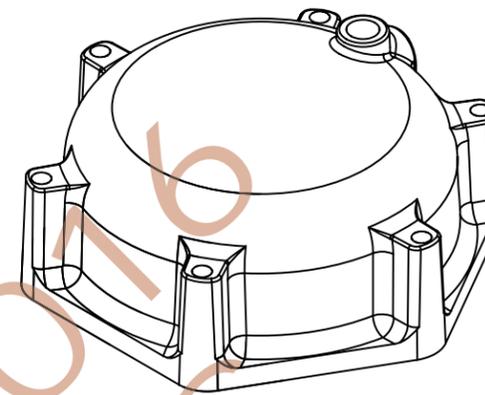
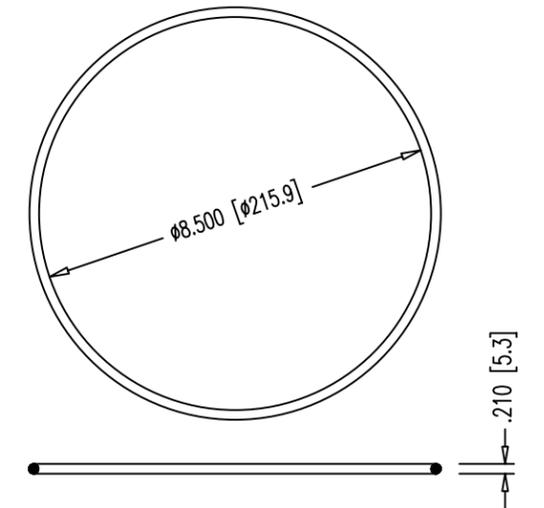


DETAIL C
SCALE: 4:3 IN COMPUTER
SCALE: 4:6 (11"x17" PLOT)



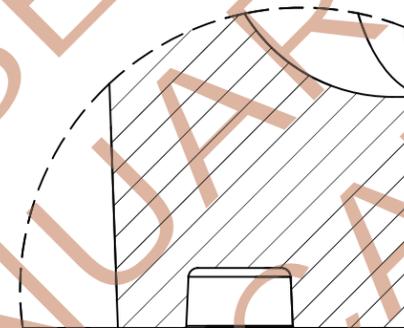
SCALE: 1:2 IN COMPUTER
SCALE: 1:4 (11"x17" PLOT)



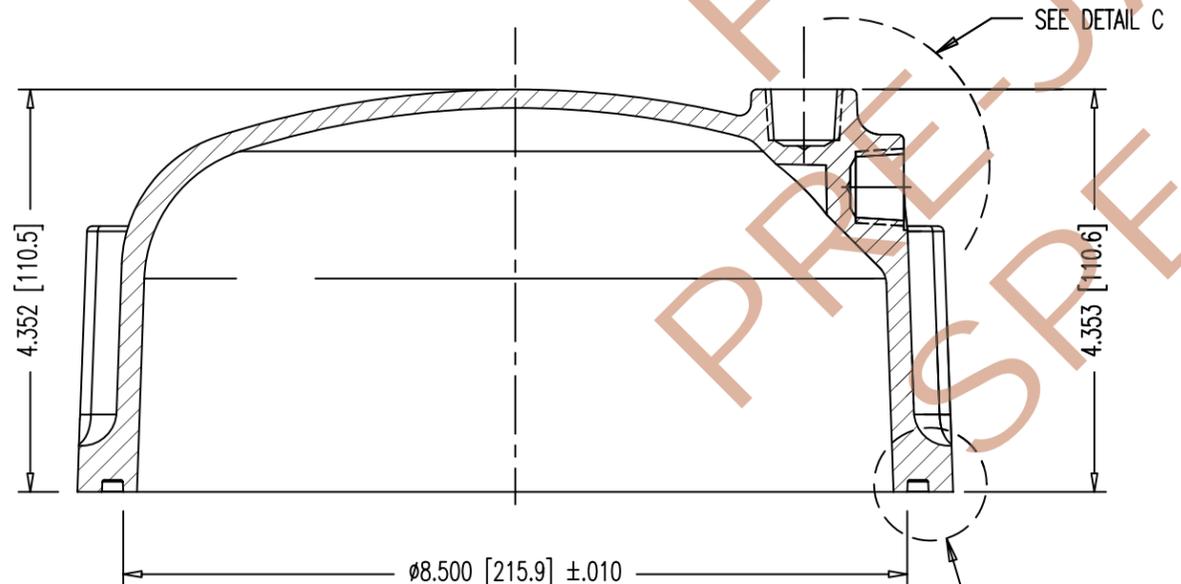
O-RING #371
8-1/2"x8-7/8"x3/16"
O-RING MATERIAL: BUNA "N"

SCALE: 1:2 IN COMPUTER (SCALE: 1:4 11"x17" PLOT)

- NOTES:
1. ALL DIMENSIONS DEPENDENT ON 3D DATA BASE USED FOR MOLD FABRICATION
 2. USE 3/8"-16UNC 316L S.S. HEX BOLTS, 3-1/2" LONG W/SMALL DIA. WASHER.
 3. INSTALL O-RING IN GROOVE USING DROPS OF LIQUID ADHESIVE BEFORE SHIPPING. DON'T USE EXCESSIVE ADHESIVE. O-RING MUST STAY IN PLACE UNTIL INSTALLATION.
 4. THE CELL CLASSIFICATION SHALL CONFORM TO ASTM D5989 AND SHALL BE S-PA0141 (WEATHER RESISTANT), S-PA0231 OR S-PA0401 (TENSILE STRENGTH, YIELD 15000 PSI MIN., WITH UV STABILIZER ADDED).



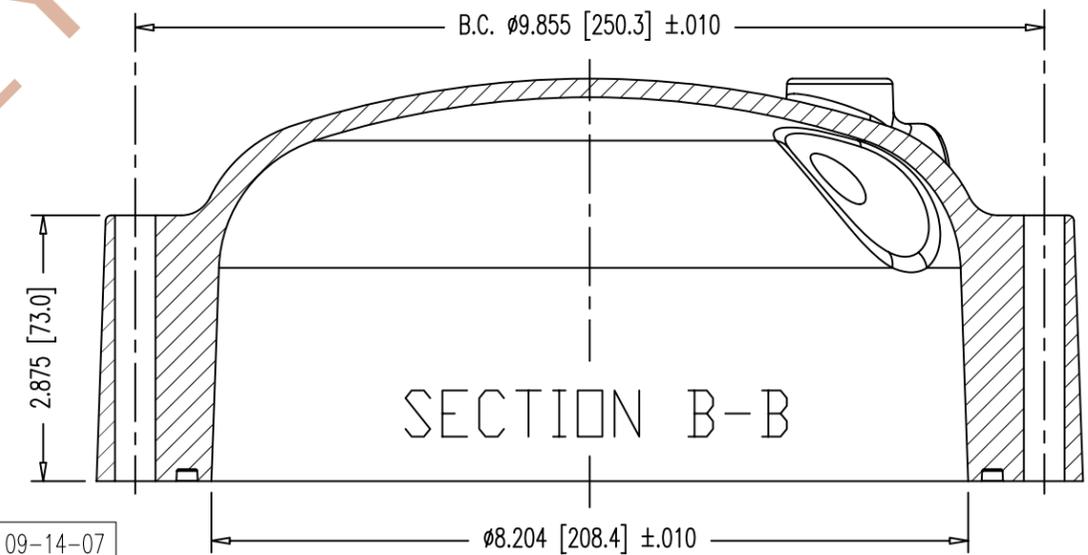
DETAIL D
SCALE: 5:1 IN COMPUTER
SCALE: 5:2 (11"x17" PLOT)



SECTION A-A

Tolerance Note:
All tolerances are based on SP/SPE and should be as follows unless specified otherwise:

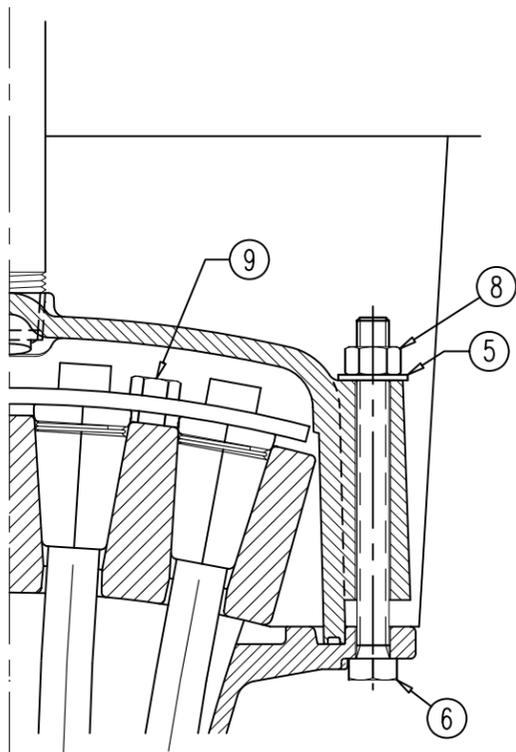
| Dim. | Tolerance |
|----------|------------|
| 0-1" = | +/- 0.005" |
| 1-2" = | +/- 0.007" |
| 2-3" = | +/- 0.009" |
| 3-4" = | +/- 0.011" |
| 4-5" = | +/- 0.013" |
| 5-6" = | +/- 0.015" |
| 6-7" = | +/- 0.017" |
| 7-8" = | +/- 0.019" |
| 8-9" = | +/- 0.021" |
| 9-10" = | +/- 0.023" |
| 10-11" = | +/- 0.025" |
| 11-12" = | +/- 0.027" |



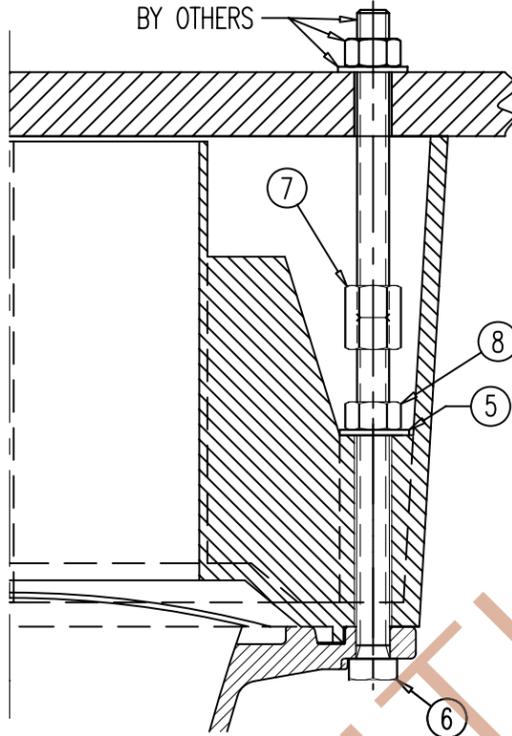
APPROVED BY FDOT 09-14-07

| | | | | | | | | | |
|--|-----------------|-------------------------------------|-----------|--|------------------------------|------|------|------|--------------------------------------|
| DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY | | QUALITY PLAN NUMBER: QS60072300P | | TOLERANCES: SEE TOLERANCE NOTE | WEIGHT 2.57 LBS. | REV. | DATE | NAME | PART NUMBER: 68 19 7230 |
| 19-0.6" PLASTIC GROUT CAP | | | | MATERIAL: NYLON 6 20% GLASS FIBER FILLED | SCALE 1:2 UNLESS NOTED | | | | DRAWING NUMBER: 68 19 7230 |
| DATE: 09-14-07 | DWG: G. MALECKI | CHK: E.A. | APP: K.S. | DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC. POST TENSIONING / REINFORCING UNIT PHONE: 630-739-1100 320 MARMON DRIVE - BOLINGBROOK, IL FAX: 630-739-1405 | | | | | |

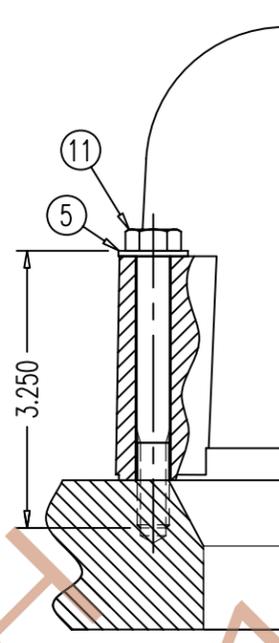




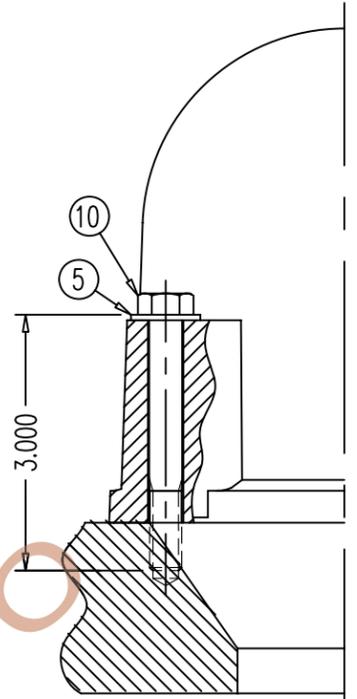
KEEPER PLATE 68 04 2637 ON
WEDGE PLATE 68 04 2534A &
GROUT CAP 68 04 2539 ON Δ
FLAT ANCHOR 68 04 2531



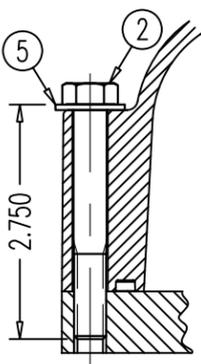
POCKET FORMER 68 04 2640
ON FLAT ANCHOR 68 04 2531



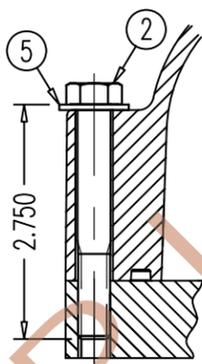
BAR GROUT CAP
B36E50700 & B65E50700



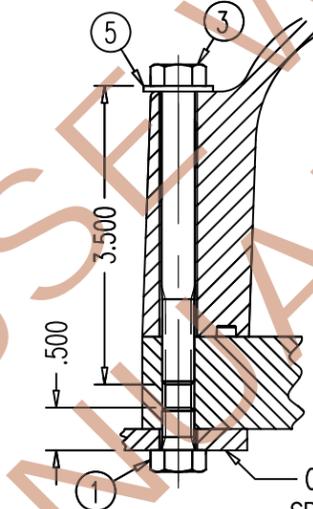
BAR GROUT CAP
B46E50700



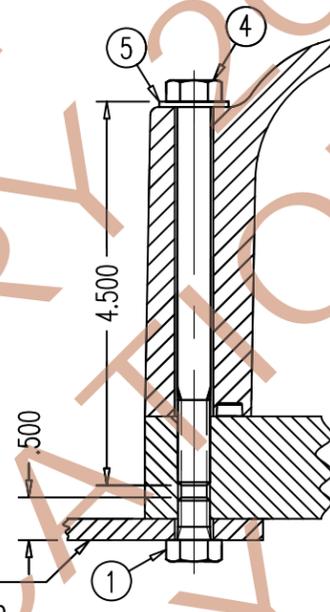
GROUT CAP 68 07 7230
ON MPA 68 07 216



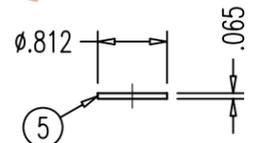
GROUT CAP 68 12 7230
ON MPA 68 12 216



GROUT CAP 68 19 7230
ON MPA 68 19 216



GROUT CAP 68 27 7230
ON MPA 68 27 216



TYPE A NARROW WASHER
FOR 3/8" - UNC BOLT

| POS. | PART NUMBER | DISCRIPTION (ALL PARTS 316L STAINLESS STEEL UNLESS NOTED) |
|------|-------------|---|
| ① | 00 00 770 | 3/8"-16UNC HEX BOLT, 1/2" LONG, ZINC PLATED |
| ② | 00 00 771 | 3/8"-16UNC HEX BOLT, 2-3/4" LONG (1" LONG THREAD) |
| ③ | 00 00 772 | 3/8"-16UNC HEX BOLT, 3-1/2" LONG (1" LONG THREAD) |
| ④ | 00 00 773 | 3/8"-16UNC HEX BOLT, 4-1/2" LONG (1" LONG THREAD) |
| ⑤ | 00 00 774 | TYPE A NARROW WASHER FOR 3/8"-UNC BOLT |
| ⑥ | 00 00 775 | 3/8"-16UNC HEX BOLT, 4" LONG (FULL THREAD) |
| ⑦ | 00 00 776 | 3/8"-16UNC COUPLER, ZINC COATED |
| ⑧ | 00 00 777 | 3/8"-16UNC HEX NUT |
| ⑨ | 00 00 778 | 5/16"-18UNC HEX BOLT, 7/8" LONG, ZINC PLATED |
| ⑩ | 00 00 782 | 3/8"-16UNC HEX BOLT, 3" LONG (1" LONG THREAD) |
| ⑪ | 00 00 783 | 3/8"-16UNC HEX BOLT, 3-1/4" LONG (1" LONG THREAD) |

NOTE:
THE 316L S.S. BOLTS ARE SPECIAL ORDER.
ALL WASHERS, HEX NUTS & COUPLERS HAVE
NO MARKINGS.

APPROVED BY FDOT 09-14-07

DIMENSIONS: INCH

QUALITY PLAN NUMBER:

STAINLESS STEEL 316L BOLTS AND WASHER FOR PLASTIC GROUT CAPS

DATE: 09-14-07 DWG: G. MALECKI CHK: E.A. APP: K.S.

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REV. DATE NAME

SCALE
1:3

PART NUMBERS:

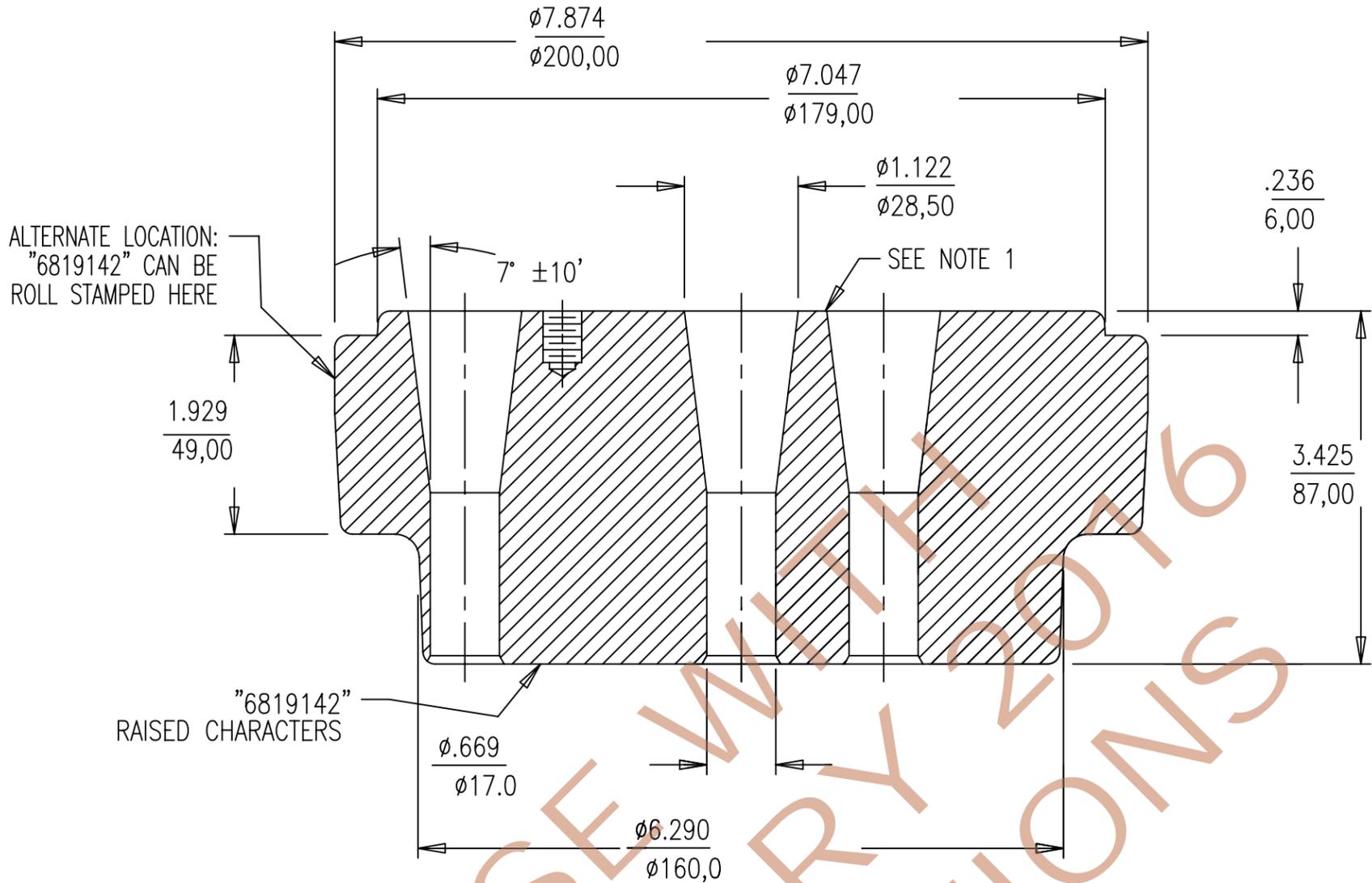
00 00 770 00 00 776
00 00 771 00 00 777
00 00 772 00 00 778
00 00 773 00 00 782
00 00 774 00 00 783
00 00 775

DRAWING NUMBER:

00 00 770

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320 MARMON DRIVE - BOLINGBROOK, IL FAX: 630-739-1405





3/8" THROUGH HOLE
 B.C. $\phi 3.779$
 (96,00)

3/8"-16UNC
 1/2" (12,7) DEEP
 (3) PLACES FOR KEEPER
 PLATE (SEE NOTE 4)

WEDGE PLATE DIPPED
 IN BEL-RAY RP-30
 FOR CORROSION PROTECTION

MATERIAL:
 STEEL FORGING
 ASTM A521-76
 NORMALIZED TO ACHIEVE
 BHN: 180-220
 MIN. YIELD STRENGTH: 50 KSI
 MIN. ELONG. IN 2": 18%

NOTES:

- BREAK EDGE OF WEDGE HOLES.
- USE 3-PART WEDGE P/N 68 00 0536.
- USE FORGED WEDGE PLATE BLANK P/N 68 19 142 91.
- USE KEEPER PLATE ONLY FOR PRE-ASSEMBLED AND INACCESSIBLE DEAD END ANCHORS. USE (3) BLACK HEX BOLTS, 1" LONG WITH NARROW WASHERS (BY OTHERS).

APPROVED BY FDOT 09-14-07

DIMENSIONS: INCH/mm
mm FOR REFERENCE ONLY

QUALITY PLAN NUMBER:
QS00014200F

TOLERANCES:
 $\pm .020$
UNLESS NOTED

WEIGHT
29.9
LBS.

| REV. | DATE | NAME |
|------|------|------|
| | | |
| | | |
| | | |
| | | |

PART NUMBER:
68 19 143

**19-0.6" FORGED WEDGE PLATE
FOR FIXED END**

MATERIAL:
SEE ABOVE

SCALE
1:2

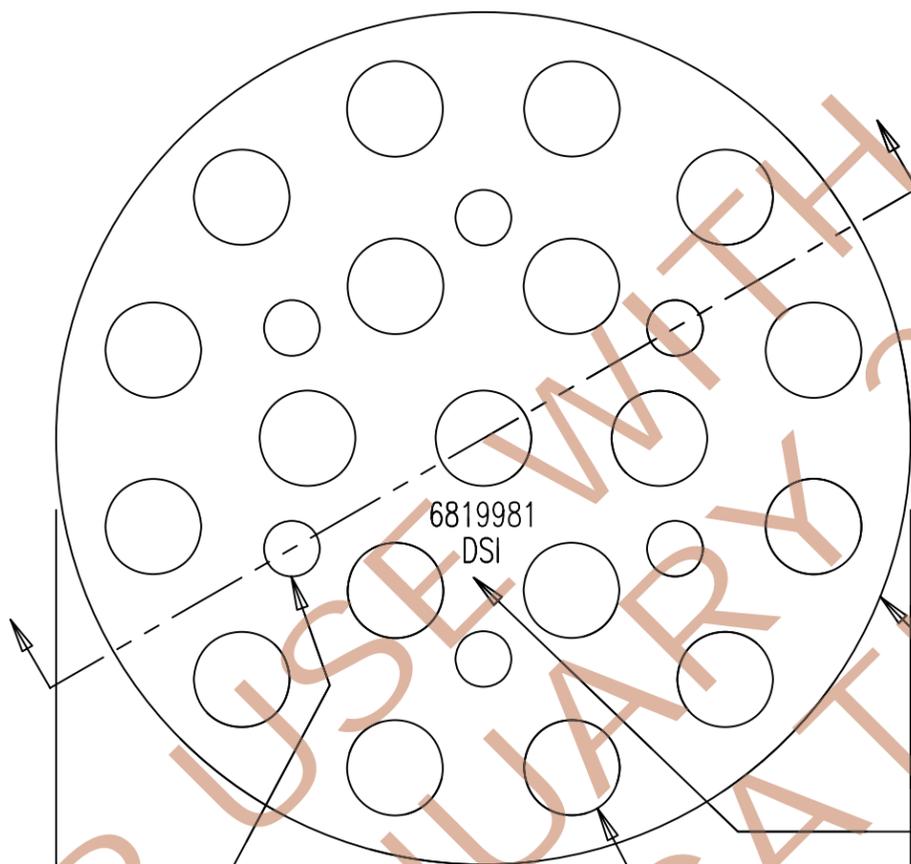
DRAWING NUMBER:
6819143

DATE: 09-14-07 DWG: G. MALECKI CHK: K.L. APP: K.S.

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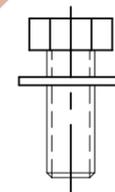
ROUND PLATE
WITHOUT HOLES
P/N 68 19 981 91

"6819981"
"DSI"
STAMPED

$\frac{\phi.438}{\phi11,1}$
6 PLACES

$\frac{\phi.750}{\phi19,1}$
19 PLACES

$\frac{\phi6.693}{\phi170,0}$



BLACK 3/8"-16UNC
HEX BOLT 1" LONG
WITH NARROW WASHER
(3) PLACES (BY OTHERS)

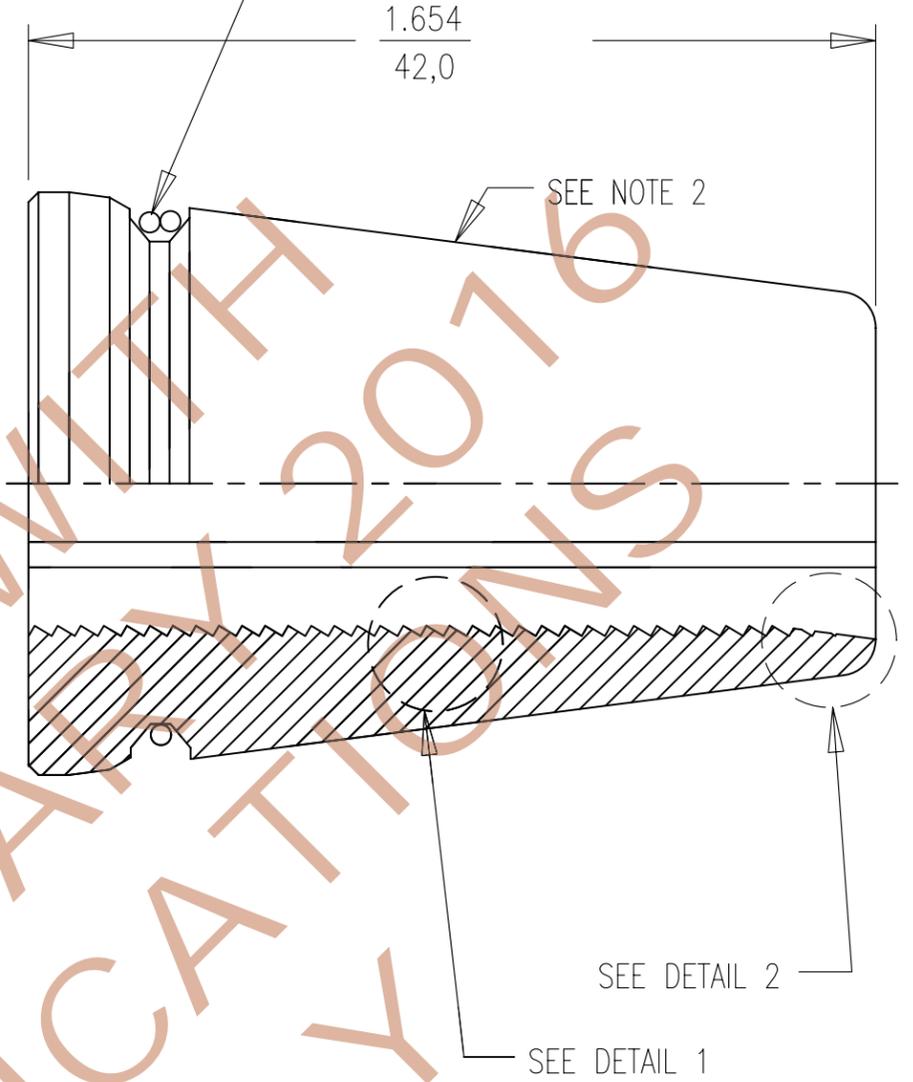
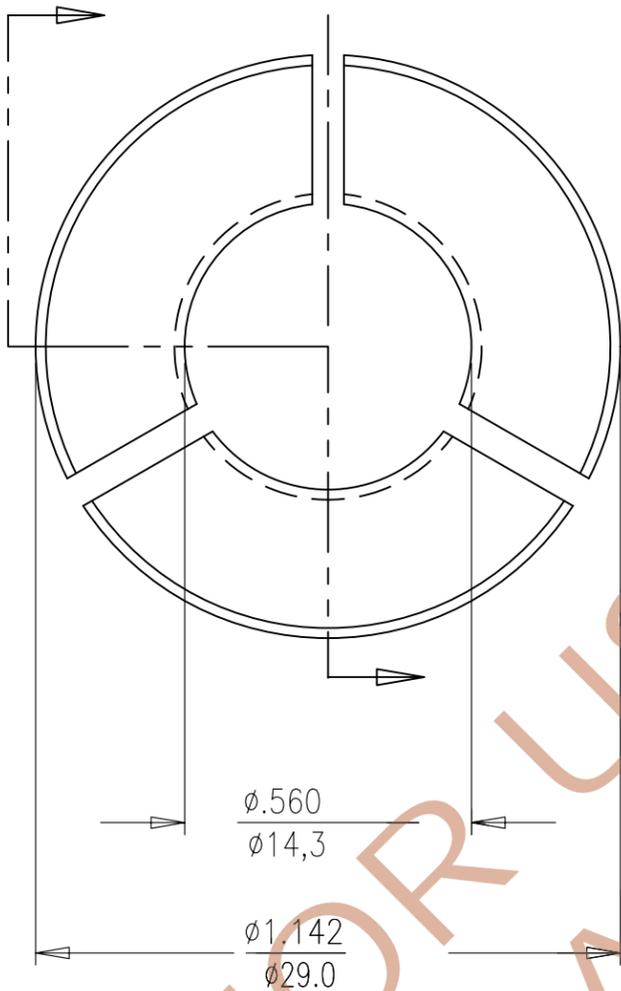
$\frac{.250}{6,4}$

NOTE:
USE KEEPER PLATE ONLY FOR PRE-ASSEMBLED
AND INACCESSIBLE DEAD END ANCHORS.

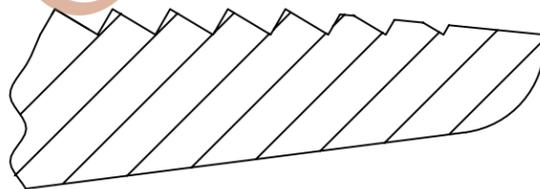
APPROVED BY FDOT 09-14-07

| | | | | | | | | | | |
|--|--|-------------------------------------|--|---|-----------------------|-----------|-----------|---|-------------------------------------|--|
| DIMENSIONS: INCH/mm mm FOR REFERENCE ONLY | | QUALITY PLAN NUMBER: QS60098100L | | TOLERANCES: ±.020 UNLESS NOTED | WEIGHT 1.9 LBS. | REV. | DATE | NAME | PART NUMBER: 68 19 981 | |
| 19-0.6" KEEPER PLATE | | | | MATERIAL: AISI 1020 OR EQUIV. | SCALE 1:2 | | | | DRAWING NUMBER: 68 19 981 | |
| | | | | DATE: 09-14-07 | DWG: G. MALECKI | CHK: K.L. | APP: K.S. | | | |
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SPRING WIRE RING:
 WIRE $\phi = .040$ (1,0), ID = .905 (23.0)
 NO. OF TURNS: $1.5 \pm .25$
 WIRE QUALITY: ASTM 228



DETAIL 1
5:1



DETAIL 2
5:1

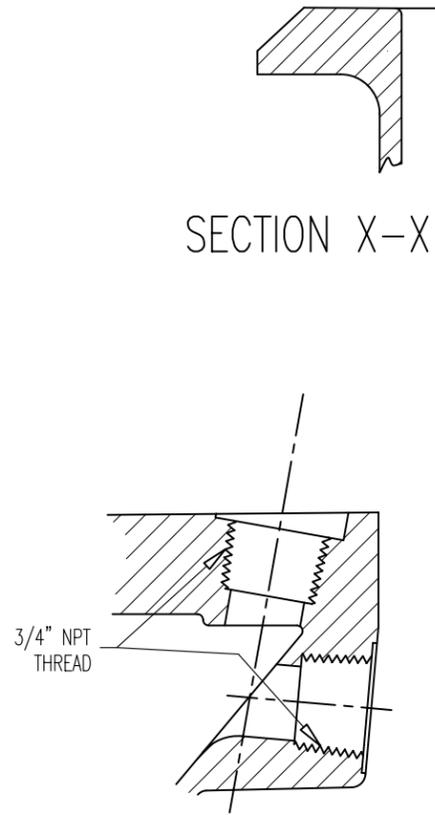
NOTES:

5. NO STAMPED PART NUMBER

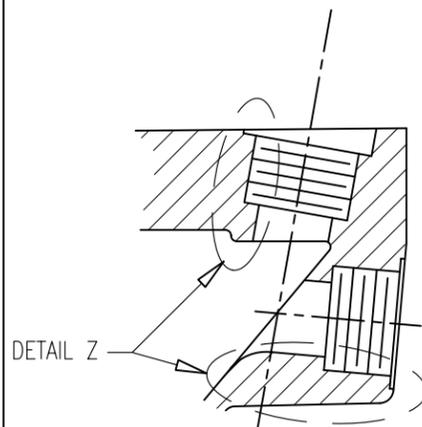
APPROVED BY FDOT 05-31-07

| | | | | | | | | | | |
|--|--|---------------------------------------|--|---|------------------------|-----------|-----------|------|--------------------------------------|--|
| DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY | | QUALITY PLAN NUMBER: QS00000500DP2 | | TOLERANCES: $\pm .010$; $\pm 2^\circ$ UNLESS NOTED | WEIGHT 0.19 LBS. | REV. | DATE | NAME | PART NUMBER: 68 00 0536 | |
| 3-PART WEDGE 7° x 29 mm x 42 mm 0.6" STRAND | | | | MATERIAL: SEE MAT'L SPEC. PMU0005360B | SCALE 2:1 5:1 | | | | DRAWING NUMBER: 68 00 0536 | |
| | | | | DATE: 05-31-07 | DWG: G. MALECKI | CHK: C.S. | APP: K.L. | | | |
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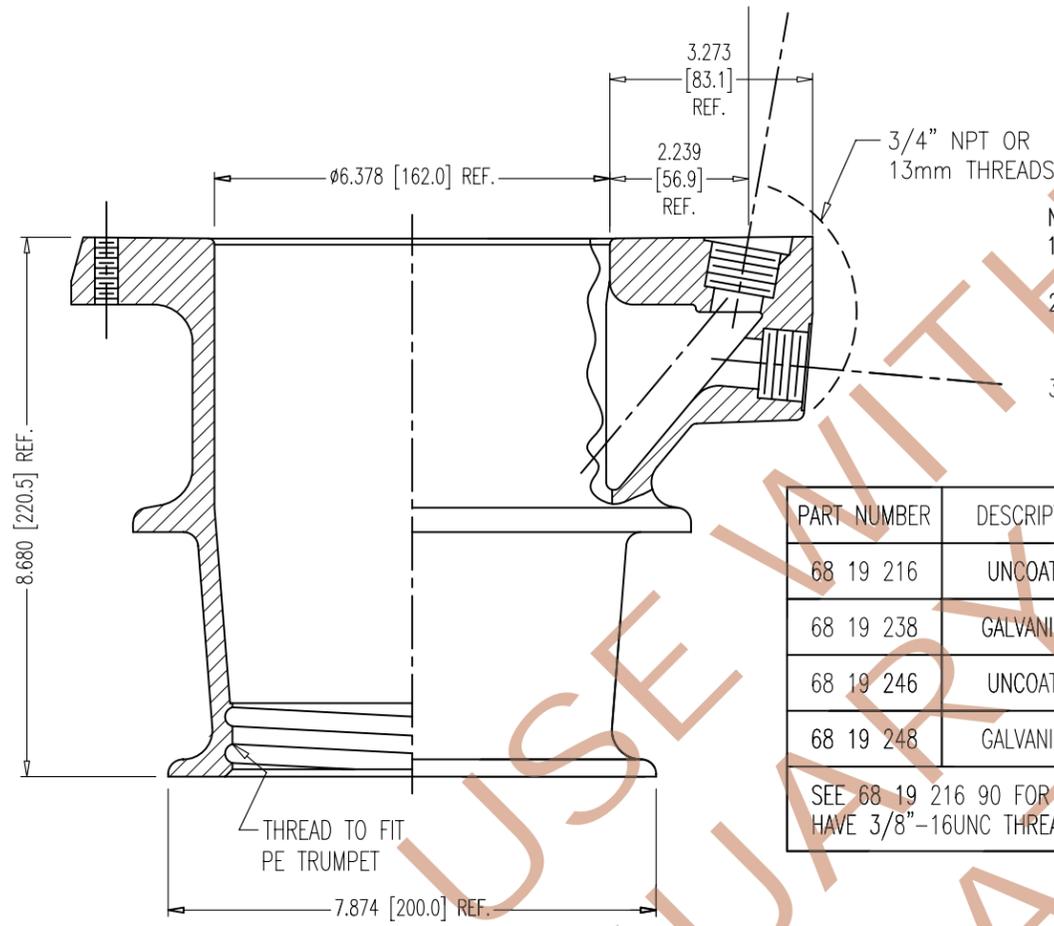
SECTION X-X



GROUT PORT THREADS WITH 3/4" NPT THREADS
SCALE 3:2 IN COMPUTER



GROUT PORT THREADS WITH 21mm THREADS
SCALE 3:2 IN COMPUTER

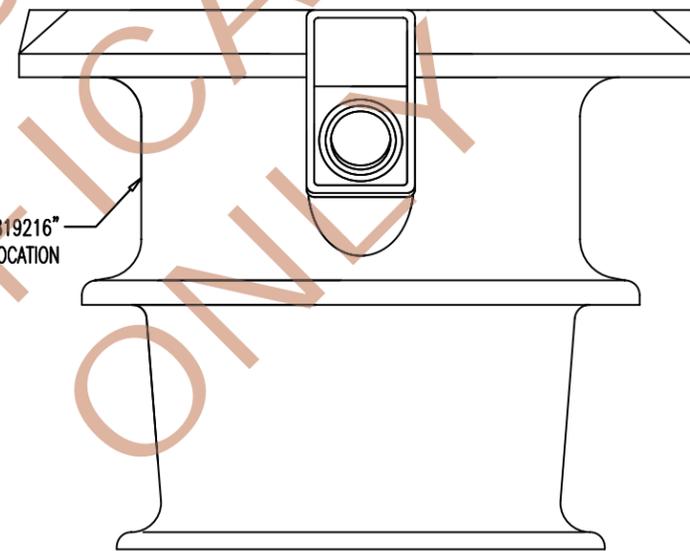


- NOTES FOR GALVANIZED PARTS:
1. HOT DIP GALV. ACCORD. TO ASTM A123.
 2. ASSURE THREADABILITY OF THREADED HOLES AFTER GALVANIZING.
 3. PROTECT THREADED HOLES WITH ZINC PAINT.

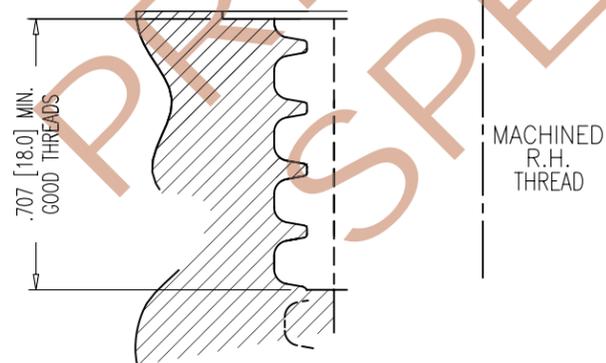
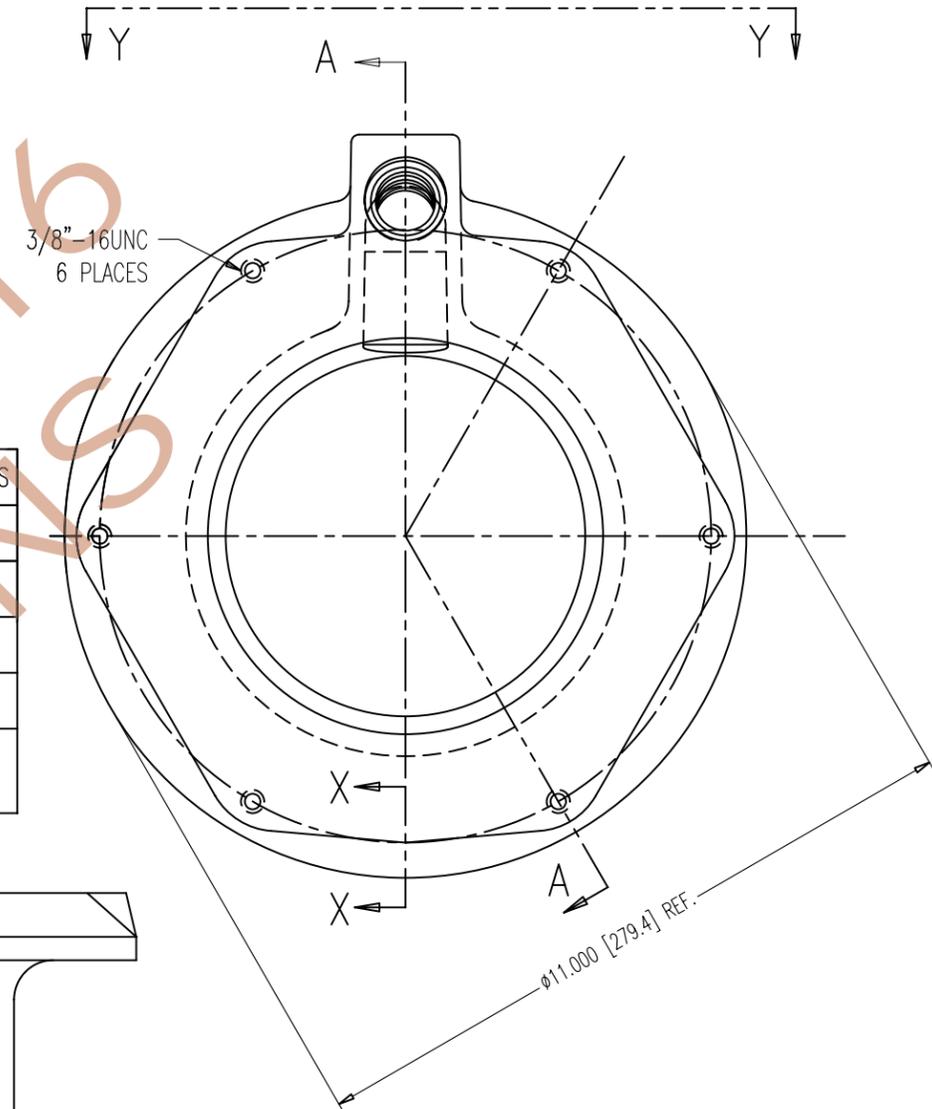
| PART NUMBER | DESCRIPTION | GROUT PORT THREADS |
|-------------|-------------|--------------------|
| 68 19 216 | UNCOATED | 21mm |
| 68 19 238 | GALVANIZED | 21mm |
| 68 19 246 | UNCOATED | 3/4" NPT |
| 68 19 248 | GALVANIZED | 3/4" NPT |

SEE 68 19 216 90 FOR RAW CASTING. ALL PARTS HAVE 3/8"-16UNC THREADS ADDED TO RAW CASTING.

SECTION A-A
(SHOWN WITH 21mm GROUT PORT THREADS)



VIEW Y-Y

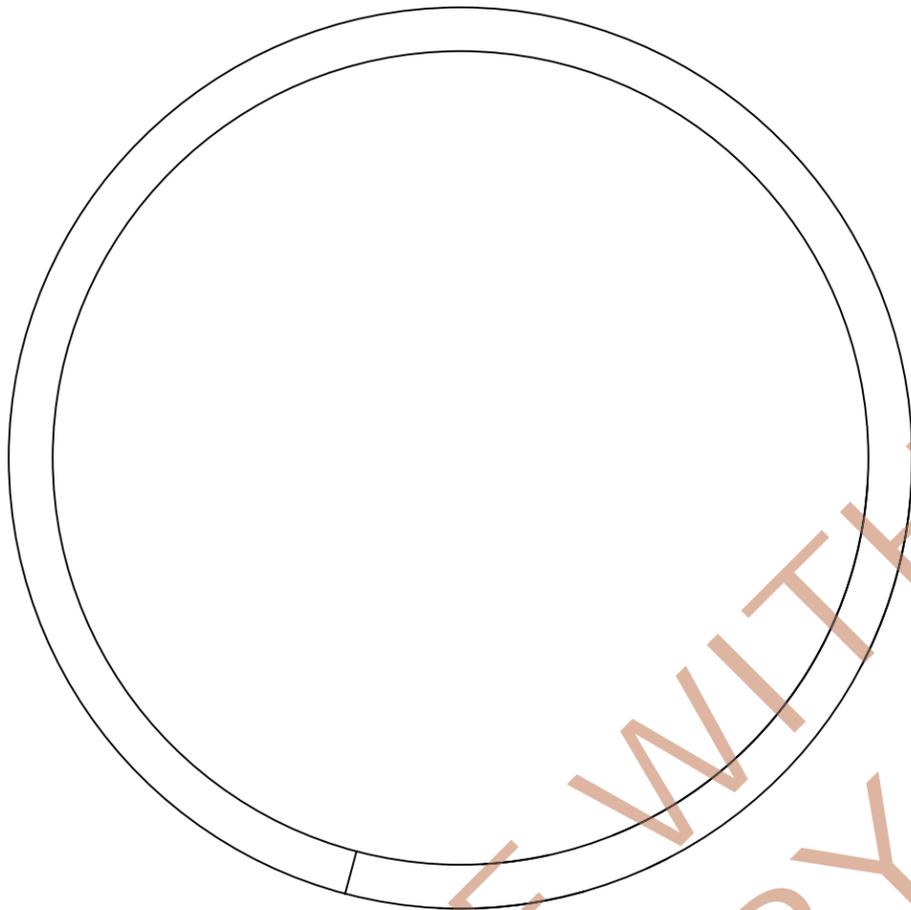


DETAIL Z
SCALE 6:1 IN COMPUTER

APPROVED BY FDOT 09-14-07

| | | | | | | | | | |
|--|-----------------|-------------------------------------|-----------|---|----------------------|------|------|------|--|
| DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY | | QUALITY PLAN NUMBER: QS60021200C | | TOLERANCES: ±.020 UNLESS NOTED | WEIGHT 40 LBS. | REV. | DATE | NAME | PART NUMBER: 68 19 216 68 19 238 68 19 246 68 19 248 |
| 19-0.6"/27-0.5" MULTI-PLANE ANCHOR WITH TWO GROUT PORTS | | | | MATERIAL: SEE MAT'L SPEC. PM0021200C | SCALE 1:3 | | | | DRAWING NUMBER: 68 19 216 |
| DATE: 09-14-07 | DWG: G. MALECKI | CHK: H.K. | APP: K.S. | DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC. 320 MARMON DRIVE - BOLINGBROOK, IL 60440 PHONE: 630-739-1100 FAX: 630-739-1405 | | | | | |





NOTES:

1. SPIRAL IS MADE FROM STANDARD #5 REBAR, NO PART NUMBER MARKING IS SHOWN.
2. KEEP SPIRAL AND MPA AXIS ALIGNED, IF USING SIDE PORT, ROTATE SPIRAL TO CLEAR.

NO. OF FULL TURNS: 8
 DEVELOPED LENGTH: 29'-1" ±.250"
 WEIGHT: 30.4 LBS.

19-0.6"
 MPA CASTING
 68 19 216

19-0.6"
 SPIRAL
 CH-2357A

1.875 [47.6]
 ±.500 PITCH

8.680 [220.5]

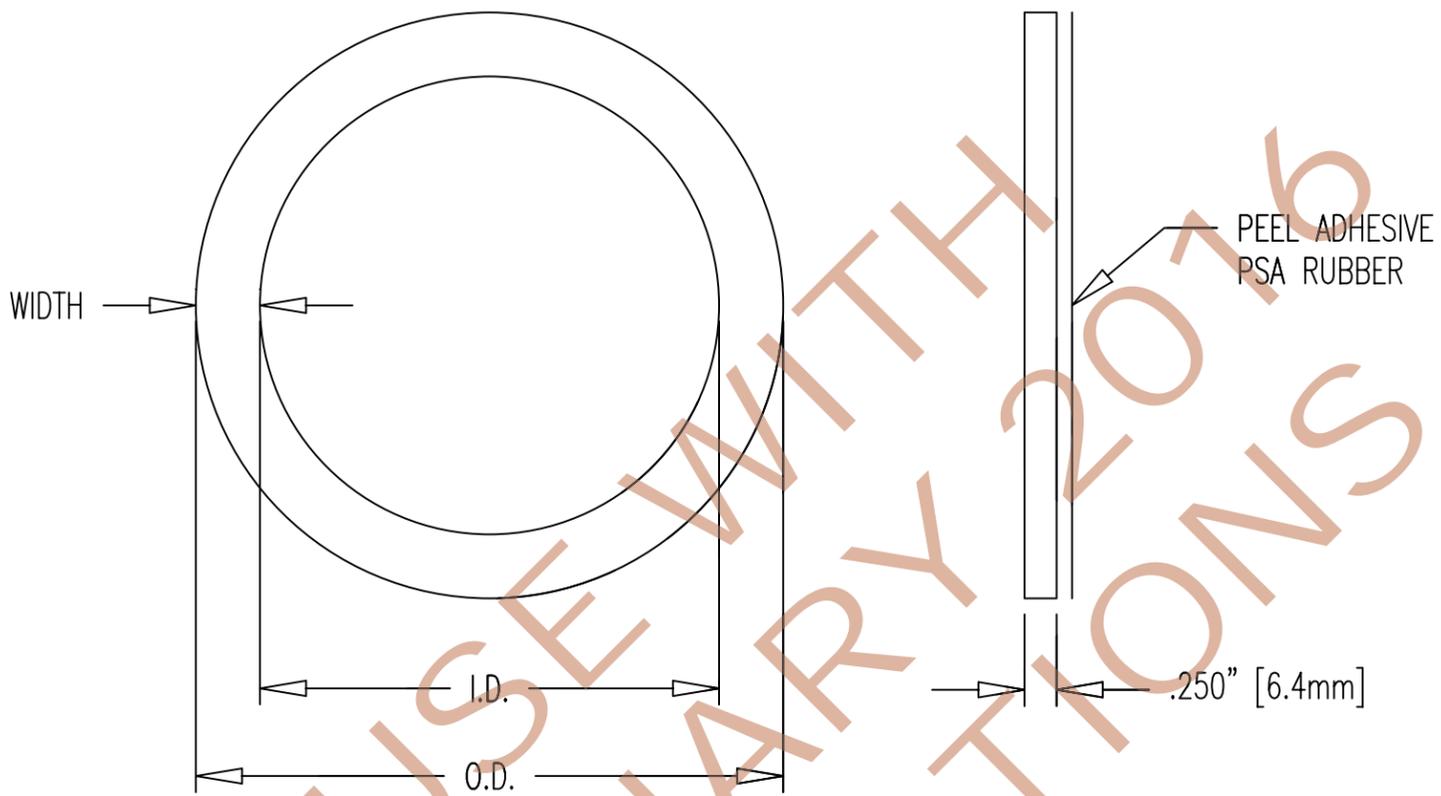
15.625 [396.9]
 ±1.000

ø.888"

ø14.500 ±.500

APPROVED BY FDOT 09-14-07

| | | | | | | | | | |
|---|--|----------------------|--|---|--------------------------|-----------|---|------|-------------------------------------|
| DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY | | QUALITY PLAN NUMBER: | | TOLERANCES: ±.020 UNLESS NOTED | WEIGHT 30.4 WEIGHT | REV. | DATE | NAME | PART NUMBER: 68 19 254 |
| STANDARD SPIRAL FOR 19-0.6"/27-0.5" MPA | | | | MATERIAL: ASTM A615 SIZE #5, GR 60 | SCALE 1:4 | | | | DRAWING NUMBER: 68 19 254 |
| | | | | DATE: 09-14-07 | DWG: G. MALECKI | CHK: S.Y. | APP: E.A. | | |
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| | | | | | | | | | |

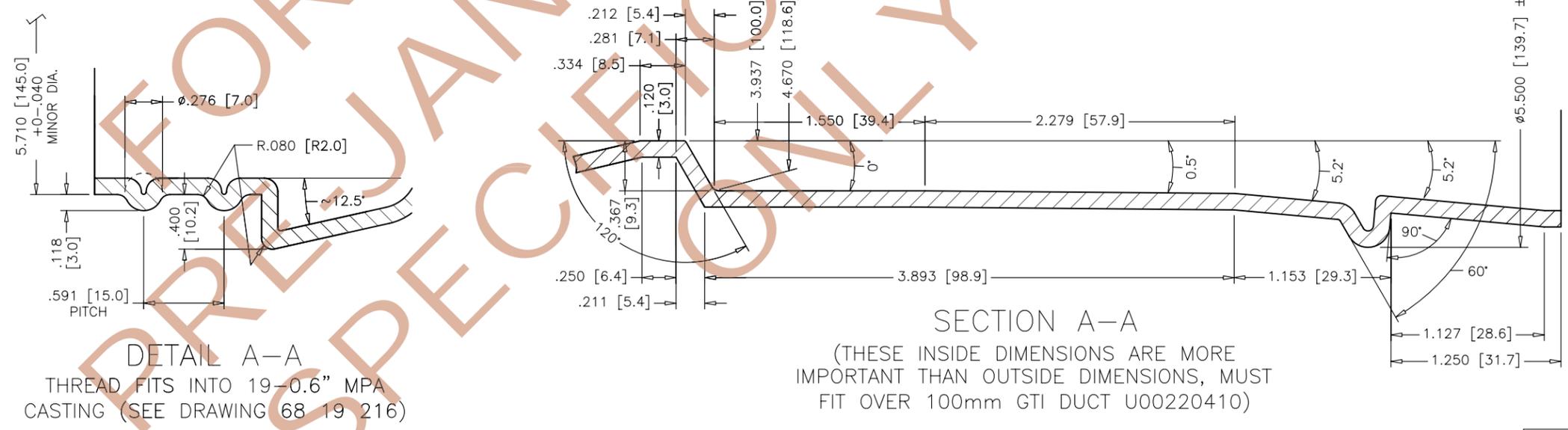
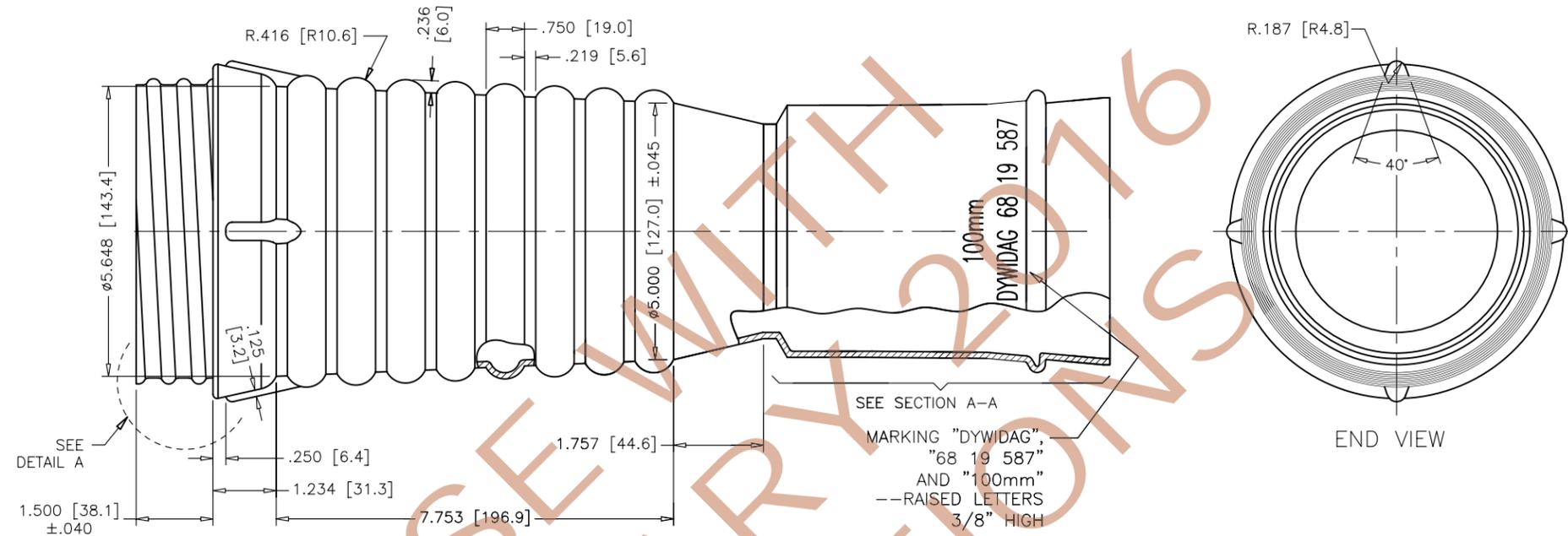


| PART NUMBER | SYSTEM | O.D. | I.D. | WIDTH |
|-------------|---------|-----------------|-----------------|----------------|
| 68 07 584 | 7-0.6" | ø4.580" [116mm] | ø3.580" [91mm] | .500" [12.7mm] |
| 68 12 584 | 12-0.6" | ø5.695" [145mm] | ø4.820" [122mm] | .438" [11.1mm] |
| 68 19 584 | 19-0.6" | ø6.675" [170mm] | ø5.800" [147mm] | .438" [11.1mm] |
| 68 27 584 | 27-0.6" | ø7.340" [186mm] | ø6.340" [161mm] | .500" [12.7mm] |

NOTE:
SPECIAL ORDER
NO STAMPED PART NUMBER

APPROVED BY FDOT 09-14-07

| | | | | | | | | | | | |
|--|--|-------------------------------------|--|---|--|-----------------|------|------------|--|-------------------------------------|-----------|
| DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY | | QUALITY PLAN NUMBER: QS60063300R | | TOLERANCES: ±.030 UNLESS NOTED | | REV. | DATE | NAME | PART NUMBER: 68 07 584 68 12 584 68 19 584 68 27 584 | | |
| RUBBER SEAL BETWEEN MPA AND TRUMPET | | | | MATERIAL: CLOSED CELL NEOPRENE BLEND | | SCALE NTS | | | | DRAWING NUMBER: 68 00 584 | |
| | | | | DATE: 09-14-07 | | DWG: G. MALECKI | | CHK: C.N. | | | APP: E.A. |
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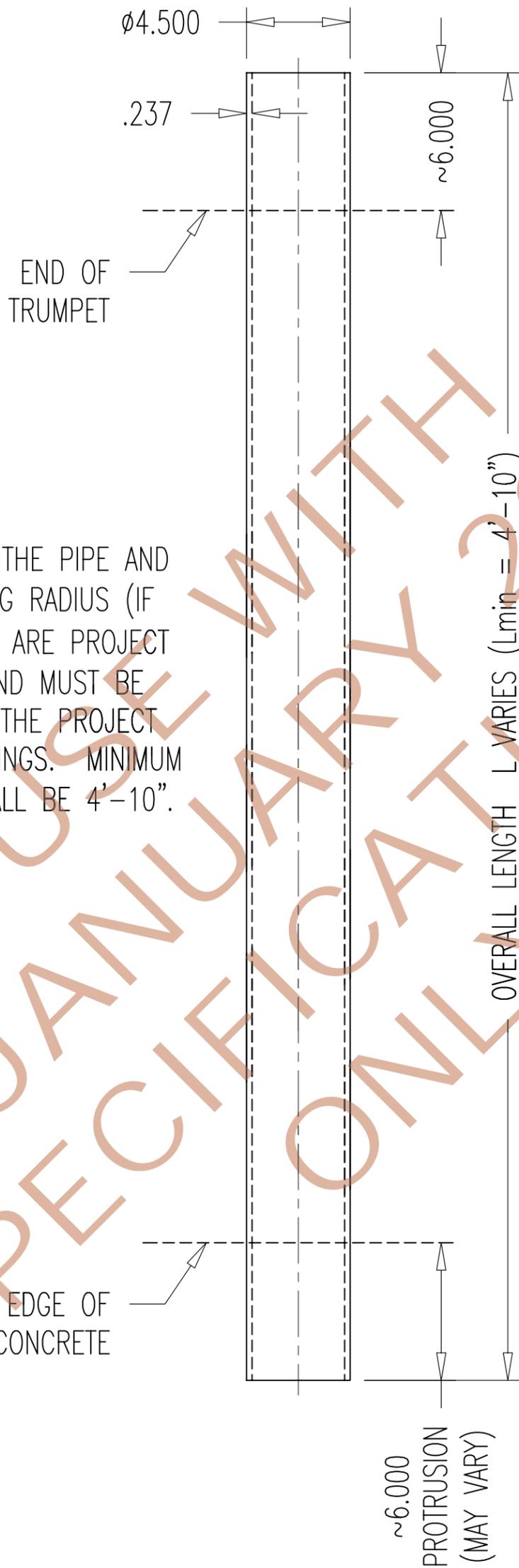
APPROVED BY FDOT 09-14-07

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MATERIAL SPECIFICATIONS:
 MANUFACTURE TRUMPETS FROM NON-COLORED, UNFILLED POLYETHYLENE MEETING THE REQUIREMENTS OF ASTM D4976. THE TRUMPET SHALL BE WHITE IN COLOR CONTAINING ANTIOXIDANT(S) WITH A MINIMUM OXIDATION INDUCTION TIME (OIT) ACCORDING TO ASTM D 3895 OF 20 MINUTES AND CONTAINING A NON-YELLOWING LIGHT STABILIZER. THE STRESS CRACK RESISTANCE TEST OF THE TRUMPET SHALL RESULT IN A MINIMUM FAILURE TIME OF 3 HOURS ACCORDING TO F 2136 AT AN APPLIED STRESS OF 348 PSI

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|---|-----------------|----------------------|-----------|--|---------------------|-----------|------------------|-------------|-------------------------------------|
| DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY | | QUALITY PLAN NUMBER: | | TOLERANCES: ±.020 UNLESS NOTED | WEIGHT | REV. 1 | DATE 09-14-07 | NAME S.N | PART NUMBER: 68 19 587 |
| 19-0.6"/27-0.5" TRUMPET FOR MPA TO 100mm DUCT | | | | MATERIAL: SEE ABOVE | SCALE 1:3 1:1 | | | | DRAWING NUMBER: 68 19 587 |
| DATE: 09-14-06 | DWG: G. MALECKI | CHK: E.A. | APP: K.S. | THIS DRAWING, THE PERTINENT ENCLOSURES, DESCRIPTIONS, CALCULATIONS ETC. AND THEIR CONTENTS ARE THE PROPERTY OF DYWIDAG SYSTEMS INTERNATIONAL, USA, INC. THEY ARE NOT ALLOWED TO BE DUPLICATED WITHOUT OUR PERMISSION. THEY ARE ALSO NOT TO BE SHOWN OR EXPLAINED FOR ANY REASON TO A THIRD PARTY OTHER THAN FOR REASONS EXPRESSLY INTENDED BY DSI's SUBMITTAL TO THE ORIGINAL RECEIVER. THEY HAVE TO BE RETURNED UPON REQUEST. | | | | | |
| DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC. POST TENSIONING / REINFORCING UNIT PHONE: 630-739-1100 320 MARMON DRIVE - BOLINGBROOK, IL FAX: 630-739-1405 | | | | | | | | | |



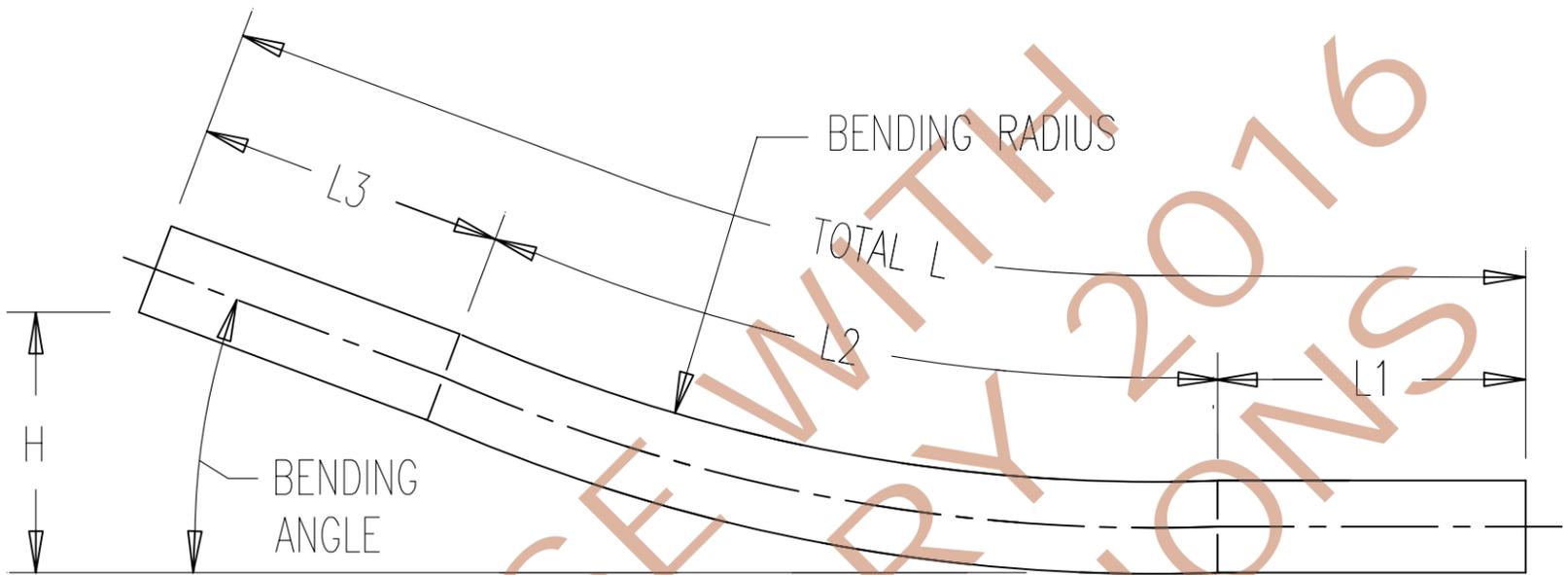


NOTE:
 LENGTH OF THE PIPE AND
 THE BENDING RADIUS (IF
 NECESSARY) ARE PROJECT
 SPECIFIC, AND MUST BE
 SHOWN ON THE PROJECT
 SHOP DRAWINGS. MINIMUM
 LENGTH SHALL BE 4'-10".

FOR USE WITH 2016
 PRE-JANUARY ONLY
 SPECIFICATIONS

APPROVED BY FDOT 12-12-07

| | | | | | | | |
|---|----------------------|---|---|-----------|-----------|------|-----------------------------------|
| DIMENSIONS: INCH | QUALITY PLAN NUMBER: | | WEIGHT 10.79 LBS./FT. | REV. | DATE | NAME | DRAWING NUMBER: CH-2723 |
| DIAPHRAGM PIPE FOR 19-0.6" EXTERNAL TENDON | | MATERIAL: 4" STD STEEL PIPE GALVANIZED | SCALE 1:8 | | | | DRAWING NUMBER: CH-2723 |
| DATE: 07-18-07 | DWG: G. MALECKI | | | CHK: S.I. | APP: E.A. | | |
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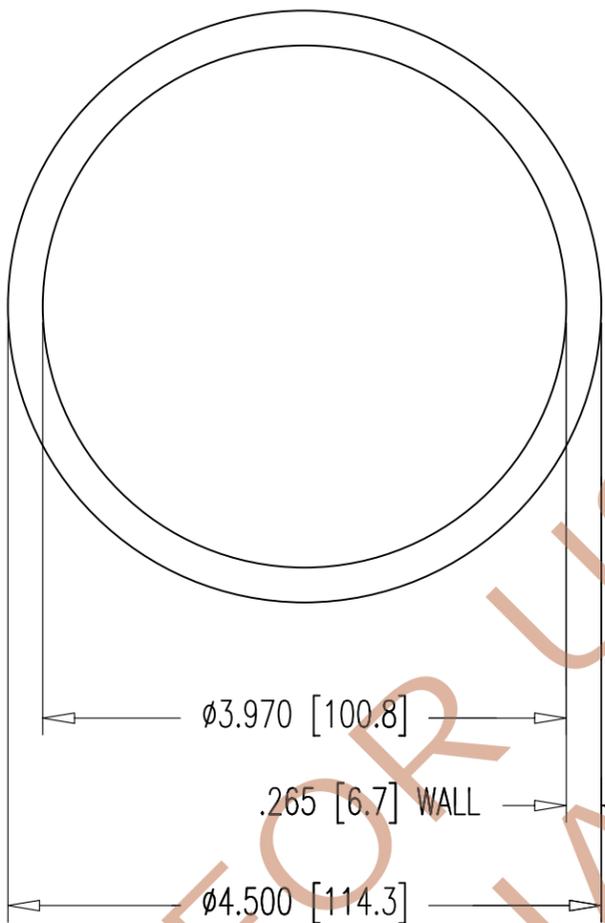


1. PART NUMBERS, EXACT DIMENSIONS AND BENDING ANGLES TO BE SPECIFIED FOR EACH ORDER.
2. ALL MARKINGS ARE PAINTED.
3. STRAIGHT ENDS (L1/L3) SHORTER THAN 1 FT LONG WILL NEED TO BE RECUT AFTER BENDING.
4. LENGTH AND BENDING RADIUS VALUES ARE PROJECT SPECIFIC AND SHALL BE SHOWN ON THE SHOP DRAWINGS.

| PIPE | OD (IN./mm) | WALL (IN./mm) | ID (IN./mm) | WEIGHT (LBS/FT) |
|---|----------------|------------------|----------------|--------------------|
| 4" STD | 4.500/114.3 | .237/6.0 | 4.026/102.3 | 10.79 |
| STANDARD STEEL PIPE ASTM A53 GR B, HOT DIP GALVANIZED PER ASTM A123 | | | | |

APPROVED BY FDOT 12-12-07

| | | | | | | | |
|--|-----------------|----------------------|-----------|---|--------------|------|---|
| DIMENSIONS: INCH/mm mm FOR REFERENCE ONLY | | QUALITY PLAN NUMBER: | | REV. | DATE | NAME | PART NUMBER: |
| 19-0.6" GALVANIZED BENT DEVIATOR PIPE | | | | MATERIAL: SEE ABOVE | SCALE NTS | | PROJECT DEPENDENT |
| | | | | | | | DRAWING NUMBER: CH-2751 |
| DATE: 10-26-07 | DWG: G. MALECKI | CHK: S.N. | APP: K.S. | | | | |
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NOTES:

1. MATERIAL: 4" SDR17, EHMW PE3608 (BLACK).
2. PIPE IS COLORED BLACK AND IS UV STABILIZED FOR EXTERNAL TENDONS.

MANUFACTURER: POLYPIPE, INC.
 MANUFACTURER PART ORDER NUMBER:
 4" SDR17 BLACK PE PIPE.

MATERIAL SPECIFICATIONS:

MANUFACTURE SMOOTH DUCT FROM 100% VIRGIN POLYETHYLENE RESIN MEETING THE REQUIREMENTS OF ASTM D 3350 WITH A MINIMUM CELL CLASS OF 344464C. THE DUCT SHALL BE BLACK IN COLOR CONTAINING ANTIOXIDANT(S) WITH A MINIMUM OXIDATION INDUCTION TIME (OIT) ACCORDING TO ASTM D 3895 OF 40 MINUTES. MANUFACTURE DUCT WITH A DIMENSION RATIO (DR) OF 17 OR LESS AS ESTABLISHED BY EITHER ASTM D 3055 BASED ON CONTROLLED OUTSIDE DIAMETER OR ASTM F 714 BASED ON OUTSIDE DIAMETER. SMOOTH DUCT SHALL HAVE A MINIMUM PRESSURE RATING (WORKING PRESSURE) OF 100 PSI.

APPROVED BY FDOT 12-12-07

| | | | | | | | | |
|--|-----------------|----------------------|-----------|---|------|------|------|----------------------------------|
| DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY | | QUALITY PLAN NUMBER: | | WEIGHT 1.54 LBS./FT. | REV. | DATE | NAME | PART NUMBER: U00055419 |
| 19-0.6" SMOOTH HDPE SHEATHING FOR EXTERNAL ANCHORS | | | | | | | | |
| DATE: 10-02-07 | DWG: G. MALECKI | CHK: S.N. | APP: K.S. | DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC. 320 MARMON DRIVE - BOLINGBROOK, IL 60440 PHONE: 630-739-1100 FAX: 630-739-1405 | | | | |
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