SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME

PLAN NOTE BOOK NO.

## GENERAL NOTES FOR SANITARY SEWER CONSTRUCTION IN THE FOX METRO WATER RECLAMATION DISTRICT

- ALL SANITARY SEWER CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE "FOX METRO WATER RECLAMATION DISTRICT SEWER USE ORDINANCE NO. 633" AND THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN LILINOIS" (SEE TIEM #5 BELOW).
- 2. FINAL APPROVED SET OF PLANS AND SPECIFICATIONS MUST BE KEPT ON THE JOB SITE. FAILURE TO COMPLY WITH THIS PROVISION MAY RESULT IN A FINE AND/OR BE CONSIDERED CAUSE TO STOP THE JOB.
- 3. THE SANITARY SEWER CONTRACTORS FOR ALL SANITARY SEWER MAIN EXTENSION PROJECTS SHALL NOTIFY THE FOX METRO WATER RECLAMATION DISTRICT'S ENGINEERING DEPARTMENT TWO (2) WORKING DAYS PRIOR TO START OF WORK. NOTIFICATION SHALL BE DONE VIA TELEPHONE AT (630) 301-6881, AND FAX AT (630) 892-4934 TO THE ENGINEERING DEPARTMENT. FOR SERVICE CONNECTIONS, CALL 24 HOURS IN ADVANCE TO SCHEDULE AN INSPECTION AT (630) 301-6881.
- 4. TO PREVENT ANY POSSIBLE INFILTRATION OR INFLOW FROM ENTERING THE EXISTING DOWNSTREAM SANITARY SYSTEM, A FACTORY—MADE PLUG(\$) SHALL BE PLACED IN THE MANHOLE(\$). BY THE CONTRACTOR, AS INDICATED ON THE FINAL APPROVED PLANS. THE PLACEMENT OF THE PLUG(\$) SHOULD NOT INTERRUPT THE SERVICE OF ANY USER OF THE FOX METRO WATER RECLAMATION DISTRICT SEWER SYSTEMS. THIS PLUG IS TO BE REMOVED ONLY UPON APPROVAL BY THE ENGINEERING DEPARTMENT, AND ONLY AFTER ANY ACCUMULATED WATER AND/OR CONSTRUCTION DRAINAGE HAS BEEN PROPERLY REMOVED. UNDOES NO INCRUMINATION OF THE STATEMENT.
- 5. ALL SANITARY SEWERS SHALL BE TESTED IN ACCORDANCE WITH SECTION 31-1.11 OF THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS". IN ADDITION, ALL MANHOLES SHALL BE VACUUM TESTED (MANHOLE TESTING WILL BE IN ACCORDAN WITH ASTM-1244-93 OR IN ACCORDANCE WITH FOX METRO W.R.D. REQUIREMENTS, IN CASE OF CONFLICT, THE MORE STRINGENT REQUIREMENT WILL APPLY).
- ALL SANITARY SEWER PIPE AND FITTING TYPES SHALL CONFORM TO THOSE LISTED IN FOX METRO WATER RECLAMATION DISTRICT MANHOLE/ SEWER PIPE SPECIFICATIONS. PIPE SIZE SHALL BE A MINIMUM OF 8" FOR SEWER MAINS AND 6" FOR SEWER SERVICES.
- 7. WHEN CONNECTING TO AN EXISTING SANITARY MAIN WHEN A TEE OR WYE IS NOT PROVIDED, AN "INSERTA TEE" FITTING MUST BE INSTALLED. THE MINIMUM DISTANCE BETWEEN FITTINGS IS 4 FEET CENTER TO CENTER. DISRUPTION OF ANY EXISTING SANITARY MAIN BY BREAKING OR CUTTING IN A WYE/TEE IS PROHIBITED UNLESS THE EXISTING MAIN IS CRACKED OR BROKEN AT THE POINT OF CONNECTION WITH "INSERTA IEE". A REPRESENTATIVE OF THE CITY OR VILLAGE SHALL DETERMINE THE EXISTING MAIN REPAIR OR REPLACEMENT REQUIRED ON A CASE BY CASE BASIS PRIOR TO CONNECTION, CONSTRUCTION ON RISTALLATION.
- "ADAPTOR-SEAL", "INFI-SHIELD", CANUSA (WRAPID SEAL) OR APPROVED EQUAL CHIMNEY SEALS SHALL BE INSTALLED ON ALL MANHOLES AND GREASE TRAPS. NO UNAPPROVED SEAL SHALL BE INSTALLED IN THE DISTRICT.
- 9. PVC TRANSITION FITTINGS SHALL BE USED IN ALL NEW CONSTRUCTION WHEN JOINING PVC PIPES OF DIFFERENT OUTSIDE DIMENSIONS. REPAIRS DURING CONSTRUCTION ARE NOT PERMITTED. IF A PIPE IS DAMAGED DURING CONSTRUCTION, THE DAMAGED PIPE SHALL BE REMOVED TO THE CLOSEST DOWNSTREAM JOINT AND RE-LAYED, FOR EXISTING SWEER MAINS OR SERVICE REPAIRS, A NON-SHEAR "MISSION" BRAND COUPLING MAY BE USED WHEN JOINING PIPES MADE OF
- 10. ALL SANITARY INTERCEPTOR (MAINS 15" IN DIAMETER OR GREATER) MANHOLE FRAMES LOCATED WITHIN ANY PROPOSED DEVELOPMENT WILL BE REQUIRED TO BE ADJUSTED TO GRADE. UNDER NO CIRCUMSTANCES MAY THE AMOUNT (TWO TOTAL) OF ADJUSTING RINGS EXCEED 8 INCHES (SEE OUR TYPE A MANHOLE DETAIL). EXTREME CARE SHOULD BE TAKEN WHEN WORKING NEAR SANITARY MANHOL FE.
- CAST IRON CLEAN-OUT COVERS ARE REQUIRED FOR ALL SEWER SERVICES THAT ARE PROPOSED IN PAVED AREAS (SEE OUR MANHOLE/SEWER PIPE SPECIFICATIONS).
- 12. The use of ductile iron Pipe is not allowed for the use of gramty sewers in the fox metro water reclamation district. Ductile iron Pipe May be used in the construction of "casings" or "sleeves" around pyc carrier Pipes, as well as in the construction of Pump station Piping and Force Mains.
- 13. LANDSCAPING WITHIN ANY FOX METRO EASEMENT IS PROHIBITED WITHOUT WRITTEN APPROVAL. IT IS VITAL FOR ALL FOX METRO PERSONNEL TO BE ABLE TO ACCESS THE ENTIRE LENGTH OF ANY INTERCEPTOR EASEMENT FOR THE PURPOSE OF MAINTAINING THE INTEGRITY OF THE SANITARY SEMER SYSTEM.
- 14. FOR COMMERCIAL AND INDUSTRIAL SERVICE LINES ONLY: ALL EXTERIOR SANITARY SERVICE LINES WILL NEED TO BE CONNECTED TO THE INTERIOR PLUMBING SYSTEM BY THE BONDED CONTRACTOR WHO IS NAMED ON THE FOX METRO WATER RECLAMATION DISTRICT CONNECTION PERMIT. IN THE EVENT THE OUTSIDE CONTRACTOR INSTALLS THE SANITARY SERVICE BEFORE THE INTERIOR PLUMBER HAS "STUBBED" THE SEWER LINE TO A POINT FIVE (5) FEET PAST THE FOUNDATION WALL, THE OUTSIDE CONTRACTOR SHALL BE REQUIRED TO TERMINATE THE CONSTRUCTION OF SAID SERVICE AT A POINT NO LESS THAN FIFTEEN (15) FEET FROM THE FOUNDATION WALL. ONLY FOX METRO WILL INSPECT THE FINAL CONNECTION.
- 15. ALL SANITARY RISERS SHALL BE REQUIRED TO BE CONSTRUCTED TO A DEPTH OF NO GREATER THAN NINE (9) FEET DEEP WHEN THE DEVELOPER DESIRES GRAVITY SANITARY SERVICE CONNECTIONS. IN THE EVENT THE DEVELOPER PROPOSES ALL OVERTICAD OR "HUNG" SEWERS, SAID SEWER RISERS SHALL BE CONSTRUCTED TO A DEPTH OF NO REATER THAN 6'-7' FEET DEEP (OR AS SHALLOW AS POSSIBLE IN ORDER TO AVOID CONFLICT ISSUES). IF A CONFLICT ARISES, ILLINOIS EPA WATER & SEWER SEPARATION REQUIREMENTS TAKE PRECEDENCE OVER FOX METRO'S MAXIMUM RISER DEPTH REQUIREMENTS.

FOX METRO WATER RECLAMATION DISTRICT SANITARY SEWER INSTALLATION RULES AND REGULATIONS

THE FOX METRO WATER RECLAMATION DISTRICT HAS FIRST JURISDICTION IN THE METROPOLITAN SEWER AREA, AND ALL DISCHARGES TO THE SANITARY SYSTEM WILL BE CONTROLLED AND MONITORED BY THE FOX METRO WATER RECLAMATION DISTRICT.

ILLEGAL DISCHARGES 1. FAILURE TO COMPLY WITH DISTRICT ORDINANCES MAY RESULT IN PENALTIES NOT TO EXCEED 1. FAILURE TO COMPLY WITH DISTRICT ORDINANCES MAY RESULT IN PENALTIES NOT TO EXCEED \$2,000.00 FOR EACH VOLATION, AND IN SOME OCCASIONS RESULT IN THE REVOCATION OR REJECTION OF BOND. THE FOLLOWING REPRESENT THE MOST COMMON VOLATIONS THAT ARE SUBJECT TO FINES AS REQUIRED BY THE SEWER USE ORDINANCE OF THE DISTRICT:

A. MAINLINE SEWER CONSTRUCTION WITHOUT 48 HOUR NOTICE INSPECTION C. CONSTRUCTION OF SANITARY SERVICE OR REPAIR WITHOUT INSPECTION C. CONSTRUCTION OF SANITARY SERVICES, OR REPAIRS WITHOUT BOND D. UNSECURED SYSTEM (NO PLUG)

E. CONSTRUCTION USING UNAPPROVED PLANS
F. GROUND WATER RELEASE INTO THE PUBLIC SEWER SYSTEM.

PLEASE PAY PARTICULAR ATTENTION TO THIS ITEM. THERE HAVE BEEN MANY INSTANCES RECENTLY WHICH HAVE RESULTED IN FINES FOR VARIOUS CONTRACTORS. UNDER NO CIRCUMSTANCES WILL FOX METRO ALLOW ANY AGGREGATES, MUD, CLAY OR OROUND WATER TO ENTER THE SANITARY SEWER SYSTEM. FAILURE TO COMPLY WILL RESULT IN MAXIMUM FINES, AS WELL AS POSSIBLE CLEANING AND TREATMENT COSTS. REPEAT OFFENDERS MAY BECOME SUBJECT TO HAVING THEIR BOND REVOKED AND DENIED FUTURE WORK IN FOX METRO'S SERVICE AREA. CALL THE ENGINEERING DEPARTMENT AT (630) 301-6882 WITH QUESTIONS.

ITEMS ARE STRICTLY PROHIBITED AND SUBJECT TO A MAXIMUM FINE OF \$2,000.00 FOR EACH-FINES DOUBLE WITH EACH OCCURRENCE BY THE SAME COMPANY, INDIVIDUAL OR CONTRACTOR. AND CLEANING FEES ARE LEVIED FOR ALL WATER RELEASES INTO THE EXISTING SEWER SYSTEM.

2. ALL NEW SANITARY CONSTRUCTION MUST BE SECURELY PLUGGED. THIS PLUG MUST BE MINIMED TO PREVENT UNNECESSARY FLOW OR DISCHARGE INTO THE EXISTING SANITARY SYSTEM. THIS PLUG MAY ONLY BE REMOVED AFTER ALL CONSTRUCTION DRAINAGE HAS BEEN PROPERLY REMOVED AND COMPLETE AIR AND VACUUM TEST RESULTS HAVE BEEN RECEIVED AND APPROVED BY THE ENGINEERING DEPARTMENT.

3. NO GROUND WATER, RUN OFF, OR SURFACE WATER IS ALLOWED TO ENTER ANY SANITARY SEWER SYSTEM BEFORE, DURING OR AFTER ANY SANITARY SEWER SERVICE OR MAINLINE CONSTRUCTION INSTALLATION OR REPAIR. MOLATIONS MAY RESULT IN A MAXIMUM FINE OF \$2,000.00 PENALTY PER VIOLATION, AND DOUBLE FOR EACH OCCURRENCE THEREAFTER.

A. DRAINING OR PUMPING GROUND OR SURFACE WATER INTO ANY SANITARY SEWER SYSTEM IS STRICTLY PROHIBITED. VIOLATIONS MAY RESULT IN A MAXIMUM FINE OF \$2,000.00 PENALTY PER VIOLATION, AND DOUBLE FOR EACH OCCURRENCE THEREAFTER.

5. NO AGGREGATE, DIRT, CLAY, DEBRIS, OR FOREIGN MATERIAL IS ALLOWED TO ENTER ANY SANITARY SEWER SYSTEM. ANY INDIVIDUAL, CONTRACTOR OR COMPANY CAUSING SAID MATERIAL TO ENTER AN EXISTING SANITARY SEWER SYSTEM SHALL CLEAN AND REMOVE THIS DEBRIS FROM THE SYSTEM AT THEIR EXPENSE, AND LUNDER THE SUPERVISION OF THE MUNICIPALITY OR THEIR EXPENSE AT THEIR EXPENSE, AND LUNDER THE SUPERVISION OF THE MUNICIPALITY OR THEIR EXPENSE AT THE MORE AS A SYSTEM SUPERVISION OF THE MUNICIPALITY OF THE MORE AS A SYSTEM SUPERVISION OF THE SAME RESPONSIBLE PARTY, INDIVIDUAL OR COMPANY SHALL MAKE PROPER RESTUTION, RESTORATION, CLEAN UP AND DISINFECTION AS MAY BE REQUIRED FOR PROPER HEALTH AND SAFETY. MOLATIONS MAY RESULT IN A MAXIMUM BILLOW OR DEBRIS OF REPORT OR SHALL AND SAFETY. MAXIMUM FINE OF \$2,000.00 PENALTY PER VIOLATION, AND DOUBLE FOR EACH OCCURRENCE

- 6. DURING CONSTRUCTION, YOU ARE REQUIRED TO EXTEND A 3-FOOT RISER! PIPE WITH PLUG ABOVE THE FLOOR ELEVATION TO REVENT INFLOW OR DRAINAGE. FOUR INCH SCHEDULE 40 P.V.C. IS RECOMMENDED THROUGH OR UNDER THE FOUNDATION WALL, FOOTING OR FLOOR. NO GLUED JOINTS OR FITTINGS OUTSIDE THE WALL.
- 7. FOOTING TILE, SUMP PUMPS, UNDER FLOOR DRAINS, DOWN SPOUTS, YARD DRAINS OR ANY OTHER CONNECTIONS FOR DRAINING GROUND WATER, RUN OFF, OR SURFACE WATER DIRECTLY OR INDIRECTLY INTO SANITARY SEWERS ARE EXPRESSLY PROHIBITED AND SUBJECT TO NOT ONLY TO TREATMENT COSTS, BUT ALSO A MAXIMUM FINE OF \$2,000.00 PER CONNECTION.

BONDING

8. TO PERFORM SANITARY SEWER SERVICE INSTALLATION OR REPAIRS YOU MUST PROVIDE A
LICENSE & PERMIT BOND TO THE FOX METRO WATER RECLAMATION DISTRICT FOR \$25,000.00. ON
THIS BOND, YOUR COMPANY MUST BE LISTED AS PERFORMING WORK SUCH AS: EXCAVATING OR
SEWER AND WATER CONSTRUCTION 'ETC. AS THE BONDED CONTRACTOR YOU ARE REQUIRED TO
INSTALL OR REPAIR ACCORDING TO FOX METRO W.R.D. SPECIFICATIONS, STANDARD SPECIFICATIONS FOR
WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS AND ILLINOIS PLUMBING CODE. QUESTIONS
RELATING TO ANY FOX METRO SPECIFICATION, RULE OR REGULATION; OR THOSE RECARDING A SPECIFIC PROJECT, SHOULD BE DIRECTED TO FOX METRO'S ENGINEERING DEPARTMENT. ALL SANITARY SEWER SERVICE WORK, INCLUDING SANITARY SERVICE REPAIRS MUST BE INSPECTED BY FOX METRO W.R.D.

INSPECTIONS

9. YOU MUST SCHEDULE AN INSPECTION BEFORE DIGGING. THIS ALLOWS US TO CHECK PERMITS AND INFORM YOU OF ANY SPECIAL REQUIREMENTS BEFORE YOU DIG. INSPECTIONS MUST B SCHEDULED AT LEAST 24 HOURS BEFORE THE WORK IS PERFORMED. PLEASE CALL 630—301—6811 DURING THE HOURS OF 8:00 A.M. — 4:30 P.M.

10. TO AVOID ADDED FEES, A ONE HOUR NOTIFICATION IS REQUIRED IF YOU ARE RUNNI 10. TO AVOID ADDED FEES, A ONE HOUR NOTIFICATION IS REQUIRED IF YOU ARE RUNNING LATE OR WISH TO CANCEL AN INSPECTION. INSPECTIONS SCHEDULED ON THE SAME DAY (IF AVAILABLE) WILL BE CHARGED A \$50 FEE. WATER AND SEWER SERVICE INSPECTIONS FOR SINGLE-FAMILY HOMES WILL BE REQUIRED TO BE DONE AT THE SAME TIME. A \$50 FEE WILL BE CHARGED FOR RETURN INSPECTIONS (NOT INCLUDING MULTI-FAMILY), FAILED INSPECTIONS, FAILURE TO CANCEL, OR INCOMPLETE AT APPOINTED TIME. HOLIDAY AND WEEKEND INSPECTIONS ARE AVAILABLE AT THE DISCRETION OF OUR PLUMBING INSPECTOR, AND ARE SUBJECT TO THE CURRENT FEE OF \$100.00, WHICH IS DUE PRIOR TO THE INSPECTION. PLEASE CALL 630-301-6811 DURING THE HOURS OF 8:00 AM. — 4:30 P.M. AFTER HOURS EMERGENCY REPAIRS, CALL 630-892-4378, THEN FOLLOW THE PROMPTS.

11. FOX METRO W.R.D. PERFORMS ALL WATER SERVICE INSPECTIONS FOR THE CITY OF AURORA, VILLAGE OF MONTGOMERY, OSWEGO, SUGAR GROVE AND NORTH AURORA AND SHALL CONSIST OF THE FOLLOWING:

A. ALL WATER CONNECTIONS SHALL BE A MINIMUM OF 1 INCH IN DIAMETER AND SHALL BE TYPE  $\kappa$  copper or D.LP.

8. EACH WATER SERVICE SHALL BE IN ITS OWN TRENCH WITH 10' (MINIMUM) OF HORIZONTAL SEPARATION FROM THE SANITARY SERVICE OR MAIN, AND BE AT A MINIMUM DEPTH OF 5 FEET.

C. WATER SHUT-OFFS SHALL BE PLACED OUTSIDE OF DRIVEWAYS, CURBS, SIDEWALKS, OR ANY SHIRFACED AREA

D. FIRE LINES, USUALLY MADE OF D.I.P., SHALL NOT BE INSPECTED BY FOX METRO W.R.D.

CONSTRUCTION
12. ALL PLANS, WHICH ARE SUBMITTED TO THE LOCAL MUNICIPALITY FOR THEIR REVIEW, SHALL
ALSO BE SUBMITTED TO FOX METRO FOR REVIEW. ONCE OUR REVIEW HAS BEEN COMPLETED, A
YELLOW CARD' WILL BE REQUIRED BY THE LOCAL MUNICIPALITY IN ORDER TO RELEASE THE BUILDING

13. ALL CONSTRUCTION, INCLUDING BEDDING STONE, FITTINGS, PIPE, CHIMNEY & MANHOLE SEALS AND TESTING MUST MEET FOX METRO WATER RECLAMATION DISTRICT SPECIFICATIONS OR THE STANDARD SECORTICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS, WHICH EVER IS MORE STRINGENT.

14. IF ANY UTILITY IS DAMAGED OR BROKEN DURING EXCAVATION, YOU MUS? NOTIFY THE OWNER IMMEDIATELY. ANY BROKEN OR DAMAGED MUNICIPAL UTILITY WILL REQUIRE REPAIR APPROVAL AND INSPECTION BY THAT MUNICIPALITY OR FOX METRO W.R.D. ON A CASE\_BY-CASE BASIS.

15. ALL SANITARY SEWER MAIN CONSTRUCTION MUST HAVE AN ILEPA PERMIT AND PLAN APPROVAL LETTER ON FILE AT FOX METRO WATER RECLAMATION DISTRICT PRIOR TO COMMENCING OF ANY CONSTRUCTION. PLEASE CALL OUR OFFICE TO VERIFY THIS.

16. AN APPROVED SET OF PLANS MUST BE ON SITE DURING CONSTRUCTION.

17. ANY CHANGE FROM APPROVED PLANS, SPECIFICATIONS, OR ADDITIONS MUST BE REQUESTED AND BECOME SUBJECT TO APPROVAL ON A CASE—BY—CASE BASIS.

18. WHERE A NEW HOME IS CONSTRUCTED ON ANY LOT WHERE THE SANITARY SERVICE IS MADE OF RIGID MATERIALS SUCH AS VITRIFIED CLAY, CAST IRON, OR DUCTILE IRON, SAID SERVICE WILL BE REQUIRED TO BE REMOVED TO THE PUBLIC MAIN OR LINED.

19. THE USE OF DUCTILE IRON PIPE IS NOT ALLOWED FOR THE USE OF GRAVITY SEWERS IN THE FOX METRO WATER RECLAMATION DISTRICT AND WILL NOT BE ALLOWED ON APPROVED CONSTRUCTION PLANS. IF D.I.P. IS PROPOSED ON YOUR PLANS MARKED AS FOR CONSTRUCTION', PLEASE CONTACT FOX METRO'S ENGINEERING DEPARTMENT AT (630) 301–6882. ALL D.I.P. WHICH IS INSTALLED SHALL BE REMOVED AND REPLACED WITH PLYC. SDR 21 ASTM D=2241 OF DR 18 C=900 OR C=905

20. ALL EXTERIOR SANITARY SERVICE LINES WILL NEED TO BE CONNECTED TO THE INTERIOR PLUMBING SYSTEM BY THE BONDED CONTRACTOR WHO IS NAMED ON THE FOX METRO WATER RECLAMATION DISTRICT CONNECTION PERMIT. IN THE EVENT THE OUTSIDE CONTRACTOR INSTALLS THE SANITARY SERVICE BEFORE THE INTERIOR PLUMBER HAS STUBBED THE SEWER LINE TO A POINT FIVE (5) FEET PAST THE FOUNDATION WALL, THE OUTSIDE CONTRACTOR SHALL BE REQUIRED TO TERMINATE THE CONSTRUCTION OF SAD SERVICE AT A POINT FOR LESS THAN FIFTEEN (15) FEET FROM THE FOUNDATION WALL ONLY FOX METRO WILL INSPECT THE FINAL CONNECTION.

21. NO GLUED JOINTS SHALL BE ALLOWED OUTSIDE THE FOUNDATION WALL.

22. THE LOCAL MUNICIPAL OWNER MUST BE CONTACTED TO CHECK THE SEWER MAIN BEFORE ANY INDIVIDUAL OR COMPANY RODS A BUILDING SEWER SERVICE LINE. THIS ONLY APPLIES IN BACK UPSITUATIONS TO INSURE THE MAIN SEWER IS NOT SURCHARGED.

# FOX METRO WATER RECLAMATION DISTRICT MANHOLE / SEWER PIPE MATERIALS AND INSTALLATION SPECIFICATIONS

REVISED 5/4/07

# 1. PIPE & FITTINGS

PIPE AND FITTINGS USED IN SANITARY SEWER CONSTRUCTION, SHALL BE POLYVINYL CHLORIDE (PVC) PIPE. PVC PIPE AND FITTINGS DATED OVER ONE YEAR OLD SHALL NOT BE PERMITTED FOR USE. THE TYPES OF PVC PIPE AND FITTINGS THAT SHALL BE USED IN THE DISTRICT INCLUDE:

O POLY VINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS (ASTM — SDR SERIES), CONFORMING TO ASTM NUMBERS D-1784, D-3034, D-3212, F-412, AND F-477.

O POLY VINYL CHLORIDE (PVC) PRESSURE RATED PIPE AND FITTINGS (ASTM - SDR SERIES), CONFORMING TO ASTM NUMBERS D-1784, D-2241, D-3139, F-412 AND F-477.

O POLY VINYL CHLORIDE (PVC) PRESSURE RATED PIPE AND FITTINGS (AWWA DR-SERIES)
CONFORMING TO AWWA C-900, AWWA C-905, AND ASTM NUMBERS D-1784, D-3139, F-412, AND F-477.

ALL PVC PLASTIC PIPE AND FITTINGS SHALL HAVE A CELL CLASSIFICATION OF 12454 AS DEFINED IN ASTM D-1784 AND SHALL HAVE MINIMUM PIPE STIFFNESS AS SHOWN BELOW IN TABLE 1. THE REQUIRED STANDARD DIMENSION RATIO (SDR) OR DIMENSION RATIO (DR) FOR PVC PIPE AND FITTINGS SHALL BE SELECTED BASED UPON THE DEPTH OF COVER, AS ALSO SHOWN IN TABLE 1.

DEPTH OF COVER	PIPE DIAMETER	FOX METRO WRD MINIMUM THICKNESS	NATIONAL STANDARD	MINIMUM PIPE STIFFNESS
0' - 15'	6" - 12"	SDR 26	ASTM D-3034	115
0' 15'	6" 12"	SDR 26	ASTM D-2241	115
0' 20'	6" - 12"	SDR 21	ASTM D-2241	224
0' - 30'	6" - 12"	DR-18	AWWA C-900	364
0' 30'	14"	DR 18	AWWA C-905	364

PVC PIPE FITTINGS CONFORMING TO ASTM D-3034 AND ASTM D-2241 SHALL HAVE A MINIMUM WALL THICKNESS OF SOR 26 PLASTIC PIPE AS DEFINED IN TABLE 1 (ASTM D-3034 OR ASTM D-2241), AND AT LEAST THE SAME THICKNESS OF THE MAIN SEWER LINE IN WHICH THEY ARE BEING INSTALLOR.

FITTINGS IN SIZES THROUGH TWELVE (12) INCHES SHALL BE MOLDED IN ONE PIECE (RE-DESIGNED 3-PIECE PLASTICITERIUS FITTINGS INCLUDED) WITH ELASTOMERIC JOINTS AND MINIMUM SOCKET DEPTHS AS SPECIFIED IN EACH RESPECTIVE SECTION. FITTINGS ABOVE TWELVE (12) INCHES SHALL BE MOLDED OR FABRICATED WITH ELASTOMERIC JOINTS IN ACCORDANCE WITH ASTM STANDARDS D-1784 AND 3139 INCORPORATING THE MANUFACTURER'S STANDARD PIPE BELLS AND GASKETS. GASKETS SHALL

JOINTS SHALL MEET THE REQUIREMENTS OF ASTM STANDARD D-3212 OR D-3139, WHICHEVER IS APPLICABLE. FITTINGS WITH A GASKET RETENTION RACE FORMED BY HEATING OR CRIMPING ARE NOT PREMITTED THROUGHOUT THE DISTRICT. FOX METRO WATER RECLAMATION DISTRICT RESERVES THE RIGHT TO APPROVE ALL PIPE AND FITTINGS ON A CASE-BY-CASE BASIS.

## 2. BEDDING, HAUNCHING, AND INITIAL BACKFILL

BEDDING MATERIAL SHALL BE CA-7 CLASS 1A, AS OUTLINED IN ASTM D-2321 AND SHALL BE CERTIFIED BY THE MANUFACTURER AND APPROVED BY THE DISTRICT PRIOR TO INSTALLATION, TO HAVE THE FOLLOWING CHARACTERISTICS:

O DESCRIPTION: SHALL BE CRUSHED STONE OR CRUSHED GRAVEL, AS PRODUCED FROM CRUSHING

O GRADATION: SHALL MEET THE IDOT GRADATION OF CA-7
O PLASTICITY INDEX: SHALL MEET A PLASTICITY INDEX OF 0 TO 4 PERCENT AS DETERMINED BY
THE METHOD GIVEN IN ASAHTO T 90.

O SPECIFIC GRAVITY: SHALL HAVE A SPECIFIC GRAVITY (DRY) OF GREATER THAN 2.45.

O SOURCES OF SUPPLY: ALL SOURCES OF SUPPLY SHALL BE APPROVED BY THE DISTRICT. ONLY COARSE AGGREGATES FROM THESE SOURCES SHALL BE USED ON THE JOB UNLESS APPROVAL IN WRITING IS

THE DISTRICT RESERVES THE RIGHT TO REQUIRE A CONTRACTOR TO SUBMIT CERTIFIED COPIES OF ALL REPORTS OF TESTS CONDUCTED BY AN INDEPENDENT LABORATORY BEFORE INSTALLATION OF PVC PLASTIC PIPE. TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH STANDARD METHOD OF TEST FOR "EXTERNAL LOADING PROPERTIES OF PLASTIC PIPE BY PARALLEL—PLATE LOADING.

PIPE SHALL BE CONSTRUCTED SO THAT THE INTERNAL DIAMETER DOES NOT DECREASE BY MORE THAN FIVE (5) PERCENT, IN ORDER TO PROVIDE THE COMPLETE HYDRAULIC CARRYING CAPACITY, AND TO OBTAIN THE JOINT PERFORMANCE AT FIVE (5) PERCENT MAXIMUM DIAMETRIC DEFLECTION.

WHEN A SPAN DUE TO OVER-DIG AT ANY WALL OR FOUNDATION EXCEEDS TWO (2) FEET, A SIX (6) INCH SDR 21 (OR THICKER) PVC PIPE SLEEVE THROUGH THE WALL SHALL BE ADDED THROUGH THE SPAN OF THE OVER-DIG AREA. THIS SLEEVE MISE TEXTEND AN ADDITIONAL TWO (2) FEET BEYOND THE OVER-DIG AREA, RESTING ON UNDISTURBED SOIL. THIS SLEEVE WILL ACCOMMODATE A FOUR (4) INCH PVC SCHEDULE 40 (OR APPROVED EQUAL) PIPE THAT MUST BE SEALED AT THE SLEEVE, USING A SIX (6) INCH X FOUR (4) INCH REGULAR BRAND MISSION COUPLING. THE SLEEVE PIPE SHALL INCREASE AS NECESSARY TO ACCOMMODATE A LARGER SEWER SERVICE PIPE WHEN REQUIRED, AND SHALL BE SUPPORTED BY CA-7 CLAS 1A CRUSHED STONE OR GRAVEL. SEE FOX METRO'S "TRENCH DETAIL FOR SANITARY SEWER & MAINS".

TRENCH WIDTHS SHOULD BE STABLE OR SUPPORTED, PROWIDE A WIDTH SUFFICIENT, BUT NO GREATER THAN NECESSARY, TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND CONSOLIDATE HAUNCHING AND OTHER EMBEDMENT MATERIALS. THE SPACE BETNEEN THE PIPE AND TRENCH WALL MUST BE WIDE ENOUGH TO HAND WORK AND PLACE THE HAUNCHING MATERIAL, FROM THE TRENCH FLOOR TO TWELVE (12) INCHES ABOVE THE TOP OF PIPE, THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS SIXTEM (16) INCHES AND THE MAXIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS SIXTEM (16) INCHES AND THE

WHEN TRENCH WALL SUPPORTS SUCH AS TRENCH SHEETING, TRENCH JACKS, TRENCH SHIELDS OR BOXES ARE USED, ENSURE THE SUPPORT OF THE PIPE AND ITS EMBEDMENT IS MAINTAINED THROUGHOUT INSTALLATION, INCLUDING DURING AND AFTER THE REMOVAL OF SUCH SUPPORTS.

THE PIPE SHALL BE LAID SO THAT IT WILL BE UNIFORMLY SUPPORTED FOR ITS ENTIRE LENGTH. NO BLOCKING OF ANY KIND SHALL BE USED TO ADJUST THE PIPE TO GRADE EXCEPT WHEN EMBEDMENT CONCRETE IS USED. BEDDING SHALL BE A MINIMUM OF SX (6) INCHES IN DEPTH. THE BEDDING MATERIAL SHALL BE PLACED AND WORKED IN AROUND PIPE BY HAND-TO PROVIDE UNIFORM SUPPORT, THEN AROUND AND OVER THE GROWN OF THE PIPE BY A MINIMUM THICKNESS OF TWELVE (12) INCHES. THE GRANULAR EMBEDWENT MATERIAL SHALL BE PLACED AND CONSOLIDATED THE FULL WIGHTH OF THE TERICH. THE CONTRACTOR SHALL BE REQUIRED TO INSTALL THE PIPE IN SUCH A MANNER THAT THE DIAMETRIC DEFLECTION OF THE PIPE SHALL NOT EXCEED FIVE (5) PERCENT AND THE MATERIALS SURROUNDING THE PIPE SHALL BE PLACED AS OUTLINED IN ASTM D-2321.

PVC TRANSITION FITTINGS SHALL BE USED IN ALL NEW CONSTRUCTION WHEN JOINING PVC PIPES OF DIFFERENT OUTSIDE DIMENSIONS.

SERVICE CONNECTIONS TO NEW MAINS SHALL BE WITH A TEE/WYE FITTING WITH A 6" BRANCH.

CAST IRON CLEAN OUT COVERS CONFORMING TO ASTM CLASS 25 OR HIGHER SHALL BE REQUIRED FOR ALL SANTARY SEWER SERVICES LOCATED IN ANY PAVED SURFACE. LOCATIONS OF SAID COVERS SHALL BE CONSTRUCTED PER THE APPROVED ENGINEERING PLAN.

THE USE OF DUCTILE IRON PIPE IS NOT ALLOWED FOR THE USE OF GRAVITY SEWERS IN THE FOX METRO WATER RECLAMATION DISTRICT. DUCTILE IRON PIPE MAY BE USED IN THE CONSTRUCTION OF "CASINGS" OR "SLEEVES" AROUND PVC CARRIER PIPES, AS WELL AS IN THE CONSTRUCTION OF PUMP STATION PIPING AND FORCE MAINS.

# Enginee. Enterprise Inc.

			CONTRACT	NO.	3023			
ng	F.A RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.			
es,	N/A	06-00017-00-PV	KANE	232	4			
	STA. TO STA.							
	FED. ROAD DIST. NO ILLINOIS FED. AID PROJECT							

BEFORE FINAL ACCEPTANCE, ALL SANITARY SEWERS SHALL BE TESTED IN ACCORDANCE WITH SECTION 31-1.11 OF THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINGIS" ("SEE ITEM #2" UNDER "MANHOLE INSTALLATION AND FIELD TESTING" BELDW FOR VACUUM TESTING). SPECIFICALLY, ALL PIPELINES CONSTRUCTED OF POLYMMYL CHLORIDE (PVC) SHALL BE SUBJECT TO AIR EXPILITATION, DEFLECTION, VACUUM AND TELEVISING TESTS.

THE DEFLECTION TEST SHALL BE PERFORMED NO SOONER THAN THIRTY (30) DAYS OF THE BACKFILLING OPERATION AND SHALL CONSIST OF MEASURING THE PIPE FOR VERTICAL RING DEFLECTION. MAXIMUM RING DEFLECTION OF THE PIPELINE UNDER LOAD SHALL BE LIMITED TO FIVE (5) PERCENT OF THE INTERNAL PIPE DIAMETER. ALL PIPES EXCEEDING THIS DEFLECTION SHALL BE CONSIDERED TO HAVE REACHED THE LIMIT OF ITS SERVICEABILITY AND SHALL BE RE-LAID OR REPLACED BY THE CONTRACTOR AT THEIR SOLE EXPENSE.

THE COST OF ALL DEFLECTION TESTING SHALL BE BORNE BY THE CONTRACTOR AND SHALL BE ACCOMPLISHED BY PULLING A MANDREL, SPHERE, OR PIN-TYPE "GO / NO GO" DEVICE, WITH A DIAMETER COLAL. TO NINETY-FIVE (95) PERCENT OF THE UN-DEFLECTED INSIDE DIAMETER OF TELEBLE PIPE, THROUGH THE PIPELINE. DR 18 PIPE IS EXEMPT FROM MANDREL TESTING IN THE

ALL SANITARY SEWER (PUBLIC OR PRIVATE) HAVING A DIAMETER OF EIGHT (8) INCHES OR GREATER SHALL BE TELEVISED BY THE DISTRICT. SAID TELEVISING WORK IS SCHEDULED ONCE SANITARY TESTING HAS BEEN RECEIVED BY FOX METRO. ANY DEFECTS IN SAID SEWER SHALL BE REQUIRED TO BE EXCAVATED AND REPAIRED AT THE CONTRACTOR'S OR DEVELOPER'S SOLE EXPENSE. CAUTION SHOULD BE TAKEN BEFORE CONSTRUCTING ROADS, CURBS, SIDEWALKS OR ANY OTHER INFRASTRUCTURE, WHETHER IT IS ABOVE OR BELOW THE GROUND SURFACE. IT IS THE RESPONSIBILITY OF THE UTILITY CONTRACTOR AND THE DEVELOPER TO CONTACT FOX METRO PRIOR TO INSTALLING ANY OF THESE UTILITIES OR INFRASTRUCTURE. REPAIRS TO DEFECTIVE SANITARY SEWERS SHALL BE PERFORMED REGARDLESS OF THE STATUS OF OTHER CONSTRUCTION.

ALL MANHOLE CASTINGS, ADJUSTING RINGS AND MANHOLE SECTIONS SHALL BE SET IN BUTTL ROPE OR APPROVED EQUAL. THE INSIDE JOINTS OF MANHOLE SECTIONS, ADJUSTING RINGS, AND FRAME SHALL NOT BE MORT ARED. THE ROPE OR APPROVED EACH THE ROPE AND FLOW CHANNEL SHALL BE FILLED WITH CEMENT MORTAR TO PROVIDE A FLUSH SMOOTH SURFACE. EACH MANHOLE CONE AND BARREL STORM TO PROVIDE A FLUSH SMOOTH SURFACE. EACH MANHOLE CONE AND BARREL STORM AND THE SHALL ALSO BE EXTERNALLY SEALED WITH A 16 OR \*\*95" MIDE (MIN.) SEALING BAND OF RUBBER AND MASTIC (SEE "REPAIRS" BELOW). THE BAND SHALL HAVE AN OUTER LAYER OF RUBBER OR POLYTHYLENE WITH AN UNDER LAYER OF RUBBERIZED MASTIC (WITH A PROTECTIVE FILM), MEETING THE REQUIREMENTS OF ASTM C-877, "TYPE II OR "TYPE III. PIPE" CONNECTIONS TO ALL MANHOLES THROUGH OPENINGS (CAST OR CORE—DRILLED) SHALL BE PROVIDED WITH A FLEXIBLE RUBBER WAIETIGHT CONNECTION CONFORMING TO ASTM C-823, "STANDARD SPECIFICATIONS FOR RESILIENT CONNECTIONS BETWEEN REINFORCED CONCRETE MANHOLE STRUCTURES AND PIPES". A MAXIMUM OF 8 INCHES OF ADJUSTING RINGS (2 TOTAL RINGS) IS ALLOWED. THE FRAME, CHIMNEY, AND TOP "UP" OF THE CONE SECTION SHALL BE REQUIRED TO BE SEALED WITH A CHIMNEY SEAL. ONLY "ADAPTOR—SEAL", "INFISHELE", CANUSA (WRAPID SEAL) OR AN APPROVED EQUAL WILL BE ALLOWED. DO NOT USE UNAPPROVED SEALS.

WHEN A NEW MANHOLE IS APPROVED TO BE CONSTRUCTED ON A FOX METRO W.R.D. INTERCEPTOR (30° IN DIAMETER OR LESS ONLY) ONLY CASCADE BRAND (CR STYLE), OR APPROVED EQUAL, STAINLESS STEEL REPAIR CLAMPS SHALL BE REQUIRED. ONLY REPAIR CLAMPS CONFORMING TO ANSI/NSF-61 SHALL BE ALLOWED. THIS WORK SHALL BE MSPECTED BY FOX METRO W.R.D.

EACH NEW MANHOLE SHALL BE VACUUM TESTED AFTER FINAL SURFACE RESTORATION HAS BEEN COMPLETED. ALL LIFT HOLES SHALL BE PLUIGED WITH A NON-SHRINKING GROUT. THE MANHOLE FRAME, ADJUSTING RINGS AND CHIMMEY SEALS SHALL BE IN PLACE WHEN TESTING. NO GROUT SHALL BE PLACED IN THE HORIZONTAL JOINTS BEFORE TESTING. ALL PIPES ENTERING THE MANHOLE SHALL BE PLUIGGED, TAKING CARE TO SECURELY BRACE THE PLUIS FROM BEING DRAWN INTO THE MANHOLE. A VACUUM OF TEN (10) INCHES OF MERCURY SHALL BE DRAWN AND THE VACUUM PUMP SHUT OFF. WITH THE VALUES CLOSED, THE TIME SHALL BE MEASURED FOR THE VACUUM TO DOP TO NINE (9) INCHES OF MERCURY (HG) FOR THE FOLLOWING TIME PERIODS FOR EACH SIZE MANHOLE:

\*FORTY-EIGHT (48) INCHES DIAMETER - SIXTY (60) SECONDS

\*SIXTY (60) INCHES DIAMETER - SEVENTY-FIVE (75) SECONDS \*SEVENTY-TWO (72) INCHES DIAMETER - NINETY (90) SECONDS

THE CONTRACTOR SHALL PROVIDE ALL MATERIAL AND EQUIPMENT NECESSARY FOR TESTING. SHOULD THE MANHOLE FAIL THE VACUUM TEST, ALL LEAKS SHALL BE SEALED WITH AN APPROVED NON-SHRINKING GROUT AND RE-TESTED UNTIL A SATISFACTORY RESULT IS OBTAINED.

PIPE CONNECTIONS OF DISSIMILAR MATERIALS IN EXISTING SEWERS SHALL BE MADE WITH A NON-SHEAR FLEXIBLE NEOPRENE "MISSION" BRAND CONNECTOR WITH STAINLESS STEEL BANDS, WHERE NO "HUB" EXISTS.

WHERE A NEW HOME IS CONSTRUCTED ON ANY LOT WHERE THE SANITARY SERVICE IS MADE OF RIGID MATERIALS SUCH AS VITHFIED CLAY, CAST IRON, OR DUCTILE IRON, SAID SERVICE WILL BE REQUIRED TO BE REMOVED OR LINED TO THE PUBBLIC MAIN.
WHERE A NEWLY CONSTRUCTED SANITARY MAIN NEEDS TO BE REPAIRED DUE TO DAMAGE HAVING OCCUPRED DURING CONSTRUCTION, CASCADE BRAND (OR STYLE), OR APPROVED EQUAL, STAINLESS STEEL REPAIR CLAMPS SHALL BE REQUIRED. ONLY REPAIR CLAMPS CONFORMING TO ANSI/NSS-61 SHALL BE ALLOWED. WHEN THE DAMAGE OCCUPS WITHIN 30 FEET OF A MANHOLE, THE CONTRACTOR SHALL BE ALLOWED. WHEN THE DAMAGED MAIN FROM THE NEAREST JOINT TO THE MANHOLE.

EACH MANHOLE, WHICH HAS BEEN DISTURBED IN ANY WAY, INCLUDING BEING RAISED OR LOWERED, SHOULD BE CLEANED AND DRIED BEFORE RE-SEALING. EACH CONE AND BARREL SECTION JOINT STREULINE A DUBLE-LAYER OF BUTYL ROPE AND ALSO BE EXTENALLY SEALED WITH A \*®' OR \*\*\*9" WIDE (MIN.) SEALING BAND OF RUBBER AND MASTIC. THE BAND SHALL HAVE AN OUTER LAYER OF RUBBER OF POLYETHYLENE WITH AN UNDER LAYER OF RUBBERIZED MASTIC (WITH A PROTECTIVE FILM), MEETING THE REQUIREMENTS OF ASTM C-877, \*\*TYPE || OR \*TYPE |||.

A MAXIMUM OF 8 INCHES OF ADJUSTING RINGS (2 TOTAL RINGS) IS ALLOWED IN ANY REPAIR. THE FRAME AND CHIMNEY OF THE COME SECTION SHALL BE REQUIRED TO BE SEALED WITH A CHIMNEY SONLY "ADAPTOR-SEAL", "INFI-SHIELD", CANUSA (WRAPID SEAL) OR AN APPROVED EQUAL WILL BE ALLOWED.

REVISIONS		ILLINOIS DEPARTA	MENT OF TRANSPORTATION	
NAME	DATE	TELL, TO DEL FILL	nert, or manor or minor	
		FOX ME	TRO WATER	
		RECL	_AMATION	
		DISTR	ICT NOTES	
		SCALE: NTS	DRAWN BY:	
		DATE: 02/07/08	CHECKED BY: WBR	- 1