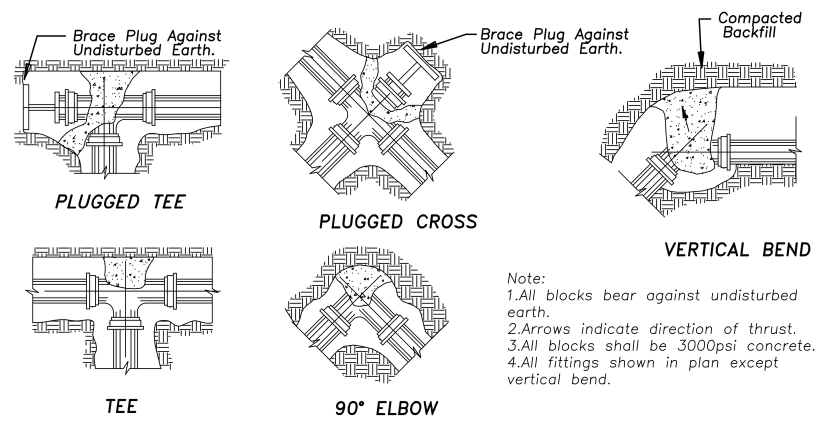
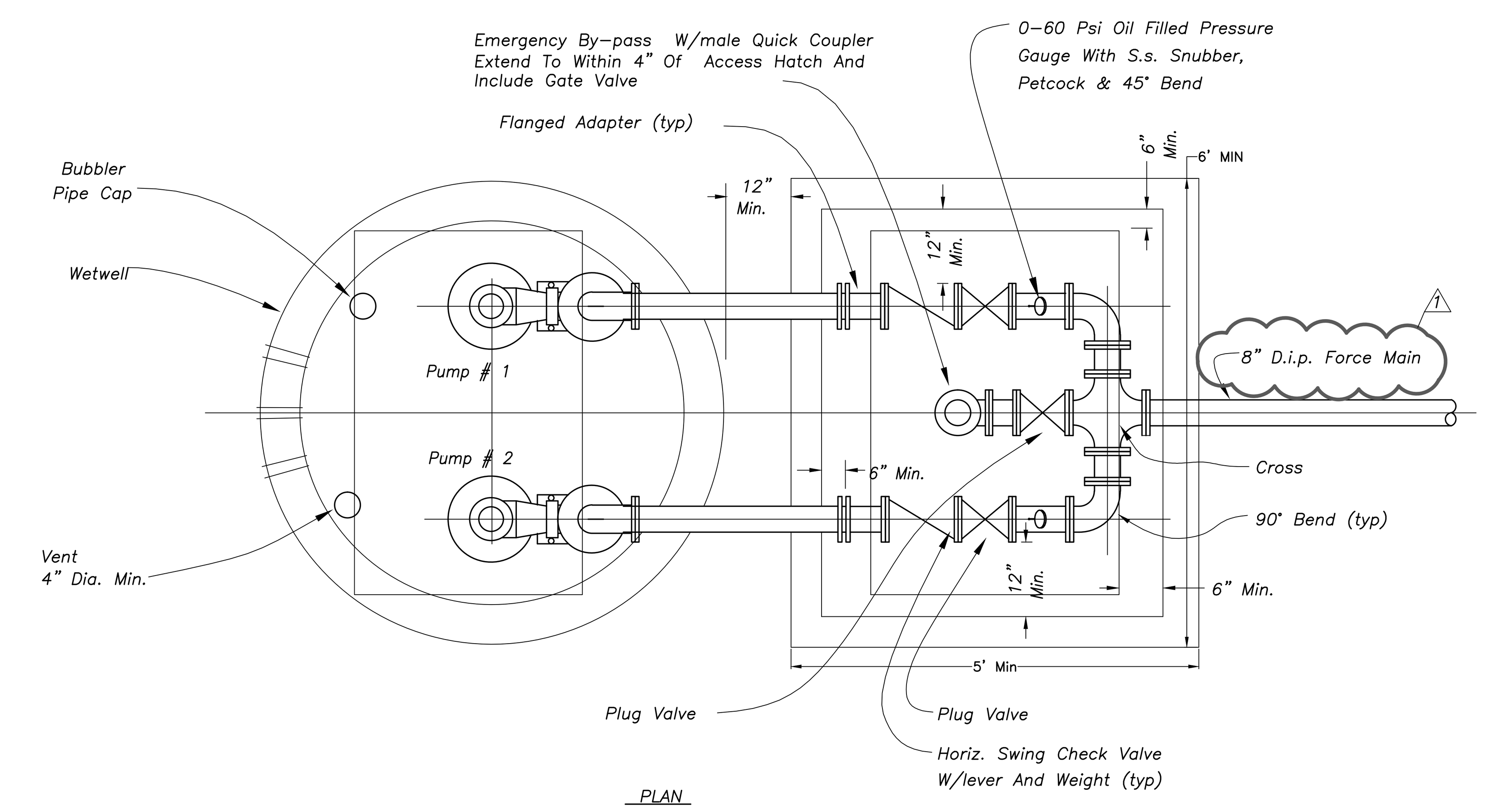
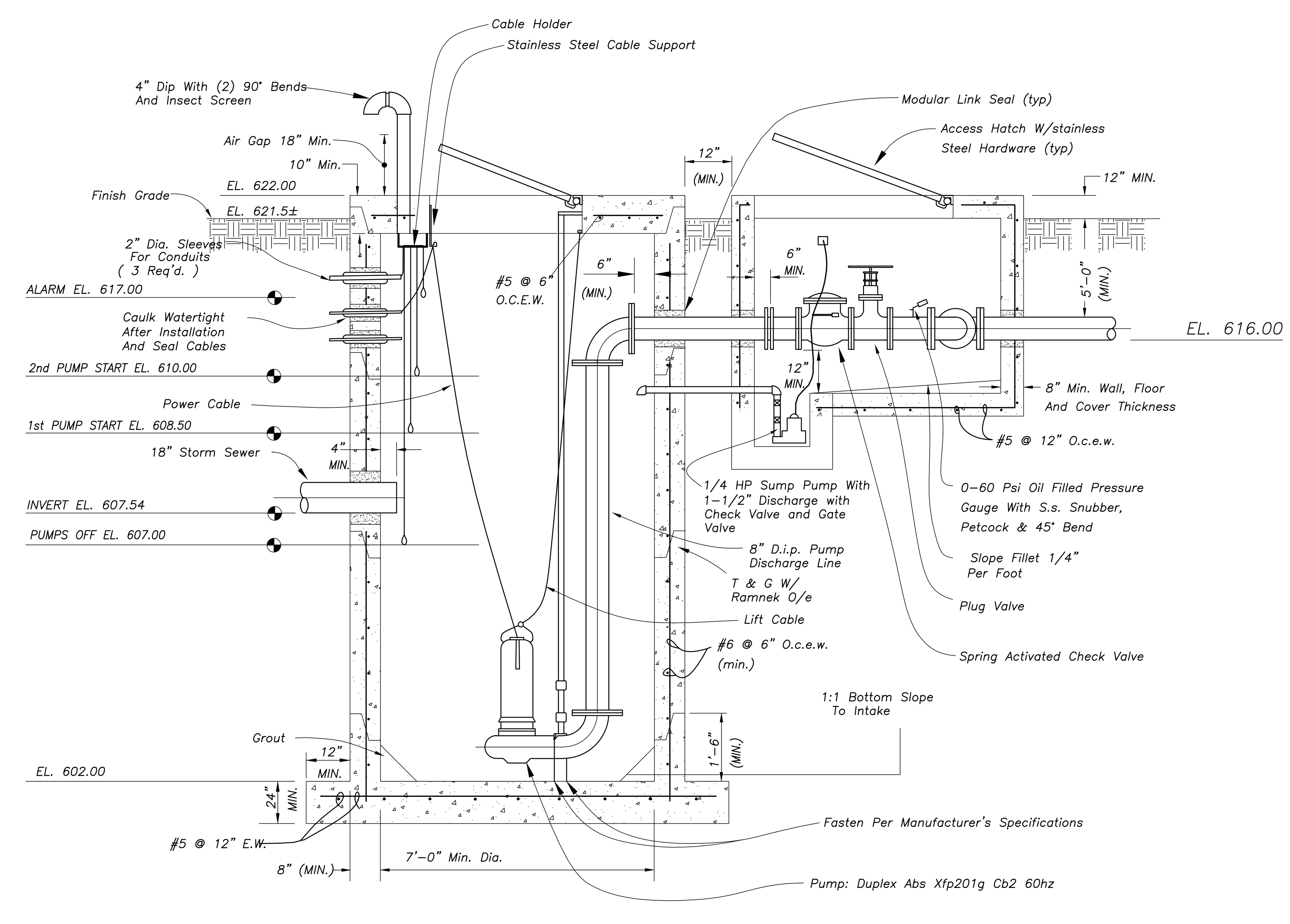


Note:
1.All blocks bear against undisturbed earth.
2.Arrows indicate direction of thrust.
3.All blocks shall be 3000psi concrete.
4.All fittings shown in plan except vertical bend.

THRUST BLOCKING



PLAN



LIFT STATION DETAIL

TECHNICAL DATA — 8" ABS XFP PUMP

XFP 201G-CB2
8 Pole, 3 Phase, PE3
Date: 3/11
Dwg: DS-E01-039 Rev: 1

Submersible Motor Specifications, PE3 Frame

Motor Design		NEMA design B, squirrel cage induction
Motor Type		Fully enclosed submersible, IP68 protection rating
Motor Efficiency Standard and Rating		IEC 60034-30**
Motor Efficiency Test Protocol		IEC 60034-2-1
Insulation Materials		Class H, 180ºC (356ºF), copper windings
Motor Filling Medium		Air
Temperature Rise		Class A
Maximum Fluid Temperature		40ºC (104ºF) continuous, 50ºC (122ºF) intermittent
Optional Cooling System		Closed-loop, non-toxic glycol/water mixture (⅓ / ⅔)
Motor Protection	Thermal	Normally closed bimetallic switch in each phase, connected in series, 140ºC (284ºF), +/- 5 ºC opening temperature
	Leakage	ADG Sealminder moisture detection probe in seal sensing chamber
Sensing Chamber Filling Medium		Air
Bearing Type	Upper	Single row ball permanently lubricated
	Lower	Double row angular contact permanently lubricated
Motor Starter Types		Suitable for use with across the line, electronic soft starters, and PWM type Variable Frequency Drives*
Maximum Starts per Hour		15, evenly spaced
Inverter Duty Rating		Motors meet NEMA MG1, part 31 requirements
Maximum Submergence		20 meters (65 feet)
Available Voltages		208, 230, 460, 600
Voltage Tolerance from Rated		+/-10%
Agency Approvals		Factory Mutual, CSA
Explosion Proof Rating		NEC 500 Class 1, Division 1, Group C & D, Class T3C max surface temp

ABS submersible sewage pump XFP
Part of the ABS EffeX range

Premium Efficiency without Compromise

*Output filters may be required on VFDs. See document **DS-E00-001** for details.
** Eight pole motors are not covered by the 1.0, 2008-10 edition of the IEC standard, however the PE series of motors are constructed and tested in accordance with the IEC 60034-30 standard.

Motor Ratings, PE3 Frame

Motor Model	Input Power (P1)	Rated Power Output (P2)	Nominal RPM	Rated Voltage	Full Load Amps	Locked Rotor Amps	NEMA Code Letter	NEMA Service Factor	Motor Efficiency at % Load 100	75	50	Power Factor at % Load 100	75	50
PE 120/8	13.5 kW	12 kW 16.1 HP	875	208 230 460 600	52.3 47.3 23.7 18.1	274 248 124 95	G	1.3	89.2	89.7	88.2	.714	.656	.542

Specifications subject to change without notice
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TECHNICAL DATA — 8" ABS XFP PUMP

XFP 201G-CB2
8 Pole, 3 Phase, PE3
Date: 3/11
Dwg: DS-E01-039 Rev: 1

Cable Data, PE3 Frame

	Motor	Motor Voltage		Cable Qty	Cable Type*	Cable Nominal Dia. +/- .5mm (.02")
Power Cable	PE 120/8	208 or 230 volt		1	G-GC 6-3	26.6mm (1.05") diameter
		460 volt		1	SOOW 8/4+16/3	25.4mm (1.0") diameter
		600 volt		1	SOOW 10/7	22.4mm (0.88") diameter
Control Cable	All	Std**	208 or 230 volt	1	SOOW 16/4	10.7mm (0.42") diameter
			460 or 600 volt	Included in Power Cable		
Cable Length	Standard: 15m (49 feet)			Optional: 20m (65 feet), 30m (98 feet) - Consult Factory for Longer Lengths		

* Special versions ordered with cable suitable for both 230 volt and 460 volt operation will be equipped with the cable type and diameter shown in the "208 or 230 volt" section of the table
** See motor protection on page 1.

Pump Data

Discharge Size	8" flanged, compatible with 8" class 125 ANSI flanges					
Suction Size	8" flanged, compatible with 8" class 125 ANSI flanges, threaded for 8 x 3/4-10 UNC bolts, 33mm (1.3") deep					
Volute pressure rating	10 bar (145 psi)					
Impeller Type	Semi-open, 2-vane, ContraBlock w/ Seal Protection System					
Impeller Size	.1	.2				
Solids Passage Size	125mm (4.92")	125mm (4.92")				
Impeller DIA	330mm (13.0")	300mm (11.8")				
Min Recommended Flow, GPM	400	400				

Materials of Construction

		Standard	Optional
Motor and Intermediate Housing		Cast Iron EN-GJL-250 (ASTM A-48, Class 35B)	
Optional Cooling Jacket		Steel 1.0036 (ASTM A-570, Grade D)	
Seal Plate		Cast Iron EN-GJL-250 (ASTM A-48, Class 35B)	
Impeller		Cast Iron EN-GJL-250 (ASTM A-48, Class 35B)	
Volute		Cast Iron EN-GJL-250 (ASTM A-48, Class 35B)	
Bottom Plate CB		Cast Iron EN-GJL-250 (ASTM A-48, Class 35B)	
Cable Entry Casting		Cast Iron EN-GJL-250 (ASTM A-48, Class 35B)	
Pump and Motor Shaft		Stainless Steel 1.4021 (AISI 420 SS)	
External Hardware		Stainless Steel 1.4401 (AISI 316 SS)	
Lifting Hoop		Stainless Steel 1.4401 (AISI 316 SS)	
O-Rings and Cable Glands		Nitrile (Buna-N)	
Tandem Mechanical Seal	Lower	Silicon Carbide / Silicon Carbide, Nitrile, 316 SS	
	Upper	Silicon Carbide / Silicon Carbide, Nitrile, 316 SS	
Lower Bearing Lip Seal		Nitrile (Buna-N) covered steel	
Coating		Two part epoxy, black, 120µm (4.7 mil) DFT	Two part epoxy, black, 400µm (15.7 mil) DFT

General Data

	PE 120/8
Overall Height	1348mm (53.1")
Pump Weight	386 kg (851 lb)

Specifications subject to change without notice
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TECHNICAL DATA — XFP CLEAR OPENING AND SPACING

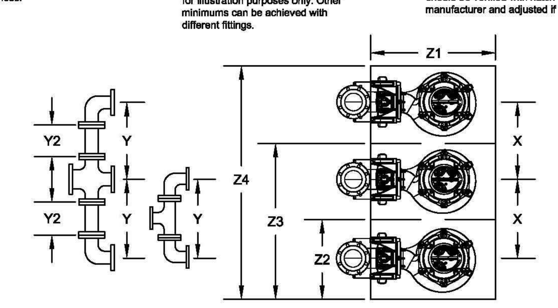
XFP 8" PUMPS
Date: 06/10
Dwg: DS-E03-004 Rev. 0

		SIMPLEX	DUPLEX			TRIPLEX***		
Pump Model	Pipe Dia.	Min. Clear Opening (Z1 X Z2)	Min. Hydraulic Dist.* (X)	Min. Manifold Dist.** (Y)	Min. Clear Opening (Z1 X Z3)	Min. Separation Dist.** (Y)	Min. Clear Opening (Z1 X Z4)	Spacer length (Y2)
XFP 200G-CB1	8	43x30	30	36	45x70	36	45x106	18
	10	43x30	30	44	45x78	44	45x114	22
	12	43x30	30	48	45x82	48	45x118	24
XFP 201G-CB2	8	40x30	30	36	42x70	36	42x106	18
	10	40x30	30	44	42x78	44	42x114	22
	12	40x30	30	48	42x82	48	42x118	24
XFP 200J-CB2	8	46x34	34	36	48x74	36	48x110	18
	10	46x34	34	44	48x82	44	48x126	22
	12	46x34	34	48	48x86	48	48x134	24
XFP 200J-CH2	8	45x32	32	36	47x72	36	47x108	18
	10	45x32	32	44	47x80	44	47x124	22
	12	45x32	32	48	47x84	48	47x132	24
XFP 201J-CB2	8	46x34	34	36	48x74	36	48x110	18
	10	46x34	34	44	48x82	44	48x126	22
	12	46x34	34	48	48x86	48	48x134	24

*Minimum distance required for proper hydraulic performance. Consult factory for special circumstances.

**Spacer and elbow dimensions are based on AWWA C110, ANSI A21.10 standards. Configurations shown are for illustration purposes only. Other minimums can be achieved with different fittings.

***Minimum separation distances accommodate typical hatch beam supports. However, actual requirements should be verified with hatch manufacturer and adjusted if necessary.



All units are in inches unless otherwise specified
Specifications subject to change without notice.

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ADDENDUM NO. 1	07-22-13
BID DOCUMENTS	03-12-13
Revisions:	Date

CONSULTANTS:

ERIKSSON ENGINEERING ASSOCIATES, LTD.
145 COMMERCE DRIVE, SUITE A
GRAYSLAKE, ILLINOIS 60030
PHONE (847) 223-4804
FAX (847) 223-4864
EMAIL INFO@EEA-LTD.COM

ARCHITECT/ENGINEERS:

Kluber, Inc.
901 N. Batavia Ave., Suite 301
Batavia, Illinois 60510
tel. 630.406.1213
fax 630.406.9472
www.kluberinc.com
Kluber Architects + Engineers

Drawing Title
DETAILS

Approved: Project Director

Project Title
HINES BUILDING 37 STORAGE BUILDING AND PARKING LOT EXPANSION

Location
VA SERVICE AND DISTRIBUTION CENTER
HINES, ILLINOIS

Date 03-12-13 | Checked GD | Drawn TLH

Project Number 796-10-017
Building Number 37
Drawing Number **37-C012**
Dwg. 14 of 30

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231