Model 3656 LH Close-Coupled Unit
Typical Engineering Specifications

I. SCOPE

The contractor shall provide _____ (quantity) horizontal close-coupled, end suction centrifugal pump unit/s, Model 3656LH as manufactured by Goulds Pumps or equal.

All pump units shall be of one manufacturer and provided complete including electric motor drive.

II. CONDITIONS OF SERVICE

A. Equipment item number	_____	_____	_____
B. Pipe Inside Diameter			
Suction (inches) NPT	_____	_____	_____
Discharge (inches) NPT	_____	_____	_____
C. Primary Service Condition			
Capacity (GPM)	_____	_____	_____
Total Head (feet)	_____	_____	_____
Efficiency (%)	_____	_____	_____
D. Minimum Total Head at Shutoff (feet)	_____	_____	_____
E. Impeller Diameter (inches)	_____	_____	_____
F. Operating Speed (RPM)	_____	_____	_____
G. Maximum Motor HP	_____	_____	_____

III. PUMP CONSTRUCTION

Each pump shall be designed for clockwise rotation viewed from driven end and include the following design features.

A. Casing

The pump casing shall be spiral volute type, back pull-out design with NPT threaded suction and discharge connections up to 3" or ANSI Class 125 flanges for up to 5" size and shall be constructed of Cast Iron, ASTM A48 CL20.

The pump discharge nozzle shall be tangentially oriented.

A pump casing drain shall be provided with a steel or brass pipe plug.

B. Wear Ring

A replaceable suction wear ring of _____, (Cast Iron ASTM A48 CL20 or Bronze ASTM B584 C87500) shall be provided and held securely by means of an interference fit in the casing suction.

C. Impeller

The pump impeller shall be of enclosed design, constructed of _____, (Cast Iron ASTM A48 CL20 or Bronze ASTM B584 C87500) material and key driven. A stainless steel cap screw and washer shall provide positive attachment of the impeller to the motor shaft.

D. Seal Housing

The seal housing shall be constructed of Cast Iron ASTM A48 CL20 material and shall hold the stationary seat of the mechanical shaft seal. The seal housing shall be held in place in a machined fit on the pump casing to maintain component alignment and "O-ring" sealed to insure against leakage.

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E. Mechanical Seal

The pump shaft seal shall be a John Crane Type 21 mechanical seal or equal constructed of the following materials.

Seal Type	Stationary Face	Rotating Face	Elastomers	Metal Components
Standard	Ceramic	Carbon	BUNA-N	18-8 SS
Option				

F. Shaft Sleeve

The pump shaft sleeve shall be constructed of AISI Type 304 stainless steel and shall be of the hook type design, locked in place by the impeller without necessity of other mechanical locking devices.

G. Motor Mounting Adapter

A rigid motor adapter of ASTM A48 CL20 cast iron construction shall support the pump liquid end and maintain pump to motor alignment. A bottom port shall be provided to allow condensation or seal leakage to drain and not be retained within the adapter. The power frame adapter shall be an integral 1-piece design with the seal housing when all cast iron or bronze fitted construction is specified.

IV. ELECTRIC MOTOR

The drive motor shall be non-overloading of NEMA standard design with JM shaft extension and C-Face mounting suitable for close-coupled pump mounting.

Motor rating shall be:

_____ HP, _____ RPM

_____ phase, _____ Hz, _____ volts

Totally enclosed, fan cooled or open drip-proof
1.15 Service Factor
High Efficiency

V. TESTING

A. Production performance testing will be conducted by the manufacturer on each pump unit using the actual motor. Head at shut off and a minimum of 2 operating points will be measured at operating speed to verify performance.