Weaver
CONSTRUCTION MANAGEMENT
3679 S Huron Street, Suite 404 Englewood, Colorado 80110
Phone: (303) 789-4111 FAX: (303) 789-4310

SUBMITTAL TRANSMITAL

February 10, 2012
Submittal No: 11280-004

PROJECT: **Harold Thompson Regional WRF**
Birdsall Rd.
Fountain, CO 80817
Job No. 2908

ENGINEER: **GMS, Inc.**
611 No. Weber St., #300
Colorado Springs, CO 80903
719-475-2935 Roger Sams

OWNER: **Lower Fountain Metropolitan Sewage Disposal District**
901 S. Santa Fe Ave.
Fountain, CO 80817
719-382-5303 James Heckman

CONTRACTOR: **Golden Harvest, Inc.**
11944 Westar Lane
Burlington, WA 98233
360-757-4334 sherryd@goldenharvestinc.com

SUBJECT: Submittal Drawing (G-26) for Aluminum Weir Gates SG-17 & SG-18 @ the Secondary Clarifier Splitter Structure.

SPEC SECTION: 11280 – Slide Gates

PREVIOUS SUBMISSION DATES:

DEVIATIONS FROM SPEC: ___ YES _X_ NO

CONTRACTOR'S STAMP: This submittal has been reviewed by Weaver Construction Management and, unless indicated otherwise, has been found to be in conformance with the intent of the contract documents.

Contractor's Stamp:	Engineer's Stamp:
Date: 2/10/12 Reviewed by: Chuck Berry ( ) Reviewed Without Comments (x) Reviewed With Comments	

ENGINEER'S COMMENTS:_____

Weaver
CONSTRUCTION MANAGEMENT

Project: HDTWRF

Location: Fountain, CO

Supplier: Golden Harvest

Date: 2/10/12

Submittal No: 11280-004

WCM Submittal Review Comments:

1. **These Gates, SG-17 and SG-18, are the same model, with the same materials of construction, operation, installation , etc. as was reviewed in Submittal No 11280-003.**
2. **The manufacturer's affidavit of compliance called for in Spec Section 11280, 1.3, D., 1., a. was submitted with Submittal No 11280-003. The affidavit certifies that all equipment and materials comply with the Specs.**
3. **The elevation shown on this submittal's shop drawing at the top of the concrete weir wall is 5407.00. The contract drawings show 5407.19.**

SECTION 11280

SLIDE GATES

PART 1 - GENERAL

1.1 DESCRIPTION

A. Scope

1. Furnish and install all slide gates indicated on the Drawings or specified herein complete with manual operators, wall castings, stems, stem guides, wall brackets, seals and all appurtenances

B. Additional Requirements Specified Elsewhere

1. Section 01340: Shop Drawings and Product Data
2. Section 01400: Quality Control and Manufacturer's Field Services
3. Section 01600: Materials and Equipment
4. Section 01730: Operating and Maintenance Data

C. Related Requirements Specified Elsewhere

1. Section 03300: Cast-in-Place Concrete
2. Section 03600: Grout
3. Section 05501: Anchor Bolts and Drilled-In Anchors
4. Section 09900: Painting

1.2 QUALITY ASSURANCE

A. Suppliers Qualifications

1. All equipment supplied by a single manufacturer or supplier experienced in the manufacture of this equipment

B. Design Basis

1. Whipps, Inc.
2. Rodney-Hunt
3. Or equivalent
4. Equivalent products of other manufacturers may be accepted subject to compliance with design, function, materials, and performance of the specified items

C. Reference Standards

1. Unless otherwise provided herein, all slide gates shall comply with AWWA C513 – Open Channel, Fabricated Metal Slide Gates and AWWA C561 – Fabricated Stainless Steel Slide Gates, as appropriate

1.3 SUBMITTALS

A. Catalog Data: Submit manufacturer's literature and illustrations sufficient to verify compliance with the specifications

B. Shop Drawings

1. Dimensions
2. Construction details
3. Materials
4. Assembled weight

we comply

C. Installation Instructions: Complete manufacturer's installation instructions

D. Certification of Compliance

1. Manufacturer's affidavit of compliance certifying
   a. All equipment and material comply with these specifications
   b. Equipment has been properly installed and is operating within specification tolerances

will be supplied After Approval

E. Operating and Maintenance Manuals in accordance with Section 01730

PART 2 - PRODUCTS

2.1 PERFORMANCE AND DESIGN REQUIREMENTS

A. General

1. Locations with corrosive environments require corrosion-proof or resistant materials as specified
   a. Headworks Building is a corrosive environment

Acknowledged

B. Shop Painting

1. Utilize liberal factors of safety throughout design especially in the design of parts subject to intermittent or alternating stresses
2. Working stresses not to exceed one-third of the yield point or one-fifth of the ultimate strength of each material, whichever is less

C. Slide Gates

was changed in email instructions

1. Refer to Slide Gate Schedule at end of this specification section
2. Maximum allowable leakage under specified design head, seating or unseating = 0.10 gpm/ft of seating perimeter

we comply

2.2 MATERIALS AND FABRICATION

we comply

A. Shop Painting

1. Coat all metal surfaces of each gate, except bronze, aluminum and stainless steel with rust inhibitive primer
   a. Shop prime with Mobil "13-R-50 Chromox Q.D. Primer", Tnemec "77 Chem-Prime", or equivalent
2. All polished or machined surfaces coated with rust preventative compound, Dearborne Chemical "No-Ox-Id 2W", Houghton "Rust Veto 344", Rust-Oleum "R-9", or equivalent

we Comply

B. Slide Gates

1. Rising stems, self-contained pattern with a lift supported by a cross member at the top of the frame
2. Frames
   a. Designed for installation on face of concrete walls or embedded in concrete walls as shown on the Drawings
   b. Guides to support entire height of slide when in fully raised position, or in the lowered position for downward opening gates
      1) Provide replaceable UHMW polymer bearing surfaces against slide
   c. Yoke at top of guides to support operator
      1) Fabricated from pair of rolled sections
      2) Deflection not more than 1/600 of span when subjected to thrust developed by 100 pound pull on the operator
      3) Shop welded to vertical members of frame
      4) Permit vertical removal of the slide
      5) Top of yokes approximately the same elevation as top of adjacent handrails, unless otherwise noted or required
3. Closures
   a. Gates will be raised above the top of the opening for upward opening gates, or lowered below the bottom of the opening for downward opening gates
   b. Provide horizontal frame member across wall opening to seal space between the slide and adjacent concrete
      1) Position at top of opening for upward opening gate
      2) Position at bottom of opening for downward opening gate
   c. Extend side guides beyond wall opening
      1) Extend above top of opening and above top of slide in the open position for upward opening gates
      2) Extend below bottom of opening and below bottom of slide in the open position for downward opening gates
   d. Replaceable UHMW polyethylene or resilient hollow bulb seals provided at the vertical side frame members and horizontal frame members of the openings
   e. Replaceable, resilient, flush-bottom, frame- or slide-mounted invert seal at bottom of opening for upward opening gates
4. Slides
   a. ¼-inch thick minimum with welded stiffeners

we Comply

1) Deflection under specified differential pressure does not exceed 1/360

b. Reinforced pocket for connection of the stem
   1) Withstand thrust developed by 100 pound pull on the operator

5. Stems
   a. Sized to safely withstand, without buckling or permanent distortion, the stresses induced by operation, including the thrust developed by a 100 pound pull on the gate operator
   b. Stem threads
      1) Cold-rolled or machine cut
      2) Square or acme pattern
   c. Adjustable stop collars to limit upward and downward travel
   d. Thrust nut
      1) Material similar to stem
      2) Transmit thrust to slide
      3) Threaded and keyed or pinned to stem
      4) Shall not turn in pocket
   e. Provide dual stems where required for operation
   f. Provide stem guide supports and bushings at the manufacturer's recommended spacing
      1) Maximum L/R ration of unsupported stem: 200
6. Stem covers
   a. Enclose portion of stem extending above the operator
   b. Close top of cover with suitable cap
   c. Provide adhesive backed mylar strip
      1) Permanently marked and calibrated
      2) With each stem cover
      3) Travel distance of gate opening indicated by reference to top of stem
7. Manual operators
   a. Operate gate under specified differential pressure with a handwheel pull of no more than 40 pounds
   b. Mechanism to withstand a pull of 100 pounds without damage
   c. Radius not more than 15 inches or less than 6 inches
   d. Ball or roller bearings provided above and below lift nut flange to carry maximum thrust developed in opening and closing the gate
   e. Gears and bearings
      1) Totally enclosed in weatherproof housings
      2) Seals at all points where rotating members extend through the housing
      3) Lubrication fittings
   f. Counterclockwise (to the left) to open
      1) Directional arrow and word "open" cast on case of operating mechanism
   g. Connect dual stems by a cross shaft so both stems move at the same rate
      1) Cover with suitable housing
8. Materials
   a. Frames, guides, grooves, slides, and reinforcing members as indicated on Drawings
      1) Aluminum: ASTM B209, B221, or B308, alloy 6061
      2) Stainless steel: ASTM A276 Type 304 or ASTM A240 Type 304L
   b. Stems and shafts: ASTM A276 Type 304 stainless steel
   c. Seals/seats

we Comply

1) UHMW polyethylene
2) Fabric reinforced neoprene

d. Gear and bearing housings
1) Cast iron, ASTM A48
2) Cast aluminum in corrosive environments

e. Floorstands
1) Cast iron or fabricated steel
2) Stainless steel in corrosive environments

f. Stem covers: Transparent plastic butyrate or lexan pipe

g. Assembly fasteners: ASTM A276 Type 304 stainless steel with hardness differential to prevent galling

h. All aluminum materials that will be embedded or in contact with concrete or grout shall have a heavy bituminous coating applied to protect areas of embedment or contact

we Comply

C. Anchor Bolts: Stainless steel per Section 05501

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install square, plumb and level and in a true vertical plane according to manufacturer's recommendations

B. Set anchor bolts for each gate carefully and in accordance with manufacturer's instructions and templates

C. Carefully install and adjust gates so they do not leak or bind

D. Install extension stems in perfect alignment

E. Accurately set and plumb each manual operator to perfect alignment with gate and stem before grouting in place

F. For face-mounted assemblies, grout between gate frame and wall in accordance with installation drawings and manufacturer's recommendations

G. After gate has been adjusted, place concrete fill in pit in front of gates, where indicated on drawings

H. Tighten all bolts and lubricate all items requiring lubrication

I. Leave gate in perfect operating condition

J. Ensure all bituminous coatings of aluminum parts are sound prior to installation; touch up or repair all unsound coatings

Directed to Installing Contractor

3.2 FIELD QUALITY CONTROL

A. Provide Manufacturer's Field Services

As Quoted in our proposal

3.3 SCHEDULE

A. Corrosive Environments

1. Headworks Building
2. All locations upstream of aeration basins

Superceded by emailed instruction

SLIDE GATE SCHEDULE*

Gate No.	Nominal Size (WxH)	Location *(4.)	Function	Type of Mounting	Type of Operator	Seating (+) or Unseating (-) Pressure (ft. of water)	Invert Elev.	Oper. Floor Elev.	Oper. Elev.	Accessories
SG-1	36"x56"	1	Screen Channel No. 1 Isolation	Embedded and Surface	HW	-4.7	5416.67	5421.33	5424.83	Self-contained
SG-2	36"x56"	1	Grit Chamber Outlet Channel No. 1 Isolation	Embedded	HW	+3.3	5416.67	5421.33	5424.83	Self-contained
SG-3	24"x56"	1	Bypass Channel Upstream Isolation	Embedded	HW	-4.7	5416.67	5421.33	5424.83	Self-contained
SG-4	36"x56"	1	Bypass Channel Downstream Isolation	Embedded	HW	+4.7	5416.67	5421.33	5424.83	Self-contained
SG-5	36"x56"	1	Screen Channel No. 2 Isolation	Embedded and Surface	HW	-4.7	5416.67	5421.33	5424.83	Self-contained
SG-6	36"x56"	1	Grit Chamber Outlet Channel No. 2 Isolation	Embedded	HW	+3.3	5416.67	5421.33	5424.83	Self-contained

*NOTES

1. NOMINAL SIZE INDICATED IS THE SIZE OF OPENING IN THE WALL AND DOES NOT ACCOUNT FOR ANY PROJECTION OF THE GATE INTO THE FRAME GROOVES OR TOP OF GATE ELEVATIONS INDICATED ON THE DRAWINGS
2. THE INDICATED SEATING OR UNSEATING PRESSURE IS THE MAXIMUM DIFFERENTIAL HEAD TO WHICH THE GATE WILL BE SUBJECTED
3. TYPE OF OPERATOR: HC - HANDCRANK, HW – HANDWHEEL
4. LOCATION 1 = HEADWORKS BUILDING
5. HEADWORKS BUILDING IS A CORROSIVE ENVIRONMENT

END OF SECTION

LETTER OF TRANSMITTAL

GOLDEN HARVEST, INC.
"GOLDEN GATES"
11944 WESTAR LANE
BURLINGTON, WA 98233
360-757-4334
sherryd@goldenharvestinc.com
Goldenharvestinc.com

TO: Weaver Construction Management, Inc.			Submittal #2
3679 South Huron Street, Ste. 404			
Englewood, CO 80110			
PHONE: 303-789-4111			**SENT VIA: john@weavercm.com**
JOB NAME: Harold D. Thompson Regional WRF / Fountain, CO			
GH JOB NO.	**DATE**	**CUSTOMER P.O.**	**ATTENTION**
11-1230	2-6-12	LOI	John Jacob

WE ARE SENDING YOU:

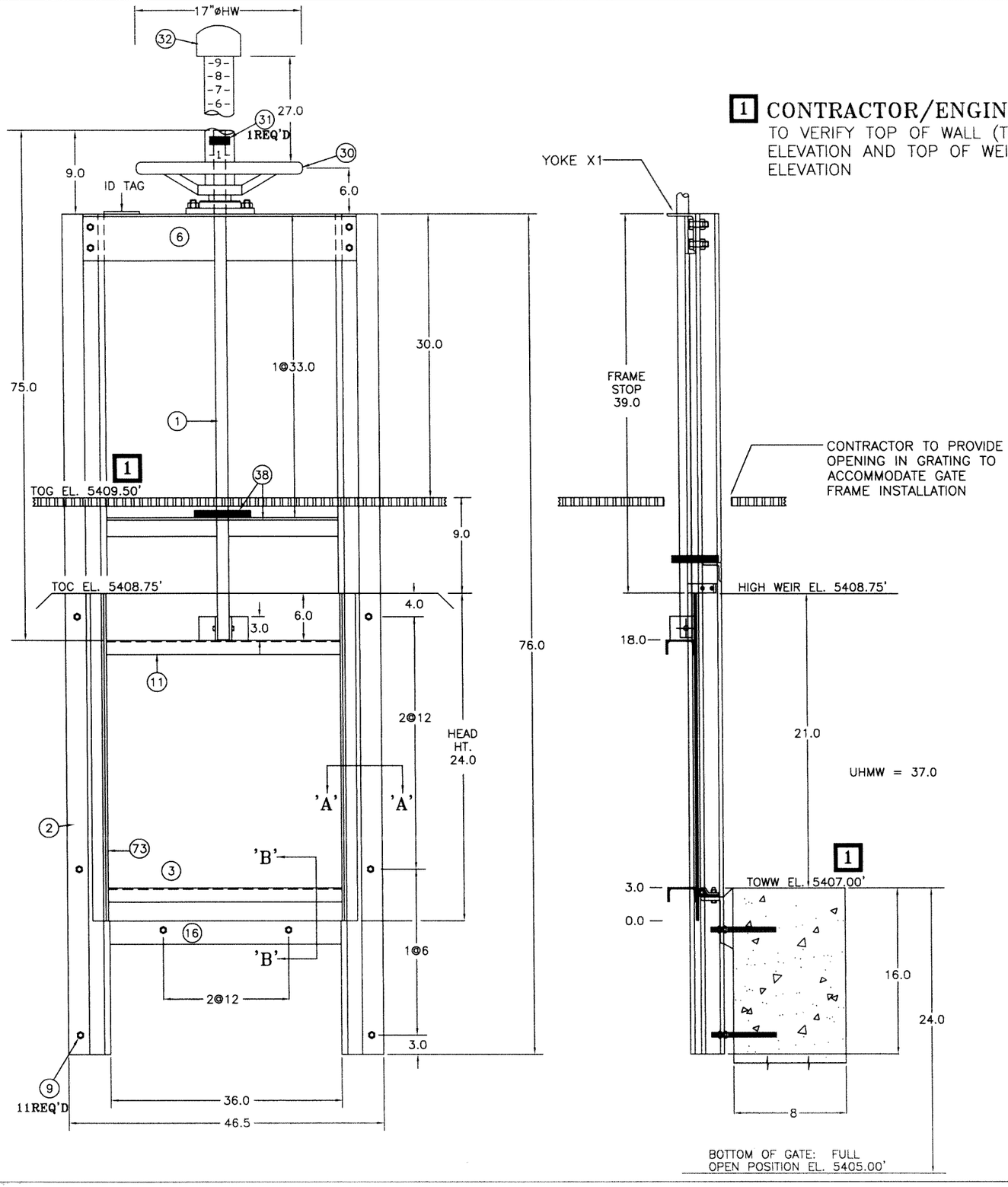
COPIES	PAGES	DESCRIPTION
1	1-1	Drawing #2 (Aluminum Weir Gate Drawing)

REMARKS:

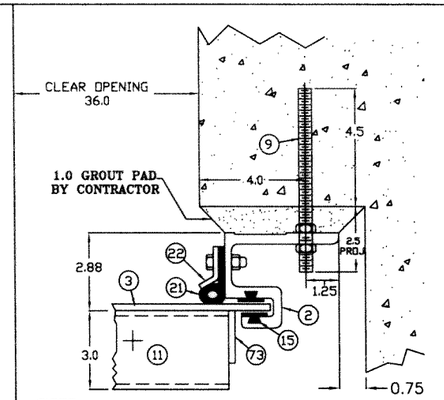
These documents are submitted for your approval. Manufacturing of this project will not proceed until we receive submittal approvals. FOR RECORD drawing submittals do not need to be approved.

You may approve submittals by email or fax, by noting the approval on this form and returning it to Golden Harvest, Attn: Marcia or Sherry at 360-757-1135 (fax) or marciak@goldenharvestinc.com.

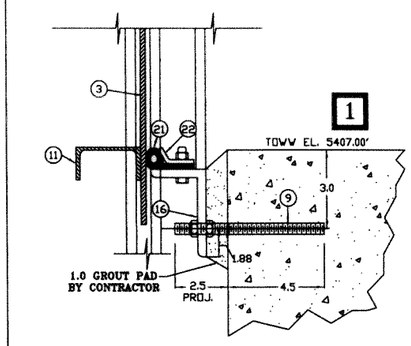
If you have any questions about the status of your project, please contact Marcia or Sherry at 800-338-6238 or sherryd@goldenharvestinc.com.



1 CONTRACTOR/ENGINEER:
TO VERIFY TOP OF WALL (TOW) ELEVATION AND TOP OF WEIR WALL ELEVATION



CHL
SECTION 'A'–'A'



SECTION 'B'–'B'

MD GH-60 ALUMINUM WEIR GATE MATERIAL LIST

	1	STEM	1.25 DIAMETER, S-STL W/ACME ROLLED THREADS 16 MICRO IN. RMS OR LESS FINISH
	6	YOKE	6.0 x 4.0 x 3/8 ALUMINUM ANGLE
	11	STIFFENER	C3 x 1.50 x 1.14 LBS ALUMINUM CHANNEL
	30	OPERATOR	GH-1, NON-GEARED, HANDWHEEL, ANODIZED ALUM. HOUSING, MECH. SEALS ROLLER BEARING SUPPORTED BRONZE LIFT NUT, GREASE ZERK, OPEN DIRECTION ARROW
	38	STEM GUIDE	2.5x2.5x1/4 ALUMINUM ANGLE, W/UHMW STEM GUIDE BUSHING
	73	VERT. STIFFENER	1/4 x 2.0 ALUMINUM FLAT BAR
N/R	190	CENTER STIFFENER	X x X ALUMINUM FLAT BAR
	2	GUIDE RAIL	EXTRUDED ALUMINUM, 5LB. PER FT. UNI FLANGE
	3	GATE HEAD	1/4" ALUMINUM PLATE
	*9	ANCHOR BLT	1/2"x7.0 S-STL ANCHOR ROD, W/2 NUTS
	15	GUIDE BEARING BAR	UHMW POLYETHYLENE ASTM D-4020 IN DOVETAIL SLOTS PROVIDING OPERATING COEFFICIENT OF 0.125 OR LESS BETWEEN SLIDE AND GATE GUIDE
	16	HORIZONTAL SPIGOT	4.0 x 2.5 x 3/8 ALUMINUM ANGLE
	21	P-SEAL	NEOPRENE RUBBER # 7274
	22	P-SEAL RTNR	3/16" X 2" S-STL FLAT BAR W/SLOTTED HOLES
	31	STOP NUTS	BRONZE ASTM B-584
	32	STEM COVER	CLEAR BUTYRATE PLASTIC WITH MYLAR STRIP INDICATOR CALIBRATED IN FEET AND INCHES WITH PVC END CAP

* ANCHOR BOLTS ARE DESIGNED FOR USE WITH HILTI HIT-RE 500-SD ADHESIVE INJECTION SYSTEM OR EQUAL INSTALLED IN DRY CONCRETE **(ADHESIVE BY CONTRACTOR)**

MATERIAL SPECIFICATIONS:
HARDWARE & FASTENERS = TYPE 304 SS ASTM-F593 / F594
S-STL STEM = TYPE 304 SS ASTM-A276
S-STL ANCHOR ROD = TYPE 304 SS ASTM-A276
ALUMINUM SHAPES = 6061-T6
ALUMINUM FORMED & PLATE = 6061-T6
ALUMINUM EXTRUSION = 6061-T6
ALUMINUM ROUND BAR = 6063-T5
UHMWPE = ASTM-D4020
NEOPRENE RUBBER = ASTM-D2000
BRONZE = ASTM-B584

NOTE: FIELD COAT ALUMINUM IN CONTACT WITH CONCRETE WITH BITUMASTIC 50, MIN. 15 MILS DRY OR EQUAL APPLY IN FIELD W/GHI FURNISHED MATERIAL

Max Seating Head = 1.56 FT **Max Unseating Head = 1.56 FT**
Max Operating Head = 1.56 FT **Measured From GATE INVERT**

INSTALLATION NOTES for INSTALLER

FRAME OR FRAME COMPONENTS, PEDESTAL, WALL BRACKET, STEM GUIDE, AND OPERATOR MUST BE INSTALLED FLAT STRAIGHT AND PLUMB, SHIM AND BRACE AS NECESSARY.

SEE OPERATION & MAINTENANCE MANUAL FOR ADDITIONAL INSTALLATION INFORMATION.

TOLERANCES AS FOLLOWS:

PARALLEL ±1/8"
COPLANER ± 1/8"
FLAT & STRAIGHT ± 1/16"
SQUARE ± 1/8"

36 x 21
MD GH-60
WALL MTD
AL. WEIR GATE

GOLDEN HARVEST
GOLDEN GATES
1-800-338-6238
P.O. BOX 287 Burlington, WA 98233

SECONDARY CLARIFIER SPLITTER STRUCTURE SG-17 & 18
2 – REQ'D

Project Description: HAROLD D. THOMPSON REGIONAL WRF
For: FOUNTAIN, CO
Contractor: WEAVER CONSTRUCTION
Engineer: GMS, INC.

Date Drawn: 02-06-12
Revision:
Revision:
Revision:
G.H. Drawing #: 2

Drawn By:			Scale:	Job No.:	Contract Sht #:
KH		FL = 13#	NTS	11-1230	G-26