



# Department of Environmental Protection

2600 Blair Stone Road ♦ Tallahassee, Florida 32399-2400

DEP Form: 62-762.901(9)  
Form Title: Storage Tank Equipment  
Registration Form  
Effective Date: January 2017  
Incorporated in Rule 62-762.851, F.A.C.

## Storage Tank Equipment Registration Form

Fill out completely

### General Information

Company Name: S. Bravo Systems Inc. Contact Name: Keith Pearson, Mamdouh Elsharkawy  
Company Address: 2929 Vail Ave. City: Commerce Zip: 90040  
E-mail: KPearson@sbravo.com melsharkawy@sbravo.com Contact Number: (323) 888.4133  
Product Name: Singlewall & Doublewall Commercial Transition Sump  
Model Number(s): B800 SERIES Product Type: Underground Transition Sump (UST)  
Rule(s) citation within Chapter 62-761, or 62-762, F.A.C. that registration is being requested: Chapter-62-761

### Write a brief description of equipment registration request including product limitations:

Singlewall & Doublewall Commercial Transition Sump is compatible with all common fuels. This sump has a two piece design for easy access. An easy pour channel is standard to install the top hat. This transition sump comes with a snap-lock water-tight lid that is CA VPH compliant. \*30-year corrosion warranty \*Quality FRP construction \*Ships under vacuum test \*AB2481 compliant in CA \*Hydrostatic or vacuum monitoring.

### Information Checklist

- |                                                                                                   | Yes                                 | No                                  | N/A                                 |
|---------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Third-party Certification by a Nationally Recognized Testing Laboratory?                       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 2. Documentation of third-party evaluation that the equipment meets DEP Rules?                    | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 3. Documents included about the qualifications of the Nationally Recognized Testing Laboratory?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 4. Installation instructions included?                                                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 5. Technical information and drawings included?                                                   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 6. Annual Operability Testing Requirements (Rules 62-761.700, 62-762.701, & 62-762.702 F.A.C.)?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 7. Compatible with fuel blends containing >10% ethanol or >20% biodiesel?                         | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 8. Has the product been approved or registered in other countries or states? (If so provide list) | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 9. Any requirements for company-certified installers or trainers?                                 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 10. Was this product(s) previously approved or registered by the Department?                      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| If yes, please specify the Equipment Number: <u>EQ-</u>                                           |                                     |                                     |                                     |
| 11. Any changes or modifications to the equipment since the last submittal to DEP?                | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

Document Information: Provide supporting documents indicated as "Yes" above including this form via email to [Tanknotify@dep.state.fl.us](mailto:Tanknotify@dep.state.fl.us), or documents can be sent to FDEP, Division of Waste Management, 2600 Blair Stone Road, MS 4560, Tallahassee, FL 32399.

### Write a brief description of equipment installation and performance in the U.S.:

For #6 please refer to the installation instructions provided in #4.  
For #7 This is UL2447 tested and approved

### Equipment Registration Certification:

To the best of my knowledge and belief, all information submitted on this form is true, accurate and complete.

KEITH PEARSON, Mamdouh Elsharkawy  
Printed Name and Title

Keith Pearson  
Signature

11/7/18  
Date

### For Department Use Only:

Date Application Received: 11/9/2018

Application complete: Yes: ☒ No: ☐

EQ- 907

Date of complete or incomplete letter sent: 11/16/2018

Date of entry to the DEP Equipment Registration List: 11/16/2018



## Transition Sump B800 Commercial Series Singlewall



Part #: B834-SL

The Transition Sump B800 Singlewall is compatible with all common motor fuels. This transition sump series has a two-piece design for easier interior access. An easy slurry pour channel is standard to install top hat. The transition sump comes with a snap-lock water-tight lid.

### SIZES

3x3'

4x4'

5x5'

### MATERIAL

Fiberglass

### SPECIFICATIONS:

- 30-year corrosion warranty
- Quality FRP construction
- Standard with water-tight lid
- Compatible with all common motor fuels
- Two-piece for easier interior access



**Innovative Solutions for Secondary Containment**

[www.sbravo.com](http://www.sbravo.com) | 800.282.7286

DS-3.09\_9.18



## Transition Sump B830 Commercial Doublewall



Part #: B-830-DW

The Transition Sump B830 Doublewall is compatible with all common fuels. This transition sump series has a two-piece design for easier interior access. An easy slurry pour channel is standard to install the top hat. The transition sump comes with a snap-lock water-tight lid that is CA VPH compliant.

### SIZES

3x3'

4x4'

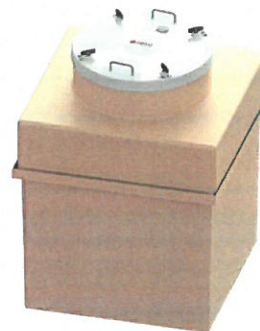
5x5'

### MATERIAL

Fiberglass

### SPECIFICATIONS:

- 30-year corrosion warranty
- Quality FRP construction
- Two-piece design
- Ships under vacuum test
- AB2481 compliant in California
- Compatible with all fuels
- Standard with water-tight snap-lock lid
- Hydrostatical or vacuum monitoring



**Innovative Solutions for Secondary Containment**

[www.sbravo.com](http://www.sbravo.com) | 800.282.7286

DS-3.10\_9.18

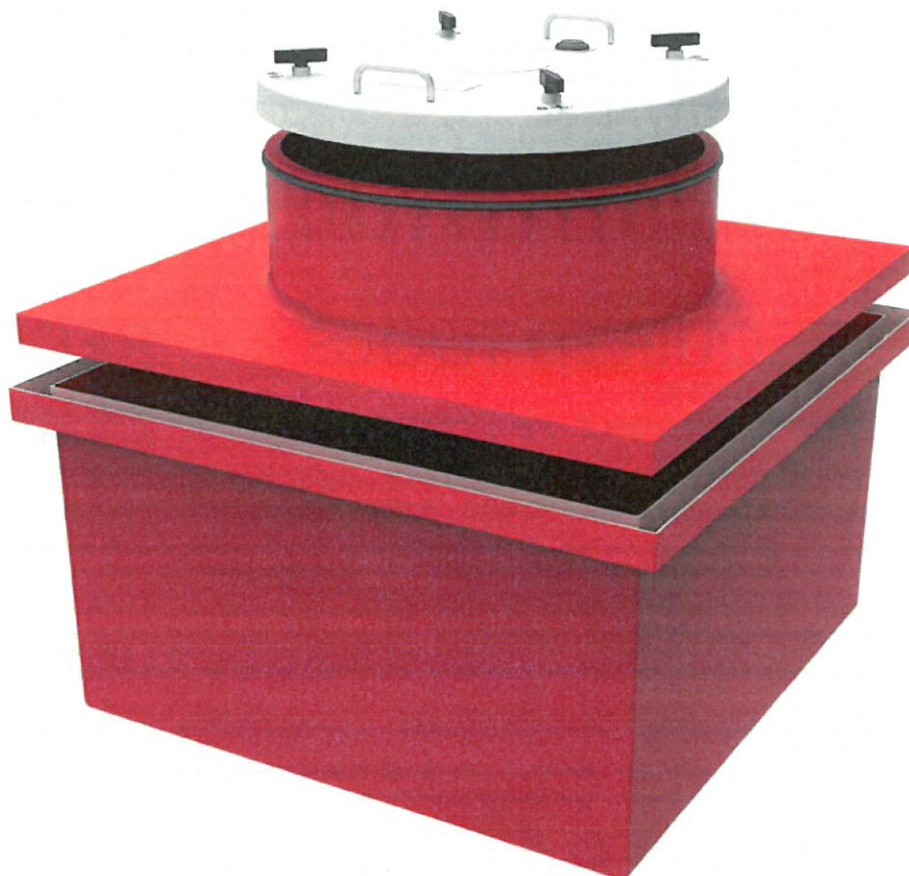
# B-830 Commercial Series

## *SINGLE WALL TRANSITION SUMP MANUAL*

FOR STANDARD MODELS B-833, B-834, B-835 AND VARIATIONS

Features our deep  
'Pour in Place'  
Channel

Epoxy slurry kit  
is provided  
with each sump



Consult our pricelist for  
standard sizes and for  
size customization options  
[www.sbravo.com/price](http://www.sbravo.com/price)

**B-83X:** Transition sump with round reducer & cover  
**B-830-TG:** Tank Sump (square 407-TG version) (Call for quote)  
**B-84X:** Transition sump with square reducer & cover (Call for quote)  
**B-85X:** Transition sump with a full width/length cover (Call for quote)

This instruction manual is designed for all variations of the B-800 Series and their varied cover types. For models with square reducers, ensure that a manway or grade level cover is selected that will allow the B-800 sump cover to be removed completely.

ii-B830-Commercial-SW-14A



WWW.SBRAVO.COM  
800-AT-BRAVO



made  
in USA



## EXHIBIT A

# MANDATORY

The B-830 SingleWall Piping / Transition Sump Series from S. Bravo Systems, Inc. **MUST** be installed by, and only by, **Bravo Certified Installation Contractors**. Details can be found at [www.sbravo.com/cert.htm](http://www.sbravo.com/cert.htm)

# IMPORTANT

**READ THESE INSTRUCTIONS - KEEP FOR FUTURE REFERENCE**

## TABLE OF CONTENTS

|                                                |      |
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| A) Positioning the Transition Sump.....        | p. 2 |
| B) Entry Fittings.....                         | p. 2 |
| C) Epoxy Slurry Step.....                      | p. 3 |
| D, E, F) Testing / Repairing / Sump Cover..... | p. 3 |
| G) Backfill & Concrete Instructions.....       | p. 4 |

## REQUIRED TOOLS (NOT PROVIDED)

Power/air sanders & cutters. Acetone or other cleaning solvent.

## RECOMMENDED

### Bravo Sand Kits

Bravo sand kits are sized to the fitting types you have and provide the best possible grind

## WARRANTY

All containment systems sold by S. Bravo Systems, Inc. are warranted to be free from defects in material and workmanship for a period of one year from date of purchase. This warranty will be limited to the repair and replacement of Bravo parts only and will exclude all claims for labor or consequential damage. No other express warranties given and no affirmation of S. Bravo Systems, Inc., or its agents and/or representatives, by words or action, will constitute a warranty. IT IS EXPRESSLY AGREED THAT THIS WARRANTY WILL BE IN LIEU OF ALL WARRANTIES OF FITNESS AND IN LIEU OF THE WARRANTY OF MERCHANTABILITY.

This warranty is void if there is any evidence of modification, abuse, negligence, or improper installation. If any fittings or components, other than S. Bravo Systems approved fittings or components, are used in conjunction with any S. Bravo Systems product, the warranty pertaining to these products is immediately void.

# A - SUMP POSITIONING

Determine the permanent position of the B830 Commercial Series sump according to your site drawings. During positioning, leave the top half dry-fit to the transition sump to ensure all grade measurements are accurate. Rest the entire sump on a bed of peagravel and make it level.

## IMPORTANT

**DO NOT SET THIS SUMP ON TOP OF A RIGID MATERIAL SUCH AS CONCRETE. THE SUMP MAY ONLY BE PLACED ON PEAGRAVEL.**

# B - ENTRY FITTINGS

Proceed to install your entry fittings of choice. For all entry fittings, Bravo Sanding Kits are recommended for a consistent flat grind. If installing Bravo FRP entry fittings, all contact surfaces must be abraded. Bravo sumps contain no paint or gel-coat so much less grinding will be needed. Refer to the installation manuals provided by the entry fitting and piping manufacturers.

## C - EPOXY SLURRY POUR

Follow the SLURRY INSTRUCTIONS manual affixed to your slurry can.

**⚠ CRITICAL** DURING HOT WEATHER - KEEP ALL SUMPS, SLURRY AND RESIN SHADED AND OUT OF DIRECT SUNLIGHT UNTIL TIME OF INSTALLATION. AM (MORNING) INSTALLATION IS RECOMMENDED.

**⚠ CRITICAL** DO NOT DISTURB THE SUMP OR IT'S PIPING UNTIL AFTER THE FULL SPECIFIED CURE TIME

**D - TESTING SUMPS** - Conduct a water test **ONLY AFTER** all lamination joints and slurry pour joints are sealed and entry fittings are fully installed and all materials have fully cured. Follow all local, State or Federal regulations regarding testing protocols.

## E - REPAIRING SUMPS

If tank sumps either arrive damaged or are damaged in the field, contact the factory.

## F - BRAVO SNAP-LOCK COVER

The most current cover that is included with Bravo 407 Series tank sumps is the SNAP-LOCK.

To install:

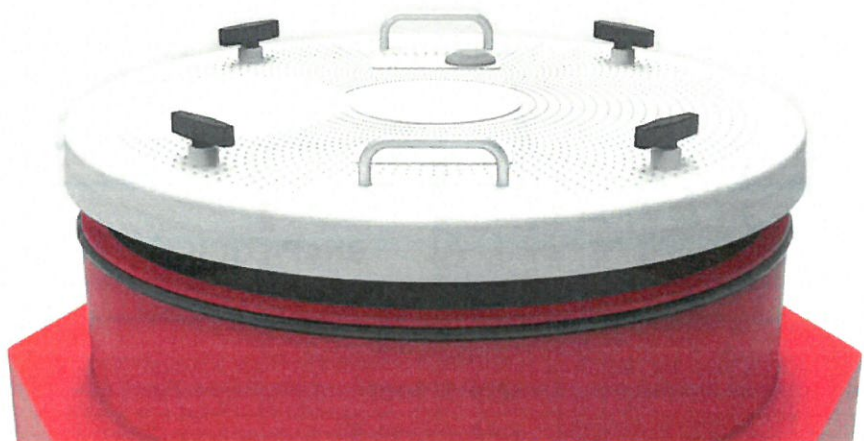
- 1) Unlock cams.
- 2) Step-to-seal.
- 3) Lock cams.

If you are unfamiliar with this new cover, read all about it at:

**[sbravo.com/snap](http://sbravo.com/snap)**



You can also see a video at:  
**[sbravo.com/videos](http://sbravo.com/videos)**



**SNAP-LOCK Cover (SL32)**

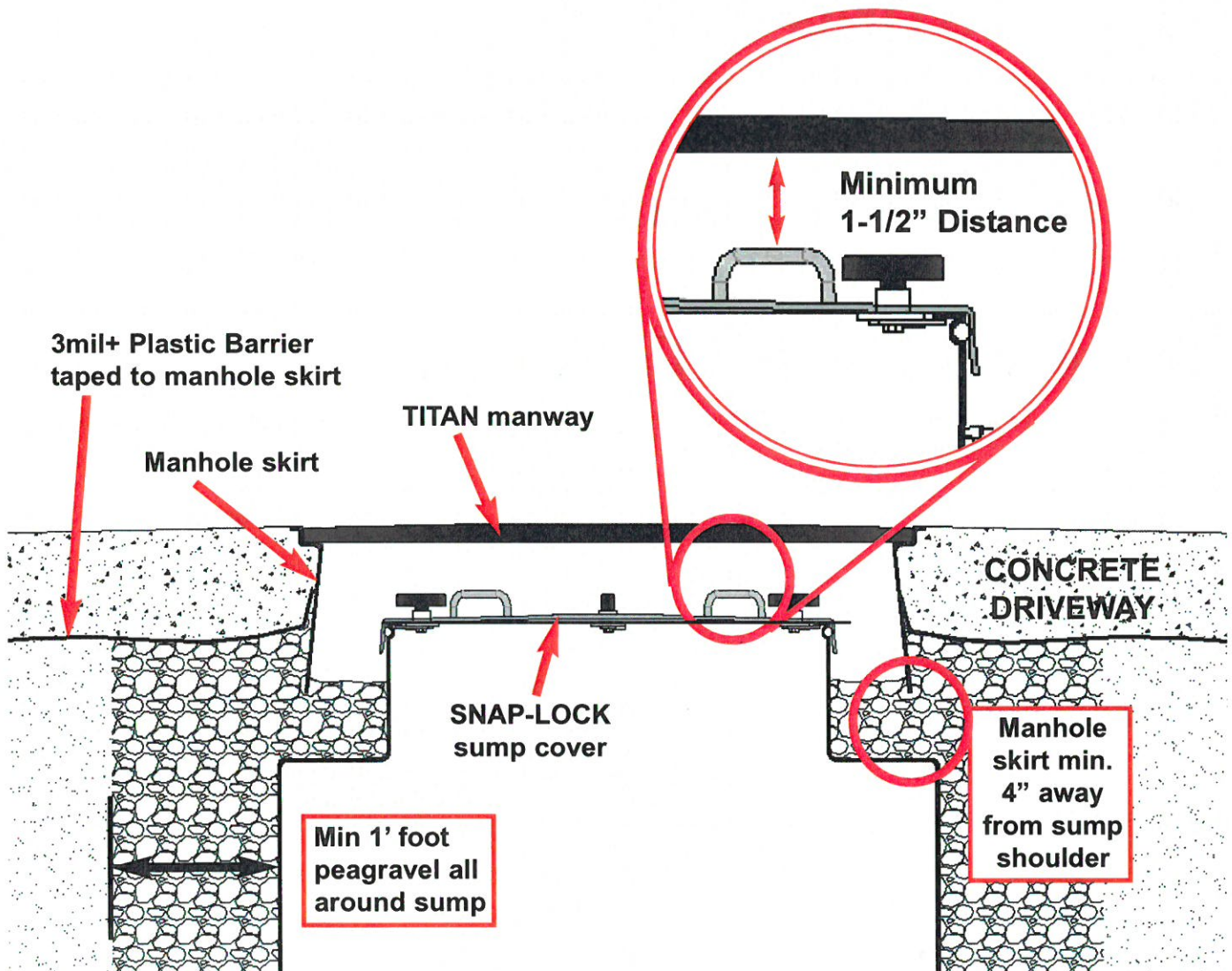
## G - Concrete and Backfill Guidelines.

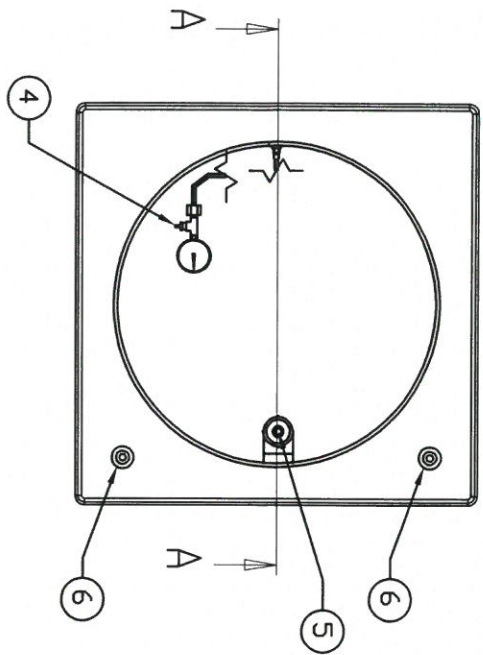
To ensure that no immediate or future damage is done to your Bravo Sump Reducer components, make sure that your manhole skirt **DOES NOT TOUCH OR REST ON THE TANK SUMP SHOULDER**. The Manhole Skirt should be kept at minimum of 4" away from the tank sump shoulder. Follow the manhole manufacturers instructions for installing the manhole. Also follow other details provided by tank and/or engineering firm for tank driveway pad installation.

Backfill your peagravel around the sump maintaining a minimum of 1' foot all the way around (if your site backfill is not entirely peagravel) and 4" minimum distance from the top edge of sump reducer.

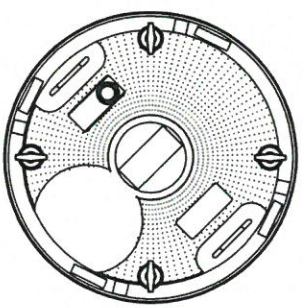
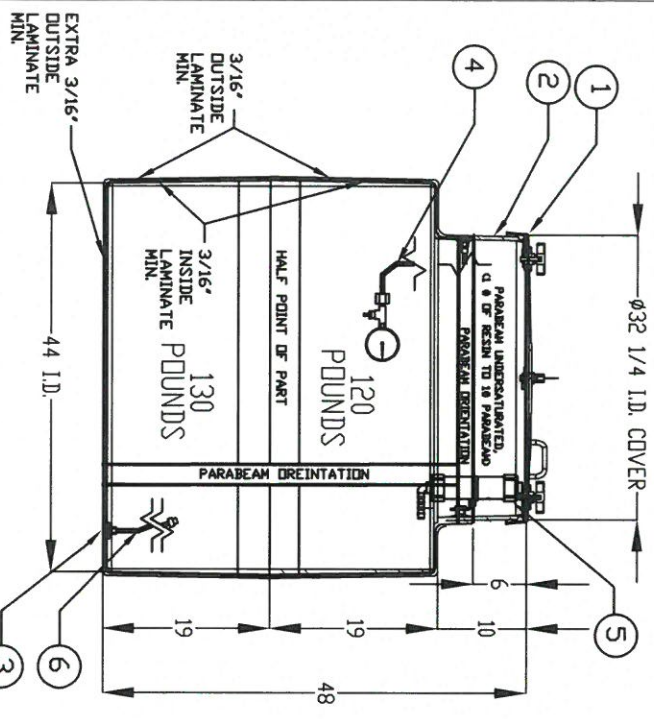
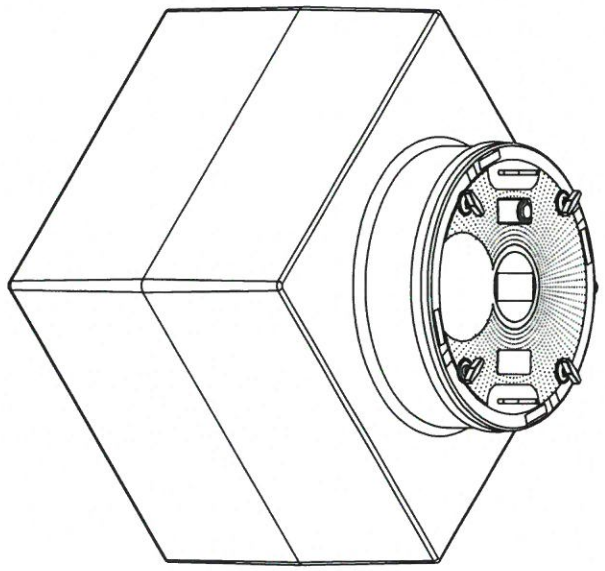
When peagravel is in place, use a 3mil or thicker plastic sheet to cover the surface of the peagravel no less than 2 feet away from the sump reducer wall.

Secure this plastic barrier to the **EXTERIOR OF THE MANHOLE SKIRT** using tape or other temporary means. Do not staple or tek-screw it in place. This prevents concrete from seeping too far down into the peagravel while it is setting.





SL COVER



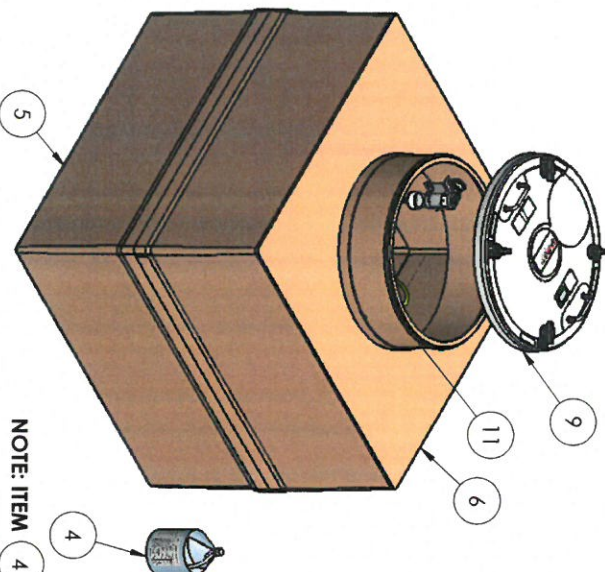
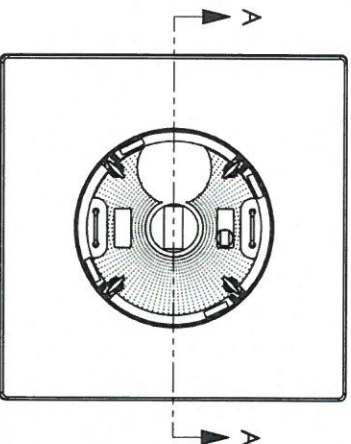
| ITEM NO. | PART NUMBER                   | DESCRIPTION                   | QTY |
|----------|-------------------------------|-------------------------------|-----|
| 1        | SL-32                         | SL-32 COVER ASSY              | 1   |
| 2        | B-834X32-DV-SL-TOP-ASSY       | B-834X32-DV-SL-TOP-ASSY       | 1   |
| 3        | B-834-DV-BASE                 | B-834-DV-BASE                 | 1   |
| 4        | GAUGE ASSEMBLY                | GAUGE ASSEMBLY                | 1   |
| 5        | MANDMETER ASSEMBLY            | MANDMETER ASSEMBLY            | 1   |
| 6        | TUBING ASSEMBLY               | TUBING ASSEMBLY               | 1   |
| 7        | INTERSTITIAL FLUID, not shown | INTERSTITIAL FLUID, not shown | 5   |



SECTION A-A

PROPRIETARY AND CONFIDENTIAL  
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF BRAVO SYSTEMS, INC. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF BRAVO SYSTEMS, INC.

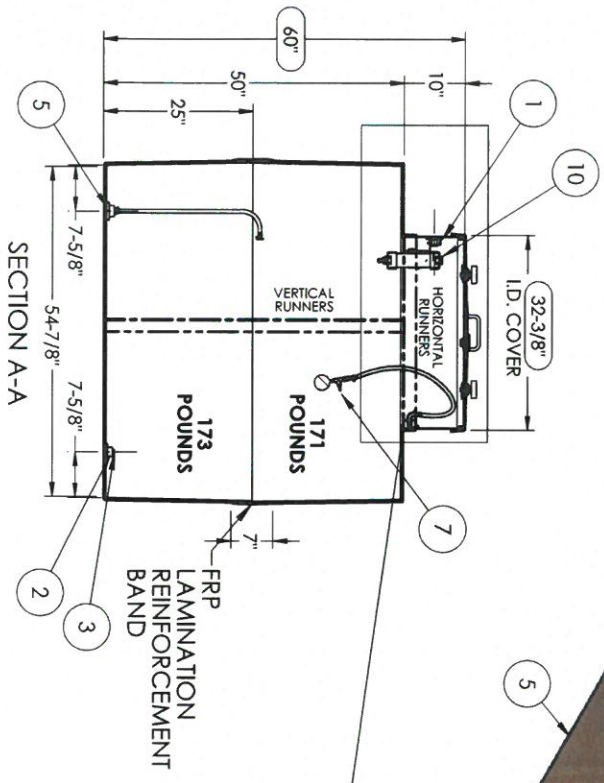
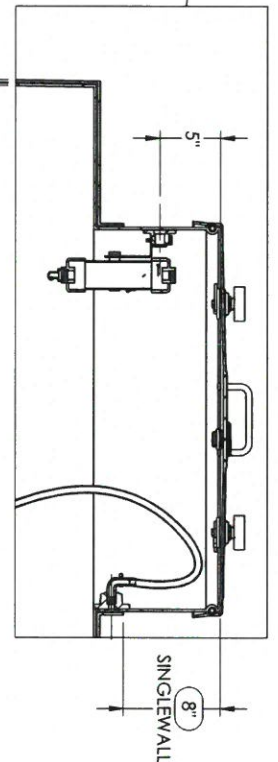
|                                      |  |           |       |                           |              |
|--------------------------------------|--|-----------|-------|---------------------------|--------------|
| UNLESS OTHERWISE SPECIFIED           |  | NAME      | DATE  | S. BRAVO SYSTEMS INC      |              |
| DIMENSIONS ARE IN INCHES             |  | JMP       | 10/14 |                           |              |
| TOLERANCES:                          |  | DM        | 10/14 |                           |              |
| FRACTIONAL ±                         |  |           |       |                           |              |
| ANGULAR MACH ±                       |  | CHECKED   |       | TITLE:<br>B-834-D-AB-SL   |              |
| BEND ±                               |  | ENG APPR. |       |                           |              |
| TWO PLACE DECIMAL ±                  |  | MTG APPR. |       |                           |              |
| THREE PLACE DECIMAL ±                |  |           |       |                           |              |
| INTERPRET GEOMETRIC TOLERANCING PER: |  | DA        |       | DWG. NO.<br>B-834-D-AB-SL |              |
| MATERIAL                             |  | SIZE      | REV   |                           |              |
| FINISH                               |  |           |       |                           |              |
| SEE BDM                              |  |           |       |                           |              |
| DO NOT SCALE DRAWING                 |  |           |       | SCALE: 1/16" WEIGHT:      | SHEET 1 OF 1 |



| ITEM NO. | PART NUMBER                      | DESCRIPTION                           | QTY. | WEIGHT |
|----------|----------------------------------|---------------------------------------|------|--------|
| 1        | 5 PORT WITH WASHER               | 1/2" PORT WITH WASHER FOR MANOMETER   | 1    |        |
| 2        | 5 PORT YELLOW EPOXY              | 1/2" TEST PORT YELLOW EPOXY           | 1    |        |
| 3        | 5-20-THREADED-PIPE-HEX-HEAD-PLUG | 1/2"-20 HEX HEAD PLUG                 | 1    |        |
| 4        | IMF-1 GAL                        | IMF-1 GAL                             | 9    |        |
| 5        | B-835-DB BASE                    | B-834-DW-BASE                         | 1    | 172.13 |
| 6        | B-835-DB-TOP-SL-32               | B-834-DW-TOP-CL-32                    | 1    | 170.44 |
| 7        | GAUGE ASSY                       | GAUGE ASSY                            | 1    |        |
| 8        | HOSE ASSY 6 FEET LONG            | 6 FEET HOSE, PLUG, PORT & CLAMPS ASSY | 1    |        |
| 9        | SL-32                            | SL-32 SNAP LOCK LID ASSEMBLIES        | 1    |        |
| 10       | SMALL MANOMETER                  | SMALL SUPP MANOMETER                  | 1    |        |
| 11       | SNAP-COVER-32-ORING              | 32" ORING                             | 1    |        |

NOTE: ITEM 4 QTY IS 9

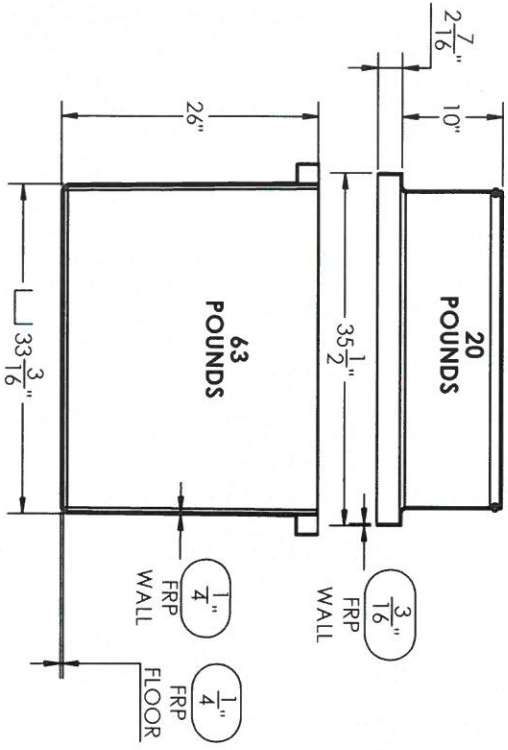
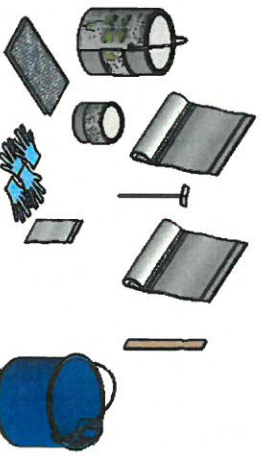
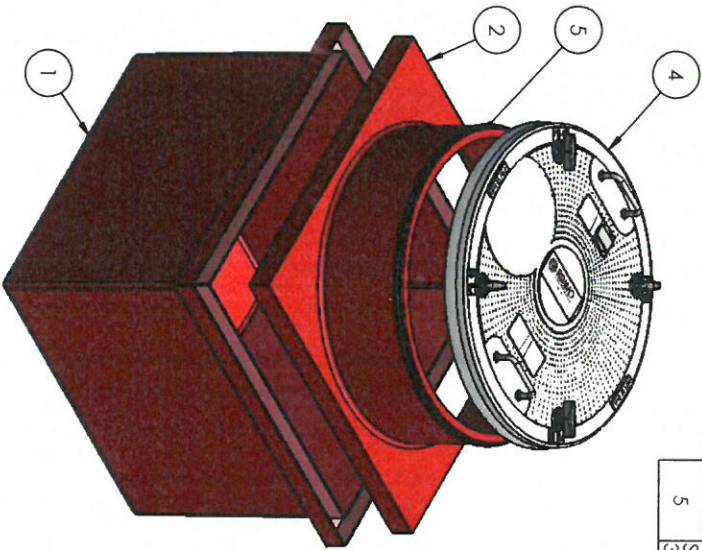
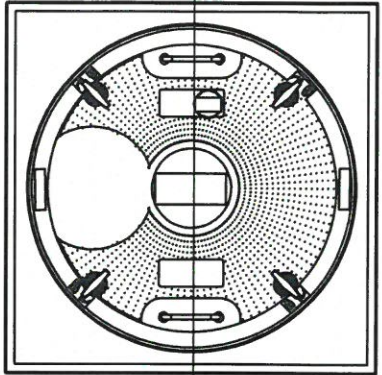
DETAIL B  
SCALE 1 : 10



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| DIMENSIONS ARE IN INCHES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| TOLERANCES:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| REVISIONS |             |          |          |
|-----------|-------------|----------|----------|
| REV.      | DESCRIPTION | DATE     | APPROVED |
| A         | UPDATED BOM | 3/6/2017 | DM       |

| ITEM NO. | PART NUMBER         | DESCRIPTION                    | QTY. | WEIGHT |
|----------|---------------------|--------------------------------|------|--------|
| 1        | B-833 BASE          | B-833 STD BASE                 | 1    | 62.35  |
| 2        | B-833-10T SL TOP    | B-833-10T TOP                  | 1    | 19.00  |
| 3        | EPS-1GAL            | POUR JOINT SLURRY/EPOXY        | 1    |        |
| 4        | SL-32               | SL-32 SNAP LOCK LID ASSEMBLIES | 1    |        |
| 5        | SNAP-COVER-32-ORING | 32" ORING                      | 1    |        |



**BRAVO**  
PROBLEM SOLVED

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UNLESS OTHERWISE SPECIFIED:  
DIMENSIONS ARE IN INCHES  
TOLERANCES:  
FRACTIONAL: ± .005  
ANGULAR: MATCH BEND  
TWO PLACE DECIMAL: ± .01  
THREE PLACE DECIMAL: ± .005  
INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5-2009

FINISH: SEE BOM

DO NOT SCALE DRAWING

NAME: JMAP  
DATE: 9/13  
CHECKED: DM  
ENG APPR: [Signature]  
MFG APPR: [Signature]  
Q.A.:

NAME: JMAP  
DATE: 9/13  
CHECKED: DM  
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MFG APPR: [Signature]  
Q.A.:

TITLE: S. BRAVO SYSTEMS INC

**B-833-SL**

DWG. NO. B-833-SL

SCALE: 1:12 WEIGHT: SHEET 1 OF 1



# Don K. Mukai

## MECHANICAL ENGINEER

1841 Paloma St. Pasadena, CA 91104

323-888-4136

December 3, 2013

Revised 12.09.13

**Ms. Paola Bravo**  
S. Bravo Systems, Inc.  
2929 Vail Ave.  
Commerce, CA 90040

**Re: Specification approved by a state registered professional engineer**  
CCR Title 23, Division 3, Chapter 16, Article 3, Section 2631(d)

**This letter is for an engineering specification review and approval of a secondary containment system component which is not an integral part of primary containment for an underground fuel tank storage system in California. The authority for this approval comes from the California Code of Regulations (CCR) Title 23, Division 3, Chapter 16, Article 3, Section 2631(d).**

I have examined and reviewed the following specifications for the **B-830 Commercial Series** transition sumps:

- 1) UL.com Certification Directory EGVV2.MH26018 for AOC Vipel F-764 and 774 resins
- 2) UL.com Certification Directory Category EGVV2.guideinfo
- 3) UL.com Certification Directory Standard ANSI/UL 1316
- 4) AOC Vipel Product Selection Guide
- 5) AOC Vipel Corrosion Resistance Resin Guide
- 6) Bravo Systems Sump Wall Specifications document Bravo\_SumpWallConstSpec\_2013
- 7) Bravo Systems datasheet B830-SW-Commercial and B830-DW-Commercial
- 8) Bravo Systems datasheet B407-RB-13B and B409-D-AB-13A
- 9) Bravo Systems datasheet SNAP-SERIES-13A
- 10) Bravo Systems installation manuals for the B407-RB and B409-D-AB products
- 11) Representative B407-RB, B409-D-AB, B833, B834 and B835 transition sumps
- 12) Detailed drawings of B407-RB, B409-D-AB, B833, B834 and B835 transition sumps
- 13) Bravo Systems Factory Certificates for both SingleWall and DoubleWall products
- 14) Bravo Systems Alternative Fuel Compatibility letter for containment sumps R3
- 15) Bravo Systems document Bravo\_30Year\_CorrosionWarranty
- 16) Bravo Systems UL Approval document UL\_BRAVO\_B400\_SERIES
- 17) State of Florida DEP Approval document FDEP-EQ615-SW-DW

The B830 series sumps are four-wall variants of the established UL Listed SingleWall B407-RB and DoubleWall B409-D-AB transition sumps, which have octagonal walls. The B830 series was established to allow Bravo's architectural & engineering community to specify the length and height of the containment sump at the time of order to accommodate a wider range of applications.

*Continued on Page 2...*

...Continued from Page 1

The B830 series secondary containment sumps are each constructed to contain a set maximum liquid volume. No method exists for the manufacturer to verify that the sump size selected by the contractor / engineer is sufficient to contain the annulus of the primary piping per the requirements listed at California Code of Regulations (CCR) Title 23, Division 3, Chapter 16, Article 3, Section 2631(d)(1). The readers are guided in each respective installation manual to observe this requirement and web links are provided to help guide them to the standard.

Upon review of the manufacturing procedures, the employment of the materials used in the Bravo Systems B830 series SingleWall and DoubleWall transition containment sumps and the manufacturer's installation manual for its parent product line containing specific and well-detailed illustrations and guidelines, it is my opinion and conclusion that sound design and engineering of this product provides exceptional secondary containment of all motor vehicle fuels or alternative fuels and their additives currently produced and stored.

Please contact me with any questions at 323-888-4136

Sincerely,



Don K. Mukai, P.E.  
Mechanical Engineer

