CITY OF BROOKS
CONSTRUCTION SPECIFICATIONS

DIVISION III

DETAIL DRAWINGS

CITY OF BROOKS

CONSTRUCTION SPECIFICATIONS

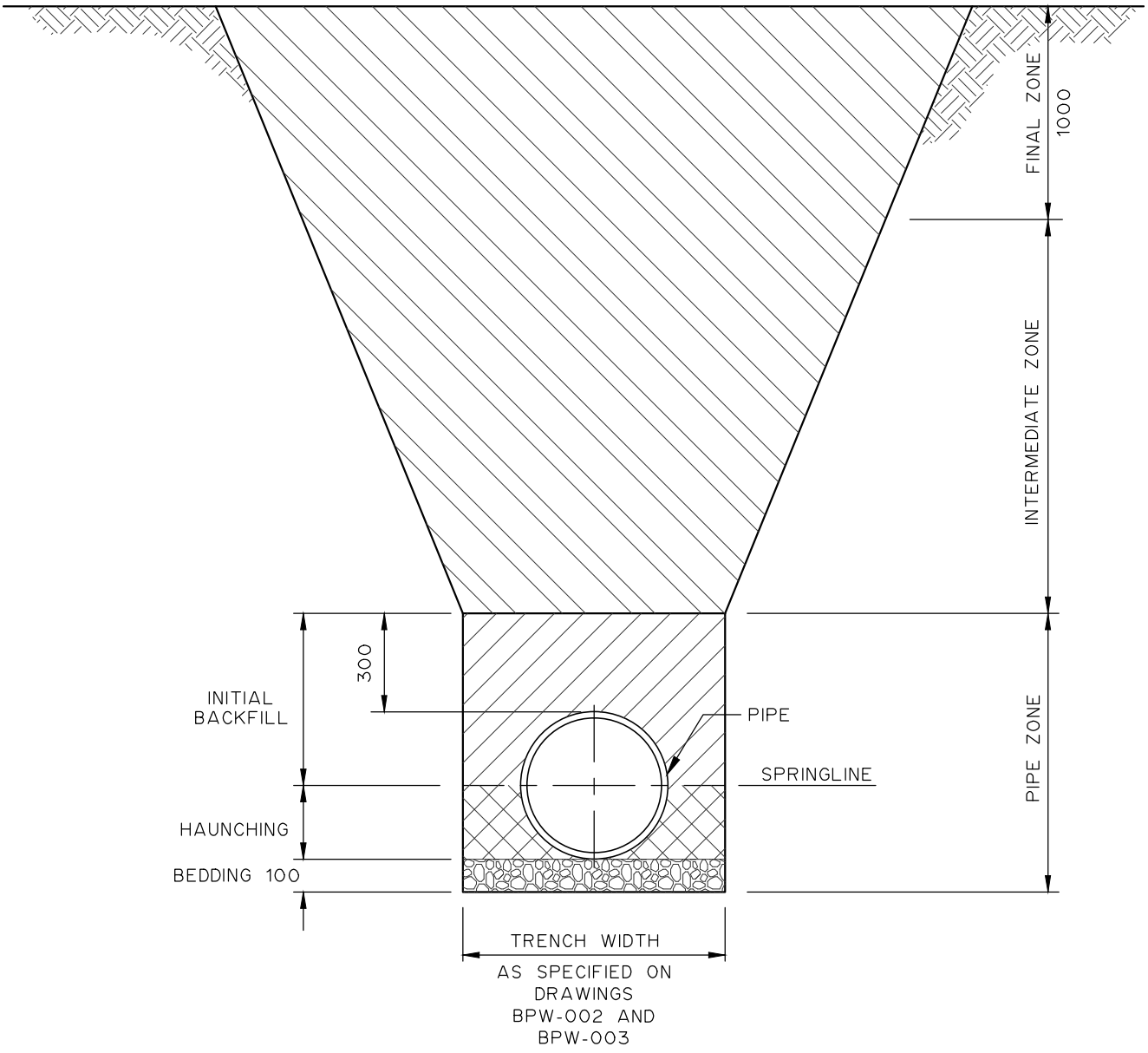
DIVISION III – Detail Drawings

TABLE OF CONTENTS

BPW-119	F-49 Manhole Steel Riser Frame Rings
BPW-120	Standard F-49 Manhole Frame and Sanitary Cover
BPW-121	Standard F-49 Manhole Frame and Storm Cover
BPW-122	F-68 Open Grate Manhole Frame and Cover
BPW-123	Concrete Bench Bases
BPW-124	Internal Drop for Manhole
BPW-125	External Drop for Manhole
BPW-126	Test Manhole for Commercial Sanitary Sewer Services
BPW-127	Manhole Safety Platform
BPW-128	Type K-1 Catch Basin and Catch Basin Manhole
BPW-129	Type F-51 2-Piece Curb Component Frame, Cover & 2-Piece Grate
BPW-130	K-1 Catch Basin Frame
BPW-131	K-1 Catch Basin Grate
BPW-132	K-1 Catch Basin Side Inlet
BPW-133	K-7 Catch Basin
BPW-134	K-7 Catch Basin Frame
BPW-135	K-7 Catch Basin Grate
BPW-136	Twin catch Basin/Catch Basin Manhole Assembly
BPW-137	Manicured Parks Catch Basin
BPW-138	Inlet Control Device (ICD)
BPW-200	Road Cross Section
BPW-201	Arterial Road Cross Sections
BPW-202	Lane Cross Section
BPW-203	Typical Sub-Drain System Installation
BPW-204	Uniform Backfill Sub-Drain System Installation
BPW-205	Curb and Gutter Sections
BPW-206	Curb and Dropped Gutter Sections
BPW-207	Monolithic Sidewalk Curb and Gutter
BPW-208	Monolithic Sidewalk, Curb with Dropped Face Gutter

BPW-209	Separate Sidewalks
BPW-210	Sidewalk Ramp for Wheelchair or Bicycle
BPW-211	Low Volume Land and Driveway Crossings
BPW-212	K-1 and K-7 Catch Basin in Rolled and Standard Curb
BPW-213	Reinforced Concrete Swale
BPW-214	Yielding Breakaway Sign Post Assembly
BPW-215	Dead End Barricade
BPW-216	Steel Beam Guiderail Detail
BPW-217	Steel Beam Guiderail Assembly detail single Rail
BPW-218	Culvert Installation
BPW-300	Standard Irrigation Service Connection
BPW-301	Concrete Pad for Standard or Single Irrigation Cabinet
BPW-302	Concrete Pad for Double Irrigation Controller Cabinet
BPW-303	Small Communication Cabinet Pedestal
BPW-304	Large Communication Cabinet Pedestal
BPW-305	Small Irrigation Communication Cabinet
BPW-306	Large Irrigation Communication Controller Cabinet
BPW-307	Vault Detail for Irrigation Valve System
BPW-308	Irrigation Water Service Hardware Material Alignment
BPW-309	Irrigation Double Check Valve and Ball Valve
BPW-310	Irrigation Hydrometer and Ball Valve
BPW-311	Irrigation Hydrometer and Ball Valve
BPW-312	Irrigation Ball Valve and Quick Coupler
BPW-313	Irrigation Swing Joint Assembly
BPW-314	Irrigation Root Watering System (Rainbird RWS Sprinkler)
BPW-315	Root Barrier (Deeproot)
BPW-316	Tree Support Method Using Tree Stakes
BPW-317	Shrub Bed Planting
BPW-318	Playground Wooden Border Header

BPW-319	Unmetered 120 Volt Irrigation Controller Connection
BPW-320	Unmetered U/G Irrigation Controller Electrical Service
BPW-321	Metered U/G Irrigation Pump Electrical Service
BPW-322	Metered 120/140 Irrigation Pump Connection
BPW-323	Asphalt Trails 3.0m Width
BPW-324	Asphalt Trails 3.0m Width with Side and Back Slope
BPW-325	Wood Bollard and Chain Detail (150 X 150 Beam)
BPW-326	Wood Bollard and Chain Detail (Flat Top)
BPW-327	Wood Bollard Detail (Flat Top)
BPW-328	Wood Bollard Detail (150 X 150 Beam)
BPW-329	Removable Steel Bollard Detail
BPW-330	T-Bollard Surface Mount



NOTES:

1. REFER TO SECTION 02000 - BACKFILLING SCHEDULE FOR: FILL MATERIAL, MAXIMUM LIFT THICKNESS, MINIMUM COMPACTION AND MOISTURE CONTENT REQUIREMENTS.

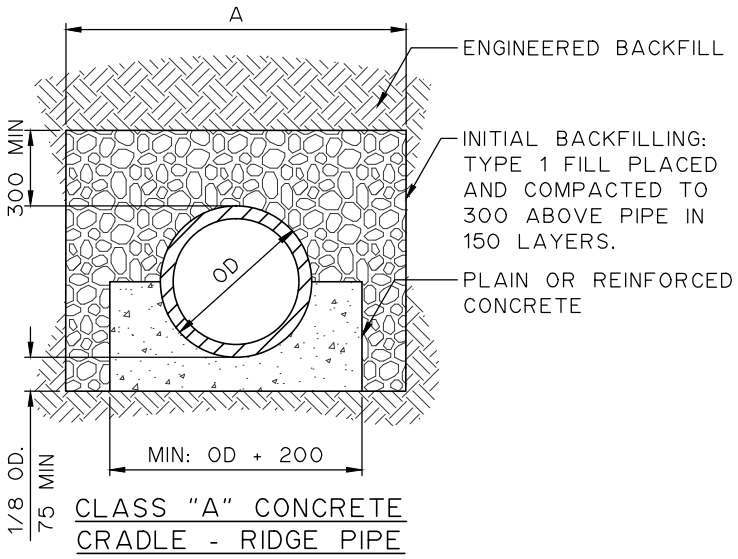
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

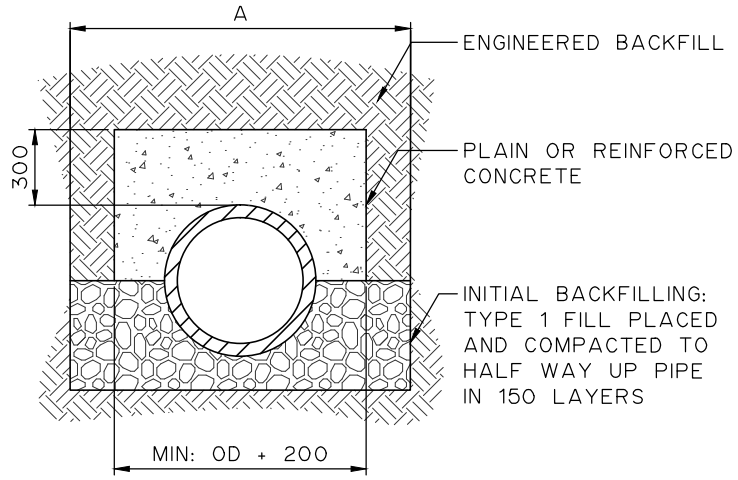
CITY OF BROOKS

TYPICAL TRENCH BEDDING AND BACKFILL REQUIREMENTS

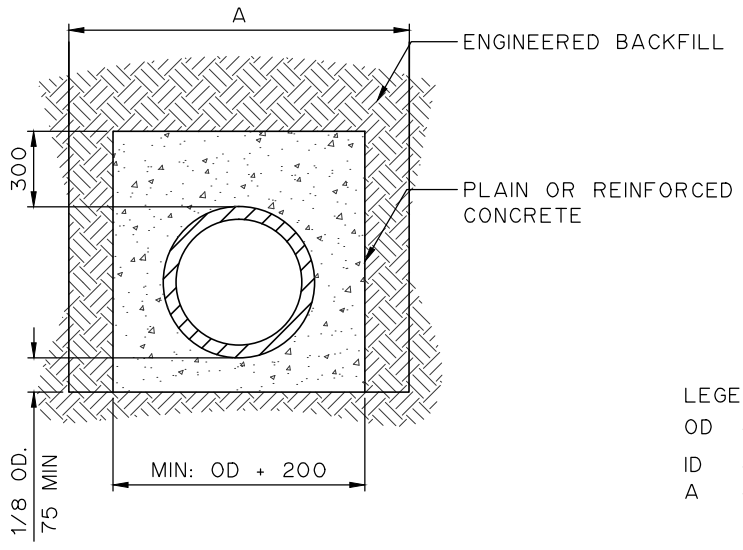
DWG. No. BPW-001 Rev. 0



CLASS "A" CONCRETE CRADLE - RIDGE PIPE



CLASS "A" CONCRETE ARCH



CLASS "A" CONCRETE ENCASED

NOTES:

1. Lf=2.2 TO 3.4
2. CONCRETE FOR CLASS "A" BEDDING SHALL BE IN ACCORDANCE WITH SECTION 03300 CAST-IN-PLACE CONCRETE.
3. BACKFILL MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 03000 EXCAVATION, TRENCHING AND BACKFILLING.
4. BACKFILLING REQUIREMENTS AS PER SECTION 03000 EXCAVATION, TRENCHING AND BACKFILLING AND SECTION 06000 BACKFILL REGULATIONS FOR PUBLIC RIGHT-OF-WAYS.
5. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
6.

DEPTH OF MATERIAL BELOW PIPE	
PIPE DIAMETER	BEDDING DEPTH
675 OR SMALLER 750 TO 1500 1650 OR LARGER	75 100 150

LEGEND:

OD - OUTSIDE DIAMETER

ID - INSIDE DIAMETER

A - TRENCH WIDTH - 900 FOR 525 DIA PIPE AND SMALLER OR 1.33 x ID + 200 FOR 600 OR LARGER.

Lf - LOAD FACTOR

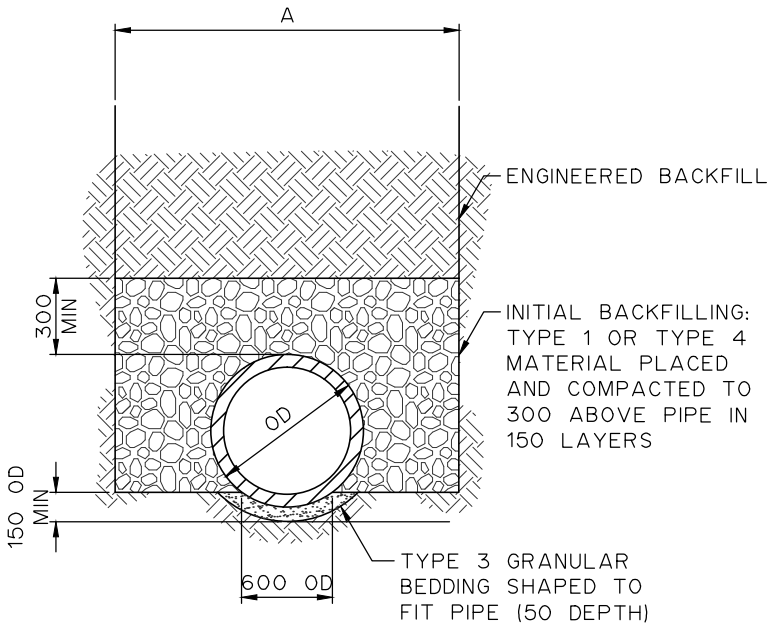
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.C.W.
APPROVED:

CITY OF BROOKS

CLASS "A" BEDDING

DWG. No. BPW-002 Rev. 0

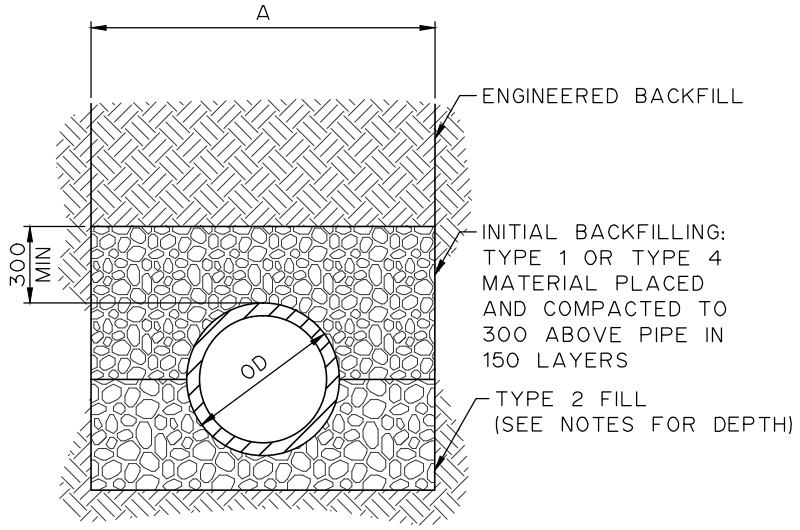


CLASS "B" SHAPED SUB-GRADE

NOTES:

1. Lf = 1.9
2. BACKFILL MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 03000 EXCAVATION, TRENCHING AND BACKFILLING.
3. BACKFILLING REQUIREMENTS AS PER SECTION 03000 EXVACATION, TRENCHING, AND BACKFILLING AND SECTION 06000 BACKFILL REGULATIONS FOR PUBLIC RIGHT-OF-WAYS.
4. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
5.

DEPTH OF MATERIAL BELOW PIPE	
PIPE DIAMETER	BEDDING DEPTH
675 OR SMALLER	75
750 TO 1500	100
1650 OR LARGER	150



CLASS "B" GRANULAR BEDDING

LEGEND:

OD - OUTSIDE DIAMETER

ID - INSIDE DIAMETER

A - TRENCH WIDTH - 900 FOR 525 DIA PIPE AND SMALLER OR 1.33 x ID + 200 FOR 600 OR LARGER.

Lf - LOAD FACTOR

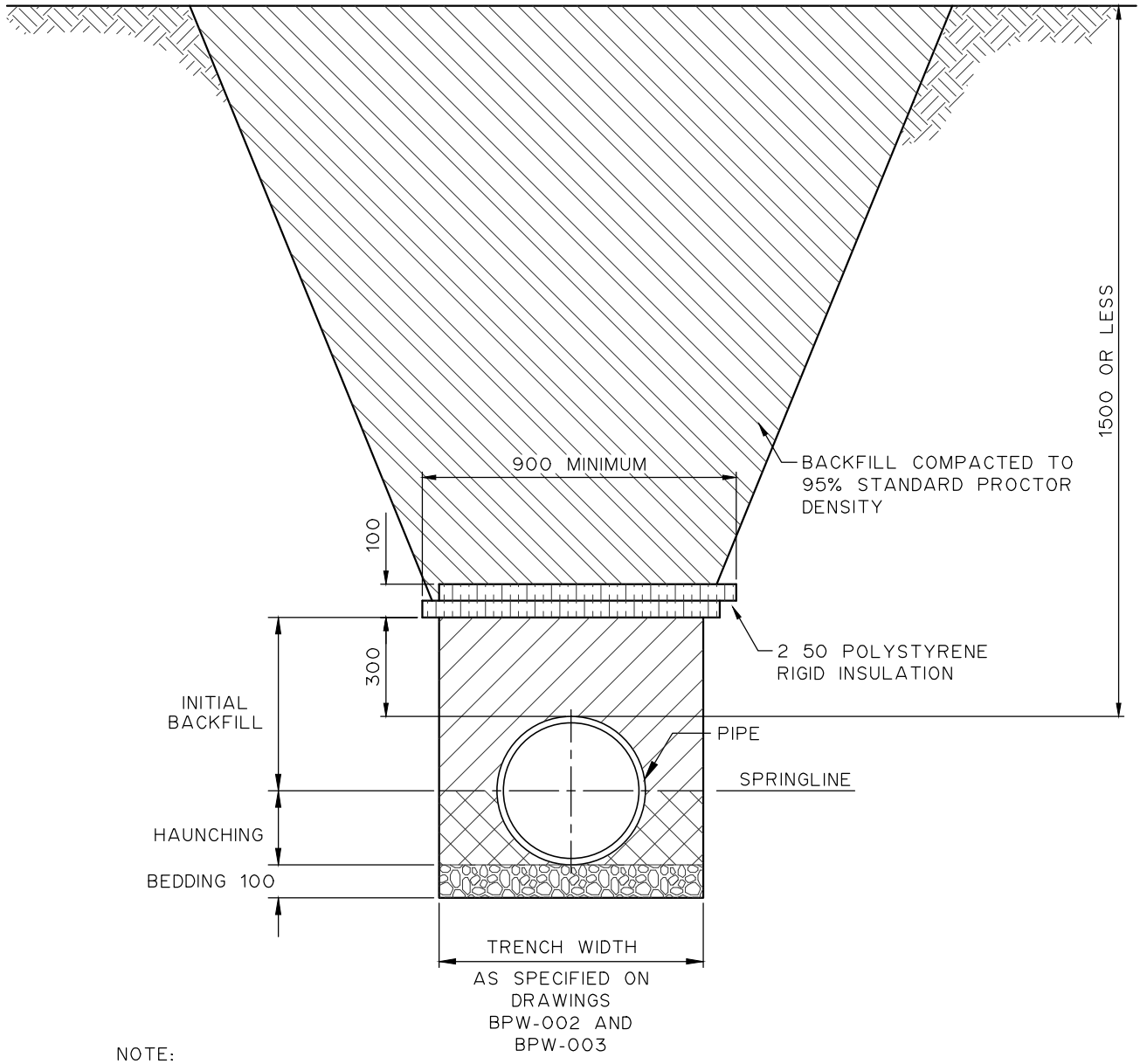
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

CITY OF BROOKS

CLASS "B" BEDDING

DWG. No. BPW-003 Rev. 0



NOTE:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. FROST SHIELD TO BE USED IN TRENCHES THAT ARE 1500 OR LESS IN DEPTH.
3. STAGGER JOINTS ON INSULATION 50mm ACROSS WIDTH OF TRENCH.
4. STAGGER JOINTS OF INSULATION 1/2 SHEET ALONG LENGTH OF TRENCH.
5. INSULATION TO BE STYROFOAM-SM BRAND EXTRUDED EXPANDED POLYSTYRENE FOAM MANUFACTURED BY DOW CHEMICAL CANADA INC. OR APPROVED EQUAL.
6. REFER TO SECTION 02000 - BACKFILLING SCHEDULE FOR: FILL MATERIAL,

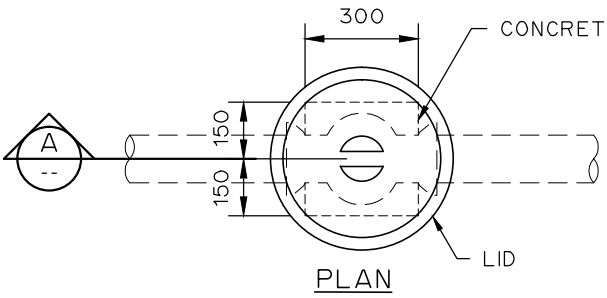
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

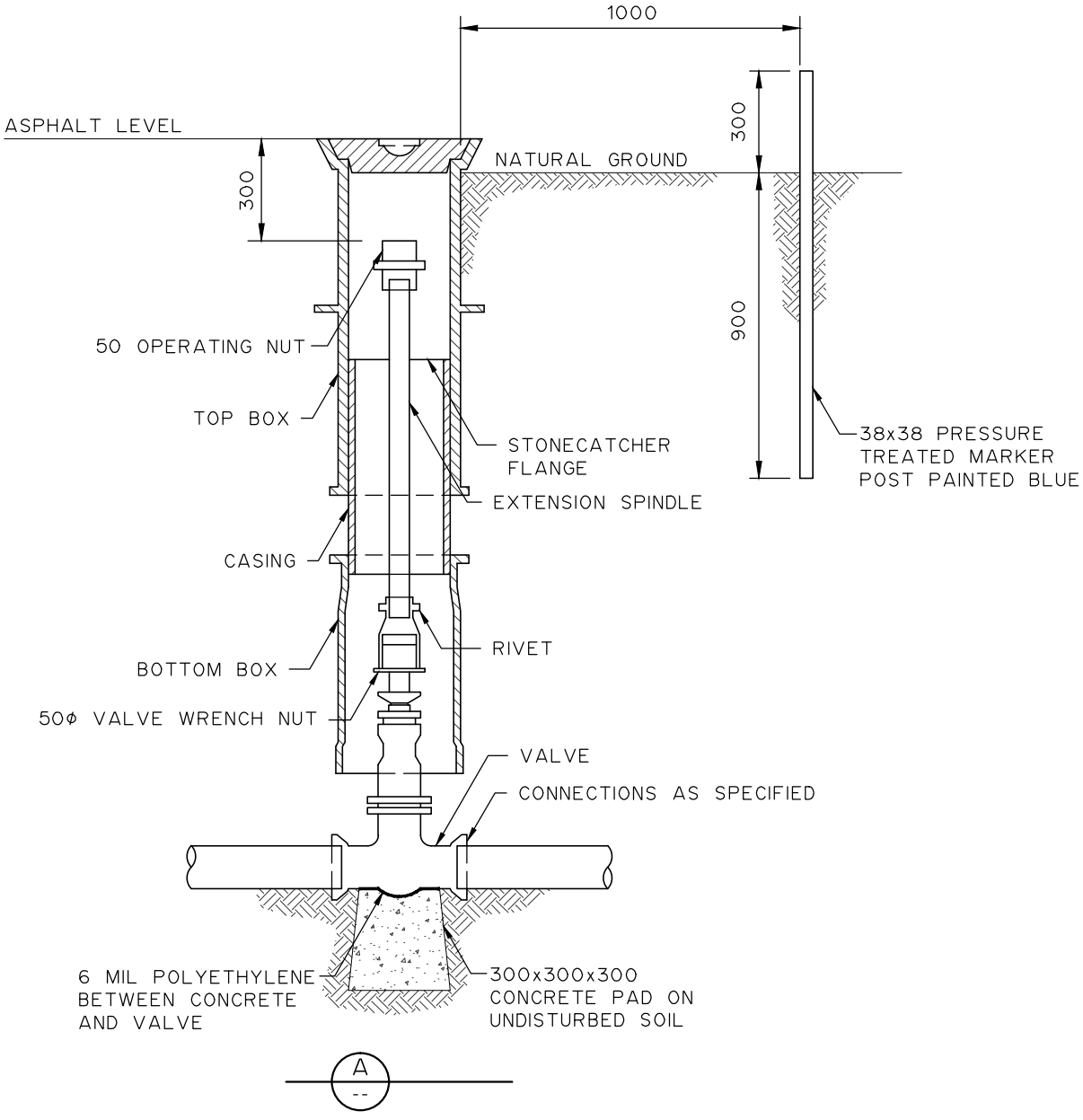
CITY OF BROOKS

FROST SHIELD MAINS AND SERVICES

DWG. No. BPW-004 Rev. 0



PLAN



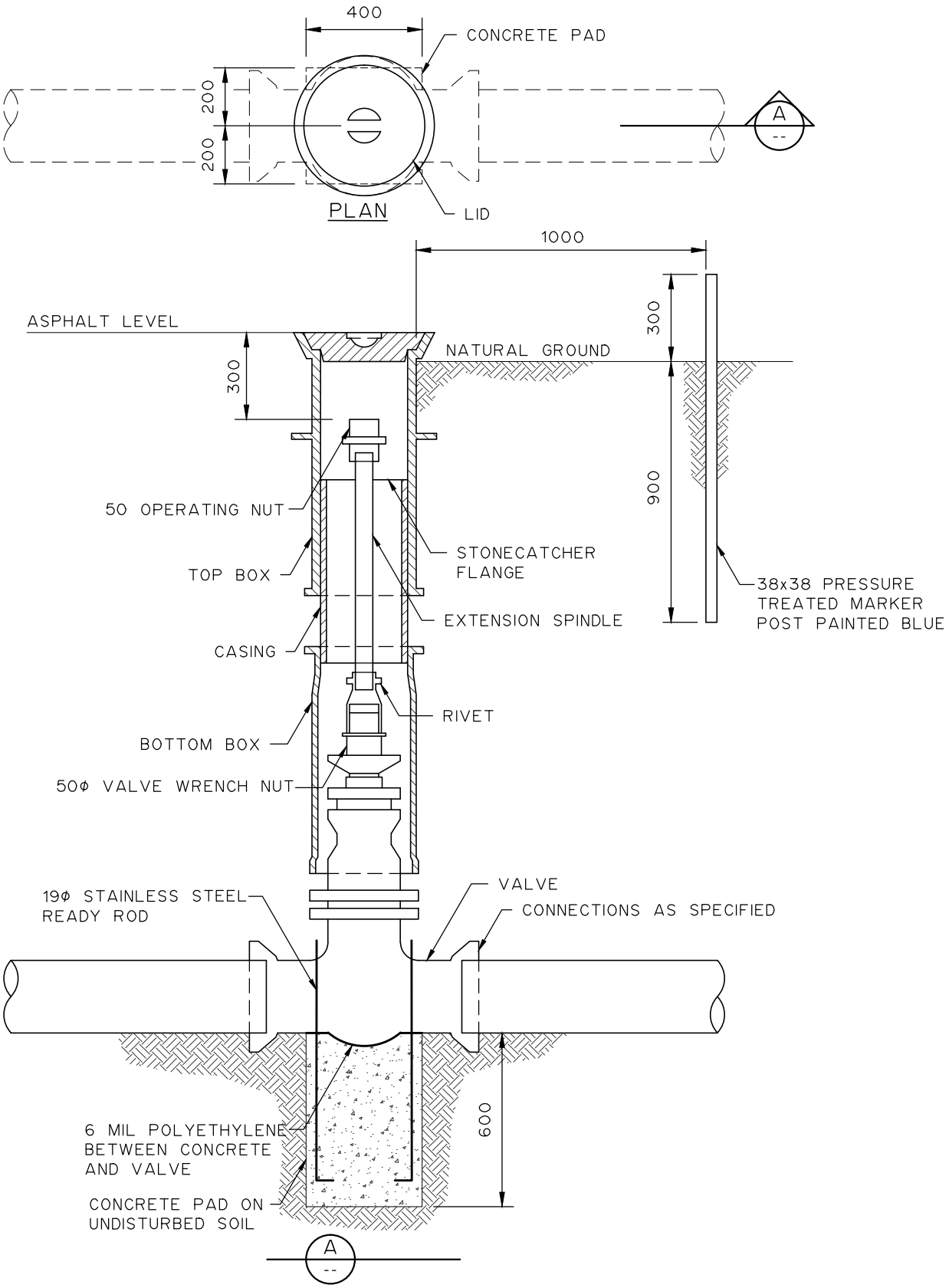
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

CITY OF BROOKS

BURIED VALVE
100mm TO 200mm

DWG. No. BPW-100 Rev. 0



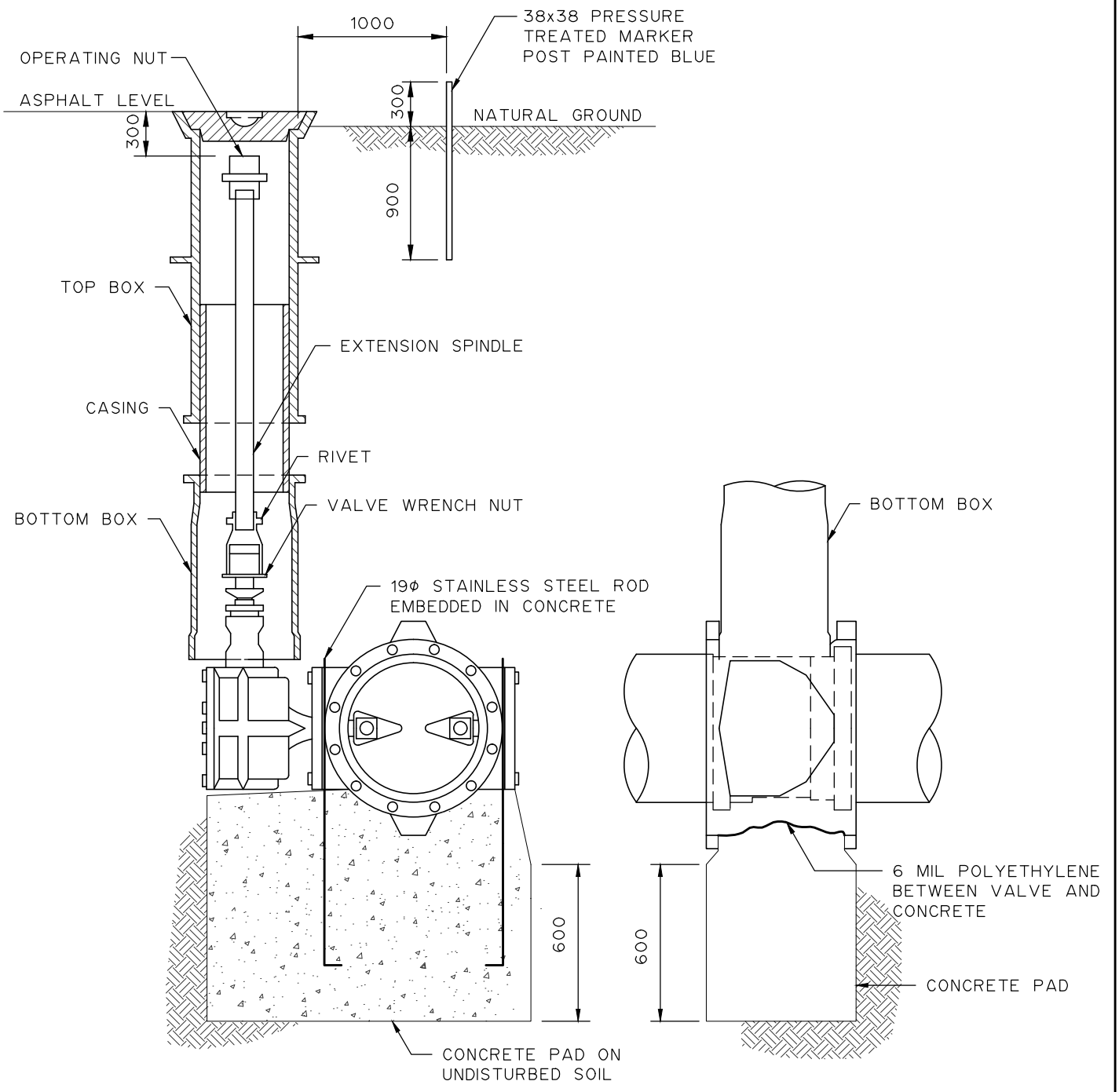
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

CITY OF BROOKS

BURIED VALVE 250mm TO 300mm

DWG. No. BPW-101 Rev. 0



CENTRELINE SECTION

ELEVATION

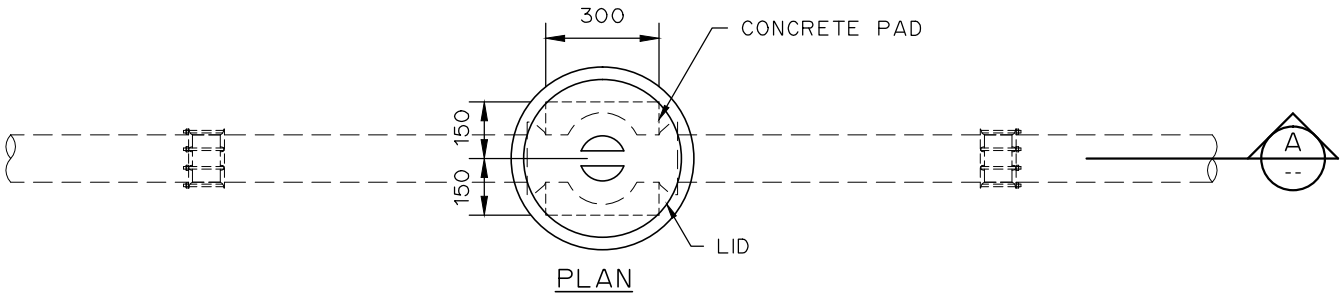
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

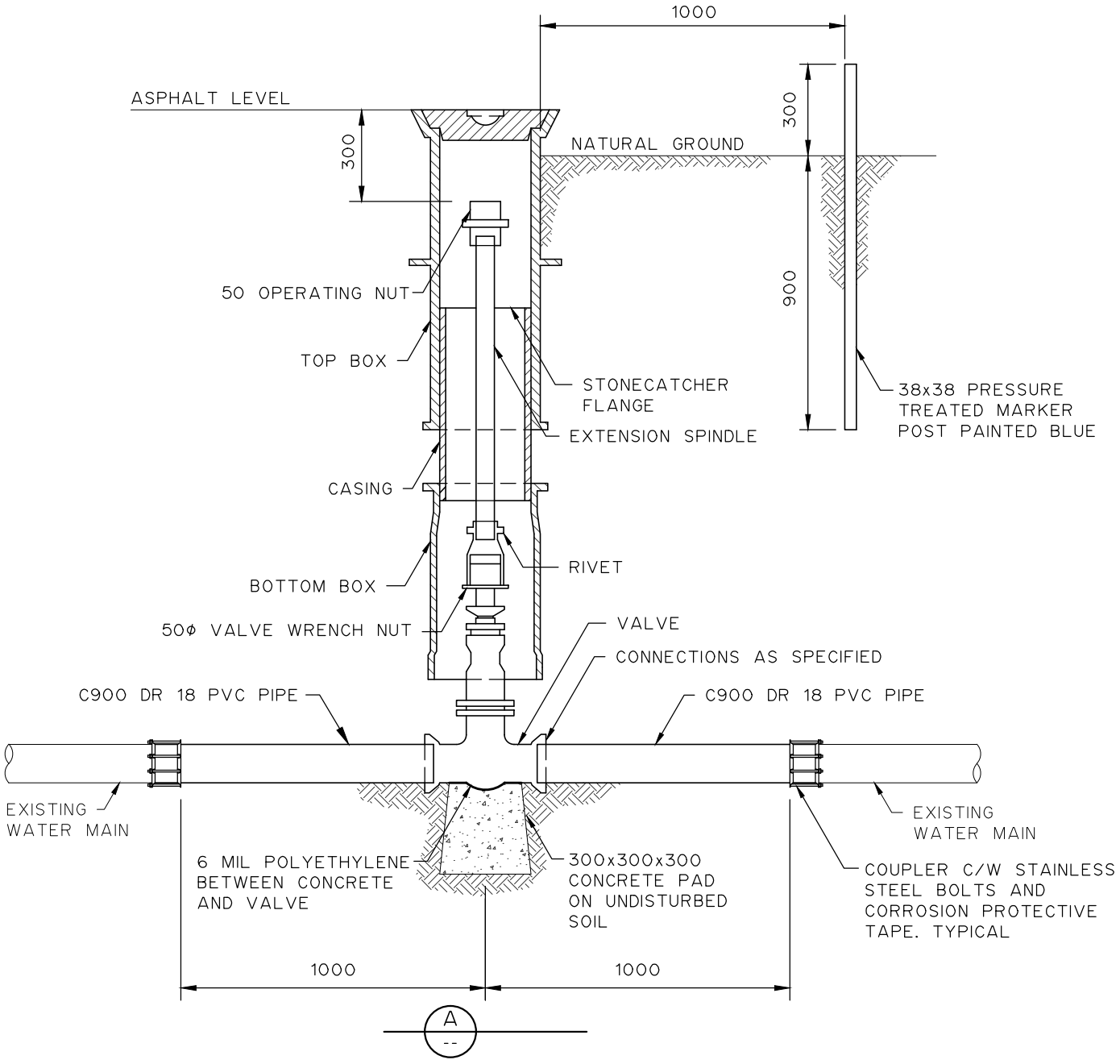
CITY OF BROOKS

BURIED VALVE
350mm AND LARGER

DWG. No. BPW-102 Rev. 0



PLAN



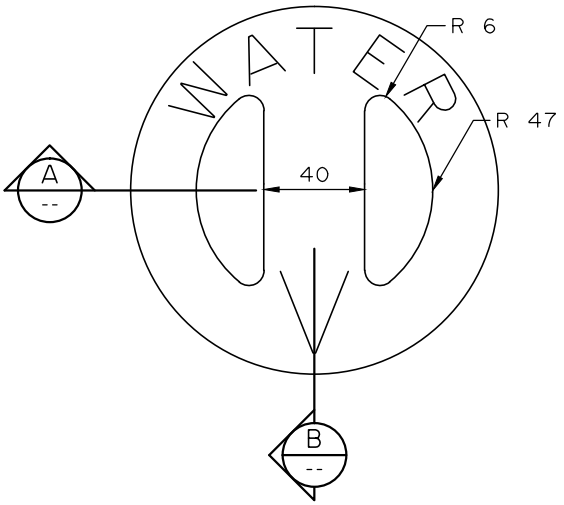
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

CITY OF BROOKS

VALVE REPLACMENT 100mm OR 200mm

DWG. No. BPW-103 Rev. 0



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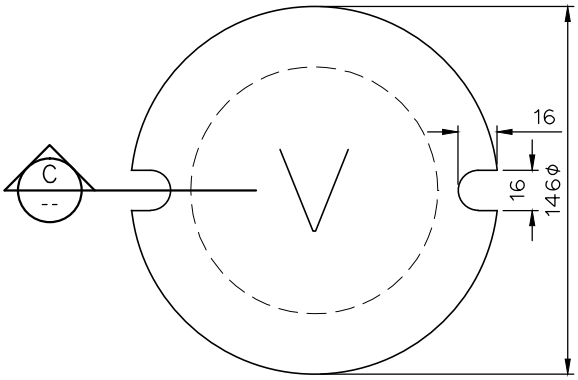

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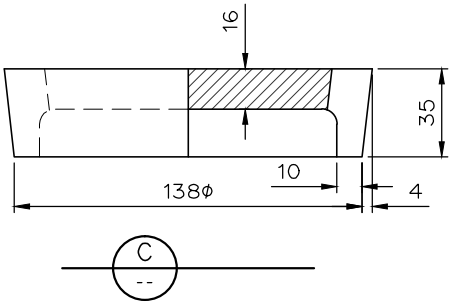
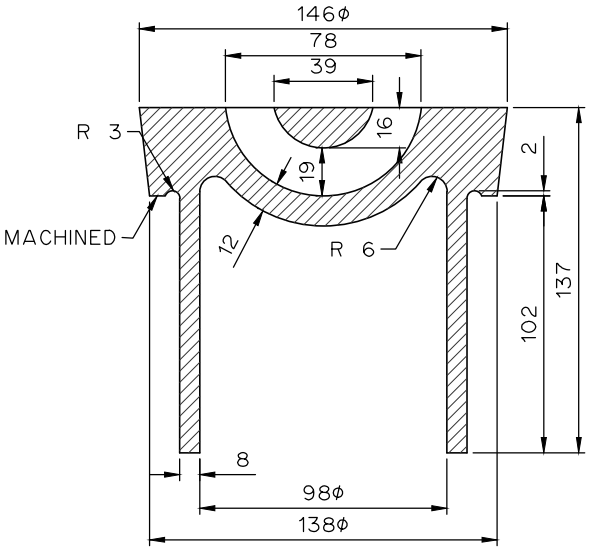
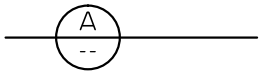


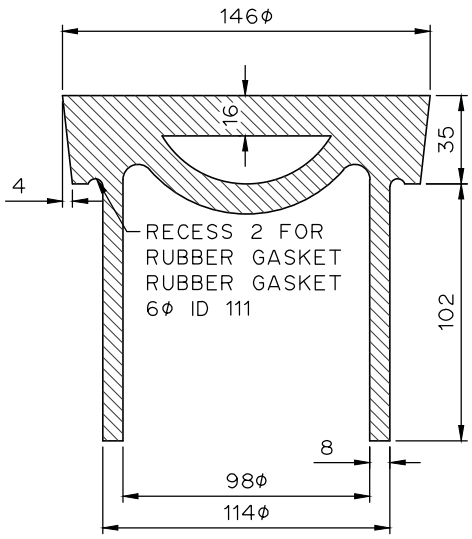
DEEP VALVE BOX LID

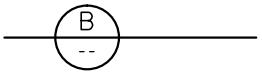




DEEP VALVE BOX LID

(FOR COLLECTOR ROAD TRAFFIC VOLUMES AND GREATER)





NOTE:
THE OPERATING ROD SHALL BE AN INTERGAL PART. JOINTS PRODUCED BY WELDING OR OTHER METHODS, ARE NOT ACCEPTABLE.

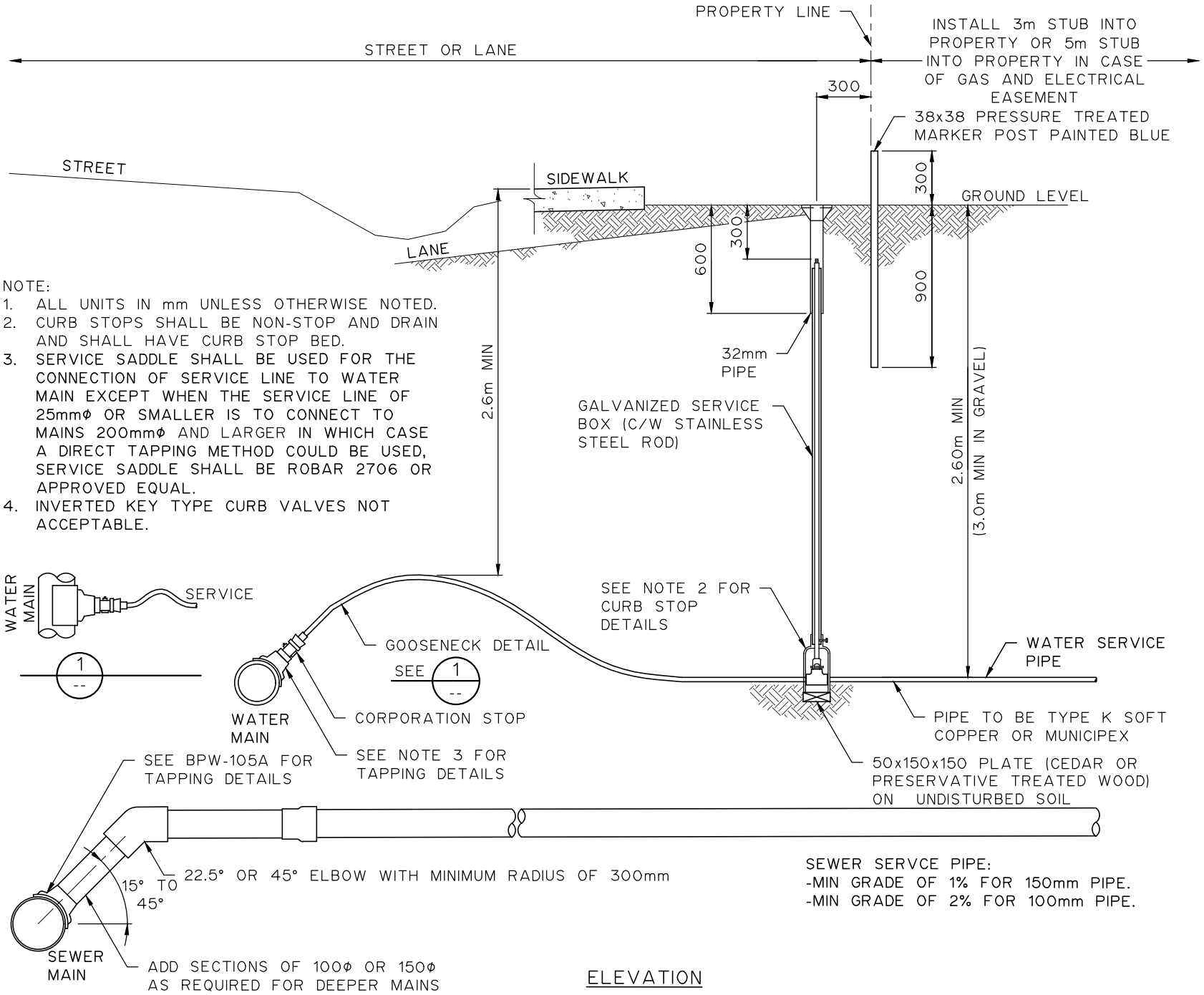
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUART 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

CITY OF BROOKS

STANDARD VALVE BOX LID AND DEEP VALVE BOX LID

DWG. No. BPW-104 Rev. 0



ELEVATION

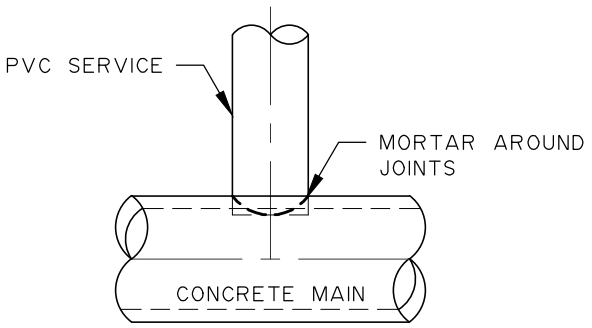
No.	DATE YY MM DD	REVISION DESCRIPTION	BY

APPROVED:
DRAWN: C.W.H.
SCALE: NTS
DATE: JANUARY 2012

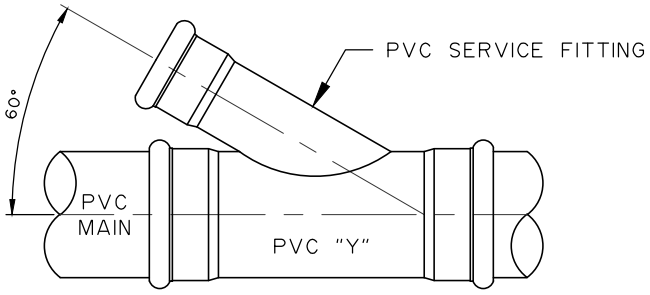
CITY OF BROOKS

STANDARD BUILDING SERVICE CONNECTION SANITARY AND WATER

DWG. No. BPW-105 Rev. 0

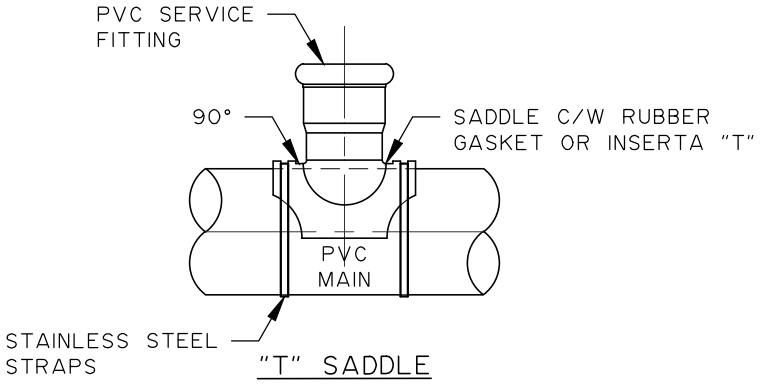


TYPICAL CONNECTION FOR CONCRETE MAIN



"Y"

TYPICAL CONNECTION FOR PVC MAIN



"T" SADDLE

TYPICAL CONNECTION FOR PVC MAIN

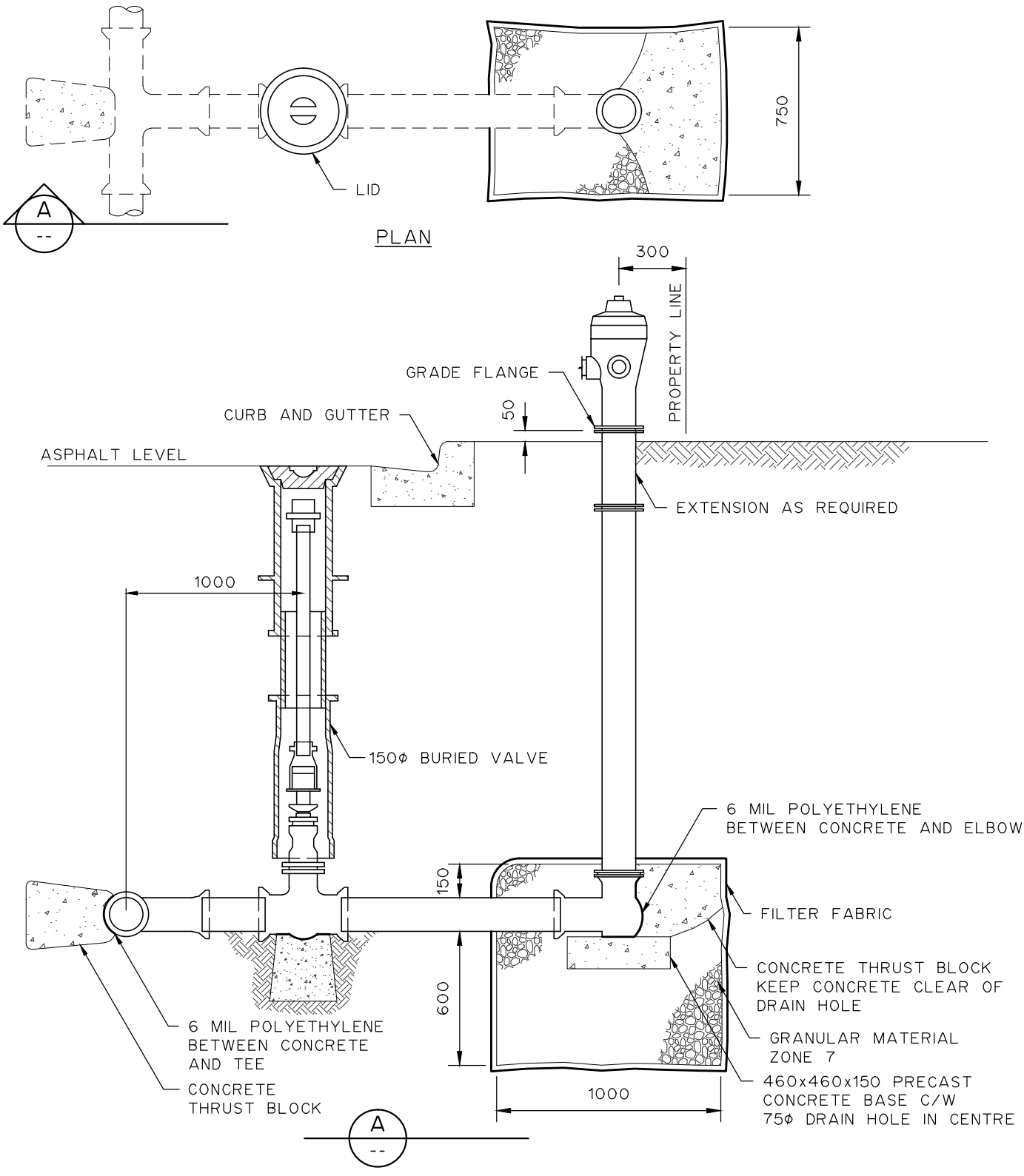
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

CITY OF BROOKS

SEWER SERVICE CONNECTIONS TO MAINS

DWG. No. BPW-105A Rev. 0



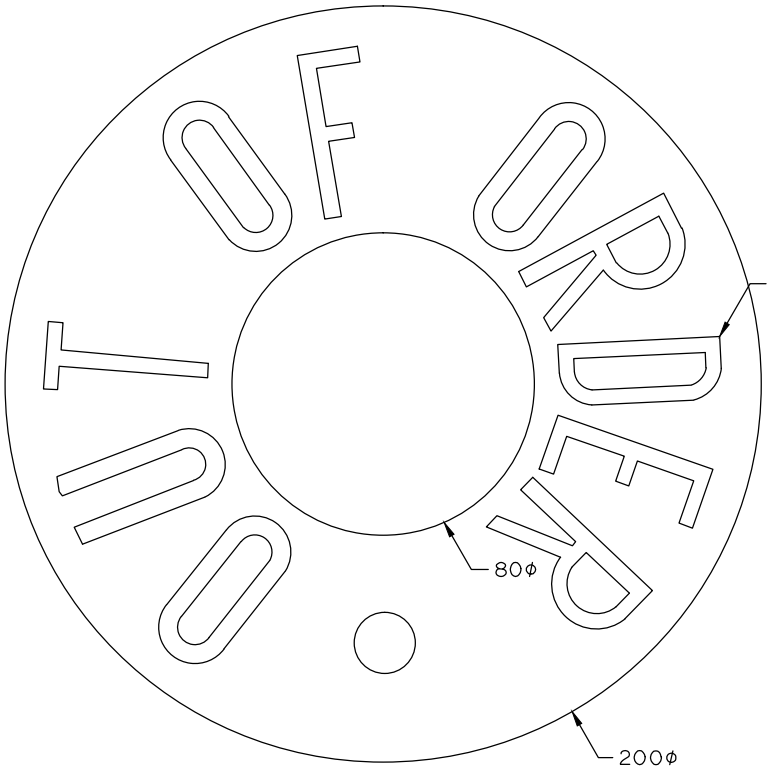
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

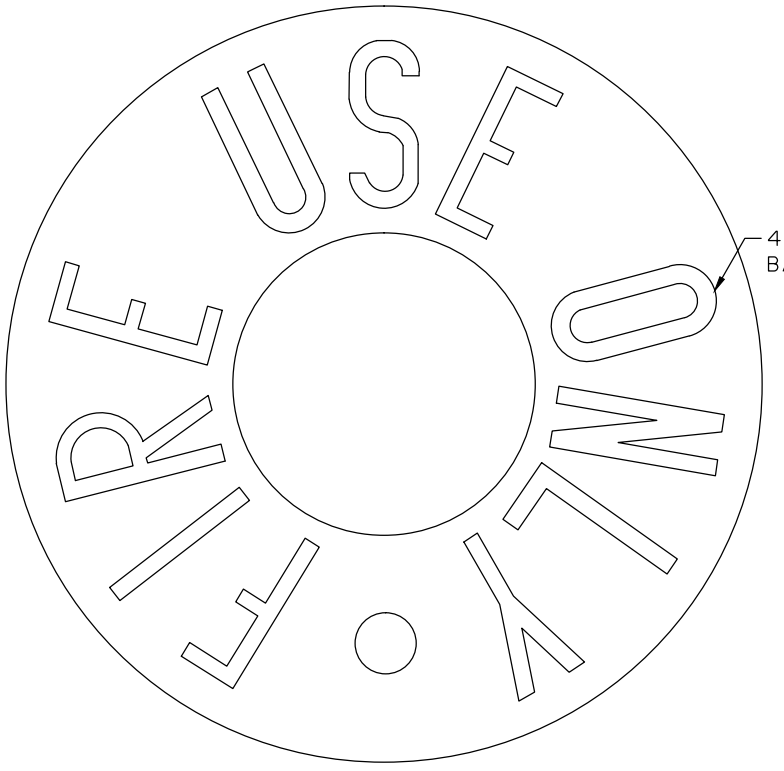
DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

CITY OF BROOKS

FIRE HYDRANT

DWG. No. BPW-107 Rev. 0





NOTE:

1. SIGNS TO BE INSTALLED ON HYDRANT DISCHARGE NOZZLES AS REQUIRED.
2. SIGNS TO BE MADE OF 2 STEEL PLATE.
3. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.

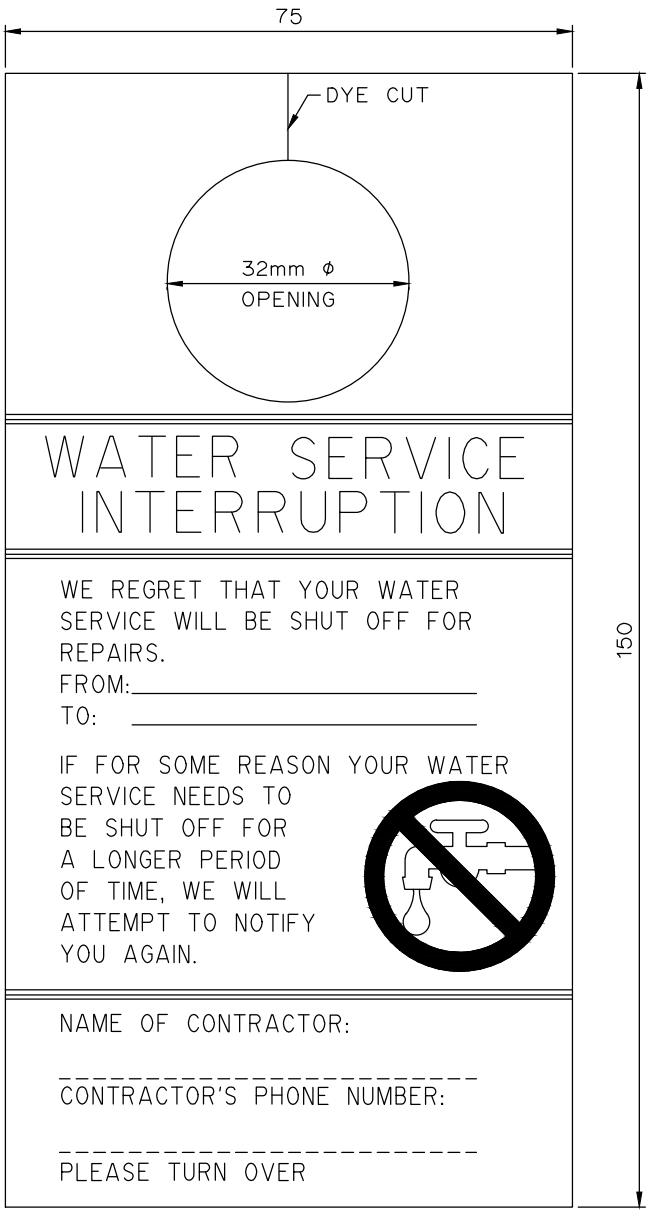
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

CITY OF BROOKS

SPECIAL HYDRANT SIGNS

DWG. No. BPW-108 Rev. 0



FRONT

BACK

NOTES:

1. WARNING NOTICE MATERIAL TO BE BEAVER BRISTOL RED 180M.
2. LETTERING TO BE BLACK PRINT.

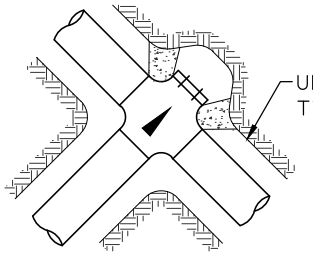
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

CITY OF BROOKS

TYPICAL NOTICE TO HOUSEHOLD SERVICE INTERRUPTION

DWG. No. BPW-109 Rev. 0



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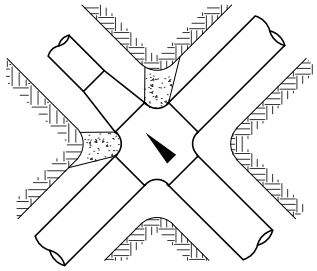
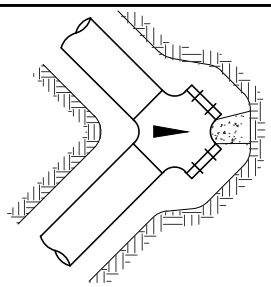


2 REDUCER



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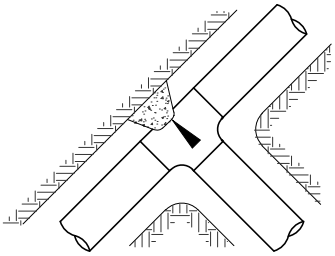

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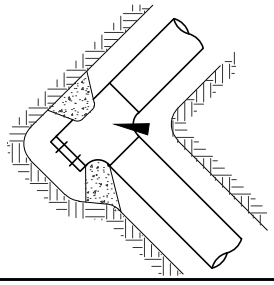

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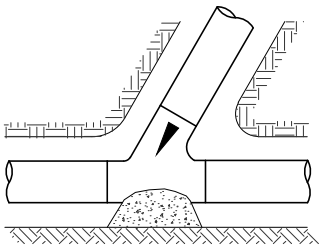
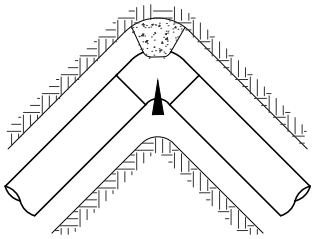
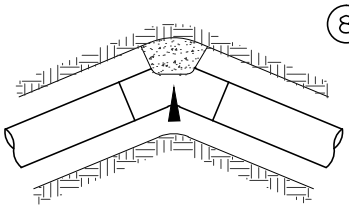


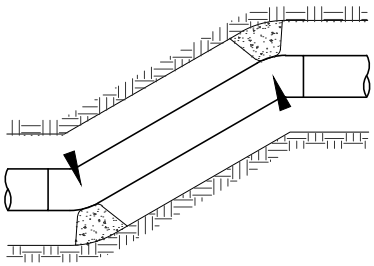
6 WYE



7 90° BEND

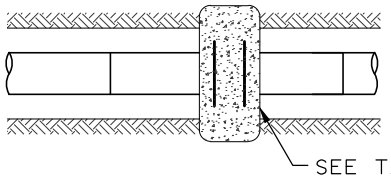


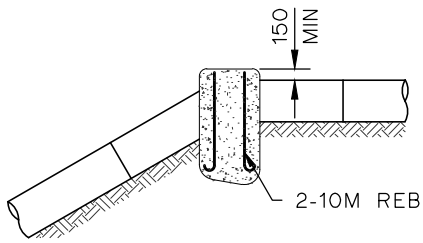
8 45° BEND
22.5° BEND
11.25° BEND

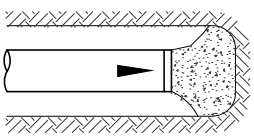


9 OFFSET BEND

10 VERTICAL BEND







11 CAP

No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

CITY OF BROOKS

THRUST BLOCK LOCATIONS

DWG. No. BPW-110 Rev. 0

TABLE 'A'						
THRUST BLOCK FACE AREA IN SQ METRES AT FITTING FOR CL 150 PIPE @ 1000 kPa AND SOIL BEARING CAPACITY OF 100 kPa						
PIPE SIZE IMPERIAL	PIPE SIZE METRIC	DEAD ENDS OR TEE	90° BEND	45° BEND	22.5° BEND	11.25° BEND
4"	100	0.12	0.17	0.10	0.10	0.10
6"	150	0.25	0.35	0.19	0.10	0.10
8"	200	0.43	0.60	0.33	0.17	0.10
10"	250	0.70	0.99	0.54	0.27	0.14
12"	300	1.00	1.40	0.75	0.39	0.19
14"	350	1.35	1.90	1.03	0.52	0.26
16"	400	1.75	2.47	1.34	0.68	0.34
18"	450	2.24	3.15	1.72	0.87	0.44
20"	500	2.77	3.90	2.12	1.07	0.54
24"	600	4.00	5.64	3.07	1.55	0.78
30"	750	6.26	8.83	4.81	2.44	1.22
36"	900	9.03	12.70	7.58	3.51	1.76

TABLE 'B'	
SOIL TYPE	SAFE BEARING LOAD kPa
SOFT CLAY, LOOSE SAND	50
MEDIUM SOFT CLAY, DENSE SAND	100
DENSE CLAY TILL AND GRAVEL	150
HARD SHALE	500

TABLE 'C'							
DEAD WEIGHT REQUIREMENTS FOR VERTICAL BENDS CUBIC METRES OF CONCRETE (m^3)							
TYPE OF BEND	SIZE (mm)						
	100	150	200	250	300	350	400
90° BEND	0.75	1.50	2.75	4.25	6.00	8.50	11.0
45° BEND	0.50	1.00	1.50	2.25	3.50	4.75	6.00
22.5° BEND	0.25	0.50	0.75	1.25	1.50	2.25	3.00
11.25° BEND	0.25	0.25	0.50	0.75	1.00	1.25	1.50

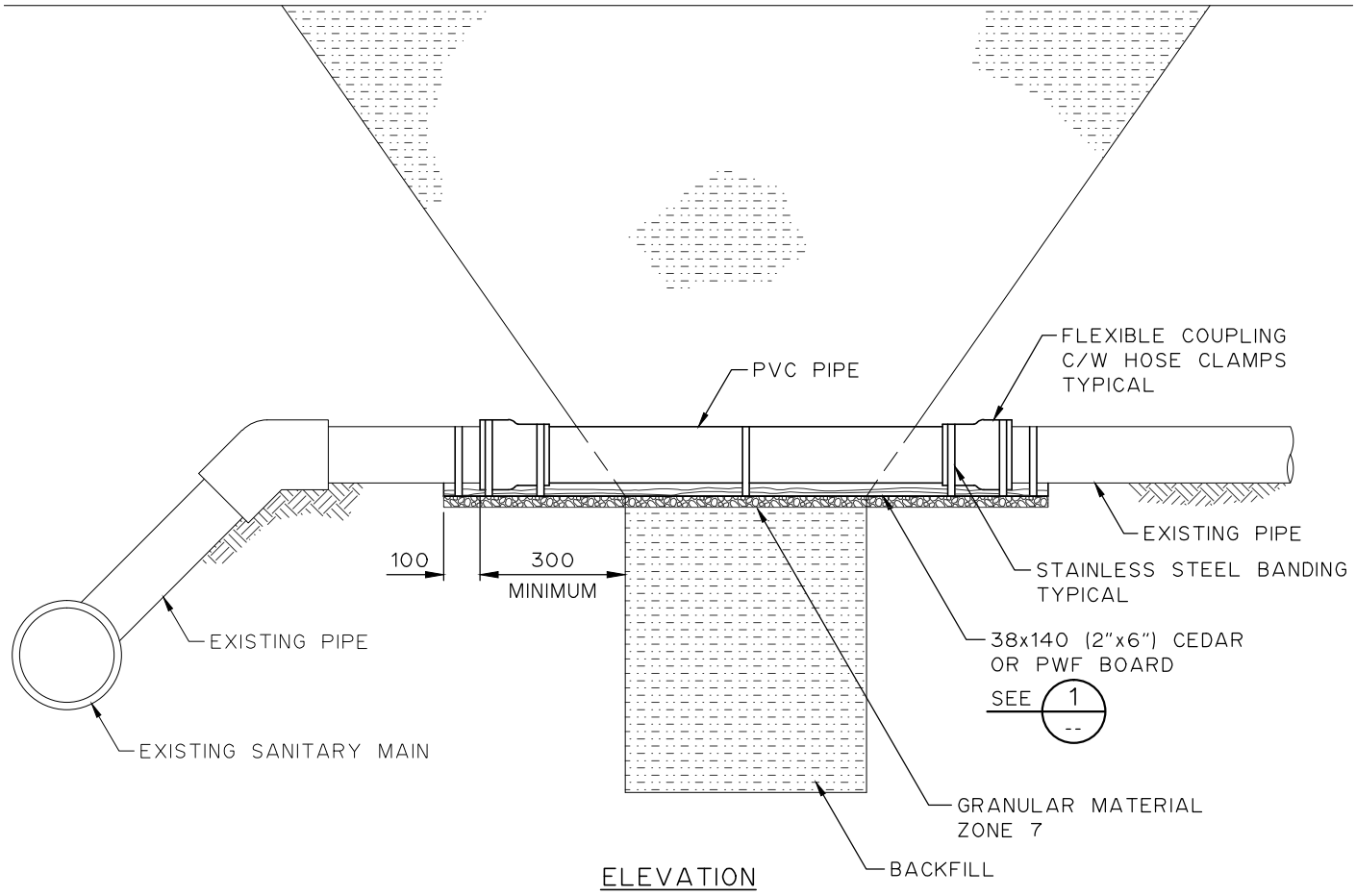
No.	DATE	REVISION DESCRIPTION	BY
0	XX XX XX	FOR APPROVAL	CWH
No.	YY MM DD	REVISION DESCRIPTION	BY

DATE: XX/XX/XX
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

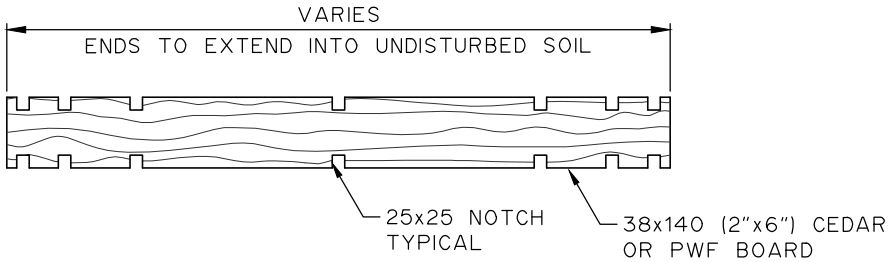
CITY OF BROOKS

THRUST BLOCK DATA

DWG. No. BPW-111 Rev. 0



ELEVATION



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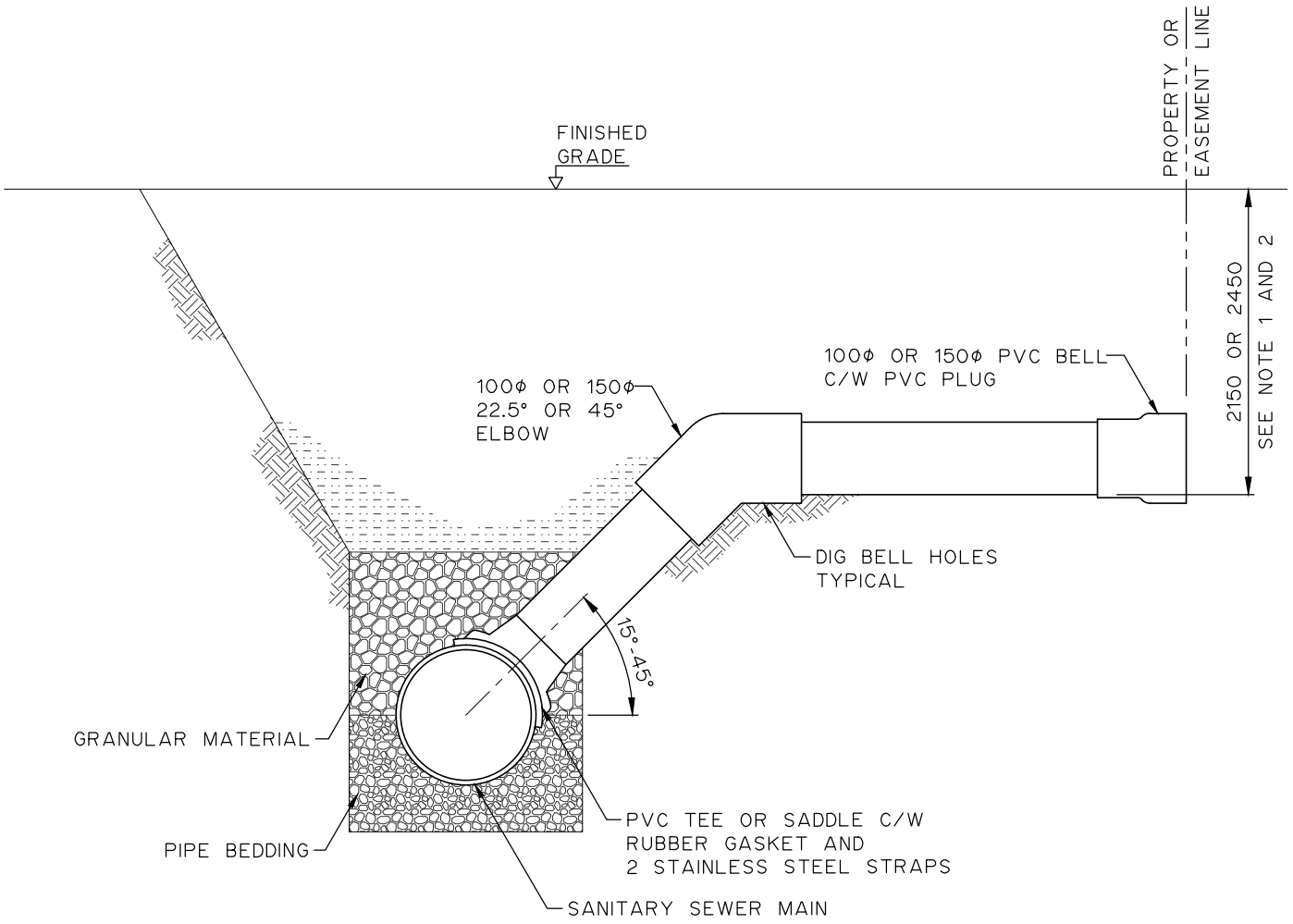
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

CITY OF BROOKS

SEWER SERVICE RECONNECTION

DWG. No. BPW-112 Rev. 0



NOTES:

1. WHEN LOT SLOPES FROM BACK TO FRONT, THE DEPTH TO BE 2.15m AT PROPERTY LINE.
2. WHEN LOT SLOPES FROM FRONT TO BACK, THE DEPTH TO BE 2.45m AT PROPERTY LINE.
3. SEWER SERVICES MUST TERMINATE WITH A BELL END.
4. SADDLES TO BE A MINIMUM OF 400mm APART.

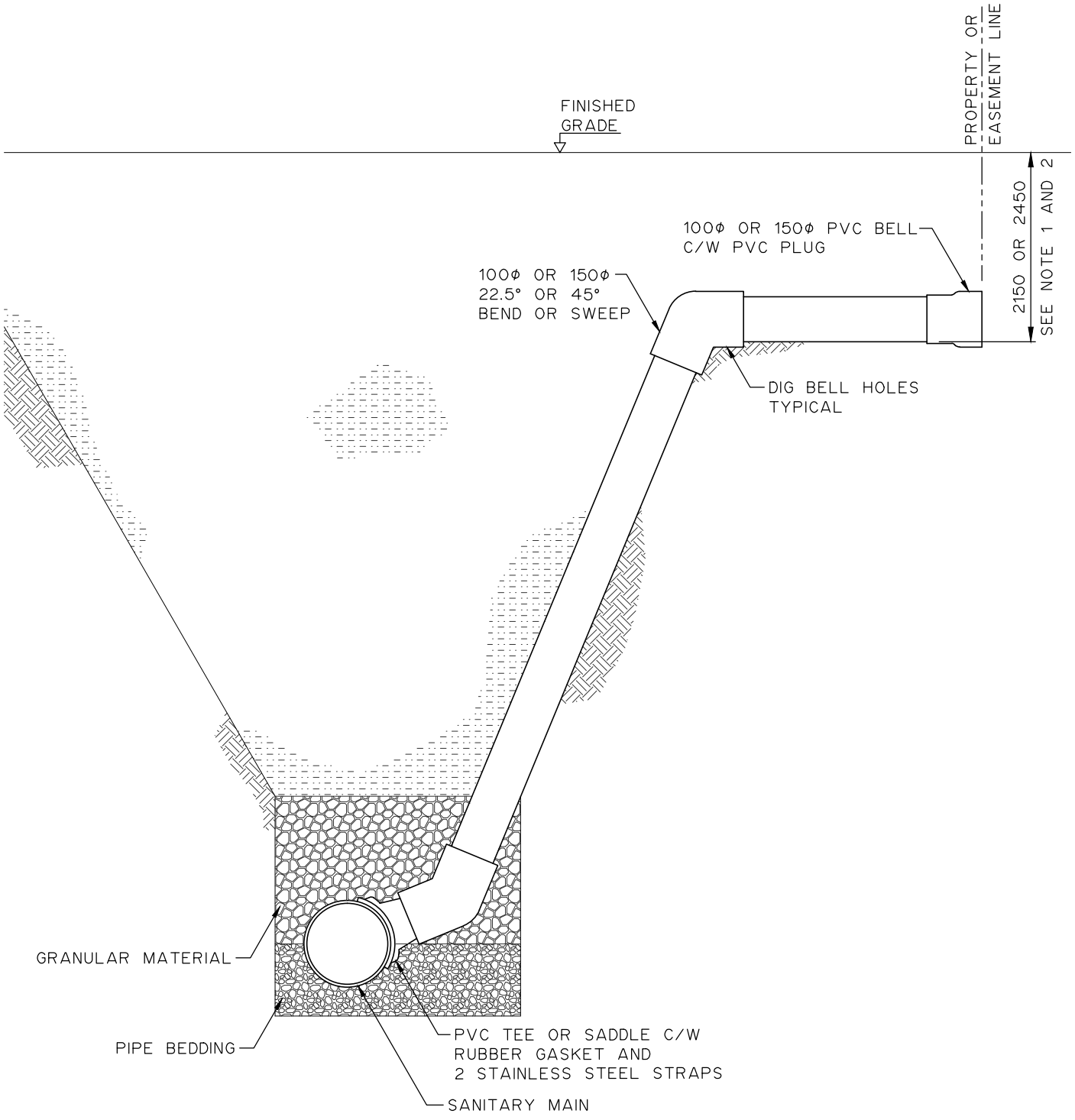
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

CITY OF BROOKS

PVC SEWER CONNECTION FOR MAINS LESS THEN 3.7m DEEP

DWG. No. BPW-113 Rev. 0



NOTES:

1. WHEN LOT SLOPES FROM BACK TO FRONT, THE DEPTH TO BE 2.15m AT PROPERTY LINE.
2. WHEN LOT SLOPES FROM FRONT TO BACK, THE DEPTH TO BE 2.45m AT PROPERTY LINE.
3. SEWER SERVICES MUST TERMINATE WITH A BELL END.
4. SADDLES TO BE A MINIMUM OF 400mm APART.

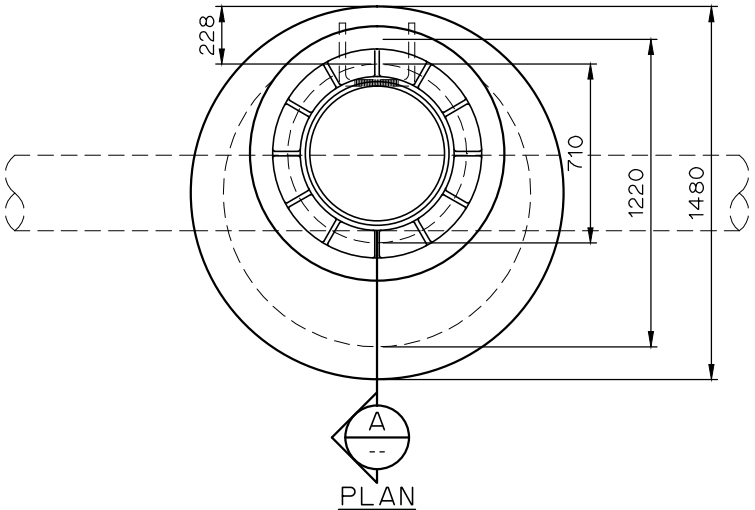
No.	YY MM DD DATE	REVISION DESCRIPTION	BY
			XXX

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

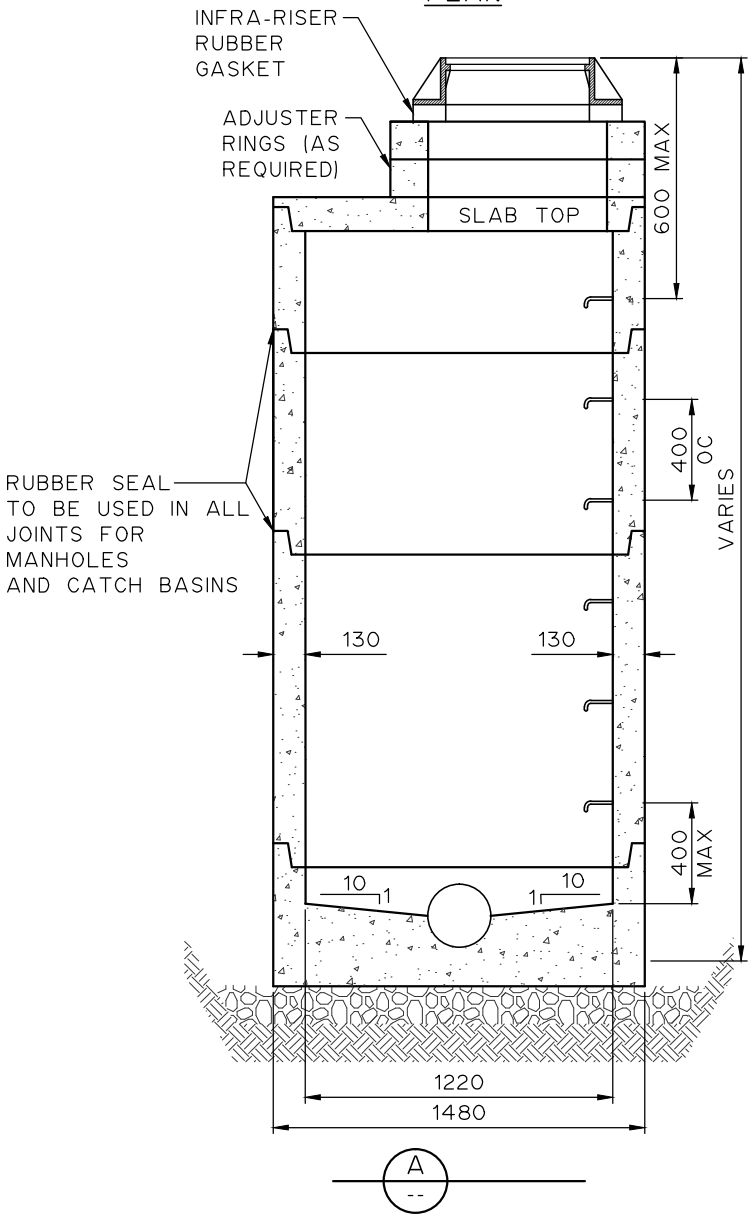
CITY OF BROOKS

PVC SEWER CONNECTION FOR MAINS OVER 3.7m DEEP

DWG. No. BPW-114 Rev. 0



PLAN



NOTES:

1. CONCRETE AND BENCHING MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 02050 CAST-IN-PLACE CONCRETE.
2. PRECAST MANHOLE SECTIONS TO CONFORM TO ASTM DESIGNATION C478 (LATEST EDITION).
3. REINFORCED STEEL TO BE INTERMEDIATE GRADE fs = 140 MPa.
4. FRAMES AND COVERS TO HAVE MINIMUM WEIGHT OF 160 Kg / SET.
5. USE TYPE 5A 1220 MANHOLE UP TO AND INCLUDING 600mm DIA PIPE.
6. MANHOLE STEPS (RUNGS) TO BE ASTM C478 DROP STEP TYPE, PVC COATED ALUMINUM AND SHALL BE INSTALLED AT 400 OC.
7. ALL UNITS IN mm UNLESS OTHERWISE NOTED.
8. MANHOLE INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 02730 MANHOLES AND CATCH BASINS.
9. ALL MANHOLES SHALL BE PROVIDED WITH A HANDHOLD IMMEDIATELY BELOW THE FRAME AND ON THE SAME SIDE AS THE STEPS.
10. PRECAST MANHOLE BASES TO BE PRE-BENCHED

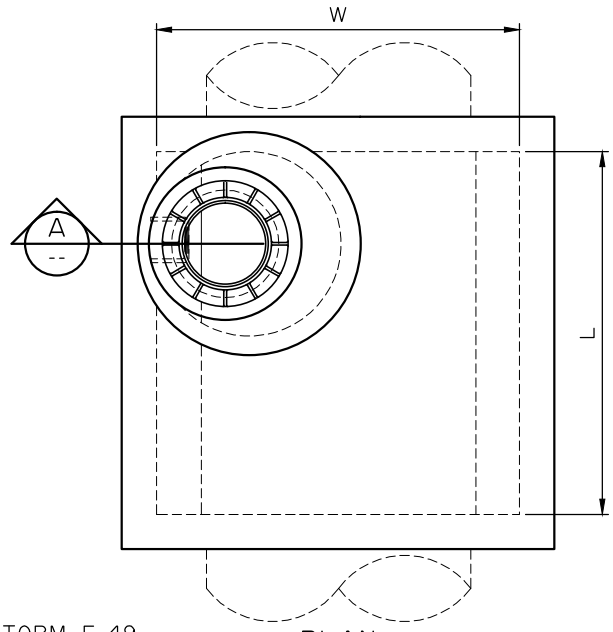
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

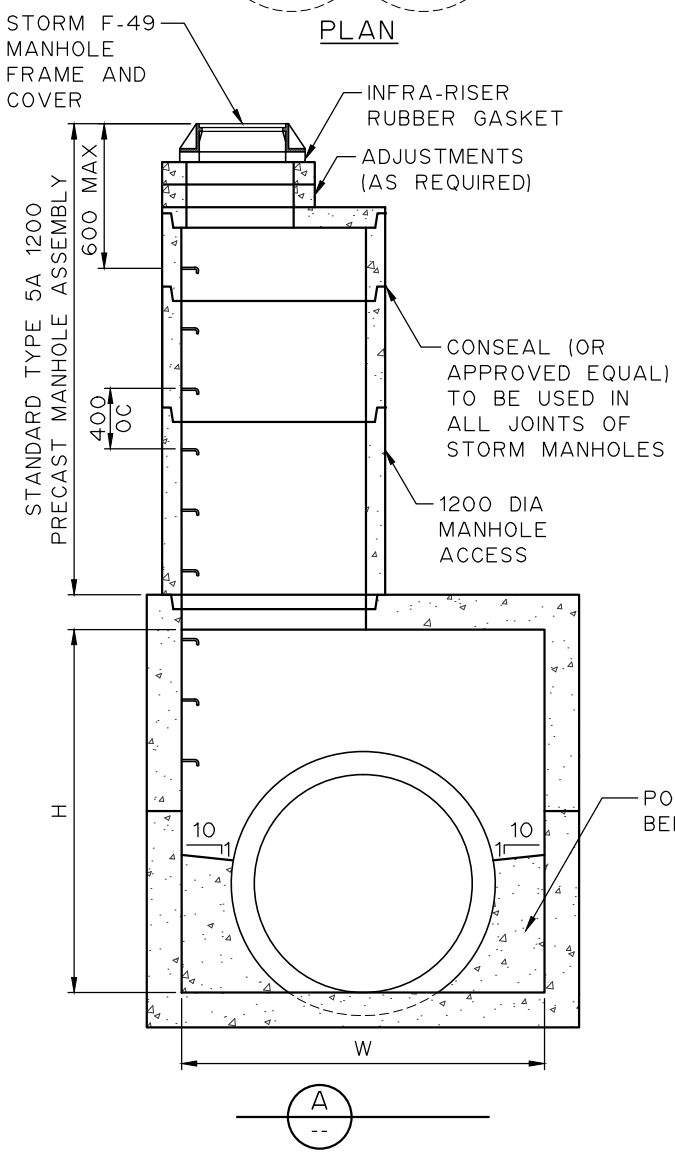
CITY OF BROOKS

1200mm TYPE 5A PRECAST MANHOLE ASSEMBLY

DWG. No. BPW-115 Rev. 0



PLAN



NOTES:

1. CONCRETE AND BENCHING MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 02050 CAST-IN-PLACE CONCRETE.
2. PRECAST MANHOLE SECTIONS TO CONFORM TO ASTM DESIGNATION C478 (LATEST EDITION)
3. REINFORCED STEEL TO BE INTERMEDIATE GRADE fs=140 MPa.
4. FRAMES AND COVERS TO HAVE MINIMUM WEIGHT OF 160 Kg/SET.
5. MANHOLE STEPS (RUNGS) TO BE ASTM C47 DROP STEP TYPE, PVC COATED ALUMINUM AND SHALL BE INSTALLED AT 400 OC
6. ALL UNITS IN mm UNLESS OTHERWISE NOTED.
7. FINAL MANHOLE ADJUSTMENTS SHALL BE IN ACCORDANCE WITH SECTION 02730 MANHOLES AND CATCH BASINS.
8. ALL MANHOLES SHALL BE PROVIDED WITH A HANDHOLD IMMEDIATELY BELOW THE FRAME AND ON THE SAME SIDE AS THE STEPS.

VAULT NOMINAL INSIDE DIMENSIONS		
LENGTH L	WIDTH W	HEIGHT H
1200	1200	2020
1500	1500	2020
1800	1800	2020
2400	2400	2400
2800	2800	2800

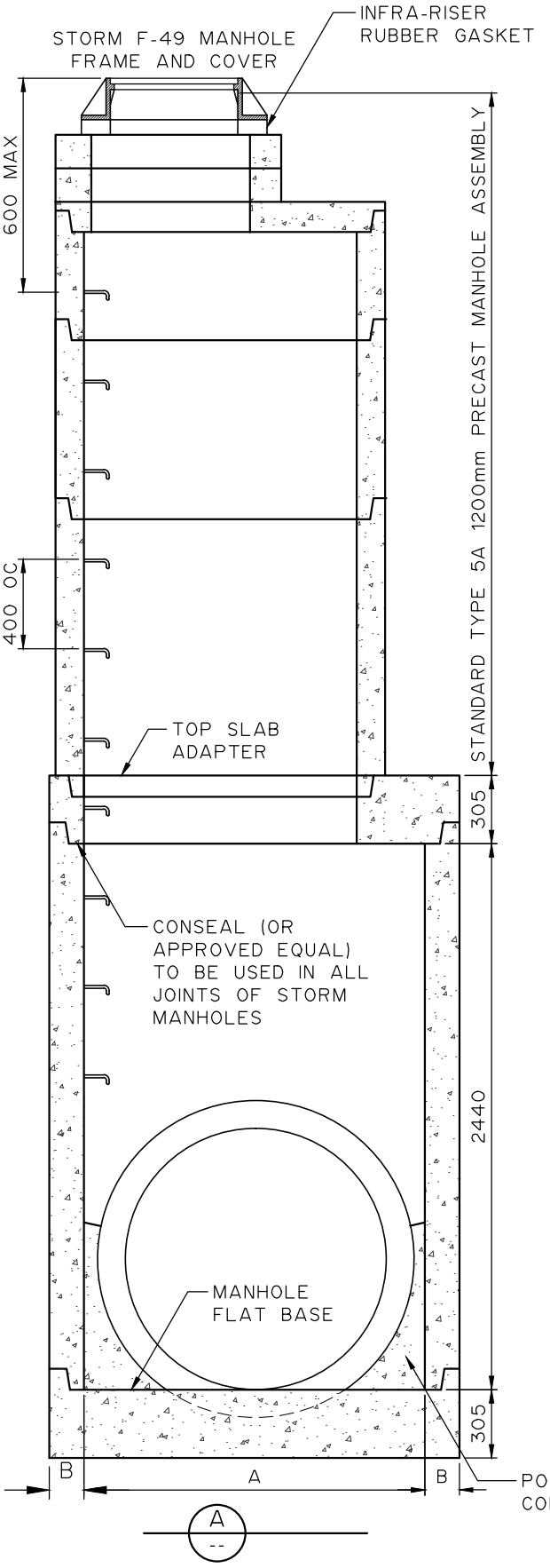
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

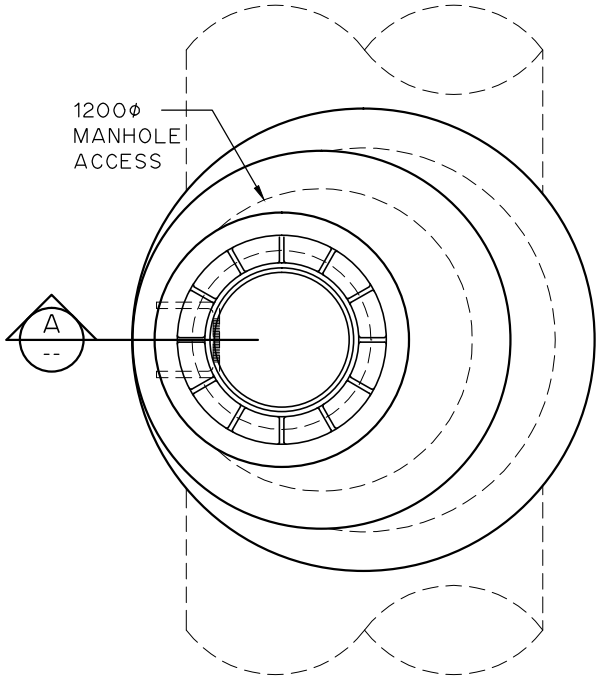
DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

CITY OF BROOKS

TYPE 1-S PRECAST MANHOLE ASSEMBLY

DWG. No. BPW-116 Rev. 0





PLAN

NOTES:

1. CONCRETE AND BENCHING MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 02050 CAST-IN-PLACE CONCRETE.
2. PRECAST MANHOLE SECTIONS TO CONFORM TO ASTM DESIGNATION C478 (LATEST EDITION)
3. REINFORCED STEEL TO BE INTERMEDIATE GRADE fs=140 MPa.
4. FRAMES AND COVERS TO HAVE MINIMUM WEIGHT OF 160 Kg/SET.
5. MANHOLE STEPS (RUNGS) TO BE ASTM C47 DROP STEP TYPE, PVC COATED ALUMINIUM AND SHALL BE INSTALLED AT 400 OC.
6. ALL UNITS IN mm UNLESS OTHERWISE NOTED.
7. FINAL MANHOLE ADJUSTMENTS SHALL BE IN ACCORDANCE WITH SECTION 02730 MANHOLES AND CATCH BASINS.
8. ALL MANHOLES SHALL BE PROVIDED WITH A HANDHOLD IMMEDIATELY BELOW THE FRAME AND ON THE SAME SIDE AS THE STEPS.

DIMENSIONS	
A	B
INSIDE DIAMETER	WALL THICKNESS
1372	140
1524	155
1678	165
1829	178
2134	203
2438	229
3048	279

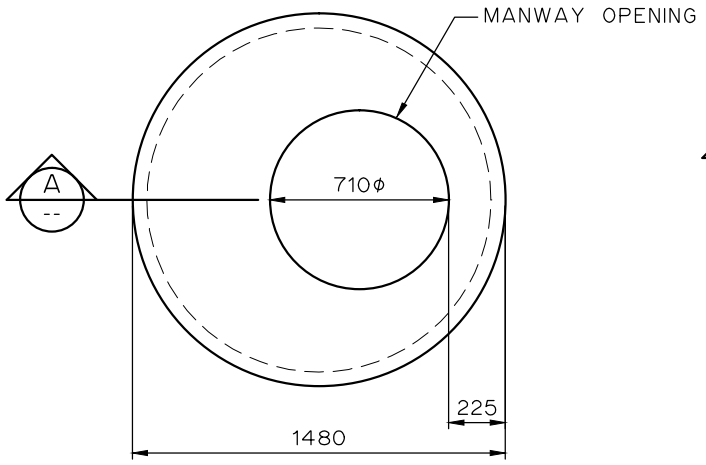
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

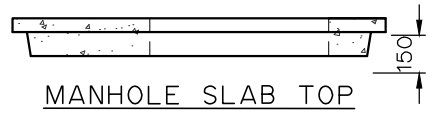
DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

CITY OF BROOKS

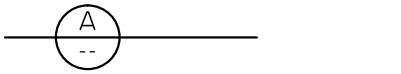
1500-3000mm LARGE DIAMETER MANHOLE ASSEMBLY

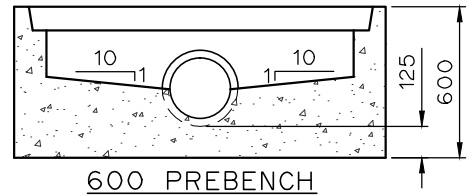
DWG. No. BPW-117 Rev. 0



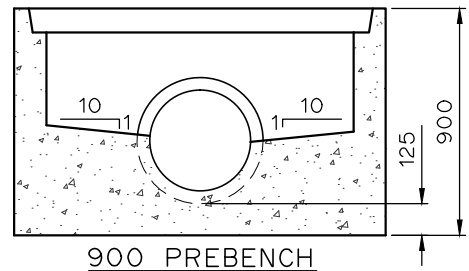


MANHOLE SLAB TOP

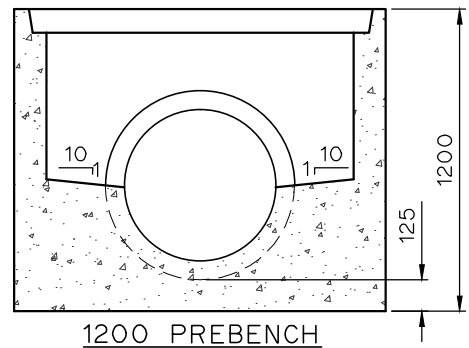




600 PREBENCH
FOR PVC SIZES 150 TO 300

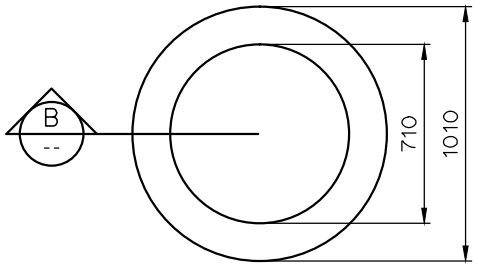


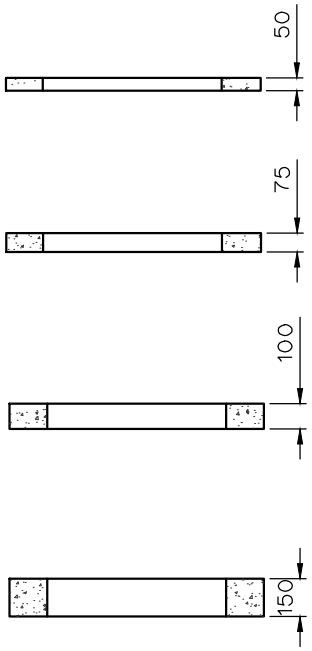
900 PREBENCH
FOR MOST TYPES OF PIPE -
SIZES 375 TO 450



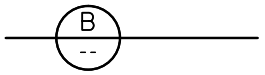
1200 PREBENCH
FOR MOST TYPES OF PIPE -
SIZES 525 TO 600

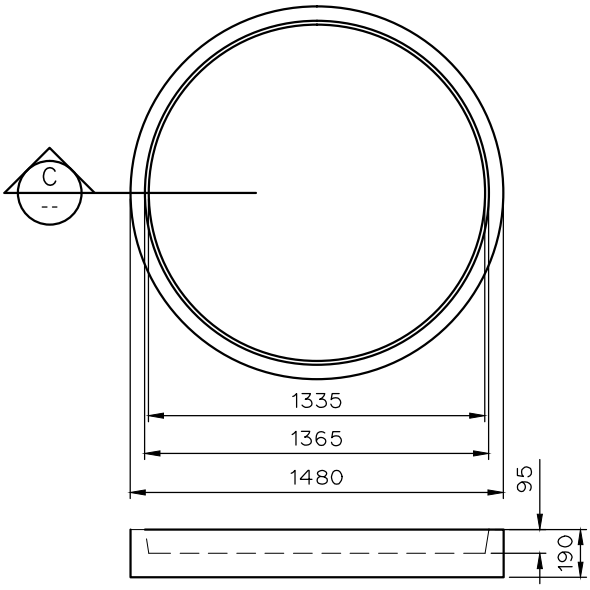
PREBENCHED MANHOLE BASES



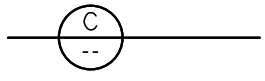


CONCRETE ADJUSTER RINGS

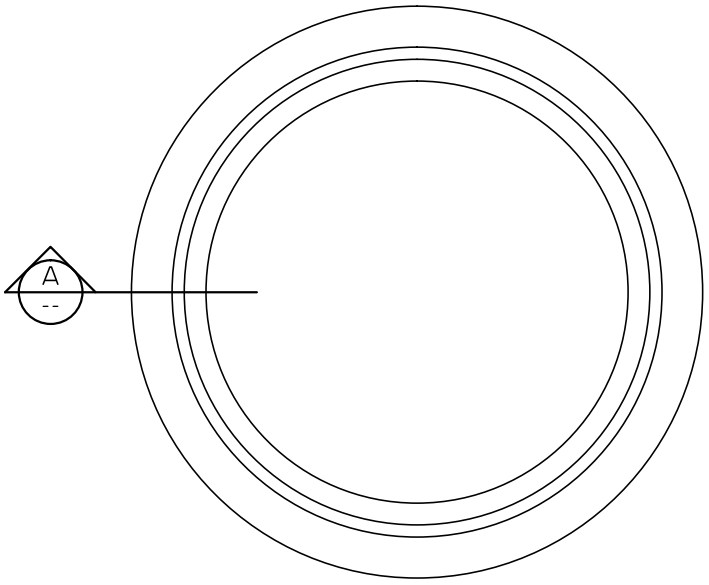




MANHOLE SLAB BASE



								DATE: JANUARY 2012	CITY OF BROOKS	MANHOLE BASES, SLAB TOP AND CONCRETE ADJUSTER RINGS
								SCALE: NTS		
								DRAWN: RCW		
No.	YY	MM	DD	REVISION DESCRIPTION			BY	APPROVED:		DWG. No. BPW-118 Rev. 0
	DATE									



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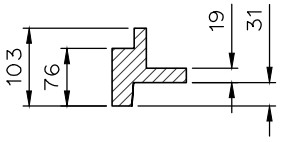
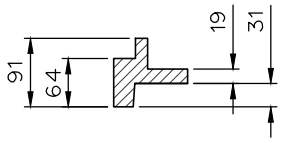
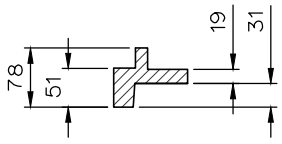


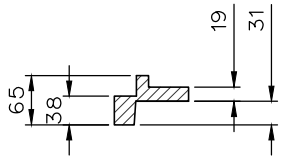
76mm RING



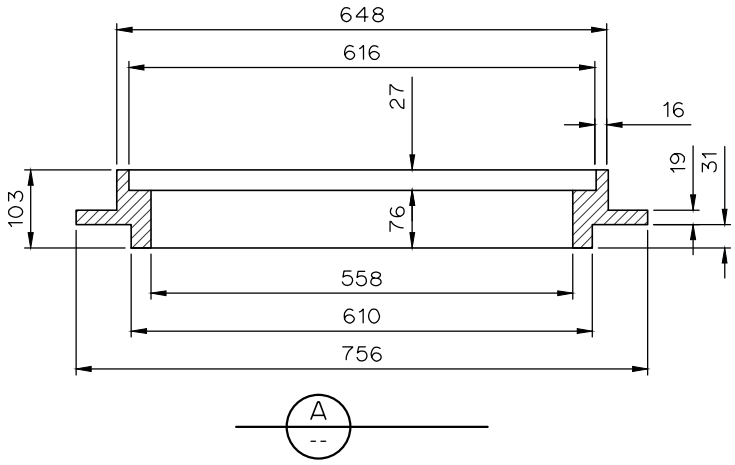
64mm RING



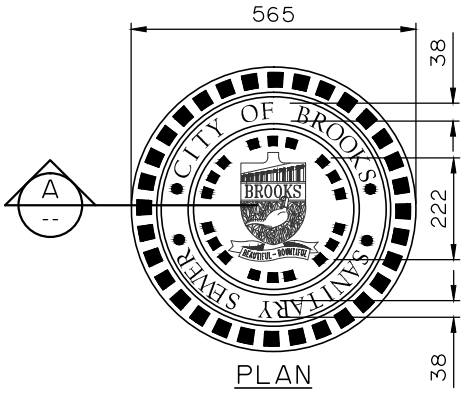
51mm RING



38mm RING



									DATE: JANUARY 2012	CITY OF BROOKS	F-49 MANHOLE STEEL RISER FRAME RINGS
									SCALE: NTS		
									DRAWN: RCW		
No.	YY	MM	DD	REVISION DESCRIPTION				BY	APPROVED:		DWG. No. BPW-119 Rev. 0
	DATE										



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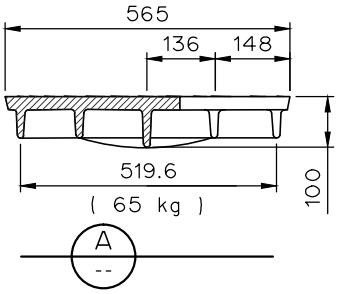

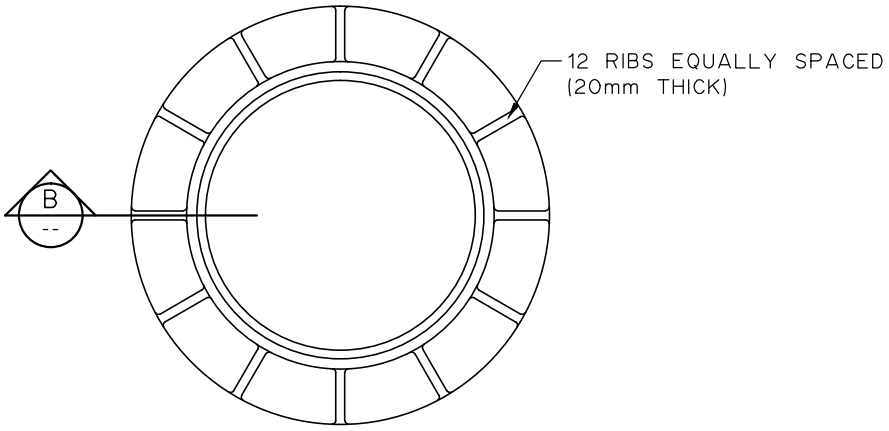

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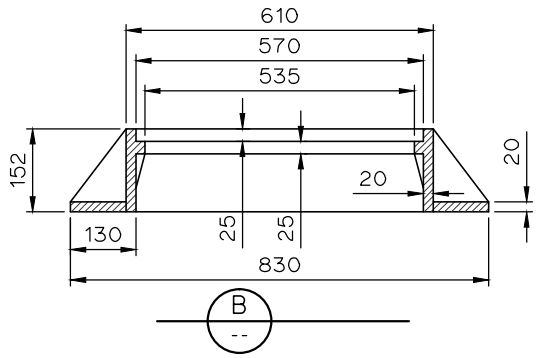
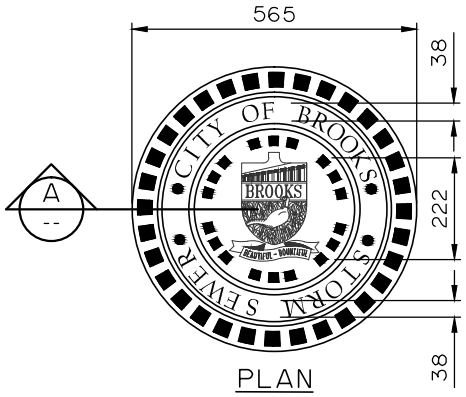
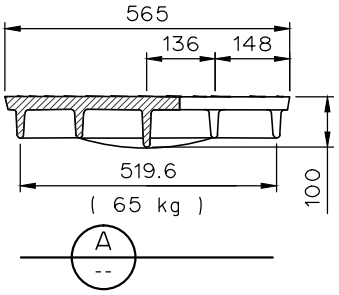
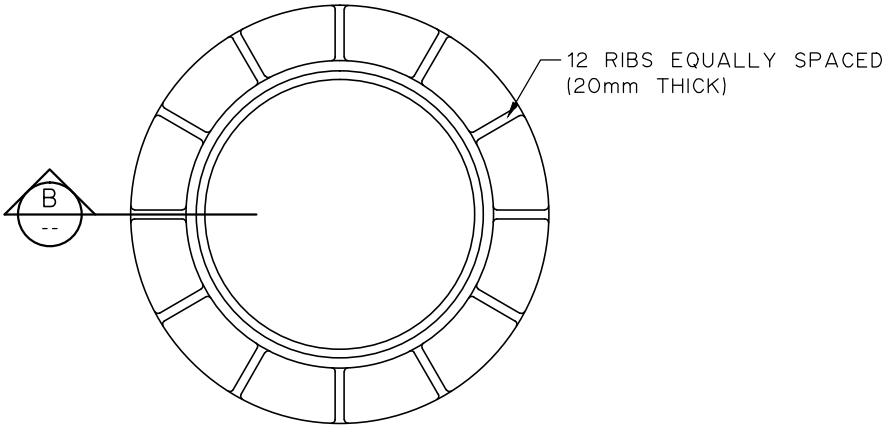


							DATE: JANUARY 2012	CITY OF BROOKS	STANDARD F-49 MANHOLE FRAME AND SANITARY COVER
							SCALE: NTS		
							DRAWN: RCW		
No.	YY	MM	DD	DATE	REVISION DESCRIPTION	BY	APPROVED:		DWG. No. BPW-120 Rev. 0

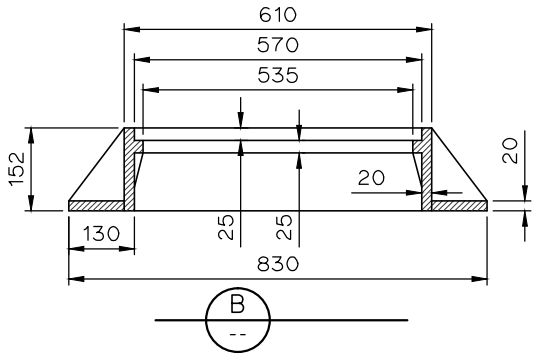


PLAN

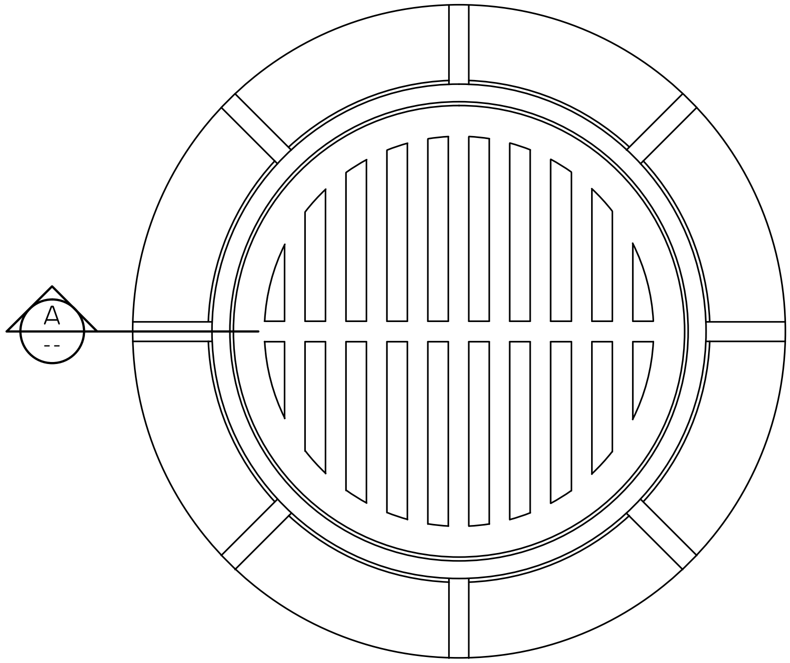




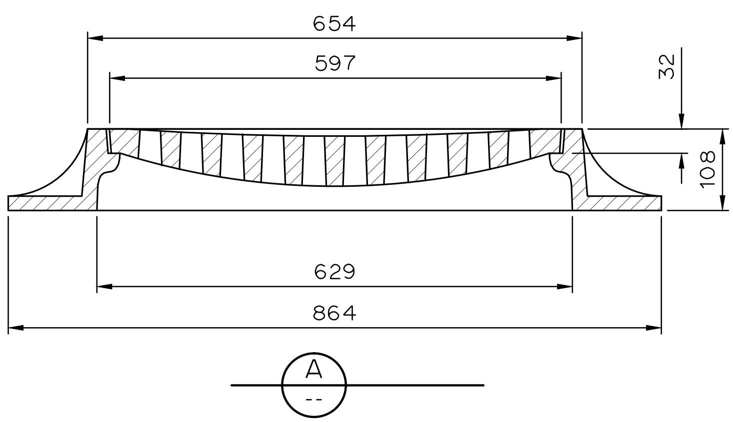
PLAN



									DATE: JANUARY 2012	CITY OF BROOKS	STANDARD F-49 MANHOLE FRAME AND STORM COVER
									SCALE: NTS		
									DRAWN: RCW		
No.	YY	MM	DD	DATE	REVISION DESCRIPTION			BY	APPROVED:		DWG. No. BPW-121 Rev. 0



PLAN



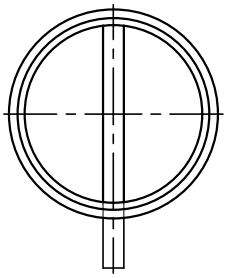
No.	YY	MM	DD	REVISION DESCRIPTION	BY
	DATE				

DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

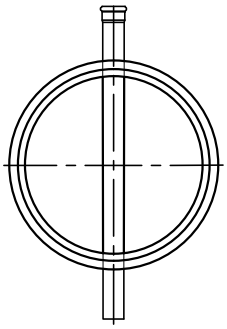
CITY OF BROOKS

F-68 OPEN GRATE MANHOLE FRAME AND COVER

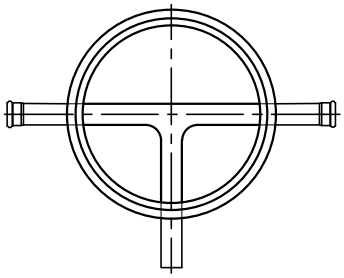
DWG. No. BPW-122 Rev. 0



SLAB BASE



SLAB BASE



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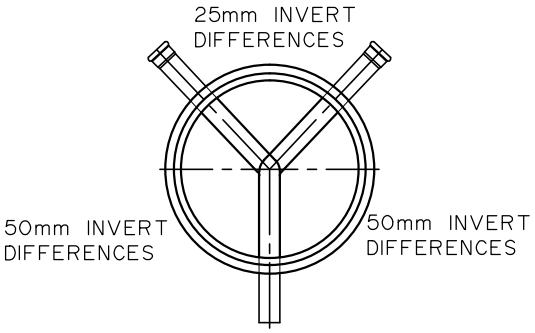


SLAB BASE

NOTE:

1. CONCRETE AND BENCHING MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 02050 CAST-IN-PLACE CONCRETE.
2. REINFORCEMENT - 400MPa MINIMUM YIELD STRENGTH.
3. SHALL BE EQUIPPED WITH BURKE HARDWARE LIFTING DEVICES.
4. PRECAST STRUCTURE REQUIRES FIRM SOIL SUBGRADE. NO STRUCTURE SHALL BE ON OR IN SATURATED OR FLOODED CONDITIONS. A MINIMUM OF 200mm OF WASHED ROCK SHALL BE PLACED UNDER THE SLAB BASE TO FORM A FOUNDATION.
5. ALL JOINTS WITH CONSEAL 202 OR SIMILAR PRODUCT.
6. BACKFILL AS STATED IN PROCEDURES.

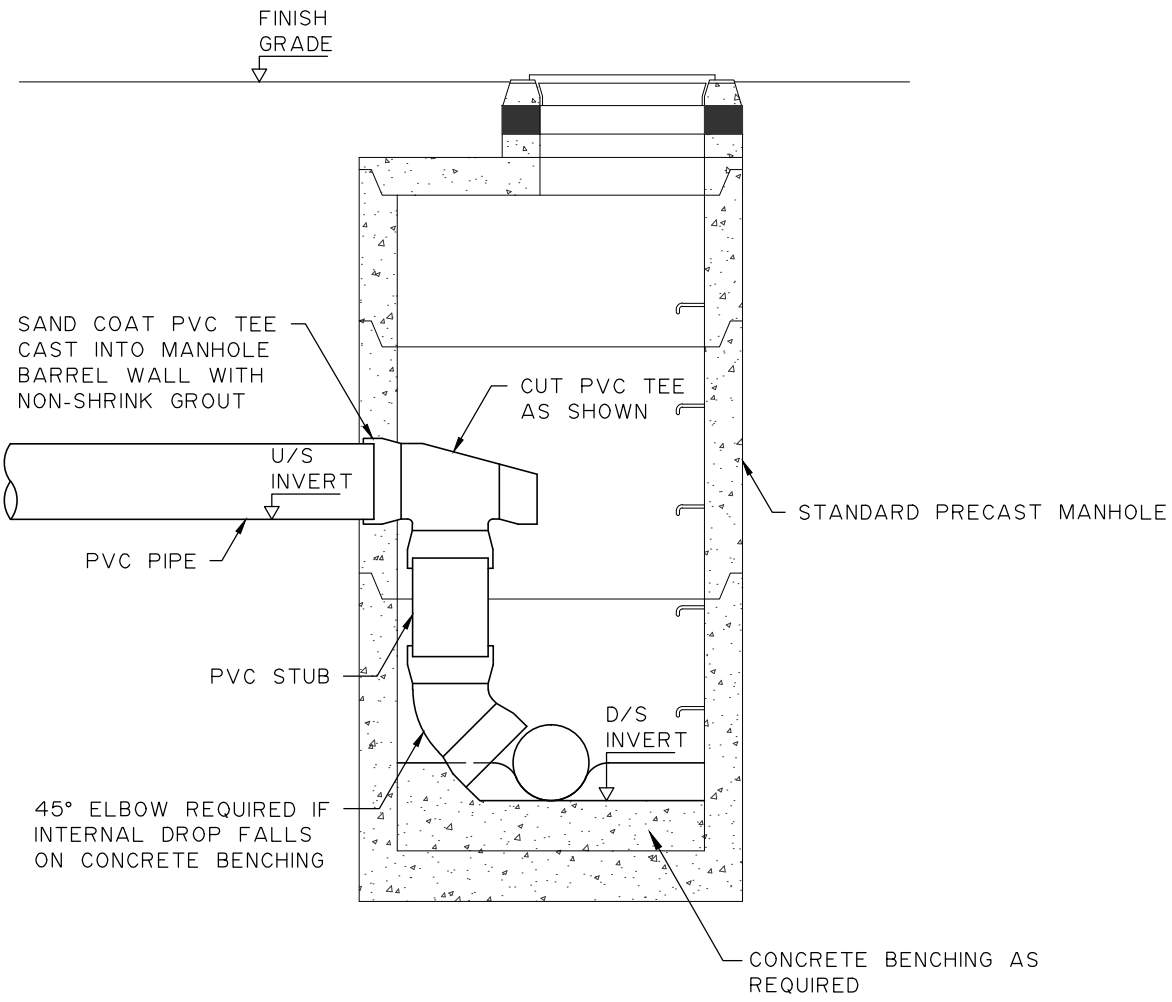
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

CITY OF BROOKS

CONCRETE BENCH BASES

DWG. No. BPW-123 Rev. 0



NOTES:

1. INTERNAL DROP REQUIRED IF DROP BETWEEN U/S INVERT AND D/S INVERT EXCEEDS 600mm.
2. SECURE INTERNAL DROP COMPONENT WITH MINIMUM OF TWO STAINLESS STEEL STRAPS.

No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

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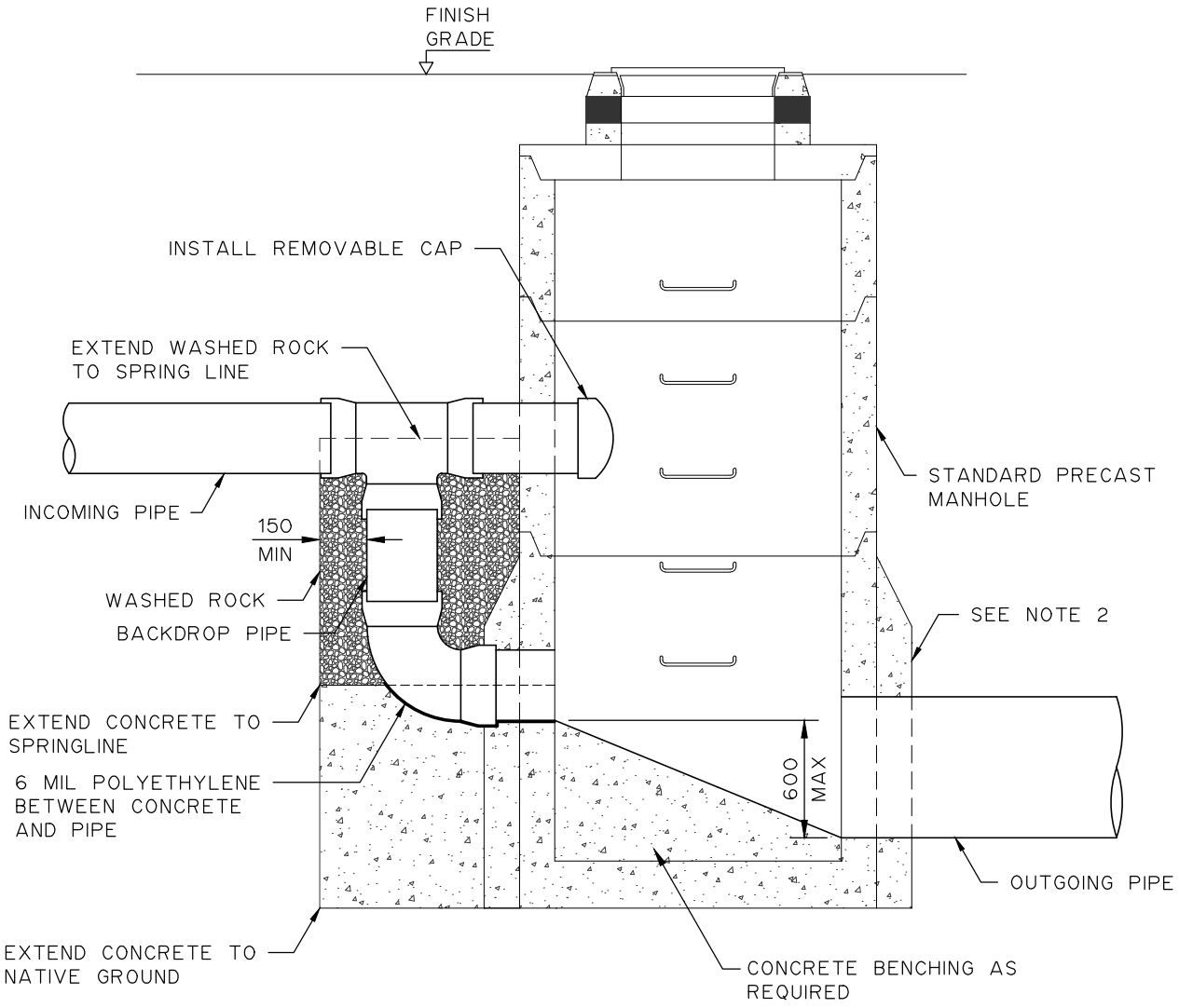
INTERNAL DROP FOR MANHOLE

DWG. No. BPW-124 Rev. 0



SIZE OF INCOMING PIPE	SIZE OF BACKDROP PIPE
200 TO 300	200
350 TO 525	250
600 TO 750	300

NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. CONCRETE TO EXTEND A MINIMUM OF 300 OVER TOP OF HIGHEST PIPE.
3. CONCRETE AND BENCHING MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 02050 CAST-IN-PLACE CONCRETE.
4. FINAL MANHOLE ADJUSTMENTS SHALL BE IN ACCORDANCE WITH SECTION 02730 MANHOLES AND CATCH BASINS.

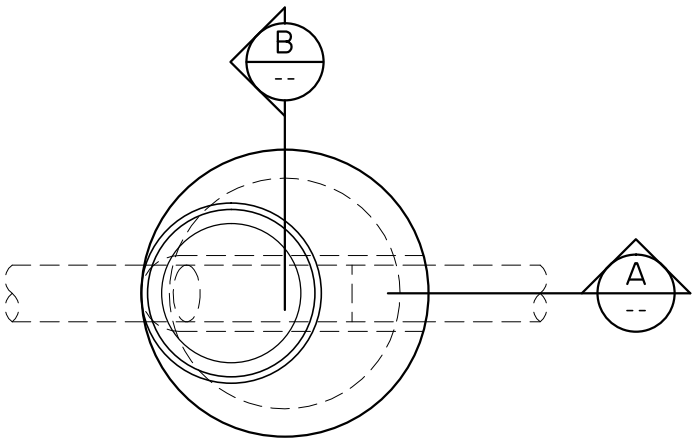
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

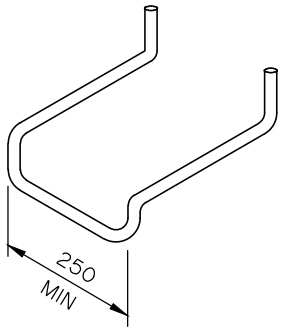
CITY OF BROOKS

EXTERNAL DROP FOR MANHOLE

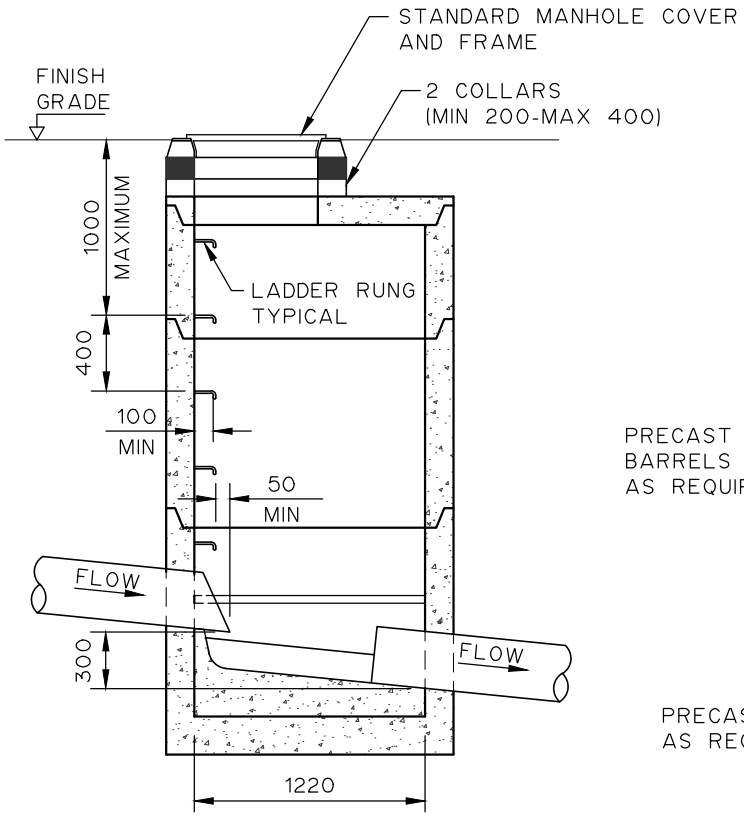
DWG. No. BPW-125 Rev. 0

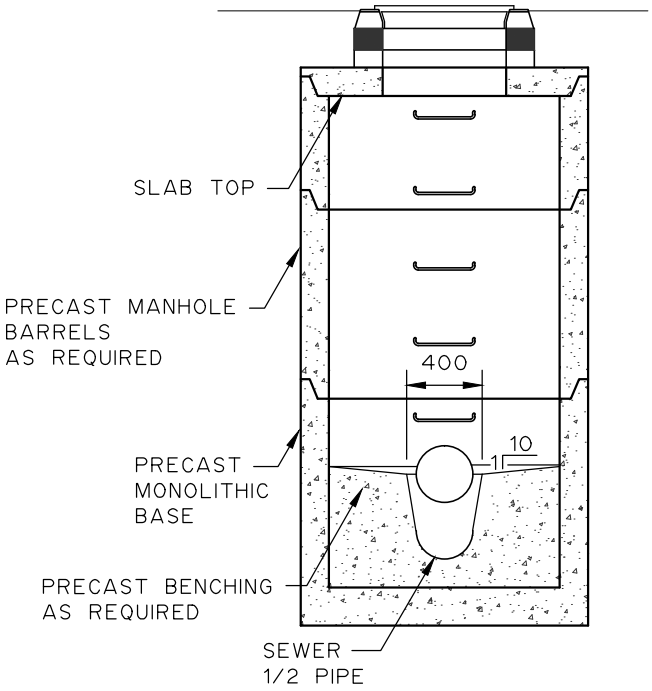


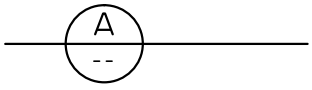
PLAN

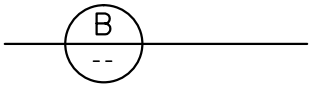


LADDER RUNG DETAIL









NOTES:

1. ALL UNITS SHOW IN mm UNLESS OTHERWISE NOTED.
2. TEST MANHOLE TO BE LOCATED ON PRIVATE PROPERTY WITHIN 3.0m OF PROPERTY LINE.

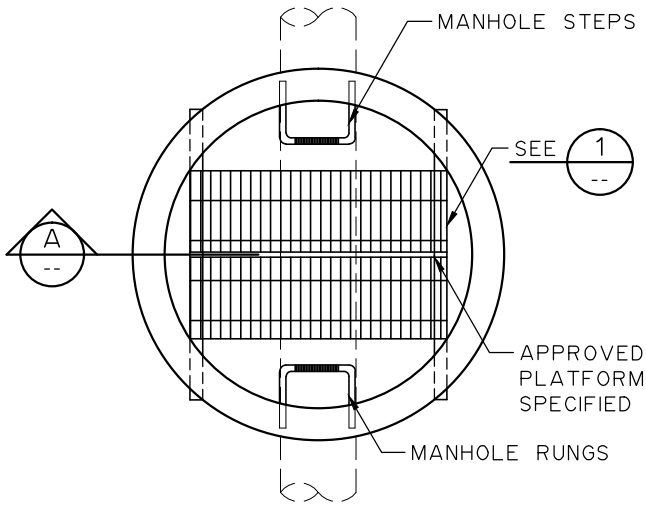
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

CITY OF BROOKS

TEST MANHOLE FOR COMMERCIAL SANITARY SEWER SERVICES

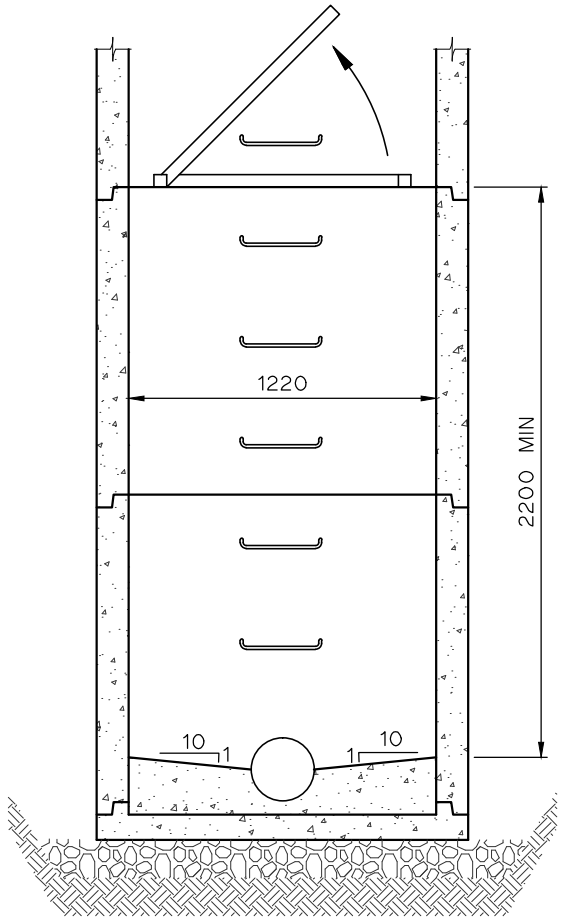
DWG. No. BPW-126 Rev. 0



PLAN

NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. TO BE INSTALLED ON MANHOLES GREATER THAN 6.0m DEEP.
3. MAXIMUM SPACING BETWEEN PLATFORMS TO BE 6.0m
4. TO BE INSTALLED ACCORDING TO MANUFACTURERS RECOMMENDATIONS.
5. TO BE MADE OF HIGH-GRADE, LIGHTWEIGHT ALUMINIUM WITH STAINLESS STEEL HARDWARE.
6. BOLT-ON OR CAST-IN-PLACE.



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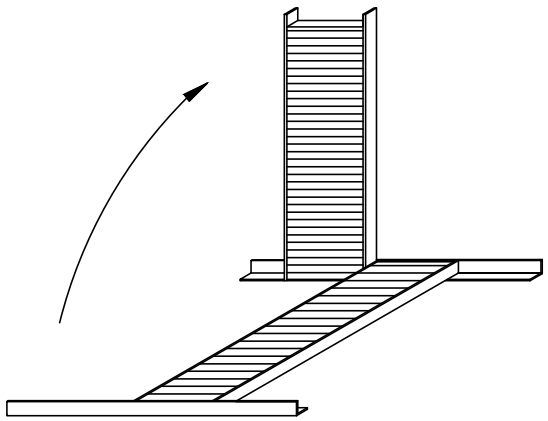


1 --

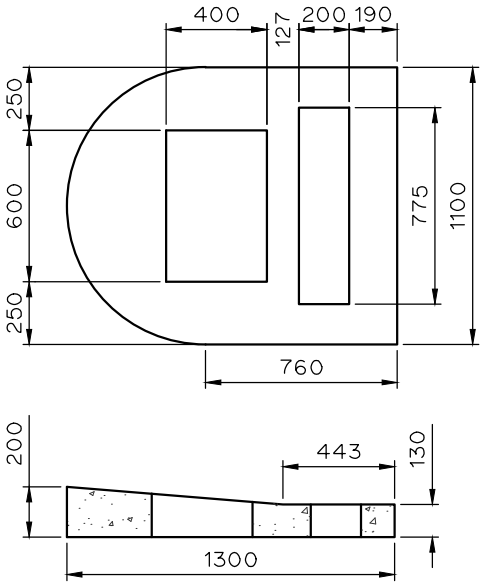
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

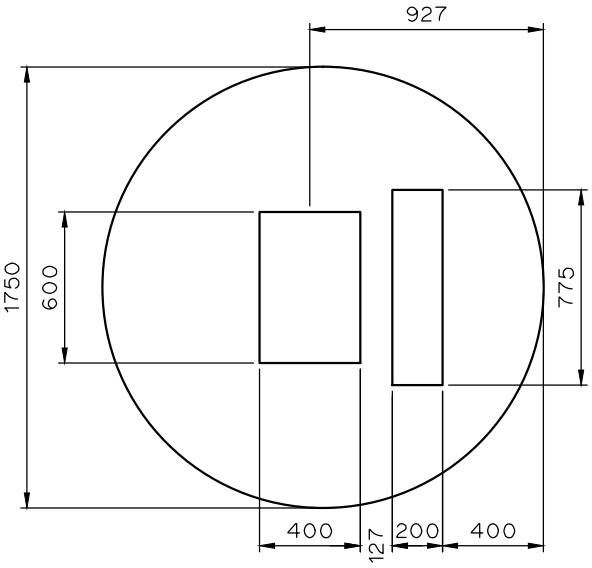
CITY OF BROOKS

MANHOLE SAFETY PLATFORM

DWG. No. BPW-127 Rev. 0



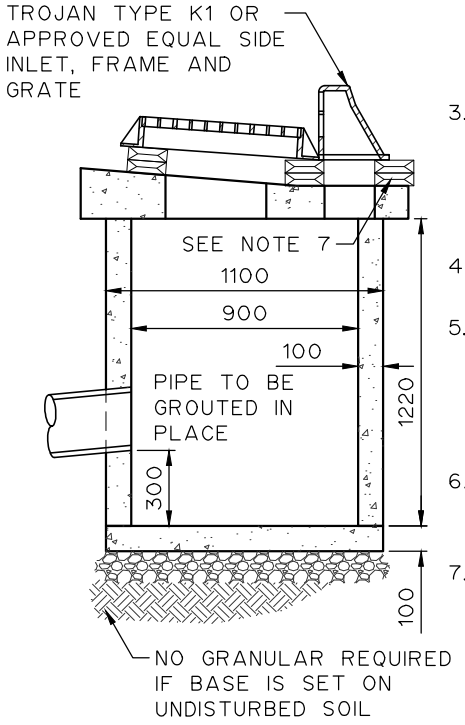
TYPE K-1 "T" TOP



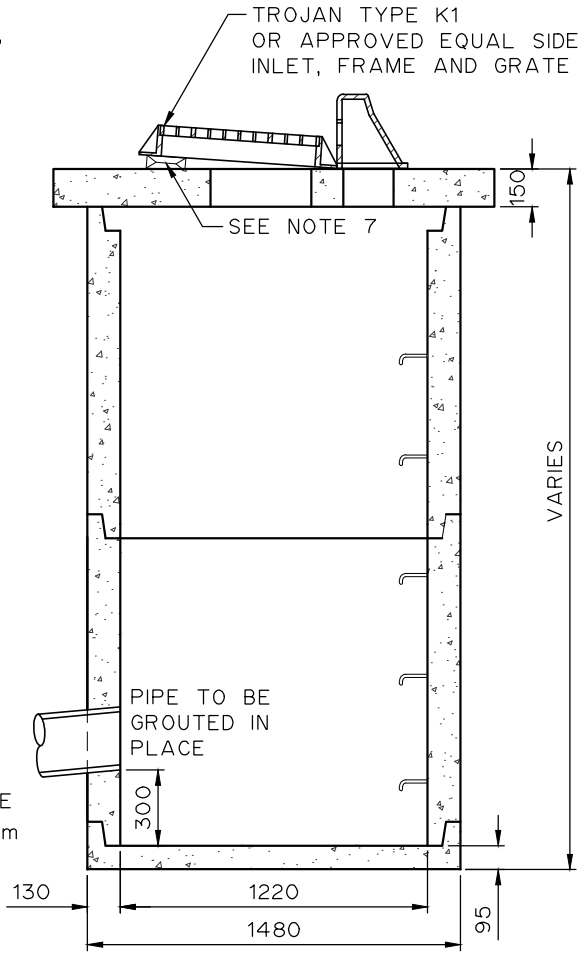
CB MH K-1 TOP

NOTES:

1. PRE-CAST CONCRETE PRODUCTS TO BE LAFARGE, PRECON, INLAND, OR APPROVED EQUAL.
2. NON SHRINK GROUT FOR FINAL BRICK ADJUSTMENTS AND INSTALLATIONS OF LEADS SHALL BE IN ACCORDANCE WITH SECTION 02050 CAST-IN-PLACE CONCRETE.
3. CATCH BASIN LEADS MUST PROTRUDE BETWEEN 50mm AND 100mm FROM THE INSIDE WALL OF CATCH BASIN OR MANHOLE.
4. ALL UNITS IN mm UNLESS OTHERWISE NOTED.
5. FINAL CATCH BASIN ADJUSTMENTS SHALL BE IN ACCORDANCE WITH SECTION 02730 MANHOLES AND CATCH BASINS.
6. 250mm MIN. PIPE SIZE & 1% MIN. SLOPE FOR CONNECTION TO MAIN.
7. ADD COURSES OF CONCRETE BRICKS AS REQUIRED- 100mm MAX. (GROUTED IN PLACE)

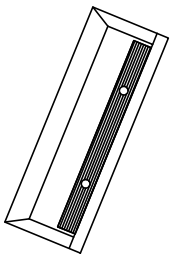


K-1 CATCH BASIN

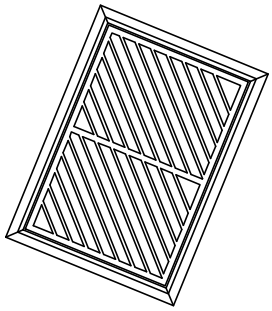


K-1 CATCH BASIN MANHOLE

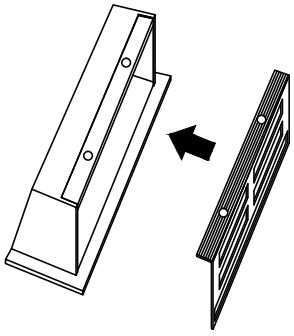
							DATE: JANUARY 2012	CITY OF BROOKS	TYPE K-1 CATCH BASIN AND CATCH BASIN MANHOLE
							SCALE: NTS		
							DRAWN: RCW		
No.	YY	MM	DD	REVISION DESCRIPTION		BY	APPROVED:		DWG. No. BPW-128 Rev. 0
	DATE								



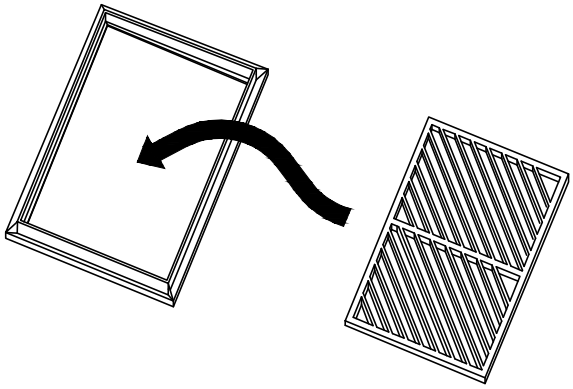
PLAN



PLAN



K-1 CATCH BASIN SIDE INLET ASSEMBLY



K-1 CATCH BASIN GRATE ASSEMBLY

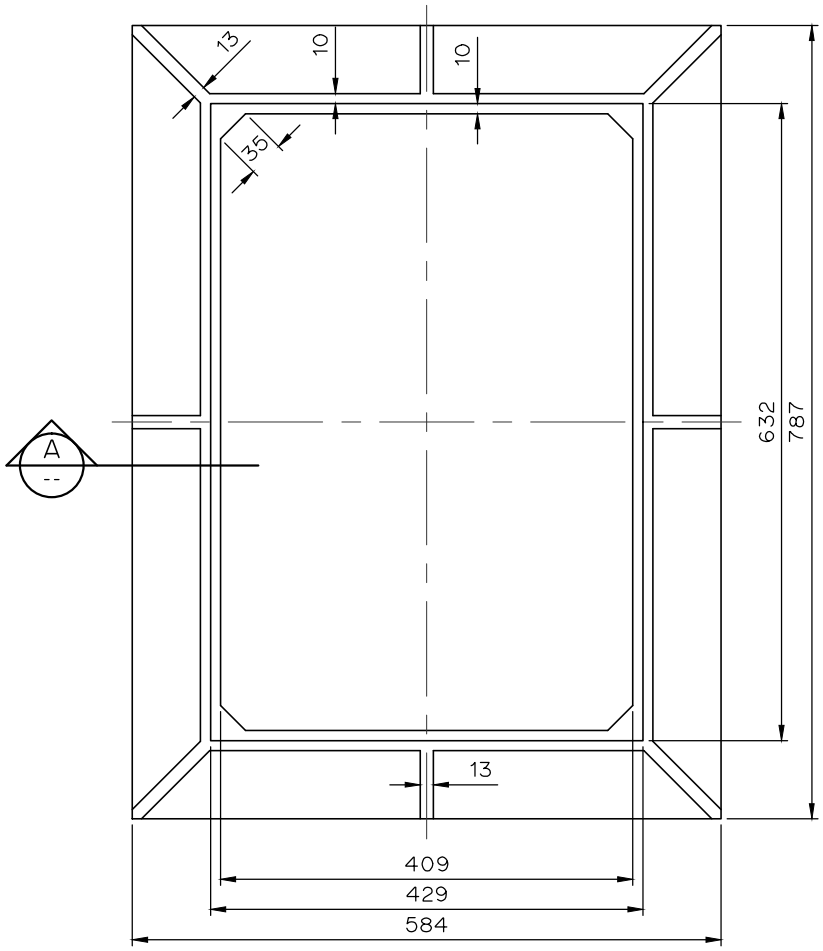
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

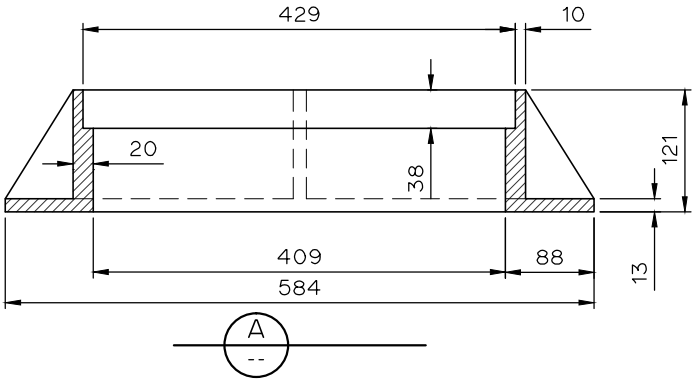
CITY OF BROOKS

TYPE F-51 2-PIECE CURB COMPONENT FRAME, COVER AND 2-PIECE GRATE

DWG. No. BPW-129 Rev. 0



PLAN



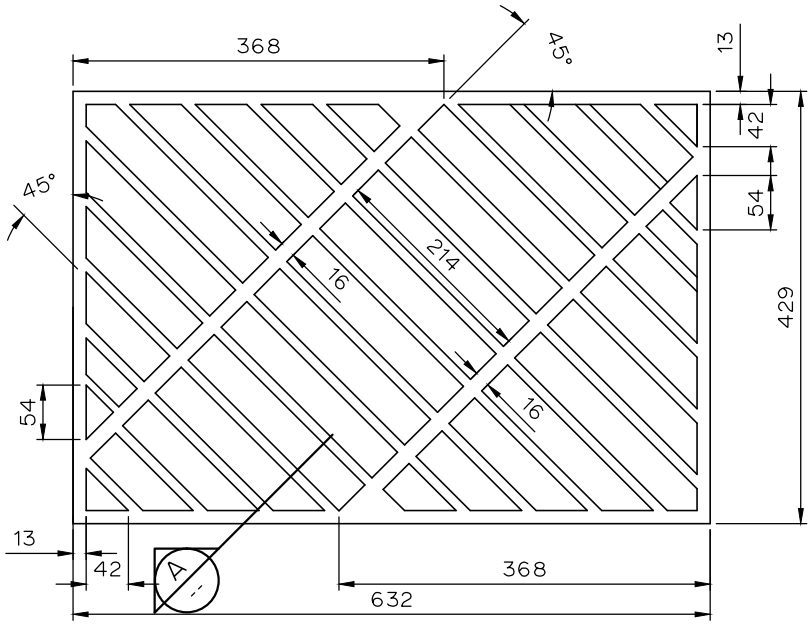
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

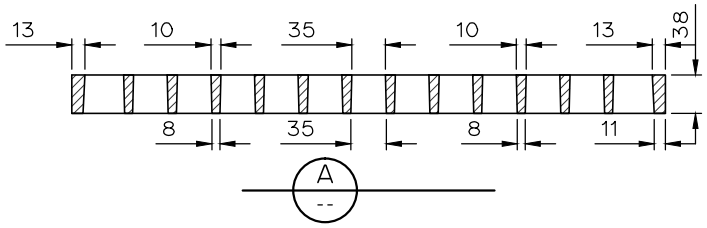
CITY OF BROOKS

K-1 CATCH BASIN FRAME

DWG. No. BPW-130 Rev. 0



PLAN



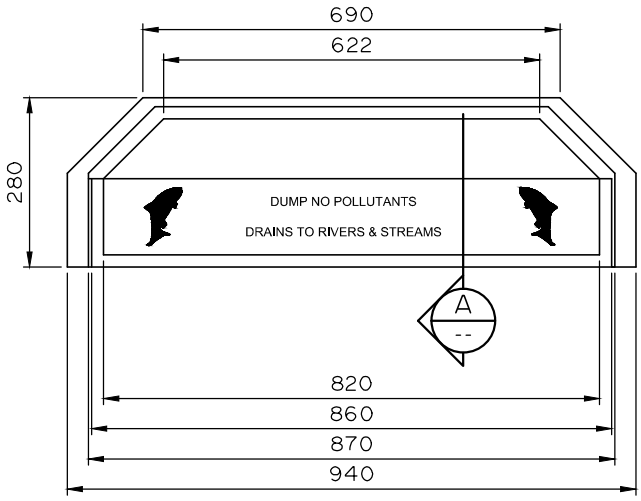
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

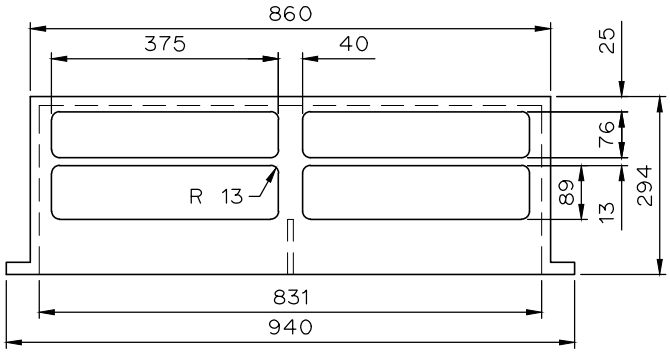
CITY OF BROOKS

K-1 CATCH BASIN GRATE

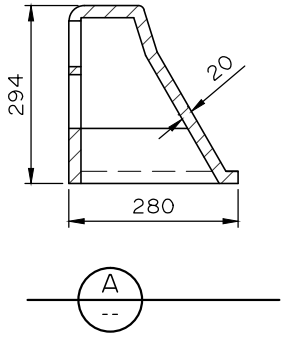
DWG. No. BPW-131 Rev. 0



PLAN



FRONT VIEW



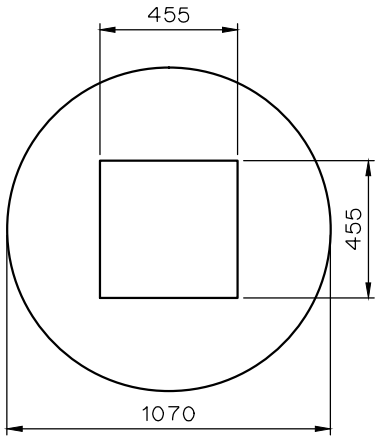
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUART 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

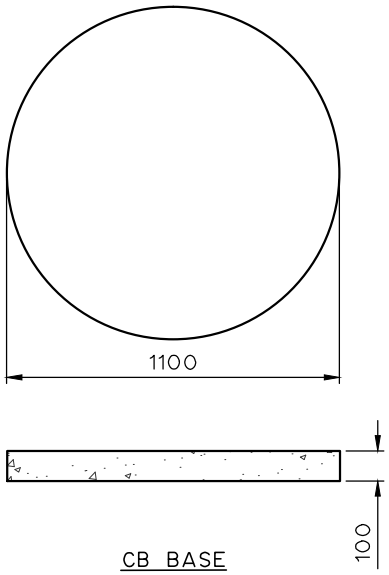
CITY OF BROOKS

K-1 CATCH BASIN
SIDE INLET

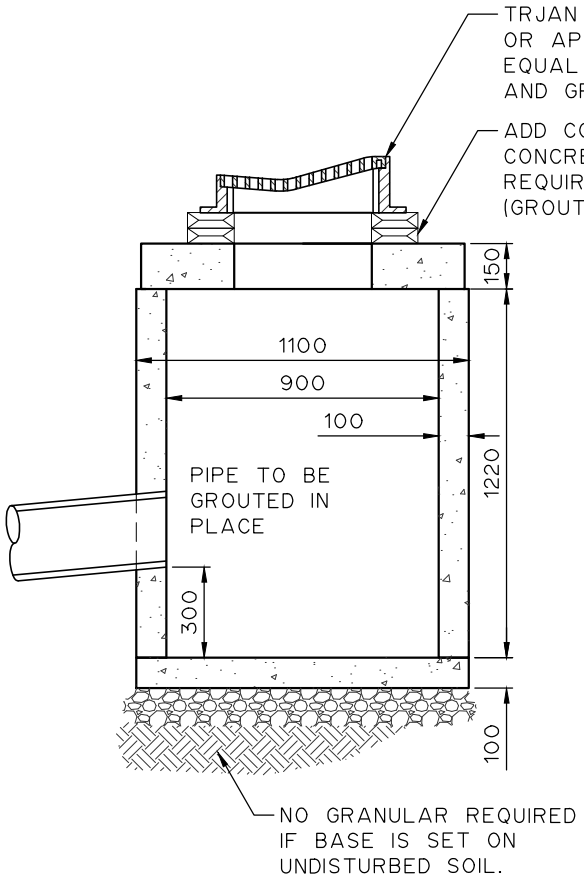
DWG. No. BPW-132 Rev. 0



TYPE K-7 "E" TOP



CB BASE



NOTES:

1. PRECAST CONCRETE PRODUCTS TO BE LAFARGE, PRECON, INLAND, OR APPROVED EQUAL.
2. NON SHRINK GROUT FOR FINAL BRICK ADJUSTMENTS AND INSTALLATIONS OF LEADS SHALL BE IN ACCORDANCE WITH SECTION 02050 CAST-IN-PLACE CONCRETE.
3. CATCH BASIN LEADS MUST PROTRUDE BETWEEN 50mm AND 100mm FROM THE INSIDE WALL OF CATCH BASIN OR MANHOLE.
4. ALL UNITS IN mm UNLESS OTHERWISE NOTED.
5. FINAL CATCH BASIN ADJUSTMENTS SHALL BE IN ACCORDANCE WITH SECTION 02730 MANHOLES AND CATCH BASINS.
6. 250mm MIN. PIPE SIZE & 1% MIN. SLOPE FOR CONNECTION TO MAIN

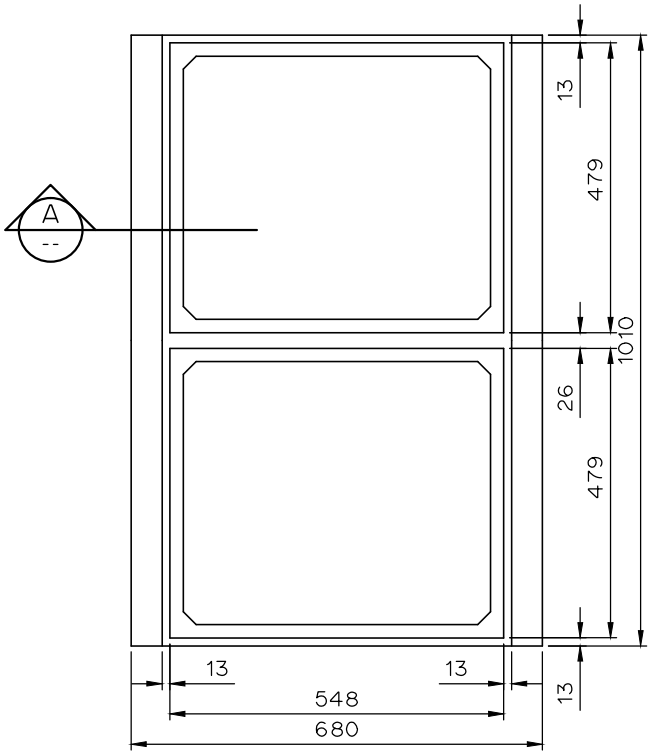
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

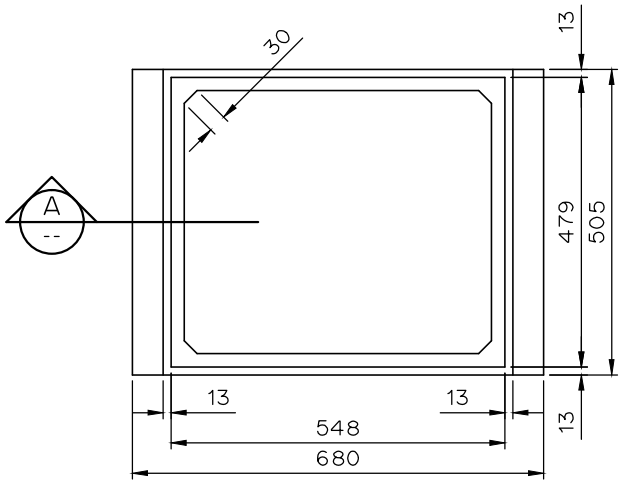
CITY OF BROOKS

K-7 CATCH BASIN

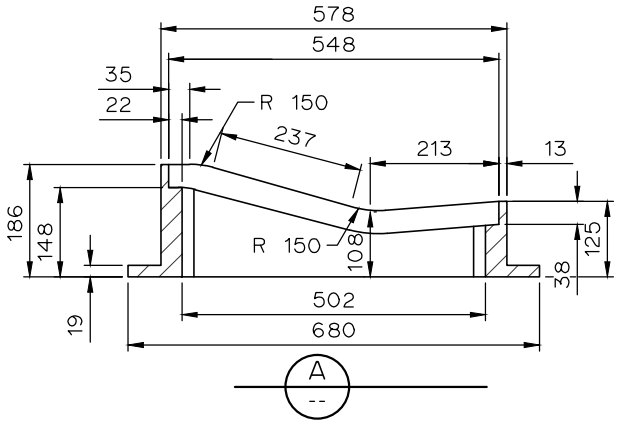
DWG. No. BPW-133 Rev. 0



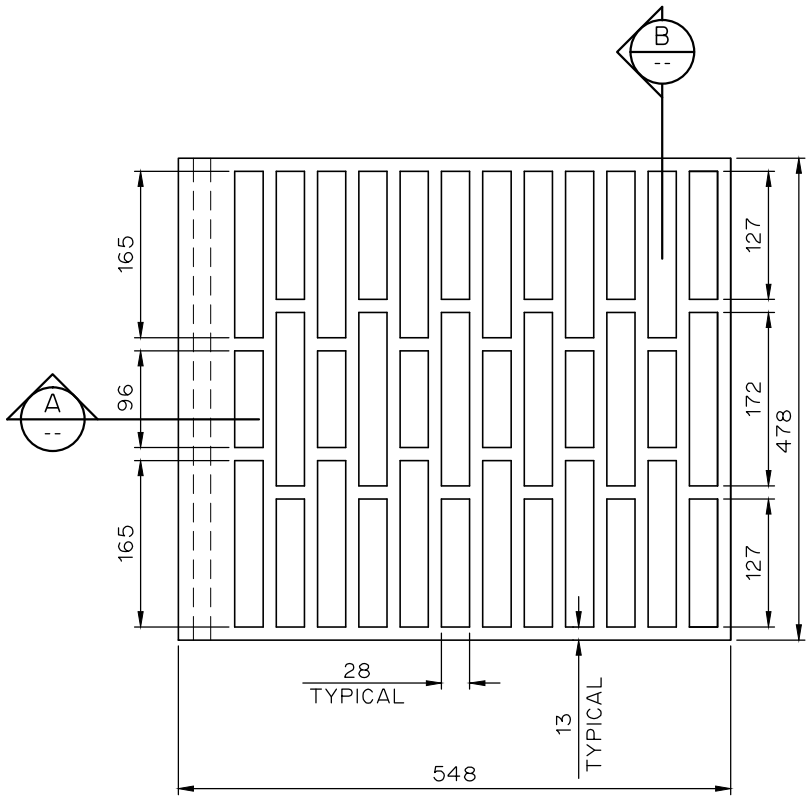
DOUBLE K-7 FRAME



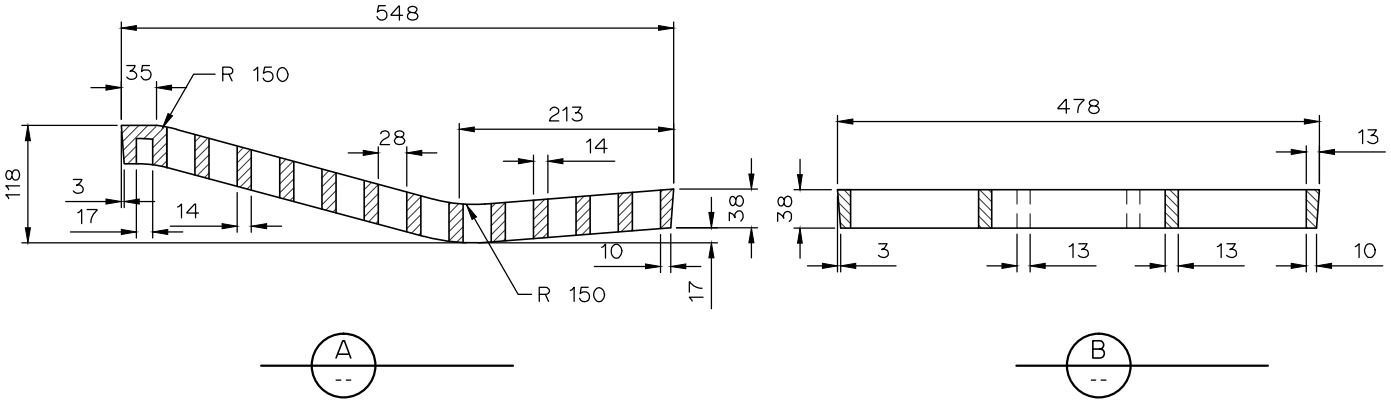
SINGLE K-7 FRAME



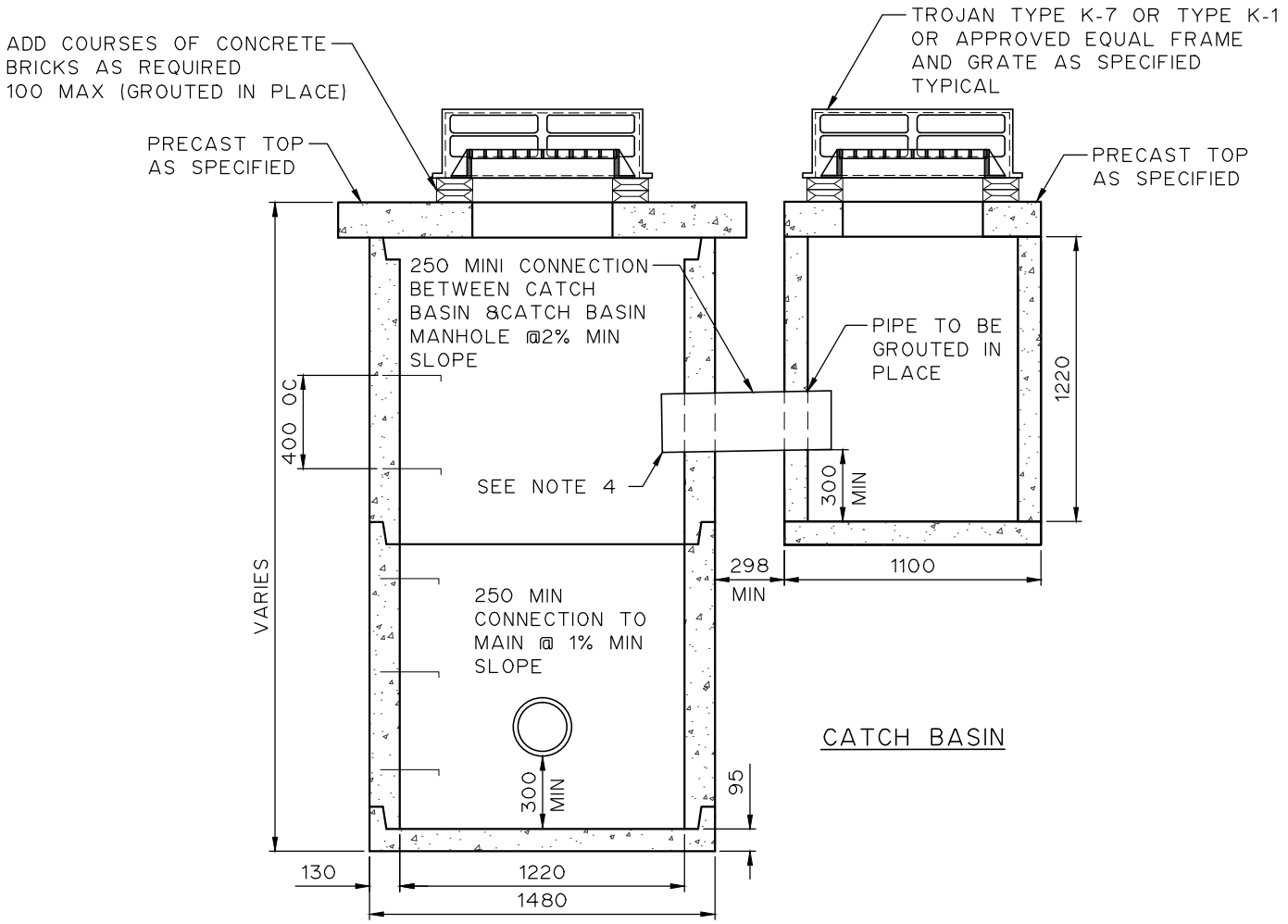
							DATE: JANUARY 2012	CITY OF BROOKS	K-7 CATCH BASIN FRAME
							SCALE: NTS		
							DRAWN: RCW		
No.	YY	MM	DD	REVISION DESCRIPTION		BY	APPROVED:		DWG. No. BPW-134 Rev. 0
	DATE								



PLAN



													DATE: JANUARY 2012	CITY OF BROOKS	K-7 CATCH BASIN GRATE
													SCALE: NTS		
													DRAWN: RCW		
No.	YY	MM	DD	REVISION DESCRIPTION								BY	APPROVED:		DWG. No. BPW-135 Rev. 0
	DATE														



NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. PRECAST CONCRETE PRODUCTS TO BE LAFARGE, PRECON, INLAND OR APPROVED EQUAL.
3. NON SHRINK GROUT FOR FINAL BRICK ADJUSTMENTS AND INSTALLATIONS OF LEADS SHALL BE IN ACCORDANCE WITH SECTION 02040 CAST-IN-PLACE CONCRETE.
4. CATCH BASIN LEAD MUST PROTRUDE BETWEEN 50 AND 100 FROM THE INSIDE WALL OF CATCH BASIN OR MANHOLE.
5. FINAL CATCH BASIN ADJUSTMENTS SHALL BE IN ACCORDANCE WITH SECTION 02730 MANHOLES AND CATCH BASINS.
6. MANHOLE STEPS (RUNGS) TO BE ASTM C47 DROP STEP TYPE, PVC COATED ALUMINIUM AND SHALL BE INSTALLED AT 400 OC.

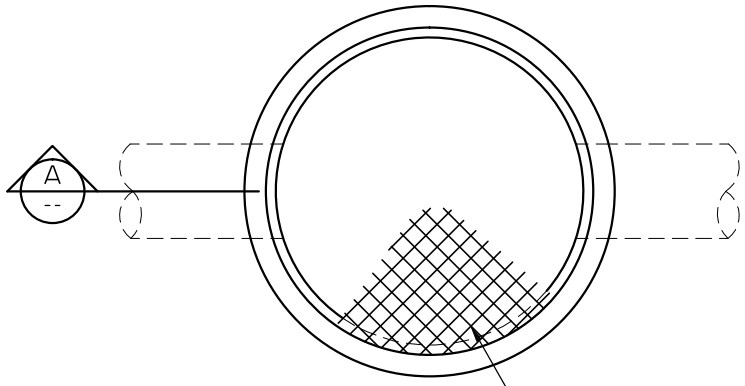
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

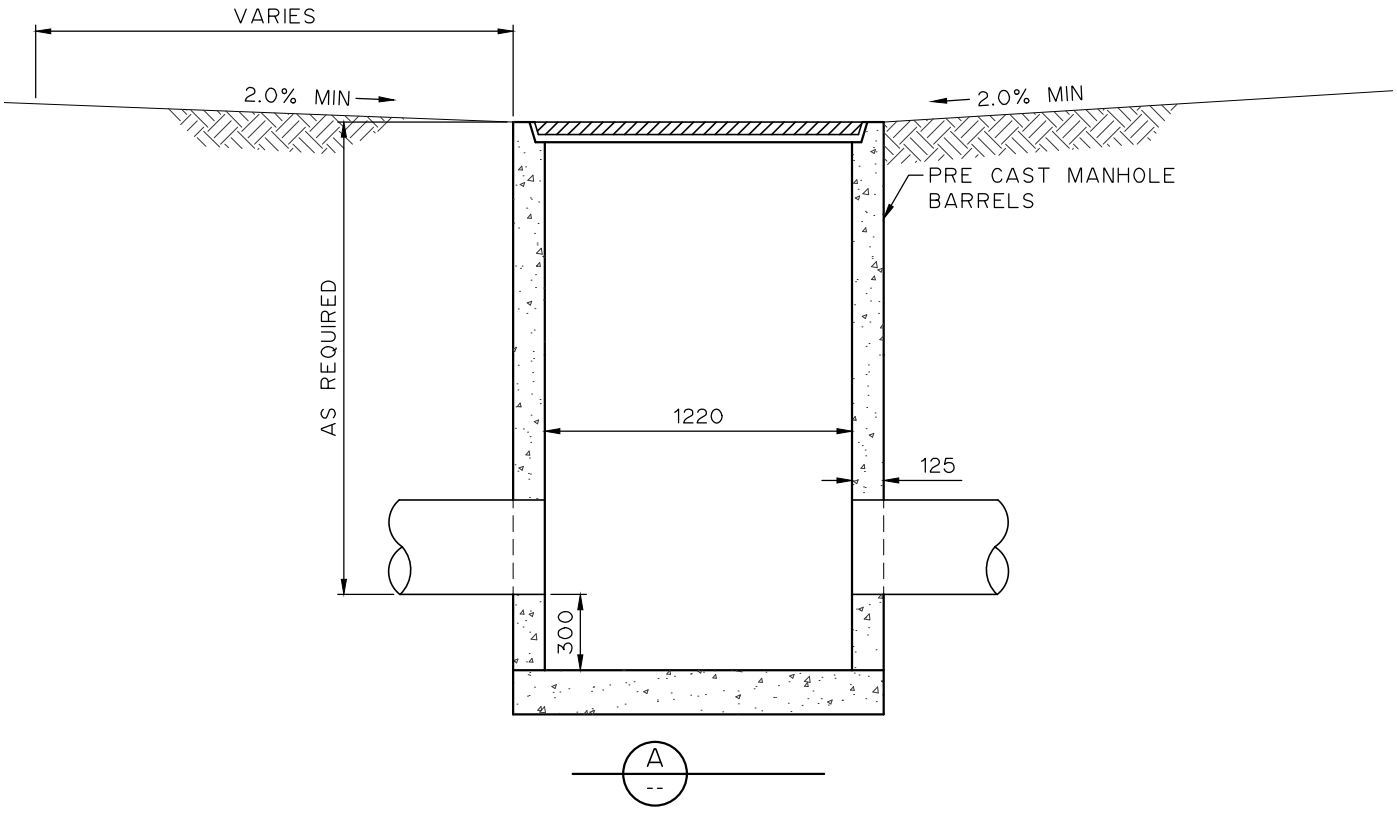
CITY OF BROOKS

TWIN CATCH BASIN/ CATCH BASIN MANHOLE ASSEMBLY

DWG. No. BPW-136 Rev. 0



PLAN



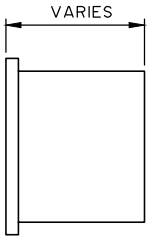
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

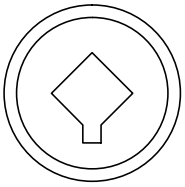
CITY OF BROOKS

MANICURED PARKS
CATCH BASIN

DWG. No. BPW-137 Rev. 0



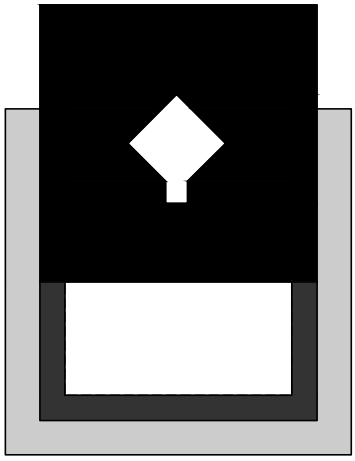
SIDE VIEW



FRONT VIEW

"PLUG" ICD

NOTES:
1. A SHORT SLIGHTLY TAPERED PLUG IS INSERTED IN THE OUTLET PIPE FROM THE CATCH BASIN. IT IS HELD IN PLACE PLACE BY FRICTION AND HYDROSTATIC PRESSURE.
2. PLUG ICD'S ARE MADE TO FIT 200mm, 250mm, & 300mm PIPE MADE FROM ANY MATERIAL.
3. THE ORIFICE PLATE SITS FLUSH WITH THE INSIDE OF THE CATCH BASIN.



FRONT VIEW

"FRAMED" ICD

NOTES:
1. A PLATE CONTAINING THE ORIFICE IS HELD IN CHANNELS IN THE FRAME.
2. THE ICD FRAME IS BOLTED OVER THE OUTLET PIPE INSIDE THE CATCH BASIN. FRAMED ICD'S CAN BE FABRICATED TO FIT ANY SIZE AND TYPE OF PIPE.

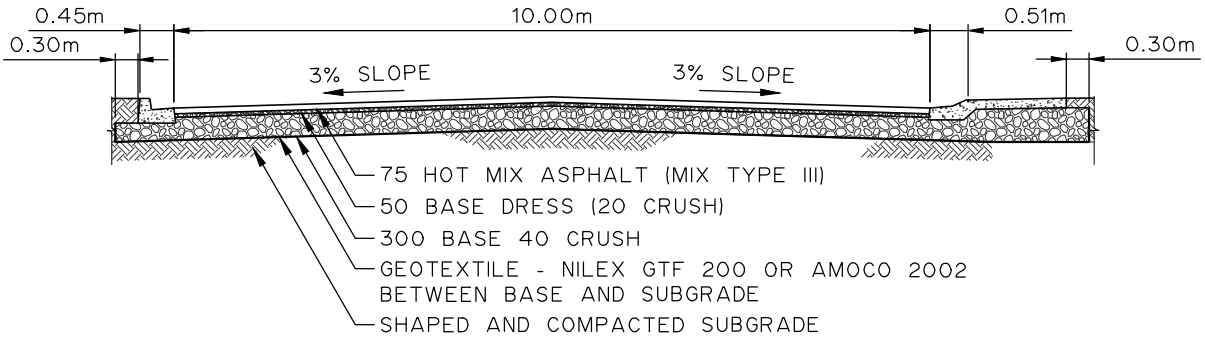
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

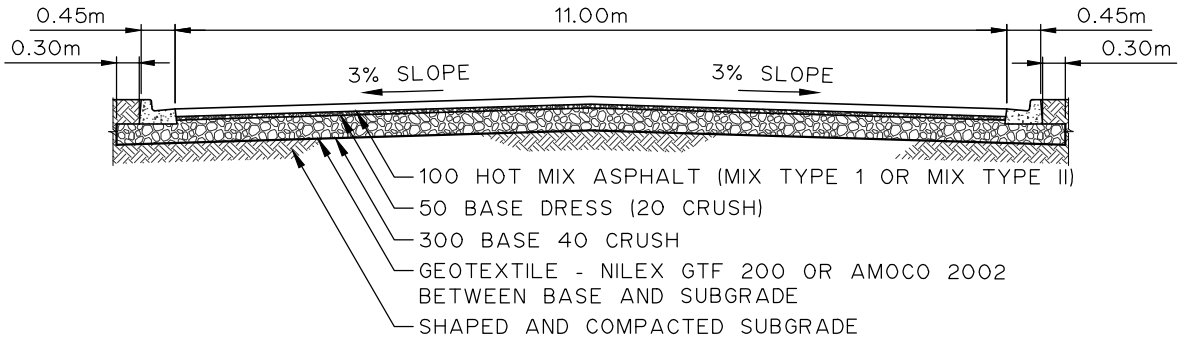
CITY OF BROOKS

INLET CONTROL DEVICE (ICD)

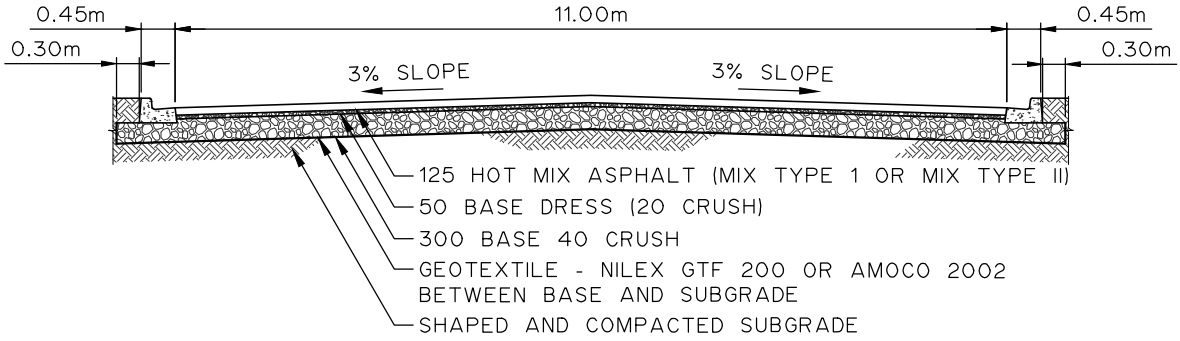
DWG. No. BPW-138 Rev. 0



LOCAL RESIDENTIAL ROADS



RESIDENTIAL COLLECTOR ROADS



INDUSTRIAL AND COMMERCIAL
COLLECTOR ROADS

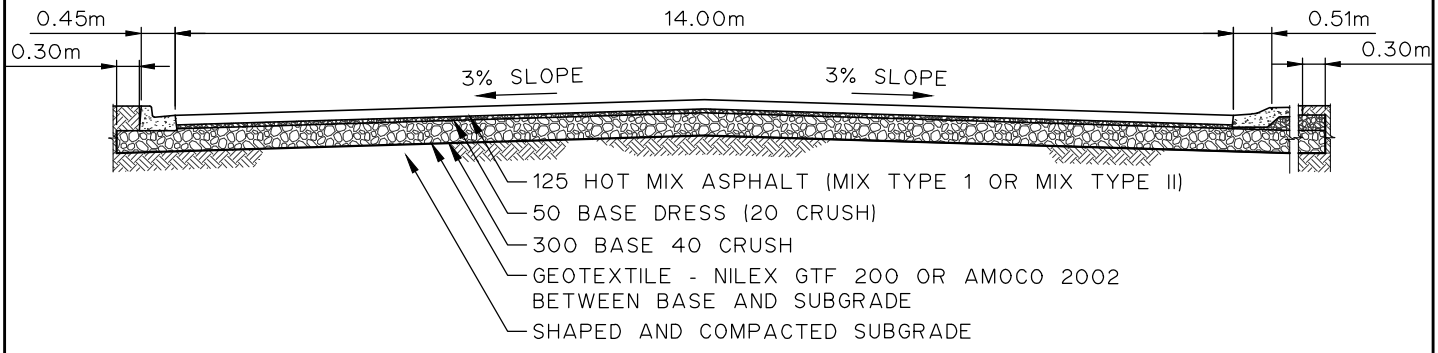
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: CH
APPROVED:

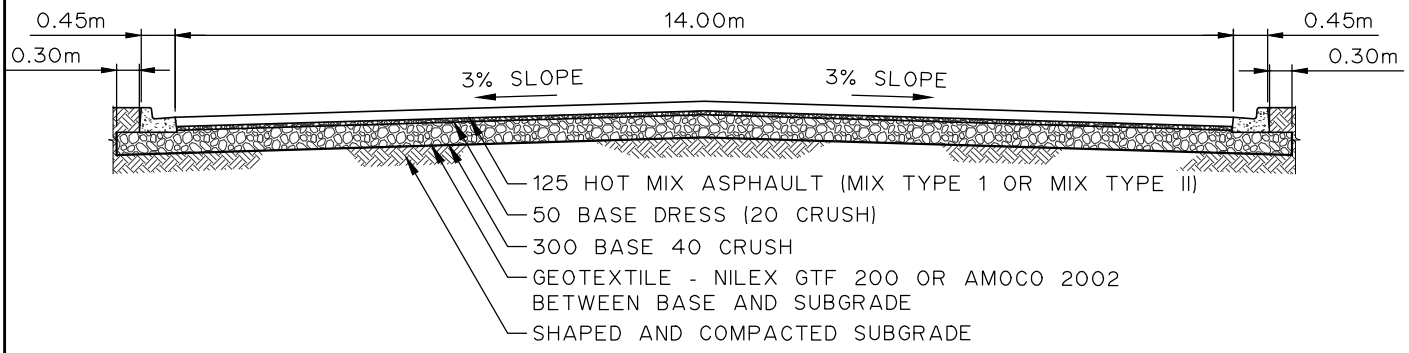
CITY OF BROOKS

ROAD CROSS SECTION

DWG. No. BPW-200 Rev. 0



MINOR ARTERIAL ROADS



MAJOR ARTERIAL ROADS

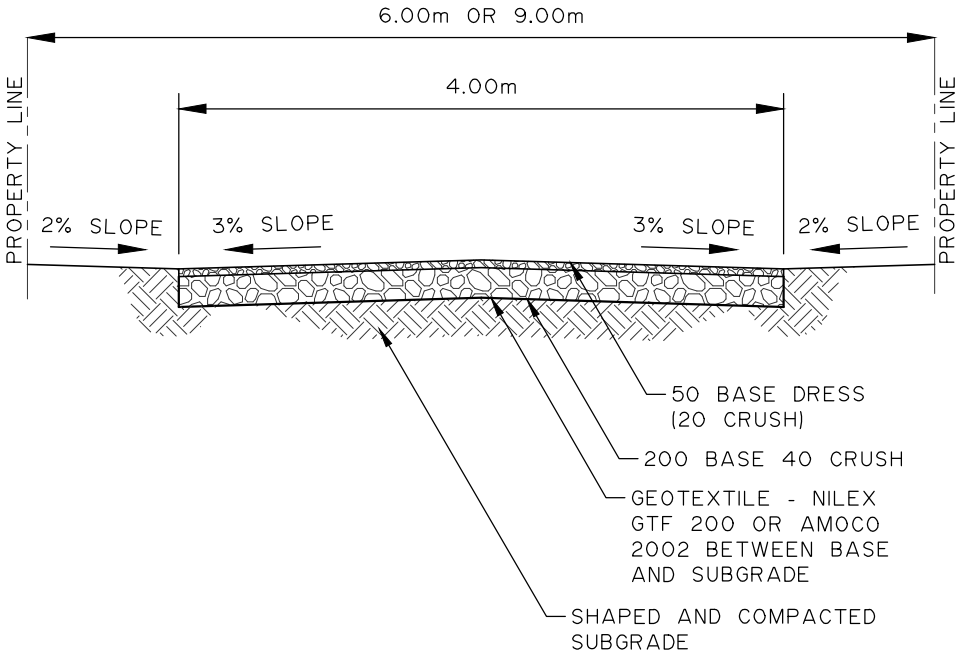
No.	DATE (YY MM DD)	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: CH
APPROVED:

CITY OF BROOKS

ARTERIAL ROAD
CROSS SECTIONS

DWG. No. BPW-201 Rev. 0



LANES

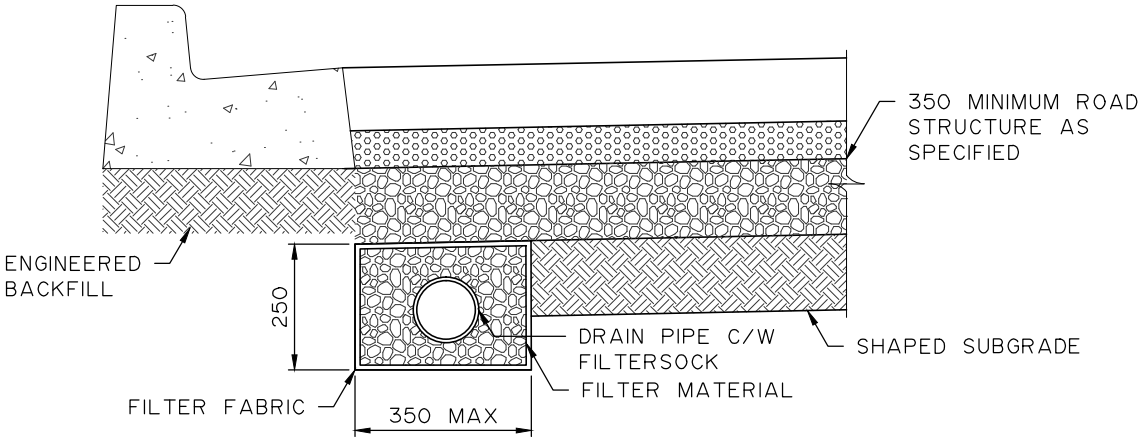
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: CH
APPROVED:

CITY OF BROOKS

LANE CROSS SECTION

DWG. No. BPW-202 Rev. 0



NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. MATERIALS IN ACCORDANCE WITH SECTION 02620 SUB-DRAIN SYSTEMS.
3. NON SHRINK GROUT FOR CONNECTION OF SUB-DRAIN TO CATCH BASIN OR MANHOLE SHALL BE IN ACCORDANCE WITH SECTION 03300 CAST-IN-PLACE CONCRETE.
4. SUB-DRAIN SYSTEM MUST PROTRUDE BETWEEN 50mm AND 100mm FROM THE INSIDE WALL OF THE CATCH BASIN OR MANHOLE.
5. CONNECTING HOLE TO CATCH BASIN OR MANHOLE MUST BE CORED TO A DIAMETER NO GREATER THAN 50mm OF THE NORMAL SIZE OF PIPE.
6. SUB-DRAIN SYSTEM SLOPE SHALL BE INSTALLED TO THE SAME SLOPE AS THE LIP OF GUTTER OR AS DIRECTED BY THE ENGINEER.

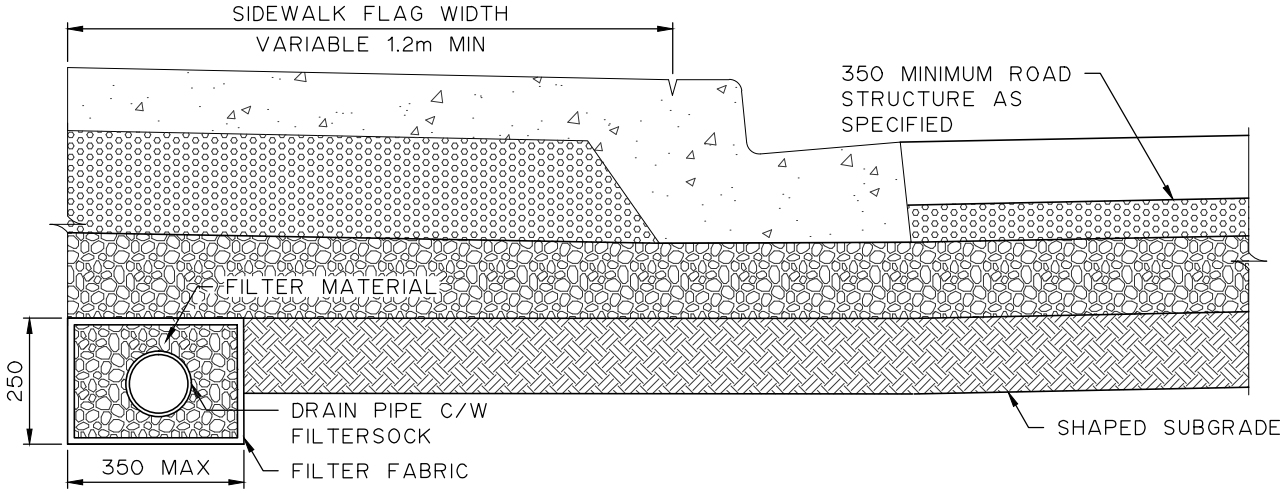
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

CITY OF BROOKS

TYPICAL SUB-DRAIN SYSTEM INSTALLATION

DWG. No. BPW-203 Rev. 0



NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. MATERIALS IN ACCORDANCE WITH SECTION 02620 SUB-DRAIN SYSTEMS.
3. NON SHRINK GROUT FOR CONNECTION OF SUB-DRAIN TO CATCH BASIN OR MANHOLE SHALL BE IN ACCORDANCE WITH SECTION 03300 CAST-IN-PLACE CONCRETE.
4. SUB-DRAIN SYSTEM MUST PROTRUDE BETWEEN 50mm AND 100mm FROM THE INSIDE WALL OF THE CATCH BASIN OR MANHOLE.
5. CONNECTING HOLE TO CATCH BASIN OR MANHOLE MUST BE CORED TO A DIAMETER NO GREATER THAN 50mm OF THE NORMAL SIZE OF PIPE.
6. SUB-DRAIN SYSTEM SLOPE SHALL BE INSTALLED TO THE SAME SLOPE AS THE LIP OF GUTTER OR AS DIRECTED BY THE ENGINEER.

No.	DATE (YY MM DD)	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

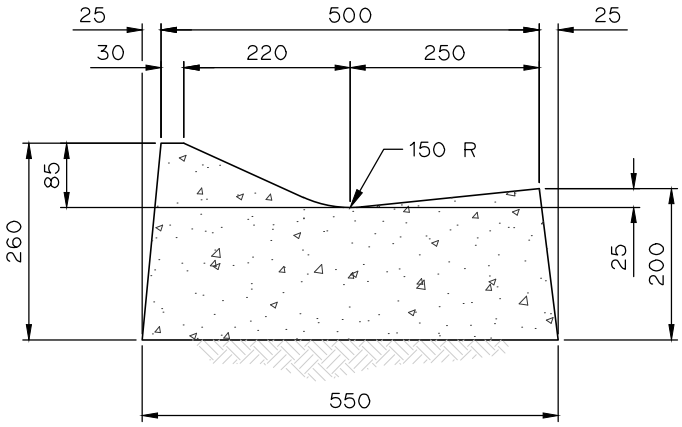
CITY OF BROOKS

UNIFORM BACKFILL SUB-DRAIN SYSTEM INSTALLATION

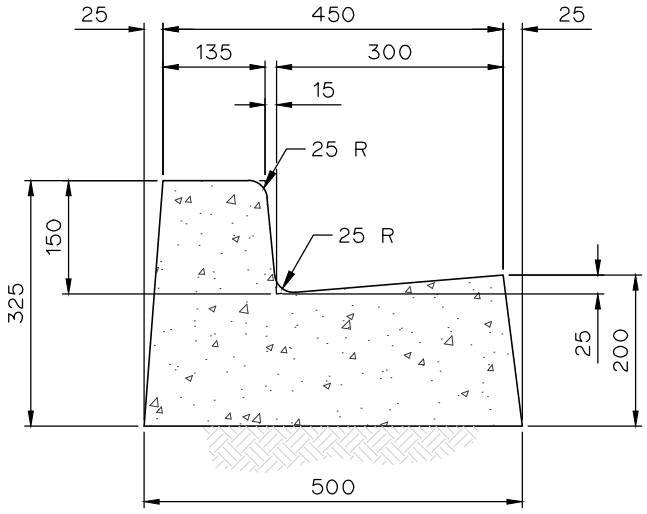
DWG. No. BPW-204 Rev. 0

NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 02050 CAST-IN PLACE CONCRETE.
3. COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 05310 SIDEWALK CONSTRUCTION AND SECTION 05300 EXTRUDED CONCRETE.



ROLLED CURB AND 250 GUTTER



150 STANDARD CURB AND 300 GUTTER

No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

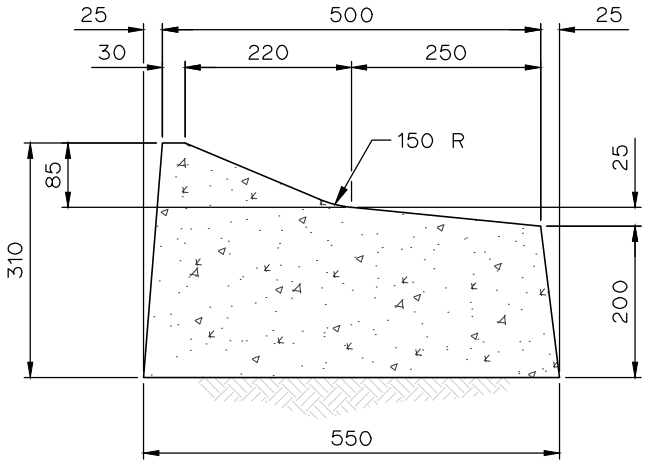
CITY OF BROOKS

CURB AND GUTTER SECTIONS

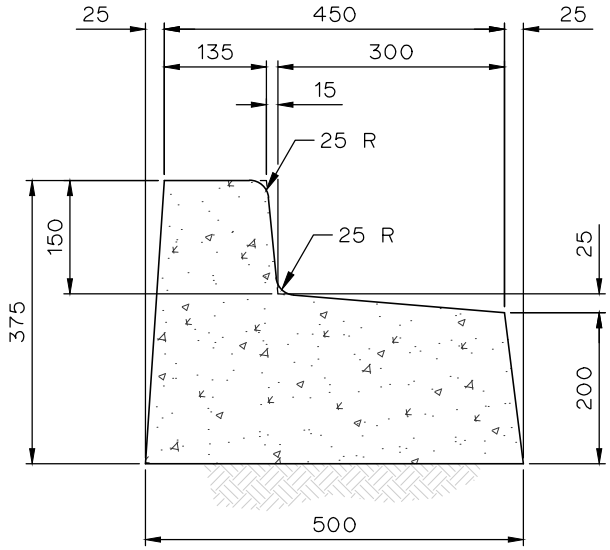
DWG. No. BPW-205 Rev. 0

NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 02050 CAST-IN PLACE CONCRETE.
3. COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 05310 SIDEWALK CONSTRUCTION AND SECTION 05300 EXTRUDED CONCRETE.



ROLLED CURB AND 250 GUTTER



150 STANDARD CURB AND 300 GUTTER

No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

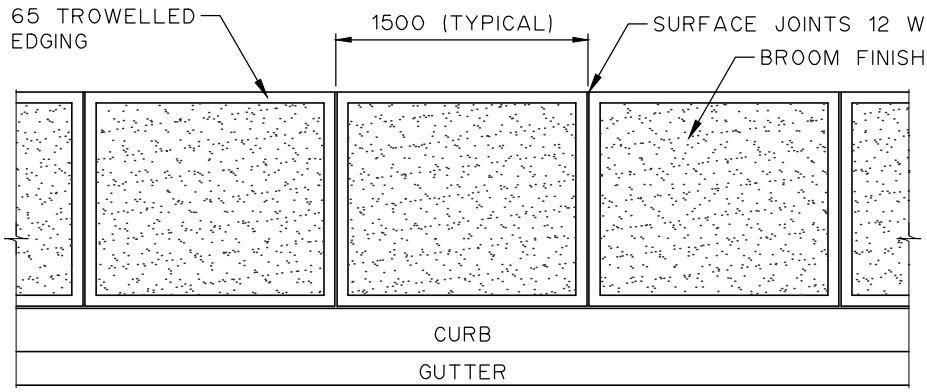
CITY OF BROOKS

CURB AND DROPPED GUTTER SECTIONS

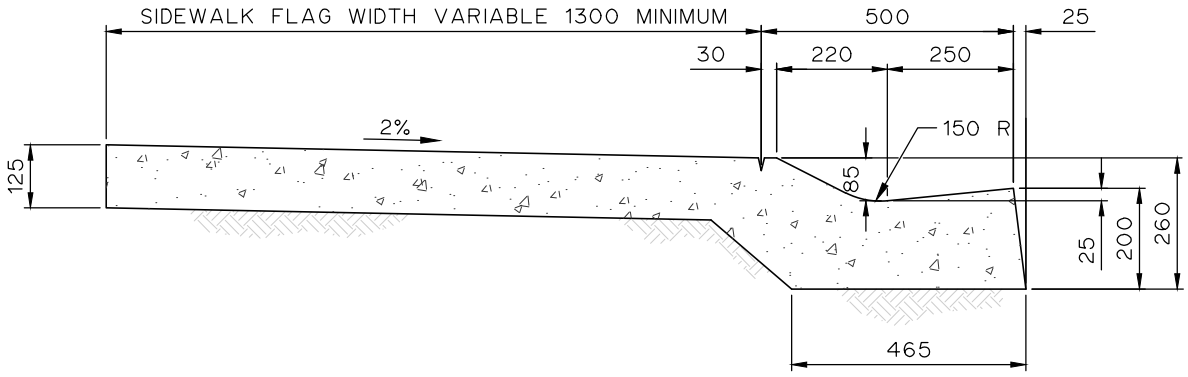
DWG. No. BPW-206 Rev. 0

NOTES:

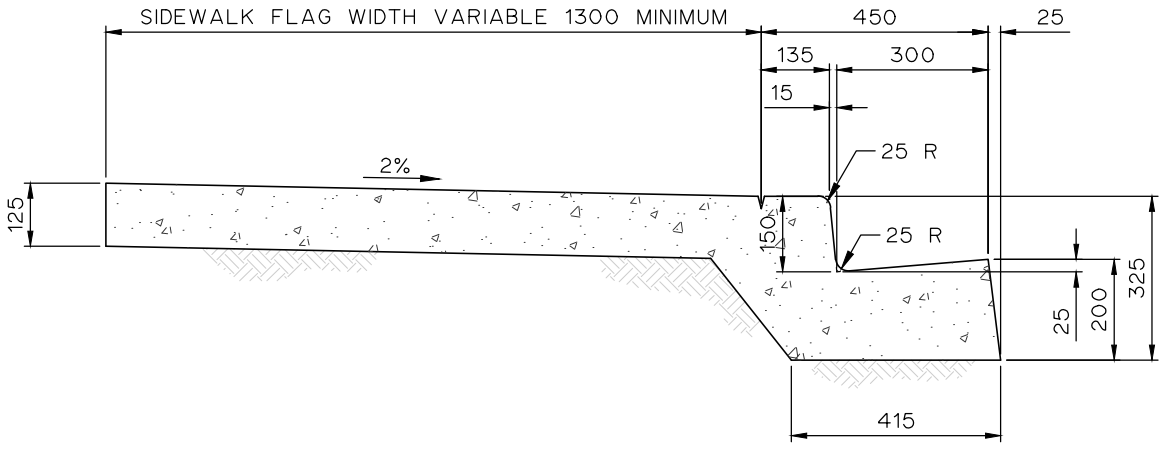
1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 02C CAST-IN PLACE CONCRETE.
3. COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 05310 SIDEWALK CONSTRUCTION AND SECTION 05300 EXTRUDED CONCRETE.



PLAN VIEW



ROLLED CURB SECTION

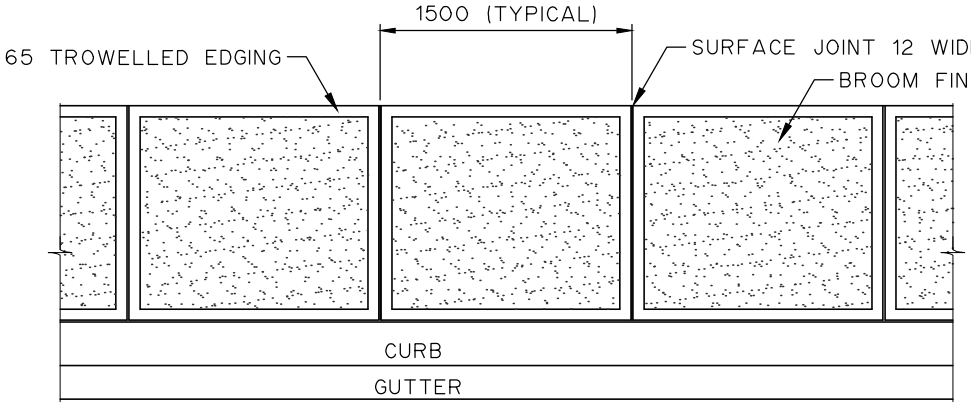


STANDARD CURB SECTION

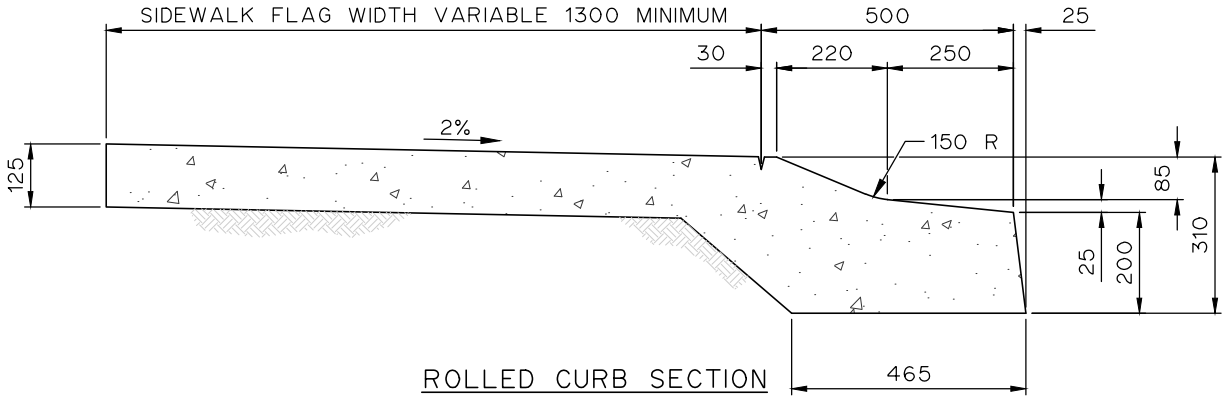
								DATE: JANUARY 2012	CITY OF BROOKS	MONOLITHIC SIDEWALK CURB AND GUTTER	
								SCALE: NTS			
								DRAWN: RCW			
No.	YY	MM	DD	REVISION DESCRIPTION		BY		APPROVED:		DWG. No. BPW-207	Rev. 0
	DATE										

NOTES:

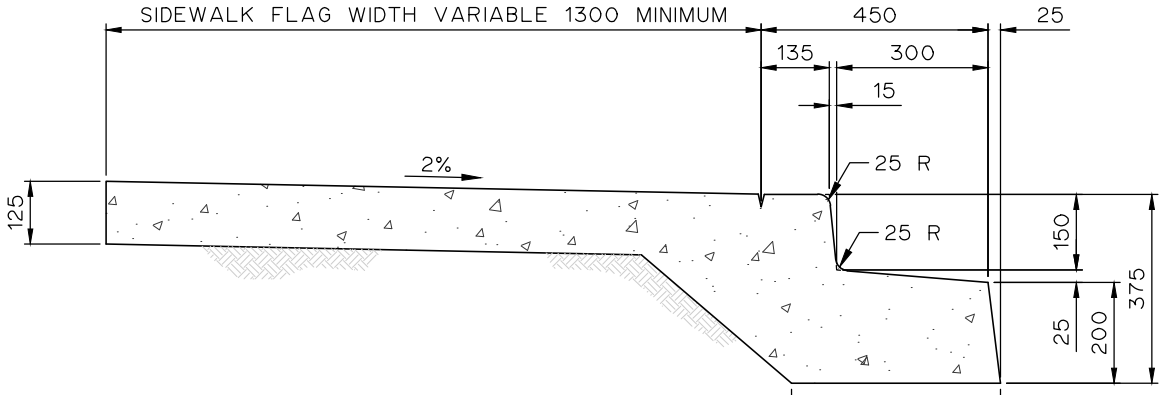
1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 020 CAST-IN PLACE CONCRETE.
3. COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 05310 SIDEWALK CONSTRUCTION AND SECTION 05300 EXTRUDED CONCRETE.



PLAN VIEW



ROLLED CURB SECTION



STANDARD CURB SECTION

No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

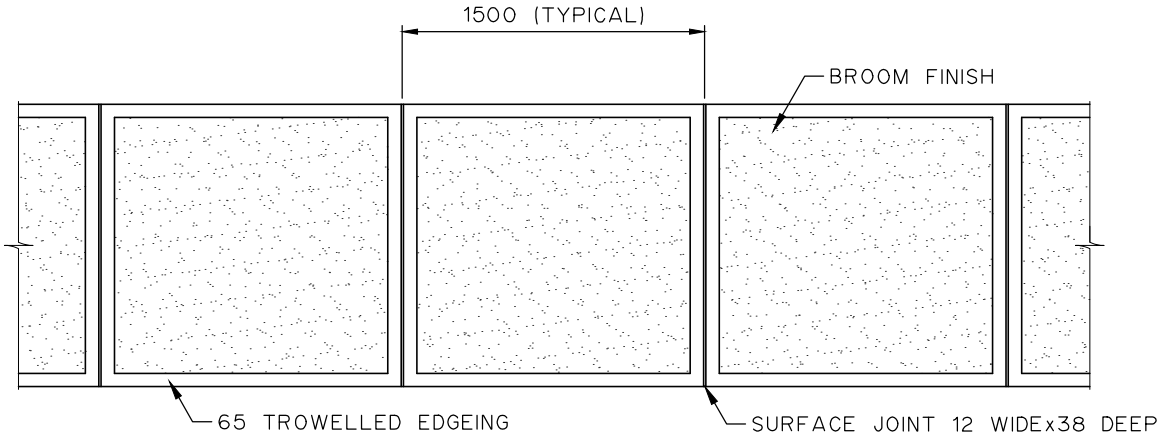
CITY OF BROOKS

MONOLITHIC SIDEWALK, CURB WITH DROPPED FACE GUTTER

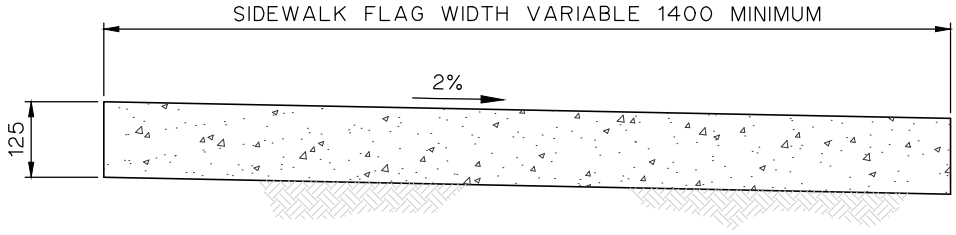
DWG. No. BPW-208 Rev. 0

NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 02050 CAST-IN PLACE CONCRETE.
3. COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 05310 SIDEWALK CONSTRUCTION AND SECTION 05300 EXTRUDED CONCRETE.



PLAN VIEW



SECTION

No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

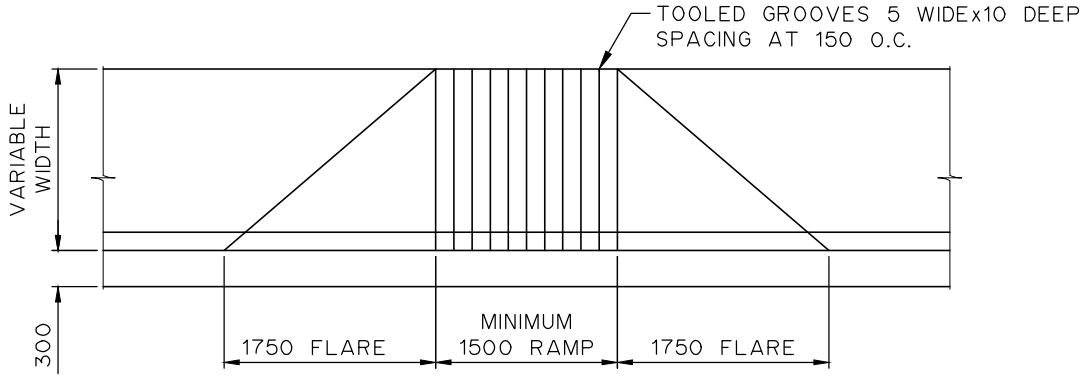
CITY OF BROOKS

SEPARATE SIDEWALKS

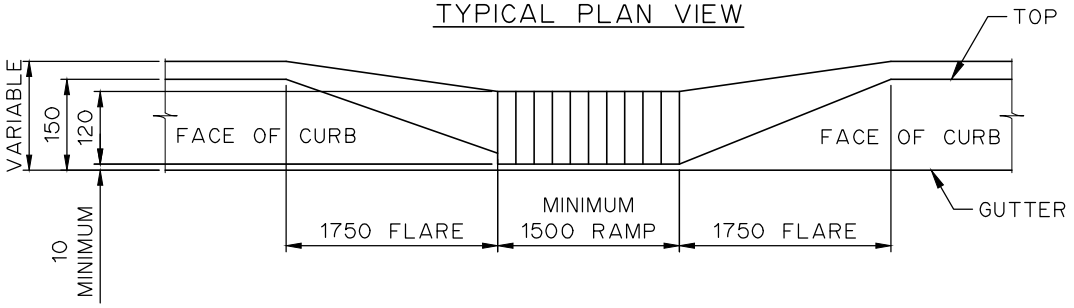
DWG. No. BPW-209 Rev. 0

NOTES:

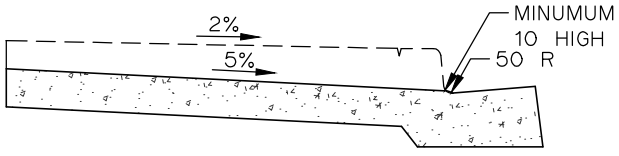
1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. RAMPS FOR USERS OF WHEELCHAIRS AND BICYCLES SHOULD BE LOCATED AT ALL JUNCTIONS OF CROSSWALKS AND SIDEWALKS. RAMPS MUST BE LOCATED WITHIN A CROSSWALK.
3. GROOVES ON SIDEWALK RAMPS ARE TO ALERT PERSONS, WHO ARE VISUALLY IMPAIRED, OF THE CURB-CUT AND A STREET CROSSING.
4. WHERE CROSSWALKS ARE CONTROLLED BY SIGNALS WITH A PUSH BUTTON SYSTEM, THE SIDEWALKS AND RAMPS MUST ALLOW ACCESS BY WHEEL-CHAIR TO THE PUSH BUTTON.
5. CONCRETE SIDEWALKS, CURBS, AND RAMPS TO BE POURED MONOLITHICALLY.
6. MINIMUM WIDTH OF RAMP IS 1.5m. IT MAY BE NECESSARY TO BUILD WIDER RAMPS IN BUSY URBAN AREAS WHERE THE VOLUME OF PEDESTRIAN TRAFFIC IS HIGH.
7. CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 02050 CAST-IN PLACE CONCRETE.
8. COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 05310 SIDEWALK CONSTRUCTION AND SECTION 05300 EXTRUDED CONCRETE.
9. THE 0.05 M/M MAXIMUM SLOPE SHOULD NOT BE EXCEEDED AND THEREFORE THE BACK OF THE SIDEWALK MUST BE LOWERED ACCORDINGLY.



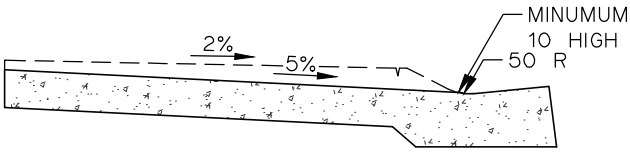
TYPICAL PLAN VIEW



TYPICAL ELEVATION



STANDARD CURB SECTION



ROLLED FACE SECTION

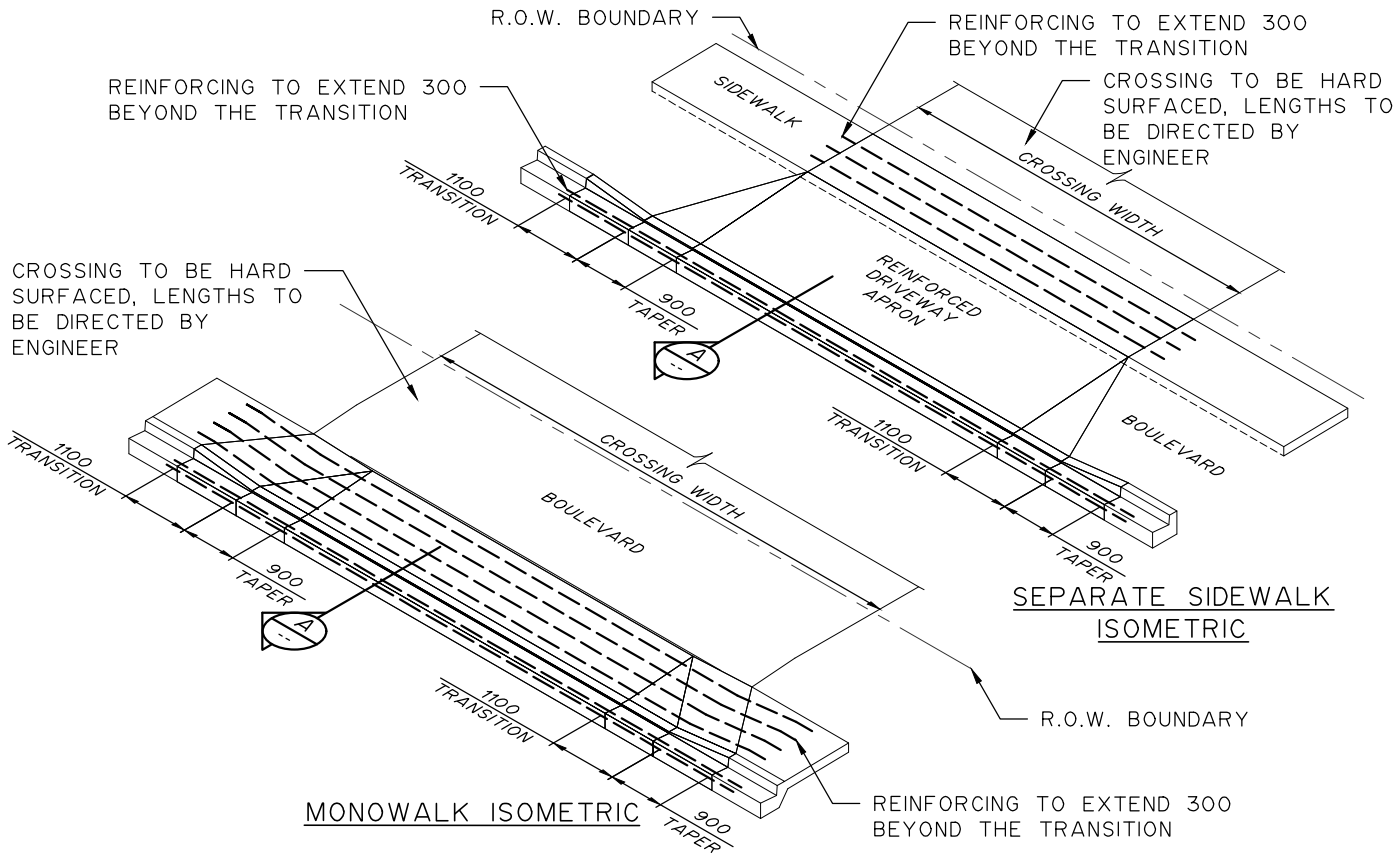
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

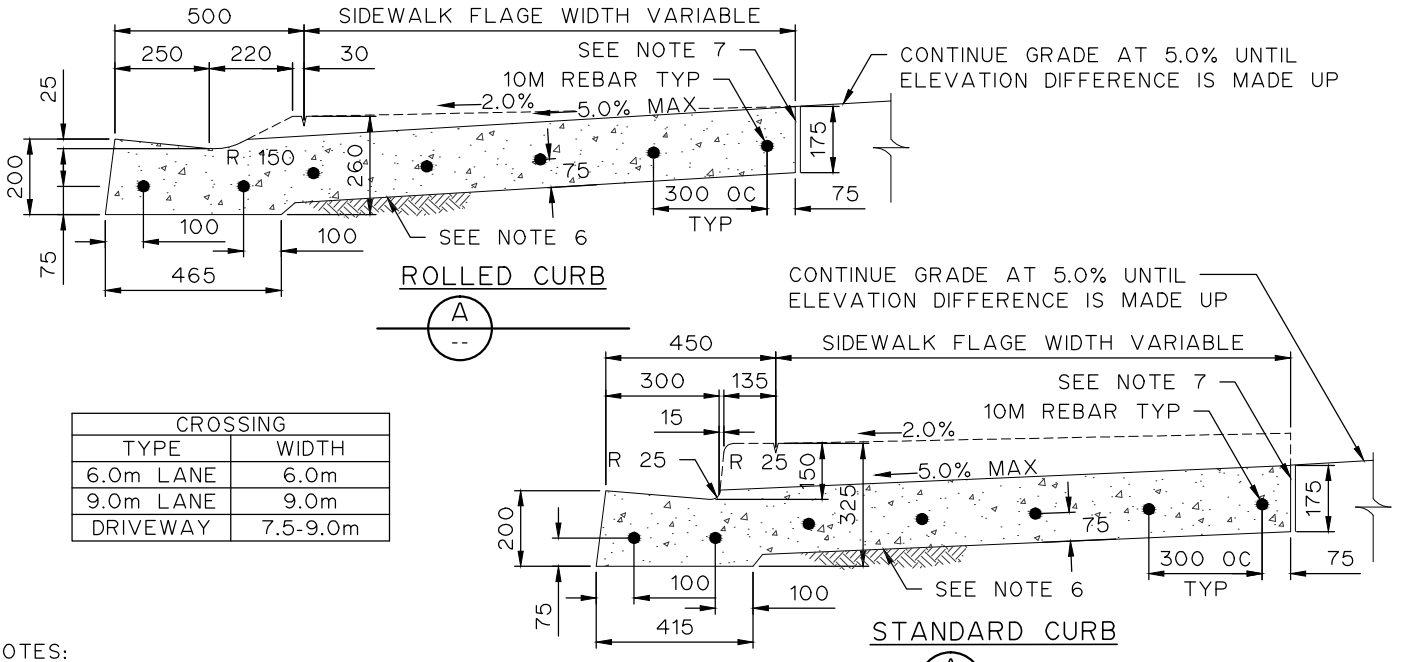
DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

CITY OF BROOKS

SIDEWALK RAMP FOR WHEELCHAIR OR BICYCLE

DWG. No. BPW-210 Rev. 0





CROSSING	
TYPE	WIDTH
6.0m LANE	6.0m
9.0m LANE	9.0m
DRIVEWAY	7.5-9.0m

NOTES:
1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. EXISTING SIDEWALK, CURB AND GUTTER TO BE REMOVED AND REPLACED WITH TRANSITIONS, TAPER AND DROP CURB SECTIONS.
3. REINFORCING BARS SHALL BE CSA 6.30.12 Fy = 400MPa
4. ALTERNATE REINFORCING 150x150 P18/P18 GAUGE WELDED WIRE FABRIC.
5. CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 02050 CAST-IN PLACE CONCRETE.
6. COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 05310 SIDEWALK CONSTRUCTION AND SECTION 05300 EXTRUDED CONCRETE.
7. WHERE CROSSING IS ADJACENT TO CONCRETE A 13 PREFORMED EXPANSION JOINT SHALL BE INSTALLED.
8. SURFACE TO BE BROOM FINISHED.

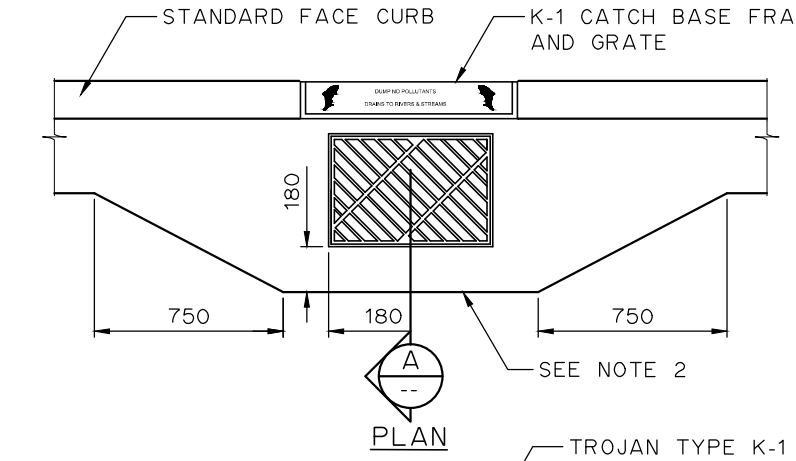
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

CITY OF BROOKS

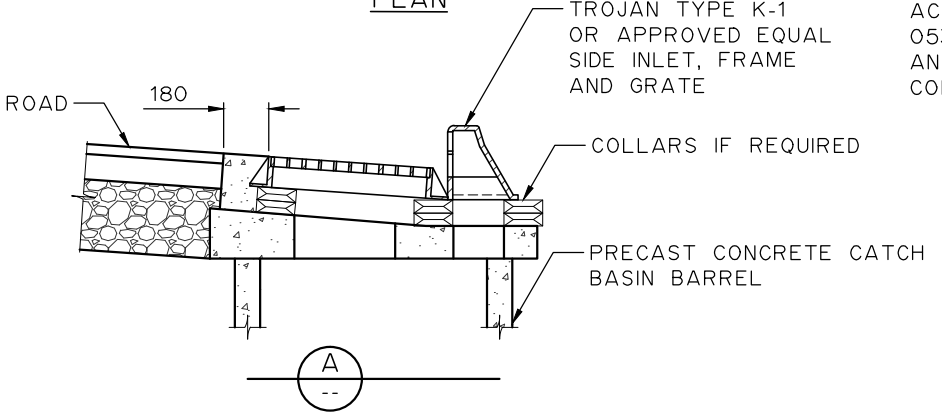
LOW VOLUME LAND AND DRIVEWAY CROSSINGS

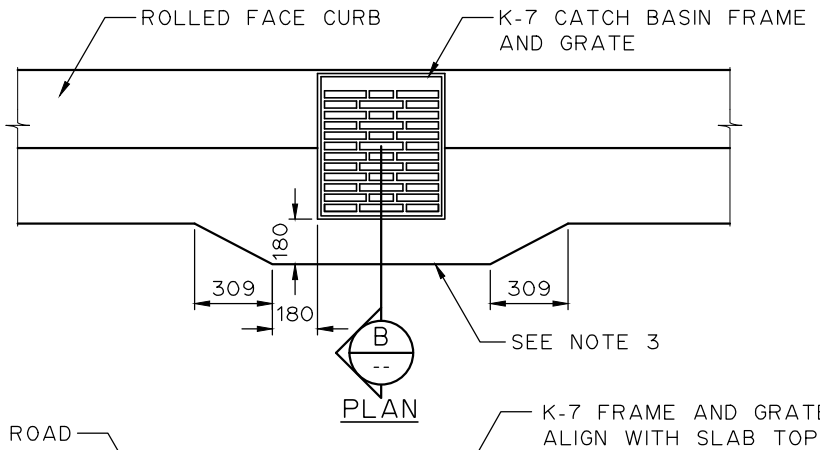
DWG. No. BPW-211 Rev. 0

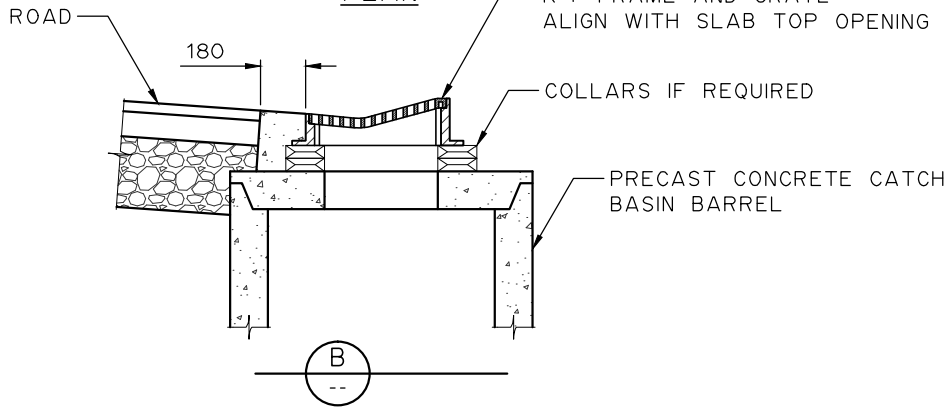


NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. LENGTH VARIES FOR TWIN K-1 CATCH BASIN FRAME. SEE BPW-130, AND BPW-136 FOR TWIN CATCH BASIN ARRAIGNMENTS.
3. LENGTH VARIES FOR TWIN K-7 CATCH BASIN FRAME. SEE BPW-134, AND BPW-136 FOR TWIN CATCH BASIN ARRAIGNMENTS.
4. CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 02050 CAST-IN PLACE CONCRETE.
5. COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 05310 SIDEWALK CONSTRUCTION AND SECTION 05300 EXTRUDED CONCRETE.

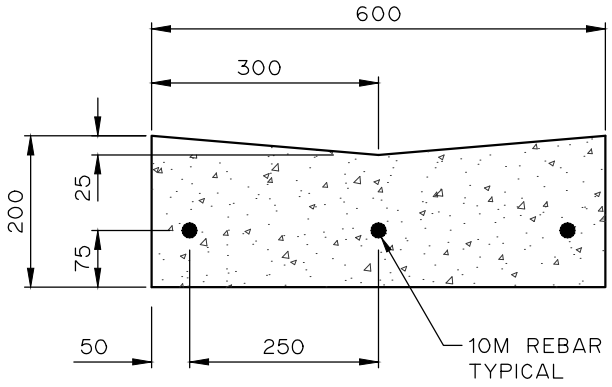




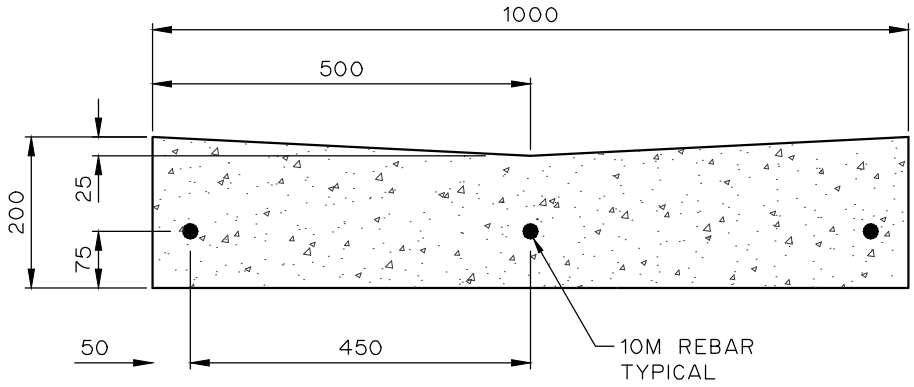


							DATE: JANUARY 2012	CITY OF BROOKS	K-1 AND K-7 CATCH BASIN IN ROLLED AND STANDARD CURB
							SCALE: NTS		
							DRAWN: RCW		
No.	YY	MM	DD	REVISION DESCRIPTION		BY	APPROVED:		DWG. No. BPW-212 Rev. 0
	DATE								

NOTES:
1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 02050 CAST-IN PLACE CONCRETE.
3. COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 05310 SIDEWALK CONSTRUCTION AND SECTION 05300 EXTRUDED CONCRETE.



0.6m WIDE REINFORCED CONCRETE SWALE



1.0m WIDE REINFORCED CONCRETE SWALE

No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

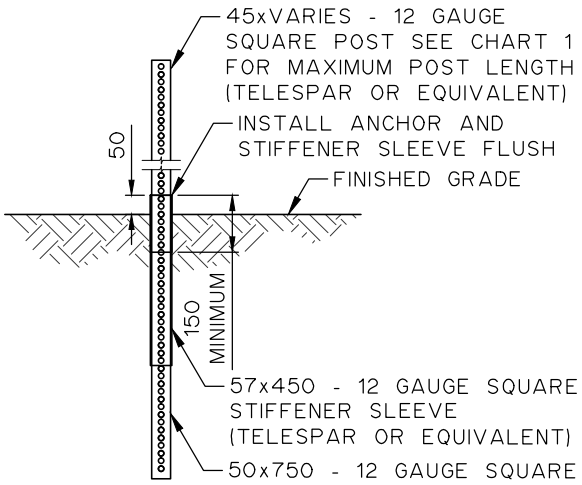
CITY OF BROOKS

REINFORCED CONCRETE SWALE

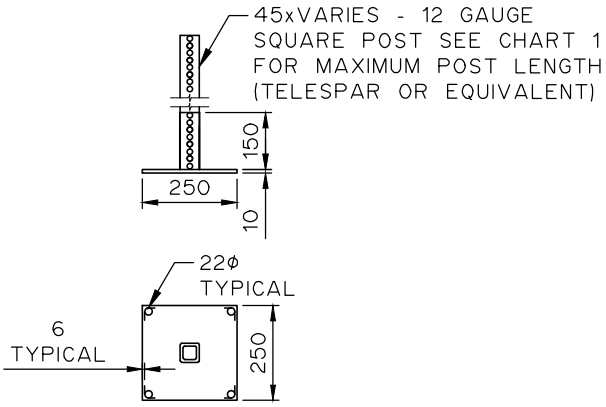
DWG. No. BPW-213 Rev. 0

NOTES:

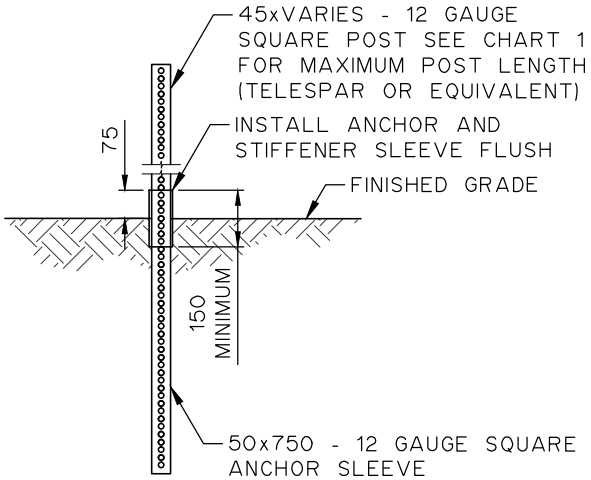
1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. THE SLEEVES SHALL BE FREE OF ANY OBSTRUCTION TO ENSURE EASE OF INSTALLATION AND REMOVAL OF SIGN POSTS.
3. TYPE 3 ASSEMBLY SHALL ONLY BE INSTALLED WITH ANCHOR BOLTS AT LOCATIONS WHERE CONCRETE HAS ALREADY BEEN CASTED INTO PLACE.
4. POST SHALL BE SECURED TO THE ASSEMBLY WITH THE PIN POINTING IN THE DIRECTION OF TRAFFIC FLOW.
5. THE TOP OF THE SIGN POST SHALL NOT VARY FROM THE BOTTOM BY MORE THAN 50 WHEN INSTALLED.



TYPE 1
3 PIECE SYSTEM



TYPE 3
BASE PLATE SYSTEM



TYPE 2
2 PIECE SYSTEM

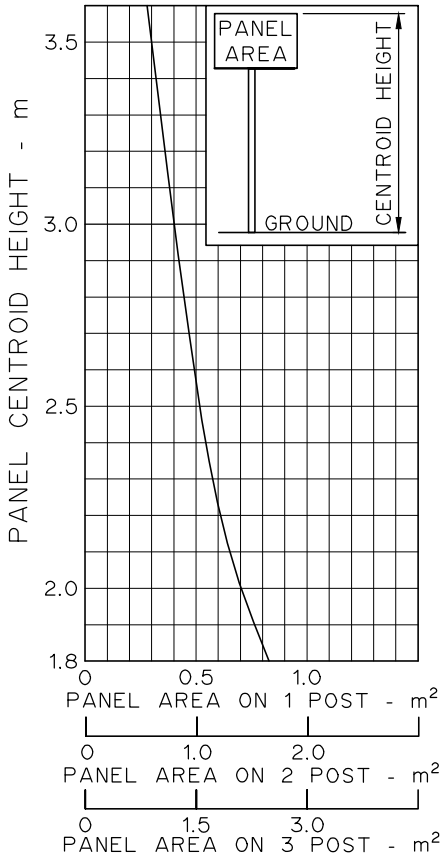


CHART 1

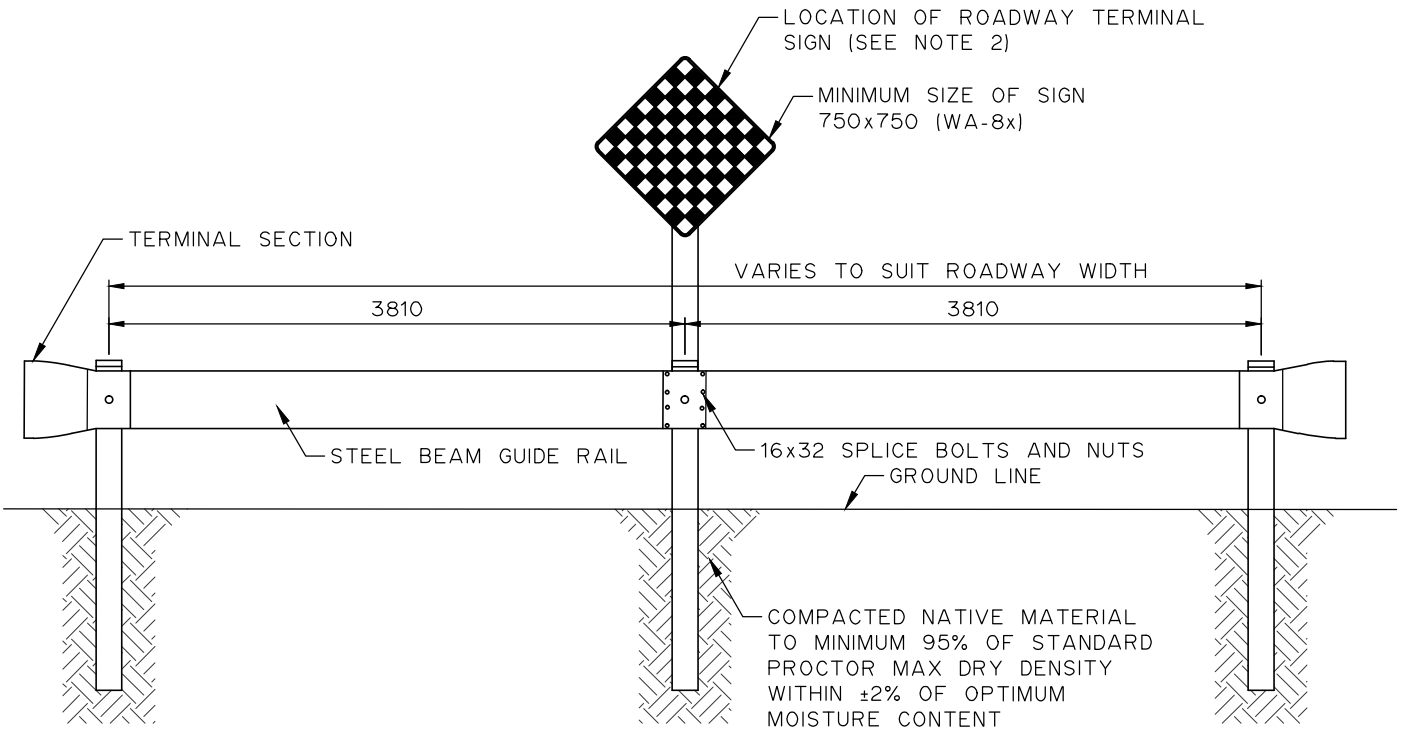
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

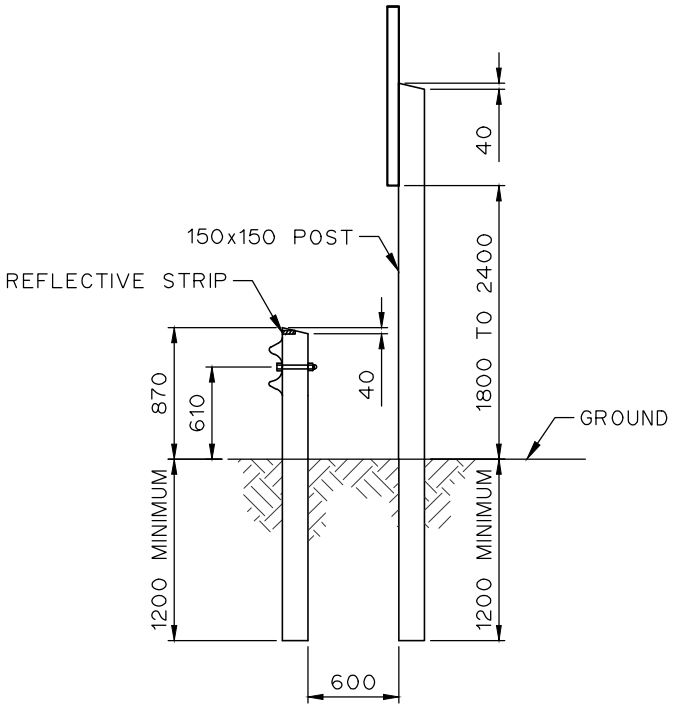
CITY OF BROOKS

YIELDING BREAKAWAY SIGN POST ASSEMBLY

DWG. No. BPW-214 Rev. 0



ELEVATION



SECTION

NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. ROADWAY TERMINAL SIGN AS SPECIFIED IN THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WA-8x)
3. POSTS: SIZE 200x200 NOMINAL, 190x190+1.5 DRESSED, TOPS TO HAVE 25 CHAMFER.

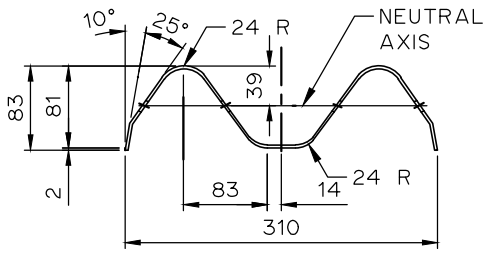
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

CITY OF BROOKS

DEAD END BARRICADE

DWG. No. BPW-215 Rev. 0



A
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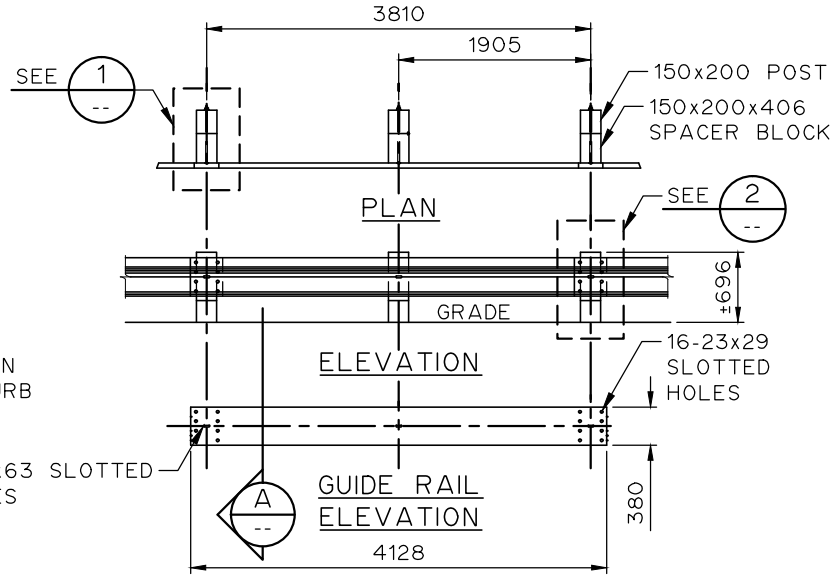

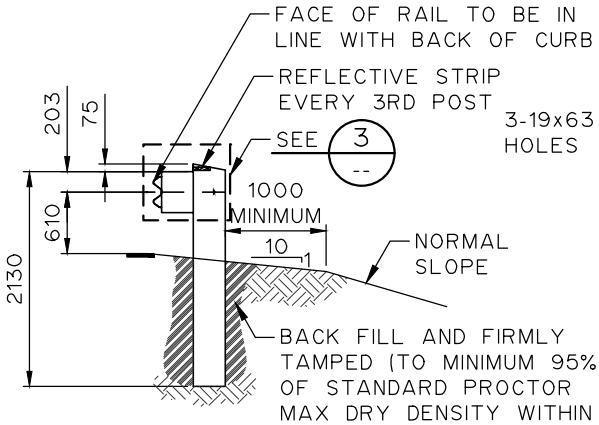

POST AND SPACER DETAIL

1
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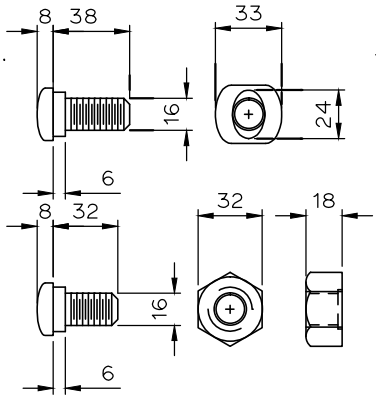
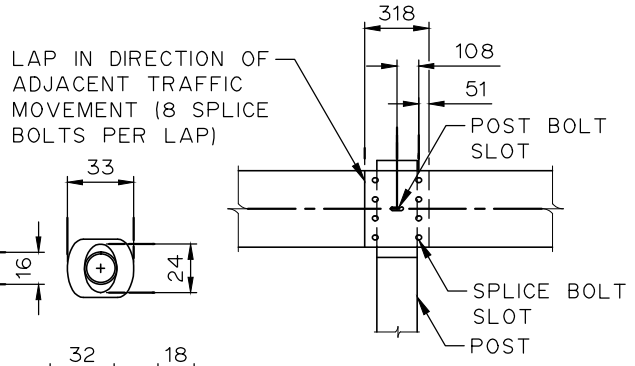


SPLICE BOLT AND NUT



RAIL SPLICE DETAIL

2
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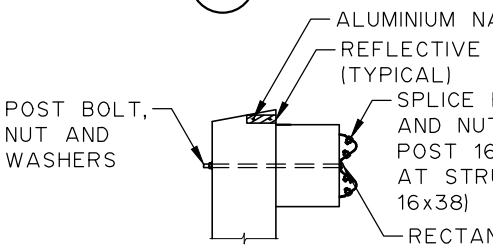

3
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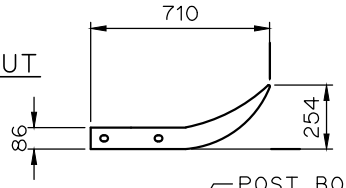
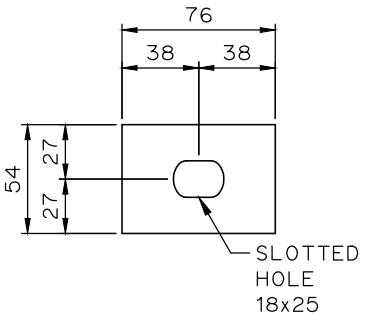
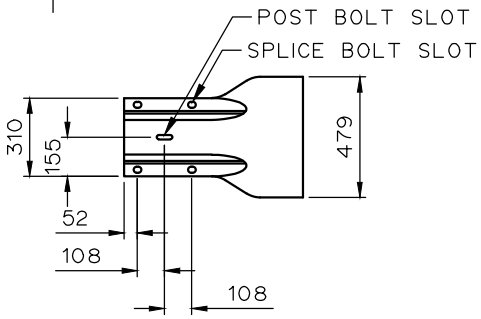


NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. THICKNESS OF RAIL TO BE 2.8, RECTANGULAR WASHER 4.7, AND ROUND WASHERS 3.0 THICK.
3. ALL DIMENSIONS SUBJECT TO MANUFACTURING TOLERANCES UNLESS OTHERWISE INDICATED.
4. THIS DRAWING TO BE READ IN CONJUNCTION WITH BPW-217



RECTANGULAR WASHER



STANDARD TERMINAL SECTION

TABLE OF SECTIONAL PROPERTIES AND WEIGHT						
THICKNESS	AREA OF X-SECTION	MOMENT OF INERTIA (mm)^4		SECTION MODULUS (mm)^4		WEIGHT OF GALVANIZED G.R. PER PIECE kg
		HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	
2.8	1284 mm^2	0.96×10^6	12.5×10^6	2.25×10^4	8.03×10^4	45.4

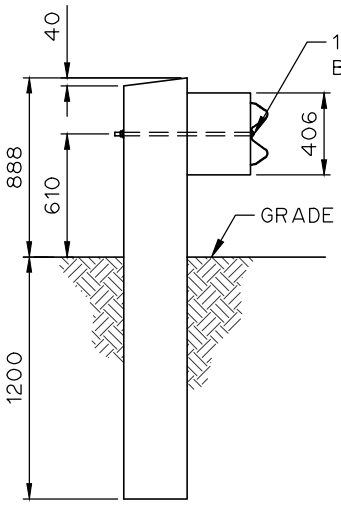
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

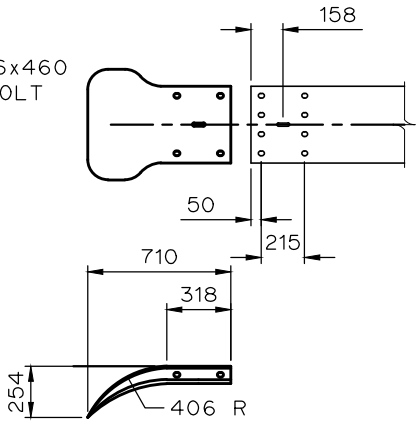
CITY OF BROOKS

STEEL BEAM GUIDE RAIL DETAIL

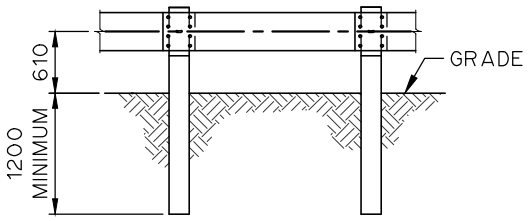
DWG. No. BPW-216 Rev. 0



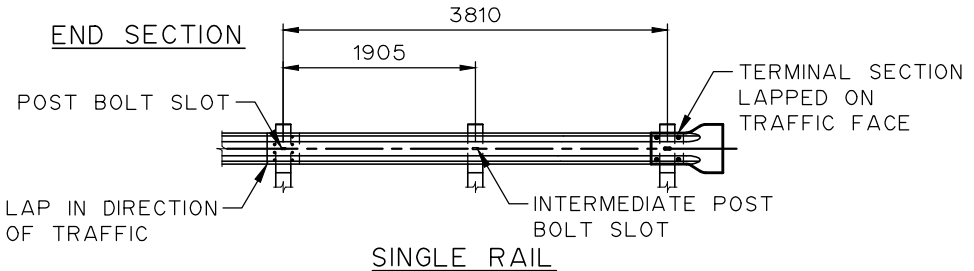
SIDE VIEW



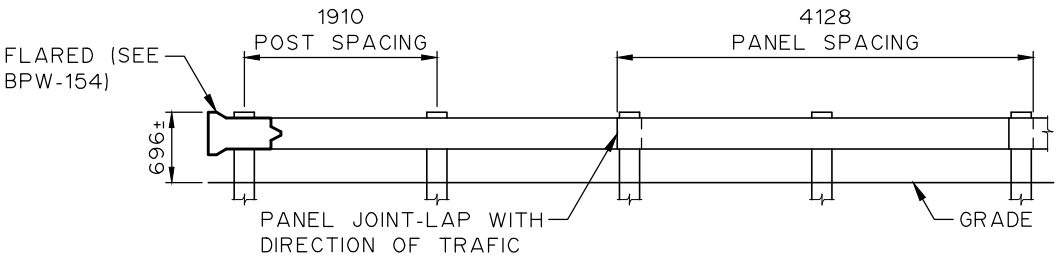
END SECTION



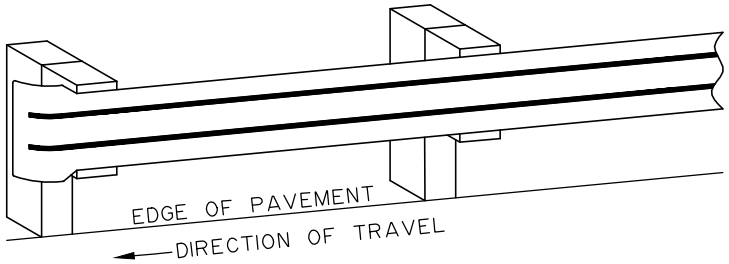
ELEVATION

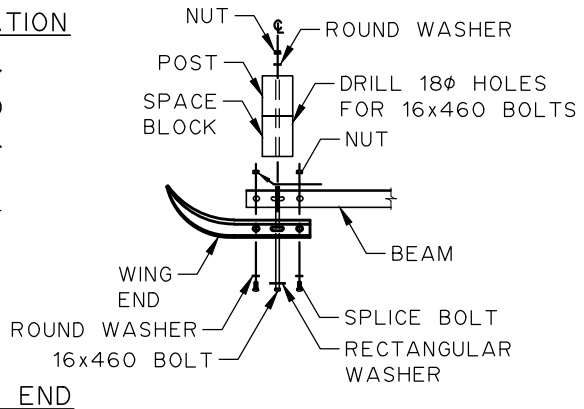


SINGLE RAIL



TYPICAL ELEVATION





TERMINAL END
TREATMENT-WING END

NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. WHERE GUIDE RAIL IS ADJACENT TO CURB, MOUNTING HEIGHT SHALL BE MEASURED:
   - 2.1. VERTICALLY AT FACE OF GUIDE RAIL WHEN FACE OF GUIDE RAIL IS MORE THAN 300 BEYOND GUTTER LINE.
   - 2.2. VERTICALLY AT GUTTER LINE WHEN FACE OF GUIDE IS 300 OR LESS BEYOND GUTTER LINE.
3. WOODEN POSTS AND OFFSET BLOCKS: SIZE 150x200 NOMINAL, TOPS TO HAVE 25 CHAMFER.
4. WOODEN POSTS TO BE SET BY INSTRUMENT FOR ALIGNMENT AND GRADE, WITH TOPS PARALLEL TO PAVEMENT GRADE.
5. TO PRODUCE ON EVEN ALIGNMENT, SHIM BEAM ELEMENT WHERE NECESSARY.
6. THIS DRAWING TO BE READ IN CONJUNCTION WITH BPW-216.

GUIDERAIL-INSTALLATION HARDWARE DETAILS		
HARDWARE	DESCRIPTION	LOCATION
POST BOLT	ROUNDED HEAD, OVAL SHOULDER 16ϕ. LENGTHS 460. GALVANIZED	CONNECTION OF GUIDE RAIL AND CHANNEL TO WOOD.
SPLICE BOLT	SEE RAIL DETAIL DRAWING. 16ϕ LENGTHS-32, 38 AND 51. GALVANIZED	GUIDE RAIL AND CHANNEL SPLICES, END SECTIONS.
NUTS	HEXAGONAL FLAT ON BOTH SIDES 16ϕ. GALVANIZED	POST AND SPLICE BOLTS.
RECTANGULAR WASHER	76x54x4.7 THICK 25x18 SLOT, GALVANIZED.	WITH ALL NUTS EXCEPT FOR SPLICES AND ON GUIDE RAIL FACE.

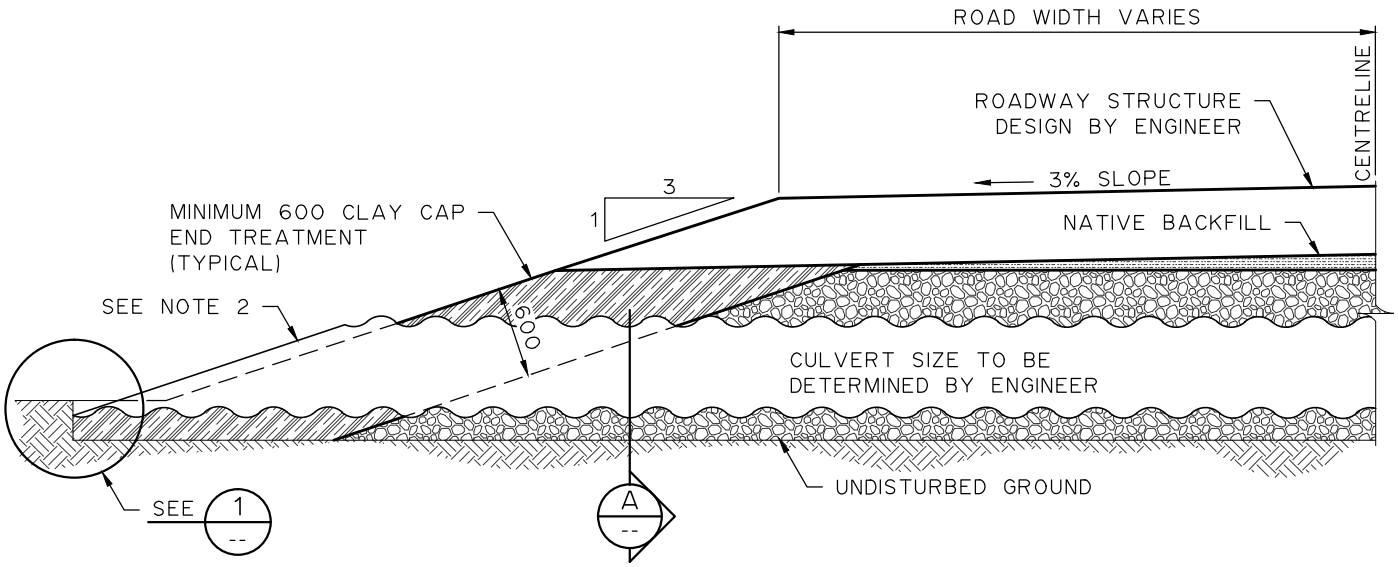
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

CITY OF BROOKS

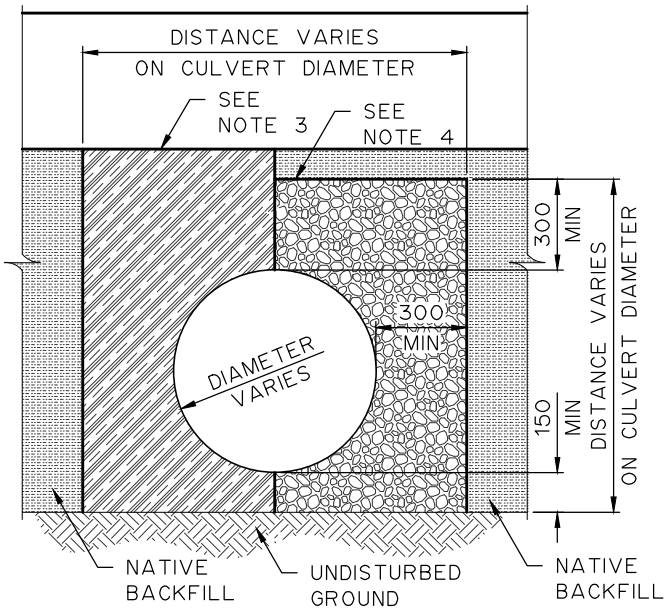
STEEL BEAM GUIDE RAIL ASSEMBLY DETAIL SINGLE RAIL

DWG. No. BPW-217 Rev. 0



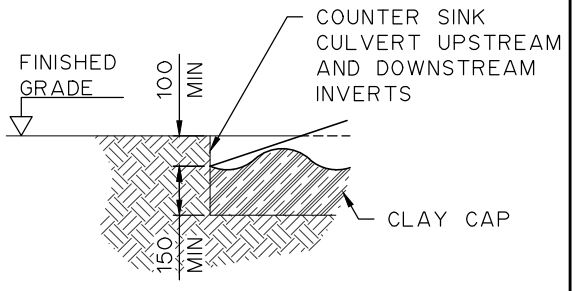
ROAD SECTION ELEVATION

NOTES:
1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. BEVEL CSP CULVERT AT 3:1. LENGTHS, DIAMETERS, RIP RAP SIZING, AND EROSION CONTROL MEASURES TO BE DETERMINED BY ENGINEER.
3. 600 CLAY END TREATMENT COMPACTED A MINIMUM OF 98% STANDARD PROCTOR DENSITY AT ±2% OF OPTIMUM MOISTURE CONTENT.
4. GRANULAR FILL AFTER CLAY END TREATMENT COMPACTED A MINIMUM OF 98% STANDARD PROCTOR DENSITY AT ±2% OF OPTIMUM MOISTURE CONTENT.



BACKFILL AND BEDDING

A --



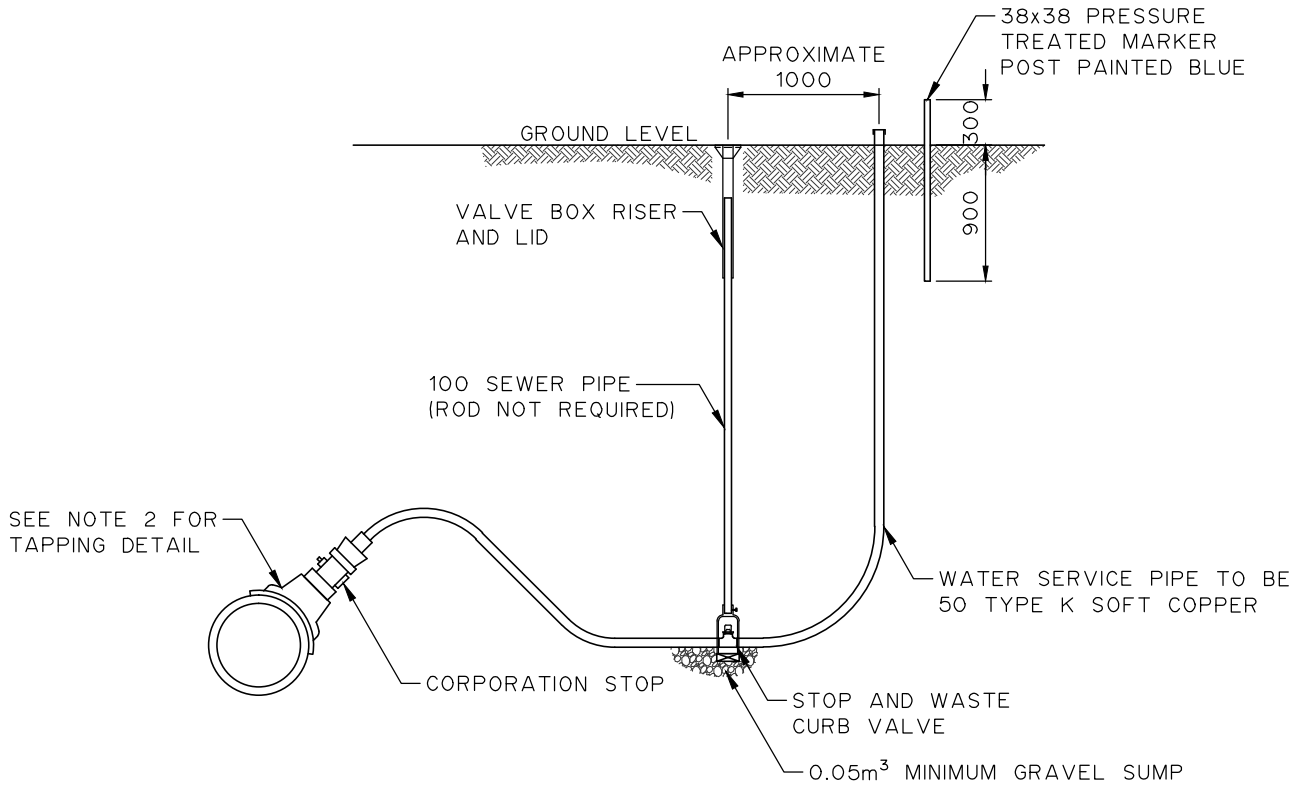
CULVERT COUNTER SINK DETAIL

1 --

											DATE: JANUARY 2012	CITY OF BROOKS	CULVERT INSTALLATION
											SCALE: NTS		
											DRAWN: C.W.H.		
No.	YY	MM	DD	DATE	REVISION DESCRIPTION					BY	APPROVED:		DWG. No. BPW-218 Rev. 0

NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. INVERTED KEY TYPE CURB VALVES NOT ACCEPTABLE.
3. SERVICE SADDLE SHALL BE USED FOR THE CONNECTION OF SERVICE LINE TO WATER MAIN. SERVICE SADDLE SHALL BE ROBAR 2706 OR APPROVED EQUAL.



No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

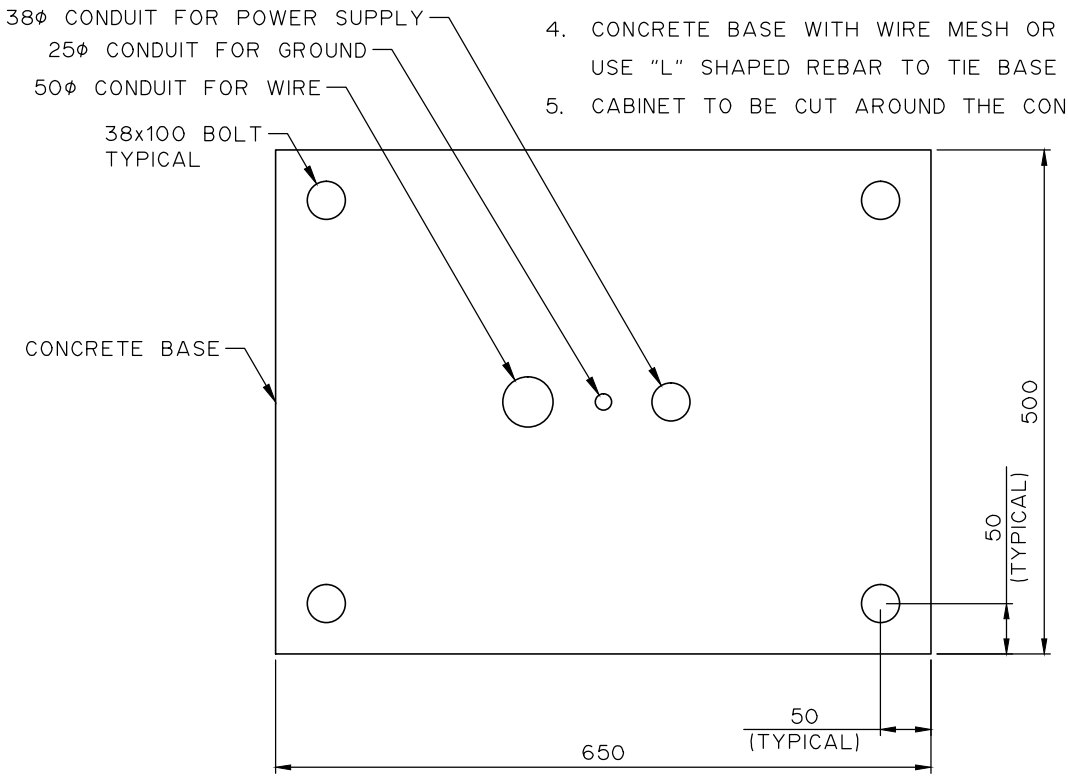
CITY OF BROOKS

STANDARD IRRIGATION SERVICE CONNECTION

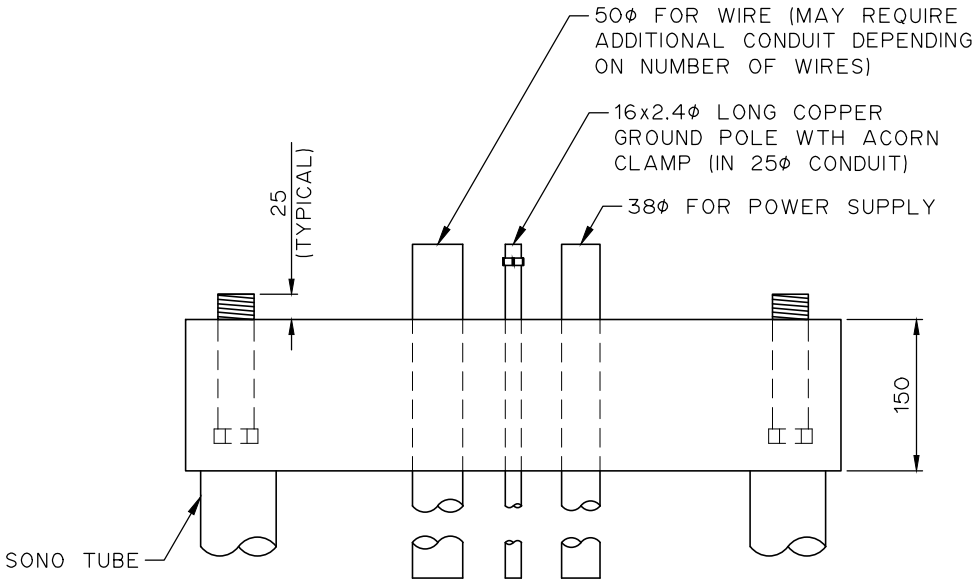
DWG. No. BPW-300 Rev. 0

NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. SIZE OF CABINET:
   WIDTH 450
   HEIGHT 600
   DEPTH 300
3. CONSTRUCT WITH 2-150ϕ SONO TUBES 600 IN DEPTH.
4. CONCRETE BASE WITH WIRE MESH OR REBAR IN CONCRETE. USE "L" SHAPED REBAR TO TIE BASE AND SONO TUBES.
5. CABINET TO BE CUT AROUND THE CONDUIT.



PLAN



ELEVATION

No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

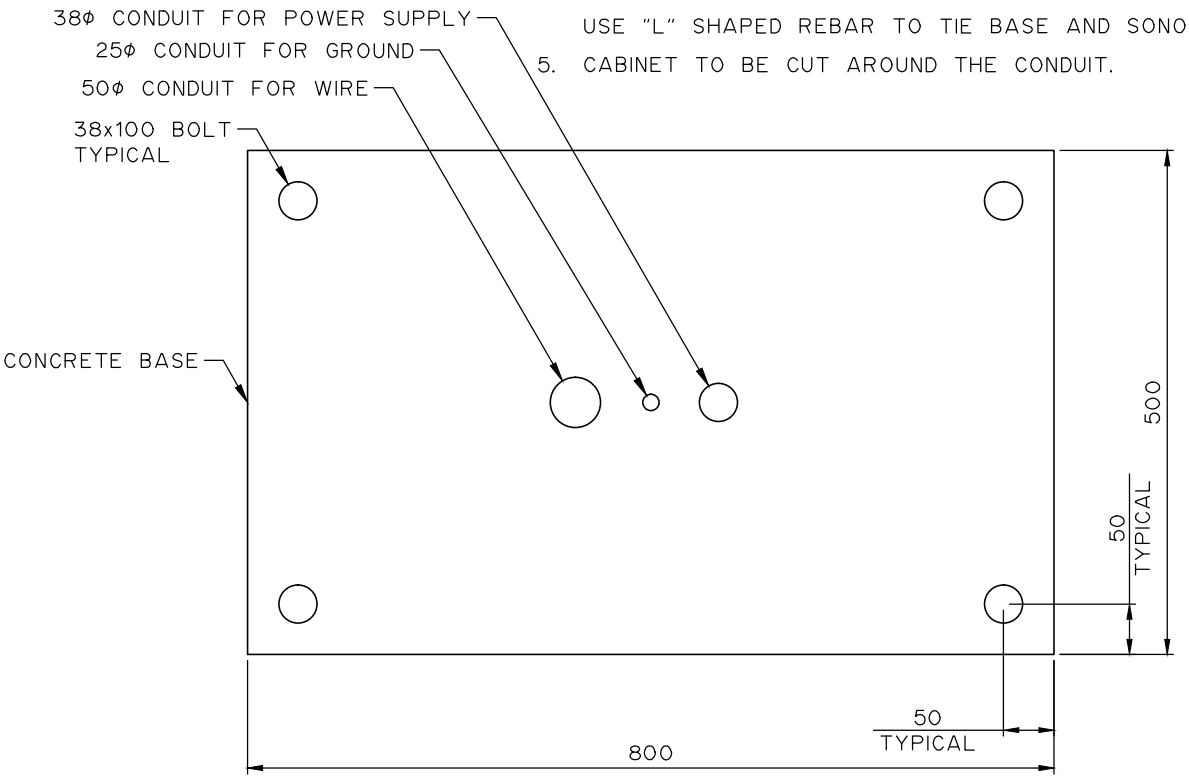
CITY OF BROOKS

CONCRETE PAD FOR STANDARD OR SINGLE IRRIGATION CONTROLLER CABINET

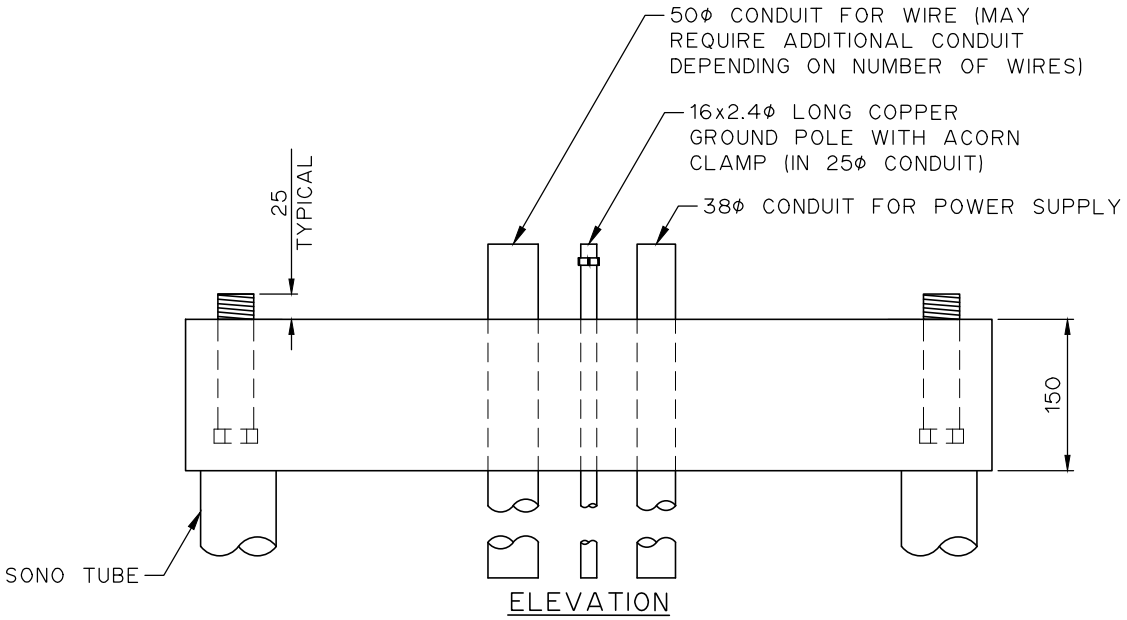
DWG. No. BPW-301 Rev. 0

NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. SIZE OF CABINET:
   WIDTH 600
   HEIGHT 600
   DEPTH 300
3. CONSTRUCT WITH 2-150ϕ SONO TUBES 900 IN DEPTH.
4. CONCRETE BASE WITH WIRE MESH OR REBAR IN CONCRETE. USE "L" SHAPED REBAR TO TIE BASE AND SONO TUBES.
5. CABINET TO BE CUT AROUND THE CONDUIT.



PLAN



ELEVATION

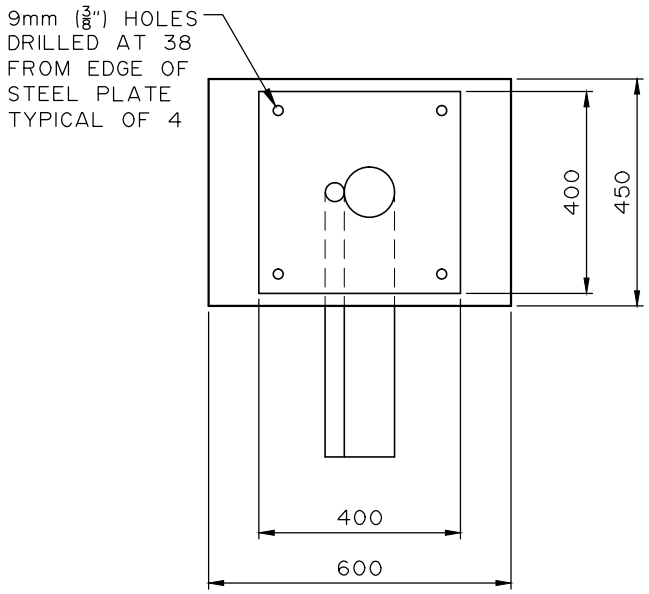
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

CITY OF BROOKS

CONCRETE PAD FOR DOUBLE IRRIGATION CONTROLLER CABINET

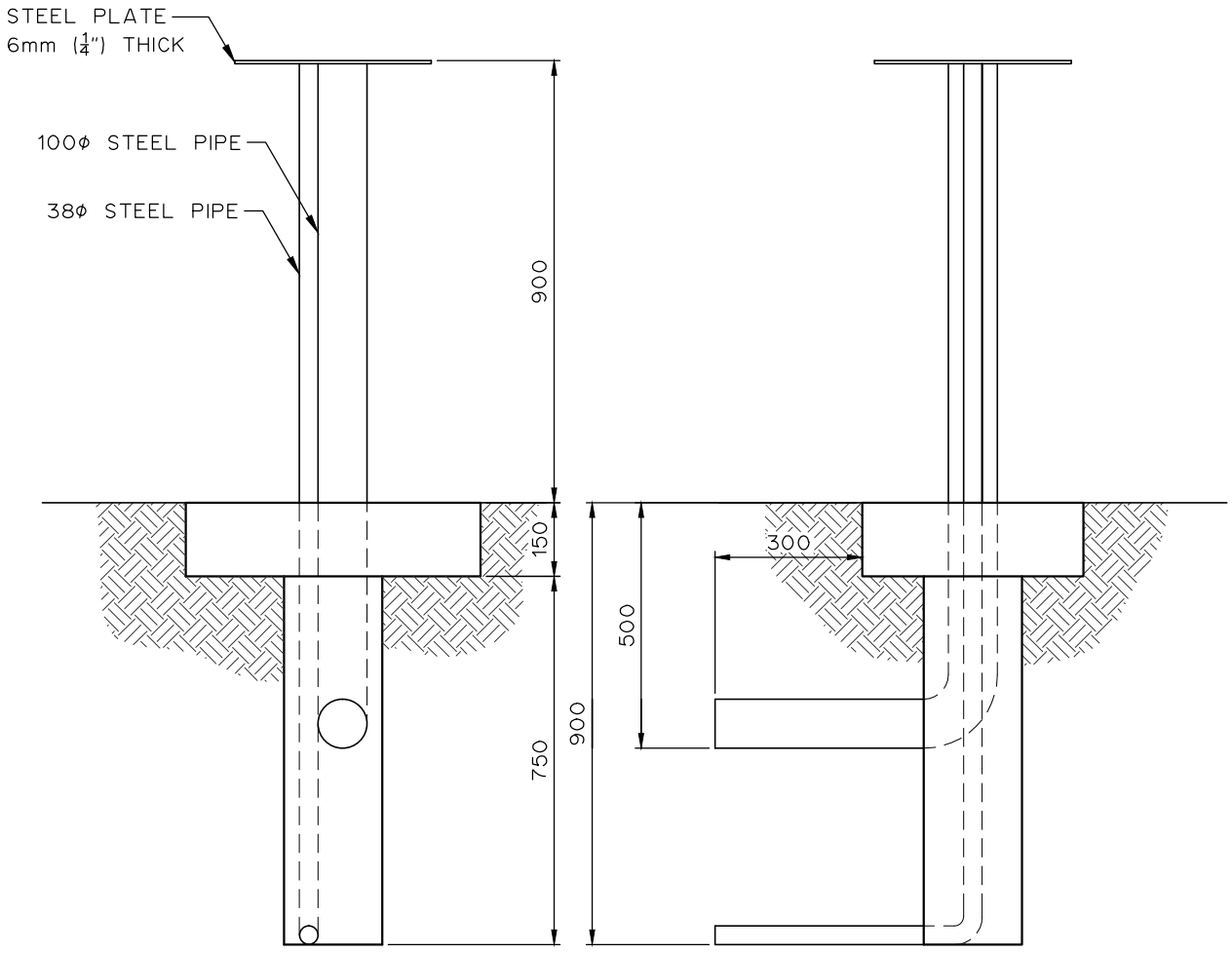
DWG. No. BPW-302 Rev. 0



TOP VIEW

NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. 100ϕ STEEL PIPE TO BE USED FOR IRRIGATION WIRING.
3. 50ϕ STEEL PIPE TO BE USED ONLY FOR ELECTRIC POWER SUPPLY CABLE.
4. TACK WELD BOTH 100 AND 38 PIPES TOGETHER.
5. PEDESTAL POWDER COATED METAL PARK GREEN IN COLOUR.



FRONT VIEW

SIDE VIEW

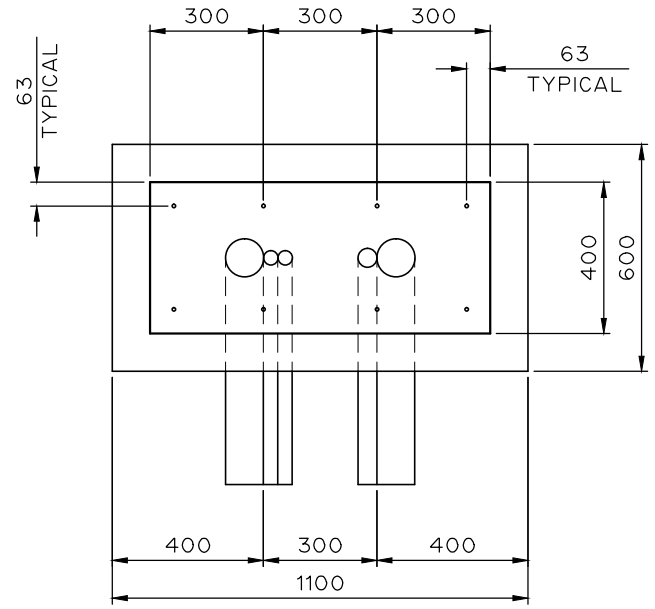
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

CITY OF BROOKS

SMALL COMMUNICATION CABINET PEDESTAL

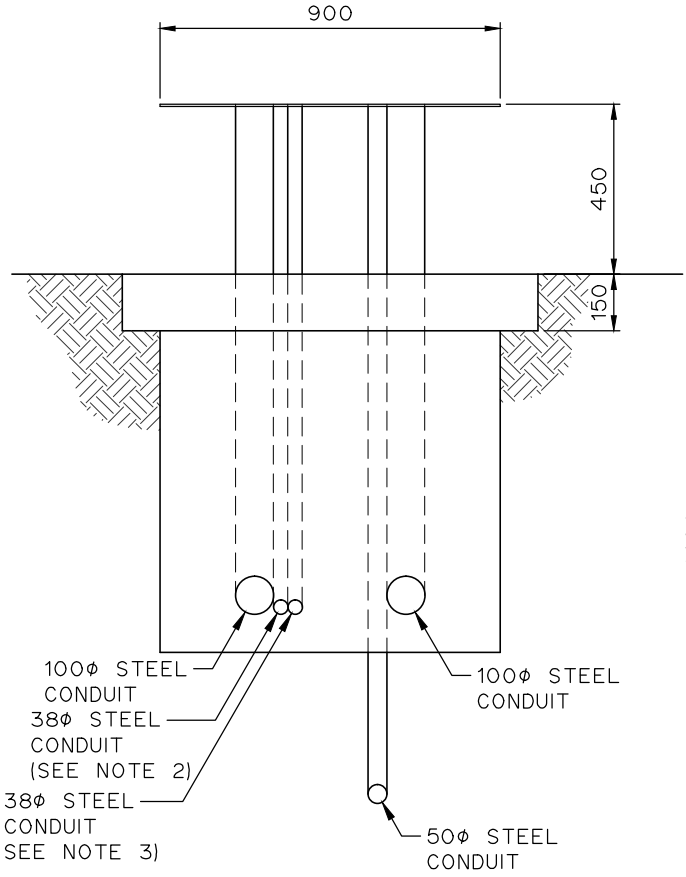
DWG. No. BPW-303 Rev. 0



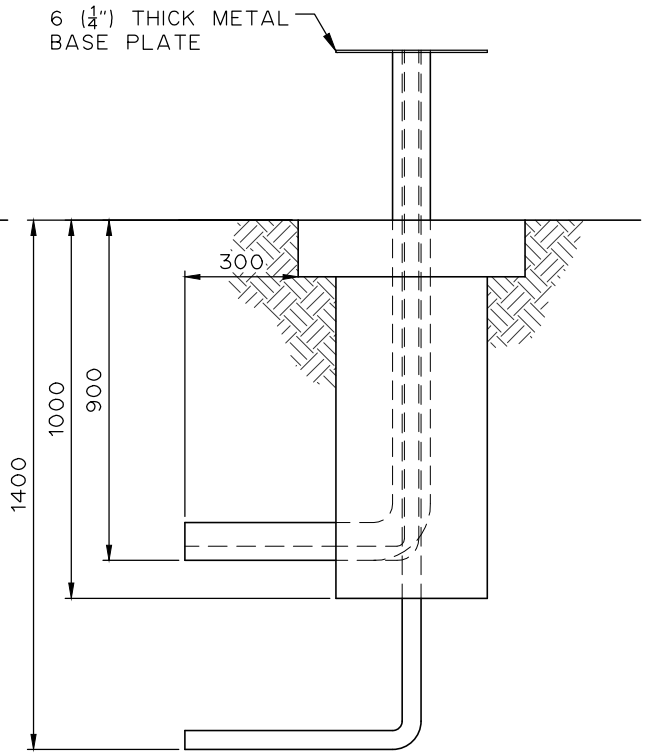
TOP VIEW

NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. 100ϕ STEEL CONDUITS FOR IRRIGATION ZONE VALVE AND HYDROMETER WIRE.
3. 38ϕ STEEL CONDUIT FOR COMMUNICATION CABLE.
4. 38ϕ STEEL CONDUIT FOR GROUNDING WIRE (FROM ROD AT SIDE OF PAD)
5. 50ϕ STEEL CONDUIT FOR POWER SUPPLY.
6. PEDESTAL POWDER COATED METAL, PARK GREEN IN COLOUR.

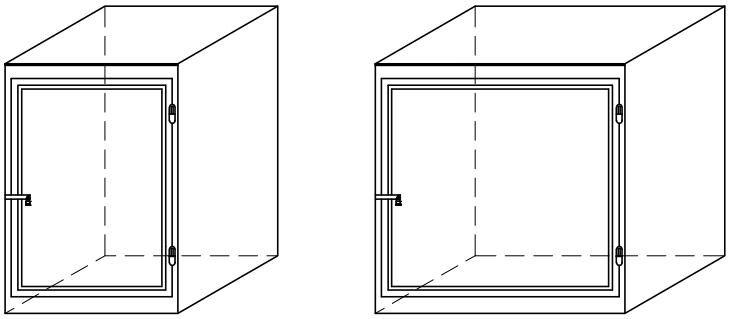


FRONT VIEW



SIDE VIEW

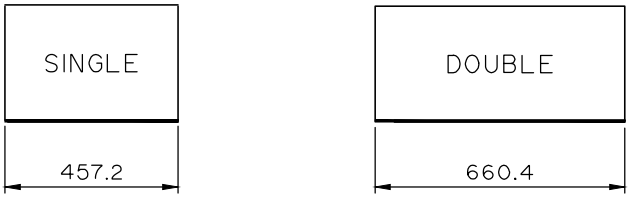
							DATE: JANUARY 2012	CITY OF BROOKS	LARGE COMMUNICATION CABINET PEDESTAL
							SCALE: NTS		
							DRAWN: R.W.		
No.	YY	MM	DD	REVISION DESCRIPTION		BY	APPROVED:		DWG. No. BPW-304 Rev. 0
	DATE								



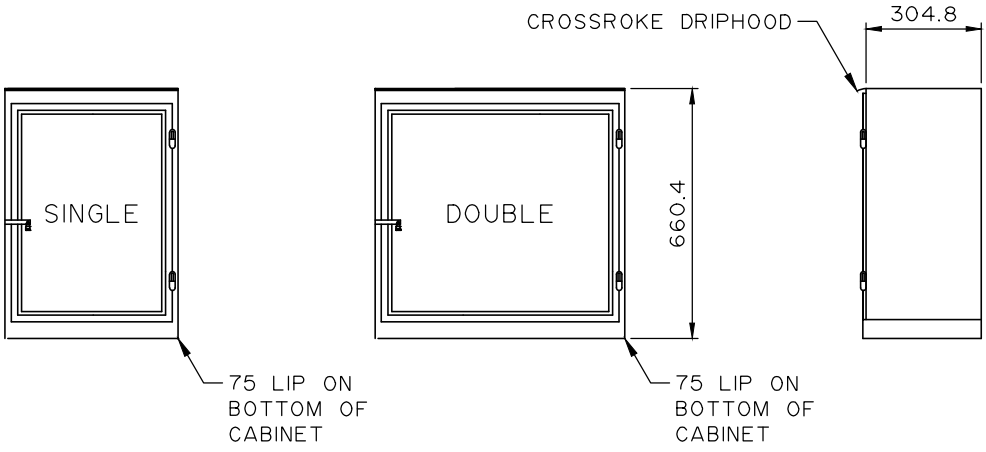
ISOMETRIC VIEW

NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. A1103 PARK GREEN POWDER COATED METAL CABINET.
3. CABINET SHALL BE FITTED WITH SINGLE DOOR MOUNTED ON PIN HINGES.
4. CABINET TO BE WEATHERPROOF AND LOCKABLE. (LOCK TO BE SUPPLIED)
5. CLOSURE BRACKETS, HINGE ATTACHMENTS AND PLYWOOD MOUNTS ARE TO BE WELDED FROM THE INSIDE.
6. EXTERIOR OF CABINET SHALL BE SMOOTH AND ROUNDED WITH NO PROTRUSIONS OR SHARP EDGES EVIDENT.
7. ANY POINT OF ENTRY INTO CABINET WALL SHALL BE SEALED WITH WATERPROOF SEALER.
8. BUILDING MOUNT 14 GAUGE STEEL CONSTRUCTION.
9. SUGGESTED MANUFACTURER ACE MANUFACTURING METALS LTD.
10. 19.05 PLYWOOD BACKPAN



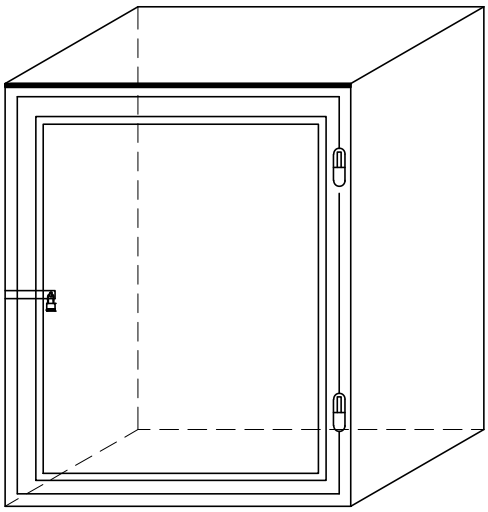
TOP VIEW



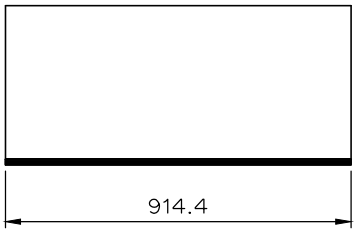
FRONT VIEW

SIDE VIEW
SINGLE AND DOUBLE

							DATE: JANUARY 2012	CITY OF BROOKS	SMALL IRRIGATION COMMUNICATION CABINET
							SCALE: NTS		
							DRAWN: R.W.		
No.	YY	MM	DD	REVISION DESCRIPTION		BY	APPROVED:		DWG. No. BPW-305 Rev. 0
	DATE								



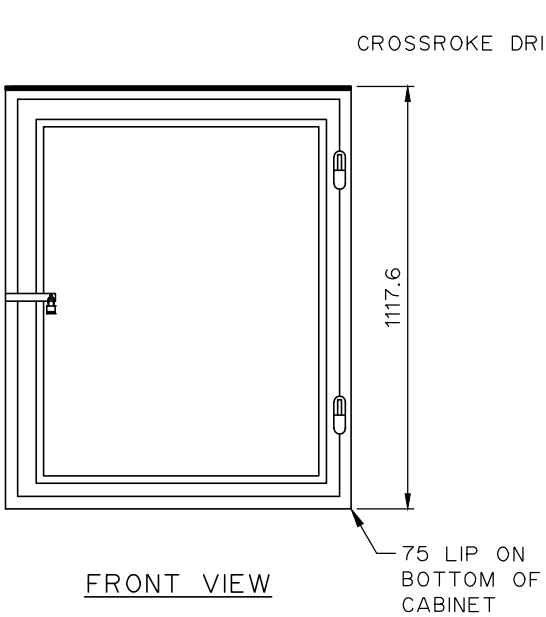
ISOMETRIC VIEW



TOP VIEW

NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. A1103 PARK GREEN POWDER COATED METAL CABINET.
3. CABINET SHALL BE FITTED WITH SINGLE DOOR MOUNTED ON PIN HINGES.
4. CABINET TO BE WEATHERPROOF AND LOCKABLE. (LOCK TO BE SUPPLIED)
5. CLOSURE BRACKETS, HINGE ATTACHMENTS AND PLYWOOD MOUNTS ARE TO BE WELDED FROM THE INSIDE.
6. EXTERIOR OF CABINET SHALL BE SMOOTH AND ROUNDED WITH NO PROTRUSIONS OR SHARP EDGES EVIDENT.
7. ANY POINT OF ENTRY INTO CABINET WALL SHALL BE SEALED WITH WATERPROOF SEALER.
8. BUILDING MOUNT 14 GAUGE STEEL CONSTRUCTION.
9. SUGGESTED MANUFACTURER ACE MANUFACTURING METALS LTD.
10. 19.05 PLYWOOD BACKPAN



FRONT VIEW

SIDE VIEW

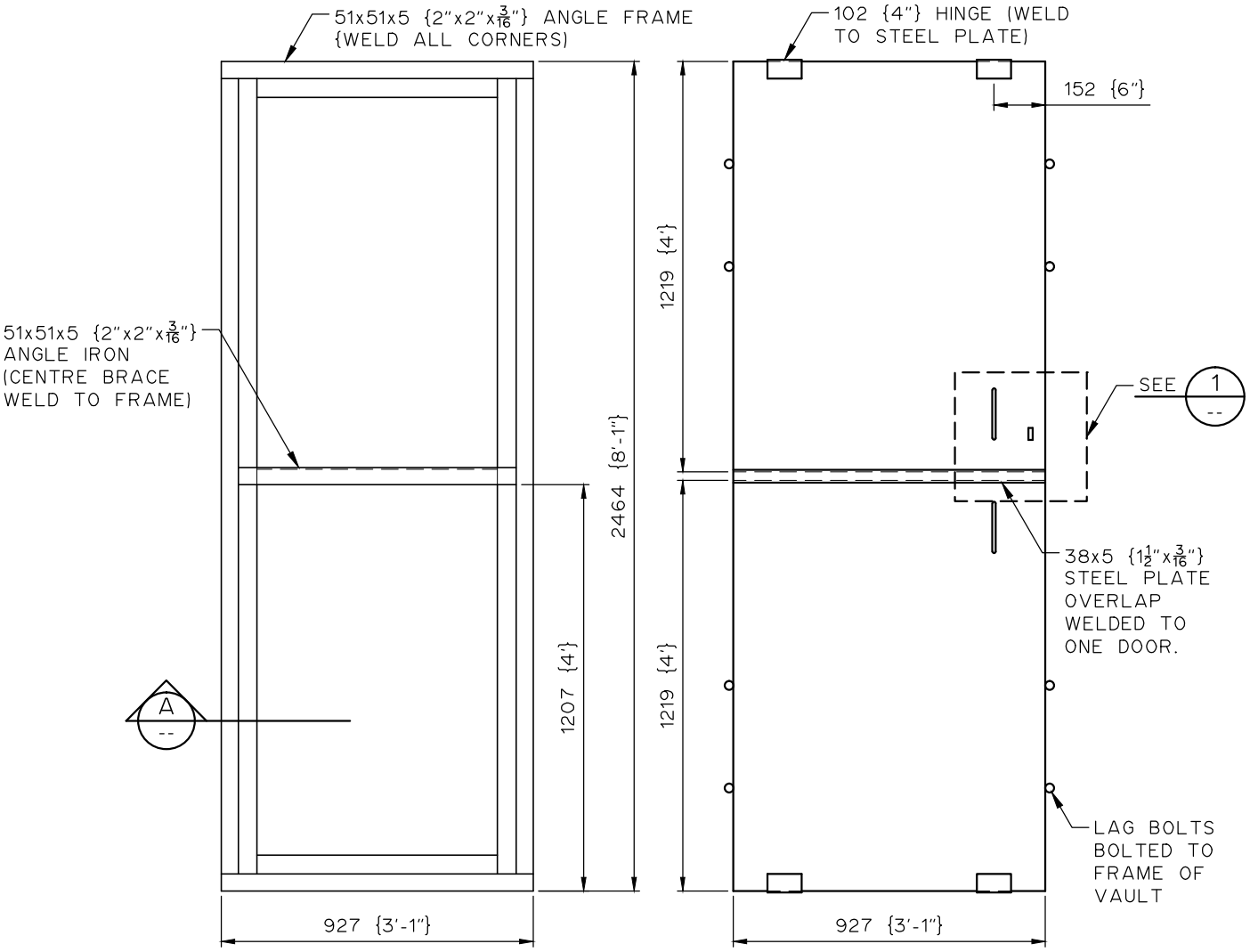
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

CITY OF BROOKS

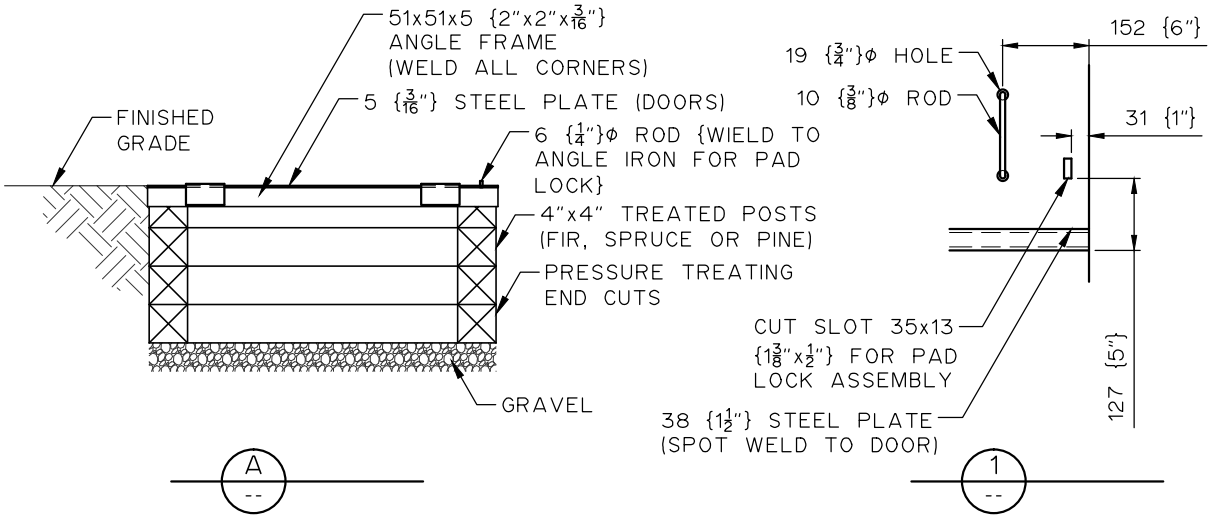
LARGE IRRIGATION COMMUNICATION CONTROLLER CABINET

DWG. No. BPW-306 Rev. 0



PLAN VIEW

DOOR DETAIL



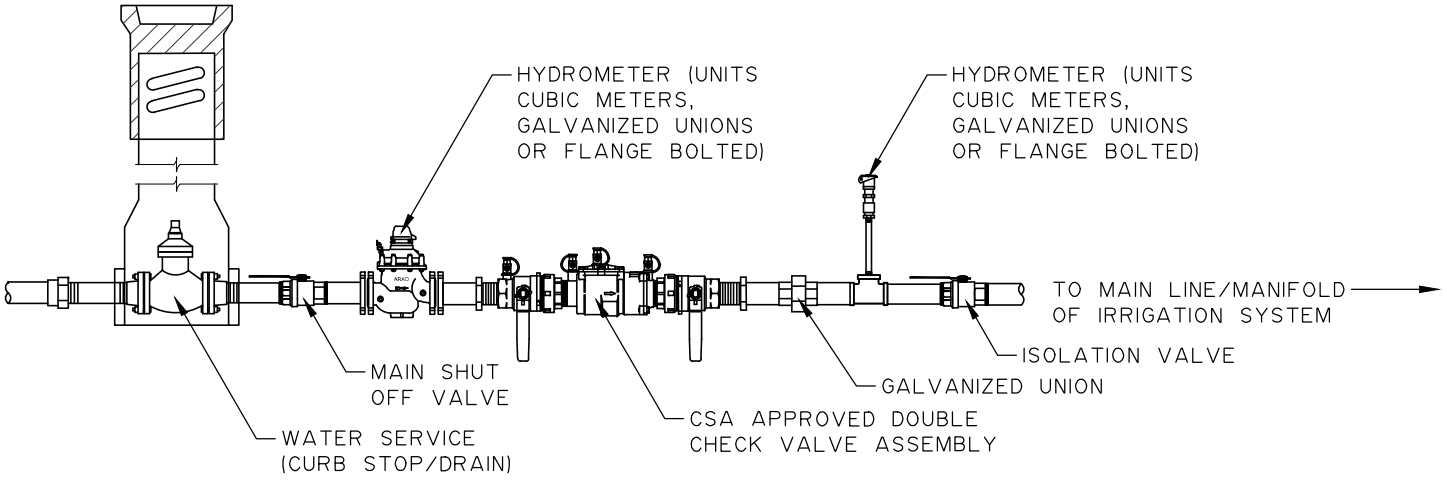
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

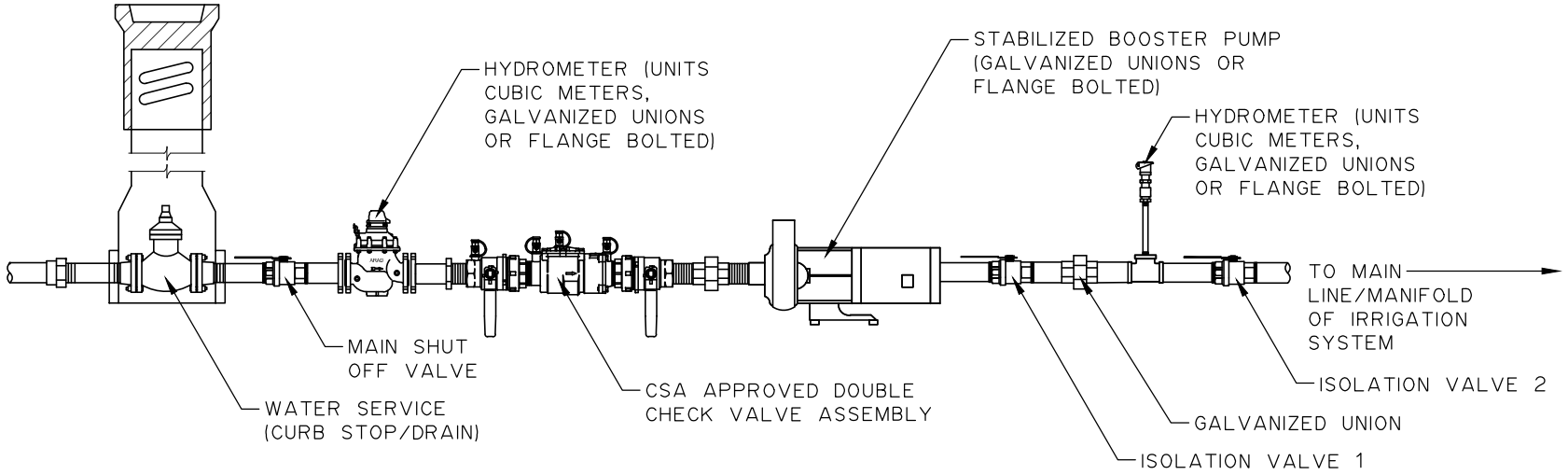
CITY OF BROOKS

VAULT DETAIL FOR IRRIGATION VALVE SYSTEM

DWG. No. BPW-307 Rev. 0



ALIGNMENT WITHOUT BOOSTER PUMP



ALIGNMENT WITH BOOSTER PUMP

No.	DATE YY MM DD	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

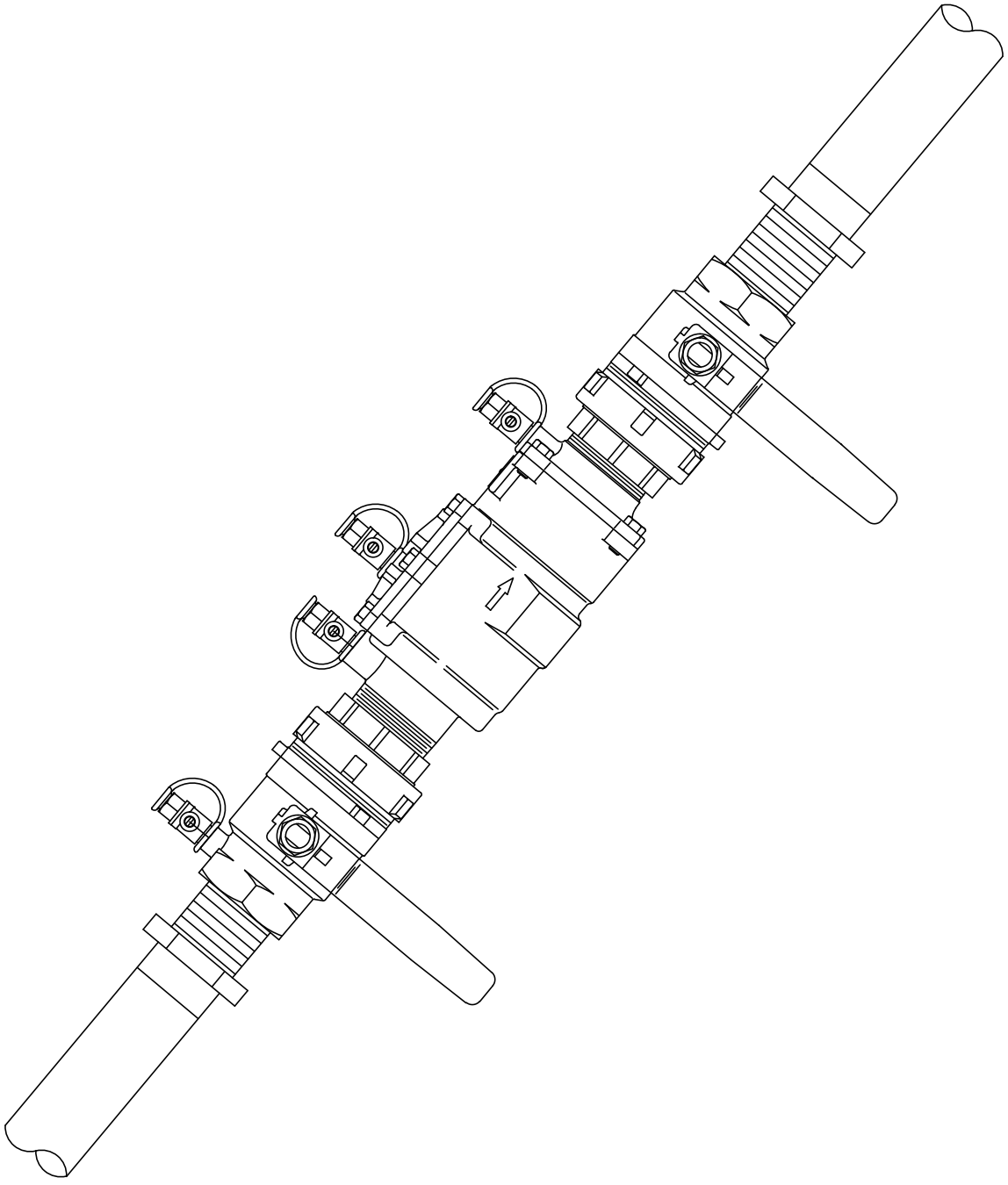
CITY OF BROOKS

IRRIGATION WATER SERVICE HARDWARE MATERIAL ALIGNMENT

DWG. No. BPW-308 Rev. 0

NOTES:

1. ALL DOUBLE CHECK VALVES SHALL BE FEBCO MODLE 805Y OR WATTS SERIES 007-QT.
2. EACH TEST COCK SHALL CONTAIN A PLASTIC PLUG TO KEEP DEBRIS OUT OF THE TEST COCKS.



No.	DATE (YY MM DD)	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

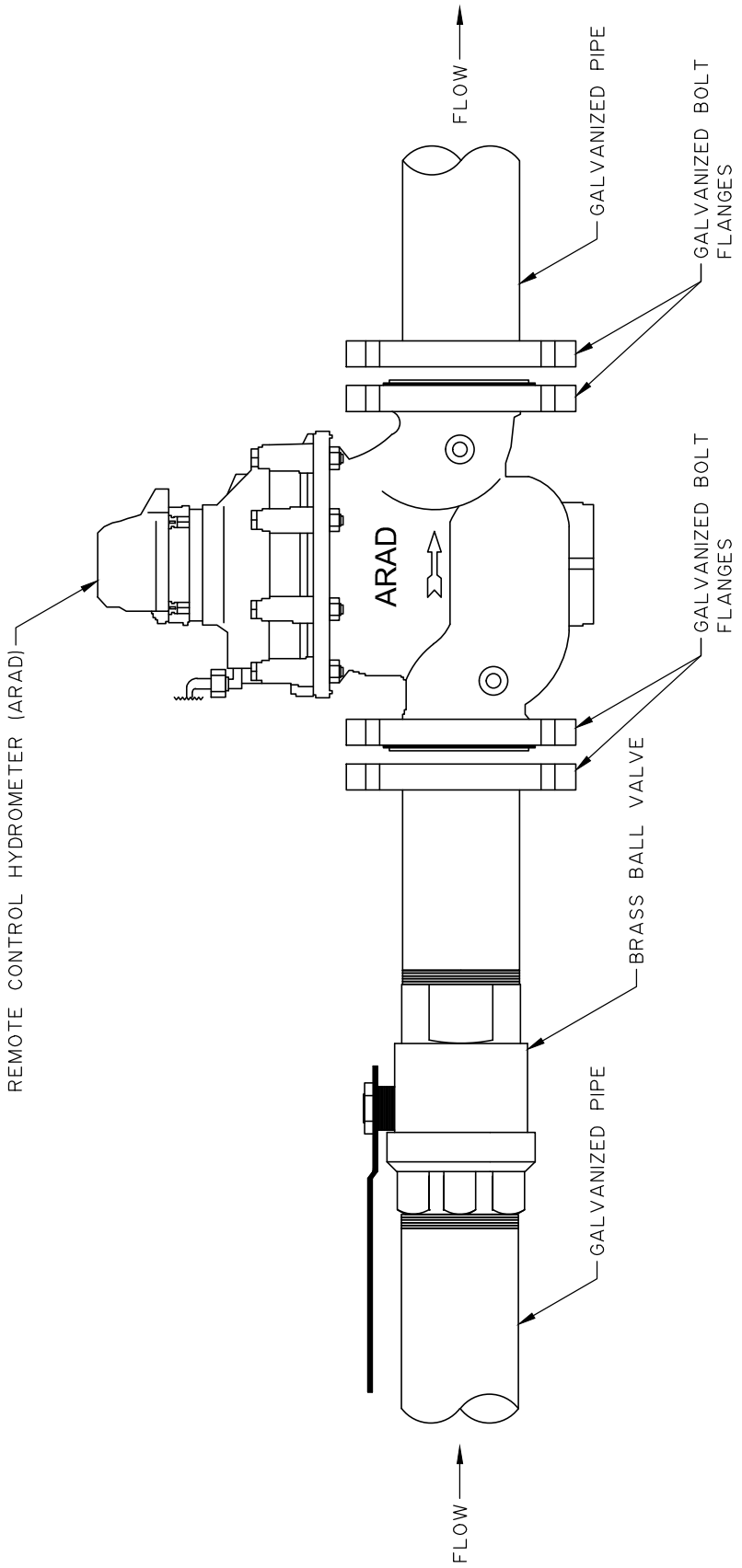
CITY OF BROOKS

IRRIGATION DOUBLE CHECK VALVE AND BALL VALVE

DWG. No. BPW-309 Rev. 0

NOTES:

1. BALL VALVE AND HYDROMETER TO BE THE SAME AS PIPE.



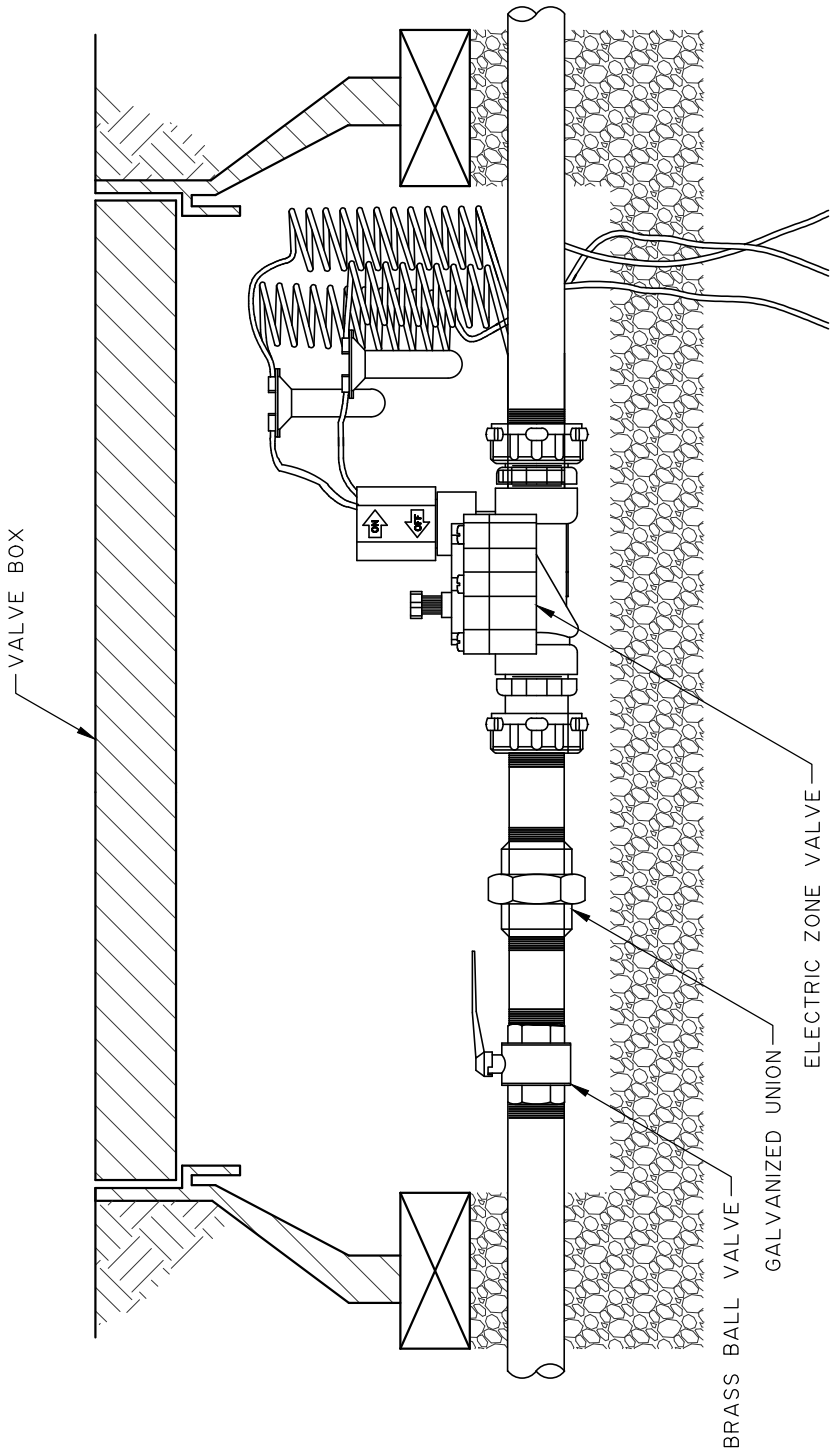
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

CITY OF BROOKS

IRRIGATION HYDROMETER AND BALL VALVE

DWG. No. BPW-310 Rev. 0



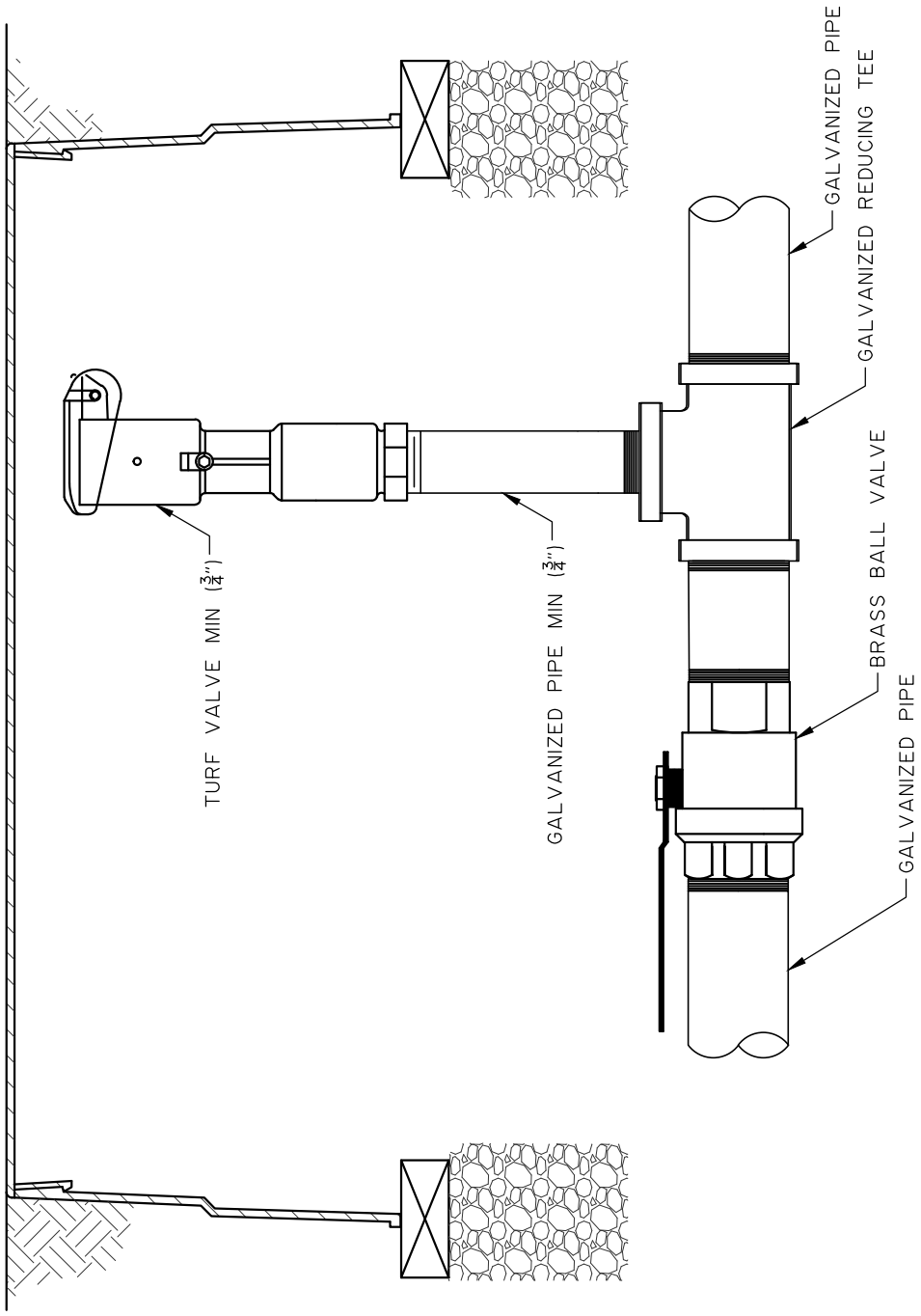
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

CITY OF BROOKS

IRRIGATION HYDROMETER AND BALL VALVE

DWG. No. BPW-311 Rev. 0



No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

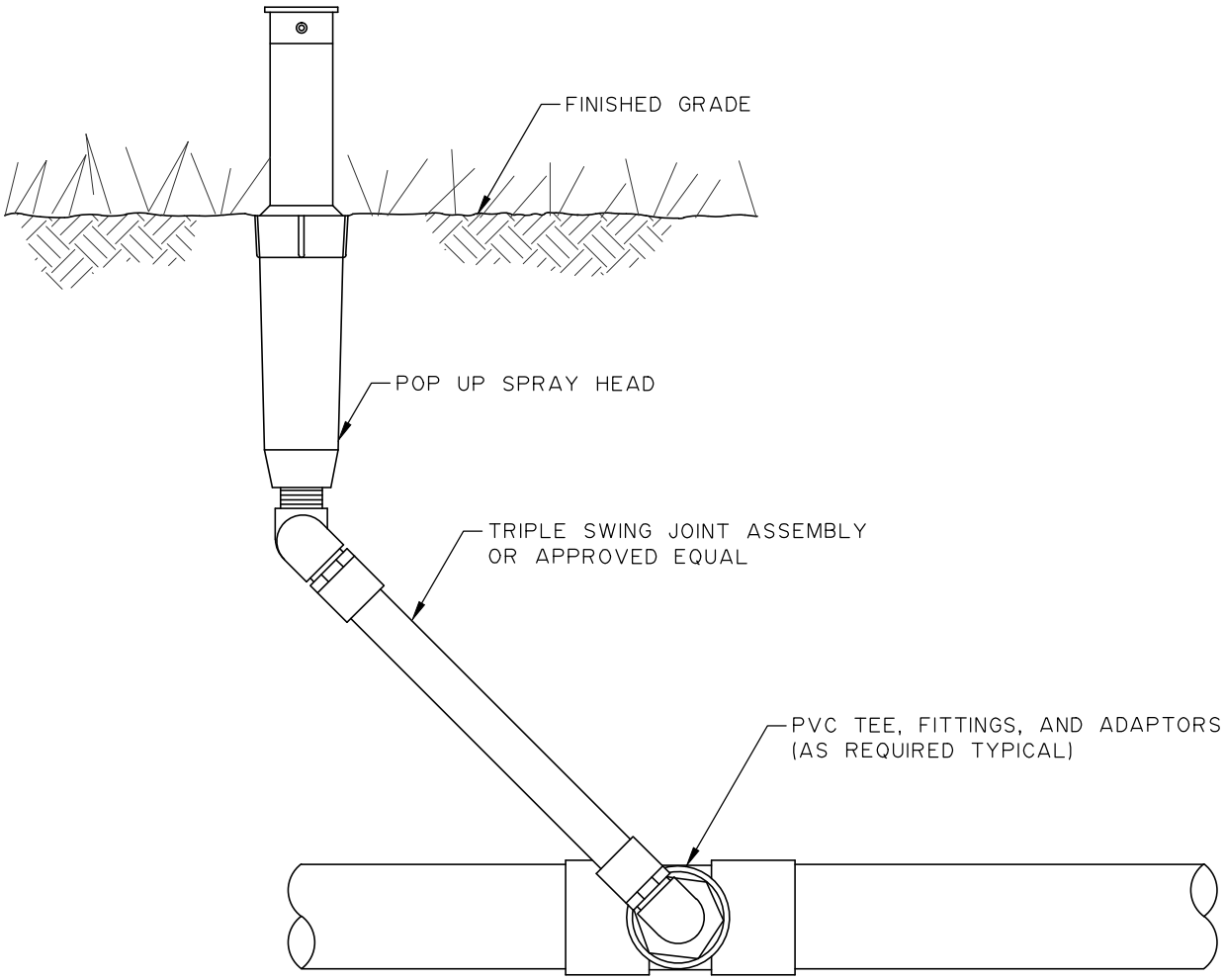
CITY OF BROOKS

IRRIGATION BALL VALVE AND QUICK COUPLER

DWG. No. BPW-312 Rev. 0

NOTES:

1. USE TEFLON TAPE ON ALL THREADED FITTINGS



No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

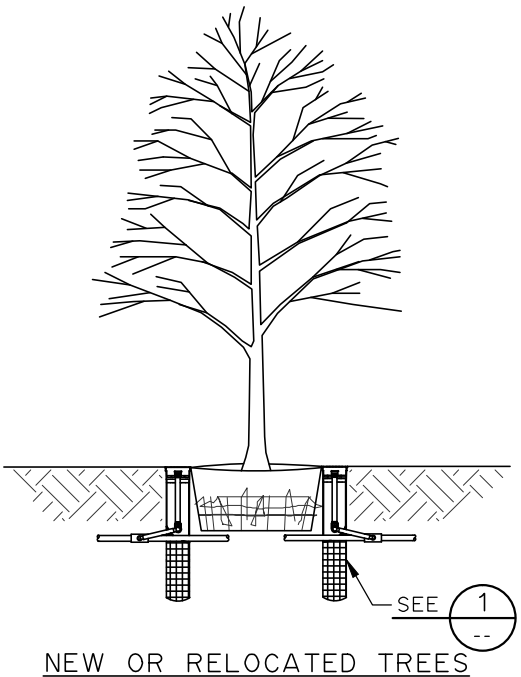
CITY OF BROOKS

IRRIGATION SWING JOINT ASSEMBLY

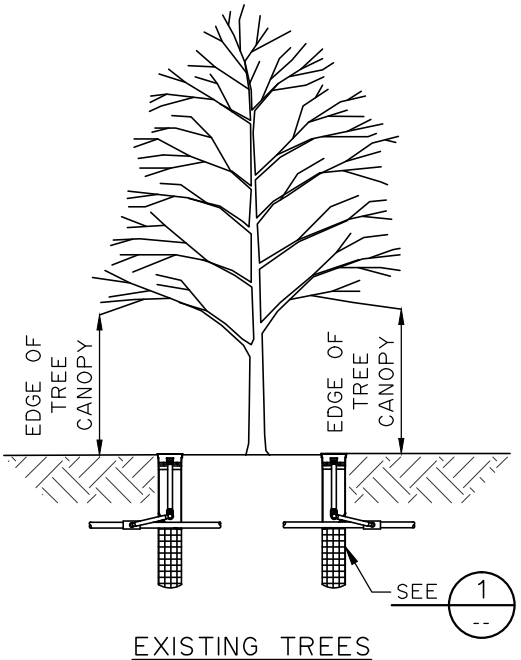
DWG. No. BPW-313 Rev. 0

NOTES:

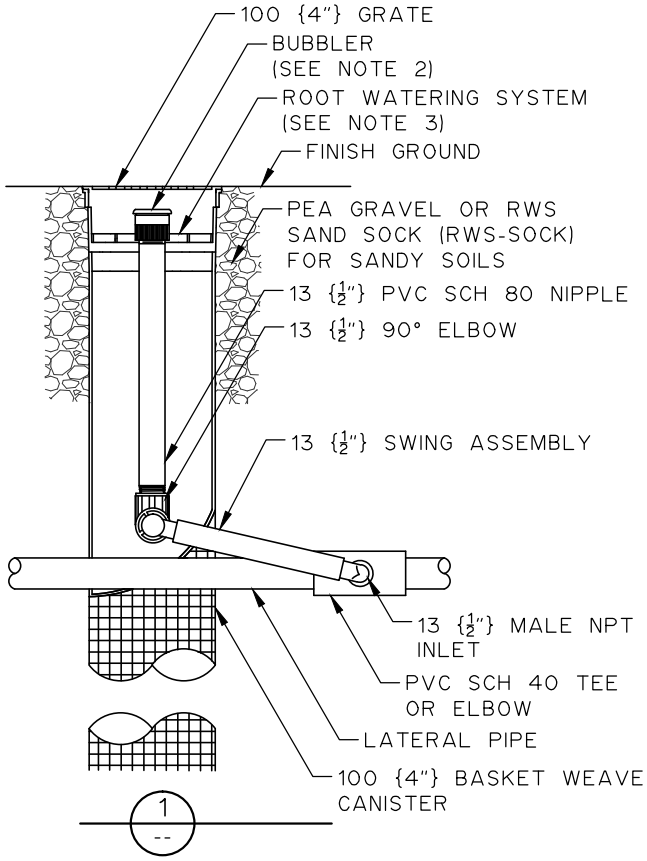
1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. BUBBLER: RAIN BIRD 1402 0.50GPM
3. ROOT WATERING SYSTEM: RAIN BIRD RWS-BG02 (INCLUDES 1402 0.50GPM BUBBLER WITH RISER, GRATE, SWING ASSEMBLY, 13 {½"} MALE NPT INLET, AND BASKET CANISTER)



NEW OR RELOCATED TREES



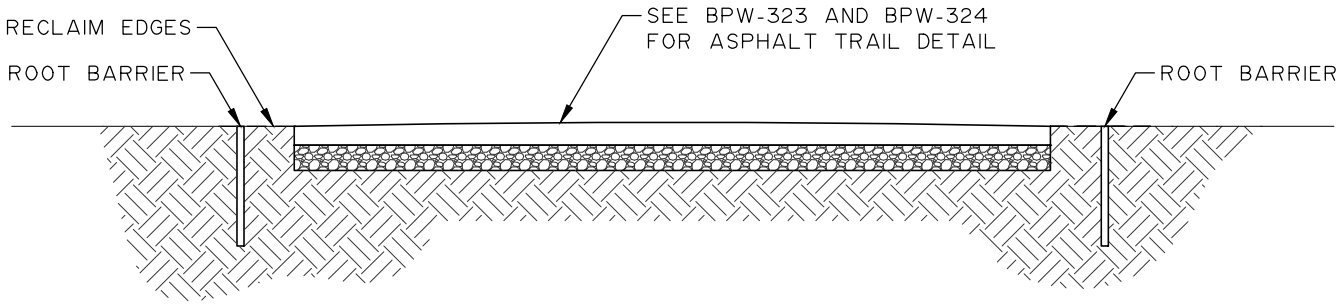
EXISTING TREES



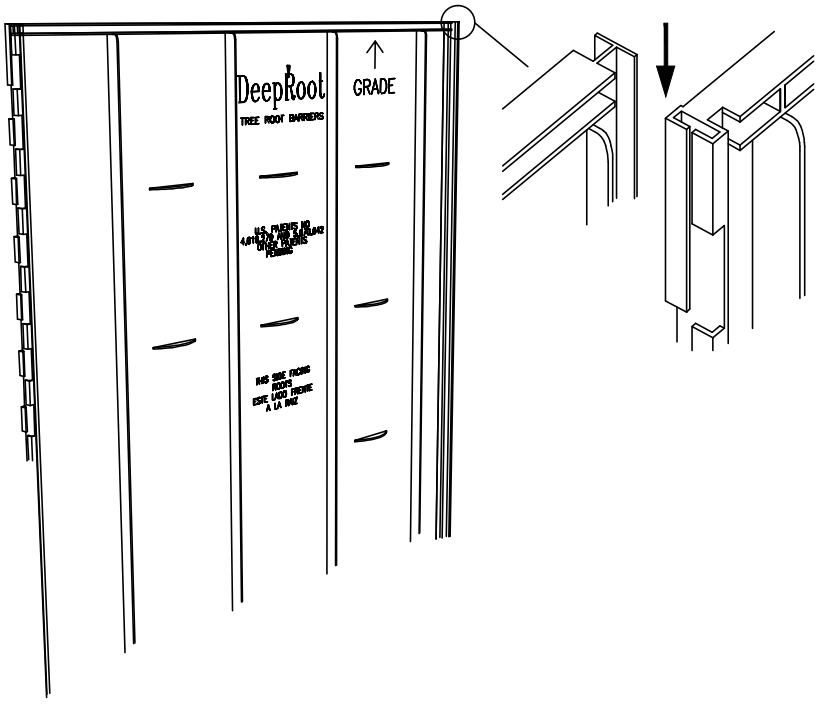
							DATE: JANUARY 2012	CITY OF BROOKS	IRRIGATION ROOT WATERING SYSTEM (RAINBIRD RWS SPRINKLER)		
							SCALE: NTS				
							DRAWN: R.W.				
No.	YY	MM	DD	REVISION DESCRIPTION	BY		APPROVED:		DWG. No. BPW-314	Rev.	0
	DATE										

NOTES:

1. SITE CONDITIONS MAY WARRANT THE USE OF GEO-GRID. DEPTH OF ROOT BARRIER VARIES ACCORDING TO PLANT VARIETIES AND MANUFACTURER'S RECOMMENDATIONS.



ELEVATION OF ROOT BARRIER



ISOMETRIC OF ROOT BARRIER

No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

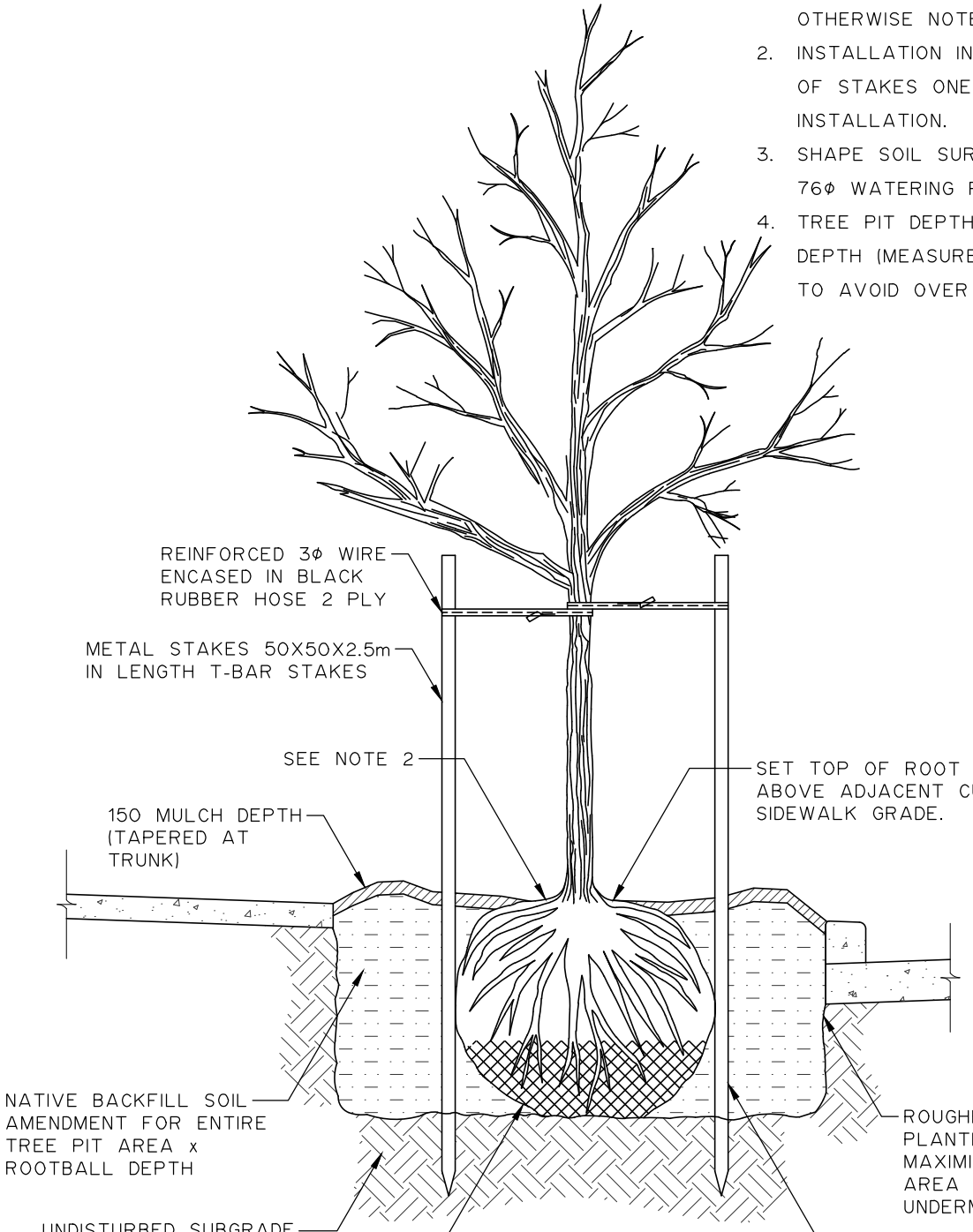
CITY OF BROOKS

ROOT BARRIER (DEEPROOT)

DWG. No. BPW-315 Rev. 0

NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. INSTALLATION INCLUDES REMOVAL OF STAKES ONE YEAR AFTER INSTALLATION.
3. SHAPE SOIL SURFACE TO PROVIDE 76ϕ WATERING RING.
4. TREE PIT DEPTH = ROOTBALL DEPTH (MEASURE BEFORE DIGGING TO AVOID OVER EXCAVATION.



No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

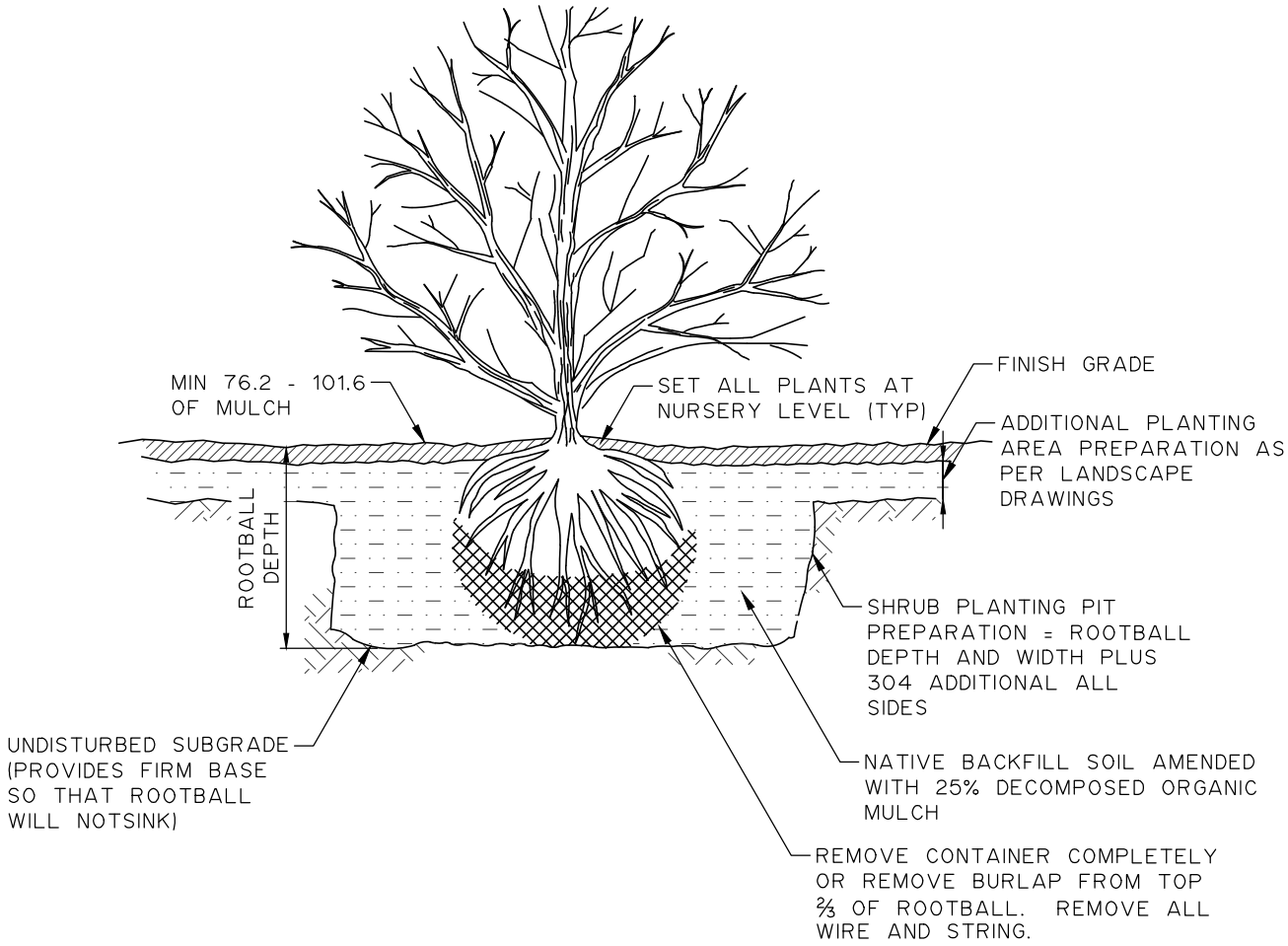
CITY OF BROOKS

TREE SUPPORT METHOD USING TREE STAKES

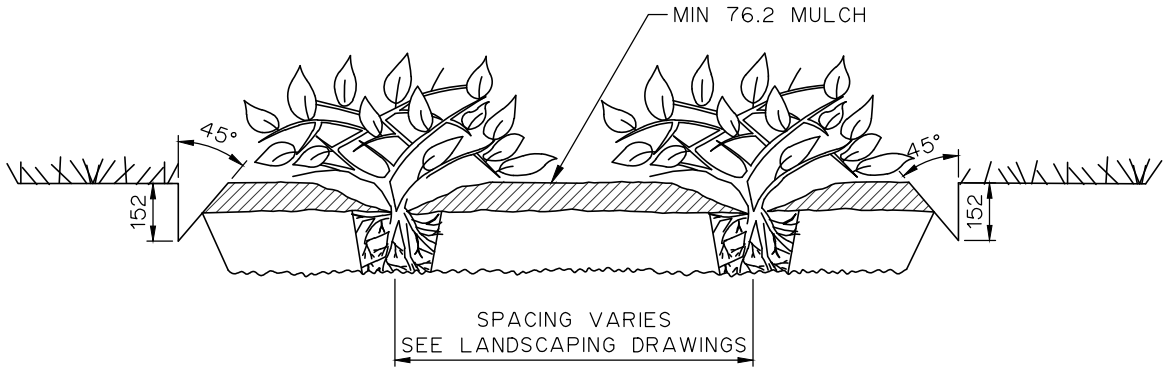
DWG. No. BPW-316 Rev. 0

NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.



TYPICAL B AND B OR CONTAINERIZED SHRUB



TYPICAL GROUND COVER PLANTED AT NURSERY LEVEL

No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

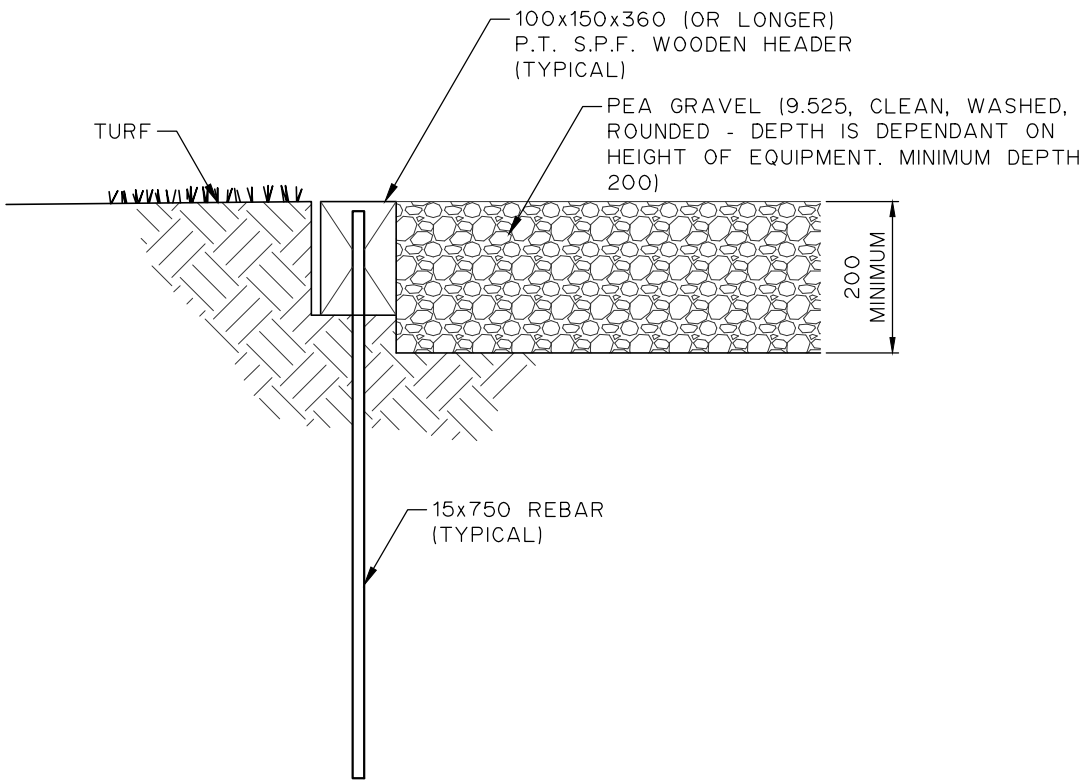
CITY OF BROOKS

SHRUB BED PLANTING

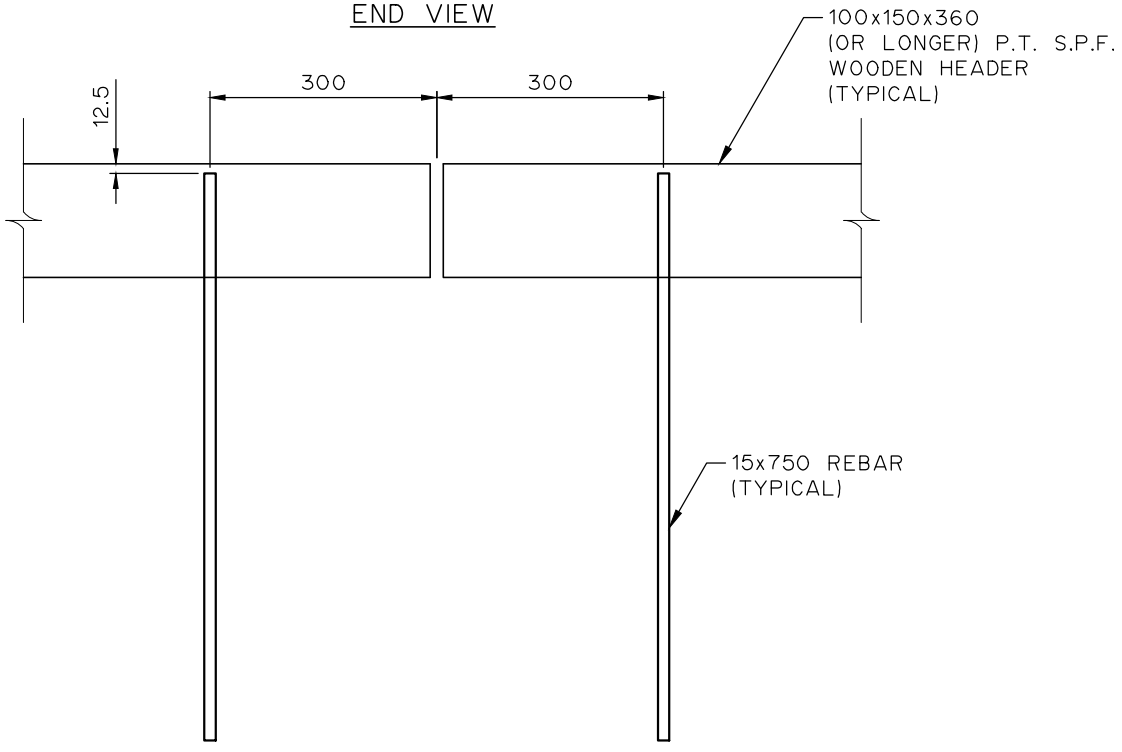
DWG. No. BPW-317 Rev. 0

NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.



END VIEW



ELEVATION VIEW

No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

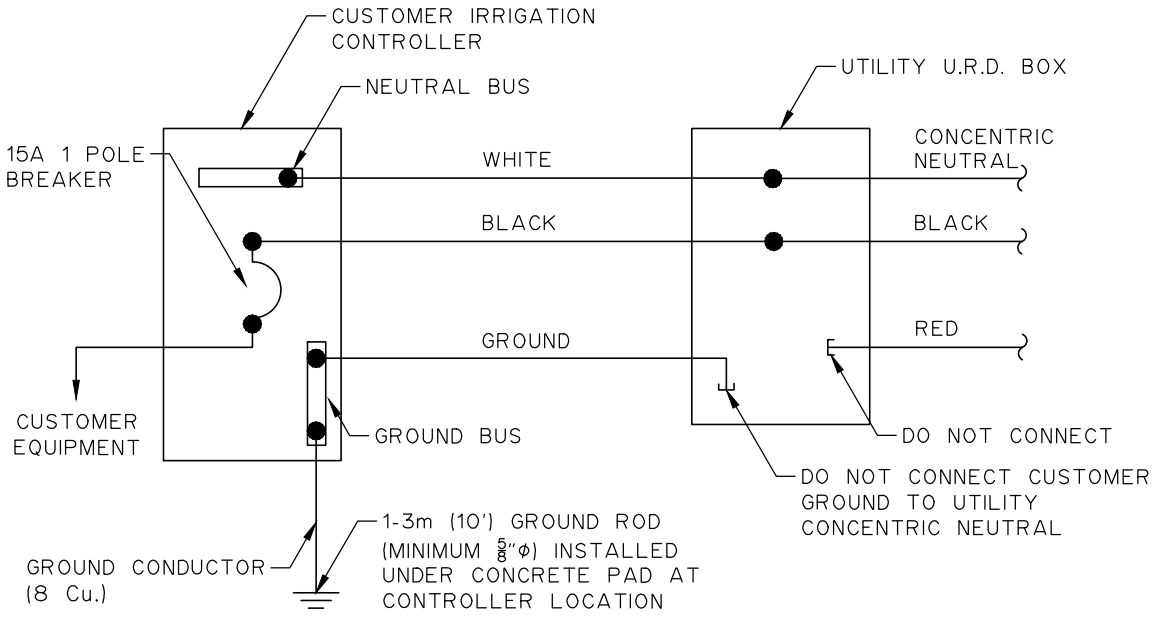
CITY OF BROOKS

PLAYGROUND WOODEN BORDER HEADER

DWG. No. BPW-318 Rev. 0

NOTES:

1. TYPICAL CUSTOMER CONDUCTOR IS No. 10 COPPER NMWU
2. NEUTRAL BUS AND GROUND BUS ARE BONDED VIA CONTROLLER CABINET



No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

CITY OF BROOKS

UNMETERED 120 VOLT IRRIGATION CONTROLLER CONNECTION

DWG. No. BPW-319 Rev. 0

NOTES:

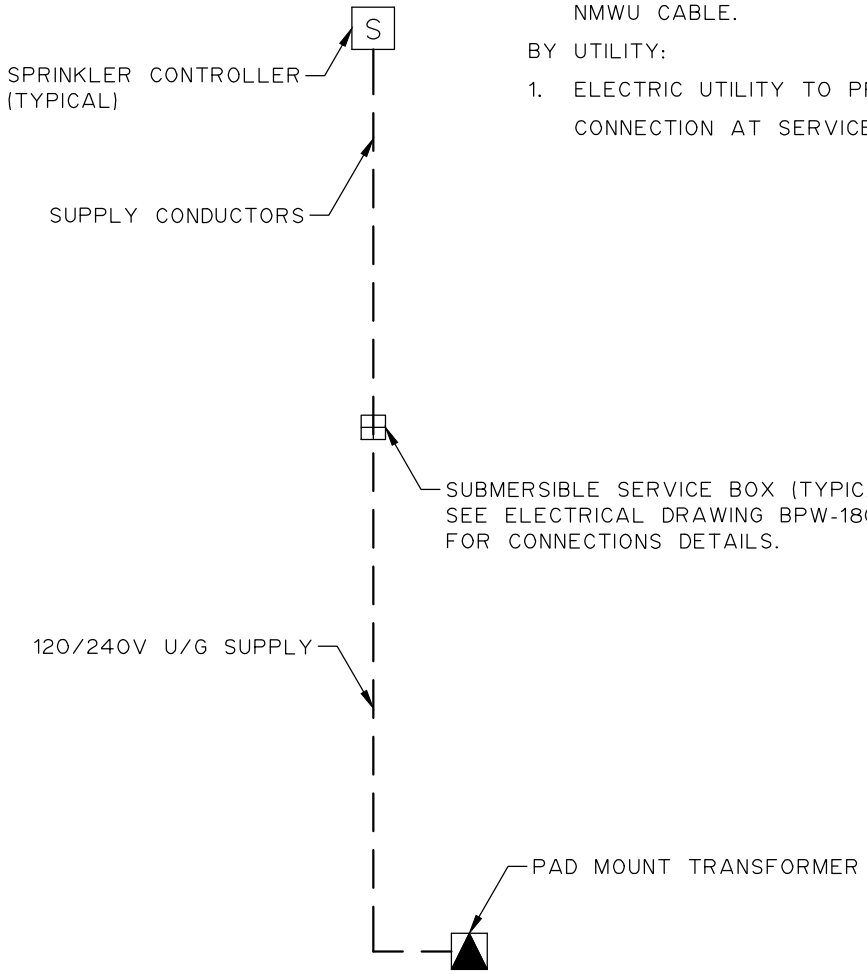
1. COST OF ELECTRIC PERMIT TO BE PAID FOR BY PARKS AND OUTDOOR RECREATION. ONE PERMIT MAYBE ISSUED FOR A SINGLE PROJECT REQUIRING MORE THAN ONE SERVICE CONNECTION. CONSULT ELECTRICAL INSPECTOR.

BY CONTRACTOR:

1. CONTRACTOR IS RESPONSIBLE FOR TRENCHING, INSTALLATION OF MAIN SERVICE EQUIPMENT, ELECTRIC SERVICE CABLE AND CONNECTIONS AT CONTROLLER.
2. CONTRACTOR TO COORDINATE INSTALLATION AND FINAL CONNECTION AT SERVICE BOX WITH THE ELECTRIC UTILITY.
3. SUPPLY CONDUCTORS FROM UTILITY SERVICE BOX TO IRRIGATION CONTROLLER TO BE BURIED 1.0m BELOW FINAL GRADE. CONDUCTORS CAN BE DIRECT BURIED IF USING NMWU CABLE.

BY UTILITY:

1. ELECTRIC UTILITY TO PROVIDE FINAL CONNECTION AT SERVICE BOX.



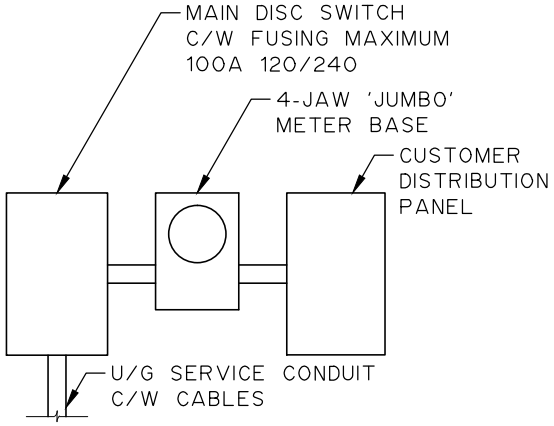
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

CITY OF BROOKS

UNMETERED U/G IRRIGATION CONTROLLER ELECTRICAL SERVICE

DWG. No. BPW-320 Rev. 0



METERING DETAIL

NOTES:

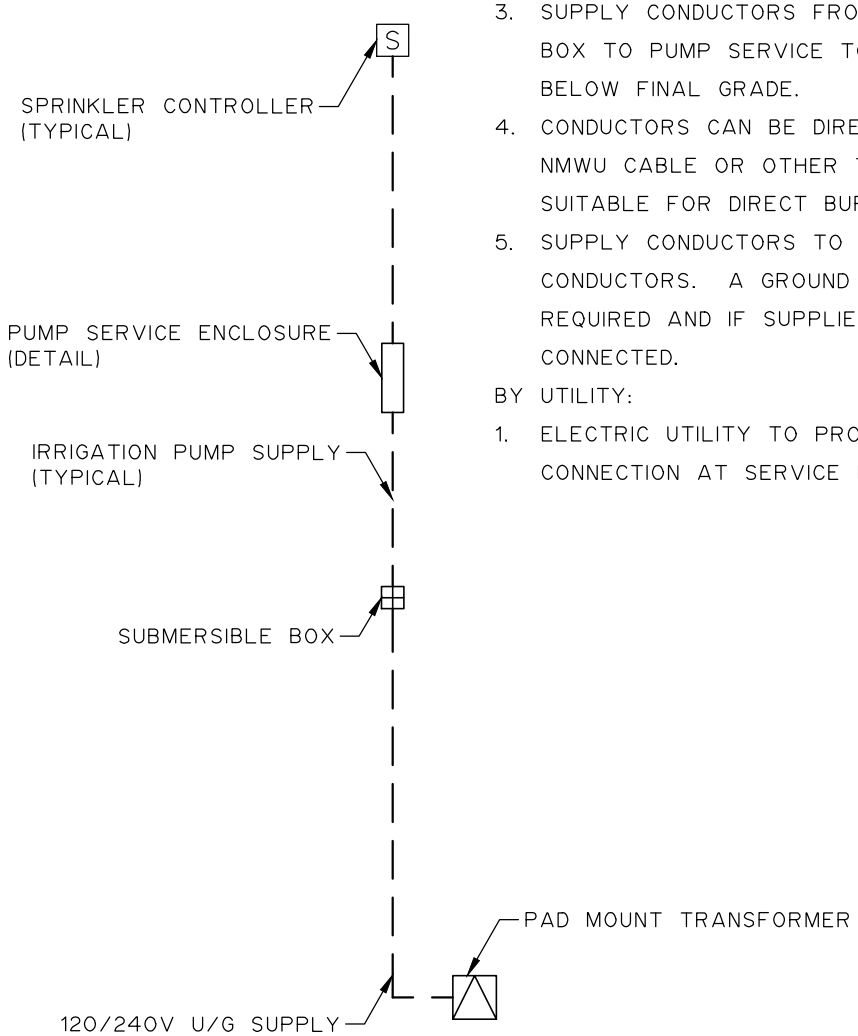
1. COST OF ELECTRIC PERMIT TO BE PAID FOR BY PARKS AND OUTDOOR RECREATION. PERMIT MAYBE ISSUED FOR A SINGLE PROJECT REQUIRING MORE THAN ONE SERVICE CONNECTION. CONSULT ELECTRICAL INSPECTOR.
2. SEE DRAWING BPW-183 FOR CONNECTION DETAIL.

BY CONTRACTOR:

1. CONTRACTOR IS RESPONSIBLE FOR TRENCHING, INSTALLATION OF MAIN SERVICE EQUIPMENT, ELECTRIC CABLE AND CONNECTIONS.
2. CONTRACTOR TO COORDINATE INSTALLATION AND FINAL CONNECTION AT SERVICE BOX WITH THE ELECTRIC UTILITY.
3. SUPPLY CONDUCTORS FROM UTILITY SERVICE BOX TO PUMP SERVICE TO BE BURIED 1.0m BELOW FINAL GRADE.
4. CONDUCTORS CAN BE DIRECT BURIED IF USING NMWU CABLE OR OTHER TYPE OF CONDUCTOR SUITABLE FOR DIRECT BURIAL.
5. SUPPLY CONDUCTORS TO INCLUDE 3 INSULATED CONDUCTORS. A GROUND CONDUCTOR IS NOT REQUIRED AND IF SUPPLIED WILL NOT BE CONNECTED.

BY UTILITY:

1. ELECTRIC UTILITY TO PROVIDE FINAL CONNECTION AT SERVICE BOX.



No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

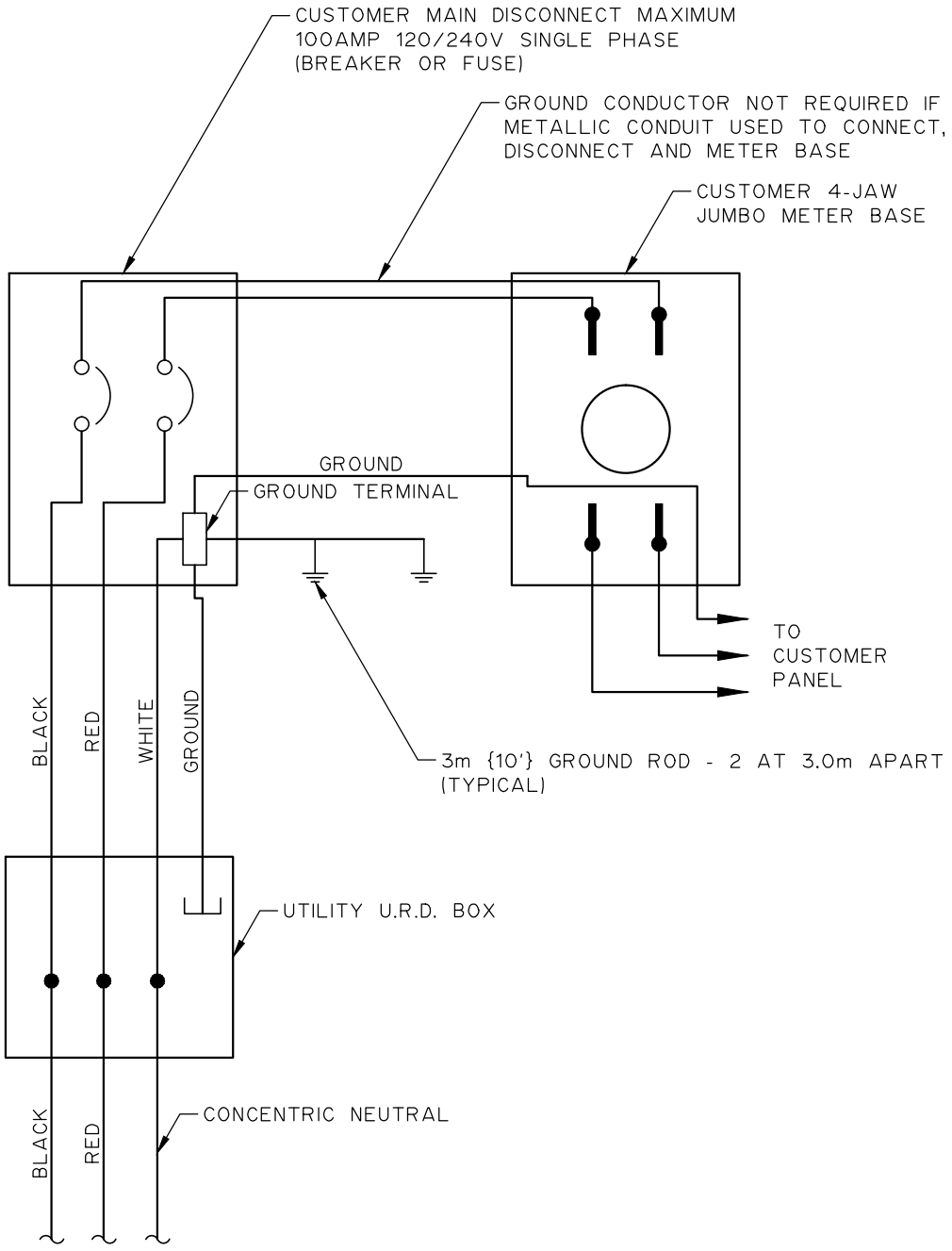
CITY OF BROOKS

METERED U/G IRRIGATION PUMP ELECTRICAL SERVICE

DWG. No. BPW-321 Rev. 0

NOTES:

1. CABLE BETWEEN MAIN DISCONNECT AND UTILITY U.R.D. BOX TO BE 3-CONDUCTOR NMWU TYPE DIRECT BURIED AT 1.0m BELOW FINAL GRADE.



No.	DATE (YY MM DD)	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

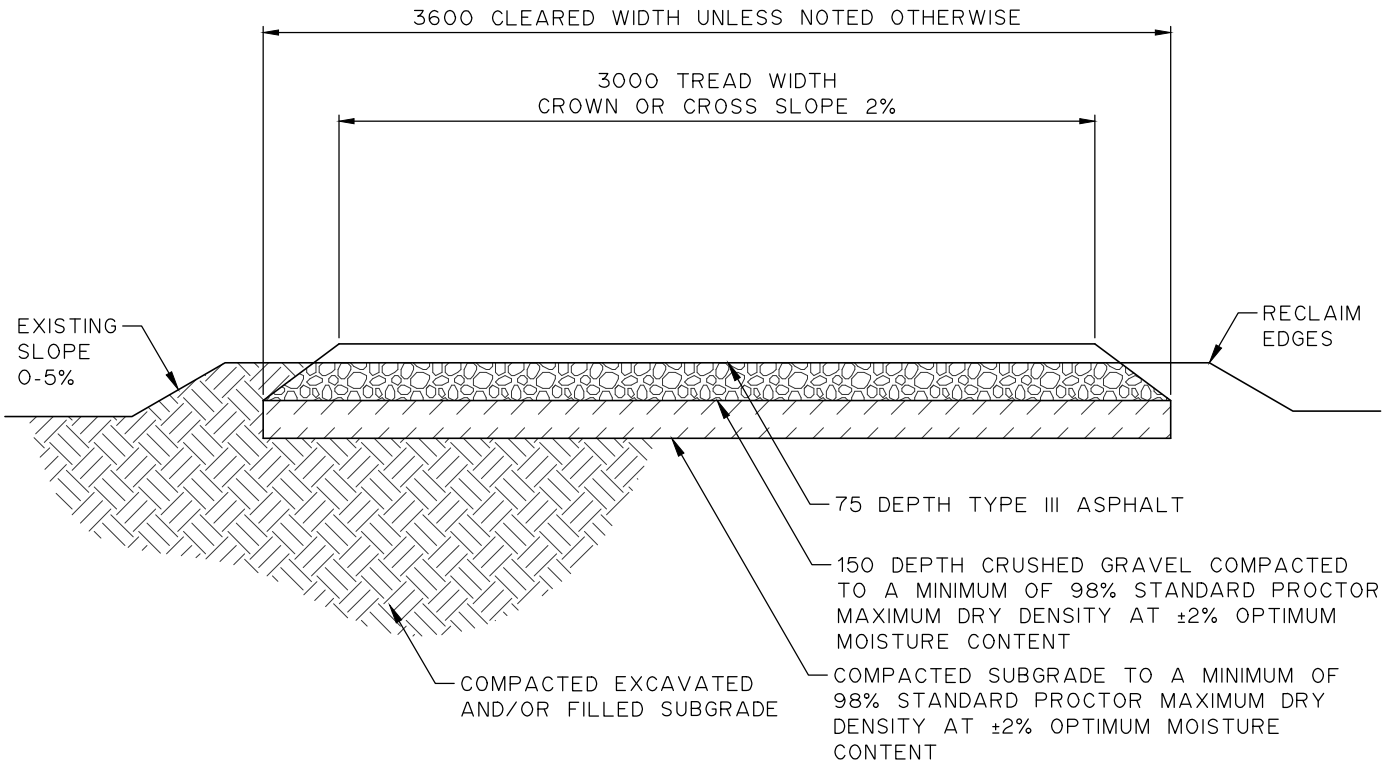
CITY OF BROOKS

METERED 120/140 IRRIGATION PUMP CONNECTION

DWG. No. BPW-322 Rev. 0

NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.



No.	DATE (YY MM DD)	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

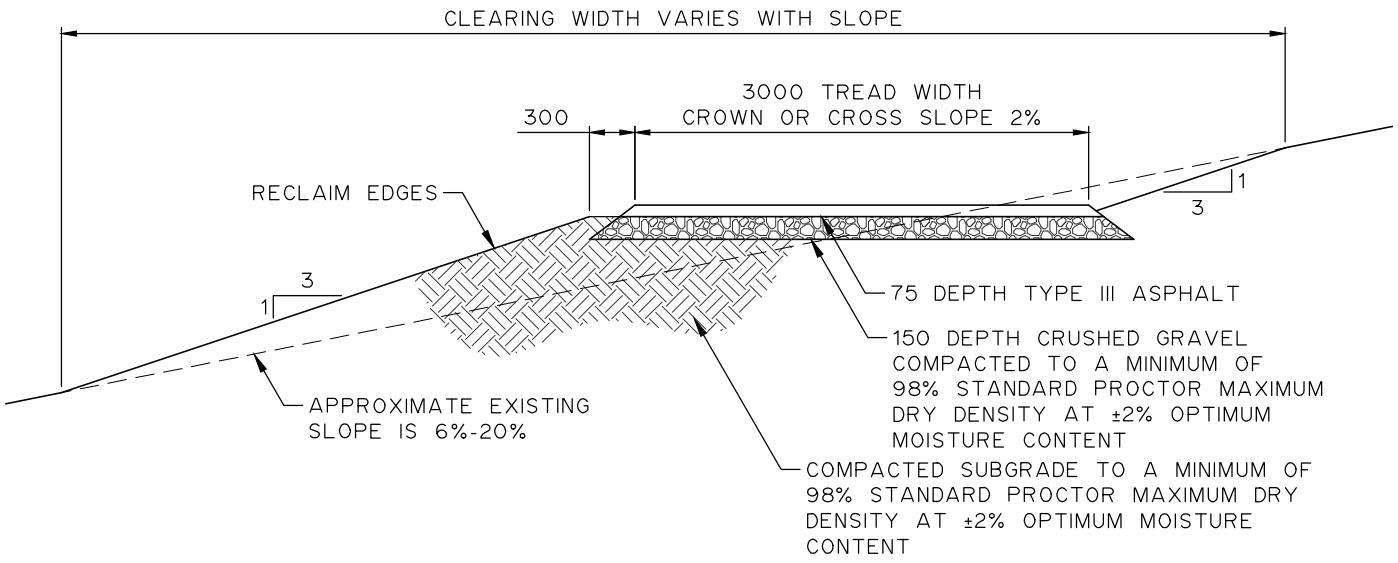
CITY OF BROOKS

ASPHALT TRAILS 3.0m WIDTH

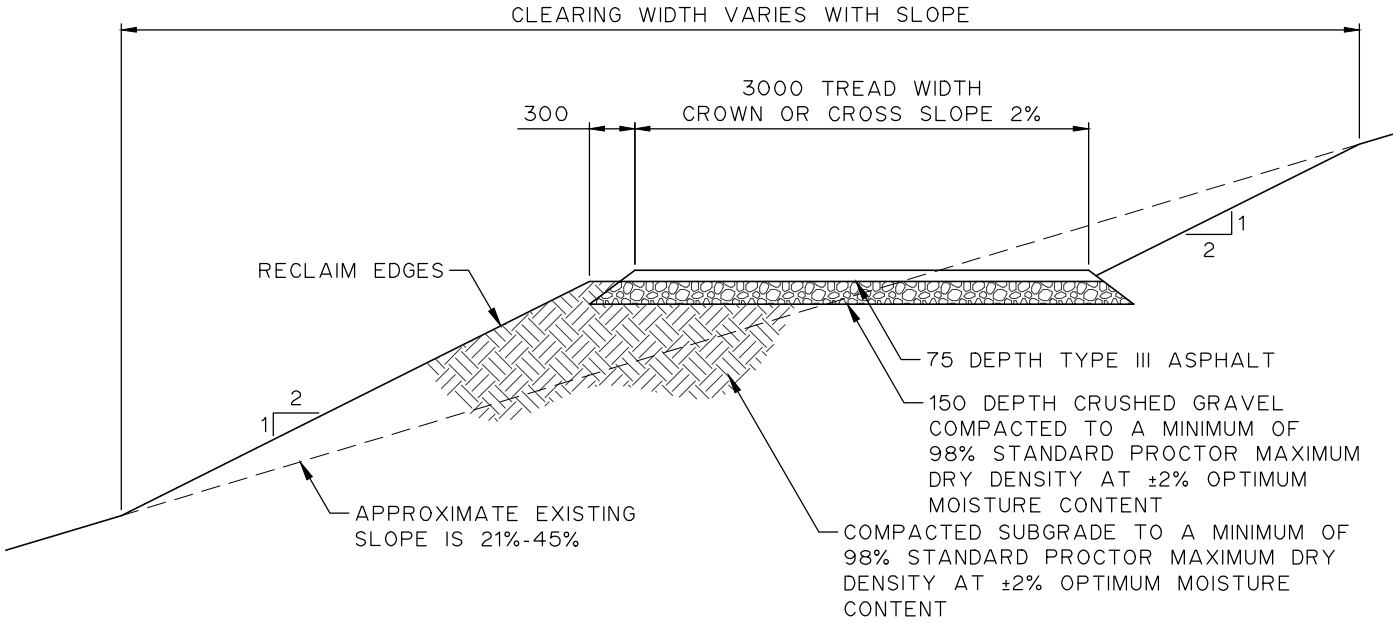
DWG. No. BPW-323 Rev. 0

NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.



TYPICAL SLIGHT SIDE HILL SECTION CUT AND FILL 6-20% EXISTING SLOPE



TYPICAL SLIGHT SIDE HILL SECTION CUT AND FILL 21-45% EXISTING SLOPE

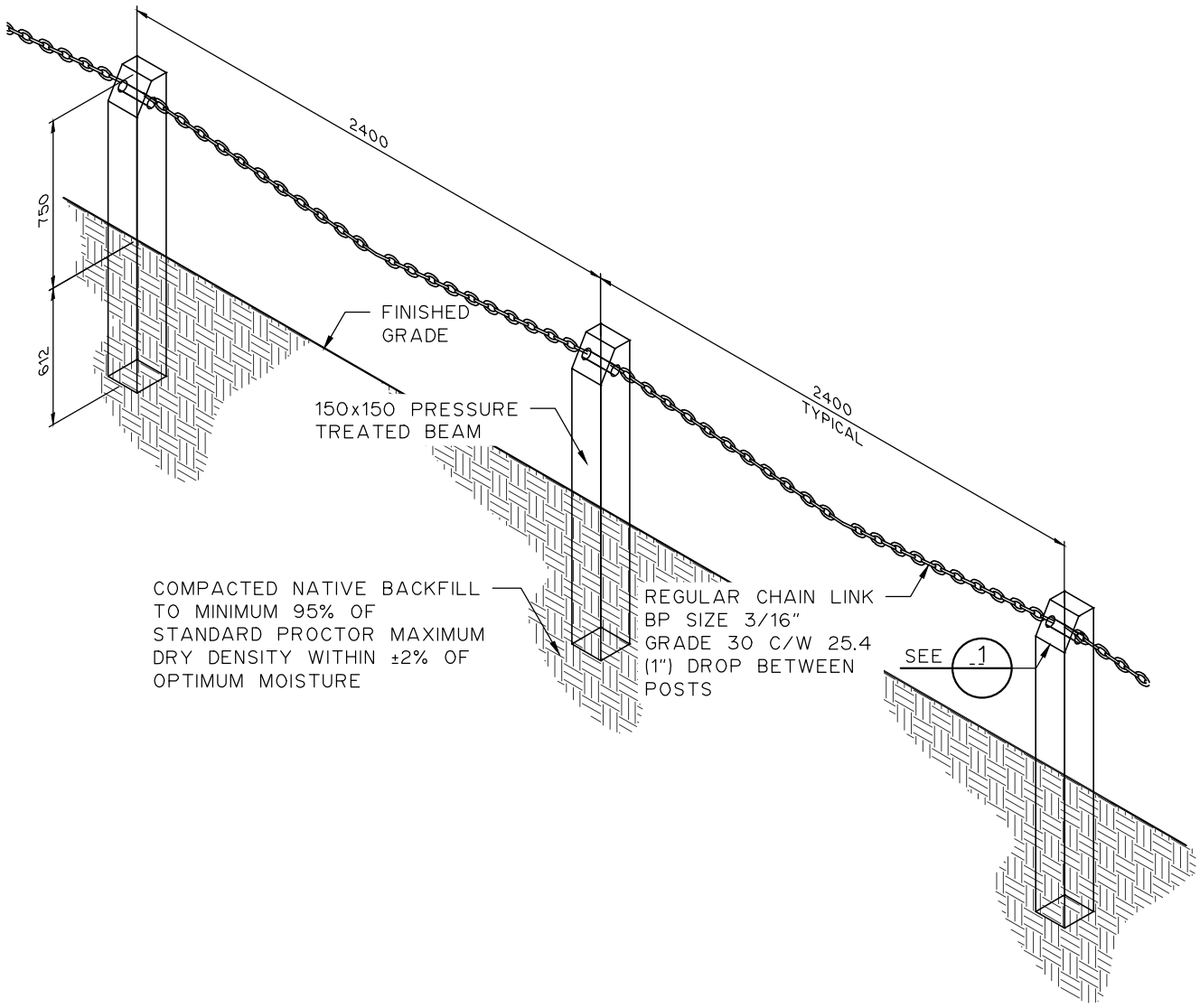
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

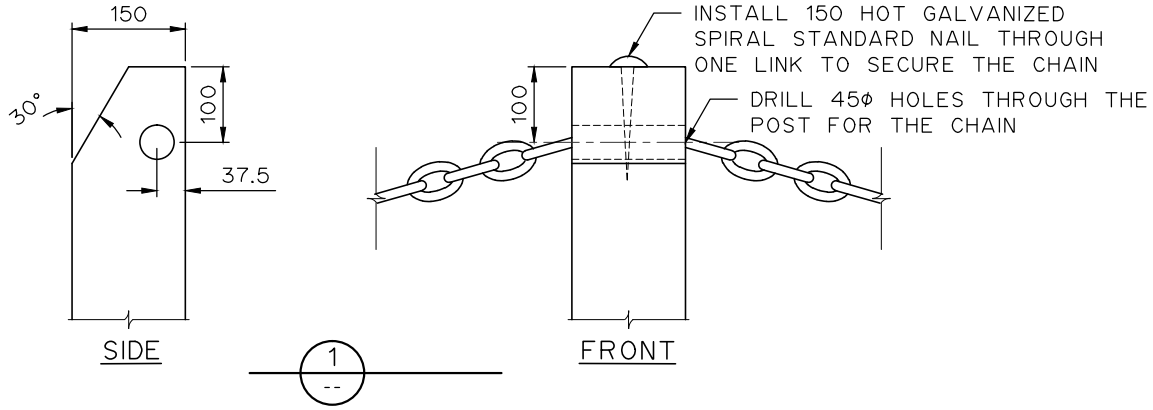
DATE: JANUARY 2012
SCALE: NTS
DRAWN: R.W.
APPROVED:

CITY OF BROOKS

ASPHALT TRAILS 3.0m WIDTH WITH SIDE AND BACK SLOPE

DWG. No. BPW-324 Rev. 0





NOTES:
1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. CONTRACTOR TO CONTACT ALL UTILITY COMPANIES 48 HOURS IN ADVANCE OF CONSTRUCTION.
3. POSTS TO BE PRESSURE TREATED CONSTRUCTION GRADE TIMER.
4. PRESSURE TREATMENT TO BE DOMTAR PENTA BROWN OR APPROVED EQUAL. ALL CUTS IN FIELD TO BE TREATED WITH SAME.

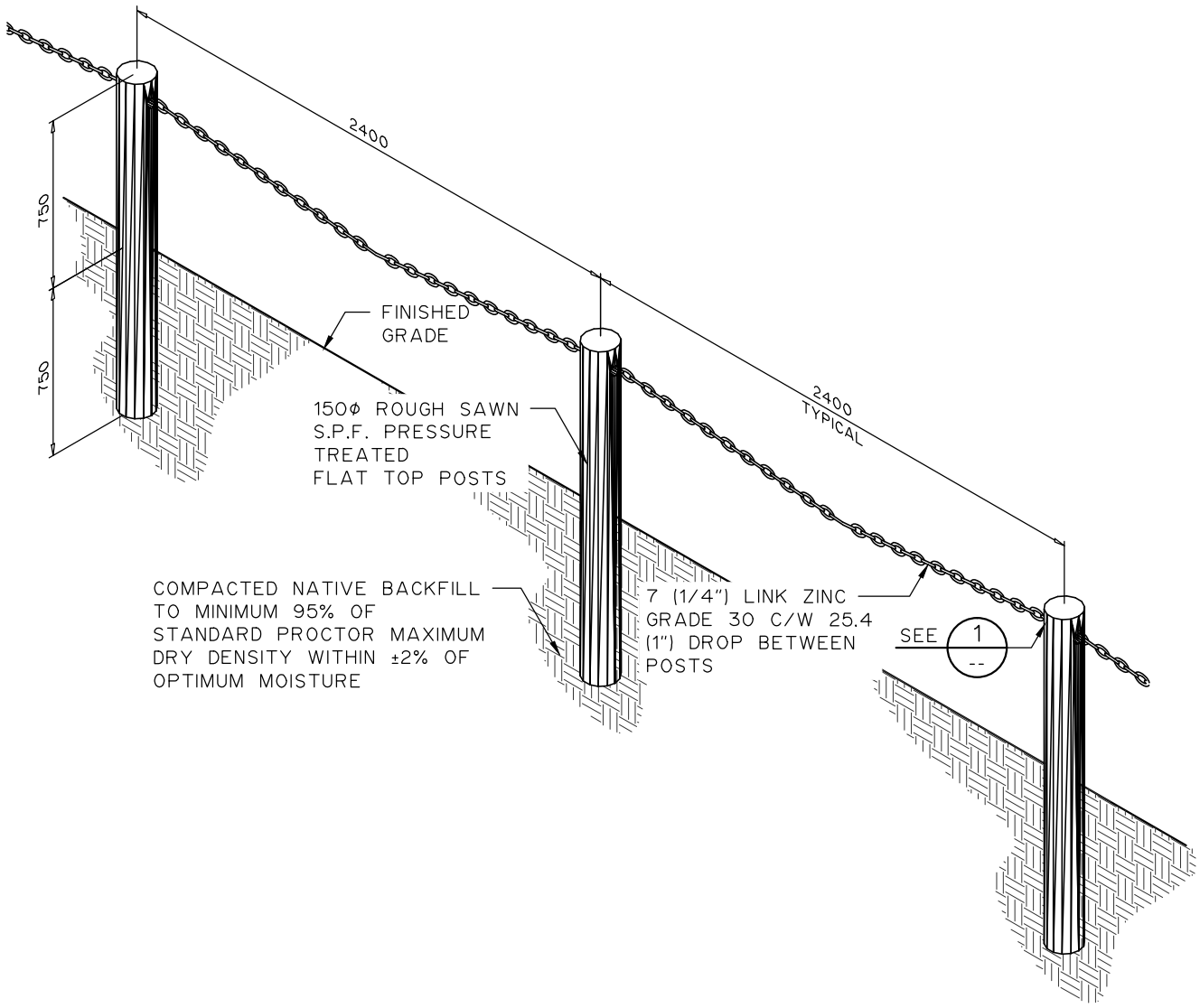
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

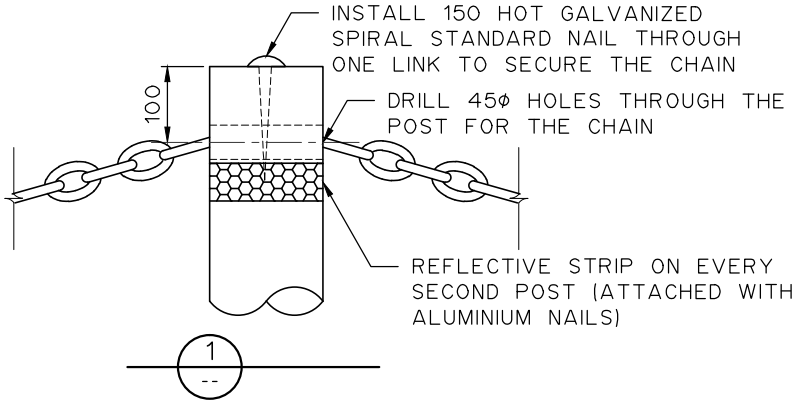
DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

CITY OF BROOKS

WOOD BOLLARD AND CHAIN DETAIL (150x150 BEAM)

DWG. No. BPW-325 Rev. 0





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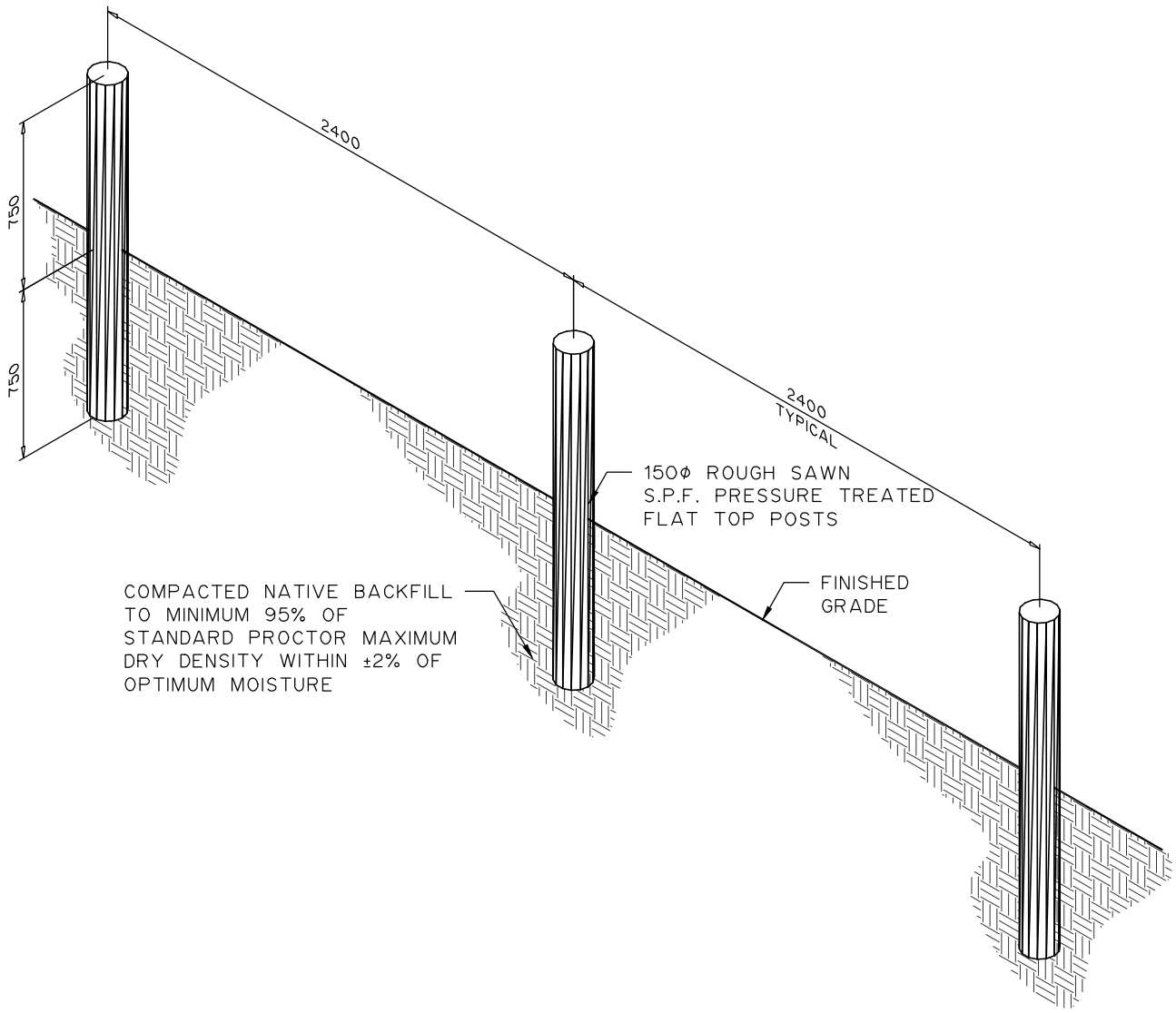
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

CITY OF BROOKS

WOOD BOLLARD AND CHAIN DETAIL (FLAT TOP)

DWG. No. BPW-326 Rev. 0



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4. PRESSURE TREATMENT TO BE DOMTAR PENTA BROWN OR APPROVED EQUAL. ALL CUTS IN FIELD TO BE TREATED WITH SAME.

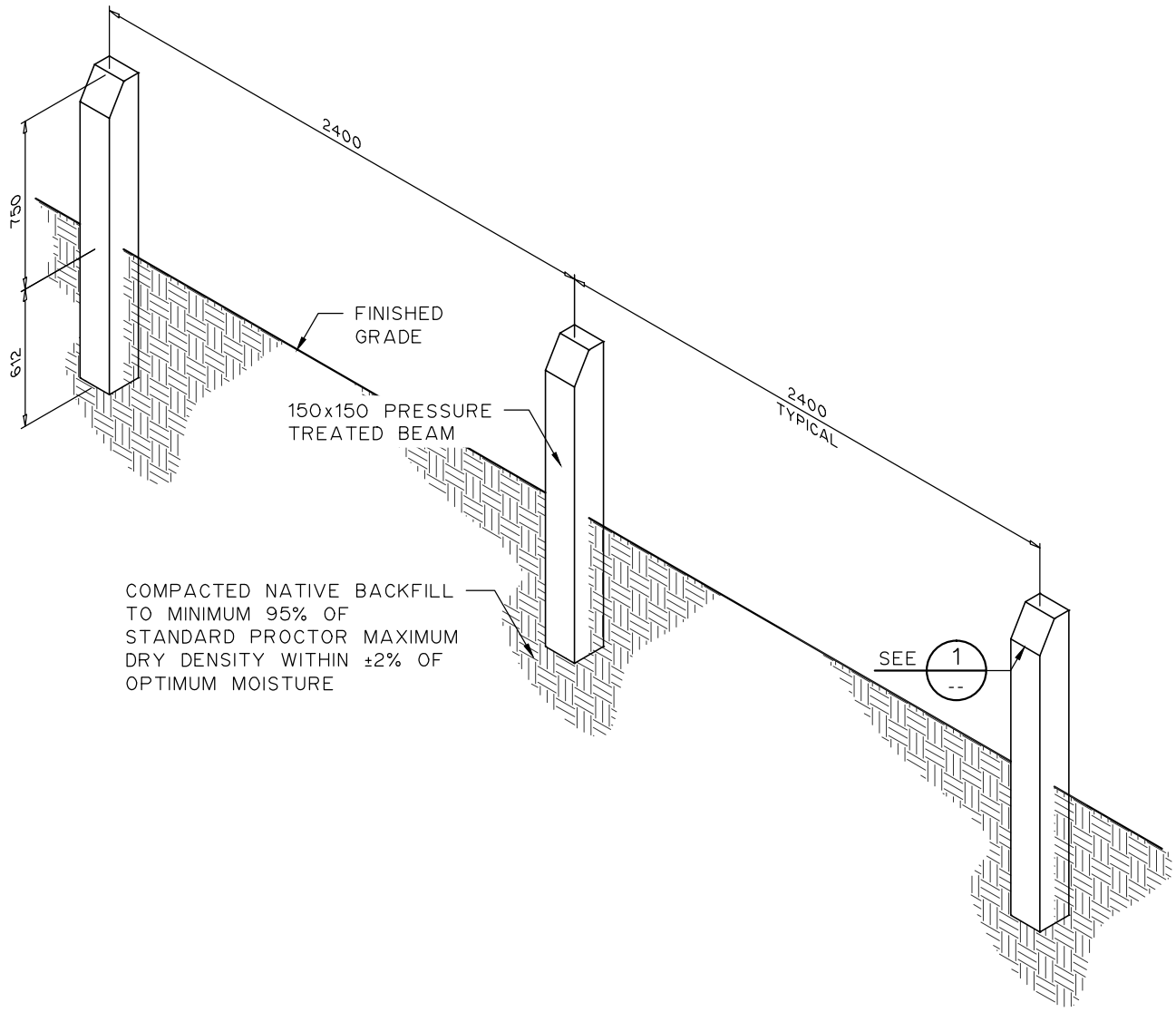
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

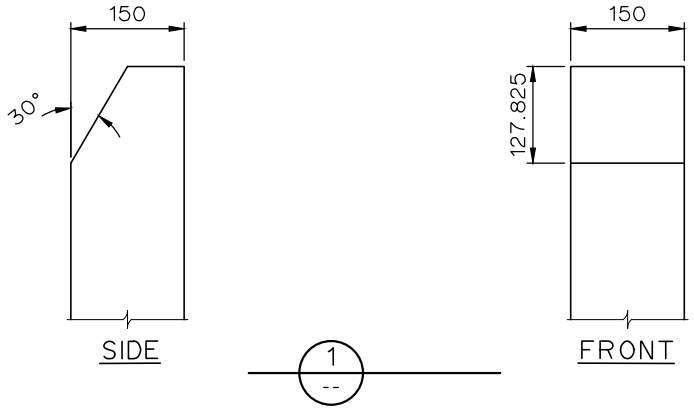
DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

CITY OF BROOKS

WOOD BOLLARD DETAIL (FLAT TOP)

DWG. No. BPW-327 Rev. 0





NOTES:

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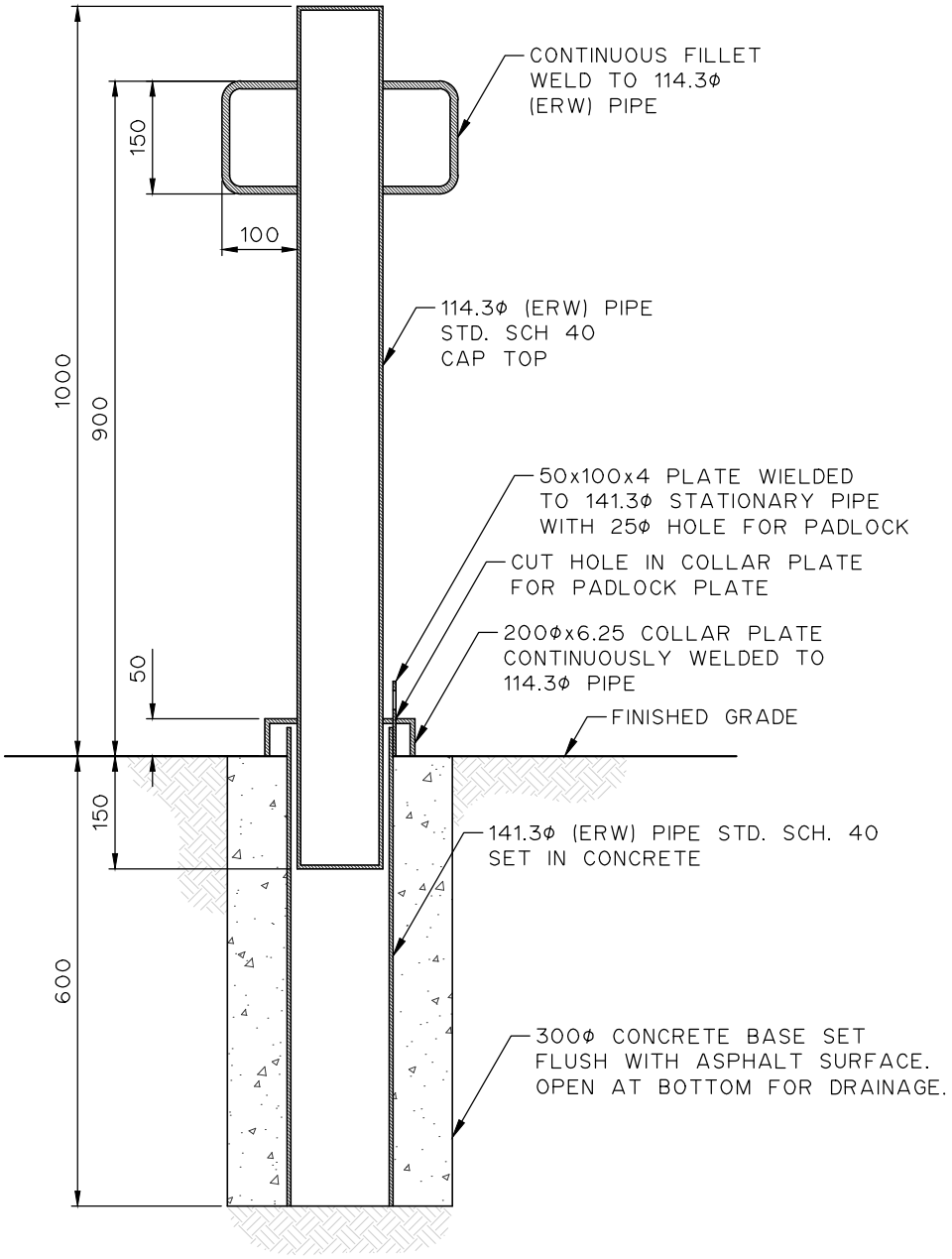
No.	DATE (YY MM DD)	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: C.W.H.
APPROVED:

CITY OF BROOKS

WOOD BOLLARD DETAIL (150x150 BEAM)

DWG. No. BPW-328 Rev. 0



NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. COLLAR PLATE AND 114ϕ (ERW) PIPE ABOVE COLLAR PLATE, AND PADLOCK PLATE TO BE FINISH PAINTED BLACK. (EQUIVALENT TO RUSTOLEUM ENAMEL) APRIL, 2002
3. REMOVABLE BOLLARD TO BE FINISHED SO THAT THERE ARE NO SHARP EDGES.

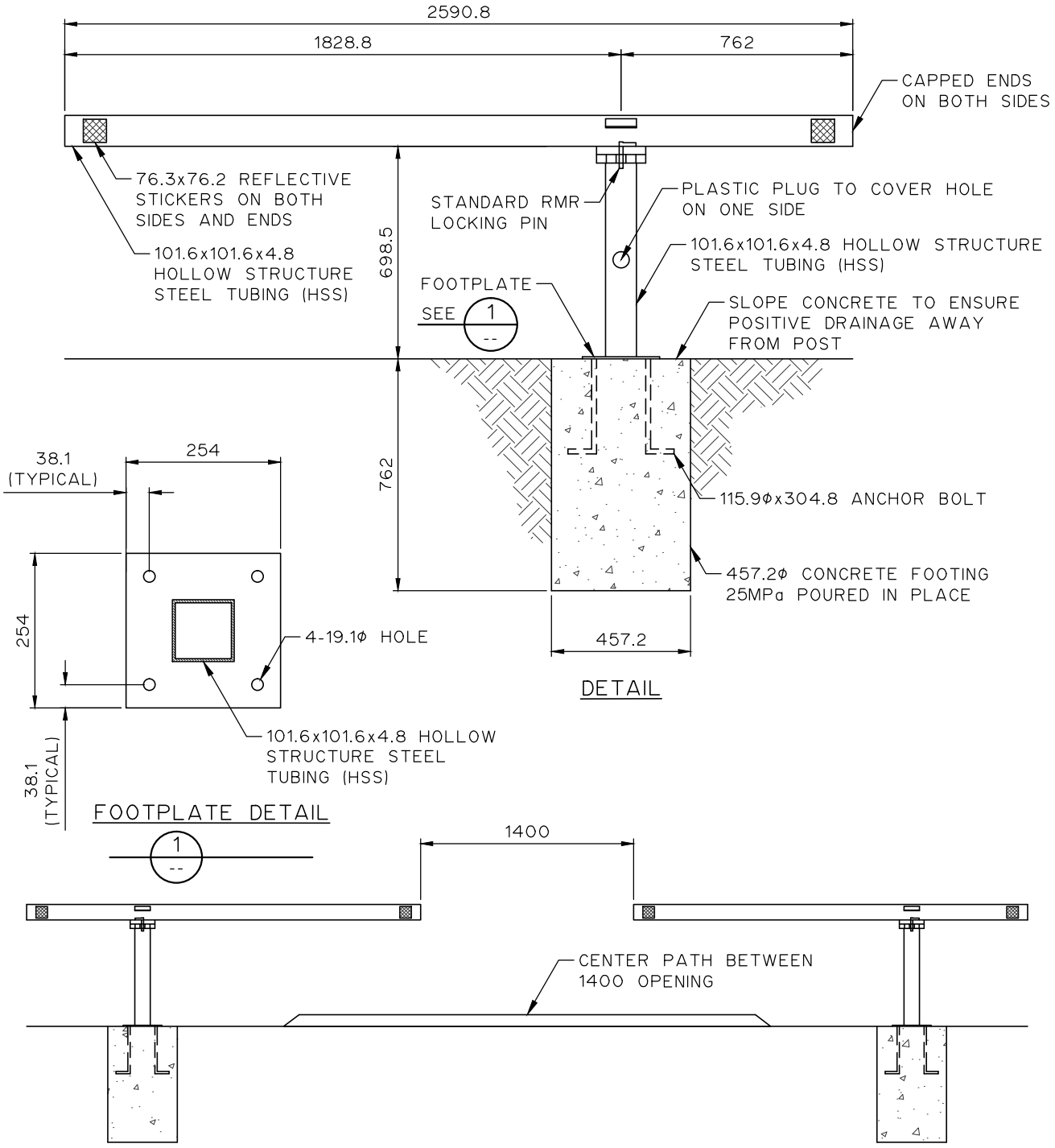
No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

CITY OF BROOKS

REMOVABLE STEEL BOLLARD DETAIL

DWG. No. BPW-329 Rev. 0



NOTES:

1. ALL UNITS SHOWN IN mm UNLESS OTHERWISE NOTED.
2. POWDER COATED METAL PARK GREEN IN COLOR
3. MANUFACTURER CONTACT INFORMATION: ROCKY MOUNTAIN RECREATION EQUIPMENT CANADA LTD. TOLL FREE NUMBER 1-800-661-1258

No.	YY MM DD DATE	REVISION DESCRIPTION	BY

DATE: JANUARY 2012
SCALE: NTS
DRAWN: RCW
APPROVED:

CITY OF BROOKS

T-BOLLARD SURFACE MOUNT

DWG. No. BPW-330 Rev. 0