

# ENGINEERING COMMUNIQUÉ

JAY R. SMITH MFG. CO.® ♦ MARCH, 2013 ♦ VOLUME 3-ISSUE 2



**From:**  
**THE SMITH ENGINEERING GROUP**

## **PRODUCT ALERT: Figure Numbers 1010 & 1080 Large Capacity Roof Drains**

Please find attached submittals for fig. nos. 1010 & 1080 large capacity roof drains. The large capacity is in reference to 8, 10 and 12 in. outlet sizes. These roof drains are shown on the back sheet of the 1010, 1020 submittal. In recent years, these larger sizes have become popular with specifiers.

The flange diameter is 20 inches. It is our recommendation to always use the 20 in. diameter flange for the 8, 10 and 12 inch outlet sizes. The larger sump will flow a higher volume of GPM. Considering the amount of roof square footage the drain will be handling, the flow will be considerable. The other important reason is the free area of the dome. The plumbing codes require the free area to be 1½ times greater than the free area of the drain outlet. We prefer the free area to be 2 times greater than the drain outlet. The 12 in. outlet is only provided with a 20 in. flange and only with a no-hub connection.

The 1080 roof drain with external water dam submittal is also attached. It is also available in 8, 10 and 12 in. outlets. The same information above applies to the large capacity 1080 roof drains.

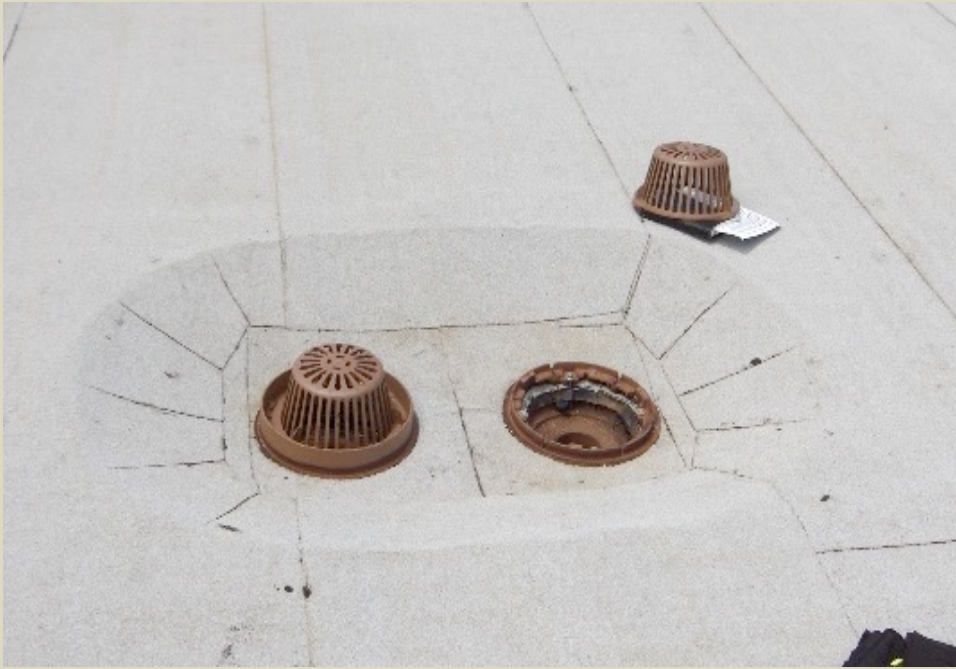
Please contact Sales Engineering if you have any questions regarding these roof drains.



### **PRIMARY & EMERGENCY (SECONDARY) OVERFLOW DRAINS:**

Please refer to the photo. What is wrong with this installation? The primary roof drain (1010) and emergency (secondary) overflow roof drain (1080) are provided per code.

The code states the overflow roof drain shall be a minimum of 2 inches above the roof. The maximum height of the water dam shall be a height to prevent the depth of ponding water from exceeding that for which the roof was designed to handle. By recessing these drains, the recessed area will become flooded and the overflow roof drain upon becoming submerged during high volume of rainfall and will discharge giving the false perception that there is a problem with the primary roof drain. In this case, the water dam collar should have been extended higher. Higher water dam collars are available.



**Some engineers have standard details recessing the area where the roof drain is located. Caution should be taken not to create too deep of a recess where the emergency overflow drain will be compromised.**

MEMBER OF

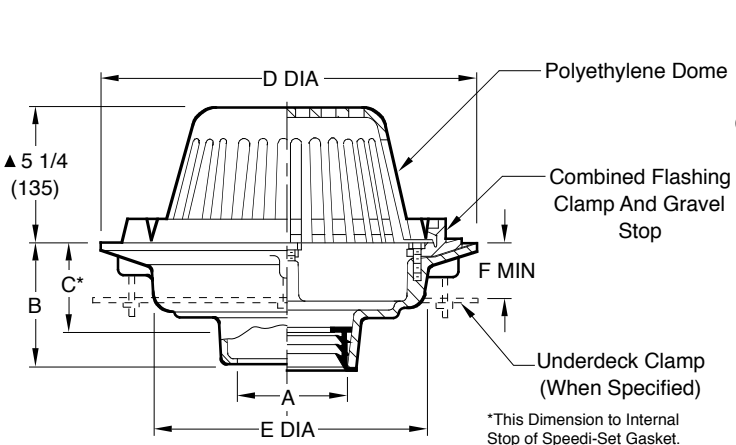


**MORRIS GROUP**  
INTERNATIONAL

# LARGE GENERAL PURPOSE ROOF DRAINS

## LOW PROFILE DOME

**FUNCTION:** Used in flat roof of any construction. Large low profile dome provides sufficient free area for quick drainage of rain water and protects the drain sump and connected piping from the intrusion of debris. Wide clamping surface holds flashing and roofing materials without puncturing.



- Fig. 1010C . . . CAULK OUTLET
- Fig. 1010Y . . . NO-HUB OUTLET

**recommended deck opening**

outlet size	with suffix-R	less suffix-R
02(50),03(75),04(100) 05(125),06(150)	17(430) DIA	14(355) DIA
**08(200)-16, **10(250)-16	17(430) DIA	14 3/4 (375) DIA

A SIZE	B (BOTTOM OUTLET)			SIDE OUTLET			FREE AREA SQ IN (SQ CM)
	CAULK, NO-HUB, & SPEEDI-SET	THREADED	C	D DIA	E DIA	F MIN	
02(50),03(75), 04(100)	5 (125)	3 3/4 (95)	3 3/4 (95)	15 1/4 (390)	11 (280)	1 1/8 (29)	102.5 (661)
05(125), 06(150)	5 (125)	3 3/4 (95)	--	15 1/4 (390)	11 (280)	1 1/8 (29)	102.5 (661)
**08(200)-16, **10(250)-16	6 (150)	5 (125)	--	16 (405)	12 1/2 (320)	1 1/8 (29)	102.5(661) / 122.5(790)

**REGULARLY FURNISHED:**

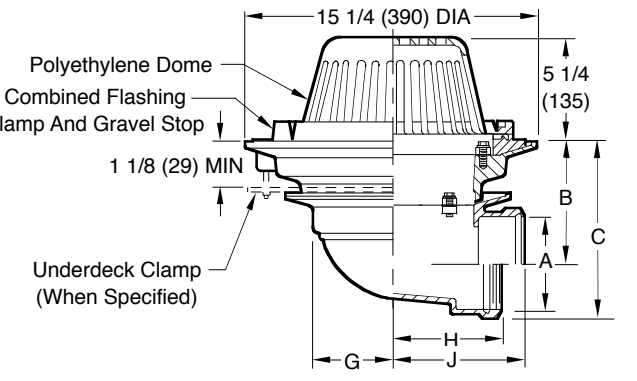
Duco Cast Iron Body with Combined Flashing Clamp and Gravel Stop with Polyethylene Dome.

**▲ NOTE:** The dome height is 8 1/4" (210) for the 122.5 SQ IN free area dome and is regularly furnished in Cast Iron and is not available in polyethylene.

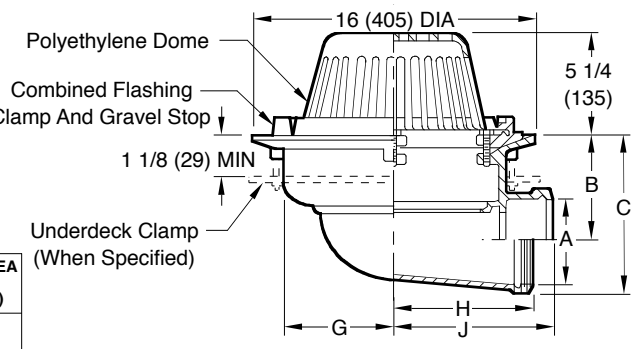
**NOTE:** Dimensions shown in parentheses are in millimeters.

**VARIATIONS:**

- Expansion Joint (Specify Fig.1710) (Fig. 1010 only)
- Extension (Specify Height) -E
- "L" Shaped Underdeck Clamp -CL
- L Speedi-Set Service Weight (Fig. 1010 Only)
- LXH Speedi-Set Extra Heavy (Fig. 1010 only)
- NO-HUB Adaptor (Specify Fig. 2646Y) (Fig. 1020 only)
- Secondary Flashing Clamp -C2
- Sump Receiver -R
- Underdeck Clamp -C
- Vandal Proof Dome -U
- T Threaded Outlet



- Fig. 1020C 02(50), 03(75) & 04(100)" CAULK OUTLET
- Fig. 1020T 02(50), 03(75) & 04(100)" THREADED OUTLET



- Fig. 1020C 05(125) & 06"(150) CAULK OUTLET
- Fig. 1020T 05(125) & 06"(150) THREADED OUTLET

**(SIDE OUTLET)**

A SIZE	02 (50)	03 (75)	04 (100)	05 (125)	06 (150)
B	6 7/8 (175)	6 3/8 (162)	5 7/8 (149)	5 (125)	4 1/2 (115)
C	8 5/8 (219)	8 3/4 (220)	8 3/4 (220)	8 1/2 (215)	8 1/2 (215)

**OPTIONAL MATERIALS:**

- All Aluminum -AA (Fig. 1010 only)
- ▲ Aluminum Dome -AD
- ▲ Cast Iron Dome -CID
- ▲ Galvanized Cast Iron Dome -CIDG
- Galvanized Cast Iron Body & Collar -G
- ▲ Rough Bronze Dome -RBD
- Stainless Steel (Specify Fig. 9780)

**▲▲ Optional Domes' free area are as follows:**

Dome Mat'l	02-06 & 08-16 Outlets
Aluminum	98 (632)
Cast Iron	80 (516)
Bronze	95 (613)

DRAWING NUMBER S1010

SIZE A

SCALE: NONE

DATE: 5-24-85

APPROVED BY: TD

CHECKED BY: TD

DRAWN BY: CR

FIGURE NUMBER 1010, 1020

WE CAN ASSUME NO RESPONSIBILITY FOR USE OF SUPERSEDED OR VOID DATA

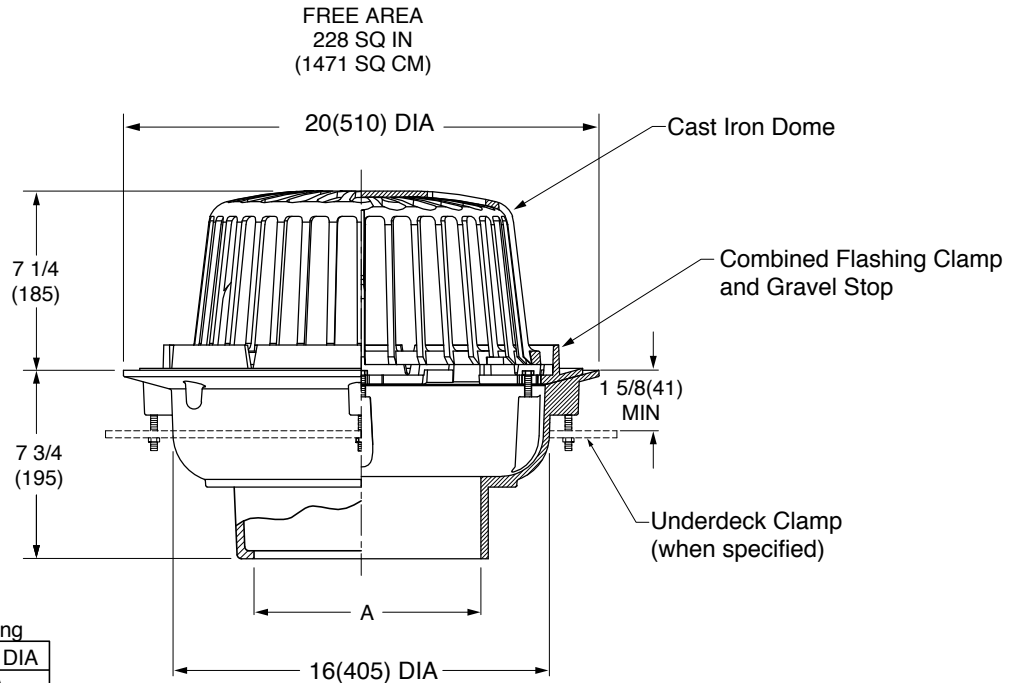
REV.	DATE	DESCRIPTION	BY	CKD. BY
T S R	3-12-13 06/01/09 06-09-08	Rev. Tables, Notes Added Optional Dome free areas Added NOTE	TBW JJ RN	CL CL CL

WEIGHT POUNDS	VOLUME CUBIC FEET
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**FIGURE NUMBER**  
1010, 1020

# LARGE GENERAL PURPOSE ROOF DRAIN

**FUNCTION:** Used in flat roof construction. Large dome provides sufficient free area for quick drainage of rain water and protects the drain sump and connected piping from the intrusion of debris. Wide clamping surface holds flashing and roofing materials without puncturing.



A (PIPE SIZE) = 08(200), 10(250) or \*12(305)  
 \*12(305) outlet size available in No-Hub only.

- FIG.1010C .....CAULK OUTLET
- FIG.1010Y .....NO-HUB OUTLET
- FIG.1010T .....THREADED OUTLET

**REGULARLY FURNISHED:**

Duco Cast Iron Body with Combined Flashing Clamp and Gravel Stop and Cast Iron Dome.

**VARIATIONS:**

- Extension (Specify Height) -E
- Secondary Flashing Clamp -C2
- Sump Receiver -R
- Underdeck Clamp -C
- "L" Shaped Underdeck Clamp -CL
- Vandal Proof Dome -U
- Stainless Steel Mesh Over Dome-SSM

**OPTIONAL MATERIALS:**

- Aluminum Dome -AD
- Galvanized Cast Iron -G
- Galvanized Cast Iron Dome Only -CIDG

DRAWING NUMBER  
**S1010BS**

SIZE  
**A**

SCALE:  
**NONE**

DATE:  
**3-13-13**

APPROVED BY:  
**CL**

CHECKED BY:  
**CL**

DRAWN BY:  
**TBW**

**1010BS**

WE CAN ASSUME NO RESPONSIBILITY FOR USE OF SUPERSEDED OR VOID DATA

DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCE AND CHANGE WITHOUT NOTICE

REV.	DATE	DESCRIPTION	BY	CKD. BY	WEIGHT POUNDS	VOLUME CUBIC FEET	FIGURE NUMBER <b>1010BS</b>
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**SMITH® JAY R. SMITH MFG. CO.®**  
 MEMBER OF MORRIS GROUP INTERNATIONAL™  
 POST OFFICE BOX 3237  
 MONTGOMERY, ALABAMA 36109-0237 (USA)  
 TEL: 334-277-8520 FAX: 334-272-7396 www.jrsmith.com



LOCATION

DRAWING NUMBER  
S1080

SIZE  
A

SCALE:  
NONE

DATE:  
8-19-83

APPROVED BY:  
JD

CHECKED BY:  
JD

DRAWN BY:  
CR

1080

FIGURE NUMBER

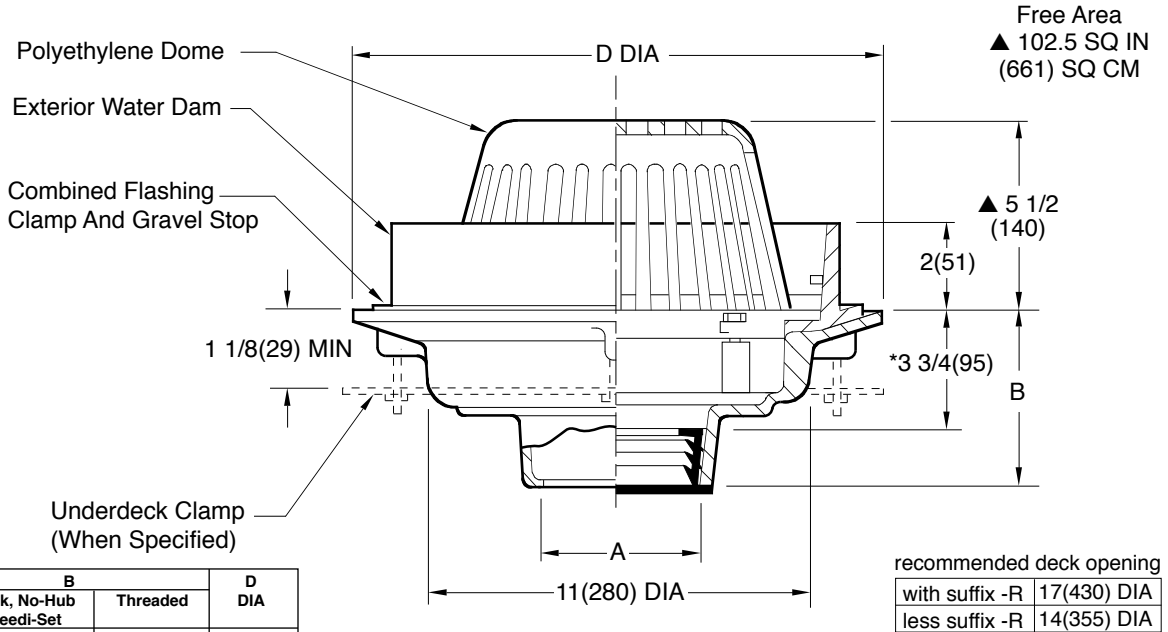
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# SPECIAL PURPOSE ROOF DRAINS

## WATER DAM TYPE

**FUNCTION:** Used in flat roofs of any construction where a constant height of water is desired on the roof. It may also be used as an emergency overflow for conventional roofs, draining rain water when the depth of the water on the roof reaches the water dam height.



A SIZE	B		D DIA
	Caulk, No-Hub Speedi-Set	Threaded	
02(50), 03(75) 04(100)	5(125)	3 3/4(95)	15 1/4(390)
05(125), 06(150) 08(200)-16 10(250)-16	5(125) 6(150)	3 3/4(95) 5(125)	15 1/4(390) 16(405)

A (Pipe Size) 02(50), 03(75), 04(100), 05(125), 06(150), 08(200)-16 or ▲10(250)-16

\*This Dimension to Internal Stop of Speedi-Set Gasket  
**NOTE:** 08(200) & 10(250) outlet sizes are regularly furnished with a 20(510) dia. flange see back sheet. For 16(405) dia. flange it must be specified as -16. Ex: 1010Y08-16

**REGULARLY FURNISHED:**  
 Duco Cast Iron Body, Flashing Clamp and Gravel Stop with Polyethylene Dome, and Cast Iron Water Dam.

**NOTE:** Dimensions shown in parentheses are in millimeters.

▲ When 10(250)-16 outlet size is specified dome height becomes 8 1/4(210) and free area of 122.5 SQ IN (790 SQ CM), furnished in cast iron and is not available in polyethylene.

**VARIATIONS:**

- Adjustable Extension(Specify Fig. 1045)
- Expansion Joint (Specify Fig. 1710)
- Extension -E (Specify Height)
- "L" Shaped Underdeck Clamp -CL
- L Speedi-Set Service Weight  
02(50), 03(75) & 04(100)" sizes only
- LXH Speedi-Set Extra Heavy  
02(50), 03(75) & 04(100)" sizes only
- Secondary Flashing Clamp -C2
- Sump Receiver -R
- Underdeck Clamp -C
- Vandal Proof Dome -U
- 2 1/2(64), 3(76) or 4"(100) Water Dams  
Available -WD025, -WD03, -WD04

- Fig. 1080C . . . . CAULK OUTLET
- Fig. 1080Y . . . . NO-HUB OUTLET
- Fig. 1080T . . . . THREADED OUTLET

**OPTIONAL MATERIALS:**

- ▲▲ Aluminum Dome -AD
- ▲▲ Cast Iron Dome -CID
- Galvanized Cast Iron -G
- ▲▲ Galvanized Cast Iron Dome -CIDG
- ▲▲ Rough Bronze Dome -RBD

▲▲ **Optional domes' free area are as follows:**  
 Aluminum 98 (632)  
 Cast Iron 80 (516)  
 Bronze 95 (613)

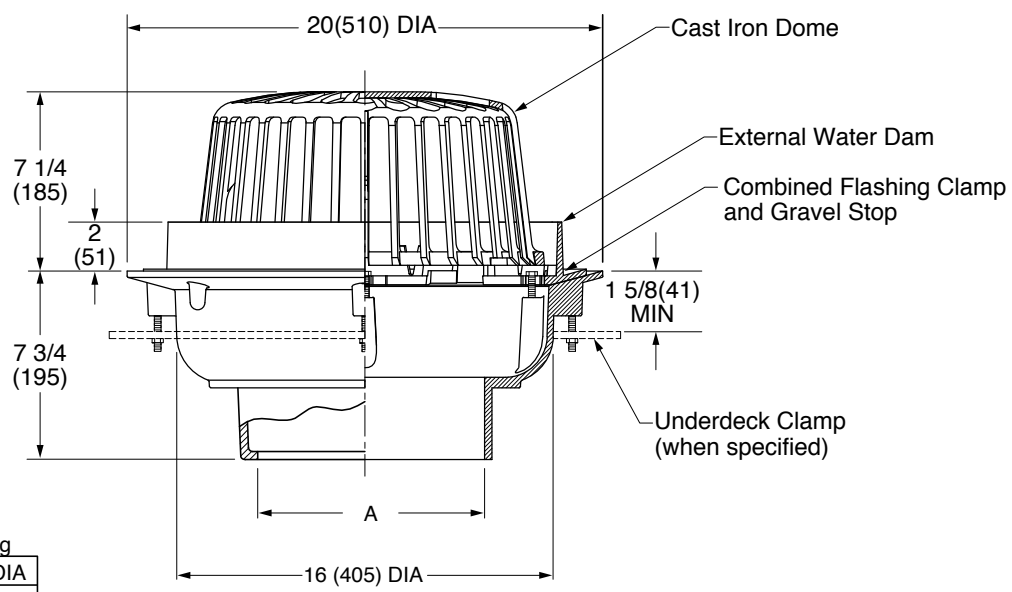
REV.	DATE	DESCRIPTION	BY	CKD. BY
K	3-13-13	Rev. Notes	JJ	CL
J	06/04/09	Added Optional Dome Notes	JJ	CL
H	9-8-08	Rev. Variations	RN	TK

WEIGHT POUNDS	VOLUME CUBIC FEET	FIGURE NUMBER
		1080

# OVERFLOW ROOF DRAIN

**FUNCTION:** Used in flat roof construction as an emergency overflow, draining water when the depth of water on the roof reaches the water dam height. The Large dome provides sufficient free area for quick drainage of rain water and protects the drain sump and connected piping from the intrusion of debris. Wide clamping surface holds flashing and roofing materials without puncturing.

FREE AREA  
 228 SQ IN  
 (1471 SQ CM)



recommended deck opening	
less suffix -R	18 3/4(475) DIA
with suffix -R	21(535) DIA

A (PIPE SIZE) = 08(200), 10(250) or \*12(305)  
 \*12(305) outlet size available in No-Hub only.

- FIG.1080C .....CAULK OUTLET
- FIG.1080Y .....NO-HUB OUTLET
- FIG.1080T .....THREADED OUTLET

**REGULARLY FURNISHED:**  
 Duco Cast Iron Body with External Water Dam, Combined Flashing Clamp and Gravel Stop and Cast Iron Dome.

- VARIATIONS:**
- Extension (Specify Height) -E
  - Secondary Flashing Clamp -C2
  - Sump Receiver -R
  - Underdeck Clamp -C
  - "L" Shaped Underdeck Clamp -CL
  - Vandal Proof Dome -U
  - Stainless Steel Mesh Over Dome-SSM

- OPTIONAL MATERIALS:**
- Aluminum Dome -AD
  - Galvanized Cast Iron -G
  - Galvanized Cast Iron Dome Only -CIDG

DRAWING NUMBER  
**S1080BS**

SIZE  
**A**

SCALE:  
**NONE**

DATE:  
**3-13-13**

APPROVED BY:  
**CL**

CHECKED BY:  
**CL**

DRAWN BY:  
**TBW**

**1080BS**

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DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCE AND CHANGE WITHOUT NOTICE

REV.	DATE	DESCRIPTION	BY	CKD. BY	WEIGHT POUNDS	VOLUME CUBIC FEET	FIGURE NUMBER <b>1080BS</b>