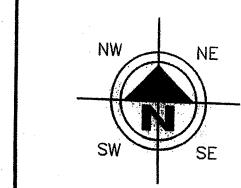
# GOODWILL INDUSTRIES SITE WORK AT 2745 & 2755 INDIAN RIVER RD. S.W. MASSILLON, OHIO

ERIE ST.

ZONING BOARD OF APPEALS GRANTED VARIANCE JUNE 8, 2006

1. NO. OF PARKING SPACES = 83, (PROVIDED = 79 + 4 ADA)

2. PARKING SPACE SIZE = 9' X 18' 3. BUILDING SETBACK
14' FOR LARGE BUILDING
20' FOR SMALL BUILDING



| 4-674490 | DAK                | CHECKED BY:<br>SDH |  |
|----------|--------------------|--------------------|--|
| #5111    | DATE:<br>JULY 2006 | DATE:<br>JULY 2006 |  |

RD. 745

EWERAGE

APPROVED. OHIO ENVIROMENTAL PROTECTION AGENCY
AS EVIDENCED BY COPY OF
LETTER OF APPROVAL HERETO ATTACHED DATE

SEAL

**REVISIONS:** 

GTITLE.DWG

06096

DATE

FILE NAME:

ACCOUNT NUMBER

DESCRIPTION

8/11/06 DATE

SEP 1 5 2006

CCOY ASSOCIATES, INC. - CONSULTING ENGINEERS

388 S. MAIN ST., SUITE 401 AKRON, OHIO 44311

# PROJECT DESCRIPTION

SITE WORK FOR THE NEW GOODWILL STORE AND A RETAIL STORE WITHIN THE CITY OF MASSILLON. INCLUDING BUT NOT LIMITED TO GRADING, UTILITIES, RELOCATION OF A PORTION OF SANITARY SEWER, PARKING LOT AND UNDERGROUND DETENTION.

COUNTY LINE . . TOWNSHIP LINE CORPORATION LINE

LOT LINE R/W RIGHT-OF-WAY ( ) DENOTES RECORD BEARINGS AND DISTANCES ----S --- SANITARY SEWER LINE -ST- STORM SEWER LINE -G-GAS LINE — UE— UNDERGROUND ELECTRIC
— OE — OVERHEAD ELECTRIC - OT - OVERHEAD TELEPHONE - OET&C - OVERHEAD ELECTRIC, TELEPHONE & CABLE -X-X-FENCE GAS LINE MARKER

TELEPHONE LINE MARKER

TELEPHONE, POWER POLE

POWER POLE TELEPHONE POLE

LIGHT POLE

MAN HOLE (AS LABELED) TRAFFIC CONTROL BOX FIRE HYDRANT VALVE (AS LABLELED) MAIL BOX GUARD POST SOIL BORING MONITORING WELL CLEAN OUT DOWN SPOUT EDGE OF PAVEMENT FLOOR DRAIN FINISH FLOOR ELEVATION YARD DRAIN FLAG POLE ROOF DRAIN

DEVELOPER/OWNER DEVILLE DEVELOPMENTS 3951 CONVEINENCE CIR. SUITE 301 CANTON, OHIO 44718

CALL 1-800-362-2764 (TOLL FRE OHIO UTILITIES PROTECTION SERVICE

CALL 1-800-925-0988 (TOLL FREE) OIL @ GAS PRODUCERS UNDERGROUND

FAX. (330)564-9101 administrator@mccayassociates.net

UNDERGROUND UTILITIES

TWO WORKING DAYS BEFORE YOU DIG

MUST BE CALLED DIRECTLY

TWO WORKING DAYS BEFORE YOU DIG

PROTECTION SERVICE

UTILITY PLAN . . . . . . . . . . . . . . . . 3 GRADING PLAN . . . . . . . . . 4

PROFILES . . . . . . . . . . . . 5 GENERAL NOTES AND DETAILS. . . . . 6 EASEMENT PLAT\* • • • • • • • • 9

INDEX OF SHEETS:

**APPROVALS** 

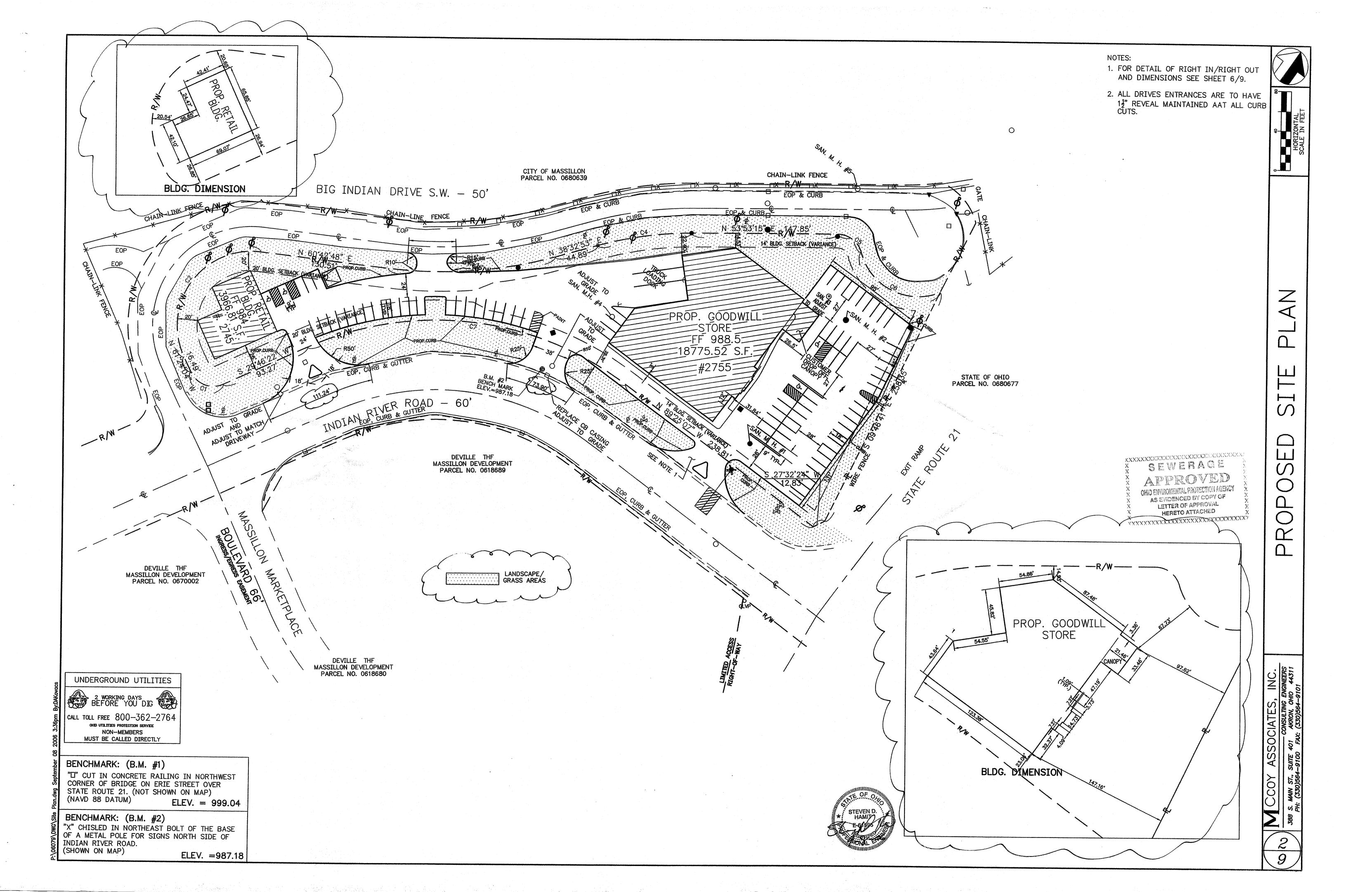
DIRECTOR OF PUBLIC SAFETY AND SERVICE MIKE LOUDIANA

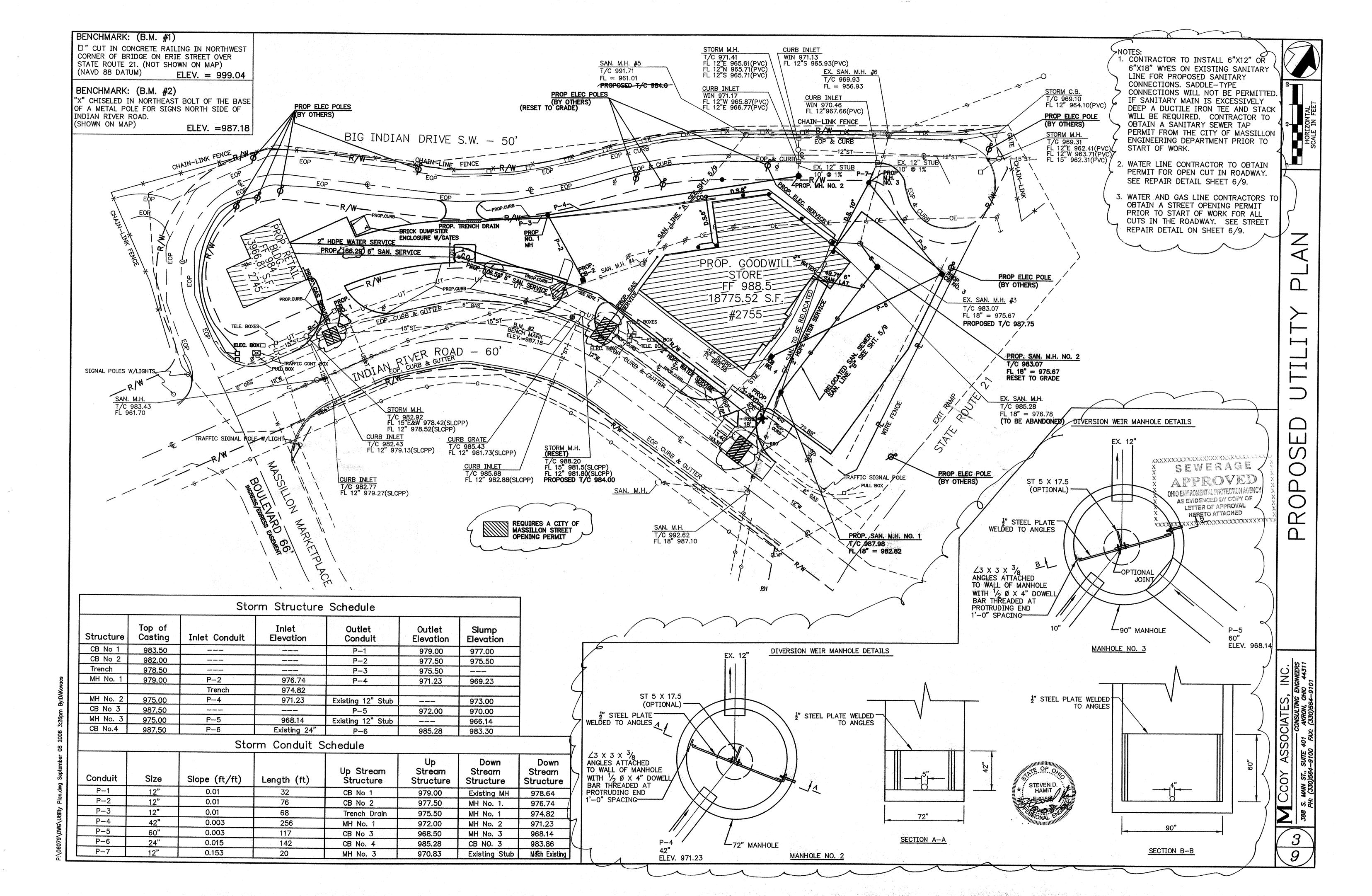
CITY ENGINEER KEITH A. DYLEWSKI, P.E.

# APPROVAL IS FOR SAHITARY SEWER

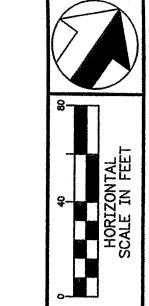
PLAN PREPARED BY:

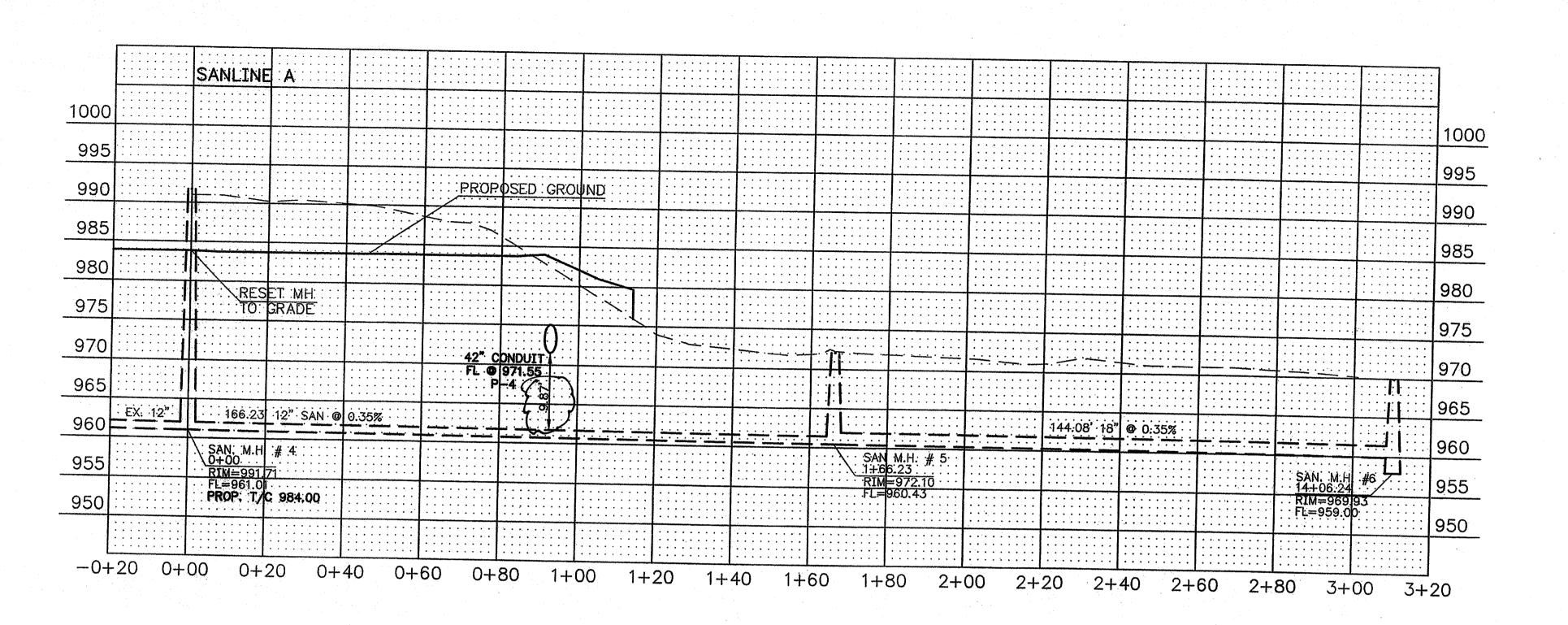
PH: (330)564-9100

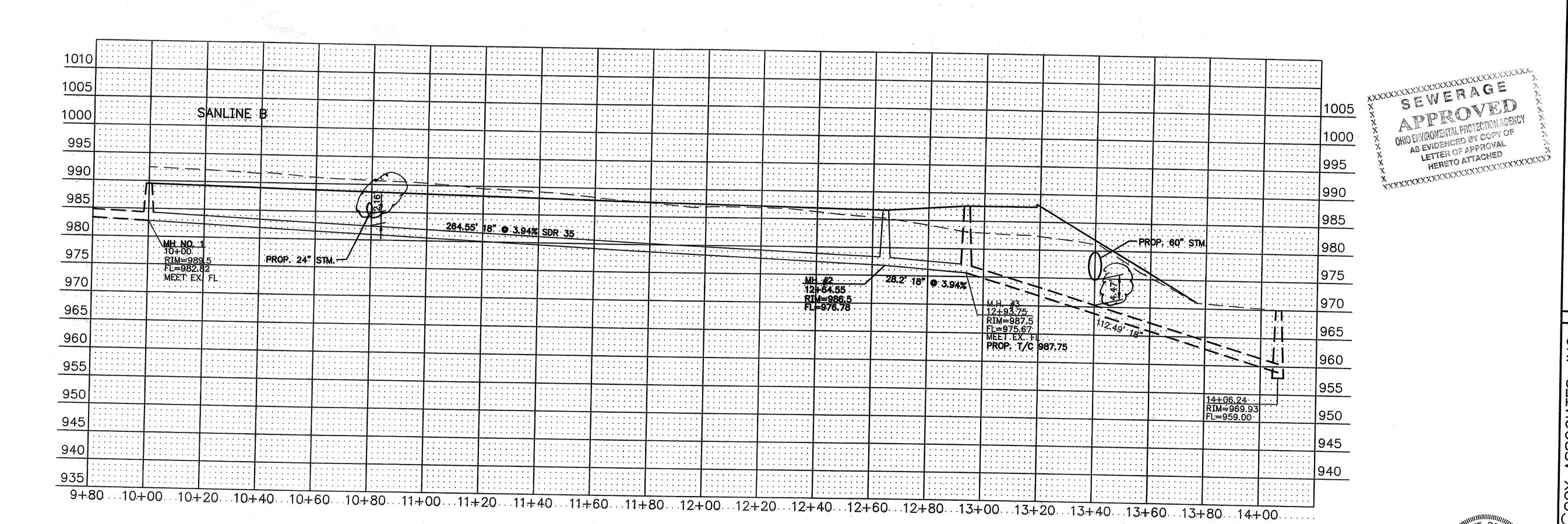


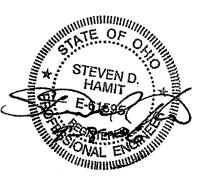












079\DWG\Utility Profile.dwg September 08 2006 1:41pm By:DAKovacs

## GENERAL NOTES

- 1. THE CONTRACTOR MUST OBTAIN A ROADWAY PERMIT FROM THE CITY OF MASSILLON PRIOR TO WORKING WITHIN THE RIGHT OF WAY.
- 2. DRIVEWAYS MUST BE INSTALLED BY A LICENSED CONTRACTOR WITHIN THE CITY OF MASSILLON ENGINEERING DEPARTMENT AND A PERMIT SHALL BE OBTAINED PRIOR TO COMMENCING WORK.

  3. SANITARY SEWER WORK MUST BE INSTALLED BY A LICENSED CONTRACTOR WITHIN THE CITY OF MASSILLON ENGINEERING AND A PERMIT MUST BE OBTAINED PRIOR TO COMMENCING WORK.

#### UTILITIES

LISTED BELOW ARE ALL KNOWN UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

50 W.BOWERY, 4TH FLOOR **AKRON, OH 44308** 800-384-8057

1900 W. MARKET BLDG. 1 AKRON, OH. 44313 800-384-4839

CITY OF MASSILLON MASSILLON CABLE TV P.O. BOX 1000 SANITARY SEWER MASSILLON, OH 44648 151 LINCOLN WAY EAST (330) 833-4134 MASSILLON, OH 44646 (330) 830-1722

GREAT LAKES P.O. BOX 550 AT&T COMMUNICATIONS THE EAST OHIO GAS COMPANY 2535 E. 40TH AVE. 4725 SOUTHWAY ST. S.W. HARTVILLE, OH. 44632 DENVER, CO 80205-3601 CANTON, OH 44706 (330) 877-6747 (800) 852-3786

870 3RD STREET

(330) 832-5764

MASSILLON, OH 44647

NORTHEAST OHIO NATURAL GAS CORP. 9081 S.R. 250 STRASBURG, OH 44680-9766 (330) 878-5589

THE CONTRACTOR SHALL NOTIFY ALL UTILITIES 48 HOURS PRIOR TO WORK.

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE SHOWN AT APPROXIMATE LOCATIONS AND WHERE OBTAINED AS REQUIRED FROM THE OWNERS AS REQUIRED BT SECTION 153.64 O.R.C.

OUPS - 1-800-362-2764 OGPUPS - 1-800-925-0988

#### DATUM ELEVATION

ALL BENCHMARKS ARE BASED ON REFERENCE BENCHMARKS PROVIDED BY THE CITY OF MASSILLON

#### ITEM 659, TOPSOIL, SEEDING AND MULCHING

SEEDING AND MULCHING SHALL BE APPLIED TO ALL EXPOSED SOIL AREA DISTURBED DURING CONSTRUCTION.

THE OWNER SHALL APPROVE SEED MIX PRIOR TO CONSTRUCTION TO BE USED THROUGH OUT CONSTRUCTION LIMITS. PROPOSED MIX SHALL BE SUBMITTED IN WRITING PRIOR TO ANY CONSTRUCTION

#### ITEM 659, SEEDING AND MULCHING LUMP SUM BID

#### EROSION CONTROL

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL AND SHALL MEET THE REQUIREMENTS OF THE BEST MANAGEMENT PRACTICES OF OHIO DEPARTMENT OF NATURAL RESOURCES. TO THE SATISFACTION OF THE CITY OF MASSILLON.

#### CROSSING OR CONNECTING TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLANS, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

## REMOVAL AND RELOCATION OF EXISTING UTILITIES

ALL UTILITY CONFLICTS WHERE THE REMOVAL AND RELOCATION OF AN EXISTING UTILITY DUE TO THE PROPOSED WORK SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 202 REMOVAL AND RELOCATION OF EXISTING UTILITIES.

## ITEM 408. BITUMINOUS PRIME COAT

THE RATE OF APPLICATION OF THE 408 PRIME COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. QUANTITIES INDICATE AN AVERAGE

APPLICATION RATE OF 0.40 GALLONS PER SQUARE YARD OF PRIME COAT FOR ESTIMATING PURPOSES ONLY.

## ESTIMATING PURPOSES ONLY.

**EXISTING DATA** 

EACH CONTRACTOR SHALL VISIT THE SITE PERSONALLY TO ASCERTAIN THE NATURE OF THE WORK AND BECOME THOROUGHLY FAMILIARIZED WITH THE SITE PRIOR TO BID SUBMISSION.

EXISTING STRUCTURES, GRADES, PIPING, ETC. ARE INDICATED IN APPROXIMATE LOCATION ON THE PLAN. INFORMATION SHOWN IS NOT GUARANTEED TO BE CORRECT AND COMPLETE. THE DATA SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR. THE EXISTENCE OF FACILITIES ABOVE OR BELOW GROUND, WHICH MAY NOT BE SHOWN, WILL NOT BE A BASIS FOR A CLAIM FOR EXTRA WORK.

EXISTING UNDERGROUND UTILITIES SHOWN ARE RECORDS PROVIDED BY UTILITY COMPANIES AND ARE APPROXIMATE ONLY. SERVICE LATERALS ARE NOT SHOWN. IT IS THE RESPONSIBILITY OF CONTRACTOR TO NOTIFY THE CITY, PRIOR TO BID OPENING NON-CONNFORMING OR CONFLICTING INFORMATION.

# CONSTRUCTION SPECIFICATIONS & STANDARDS

ALL CONSTRUCTION TO BE CITY OF MASSILLON SPECIFICATIONS AND STANDARDS, THE LATEST EDITION OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION. CONSTRUCTION AND MATERIAL SPECIFICATIONS AND FOLLOW ALL OSHA AND ADA REGULATIONS AND REQUIREMENTS

ALL DRIVEWAYS ARE TO HAVE A 12" CURB CUT AT STREET EDGE. SEE SECTION A-A "CITY OF MASSILLON DRIVEWAY APPROACH DETAILS" ADJACENT.

#### CONTRACTOR AVAILABILITY

THE CONTRACTOR SHALL SUPPLY THE ENGINEER WITH A 24 HOUR PHONE NUMBER WHERE THE CONTRACTOR SHALL BE AVAILABLE FOR EMERGENCIES.

#### PRESERVATION OF PRIVATE PROPERTY

THE CONTRACTOR SHALL PERFORM WORK AS TO NOT DISTURB, DAMAGE OR DESTROY ANY TELEPHONE OR POWER POLES, SIGNS, LANDSCAPING ITEMS, ETC.. ANY ITEM DAMAGED OR DESTROYED SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE ANY ITEM DISTURBED OR IN CONFLICT WITH THE WORK TO BE PERFORMED SHALL BE REMOVED AND RESET AT THE CONTRACTOR'S EXPENSE. PRIOR ENGINEER APPROVAL IS REQUIRED BEFORE ANY OF THE ABOVE ITEMS ARE PERFORMED.

#### PRESERVATION OF PROPERTY CORNERS AND SURVEY MARKERS

THE CONTRACTOR SHALL PRESERVE ALL CORNERSTONES, IRON PINS, CONCRETE MONUMENTS ANY TYPE OF LAND MONUMENT. HE SHALL HAVE ALL LAND MONUMENTS IN THE PROXIMITY OF THE WORK REFERENCED. HE SHALL REPLACE DESTROYED OR DAMAGED MONUMENTS AND SHALL FURNISH A CERTIFICATION BY AN OHIO REGISTERED SURVEYOR THAT THE MONUMENTS HAVE BEEN RESTORED.

#### MAINTENANCE OF TRAFFIC

THE CONTRACTOR SHALL SUPPLY A MAINTENANCE OF TRAFFIC PLAN TO THE CITY ENGINEER.

MAINTENANCE OF TRAFFIC PLAN MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO ANY CONSTRUCTION COMMENCING.

#### PRESERVATION OF EXISTING UTILITY SERVICES

ANY EXISTING WATER LINE, SANITARY SEWER, STORM SEWER, GAS LINE OR OTHER UTILITY IN OR OUTSIDE OF THE CONSTRUCTION LIMITS, DAMAGED DURING CONSTRUCTION OF THE PROPOSED PROJECT, WILL BE REPLACED AT THAT CONTRACTORS EXPENSE.

#### ITEM 623. CONSTRUCTION STAKING

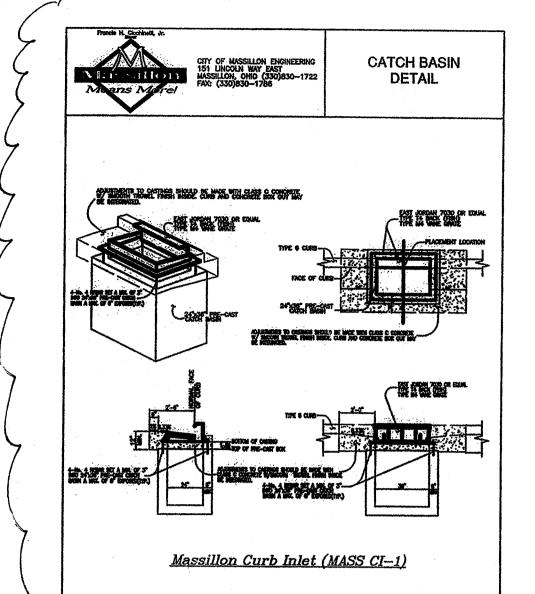
CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION LAYOUT AND UPON COMPLETION OF PROJECT AS-BUILT DRAWING ARE REQUIRED.

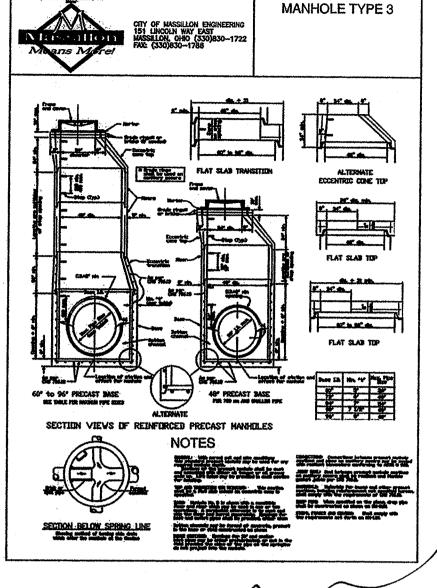
THIS WORK IS TO BE UNDER ITEM 623 CONSTRUCTION STAKING.

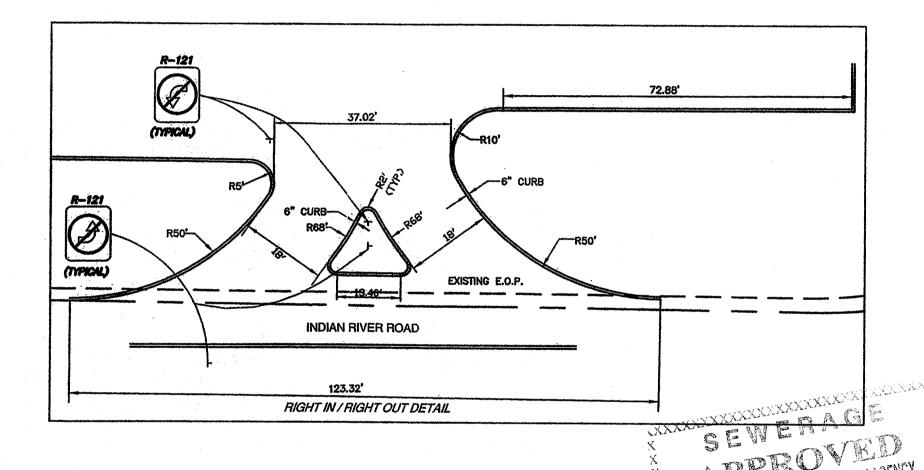
#### SUBSURFACE CONDITIONS

IT IS THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO MAKES HIS OWN INVESTIGATION OF SUBSURFACE CONDITIONS PRIOR TO SUBMITTING HIS BID. PROSPECTIVE BIDDERS ARE TO COORDINATE WITH THE OWNER FOR ACCESS TO THE SITE FOR INSPECTIONS AND EXPLORATORY EXCAVATION. THE BIDDER SHALL CONTACT THE OWNER AT LEAST 72 HOURS IN ADVANCE OF THE DESIRED INSPECT OR EXCAVATION THE BIDDER SHALL CONTACT O.U.P.S. AND OBTAIN LOCATIONS OF OTHER UTILITIES.

QUANTITIES ARE INDICATED FOR COMPARISON OF BIDS ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY QUANTITIES BEFORE ORDERING MATERIALS. VARIATIONS FROM THE PLAN QUANTITIES SHALL BE APPROVED BY THE ENGINEER OR OWNER BEFORE MATERIALS. ORDERS ARE PLACE. MATERIALS REJECTED DUE TO INCOMPATIBILITY BETWEEN ORDERED QUANTITIES AND FIELD CONDITIONS SHALL BE REPLACE AT THE CONTRACTOR'S EXPENSE.

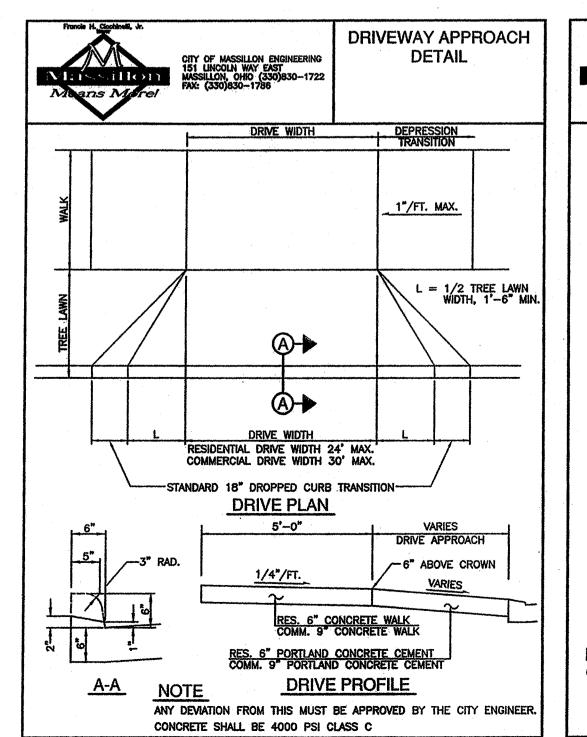


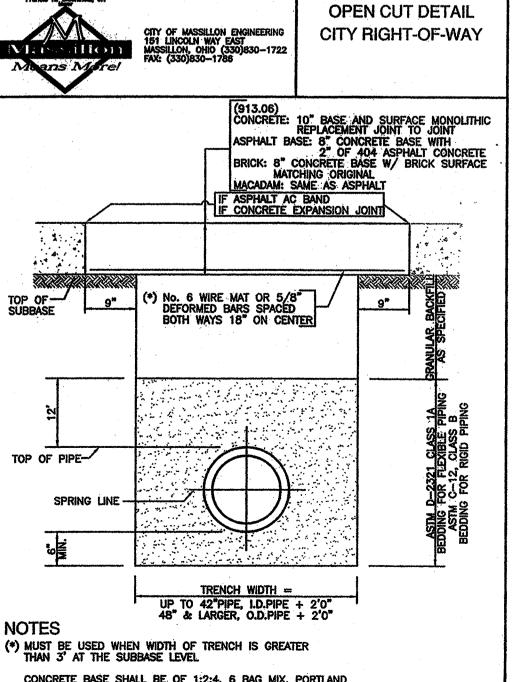


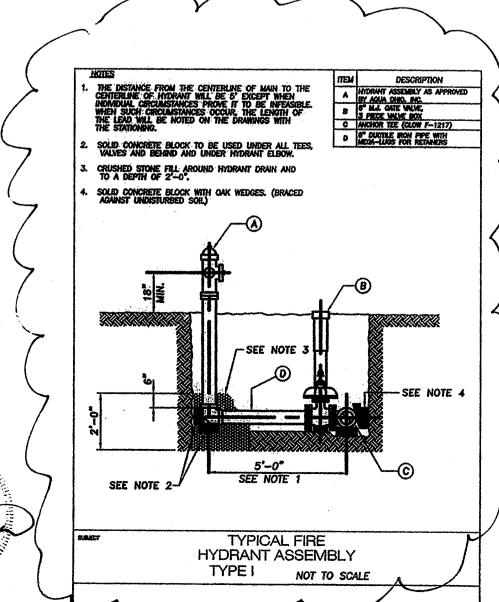


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STEVEN D







AS EVIDENCED BY COPY OF

LETTER OF APPROVAL

HERETO ATTACHED

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#### SANITARY SEWER SPECIFICATIONS

SANITARY SEWER CONSTRUCTION CONTEMPLATED FOR THIS PROJECT SHALL CONFORM TO THE LATEST CITY OF MASSILLON STANDARD CONSTRUCTION AND MATERIALS SPECIFICATIONS OR AS MODIFIED BY THE CONTRACT DRAWINGS. THE PROJECT CONTRACT DRAWINGS SHALL GOVERN.

SANITARY GRAVITY SEWER PIPE AND FITTINGS SHALL BE PVC SDR 26 CONFORMING TO ASTM D-3034. PVC COMPOUNDS SHALL CONFORM TO ASTM D-1784 PVC PIPE AND FITTINGS SHALL HAVE BELL AND SPIGOT TYPE JOINTS CONFORMING TO ASTM D-3212 AND GASKETS CONFORMING TO ASTM F-477

FORCE MAIN PIPE SHALL BE DUCTILE IRON PIPE WITH INTERIOR AND EXTERIOR BITUMINOUS COATING MEETING THE REQUIREMENTS OF ANSI/AWWA C-151/21.51

FORCE MAIN FITTINGS SHALL BE STANDARD MECHANICAL JOINT CONFORMING TO ANSI/AWWA C153/A21.53 EACH FITTING AND PIPE JOINT SHALL BE RESTRAINED USING A DUCTILE IRON RETAINER GLAND OF SUITABLE SIZE AND CONFIGURATION AS MANUFACTURED BY EBBA IRON WORKS (MEGALUG) OR EQUAL. EACH RETAINER GLAND SHALL MEET THE REQUIREMENTS OF ANSI/AWWA C111/A21.11

FOR MAIN PIPING AND FITTINGS LOCATED IN VAULTS SHALL BE DUCTILE IRON PIPE MEETING THE REQUIREMENTS OF ANSI/AWWA C151/A21.51. FITTINGS SHALL BE FLANGED (GASKETED) MEETING THE REQUIREMENTS OF ANSE/AWWA C115/A21.51. BOLT CIRCLES SHALL MEET THE REQUIREMENTS OF ANSI BB16.1 (CLASS 125) STAINLESS STEEL NUTS AND BOLTS SHALL BE USED TO JOIN FLANGES.

ALL METAL FASTENERS, CLAMPS, AND MISCELLANEOUS HARDWARE USED IN THE WET WELL AND VAULTS SHALL BE STAINLESS STEEL

BACKFILL IN SEWER TRENCHES SHALL BE PLACED IN LAYERS SUFFICIENT TO MEET THE COMPACTION REQUIREMENT OF 100% OF MAXIMUM LABORATORY DRY DENSITY PER ASTM D-698 AND THOROUGHLY COMPACTED WITH MACHINE MOUNDED COMPACTION EQUIPMENT. THE PLACING OF BACKFILL MATERIAL SHALL BE CONTINUED UNTIL THE TRENCH IS ENTIRELY FILLED AND COMPACTED TO THE GRADE CALLED FOR ON THE CONTRACT DRAWINGS. EXCAVATED MATERIAL CONFORMING TO ODOT 203 SHALL BE USED FOR BACKFILLING EXISTING STRUCTURES (AFTER REMOVAL) ONLY. CRUSHED GRAVEL CONFORMING TO GRADATION REQUIREMENTS OF ODOT ITEM 304 AS SHOWN IN ODOT TABLE 703-1 SHALL BE SUED FOR BACKFILLING ALL SEWER TRENCHES, AREAS SHOWN ON THE PLANS AND AS DIRECTED BY THE OWNER FLOODING, JETTING, OR PUDDLING OF BACKFILL MATERIAL WILL NOT BE PERMITTED. COMPACTION TESTING OF THE BACKFILL BY A GEOTECHNICAL ENGINEER MAY BE REQUIRED BY THE OWNER.

SANITARY SEWERS SHALL BE AIR TESTED FOR LEAKAGE AND MANDREL TESTED FOR DEFLECTION. THE MAXIMUM ALLOWABLE PIPE DEFLECTION SHALL BE 5%.

PRIOR TO FINAL PAYMENT FOR AND ACCEPTANCE OF SEWER INSTALLATION THE RESULTS OF THE AIR PRESSURE TESTS AND MANDREL TESTS SHALL BE FORWARDED TO THE ENGINEER OR OWNER.

#### AIR TESTING AS PER ASTM F1417

AIR TESTING WILL BE CONDUCTED AS THE PROJECT IS BEING INSTALLED. AT NO TIME WILL MORE THAN 900 FEET OF PIPE BE INSTALLED BEFORE AIR TESTING IS PERFORMED. SEWAGE WILL NOT BE DIVERTED TO ANY SECTION OF PIPE, REGARDLESS OF LENGTH, UNTIL ALL TESTING IS COMPLETED AND ACCEPTED.

AFTER BACKFILLING A MANHOLE TO MANHOLE REACH OF SANITARY SEWER LINE, THE CONTRACTOR SHALL, AT HIS EXPENSE, CONDUCT THE LINE ACCEPTANCE TESTS. THE TESTS SHALL BE PERFORMED ACCORDING TO THE STATED PROCEDURES AND UNDER THE SUPERVISION OF THE OWNER AND/OR ENGINEER.

EQUIPMENT USED SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS AND BE APPROVED BY THE ENGINEER:

- 1. PNEUMATIC PLUGS SHALL HAVE A SEALING LENGTH EQUAL TO OR A GREATER THAN THE DIAMETER OF THE PIPE BEING INSPECTED.
- 2. PNEUMATIC PLUGS SHALL RESIST INTERNAL TEST PRESSURES WITHOUT REQUIRED EXTERNAL BRACING OR BLOCKING.
- 3. ALL AIR USED SHALL PASS THROUGH A SINGLE CONTROL PANEL.
- 4. THREE INDIVIDUAL HOSES SHALL BE USED FOR THE FOLLOWING CONNECTIONS:
  - a. FROM CONTROL PANEL TO PNEUMATIC PLUGS FOR INFLATION
  - b. FROM CONTROL PANEL TO SEALED LINE FOR INTRODUCING THE LOW PRESSURE AIR
  - c. FROM SEALED LINE TO CONTROL PANEL FOR CONTINUALLY MONITORING AIR PRESSURE RISE IN THE SEALED LINE

TEST EQUIPMENT TESTING PROCEDURES SHALL BE AS FOLLOWS:

ALL PNEUMATIC PLUGS SHALL BE SEAL TESTED BEFORE BEING USED IN THE ACTUAL TEST INSTALLATION. ONE LENGTH OF PIPE SHALL BE LAID ON THE GROUND AN SEALED AT BOTH ENDS WITH THE PNEUMATIC PLUGS TO BE CHECKED. THE SEALED PIPE SHALL BE PRESSURED TO 5 PSIG. THE PLUGS MUST HOLD AGAINST THIS PRESSURE WITHOUT HAVING TO BE BRACED.

AFTER A MANHOLE TO MANHOLE REACH OF PIPE HAS BEEN BACKFILLED AND CLEANED, AND THE PNEUMATIC PLUGS ARE CHECKED BY THE ABOVE PROCEDURE, THE PLUGS SHALL BE PLACED IN THE LINE AT EACH MANHOLE. LOW PRESSURE AIR SHALL BE SLOWLY INTRODUCED INTO THIS SEALED LINE UNTIL THE INTERNAL AIR PRESSURE REACHES APPROXIMATELY 4 PSIG.

AT LEAST TWO MINUTES SHALL BE ALLOWED FOR THE AIR PRESSURE TO STABILIZE. WHEN THE PRESSURE HAS STABILIZED AND IS AT OR ABOVE 3.5 PSIG, THE AIR HOSE FROM THE CONTROL PANEL TO THE AIR SUPPLY SHALL BE DISCONNECTED. THE PORTION OF THE LINE BEING TESTED SHALL BE TERMED "ACCEPTABLE" IF THE TIME REQUIRED IN MINUTES FOR THE PRESSURE TO DECREASE FROM 3.5 TO 2.5 PSIG (GREATER THEN THE AVERAGE BACK PRESSURE OF ANY GROUNDWATER THAT MAY BE OVER THE PIPE) SHALL NOT BE LESS THAN THE TIME SHOWN FOR THE GIVEN DIAMETERS IN THE FOLLOWING TABLE:

| PIPE | DIAMETER TIME FOR LONG | 1         | OR TIME FOR | SPECIFICATION TIME LENGTH (L) SHOWN, MINUTES |         |         |         |         |         |         |        |
|------|------------------------|-----------|-------------|--|---------|---------|---------|---------|---------|---------|--------|
|      |                        | LENGTH, S | 100 FT.     | 150 FT.                                      | 200 FT. | 250 FT. | 300 FT. | 350 FT. | 400 FT. | 450 FT. |        |
| 4    | 3:46                   | 597       | 0.380 L     | 3:46   | 3:46    | 3:46    | 3:46    | 3:46    | 3:46    | 3:46    | 3:46   |
| 6    | 5:40                   | 398       | 0.854 L     | 5:40   | 5:40    | 5:40    | 5:40    | 5:40    | 5:40    | 5:42    | 6:24   |
| 8    | 7:34                   | 298       | 1.520 L     | 7:34   | 7:34    | 7:34    | 7:36    | 7:36    | 8:52    | 10:08   | 11:24  |
| 10   | 9:26                   | 239       | 2.374 L     | 9:26   | 9:26    | 9:26    | 9:53    | 11:52   | 13:51   | 15:49   | 17:48  |
| 12   | 11:20                  | 198       | 3.416 L     | 11:20  | 11:20   | 11:24   | 14:15   | 17:05   | 19:56   | 22:47   | 25:38  |
| 15   | 14:10                  | 159       | 6.342 L     | 14:10  | 14:10   | 17:46   | 22:15   | 26:42   | 31:09   | 35:36   | 40:04  |
| 18   | 17:0                   | 133       | 7.692 L     | 17:00  | 19:13   | 25:38   | 32:09   | 38:27   | 44:52   | 51:16   | 57:41  |
| 21   | 19:50                  | 114       | 10.470 L    | 19:50  | 26:10   | 36:54   | 43:37   | 52:21   | 81:00   | 69:48   | 78:31  |
| 24   | 22:40                  | 99        | 13.674 L    | 22:47  | 34:11   | 45:34   | 56:58   | 68:22   | 79:46   | 91:10   | 102:33 |
| 27   | 25:30                  | 88        | 17.306 L    | 28:51  | 43:16   | 57:41   | 72:07   | 86:32   | 100:57  | 115:22  | 129:48 |
| 30   | 28:20                  | 80        | 21.366 L    | 35:37  | 53:25   | 71:13   | 89:02   | 106:50  | 124:38  | 142:26  | 160:15 |
| 33   | 31:10                  | 72        | 25.852 L    | 49:05  | 64:38   | 86:10   | 107:43  | 129:16  | 150:43  | 172:21  | 193:53 |
| 36   | 34:00                  | 66        | 30.768 L    | 51:17  | 76:55   | 102:34  | 128:12  | 153:50  | 170:29  | 205:07  | 230:46 |

IN AREAS WHERE GROUND WATER IS KNOWN TO EXIST, THE CONTRACTOR SHALL INSTALL A 1/2 INCH DIAMETER CAPPED PIPE NIPPLE APPROXIMATELY 10 INCHES LONG, THROUGH THE MANHOLE WALL ON TOP OF ONE OF THE SANITARY SEWER LINES ENTERING THE MANHOLE. THIS SHALL BE DONE AT THE TIME THE SANITARY SEWER LINE IS INSTALLED. IMMEDIATELY PRIOR TO THE PERFORMANCE OF THE LINE ACCEPTABILITY TEST, THE GROUND WATER SHALL BE DETERMINED BY REMOVING THE PIPE CAP, BLOWING AIR THROUGH THE PIPE NIPPLE IN THE GROUND SO AS TO CLEAR IT, AND THEN CONNECTING A CLEAR PLASTIC TUBE TO THE NIPPLE. THE PLASTIC TUB SHALL BE VERTICAL AND A MEASUREMENT OF THE HEIGHT, IN FEET OF WATER OVER THE INVERT OF THE PIPE, SHALL BE TAKEN AFTER THE WATER HAS STOPPED RISING IN THIS PLASTIC TUBE. AIR TEST PRESSURE IS TO BE INCREASED BY 0.433 PSI FOR EACH FOOT THE GROUND WATER IS ABOVE THE INVERT OF THE SEWER LINE BEING TESTED. THE ALLOWABLE DROP OF ONE POUND AND THE TIMING OF THE TEST REMAIN THE SAME.

IF A LINE ACCEPTABILITY TEST IS BEING CONDUCTED ON MORE THAN ONE MANHOLE REACH OF PIPE, THE ENTIRE SECTION BEING TESTED SHALL MEET THE LINE ACCEPTABILITY REQUIREMENTS AS IF ONLY ON E (1) OF THE MANHOLE REACHES IN THE SECTION WERE BEING TESTED.

#### DEFLECTION TESTING

MAXIMUM ALLOWABLE PIPE DEFLECTION (REDUCTION IN VERTICAL INSIDE DIAMETER) SHALL BE 5%. DEFLECTION TESTS OF PIPE SHALL BE PERFORMED NOT SOONER THAN 30 DAYS AFTER THE BACKFILL HAS BEEN PLACED AN BEFORE FINAL ACCEPTANCE. LOCATIONS WITH EXCESS DEFLECTION SHALL BE EXCAVATED AND REPAIRED BY RE-BEDDING OR REPLACEMENT OF THE PIPE. DEVICES FOR TESTING INCLUDE A DEFLECTOMETER METER, OR A PROPERLY SIZED "60, NO-GO" MANDREL OR SEWER BALL. THE DEFLECTION TESTING MUST BE CONDUCTED WITHOUT MECHANICAL PULLING DEVICES .. FOR THE PURPOSE OF DEFLECTION MEASUREMENTS, THE BASE INSIDE PIPE DIAMETERS WITHOUT DEFLECTION ARE PROVIDED IN TABLE A. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE APPLIED TO THESE BASE INSIDE DIAMETER IN DETERMINING THE MINIMUM PERMISSIBLE DIAMETER. IT MUST BE EMPHASIZED THAT TO INSURE ACCURATE TESTING, THE LINES MUST BE THOROUGHLY CLEANED.

INSIDE DIAMETERS FOR DEFLECTION MEASUREMENTS OF ASTM D 3034 SDR 26 / SDR 21 PVC SEWER PIPE

| SIZE | DR | AVG. O.D. | t     | 1.06t or t' | AVG. I.D. | TOLERANCE | BASE I.D. | DEFLECTION MANDREL |
|------|----|-----------|-------|-------------|-----------|-----------|-----------|--------------------|
| 6"   | 26 | 6.275     | 0.241 | 0.255       | 5.764     | 0.102     | 5.662     | 5.38               |
| 8"   | 26 | 8.400     | 0.323 | 0.342       | 7.715     | 0.127     | 7.588     | 7.21               |
| 10"  | 26 | 10.500    | 0.404 | 0.428       | 9.644     | 0.153     | 9.491     | 9.02               |
|      |    |           |       |             |           |           |           |                    |

#### INFILTRATION AND EXFILTRATION TESTING OF MANHOLES

INFILTRATION OR EXFILTRATION OF MANHOLES SHALL NOT EXCEED 200 GALLONS PER DAY. ALL CASTINGS HAVING CONTACT WITH SEWAGE OR DRAINING INTO THE SANITARY SEWER SHALL BE TESTED AND SHALL COMPLY WITH THE ABOVE STATED LIMIT. THE FOLLOWING PROCEDURE SHALL BE FOLLOWED:

- A. TESTS MUST BE COMPLETED AND ACCEPTED BEFORE A MANHOLE OR WET WELL IS OPENED FOR EXPOSURE TO THE SEWAGE SYSTEM
- B. ALL LINES ENTERING AND LEAVING THE CASTING SHALL BE PLUGGED WITH PNEUMATIC PLUGS
- C. THE CASTING SHALL BE FILLED WITH WATER TO A DEPTH OF 3 FEET ABOVE THE CROWN OF THE HIGHEST PIPE THROUGH THE WALL OF THE CASTING, OR 3 FEET ABOVE THE WATER TABLE, WHICH EVER IS HIGHER. ALLOW THE WATER TO STAND FOR 1 HOUR TO ALLOW FOR ABSORPTION INTO THE CASTING MATERIAL. REFILL TO THE 3 FOOT LEVEL AND ALLOW TO STAND FOR 2 HOURS. IF THE WATER LEVEL DROPS LESS THAN THE AMOUNT SHOWN IN TABLE B. THE MANHOLE SHALL BE DEEMED TO HAVE PASSED THE INFILTRATION/EXFILTRATION TEST.

| (VALUES IN INCHES) |                         |  |  |  |
|--------------------|-------------------------|--|--|--|
| INSIDE DIAMETER    | ALLOWABLE DROP IN LEVEL |  |  |  |
| 48                 | 1.0                     |  |  |  |
| 60                 | 1.5                     |  |  |  |
| 72                 | 2.0                     |  |  |  |

#### INTERNAL TELEVISION INSPECTION

ALL SANITARY SEWERS 8" DIAMETER AND GREATER, MUST PASS INTERNAL TELEVISION INSPECTION. THE CONTRACTOR SHALL PROVIDE COMPLETE INTERNAL INSPECTION VIDEO TAPE TO THE CITY OF MASSILLON ENGINEERING DEPARTMENT. THE VIDEO TAPING PROCEDURE MUST BE IN ACCORDANCE WITH SPECIFICATION SECTION <u>02743</u>.

## ITEM 603 6" TYPE B CONDUIT(LATERALS)

THE CONTRACTOR SHALL CONTACT EACH HOME OWNER SEPARATELY WITH A CITY REPRESENTATIVE PRESENT TO DETERMINE THE BEST PLACEMENT OF THE NEW SANITARY SEWER LATERAL.

THE CONTRACTOR SHALL LOCATE EXISTING LATERAL FOR RESIDENTS AT ADDRESSES AS FOLLOWS 505, 510,511, AND 516. THE CONTRACTOR SHALL REMOVE THE EXISTING LATERALS FROM THE RIGHT OF WAY TO THE MANHOLE. THE CONTRACTOR SHALL RECONNECT THE LATERALS AS DIRECTED BY THE CITY ENGINEER.

## REVIEW OF SANITARY AND DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY OF MASSILLON AND THE CONTRACTOR, ALONG WITH 

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE CITY OF MASSILLON.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARE COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

## WORKING AREA

NO EXCAVATION WITH SIDE SLOPES STEEPER THAN 2:1 AND/OR DEEPER THAN 2', OPEN CASTINGS AND PIPES SHALL BE LEFT EXPOSED WHEN THE SITE IS UNATTENDED BY THE CONTRACTOR. THE CONTRACTOR SHALL SECURE ALL SUCH EXCAVATIONS, OPEN CASTINGS AND PIPES AGAINST UNAUTHORIZED ENTRY COVERING WITH STEEL PLATES, TEMPORARY BACKFILLING, FENCING AND SECURITY SERVICES SHALL BE INCLUDED IN THE PRICE BID FOR THE WORK.

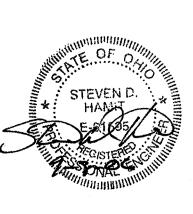
# FINAL APPROVAL

A VIDEO TAPE WILL BE MADE BY THE CONTRACTOR AND SUBMITTED TO THE CITY PRIOR TO THE PROJECT COMMENCING. AFTER THE FINAL INVOICE RECEIVED THE SITE WILL BE VIDEO TAPED AGAIN BY THE CONTRACTOR, ANY DISCREPANCIES WILL BE RESOLVED PRIOR TO FINAL PAYMENT.

COST OF THIS WORK SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

## PROHIBITING CLEAN WATER CONNECTION

ROOF DRAINS. FOUNDATION DRAINS AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED.



AS EVIDENCED BY COPY OF

LETTER OF APPROVAL

HERETO ATTACHED

PREVENTION 8 POLLI WA TORM

