## SANITARY SEWER NOTES

SAS 1 ALL SEWERS, APPURTENANCES, AND METHODS OF CONSTRUCTIONAND WORKMANSHIP FOR SEWERS AND APPURTENANCES SHOWN ON THESE PLANS SHALL CONFORM TO THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATION DIVISION 900 AND APPLICABLE REFERENCES THEREIN, CURRENT ON THE DATE OF THE CONTRACT, UNLESS THE REQUIREMENTS OF SUCH RULES AND REGULATIONS ARE UPGRADED OR MODIFIED BY THE FOLLOWING NOTES OR BY THE CONSTRUCTION DETAILS SE FORTH HEREIN.

SAS 2 SANITARY SEWER LEAKAGE TESTING; LEAKAGE TESTING: LEAKAGE TEST SHALL BE CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 901.20 AND SHALL INCLUDE MAIN SEWER, MANHOLES AND SERVICE CONNECTIONS DURING THE CONSTRUCTION OF THE SEWER AND MANHOLES GROUND WATER LEVELS SHALL BE OBSERVED AND REPORTED IN A SUITABLE LOG. GROUND WATER OBSERVATION PIPES SHALL BE INSTALLED IN MANHOLES AS FOLLOWS FOR THE PURPOSE OF MONITORING GROUND WATER LEVELS PREVAILING OVER THE PROJECT AT THE TIME OF LEAKAGE TESTING. THESE MANHOLES ARE MHS 2, 5, 7, 10, 13, 14, 17 AND 19.

SAS 3 THE CONTRACTOR'S SPECIFIC ATTENTION IS DIRECTED TO THE REQUIREMENTS OF EITHER THE INFILTRATION OR EXFILTRATION AS SPECIFIED BY THE VILLAGE OF ASHVILLE. LEAKAGE THROUGH THE JOINTS OF THE SEWER SHALL NOT EXCEED THE FOLLOWING ALLOWABLE LIMITS: ONE HUNDRED (100) GALLONS PER INCH OF TRIBUTARY SEWER DIAMETER PER TWENTY FOUR (24) HOURS PER MILE OF LENGTH OR THE COMPUTED EQUIVALENT FOR SHORTER LENGTHS AND SHORTER PERIODS OF TIME. ALL SANITARY SEWERS AND SERVICES SHALL BE TESTED. ALL SANITARY SEWERS SHALL BE SUBJECT TO AND PASS THE INFILTRATION OR EXFILTRATION TEST PRIOR TO ACCEPTANCE. AN AIR TEST IS ACCEPTABLE TO THE VILLAGE OF ASHVILLE. THIS AIR TEST SHALL BE PERFORMED ACCORDING TO THE CURRENT REGULATIONS OF THE VILLAGE'S ENGINEERING DEPARTMENT.

SAS 4 CLEAN WATER CONNECTIONS INCLUDING ROOF DRAINS, FOUNDATION DRAINS, SUMPS, ETC. ARE PROHIBITED FROM BEING CONNECTED TO THE SANITARY SEWER.

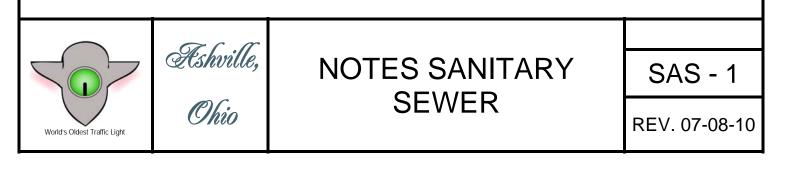
SAS 5 MATERIAL: UNLESS OTHERWISE INDICATED ON THE PLANS, SEWERS AND SERVICES ARE TO BE SUPPLIED WITH MATERIAL CONFORMING TO ITEM 901 CMSC.

(1) POLYVINYL CHLORIDE (PVC) PLASTIC PIPE: ITEM 720.08 PIPE SHALL CONFORM TO ASTM D-3034 SDR 35 FOR SIZES 6", 8", 10", 12" AND 15". FITTINGS SHALL ALSO CONFORM TO ASTM F-1336.

(2) POLYVINYL CHLORIDE (PVC) LARGE DIAMETER PLASTIC PIPE: ITEM 720.08. THE PIPES AND FITTINGS SHALL CONFORM TO ASTM F-679 FOR SIZES 18" THROUGH 36".

SAS 6 PIPES FOR ALL 6" SERVICES SHALL BE PVC SEWER PIPE CONFORMING TO REQUIREMENTS OF ASTM D-3034, SDR 35. THESE SERVICES ARE ALS SUBJECT TO LEAK TESTING. SERVICES EXTESNIONS SHALL BE INSTALLED AT A MINIMUM GRADE OF 1/4" PER FOOT AND SHALL BE CONSTRUCTED AT THE TIME OF CONSTRUCTING THE MAIN SEWER, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

SAS 7 THE MINIMUM REQUIREMENT FOR SEWER PIPE ON THIS PROJECT SHALL BE SDR 35, ASTM D3034 POLYVINYL CHLORIDE (PVC) SEWER PIPE WITH ASTM C1784 CELL CLASSIFICATION OF 12454 B OR 12454 C, UNLESS OTHERWISE SHOWN ON THE PLANS.



## SANITARY SEWER NOTES (CONT.)

SAS 8 ALL PVC PIPE SHALL BE DEFLECTION TESTED THIRTY (30) DAYS OR MORE AFTER THE TRENCH HAS BEEN BACKFILLED TO FINISHED GRADE. THE TESTING SHALL BE DONE IN ACCORDANCE WITH ITEM 901.21 CMSC. A RIGID MANDREL PROVIDED BY THE CONSTRACTOR AND APPROVED BY THE ENGINEER SHALL BE USED FOR THE TESTING. NO MECHANICAL PULLING DEVICES SHALL BE USED. PIPE DEFLECTION SHALL NOT EXCEED FIVE (5) PERCENT. AN ACCURATE LOG OF THE SEWER INSTALLATION SEGMENTS AND DATES SHALL BE KEPT BY THE CONTRACTOR.

SAS 9 6'-0" LONG CLAY DAMS ARE TO BE INSTALLED ALONG MAIN LINE SEWERS IN ACCORDANCE WITH ITEM 901.11 CMCS AT HALF THE DISTANCE BETWEEN EACH PAIR OF MANHOLES. BUT NO CLOSER THAN TEN (10) FEET FROM A LATERAL SERVICE, COST TO BE INCLUDED WITH CARIOUS SEWER ITEMS.

SAS 10 6'-0" LONG CLAY DAMS ARE TO BE INSTALLED ON ALL SANITARY LATERAL SEWERS BUT NO CLOSER THAN FIVE (5) FEET FROM THE END OF THE SERVICE. DAMS ARE TO BE INSTALLED BY SITE UTILITY CONTRACTOR WITH THE COST TO BE INCLUDED WITH VARIOUS SEWER ITEMS.

SAS 11 PUBLIC SANITARY MANHOLE COVERS ARE TO BE EAST JORDAN IRON WORKS NO. 1660-A2 OR EQUIVALENT AND EMBOSSED "VILLAGE OF ASHVILLE SANITARY SEWER".

SAS 12 ALL SANITARY MANHOLES AND LATERAL SERVICES ARE TO BE MARKED WITH A 4"X4"X10'-0" PRESSURE TREATED WOOD POST WITH 4'-0" PROJECTING ABOVE THE FINISHED GRADE AND WITH THE TOP 1'-0" PAINTED GREEN ON FOUR (4) SIDES. ADDITIONALLY A 2"X2" HARDWOOD WYE POLE IS TO BE WIRED TO THE BASE OF EACH 4"X4" POLE AND EXTENDED DOWN TO THE END OF EACH LATERAL SERVICE. COST TO BE INCLUDED IN THE VARIOUS ITEMS.

SAS 13 WHERE THE COVER TO FINISHED GRADE OVER A SANITARY WYE IS IN EXCESS OF TWELVE (12) FEET, A LENGTH OF RISER PIPE AND A FORTY-FIVE (45) DEGREE BEND SHALL BE INSTALLED ALONG WITH A MINIMUM OF ONE WHOLE LENGTH OF SIX (6) INCH PIPE SUCH THAT THE END OF THE SERVICE WILL BE TEN (10) FEET BELOW GRADE. ALL SANITARY LINES AND SERVICES ARE TO BE DESIGNED AND INSTALLED SO AS TO PROVIDE BASEMENT SERVICE.

SAS 14 WHERE THE SANITARY SEWER CROSSES UNDER A PROPOSED STORM SEWER OR WATERLINE THE TRENCH SHALL BE BACKFILLED TO THE BOTTOM OF THE PROPOSED STORM SEWER OR WATERLINE WITH COMPACTED GRANULAR MATERIAL AS PER ITEM 912, FOR A LENGTH OF TWENTY (20) LINEAR FEET CENTERED ON THE STORM SEWER OR WATERLINE. THE COST OF THIS WORK IS TO BE INCLUDED IN THE PRICE BID FOR THE VARIOUS SEWER ITEMS.

SAS 15 PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY MANHOLE CONSTRUCTION AND TOP-OF-CASTING ELEVATION. MANHOLES SHALL BE BUILT OR ADJUSTED SO THE TOPS CONFORM TO THE ELEVATIONS SHOWN ON THESE PLANS. ALL MANHOLE CASTING ADJUSTMENTS SHALL BE ACCOMPLISHED WITH PRE-CAST CONCRETE ADJUSTMENT RINGS.

SAS 16 ALL PIPES SHALL BE INSTALLED WITH STONE OR GRAVEL BEDDING AS SHOWN IN THE STANDARD DRAWINGS.

SAS 17 SANITARY TRENCH DETAILS SHALL BE IN ACCORDANCE WITH THE CITY OF COLUMBUS STANDARD DRAWINGS AA-S149 UNLESS OTHERWISE INDICATED BY VILLAGE OF ASHVILLE STANDARD DRAWINGS. ALL PIPES SHALL BE INSTALLED WITH STONE OR GRAVEL TYPE BEDDING.



## SANITARY SEWER NOTES (CONT.)

SAS 18 TEMPORARY BULKHEADS SHALL BE PLACES WHERE INDICATED ON THE PLANS AND SHALL REMAIN IN PLACE UNTIL REMOVAL IS DIRECTED BY THE VILLAGE ENGINEER. BULKHEADS SHALL BE INSTALLED IN MANHOLE #2 ON 12" (E) AND ON MANHOLE #5 ON 8" (N) AND 12" (E).

SAS 19 SANITARY LATERALS INSTALLED IN A COMMON TRENCH ARE TO BE INSTALLED WITH A MINIMUM 2'-0" CENTER TO CENTER SEPARATION OF PIPES IN A 4'-0" MINIMUM TRENCH WITH A 1'-0" MINIMUM BEDDING AROUND PIPES. PIPE ENDS ARE TO BE FLARED TO A MINIMUM 10'-0" CENTER TO CENTER SEPARATION OF PIPES AT 5'-0" FROM THE PROPERTY LINE RIGHT-OF-WAY.

SAS 20 A PERMANENT FLEXIBLE WATER JOINT SEALANT BETWEEN THE TOPS OF SANITARY MANHOLES AND MANHOLE CASTINGS SHALL BE INSTALLED. SEALANT TO BE "CONSEAL" AS MANUFACTURED BY CONCRETE SEALANTS, INC. NEW CARLISLE, OHIO OR APPROVED EQUAL.

SAS 21 EACH MANHOLE SHALL BE PROVIDED WITH A "CHIMNEY SEAL" CONSISTING OF A TRIPLE PLEATED RUBBER SLEEVE HAVING A MINIMUM THICKNESS OF 3/16 INCH, A MINIMUM UNEXPANDED VERTICAL HEIGHT OF EIGHT (8) INCHES, CAPABLE OF EXPANDING NOT LESS THAN TWO (2) INCHES VERTICALLY WHEN INSTALLED, EQUIPPED WITH SIXTEEN (16) GAUGE BY 1-3/4 INCH WIDE A.S.T.M. STAINLESS STEEL TYPE 304 EXPANSION BANDS, THE ENTIRE UNIT AS MANUFACTURED BY CRETEX SPECIALTY PRODUCTS OR APPROVED EQUAL SAS 22 NO FLOW MAY BE DIVERTED INTO THE NEW OR EXISTING SEWER UNTIL THEY HAVE BEEN INSPECTED, TESTED, AND APPROVED FOR USE. WRITTEN APPROVAL FOR SUCH USE SHALL BE OBTAINED FROM THE VILLAGE OF ASHVILLE.





NOTES SANITARY SEWER

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