

ANCHOR RODS

ROD AND CLAMP ANCHORAGE

PIPING NOMINAL SIZE (IN.)	CLAMP SIZE (IN.)	BOLT SIZE (IN.)	WASHERS (IN.)	NUMBER OF RODS AND ROD SIZE (IN.) FOR ROD AND CLAMP ANCHORAGE						
				MECHANICAL JOINT			PUSH ON JOINT			
≤ 4	1/2x2	5/8	5/8x3	1/2x3	90° 1/4 BEND	45° 1/8 BEND	TEE, PLUGS, CAPS, HYDRANT CAP, PLUG	90° 1/4 BEND	45° 1/8 BEND	TEE, HYDRANT CAP, PLUG
					2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4

NOTES:
 1. AFTER INSTALLATION, PROTECT THE RODS, BOLTS, NUTS, WASHERS AND CLAMPS AGAINST CORROSION WITH A HEAVY COAT OF ASPHALT MATERIAL.
 2. THE LENGTH OF THE ROD REQUIRED WILL VARY WITH THE PIPE FITTING, AND MUST BE DETERMINED BY FIELD MEASUREMENT. IF THE DISTANCE BETWEEN THE JOINTS IS LESS THAN 12 FEET, EXTEND THE ANCHORAGE TO THE SECOND BELL.

THRUST BLOCKS

AREA OF BEARING FACE OF CONCRETE THRUST BLOCKS

PIPING NOMINAL SIZE, IN.	MIN. SQ. FT.		
	CAST IRON	DUCTILE IRON	TEES, PLUGS, CAPS, HYDRANTS
≤ 4	3	2	3

NOTES:
 BASIS: 2,000 LB./SQ.FT. SOIL RESISTANCE.
 250 PSI WATER PRESSURE.
 CORRECTION FACTORS FOR OTHER SOILS:
 SOFT CLAY.....0.4
 SAND.....0.2
 SAND&GRAVEL.....1.33
 SHALE.....0.4

PLUMBING MATERIAL LIST

THE SYMBOLS AND THE MATERIAL LIST ARE FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY QUANTITIES AND FURNISH ALL MATERIALS REQUIRED FOR FULLY OPERATIONAL SYSTEMS, WHETHER SPECIFIED OR NOT.

CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR COMPLETE DESCRIPTION OF MATERIAL ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL TAKES PRECEDENCE OVER THE CATALOG NUMBER. THE FIRST MANUFACTURER LISTED IS THE BASIS OF DESIGN.

CONTRACTOR SHALL VERIFY THAT FIXTURES SUPPLIED ARE APPROVED PER ALL APPLICABLE STATE, LOCAL AND GOVERNING AUTHORITIES.

BEP-1
 BACK FLOW PREVENTER - REDUCED PRESSURE ZONE, BRONZE OR FDA APPROVED EPOXY COATED CAST IRON CONSTRUCTION, SIZE SAME AS PIPE, NON-CORROSIVE INTERNAL PARTS, STAINLESS STEEL SPRINGS, DIFFERENTIAL PRESSURE RELIEF VALVE BETWEEN SPRING-LOADED CHECK VALVES, SHUT-OFF VALVES ON INLET AND OUTLET OF UNIT, AIR GAP DRAIN FITTING, TEST PORTS WITH SHUT-OFF VALVES, FACTORY TESTED, RATED FOR 175 PSI AT 33°F TO 140°F, 15 PSI (MAXIMUM) PRESSURE DROP AT 10 FPS, ALL PARTS TO BE SERVICEABLE WITHOUT REMOVING UNIT FROM LINE, APPROVED BY USC FCCC & HR, AWWA C511-92, ASSE 1013, IAPMO AND SBCO LISTED.
 ACCEPTABLE MANUFACTURERS: WATTS (009/909), CONBRACO (40-200), FEBCO (860), WILKINS (975XL/375)

MOUNT AT 60" (MAXIMUM) ABOVE FINISHED FLOOR. PROVIDE AND INSTALL BRONZE OR EPOXY COATED STRAINER UPSTREAM FROM UNIT. INSTALL ADDITIONAL VALVE UPSTREAM FROM STRAINER IF REQUIRED FOR SERVICEING STRAINER. FLOW PRESSURE DROP CURVES SHALL BE SUBMITTED.

DQ-1
 DECK DRAIN - EPOXY COATED CAST IRON BODY, HEAVY DUTY CAST IRON SELF CLOSING HINGED GRATE, 17" SQUARE, ANTI-PONDING SLOTS, OUTLET AS SHOWN ON DRAWINGS, SUSPENDED PERFORATED SEDIMENT BUCKET.
 DRAIN SHALL BE MEANT FOR PARKING STRUCTURES AND MEET "XHD" LOAD RATING.
 ACCEPTABLE MANUFACTURERS: WATTS (FD-490-F-4), ZURN (535), SMITH, WADE, JOSAM, MIFAB

PLUMBING MATERIAL LIST (CONTINUED)

ECC-1
 HEAVY DUTY CLEANOUT - ROUND, DURA-COATED CAST IRON, SIZE AS LISTED ON DRAWINGS, DOUBLE FLANGED HOUSING, HEAVY DUTY SECURED SCORATED DURA-COATED CAST IRON COVER, LIFTING DEVICE, BRONZE CLEANOUT PLUG WITH GAS/WATER-TIGHT SEAL, VANDAL PROOF SCREW.
 ACCEPTABLE MANUFACTURERS: ZURN (Z1474), SMITH (4261), WADE (W-8300), JOSAM (86860), WATTS (CC-300)

ED-1
 FLOOR DRAIN - CAST IRON BODY, NICKEL BRONZE ADJUSTABLE TOP, 6" ROUND 3" BOTTOM OUTLET, FLASHING COLLAR, SURFACE MEMBRANE CLAMP, DEEP SEAL TRAP.
 ACCEPTABLE MANUFACTURERS: ZURN (Z-415), SMITH (2005), WADE (1100), JOSAM (30000), WATTS (FD-100), MIFAB (F1100)

IB-1
 HOSE BIBB - INDOOR WALL HYDRANT, BRASS CONSTRUCTION, STANDARD FINISH, VACUUM BREAKER, 3/4" MALE HOSE THREAD, LOOSE TEE KEY.
 ACCEPTABLE MANUFACTURERS: WOODFORD (24), CHICAGO FAUCET (283), ACORN (8121), PRIER (C-135AS), T&S BRASS (B-0736), MIFAB (MHY-90)

VERIFY NUMBER OF KEY OPERATORS TO BE PROVIDED WITH OWNER. MOUNT AT 18" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE ON DRAWINGS.

PLUMBING MATERIAL LIST (CONTINUED)

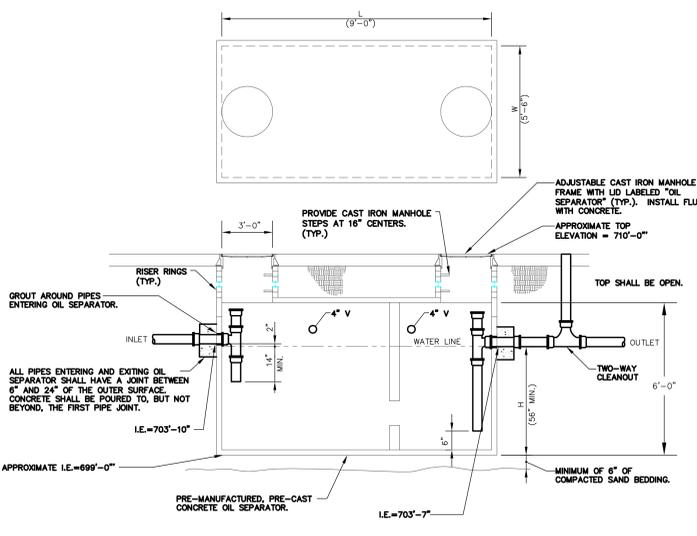
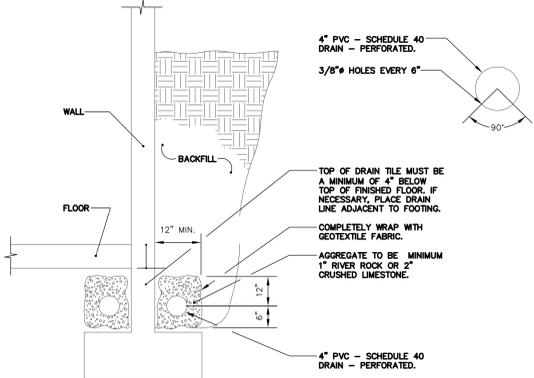
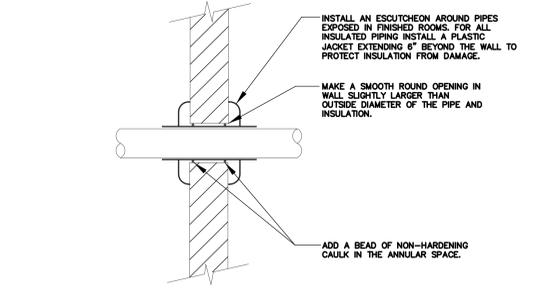
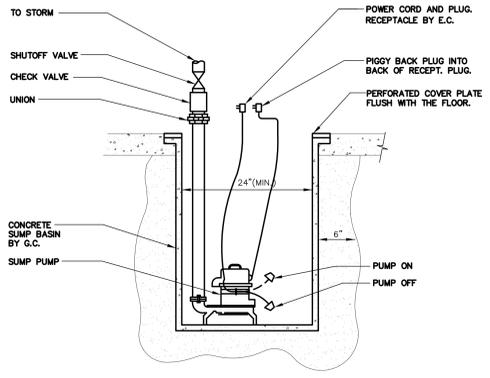
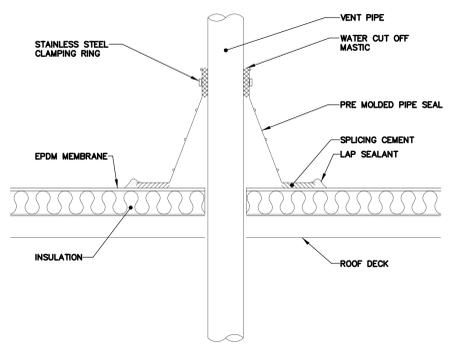
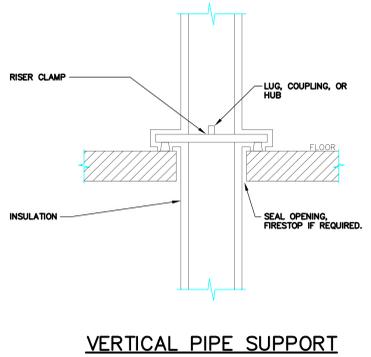
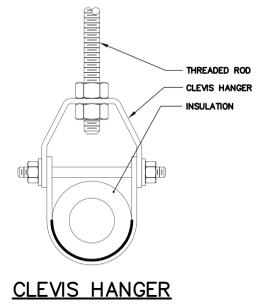
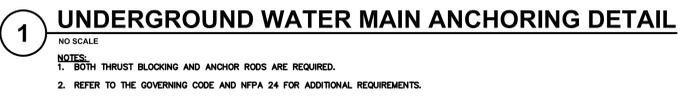
SP-1, SP-2
 SUMP PUMP - SIMPLEX SUBMERSIBLE, SINGLE-STAGE, CENTRIFUGAL, END-SUCTION PUMP, STAINLESS STEEL FASTENERS, GUARDS AND HANDLES, UL LISTED.
 CASING - CAST IRON, INTEGRAL SUPPORT FEET, MINIMUM 1 1/4" VERTICAL DISCHARGE.
 IMPELLER - CAST IRON, STATIONARILY AND DYNAMICALLY BALANCED, SEMIOPEN NONCLOG DESIGN, KEYS AND SECURED TO SHAFT, PASSES 1/2" SOLIDS MINIMUM.
 SHAFT - STEEL OR STAINLESS STEEL WITH FACTORY SEALED, GREASE-LUBRICATED SLEEVE OR BALL BEARINGS, CARBON AND CERAMIC SEAL.
 MOTOR - 1/2 HP MAX. 115 VOLTS, 1 PHASE, 1750 RPM, OIL OR AIR-FILLED, HERMETICALLY SEALED WITH AUTO THERMAL OVERLOAD PROTECTION, THREE CONDUCTOR WATERPROOF POWER CABLE OF SUFFICIENT LENGTH WITH GROUNDING PLUG.
 CAPACITY - 50 GPM, 17 FEET OF HEAD.
 ACCEPTABLE MANUFACTURERS: NEIL (1422), ZOELLER (SERIES 137), BARNES (SE), GOULDS (WE), STA-RITE (EC), STANCOR (SE)

CONTROLS - INTEGRAL FLOAT SWITCH OR PIGGY-BACK FLOAT/DIAPHRAM SWITCH. FLOATS SHALL BE MERCURY-FREE. SET CONTROLS FOR 12" OFFSET BETWEEN ON/OFF OPERATION.

Basin - 24" SQUARE x 24" DEEP FORMED CONCRETE PIT BY OTHERS. PROVIDE CAST IRON OR STEEL PERFORATED COVER WITH MOUNTING FRAME AND OPENINGS FOR PIPING AND ACCESSORIES. COVER SHALL BE SECURED AND FLUSH TO FLOOR. COORDINATE COVER MOUNTING AND SECURING METHOD WITH GENERAL CONTRACTOR.

ID-1
 DESCRIPTION: FLOOR TRENCH DRAIN - HEAVY DUTY PRECAST POLYMER CONCRETE DRAIN, CAST-IN IRON EDGE RAILS, SLOPED BOTTOM, MODULAR SECTIONS, EXTRA HEAVY DUTY LOCKING DUCTILE IRON GRATE, CLASS E RATED, MINIMUM STARTING DEPTH OF 4" WITH A BUILT-IN GUSE SLOPE. 4" WIDE CHANNEL LENGTH AS SHOWN ON THE DRAWINGS. INTEGRAL CATCH BASIN WITH SEDIMENT BUCKET AND 4" OUTLET.
 MANUFACTURER & CATALOG NO.: SMITH 9816, ACO S100, OR OTHER APPROVED EQUAL.

WM-1
 WATER METER - DISC TYPE, ALL BRONZE CONSTRUCTION, 2" SIZE, TOP READING CUMULATIVE DIAL WITH FACE PLATE CAP AND REMOTE METER, AWWA COMPLIANT.
 ACCEPTABLE MANUFACTURERS: NEPTUNE, BADGER, HERSEY
 PROVIDE FULL SIZE BYPASS WITH LOCKABLE VALVE.



NOTES:
 1. THIS DETAIL APPLIES TO ALL PIPES. THE INTENTION IS TO CONTINUE THE INSULATION AND VAPOR BARRIER THROUGH ALL PENETRATIONS, PERMIT THERMAL EXPANSION WITHOUT DAMAGING INSULATION, AND TO SEAL AIRTIGHT AROUND INSULATED AND UNINSULATED PIPES FOR NOISE TRANSMISSION CONTROL.

NOTES:
 1. OIL SEPARATOR BASED ON A MAXIMUM FLOW RATE OF 300 GPM. SEPARATOR SHALL BE SIZED FOR NOT LESS THAN 1,000 GALLONS AND HAVE AN OIL STORAGE CAPACITY NOT LESS THAN 400 GALLONS.
 2. OIL SEPARATOR DIMENSIONS MAY VARY BY MANUFACTURER. CONTRACTOR SHALL VERIFY AND COORDINATE EXACT DIMENSIONS AND INVERT ELEVATIONS.

CONSULTANTS/ENGINEERS: KJMW ENGINEERING CONSULTANTS Mechanical/Electrical/Plumbing Engineer 623 26TH AVENUE ROCKDALE, ILLINOIS 61201 309.788.0673 Telephone 309.786-5967 Fax		TERRACON Geotechnical Engineer 2640 12TH STREET SW CEDAR RAPIDS, IOWA 52404 319.366.8321 Telephone 319.366.0032 Fax		GRAEF Civil Engineer/Landscape Architect 332 SOUTH MICHIGAN, SUITE 1400 CHICAGO, ILLINOIS 60604-4367 847.697.2640 Telephone 312.655.7014 Fax		WALKER PARKING CONSULTANTS Structural Engineer 505 DAVIS ROAD ELGIN, ILLINOIS 60123 847.697.2640 Telephone 847.697.7439 Fax		FAITHFUL+GOULD Cost Management 222 SOUTH RIVERSIDE PLAZA, SUITE 2240 CHICAGO, ILLINOIS 60606 312.612.6319 Telephone 312.655.9037 Fax		ARCHITECT: Loebl Schlossman & Hackl Architecture•Planning•Interiors 233 North Michigan Avenue Suite 3000 Chicago, Illinois 60601 312.565.1800 Telephone 312.565.5912 Facsimile www.lbsdesign.com		Drawing Title DETAILS & MATERIAL LIST - PLUMBING Approved: Project Director Iowa City VA Healthcare System Department of Veterans Affairs Medical Center		Project Title 400 CAR PARKING GARAGE location IOWA CITY, IA Date 06/10/2011		Project Number 636-402 Building Number 43 Drawing Number 43-P8 Dwg. 131 of 152		Office of Construction and Facilities Management Department of Veterans Affairs	
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