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STIBBS STREET
SANITARY SEWER REPLACEMENT

CITY OF WOOSTER, OHIO
2020

INDEX OF SHEETS

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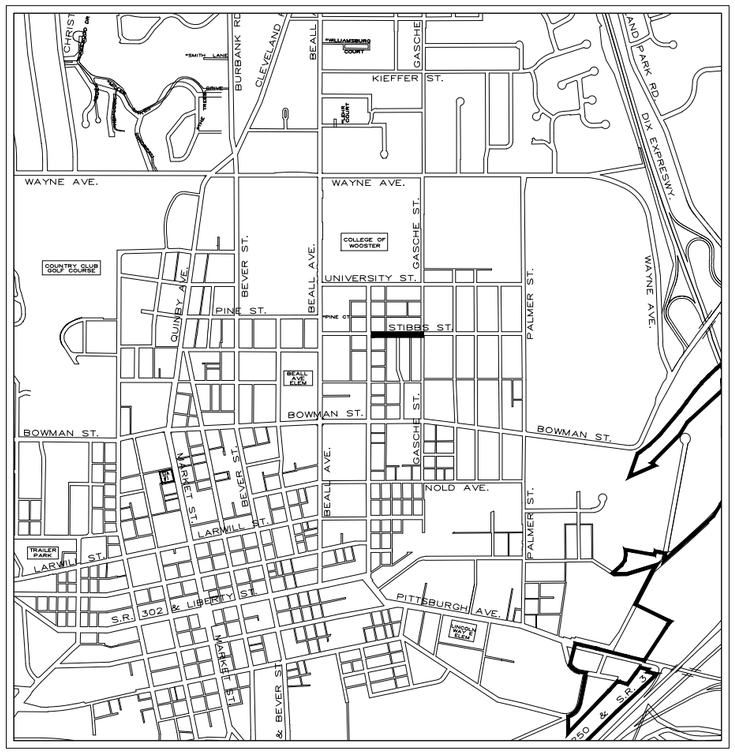
ESTIMATED CONSTRUCTION COST = $142,500



LOCATION MAP

SCALE IN MILES

0 1/4 1/2 1

PROJECT LOCATION

SPECIFICATIONS

THE 2019 CONSTRUCTION AND MATERIAL SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS, AND THE CITY OF WOOSTER ENGINEERING CONSTRUCTION STANDARDS SHALL GOVERN THIS IMPROVEMENT.

DESIGNED JOHN RICE, STAFF ENGINEER

DATE FEBRUARY 9, 2020

PLAN PREPARED BY
CITY OF WOOSTER
DIVISION OF ENGINEERING
538 N. MARKET ST. WOOSTER, OHIO 44691
PH: (330) 263-5251 FAX: (330) 263-5283

REVISED
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SHEET 1 OF 8

OHIO811.org Before You Dig

M:\Engineering\ENGINEERING PROJECTS\2019 Projects\Prospect St & Stibbs St Sanitary Sewer Replacements #192053\Civil3D\StibbsSt 01 Title.dwg - Title Sht - Sep 20, 2021 - 3:43pm

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GENERAL NOTES

1. UTILITY COMPANIES SHALL BE NOTIFIED PRIOR TO THE START OF CONSTRUCTION SO THAT EACH CAN LOCATE AND/OR PROTECT THEIR UTILITIES. UTILITY COMPANIES FOR THE PROJECT AREA ARE AS FOLLOWS:

ELECTRIC:	AEP OHIO 3755 LONG RD. WOOSTER, OHIO 44691 (330) 202–3078	AEP OHIO 301 CLEVELAND AVE. P.O. BOX 24400 CANTON, OHIO 44701 (330) 438–7061
TELEPHONE:	CENTURYLINK 2025 AKRON ROAD WOOSTER, OHIO 44691 (330) 262–1128	
NATURAL GAS:	DOMINION ENERGY OHIO 1049 HEYL ROAD WOOSTER, OHIO 44691 (330) 262–4801	DOMINION ENERGY OHIO 320 SPRINGSIDE DRIVE, SUITE 320 AKRON, OHIO 44333 (330) 664–2409
TELEVISION CABLE:	MCTV 444 WEST MILLTOWN ROAD WOOSTER, OHIO 44691 (330) 345–8114	
WATER AND SEWER:	CITY OF WOOSTER 538 NORTH MARKET ST. WOOSTER, OHIO 44691 (330) 263–5200	

2. ALL WORK AND MATERIALS FURNISHED SHALL BE IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS, THE MOST CURRENT EDITION OF THE "STATE OF OHIO DEPARTMENT OF TRANSPORTATION MATERIALS AND SPECIFICATIONS", THE "CITY OF WOOSTER ENGINEERING CONSTRUCTION STANDARDS", SHALL MEET AASHTO M306 STANDARDS AND SHALL BE MANUFACTURED IN THE USA.

3. THE CONTRACTOR SHALL NOTIFY THE CITY OF WOOSTER ENGINEERING DIVISION AT LEAST 48 HOURS IN ADVANCE (TWO WORKING DAYS) OF INITIATION OR STOPPAGE OF WORK. THE ENGINEERING DIVISION WILL BE RESPONSIBLE FOR NOTIFYING PROPERTY OWNERS OF CONSTRUCTION OPERATIONS.

4. WORK UNDER THIS CONTRACT SHALL BE LIMITED TO PUBLIC RIGHT–OF–WAY AND EASEMENTS OBTAINED BY THE OWNER AS SHOWN ON THE DRAWINGS. ANY ADDITIONAL CONSTRUCTION EASEMENTS REQUIRED FOR COMPLETION OF WORK UNDER THIS CONTRACT SHALL BE OBTAINED BY THE CONTRACTOR, WHOM SHALL PROVIDE A COPY TO THE CITY.

5. THE CONTRACTOR SHALL NOT CUT DOWN, DISTURB OR DAMAGE ANY TREES NOT DESIGNATED FOR REMOVAL DURING THE PROSECUTION OF WORK UNDER THIS CONTRACT. ANY TREES TO REMAIN WHICH DIE WITHIN ONE YEAR OF FINAL ACCEPTANCE OF AND AS A RESULT OF WORK UNDER THIS CONTRACT SHALL BE TOTALLY REMOVED AND REPLACED WITH A 10 FOOT HIGH TREE OF THE SAME TYPE AS THAT BEING REMOVED. THE REPLACEMENT TREE SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF PLANTING.

6. WHERE IT IS NECESSARY TO DISTURB LAWNS, DRIVEWAYS, LANDSCAPING, FENCES, SHRUBS, SIGNS, MAILBOXES, ETC., IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO RESTORE THE AREA TO A CONDITION AT LEAST AS GOOD AS IT WAS PRIOR TO THE ONSET OF CONSTRUCTION. ROAD SIGNS SHALL BE REMOVED AND REPLACED PER TYPICAL DETAIL WITH NEW HARDWARE SUPPLIED BY THE CITY. THE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE ITEM(S) NECESSITATING THIS WORK.

7. MOBILIZATION AND CONTRACT BOND COSTS SHALL BE CONSIDERED A SUBSIDIARY OBLIGATION OF THE CONTRACTOR AND NO DIRECT PAYMENT OF SUCH COSTS WILL BE MADE.

8. LININGS OF ALL UTILITY PIPING AND STRUCTURES SHALL BE KEPT CLEAN AND FREE OF DEBRIS PRIOR TO AND DURING INSTALLATIONS. THE CONTRACTOR SHALL PROTECT FLOW LINES AND STRUCTURES FROM DEBRIS THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL FINAL APPROVAL IS GRANTED BY THE CITY OF WOOSTER ENGINEERING DIVISION.

9. THE COST FOR REMOVAL OF EXISTING PIPE REQUIRED FOR INSTALLATION OF PROPOSED PIPING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE SIZE AND TYPE OF PIPE BEING INSTALLED. PIPE REMOVED SHALL BE PROPERLY DISPOSED OF IN ACCORDANCE WITH ODOT ITEM 202.

10. THE BID ITEM FOR REMOVAL OF EXISTING VALVE BOX SHALL INCLUDE: CLOSING THE VALVE, REMOVING THE VALVE BOX 3' BELOW GRADE, SURFACE RESTORATION, SAW CUTTING, PAVEMENT REPAIR, 411 GRANULAR BACKFILL AND ANY INCIDENTALS NECESSARY TO COMPLETE THE ITEM. THE UNIT COST FOR REMOVAL OF EXISTING VALVE BOX SHALL INCLUDE ALL THE REFERENCED ITEMS.

11. IN ORDER TO MINIMIZE ADVERSE CONSTRUCTION NOISE IMPACTS, NO POWER OPERATED CONSTRUCTION TYPE DEVICE SHALL BE OPERATED BETWEEN THE HOURS OF 7:00 P.M. TO 7:00 A.M. IN ADDITION, NO POWER–OPERATED CONSTRUCTION TYPE DEVICE SHALL BE OPERATED IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY REQUIRED FOR THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

12. ALL PROPERTY PINS OR MONUMENTS WHICH ARE REMOVED OR DISTURBED DURING CONSTRUCTION SHALL BE REPLACED IN THE SAME LOCATION THEY OCCUPIED PRIOR TO CONSTRUCTION. THE COST OF REPLACING PROPERTY PINS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE ITEM(S) NECESSITATING THIS WORK. THIS WORK SHALL BE COMPLETED BY A PROFESSIONAL SURVEYOR REGISTERED IN THE STATE OF OHIO.

13. THE CONTRACTOR SHALL PERFORM THE WORK WITHIN A MOVABLE CONSTRUCTION ZONE, CLOSING THE ROAD WITHIN THE ZONE BUT MAINTAINING ACCESS FOR RESIDENTS AND EMERGENCY VEHICLES. ALL BARRICADING MUST BE PRE–APPROVED BY THE CITY AND SHALL BE IN ACCORDANCE WITH THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AND SHALL BE PLACED PER THE MAINTENANCE OF TRAFFIC DETAIL SHEET. THE COST FOR ALL NECESSARY EQUIPMENT, PERSONNEL AND ANY INCIDENTALS SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR MAINTAINING TRAFFIC.

14. THE CITY OF WOOSTER WILL BE RESPONSIBLE FOR CONSTRUCTION STAKING. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF TWO (2) WORKING DAY'S NOTICE TO THE ENGINEER OR INSPECTOR PRIOR TO THE DESIRED DATE(S) OF STAKES BEING SET.

15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING DUST, DIRT AND MUD DUE TO CONSTRUCTION IN THE PROJECT AREA DURING THE LIFE OF THE PROJECT. DUST CONTROL OPERATIONS SHALL BE PERFORMED BY THE CONTRACTOR AT THE TIME, LOCATION AND IN THE AMOUNT ORDERED BY THE CITY, AND SHALL BE IN ACCORDANCE WITH ITEM 616 OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE COST FOR THESE OPERATIONS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE ITEM(S) NECESSITATING THIS WORK.

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRANSPORTING AND DISPOSING OF ANY EXCESS EXCAVATED MATERIAL. THE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE ITEM(S) NECESSITATING THIS WORK.

17. NOT ALL GAS SERVICE LINES, WATER SERVICE LINES, AND/OR SANITARY SEWER LATERALS ARE SHOWN ON THE DRAWINGS, AND IF SHOWN, ARE ONLY APPROXIMATE. CONTRACTOR SHOULD ASSUME A GAS SERVICE AND SANITARY LATERAL FOR EVERY EXISTING STRUCTURE. GAS SERVICES, WATER SERVICES, AND SANITARY LATERALS WILL BE LOCATED BY THE GAS COMPANY AND CITY AT THE TIME OF CONSTRUCTION. ANY DAMAGES TO THESE LINES SHALL BE REPAIRED AND THAT COST SHALL BE INCLUDED WITH THE UNIT PRICE BID FOR THE APPROPRIATE SIZE AND TYPE OF PIPE.

18. WHEREVER IN THE CONTRACT DOCUMENTS REFERENCE IS MADE TO THE CONSTRUCTION AND MATERIAL SPECIFICATIONS OF THE OHIO DEPARTMENT OF TRANSPORTATION (ODOT) CURRENT EDITION, THE PROVISIONS OF THE REFERENCED ITEM SHALL HAVE THE FULL FORCE AND EFFECT AS IF REPRODUCED HEREIN IN THEIR ENTIRETY. HOWEVER, THE METHOD OF MEASUREMENT, BASIS OF PAYMENT AND PAY ITEMS SHALL BE AS DIRECTED IN THE MATERIAL SPECIFICATIONS OR BID PROPOSAL FORMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THEIR OWN COPY OF THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS. WHERE THE CITY SPECIFICATIONS ARE IN CONFLICT WITH THOSE OF ODOT, THE CITY'S SHALL GOVERN.

19. THE CONTRACTOR SHALL SUBMIT A TENTATIVE SCHEDULE OF THE VARIOUS PHASES OF THE WORK TO THE CITY ENGINEER BEFORE COMMENCEMENT OF CONSTRUCTION. SAID SCHEDULE SHALL BE BROUGHT UP TO DATE WEEKLY.

20. WHERE GROUND COVER IS DISTURBED DURING THE CONSTRUCTION, THE CONTRACTOR SHALL INSTALL ALL NECESSARY EROSION CONTROL AND DRAINAGE CONTROL DEVICES IN ACCORDANCE WITH REGULATIONS OF THE CITY OF WOOSTER, ODOT SUPPLEMENTAL SPECIFICATION 832 AND THE OHIO EPA. THESE DEVICES SHALL BE ROUTINELY MONITORED AND MAINTAINED BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL SATISFACTORY GROUND COVER HAS BEEN RE–ESTABLISHED. NO WORK SHALL BEGIN UNTIL ALL SUCH DEVICES ARE IN PLACE. COST OF AND PLACEMENT OF ANY NECESSARY EROSION CONTROL DEVICES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE ITEM(S) NECESSITATING THIS WORK.

21. ALL CONCRETE AND ASPHALT DRIVEWAY APPROACHES THAT ARE DISTURBED DURING CONSTRUCTION SHALL BE REPLACED AND SHALL MATCH EXISTING DRIVE APPROACH DIMENSIONS. ASPHALT DRIVE APPROACHES SHALL BE REPLACED FROM THE TRENCH TO THE EDGE OF PAVEMENT WITH A MINIMUM OF 6" OF CONCRETE, UNLESS SHOWN OTHERWISE ON THE DRAWINGS. CONCRETE DRIVE APPROACHES SHALL BE REPLACED FROM THE STREET TO THE NEAREST JOINT PAST THE TRENCH AND SHALL BE A MINIMUM OF 6" THICK OR AS SHOWN ON THE DRAWINGS. COST FOR ASPHALT PAVEMENT AND SURFACE RESTORATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE SIZE AND TYPE OF PIPE UNLESS SPECIFICALLY PAID FOR ELSEWHERE.

22. LIMESTONE AGGREGATE SHALL BE USED IN ALL PORTLAND CEMENT CONCRETE PAVEMENT, CURBS, SIDEWALKS AND IN ASPHALT CONCRETE SURFACE PAVEMENT. RECLAIMED ASPHALT PAVEMENT IS PERMITTED IN THE INTERMEDIATE PAVEMENT AT A RATE NOT TO EXCEED 20% AND IN THE ASPHALT CONCRETE BASE AT A RATE ALLOWED BY THE OHIO DEPARTMENT OF TRANSPORTATION BUT NOT TO EXCEED 30%. RECLAIMED ASPHALT SHINGLES ARE NOT ALLOWED.

23. ALL BACKFILL UNDER OR WITHIN 2' OF ROADS, DRIVES, PARKING LOTS, AND SIDEWALKS SHALL BE ODOT ITEM 411 GRANULAR BACKFILL. THE COST OF GRANULAR BACKFILL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE SIZE AND TYPE PIPE.

24. THE CONTRACTOR SHALL MAINTAIN BACKFILLED TRENCHES IN A USABLE CONDITION. TRENCHES IN PAVED AREAS SHALL BE TEMPORARILY SURFACED WITH ASPHALT PER TEMPORARY PAVEMENT REPLACEMENT DETAILS IF PERMANENT PAVEMENT REPLACEMENT WILL NOT OCCUR WITHIN 5 DAYS. THE COST FOR TEMPORARY PAVEMENT SHALL BE INCLUDED IN THE PER UNIT PRICE BID FOR THE APPROPRIATE SIZE AND TYPE OF PIPE, UNLESS A SEPARATE BID ITEM IS INCLUDED FOR TEMPORARY PAVEMENT.

25. WHERE THE PLANS PROVIDE FOR THE PROPOSED PIPE TO BE CONNECTED TO, OR TO CROSS EITHER OVER OR UNDER AN EXISTING PIPE, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND GRADE BEFORE LAYING THE PROPOSED PIPE. PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE SIZE AND TYPE OF PIPE BEING INSTALLED.

26. THE CONTRACTOR SHALL VIDEO THE ENTIRE WORK AREA PRIOR TO CONSTRUCTION. THE VIDEO SHALL BE A DIGITAL COLOR AUDIO–VIDEO CD FOR THE PURPOSE OF PROPER SURFACE RESTORATION OF THE FEATURES ALONG THE ENTIRE LENGTH OF THE PROJECT. ALL WORK AND STORAGE AREAS AND ALL ACCESS ROUTES AND ROADS SHALL ALSO BE VIDEOED. ONE COPY OF THE PRECONSTRUCTION VIDEO CD SHALL BE SUPPLIED TO THE CITY. THE DIGITAL VIDEO SHALL BE PROVIDED ON A CD OR DVD, AND SHALL BE COMPATIBLE WITH STANDARD WINDOWS MEDIA PLAYERS. THE CONSTRUCTION VIDEO SHALL BE CONSIDERED A SUBSIDIARY OBLIGATION OF THE CONTRACTOR AND NO DIRECT PAYMENT OF SUCH COSTS WILL BE MADE.

27. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING PAVEMENT MARKINGS DAMAGED DURING CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO THE CITY OF WOOSTER.

28. IF IT IS NECESSARY FOR ANY EXCAVATING TO BE DEWATERED, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO DEWATER SAID EXCAVATION AT NO ADDITIONAL COST TO THE CITY.

29. THE COST FOR ROCK EXCAVATION IS INCLUDED WITH THE PERTINENT BID ITEM FOR WHICH IT IS REQUIRED. NO SEPARATE PAYMENT WILL BE MADE FOR ANY ROCK EXCAVATION. IF THE CONTRACTOR WANTS ADDITIONAL INFORMATION, THEY SHOULD COORDINATE WITH THE OWNER FOR ANY BORINGS OR TEST PITS THEY INTEND TO COMPLETE.

30. WHERE PAVEMENT REMOVAL IS REQUIRED, EITHER AS A BID ITEM OR AS WORK INCIDENTAL TO ANOTHER BID ITEM, ANY INFORMATION ON EXISTING PAVEMENT MATERIAL AND THICKNESS SHOWN ON THE PLANS REPRESENTS THE BEST INFORMATION AVAILABLE, BUT THE ACCURACY OF SUCH INFORMATION IS NOT GUARANTEED. THE CITY WILL NOT BE RESPONSIBLE FOR ANY COSTS DUE TO DIFFERING PAVEMENT MATERIAL AND/OR THICKNESS. IF THE CONTRACTOR WANTS ADDITIONAL INFORMATION, THEY SHOULD COORDINATE WITH THE OWNER FOR ANY PAVEMENT CORINGS THEY INTEND TO COMPLETE.

SEWER NOTES

1. ALL GRAVITY SEWER PIPE SHALL CONFORM TO ASTM D3034 AND SHALL HAVE JOINTS THAT CONFORM TO ASTM D3212. THE SEWER PIPE SHALL BE AIR TESTED IN ACCORDANCE WITH ASTM F1417 AND DEFLECTION TESTED. MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH ASTM C1244. SANITARY SEWER DEFLECTION TESTING SHALL NOT BE PERFORMED FOR AT LEAST 30 DAYS AFTER FINAL BACKFILL HAS BEEN PLACED. THE PERMISSIBLE DEFLECTION SHALL NOT EXCEED 5 PERCENT OF THE ORIGINAL INSIDE DIAMETER OF THE SEWER. WHERE PLANS CALL FOR THE PROPOSED PIPE TO FOLLOW THE SAME ALIGNMENT AS THE EXISTING PIPE, AIR TESTING ON SEWER PIPE WILL NOT BE REQUIRED; HOWEVER, A VISUAL INSPECTION WITH CCTV SHALL BE PERFORMED BY THE CONTRACTOR ON SEWERS NOT BEING AIR TESTED.

2. FLOW SHALL BE MAINTAINED IN EXISTING SANITARY SEWERS TO BE REMOVED OR ABANDONED UNTIL THE FLOW HAS BEEN DIVERTED TO THE PROPOSED SEWER. SHOULD ANY PORTION OF THE EXISTING SEWERS BE TAKEN OUT OF SERVICE TO INSTALL THE PROPOSED SEWER, TEMPORARY PUMPING AROUND THE SECTION OUT OF SERVICE SHALL BE PROVIDED AS NECESSARY TO PREVENT SEWER SURCHARGING. COST OF ALL TEMPORARY PUMPING AND PIPING SHALL BE INCLUDED IN THE APPROPRIATE SIZE AND TYPE OF PIPE. SEWAGE FLOW THROUGH AN OPEN DITCH IS NOT PERMITTED.

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

4. COST FOR REMOVAL OF EXISTING SANITARY SEWERS AND MANHOLES THAT ARE REQUIRED FOR THE INSTALLATION OF THE PROPOSED SEWERS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE ITEM(S) TAKING ITS PLACE, UNLESS REMOVAL IS SPECIFICALLY PAID FOR ELSEWHERE. ITEMS REMOVED SHALL BE PROPERLY DISPOSED OF IN ACCORDANCE WITH ODOT ITEM 202.

5. WHERE A PROPOSED SANITARY SEWER PIPE IS TO BE CONNECTED INTO AN EXISTING MANHOLE SUCH THAT IT REQUIRES A NEW HOLE, THE NEW HOLE SHALL BE NEATLY CORE–DRILLED. IN ADDITION, CONTRACTOR SHALL REWORK THE CHANNEL INSIDE THE MANHOLE AS REQUIRED. ALL CONNECTIONS OR RECONNECTIONS BETWEEN SEWER PIPE AND MANHOLES SHALL BE MADE WITH WATERTIGHT, FLEXIBLE SEALS. THE ENDS OF SEWER PIPES BEING ABANDONED SHALL BE PLUGGED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS. THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE SIZE AND TYPE OF SEWER PIPE.

PROJECT NOTES

1. SEWERS DESIGNATED ON THE PLANS AS "TO BE ABANDONED" OR T.B.A. SHALL BE ABANDONED IN PLACE AND FILLED WITH ODOT ITEM 613, LOW STRENGTH MORTAR BACKFILL OR COMPLETELY REMOVED. THE LSM SHALL BE PUMPED INTO PLACE, OR PLACED BY OTHER APPROPRIATE MEANS, SO THAT AFTER SETTLEMENT, AT LEAST 90 PERCENT OF THE CROSS–SECTIONAL AREA OF THE CONDUIT, FOR ITS ENTIRE LENGTH, IS FILLED.

2. EXISTING ROOF DRAINS, FOOTER DRAINS, YARD DRAINS, OR SANITARY SEWER LATERALS OBSERVED DURING CONSTRUCTION SHALL BE PROVIDED WITH AN UNOBSTRUCTED OUTLET INTO EITHER THE STORM OR SANITARY SEWER. THE LOCATION, TYPE, AND GRADE OF THE REQUIRED REPLACEMENT WILL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION.

3. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK DESCRIBED ABOVE:

611 6" CONDUIT, TYPE B, 707.45	50 FT
611 6" CONDUIT, TYPE C, 707.45	50 FT
611 6" CONDUIT, TYPE B, 707.45 (SANITARY)	50 FT

NECESSARY BENDS, BRANCHES, REDUCERS, FITTINGS, ETC. AND CONNECTION INTO EITHER THE STORM OR SANITARY SEWER SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE BID FOR THE APPROPRIATE TYPE OF 6" CONDUIT. NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL DIRECTED BY THE ENGINEER.

THE UNIT COST FOR 6" CONDUIT SHALL INCLUDE CORE DRILLING, FITTINGS, AND ANY OTHER INCIDENTALS NECESSARY FOR COMPLETE INSTALLATION.

4. THE LOCATIONS SHOWN FOR THE EXISTING SANITARY SEWER LATERALS ARE BASED ON TRACING THE LATERALS FROM INSIDE THE HOUSES TOWARD THE STREET. THE EXACT LOCATIONS AND DEPTHS OF THE EXISTING 6" SANITARY SEWER MAINS BEING REPLACED ARE UNKNOWN. THE LOCATIONS AND DEPTHS SHOWN ON THE PLANS ARE BASED ON RECORD DATA. ATTEMPTS TO VIDEO THESE SEWERS WERE UNSUCCESSFUL, AS THEY BOTH HAVE UPTURNED 90° BENDS OUTSIDE OF THE MANHOLE IN THE GASCHE STREET INTERSECTION.

UNDER ITEM SPECIAL, SANITARY SEWER VIDEO, THE CONTRACTOR SHALL EXCAVATE OUTSIDE OF THE MANHOLE IN THE GASCHE STREET INTERSECTION, CUT INTO THE EXISTING 6" SANITARY SEWERS ON STIBBS STREET PAST THE BENDS, AND HAVE THE SEWERS CLEANED AND VIDEOED. LOGS OF THE VIDEOS WHICH SHOW THE LATERAL LOCATIONS AT THE MAINS SHALL BE SUBMITTED TO THE ENGINEER IN .PDF FORMAT. THE LUMP SUM PRICE BID SHALL INCLUDE ALL WORK FOR MAKING THE SEWERS ACCESSIBLE AND VIDEOING. SHOULD THE ENTIRETY OF THE SEWERS NOT BE ABLE TO BE VIDEOED, THE AMOUNT PAID FOR THIS ITEM WILL BE ADJUSTED ACCORDINGLY.

5. THE WATER WORK SHALL BE COMPLETED CONCURRENTLY WITH OR FOLLOWING THE SANITARY SEWER WORK IN A LOGICAL WAY. CONTRACTOR SHALL SUBMIT A CONSTRUCTION SEQUENCE FOR REVIEW AND APPROVAL BY THE ENGINEER.

6. CITY SIGNS THAT ARE REMOVED DURING CONSTRUCTION SHALL BE STORED BY THE CONTRACTOR AND RE–ERECTED ON NEW POSTS FOLLOWING CONSTRUCTION. EACH SIGN SHALL BE INSTALLED IN THE SAME PHYSICAL LOCATION SO THAT THE SIGN ID CORRESPONDS TO THE PHYSICAL LOCATION IN THE CITY'S RECORDS. PAYMENT FOR THIS WORK WILL BE MADE AT THE UNIT PRICE BID FOR THE APPROPRIATE 630 ITEM.

ABBREVIATIONS

A.T.G.	ADJUST TO GRADE	N.I.S.	NOT IN SERVICE
BL	BASELINE	PL	PROPERTY LINE
B.M.	BENCH MARK	PLAST.	PLASTIC PIPE
B/P	BIKE PATH	PROP.	PROPOSED
C.I.	CAST IRON PIPE	PVC	POLYVINYL CHLORIDE PLASTIC PIPE
CL	CENTER LINE	RCP	REINFORCED CONCRETE PIPE
CONC.	CONCRETE	RES.	RESIDENCE
C.P.P.	CORRUGATED PLASTIC PIPE	Rt.	RIGHT
CMP	CORRUGATED METAL PIPE	R/W	RIGHT OF WAY
CS	CURB STOP	SAN.	SANITARY
D.I.	DUCTILE IRON PIPE	S/W	SIDEWALK
EOP	EDGE OF PAVEMENT	STA.	STATION
EX., EXIST.	EXISTING	STM.	STORM
F.M.	FORCE MAIN	T.B.A.	TO BE ABANDONED
G/L	GAS LINE	T.B.R.	TO BE REMOVED
HYD.	FIRE HYDRANT	T.B.RP.	TO BE REPLACED
INV.	INVERT	T.B.R.O.	TO BE RELOCATED BY OTHERS
LAT.	LATERAL	T.B.RP.O.	TO BE REPLACED BY OTHERS
Lt.	LEFT	VIT.	VITRIFIED CLAY PIPE
MH	MANHOLE	W/L	WATER LINE
M.J.	MECHANICAL JOINT	WV	WATER VALVE

LEGEND

	EXISTING	PROPOSED
CONTOURS	1035	1035
GUY WIRE		
HYD.		
IRON PIN	I.P.	I.P.
MAIL BOX	MB	
PAPER BOX	PB	
POWER POLE		
SANITARY SEWER		
SANITARY MANHOLE		S
STORM CATCH BASIN		
STORM SEWER		
STORM MANHOLE		D
TELEPHONE POLE		
TELEPHONE MANHOLE		T
TREES TO BE REMOVED		
VALVE		
WATER LINES		

DRWN BY	CHKD BY	APPRVD BY
JAR	JAR	RVK

DATE 01/20 SCALE N/A

CITY OF WOOSTER
DIVISION OF ENGINEERING
538 N. MARKET ST. PH: (330) 263–5251 WOOSTER, OHIO 44691 FAX: (330) 263–5283
ROGER V. KOBILARCSIK CITY ENGINEER rkobilarcsik@woosteroh.com

STIBBS STREET SANITARY SEWER REPLACEMENT GENERAL NOTES

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Not an official copy. Bidders must purchase plans per Legal Notice.

GENERAL SUMMARY & SUBSUMMARY

SHEET 2	SHEET 4	SHEET 5	OFFICE CALCS	BID ITEM	ODOT ITEM	QUANTITY	UNIT	DESCRIPTION
			1	1	201	1	LS	CLEARING AND GRUBBING
	7	3		2A	202	10	EA	CURB BOX REMOVED
	4	2		2B	202	6	EA	VALVE BOX REMOVED
	537	453		2C	202	990	FT	PIPE REMOVED OR FILLED
		1		2D	202	1	EA	MANHOLE REMOVED
	1			2E	202	1	EA	INLET REMOVED
	13			2F	202	13	SY	PAVEMENT REMOVED
	136	152		2G	202	288	SF	WALK REMOVED
		1		2H	202	1	EA	HEADWALL REMOVED
50				3A	611	50	FT	6" CONDUIT, TYPE B, 707.45
50				3B	611	50	FT	6" CONDUIT, TYPE C, 707.45
	120	22		3C	611	142	FT	12" CONDUIT, TYPE B, 707.45
	1			3D	611	1	EA	INLET, 18" DIA.
50	75	78		3E	611	203	FT	6" CONDUIT, TYPE B, 707.45 (SANITARY)
	211	232		3F	611	443	FT	8" CONDUIT, TYPE B, 707.45 (SANITARY)
	1	2		3G	611	3	EA	MANHOLE, 48" ID (SANITARY)
	1			4A	638	1	LS	WATER WORK AT SPINK STREET
	1			4B	638	1	LS	WATER WORK AT BELMONT AVENUE
		1		4C	638	1	LS	WATER WORK AT GASCHE STREET
	1	1		5	638	2	EA	10" GATE VALVE & BOX
	155	50		6A	638	205	FT	1" COPPER WATER SERVICE LINE
		20		6B	638	20	FT	2" COPPER WATER SERVICE LINE
	7	2		6C	638	9	EA	1" CORPORATION STOP
		1		6D	638	1	EA	2" CORPORATION STOP AND TAPPING SADDLE
	7	2		6E	638	9	EA	1" CURB STOP AND BOX
		1		6F	638	1	EA	2" CURB STOP AND BOX
	7	2		6G	638	9	EA	1" COUPLING
	7	2		6H	638	9	EA	3/4" x 1" UNION
		1		6I	638	1	EA	2" COUPLING
	7	2		6J	638	9	EA	1" UNION
		1		6K	638	1	EA	2" UNION
	7	3		6L	638	10	EA	TWO BOLT DRESSER COUPLING
	13			7	452	13	SY	6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS
	136	152		8	608	288	SF	4" CONCRETE WALK
			1	9	614	1	LS	MAINTAINING TRAFFIC
	9	9		10A	630	18	FT	GROUND MOUNTED SUPPORT, NO. 2 POST
	3.5	3.5		10B	630	7	FT	GROUND MOUNTED SUPPORT, NO. 3 POST (ANCHOR)
	1	1		10C	630	2	EA	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION
	1	1		10D	630	2	EA	REMOVAL OF GROUND MOUNTED SIGN POST AND DISPOSAL
1				11	SPECIAL	1	LS	SANITARY SEWER VIDEO
			175	12	SPECIAL	175	SY	TEMPORARY PAVEMENT

DRWN BY JAR | CHKD BY JAR | APPRVD BY RVK
DATE 01/20 | SCALE N/A

CITY OF WOOSTER
DIVISION OF ENGINEERING
538 N. MARKET ST.
PH. (330) 263-5251
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ROGER V. KOBLARCSIK CITY ENGINEER rkobalarcsik@woosterohio.com

STIBBS STREET
SANITARY SEWER REPLACEMENT
GENERAL SUMMARY & SUBSUMMARY

REVISED
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SHEET 3 OF 8

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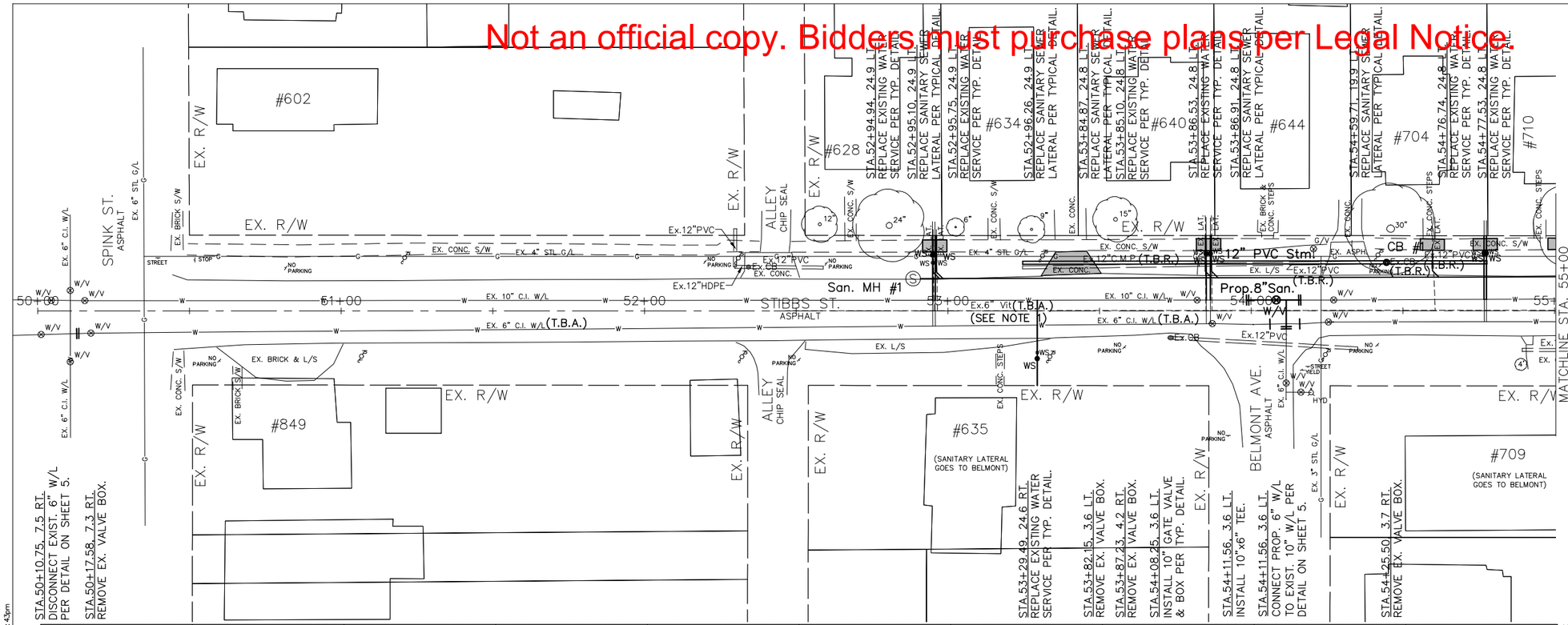
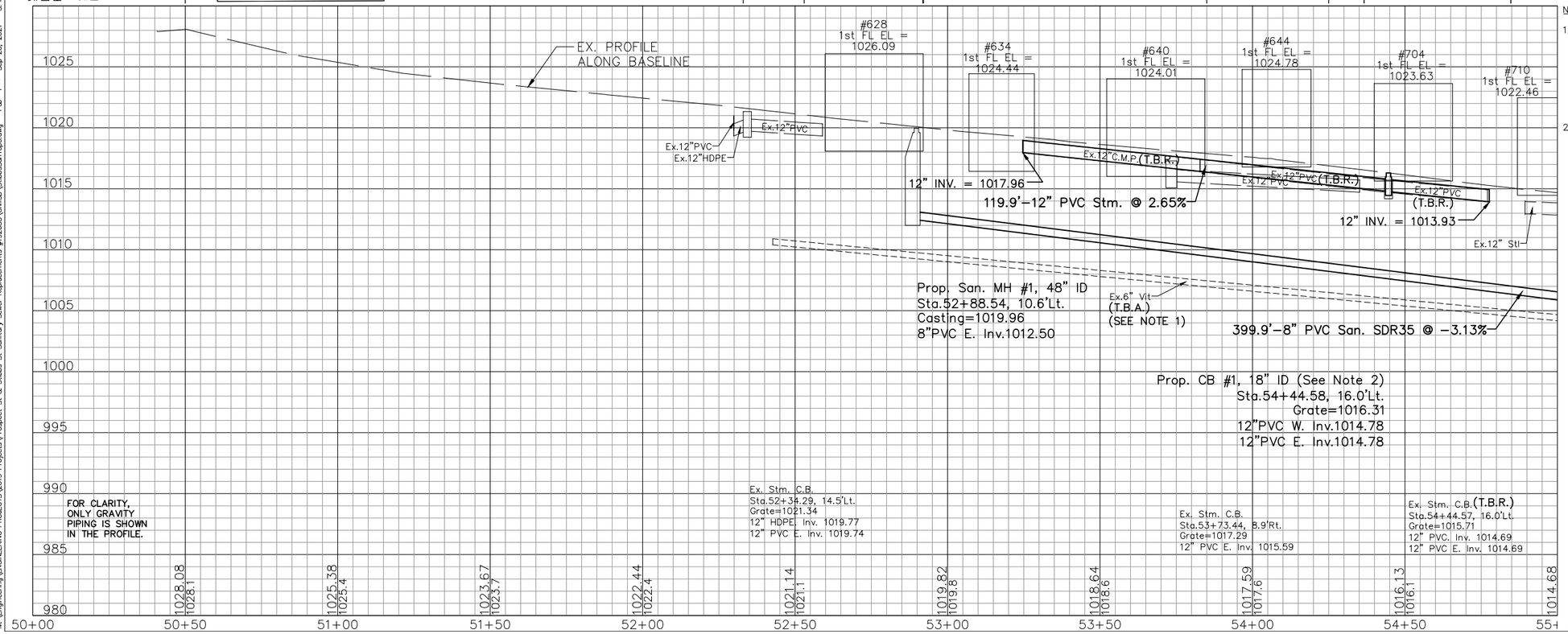


LEGEND

SHADING INDICATES CONCRETE REPLACEMENT



NOTES:

1. THE EXACT LOCATIONS AND DEPTHS OF THESE SANITARY SEWERS ARE UNKNOWN. THE LOCATIONS AND DEPTHS SHOWN ON THE PLANS ARE BASED ON RECORD DATA. ACCORDING TO THE ORIGINAL PLANS, THE EXISTING 6" SEWER MAIN IN THE MIDDLE OF THE STREET HAS A MANHOLE AT THE BELMONT INTERSECTION (APPROXIMATELY STA. 54+05) AND A LAMPHOLE AT THE ALLEY INTERSECTION (APPROXIMATELY STA. 52+40). THE CASTINGS ARE NOT EXPOSED AND WERE NOT ABLE TO BE DETECTED WITH A METAL DETECTOR.
2. CB #1 SHALL BE A NYLOPLAST 18" DRAIN BASIN (PART #2818AG02S) WITH AN H-20 RATED DUCTILE IRON DROP-IN GRATE (PART #1801DI), OR APPROVED EQUAL.

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rkoblarcsik@woosterkids.com

DRWN BY	CHKD BY	APPROD BY
JAR	JAR	RVK

SCALE	DATE
N/A	01/20

STIBBS STREET SANITARY SEWER REPLACEMENT STA. 50+00 TO STA. 55+00

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SHEET 4 OF 8

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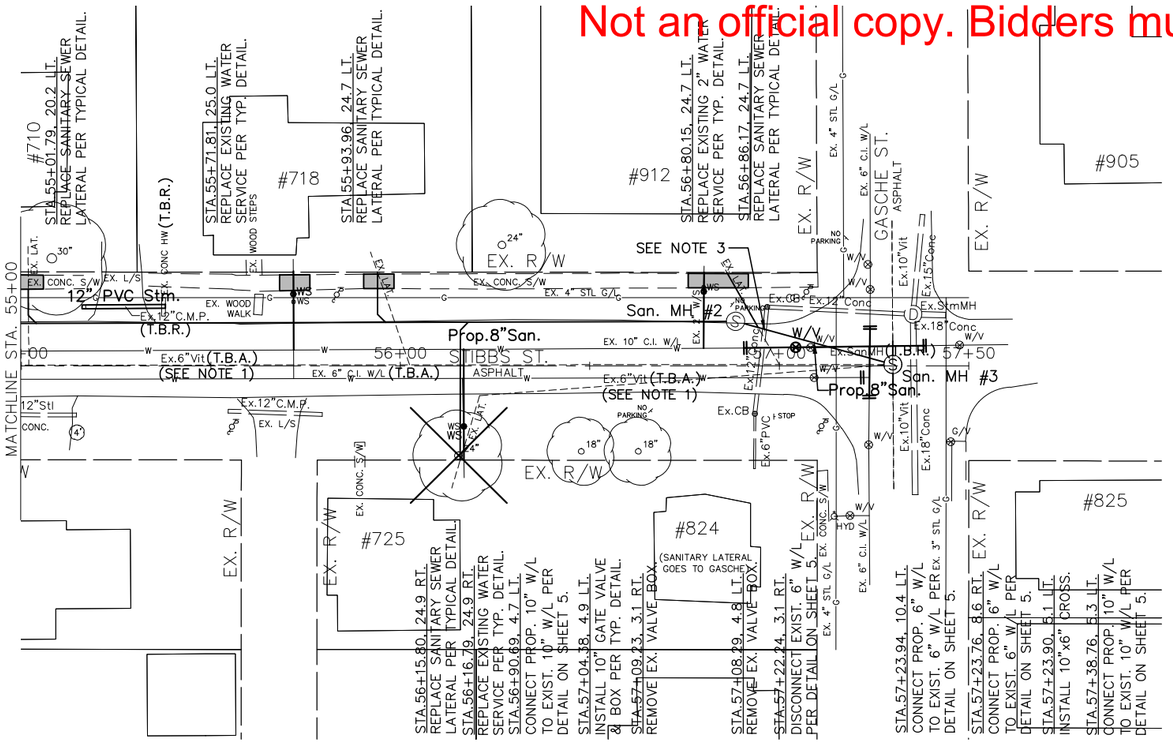
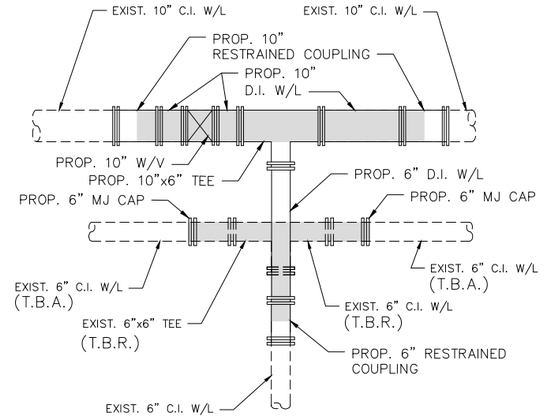
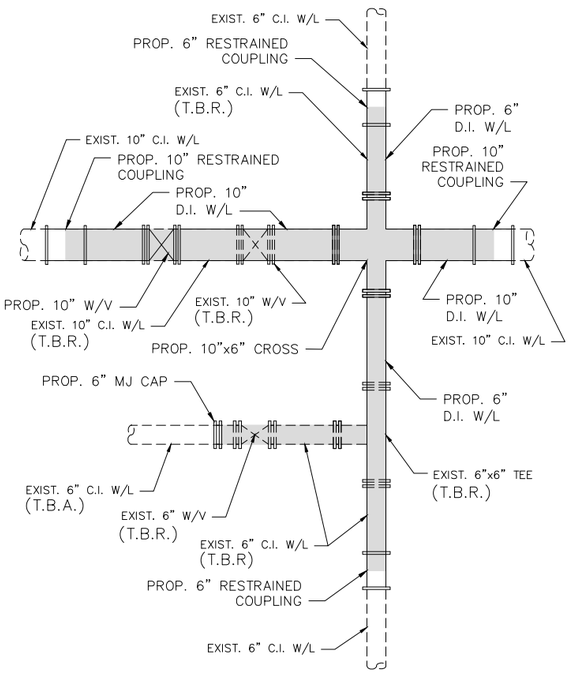


NOTES:

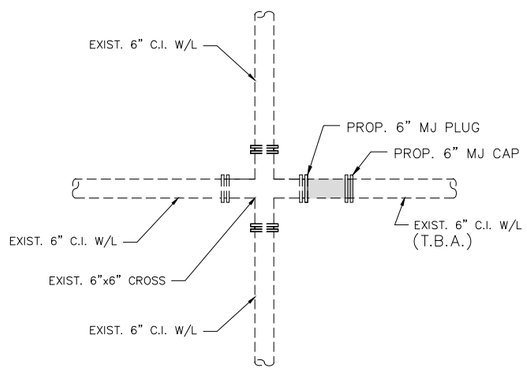
1. THE EXACT LOCATIONS AND DEPTHS OF THE EXISTING SANITARY SEWER MAINS ARE UNKNOWN. THE LOCATIONS AND DEPTHS SHOWN ON THE PLANS ARE BASED ON RECORD DATA.
2. THE CONTRACTOR SHALL FIELD VERIFY THE INVERT ELEVATION OF THE LATERAL FOR #725 AT THE RIGHT-OF-WAY PRIOR TO INSTALLATION OF ANY SEWERS. THE COST FOR THIS WORK SHALL BE INCLUDED WITH THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.
3. THE CONTRACTOR SHALL REMOVE AND REPLACE THE EX. 12" CONCRETE PIPE AS REQUIRED TO INSTALL THE PROP. SANITARY SEWER AND WATERLINE AT NO EXPENSE TO THE OWNER.



WATER WORK AT BELMONT AVENUE DETAIL
STA. 54+11.45, 3.6' LT.

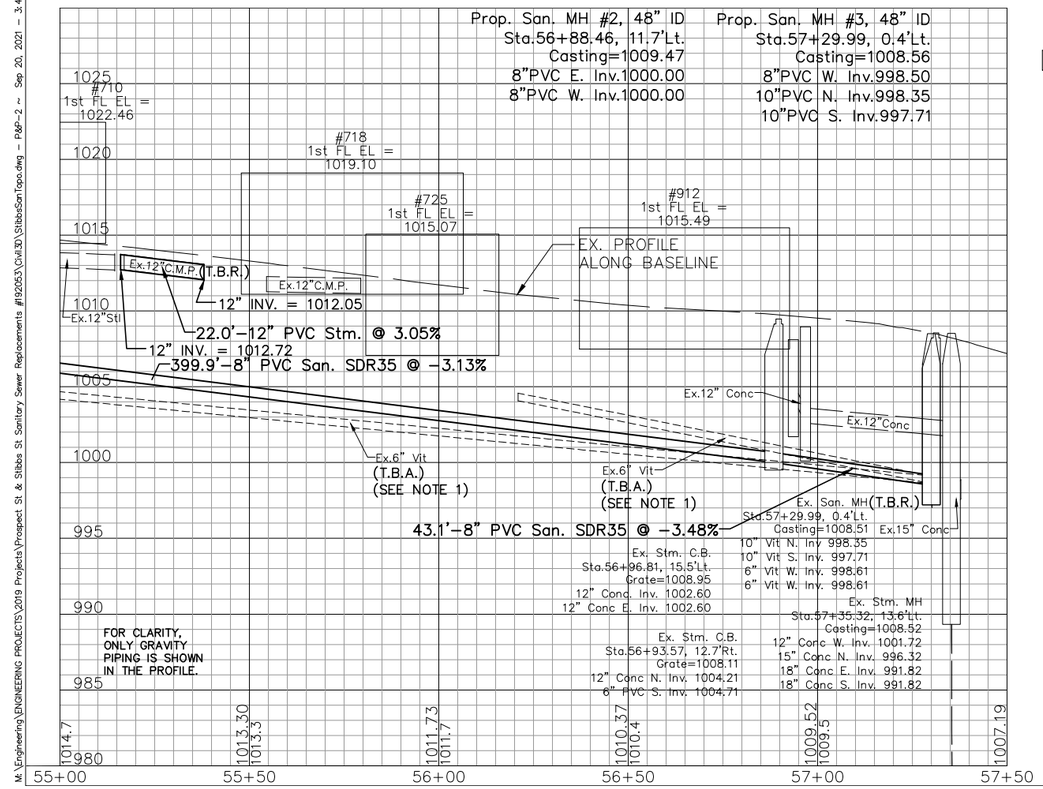


WATER WORK AT GASCHE STREET DETAIL
STA. 57+23.90, 5.1' LT.



WATER WORK AT SPINK STREET DETAIL
STA. 50+10.75, 7.5' RT.

LEGEND
SHADING INDICATES PIPING TO BE REMOVED



LEGEND
SHADING INDICATES CONCRETE REPLACEMENT

CITY OF WOOSTER
DIVISION OF ENGINEERING
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ROGER V. KOBLARCSIK
CITY ENGINEER

DRWN BY JAR | CHKD BY JAR | APPRVD BY RVK | SCALE N/A | DATE 01/20

STIBBS STREET
SANITARY SEWER REPLACEMENT
STA. 55+00 TO STA. 57+50

REVISED
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SHEET 5 OF 8

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SANITARY SEWER CONSTRUCTION

GRAVITY SEWER

MAIN PIPE: 8" MINIMUM PVC, ASTM D3034; JOINTS ASTM D3212.
8" MINIMUM DUCTILE IRON PIPE, CLASS 52, AWWA C151, CERAMIC EPOXY LINED.
AIR TEST REQUIRED ON ALL MAINS AND LATERALS.
A 5% DEFLECTION TEST WITH AN APPROVED MANDREL SHALL BE MADE AFTER 30 DAYS. THE CITY OF WOOSTER ENGINEERING DIVISION RESERVES THE RIGHT TO REQUIRE RE-TESTING WITHIN 1 YEAR AFTER INSTALLATION.
MINIMUM REQUIRED SLOPE SHALL NOT BE LESS THAN 0.40% FOR 8" PIPE. THE CITY ENGINEER MAY REQUIRE A GREATER MINIMUM SLOPE FOR END OF LINE SEWERS.

LATERALS: 6" MINIMUM PVC (SAME SPECIFICATIONS AS FOR MAIN PIPE).
LATERAL CONNECTIONS TO MAIN SEWERS SHALL NOT BE MADE AT MANHOLES UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
WYE OR TEE TYPE FITTINGS SHALL BE USED AT MAIN PIPE.
ONLY FERNCO 5000 SERIES STRONG BACK COUPLINGS ARE PERMITTED FOR IN-LINE SPLICES, AND ONLY WHEN NECESSARY.
FERNCO 5000 SERIES STRONG BACK COUPLINGS SHALL BE USED FOR BUILDING SEWER CONNECTIONS. A NEOPRENE O-RING (DOUGHNUT) MAY BE USED AS AN ALTERNATIVE, WITH THE 4" PIPE INSIDE THE 6" PIPE A MINIMUM OF 18".
GLUED JOINTS UNDERGROUND ARE PROHIBITED.
90° BENDS ARE NOT PERMITTED. TWO 45° FITTINGS SHALL BE USED WITH A MINIMUM 24" STRAIGHT PIPE IN BETWEEN FITTINGS.
6" CLEAN-OUT, OF SAME MATERIAL, IS REQUIRED EVERY 100' MAXIMUM.
1.00% MINIMUM SLOPE.

MANHOLE PIPE CONNECTORS: PVC PLASTIC PIPE CONNECTORS TO MANHOLES SHALL BE RUBBER SLEEVES W/ STAINLESS STEEL BANDING, CAST-IN RUBBER COMPRESSION GASKETS, OR FIELD INSTALLED RUBBER COMPRESSION GASKETS W/ GROUT COLLAR THAT PROVIDES A FLEXIBLE, WATERTIGHT SEAL PER ASTM C923.

BEDDING: PVC: ASTM 2321D, CLASS 1, GRANULAR MATERIAL (ODOT #8 AGGREGATE).

BACKFILL: PVC: CLEAN BEDDING MATERIALS AS INITIAL BACKFILL TO SPRING LINE; CLEAN HAUNCHING MATERIAL TO 12" ABOVE THE PIPE CROWN. UNDER ALL PAVED AREAS, INCLUDING AN AREA 2' BEYOND THE PAVEMENT EDGES, BACKFILL ENTIRELY WITH THE SPECIFIED GRANULAR MATERIAL.

METER: WHERE SEWER WILL BE METERED DIRECTLY FOR BILLING (RATHER THAN BASED ON THE WATER METER) AN EFFLUENT WASTEWATER METER WILL BE SPECIFIED BY THE CITY. THE CUSTOMER SHALL PURCHASE AND INSTALL THE METER, AND THE CITY WILL PROVIDE THE ELECTRONIC READER DEVICE.

GENERAL NOTES
SANITARY SEWER

MANHOLES (SANITARY & STORM)

A. CONSTRUCTION:
1) SANITARY MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH ASTM C1244.
2) ALL NEW MANHOLES SHALL BE 48" MINIMUM INSIDE DIAMETER, PRECAST CONCRETE CONFORMING TO ASTM C478. PRECAST BASES SHALL BE 6" THICK MINIMUM.
3) NEW MANHOLES PLACED OVER EXISTING SEWER LINES, REFERRED TO AS "DOG-HOUSE" MANHOLES, SHALL HAVE CAST-IN-PLACE CONCRETE BASES WITH REINFORCEMENT (REBAR #4 @12" O/C EACH WAY). BASES SHALL BE CLASS QC MS OR QC MISC CONCRETE WITH A MINIMUM THICKNESS OF 10".
4) MANHOLES WITH PRECAST CONCRETE BASES SHALL BE PLACED ON A COMPACTED GRAVEL BED OF ODOT NO. 57 AGGREGATE HAVING A MINIMUM THICKNESS OF 3".
5) RUBBER O-RING GASKETS SHALL BE USED BETWEEN PRECAST MANHOLE SECTIONS, MEETING ASTM C443. APPLY MASTIC TAR STRIP BETWEEN SECTIONS.
6) MANHOLE PIPE CONNECTORS SHALL BE RUBBER SLEEVES W/ STAINLESS STEEL BANDING, CAST-IN RUBBER COMPRESSION GASKETS, OR FIELD INSTALLED RUBBER COMPRESSION GASKETS W/ GROUT COLLAR THAT PROVIDES A FLEXIBLE, WATERTIGHT SEAL PER ASTM C923.
7) THE CENTERLINE OF THE MANHOLE SHALL BE LOCATED OVER THE CENTERLINE OF THE MAIN SEWER, WHENEVER POSSIBLE.
8) MANHOLE STEPS SHALL BE REINFORCED POLYPROPYLENE PLASTIC, 16" O/C MAXIMUM AND IN PROPER ALIGNMENT.
9) MANHOLE FRAMES SHALL BE SET EVEN AND FLUSH WITH THE INTERIOR WALLS OF THE MANHOLE.
10) GRADE ADJUSTMENT RINGS SHALL BE PRECAST CONCRETE ONLY AND CONFORMING TO ASTM C478 GRADE RINGS. BRICK OR BLOCK MATERIALS ARE NOT PERMITTED. A MAXIMUM 12" OF ADJUSTMENT RINGS MAY BE USED. FINAL ADJUSTMENTS SHALL USE EJ INFRA-SPACER TO ACCOUNT FOR LONGITUDINAL AND CROSS SLOPES.
11) SANITARY MANHOLE CASTINGS IN OR NEAR WATERWAYS AND DITCHES SHALL BE FITTED WITH A MANHOLE INFILTRATION PROTECTION DEVICE, THE COST OF WHICH SHALL BE INCLUDED IN THE PRICE OF THE MANHOLE.
12) MANHOLES LOCATED WITHIN THE SLOPE OF A DITCH SHALL BE INSTALLED SO THE STEPS ARE ON THE OPPOSITE SIDE OF MANHOLE FROM THE DITCH OR FLOWLINE. CONTRACTOR SHALL COORDINATE WITH THE MANUFACTURER FOR CORRECT ORIENTATION OF STEPS.

B. CASTINGS:
1) APPROVED MANHOLE FRAMES AND LIDS ARE SHOWN IN THE TABLE:

MANHOLE USE TYPE	HT	EJ		NEENAH	
		CASTING	LID	CASTING	LID
MANHOLE WITHIN PAVEMENT	9"	1050	TYPE A	R-1713 NON-ROCKING	TYPE B NON-ROCKING
MANHOLE NOT IN PAVEMENT BUT IN R/W	9" 7" 4"	1050 *1022 *1037	TYPE A	R-1713 R-1772 R-1647-A	TYPE B
MANHOLE IN YARD NOT IN PAVEMENT NOT IN R/W	9" 7"	1050 ZPT *1045 ZPT	BOLT DOWN	R-1916-C R-1916-F	TYPE B BOLT DOWN

* Must be preapproved by the City Engineer

2) FRAMES SHALL BE SET LEVEL, EXCEPT SET TO GRADE WHEN WITHIN THE PAVEMENT. LIDS SHALL BE FITTED AND FINISHED TO PROVIDE A FIRM AND EVEN SEAT IN THE FRAME.
3) FRAMES AND LIDS SHALL BE FITTED, MATCHED, AND MARKED PRIOR TO DELIVERY TO THE PROJECT.
4) THE FRAME SHALL BE SET ON A MASTIC STRIP AROUND ITS PERIMETER AND PLACED ON THE SEAT OF THE CONCRETE STRUCTURE.
5) ANY SUBSTITUTIONS OF EQUAL QUALITY AND DIMENSIONS SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO PROCUREMENT.
6) ALL LIDS SHALL BE CAST WITH THE WORDS "SANITARY" OR "STORM" AS APPROPRIATE.
7) ALL CASTINGS AND LIDS SHALL BE COATED WITH A WATERBASED BITUMINOUS COATING OR EQUAL.
8) ALL CASTINGS AND LIDS SHALL MEET OR EXCEED AASHTO H-20 LOADING AND AASHTO M306 REQUIREMENTS.

C. PAYMENT:
1) PAYMENT SHALL BE FOR THE MANHOLE COMPLETE IN PLACE, EXCAVATION AND BACKFILL INCLUDED.

GENERAL NOTES
MANHOLES

SANITARY SEWER TESTING

A. LEAKAGE TESTING:
1) LEAKAGE TESTING OF ALL NEW SANITARY SEWERS SHALL BE PERFORMED USING THE LOW PRESSURE AIR TEST METHOD PER ASTM F1417.
2) TESTING SHALL NOT BE PERFORMED UNTIL ALL LATERALS REQUIRED ON THE LINE TO BE TESTED HAVE BEEN INSTALLED.
3) THE ENDS OF THE SEWER SECTION TO BE TESTED SHALL BE CLOSED AT THE UPSTREAM AND DOWNSTREAM MANHOLES WITH AIRTIGHT BULKHEADS OR PLUGS.
4) AIR SHALL BE ADDED TO THE SEWER BY MEANS OF AN AIR PUMP UNTIL A PRESSURE OF APPROXIMATELY 4 PSI GREATER THAN THE EXTERNAL WATER PRESSURE EXISTS WITHIN THE SEWER.
5) THE AIR LINE SHALL BE CLOSED AND THE PRESSURE ALLOWED TO STABILIZE FOR A PERIOD OF AT LEAST 2 MINUTES.
6) AFTER THE STABILIZATION PERIOD, THE PRESSURE IN THE LINE SHALL BE REDUCED TO 3.5 PSI GREATER THAN THE EXTERNAL WATER PRESSURE AND THE TIME SHALL BE MEASURED FOR THE PRESSURE IN THE SEWER TO DROP FROM 3.5 TO 2.5 PSI GREATER THAN THE EXTERNAL WATER PRESSURE.
7) THE PERMISSIBLE TIME FOR THE SPECIFIED PRESSURE DROP SHALL BE GREATER THAN THE SUM OF THE TIMES FOR THE VARIOUS PIPE SIZES AND LENGTHS IN THE SECTION BEING TESTED AS DETERMINED IN THE FOLLOWING TABLE:

MINIMUM TEST TIME FOR VARIOUS PIPE SIZES

NOMINAL PIPE SIZE (IN)	TIME (SEC/100 FT)	NOMINAL PIPE SIZE (IN)	TIME (SEC/100 FT)
6	40	24	214
8	71	27	250
10	89	30	286
12	107	33	323
15	125	36	361
18	144	42	436
21	178	48	513

8) FAILURES SHALL BE FOUND AND CORRECTED AND THE TEST REPEATED UNTIL SATIFACTORY RESULTS ARE OBTAINED.
9) THE CONTRACTOR SHALL PERFORM ALL TESTING IN THE PRESENCE OF THE CITY ENGINEER OR REPRESENTATIVE AND SHALL SUPPLY ALL NECESSARY EQUIPMENT FOR PERFORMING THE REQUIRED LOW PRESSURE AIR TESTING.

B. DEFLECTION TESTING:
1) DEFLECTION TESTING OF ALL NEW SANITARY SEWERS SHALL BE PERFORMED USING ELECTRONIC EQUIPMENT SPECIFICALLY DESIGNED FOR SEWER DEFLECTION TESTING AND WHICH WILL MEASURE AND CONTINUOUSLY RECORD BOTH THE LOCATION AND PIPE DEFLECTION; OR THE STANDARD MANDREL TESTING METHOD SHALL BE USED. ELECTRONIC EQUIPMENT SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO USE.
2) DEFLECTION TESTING SHALL NOT BE PERFORMED DURING THE FIRST 30 DAYS AFTER FINAL BACKFILL HAS BEEN PLACED.
3) THE DEFLECTION SENSING DEVICE SHALL BE PULLED THROUGH THE SEWER SEGMENT UNDER TEST AT A RATE OF SPEED NOT EXCEEDING 30 FEET PER MINUTE.
4) THE PERMISSIBLE DEFLECTION SHALL NOT EXCEED 5 PERCENT OF THE ORIGINAL INSIDE DIAMETER OF THE SEWER. IF ANY PIPING TEST DISCLOSES DEFLECTION GREATER THAN THIS AMOUNT, THE CONTRACTOR SHALL LOCATE AND REPAIR THE CAUSE OF FAILURE AND RETEST THE PIPING UNTIL DEFLECTION AFTER A 30 DAY PERIOD FALLS WITHIN PERMISSIBLE LIMITS. IN LIEU OF MANDREL TESTING THE CONTRACTOR MAY VIDEO THE SEWER.
5) THE CONTRACTOR SHALL PERFORM ALL TESTING IN THE PRESENCE OF THE CITY ENGINEER OR REPRESENTATIVE AND SHALL SUPPLY ALL NECESSARY EQUIPMENT FOR PERFORMING THE REQUIRED DEFLECTION TESTING.

GENERAL NOTES
SEWER TESTING

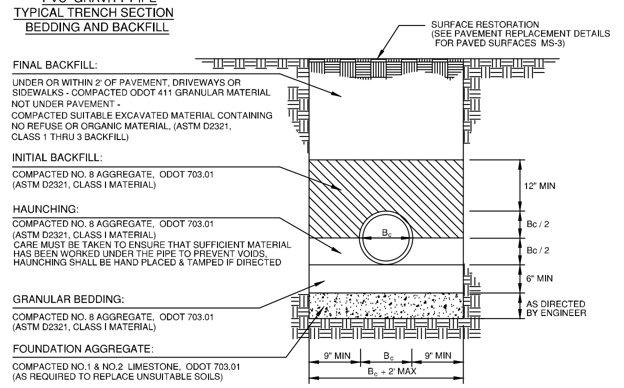
SANITARY SEWER TESTING, CONT'D

C. MANHOLE TESTING:
1) VACUUM TESTING OF ALL NEW SANITARY MANHOLES PER ASTM C1244 SHALL BE PERFORMED AFTER INSTALLATION OF THE TOP PRECAST MANHOLE SECTION, PRECAST ADJUSTING RINGS, AND THE MANHOLE FRAME.
2) ALL PIPES ENTERING THE MANHOLE SHALL BE CLOSED WITH AIRTIGHT BULKHEADS OR PLUGS AND THE TOP OPENING OF THE MANHOLE SHALL BE CLOSED WITH A SUITABLE AIR TEST HEAD.
3) AIR SHALL BE WITHDRAWN FROM THE MANHOLE BY MEANS OF A VACUUM PUMP UNTIL A VACUUM OF 10 INCHES OF MERCURY EXISTS WITHIN THE MANHOLE.
4) THE VACUUM LINE SHALL BE CLOSED AND THE TIME SHALL BE MEASURED FOR THE VACUUM IN THE MANHOLE TO DROP FROM 10 TO 9 INCHES OF MERCURY.
5) THE PERMISSIBLE TIME FOR THE SPECIFIED VACUUM DROP SHALL BE GREATER THAN 1.77 SECONDS PER FOOT OF MANHOLE DEPTH FOR 48 INCH DIAMETER MANHOLES, 2.30 SECONDS PER FOOT OF MANHOLE DEPTH FOR 60 INCH DIAMETER MANHOLES, AND 2.84 SECONDS PER FOOT OF MANHOLE DEPTH FOR 72 INCH DIAMETER MANHOLES.
6) IF ANY MANHOLE TEST DISCLOSES A TIME LESS THAN REQUIRED, THE CONTRACTOR SHALL LOCATE AND REPAIR THE CAUSE OF FAILURE AND RETEST THE MANHOLE UNTIL THE TEST TIME FALLS WITHIN PERMISSIBLE LIMITS.
7) THE CONTRACTOR SHALL PERFORM ALL TESTING IN THE PRESENCE OF THE CITY ENGINEER OR REPRESENTATIVE AND SHALL SUPPLY ALL NECESSARY EQUIPMENT FOR PERFORMING THE REQUIRED VACUUM TESTING.

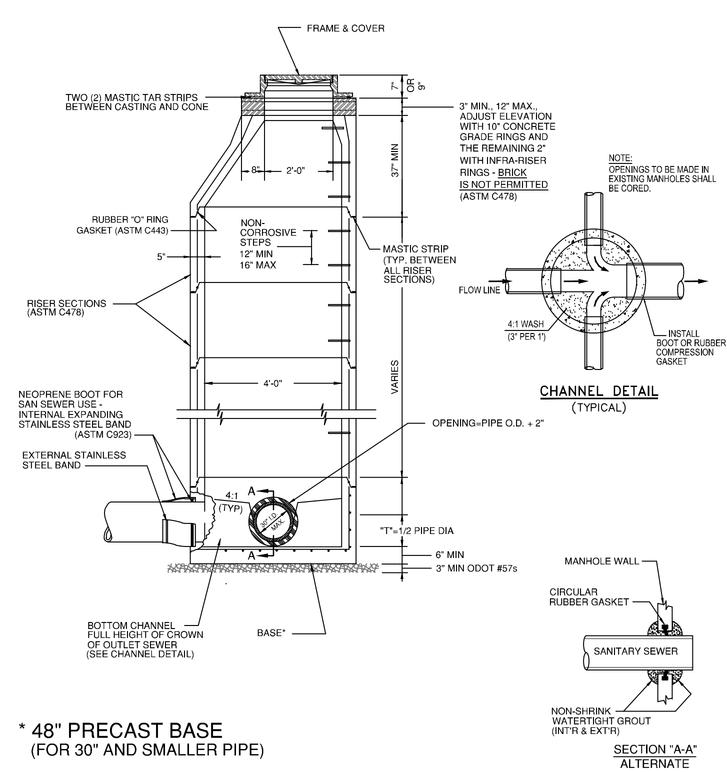
D. FORCEMAIN TESTING:
1) PRESSURE TESTING OF ALL NEW SANITARY SEWER FORCEMAINS SHALL BE PERFORMED USING THE HYDROSTATIC PRESSURE METHOD AS SPECIFIED FOR WATERMAINS, EXCEPT AS MODIFIED BELOW.
2) HYDROSTATIC TESTING OF FORCEMAINS SHALL BE TESTED AT A PRESSURE OF 65 PSI OR 50% ABOVE THE NORMAL OPERATING PRESSURE AT THE LOWEST POINT IN THE PIPING UNDER TEST, WHICHEVER IS GREATER.
3) THE CONTRACTOR SHALL PERFORM ALL TESTING IN THE PRESENCE OF THE CITY ENGINEER OR REPRESENTATIVE AND SHALL SUPPLY ALL NECESSARY EQUIPMENT FOR PERFORMING THE REQUIRED HYDROSTATIC TESTING.

GENERAL NOTES
SEWER TESTING

PVC GRAVITY PIPE
TYPICAL TRENCH SECTION
BEDDING AND BACKFILL



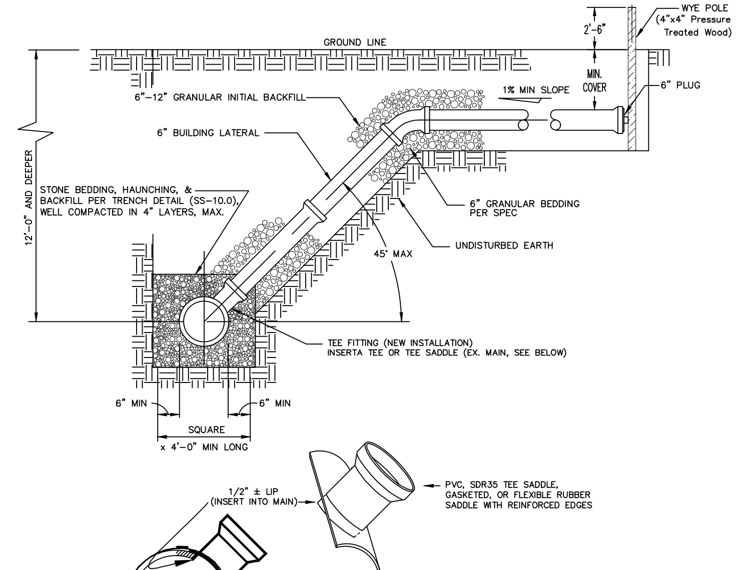
SANITARY SEWER
TRENCH DETAILS



* 48" PRECAST BASE
(FOR 30" AND SMALLER PIPE)

SANITARY
STANDARD MANHOLE

LATERAL TERMINATION:
LATERAL SHALL TERMINATE 6" FROM THE RIGHT-OF-WAY LINE UNLESS SHOWN OTHERWISE ON THE DRAWINGS. TERMINATION DEPTH SHALL PROVIDE 4'-0" MIN. COVER, BUT NOT LOWER THAN THE ADJACENT SANITARY SEWER MAIN. RISER PIPE SHALL BE INSTALLED AS NECESSARY TO TERMINATE LATERAL AT THE APPROPRIATE GRADE TO SERVICE LOWEST BUILDING LEVEL.



NOTE:
1. HOLES IN EXISTING MAINS FOR INSTALLATION OF TEES OR SADDLES SHALL BE CORE DRILLED USING HOLESAWS OR CORING MACHINES TO ENSURE A CLEAN, ROUND, SMOOTH HOLE.
2. SCHEDULE 40 PIPE SHALL BE USED FOR THE FIRST 6' OUT OF THE MAIN SEWER LINE. PLACE A MINIMUM OF 1.5 CU FT OF SAKRETE (HIGH STRENGTH MIX) AROUND MAIN LINE CONNECTION.

DEEP LATERAL
CONNECTION

STORM SEWER

STORM PIPE: THE MINIMUM SIZE STORM SEWER MAIN SHALL BE 12" DIAMETER. ALL STORM SEWER SHALL BE PLACED PER THE APPLICABLE TRENCH DETAIL IN ST-13. WHERE STORM AND SANITARY SEWERS CROSS, ALIGN JOINTS EQUIDISTANT FROM THE CROSS AND EXTEND PREMIUM, GASKETED JOINTS 10' IN EACH DIRECTION.

STORM PIPE UNDER PAVEMENT: 12" AND 15" PIPE SHALL CONFORM TO ODOT 611, MATERIAL SPECS AS FOLLOWS:
REINFORCED CONCRETE PIPE (ODOT 706.02, W/ GASKETED JOINTS PER ASTM C443).
PVC SOLID WALL PIPE (ODOT 707.45, SDR35, W/ GASKETED JOINTS PER ASTM D3212).
CORRUGATED HDPE SMOOTH LINED PIPE (ODOT 707.33 WITH GASKETED JOINTS PER AASHTO M252, AASHTO M294, OR ASTM F2306 AND ASTM F477.
18" AND LARGER PIPE SHALL CONFORM TO ODOT 611, MATERIAL SPECS AS FOLLOWS:
REINFORCED CONCRETE SEWER PIPE - ODOT 706.02, ASTM C76, CLASS 3, 4 OR 5 BASED ON LOADING CONDITIONS, W/ GASKETED JOINTS PER ASTM C443.
ALL 18" AND LARGER PIPE WITHIN THE CITY OF WOOSTER RIGHT OF WAY AND WITHIN 2' OF PAVEMENT SHALL BE REINFORCED CONCRETE SEWER PIPE. COVER OVER STORM PIPES SHALL BE PER ODOT L&D VOLUME 2 SECTION 1104.2.

MANHOLE PIPE CONNECTIONS: STORM SEWER PIPE CONNECTIONS TO MANHOLES SHALL BE MADE WITH CLASS QC MISC OR QC MS CONCRETE COLLAR SEALS, A MINIMUM OF 6" THICK AROUND THE PIPE.

HDPE MANHOLE ENTRY PIECES: MANHOLE ENTRY PIECES (MEP) FABRICATED FOR HDPE, CORRUGATED PLASTIC PIPE SHALL BE FABRICATED BY THE PIPE MANUFACTURER IN ACCORDANCE WITH AASHTO M252 AND M294, AND SHALL BE A MIN. OF 3'-3" LONG.

DRIVE PIPE: RCP, CMP, PVC, OR HDPE (DOUBLE WALL) UNDER DRIVES AT UNIMPROVED ROADS. MINIMUM 12" DIAMETER PIPE, OR AS APPROVED BY THE CITY ENGINEER. MINIMUM 12" COVER, OR AS APPROVED BY THE CITY ENGINEER.

HEADWALLS: POURED IN PLACE REINFORCED CONCRETE OR PRECAST CONCRETE, PER ODOT STANDARD CONSTRUCTION DRAWINGS.

ROCK CHANNEL PROTECTION: TYPE A, B, OR C ROCK OR STONE, W/ FABRIC FILTER, PER ODOT ITEM 601; OF THE SIZE, THICKNESS AND LENGTH AS SPECIFIED IN FIGURE 1107-1 "ROCK CHANNEL PROTECTION AT CULVERT AND STORM SEWER OUTLETS", ODOT LOCATION AND DESIGN MANUAL VOL. 2 - DRAINAGE DESIGN. ROCK CHANNEL PROTECTION SHALL BE INSTALLED IMMEDIATELY AFTER THE INSTALLATION OF THE PERTINENT STORM STRUCTURE OR HEADWALL.

NOTE:
LIFT HOLES IN REINFORCED CONCRETE PIPE SHALL BE PLUGGED WITH CONCRETE PLUGS.

GENERAL NOTES
STORM SEWER

DRWN BY JAR | CHKD BY JAR | APPRVD BY RVK | DATE 02/20 | SCALE N/A

CITY OF WOOSTER
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STIBBS STREET
SANITARY SEWER REPLACEMENT
MISCELLANEOUS DETAILS

REVISED
1 0X/0X/2011
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Not an official copy. Bidders must purchase plans per Legal Notice.

WATER SERVICE CONSTRUCTION

BACKFILL:
5'-0" MINIMUM COVER.

COPPER SERVICE:
TYPE K COPPER, 1" MINIMUM.

HIGH DENSITY POLYETHYLENE SERVICE:
POLYFLEX TUBING (CTS) WITH 200 PSI RATING AND CONFORMING TO ASTM D2737, AWWA C901, AND NSF STANDARDS 14 AND 61. STAINLESS STEEL SLEEVES SHALL BE USED AT EACH CONNECTION POINT. AWG #12 SOLID COPPER TRACER WIRE SHALL BE INSTALLED ALONG WITH POLYFLEX, CHECK CONDUCTIVITY.

SINGLE FAMILY RESIDENTIAL METER VAULT (PE SERVICE):
MUELLER THERMAL COIL METER BOX #200CS1548FSBSN WITH LID #311954
OR A.Y. McDONALD COIL PIT SETTER #790-148QFPP 44D-15, #90L15X800 LID.
METER VAULTS FOR OTHER APPLICATIONS SHALL BE REVIEWED ON A CASE-BY-CASE BASIS.

CURB STOP:
MUELLER H-15209N OR B-25209N, A.Y. McDONALD 76100Q 1" MINIMUM; OR APPROVED EQUAL BY FORD FOR 2" AND UNDER.

CURB BOX:
MUELLER H-10334 CURB BOX, 60"; 88055 SS ROD, 23", 89376 LID OR A.Y. McDONALD 5607 CURB BOX, 60", 5660 SS ROD, 23", 5607 LID, BRASS MACHINES THREAD.
MUELLER H-10386 CURB BOX W/SS ROD FOR 1-1/2" AND 2" SERVICES.

CORPORATION STOP:
MUELLER B-25008N OR A.Y. McDONALD 74701BQ, 1" MINIMUM OR APPROVED EQUAL FOR 2" AND UNDER.

UNION:
MUELLER H-15400N UNION, STRAIGHT THREE PART, WHEN NECESSARY. MUELLER H-15403N OR A.Y. McDONALD 7475BQ UNION, RECONSTRUCTION PROJECTS OR AS APPROVED.

COUPLING:
MUELLER H-15071N OR A.Y. McDONALD 74755Q COUPLING, RECONSTRUCTION PROJECTS OR AS APPROVED. MUELLER H-15082N COUPLING, RECONSTRUCTION PROJECTS OR AS APPROVED.

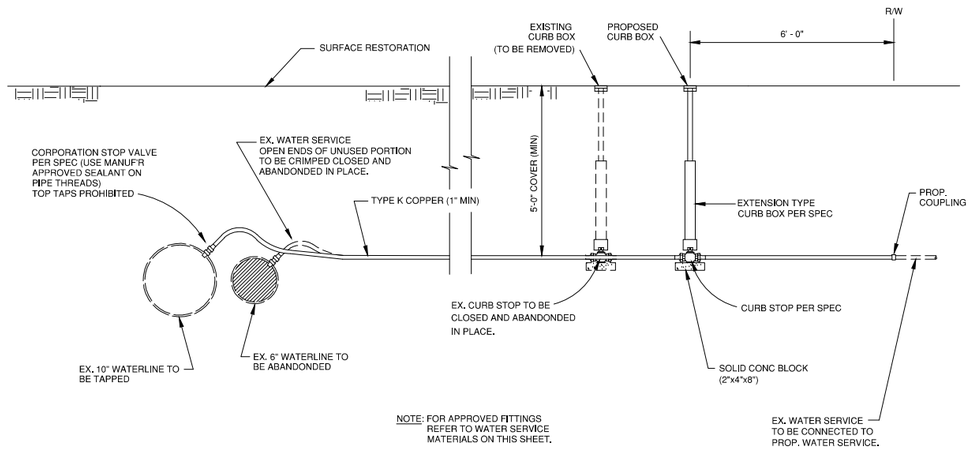
TWO BOLT COUPLING:
SMITH-BLAIR, INC. 400 SERIES BETWEEN NEW COPPER AND EXISTING GALVANIZED WATER SERVICE.

BRASS PLUGS:
MUELLER H-10033N OR H-10034N OR A.Y. McDONALD 73206, 1" BRASS PLUGS, WHEN NECESSARY.

SERVICE SADDLE:
MUELLER BR2B SERIES OR A.Y. McDONALD 3825 AWWA WHEN NECESSARY FOR SERVICES LARGER THAN 1".

NOTES:
1. FOR MAINLINE WATERLINE CONSTRUCTION STANDARDS SEE SHEET GN-3.0.

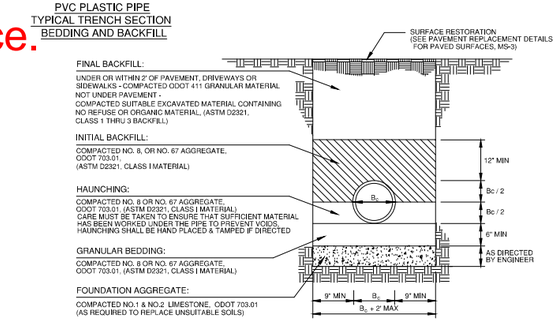
WATER SERVICE MATERIALS



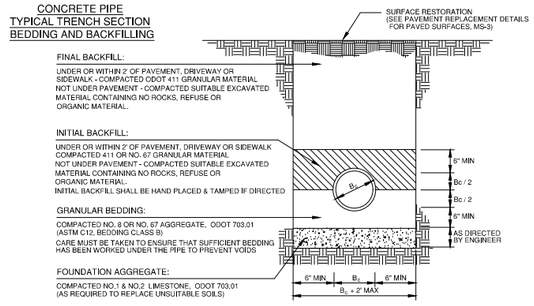
NOTE: FOR APPROVED FITTINGS REFER TO WATER SERVICE MATERIALS ON THIS SHEET.

TYPICAL WATER SERVICE REPLACEMENT

PVC PLASTIC PIPE
TYPICAL TRENCH SECTION
BEDDING AND BACKFILL



CONCRETE PIPE
TYPICAL TRENCH SECTION
BEDDING AND BACKFILLING



STORM SEWER TRENCH DETAILS

DRWN. BY	CHKD BY	APPRVD BY
JAR	JAR	RVK

DATE 02/20
SCALE N/A

CITY OF WOOSTER
DIVISION OF ENGINEERING
538 N. MARKET ST.
WOOSTER, OHIO 44691
PHONE (330) 263-5230
FAX (330) 263-5252
roadsandutilities@woosteroh.com
CITY ENGINEER
ROGER K. HOBLAUCH

STIBBS STREET SANITARY SEWER REPLACEMENT MISCELLANEOUS DETAILS

WATERLINE CONSTRUCTION

MAIN LINES: DUCTILE IRON PIPE, CLASS 52, AWWA C151.
CEMENT LINED, AWWA C104.
RUBBER GASKETED JOINTS, AWWA C111.
6" MINIMUM DIAMETER FOR DISTRIBUTION LINE.

TAPPING SLEEVE: TAPPING SLEEVE SHALL BE SMITH-BLAIR STYLE 665 (STAINLESS STEEL) OR MUELLER H-304L (STAINLESS STEEL WITH STAINLESS STEEL FLANGE AND MJ OUTLET FOR STANDARD GATE VALVE).
ALL TAPS SHALL BE MADE BY THE CONTRACTOR UNDER THE SUPERVISION OF AUTHORIZED CITY PERSONNEL, AND IN ACCORDANCE WITH CITY STANDARDS.

BEDDING: 6" MINIMUM OF ODOT #8 OR #67 GRAVEL. LIMESTONE IS NOT PERMITTED.

BACKFILL: 5'-0" MINIMUM COVER ON MAIN LINE.

MAIN LINE VALVES: MUELLER A-2361 OR EJ FLOWMASTER, WITH 304 STAINLESS STEEL FASTENERS, CLOSE LEFT, RESILIENT WEDGE, MECHANICAL JOINT.

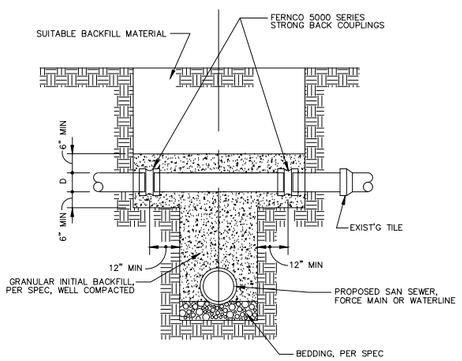
VALVE BOX: EJ 8560 SERIES THREE PIECE SCREW TYPE BOX, 6800 VALVE BOX DROP LID. (SEE WT-8.0)

FITTINGS: DUCTILE IRON, MECHANICAL JOINT, AWWA C153 WITH 304 STAINLESS STEEL NUTS AND BOLTS.

THRUST RESTRAINT: FIELD LOCK GASKETS, MJ FIELD LOK OR MECHANICAL JOINTS W/ EBAA IRON SERIES 1100 RESTRAINERS (STAINLESS STEEL NUTS AND BOLTS).

HYDRANTS: MUELLER SUPER CENTURION 250 A-423, EJ WATERMASTER 5CD250, OR KENNEDY GUARDIAN K81-D.
5'-6" BURY, OPEN LEFT, WITH 304 STAINLESS STEEL NUTS AND BOLTS.
NATIONAL STANDARD FIRE HOSE THREAD OUTLETS.
PUBLIC HYDRANTS SHALL BE PAINTED SAFETY YELLOW AND PRIVATE HYDRANTS SHALL BE PAINTED INTERNATIONAL RED.

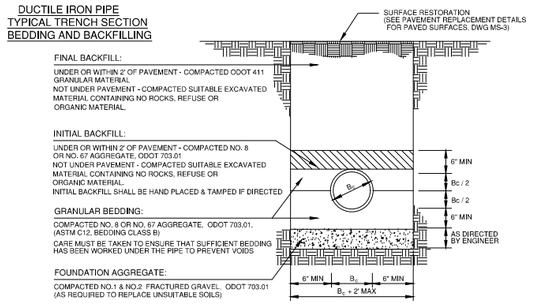
GENERAL NOTES WATERLINE



TYPICAL TILE REPLACEMENT DETAIL

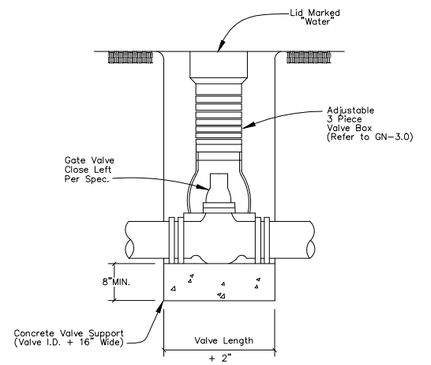
TILE REPAIR

DUCTILE IRON PIPE
TYPICAL TRENCH SECTION
BEDDING AND BACKFILLING



NOTES:
1. NO LIMESTONE AGGREGATE.
2. PAVEMENT INCLUDES DRIVEWAYS AND SIDEWALKS.

WATERLINE TRENCH DETAIL



NOTES:
1. Valves shall be set so that operating shaft is plumb.

VALVE SETTING DETAIL

REVISED
1 01/01/2011
2
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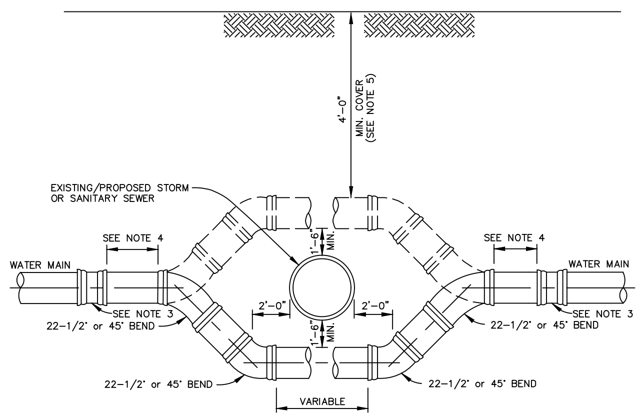
SHEET 7 OF 8

Not an official copy. Bidders must purchase plans per Legal Notice



WATER MAIN OFFSET
N.T.S.

NOTES:
1. ALL JOINTS SHALL BE RESTRAINED.
2. ALL FASTENERS SHALL BE STAINLESS STEEL.
3. SOLID SLEEVES SHALL BE USED IF THE EXISTING WATER MAIN IS DUCTILE IRON; OTHERWISE, HYMAX GRIP (OR EQUAL) RESTRAINED COUPLINGS SHALL BE USED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING IN THE FIELD THAT THE LENGTH OF RESTRAINED PIPE ON BOTH SIDES OF THE BENDS IS MET AND IF IT ISN'T REPLACING THIS PORTION OF THE WATER MAIN AT NO ADDITIONAL COST TO THE OWNER.
5. IF ANY PORTION OF THE WATER MAIN BEING OFFSET IS LESS THAN 4' COVER, CONTACT THE ENGINEER TO DETERMINE IF ADDITIONAL LENGTH OF RESTRAINED PIPE IS NEEDED.

WATER MAIN OFFSET DETAIL

TABLE FOR RESTRAINED PIPES

LENGTH OF PIPE RESTRAINED IN EACH DIRECTION FROM ℄ OF FITTING

FITTING TYPE	DUCTILE IRON PIPE DIAMETER				
	6"	8"	10"	12"	16"
90° BEND	13'	17'	20'	24'	30'
45° BEND	5'	7'	8'	10'	13'
22-1/2° BEND	3'	3'	4'	5'	6'
11-1/4° BEND	1'	2'	2'	2'	3'
VALVE OR PLUG	20'	26'	32'	38'	49'
REDUCER	10'	11'	19'	27'	41'
TEE	18'	24'	29'	35'	47'

NOTES
1. RESTRAINED LENGTHS IN TABLE ARE MINIMUM VALUES.
2. AT HIGH POINTS ALONG WATERMAIN WHERE INDICATED ON DRAWINGS, ANCHORING TEE SHALL BE SET AT 45° ANGLE UPWARDS AND CONNECTED TO 6" 45° BEND. WATERMAIN SHALL BE LOWERED TO PROVIDE COVER AS SPECIFIED.
3. ALL JOINTS WITHIN THE SPECIFIED LENGTH SHALL BE RESTRAINED. LENGTH OF RESTRAINT FOR TEES APPLIES TO BRANCH, ASSUMING JOINTS ON RUN ARE RESTRAINED AND CONNECTED TO A MINIMUM OF 1' OF PIPE IN EACH DIRECTION WITHOUT JOINTS.

RESTRAINED PIPE JOINT TABLE

TRAFFIC NOTES

A. GENERAL:
1) THESE CONDITIONS SHALL GENERALLY APPLY TO ALL TRAFFIC CONTROL DEVICES, SIGNS, PAVEMENT MARKINGS, AND MATERIALS.

B. TRAFFIC CONTROL SIGNS:
1) ALL SIGNS (OTHER THAN STREET NAME SIGNS) SHALL CONFORM TO THE CURRENT EDITIONS OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS), ODOT STANDARD CONSTRUCTION DRAWINGS, AND OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

C. STREET SIGNS:
1) ALL STREET SIGNS SHALL CONFORM TO CITY OF WOOSTER SPECIFICATIONS AND TO THE APPLICABLE PORTIONS OF ITEM 630, OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS, AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (CURRENT EDITIONS).
2) ALL SIGNS SHALL BE FABRICATED ON 0.080" 5052 ALLOY ALUMINUM BLANK (NON-EXTRUDED).
3) ALL SIGNS SHALL HAVE A FEDERAL RADIUS (ACCORDING TO THE SIZE OF BLANK).
4) NO SPECIALTY SIGNAGE (CONSISTING OF MATERIAL SUCH AS FIBERGLASS, WOOD, PLASTIC, OR OTHER) SHALL BE INSTALLED IN THE CITY OF WOOSTER RIGHT-OF-WAY WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY ENGINEER.

D. TRAFFIC SIGNALS:
1) ALL TRAFFIC SIGNALS SHALL CONFORM TO CURRENT CITY OF WOOSTER REQUIREMENTS AND ITEMS 632 AND 633, OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS (CURRENT EDITION) FOR TRAFFIC SIGNAL EQUIPMENT AND CONTROLLERS. CONTACT CITY OF WOOSTER ENGINEERING DIVISION FOR CURRENT REQUIREMENTS.

E. PAVEMENT MARKING:
1) ALL PAVEMENT MARKINGS SHALL CONFORM TO CITY OF WOOSTER SPECIFICATIONS AND THE CURRENT EDITION OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS FOR THE VARIOUS TYPES OF TRAFFIC PAINT. IN GENERAL, ALL LONG LINES SHALL BE ITEM 642 TYPE 1 TRAFFIC PAINT AND OTHER MARKINGS SHALL BE ITEM 644 THERMOPLASTIC, EXCEPT WHERE PAVEMENT SURFACE DOES NOT ALLOW FOR ITEM 644. IN THIS SITUATION, THE ALTERNATIVE TYPE(S) OF TRAFFIC PAINT SHALL BE APPROVED BY THE CITY ENGINEER.

GENERAL NOTES TRAFFIC

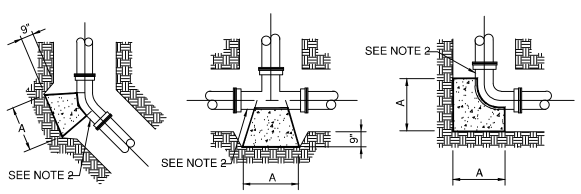
U Channel Posts

1) All U Channel posts shall be galvanized and punched full length.
2) Posts shall be Lap Splice Breakaway System for 3# and 4# U Channel posts, consisting of one 1/2"x3/4"x5" gold bar spacer, two cut washers, two Grade 9 bolts, and two self-locking flange nuts. The system shall be NCHRP-350, FHWA, and AASHTO approved.
3) Not used.
4) Not used.
5) The anchor posts shall be 3#, 3.5' in length and installed per manufacturer's recommendations.
6) The upper posts shall be 2#, with the length determined by the sign or signs.
7) All signs other than Street Names signs and Stop, Yield, and Do Not Enter signs shall be installed on U Channel posts with a minimum of two 5/16"-18 x 2" HHCS aluminum bolts and 5/16"-18 aluminum nuts with 5/16" nylon washers between the sign face and the bolt head.
8) All other street signs shall be installed according to the current edition of the "Ohio Manual of Uniform Traffic Control Devices."
9) Any U channel post reinstallation shall be upgraded to the current standards.

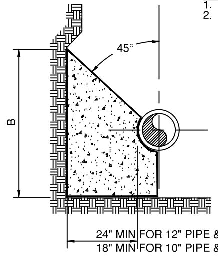
Sign Posts in Streetscape Areas

1) All sign posts in the designated Streetscape areas shall be round with 2-3/8" O.D., 12' long minimum, black powder coated with 9' minimum above grade.

SIGN POST SPECIFICATIONS

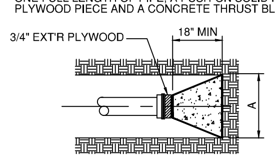


NOTES:
1. DIMENSION "A" SHALL BE CENTERED OVER THE BEND OR TEE.
2. ALL THRUST BLOCKS SHALL HAVE A 3" MIN CLEARENCE OF JOINTS.



SECTION THRU BENDS & TEES

NOTE:
TYPICAL PLUGGED END CONSISTS OF A GATE VALVE PLUS ONE FULL LENGTH OF PIPE, A PUSH-ON SOLID PLUG, EXT'R PLYWOOD PIECE AND A CONCRETE THRUST BLOCK, AS SHOWN.



PLUGGED END

THRUST BLOCK AREA SCHEDULE

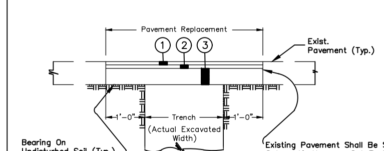
SQUARE FEET (SF) OF CLASS C CONC REQ'D AGAINST UNDISTURBED EARTH
MINIMUM A & B DIMENSIONS FOR THRUST BLOCK DETAILS

PIPE SIZE		6"		8"		10"		12"		16"	
BENDS	A / B / SF	10" / 24"	1.5	14" / 28"	2.5	20" / 30"	4.0	24" / 36"	6.0	36" / 40"	10.0
TEES	A / B / SF	12" / 24"	2.0	18" / 28"	3.5	27" / 30"	5.5	32" / 36"	8.0	47" / 40"	13.0
PLUGS	A / B / SF	12" / 24"	2.0	18" / 28"	3.5	27" / 30"	5.5	32" / 36"	8.0	47" / 40"	13.0
90° BEND	A / B / SF	18" / 24"	3.0	24" / 28"	4.5	20" / 30"	8.0	22" / 36"	11.0	31" / 40"	17.0

NOTE: PLACE 6 MIL VISQUEEN BETWEEN PIPE AND CONC.

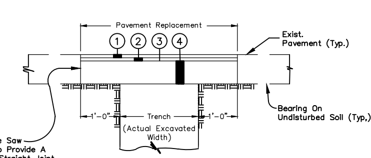
THRUST BLOCK DETAILS

PAVEMENT REPLACEMENT OVER UTILITY TRENCH



(1) 1¼"– Item 441 Asphalt Concrete Surface Course, Type 1, Medium Duty
(2) 1¾"– Item 441 Asphalt Concrete Intermediate Course, Type 2, Medium Duty
(3) 7" – Item 301 Bituminous Aggregate Base (Placed In 2 Equal Layers)

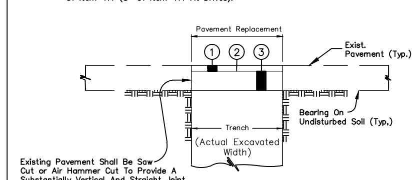
FULL DEPTH ASPHALT SURFACE
N.T.S.



(1) 1¼"– Item 441 Asphalt Concrete Surface Course, Type 1, Medium Duty
(2) 1¾"– Item 441 Asphalt Concrete Intermediate Course, Type 2, Medium Duty
(3) Item 407 Tack Coat (0.1 Gal. Bituminous Material Per Sq. Yd.)
(4) 6" – Item 305 Portland Cement Concrete Base (MS Concrete)

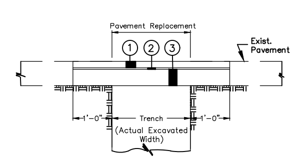
ASPHALT SURFACE ON CONCRETE OR BRICK BASE
N.T.S.

ASPHALT SURFACE MULTI-USE PATH
Shall Be The Same Asphalt Surface And Intermediate Courses As The Full Depth Asphalt Surface. Replace Item 301 With 6" Of Item 411 (8" Of Item 411 At Drives).



(1) 1¼"– Item 441 Asphalt Concrete Surface Course, Type 1, Medium Duty
(2) Item 408 Prime Coat (0.5 Gal. Bituminous Material Per Sq. Yd.)
(3) 6" – Item 411 Aggregate Base

ASPHALT OR CHIP & SEAL SURFACE ON AGGREGATE BASE
N.T.S.

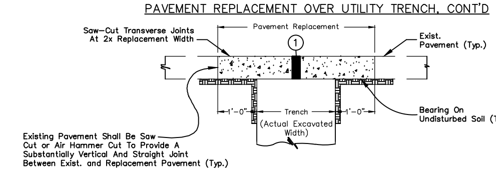


(1) Relaid or Replacement Bricks
(2) 1" – Item 703.06 Sand Cushion
(3) 6" – Item 305 Portland Cement Concrete Base (MS Concrete)

BRICK PAVEMENT
N.T.S.

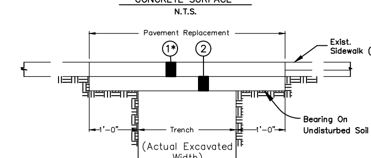
PAVEMENT REPLACEMENT DETAILS

PAVEMENT REPLACEMENT OVER UTILITY TRENCH, CONT'D



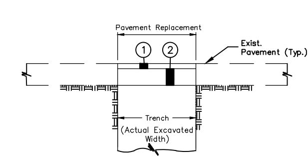
(1) 8" – Item 452 Plain Portland Cement Concrete Pavement (Limestone Aggregate)

CONCRETE SURFACE
N.T.S.



(1) 4" – Item 608 Concrete Walks (Limestone Aggregate)
(*) 6" – Item 608 Concrete Walks in Drive Approaches (Limestone Aggregate) (MS Concrete)
(2) 3" – Item 411 Aggregate Base

SIDEWALKS
N.T.S.

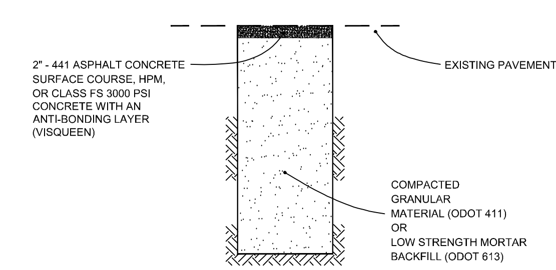


(1) 2" – Item 411 Stabilized Crushed Aggregate (Limestone, Slag, Gravel Or Cinders To Match Existing.)
(2) 4" – Item 411 Aggregate Base

CRUSHED AGGREGATE SURFACE
N.T.S.

PAVEMENT REPLACEMENT OVER UTILITY TRENCH – NOTES:
1. All Pavement And Sidewalk Replacement Details Shown Represent The Minimum Acceptable Repair. If Existing Surfaces Exceed These Details, Then Repaired Surfaces Shall Match The Existing.
2. All Joints Between Existing Curb Or Pavement And The Pavement Replacement Surface Shall Be Sealed With Crafco Roadsaver 515.
3. Pavement Replacement Quantities Approved For Payment Shall Be Calculated Based On The Trench Width Shown On The Utility Trench Detail.
4. Pavement Replacement Shall Include Restoration or Replacement of All Damaged Pavement Markings.
5. Limestone Aggregate Shall Be Used In Surface Course Of Asphalt And All Concrete Used For Pavement Replacement.
6. Tack Coat Shall Be Placed On All Surfaces To Receive Asphalt Concrete.

PAVEMENT REPLACEMENT DETAILS



NOTE 1: TEMPORARY PAVEMENT PATCHES SHALL BE MAINTAINED IN A DRIVABLE CONDITION.
NOTE 2: TEMPORARY PAVEMENT PATCHES SHALL BE REPLACED WITH PERMANENT PAVEMENT RESTORATION AS SOON AS POSSIBLE.
NOTE 3: GRAVEL PAVEMENT PATCHES SHALL BE USED FOR A MAXIMUM OF 1 WEEK, AFTER WHICH, TEMPORARY PAVEMENT OR PERMANENT RESTORATION SHALL BE PERFORMED.
NOTE 4: TEMPORARY CONCRETE SHALL USE NO. 8 STONE.

TEMPORARY PAVEMENT REPLACEMENT DETAIL

DRWN BY	CHKD BY	APPRVD BY
JAR	JAR	RVK

DATE	SCALE
02/20	N/A

CITY OF WOOSTER
DIVISION OF ENGINEERING
538 N. MARKET ST. WOOSTER, OHIO 44691
PH: (330) 263-5251 FAX: (330) 263-5283
ROGER V. KOBILARCSIK CITY ENGINEER rkobilarcsik@woosteroh.com

STIBBS STREET
SANITARY SEWER REPLACEMENT
MISCELLANEOUS DETAILS

REVISED	
1	0X/0X/2011
2	
3	
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5	
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