

#### COUNTRY ESTATES EAST WATER AND SANITARY SEWER IMPROVEMENTS

#### Monroe Township Water & Sewer District October 3, 2016

#### **ADDENDUM #2**

#### Offices

To All Bidders:

Fax: 614-459-6987 Toll Free: 866-277-0600

128 East Main Street Logan, Ohio 43138 740-385-2140

1495 Old Henderson Rd. Columbus, Ohio 43220 614-459-6992

507 Main Street Zanesville, Ohio 43701 740-450-1640 This Addendum is issued to modify the original Project Manual and Drawings and is hereby made a part of the Contract Documents. This Addendum shall be attached to the Project Manual(s) in your possession and shall become a part of all bids. A signed copy of this Addendum shall be included with the bid submission. Bidders shall review changes to all portions of the work, as changes to one portion may affect the work of another. NOTIFY ALL SUBCONTRACTORS OF ADDENDUM ITEMS:

- Item 1: Attached find revised plan sheet 3 for the sanitary sewer improvements which revises some quantity irregularities and corrects the missing vacuum test time chart.
- Item 2: Attached find revised plan sheet 9 for the sanitary sewer improvements which corrects the manhole callout for manhole S11.
- Item 3: Attached is revised sheet 4 for the waterline improvements which revises some quantity irregularities.
- Item 4: Attached is revised sheet 5 for the waterline improvements which revises the water service detail to include 2" water services and clarifies meter sizes.
- Item 5: Attached is a revised bid schedule to be used for bidding purposes. The bid schedule incorporates the changes made to the plan quantities.
- Item 6: Attached is the sign-in sheet for the Pre Bid meeting held on September 29, 2016.
- Item 7: Attached is a revised Bid Guaranty and Bid Bond form to be used for bidding.
- Item 8: The Coil Pittsetter as manufactured by the Ford Meter Box is an approved equal to the specified McCullough Thermal Coil Meter Pit.
- Item 9: The City of Tipp City will provide the 8" water meters for the two master meter pits.
- Item 8: The following are items discussed at the Pre Bid meeting held on September 29, 2016.
  - 1. The deadline for bidder questions will be Tuesday October 4, 2016 @ 5:00 pm. This a Prevailing Wage and Tax Exempt project. Soil Borings report is located in contract manual



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- 2. Bid form calls for additional gravel backfill where is this to be used? This item has been removed from plans and bid schedule
- 3. Notes call for right away permits and tapping permits please explain and identify costs?
  - Permit is required for working in Tipp City ROW at existing line connections. Contact Tipp City for permit requirements. The District will not require any additional permits.
- 4. Notes call for 2" Bituminous temporary paving, is this actually required or can we just maintain the 304 Stone trench?

  Pavement within Tipp City ROW will require temporary pavement placement. Remaining project area can be 304 as long as it is maintained by the contractor on a regular basis. If it is not maintained, the contractor will be required to place temp bituminous pavement at his own expense.
- 5. Are the long sanitary laterals open cut or direct drilled?

  Long sewer services can be either open cut or drilled under the roadway.
- 6. Do we need to televise the new main or just air & Mandrel? No televising of the new sewer will be required.
- 7. Are the trees in right of way being removed or just trimmed? If in direct conflict trees will need to be removed. Trees located in easements that are in conflict will need to be removed.
- 8. What meter sizes are to be used. Detail calls for 5/8", plans call for 2" services and quantities call for 1" services? If in fact 2" is required what is the meter, meter pit type to be used?

  3/4" service will require 3/4" meters and 2" services will require 2" meters. See attached revised sheet 5 for clarifications as to the meter pit type to be used for 2" services.
- 9. What type of chimney seals are to be used?
  All manholes will require an internal chimney seal be installed between the casting and concrete manhole. Chimney seal shall be as manufactured by CRETEX or an approved equal.
- 10. Waterline appears to be close to the curb face averaging 14-26" of asphalt once trench is cut and excavated. If this doesn't hold up will the contractor be paid for replacing this asphalt?

  The contractor will only be compensated for road repairs that are within the indicated pay limits indicated on trench detail of the plans. Damage to the asphalt outside the indicated pay limits will be at the contractor's expense, unless extreme ground conditions are encountered that cause additional pavement damage. These areas will be reviewed on a case by case basis. The repairs will need to be



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507 Main Street Zanesville, Ohio 43701 740-450-1640 neatly saw cut. Monroe township intends to overlay the street after the water and sewer project is completed.

- 11. Alternates for water and sewers services were discussed as follows:
  - a. Some residents may have service installed by contractor some may not.
  - b. Sewer is designed at an elevation to serve the existing septic tank elevations.
  - c. Services should be installed to within 5' of the structure to be served.
  - d. Abandonment of the existing septic tank will be the home owner's responsibility.
  - e. District will establish a deadline for home owners to decide if they are installing the services via their own contractor or the District's.
  - f. The District will only pay for the installation and testing of the services. Any surface features needing removed and repaired will be paid by the property owner directly to the contractor. This includes but is not limited to driveways, trees, landscaping etc. Connections such as in crawl spaces under decks etc. will also be paid directly to the contractor.
  - g. Services will be required to be tested. The contractor will need to obtain service testing requirements from Tipp City.
- 12. What are the private water well depths?

  Specific depths are unknown but it is believed that they are deep wells. It was suggested that this information could be obtain on the ODNR website by viewing the available well logs for the area.

The bidder, by signing below, certifies that the above changes, revisions, and/or clarifications have been included in his or her bid. A signed copy of this addendum must be included with the bid submission.

This Addendum **DOES NOT CHANGE** the bid date.

DIDDED

BIDDEK	
Authorized Signature for the Bidder	Date

END OF ADDENDUM #1 COUNTRY ESTATES EAST WATER AND SANITARY SEWER IMPROVEMENTS Monroe Township Water & Sewer District

- 2.1 MATERIALS, SANITARY SEWER MANHOLES
- A. BOTTOM SECTIONS

1. MANHOLE BOTTOMS SHALL BE IN ACCORDANCE WITH ASTM C 478-75 "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS". ALL PRECAST CONCRETE SHALL BE CLASS C (ODOTCMS)

- 2. BOTTOM CHANNELS WILL BE FORMED CONCRETE PRECAST WITH THE BASE.
- 3. OPENINGS IN THE BASE FOR INLET & OUTLET PIPES SHALL BE PROVIDED WHEN THE UNIT IS CAST TO MEET PROJECT REQUIREMENTS.

4. CONNECTIONS: THE PIPE TO MANHOLE CONNECTIONS ON ALL SANITARY SEWERS SHALL BE FLEXIBLE & WATERTIGHT. THE SEWER PIPE BARREL AT THE SPRINGLINE SHALL NOT EXTEND MORE THAN 1 INCH BEYOND THE INSIDE FACE OF THE MANHOLE. TO MAINTAIN FLEXIBILITY IN THE CONNECTION, A 1 INCH SPACE SHALL BE LEFT BETWEEN THE END OF THE PIPE INSIDE THE MANHOLE & THE CONCRETE CHANNEL. THIS SPACE SHALL BE FILLED WITH A WATERPROOF FLEXIBLE JOINT FILLER. ALL STUB CONNECTIONS SHALL BE PIPE WITH THE SAME JOINT, STRENGTH & SPECIFICATIONS AS THE SEWER PIPE. THE STUB SHALL BE PLUGGED & BLOCKED WITH A STOPPER COMPATIBLE WITH THE SEWER PIPE JOINT & AS APPROVED BY THE ENGINEER. ANY METAL THAT IS USED SHALL BE TYPE 300 SERIES STAINLESS STEEL. THE CONNECTION MAY BE ANY OF THE FOLLOWING TYPES:

- A. RUBBER SLEEVE WITH STAINLESS STEEL BANDING.
- 1.) KOR-N-SEAL AS MANUFACTURED BY NATIONAL POLLUTION CONTROL SYSTEMS INC.
- 2.) LOCK JOINT FLEXIBLE MANHOLE SLEEVE AS MANUFACTURED BY INTERPACE CORPORATION.
- 3.) A-LOK. 4.) OR APPROVED EQUAL
- B. BARREL SECTIONS
- 1. MANHOLE BARREL SECTIONS SHALL BE IN ACCORDANCE WITH ASTM C 478-75.

2. LIFT HOLES SHALL BE PROVIDED IN EACH SECTION FOR HANDLING. 3. OPENINGS IN BARREL SECTIONS FOR 18 INCH & SMALLER INLET PIPES SHALL BE PREFABRICATED. THE PIPE PROJECTING THROUGH THE MANHOLE IS TO BE FLUSH WITH THE INSIDE OF THE MANHOLE WALL. SURFACE OPENINGS IN RISER SECTIONS FOR PIPES LARGER THAN 18 INCHES SHALL BE PROVIDED BY A TEE CONNECTION PREFABRICATED IN THE RISER SECTION, MANHOLES LOCATED WITHIN GRASSED AREAS OR 100 YEAR FLOODWAY PATHES SHALL HAVE SOLID BOLT DOWN LIDS WITH CHIMNEY SEALS.

#### C. TOP SECTION

1. TOP & TRANSITION (OR REDUCER) SECTIONS MAY BE EITHER ECCENTRIC CONE OR FLAT SLAB & SHALL BE IN ACCORDANCE WITH ASTM C 478-75.

#### D. JOINTS

1. JOINTS OF THE MANHOLE SECTIONS SHALL BE OF THE RUBBER GASKET TYPE, SELF-CENTERING & WATERTIGHT, & SHALL BE IN ACCORDANCE WITH ASTM C 443-76A "JOINTS FOR CIRCULAR CONCRETE SEWER & CULVERT PIPE USING RUBBER GASKETS". THE EXTERIOR OF THE JOINT SHALL BE INFILLED WITH CEMENT MORTAR.

#### E. FRAMES & COVERS

1. FRAMES & COVERS SHALL BE OF HEAVY DESIGN (475 POUNDS MINIMUM TOTAL WEIGHT, NEENAH R-1785 OR EQUIVALENT) WHEN THE MANHOLE IS PLACED WITHIN THE LIMITS OF THE PAVEMENT OR SHOULDER. OTHERWISE THE LIGHT DESIGN (275 POUNDS MINIMUM TOTAL WEIGHT, NEENAH R-1786 OR EQUIVALENT) MAY BE USED. FRAME & COVER SHALL BE MADE OF GOOD QUALITY CAST IRON CONFORMING TO ASTM A 48 "GRAY CAST IRON CASTINGS". THE COVER & SEAT SHALL HAVE MACHINED BEARING SURFACES TO PREVENT ROCKING. FRAMES SHALL BE PLACED ACCURATELY TO GRADE IN A FULL BED OF NONSHRINK GROUT.

2. SOLID MANHOLE COVERS WITH CONCEALED PICK HOLES SHALL BE USED IN ALL LOCATIONS. , THEY SHALL BE OF AN APPROVED WATERPROOF TYPE.

1. DROP PIPES SHALL BE INSTALLED & CONSTRUCTED OF THE MATERIALS SHOWN ON THE CONTRACT DRAWINGS.

# G. STEPS

1. STEPS SHALL BE REINFORCED POLYPROPYLENE & CONFORM TO ITEMS 711.30 & 711.31 & THE CONTRACT DRAWINGS.

# PART 3 - EXECUTION

# 3.1 INSTALLATION, GENERAL

A. FOUNDATION. WHEN A PRECAST CONCRETE MANHOLE BASE IS USED, THE CONTRACTOR SHALL PROVIDE GRAVEL BEDDING FOR THE BASE FOUNDATION. THE PAD SHALL EXTEND A MINIMUM OF 4 INCHES BEYOND THE OUTSIDE WALL OF THE MANHOLE BASE & SHALL BE 6 INCHES THICK WITH A 1 INCH  $\pm 1$  TOLERANCE. THE PAD SHALL BE SOLID & FREE FROM MUD & WATER BEFORE ANY MANHOLE IS PLACED THEREON.

B. COLD WEATHER. IF THE WORK IS CARRIED ON IN COLD WEATHER. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING, AT HIS OWN EXPENSE, THE NECESSARY MEANS FOR HEATING CONCRETE, BRICK & MORTAR & FOR COMPLYING WITH ALL THE REQUIREMENTS OF THE ENGINEER TO THOROUGHLY PROTECT THE MASONRY & CONCRETE WORK DURING & AFTER CONSTRUCTION FROM DAMAGE BY FROST. NO WORK SHALL BE DONE ON ANY MASONRY OR BACKFILLING DURING SUCH DAYS AS, IN THE OPINION OF THE ENGINEER, ARE UNSUITABLE FOR GOOD WORKMANSHIP.

C. GRADE ADJUSTMENT. IF THE MANHOLE FRAME & COVER ARE TO BE ADJUSTED TO GRADE, ADJUSTMENT SHALL BE MADE WITH THE USE OF PRECAST GRADE RINGS CONFORMING TO ASTM C 478. THE RINGS SHALL BE WATERPROOFED ON THE OUTSIDE WITH THE USE OF A 1 INCH PLASTER COATING AND THE USE GRADE RINGS IS LIMITED TO A MAXIMUM TOTAL OF 2.

D. COMPLETION. ALL SEWERS, MANHOLES & INLETS, UPON THEIR COMPLETION, ARE TO BE CLEAN & FREE FROM RUBBISH & KEPT SO UNTIL THE ACCEPTANCE OF THE WORK. REPAIRS OR ALTERATIONS MADE TO THE MANHOLES AFTER PERFORMING THE LEAKAGE TEST MAY BE JUSTIFICATION FOR A RETEST OF THE SECTION OF SEWER INVOLVED.

E. INVERTS. WHERE THERE ARE CHANGES IN THE DIRECTION OF THE SEWER OR ENTERING BRANCHES TO THE MANHOLE OR INLET. THE CENTERLINE OF THE INVERT SHALL HAVE A TRUE CURVE OF AS LARGE A RADIUS AS THE SIZE OF THE MANHOLE OR INLET WILL PERMIT.

# SANITARY SEWER TESTING

A. TEST SECTION. A LEAKAGE TEST SECTION FOR SANITARY SEWERS SHALL BE FROM THE INLET END OF THE DOWNSTREAM MANHOLE TO THE INLET END OF THE UPSTREAM MANHOLE, INCLUDING THE UPSTREAM MANHOLE & ALL HOUSE SERVICES.

B. TEST SEQUENCE. TESTING ON FORCE MAIN & GRAVITY SEWER SHALL BE PERFORMED 60 DAYS AFTER INSTALLATION AND BACKFILLING ARE COMPLETE.

# C. LEAKAGE ALLOWANCE.

1. SANITARY SEWERS. THE MAXIMUM LEAKAGE ALLOWANCE FOR ALL SANITARY SEWERS SHALL BE 100 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS.

# D. TEST PROCEDURE

AIR TESTING OF PIPES WILL BE ACCOMPLISHED ONLY BY THE USE OF EQUIPMENT THAT HAS BEEN APPROVED BY THE ENGINEER & IN ACCORDANCE WITH THE FOLLOWING STEPS:

1.) PLUG ALL PIPE OUTLETS WITH SUITABLE TEST PLUGS. BRACE EACH PLUG SECURELY.

2.) ADD AIR SLOWLY TO THE PORTION OF THE PIPE INSTALLATION UNDER TEST UNTIL THE

INTERNAL AIR PRESSURE IS RAISED TO 4.0 POUNDS PER SQUARE INCH GAUGE (PSIG).

3.) AFTER AN INTERNAL PRESSURE OF 4.0 PSIG IS OBTAINED, ALLOW AT LEAST 2 MINUTES FOR AIR TEMPERATURE TO STABILIZE, ADDING ONLY THE AMOUNT OF AIR REQUIRED TO MAINTAIN PRESSURE.

4.) WHEN PRESSURE DECREASES TO 3.5 PSIG, START STOPWATCH. DETERMINE THE TIME IN SECONDS THAT IS REQUIRED FOR THE INTERNAL AIR PRESSURE TO REACH 3.0 PSIG. MINIMUM PERMISSIBLE PRESSURE HOLDING TIMES FOR RUNS OF SINGLE PIPE DIAMETER & FOR SYSTEMS OF 4 INCH, 6 INCH OR 8 INCH LATERALS IN COMBINATION WITH TRUNK LINES SHALL BE AS PUBLISHED IN TABLES BY THE NATIONAL CLAY PIPE INSTITUTE (AS SEEN ON THIS SHEET).

IN THE EVENT THE ALLOWABLE LEAKAGE LIMITS ARE NOT MET. THE CONTRACTOR SHALL DETERMINE THE LOCATION WHERE EXCESS WATER IS ENTERING OR LEAVING THE SEWER. OR EXCESSIVE AIR. THE SEWER &/OR MANHOLES SHALL BE REPAIRED IN A MANNER SATISFACTORY TO THE PVRSD AND RETESTED UNTIL THE LEAKAGE IS WITHIN THE ALLOWABLE LIMITS.

ALL MANHOLES SHALL BE VACUUM TESTED AFTER THE SANITARY SEWER HAS BEEN BACKFILLED FOR 60 DAYS.

STANDARD CONCRETE SEWER MANHOLE VACUUM TEST PER ASTM (DESIGNATION C-1244-93)

#### PROCEDURE:

THE TEST HEAD SHALL BE PLACED AT THE TOP OF THE MANHOLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. A VACUUM OF 10 INCHES OF MERCURY SHALL BE DRAWN ON THE MANHOLE, THE VALVE ON THE VACUUM LINE OF THE TEST HEAD CLOSED AND THE VACUUM PUMP SHUT OFF. THE TIME SHALL BE MEASURED FOR THE VACUUM TO DROP TO 9 INCHES OF MERCURY. THE MANHOLE SHALL PASS IF THE TIME FOR THE VACUUM READING TO DROP FROM 10 TO 9 MEETS OR EXCEED THE VALUES INDICATED IN THE TABLE BELOW. IF THE MANHOLE FAILS THE INITIAL TEST, NECESSARY REPAIRS SHALL BE MADE BY AN APPROVED METHOD. THE MANHOLE SHALL THEN BE RETESTED UNTIL A SATISFACTORY TEST IS OBTAINED.

Depth				<b>Diamete</b>	r (Inches)				
(feet)	30	33	36	42	48	54	60	66	72
8	11	12	14	17	20	23	26	29	33
10	14	16	18	21	25	29	33	36	41
12	17	18	21	25	30	35	39	43	49
14	20	21	25	30	35	41	46	51	57
16	22	24	30	34	40	46	52	58	67
18	25	27	32	38	45	52	59	65	73
20	28	30	35	42	50	53	65	72	81
22	31	33	39	46	55	64	72	79	89
24	33	36	42	51	59	64	76	87	97
26	36	39	46	55	64	75	85	94	105
28	39	42	49	59	69	81	91	101	113
30	42	45	53	63	74	87	98	108	121
					L = 0.060L L = 0.067L				

THE CONTRACTOR SHALL INCLUDE IN THE PRICE BID PER LINEAR FOOT OF SEWER, THE COST OF ALL BULKHEADS, PLUGS, PIPE STOPPERS, PUMPS, COMPRESSORS, WATER, WEIRS, LABOR, DELAY & ANY OTHER ITEMS OF COST NECESSARY FOR THE PERFORMANCE & COMPLETION OF THE REQUIRED LEAKAGE TESTS & FOR THE COST OF ANY REPAIRS OR ADJUSTMENTS WHICH MAY BE NECESSARY TO MAKE THE PROJECT CONFORM TO THE REQUIRED ALLOWABLE LEAKAGE

ALL LEAKAGE TESTS SHALL BE CONDUCTED UNDER THE SUPERVISION OF THE DISTRICT OR THEIR REPRESENTATIVE.

ALL SANITARY SEWER LINE INSTALLED ON THIS PROJECT USING PVC PIPE SHALL BE SUBJECT TO DEFLECTION TESTING BY PULLING AN APPROVED MANDREL EQUAL IN DIAMETER TO 95% OF THE PIPE DIAMETER THROUGH THE PIPE AFTER PIPE IS BACKFILLED FOR 60 DAYS. REROUNDING OF FAILED PIPE MAY BE PERFORMED ONLY IF LESS THAN 10% OF THE TESTED SEWERS FAIL THE MANDREL TEST. ALL FAILED PIPE SHALL BE REROUNDED OR REPLACED & WARRANTED AN ADDITIONAL 2 YEARS.

# GENERAL NOTES (SEWERS)

A. ROOF DRAINS, FOUNDATION DRAINS, SUMP PUMPS, & OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED ON THIS PROJECT.

B. ALL SEWERS CONSTRUCTED UNDER THIS PLAN SHALL MEET MONROE TOWNSHIP WATER & SEWER DISTRICT SPECIFICATIONS AND TIPP CITY SPECIFICATIONS.

C. THE MINIMUM REQUIREMENTS FOR SANITARY SEWER PIPE SHALL BE PVC PLASTIC SEWER PIPE ASTM D-3034, SDR 35, OR DUCTILE IRON PIPE.

D. PIPE FOR ALL 6 INCH HOUSE SERVICES SHALL BE PVC PLASTIC SEWER PIPE. ASTM D-3034. SDR 35. ALL SERVICE EXTENSIONS SHALL BE LAID AT A MINIMUM GRADE OF ONE QUARTER INCH PER FOOT & SHALL BE CONSTRUCTED AT THE TIME OF CONSTRUCTION OF THE MAIN SEWER. SANITARY SEWER SERVICES MAY BE JACKED & BORED ACROSS STREETS WITH PRIOR APPROVAL OF THE DISTRICT.

E. APPROVED WYE POLES MADE OF 2"X 2" LUMBER SHALL BE FURNISHED & PLACED AT ALL WYE BRANCHES & AT THE END OF EXTENDED SERVICES. THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE SEWER ITEMS.

F. WHERE DEPTHS FROM WYES TO EXISTING OR PROPOSED ELEVATIONS EXCEED 12 FEET, RISERS SHALL BE INSTALLED WITH THE TOPS OF THE RISERS 9 FEET (MIN.) BELOW THE EXISTING OR PROPOSED SURFACE ELEVATION, WHICHEVER IS HIGHER, PROVIDED THAT SERVICE SHALL STILL BE PROVIDED. THE CONTRACTOR SHALL VERIFY THE ELEVATION OF ANY HOUSE SERVICE AT THE WYE POLE TO ENSURE THAT EVERY EFFORT IS MADE TO SERVICE TO THE EXISTING STRUCTURE. WHERE SERVICE RISERS ARE NOT INSTALLED, A MINIMUM 5 FOOT LENGTH OF LATERAL PIPE OF THE SAME SIZE AS THE WYE OPENING SHALL BE INSTALLED.

G. THE WYE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE & SHALL BE FIELD LOCATED DURING CONSTRUCTION TO SERVE THE INDIVIDUAL STRUCTURES.

H. MANHOLE COVERS SHALL CONFORM TO THE DETAILS SHOWN HEREIN. ALL MANHOLES IN GRASSED AREAS OR 100 YR FLOODWAYS REQUIRE CHIMNEY SEALS AND SOLID BOLT LIDS.

I. MANHOLE TOPS SHALL BE BUILT OR SUBSEQUENTLY ADJUSTED TO MEET SURFACE GRADES ESTABLISHED FOR THE PROJECT. COST OF THIS WORK IS TO BE INCLUDED IN THE PRICE BID FOR THE VARIOUS SEWER ITEMS.

J. THE CONTRACTOR SHALL INSTALL A TEMPORARY PLUG AT ALL CONNECTIONS TO THE EXISTING SEWER SYSTEM PRIOR TO CONSTRUCTION OF THE PROPOSED SEWERS & SHALL MAINTAIN SAME UNTIL SAID PROPOSED SEWERS ARE ACCEPTED BY THE MONROE TOWNSHIP WATER & SEWER

K. THE MAXIMUM TRENCH WIDTH AT THE TOP OF PIPE BARREL SHALL NOT BE GREATER THAN OUTSIDE DIAMETER OF PIPE PLUS 16 INCHES, OR 30 INCHES, WHICHEVER IS GREATER

L. AN ELECTRONICALLY DETECTABLE IDENTIFICATION TAPE SHALL BE INSTALLED AT A DEPTH OF 3 FEET ± IN ALL SANITARY SEWER TRENCHES (EXCEPT SERVICE LATERALS) OVER NONMETALLIC SANITARY SEWER LINES. DEPTH OF IDENTIFICATION TAPE SHALL BE 12" TO 18" OVER SEWER FORCE MAIN. IDENTIFICATION TAPE SHALL READ "CAUTION - SEWER BELOW" OR "CAUTION -SEWER FORCE MAIN BELOW" AS APPLICABLE.

M. A CONNECTION PERMIT SHALL BE OBTAINED FROM THE DISTRICT WITH PAYMENT OF ASSOCIATED FEES TO THE DISTRICT BEFORE CONNECTIONS ARE MADE INTO THE PROPOSED SANITARY SEWER SYSTEM. NO SANITARY SEWER CONNECTIONS SHALL BE SOLD UNTIL THE SANITARY SEWERS HAVE PASSED THE LEAKAGE TEST BY THE CONTRACTOR.

N. WORK IN TIPP CITY RIGHT-OF-WAY: CONTRACTOR REGISTRATION IS REQUIRED FOR ALL WORK IN THE TIPP CITY RIGHT-OF-WAY. CONTACT TIPP CITY FOR APPLICATION PROCESS.

O. CONTRACTOR SHALL MAINTAIN CONSTRUCTION PLANS ONSITE WITH DETAILED AS-BUILT CONDITIONS. UPON COMPLETION OF CONSTRUCTION A SURVEY OF MANHOLE INVERTS SHALL BE PERFORMED AND A DOCUMENT OF GRADE CERTIFICATIONS BE PROVIDED TO THE DISTRICT AND TIPP CITY.

#### LOW PRESSURE AIR TEST

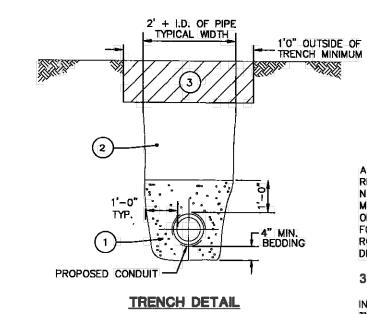
A.) AFTER BACKFILLING, THE AIR TEST SHALL BE CONDUCTED BETWEEN TWO CONSECUTIVE MANHOLES. ALL PIPE OUTLETS MUST BE PLUGGED IN THE SECTION BEING TESTED WITH SUITABLE TEST PLUGS. ONE OF THE PLUGS USED AT A MANHOLE MUST BE TAPPED AND EQUIPPED FOR AN AIR INLET CONNECTION FOR FILLING THE LINE FROM THE AIR COMPRESSOR. AIR SHALL BE SUPPLIED SLOWLY TO THE TEST SECTION UNTIL THE INTERNAL PRESSURE REACHES APPROXIMATELY 4 PSI. IF THE PIPE IS BELOW EXISTING GROUNDWATER LEVEL, THE INTERNAL PRESSURE SHALL BE INCREASED BY THE AVERAGE BACK PRESSURE OF ANY GROUNDWATER THAT MAY BE OVER THE PIPE, BUT IN NO CASE SHOULD THE INTERNAL PRESSURE EVER EXCEED 5 PSI.

B.) AT LEAST 2 MINUTES SHALL BE ALLOWED FOR THE AIR PRESSURE TO STABILIZE. WHEN THE PRESSURE HAS STABILIZED AND IS AT OR ABOVE 3.5 PSI, THE AIR SUPPLY SHALL BE DISCONNECTED AND TIMING SHALL BEGIN WITH A STOP WATCH. THE STOP WATCH SHALL BE ALLOWED TO RUN UNTIL THE PRESSURE HAS DROPPED 1.0 PSI. IF THE TIME SHOWN ON THE STOP WATCH IS GREATER THAN THE SPECIFIED MINIMUM TIME, THE SECTION SHALL BE CONSIDERED TO HAVE PASSED THE TEST. TIME MAY BE INTERPOLATED FROM THE FIGURES LISTED BELOW.

PIPE DIA. (IN.)	Time for Longer Length	Specified Minimum for Length (L) Shown (min: sec)										
` ,	(sec)	100 FT.	150 FT.	200 FT.	250 FT.	300 FT.	350 FT.	400 FT				
4	0.380L	3: 46	3: 46	3: 46	3: 46	3: 46	3: 46	3: 46				
6	0.854L	5: 40	5: 40	5: 40	5: 40	5: 40	5: 40	5: 42				
8	1.520L	7: 34	7: 34	7: 34	7: 34	7: 36	8: 52	10:08				
10	2.374L	9: 26	9: 26	9: 26	9:53	11: 52	13: 51	15: 49				
12	3.418L	11: 20	11: 20	11: 24	14:15	17:05	19: 56	22: 47				
15	5.342L	14:10	14:10	17: 48	22:15	26: 42	31: 09	35: 36				
18	7.692L	17:00	19:13	25: 38	32:03	38: 27	44: 52	51:16				
21	10.470L	19: 50	26:10	34: 54	43: 37	52: 21	61:00	69: 48				
24	13.674L	22: 47	34:11	45: 34	56: 58	68: 22	79: 46	91:10				

# SPECIFICATION TIME FOR LENGTH (L) SHOWN (MIN:SEC)

ITEM	DESCRIPTION	SHEET 6	SHEET 7	SHEET 8	SHEET 9	SHEET 10	SHEET 11 SHEET 12	TOTAL	UNIT
203	CLEARING & GRUBBING							LUMP	SUM
301	BITUMINOUS AGGREGATE BASE	145	92	54	83	80	42	496	C.Y.
304	AGGREGATE BASE (ROADWAY REPAIR)	145	92	54	83	80	42	496	C.Y.
304	AGGREGATE BASE (DRIVE REPAIR)			3				3	C.Y.
407	TACK COAT (0.10 GAL/SY)	87	56	32	50	48	25	298	GAL
408	PRIME COAT (0.35 GAL/SY)	304	194	112	174	168	87	1,309	GAL
448	ASPHALT CONCRETE, SURFACE COURSE, TYPE 1 (ROADWAY REPAIR)	49	31	18	28	27	14	167	C.Y.
448	ASPHALT CONCRETE, SURFACE COURSE, TYPE 1 (DRIVE REPAIR)								C.Y.
452	NON-REINFORCED CONCRETE PAVEMENT			52				52	S.Y.
609	CURB REPLACEMENT	220	130	90	160	60	40	700	L.F.
611	8" CONDUIT, TYPE D, 707.01, CONTINGENCY ITEM							100	L.F.
611	12" CONDUIT, TYPE D, 707.01							100	L.F.
611	6" CONDUIT, TYPE D, 707.33							100	L.F.
611	8" SANITARY SEWER	1,437	920	908	1,157	1,138	425	5,985	L.F.
611	8" HDPE DIRECTIONAL BORE								L.F.
611	6" SANITARY SEWER HOUSE SERVICE	474	278	274	403	132	100	1,661	L.F.
611	8"X6" WYE	19	10	12	15	5	4	64	EACH
611	SANITARY MANHOLE - STANDARD	4	4	3	6	3	3	23	EACH
611	SANITARY MANHOLE - DROP	1						1	EACH
614	MAINTAINING TRAFFIC							LUMP	SUM
659	SEEDING & MULCHING	221	967	2,013	1,078	646	45	4,970	S.Y.
670	EROSION CONTROL							LUMP	SUM
SPEC	ABANDON PUMP STATION, COMPLETE							LUMP	SUM
SPEC	SANITARY FLOW METER, COMPLETE	1			1			2	EACH
SPEC	ABANDONED EXISTING PUMP STATION						1	LUMP	SUM



1. BEDDING

GRANULAR BEDDING MATERIAL SHALL BE CRUSHED STONE OR GRAVEL COMPLYING WITH ODOT ITEM 603 TYPE 2 BEDDING (#57 OR # 411). BEDDING SHALL EXTEND 4" BELOW THE CONDUIT. BEDDING MATERIAL SHALL EXTEND 12" ABOVE THE TOP AND TO EACH SIDE OF THE CONDUIT. USE SHOVEL SLICING AND SPUD BARS IN CONJUNCTION WITH THE COMPACTION OPERATIONS TO COMPACT THE MATERIAL AND TO MANIPULATE THE MATERIAL UNDER THE HAUNCH OF

# 2. BACKFILL

ALL TRENCH EDGES WITHIN THE STREET RIGHT-OF-WAY, SHALL BE BACKFILLED WITH EITHER ODOT ITEM 603 GRANULAR BACKFILL MATERIAL (#304, #411) OR ODOT ITEM 613 LOW STRENGTH MORTAR BACKFILL, AS DORECTED BY THE CITY.

GRANULAR MATERIAL SHALL BE PLACED IN MAXIMUM 6" LIFTS. FOR GRANULAR EMBANKMENT AND STRUCTURAL BACKFILL, COMPACT EACH LIFT OF MATERIAL USING MECHANICAL DEVICES, HOE RAMS, JUMPING JACKS, HAND DEVICES, VIBRATING PLATES, OR OTHER SIMILAR EQUIPMENT. COMPACTION REQUIREMENTS SHALL BE 98% OF STANDARD

LOW STRENGTH MORTAR BACKFILL SHALL BE FURNISHED AND PLACED AS PER ODOT ITEM ALL TRENCH EDGES NOT WITHIN THE STREET

RIGHT-OF-WAY, CAN BE BACKFILLED WITH CLEAN NATIVE MATERIAL COMPACTED IN 12 INCH LIFTS. MATERIAL SHALL BE COMPACTED TO 85% OF THE ORIGINAL COMPACTION. NO MATERIAL SHALL BE USED FOR BACKFILLING THAT CONTAINS GRANULAR MATERIAL, ROCK OR STONE GREATER THAN 4 INCHES IN

#### 3. PAVEMENT RESTORATION IN PAVED AREAS WITHIN THE STREET RIGHT-OF-WAY

THE PAVEMENT AND AGGREGATE BASE COMPOSITION SHALL BE PROVIDED EQUAL TO THE EXISTING PAVEMENT BUT IN NO CASE SHALL THE COMPOSITION BE LESS THAN THE FOLLOWING: 1-1/2" OF ODOT ITEM 448 SURFACE COURSE,

 2-1/2" OF ODOT ITEM 448 INTERMEDIATE COURSE, TYPE 2 10" OF ODOT ITEM 304 AGGREGATE BASE

IN ALLEYWAYS AND DRIVEWAYS OUTSIDE OF THE STREET RIGHT-OF-WAY THE REPLACEMENT OF PAVEMENT AND/OR AGGREGATE SHALL BE EQUAL TO THE EXISTING ALLEYWAY OR DRIVEWAY COMPOSITION. IF THE PERMANENT ASPHALT CANNOT BE APPLIED WITHIN 48 HOURS OF THE INITIAL REPAIR. ODOT ITEM 405 OR COLD PATCH SHALL BE APPLIED TO THE TRENCH SURFACE. MINIMUM THICKNESS OF THE COLD PATCH MATERIAL SHALL BE 3 INCHES. SAID MATERIAL SHALL BE REMOVED PRIOR TO THE PLACEMENT OF ODOT ITEM 448, UNLESS OTHERWISE APPROVED.

CONCRETE RESTORATION

ALL CONCRETE DRIVEWAYS, DRIVE APPROACHES, AND SIDEWALKS WITHIN THE STREET RIGHT-OF-WAY, SHALL BE REPLACED WITH THE FOLLOWING:

SIDEWALKS -- MINIMUM THICKNESS OF 4" INCHES OF MATCH ORIGINAL WIDTH OF SIDEWALK

MINIMUM WIDTH OF 4' REQUIRED DRIVEWAYS AND DRIVE APPROACHES: RESIDENTIAL: MINIMUM THICKNESS OF 6" OF

 BUSINESS & INDUSTRIAL: MINIMUM THICKNESS OF 8" OF CONCRETE ALL CONCRETE DRIVEWAYS, DRIVE APPROACHES, AND

SIDEWALKS OUTSIDE OF THE STREET RIGHT-OF-WAY SHALL BE REPLACED EQUAL TO THE EXISTING MATERIAL

# **COMPACTION GUIDELINES**

THE CONTRACTOR MAY OPERATE SMALL COMPACTION EQUIPMENT WITH LESS THAN A TOTAL WEIGHT OF 1 TON OVER THE CONDUIT TO COMPACT THE BACKFILL. DO NOT USE HOE RAMS ON TOP OF THE CONDUIT JUNIIL 2' OF BACKFILL IS COMPACTED ON TOP OF THE CONDUIT. THE CONTRACTOR MAY OPERATE COMPACTION EQUIPMENT WITH LESS THAN A TOTAL WEIGHT OF 8 TONS, BUT MORE THAN 1 TON, OVER THE CONDUIT AFTER PLACING AND COMPACTING 2' OF BACKFILL. DO NOT OPERATE EQUIPMENT WITH A TOTAL WEIGHT OF 8 TONS OR MORE UNTIL PLACING AND COMPACTING A COVER OF 4' OVER THE TOP OF THE CONDUIT. THE ABOVE RESTRICTIONS APPLY WHEN WORKING WITHIN ONE SPAN ON EACH SIDE OF THE CONDUIT, OR 6', WHICHEVER IS LESS.

ALL TRENCHES AND EXCAVATIONS SHALL BE BACKFILLED IMMEDIATELY AFTER THE PLACEMENT OF THE CONDUIT, UNLESS DIRECTED OTHER WISE BY THE CITY ENGINEER. UNDER NO CIRCUMSTANCES SHALL WATER BE PERMITTED TO RISE IN UNBACKFILLED TRENCHES AFTER THE CONDUIT HAS BEEN PLACED.

TIPP CITY STREET REPAIR - TIPP CITY ONLY DETAIL AND NOTES NOT TO SCALE

**ENGINEERS** SURVEYORS

128 EAST MAIN ST PO Box 188 LOGAN, OH 43138 740-385-2140

1495 OLD HENDERSON RD COLUMBUS, OH 43220 614-459-6992

507 MAIN STREET. SUITE 203 ZANESVILLE, OH 43701 740-450-1640

FAX: 614-459-6987 TOLL FREE: 866-277-0600

> OHO **Utilities Protection** SERVICE -800-362-2764 CALL TWO WORKING DAYS BEFORE YOU DIG NON MEMBERS MUST BE CALLED DIRECTLY)

**COUNTRY ESTATES EAST** SANITARY SEWER

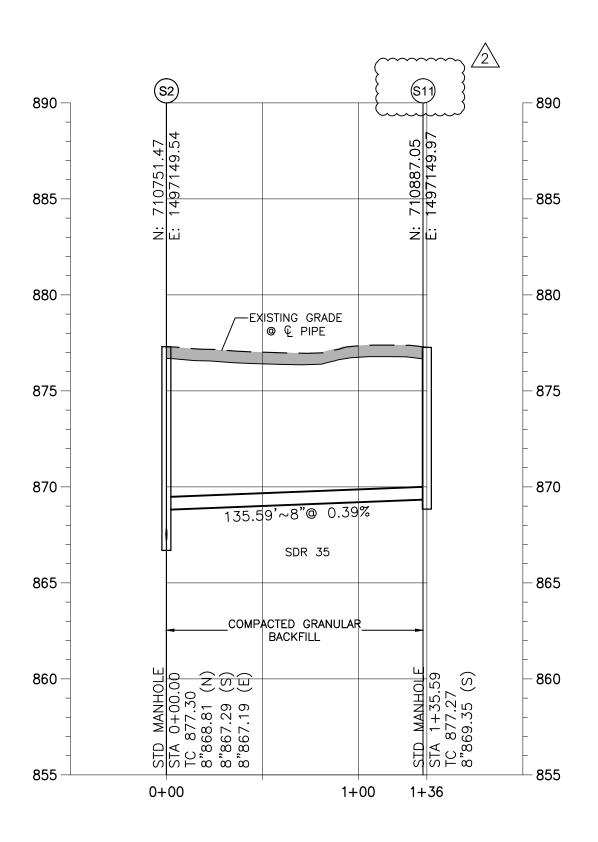
**IMPROVEMENTS** 

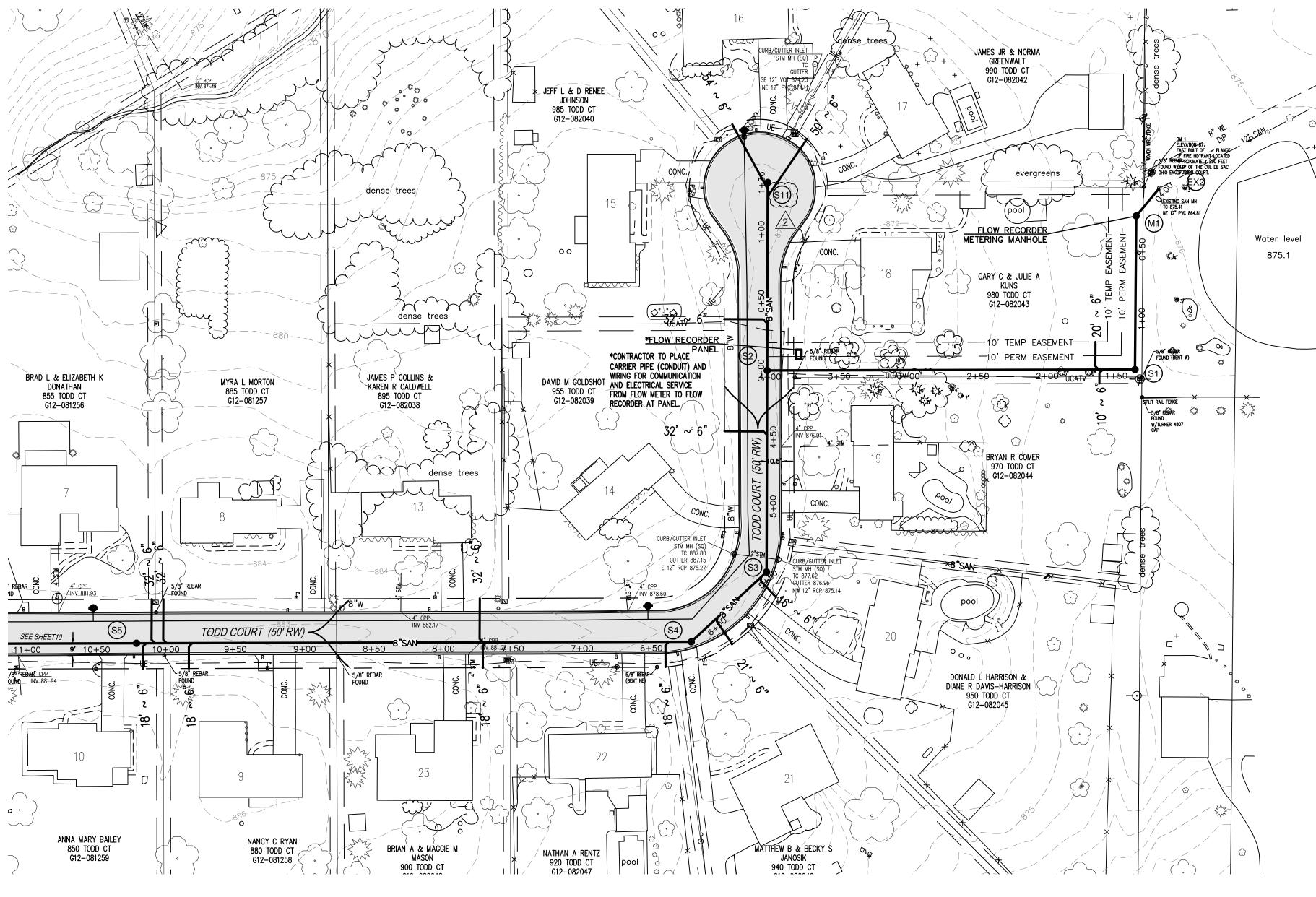
02-09-15 **PRELIMINARY** BACKCHECK 08-07-15 02-26-16 BACKCHECK 2 03-30-16 BACKCHECK 3 BACKCHECK 4 04-29-16

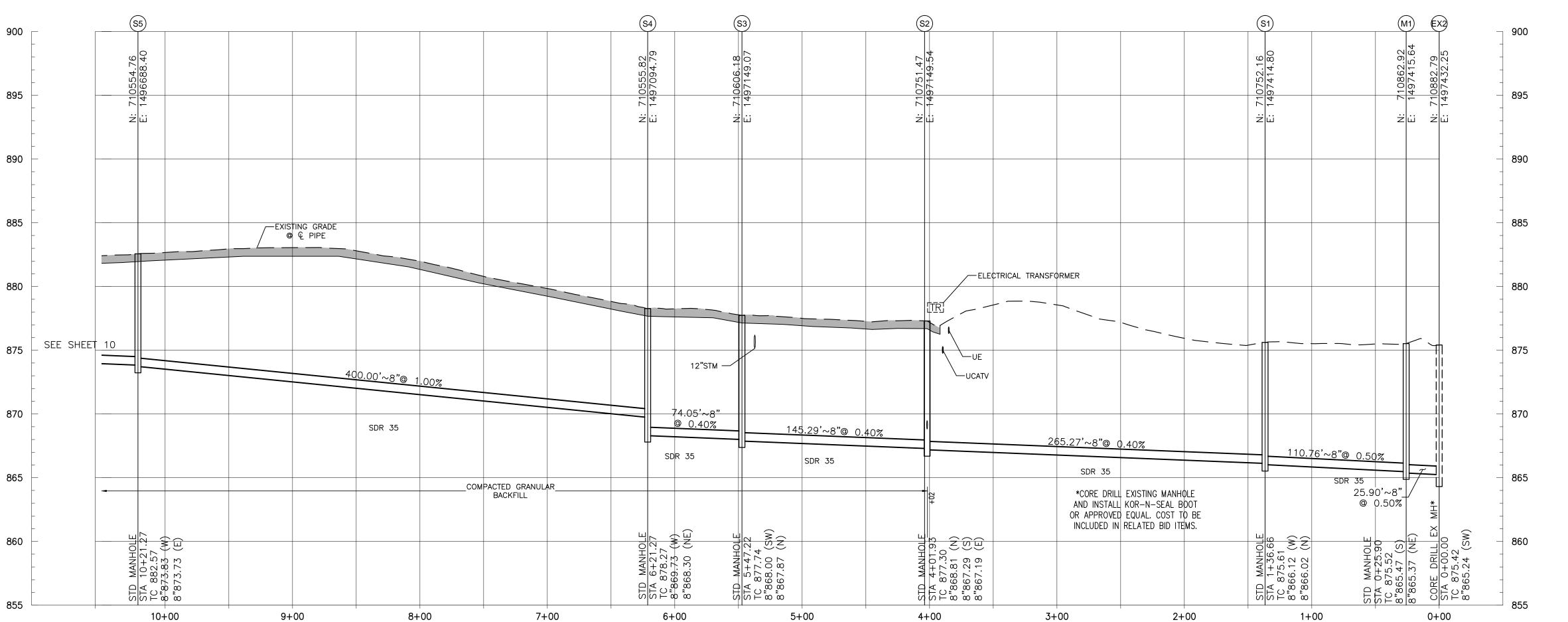
**GENERAL NOTES** 

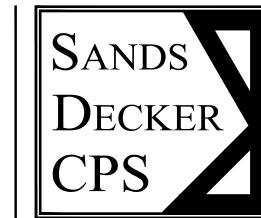
SDCPS PROJECT NO. 2772

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ENGINEERS • SURVEYORS

128 EAST MAIN ST PO BOX 188 LOGAN, OH 43138 740-385-2140

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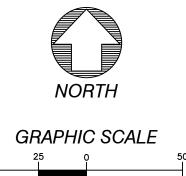
507 MAIN STREET, SUITE 203 ZANESVILLE, OH 43701 740-450-1640

FAX: 614-459-6987 TOLL FREE: 866-277-0600

AT 2.08% MIN. SLOPE.

MISC. NOTES:
ALL SANITARY SEWER SERVICES SHALL
BE 8"X6" WYES WITH 6" SERVICE PIPE





# COUNTRY ESTATES EAST SANITARY SEWER IMPROVEMENTS

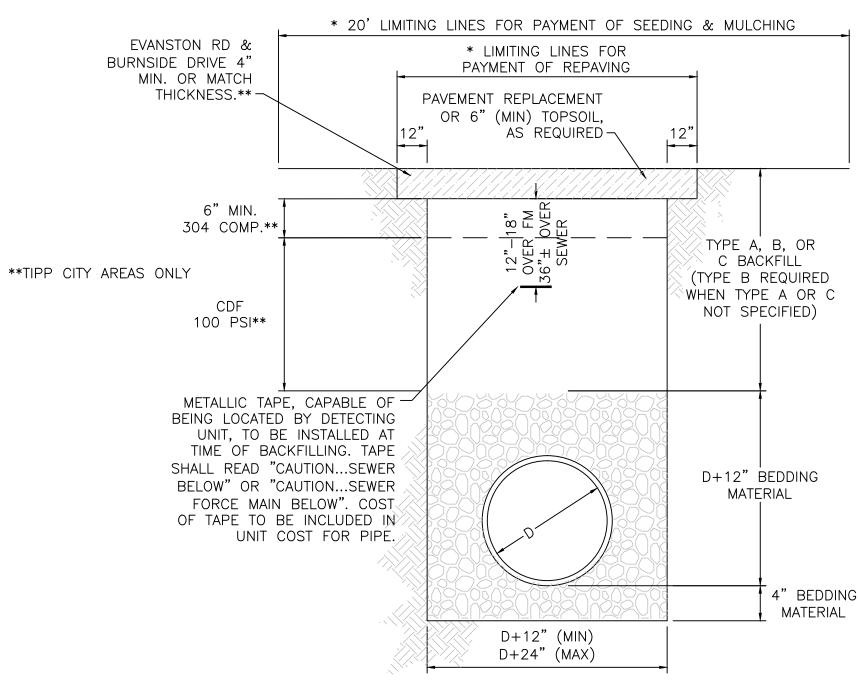
1" = 50'

PRELIMINARY 02-09-15 BACKCHECK 08-07-15 02-26-16 BACKCHECK 2 03-30-16 BACKCHECK 3 04-29-16 BACKCHECK 4 05-03-16 FINAL 09-16-16 BID SET ADDENDUM 2 09-28-16 **PLAN & PROFILE** 

MH EX2 TO MH S4 & MH S2 TO MH S8

9

SDCPS PROJECT NO. 2772



\* LIMITING LINES FOR PAYMENT APPLY ONLY WHEN CONTRACT PROVIDES FOR UNIT PRICE PAYMENT OF PAVEMENT REPLACEMENT AND SEEDING & MULCHING.

NOTES:

1. ITEM NUMBERS REFER TO STATE OF OHIO,
DEPARTMENT OF TRANSPORTATION,
CONSTRUCTION AND MATERIAL SPECIFICATIONS.

2. AGGREGATE FOR BEDDING FOR SEWERS SHALL BE NO. 57, CRUSHED GRAVEL. BEDDING FOR FORCE MAIN SHALL BE SAND.

3. TYPE A BACKFILL SHALL BE COMPACTED GRANULAR MATERIAL AS SPECIFIED IN ITEM 304, GRADE A. TYPE A BACKFILL SHALL BE USED WHEN THE TRENCH IS 5' OR LESS FROM ANY PAVED OR GRAVEL SURFACE, OR BENEATH THE PAVEMENT OR GRAVEL. COMPACTION SHALL MEET THE REQUIREMENTS OF ITEM 203.

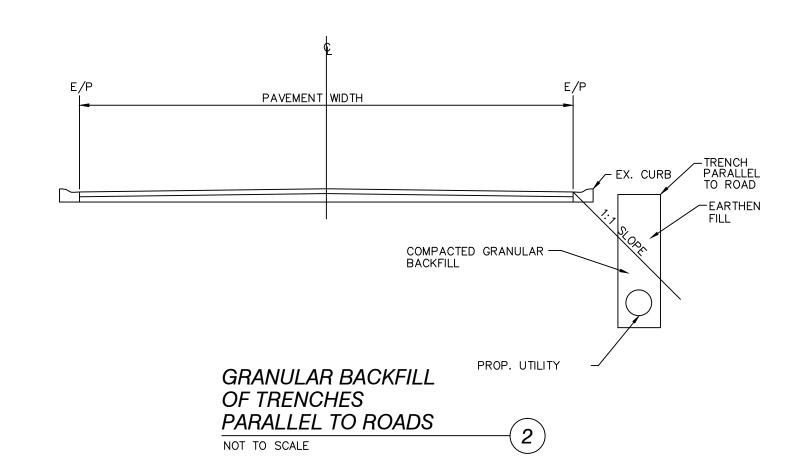
4. TYPE B BACKFILL SHALL BE NATURAL SOIL FREE FROM STONES LARGER THAN 2" ACROSS THEIR GREATEST DIMENSION, TOPSOIL, VEGETATION, DEBRIS, RUBBISH, OR FROZEN MATERIAL, COMPACTED TO 95% OF ITS MAXIMUM LABORATORY DRY WEIGHT.

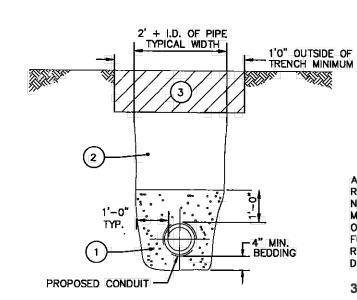
5. TYPE C BACKFILL SHALL BE NATURAL SOIL FREE FROM STONES LARGER THAN 6" ACROSS THEIR GREATEST DIMENSION, TOPSOIL, VEGETATION, DEBRIS, RUBBISH, OR FROZEN MATERIAL, COMPACTED TO 90% OF ITS MAXIMUM LABORATORY DRY WEIGHT. WHEN APPROVED BY THE ENGINEER, STONES NO LARGER THAN ONE CUBIC FOOT MAY BE DEPOSITED AT LEAST 3' ABOVE THE TOP OF THE PIPE.

6. THE EXCAVATED TRENCH WIDTH 12" ABOVE THE CONDUIT MAY BE INCREASED WITHOUT EXTRA COMPENSATION.

7. COVER OVER PIPE SHALL BE AS SPECIFIED ON PLANS. UNLESS OTHERWISE SPECIFIED, ROOF DRAINS SHALL HAVE 30" MIN. COVER AND SANITARY SEWER SERVICES SHALL HAVE 48" MIN. COVER.

TOWNSHIP AREAS TYPICAL TRENCH FOR PVC SANITARY SEWER & SEWER FORCE MAIN NOT TO SCALE





TRENCH DETAIL

# 1. BEDDING

GRANULAR BEDDING MATERIAL SHALL BE CRUSHED STONE OR GRAVEL COMPLYING WITH ODOT ITEM 603 TYPE 2 BEDDING (#57 OR # 411). BEDDING SHALL EXTEND 4" BELOW THE CONDUIT. BEDDING MATERIAL SHALL EXTEND 12" ABOVE THE TOP AND TO EACH SIDE OF THE CONDUIT. USE SHOVEL SLICING AND SPUD BARS IN CONJUNCTION WITH THE COMPACTION OPERATIONS TO COMPACT THE MATERIAL AND TO MANIPULATE THE MATERIAL UNDER THE HAUNCH OF

# 2. BACKFILL

ALL TRENCH EDGES WITHIN THE STREET
RIGHT-OF-WAY, SHALL BE BACKFILLED WITH EITHER
ODOT ITEM 603 GRANULAR BACKFILL MATERIAL (#304,
#411) OR ODOT ITEM 613 LOW STRENGTH MORTAR
BACKFILL, AS DORECTED BY THE CITY.

GRANULAR MATERIAL SHALL BE PLACED IN MAXIMUM 6" LIFTS. FOR GRANULAR EMBANKMENT AND STRUCTURAL BACKFILL, COMPACT EACH LIFT OF MATERIAL USING MECHANICAL DEVICES, HOE RAMS, JUMPING JACKS, HAND DEVICES, VIBRATING PLATES, OR OTHER SIMILAR EQUIPMENT. COMPACTION REQUIREMENTS SHALL BE 98% OF STANDARD PROCTOR CURVE.

FURNISHED AND PLACED AS PER ODOT ITEM 613.

ALL TRENCH EDGES NOT WITHIN THE STREET RIGHT—OF—WAY, CAN BE BACKFILLED WITH CLEAN NATIVE MATERIAL COMPACTED IN 12 INCH LIFTS. MATERIAL SHALL BE COMPACTED TO 85% OF THE ORIGINAL COMPACTION. NO MATERIAL SHALL BE USED.

LOW STRENGTH MORTAR BACKFILL SHALL BE

# FOR BACKFILLING THAT CONTAINS GRANULAR MATERIAL, ROCK OR STONE GREATER THAN 4 INCHES IN DIAMETER.

3. PAVEMENT RESTORATION

IN PAVED AREAS WITHIN THE STREET RIGHT-OF-WAY THE PAVEMENT AND AGGREGATE BASE COMPOSITION SHALL BE PROVIDED EQUAL TO THE EXISTING PAVEMENT BUT IN NO CASE SHALL THE COMPOSITION BE LESS THAN THE FOLLOWING:

1-1/2" OF ODOT ITEM 448 SURFACE COURSE, TYPE 1
 2-1/2" OF ODOT ITEM 448 INTERMEDIATE COURSE, TYPE 2
 10" OF ODOT ITEM 304 AGGREGATE BASE

IN ALLEYWAYS AND DRIVEWAYS OUTSIDE OF THE STREET RIGHT—OF—WAY THE REPLACEMENT OF PAVEMENT AND/OR AGGREGATE SHALL BE EQUAL TO THE EXISTING ALLEYWAY OR DRIVEWAY COMPOSITION. IF THE PERMANENT ASPHALT CANNOT BE APPLIED WITHIN 48 HOURS OF THE INITIAL REPAIR. ODOT ITEM 405 OR COLD PATCH SHALL BE APPLIED TO THE TRENCH SURFACE. MINIMUM THICKNESS OF THE COLD PATCH MATERIAL SHALL BE 3 INCHES. SAID MATERIAL SHALL BE REMOVED PRIOR TO THE PLACEMENT OF ODOT ITEM 448, UNLESS OTHERWISE APPROVED.

# CONCRETE RESTORATION

ALL CONCRETE DRIVEWAYS, DRIVE APPROACHES, AND SIDEWALKS WITHIN THE STREET RIGHT-OF-WAY, SHALL BE REPLACED WITH THE FOLLOWING:

SIDEWALKS -- MINIMUM THICKNESS OF 4" INCHES OF

MATCH ORIGINAL WIDTH OF SIDEWALK
 MINIMUM WIDTH OF 4' REQUIRED

DRIVEWAYS AND DRIVE APPROACHES:

RESIDENTIAL: MINIMUM THICKNESS OF 6" OF CONCRETE

ALL CONCRETE DRIVEWAYS, DRIVE APPROACHES, AND

SHALL BE REPLACED EQUAL TO THE EXISTING MATERIAL

SIDEWALKS OUTSIDE OF THE STREET RIGHT-OF-WAY

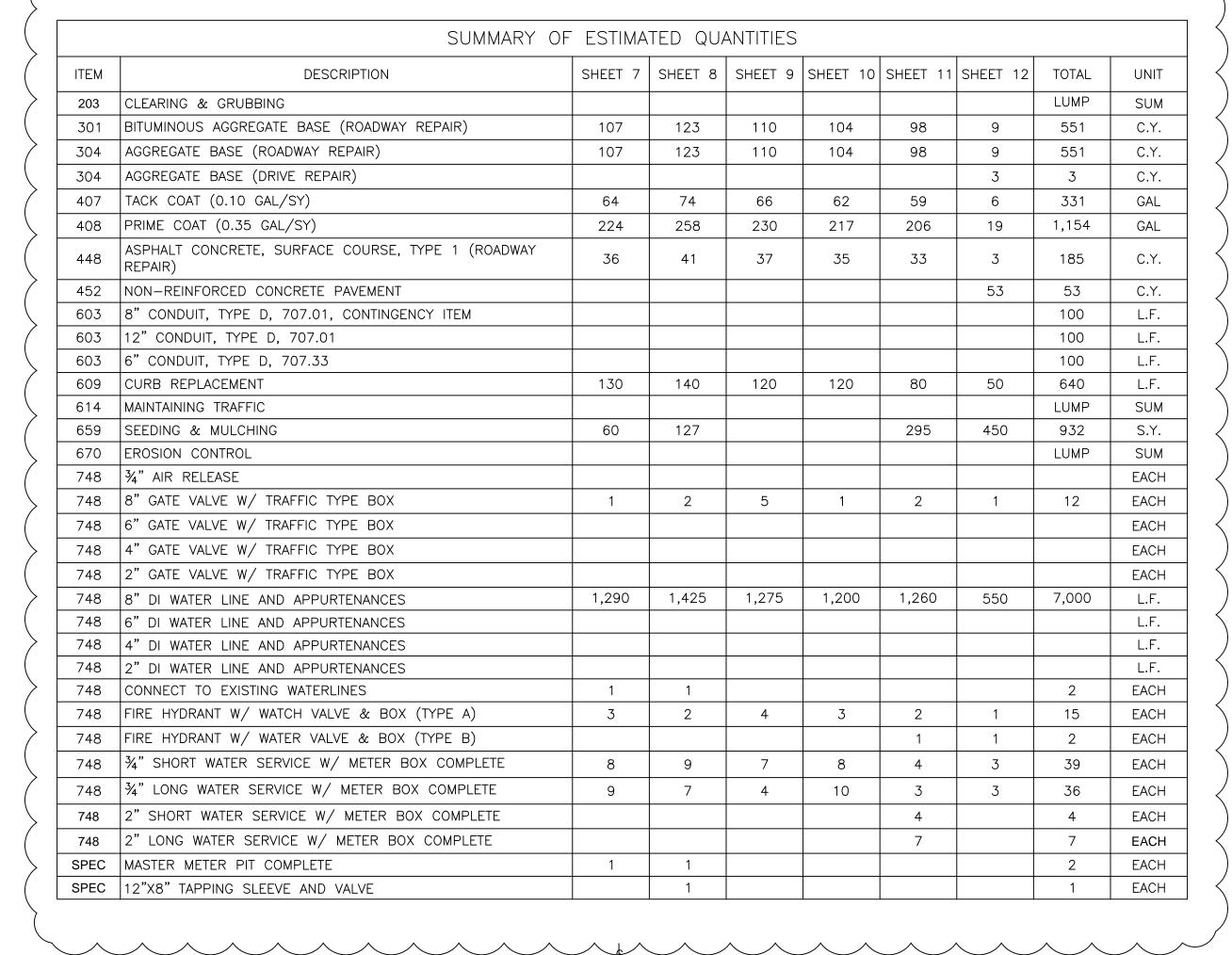
BUSINESS & INDUSTRIAL: MINIMUM THICKNESS
OF 8" OF CONCRETE

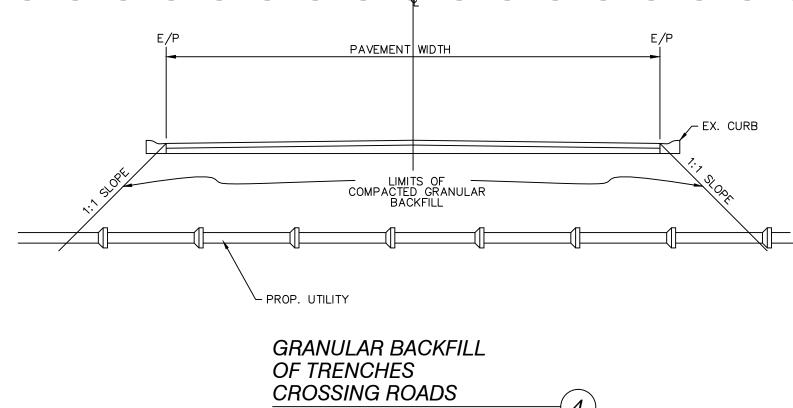
# COMPACTION GUIDELINES

THE CONTRACTOR MAY OPERATE SMALL COMPACTION EQUIPMENT WITH LESS THAN A TOTAL WEIGHT OF 1 TON OVER THE CONDUIT TO COMPACT THE BACKFILL. DO NOT USE HOE RAMS ON TOP OF THE CONDUIT UNTIL 2' OF BACKFILL IS COMPACTED ON TOP OF THE CONDUIT. THE CONTRACTOR MAY OPERATE COMPACTION EQUIPMENT WITH LESS THAN A TOTAL WEIGHT OF 8 TONS, BUT MORE THAN 1 TON, OVER THE CONDUIT AFTER PLACING AND COMPACTING 2' OF BACKFILL. DO NOT OPERATE EQUIPMENT WITH A TOTAL WEIGHT OF 8 TONS OR MORE UNTIL PLACING AND COMPACTING A COVER OF 4' OVER THE TOP OF THE CONDUIT. THE ABOVE RESTRICTIONS APPLY WHEN WORKING WITHIN ONE SPAN ON EACH SIDE OF THE CONDUIT, OR 6', WHICHEVER IS LESS.

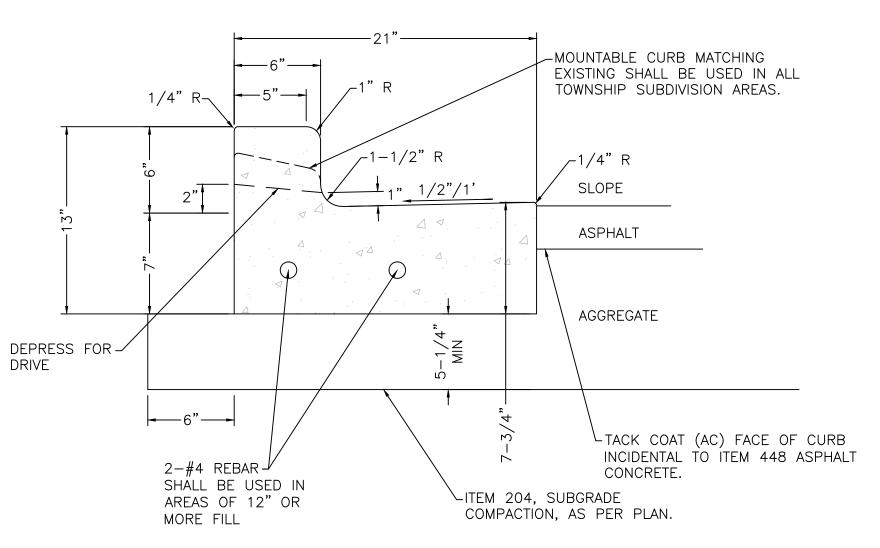
ALL TRENCHES AND EXCAVATIONS SHALL BE BACKFILLED IMMEDIATELY AFTER THE PLACEMENT OF THE CONDUIT, UNLESS DIRECTED OTHER WISE BY THE CITY ENGINEER. UNDER NO CIRCUMSTANCES SHALL WATER BE PERMITTED TO RISE IN UNBACKFILLED TRENCHES AFTER THE CONDUIT HAS BEEN PLACED.

TIPP CITY STREET REPAIR - TIPP CITY ONLY
DETAIL AND NOTES
NOT TO SCALE
3



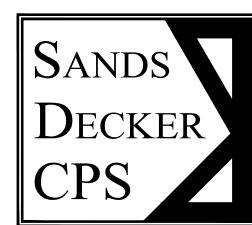


NOT TO SCALE



TIPP CITY (ONLY)
TYPE 1 COMBINATION
CURB & GUTTER

NOT TO SCALE



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# COUNTRY ESTATES EAST WATER IMPROVEMENTS

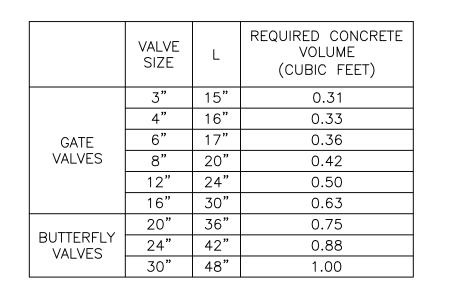
02-09-15 **PRELIMINARY** 08-07-15 BACKCHECK 02-26-16 BACKCHECK 2 03-30-16 BACKCHECK 3 04-29-16 BACKCHECK 4 05-03-16 FINAL 09-16-16 BID SET ADDENDUM 2 09-28-16

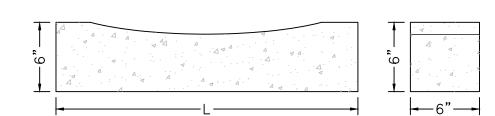
MISC. DETAILS

4

SDCPS PROJECT NO. 2772

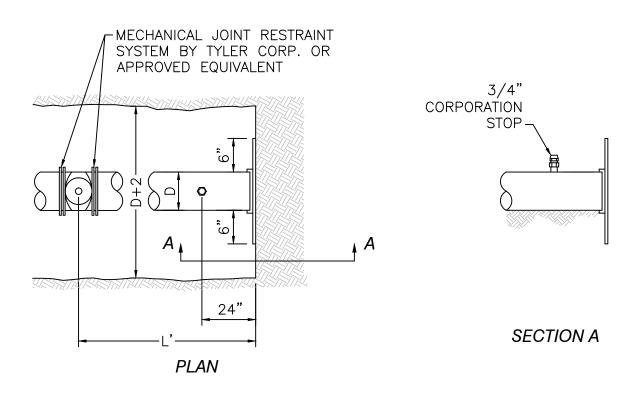
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CONCRETE VALVE SUPPORT

NOT TO SCALE

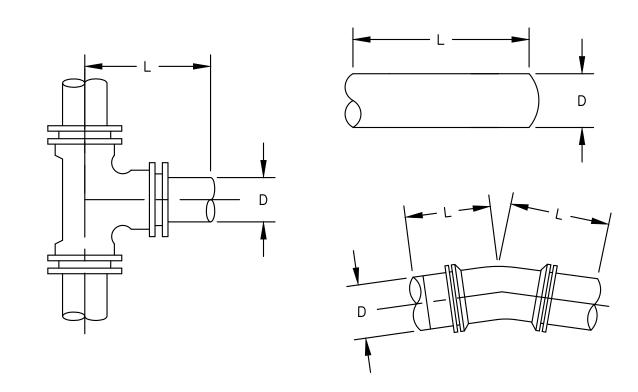


NOTES:

1. END OF PIPE SHALL BE CAPPED OR PLUGGED.

2. PLUG POLES SHALL BE INSTALLED AT ALL
END-OF-LINE STUBS AT THE THRUST BLOCK.

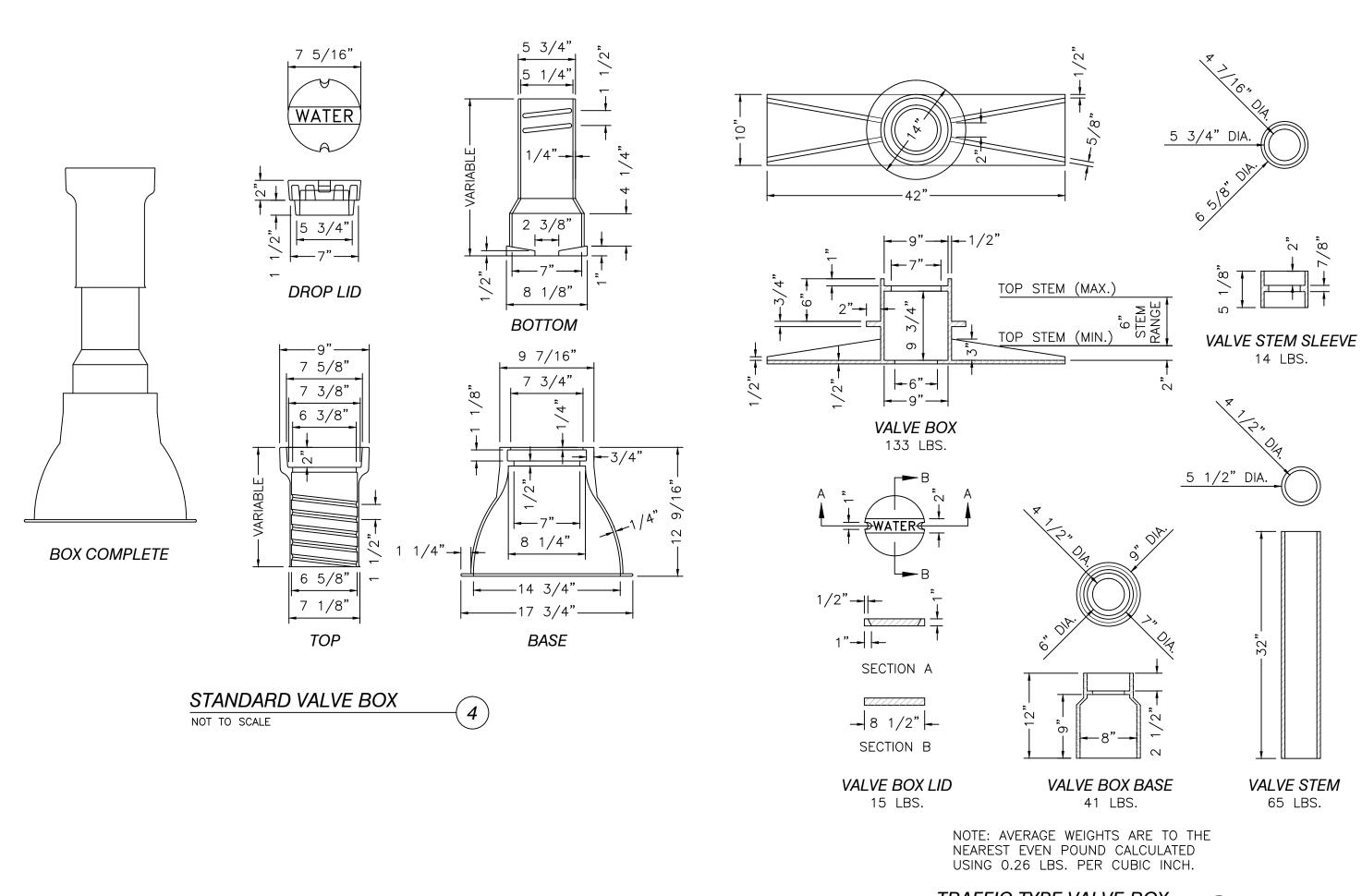




		D	_	MAIC	ETEF	R OF	PIF	PE	
ᄔ		4"	6"	8"	10"	12"	16"	20"	24"
OF N	11 ¼'	*	*	*	*	*	5	5	6
DEGREE LECTIO	22 ½'	*	2	3	5	6	8	10	12
EGR EC	45°	4	8	12	14	20	30	36	45
— ш	90°	12	26	38	48	66	98	125	145
~ DE	TEE	12	26	38	48	66	98	125	145
⋖	END	12	26	38	48	66	98	125	145
	* REQUIRED RESTRAINED JOINT AT FITTING ONLY USE MEGALUG MECHANICAL JOINT								

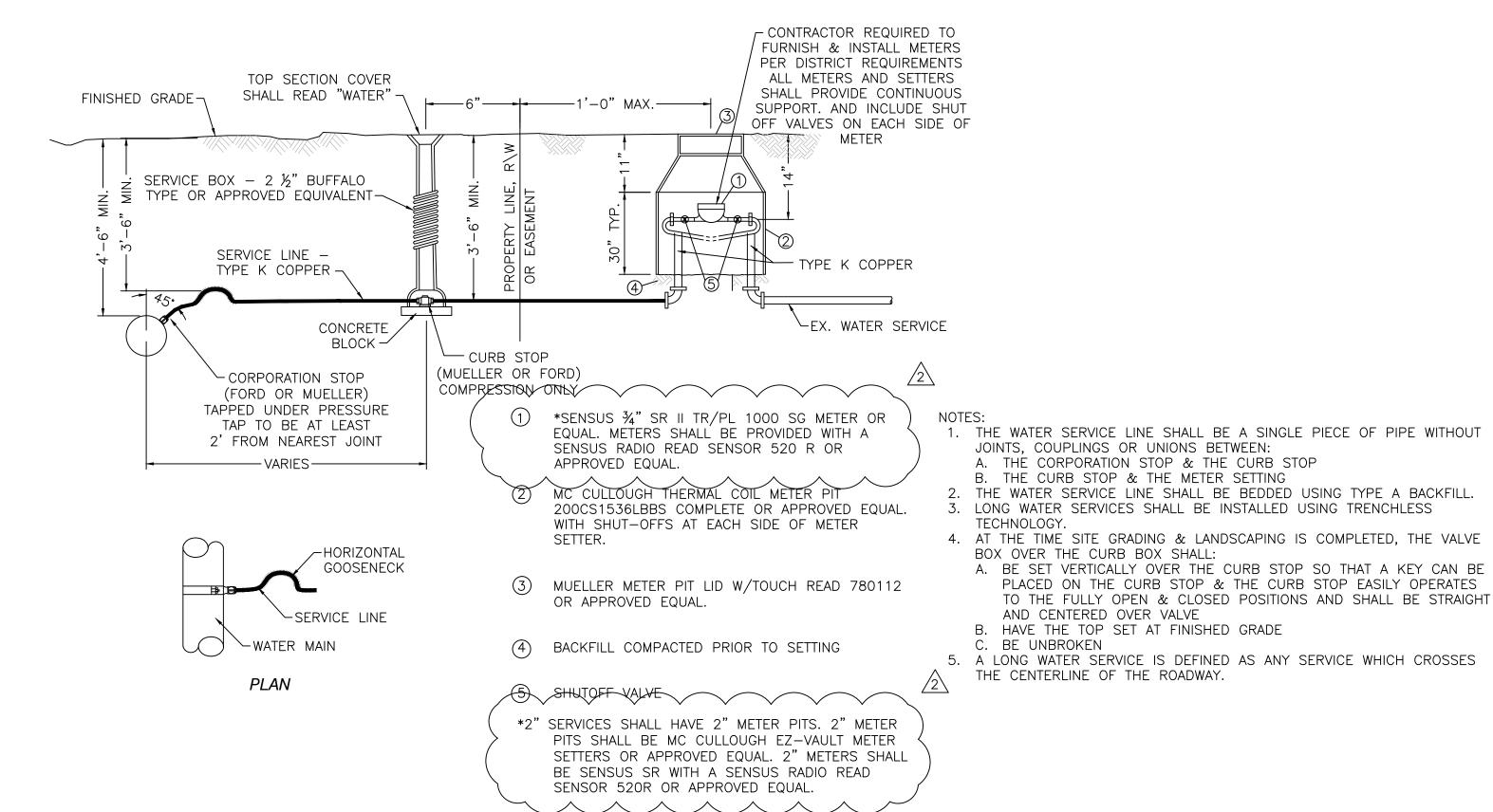
ONLY USE MEGALUG MECHANICAL JOINT RESTRAINT OR EQUAL FIRE HYDRANT BRANCHES <u>MUST</u> BE ANCHOR PIPE

REQUIRED LENGTH OF RESTRAINED
JOINTS FOR WATER MAINS
NOT TO SCALE
3



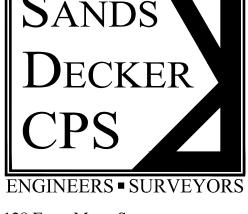
TRAFFIC TYPE VALVE BOX

NOT TO SCALE



3/4", 1", & 2" STANDARD WATER
SERVICE W/ METER BOX
NOT TO SCALE

6



128 EAST MAIN ST PO BOX 188 LOGAN, OH 43138

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FAX: 614-459-6987 TOLL FREE: 866-277-0600



# COUNTRY ESTATES EAST WATER IMPROVEMENTS

02-09-15	PRELIMINARY
08-07-15	BACKCHECK
02-26-16	BACKCHECK 2
03-30-16	BACKCHECK 3
04-29-16	BACKCHECK 4
05-03-16	FINAL
09-16-16	BID SET
09-28-16	ADDENDUM 2

MISC. DETAILS

SDCPS PROJECT NO. 2772

5

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Item	Description of Work	Est.	Unit	Unit	Prices		Total	Item Price
No.		Qty.		Labor	Material	Total	In Figures	In Words
	WATERLINE IMPROV	EMEN <sup>®</sup>	<u>TS</u>					
203	CLEARING & GRUBBING	LUMP	SUM					
301	BTUMINOUS AGREGATE BASE	551	C.Y.					
304	AGGREGATE BASE (ROADWAY REPAIR)	551	C.Y.					
304	AGGREGATE BASE (DRIVE REPAIR)	3	C.Y.					
407	TACK COAT (0.10 GAL/SY)	331	GAL.					
408	PRIME COAT (0.35 GAL/SY)	1154	GAL.					
448	ASPHALT CONCRETE, SURFACE COURSE, TYPE 1 (ROADWAY REPAIR)	185	C.Y.					
452	NON-REINFORCED CONCRETE PAVEMENT	53	S.Y.					
603	8" CONDUIT, TYPE D, 707.01, CONTINGENCY ITEM	100	L.F.					
603	12" CONDUIT, TYPE D, 707.01	100	L.F.					
603	6" CONDUIT, TYPE B, 707.33	100	L.F.					

Item	Description of Work	Est.	Unit	Unit	Prices		Total	Item Price
No.	-	Qty.		Labor	Material	Total	In Figures	In Words
609	CURB REPLACEMENT	640	L.F.					
614	MAINTAINING TRAFFIC	LUMP	SUM					
659	SEEDING & MULCHING	932	S.Y.					
670	EROSION CONTROL	LUMP	SUM					
748	8" GATE VALVE /W TRAFFIC TYPE BOX	12	Each					
748	8" DI WATER LINE AND APPURTENANCES	7,000	L.F.					
748	CONNECT TO EXSITING WATERLINES	2	Each					
748	FIRE HYDRANT W/ WATCH VALVE & BOX (TYPE A)	15	Each					
748	FIRE HYDRANT W/ WATCH VALVE & BOX (TYPE B)	2	Each					
748	3/4" SHORT WATER SERVICE W/ METER BOX COMPLETE	39	Each					
748	3/4" LONG WATER SERVICE W/ METER BOX COMPLETE	36	Each					

**TYPE OF FUNDING: LOCAL FUNDS ADDENDUM 2** PROJECT NO. 2772 **Unit Prices Description of Work** Total Item Price Item Est. Unit In Figures Labor Total In Words No. Qty. Material 2" SHORT WATER SERVICE W/ Each METER BOX COMPLETE 748 4 2" LONG WATER SERVICE W/ METER 748 BOX COMPLETE 7 Each SPEC MASTER METER PIT COMPLETE 2 Each SPEC 12"X8" TAPPING SLEEVE AND VALVE Each SPEC Project Sign 2 Each SUB-TOTAL WATERLINE IMPROVEMENTS **ALTERNATE 1 - WATER SERVICES INSTALLTION RIGHT OF WAY TO** STRUCURE INCLUDING FINAL **CONNECTIONS TO STRUTURE** SPEC. (INCLUDES ALL ASSOCIATED WORK **EXCAVATION, PIPE INSTALLATION,** BEDDING, SPECIAL BACKFILL, **TESTING, GRADING, SEEDING AND** L.F. **MULCHING ECT.)** 14,768

Item	Description of Work	Est.	Unit	Unit	Prices		Total	Item Price
No.		Qty.		Labor	Material	Total	In Figures	In Words
	SANITARY SEWER IM	IPROV	EMEN	<u>TS</u>				
203	CLEARING & GRUBBING	LUMP	SUM					
301	BTUMINOUS AGREGATE BASE	496	C.Y.					
304	AGGREGATE BASE (ROADWAY REPAIR)	496	C.Y.					
304	AGGREGATE BASE (DRIVE REPAIR)	3	C.Y.					
407	TACK COAT (0.10 GAL/SY)	298	GAL.					
408	PRIME COAT (0.35 GAL/SY)	1,039	GAL.					
448	ASPHALT CONCRETE, SURFACE COURSE, TYPE 1 (ROADWAY REPAIR)	167	C.Y.					
452	NON-REINFORCED CONCRETE PAVEMENT	52	S.Y.					
609	CONCRETE CURB REPLACED	700	L.F.					
611	8" CONDUIT, TYPE D, 707.01, CONTINGENCY ITEM	100	L.F.					

Item	Description of Work	Est.	Unit	Unit	Prices		Total	Item Price
No.		Qty.		Labor	Material	Total	In Figures	In Words
611	12" CONDUIT, TYPE D, 707.01	100	L.F.					
011	2 20112011, 111 2 3, 101.01	100	L.I .					
C11	6" CONDUIT TYPE P. 707.33	400						
611	6" CONDUIT, TYPE B, 707.33	100	L.F.					
611	STANDARD MANHOLE	23	EACH					
611	DROP MANHOLE	1	EACH					
614	MAINTAINING TRAFFIC	LUMP	SUM					
659	SEEDING & MULCHING	4,970	S.Y.					
670	EROSION CONTROL	LUMP	SUM					
070	ENGSIGN SONTINGE	LOWII	COIVI					
044	OIL CANUTA DV OF MED	5 005						
611	8" SANITARY SEWER	5,985	L.F.					
	6" SANITARY SEWER HOUSE							
611	SERVICE	1,661	L.F.					
611	8" x 6" WYE	64	EACH					
	ABANDON PUMP STATION,							
SPEC.	COMPLETE	LUMP	SUM	_		_		

**TYPE OF FUNDING: LOCAL FUNDS** ADDENDUM 2 PROJECT NO. 2772 **Unit Prices Description of Work** Total Item Price Est. Item Unit Qty. In Figures Labor Total In Words No. Material SPEC. SANITARY FLOW METER, COMPLETE EACH 2 SUB-TOTAL SANITARY SEWER IMPROVEMENTS **ALTERNATE 2 - SEWER SERVICES** INSTALLTION RIGHT OF WAY TO STRUCURE INCLUDING FINAL **CONNECTIONS TO STRUTURE** SPEC. (INCLUDES ALL ASSOCIATED WORK **EXCAVATION, PIPE INSTALLATION,** BEDDING, SPECIAL BACKFILL, **TESTING, GRADING, SEEDING AND** L.F. **MULCHING ECT.)** 10,586

	TYPE OF FUNDING: LOCAL FUND			772				
em	Description of Work	Est.	Unit	Item Price				
lo.		Qty.		Labor	Material	Total	In Figures	In Words
	TOTAL BID SANITARY			IPROVE	MENTS			
	TOTAL BID WATERLI (NOT INCLUDING ALT			EMENTS	3			
	WATERLINE AND SA TOTAL BASE BID (NO							
	ALTERNATE 1 - WATI	ER SEI	RVICE	S				
	ALTERNATE 2 - SEW	ER SEI	RVICE	S				
	SIGNATURE OF PERSON PREPARING BID TITLE				•			

Country Estates East Water and Sanitary Sewer Improvements Pre-Bid Meeting Meeting Date: September 29, 2016 @ 10:00

#### Attendance List

	Name (please print)	Affiliation	Tel. No. & Email
1	Scott Smith	Milcon Conc	andrew@Milcon-ine.com 937 339-6274
2.	Der Buell	Smoth & Brown Contr.	513 738-0077
3.	Dave Kinnisoh	KiMison Enguin IN	932-113-232D
4.	Terry Hendershot	Kelchner Excavating	Terry. Hendershot@Woodgroup.
5.	Phil Ames	McWane Ductle	Philomis Quewandsetile com
6.	WES STEW	UUI	wstein a underground utilities inc. co. 419-465-2587
7.	Chris Schlaege	14) Schlaegel	937-652-2645 JISCHLAEGELOCTON, ND
8.	ADMISTOR O	SART CONSTRUCTION INC	STURNOON CHOTMAIL, COM
9.	MIKE Whiley	HOWELL CONTRACTORS	937-497-1001 859-331-5457 x 104 MWILEYS HOWELL CONTICACTORS. COM
10.	RANDY BLAIR.	DOUBLE SHYLOUST RHAS	937-832-3123 DYEDOVBLESHY MC. COM
	Kevin Brackney F	brackney Inc.	765-647-6551 Ebrackney @ Brackneyinc.com
	Josh Lurge	Toms Construction Inc.	(419) 678-2457 bright. net

Country Estates East Water and Sanitary Sewer Improvements Pre-Bid Meeting Meeting Date: September 29, 2016 @ 10:00

#### Attendance List

	Name (please print)	Affiliation	Tel. No. & Email
1.	SEAN WADE	EACH BOLDGE	eagle bridge eagle bridge net
2.	JOE RATERMAN	BRUMBAUGH CONSTRUCTION	937 492 5107 Joce brumbaugh construction. wm
3.	Dustin Myers	VTF Excavation	dusting vtfexcavation.com 937-423-5767 419-584-3077
4.			
5.			
6.		,	
7,,			
8.			
9.		8	
10.			

# BID GUARANTY AND CONTRACT BOND

(Section 153.571 Ohio Revised Code)

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned

(contractor),		,	(address)
as Principal and		(suretv), as	Surety, are hereby
as Principal and held and firmly bound unto the		_ (, /,	(owner) as
Obligee, in the penal sum of the	dollar amount of the	e bid submitte	d by the Principal to
the Obligee on			
"Country Estates East	Water and Sanitary	y Sewer Impr	ovements"
The penal sum referred to to the Obligee, incorporating any Principal on the date referred to Obligee. In no case shall the pen	additive or deductive above to the Obl	e alternate pro igee, which a	oposals made by the are accepted by the
(\$). (If the above line the Principal's bid, including alter must not be less than the full accents. A percentage is not accently to be made, we hereby joint administrators, successors, and a	is left blank, the pe mates. Alternatively mount of the bid, in ptable.) For the pa tly and severally bin	enal sum will to y, if completed ancluding alterrous ayment of the	be the full amount o d, the amount stated nates, in dollars and penal sum well and
THE CONDITION OF THI above named Principal has submi			•

NOW, THEREFORE, if the Obligee accepts the bid of the Principal and the Principal fails to enter into a proper contract in accordance with the bid, plans, details, specifications, and bills of material; and in the event the Principal pays to the Obligee the difference not to exceed ten percent of the penalty hereof between the amount specified in the bid and such larger amount for which the Obligee may in good faith contract with the next lowest bidder to perform the work covered by the bid; or in the event the Obligee does not award the contract to the next lowest bidder and resubmits the project for bidding, the Principal will pay the Obligee the difference not to exceed ten percent of the penalty hereof between the amount specified in the bid, or the costs, in connection with the resubmission, of printing new contract documents, required advertising and printing and mailing notices to prospective bidders, whichever is less, then this obligation shall be void, otherwise to remain in full force and effect. If the Obligee accepts the bid of the Principal and the Principal within ten days after the awarding of the contract, enters into a proper contract in accordance with the bid, plans, details, specifications, and bills of material, which said contract is made a part of this bond the same as though set forth herein: and

IF THE SAID Principal shall well and faithfully perform each and every condition of such contract; and indemnify the Obligee against all damage suffered by failure to perform such contract according to the provisions thereof and in accordance with the plans, details, specifications, and bills of material therefore; and shall pay all lawful claims of subcontractors, materialmen, and laborers, for labor performed and materials furnished in the carrying forward, performing, or completing of said contract; we agreeing and assenting that this undertaking shall be for the benefit of any materialman or laborer having a just claim; as well as for the Obligee herein; then this obligation shall be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

THE SAID Surety hereby stipulates and agrees that no modifications, omissions, or additions, in or to the terms of said contract or in or to the plans and specifications therefore shall in any way affect the obligations of said Surety on its bond, and it does hereby waive notice of any such modifications, omissions or additions to the terms of the contract or to the work or to the specifications.

SIGNED AND SEALED this day of	, 2016.
PRINCIPAL:	
BY:	
TITLE:	
SURETY	
SURETY COMPANY ADDRESS:	
BY:	
SURETY AGENT'S NAME AND ADDRESS:	

NOTE: Failure by any party to sign the Bid Guaranty and Contract Bond, and Payment Bond shall result in rejection of bid.