

**2012 APPROVED MATERIALS LIST  
- WATER -**

ITEM	MANUFACTURER	PART # / DESCRIPTION
PVC 1120 SCHEDULE 40	ETHYL CORP.	ASTM D1785 2" DIA. or SMALLER
PVC PR200 / SDR 21	NORTH AMERICAN PIPE NATIONAL PIPE	ASTM D2241 PUSH ON BELL TYPE w/ RUBBER SEALING RING I.P.S. STANDARD DIAMETER WORKING HYDROSTATIC PRESSURE OF 200psi BLUE IN COLOR
PVC 150psi / DR 18	NORTH AMERICAN PIPE NATIONAL PIPE	AWWA C900 FOR 4" - 12" DIA. AWWA C905 FOR 12" DIA. & LARGER PUSH ON BELL TYPE w/ RUBBER SEALING RING D.I.P.S. STANDARD DIAMETER BLUE IN COLOR
HIGH DENSITY POLY-ETHYLENE (HDPE)		DR9 or BETTER AWWA C901 & C906 PE3408 CELL CLASSIFICATION 345434C or 345434E BLUE STRIPE
DUCTILE IRON PIPE	ACIPC	CLASS 350 PUSH ON JOINT TYPE CEMENT LINED & TAR COATED
TRACER WIRE		12 GAUGE BLUE WIRE 10 GAUGE BLUE WIRE FOR DIRECTIONAL BORES
TAPPING SADDLE	FORD	F202 DOUBLE STRAP
TAPPING SLEEVE	FORD	STANDARD BITUMINOUSE COATED
WATER SERVICE TUBING		1" DIAMETER DR9 CTS TUBING AWWA C906 200psi BLUE STRIPE
MARKER BALL	3M	4" BLUE BALL PART #1403
GATE VALVES	AMERICAN FLOW CONTROL	RESILIENT WEDGE AWWA C515 & C550 250psi WORKING PRESSURE FOR 3"-12" DIA. VALVES 150psi WORKING PRESSURE FOR 12" & LARGER DIA. VALVES MECHANICAL JOINT ENDS FUSION BONDED EPOXY COATED
CHECK VALVES (3" DIA. Or LARGER)	AMERICAN FLOW CONTROL	AWWA C508 IRON BODY, FLANGED ENDS, OUTSIDE LEVER SPRING LOADED, SWING TYPE RENEWABLE BRONZE SEAT RING RUBBER FACED DISC
CHECK VALVES (2" DIA. Or SMALLER)	AMERICAN VALVE	# M31 BRASS SWING CHECK VALVE 200psi WORKING PRESSURE
CURB STOPS	FORD	TYPE B43 AWWA C800 CAST BRONZE, MACHINED FITTING SURFACES LOCKABLE STRAIGHT BALL METER VALVE w/ PACK JOINT
CORPORATION STOPS	FORD	TYPE F1000 AWWA C800 CAST BRONZE, MACHINED FITTING SURFACES STANDARD I.P. THREAD COMPRESSION JOINT OUTLETS FOR COPPER or PLASTIC TUBING
BALL VALVES (GENERAL)	FORD	3/4" - 2" DIA. ONLY CAST BRONZE BODY STEM w/ CHECK FULL ROUND WAY OPENING
BALL VALVES (COPPER SERVICES)	FORD	TYPE B-21 INLET CONNECTION w/ FLARE NUT FITTING FOR TYPE K COPPER TUBING OUTLET CONNECTION w/ FEMALE IRON PIPE THREAD
BALL VALVES (PVC SCH. 40)		INLET / OUTLET CONNECTIONS w/ FEMALE IRON PIPE THREADS

**2012 APPROVED MATERIALS LIST  
- WATER -**

ITEM	MANUFACTURER	PART # / DESCRIPTION
VALVE BOXES		ADJUSTABLE DUCTILE IRON COVER MARKED "WATER"
RPZ BACKFLOW PREVENTER (3/4" - 2")	WILKINS	MODEL 975XL AUTOMATIC PRESSURE DIFFERENTIAL RELIEF VALVE FURNISHED w/ UNION CONNECTIONS BALL VALVES BEFORE & AFTER DEVICE PROTECTED BY STRAINER ASSE STANDARD 1013
RPZ BACKFLOW PREVENTER (3" & LARG	WILKINS	MODEL 375 AUTOMATIC PRESSURE DIFFERENTIAL RELIEF VALVE GATE VALVES BEFORE & AFTER DEVICE PROTECTED BY STRAINER
FIRE LINE BACKFLOW PREVENTER	WILKINS	MODEL 350ADA DOUBLE CHECK DETECTOR ASSEMBLY ASSE STANDARD 1048 5/8" BYPASS DETECTOR METER (SUPPLIED BY REGIONAL UTILITIES)
"Y" TYPE STRAINER	WILKINS	CAST BRONZE ASTM B584 20 MESH SS 300 SERIES SCREEN
FIRE HYDRANTS	AMERICAN FLOW CONTROL	AMERICAN DARLING MODEL B-84-B YELLOW IN COLOR AWWA C502 MECHANICAL JOINT INLET CONNECTION TWO 2-1/2" HOSE NOZZLES ONE 4-1/2" PUMPER NOZZLE 150psi WORKING PRESSURE FULLY BRONZE MOUNTED 5-1/4" INTERNAL SHUTOFF VALVE AMERICAN NATIONAL STANDARD FIRE HOSE COUPLING SCREEN THREADS
FITTINGS (MEGA-LUG, MJ)	EBBA IRON TYLER-UNION	AMERICAN MADE FITTINGS FUSION BONDED EPOXY COATED
CONCRETE COLLARS		24" PRE-CAST ROUND BEVELED CONCRETE COLLAR FIBER MESH REINFORCED #2 REBAR 4000psi CONCRETE
FLUSH HYDRANT	GIL INDUSTRIES	2" SLIMLINE FLUSHING HYDRANT NO. SP-GRUFH204K ISO 9001 CERTIFIED BRONZE BODY BALL VALVE 3' 6" BURY DEPTH CAM & GROOVE QUICK CONNECT & DUST CAP
WATER SAMPLING STATION	KUPFERLE FOUNDRY	ECLIPSE NO. 88 THREADLESS HOSE BIB LOCKABLE, NON-REMOVABLE ALUMINUM HOUSING 1/4" COPPER VENT TUBE w/ 1/4" BALL VALVE OR PET COCK
WATER METER BOX	BROOKS PRODUCTS	#36 BOX 10-1/2" X 17-1/4" PRE-CAST CONCRETE BOX w/ METAL LID TOUCH READ PIT LID (TR/PL) 1-3/4" DIA.

**2012 APPROVED MATERIALS LIST  
- GRAVITY SEWER -**

ITEM	MANUFACTURER	PART # / DESCRIPTION
PVC SDR 35	NORTH AMERICAN PIPE NATIONAL PIPE	ASTM D3034-74 14' (+/-) LAYING LENGTH PUSH ON BELL TYPE w/ RUBBER SEALING RING GREEN IN COLOR
DUCTILE IRON	ACIPC	CLASS 350 or BETTER 60,000psi TENSILE STRENGTH 42,000psi YIELD STRENGTH 10% MINIMUM ELONGATION ANSI STANDARD A21.51 PROTECTO 401 CERAMIC EPOXY LINED & COATED
TAPPING SADDLES		ANSI STANDARD A21.10-71
PRECAST CONCRETE MANHOLES		ASTM C478 MINIMUM WALL THICKNESS OF 5" MINIMUM CONCRETE STRENGTH OF 4000psi WATERTIGHT LEAK-PROOF BOOTS INSTALLED WHERE PIPES ENTER OR EXIT THE MANHOLE ALL HARDWARE TO BE STAINLESS STEEL
MANHOLE BASE		MANHOLE BASE TO BE CAST INTEGRALLY WITH THE BOTTOM MANHOLE SECTION
COATING		INTERIOR / EXTERIOR RECEIVE 2 COATS OF BITUMINOUS WATER PROOFING PAINT COATING SHALL BE 12MILS FOR INTERIOR / EXTERIOR
MANHOLE RINGS / COVERS	U.S. FOUNDRY	E170 ASTM A48 MARKED "SANITARY" or "SEWER"
TRACER WIRE		12 GAUGE GREEN WIRE 10 GAUGE GREEN WIRE FOR DIRECTIONAL BORES
MARKER BALL	3M	4" GREEN BALL PART #1404
CONCRETE COLLARS		24" PRE-CAST ROUND BEVELED CONCRETE COLLAR FIBER MESH REINFORCED #2 REBAR 4000psi CONCRETE

**2012 APPROVED MATERIALS LIST  
- PRESSURE SEWER -**

ITEM	MANUFACTURER	PART # / DESCRIPTION
PVC CLASS 200 / SDR 21	NORTH AMERICAN PIPE NATIONAL PIPE	2" & 3" DIA. ONLY ASTM D1784 PUSH ON BELL TYPE w/ RUBBER SEALING RING I.P.S. STANDARD DIAMETER WORKING HYDROSTATIC PRESSURE OF 160psi GREEN IN COLOR
PVC CLASS 160 / SDR 26	NORTH AMERICAN PIPE NATIONAL PIPE	4" DIA. & LARGER ASTM D2241 PUSH ON BELL TYPE w/ RUBBER SEALING RING I.P.S. STANDARD DIAMETER WORKING HYDROSTATIC PRESSURE OF 160psi GREEN IN COLOR
HIGH DENSITY POLY-ETHYLENE (HDPE)		DR11 or BETTER ASTM F714 & SHALL BE MARKED PE3408 CELL CLASSIFICATION 345434C or 345434E GREEN STRIPE
DUCTILE IRON	ACIPC	CLASS 350 or BETTER 60,000psi TENSILE STRENGTH 42,000psi YIELD STRENGTH 10% MINIMUM ELONGATION ANSI STANDARD A21.51 PROTECTO 401 CERAMIC EPOXY LINED & COATED
FITTINGS		ANSI A21.10 MECHANICAL JOINT FITTINGS PROTECTO 401 CERAMIC EPOXY LINED & COATED
TRACER WIRE		12 GAUGE GREEN WIRE 10 GAUGE GREEN WIRE FOR DIRECTIONAL BORES
TAPPING SADDLE	FORD	F202 DOUBLE STRAP 1-1/4"CC or IP THREAD
TAPPING SLEEVE	FORD	STANDARD BITUMINOUS COATED
MARKER BALL	3M	4" GREEN BALL PART #1404
CORPORATION STOP	FORD	BRASS 1-1/4" CC or IP THREAD X FEMALE IPS THREAD
CHECK VALVE		1-1/4" BRASS SWING CHECK VALVE w/ REMOVABLE LID FEMALE IPS THREADS BOTH ENDS
SEWER SERVICE TUBING		1-1/4" DIA. HDPE DR17 GREEN STRIPE
GATE VALVES	AMERICAN FLOW CONTROL	RESILIENT WEDGE AWWA C515 & C550 250psi WORKING PRESSURE FOR 3"-12" DIA. VALVES 150psi WORKING PRESSURE FOR 12" & LARGER DIA. VALVES MECHANICAL JOINT ENDS FUSION BONDED EPOXY COATED
BALL VALVES (GENERAL)	FORD	3/4" - 2" DIA. ONLY CAST BRONZE BODY STEM w/ CHECK FULL ROUND WAY OPENING
BALL VALVES (PVC SCH. 40)		INLET / OUTLET CONNECTIONS w/ FEMALE IRON PIPE THREADS
VALVE BOXES		ADJUSTABLE DUCTILE IRON COVER MARKED "SEWER"
CONCRETE COLLARS		24" PRE-CAST ROUND BEVELED CONCRETE COLLAR FIBER MESH REINFORCED #2 REBAR 4000psi CONCRETE
AIR RELEASE VALVE	VAL-MATIC	T.B.D BY ENGINEER OF RECORD

**2012 APPROVED MATERIALS LIST  
- NON CLOG LIFT STATION -**

Item	Manufacturer	Part # or Description
SUBMERSIBLE SEWAGE NON-CLOG PUMP	WILO-EMU	MODEL FA PUMPS ABLE TO PASS 3" DIA. SOLID NON-DEFORMABLE w/o CLOGGING CONSTRUCTED PER ASTM A48, CLASS 30, GRAY CAST IRON CENTERLINE DISCHARGE VOLUTE w/ ANSI 125LB COMPATIBLE - DISCHARGE FLANGE CAPABLE OF WITHSTANDING 150% SHUTOFF HEAD ALL HARDWARE CONSTRUCTED OF STAINLESS STEEL ALL EXPOSED SURFACES COATED w/ SEWAGE RESISTANT PVC VARNISH.
IMPELLER		CONSTRUCTED OF ASTM A339 DUCTILE IRON 316 STAINLESS STEEL HEAT TREATED WEAR RINGS
MOTOR		DESIGNED w/ SERVICE FACTOR OR 1.25 OVER & ABOVE NAMEPLATE HORSEPOWER AS STANDARD
PUMP POWER		230 VOLT, 3 PHASE, 4 WIRE, 60 HERTZ, FOR PUMPS UP TO 25HP 277/480 VOLT, 3 PHASE, WYE, 60 HERTZ FOR PUMPS OVER 25HP w/ VFD or SOFT START
GUIDE RAILS	WILO-EMU	304 STAINLESS STEEL T-BAR SHAPE
CONTROL PANEL	WILO-EMU	NEMA 4X STAINLESS STEEL / LOCKABLE STANDARD SIZE OF 36"H X 24"W X 10"D CLEAR PLEXI-GLASS DEADFRONT 14 GAUGE MINIMUM RED CONTROL WIRING 10 GAUGE MINIMUM BLACK POWER & LIGHTING WIRING WHITE NEUTRAL WIRING GREEN GROUND WIRING
ALARM		90 DECIBELS IN SOUND SILENCE PUSH BUTTON BATTERY BACK UP SYSTEM RED LEXAN 3"H X 3-1/2" DIA. GLOBE FOR ALARM LIGHT w/ A 40WATT LIGHT BULB
SURGE SUPPRESSOR	INNOVATIVE TECHNOLOGY	MODEL P-PLUS OPERATES UP TO 136,500amp TOTAL PEAK SURGE CURRENT
PHASE FAILURE RELAY	TIME MARK	MODEL 257B 8 PIN PLUG IN DESIGN
TRANSFER SWITCH		RATED FOR 100amp or 200amp (DEPENDING ON HORSEPOWER) 3 POLE / 600 VOLT
PLUG IN CONTROLLER	DIGITAL CONTROL CORP.	#12036 (DUPLX) #12064 (TRIPLEX)
GENERATOR RECEPTACLE	HUBBELL	PIN & SLEEVE MODEL 4100R9W 240V, 3 PHASE / 460V 3 PHASE WEATHER PROOF / MOUNTED ON EXTERIOR OF PANEL
MOTOR CIRCUIT PROTECTORS	SQUARE D	FAL 100amp FRAME or AS REQUIRED
MOTOR STARTERS	SQUARE D	NEMA RATED / SIZED TO MATCH PUMP HORESPOWER THERMAL MELTING ALLOY TYPE OVERLOAD VFD OR SOFT START REQUIRED ON PUMPS OVER 25 HORSEPOWER
ELAPSED TIME METERS		6 DIGIT NON-RESETABLE
GROUND FAULT INTERRUPTER		15A, 120V PROTECTED BY A 1 POLE, 15A CIRCUIT BREAKER
TRANSFORMER		1KVA, 460/240V - 120V, 1 PHASE
WET WELL		REINFORCED CONCRETE 7" MINIMUM WALL THICKNESS KOP-COAT COAL TAR EPOXY 300-M EXTERIOR COATING (2 COATS - 9 MILS EACH) RAVEN 405 MOISTURE TOLERANT BLUE EPOXY RESIN (100 MIL) ALL HARDWARE TO BE STAINLESS STEEL ALUMINUM ACCESS HATCH, 48" SQ MIN., RECESSED HANDLE, PAD LOCK TAB, 300# TRAFFIC RATED HATCH IF LOCATED WITHIN FDOT RIGHT OF WAY HDPE FUSED DISCHARGE PIPING
VALVE VAULT		REINFORCED CONCRETE KOP-COAT COAL TAR EPOXY 300-M COATING (2 COATS - 9 MILS EACH) INTERIOR & EXTERIOR ALUMINUM ACCESS HATCH, RECESSED HANDLE, PAD LOCK TAB, 300#
PRESSURE GAUGE		0 to 50 psi RANGE ACCURATE TO 1 psi (3 REQUIRED) HIGHER TOP READING RANGE AS NEEDED
PUMPER CONNECTION	OPW PRODUCTS	4" MALE QUICK RELEASE w/ DUST CAP COUPLER w/ 150 ASA STEEL FLANGE NO. L33-LBS
DISCONNECT SWITCH	SQUARE D	100AMP OR LARGER IF REQUIRED HEAVY DUTY SAFETY SWITCH ENCLOSURE MUST BE STAINLESS STEEL
PVC CHECK VALVE	PLASTIC ODDITIES	3" PVC CHECK VALVE w/ REMOVABLE TOP

**2012 APPROVED MATERIALS LIST  
- GRINDER LIFT STATION -**

Item	Manufacturer	Part # or Description
SUBMERSIBLE SEWAGE GRINDER PUMP	BARNES	SGV DOUBLE SEAL OIL FILLED MOTOR CONSTRUCTED PER ASTM A48, CLASS 30, GRAY CAST IRON PAINTED w/ WATER BASED AIR-DRY ENAMEL, 2MIL MINIMUM THICKNESS 2" NPT DISCHARGE CONNECTION IN VERTICAL POSITION COMPRESSION SQUARE RING TYPE GASKETS ALL HARDWARE CONSTRUCTED OF STAINLESS STEEL
IMPELLER		IMPELLER CONSTRUCTED FROM 85-5-5-5 BRONZE RECESSED VORTEX DESIGN
MOTOR		3 PHASE DUAL VOLTAGE 230/460 DESIGN MOTOR WINDINGS SHALL BE CLASS B INSULATION NEMA DESIGN B FOR 3 PHASE 416 STAINLESS STEEL MOTOR SHAFT
PUMP POWER		230 VOLT, 3 PHASE, 4 WIRE, 60 HERTZ 25' TYPE S SPLICED POWER CABLE & 25' TYPE SO SENSOR CABLE
GUIDE RAILS	BARNES	304 STAINLESS STEEL C-CHANNEL GUIDE RAILS w/ STAINLESS STEEL BRACKETS
CONTROL PANEL	BARNES	NEMA 4X STAINLESS STEEL / LOCKABLE STANDARD SIZE OF 36"H X 24"W X 10"D CLEAR PLEXI-GLASS DEADFRONT 14 GAUGE MINIMUM RED CONTROL WIRING 10 GAUGE MINIMUM BLACK POWER & LIGHTING WIRING WHITE NEUTRAL WIRING GREEN GROUND WIRING
ALARM		90 DECIBELS IN SOUND SILENCE PUSH BUTTON BATTERY BACK UP SYSTEM RED LEXAN 3"H X 3-1/2" DIA. GLOBE FOR ALARM LIGHT w/ A 40WATT LIGHT BULB
SURGE SUPPRESSOR	INNOVATIVE TECHNOLOGY	MODEL P-PLUS OPERATES UP TO 136,500amp TOTAL PEAK SURGE CURRENT
PHASE FAILURE RELAY	TIME MARK	MODEL 257B 8 PIN PLUG IN DESIGN
TRANSFER SWITCH		RATED FOR 100amp or 200amp (DEPENDING ON HORSEPOWER) 3 POLE / 600 VOLT
PLUG IN CONTROLLER	CONTROLS OF HOUSTON	MODEL 200SF
GENERATOR RECEPTACLE	HUBBELL	PIN & SLEEVE MODEL 4100R9W 240V, 3 PHASE WEATHER PROOF / MOUNTED ON EXTERIOR OF PANEL
MOTOR CIRCUIT PROTECTORS	SQUARE D	FAL 100amp FRAME or AS REQUIRED
MOTOR STARTERS	SQUARE D	NEMA RATED / SIZED TO MATCH PUMP HORESPOWER THERMAL MELTING ALLOY TYPE OVERLOAD VFD OR SOFT START REQUIRED ON PUMPS OVER 25 HORSEPOWER
ELAPSED TIME METERS		6 DIGIT NON-RESETABLE
GROUND FAULT INTERRUPTER		15A, 120V PROTECTED BY A 1 POLE, 15A CIRCUIT BREAKER
TRANSFORMER		1KVA, 460/240V - 120V, 1 PHASE
WET WELL		REINFORCED CONCRETE 7" MINIMUM WALL THICKNESS KOP-COAT COAL TAR EPOXY 300-M COATING (2 COATS - 9 MILS EACH) INTERIOR & EXTERIOR ALL HARDWARE TO BE STAINLESS STEEL ALUMINUM ACCESS HATCH, 32" X 48", RECESSED HANDLE, PAD LOCK TAB, 300# TRAFFIC RATED HATCH IF LOCATED WITHIN FDOT RIGHT OF WAY STAINLESS STEEL DISCHARGE PIPING
VALVE VAULT		REINFORCED CONCRETE KOP-COAT COAL TAR EPOXY 300-M COATING (2 COATS - 9 MILS EACH) INTERIOR & EXTERIOR ALUMINUM ACCESS HATCH, RECESSED HANDLE, PAD LOCK TAB, 300# 2" BRASS CHECK VALVE STAINLESS STEEL UNION FITTINGS 2" BRASS TRUE UNION BALL VALVES ALL FITTINGS TO BE NPT THREADS 2" STAINLESS EMERGENCY PUMPOUT CAMLOCK CONNECTION
DISCONNECT SWITCH	SQUARE D	100AMP OR LARGER IF REQUIRED HEAVY DUTY SAFETY SWITCH ENCLOSURE MUST BE STAINLESS STEEL
PVC CHECK VALVE	PLASTIC ODDITIES	2" PVC CHECK VALVE w/ REMOVABLE TOP