

Addendum 2

City of Canton, Ohio
Purchasing Department
218 Cleveland Ave. SW, 4th floor
Canton, Ohio 44702

36th St NW Storm Sewer & Road Reconstruction, Phase 2, GP 1270

Item/Project

Engineering Department

Responsible Department

Tuesday, June 29, 2021 at 2:00 PM local time

Bids Due

Bid Proposal Submitted By:

Company Name

Street Address

City

State

Zip

Contact Person

Phone No.

Email Address

36th St NW Storm Sewer & Road Reconstruction, Phase 2, GP 1270
Engineering Department

Question 1:

Sheet #22 (drainage subsummary) has structure D-9 listed as a manhole. Sheet #34 shows D-9 as a catch basin, therefore the catch basin and manhole quantities need to be adjusted accordingly.

Answer 1:

D-9 should be a catch basin, not a manhole. Subsummary, general summary and estimate have been updated.

Question 2:

Sheet #23 (drainage subsummary) it appears 37' (P-26) was not added to the total amount for 15" conduit type "C".

Answer 2:

The total length of 15" conduit Type C should be 121 on sheet 18. Subsummary, general summary and estimate have been updated.

Question 3:

Sheet #23 (drainage subsummary) has 10' of 4" conduit type "C" for U-100 & U-101. The proposed underdrain is 6", therefore should these conduit quantities be listed under the 6" conduit type "F" item?

Answer 3:

U-100 & U-101 should be the 6" Conduit Type F. Subsummary, general summary and estimate have been updated.

Question 4:

Sheet #24 (drainage subsummary) it appears 48' (P-18) has been included with 15" conduit type "B". Sheet #38 show this run to be 15" conduit type "C". Which conduit type is correct?

Answer 4:

P-18 conduit should be Type C. Subsummary, general summary and estimate have been updated.

Question 5:

What will the conduit size be required for the reconstruct sanitary lateral items?

Answer 5:

Residential sanitary lateral reconstructs should be 4" diameter. The general notes have been revised accordingly. City Engineering Standard Drawing No. 20 (plan sheet 96) has also been revised.

Question 6:

Will cleanouts be required for the long reconstruct sanitary laterals? Since there is no bid item for cleanouts, I'm assuming no.

Answer 6:

Cleanouts are required on the long side sanitary laterals. The general notes have been revised accordingly. City Engineering Standard Drawing No. 20 (plan sheet 96) has also been revised.

Question 7:

Sheet #91 has residence #354 listed as a short 1" service. Should this be listed as a long 1" service since residence #3511 is listed as such on the (waterwork subsummary) sheet #26?

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Answer 7:

The service line should be classified as a long side connection. Subsummary, general summary and estimate have been updated.

Question 8:

Sheet #26 (waterwork subsummary) shows (1) 1" short service and (3) 1" long service for reference items WR-2 thru WR-5. These are also listed as abandonments for project. I'm assuming these are typos for the services therefore the quantities will need to be adjusted accordingly.

Answer 8:

The service line quantities for items WR-2 through WR-5 have been removed. Subsummary, general summary and estimate have been updated.

Clarification 1:

Plan sheet numbers 13, 18, 19, 22, 23, 24, 26, and 96 have been revised and are included in this Addendum.

Clarification 2:

Please note that the Engineer's Estimate for this project has been revised. The new Engineer's Estimate for the 36th St NW Storm Sewer & Road Reconstruction, Phase 2, GP 1270 project is **\$2,923,026.50**. Bid proposals shall be calculated based on this new estimate.

SANITARY SEWERS/STORM SEWERS CONTINUED

ITEM 611.08.C - PLASTIC CONDUIT

1. PROVIDE COUPLING BANDS WITH STAINLESS STEEL SHIELDS AND CLAMPS.
2. ACCEPTABLE COUPLING BAND PRODUCTS INCLUDE FERNCO STRONG BACK RC SERIES, FERNCO 5000 RC SERIES, OR APPROVED EQUAL.

ITEM 611.10 - DRAINAGE STRUCTURE CONSTRUCTION

1. ALL NEW SANITARY MANHOLES SHALL BE REINFORCED PRECAST CONCRETE PER ASTM C-478 WITH JOINT SPECIFICATIONS PER ASTM C-443. FOLLOW ODOT STANDARD CONSTRUCTION DRAWING MH-3 WITH MODIFICATIONS AS NOTED IN CITY OF CANTON STANDARD DRAWING NO. 10, UNLESS NOTED OTHERWISE.

ITEM 611.12 - PERFORMANCE INSPECTION

1. PROVIDE REMOTE INSPECTIONS FOR ALL NEW SANITARY SEWER MAINS.

2. ALL FLEXIBLE CONDUITS SHALL BE DEFLECTION TESTED. NO PIPE SHALL EXCEED A DEFLECTION OF 5%. PERFORM A MANDREL TEST UTILIZING EQUIPMENT ACCORDING TO SS902.03 AND CRAWLER MOUNTED CAMERA UTILIZING EQUIPMENT ACCORDING TO SS902.01 WITH CRACK MEASURING CAPABILITIES ACCORDING TO SS902.02 C. CRAWLER MOUNTED CAMERA WITH LASER PROFILING IN LIEU OF MANDREL TESTS AND CRAWLER MOUNTED CAMERA INSPECTION SHALL ONLY BE PERFORMED WITH THE APPROVAL OF THE CITY ENGINEER.

THE FOLLOWING MODIFICATIONS SHALL APPLY TO SS902.03:

- A.) TABLE 902.03 - SUMMARY OF MANDREL SIZES SHALL BE BASED ON 5% DEFLECTION. THE TABLE SHALL BE ADJUSTED ACCORDINGLY BASED ON THE AVERAGE INSIDE DIAMETER OF THE PIPE BEING TESTED.

TABLE 611.13

1. PLASTIC CONDUIT - REPLACE THE LAST TWO LISTED REQUIREMENTS WITH THE FOLLOWING:
 - A.) REPAIR OR REPLACE CONDUIT IF PERFORMANCE INSPECTION PER 611.12 INDICATES A DEFLECTION > 5.0%
 - B.) REPLACE CONDUIT IF THE PERFORMANCE INSPECTION PER 611.12 INDICATES A DEFLECTION > 7.5%

ADDITIONAL TESTING REQUIREMENTS:

1. SANITARY MANHOLES - PER CITY OF CANTON STANDARD DRAWING NO. 10, SHALL BE TESTED ACCORDING TO CITY OF CANTON SUPPLEMENTAL SPECIFICATION 04-01 STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY THE NEGATIVE AIR PRESSURE TEST AND CONFORM TO THE TEST PROCEDURES DESCRIBED IN ASTM C 1244.

2. SANITARY CONDUITS - IN ADDITION TO ANY TESTING REQUIREMENTS NOTED HEREIN OR ON THE PLANS, ALL NEW SANITARY SEWERS (INCLUDING LATERALS) SHALL BE AIR TESTED IN ACCORDANCE WITH THE FOLLOWING STANDARDS, AS APPLICABLE:
 - A.) ASTM F 1417 - TEST METHOD FOR INSTALLATION ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES USING LOW-PRESSURE AIR.
 - B.) ASTM C 828 - PRACTICE FOR LOW-PRESSURE AIR TEST OF VITRIFIED CLAY PIPE LINES.
 - C.) ASTM C 924 - PRACTICE FOR TESTING CONCRETE SEWER LINES BY LOW-PRESSURE AIR TEST METHOD.

THE ADDITIONAL TESTING REQUIREMENTS NOTED ON THIS PAGE MUST BE SPECIFICALLY IDENTIFIED IN THE INSTALLATION PLAN AND SHOP DRAWINGS, AS APPLICABLE. ANY DEVIATIONS TO THESE REQUIREMENTS MUST BE APPROVED BY THE CITY ENGINEER. REGULATORY REQUIREMENTS:

1. SANITARY SEWERS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN, MEASURED EDGE TO EDGE.

2. SANITARY SEWERS CROSSING WATER MAINS SHALL BE LAID TO A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER. THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS.

3. ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE DISPOSAL SYSTEM ARE PROHIBITED.

ITEM 611 - CONDUIT, MISC.: REPLACEMENT OF LATERAL CONNECTION TO SANITARY SEWER MAIN

EXISTING DEFECTIVE LATERAL CONNECTIONS TO THE SANITARY SEWER MAIN SHALL BE BROUGHT TO THE ATTENTION OF THE CITY ENGINEER. AS DIRECTED, THE CONTRACTOR SHALL REPLACE THE FAULTY LATERAL CONNECTION WITH A NEW MANUFACTURED WYE AND A MINIMUM OF 5' OF SANITARY SEWER MAIN.

CONDUIT TYPES, BEDDING, BACKFILL AND INSTALLATION METHODS UTILIZED FOR REPLACEMENT OF LATERAL CONNECTIONS TO THE SEWER MAIN SHALL CONFORM TO CITY OF CANTON STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS AND ODOT SPECIFICATIONS EFFECTIVE AT THE TIME OF CONSTRUCTION.

AFTER A MINIMUM OF THIRTY DAYS FOLLOWING INSTALLATION OF THE NEW LATERAL CONNECTION, EACH NEW LATERAL CONNECTION SHALL BE TELEVIEWED FROM WITHIN THE SEWER MAIN TO ENSURE THE NEW CONNECTION HAS NOT SHIFTED DUE TO CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL TELEVIEW FROM THE CLOSEST UPSTREAM MANHOLE TO DETERMINE IF SETTLING OCCURRED. LOW POINTS / SAGS, IDENTIFIED WHILE TELEVIEWING SHALL BE CORRECTED AT NO ADDITIONAL COST.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN IDENTIFIED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE:

611, CONDUIT, MISC.: REPLACEMENT OF LATERAL CONNECTION TO SANITARY SEWER MAIN, AS PER PLAN 2 EA

MANHOLE, MISC: SANITARY MANHOLE LINING, AS PER PLAN

THIS WORK SHALL CONSIST OF LINING ALL SANITARY MANHOLES WITHIN THE PROJECT LIMITS (EXISTING AND PROPOSED). THE FOLLOWING CITY OF CANTON'S SUPPLEMENTAL SPECIFICATIONS SHALL APPLY:

07-01 MANHOLE REHABILITATION - LINING MATERIAL SPECIFICATIONS AND REQUIREMENTS

PAYMENT WILL BE MADE FOR EACH SEPARATE MANHOLE AND INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, BACKFILL MATERIAL AND COMPACTION, REMOVAL AND DISPOSAL OF ALL WASTE/SPOILS, COMPLETE IN PLACE.

ITEM 611 - CONDUIT, MISC.: RECONSTRUCT SANITARY LATERAL, LONG SIDE, AS PER PLAN

ITEM 611 - CONDUIT, MISC.: RECONSTRUCT SANITARY LATERAL, SHORT SIDE, AS PER PLAN

LONG SIDE:

THE CONTRACTOR SHALL REPLACE ALL EXISTING SANITARY LATERALS IDENTIFIED ON THE PLANS (SLL-X) AND RECONSTRUCT THE LATERALS TO THE EXISTING/PROPOSED SANITARY SEWER AND REPLACE THE LATERAL CONNECTION WITH A NEW MANUFACTURED WYE. SANITARY LATERAL REPLACEMENT SHALL EXTEND FROM UP TO 10 FT. BEYOND THE RIGHT-OF-WAY TO THE EXISTING PUBLIC SANITARY SEWER MAIN AND SHALL INCLUDE A CLEANOUT BEHIND THE SIDEWALK.

SHORT SIDE:

THE CONTRACTOR SHALL REPLACE ALL EXISTING SANITARY LATERALS IDENTIFIED ON THE PLANS (SLS-X) AND RECONSTRUCT THE LATERALS TO THE PROPOSED SANITARY SEWER AND REPLACE THE LATERAL CONNECTION WITH A NEW MANUFACTURED WYE. SANITARY LATERAL REPLACEMENT SHALL TAKE PLACE WITHIN THE TRENCH FOR THE SANITARY SEWER MAIN REPLACEMENT OR FOR A MAXIMUM OF 5 FT AS NEEDED TO TIE IN.

SHORT AND LONG SIDE:

LATERALS SHALL BE FOUR (4) INCHES IN DIAMETER AND SHALL CONFORM TO CITY STANDARD DRAWING NO. 20. WHEN THE DEPTH OF THE SEWER MAIN WOULD CAUSE A LATERAL TO EXCEED A 2% RATE OF GRADE, OR WHEN REQUIRED DUE TO AN EXISTING OR PROPOSED ADJACENT UTILITY, A HOUSE CONNECTION STACK SHALL BE INSTALLED AT THE SEWER MAIN AND SHALL CONFORM TO CITY STANDARD DRAWING NO. 18. ▲ 6/22/21

AFTER A MINIMUM OF THIRTY DAYS FOLLOWING CONSTRUCTION OF THE ADJACENT STORM SEWER, EACH RECONSTRUCTED SANITARY LATERAL SHALL BE TELEVIEWED TO ENSURE THE LATERAL HAS NOT SHIFTED DUE TO CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL TELEVIEW FROM AN INSTALLED CLEANOUT ON THE SANITARY LATERAL OR LAUNCH A CAMERA FROM THE SANITARY SEWER MAIN UP THE NEW LATERAL TO DETERMINE IF SETTLING OCCURRED. LOW POINTS / SAGS, IDENTIFIED WHILE TELEVIEWING SHALL BE CORRECTED AT NO ADDITIONAL COST.

PAYMENT WILL BE MADE FOR EACH SEPARATE RECONSTRUCTED SANITARY LATERAL INSTALLED AND INCLUDE ALL LABOR, EQUIPMENT, PIPE MATERIALS, BEDDING, BACKFILL, COMPACTION, TELEVIEWING OF THE LATERAL, AND REMOVAL AND DISPOSAL OF ALL WASTE / SPOILS, COMPLETE IN PLACE.

UNRECORDED ACTIVE SANITARY SEWER CONNECTIONS

FURNISH A CONTINUANCE FOR ALL UNRECORDED ACTIVE SANITARY SEWER CONNECTIONS SUCH AS SANITARY, WASTEWATER, CURTAIN/GRADIENT DRAINS, AND FOUNDATION FLOOR DRAINS DISTURBED BY THE WORK. FURNISH AN UNOBSTRUCTED CONTINUANCE OF THE UNRECORDED ACTIVE SANITARY SEWER CONNECTIONS TO THE SATISFACTION OF THE ENGINEER. ALL SUCH CONTINUANCE REQUIRES A RIGHT-OF-WAY USE PERMIT. REPORT ALL CONTINUANCE TO THE CITY ENGINEER.

CONDUIT TYPES UTILIZED FOR CONTINUANCE OF UNRECORDED ACTIVE SANITARY SEWER CONNECTIONS SHALL CONFORM TO CITY OF CANTON STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS AND ODOT SPECIFICATIONS EFFECTIVE AT THE TIME OF CONSTRUCTION

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN IDENTIFIED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE:

611, 4" CONDUIT, TYPE B, FOR SANITARY, AS PER PLAN 20 FT
611, 4" CONDUIT, TYPE C, FOR SANITARY, AS PER PLAN 20 FT

ITEM 611 - MANHOLE, MISC.: LAMP HOLE ADJUSTED TO GRADE

THIS WORK SHALL CONSIST OF LOCATING THE EXISTING SANITARY LAMPHOLE (GENERAL LOCATION SHOWN IN PLANS) AND ADJUSTING THE CASTING TO BE LEVEL WITH THE PROPOSED PAVEMENT SURFACE UTILIZING THE DETAIL ON SHEET 101. ALL REQUIREMENTS OF ITEM 611 OF ODOT CMS SHALL APPLY

STORM SEWERS

ITEM 611 - STORM PIPE CULVERTS, SEWERS, DRAINS, AND DRAINAGE STRUCTURES, AS PER PLAN

THE CONTRACTOR SHALL FURNISH AN INSTALLATION PLAN AS PER ODOT 611 WITH THE FOLLOWING MODIFICATIONS:

CITY OF CANTON REQUIRES THE BACKFILL MATERIAL WITHIN FOUR (4) FEET OF THE FINISHED SURFACE TO BE ODOT 304 LIMESTONE OR 304 CRUSHED GRAVEL.

UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER OR SHOWN IN THE PLANS, ALL TYPE A, TYPE B, TYPE C, TYPE D, TYPE E, AND TYPE F STORM CONDUITS SHALL BE CORRUGATED POLYETHYLENE SMOOTH LINED PIPE (707.33).

CATCH BASINS AND MANHOLES SHALL BE CONSTRUCTED PER APPLICABLE CITY ENGINEERING STANDARD DRAWINGS.

REVIEW OF DRAINAGE FACILITIES

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

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

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

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

UNRECORDED STORM WATER DRAINAGE

FURNISH A CONTINUANCE FOR ALL UNRECORDED STORM WATER DRAINAGE, SUCH AS ROOF DRAINS, FOOTER DRAINS, OR YARD DRAINS, DISTURBED BY THE WORK. FURNISH EITHER AN OPEN CONTINUANCE OR AN UNOBSTRUCTED CONTINUANCE BY CONNECTING A CONDUIT THROUGH THE CURB OR INTO A DRAINAGE STRUCTURE. THE LOCATION, TYPE, SIZE AND GRADE OF THE NEEDED CONDUIT TO REPLACE OR EXTEND AN EXISTING DRAIN WILL BE DETERMINED BY THE ENGINEER.

THE FOLLOWING CONDUIT TYPES MAY BE USED: 707.33, 707.41 NON-PERFORATED, 707.42, 707.43, 707.45, 707.46, 707.47, 707.51, 707.52 SDR35.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE:

611, 6" CONDUIT, TYPE B, FOR DRAINAGE CONNECTION, AS PER PLAN 25 FT
611, 6" CONDUIT, TYPE C, FOR DRAINAGE CONNECTION, AS PER PLAN 25 FT
611, 6" CONDUIT, TYPE E, FOR DRAINAGE CONNECTION, AS PER PLAN 25 FT
611, 6" CONDUIT, TYPE F, FOR DRAINAGE CONNECTION, AS PER PLAN 25 FT

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GENERAL NOTES

36TH ST NW PHASE 2

13
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SHEET NUMBER												ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED	CHECKED	DEN
12	13	14	22	23	24	30	31													
		50		1616	1364	542						605	05211	50	FT	6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC (707.41), AS PER PLAN	13-14			
												605	06021	3522	FT	6" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC (707.41), AS PER PLAN	13-14			
				28	120	90						611	00201	28	FT	4" CONDUIT, TYPE C (HDPE), AS PER PLAN	13			
	25	50		100								611	00511	360	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET, AS PER PLAN	13			
	25											611	00901	25	FT	6" CONDUIT, TYPE B, FOR DRAINAGE CONNECTION, AS PER PLAN	13			
	25											611	01101	25	FT	6" CONDUIT, TYPE C, FOR DRAINAGE CONNECTION, AS PER PLAN	13			
	25											611	01401	25	FT	6" CONDUIT, TYPE E, FOR DRAINAGE CONNECTION, AS PER PLAN	13			
				192	374	152						611	01501	25	FT	6" CONDUIT, TYPE F, FOR DRAINAGE CONNECTION, AS PER PLAN	13			
					57	132						611	05901	718	FT	15" CONDUIT, TYPE B (HDPE), AS PER PLAN	13			
												611	06101	169	FT	15" CONDUIT, TYPE C (HDPE), AS PER PLAN	13			
				789	806							611	023801	1595	FT	60" CONDUIT, TYPE B (HDPE), AS PER PLAN	13			
		34										611	97200	34	EACH	CONDUIT, MISC.: DOWNSPOUT OUTLET (CANTON STD DWG NO. 24), AS DIRECTED	13-14			
				12	9	5						611	97200	34	EACH	CONDUIT, MISC.: SUMP PUMP DISCHARGE OUTLET (CANTON STD DWG NO. 24), AS DIRECTED	13-14			
				4	2							611	98690	26	EACH	CATCH BASIN, MISC.: CANTON, NO. 1, AS PER PLAN	92			
				4	1							611	99690	6	EACH	MANHOLE, MISC.: CANTON, NO. 10, AS PER PLAN	93			
												611	99900	5	EACH	DRAINAGE STRUCTURE, MISC.: STORM CONTROL STRUCTURE, AS PER PLAN	13-14			
		2000										SPECIAL	611E99820	2000	LB	MISCELLANEOUS METAL	14			
22												251	01000	22	SY	PARTIAL DEPTH PAVEMENT REPAIR (441)	12			
22												253	02000	22	SY	PAVEMENT REPAIR	12			
6						840						301	46000	846	CY	ASPHALT CONCRETE BASE, PG64-22				
							23					301	48000	23	CY	ASPHALT CONCRETE BASE, PG64-22 (DRIVEWAYS)				
7						1392	156					304	20001	1555	CY	AGGREGATE BASE (NO SLAG ALLOWED)				
						1306						407	10000	1306	GAL	TACK COAT				
						2965						408	10000	2965	GAL	PRIME COAT				
						221						424	10000	221	CY	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A				
						136						441	50000	136	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22				
2						530						441	50300	530	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), PG64-22				
							11					441	50400	13	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22 (DRIVEWAYS)				
85												452	10050	1192	SY	6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS				
						4413						609	26001	4413	FT	CURB, CANTON STD DWG NO. 30				

GENERAL SUMMARY

36TH ST NW PHASE 2

SEE SHEET NO.

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SHEET NUMBER											ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
11	13	14	16	25	26	27	28									
WATER WORK																
					3						202	98600	3	EACH	ABANDON MISC.: VALVE BOX	15-16
				1	1						638	10481	2	EACH	FIRE HYDRANT & VALVE REMOVED, TEE PLUGGED	15-16
				1							638	11602	1	EACH	2" POLYETHYLENE PLUG	15-16
				1	2	2					638	11602	5	EACH	6" PLUG	15-16
				3	2						638	11602	5	EACH	6" x 6" x 6" TEE	15-16
				1							638	11602	1	EACH	6" - 11.25° BEND	15-16
				1							638	11602	1	EACH	6" - 22.5° BEND	15-16
				6	5	4					638	11602	15	EACH	6" - 45° BEND	15-16
				1							638	10800	1	EACH	VALVE BOX ADJUSTED TO GRADE	15-16
				79							638	05600	79	FT	2" POLYETHYLENE SERVICE BRANCH, AS PER PLAN	15-16
				1094	812	532					638	11602	2438	FT	6" WATER MAIN DUCTILE IRON PIPE CLASS 52, AS PER PLAN	15-16
				1							638	07691	1	EACH	2" GATE VALVE AND VALVE BOX, COMPLETE, AS PER PLAN	15-16
				5	4						638	07801	9	EACH	6" GATE VALVE AND VALVE BOX, COMPLETE, AS PER PLAN	15-16
				3	1						638	10201	4	EACH	6" FIRE HYDRANT ASSEMBLY, COMPLETE, AS PER PLAN	15-16
					3	2					638	11602	5	EACH	6" SOLID SLEEVE, AS PER PLAN	15-16
				8	4	1					SPECIAL	638E20786	13	EACH	1" WATER SERVICE COMPLETE, SHORT SIDE, AS PER PLAN	15-16
				10	7	1					SPECIAL	638E20786	18	EACH	1" WATER SERVICE COMPLETE, LONG SIDE, AS PER PLAN	15-16
SANITARY																
	20										611	00101	20	FT	4" CONDUIT, TYPE B, FOR SANITARY, AS PER PLAN	12-13
	20										611	00201	20	FT	4" CONDUIT, TYPE C, FOR SANITARY, AS PER PLAN	12-13
							1230				611	01801	1230	FT	8" CONDUIT, TYPE B, AS PER PLAN (SANITARY)	12-13
							19				611	25930	19	EACH	CONDUIT, MISC.: RECONSTRUCT SANITARY LATERAL, LONG SIDE, AS PER PLAN	12-13
							7				611	25930	7	EACH	CONDUIT, MISC.: RECONSTRUCT SANITARY LATERAL, SHORT SIDE, AS PER PLAN	12-13
	2										611	25930	2	EACH	CONDUIT, MISC.: REPLACEMENT OF LATERAL CONNECTION TO SEWER MAIN, AS PER PLAN	12-13
							9				611	99654	9	EACH	MANHOLE ADJUSTED TO GRADE (SANITARY)	12-13
							9				611	99690	9	EACH	MANHOLE, MISC.: SANITARY MANHOLE LINING, AS PER PLAN	12-13
							1				611	99690	1	EACH	MANHOLE, MISC.: LAMP HOLE ADJUSTED TO GRADE	12-13
TRAFFIC CONTROL																
			LS								SPECIAL	98500	LS		ROADWAY, MISC.: TRAFFIC CONTROL SIGNS	16
LANDSCAPING																
			70								661	99900	70	EACH	PLANTING, MISC.: TREE LAWN TREE INSTALLED	16
INCIDENTALS																
LS											203	98500	LS		ROADWAY, MISC.: PRE-CONSTRUCTION VIDEO TAPE	11
			LS								614	11000	LS		MAINTAINING TRAFFIC	16
LS											623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	11
											624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

36TH ST NW PHASE 2

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6/22/21: QUANTITY UPDATES

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REF. NO.	SHEET NO.	STATION		SIDE	605 6" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC (707-40), AS PER PLAN	611 4" CONDUIT, TYPE C (HDPE), AS PER PLAN	611 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET, AS PER PLAN	611 15" CONDUIT, TYPE B (HDPE), AS PER PLAN	611 15" CONDUIT, TYPE C (HDPE), AS PER PLAN	611 60" CONDUIT, TYPE B (HDPE), AS PER PLAN	611 CATCH BASIN, MISC.: CANTON, NO. 1, AS PER PLAN	611 MANHOLE, MISC.: CANTON, NO. 10, AS PER PLAN	611 DRAINAGE STRUCTURE, MISC.: STORM CONTROL STRUCTURE, AS PER PLAN	6/22/21: UPDATE D-9 TO CATCH BASIN				
		FROM	TO											FT	FT	FT	FT	FT
36TH ST. NW																		
D-1	33	910+70.88		LT							1							
D-2	33	910+77.88		LT								1						
D-3	33	910+70.88		RT							1							
D-4	33	911+89.20		LT								1						
D-6	33	912+94.11		LT									1					
P-1	33	D-1	D-2	LT				9										
P-2	33	D-2	D-4	LT					100									
P-3	33	D-3	D-2	RT				26										
P-4	33	D-4	D-6	LT					100									
P-5	33	D-5	D-6	LT				9										
P-7	33	D-7	D-6	RT				26										
U-1	33	910+17.74	D-1	LT	65	10												
U-3	33	910+17.36	D-3	RT	64	10												
U-5	33	910+75.00	D-5	LT	191	10												
U-7	33	910+75.00	D-7	RT	242	10												
D-5	34	913+01.11		LT							1							
D-7	34	913+01.11		LT							1							
D-8	34	914+16.63		LT								1						
D-9	34	913+13.00		LT							1							
D-10	34	916+40.00		LT									1					
D-11	34	916+05.84		RT							1							
D-19	34	913+90.00		LT							1							
P-6	34	D-6	D-8	LT					154									
P-8	34	D-8	D-10	LT					254									
P-9	34	D-9	D-10	LT														
P-10	34	D-10	D-13	LT				27										
P-11	34	D-11	D-10	RT				42		181								
P-19A	34	D-19	D-8	LT														
P-19B	34	913+90.00	D-19	LT		28		53										
U-9	34	913+95.00	D-9	LT	225	10												
U-11	34	913+05.00	D-11	RT	266	10												
U-12	34	913+18.00	D-12	LT	200	10												
U-14	34	203+70.00	D-14	RT	249	10												
U-18A	34	916+10.00	D-18	RT	39	10												
U-19	34	913+05.00	D-19	RT	75	10												
D-12	35	918+27.49		LT							1							
D-13	35	918+20.49		LT									1					
D-14	35	918+27.49		RT							1							
D-15	35	919+98.60		LT							1							
D-16	35	919+91.60		LT								1						
D-17	35	919+98.60		RT							1							
D-24	35	920+53.70		LT									1					
D-25	35	920+99.68		RT							1							
TOTALS CARRIED TO GENERAL SUMMARY					1616	28	100	192		789	12	4	4					

DRAINAGE SUBSUMMARY

36TH ST NW PHASE 2

CALCULATED
JES
CHECKED
DEN

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REF. NO.	SHEET NO.	STATION		SIDE					605 6" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC (707-40), AS PER PLAN	611 4" CONDUIT, TYPE C (HDPE), AS PER PLAN	611 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET, AS PER PLAN	611 15" CONDUIT, TYPE B (HDPE), AS PER PLAN	611 15" CONDUIT, TYPE C (HDPE), AS PER PLAN	611 60" CONDUIT, TYPE B (HDPE), AS PER PLAN	611 CATCH BASIN, MISC.: CANTON, NO. 1, AS PER PLAN	611 MANHOLE, MISC.: CANTON, NO. 10, AS PER PLAN	611 DRAINAGE STRUCTURE, MISC.: STORM CONTROL STRUCTURE, AS PER PLAN	6/22/21: QUANTITY UPDATES			
		FROM	TO																		
		36TH ST. NW																			
P-12	35	D-12	D-13	LT								9									
P-13	35	D-13	D-16	LT										171							
P-14	35	D-14	D-13	RT								26									
P-15	35	D-15	D-16	LT								9									
P-16	35	D-16	D-24	LT										62							
P-17	35	D-17	D-16	LT								26									
P-24	35	D-24	D-29	LT										139							
P-25	35	D-25	D-24	RT								52									
U-15	35	918+32.00	D-15	LT					157		10										
U-17	35	918+32.00	D-17	RT					157		10										
U-25	35	304+20.00	D-25	RT					76		10										
U-26	35	920+03.00	D-26	LT					127		10										
D-26	36	921+40.23		LT											1						
D-27	36	400+37.34		LT											1						
D-28	36	400+34.64		RT											1						
D-29	36	921+93.06		LT												1					
D-30	36	921+98.13		RT											1						
D-35	36	924+08.74		RT											1						
D-36	36	923+64.55		RT											1						
D-37	36	923+84.95		LT												1					
D-38	36	924+17.37		LT											1						
P-26	36	D-26	D-29	LT									37								
P-27	36	D-27	D-29	LT								33									
P-28	36	D-28	D-29	LT								26									
P-29	36	D-29	D-37	LT										192							
P-30	36	D-30	D-29	RT								26									
P-35	36	D-35	D-37	RT								51									
P-36	36	D-36	D-37	RT								44									
P-37	36	D-37	D-40	LT										147							
P-38	36	D-38	D-37	LT								33									
U-27A	36	921+49.00	D-27	LT					20		10										
U-30	36	921+05.00	D-30	RT					83		10										
U-36A	36	922+03.00	D-36	RT					159		10										
U-38	36	922+05.00	D-38	LT					206		10										
U-39	36	924+22.00	D-39	LT					107		10										
U-41	36	924+11.00	D-41	RT					122		10										
D-39	37	925+20.00		LT											1						
D-40	37	925+31.82		LT												1					
D-41	37	925+38.82		RT																	
P-39	37	D-39	D-40	LT								13									
P-40	37	D-40	CONNECT TO PH 1	LT										95							
P-41	37	D-41	D-40	RT								26									
U-100	37	925+44.00	926+28.50	LT					75		10										
U-101	37	925+44.00	926+28.50	RT					75		10										
TOTALS CARRIED TO GENERAL SUMMARY									1364		120		374		806	9	2	1			

DRAINAGE SUBSUMMARY

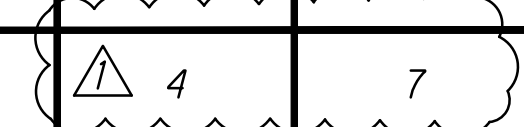
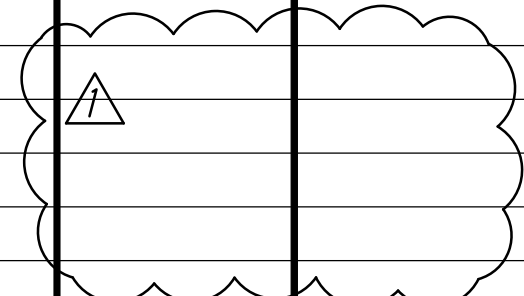
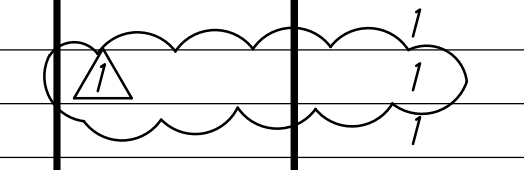
36TH ST NW PHASE 2

CALCULATED
JES
CHECKED
DEN

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REF. NO.	SHEET NO.	STATION		SIDE	202	638	638	638	638	638	638	638	638	638	638	638	638	638	SPECIAL	SPECIAL
		FROM	TO		ABANDON MISC.: VALVE BOX	FIRE HYDRANT & VALVE REMOVED, TEE PLUGGED	2" POLYETHYLENE PLUG	6" PLUG	6" x 6" x 6" TEE	6" - 11.25° BEND	6" - 22.5° BEND	6" - 45° BEND	VALVE BOX ADJUSTED TO GRADE	2" POLYETHYLENE SERVICE BRANCH, AS PER PLAN	6" WATER MAIN DUCTILE IRON PIPE CLASS 52, AS PER PLAN	2" GATE VALVE AND VALVE BOX, COMPLETE, AS PER PLAN	6" GATE VALVE AND VALVE BOX, COMPLETE, AS PER PLAN	6" FIRE HYDRANT ASSEMBLY, COMPLETE, AS PER PLAN	6" SOLID SLEEVE, AS PER PLAN	1" WATER SERVICE COMPLETE, SHORT SIDE, AS PER PLAN
	86	407 36TH ST NW		LT																
	86	364 36TH ST NW		RT																
	86	361 36TH ST NW		LT																
	86	354 36TH ST NW		RT																
	86	347 36TH ST NW		LT																
	86	341 36TH ST NW		LT																
A-11	86	921+71.44		RT				1												
A-12	86	923+88.90		RT				1												
A-13	86	923+88.90		RT						1										
W-14	86	921+72.03		LT																
W-15	86	922+14.44		RT																
W-16	86	924+36.94		RT																
W-17	86	923+92.36		RT																
W-18	86	924+03.42		RT																
W-19	86	921+00.00	925+00.00	RT											400					
WR-2	86	921+54.67		LT	1															
WR-3	86	922+14.08		LT	1															
WR-4	86	922+28.05		LT	1															
WR-5	86	922+30.21		LT		1														
	87	336 36TH ST NW		RT																
	87	335 36TH ST NW		LT																
	87	329 36TH ST NW		LT																
	87	326 36TH ST NW		RT																
W-20	87	925+00.00	926+20.94	RT											124					
W-21	87	926+20.94		RT																
A-14	88	203+72.00		LT																
A-15	88	203+94.00		RT																
W-22	88	203+70.00		LT																
W-23	88	203+70.00	204+89.24	RT											129					
W-32	88	203+50.75		LT																
	89	3430 W HARVARD BLVD NW		RT																
A-16	89	303+42.00		LT																
A-17	89	303+61.19		RT																
W-24	89	303+40.00		LT																
W-25	89	303+40.00	304+90.08	RT											159					
W-33	89	303+45.00		LT																
TOTALS CARRIED TO GENERAL SUMMARY					3	1	2	2			5			812	4	1	3	4	7	

⚠ 6/22/21: QUANTITY UPDATES

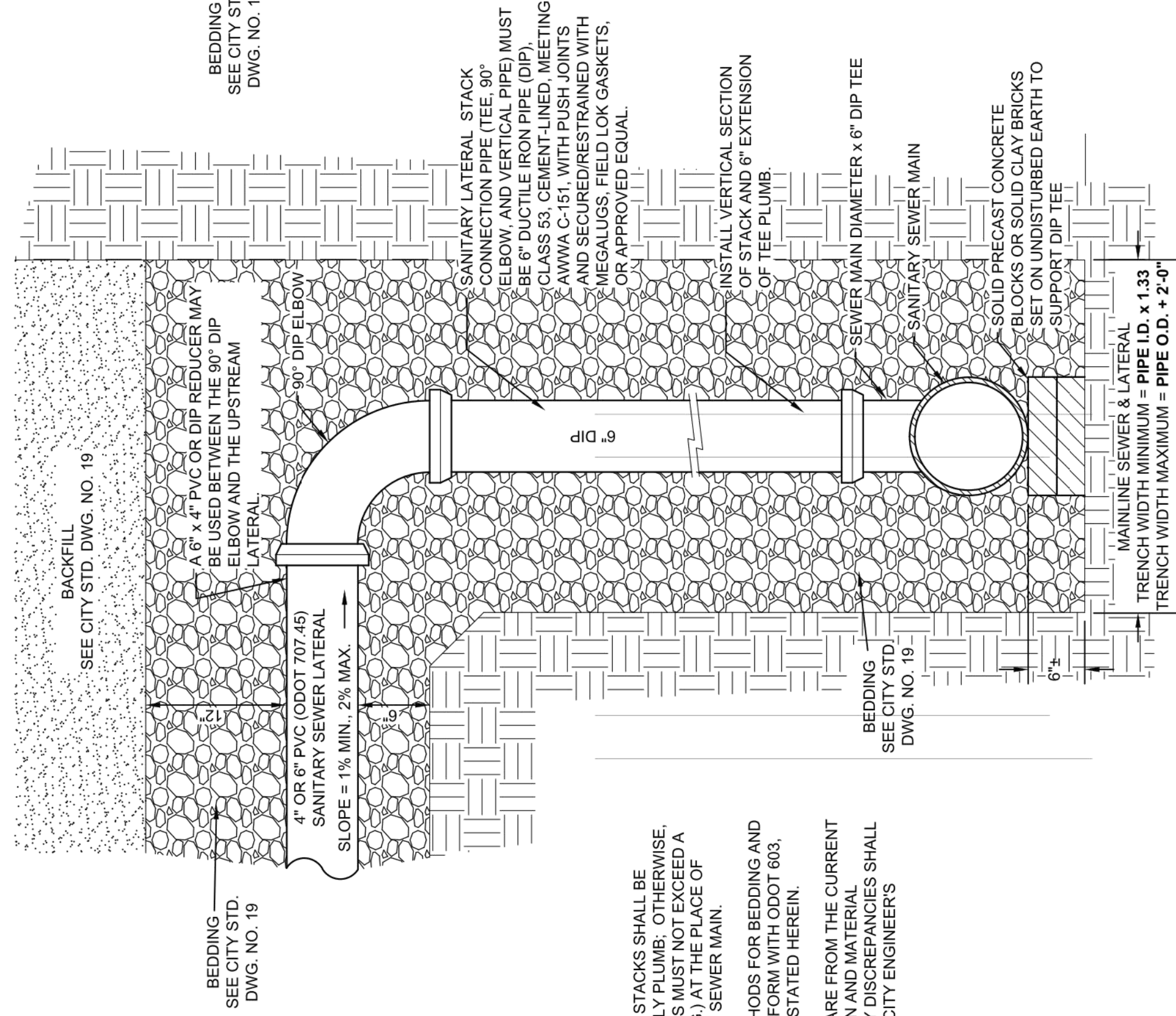


WATERWORK SUBSUMMARY

36TH ST NW PHASE 2

CALCULATED	JES	CHECKED	DEN
26	102		

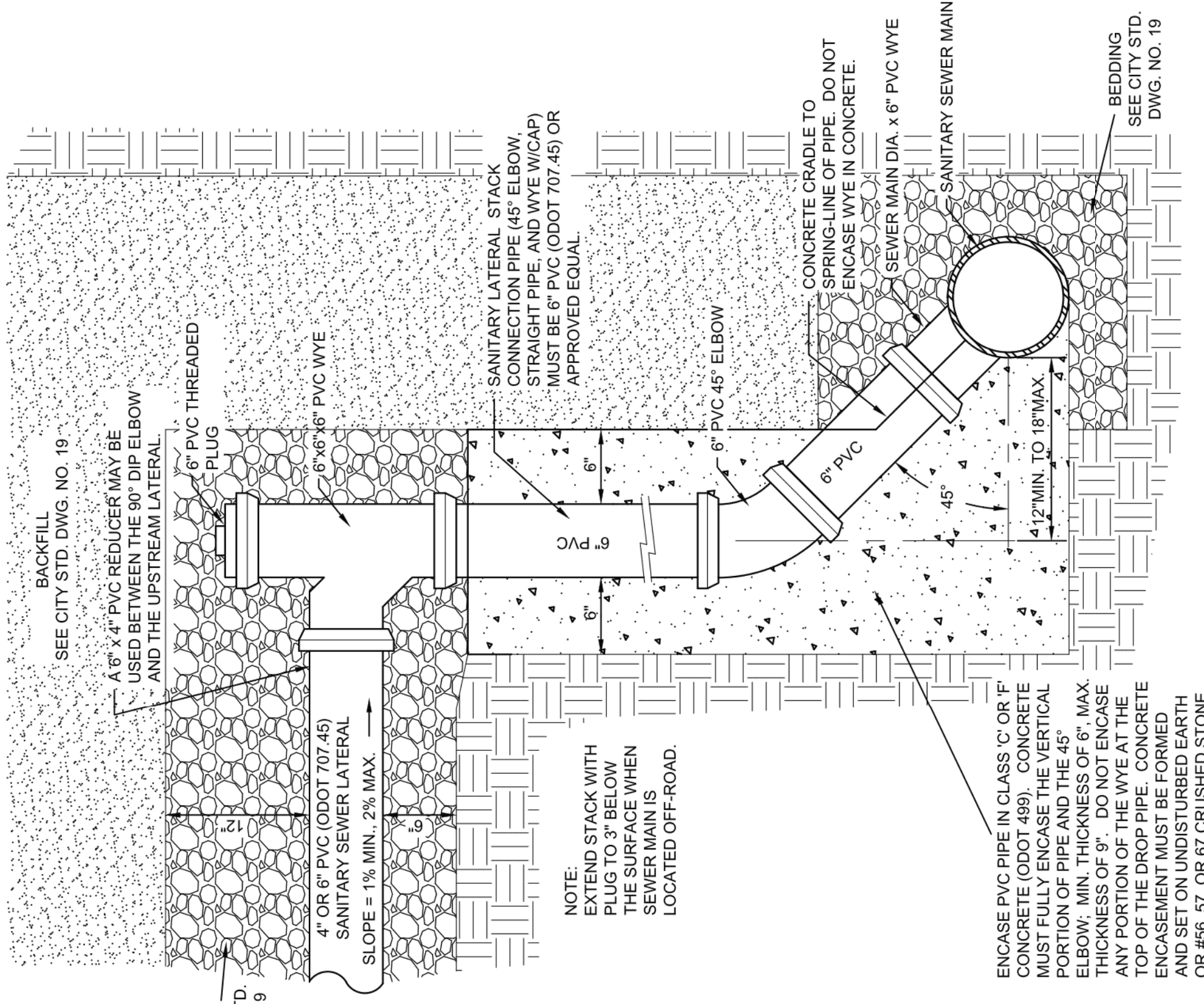
HOUSE CONNECTION STACK, OPTION 1



NOTES:

- HOUSE CONNECTION STACKS SHALL BE INSTALLED VERTICALLY PLUMB; OTHERWISE, SEWER CONNECTIONS MUST NOT EXCEED A SLOPE OF 1:1 (45 DEG.) AT THE PLACE OF CONNECTION TO THE SEWER MAIN.
- CONSTRUCTION METHODS FOR BEDDING AND BACKFILL SHALL CONFORM WITH ODOT 603, UNLESS OTHERWISE STATED HEREIN.
- ODOT REFERENCES ARE FROM THE CURRENT SPECIFICATIONS AND MATERIAL REQUIREMENTS. ANY DISCREPANCIES SHALL BE SUBJECT TO THE CITY ENGINEER'S DISCRETION.

HOUSE CONNECTION STACK, OPTION 2



NOTE:
EXTEND STACK WITH PLUG TO 3" BELOW THE SURFACE WHEN SEWER MAIN IS LOCATED OFF-ROAD.

ENCASE PVC PIPE IN CLASS 'C' OR 'F' CONCRETE (ODOT 489). CONCRETE MUST FULLY ENCASE THE VERTICAL PORTION OF PIPE AND THE 45° ELBOW; MIN. THICKNESS OF 6" MAX. THICKNESS OF 9". DO NOT ENCASE ANY PORTION OF THE WYE AT THE TOP OF THE DROP PIPE. CONCRETE ENCASMENT MUST BE FORMED AND SET ON UNDISTURBED EARTH OR #56, 57, OR 67 CRUSHED STONE.

OFFICE OF THE CITY ENGINEER
CANTON, OHIO
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2436 30th St. NE 44705 330-489-3381 www.cantonohio.gov/engineering

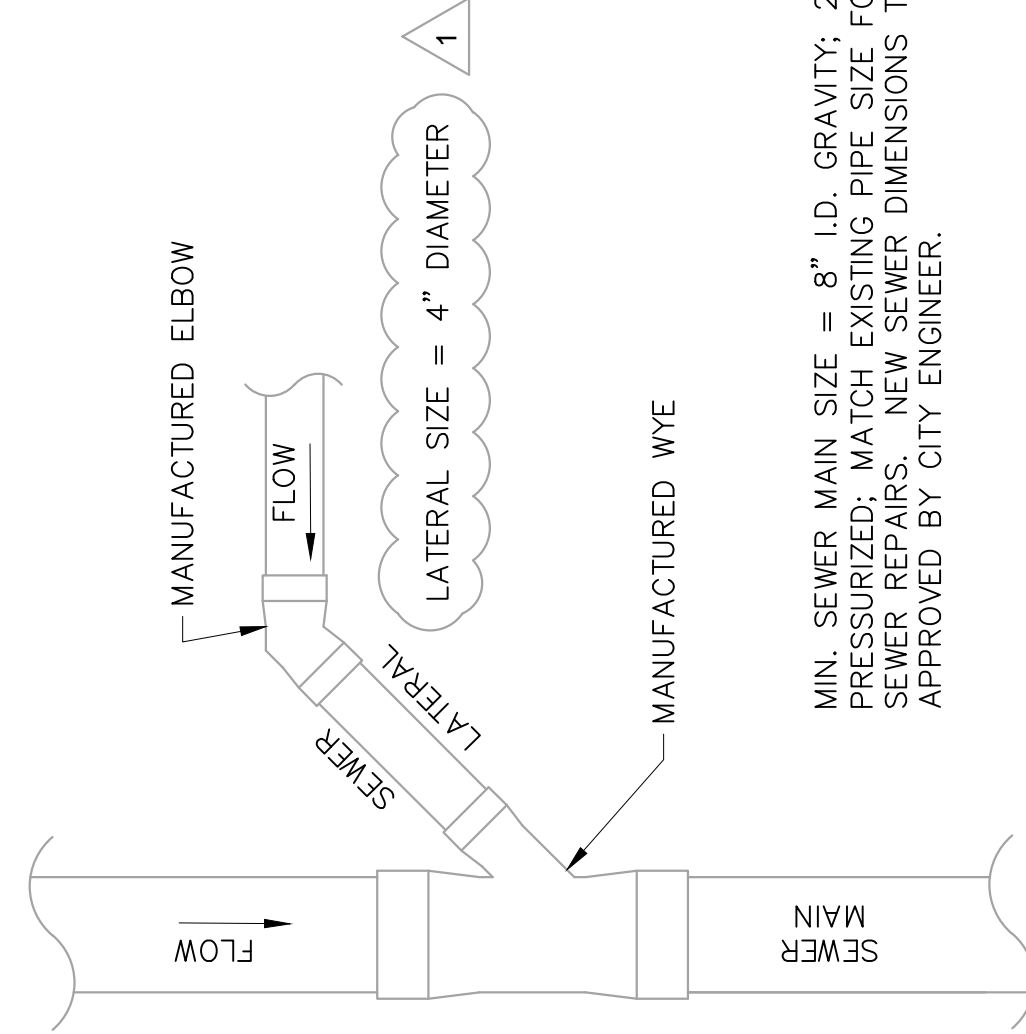
STANDARD DRAWING NO. 18
HOUSE CONNECTION STACK

DESCRIPTION	DATE	BY
CAD DRAWING	JAN 2012	RMB
TITLE BLOCK REVISION	2/24/2021	RMB

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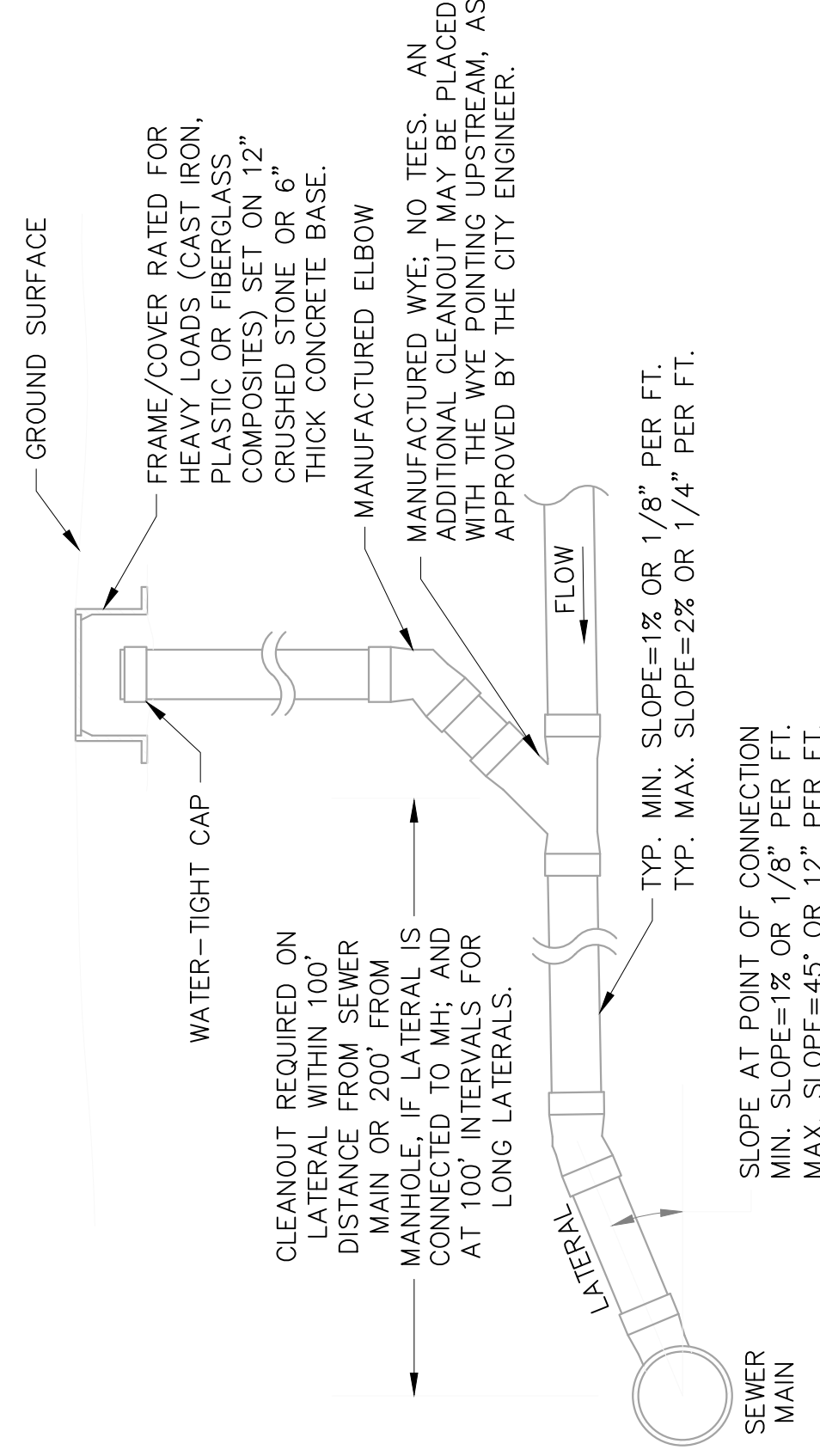
1 OF 1

PLAN VIEW
NOT TO SCALE



MIN. SEWER MAIN SIZE = 8" I.D. GRAVITY: 2.1°. PRESSURIZED: MATCH EXISTING PIPE SIZE FOR SEWER REPAIRS. NEW SEWER DIMENSIONS TO BE APPROVED BY CITY ENGINEER.

SECTION VIEW
NOT TO SCALE



SLOPE AT POINT OF CONNECTION
MIN. SLOPE=1% OR 1/8" PER FT.
MAX. SLOPE=4.5% OR 1/4" PER FT.

NOTES:

- SEWER LATERALS MUST BE LAID IN A MANNER TO MINIMIZE USE OF BENDS. TWO 45° BENDS SHALL BE UTILIZED IN LIEU OF 90° BENDS.
- SEWERS MUST BE BURIED WITH A MINIMUM 36" COVER.
- IN-LINE PIPE CONNECTIONS BETWEEN EXISTING AND NEW PIPES 18" INSIDE DIAMETER (I.D.) AND LESS MUST BE MADE WITH FLEXIBLE COUPLINGS PER CITY OF CANTON REQUIREMENTS (REFERENCE GENERAL NOTES).
- NEW WYE CONNECTIONS INSTALLED ON EXISTING SEWERS MUST BE MANUFACTURED WYES ON MAINS OVER 12" I.D. AND LESS. SEWER LATERAL CONNECTION METHOD/TYPE ARE PERMITTED ON SEWER LATERALS IF THE LARGER DIAMETER PIPE IS DOWNSTREAM OF THE REDUCER. REDUCERS MUST BE MANUFACTURED PVC, VCP, OR DIP REDUCERS; FLEXIBLE REDUCERS ARE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER.
- FOR SEWER LATERAL CONNECTIONS TO MANHOLES, THE MANHOLE MUST HAVE EITHER A CAST-IN-PLACE OPENING AND GASKET SUITABLE FOR THE PIPE TYPE AND SIZE (SEE CITY STD. DWG. NO. 10, PRECAST SANITARY MANHOLE) OR THE MANHOLE MUST BE MACHINE CORED AND CONNECTION SEALED WATER-TIGHT (SEE CITY STD. DWG. NO. 11, OUTSIDE DROP CONNECTION FOR SANITARY MANHOLE).
- ODOT REFERENCES ARE FROM THE CURRENT ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS. ANY DISCREPANCIES SHALL BE SUBJECT TO THE CITY ENGINEER'S DISCRETION.

36TH ST. PROJECT REQUIREMENTS:

- ALL PROPOSED SANITARY LATERAL ITEMS SHALL INCLUDE A NEW MANUFACTURED WYE.
- IF AN EXISTING CONNECTION TO THE SEWER MAIN THAT IS NOT IDENTIFIED TO BE REPLACED DOES NOT INCLUDE A WYE AND WILL NOT PROVIDE A STABLE WATER-TIGHT CONNECTION, NOTIFY THE CITY ENGINEER TO DETERMINE IF REPLACEMENT PER ITEM 611 - CONDUIT, MISC. REPLACEMENT OF LATERAL CONNECTION TO SANITARY SEWER MAIN IS REQUIRED.
- SEE PAGE 13 FOR ADDITIONAL REQUIREMENTS ON THE FOLLOWING ITEMS:
ITEM 611 - CONDUIT, MISC.: REPLACEMENT OF LATERAL CONNECTION TO SANITARY SEWER MAIN
ITEM 611 - CONDUIT, MISC.: RECONSTRUCT SANITARY LATERAL - LONG SIDE, AS PER PLAN
ITEM 611 - CONDUIT, MISC.: RECONSTRUCT SANITARY LATERAL - SHORT SIDE, AS PER PLAN

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APPROVED DATE: MAR 2014
APPROVED BY: RMB
DRAWING FILE NAME: ce_20.dwg

REVISIONS	DESCRIPTION	DATE	BY
	36TH ST. PROJECT STANDARDS	JUNE 2020	DJH

STANDARD MODIFIED
DRAWING NO. 20
SANITARY SEWERS & LATERALS
SHEET 1 OF 1

1 6/22/21