

AMENDMENTS TO
James City Service Authority Design and Acceptance Criteria for Water Distribution and
Sanitary Sewer Systems March 2021 Edition
Amendment date – July 22, 2021

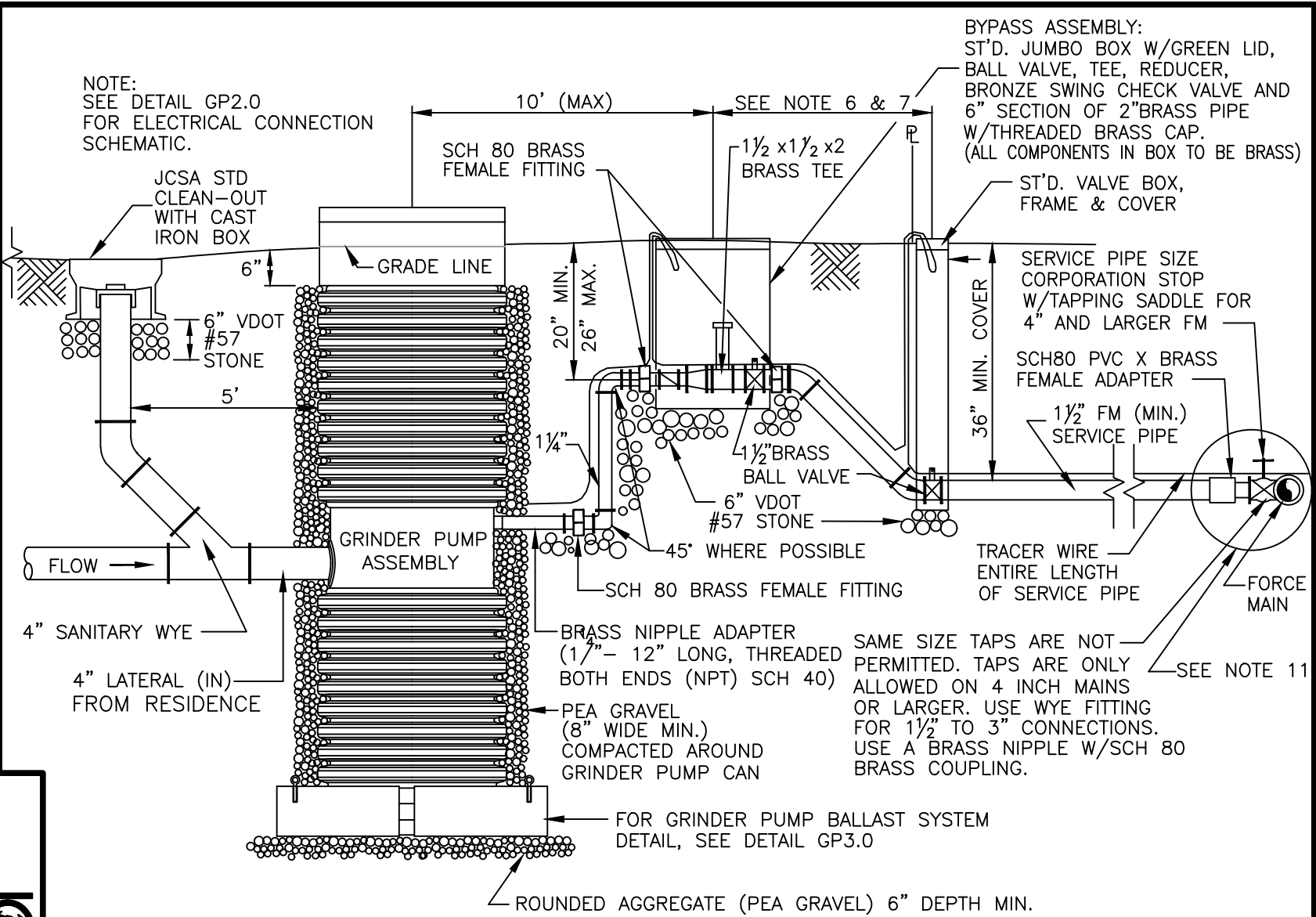
1. Section 2.06 shall be revised as follows:

Dead ends shall be minimized by looping of all water mains where possible. **The water system shall be sufficiently looped such that a single point of failure results in no more than 50 residential units (single family, townhomes, condominiums or apartments) or 5 commercial units being out of service. This requirement ensures reliability of service, efficient transmission of fire flows and promotes adequate water quality.** Where dead-end mains occur, they shall be provided with a permanent blow-off assembly for flushing purposes. The flushing device shall not be directly connected to any sanitary sewer.

Approved manual air release devices shall be installed at all system high points. All devices shall be inspected by JCSA prior to backfilling. Consideration shall be given to providing a suitable means of conveying flush water to an adequate outfall channel, thus preventing potential erosion problems.

2. Appendix B, JCSA Standard Details, DWG NO. GP-01 Page 1, replace with revised drawing included as part of this amendment
3. The following details, provided as part of this amendment, shall be added to Appendix B:
 - a. Detail JR1.1 – Joint Restraint Table for Polywrapped Ductile Iron Pipe
 - b. Detail JR1.2 – Joint Restraint for Ductile Iron Pipe

REVISION DATE	COMMENT
11/12/2020	ADDED REFERENCE TO NOTE 11
5/17/2021	ADDED ADDITIONAL JUMBO BOX NOTES



APPROX. JUMBO BOX DIMENSIONS:
 LID: GREEN 19 1/2" X 13 3/4"
 TOP OF BOX: 21 1/4" X 14 3/4"
 BOTTOM OF BOX: 26 7/8" X 21"
 HEIGHT OF BOX: 12"
 EXTENSION BOX: 6" HIGH

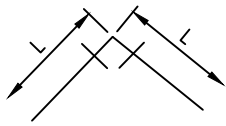
SEE SHEET 2 OF 2 FOR NOTES.

JCSA
 JAMES CITY SERVICE AUTHORITY

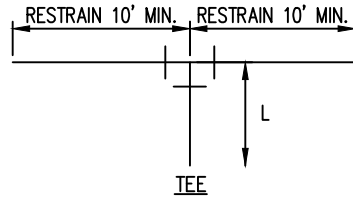
**RESIDENTIAL GRINDER PUMP
 INSTALLATION**

1 OF 2

DWG NO. GP1.0
 SCALE: NONE
 DATE: 4-2017



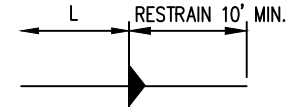
HORIZONTAL/VERTICAL BEND



TEE



PLUG & VALVES



REDUCER

NOTE: L = CORRESPONDING LENGTH BELOW (FT)

MINIMUM RESTRAINED JOINT LENGTHS (L)

FITTING	11.25'	22.5'	45'	90'	PLUG/VALVE	REDUCER	TEE
4" HORIZONTAL BEND	2'	4'	8'	19'	—	—	—
6" HORIZONTAL BEND	3'	6'	11'	26'	—	—	—
8" HORIZONTAL BEND	4'	7'	14'	34'	—	—	—
10" HORIZONTAL BEND	4'	8'	17'	40'	—	—	—
12" HORIZONTAL BEND	5'	10'	20'	47'	—	—	—
4" VERTICAL BEND	7'	13'	27'	—	—	—	—
6" VERTICAL BEND	9'	18'	38'	—	—	—	—
8" VERTICAL BEND	12'	23'	48'	—	—	—	—
10" VERTICAL BEND	14'	28'	58'	—	—	—	—
12" VERTICAL BEND	17'	33'	68'	—	—	—	—
4" PLUG/VALVE	—	—	—	—	64'	—	—
6" PLUG/VALVE	—	—	—	—	90'	—	—
8" PLUG/VALVE	—	—	—	—	116'	—	—
10" PLUG/VALVE	—	—	—	—	140'	—	—
12" PLUG/VALVE	—	—	—	—	163'	—	—
12x12	—	—	—	—	—	—	87'
12x10	—	—	—	—	—	40'	46'
12x8	—	—	—	—	—	87'	1'
12x6	—	—	—	—	—	120'	1'
12x4	—	—	—	—	—	142'	1'
10x10	—	—	—	—	—	—	65'
10x8	—	—	—	—	—	47'	21'
10x6	—	—	—	—	—	86'	1'
10x4	—	—	—	—	—	114'	1'
8x8	—	—	—	—	—	—	41'
8x6	—	—	—	—	—	49'	1'
8x4	—	—	—	—	—	84'	1'
6x6	—	—	—	—	—	—	16'
6x4	—	—	—	—	—	47'	1'
4x4	—	—	—	—	—	—	1'

DESIGN PARAMETERS: TEST PRESSURE = 150 PSI
 PIPE MATERIAL = POLYWRAPPED D.I.
 TRENCH TYPE IV
 SOIL TYPE = ML
 DEPTH OF BURY = 3'
 SAFETY FACTOR = 1.5

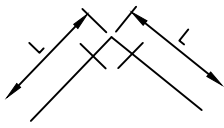
- NOTES: 1. LOOPED WATER SYSTEMS SHALL HAVE RESTRAINT PROVIDED ON BOTH SIDES OF ALL VALVES AND FITTINGS.
 2. LENGTHS SHOWN ABOVE ARE JCSA MINIMUM REQUIREMENTS. CONDITIONS WORSE THAN THE DESIGN PARAMETERS INDICATED, WHETHER ANTICIPATED DURING DESIGN OR ENCOUNTERED DURING CONSTRUCTION, WILL REQUIRE SUBMITTAL OF DESIGN CALCULATIONS FOR JCSA REVIEW AND APPROVAL.
 3. DEPTH OF BURY ON LOW SIDE OF VERTICAL BENDS ASSUMED AS 6 FEET.
 4. COMPUTATIONS BASED ON FORD METER BOX UNIFLANGE PIPE THRUST RESTRAINT PROGRAM V.3.00.
 5. GATE VALVES CALCULATED AS DEAD END FITTING TYPE.
 6. PIPE SIZES LARGER THAN 12" SHALL HAVE THE RESTRAINED LENGTH CALCULATED AND APPROVED BY JCSA THEN PLACED ON PLANS. THE DESIGN PARAMETERS SHOWN SHALL BE THE MINIMUM CONDITIONS.



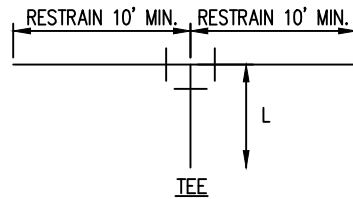
JOINT RESTRAINT TABLE FOR POLYWRAPPED D.I.

DWG NO. JR1.1 SCALE: NONE
 DWN BY: DAW DATE: 6-2021

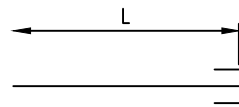
REVISION	DATE	COMMENT



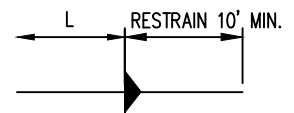
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8" HORIZONTAL BEND	3'	5'	11'	25'	-	-	-
10" HORIZONTAL BEND	3'	6'	13'	30'	-	-	-
12" HORIZONTAL BEND	4'	7'	15'	35'	-	-	-
4" VERTICAL BEND	3'	6'	12'	-	-	-	-
6" VERTICAL BEND	4'	9'	17'	-	-	-	-
8" VERTICAL BEND	6'	11'	22'	-	-	-	-
10" VERTICAL BEND	7'	13'	26'	-	-	-	-
12" VERTICAL BEND	8'	15'	31'	-	-	-	-
4" PLUG/VALVE	-	-	-	-	29'	-	-
6" PLUG/VALVE	-	-	-	-	41'	-	-
8" PLUG/VALVE	-	-	-	-	52'	-	-
10" PLUG/VALVE	-	-	-	-	63'	-	-
12" PLUG/VALVE	-	-	-	-	74'	-	-
12x12	-	-	-	-	-	-	40'
12x10	-	-	-	-	-	22'	21'
12x8	-	-	-	-	-	39'	1'
12x6	-	-	-	-	-	54'	1'
12x4	-	-	-	-	-	64'	1'
10x10	-	-	-	-	-	-	29'
10x8	-	-	-	-	-	22'	10'
10x6	-	-	-	-	-	39'	1'
10x4	-	-	-	-	-	52'	1'
8x8	-	-	-	-	-	-	19'
8x6	-	-	-	-	-	22'	1'
8x4	-	-	-	-	-	38'	1'
6x6	-	-	-	-	-	-	8'
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JOINT RESTRAINT TABLE FOR D.I.

DWG NO. JR1.2 SCALE: NONE
 DWN BY: DAW DATE: 6-2021

REVISION DATE	COMMENT