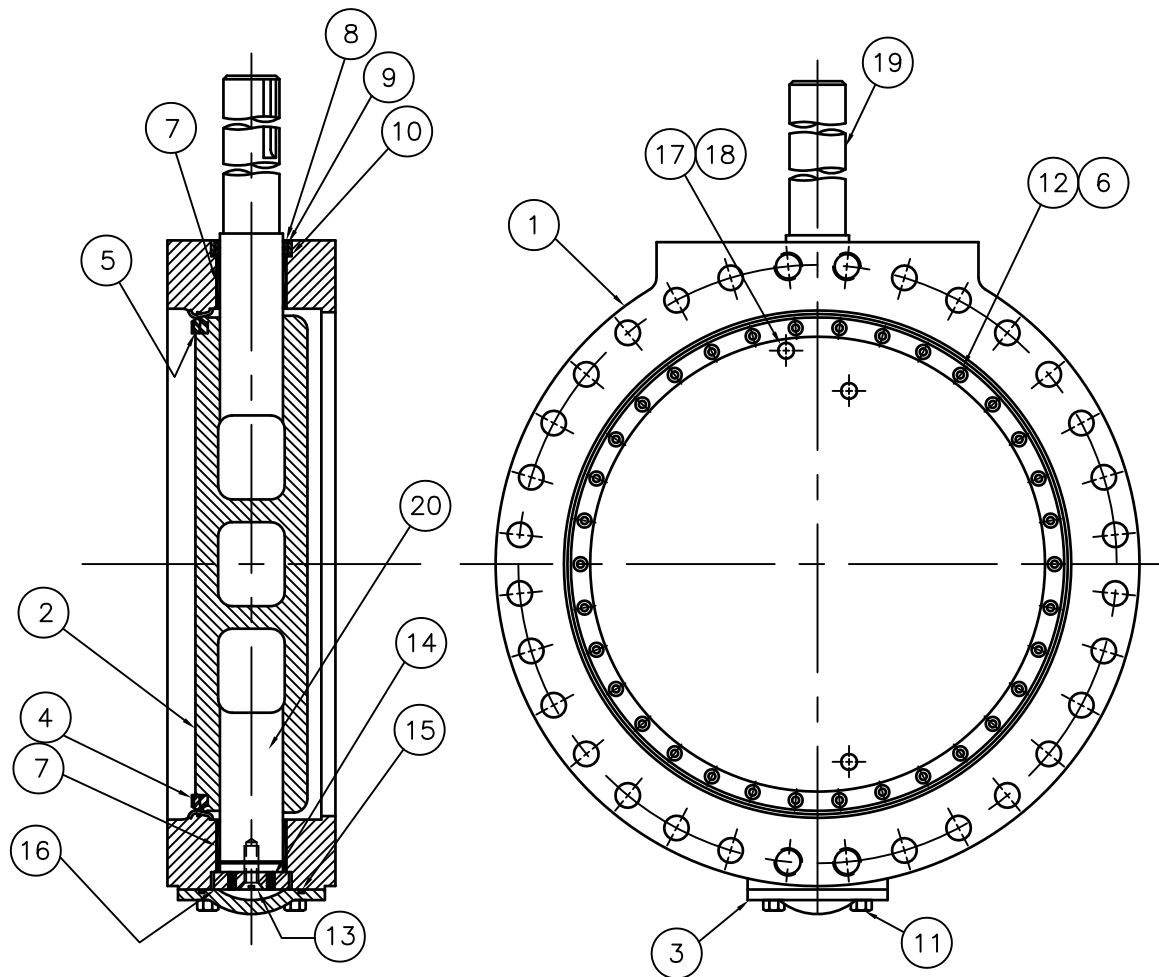


ITEM #	DESCRIPTION	MATERIAL
1A	VALVE BODY	DUCTILE IRON, ASTM A-536, Grade 70-50-05
1B	BODY RING (Permanently Attached)	304 STAINLESS STEEL
1C	BODY O-RING (Permanently Attached)	BUNA-N
2	VANE	DUCTILE IRON, ASTM A-536, Grade 70-50-05
3	END COVER PLATE	DUCTILE IRON, ASTM A-536, Grade 70-50-05
4	RUBBER VANE SEAT RING	EPDM
5	SEGMENTED CLAMP RING (4)	304 STAINLESS STEEL, ASTM A-276
6	SEALING WASHER	NYLON
7	SHAFT SLEEVE BEARING	FIBERGLIDE BACKED WITH STAINLESS STEEL
8	SHAFT O-RING CARTRIDGE	BRONZE
9	O-RING SHAFT SEALS (2)	BUNA-N
10	OUTSIDE O-RING CARTRIDGE SEAL	BUNA-N
11	END COVER PLATE HEX BOLTS	STEEL, ASTM A-307, ELECTRO ZINC PLATED
12	FLAT HEAD SOCKET SCREW (For Rubber Vane Seat Ring)	18-8 STAINLESS STEEL (WITH LOCTITE)
13	FLAT HEAD SOCKET SCREW (For Thrust Bearing)	18-8 STAINLESS STEEL (WITH NYLON INSERT)
14	ALLEN HEAD SET SCREW (For Thrust Bearing)	18-8 STAINLESS STEEL (WITH NYLON INSERT)
15	END COVER PLATE O-RING	BUNA-N
16	THRUST BEARING	BRONZE
17	TAPER PIN (3)	416 STAINLESS STEEL
18	TAPER PIN O-RING (3)	BUNA-N
19	TAPER PIN WASHER (3)	416 STAINLESS STEEL
20	TAPER PIN BOLT (3)	304 STAINLESS STEEL
21	SHAFT (OPERATOR)	304 STAINLESS STEEL
22	SHAFT (THRUST SIDE)	304 STAINLESS STEEL

M&H VALVE COMPANY
ANNISTON, ALABAMA
A DIVISION OF MCWANE INC.

DWN: MMR
DATE: 8/18/11
DWG. NO.
BFE-15-14AA

30" & 36" STYLE 1450
CLASS 150 BUTTERFLY VALVE
SUB-ASSEMBLY / MATERIAL LIST
(NON-ADJUSTABLE PACKING)
FLANGED ENDS

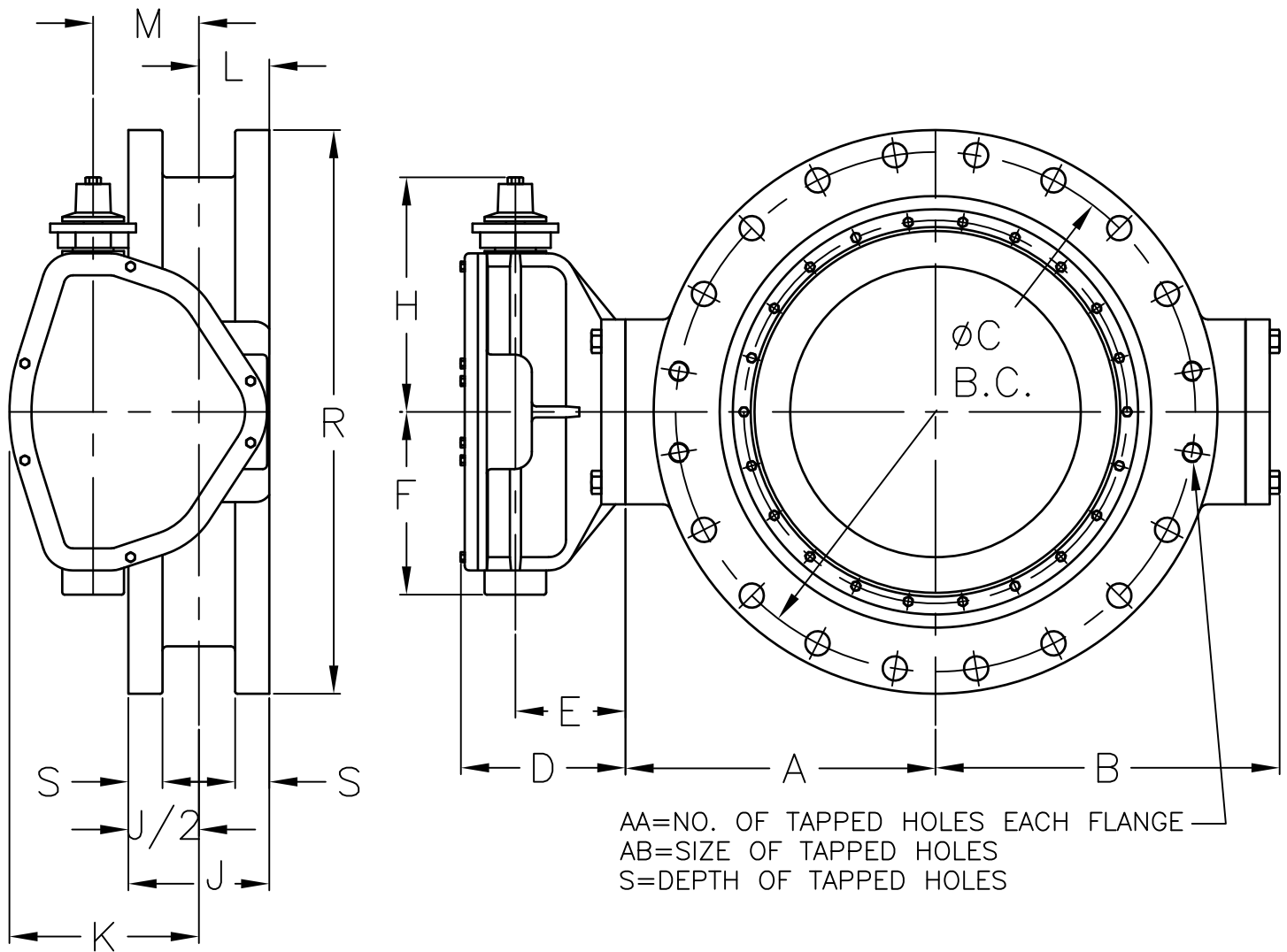


ITEM NO.	DESCRIPTION	MATERIAL
1	BODY, VALVE	DUCTILE IRON, ASTM A-536, GR. 70-50-05 W/304 STN. STL. SEAT
2	VANE	DUCTILE IRON, ASTM A-536 GR. 70-50-05
3	END COVER	DUCTILE IRON, ASTM A-536 GR. 70-50-05
4	SEAT RING, VANE	EPDM
5	CLAMP RING, SEAT	304 STAINLESS STEEL
6	SEALING WASHER	NYLON
7	BUSHING, BODY	FIBERGLIDE
8	CARTRIDGE, SHAFT	BRONZE
9	SEAL, SHAFT	BUNA-N
10	SEAL, CARTRIDGE	BUNA-N
11	BOLT, END COVER	COMMERCIAL STEEL
12	SOCKET SCREW ~ FLAT HEAD	18-8 STAINLESS STEEL W/NYLOK INSERT
13	SOCKET SCREW ~ FLAT HEAD	18-8 STAINLESS STEEL W/NYLOK INSERT
14	SET SCREW ~ FLAT POINT	18-8 STAINLESS STEEL W/NYLOK INSERT
15	END COVER SEAL	BUNA-N
16	THRUST BEARING PLATE	BRONZE
17	TAPER PIN	416 STAINLESS STEEL
18	TAPER PIN BOLT	18-8 STAINLESS STEEL
19	SHAFT (OPERATOR)	304 STAINLESS STEEL
20	SHAFT (THRUST)	304 STAINLESS STEEL

M&H VALVE COMPANY
ANNISTON, ALABAMA
A DIVISION OF MCWANE INC.

DWN: MMR
DATE: 7/14/11
DWG. NO.
BFE-15-14AB

42" & 48" STYLE 1450
CLASS 150 BUTTERFLY VALVE
SUB-ASSEMBLY / MATERIAL LIST
(NON-ADJUSTABLE PACKING)
FLANGED ENDS



	OPERATOR MODEL	D	E	F	H	K	L	M	N
30" & 36"	2200	9 1/16	6 1/4	10 3/8	14 5/16	10 3/4	3 7/8	6	72
42"	4350	10 3/16	6 1/16	14 5/16	18	13 5/16	4 3/16	7 1/2	90

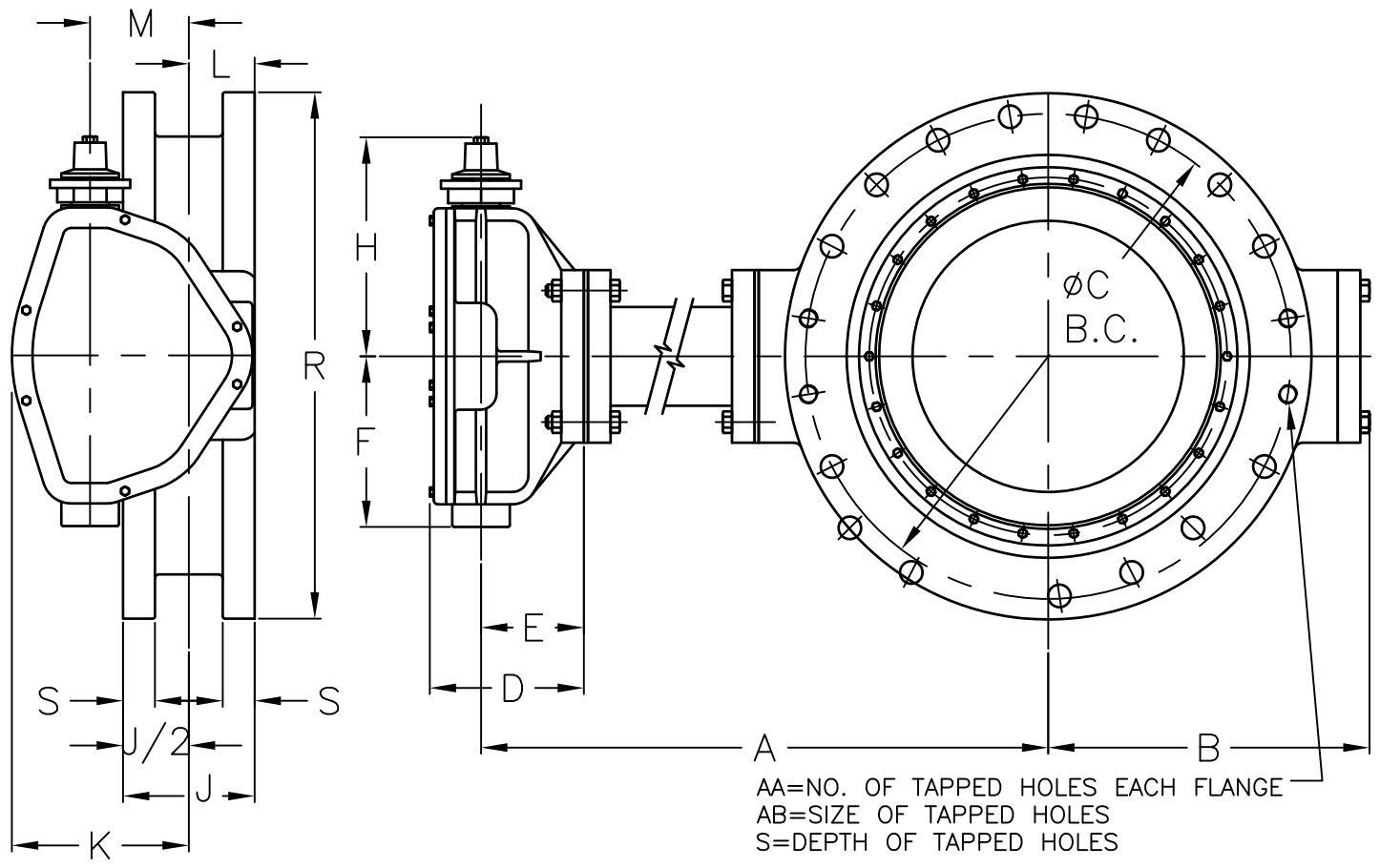
VALVE SIZE	A	B	C	J	P	Q	R	S	AA	AB	WEIGHT
30"	20.625	21.50	36	12	28	1.250	38.750	2.125	4	1.250-7	1790
36"	24.250	25.06	42.750	12	32	1.500	46	2.375	4	1.500-6	2515
42"	28.250	28.88	49.500	12	36	1.500	53	2.625	4	1.500-6	4405

- NOTE 1: FLOW MAY BE IN EITHER DIRECTION
- NOTE 2: VALVE SHAFT WILL MEET OR EXCEED REQUIREMENTS OF SHAFT TABLE PER AWWA STANDARD C-504 FOR APPLICABLE CLASS.
- NOTE 3: REFERENCE AWWA C-504 FLANGES & DRILLING (A.N.S.I. 125)
- NOTE 4: "N" = NUMBER OF TURNS TO CLOSE
- NOTE 5: "P" = NUMBER OF BOLTS ON EACH FLANGE
- NOTE 6: "Q" = DIAMETER OF BOLTS
- NOTE 7: OPERATED BY 2" AWWA OPERATING / WRENCH NUT

M&H VALVE COMPANY
 ANNISTON, ALABAMA
 A DIVISION OF MCWANE INC.

DWN: TRIJ
 DATE: 1/1/11
 DWG. NO.
 BFE-15-14B

30" THRU 42" STYLE 1450
 CLASS 150 BUTTERFLY VALVE
 BURIED OPERATOR
 FLANGED ENDS



	OPERATOR MODEL	D	E	F	H	K	L	M	N
30" & 36"	2200	9 1/16	6 1/4	10 3/8	14 5/16	10 3/4	3 7/8	6	72
42"	4350	10 3/16	6 1/16	14 5/16	18	13 5/16	4 3/16	7 1/2	90

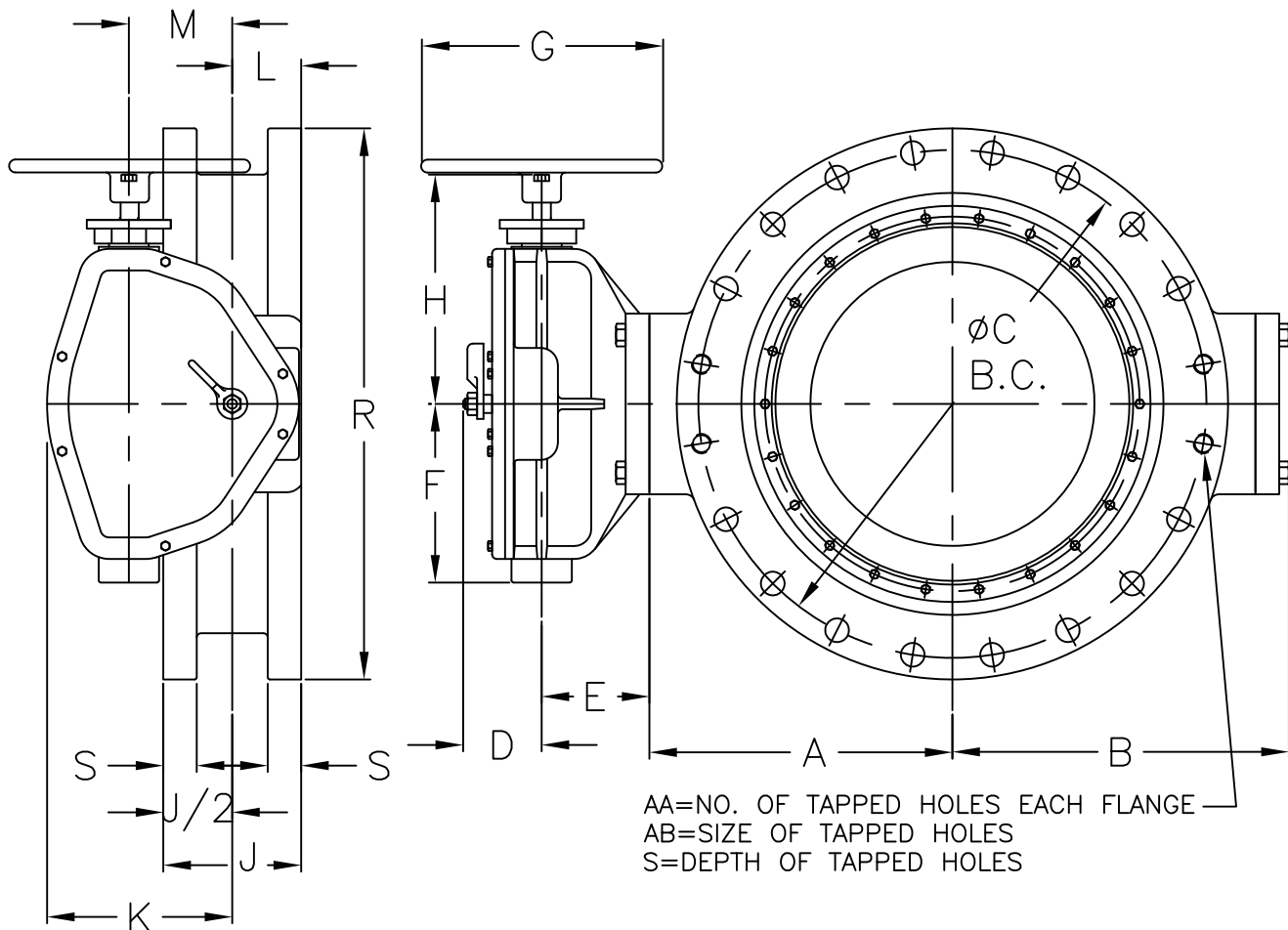
VALVE SIZE	A	B	C	J	P	Q	R	S	AA	AB	WEIGHT
30"	NOTE AA	21.50	36	12	28	1.250	38.750	2.125	4	1.250-7	1790
36"	NOTE AA	25.06	42.750	12	32	1.500	46	2.375	4	1.500-6	2515
42"	NOTE AA	28.88	49.500	12	36	1.500	53	2.625	4	1.500-6	4405

- NOTE 1: FLOW MAY BE IN EITHER DIRECTION
 NOTE 2: VALVE SHAFT WILL MEET OR EXCEED REQUIREMENTS OF SHAFT TABLE PER AWWA STANDARD C-504 FOR APPLICABLE CLASS.
 NOTE 3: REFERENCE AWWA C-111 (A.N.S.I. A21-11)
 NOTE 4: "N" = NUMBER OF TURNS TO CLOSE
 NOTE 5: "P" = NUMBER OF BOLTS ON EACH FLANGE
 NOTE 6: "Q" = DIAMETER OF BOLTS
 NOTE 7: OPERATED BY 2" AWWA OPERATING / WRENCH NUT
 NOTE 8: 2200 OPERATOR ON 30" & 36"--4350 OPERATOR ON 42"
 NOTE 9: MAXIMUM LENGTH OF TORQUE TUBE (15 FEET)--BONNET SUPPORTS SHOULD BE USED ON ALL BONNETS EXCEEDING 6 FEET CENTERLINE OF VALVE TO CENTERLINE OF OPERATOR. ALL BONNET SUPPORTS SHALL BE SUPPLIED BY CUSTOMER
 NOTE AA: "A" VARIES TO ENGINEER SPECIFICATIONS
 *NOTE AB: APPROXIMATE WEIGHT PER EACH FOOT OF EXTENDED BONNET 150lbs (30"-42")

M&H VALVE COMPANY
 ANNISTON, ALABAMA
 A DIVISION OF MCWANE INC.

DWN: TRIJ
 DATE: 8/12/11
 DWG. NO.
 BFE-15-14C

30" THRU 42" STYLE 1450
 CLASS 150 BUTTERFLY VALVE
 WITH EXTENDED BONNET
 BURIED OPERATOR
 FLANGED ENDS



	OPERATOR MODEL	D	E	F	G	H	K	L	M	N
30" & 36"	2200	4 3/16	6 1/4	10 3/8	18	14 5/16	10 3/4	3 7/8	6	72
42"	4350	5 5/8	6 1/16	14 5/16	27	18	13 5/16	4 3/16	7 1/2	90

VALVE SIZE	A	B	C	J	P	Q	R	S	AA	AB	WEIGHT
30"	20.625	21.50	36	12	28	1.250	38.750	2.125	4	1.250-7	1790
36"	24.250	25.06	42.750	12	32	1.500	46	2.375	4	1.500-6	2515
42"	28.250	28.88	49.500	12	36	1.500	53	2.625	4	1.500-6	4405

NOTE 1: FLOW MAY BE IN EITHER DIRECTION

NOTE 2: VALVE SHAFT WILL MEET OR EXCEED REQUIREMENTS OF SHAFT TABLE PER AWWA STANDARD C-504 FOR APPLICABLE CLASS.

NOTE 3: REFERENCE AWWA C-504 FLANGES & DRILLING (A.N.S.I. 125)

NOTE 4: "N" = NUMBER OF TURNS TO CLOSE

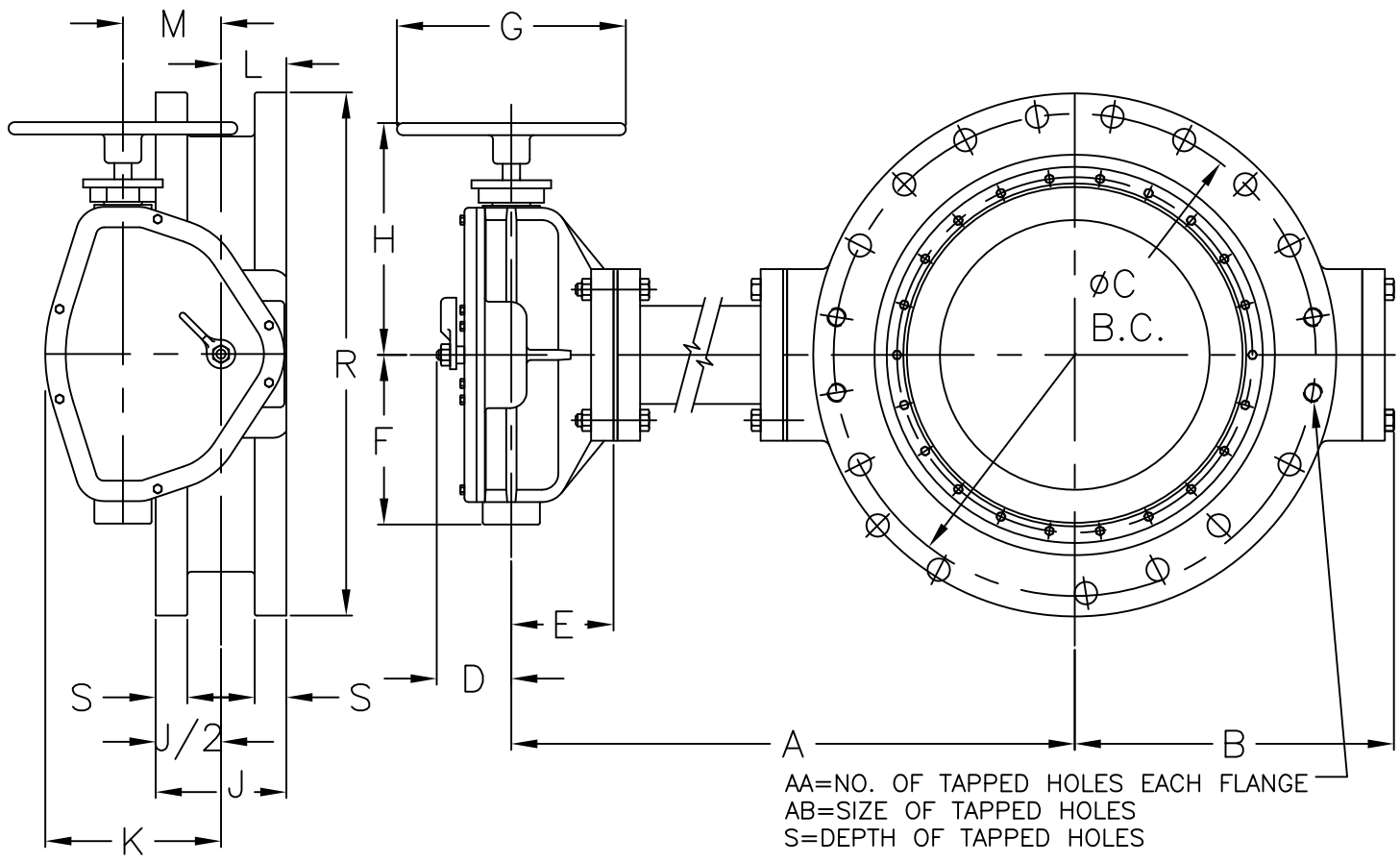
NOTE 5: "P" = NUMBER OF BOLTS ON EACH FLANGE

NOTE 6: "Q" = DIAMETER OF BOLTS

M&H VALVE COMPANY
 ANNISTON, ALABAMA
 A DIVISION OF MCWANE INC.

DWN: TRIJ
 DATE: 8/12/11
 DWG. NO.
 BFE-15-14D

30" THRU 42" STYLE 1450
 CLASS 150 BUTTERFLY VALVE
 POSITION INDICATOR
 HANDWHEEL OPERATOR
 FLANGED ENDS



	OPERATOR MODEL	D	E	F	G	H	K	L	M	N
30" & 36"	2200	4 3/16	6 1/4	10 3/8	18	14 5/16	10 3/4	3 7/8	6	72
42"	4350	5 5/8	6 1/16	14 5/16	27	18	13 5/16	4 3/16	7 1/2	90

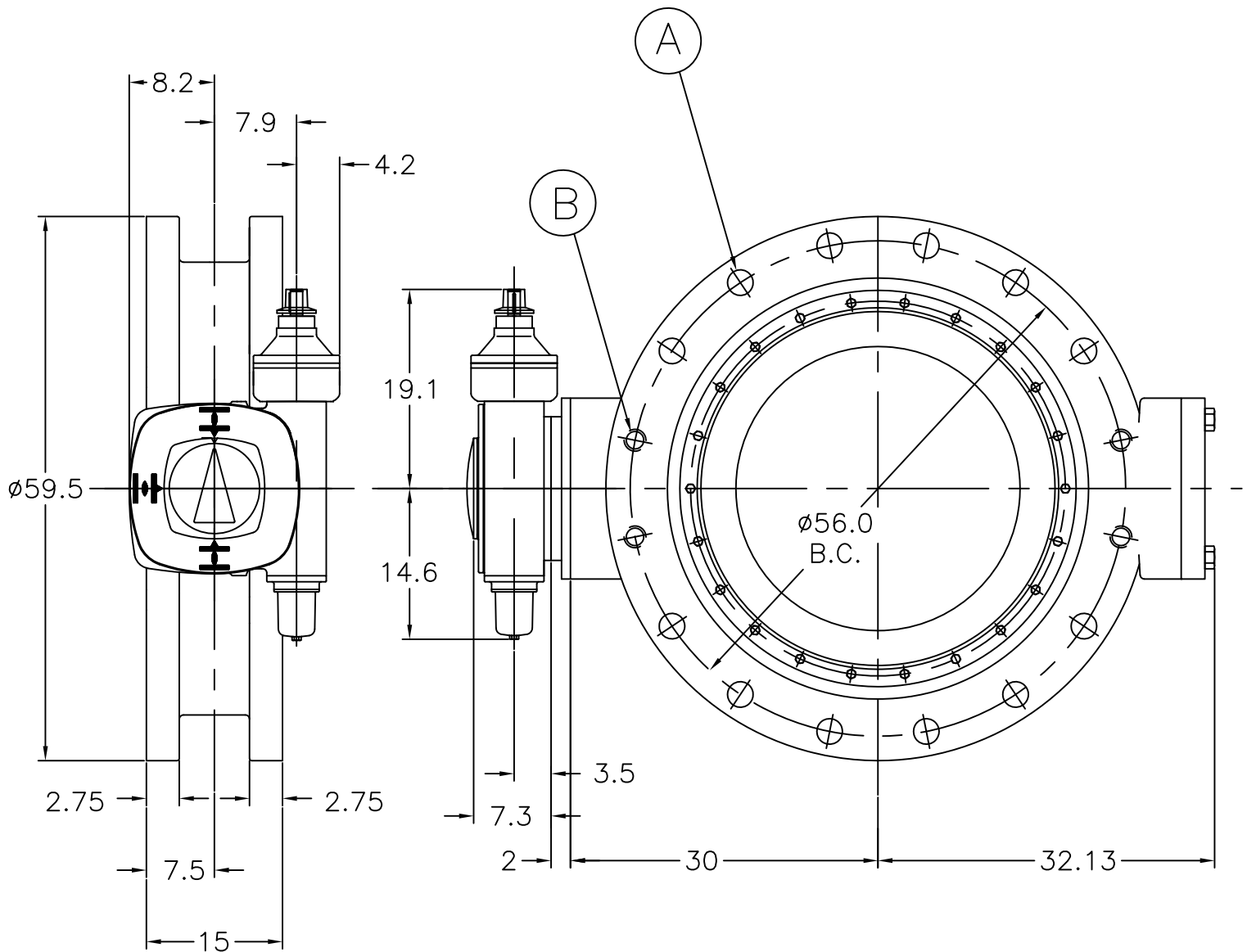
VALVE SIZE	A	B	C	J	P	Q	R	S	AA	AB	WEIGHT
30"	NOTE AA	21.50	36	12	28	1.250	38.750	2.125	4	1.250-7	1790
36"	NOTE AA	25.06	42.750	12	32	1.500	46	2.375	4	1.500-6	2515
42"	NOTE AA	28.88	49.500	12	36	1.500	53	2.625	4	1.500-6	4405

- NOTE 1: FLOW MAY BE IN EITHER DIRECTION
 NOTE 2: VALVE SHAFT WILL MEET OR EXCEED REQUIREMENTS OF SHAFT TABLE PER AWWA STANDARD C-504 FOR APPLICABLE CLASS.
 NOTE 3: REFERENCE AWWA C-504 FLANGES & DRILLING (A.N.S.I. 125)
 NOTE 4: "N" = NUMBER OF TURNS TO CLOSE
 NOTE 5: "P" = NUMBER OF BOLTS ON EACH FLANGE
 NOTE 6: "Q" = DIAMETER OF BOLTS
 NOTE 7: MAXIMUM LENGTH OF TORQUE TUBE (15 FEET)--BONNET SUPPORTS SHOULD BE USED ON ALL BONNETS EXCEEDING 6 FEET CENTERLINE OF VALVE TO CENTERLINE OF OPERATOR. ALL BONNET SUPPORTS SHALL BE SUPPLIED BY CUSTOMER
 NOTE AA: "A" VARIES TO ENGINEER SPECIFICATIONS
 *NOTE AB: APPROXIMATE WEIGHT PER EACH FOOT OF EXTENDED BONNET 150LBS(30"-42")

M&H VALVE COMPANY
 ANNISTON, ALABAMA
 A DIVISION OF MCWANE INC.

DWN: TRIJ
 DATE: 8/17/11
 DWG. NO.
 BFE-15-14E

30" THRU 42" STYLE 1450
 CLASS 150 BUTTERFLY VALVE
 WITH EXTENDED BONNET, POSITION
 INDICATOR & HANDWHEEL OPERATOR
 FLANGED ENDS



NOTE 1: FLOW MAY BE IN EITHER DIRECTION

NOTE 2: VALVE SHAFT WILL MEET OR EXCEED REQUIREMENTS OF SHAFT TABLE PER AWWA STANDARD C-504 FOR APPLICABLE CLASS.

NOTE 3: REFERENCE AWWA C-504-B & DRILLING (A.N.S.I. 125)

NOTE 4: NUMBER OF TURNS TO CLOSE = 108

NOTE 5: OPERATED BY 2" AWWA OPERATING / WRENCH NUT

NOTE 6: A = (44) $\phi 1.50$ " BOLTS PER FLANGE

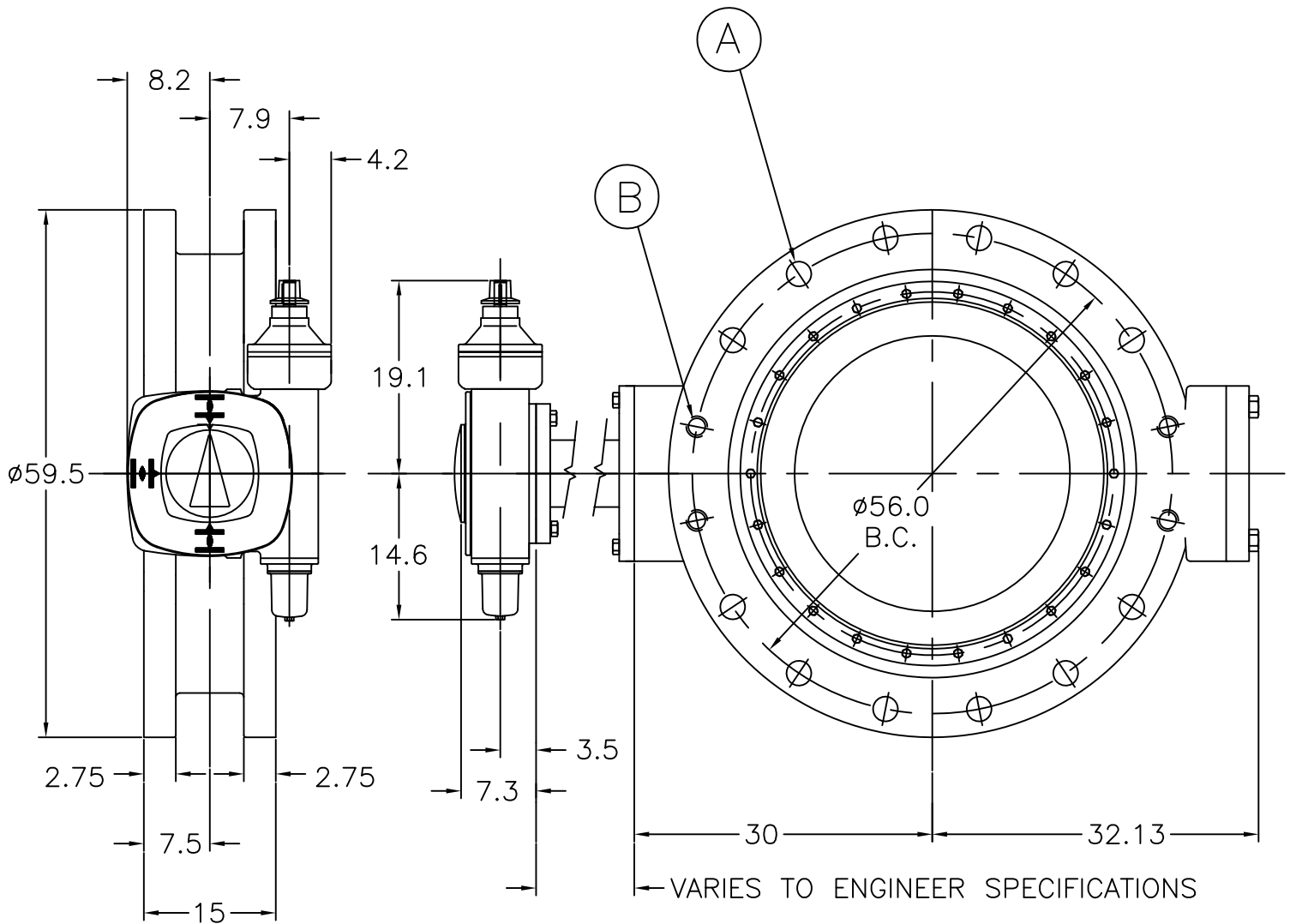
NOTE 7: B = (8) 1.50-6 UNC x 2.25 DEEP TAPPED HOLES EACH FLANGE

NOTE 8: APPROXIMATE WEIGHT = 6300lbs.

M&H VALVE COMPANY
ANNISTON, ALABAMA
A DIVISION OF MCWANE INC.

DWN: TRIJ
DATE: 8/25/11
DWG. NO.
BFE-15-48A

48" STYLE 1450
CLASS 150 BUTTERFLY VALVE
(AUMA GS200.3/GZ200.3:8 GEAR BOX)
BURIED OPERATOR
FE X FE ENDS

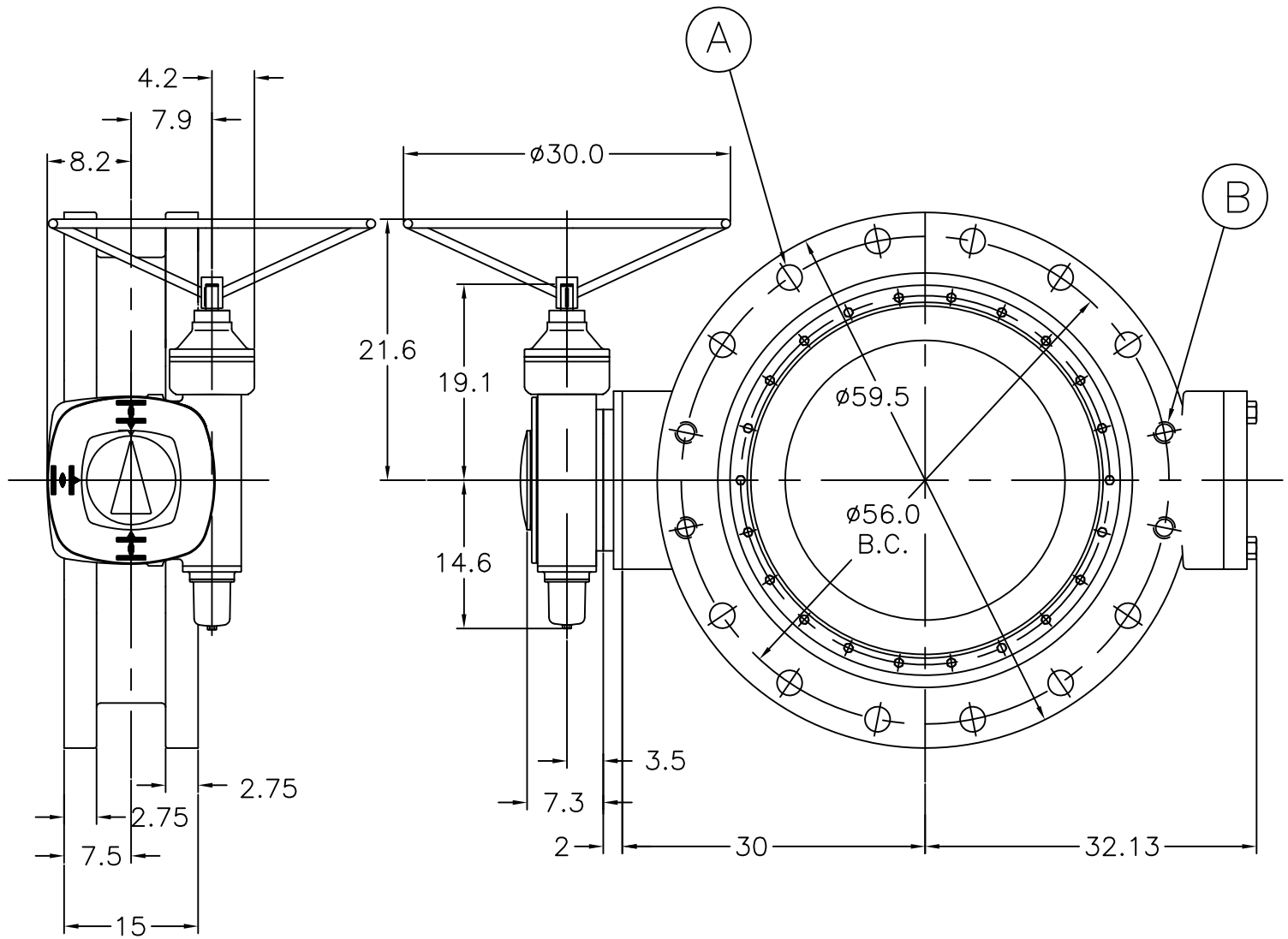


- NOTE 1: FLOW MAY BE IN EITHER DIRECTION
 NOTE 2: VALVE SHAFT WILL MEET OR EXCEED REQUIREMENTS OF SHAFT TABLE PER AWWA STANDARD C-504 FOR APPLICABLE CLASS.
 NOTE 3: REFERENCE AWWA C-504-B & DRILLING (A.N.S.I. 125)
 NOTE 4: NUMBER OF TURNS TO CLOSE = 108
 NOTE 5: OPERATED BY 2" AWWA OPERATING / WRENCH NUT
 NOTE 6: A = (44) $\phi 1.50$ " BOLTS PER FLANGE
 NOTE 7: B = (8) 1.50-6 UNC x 2.25 DEEP TAPPED HOLES EACH FLANGE
 NOTE 8: APPROXIMATE WEIGHT = 6300lbs.

M&H VALVE COMPANY
 ANNISTON, ALABAMA
 A DIVISION OF MCWANE INC.

DWN: TRIJ
 DATE: 8/25/11
 DWG. NO.
 BFE-15-AA2

48" STYLE 1450
 CLASS 150 BUTTERFLY VALVE
 (AUMA GS200.3/GZ200.3:8 GEAR BOX)
 BURIED OPERATOR & EXTENDED BONNET
 FE X FE ENDS



NOTE 1: FLOW MAY BE IN EITHER DIRECTION

NOTE 2: VALVE SHAFT WILL MEET OR EXCEED REQUIREMENTS OF SHAFT TABLE PER AWWA STANDARD C-504 FOR APPLICABLE CLASS.

NOTE 3: REFERENCE AWWA C-504-B & DRILLING (A.N.S.I. 125)

NOTE 4: NUMBER OF TURNS TO CLOSE = 108

NOTE 5: MANUAL POSITION INDICATOR

NOTE 6: A = (44) $\phi 1.50$ " BOLTS PER FLANGE

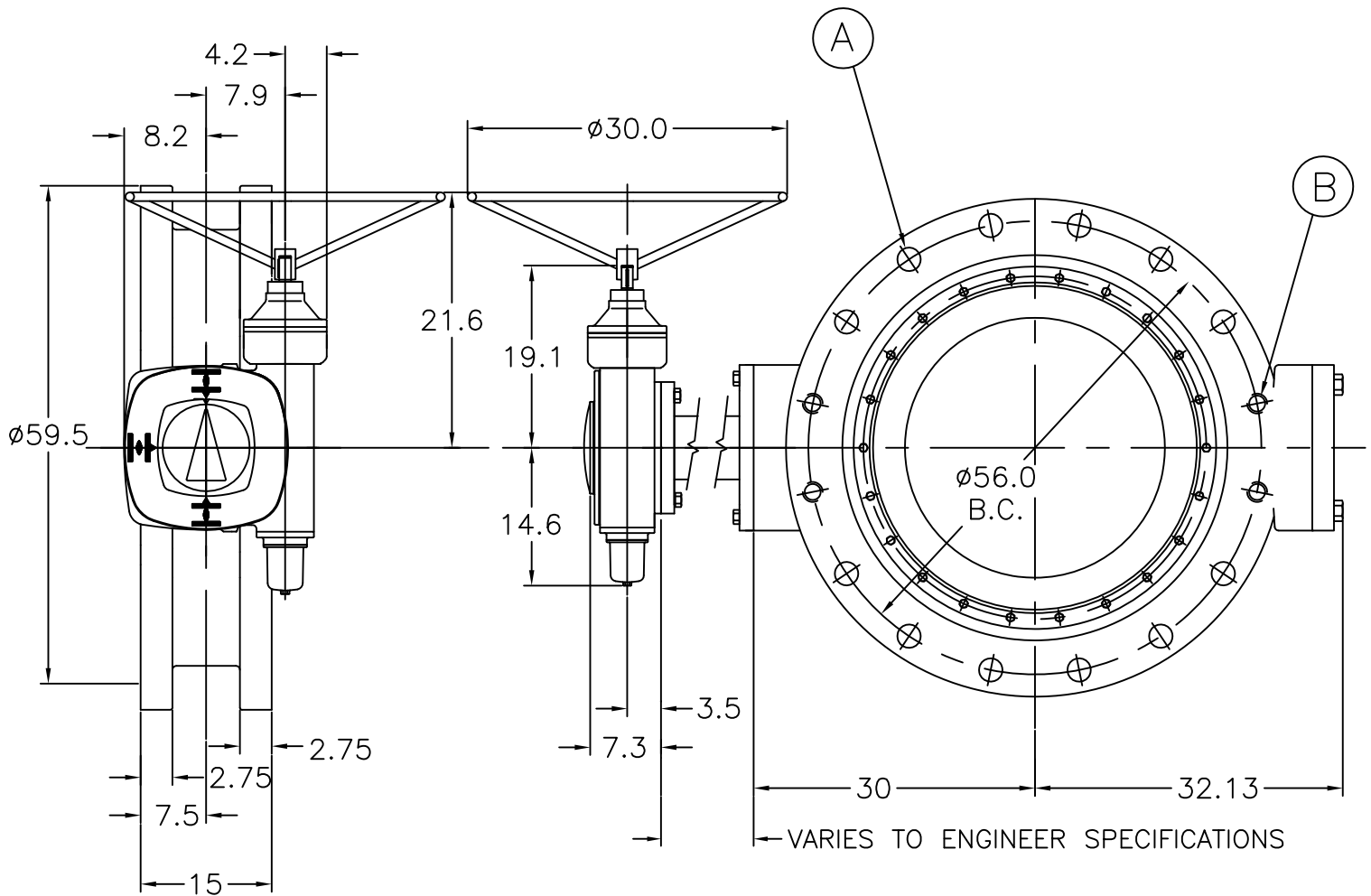
NOTE 7: B = (8) 1.50-6 UNC x 2.25 DEEP TAPPED HOLES EACH FLANGE

NOTE 8: APPROXIMATE WEIGHT = 6300lbs.

M&H VALVE COMPANY
ANNISTON, ALABAMA
A DIVISION OF MCWANE INC.

DWN: TRIJ
DATE: 9/19/11
DWG. NO.
BFE-15-48B

48" STYLE 1450
CLASS 150 BUTTERFLY VALVE
(AUMA GS200.3/GZ200.3:8 GEAR BOX)
HANDWHEEL OPERATOR
FE X FE ENDS



NOTE 1: FLOW MAY BE IN EITHER DIRECTION

NOTE 2: VALVE SHAFT WILL MEET OR EXCEED REQUIREMENTS OF SHAFT TABLE PER AWWA STANDARD C-504 FOR APPLICABLE CLASS.

NOTE 3: REFERENCE AWWA C-504-B & DRILLING (A.N.S.I. 125)

NOTE 4: NUMBER OF TURNS TO CLOSE = 108

NOTE 5: OPERATED BY HANDWHEEL

NOTE 6: A = (44) $\phi 1.50$ " BOLTS PER FLANGE

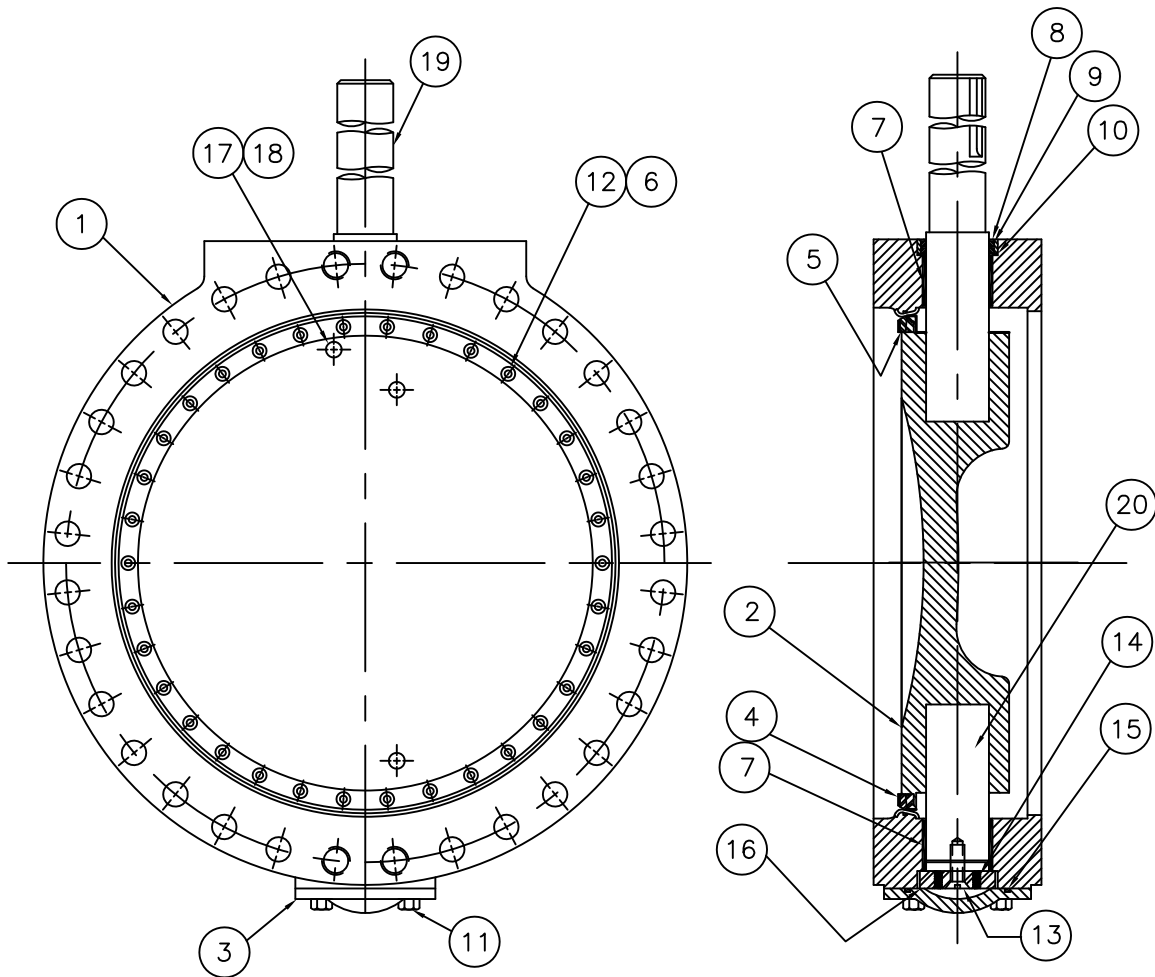
NOTE 7: B = (8) 1.50-6 UNC x 2.25 DEEP TAPPED HOLES EACH FLANGE

NOTE 8: APPROXIMATE WEIGHT = 6300lbs.

M&H VALVE COMPANY
ANNISTON, ALABAMA
A DIVISION OF MCWANE INC.

DWN: TRIJ
DATE: 8/25/11
DWG. NO.
BFE-15-AA4

48" STYLE 1450
CLASS 150 BUTTERFLY VALVE
(AUMA GS200.3/GZ200.3:8 GEAR BOX)
HANDWHEEL OPERATOR &
EXTENDED BONNET - FE X FE ENDS

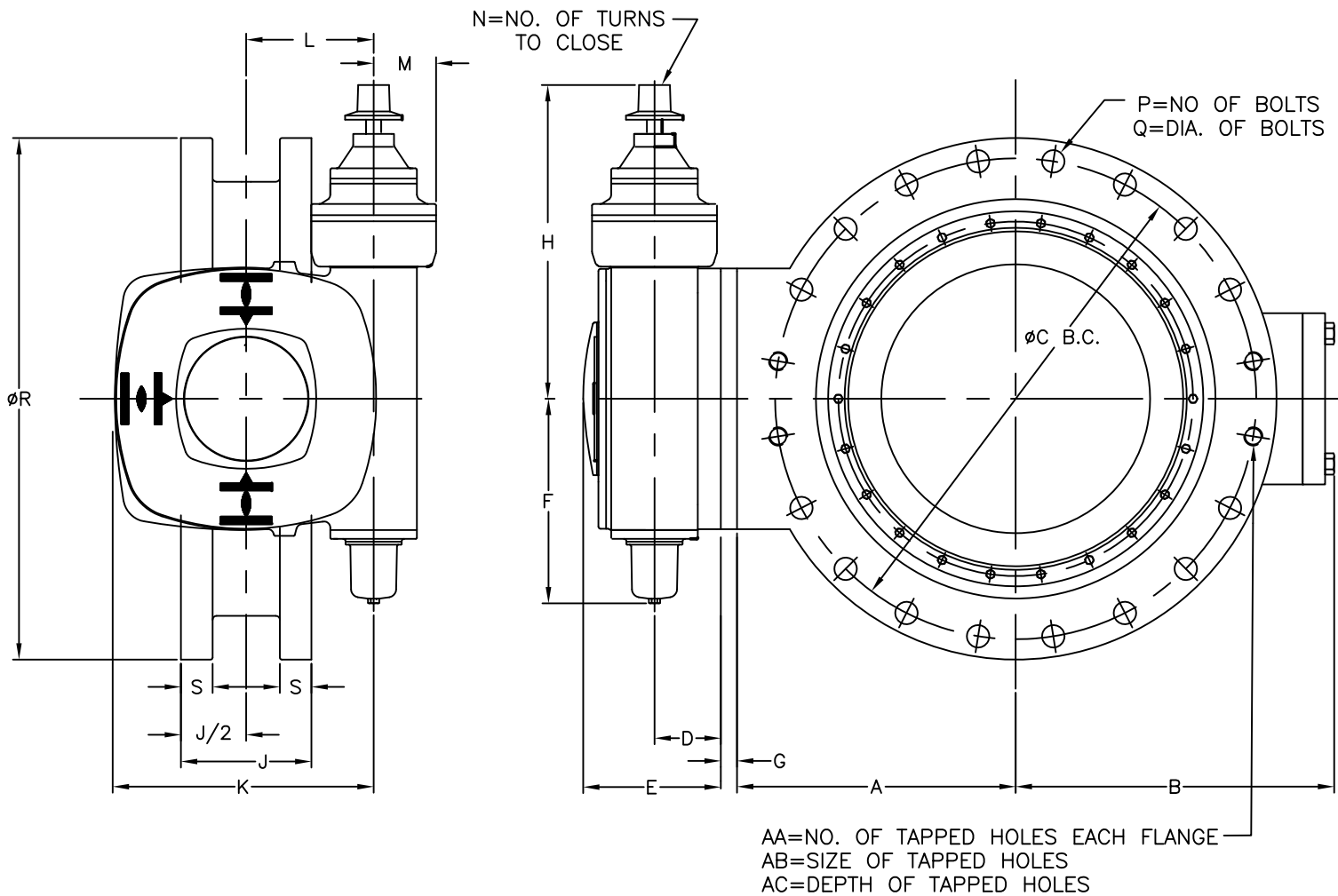


ITEM NO.	DESCRIPTION	MATERIAL
1	BODY, VALVE	DUCTILE IRON, ASTM A-536, GR. 70-50-05 W/304 STN. STL. SEAT
2	VANE	DUCTILE IRON, ASTM A-536, GR. 70-50-05
3	END COVER	FABRICATED A-36 STEEL
4	SEAT RING, VANE	EPDM
5	CLAMP RING, SEAT	304 STAINLESS STEEL
6	SEALING WASHER	NYLON
7	BUSHING, BODY	FIBERGLIDE
8	CARTRIDGE, SHAFT	BRONZE
9	SEAL, SHAFT	BUNA-N
10	SEAL, CARTRIDGE	BUNA-N
11	BOLT, END COVER	COMMERCIAL STEEL
12	SOCKET SCREW ~ FLAT HEAD	18-8 STAINLESS STEEL W/NYLOK INSERT
13	SOCKET SCREW ~ FLAT HEAD	18-8 STAINLESS STEEL W/NYLOK INSERT
14	SET SCREW ~ FLAT POINT	18-8 STAINLESS STEEL W/NYLOK INSERT
15	END COVER SEAL	BUNA-N
16	THRUST BEARING PLATE	BRONZE
17	TAPER PIN	416 STAINLESS STEEL
18	TAPER PIN BOLT	18-8 STAINLESS STEEL
19	SHAFT (OPERATOR)	304 STAINLESS STEEL
20	SHAFT (THRUST)	304 STAINLESS STEEL

M&H VALVE COMPANY
ANNISTON, ALABAMA
A DIVISION OF MCWANE INC.

DWN: TRIJ
DATE: 8/16/11
DWG. NO.
BFE-15-54A

54" STYLE 1450
CLASS 150 BUTTERFLY VALVE
SUB-ASSEMBLY / MATERIAL LIST
(NON-ADJUSTABLE PACKING)
FLANGED ENDS



VALVE SIZE	A	B	C	G	J
54"	33.125	34.8	62.75	2.00	15.00

VALVE SIZE	P	Q	R	S	AA	AB	AC
54"	44	1.75	66.25	3	12	1 3/4-5	2.25

OPERATOR MODEL	D	E	F	H	K	L	M	N
GS 250.3/GZ250.3:8	5.1	9.2	15.8	22.0	19.8	9.8	4.8	103

- NOTE 1: FLOW MAY BE IN EITHER DIRECTION
 NOTE 2: VALVE SHAFT WILL MEET OR EXCEED REQUIREMENTS OF SHAFT TABLE PER AWWA STANDARD C-504 FOR APPLICABLE CLASS.
 NOTE 3: REFERENCE AWWA C-504 FLANGES & DRILLING (A.N.S.I. 125)
 NOTE 4: "N" = NUMBER OF TURNS TO CLOSE
 NOTE 5: "P" = NUMBER OF BOLTS ON EACH FLANGE
 NOTE 6: "Q" = DIAMETER OF BOLTS
 NOTE 7: OPERATED BY 2" AWWA OPERATING / WRENCH NUT

M&H VALVE COMPANY
ANNISTON, ALABAMA
A DIVISION OF MCWANE INC.

DWN: TRIJ
DATE: 8/17/11
DWG. NO.
BFE-15-54B

54" STYLE 1450
CLASS 150 BUTTERFLY VALVE
BURIED OPERATOR
(AUMA GS250.3/GZ250.3:8)
FLANGED ENDS