

STAINLESS STEEL SLIDE GATE

SS-250 SERIES

SS-250 SERIES SLIDE GATES

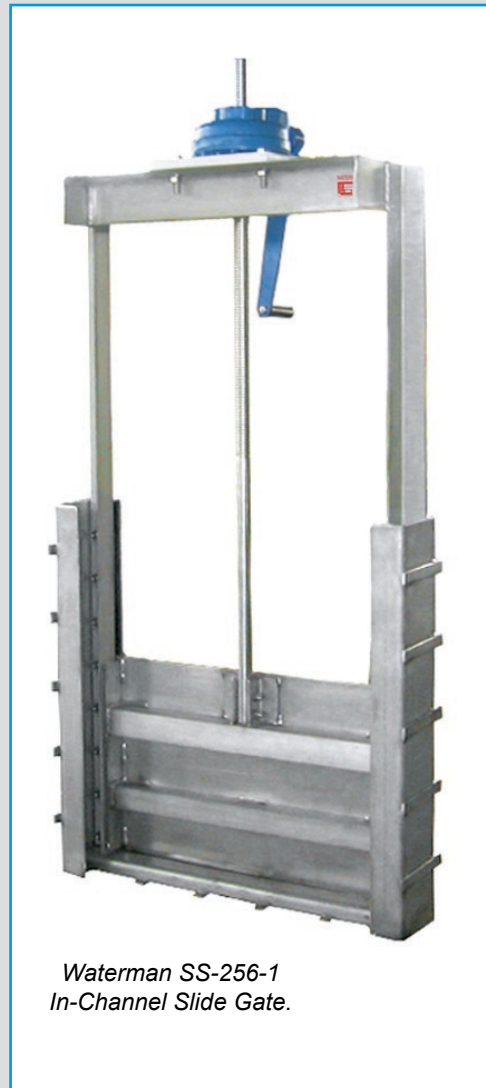
- RUGGED HEAVY DUTY DESIGN
- THE BEST OF TECHNOLOGY FOR STRENGTH AND LONGEVITY IN CORROSIVE ATMOSPHERES
- 304 OR 316 STAINLESS STEEL WITH UHMW-PE SLIDING AND SEATING SURFACES
- MEETS LEAKAGE REQUIREMENTS OF AWWA AND BS STANDARDS

ADVANTAGES:

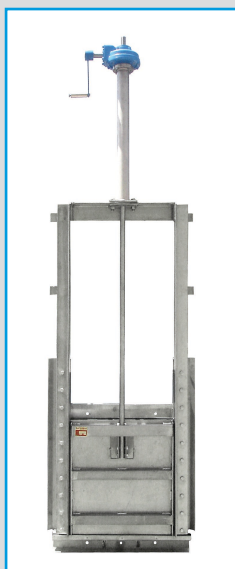
Corrosion Resistant
Optimum Sealing Against Leakage

SS-250 Series Slide Gates are engineered for excellent sealing while providing maximum resistance to corrosion. Ultra High Molecular Weight (UHMW) Polyethylene sliding and seating surfaces, dissimilar from the gate slide material, provides low coefficient of friction while maintaining the superior resistance to corrosion.

SS-250 Series gates can be specified for use in unusually corrosive environments such as hydrogen sulfides, salt water, waste water and sewage treatment plants as well as in irrigation and potable water applications.



*Waterman SS-256-1
In-Channel Slide Gate.*



*Self contained SS-251-1
with torque tube extension.*



*Open top SS-271-1
Slide Gate*

PERFORMANCE

SS-250 Series Slide Gates can be custom designed for 1.5, 3, 4.5, or 6 meters (5, 10, 15 or 20 feet) of head and can also be designed for higher heads. SS-250 gates are available in normal aperture configurations or as weirs (downward opening). They may also be ordered as self-contained gates or with extension stems and separate operators.

Waterman Industries
of Egypt

SS-250 SERIES SLIDE GATES

TYPICAL SPECIFICATIONS

GENERAL

The gates shall be either self-contained with yoke and bench stand operators, or non self-contained with separate stem guides and operator, in accordance with the requirements of these specifications. Specific configurations shall be as noted on the gate schedule or as shown on the plans.

FRAME AND GUIDES

The gate frame shall be a rigid unit composed of stainless steel guide rails with UHMW-PE (Ultra High Molecular Weight Poly Ethylene) seats upstream and downstream. These shall form a tight seal between the frame and the slide (disc). This tight seal shall provide an allowable leakage rate of no more than 1.24 liter per minute per peripheral meter for seating head (0.1 GPM per peripheral foot) and 2.48 liter per minute per peripheral meter for unseating heads (0.2 GPM per peripheral foot) under heads less than or equal to 6 meters in either directions. Stainless steel retainer bars, cross bars and head rails (for self-contained gate only) shall be provided. The clear opening shall be the same size as the waterway, unless otherwise specified. The guides shall be of sufficient length to support two-thirds of the height of the slide when in the full open position.

SLIDE COVER (DISC)

The slide cover (disc) shall be stainless steel plate reinforced with structural shapes welded to the plate. The slide cover shall not deflect more than 1/720th of the span of the gate under the maximum head. The stem connection shall be either the clevis type, with structural members welded to the slide and a bolt to act as a pivot pin, or a threaded and bolted (or keyed) thrust nut supported in a welded nut pocket. The clevis or pocket and yoke of the gate shall be capable of taking, without damage, at least twice the rated thrust output of the operator at 18 Kg (40 lbs) pull.

FLUSHBOTTOM CLOSURE

Gate frame shall be furnished with a flushbottom seal arrangement. A resilient seal with a minimum width of exposed face of 20mm (3/4") shall be securely attached to the frame.

YOKE

The yoke shall be either welded or bolted to the frame extensions. The slide shall be removable through the yoke opening or by disassembly/removal of the yoke. Yoke shall be designed to limit the deflection to 1/360th of the gate width.

STEMS

Stems shall be made of stainless steel. Diameter of the stem shall be sufficient to withstand a minimum of twice the rated output of the lift when subjected to 18 Kg (40 lbs) pull on the handwheel or crank. Where an electric actuator is used, stems shall withstand 1.25 times the stalled motor thrust.

Stem threads shall be of the stub Acme type.

STEM GUIDES

Stem guides shall be provided to support the stem such that the L/r ratio does not exceed 200. The stem guides shall have bronze or UHMW-PE bushing. Stem guides shall be made of stainless steel as noted on the gate schedule or as shown in plans.

SS-250 SERIES SLIDE GATES

TYPICAL SPECIFICATIONS

STEM COVER

For rising stem type gates, a clear plastic stem cover shall be provided to give means of indication of gate position whenever required, allow inspection of the threads and to protect the stem from contamination. To avoid condensation of vapor on the threads, sufficient number of vent holes shall be present.

A Mylar tape type position indicator; metric or imperial graduated; shall be provided.

MANUAL LIFT

Gate manual lift shall be either handwheel or geared crank type. Under full operating head, the lift shall be able to operate the gate with a maximum pull of 18 kg (40 lbs) on the handwheel or crank.

Handwheel or crank shall be located at approximately 900mm above ground level. All geared lifts shall have cast iron housing and steel pedestals. Lifts shall be grease lubricated. Two stem limit nuts shall be provided to limit the gate stroke in the opening or closing directions. Lubrication fittings shall be provided for lubrication of the bearings without disassembly of the lift housing. Suitable seals shall be provided to prevent entry of foreign matter.

ELECTRIC ACTUATOR

The electric actuator shall include the motor, operator unit gearing, limit switch gearing, limit switches, torque switches, controls as specified, declutch lever or knob, space heater, mechanical dial position indicator (optional), gear housings, and auxiliary handwheel as a self-contained unit.

The motor shall be specifically designed for slide gate service and shall be for high torque, totally enclosed, non-ventilated construction, with motor leads brought into the limit switch compartment. Motor insulation shall be Nema Class B with a maximum continuous temperature rating of 120° C (rise + ambient).

The motor shall be of sufficient size to open or close the gate against the maximum expected differential pressure when voltage to the motor terminals is 10% above or below minimal 380V-3Ph-50Hz voltage (other voltages are available on request). The motor duty rating shall be sufficient for one complete open to close to open (or reverse) cycle without exceeding its temperature rating. The motor shall be pre-lubricated and all bearings shall be of the anti-friction type.

Limit switches and associated gearing shall be an integral part of the actuator. Limit switch gearing shall be of the intermittent type, totally enclosed in its own gear case to prevent dirt and foreign matter from entering the gear train, grease-lubricated, and shall be made of bronze or stainless steel. Limit switches shall be of the adjustable type capable of being set to trip at any point of gate travel between fully open and fully closed, and not be subject to breakage or slippage due to over-travel. Each actuator shall have a minimum of two (four) rotor-switch assemblies and a minimum of eight (sixteen) heavy duty contacts.

Each actuator shall be equipped with a double torque switch which is responsive to loads encountered in either the opening or closing direction. Each side of the switch shall have a numbered dial and shall be adjustable. A calibration tag shall be mounted near each switch correlating dial setting with unit output torque.

SS-250 SERIES SLIDE GATES

TYPICAL SPECIFICATIONS

The torque switch shall operate during the complete gate cycle without the use of auxiliary relays, linkages, latches, or other devices. The torque switch shall be wired to shut off the actuator motor in the event of excessive torque being generated in either direction of travel.

Emergency handwheel shall be provided for manual operation. The handwheel shall not rotate during motor operation nor shall a fused motor prevent manual operation. When in manual operating position, the unit will remain in this position until motor is energized at which time the gate operator will automatically return to electric operation and shall remain in motor position until handwheel operation is desired. This movement from motor operation to handwheel operation shall be accomplished by a positive declutching knob or lever which will disengage the motor and motor gearing mechanically but not electrically. Hand operation must be reasonably fast. It shall not be possible for the unit to be simultaneously in manual and motor operation. The direction of rotation to open gate shall be marked on the handwheel.

The control circuit shall have a red and green pilot light for visual indication of gate position. The red light will indicate that gate is in the closed position, while the green light will indicate that gate is in open position. Both lights on will indicate that gate is in an intermediate position. Three push-buttons, open-stop-close, will be furnished for gate operation. Starter, push-buttons, and lights are to be furnished (integral with) (remote from) the operator.

For remote or automatic operation a three position selector switch, H-O-A (Hand-Off-Auto) shall be provided.

Continuous remote gate position indication shall be provided by use of 1000 OHM potentiometer connected to MDPI gearing (optional).

MATERIALS

Frames, Rails, Cover Slides, Yokes

Stainless Steel - ASTM A-240/A-276, Type 304L or 316L, as specified

Fasteners and Anchor Bolts

Stainless Steel - ASTM F-593 and F-594, Type 304 or 316, as specified

Stems

Stainless Steel - ASTM A-276, Type 304 or 316, as specified

Seals and Flushbottom Seal

Neoprene Rubber - ASTM D-2000

Seats

Ultra High Molecular Weight Polyethylene (UHMW-PE) - ASTM D-4020

Finish

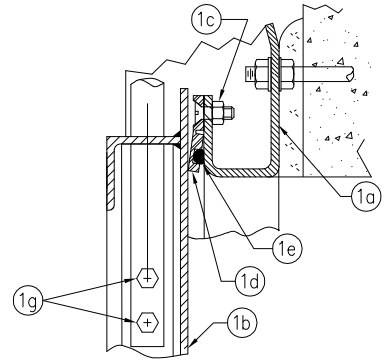
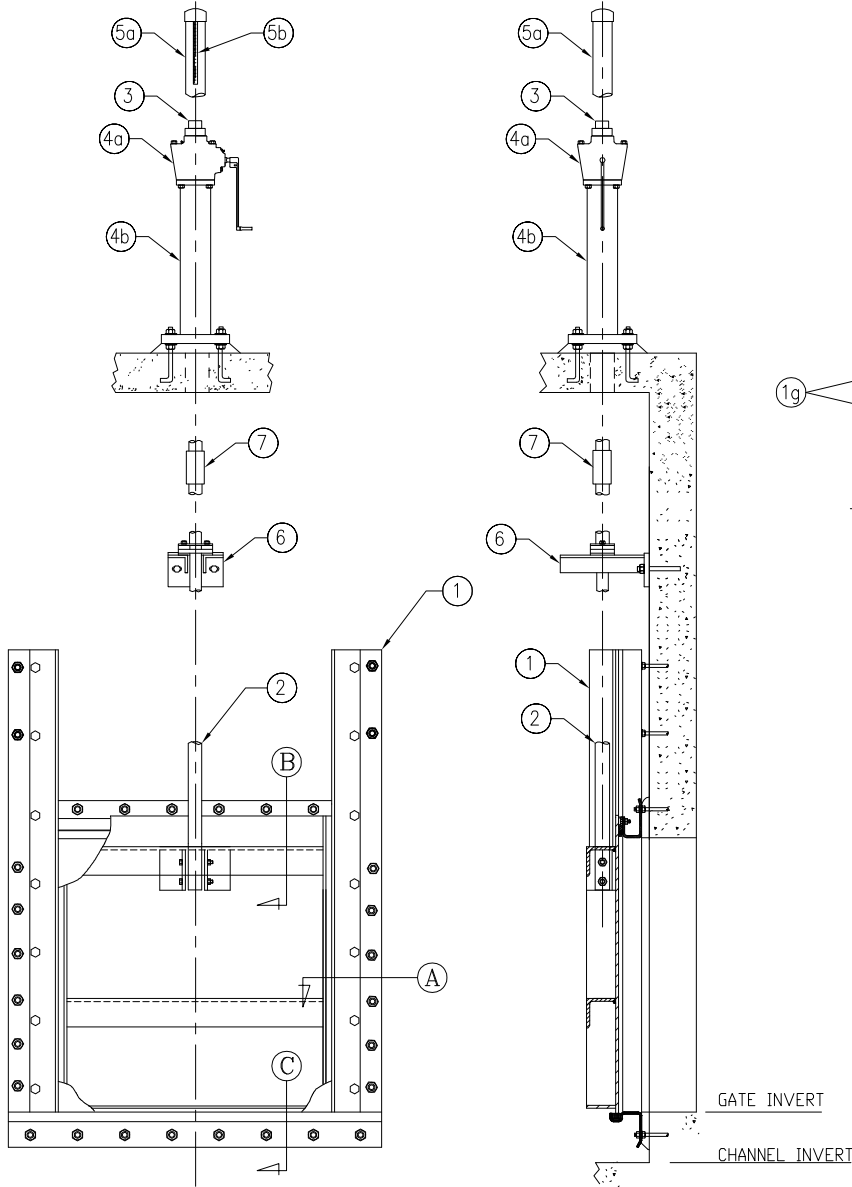
Mill finish on all stainless steel surfaces

Epoxy paint on all cast iron or steel surfaces

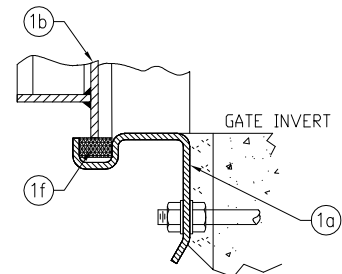
SS-250 SERIES SLIDE GATES

SS-250 STAINLESS STEEL HEAVY DUTY SLIDE GATE CONFIGURATIONS

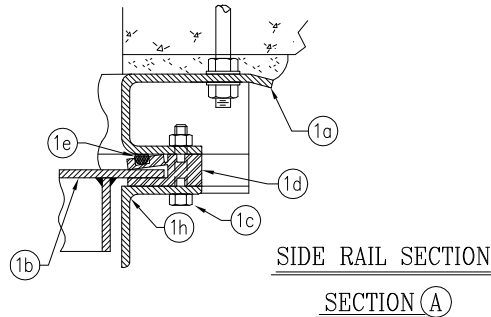
TYPE OF GATE (OPENING)	APERTURE		END OF CHANNEL			IN CHANNEL	
	STANDARD	DOWNWARD OPENING	UPWARD OPENING	DOWNWARD OPENING (WEIR)	NON-RESTRICTED FLOW (WEIR)	EMBEDDED GUIDE	WALL MTD. GUIDE
RISING STEM MIN. HEAD	251	252	253	254	255	256	257
INCREASED HEAD CAPACITY							
3.0M (10FT.) 4.5M (15FT.) 6.0M (20FT.)	261 271 281	262 272 282					
MACHINED FLANGE	251F	252F					
CIRCULAR FLANGE	251CF	252CF					
FULLY CONTAINED SLIDE IN GATE	251L	252L	253L	254L	255L	256L	257L
SELF-CONTAINED GATE	251Y	252Y	253Y	254Y	255Y	256Y	257Y
NRS COVER	251N	252N	253N	254N		256N	257N
SPECIAL OR MODIFIED APPLICATION	251X	252X	253X	254X	255X	256X	257X



TOP RAIL SECTION
SECTION (B)



INVERT SECTION
SECTION (C)



SIDE RAIL SECTION
SECTION (A)

NO.	NAME
1	Gate Assembly
1a	Frame Weldment
1b	Cover (Slide)
1c	Assembly Hardware
1d	Guide Seat
1e	Seal
1f	Flushbottom Seal
1g	Stem Bolt & Nut
1h	Retainer Angle
2	Stem
3	Limit Nut
4a	Geared lift w/ handcrank
4b	Standard Pedestal
5a	Stem Cover
5b	Mylar Strip Indicator
6	Stem Guide
7	Stem Coupling

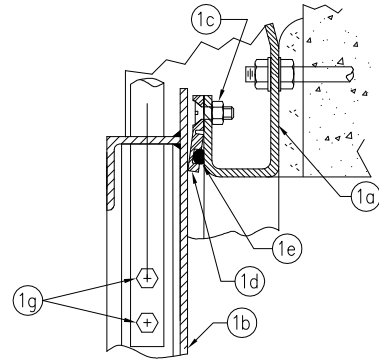
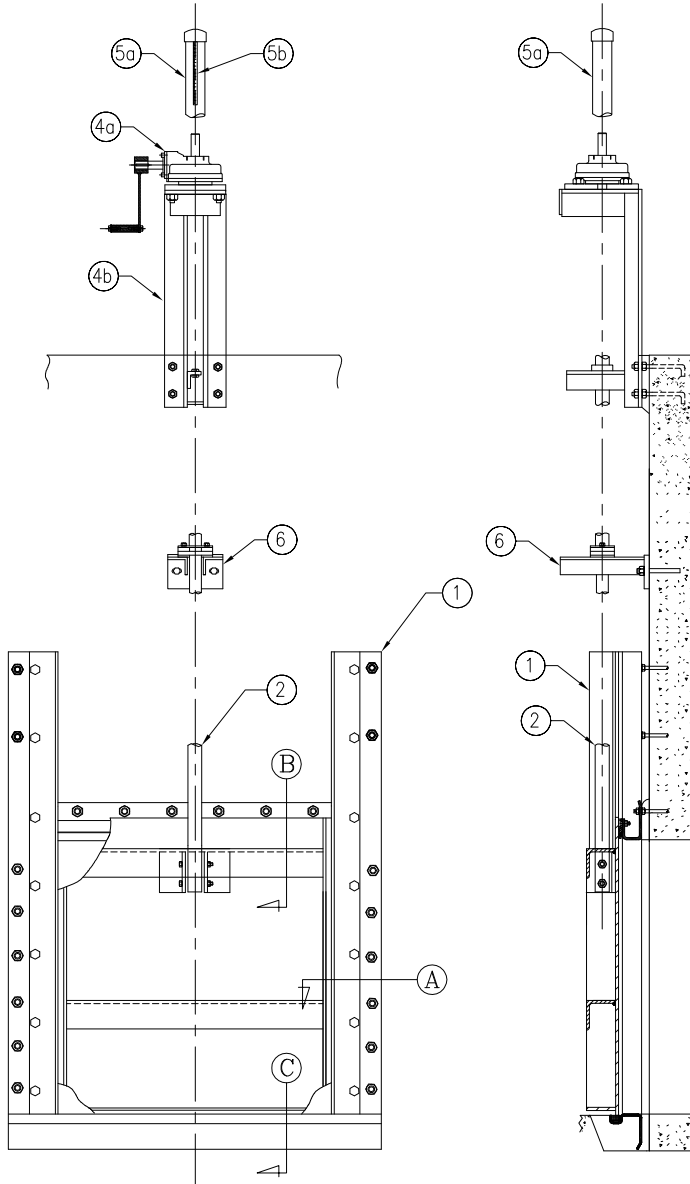
FOR ILLUSTRATION PURPOSES ONLY
ACTUAL PARTS MAY VARY ACCORDING TO REQUIREMENTS
EXACT CONFIGURATION AND PARTS LIST WILL BE SHOWN IN SUBMITTAL DRAWINGS

PARTS LIST

SS-251-1 to SS-281-1
CHANNEL/APERTURE
UPWARD OPENING
WALL MOUNTED

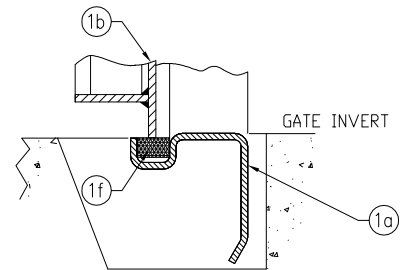
REVISION	DATE	APPROVED
DRAWN BY MK	CHECKED BY KA	
SCALE NONE	DATE 29-11-07	
DRAWING NO.	100500GA-1	

WATERMAN INDUSTRIES OF EGYPT



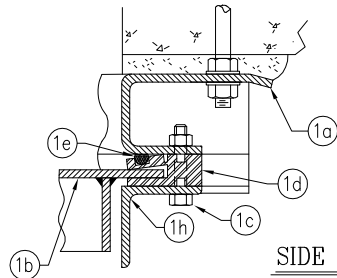
TOP RAIL SECTION

SECTION (B)



INVERT SECTION

SECTION (C)



SIDE RAIL SECTION

SECTION (A)

NO.	NAME
1	Gate Assembly
1a	Frame Weldment
1b	Cover (Slide)
1c	Assembly Hardware
1d	Guide Seat
1e	Seal
1f	Flushbottom Seal
1g	Stem Bolt & Nut
1h	Retainer Angle
2	Stem
3	Limit Nut
4a	Geared lift w/ handcrank
4b	Offset pedestal mnt'd to wall
5a	Stem Cover
5b	Mylar Strip Indicator
6	Stem Guide

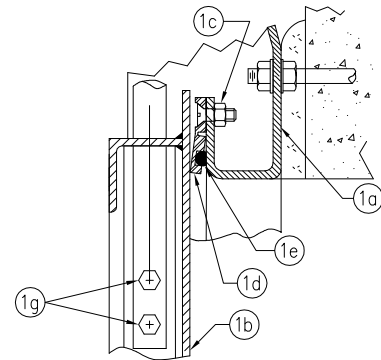
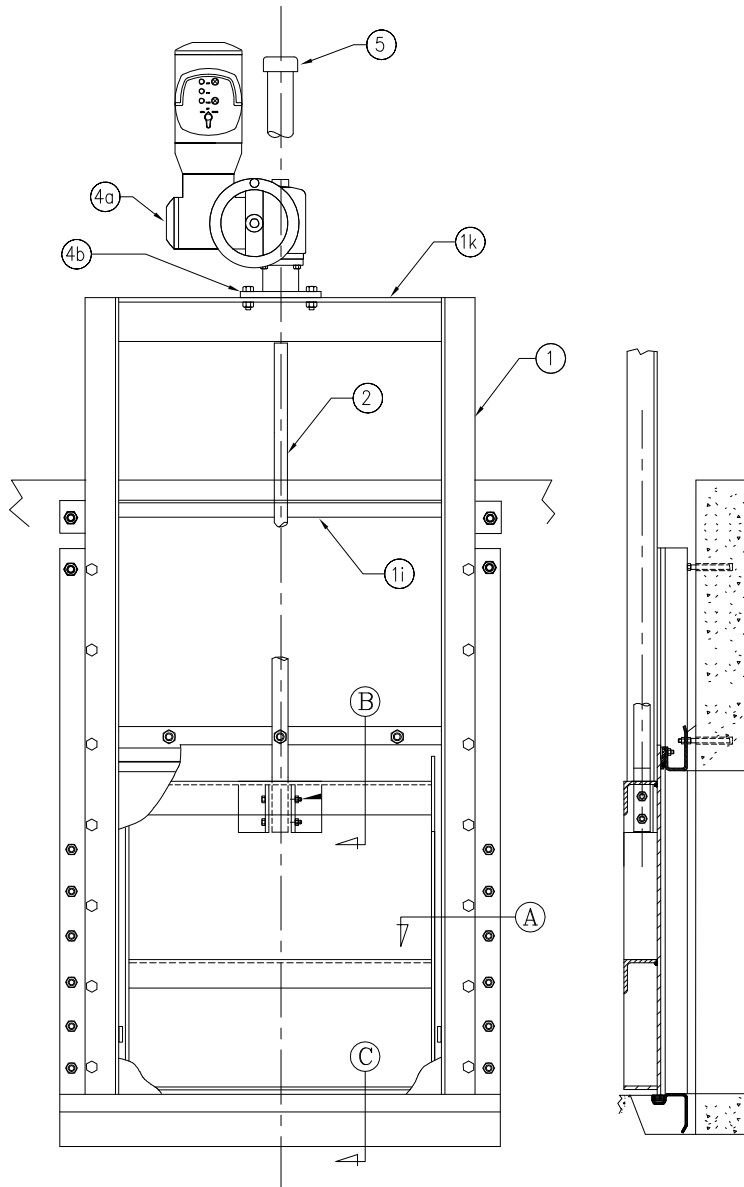
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PARTS LIST

SS-251-1 to SS-281-1
 CHANNEL/APERTURE
 UPWARD OPENING
 WALL MOUNTED/EMBEDDED INVERT

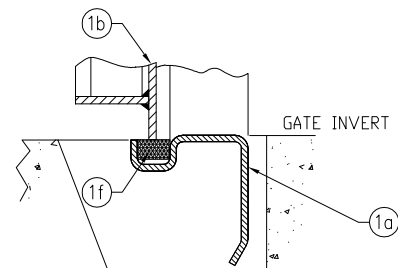
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DRAWING NO. 100500GA-2		

WATERMAN INDUSTRIES OF EGYPT



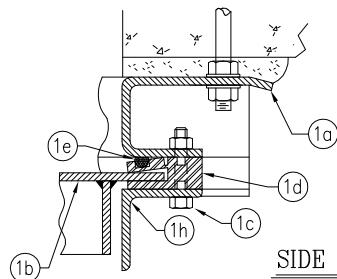
TOP RAIL SECTION

SECTION (B)



INVERT SECTION

SECTION (C)



SIDE RAIL SECTION

SECTION (A)

NO.	NAME
1	Gate Assembly
1a	Frame Weldment
1b	Cover (Slide)
1c	Assembly Hardware
1d	Guide Seat
1e	Seal
1f	Flushbottom Seal
1g	Stem Bolt & Nut
1h	Retainor Angle
1i	Stem Support
1k	Yoke
2	Stem
4a	Electric Actuator
4b	Bench Pedestal
5	Stem Cover

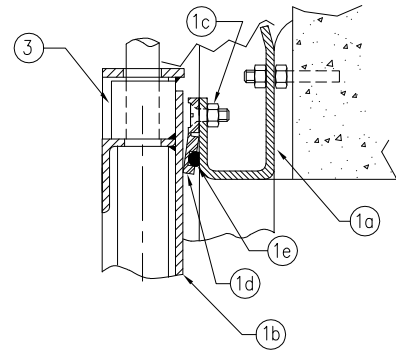
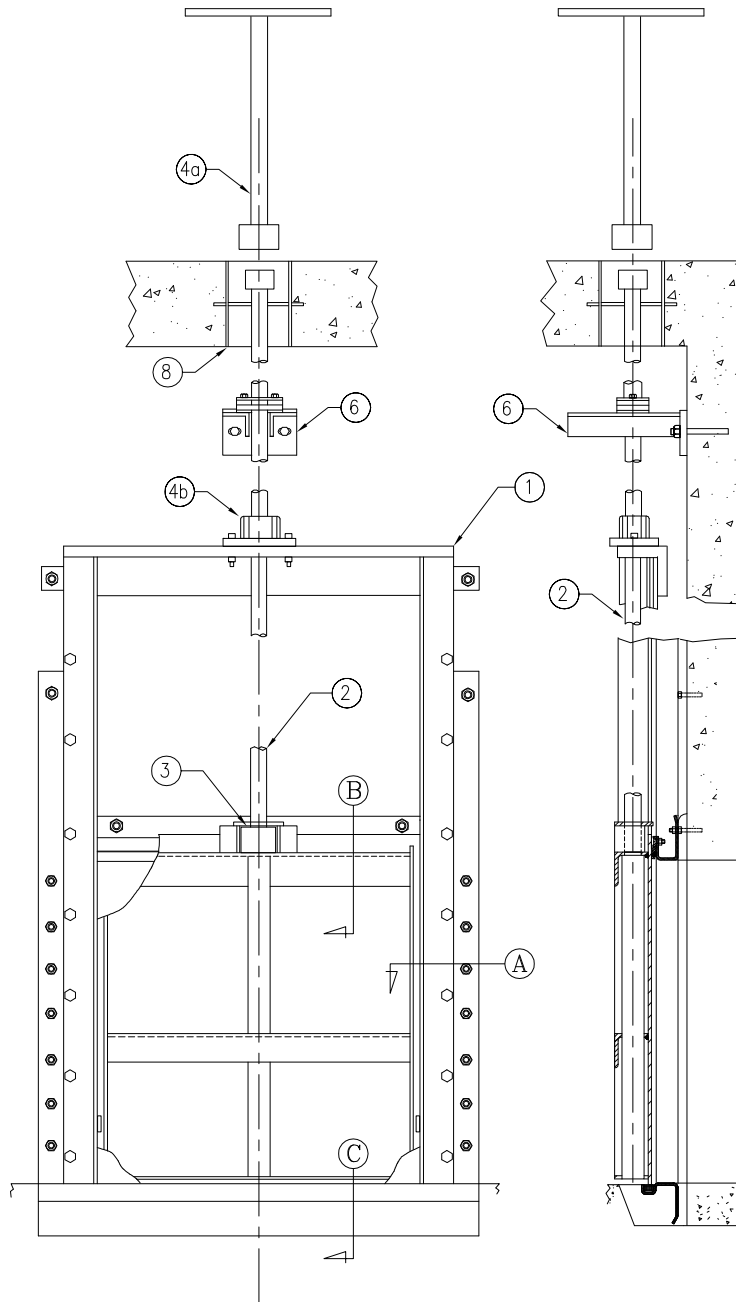
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PARTS LIST

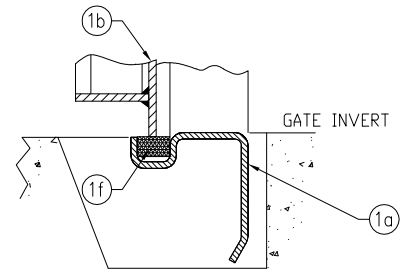
SS-251-1-Y to SS-281-1-Y
 CHANNEL/APERTURE
 UPWARD OPENING
 WALL MOUNTED/EMBEDDED INVERT

REVISION	DATE	APPROVED
DRAWN BY MK	CHECKED BY KA	
SCALE NONE	DATE 29-11-07	
DRAWING NO. 100500GA-3		

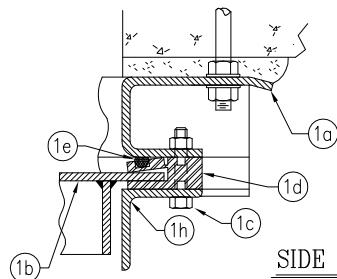
WATERMAN INDUSTRIES OF EGYPT



TOP RAIL SECTION
SECTION (B)



INVERT SECTION
SECTION (C)



SIDE RAIL SECTION
SECTION (A)

NO.	NAME
1	Gate Assembly
1a	Frame Weldment
1b	Cover (Slide)
1c	Assembly Hardware
1d	Guide Seat
1e	Seal
1f	Flushbottom Seal
1h	Retainer Angle
2	Stem
3	Lift Nut
4a	T-Handle
4b	Manual Lift
6	Stem Guide
8	Floor Box

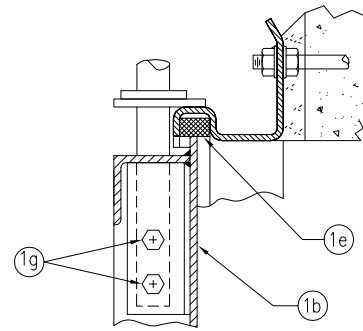
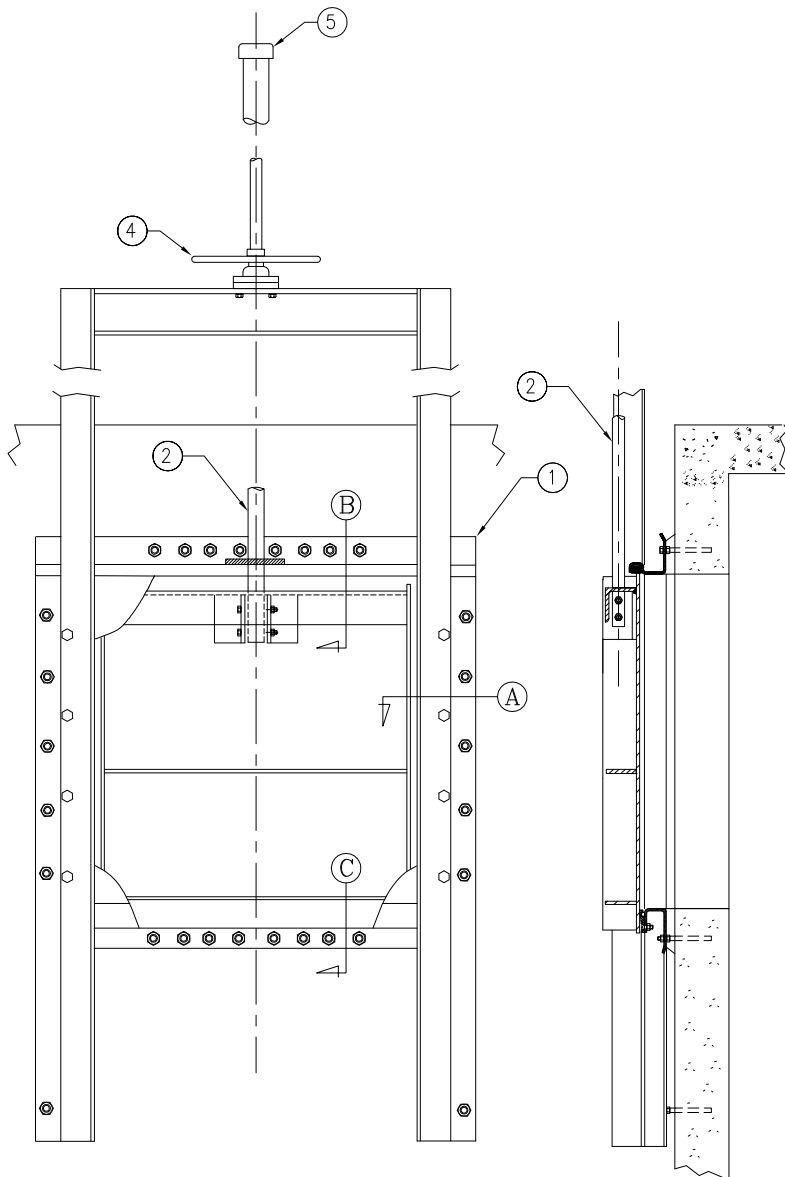
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PARTS LIST

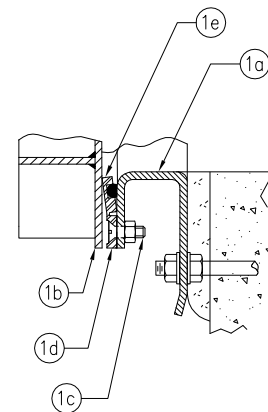
SS-251-1-NRS-Y (NON-RISING STEM)
CHANNEL/APERTURE
UPWARD OPENING
WALL MOUNTED/EMBEDDED INVERT

REVISION	DATE	APPROVED
DRAWN BY MK	CHECKED BY KA	
SCALE NONE	DATE 29-11-07	
DRAWING NO. 100500GA-4		

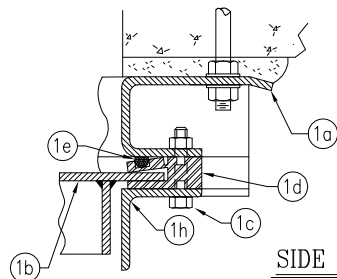
WATERMAN INDUSTRIES OF EGYPT



TOP RAIL SECTION
SECTION (B)



INVERT SECTION
SECTION (C)



SIDE RAIL SECTION
SECTION (A)

NO.	NAME
1	Gate Assembly
1a	Frame Weldment
1b	Cover (Slide)
1c	Assembly Hardware
1d	Guide Seat
1e	Seal
1f	Flushtop Seal
1h	Retainer Angle
2	Stem
4	Manual handwheel lift
5	Stem Cover

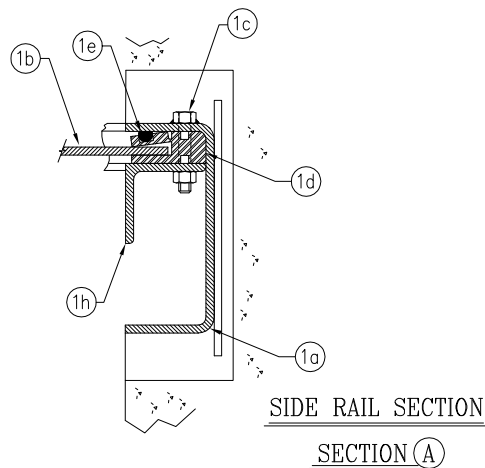
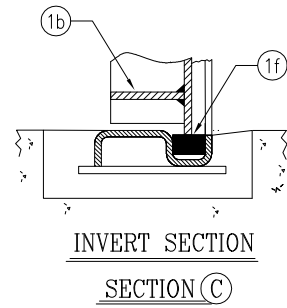
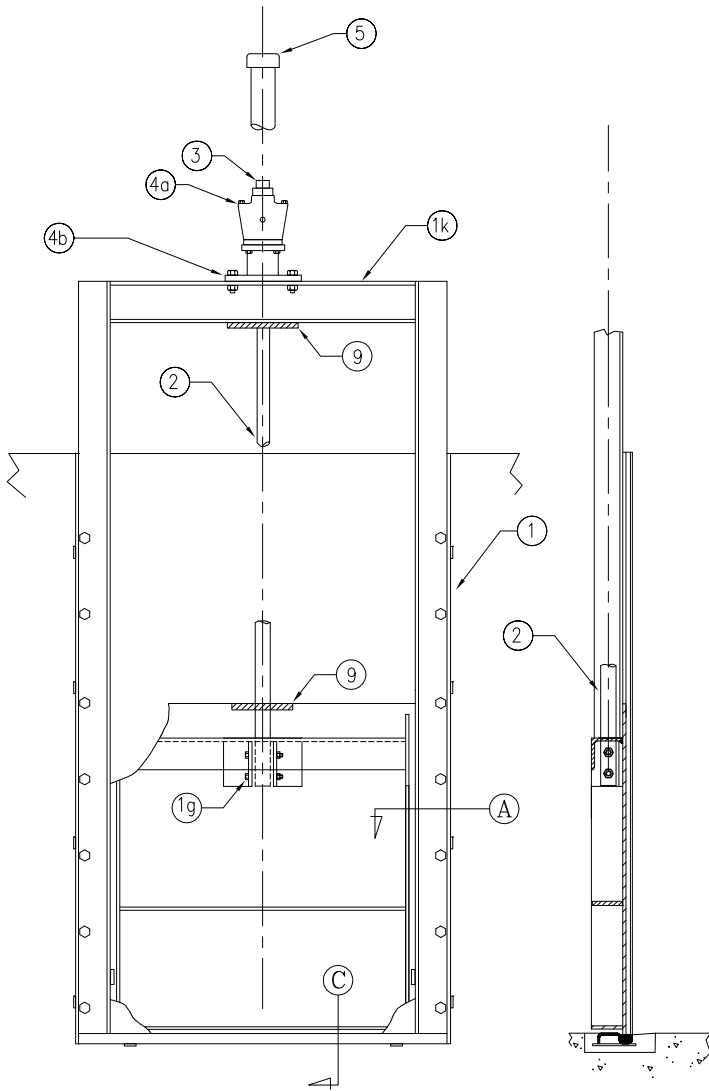
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PARTS LIST

SS-252-1-Y
CHANNEL/APERTURE
DOWNWARD OPENING (WEIR)
WALL MOUNTED

REVISION	DATE	APPROVED
DRAWN BY MK	CHECKED BY KA	
SCALE NONE	DATE 29-11-07	
DRAWING NO.	100500GA-5	

WATERMAN INDUSTRIES OF EGYPT



NO.	NAME
1	Gate Assembly
1a	Frame Weldment
1b	Cover (Slide)
1c	Assembly Hardware
1d	Guide Seat
1e	Seal
1f	Flushbottom Seal
1h	Retainer Angle
1k	Yoke
2	Stem
3	Limit Nut
4a	Geared lift w/ handcrank
4b	Bench Pedestal
5	Stem Cover
9	Stem Support

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EXACT CONFIGURATION AND PARTS LIST WILL BE SHOWN IN SUBMITTAL DRAWINGS

PARTS LIST

SS-256-1-Y
IN CHANNEL
UPWARD OPENING
EMBEDDED GUIDES

REVISION	DATE	APPROVED
DRAWN BY MK	CHECKED BY KA	
SCALE NONE	DATE 29-11-07	
DRAWING NO.	100500GA-6	

WATERMAN INDUSTRIES OF EGYPT

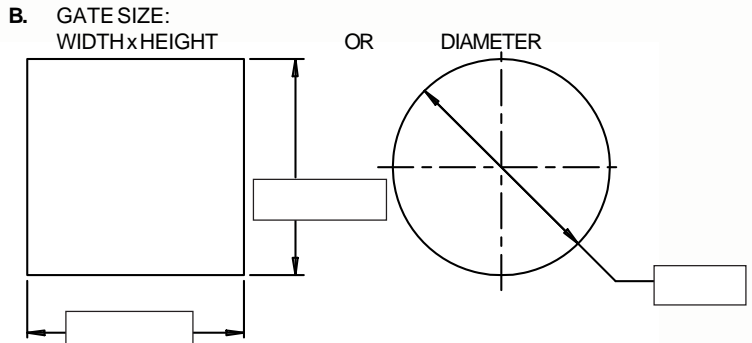
SS-250 SERIES SLIDE GATES

WATERMAN INDUSTRIES OF EGYPT APPLICATION SHEET FOR SS-250 SERIES

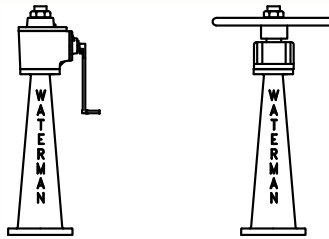
DATE: _____
 COMPANY: _____
 CONTACT PERSON: _____
 EMAIL: _____

A.
 _____ ITEM #
 _____ NUMBER OF GATES REQUIRED

- GATE MATERIAL
 ALUMINUM
 STEEL
 STAINLESS STEEL



C. HOIST REQUIREMENTS

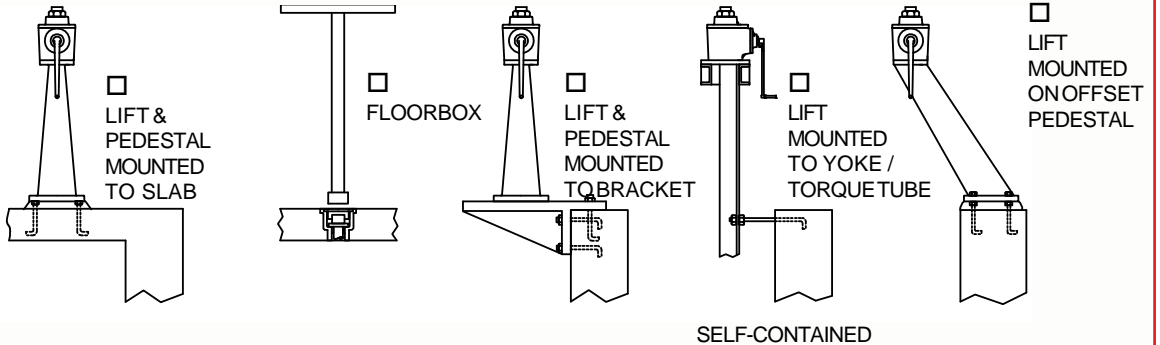


- STEMCOVER
 CLEAR PLASTIC
 METAL
- POSITION INDICATOR
 MYLAR STRIP
 COUNTER
 DIAL
- RISING STEM
 NON-RISING STEM
 DOWNWARD OPENING (WEIR)

- MANUAL
 ELECTRIC _____ VOLTS
 CYLINDER OIL

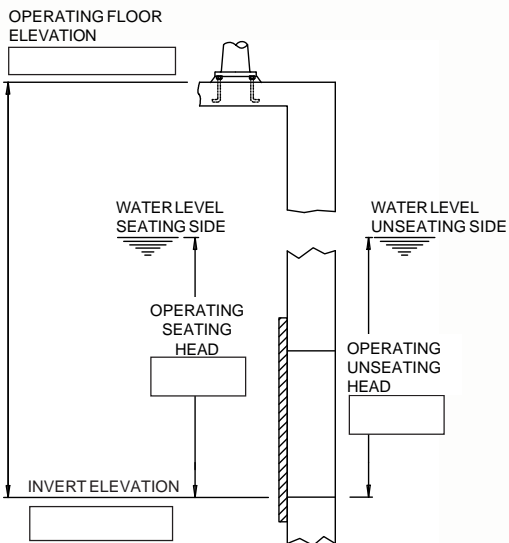
- HANDCRANK HANDWHEEL
 _____ PHASE _____ CYCLES
 WATER AIR _____ PSI

D. LIFT MOUNTING



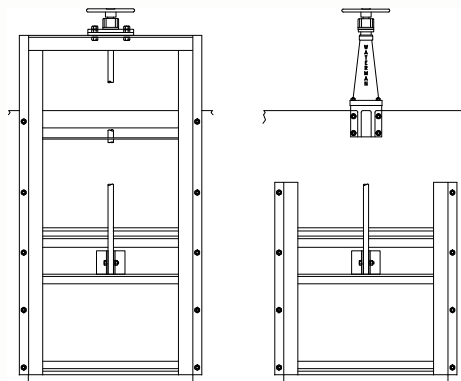
SELF-CONTAINED

E. GATE DESIGN REQUIREMENTS



F. MISCELLANEOUS

- GATE MOUNTING TYPE:
 CHANNEL MOUNT "J" BULB SEALS
 WALL MOUNT UHMW BEARING STRIPS
 WEIR (DOWNWARD OPENING)
 EXISTING STRUCTURE
 NEW STRUCTURE
 INVERT OF GATE IS FLUSH WITH INVERT OF STRUCTURE



- SELF-CONTAINED NON SELF-CONTAINED

G. REMARKS