# CITY OF MASSILLON

## CITY ENGINEER DEPARTMENT

### STARK COUNTY, OHIO

### WEST WARMINGTON WEST BANK TRUNK

## PROJECT DESCRIPTION

CONSTRUCTION OF A SANITARY SEWER TRUNK ALONG THE WEST SIDE OF THE TUSCAWARAS RIVER

## CONVENTIONAL SIGNS

RIGHT OF WAY • • EXISTING: ———— , PROPOSED: ————
COUNTY LINE • • •
TOWNSHIP LINE • •
CORPORATION LINE
FENCE LINE • • • EXISTING: , PROPOSED:
GUARDRAIL • • • EXISTING: , PROPOSED:
MANHOLES • • • • EXISTING: ○ , PROPOSED: , REHABILITATED:
CATCH BASINS • • EXISTING: , PROPOSED: , REHABILITATED:
SIGNS • • • • • • 1-POST: , 2-POST: , 3-POST:
EXISTING POLES • • POWER: , TELEPHONE , LIGHT , SPAN
PROPOSED POLES • POWER: , TELEPHONE , LIGHT , SPAN
EXIST. UTILITIES • VALVE: , HYDRANT: , METERS: / , GUY:

## PERMIT TO INSTALL

SANITARY SEWER PERMIT TO INSTALL (P.T.I.) HAS BEEN RECEIVED FROM THE OHIO ENVIROMENTAL PROTECTION AGENCY THIS _____ DAY OF, _____, 20___.

PTI No. _____

**UNDERGROUND UTILITIES**

TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-925-0988 (TOLL FREE)
OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE

PLAN PREPARED BY:
CITY OF MASSILLON
Engineering Department

OWNER:
CITY OF MASSILLON
151 Lincoln Way East
Massillon, Ohio 44646

LOCATION MAP

PORTION TO BE IMPROVED _____
STREETS _____

Francis H. Cicchinelli, Jr.
Mayor

Massillon
Means More!

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## APPROVALS

DIRECTOR OF PUBLIC SAFETY AND SERVICE — ALAN W. CLIMER — DATE

STATE OF OHIO — STEVEN D. HAMIT — E-61355 — REGISTERED PROFESSIONAL ENGINEER

CITY ENGINEER — STEVEN D. HAMIT, P.E. — 10-18-04 DATE

## OFFICIALS

FRANCIS H. CICCHINELLI, Jr. • • • • • • • • • • • • • • • • • • MAYOR
ALAN W. CLIMER • • • • • DIRECTOR OF PUBLIC SAFETY AND SERVICE
STEVEN D. HAMIT, P.E. • • • • • • • • • • • • • • • CITY ENGINEER
JOE ULRICH • • • • • • • WASTE WATER TREATMENT PLANT MANAGER
PERICLES G. STERGIOS • • • • • • • • LAW DIRECTOR/PROSECUTOR
BILL H. HAMIT • • • • • • • • • • • • • • • • • • • • • AUDITOR
PAUL F. LAMBERT • • • • • • • • • • • • • • • • • • • TREASURER
MARYBETH BAILEY • • • • • • • • • • • • • • • CLERK OF COUNCIL

## COUNCIL

DENNIS HARWIG • • • • • • • • • • • • • • • • • • • • PRESIDENT
RONALD MANG • • • • • • • • • • • • • • • • • • • • 1st WARD
CHUCK MAIER • • • • • • • • • • • • • • • • • • • • 2nd WARD
KATERINE CATAZARO-PERRY • • • • • • • • • • • • • • 3rd WARD
GLORIA AUTREY • • • • • • • • • • • • • • • • • • • 4th WARD
GLENN E. GAMBER • • • • • • • • • • • • • • • • • • 5th WARD
TOM WEBER • • • • • • • • • • • • • • • • • • • • • 6th WARD

## COUNCIL AT LARGE

MIKE LOUDIANA
TIM BRYAN
PAUL MANSON

NW NE SW SE

HORIZONTAL SCALE IN FEET
800 400 0 800

| DRAWN BY: | CHECKED BY: |
|---|---|
| FPW | SDH |
| DATE: SEPT., 2004 | DATE: OCT., 2004 |

*West Warmington West Bank Trunk*
Title Sheet
City of Massillon
Stark County, Ohio

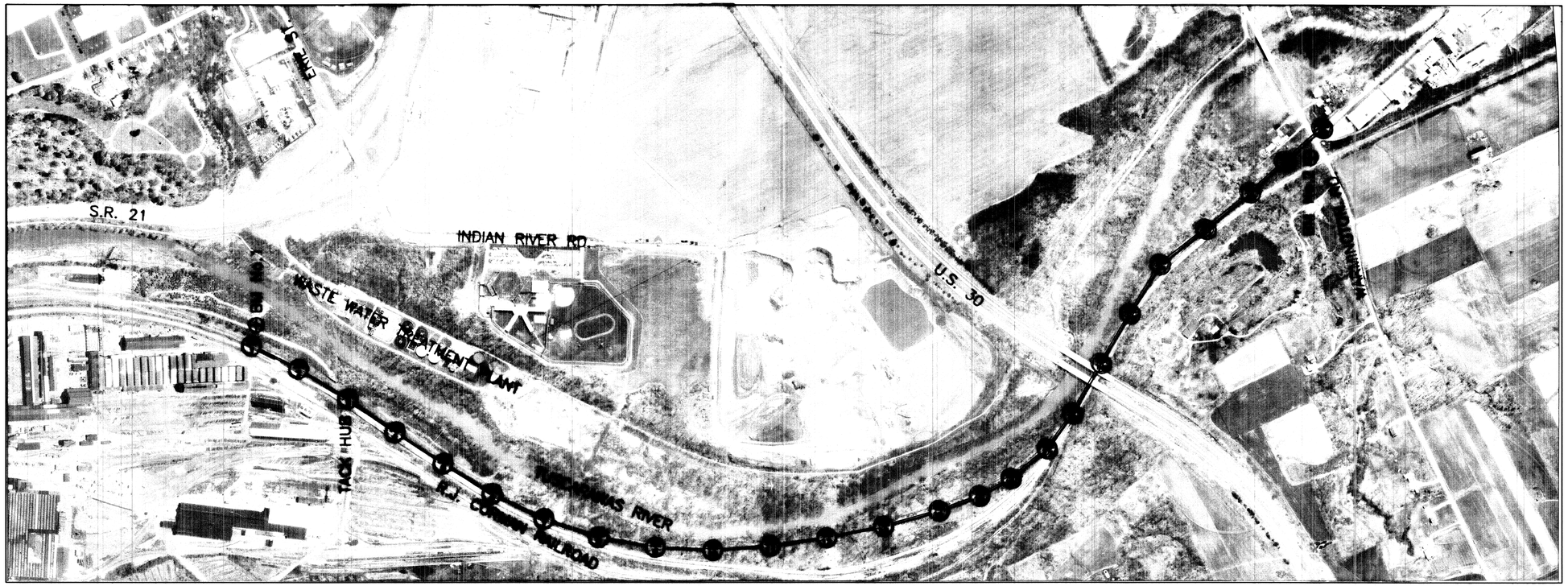
Francis H. Cicchinelli, Jr.
Mayor
Massillon
Means More!

REVISIONS:

| DATE | DESCRIPTION |
|---|---|
| | |

FILE NAME: 01SS0301.DWG

ACCOUNT NUMBER: 01SS03




**Bench Mark No. 1**
Sanitary Manhole Casting
Sta. 9+94±, 152'± Lt.
Elevation 935.95

**Bench Mark No. 2**
Railroal Spike in pole
Sta. 98+93±, 68'± Rt.
Elevation 936.82

## NOTE

PROPOSED MANHOLE LOCATIONS WERE SET WITH TACKED HUB IN THE FIELD AT THE TIME OF DESIGN. THE CONTRACTOR MAY USE SUCH HUBS BUT MUST VERIFY THEIR LOCATIONS.

### CONTROL DATA

| DESC. | ITEM | STATION | NORTH | EAST |
|---|---|---|---|---|
| | SM-1 | 10+00 | 404197.18 | 2238936.25 |
| | SM-2 | 13+63.59 | 403982.23 | 2238643.00 |
| tack hub | SM-3 | 17+63.59 | 403773.98 | 2238301.49 |
| | SM-4 | 21+63.59 | 403588.84 | 2237946.91 |
| | SM-5 | 25+63.59 | 403393.71 | 2237597.73 |
| | SM-6 | 29+63.59 | 403187.78 | 2237254.82 |
| | SM-7 | 33+63.59 | 402949.33 | 2236933.47 |
| | SM-8 | 37+63.59 | 402672.18 | 2236645.05 |
| | SM-9 | 41+63.59 | 402354.63 | 2236401.82 |
| | SM-10 | 45+63.59 | 402009.20 | 2236200.13 |
| | SM-11 | 49+63.59 | 401640.91 | 2236044.04 |
| | SM-12 | 53+63.59 | 401263.70 | 2235910.95 |
| | SM-13 | 57+63.74 | 400879.48 | 2235799.78 |
| | SM-14 | 61+63.74 | 400488.31 | 2235716.13 |
| | SM-15 | 64+63.74 | 400190.76 | 2235677.86 |
| | SM-16 | 67+13.74 | 399940.79 | 2235682.30 |
| | SM-17 | 70+38.74 | 399622.79 | 2235749.36 |
| | SM-18 | 73+38.74 | 399354.99 | 2235884.58 |
| | SM-19 | 77+38.74 | 399018.58 | 2236100.98 |
| | SM-20 | 81+38.74 | 398679.68 | 2236313.53 |
| | SM-21 | 85+38.77 | 398336.78 | 2236519.48 |
| | SM-22 | 89+38.77 | 397943.07 | 2236590.15 |
| | SM-23 | 93+38.77 | 397551.49 | 2236671.80 |
| | SM-24 | 96+63.77 | 397237.41 | 2236751.95 |
| | SM-25 | 99+88.77 | 396921.68 | 2236832.52 |
| | | | | |
| pk nail | CONTROL 1 | 255+21.03, 29.86'RT | 396990.5979 | 2236812.0845 |
| pk nail | CONTROL 2 | 283+37.46, 29.75'RT | 396966.1424 | 2236663.8989 |
| | | | | |
| | | | | |

400 200 0 400
HORIZONTAL SCALE IN FEET

| DRAWN BY: | CHECKED BY: |
|---|---|
| FPW | SDH |
| DATE: Oct., 2004 | DATE: Oct., 2004 |

# West Warmington West Bank Trunk

Schematic Plan
City of Massillon
Stark County, Ohio

Francis H. Cicchinelli, Jr.
Mayor

Massillon
Means More!

REVISIONS:

| DATE | DESCRIPTION |
|---|---|
| | |

FILE NAME: 01SS0302

ACCOUNT NUMBER 01SS03

## UTILITIES

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

| | | | | |
|---|---|---|---|---|
| AMERITECH<br>50 W.BOWERY, 6TH FLOOR<br>AKRON, OH 44308<br>800-384-8057<br>RICK DELAGRANGE | CONSUMERS OHIO<br>WATER<br>P.O. BOX 584<br>MASSILLON, OH 44648<br>(330) 833-4156 | OHIO EDISON<br>STARK DIVISION<br>2600 S. ERIE ST.<br>MASSILLON, OH 44545<br>(330) 833-3141 | MASSILLON CABLE TV<br>P.O. BOX 814<br>MASSILLON, OH 44648<br>(330) 833-4134 | GREAT LAKES<br>104 6TH ST. S.W.<br>CANTON, OH 44702<br>(330) 456-2454 |
| CITY OF MASSILLON<br>SANITARY SEWER<br>151 LINCOLN WAY EAST<br>MASSILLON, OH 44646<br>(330) 830-1722 | AT&T COMMUNICATIONS<br>2535 E. 40TH AVE.<br>DENVER, CO 80205-3601<br>(800) 852-3786 | DOMINION EAST OHIO GAS COMPANY<br>4725 SOUTHWAY ST. S.W.<br>CANTON, OH 44706<br>(330) 478-3142<br>NANCY KOVACH | NORTHEAST OHIO NATURAL<br>GAS CORP.<br>9081 S.R. 250<br>STRASBURG, OH 44680-9766<br>(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 BY SECTION 153.64 O.R.C.

OUPS – 1-800-362-2764
OGUPUPS – 1-800-925-0988

## DATUM ELEVATION

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

## STATIONING

ALL STATIONING SHOWN IS REFERENCED TO THE BASELINE AS SHOWN.

## NOTIFICATION OF SAFETY FORCES AND BUS GARAGES

THE CONTRACTOR SHALL NOTIFY ALL AGENCY LISTED BELOW AT LEAST 48 HOURS IN ADVANCE OF ANY STREET CLOSING OR TRAFFIC CHANGE.

| | | | |
|---|---|---|---|
| MASSILLON SAFETY SERVICE<br>330-830-1702 | MASSILLON FIRE DEPARTMENT<br>330-833-1053 | PERRY TOWNSHIP HALL<br>330-833-2141 | NORTH LAWRANCE FIRE DEPT.<br>330-832-6347 |
| TUSCARAWAS TOWNSHIP HALL<br>330-832-4337 | JACKSON FIRE DEPARTMENT<br>330-832-1553 | MASSILLON POLICE DEPARTMENT<br>330-830-1735 | MASSILLON SCHOOL BUS GARAGE<br>330-830-1849 |
| JACKSON TOWNSHIP HALL<br>330-832-7416 | PERRY FIRE DEPARTMENT<br>330-478-5121 | JACKSON POLICE DEPARTMENT<br>330-497-7440 | JACKSON SCHOOL BUS GARAGE<br>330-830-8042 |
| PERRY POLICE DEPARTMENT<br>330-833-3865 | PERRY SCHOOL BUS GARAGE<br>330-477-1300 | STARK COUNTY SHERIFF<br>330-430-3887 | TUSCARAWAS SCHOOL BUS GARAGE<br>330-837-7805 |
| SARTA<br>330-454-5333 | | | |

## SUBSURFACE CONDITIONS

IT IS THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO MAKES HIS OWN INVESTIGATION OF SUBSURFACE CONDITIONS PRIOR TO SUBMITTING 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

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.

## 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, SEDIMENT EROSION STANDARDS

## PRESERVATION OF EXISTING UTILITY SERVICES

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

## 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.

SAID APPROVED DETOUR SHALL BE FORWARDED TO THE LOCAL NEWPAPER.

## 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.

## CONDITIONS OF WORK

ALL WORK PERFORMED UNDER THIS CONTRACT SHALL COMPLY WITH THE U.S. DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ACT, STATE, COUNTY, AND CITY OF MASSILLON LAWS AND REGULATIONS. ALL WORK, AT ALL TIMES SHALL BE SUBJECT TO OBSERVATION BY THE OWNER AND/OR ENGINEER. ALL WORK SHALL COMPLY WITH THE CONDITIONS OF THE CONTRACT DOCUMENTS AND OHIO EPA, AND STANDARDS OF THE CITY OF MASSILLON ALL ELECTRICAL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE, AND APPLICABLE CITY, COUNTY, STATE AND FEDERAL CODES.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN SAFE AND SATISFACTORY ACCESS TO ALL ABUTTING PROPERTIES TO THE PROJECT SITE. ADJACENT ROADS SHALL BE MAINTAINED AND KEPT CLEAN OF MUD AND OTHER DEBRIS THAT MAY BE CAUSED BY TRAFFIC EXITING THE WORK SITE. THE CONTRACTOR SHALL COORDINATE AND PROVIDE FOR ALL NECESSARY TRAFFIC CONTROL. TRAFFIC CONTROL SHALL FOLLOW THE MORE STRINGENT GUIDELINES OF THE CITY OF MISSION OR ODOT.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AND MAINTAIN FACILITIES FOR A CONSTRUCTION OFFICE, EMPLOYEE PARKING, AND EMPLOYEE SANITARY FACILITIES. ON STREET PARKING WILL NOT BE PERMITTED. THE CONTRACTOR SHALL PROVIDE FOR THE LAWFUL OFF-SITE DISPOSAL OF DEMOLITION DEBRIS AND CONSTRUCTION WASTE.

## EXISTING DATA

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

EXISTING STRUCTURES, GRADES, PIPING, ETC. ARE INDICATED IN APPROXIMATE LOCATION ON THE PLAN. INFORMATION SHOWN IS NOT GUARANTED 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.

## ACCESSIBILITY TO PRIVATE PROPERTY

ACCESS TO ALL DRIVEWAYS AND PARKING AREAS WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES EXCEPT WHILE LAYING THE SANITARY SEWER ACROSS THE DRIVE. THE TRENCH SHALL BE BACKFILLED AT THE END OF EACH WORK DAY TO PROVIDE ACCESS. THE CONTRACTOR MUST NOTIFY EACH PROPERTY OWNER AT LEAST 24 HOURS IN ADVANCE OF CUTTING THIER DRIVEWAY.

## 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.

## EXCAVATED MATERIAL

ALL EXCAVATED MATERIAL AND ALL MATERIAL USED IN CONSTRUCTION OF THE WORK SHALL BE PILED AND STORED IN A MANNER THAT WILL NOT ENDANGER THE WORK AND THAT WILL LEAVE DRIVEWAYS OR OTHER CONTROLS UNOBSTRUCTED AND ACCESSIBLE WHILE THE WORK IS TO BE COMPLETED. SATISFACTORY PROVISIONS SHALL BE MADE FOR STREET DRAINAGE, AND NATURAL WATERCOURSES SHALL NOT BE OBSUCTED. DURING THE PROGRESS OF THE WORK, ALL MATERIAL PILES SHALL BE KEPT TRIMMED UP AND MAINTAINED IN A NEAT MANNER. ALL EXCAVATED WASTE MATERIAL SHALL BE REMOVED FROM THE PROJECT SITE, AS DIRECTED BY THE ENGINEER. THE WASTE SITE IS TO BE PROVIDED BY THE CONTRACTOR AT NO COST TO THE CITY, UNLESS OTHERWISE NOTED IN THE SPECIFICATIONS. ALONG WITH A LETTER FROM THE PROPOSED WASTE SITE OWNER PERMITTING SUCH AND HOLDING THE CITY HARMLESS.

## RESTORATION

FOR SANITARY SEWER INSTALLED, TESTED, AND ACCEPTED UP TO MAY 15TH OF ANY CALENDER YEAR, RESTORATION SHALL BE COMPLETE BY JUNE 30th OF THAT YEAR. FOR INSTALLATION OF SANITARY SEWER TESTED AND ACCEPTED FROM MAY 15th TO SEPTEMBER 30th OF ANY CALENDER YEAR, RESTORATION SHALL BE COMPLETE BY NOVEMBER 15th OF THAT CALENDER YEAR. FOR SANITARY SEWER INSTALLED, TESTED, AND ACCEPTED AFTER NOVEMBER 15TH OF ANY CALENDER YEAR. RESTORATION SHALL BE COMPLETE BY MAY 15th OF THE NEXT CALENDER YEAR.

ALL SOIL AREAS DISTURBED BY THE CONTRACTOR SHALL BE TOPSOILED, SEEDED AND MULCHED. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR EACH ITEM OF AFFECTED WORK. TOPSOIL, SEEDING AND MULCHING SHALL NOT BE A SEPERATE PAY ITEM. THIS INCLUDES BACKFILLING, SEEDING AND MULCHING ALONG THE EDGE OF ALL PAVEMENT RESTORATION.

PAVEMENT CROSSINGS WILL RECEIVE TYPE C PAVEMENT REPLACEMENT WITH FULL WIDTH PAVEMANT OVERLAY.

CONTRACTOR TO REPLACE ALL PAVEMENT MARKINGS. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR PAVEMENT

CONTRACTOR TO USE HOT APPLIED JOINT CRACK SEALER ON ASPHALT PAVEMENT AT ALL ENDS AND INTERSECTIONS.

ALL TRENCHES IN ROAD RIGHT OF WAY WILL RECEIVE FULL DEPTH PREMIUM GRANULAR BACKFILL.

## REMOVAL OF TREES OR STUMPS

ALL TREES AND STUMPS REMOVED DURING CONSTRUCTION SHALL BE UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING THIS SHALL INCLUDE ON TREES AND STUMPS WITHIN THE CONSTRUCTION LIMITS UNLESS OTHERWISE STATED BY CITY REPRESENTATIVE.

## REMOVAL AND RELOCATION OF EXISTING UTILITIES

THE CONTRACTOR IS REQUIRED TO COOPERATE WITH EACH RESPECTIVE UTILITY OWNER FOR THE REMOVAL AND RELOCATION OF ANY AND ALL UTILITIES THAT CREATE A CONFLICT WITH CONSTRUCTION OF THE PROJECT.

## CONCRETE REMOVAL

ALL EXISTING CONCRETE INCLUDING CURBS, DRIVES, AND BASE ETC. WITHIN WORK LIMITS SHALL BE REMOVED AND PAID FOR UNDER:

ALL WORK SHALL BE PAID FOR UNDER ITEM 203 ROADWAY EXCAVATION

## ITEM 623. CONSTRUCTION STAKING

CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION LAYOUT. THIS WORK IS TO BE UNDER ITEM 623 CONSTRUCTION STAKING.

| DRAWN BY: | CHECKED BY: |
|---|---|
| FPW | SDH |
| DATE: OCT., 2004 | DATE: SEPT., 2004 |

West Warmington West Bank Trunk
General Notes
City of Massillon
Stark County, Ohio

Francis H. Cicchinelli, Jr.
Mayor
Massillon
Means More!

REVISIONS:

| DATE | DESCRIPTION |
|---|---|
| | |

FILE NAME: 01SS0305.DWG

ACCOUNT NUMBER 01SS03

## MANHOLES, CATCH BASINS, INLETS AND PIPES REMOVED OR ABANDONED

ALL CASTING, PRE-CAST STRUCTURES AND PIPES SHALL BE CAREFULLY REMOVED AND STORED WITHIN THE RIGHT-OF-WAY FOR SALVAGE BY THE CITY. CONTACT THE CITY OF MASSILLON STREET SUPERINTENDENT – MARK LIGHTFOOT AT 330-833-5746. ANY UNWANTED MATERIALS SHALL BE DISPOSED OF BY THE CONTRACTOR.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 202 ITEM.

## ITEM 407, TACK COAT

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.08 GALLONS PER SQUARE YARD OF TACK COAT FOR EXTISMATING PURPOSES ONLY.

## 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.

## 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 GRDE 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.

## ITEM 604, MASS CI-1

CATCH BASINS SHALL BE CONSTRUCTED IN CONFORMANCE WITH ITEM 604 EXCEPT THAT THE GRATES SHALL BE NEENAH NO. R-4859-C WITH NO DUMP NO WASTE OR EAST JORDON NO. 7350 WITH FISH BACK OR APPROVED EQUALS.

## ITEM 609, CAST IN PLACE 6"X18" CONCRETE CURB

GRANULAR BEDDING, BACKFILLING AND CONCRETE CURB PLACEMENT ALONG WITH ALL APPURTENANCES IS TO BE INCLUDED IN ITEM 609. THIS SHALL ALSO INCLUDE THE REPLACEMENT AND REMOVAL OF ALL WALK EXTENTSION DISTURB DO TO CURB PLACEMENT

## ITEM 659, TOPSOIL, SEEDING AND MULCHING

ITEM 659 SHALL BE APPLIED TO ALL EXPOSED SOIL AREAS DISTURBED DURING CONSTRUCTION. SUCH AS SPECIFIED IN ITEM 659 AND IS NOT LIMITED TO JUST TOPSOIL, SEEDING AND MULCHING.
THE CITY 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. ALL ABOVE SAID WORK SHALL BE PAID FOR UNDER

ITEM 659, SEEDING AND MULCHING LUMP SUM BID

## RESIDENTIAL AND COMMERCIAL DRAINAGE CONNECTIONS

EACH LOT SHALL BE SUPPLIED WITH A SINGLE 10" STORM LATERAL THAT WILL BE INSTALLED FROM THE MAIN TO THE PROPERTY LINE, SAID STORM LATERAL SHALL BE CONNECTED TO FOUNDATION DRAINS, SUMP DRAIN AND WHEN POSSIBLE AS PER ENGINEER'S DIRECTION THE DOWN SPOUT WILL BE CONNECTED.

THE FOLLOWING WORK SHALL BE PAID FOR UNDER ITEM 603 10" STORM LATERAL.

## ITEM SPECIAL – PIPE CLEANOUT

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING CONDUITS SPECIFIED IN THE FIELD. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 203.05. ALL SEWERS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CLEANOUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL – PIPE CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

THE FOLLOWING ESTIMATE QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE ABOVE NOTED WORK:

SPECIAL, 500 FEET PIPE CLEANOUT 500 L.F.

## ITEM 651, TOPSOIL STOCKPILED

THE MATERIAL FOR THIS ITEM SHALL BE OBTAINED FROM AREAS WITHIN THE PROPOSED RIGHT-OF-WAY.

PROVISION OF THIS 651 ITEM SHALL NOT BE CONSTRUCTED AS A WAIVER OF THE PROVISIONS OF 201.4 SOD AND INCIDENTAL TOPSOIL REMOVED ELSEWHERE ON THIS PROJECT FOR SALVAGE, FOR USE AS DESCRIBED IN 203.04(e). SHALL BE INCLUDED IN THE CONTRACT PRICE FOR VARIOUS 203 ITEMS.

## REVIEW OF SANITARY AND DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE CITY OF MASSILLON AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FEILD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BT THE CITY OF MASSILLON.

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 BT THE CITY OF MASSILLON.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY 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.

## DOWN SPOUTS

ALL DOWN SPOUTS UNABLE TO BE CONNECTED TO THE STORM LATERAL SHALL BE PUT THROUGH THE CURB AS PER ENGINEER'S DIRECTION.

CURB OPENING SHALL NOT GREATER THAN A 3 1/2" DIAMETER.

THE WORK ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 609.

## ITEM SPECIAL – FILL AND PLUG EXISTING CONDUIT

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF BULKHEADS IN AN EXISTING CONDUIT AND FILLING THE AREA THUS SEALED OFF WITH LEANOR CLEAN GROUT, ITEM 613, SAND OR OTHER MATERIAL APPROVED BY THE ENGINEER.

BULKHEADS SHALL BE LOCATED AT THE LIMITS OF THE AREA TO BE FILLED AS INDICATED ON THE PLANS. THE BULKHEADS SHALL CONSIST OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES.

THE FILL MATERIAL SHALL BE PUMPED INTO PLACE, OR PLACED BY OTHER MEANS APPROVED BY THE ENGINEER. SO THAT, AFTER SETTLEMENT,

AT LEAST 90 PERCENT OF THE CROSS-SECTIONAL AREA OF THE CONDUIT, FOR ITS ENTIRE LENGTH, SHALL BE FILLED. THE LENGTH OF FILLED AND PLUGGED CONDUIT TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF LINEAR FEET (MEASURED ALONG THE CENTERLINE OF EACH CONDUIT FROM OUTER FACE TO OUTER FACE OF BULKHEADS) FILLED AND PLUGGED AS DESCRIBED ABOVE.

IN LIEU OF FILLING AND PLUGGING THE EXISTING CONDUIT, THE PIPE MAY BE CRUSHED AND BACKFILLED IN ACCORDANCE WITH THE PROVISIONS OF 203, OR IT MAY BE REMOVED.

THE LENGTH, MEASURED AS PROVIDED ABOVE, SHALL BE PAID FOR AT THE CONTRACT PRICE PER LINEAR FOOT FOR, ITEM SPECIAL, FILL AND PLUG EXISTING CONDUIT.

## 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 35 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

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 USED 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 SANITARY SEWER INSTALLATION THE RESULTS OF THE AIR PRESSURE TESTS, TELEVISION TESTS AND MADREL TESTS SHALL BE FORWARDED TO THE ENGINEER OR OWNER.

## 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 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.

TABLE A
INSIDE DIAMETERS FOR DEFLECTION MEASUREMENTS
OF ASTM D 3034 SDR 25 / SDR 21 PVC SEWER PIPE

| SIZE | SDR | AVG. O.D. | t | 1.06t or t' | AVG. I.D. | TOLERANCE | BASE I.D. | DEFLECTION MANDREL |
|---|---|---|---|---|---|---|---|---|
| 6" | 35 | 6.275 | 0.241 | 0.255 | 5.764 | 0.102 | 5.662 | 5.38 |
| 8" | 35 | 8.400 | 0.323 | 0.342 | 7.715 | 0.127 | 7.588 | 7.21 |
| 10" | 35 | 10.500 | 0.404 | 0.428 | 9.644 | 0.153 | 9.491 | 9.02 |
| | | | | | | | | |

## TELEVISION TESTING

ALL SANITARY SEWERS, 8-INCH DIAMETER AND LARGER, MUST PASS AN INTERNAL TELEVISION INSPECTION. THE CONTRACTOR SHALL PROVIDE COMPLETE INTERNAL INSPECION VIDEOTAPE TO THE CITY OF MASSILLON ENGINEERING DEPARTMENT. THE VIDEOTAPING PROCEDURE SHALL BE IN ACCORDANCE WITH CITY OF MASSILLON ENGINEERING DEPARTMENT.

| DRAWN BY: | CHECKED BY: |
|---|---|
| FPW | SDH |
| DATE: SEPT., 2004 | DATE: OCT., 2004 |

West Warmington West Bank Trunk
General Notes
City of Massillon
Stark County, Ohio

Francis H. Cicchinelli, Jr.
Mayor
Massillon
Means More!

REVISIONS:

| DATE | DESCRIPTION |
|---|---|
| | |

FILE NAME: 01SS0304

ACCOUNT NUMBER 01SS03

## 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 IN. | MINIMUM TIME MINUTES | LENGTH FOR MINUTES TIME, FT. | TIME FOR LONGER LENGTH, S | SPECIFICATION TIME LENGTH (L) SHOWN, MINUTES | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 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.

## 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 AS DESCRIBED IN NOTE 10 ABOVE

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 |
| | |

## 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.

## EROSION CONTROL

THE CONTRACTOR SHALL PREPARE AND SUBMIT A STORM WATER POLLUTION CONTROL PLAN TO THE CITY OF MASSILLON ENGINEER TO BE FORWARDED TO OBTAIN A PERMIT. THE STORM WATER POLLUTION CONTROL PLAN SHALL AN EFFECTIVE PLAN. SAID PLAN MUST COMPLY W/ THE OHIO DEPARTMENT OF NATURAL RESOURCES. THE OHIO EVIROMETAL SOIL AND WATER CONSERVATION DISTRICT AND THE CITY OF MASSILLON BEST MANAGEMENT PRACTICES.

BECAUSE OF THE LINEAR NATURE OF THIS PROJECT. THE PLAN WILL VARY DAILY BASED UPON THE CONTRACTORS MEANS AND METHODS OF CONSTRUCTION. THE CITY AND ALL LOCAL, STATE AND FEDERAL AGENCIES WILL MONITOR THE CONSTRUCTION SITE AND THE CHOSEN METHOD OF SOIL EROSION CONTROL. THE CONTRACTOR WILL BE HELD TO FOLLOWING THE IMPLEMENTATION AS NECESSARY TO PROTECT THE INTEGRITY OF THE STORM SEWERS AND THE WATER'S OF THE STATE OF OHIO.

BELOW IS A NUMBER OF MISC. ITEMS WHICH MAYBE USED BUT NOT LIMITED TO.

ITEM 870 – COMMERCIAL FERTILIZER
ITEM 870 – REPAIR SEEDING AND MULCHING
ITEM 870 – WATER

ITEM 877 – TEMPORARY SEEDING AND MULCHING
ITEM 877 – TEMPORARY FILTER FABRIC FENCE
ITEM 877 – TEMPORARY INLET PROTECTION

ALL OF THE ABOVE SAID WORK SHALL BE INCLUDED IN ITEM 207SPEC EROSION CONTROL.

## CONCRETE REMOVAL

REMOVAL OF EXISTING CONCRETE SHALL BE INCLUDED IN ITEM 202 ROADWAY EXCAVAITION.

## REMOVAL OF TRAFFIC CONTROL DEVICES AND PRECAST STRUCTURES

ALL TRAFFIC CONTROL DEVICES AND PRE–CAST STRUCTURES WITH CASTINGS SHALL BE REMOVED IN A WAY NOT TO DAMAGE. SAID ITEMS SHALL BE STORED UNTIL THEY CAN BE TRANSPORTED TO THE CITY GARAGE BY THE CONTRACTOR. THE CONTRACTOR MUST COORDINATE SAID DELIVERS WITH MARK LIGHTFOOT AT (330)833–5746.

ALL OF THE ABOVE SAID WORK SHALL BE INCLUDED IN PERTINENT 202 ITEM.

## 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 IS RECEIVED THE SITE WILL BE VIDEO TAPED AGAIN BY THE CONTRACTOR. ANY DISCREPANCIES WILL BE RESOLVED PRIOR TO FINAL PAYMENT. AS BUILT DRAWING SHALL BE CREATED BY THE CONTRACTOR AND SUBMITTED TO THE CITY IN A CLEAR AND LEGEND ABLE MANNER PRIOR TO FINAL INVOICE.

COST OF THIS WORK SHALL BE INCLUDED IN ITEM 623 CONSTRUCTION STAKING

| DRAWN BY: | CHECKED BY: |
|---|---|
| FPW | SDH |
| DATE: Sept., 2004 | DATE: Oct., 2004 |

West Warmington West Bank Trunk
General Notes
City of Massillon
Stark County, Ohio

Francis H. Cicchinelli, Jr.
Mayor

Massillon Means More!

REVISIONS:

| DATE | DESCRIPTION |
|---|---|
| | |

FILE NAME: 01SS0305

ACCOUNT NUMBER 01SS03

| SHEET NUMBER | | | | | | | | | | | | | | | | | | ITEM | GRAND TOTAL | UNIT | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 4 | 5 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | ROADWAY |
| LUMP | | | | | | | | | | | | | | | | | | 201 | LUMP | LUMP | CLEARING AND GRUBBING |
| | | | | | | | | | | | | 64 | | | | | | 202 | 64 | LF | PIPE REMOVED |
| | | | | | | | | | | | | 50 | | | | | | 203SPEC | 50 | LF | SLOPE AND DITCH REHABILITATION AS DIRECTED |
| | | | | | | | | | | | | | | | | | | 203SPEC | LUMP | LUMP | MISCELLANEOUS REMOVAL |
| | | | | | | | | | | | | | | | | | | | | | EROSION CONTROL |
| | | LUMP | | | | | | | | | | | | | | | | 207SPEC | LUMP | LUMP | EROSION CONTROL |
| | | | | | | | | | | | | 26 | | | | | | 601 | 26 | CY | ROCK CHANNEL PROTECTION W/ TYPE B FILTER |
| | LUMP | | | | | | | | | | | | | | | | | 659SPEC | LUMP | LUMP | TOP SOIL, SEEDING AND MULCHING |
| | | | | | | | | | | | | | | | | | | | | | DRAINAGE |
| | | | | | | | | | | | | 1 | | | | | | 602 | 1 | EACH | CONCRETE HEADWALL TYPE HW-1 (O.D.O.T.) |
| | | | | | | | | | | | | 90 | | | | | | 603 | 90 | LF | 36" TYPE B CONDUIT, 707.33 |
| | | | | | | | | | | | | 84 | | | | | | 604 | 84 | S.Y. | CONCRETE SPILLWAY |
| | | | | | | | | | | | | 1 | | | | | | 604 | 1 | EACH | 6' x 12' PRE-CAST JUCTION CHAMBER W/ GRATE |
| | | | | | | | | | | | | | | | | | | | | | SANITARY |
| | | | | | | | | | | | | | | | | | | 603 | 10 | LF | 6" TYPE B CONDUIT, SANITARY (AS DIRECTED IN FIELD) |
| | | | 1164 | 1200 | 1200 | 1200 | 1275 | 1100 | 1200 | 670 | | | | | | | | 603 | 9229 | LF | 18" TYPE B CONDUIT, SANITARY |
| | | | | | | | | | | 40 | | | | | | | | 603 | 40 | LF | 24" STEEL CASING |
| | | | 3 | 3 | 3 | 3 | 4 | 3 | 3 | 3 | | | | | | | | 604 | 25 | EACH | MANHOLE, (SANITARY) |
| | | | LUMP | | | | | | | | | | | | | | | 614SPEC | LUMP | LUMP | MAINTENANCE OF TRAFFIC |
| | | | | | | | | | | | | | | | | | | 614 | LUMP | LUMP | MAINTAINING TRAFFIC |
| | | | | | | | | | | | | | | | | | | 619 | LUMP | LUMP | FEILD OFFICE, TYPE C |
| | | LUMP | | | | | | | | | | | | | | | | 623 | LUMP | LUMP | CONSTRUCTION STAKING |
| | | | | | | | | | | | | | | | | | | 624 | LUMP | LUMP | MOBILIZATION |

| DRAWN BY: | CHECKED BY: |
|---|---|
| FW | SDH |
| DATE: Oct., 2004 | DATE: Oct, 2004 |

**West Warmington West Bank Trunk**
General Summary
City of Massillon
Stark County, Ohio

Francis H. Cicchinelli, Jr.
Mayor

Means More!

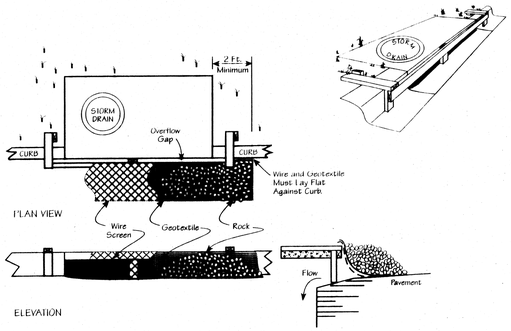
REVISIONS:

| DATE | DESCRIPTION |
|---|---|
| | |

FILE NAME: 01SS0306.DWG

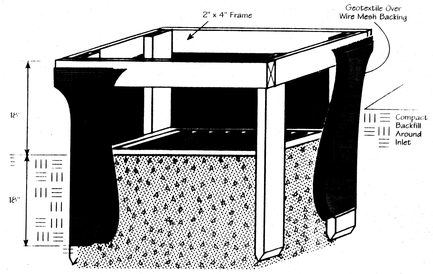
ACCOUNT NUMBER 01SS03

## Curb Inlet Protection




1. Inlet protection shall be constructed either before upslope land disturbance begins or before the storm drain becomes operational.
2. The wooden frame is to be constructed of 2-by-4-in. construction-grade lumber. The end spacers shall be a minimum of 1 ft. beyond both ends of the throat opening. The anchors shall be nailed to 2-by-4-in. stakes driven on the opposite side of the curb.
3. The wire mesh shall be of sufficient strength to support fabric and stone. It shall be a continuous piece with a minimum width of 30 in. and 4 ft. longer than the throat length of the inlet, 2 ft. on each side.
4. Geotextile cloth shall have an equivalent opening size (EOS) of 20-40 sieve and be resistant to sunlight. It shall be at least the same size as the wire mesh.
5. The wire mesh and geotextile cloth shall be formed to the concrete gutter and against the face of the curb on both sides of the inlet and securely fastened to the 2-by-4-in. frame.
6. Two-inch stone shall be placed over the wire mesh and geotextile in such a manner as to prevent water from entering the inlet under or around the geotextile cloth.

## Inlet Protection in Swales, Ditch Lines or Yard Inlets




1. Inlet protection shall be constructed either before upslope land disturbance begins or before the storm drain becomes operational.
2. The earth around the inlet shall be excavated completely to a depth at least 18 in.
3. The wooden frame shall be constructed of 2-by-4-in. construction-grade lumber. The 2-by-4-in. posts shall be driven 1 ft. into the ground at four corners of the inlet and the top portion of 2-by-4-in. frame assembled using the overlap joint shown. The top of the frame shall be at least 6 in. below adjacent roads if ponded water would pose a safety hazard to traffic.
4. Wire mesh shall be of sufficient strength to support fabric with water fully impounded against it. It shall be stretched tightly around the frame and fastened securely to the frame.
5. Geotextile shall have an equivalent opening size of 20-40 sieve and be resistant to sunlight. It shall be stretched tightly around the frame and fastened securely. It shall extend from the top of the frame to 18 in. below the inlet notch elevation. The geotextile shall overlap across one side of the inlet so the ends of the cloth are not fastened to the same post.
6. Backfill shall be placed around the inlet in compacted 6 in. layers until the earth is even with notch elevation on ends and top elevation on sides.
7. A compacted earth dike or a check dam shall be constructed in the ditch line below the inlet if the inlet is not in a depression and if runoff bypassing the inlet will not flow to a settling pond. The top of earth dikes shall be at least 6 in. higher than the top of the frame.

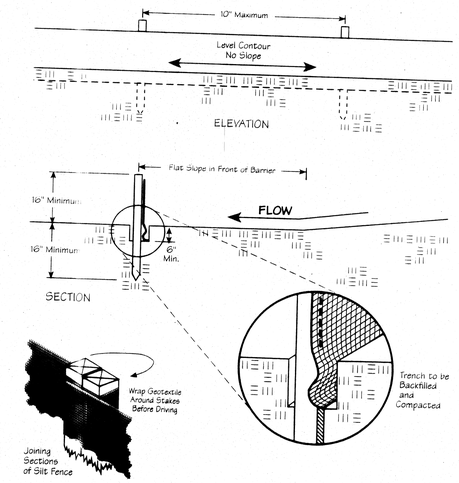
## Silt Fence

1. Silt fence shall be constructed before upslope land disturbance begins.
2. All silt fence shall be placed as close to the contour as possible so that water will not concentrate at low points in the fence and so that small swales or depressions which may carry small concentrated flows to the silt fence are dissipated along its length.
3. To prevent water ponded by the silt fence from flowing around the ends, each end shall be constructed upslope so that the ends are at a higher elevation.
4. Where possible, silt fence shall be placed on the flattest area available.
5. Where possible, vegetation shall be preserved for 5 ft. (or as much as possible) upslope from the silt fence. If vegetation is removed, it shall be reestablished within 7 days from the installation of the silt fence.
6. The height of the silt fence shall be a minimum of 16 in. above the original ground surface.
7. The silt fence shall be placed in a trench cut a minimum of 6 in. deep. The trench shall be cut with a trencher, cable laying machine, or other suitable device which will ensure an adequately uniform trench depth.
8. The silt fence shall be placed with the stakes on the downslope side of the geotextile and so that 8 in. of cloth are below the ground surface. Excess material shall lay on the bottom of the 6-in.-deep trench. The trench shall be backfilled and compacted.
9. Seams between section of silt fence shall be overlapped with the end stakes of each section wrapped together before driving into the ground.
10. Maintenance--Silt fence shall allow runoff to pass only as diffuse flow through the geotextile. If runoff overtops the silt fence, flows under or around the ends, or in any other way becomes a concentrated flow, one of the following shall be performed, as appropriate: 1) The layout of the silt fence shall be changed, 2) Accumulated sediment shall be removed, or 3) Other practices shall be installed.

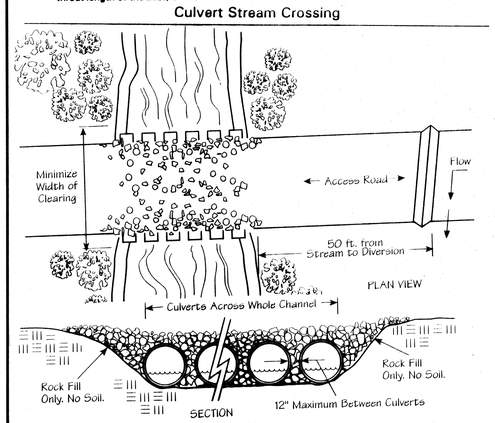
Criteria for Silt Fence Materials

1. Fence Posts--The length shall be a minimum of 32 in. long. Wood posts will be 2-by-2-in. hardwood of sound quality. The maximum spacing between posts shall be 10 ft.
2. Silt Fence Fabric shall be ODOT Type C Geotextile Fabric or as described by the chart below:

| Fabric Properties | |
|---|---|
| Minimum Tensile Strength | 120 lbs. |
| Maximum Elongation at 60 lbs | 50% |
| Minimum Puncture Strength | 50 lbs. |
| Minimum Tear Strength | 40 lbs. |
| Minimum Burst Strength | 200 psi |
| Apparent Opening Size | ≤ 0.84mm |
| Minimum Permittivity | $1X10^{-2}$ $sec^{-1}$ |
| Ultraviolet Exposure Strength Retention | 70% |

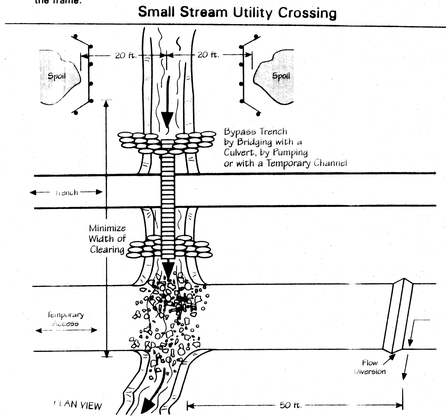



## Culvert Stream Crossing




1. Stream Disturbance--Disturbance to the stream shall be kept to a minimum. Streambank vegetation shall be preserved to the maximum extent practical and the stream crossing shall be as narrow as practical.
2. Clearing shall be done by cutting NOT grubbing. The roots and stumps shall be left in place to help stabilize the banks and accelerate revegetation.
3. To minimize interference with fish spawning and migration, crossing construction should be avoided where practical from March 15 through June 15.
4. Water shall not be allowed to flow along the road directly to the stream. Diversions and swales shall direct runoff away from the access road to a sediment-control practice.
5. Placement--Culverts shall be placed on the existing streambed to avoid a drop or waterfall at the downstream end of the pipe, which would be a barrier to fish migration. Crossings shall be made in shallow areas rather than deep pools where possible.
6. Culvert Size--Culvert diameter shall be at least three times the depth of normal stream flow at the point of the stream crossing. If the crossing must be placed in deep, slow-moving pools, the culvert diameter may be reduced to twice the depth of normal stream flow. The minimum size culvert that may be used is 18 in.
7. Number of Culverts--There shall be sufficient number of culverts to completely cross the stream channel from streambank to streambank with no more than a 12-in. space between each one.
8. Fill and Surface Material--All material placed in the stream channel, around the culverts and on the surface of the crossing shall be stone, rock or aggregate. ODOT No. 1 shall be the minimum acceptable size. To prevent washouts, larger stone and rock may be used and they may be placed in gabion mattresses. NO SOIL SHALL BE USED IN THE CONSTRUCTION OF A STREAM CROSSING OR PLACED IN THE STEAM CHANNEL.
9. Removal--Aggregate stone and rock used for this structure does not need to be removed. Care should be taken so that any aggregate left does not create an impoundment or impede fish passage. All pipes, culverts, gabions or structures must be removed.
10. Stabilization--Streambanks shall be stabilized. Plantings shall include woody vegetation where practical.

## Small Stream Utility Crossing

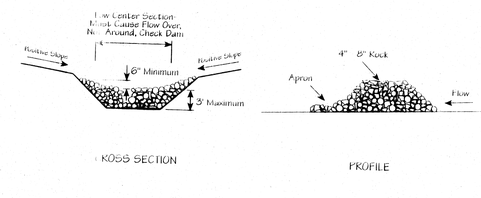



1. When site conditions allow, one of the following shall be used to divert stream flow or otherwise keep the flow away from construction activity.
   - Drill or bore the utility lines under the stream channel.
   - Construct a cofferdam or barricade of sheet pilings, sandbags or a turbidity curtain to keep the stream from continually flowing through the disturbed areas. Turbidity curtains shall be a pre-assembled system and used only parallel to flow.
   - Stage construction by confining first one-half of the channel until work there is completed and stabilized, then move to the other side to complete the crossing.
   - Route the stream flow around the work area by bridging the trench with a rigid culvert, piping, or constructing a temporary channel. Temporary channels shall be stabilized by rock or a geotextile completely lining the channel bottom and side slopes.
2. Crossing Width--The width of clearing shall be minimized through the riparian area. The limits of disturbance shall be as narrow as possible including not only construction operations within the channel itself but also clearing done through the vegetation growing on the streambanks.
3. Clearing shall be done by cutting NOT grubbing. The roots and stumps shall be left in place to help stabilize the banks and accelerate revegetation.
4. Material excavated from the trench shall be placed at least 20 ft. from the streambanks.
5. To the extent other constraints allow, stream shall be crossed during periods of low flow.
6. Duration of Construction--The time between initial disturbance of the stream and final stabilization shall be kept to a minimum. Construction shall not begin on the crossing until the utility line is in place to within 10 ft. of the streambank.
7. Fill Placed Within the Channel--The only fill permitted in the channel should be clean aggregate, stone or rock. No soil or other fine erodible material shall be placed in the channel. This restriction includes all fill for temporary crossings, diversions, and trench backfill when placed in flowing water. If the stream flow is diverted away from construction activity the material originally excavated from the trench may be used to backfill the trench.
8. Streambank Restorations--Streambanks shall be restored to their original line and grade and stabilized with riprap or vegetative bank stabilization.
9. Runoff Control Along the Right-of-Way--To prevent sediment-laden runoff from flowing to the stream, runoff shall be diverted with water bar or swales to a sediment trapping practice a minimum of 50 ft. from the stream.
10. Dewatering or pumping water containing sediment shall not be discharge directly to a stream. The flow shall be routed through a settling pond, dewatering sump or a flat, well-vegetated area adequate for removing sediment before the pumped water reaches the stream.
11. Dewatering operations shall not cause significant reductions in stream temperatures. If groundwater is to be discharged in high volumes during summer months, it shall first be routed through a settling pond or overland though a flat well-vegetated area.
12. Permits--In addition to these specifications, stream crossings shall conform to the rules and regulations of the U.S. Army Corps of Engineers for in-stream modifications (404 permits) and Ohio Environmental Protection Agency's State Water Quality Certification (401 permits).

## Mulching

1. Mulch and/or other appropriate vegetative practices shall be applied to disturbed areas within 7 days of grading if the area is to remain dormant (undisturbed) for more than 45 days or on areas and portions of the site which can be brought to final grade.
2. Mulch shall consist of one of the following:
   - Straw--Straw shall be unrotted small grain straw applied at the rate of 2 tons/ac. or 90 lb./1,000 sq. ft. (two to three bales). The straw mulch shall be spread uniformly by hand or mechanically so the soil surface is covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000-sq.-ft. sections and place two 45-lb. bales of straw in each section.
   - Hydroseeders--Wood cellulose fiber should be used at 2,000 lb./ac. or 46 lb./1,000 sq. ft.
   - Other--Other acceptable mulches include mulch mattings applied according to manufacturer's recommendations or wood chips applied at 10-20 tons/ac.
3. Mulch Anchoring--Mulch shall be anchored immediately to minimize loss by wind or runoff. The following are acceptable methods for anchoring mulch.
   - Mechanical--Use a disk, crimper, or similar type tool set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finely chopped but be left generally longer than 6 in.
   - Mulch Nettings--Use according to the manufacturer's recommendations, following all placement and anchoring suggestions. Use in areas of water concentration and steep slopes to hold mulch in place.
   - Asphalt Emulsion--For straw mulch, apply at the rate of 160 gal./ac. (0.1 gal./sy) into the mulch as it is being applied or as recommended by the manufacture.
   - Synthetic Binders--For straw mulch, synthetic binders such as Acrylic DLR (Agri Tac), DCA-70, Petroset, Terra Tack or equal may be used at rates recommended by the manufacturer.
   - Wood Cellulose Fiber--Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 lb./acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lb./100 gal. of wood cellulose fiber.

## Check Dam




1. The check dam shall be constructed of 4-8-in.-diameter stone, placed so that it completely covers the width of the channel.
2. The top of the check dam shall be constructed so that the center is approximately 6 in. lower than the outer edges, so water will flow across the center and not around the ends.
3. The maximum height of the check dam at the center of the weir shall not exceed 3 ft.
4. Spacing between dams shall be as shown in the plans or by the following table:

Check Dam Spacing

| Dam Height (ft.) | Channel Slope | | | |
|---|---|---|---|---|
| | < 5% | 5 - 10% | 10 - 15% | 15 - 20% |
| 1 | 65 ft. | 30 ft. | 20 ft. | 15 ft. |
| 2 | 130 ft. | 65 ft. | 40 ft. | 30 ft. |
| 3 | 200 ft. | 100 ft. | 65 ft. | 50 ft. |

NOTE

THE DETAILS SHOWN ON THIS SHEET ARE STORM WATER BEST MANAGEMENT PRACTICES FROM (RAINWATER AND LAND DEVELOPMENT) OHIO'S STANDARDS FOR STORM WATER MANAGEMENT LAND DEVELOPMENT AND URBAN STREAM PROTECTION. THE CONTRACTOR SHALL USE THE ADJACENT OR PROVIDE A DETAIL PROPOSAL WHEN CREATING, IMPLEMENTING THE SWP3 PLAN AS REQUIRED BY THE CITY AND THE STARK SOIL & WATER CONSERVATION DISTRICT.

| DRAWN BY: | CHECKED BY: |
|---|---|
| DATE: | DATE: |

**Massillon Standard**
Storm Water Pollution Control Details
City of Massillon
Stark County, Ohio

Francis H. Cicchinelli, Jr.
Mayor

Massillon
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REVISIONS:

| DATE | DESCRIPTION |
|---|---|
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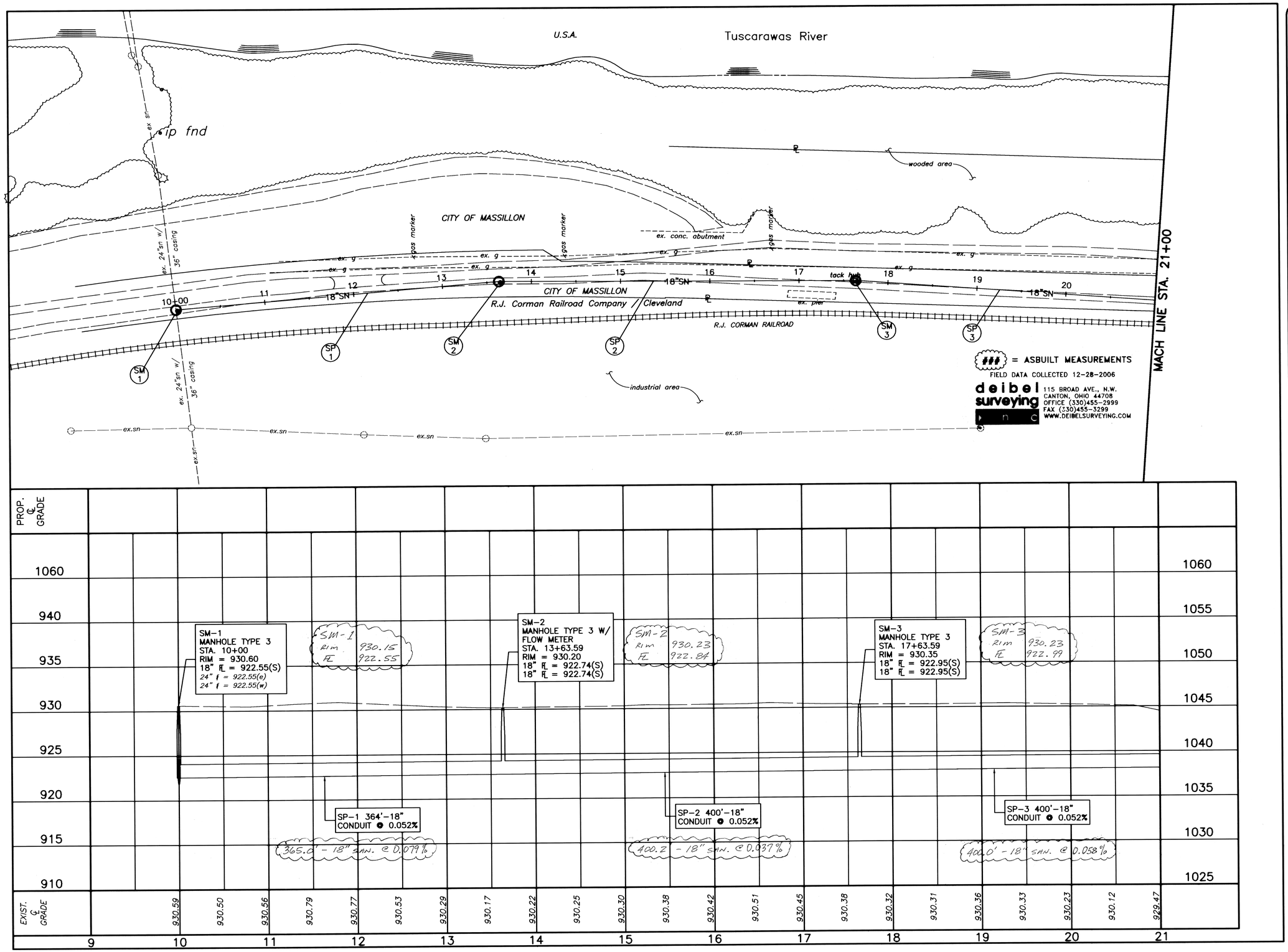
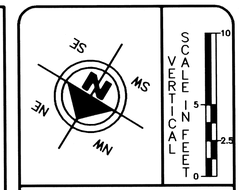
FILE NAME:

ACCOUNT NUMBER










50 25 0 50
HORIZONTAL SCALE IN FEET

| DRAWN BY: | CHECKED BY: |
|---|---|
| FPW | SDH |
| DATE: April 20, 2004 | DATE: April 23, 2004 |

# West Warmington West Bank Trunk

Sanitary Plan and Profile Sta. 9+00 to Sta. 21+00

City of Massillon
Stark County, Ohio

Francis H. Cicchinelli, Jr.
Mayor

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REVISIONS:

| DATE | DESCRIPTION |
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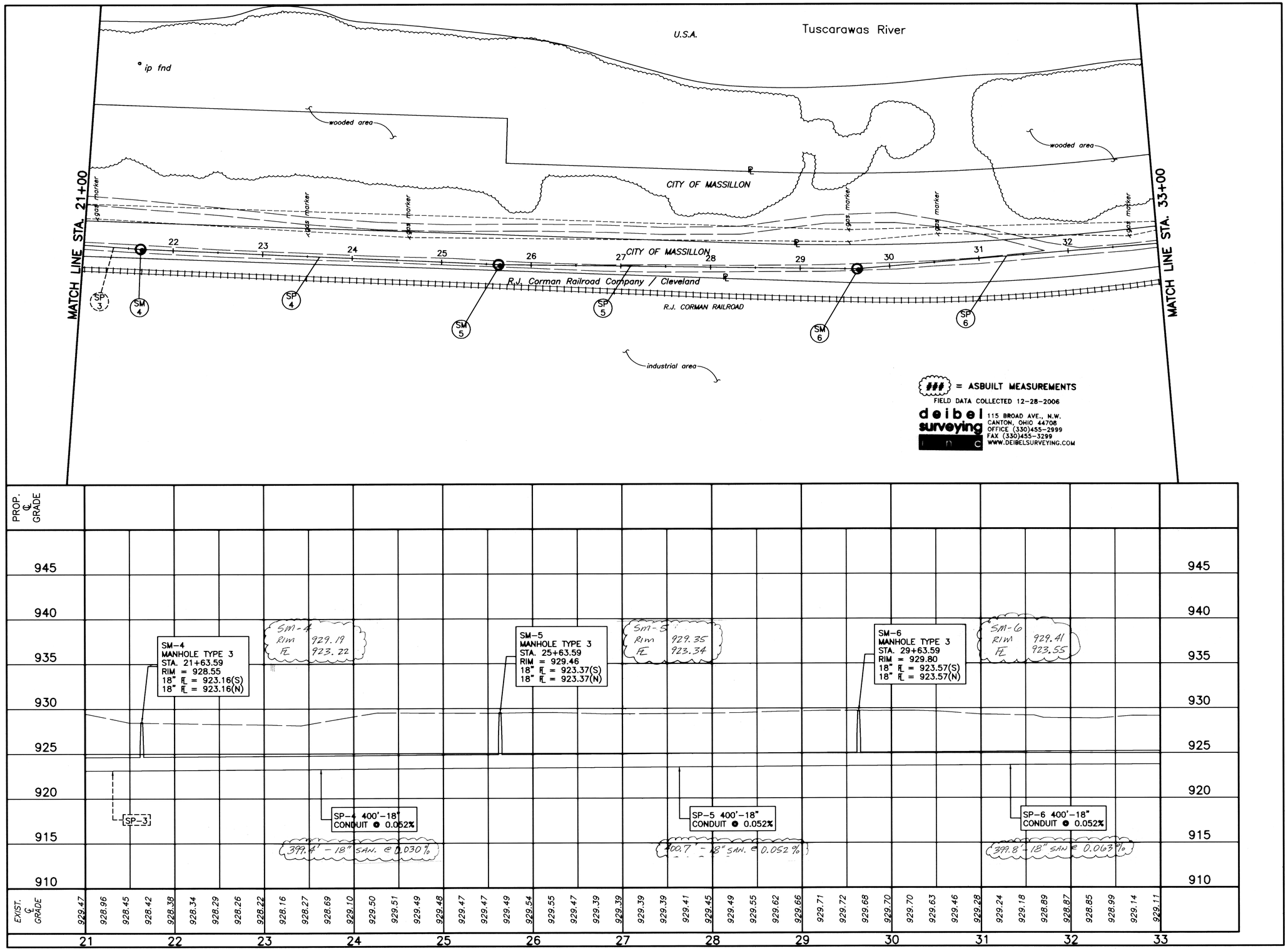


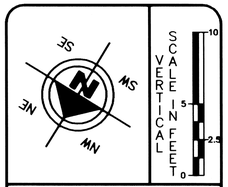


50 25 0 50
HORIZONTAL SCALE IN FEET

| DRAWN BY: | CHECKED BY: |
|---|---|
| FPW | SDH |
| DATE: April 20, 2004 | DATE: April 23, 2004 |

# West Warmington West Bank Trunk

Sanitary Plan and Profile Sta. 21+00 to Sta. 33+00

City of Massillon
Stark County, Ohio

Francis H. Cicchinelli, Jr.

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REVISIONS:

| DATE | DESCRIPTION |
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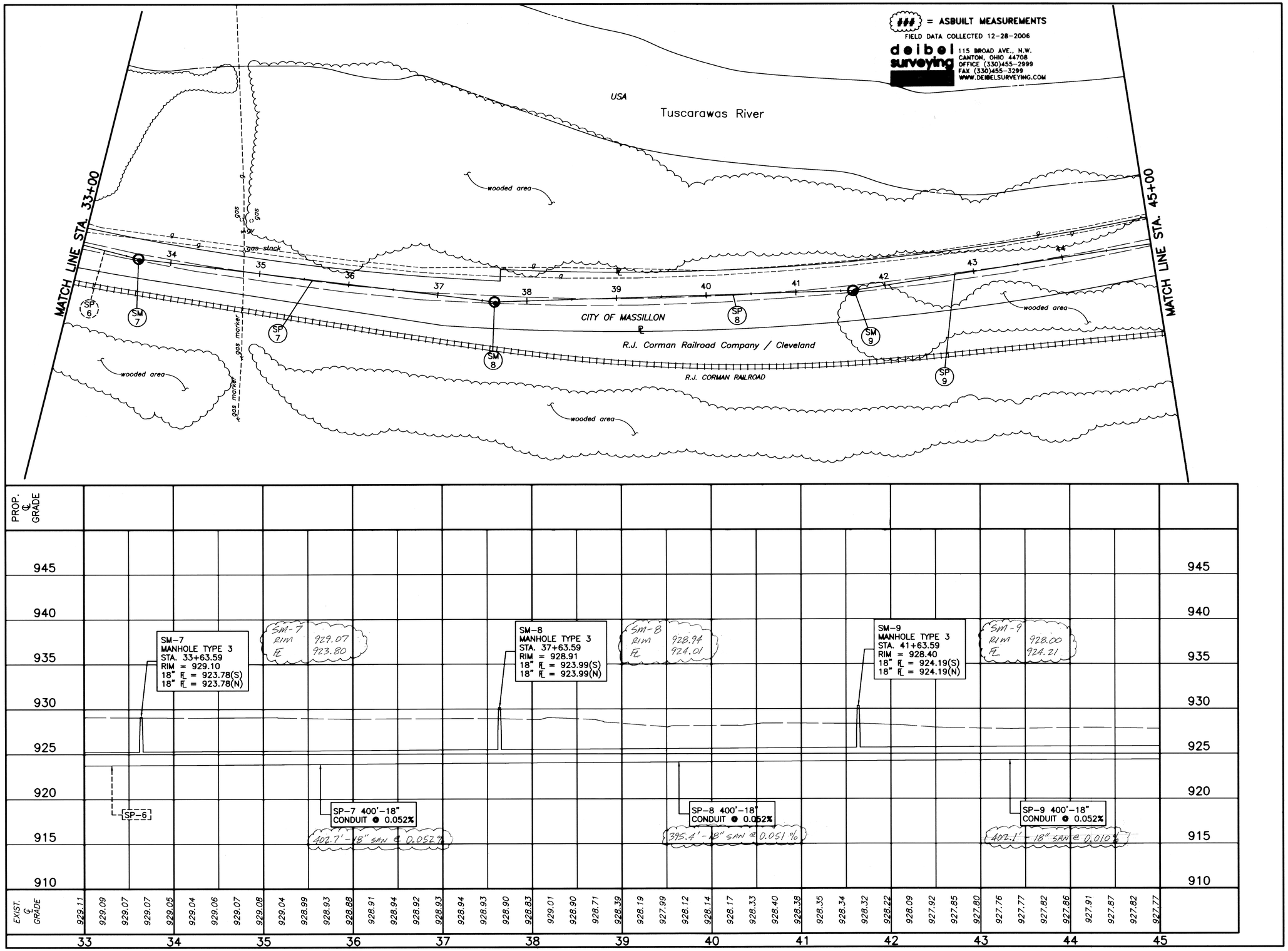


SCALE IN FEET
VERTICAL
10 5 2.5 0

HORIZONTAL SCALE IN FEET
50 25 0 50

| DRAWN BY: | CHECKED BY: |
|---|---|
| FPW | SDH |
| DATE: April 20, 2004 | DATE: April 23, 2004 |

# West Warmington West Bank Trunk

Sanitary Plan and Profile Sta. 21+00 to Sta. 33+00

City of Massillon
Stark County, Ohio

Francis H. Cicchinelli, Jr.
Mayor

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REVISIONS:

| DATE | DESCRIPTION |
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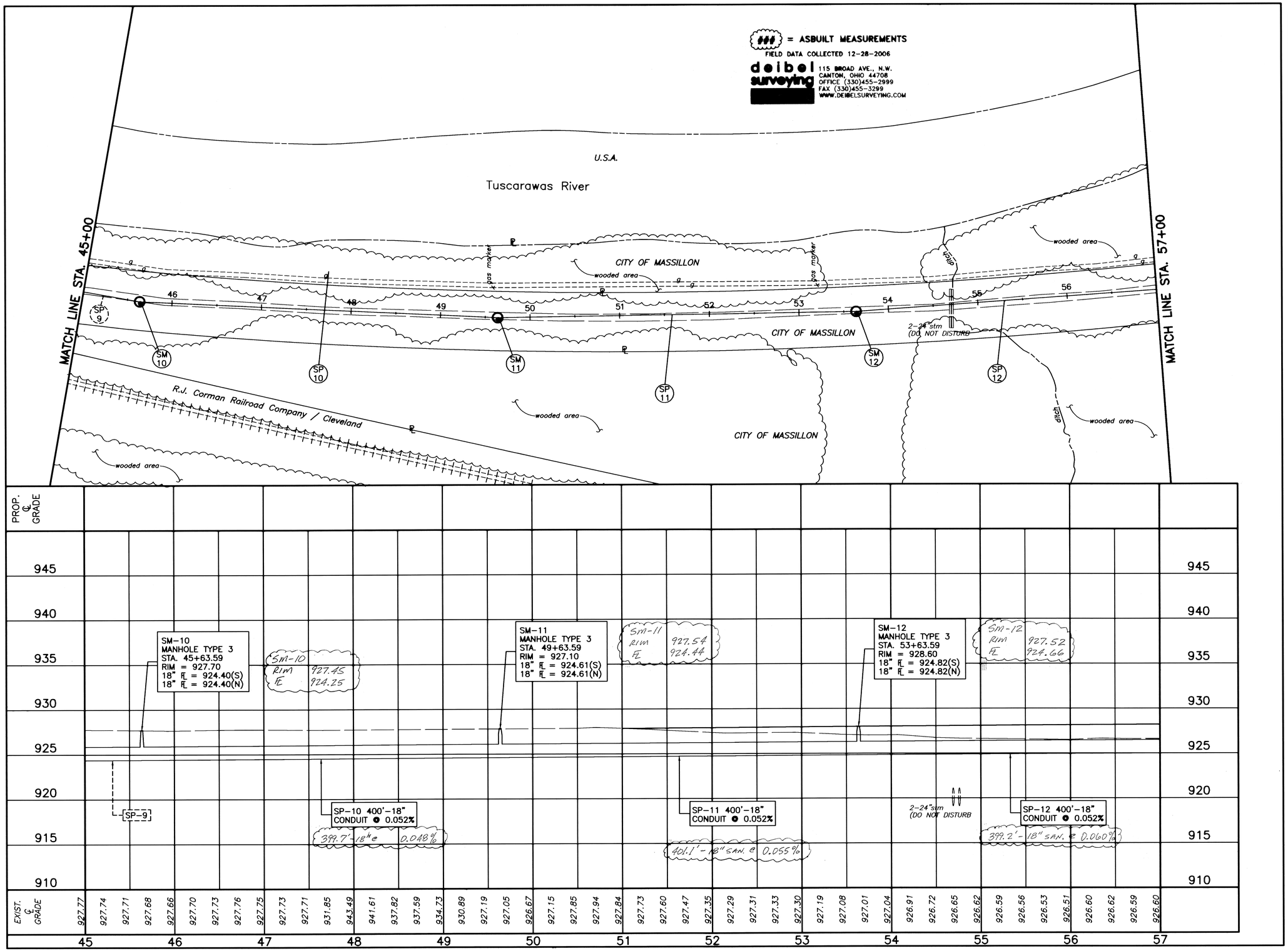


VERTICAL SCALE IN FEET

HORIZONTAL SCALE IN FEET

| DRAWN BY: | CHECKED BY: |
|---|---|
| FPW | SDH |
| DATE: April 20, 2004 | DATE: April 23, 2004 |

# West Warmington West Bank Trunk

## Sanitary Plan and Profile Sta. 21+00 to Sta. 33+00

City of Massillon
Stark County, Ohio

Francis H. Cicchinelli, Jr.
Mayor

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REVISIONS:

| DATE | DESCRIPTION |
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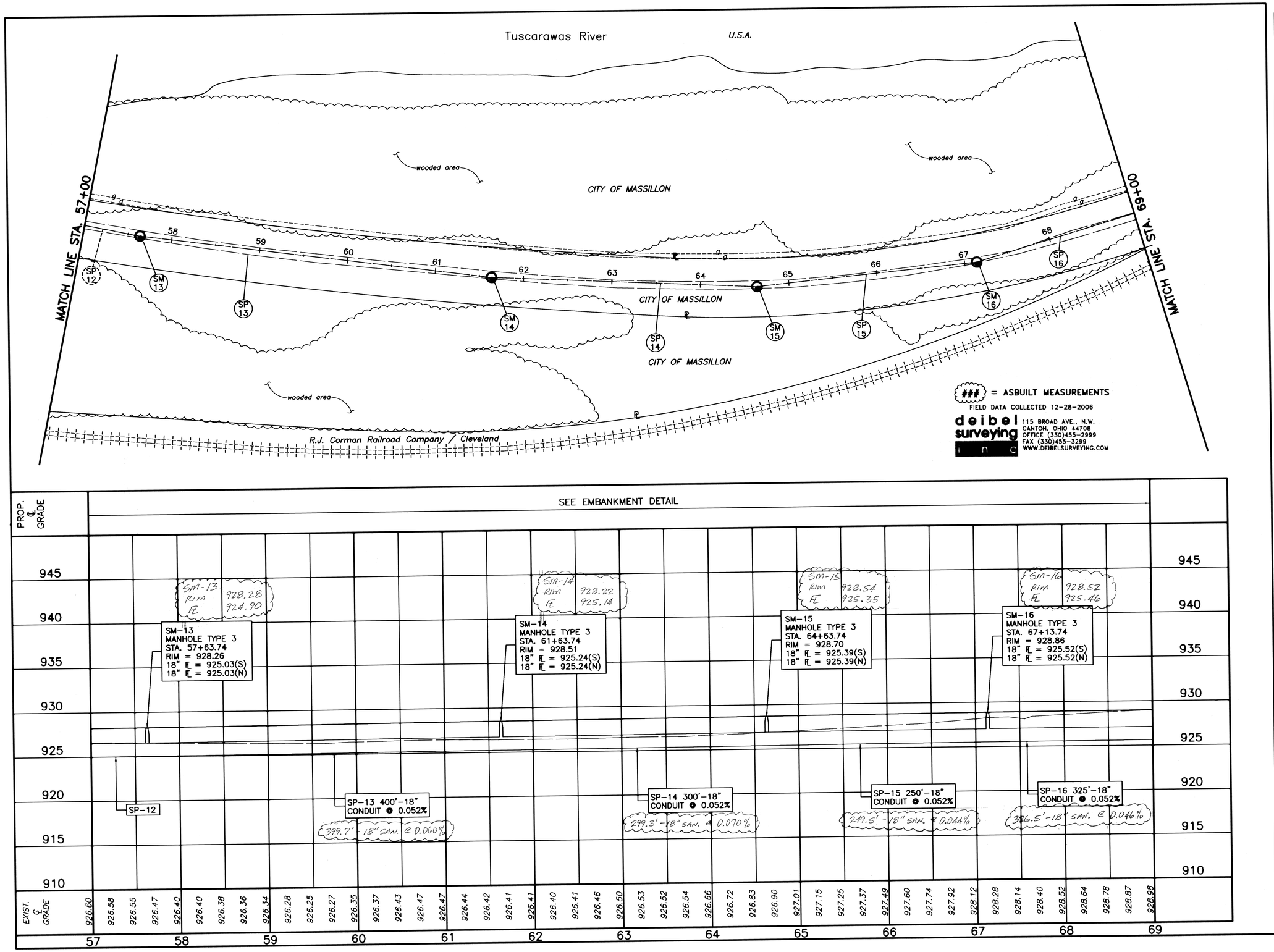


SE NE SW NW

VERTICAL SCALE IN FEET 10 5 2.5 0

50 25 0 50
HORIZONTAL SCALE IN FEET

| DRAWN BY: | CHECKED BY: |
|---|---|
| FPW | SDH |
| DATE: April 20, 2004 | DATE: April 23, 2004 |

# West Warmington West Bank Trunk

Sanitary Plan and Profile Sta. 21+00 to Sta. 33+00

City of Massillon
Stark County, Ohio

Francis H. Cicchinelli, Jr.
Mayor

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REVISIONS:

| DATE | DESCRIPTION |
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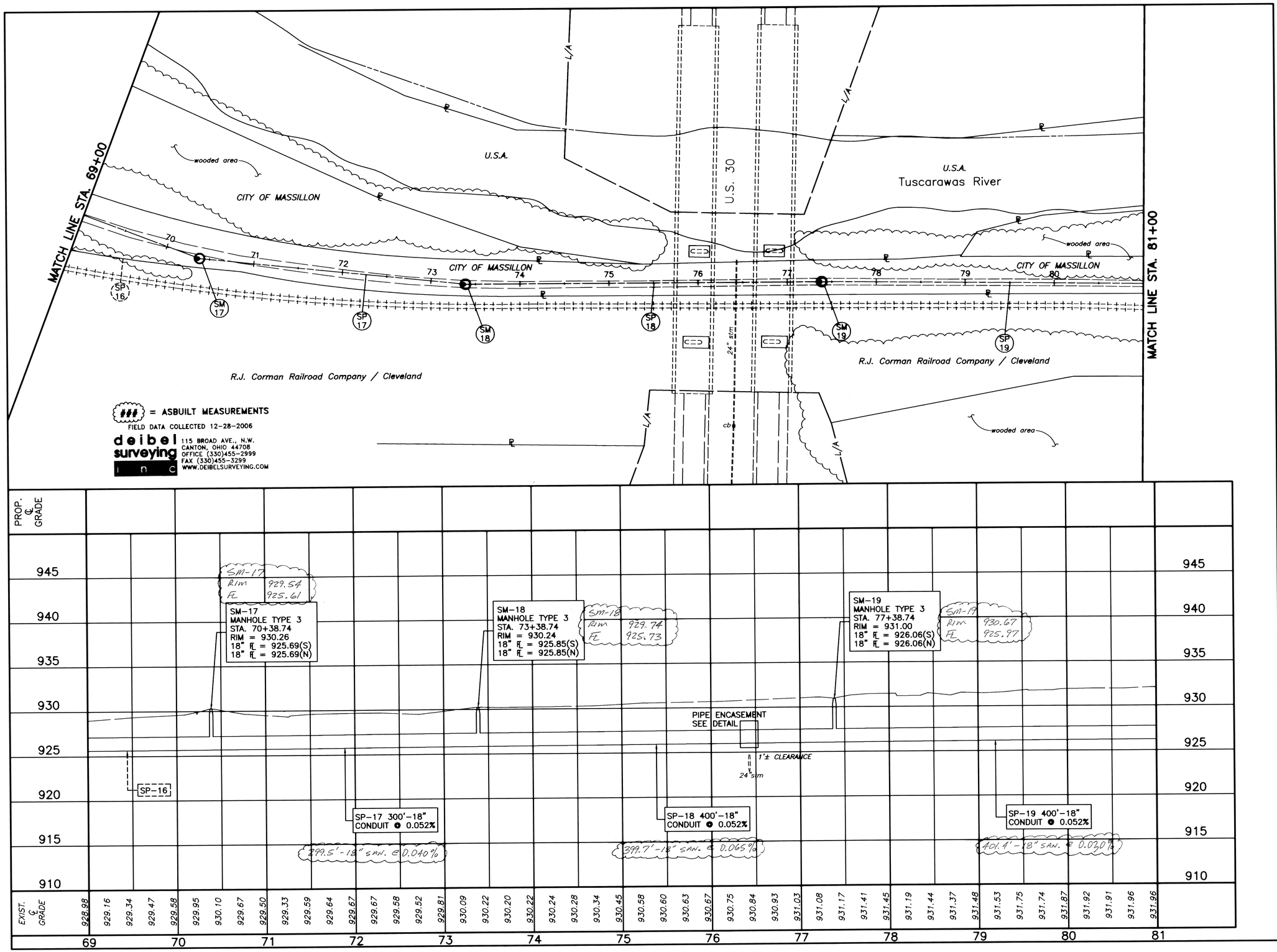


SCALE IN FEET
VERTICAL
10 5 2.5 0

50 25 0 50
HORIZONTAL
SCALE IN FEET

| DRAWN BY: | CHECKED BY: |
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| FPW | SDH |
| DATE: April 20, 2004 | DATE: April 23, 2004 |

# West Warmington West Bank Trunk

Sanitary Plan and Profile Sta. 69+00 to Sta. 81+00

City of Massillon
Stark County, Ohio

Francis H. Cicchinelli, Jr.
Mayor

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REVISIONS:

| DATE | DESCRIPTION |
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01SS0313.DWG

ACCOUNT NUMBER
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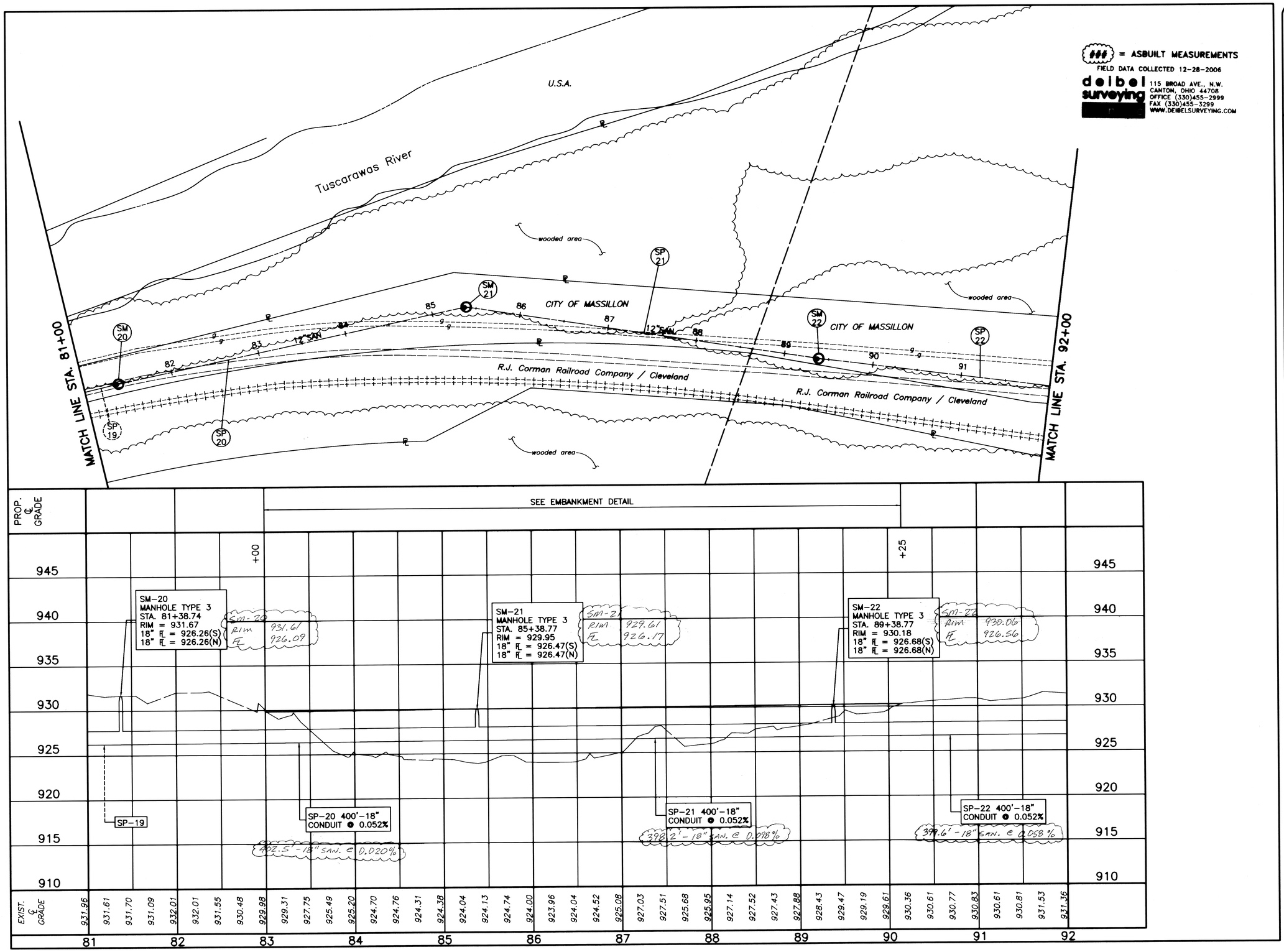


SCALE IN FEET
VERTICAL
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HORIZONTAL SCALE IN FEET
50 25 0 50

| DRAWN BY: | CHECKED BY: |
|---|---|
| FPW | SDH |
| DATE: April 20, 2004 | DATE: April 23, 2004 |

# West Warmington West Bank Truck

Sanitary Plan and Profile Sta. 81+00 to Sta. 92+00

City of Massillon
Stark County, Ohio

Francis H. Cicchinelli, Jr.
Mayor

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REVISIONS:

| DATE | DESCRIPTION |
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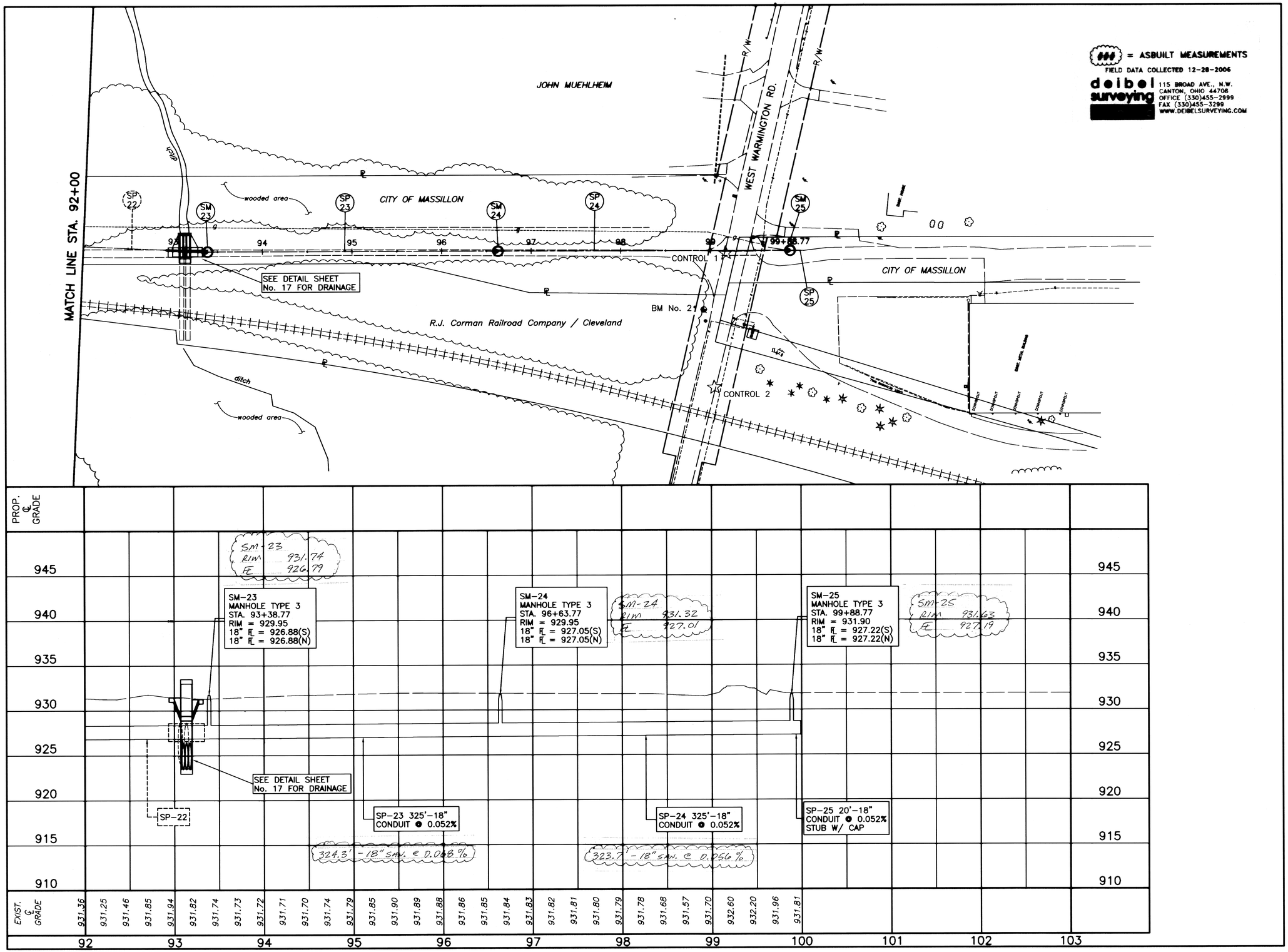


VERTICAL SCALE IN FEET

HORIZONTAL SCALE IN FEET

| DRAWN BY: | CHECKED BY: |
|---|---|
| FPW | SDH |
| DATE: April 20, 2004 | DATE: April 23, 2004 |

# West Warmington West Bank Trunk

Sanitary Plan and Profile Sta. 92+00 to Sta. 100+00

City of Massillon
Stark County, Ohio

Francis H. Cicchinelli, Jr.
Mayor

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REVISIONS:

| DATE | DESCRIPTION |
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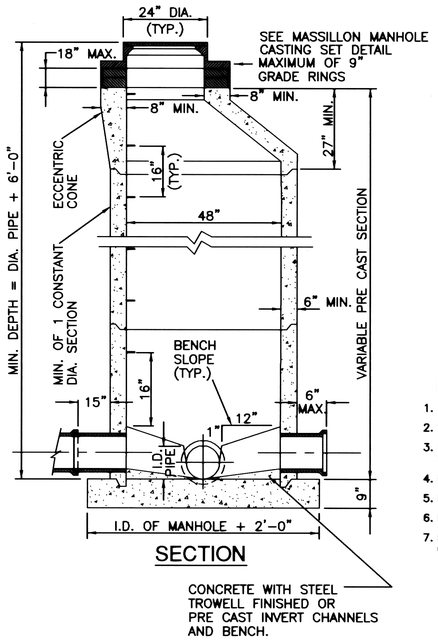
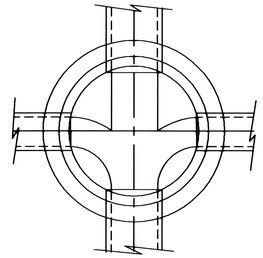



SECTION

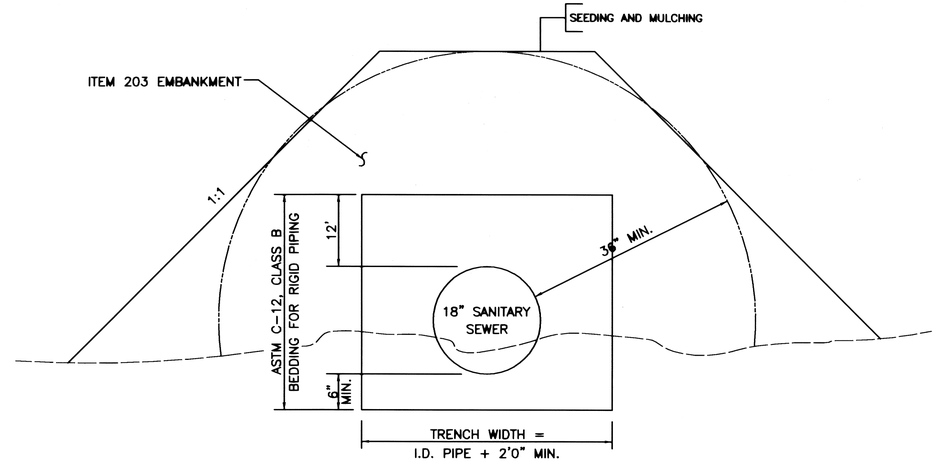


PLAN

NOTE:

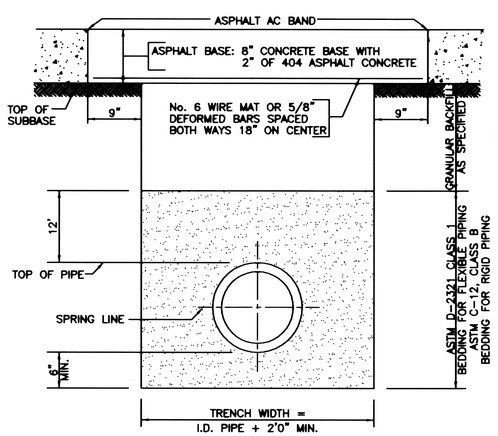
1. IF TOP STEP IS IN 24" DIA. OPENING IT MAY PROJECT NO MORE THAN 3 1/2".
2. M.A. IND. PS-1-PF STEPS OR APPROVED EQUAL.
3. FOR PVC & ABS PIPE CONNECTIONS USE ASTM C-923 FLEXIBLE GASKET SUCH AS A-LOK, DURA SEAL III, KOR-N-SEAL OR APPROVED EQUAL. THIS METHOD ALSO ACCEPTABLE FOR VCP.
4. PRE CAST MANHOLES SECTIONS CONCRETE CONSTRUCTION SHALL MEET ASTM C-478.
5. MANHOLE JOINTS SHALL MEET ASTM C-443.
6. MANHOLE AIR TESTING WILL BE IN ACCORDANCE WITH ASTM C-1244
7. MANHOLE ADJUSTMENTS TO GRADE WILL BE NO GREATER THAN 18", USING PRECAST COLLARS MEETING ASTM C-32 OR AS DETAILED ON MASSILLON MANHOLE CASTING SET

MANHOLE DETAIL



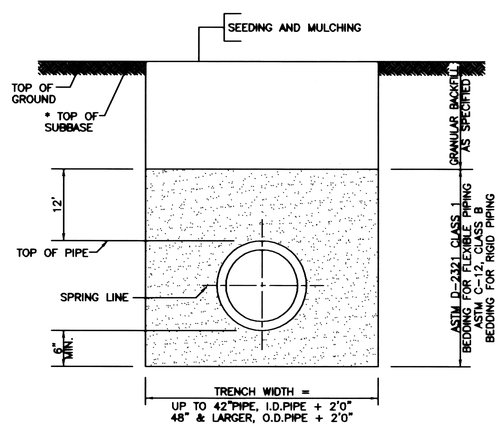

EMBANKMENT DETAIL

PAY FOR UNDER ITEM 603 CONDUIT TYPE B




PAVEMENT TRENCHING DETAIL

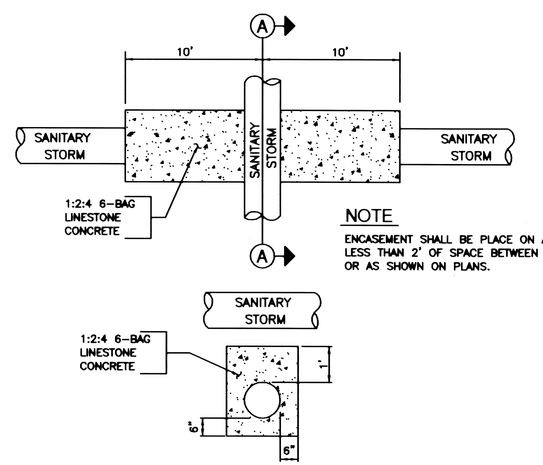
PAY FOR UNDER ITEM 603 CONDUIT TYPE B




TRENCHING DETAIL

PAY FOR UNDER ITEM 603 CONDUIT TYPE B

* NOTE: IF UNDER FULLDEPTH PAVEMENT REMOVAL AND REPLACEMENT AREAS LESS THE SEEDING AND MULCHING




A-A

NOTE

ENCASEMENT SHALL BE PLACE ON ANY CROSSING WITH LESS THAN 2' OF SPACE BETWEEN SANITARY AND STORM OR AS SHOWN ON PLANS.

PIPE ENCASEMENT

PAY FOR UNDER ITEM 603 CONDUIT TYPE B

VERTICAL SCALE IN FEET 0 1 2 4

HORIZONTAL SCALE IN FEET 2 1 0 2

| DRAWN BY: | CHECKED BY: |
|---|---|
| FPW | SDH |
| DATE: SEPT., 2004 | DATE: Oct., 2004 |

# West Warmington West Bank Trunk

Sanitary Details
City of Massillon
Stark County, Ohio

Francis H. Cicchinelli, Jr.
Mayor

Massillon
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REVISIONS:

| DATE | DESCRIPTION |
|---|---|
| | |

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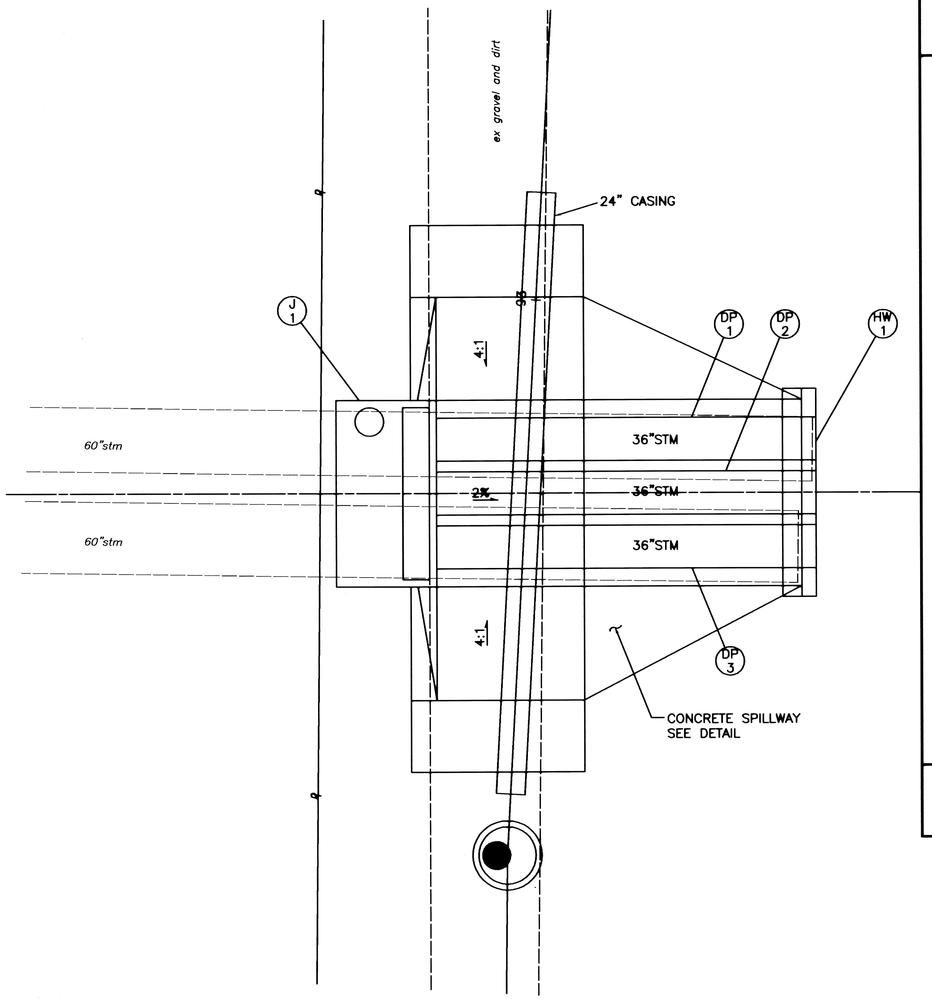
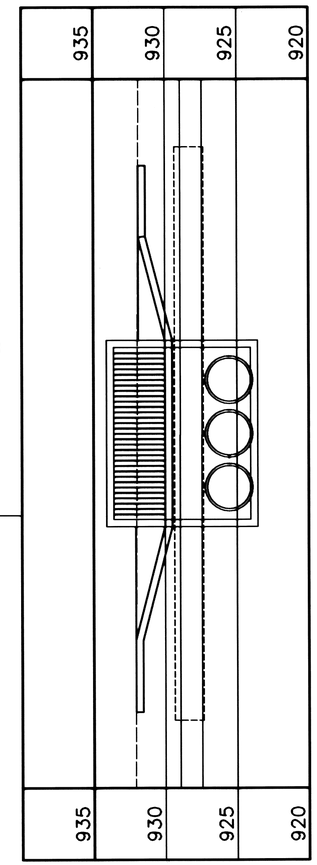
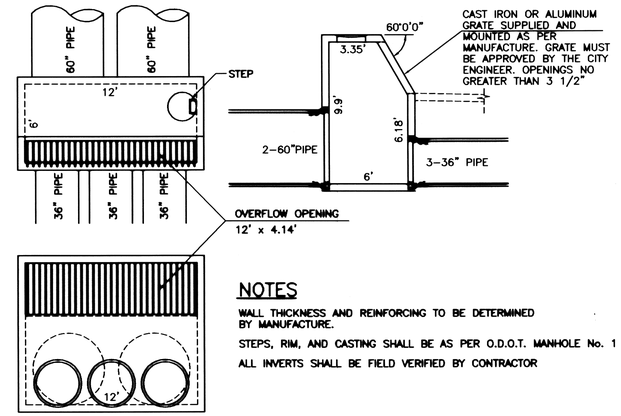
ACCOUNT NUMBER 01SS03



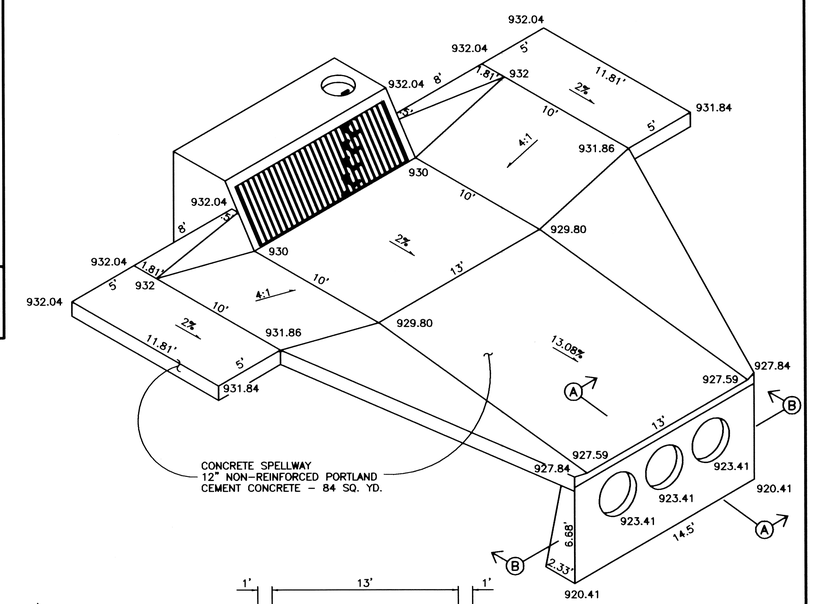

## NOTES

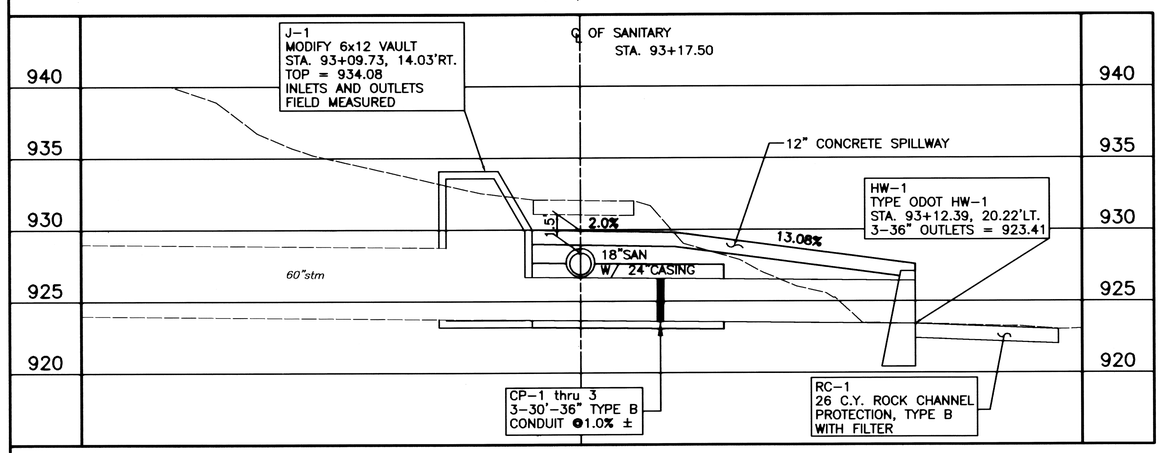
WALL THICKNESS AND REINFORCING TO BE DETERMINED BY MANUFACTURE.

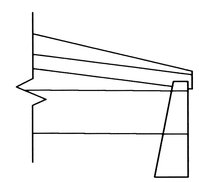
STEPS, RIM, AND CASTING SHALL BE AS PER O.D.O.T. MANHOLE No. 1

ALL INVERTS SHALL BE FIELD VERIFIED BY CONTRACTOR

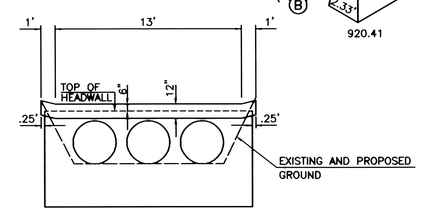
## PRE-CAST 6' x 12' JUNCTION CHAMBER



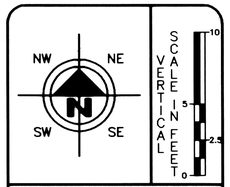



SECTION A-A




SECTION B-B

## CONCRETE SPILLWAY DETAIL




HORIZONTAL SCALE IN FEET
5 2.5 0 5

| DRAWN BY: | CHECKED BY: |
|---|---|
| FPW | SDH |
| DATE: July 1, 2004 | DATE: July 2, 2004 |

# West Warmington West Bank Trunk

Ditch Plan and Profile Sta. 1+40 to Sta. 4+10

Box Culvert and Ditch

City of Massillon
Stark County, Ohio

Francis H. Cicchinelli, Jr.
Mayor

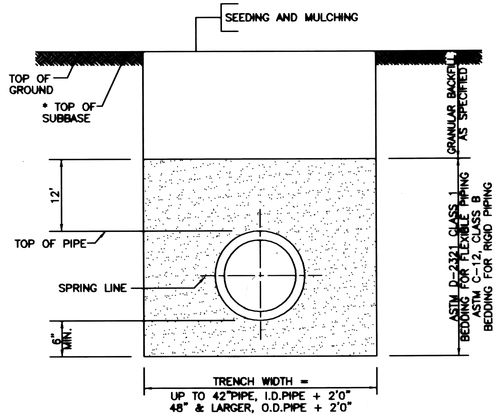
Massillon
Means More!

REVISIONS:

| DATE | DESCRIPTION |
|---|---|
| | |

FILE NAME: 01SS0317.DWG

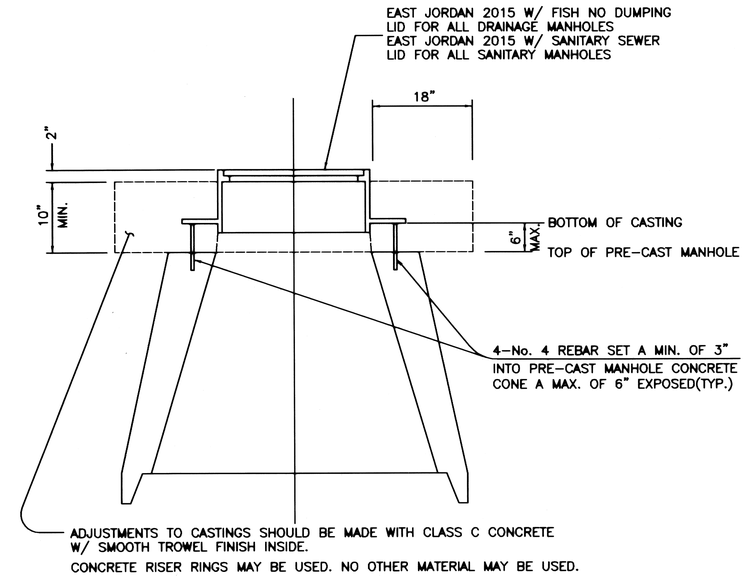
ACCOUNT NUMBER: 01SS03



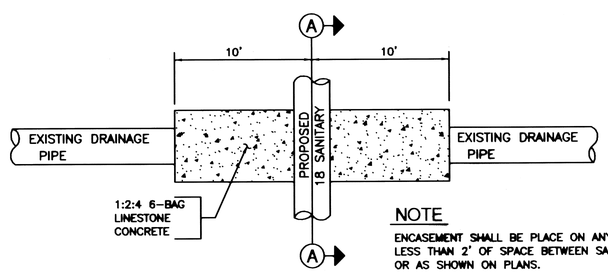

## TRENCHING DETAIL

PAY FOR UNDER ITEM 603 CONDUIT TYPE B

* NOTE: IF UNDER FULLDEPTH PAVEMENT REMOVAL AND REPLACEMENT AREAS LESS THE SEEDING AND MULCHING

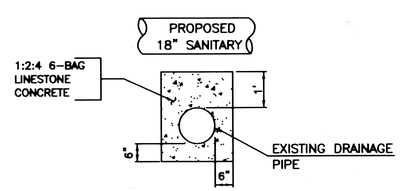



## *Massillon Manhole Casting Set*




NOTE

ENCASEMENT SHALL BE PLACE ON ANY CROSSING WITH LESS THAN 2' OF SPACE BETWEEN SANITARY AND STORM OR AS SHOWN ON PLANS.




A-A

## PIPE ENCASEMENT

PAY FOR UNDER ITEM 603 CONDUIT TYPE B

| DRAWN BY: | CHECKED BY: |
|---|---|
| FW | SDH |
| DATE: Oct., 2004 | DATE: Oct, 2004 |

*West Warmington West Bank Trunk*

Drainage Details Summary

City of Massillon

Stark County, Ohio

Francis H. Cicchinelli, Jr.
Mayor

Massillon
Means More!

REVISIONS:

| DATE | DESCRIPTION |
|---|---|
| | |

FILE NAME: 01SS0318.DWG

ACCOUNT NUMBER 01SS03