS PLUG.
- THE HYDRANT SHALL BE PLACED AT PROPERTY LINES AND WITHIN THE S&S S&S PRESSURE.
- LOCAL MUNICIPALITIES MAY REQUIRE STERILIZATION FITTINGS. REFER TO PROJECT PLANS AND SPECIFICATIONS FOR SIZE AND TYPE.
- USE 1/4" CHAIN TRACER WIRE TO EXTEND FROM WATERMAIN TO HYDRANT MANHOLE. USE UNVARIABLE BREAKAWAY FLANGE ON CONNECTION PIPE TO THE BOLT IN FLANGE.
- HYDRANT MANHOLE ARE TO BE PAINTED RED. CAPS WILL BE CLEAR COATED TO MATCH. 6" RED, 6" GREEN OR 6" YELLOW, 16" AND 6" BROWN, 24" AND GREATER BLUE.
- NO HYDRANT TEES ARE APPROVED WHERE SPACE REQUIREMENTS ARE LIMITED.
- HYDRANT BRN SHALL BE PERMANENTLY SEALED AT THE FACTORY WITH A BRASS PLUG.
- THE HYDRANT SHALL BE PLACED AT PROPERTY LINES AND WITHIN THE S&S S&S PRESSURE.
- LOCAL MUNICIPALITIES MAY REQUIRE STERILIZATION FITTINGS. REFER TO PROJECT PLANS AND SPECIFICATIONS FOR SIZE AND TYPE.
- USE 1/4" CHAIN TRACER WIRE TO EXTEND FROM WATERMAIN TO HYDRANT MANHOLE. USE UNVARIABLE BREAKAWAY FLANGE ON CONNECTION PIPE TO THE BOLT IN FLANGE.

GBT-16 FIRE HYDRANT DETAIL

05/01/2006

COVER SECTION

PICKHOLE DETAIL

05/01/2006

| | |
|---|---------------|
| EAST JORDAN IRONWORKS, INC. P.O. BOX 439 EAST JORDAN, MI. 49727 1-800-874-4100 FAX 231-536-4458 | |
| DRAWN T.C.L. | DATE 04/08/03 |
| APPROVED | DATE |
| MANHOLE FRAME | |
| PRODUCT NO. 00104010 DIPED | |
| CATALOG NO. 1040Z | |
| REF. PRODUCT DRAWING 104010 | |
| EST. WT. FRAME: 230 LBS 104 kg | |
| OPEN AREA N/A | |
| MATL SPEC. FRAME - GRAY IRON ASTM A48 CL35B | |
| LOAD RATING HEAVY DUTY | |

| NO. | DATE | DESCRIPTION |
|-----|------|---|
| | 2012 | REVISED PER GRAND BLANC TWP REQUIREMENT |

GRAND BLANC TOWNSHIP
DEPARTMENT OF PUBLIC WORKS

PRESSURE PIPE CONSTRUCTION

STANDARD DETAILS

for the Construction of Sanitary Sewers & Watermain in Grand Blanc Township

