

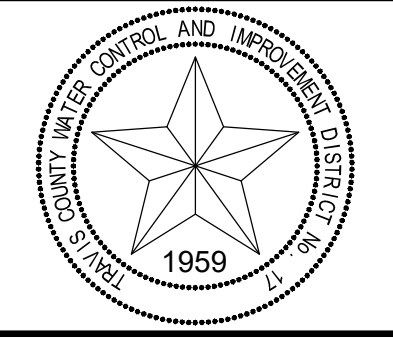
- NOTES:
- WET-WELLS AND MANHOLES:
    - WET-WELLS SHALL BE STANDARD CONCRETE, POLYMER CONCRETE (BY U.S. COMPOSITE PIPE OR APPROVED EQUAL) OR FIBERGLASS.
    - MANHOLES SHALL BE STANDARD CONCRETE OR POLYMER CONCRETE (BY U.S. COMPOSITE OR APPROVED EQUAL).
    - POLYMER CONCRETE AND FIBERGLASS: NO LINING REQUIRED.
    - STANDARD CONCRETE: SHALL BE LINED INSIDE WITH ALUMINUM SILICATE COMPOUND (LAFARGE SEWER COAT, OR APPROVED EQUAL) TO THE FOLLOWING THICKNESS:  
WET-WELLS: ONE-INCH (1") MINIMUM  
MANHOLES: HALF-INCH (1/2") MINIMUM
  - PUMP SUPPLIER SHALL PROVIDE DIMENSIONS OF ACCESS OVER THE WET-WELL TO ENSURE COMPATIBILITY WITH SUPPLIED EQUIPMENT. THE ACCESS FRAME AND COVER OF THE VAULT SHALL BE CONSTRUCTED OF ALUMINUM THREAD PLATE AND SHALL BE WATERTIGHT (GASKET). THE DOORS SHALL OPEN TO 90° AND AUTOMATICALLY LOCK. THE LIFTING HANDLES, HANDLES, HINGES, AND ALL FASTENING HARDWARE SHALL BE ALUMINUM OR STAINLESS STEEL, TYPE 316. ACCESS COVERS ON VALVE VAULT SHALL BE CENTERED ON THE VALVES AND CLEANOUT FOR ACCESS. ACCESS COVERS SHALL INCLUDE A HINGED PROTECTIVE GRATING PANEL.
  - GUIDE RAILS FOR 4" AND LARGER FORCE MAINS MUST BE SUPPLIED BY BARNEY'S PUMPS INC. BASE ELBOW, FLANGE GROMMET AND DISCHARGE FLANGE MUST ALSO BE PROVIDED BY BARNEY'S PUMPS.
  - THE PUMP SHALL BE EASILY REMOVED FOR INSPECTION OR SERVICE. PERSONNEL SHALL HAVE NO REASON TO ENTER THE WET-WELL. GUIDE RAILS SHALL BE SUPPORTED EVERY 10 FEET WITH STAINLESS STEEL SUPPORTS.
  - ALL HARDWARE AND FASTENERS USED SHALL BE CONSTRUCTED OF 300 SERIES STAINLESS STEEL. GUIDE BRACKETS FOR EACH PUMP MUST BE SUPPLIED BY THE PUMP MANUFACTURE TO ENSURE COMPATIBILITY WITH SUPPLIED EQUIPMENT.
  - EACH PUMPING UNIT SHALL BE PROVIDED WITH STAINLESS STEEL LIFTING CHAIN. LIFTING CHAIN SHALL EXTEND AT LEAST 3-4 FEET ABOVE WET WELL.
  - A 316 STAINLESS STEEL FLOAT MOUNTING ASSEMBLY SHALL BE PROVIDED. THE FLOATS SHALL BE MOUNTED AWAY FROM THE WET WELL INLET, ANY CONTROL WIRING, AND THE PUMPS TO MINIMIZE DISTURBANCES.
  - PUMP DISCHARGE LINES SHALL HAVE 1/4 INCH TAPS WITH STAINLESS STEEL OR BRONZE BALL VALVES. THE TAPS SHALL BE ACCESSIBLE AND LOCATED UPSTREAM OF THE VALVES (ON THE PUMP SIDE) IN THE EXTERNAL VALVE VAULT.
  - IN THE VAULT, ALL DISCHARGE LINES SHALL HAVE ADEQUATE THRUST SUPPORT MEMBERS AT EACH FITTING. WHERE POSSIBLE, LONG RADIUS 90 DEGREE BENDS SHALL BE USED.
  - THE DISCHARGE LINE FROM EACH PUMP SHALL BE FITTED WITH A CHECK VALVE AND A RESILIENT WEDGE GATE VALVE. WITH THE CHECK VALVE ON THE PUMP SIDE OF THE GATE VALVE. AIR RELEASE VALVES(S) SHALL BE INSTALLED DOWNSTREAM OF THE GATE VALVE.
  - THE VALVE VAULT SHALL BE SIZED LARGE ENOUGH TO PROVIDE AT LEAST 1 FOOT OF CLEARANCE AROUND ALL VALVES, AND 6 INCHES OF CLEARANCE TO ALL FLANGES. THE COVERS SHALL BE ABLE TO BE SECURED BY A PADLOCK USING A HEAVY DUTY HASP. ALL DUCTILE IRON PIPING SHALL BE SHOP PRIMED AND FIELD COATED WITH TWO (2) COATS OF NEMEC SERIES 619 HI-BUILD EPOXOLINE II, OR APPROVED EQUAL. PROVIDING A TOTAL OF 12 MILS DFT.
  - THE VALVE VAULT SHALL HAVE A DRAIN TO THE WET WELL. THE DRAIN SHALL HAVE A MINIMUM 5 INCH DIAMETER STAINLESS STEEL SCREEN. THE DRAIN LINE SHALL BE A MINIMUM 2 INCH DIAMETER AND BE FITTED WITH A STAINLESS STEEL CHECK VALVE AND A TRAP TO PREVENT GASES OR WATER FROM ENTERING THE VALVE VAULT.
  - ALL VENTS SHALL BE STAINLESS STEEL. VENTS SHALL BE COATED INSIDE AND OUT PER CITY OF AUSTIN STANDARD SPECIFICATIONS. VENTS TO HAVE A 180 DEGREE BAND, A PROTECTIVE STAINLESS STEEL SCREEN, AND THE HEIGHT OF SCREEN FROM TOP OF CONCRETE SHALL BE 2 FEET.
  - CONNECTION TO PROPOSED WET WELL SHALL INCLUDE A PVC TEE INSIDE OF WET WELL, CONNECTED TO PVC PIPE DIRECTED TOWARD THE BOTTOM OF THE WET WELL. THE PVC PIPE SHALL BE SUPPORTED WITH STAINLESS STEEL SUPPORTS. SUPPORTS SHALL BE LOCATED NEAR THE TEE, NEAR THE BOTTOM, AND INTERMEDIATE SUPPORTS AT A MAXIMUM SPACING OF 5' OFF-CENTER.
  - DISCHARGE LINES 3 INCH AND SMALLER TO BE STAINLESS STEEL INSIDE WET WELL AND TO THE FLEX COUPLING OUTSIDE OF WET WELL, AND SCH. 80 PVC BEYOND FLEX COUPLING. DISCHARGE LINES 4 INCH AND LARGER TO BE CLASS 350 DUCTILE IRON LINED AND COATED IN ACCORDANCE WITH CITY OF AUSTIN STANDARDS. IF SCH. 80 PVC PIPE IS USED, AND ADDITIONAL FLANGE MOUNTED PIPE SUPPORT IS REQUIRED FOR THE PIG PORT.
  - A MINIMUM OF 4 HOURS OF STORAGE, OR 6 FOOT DEPTH, WHICHEVER IS GREATER SHALL BE PROVIDED BETWEEN THE HIGH LEVEL ALARM AND THE INFLUENT SEWER FLOW LINE.
  - CONTROL PANEL SHALL INCLUDE, AT A MINIMUM:
    - NEMA 4X ENCLOSURE CONSTRUCTED OF STAINLESS STEEL, OR THERMOPLASTIC POLYESTER, APPROVED BY UL.
    - BE MOUNTED 48 INCH ABOVE FINISHED GROUND ON GALVANIZED PIPE FRAME.
    - THE FOLLOWING FUNCTIONS/ITEMS TO BE INCLUDED:
      - RED VISIBLE ALARM LIGHT AND AUDIBLE ALARM
      - HAND/OFF/AUTO SWITCH FOR EACH PUMP
      - AUTOMATIC ALTERNATOR FOR PUMPS
      - HOUR METER FOR EACH PUMP
      - RELAYS AND NECESSARY CONTROL LOGIC TO OPERATE PUMPS
      - 3-PRONG ELECTRIC OUTLET
      - CONNECTION FOR PORTABLE GENERATION.
    - OPTIONAL - COMMERCIAL GRINDER SYSTEMS MY BE EQUIPPED WITH A TRANSMISSION DEVICE THAT WILL RELAY A WARNING/ALARM SIGNAL TO THE CLIENTS TELEPHONE.
  - ALL ABOVE GROUND ELECTRICAL CONDUIT SHALL BE GALVANIZED RIGID STEEL CONDUIT (GRC). ALL CONDUITS SHALL BE SEALED TO PREVENT CORROSION. ALL PENETRATIONS INTO THE CONTROL PANEL SHALL BE ON THE BOTTOM ONLY.
  - COMMERCIAL GRINDER SYSTEMS SHALL HAVE A MINIMUM OF 2 PUMPS. PUMPS SHALL BE CENTRIFUGAL GRINDER (NOT POSITIVE DISPLACEMENT). POSITIVE DISPLACEMENT GRINDERS MAY BE APPROVED ON A CASE BY CASE BASIS BY WCID 17 IN SPECIFIC SITUATIONS WHERE CENTRIFUGAL PUMPS WILL NOT FUNCTION.
  - PUMP/MOTOR DATA:
 

NO. OF PUMPS:			
Q=	GPM	RPM=	RPM (MAXIMUM)
H=	FT TDH	V=	PHASE
HP=	HP		

TYPICAL DRAWINGS TO BE USED AS REFERENCE ONLY. NOT FOR PERMITTING, BIDDING OR CONSTRUCTION PURPOSES. EACH PROJECT TO BE INDIVIDUALLY DESIGNED.

COMMERCIAL GRINDER PUMP STATION WITH < 3" FORCE MAIN

COMMERCIAL GRINDER PUMP STATION WITH >= 3" FORCE MAIN



TRAVIS COUNTY WATER CONTROL AND IMPROVEMENT DISTRICT NO. 17

COMMERCIAL GRINDER PUMP STATION STANDARDS