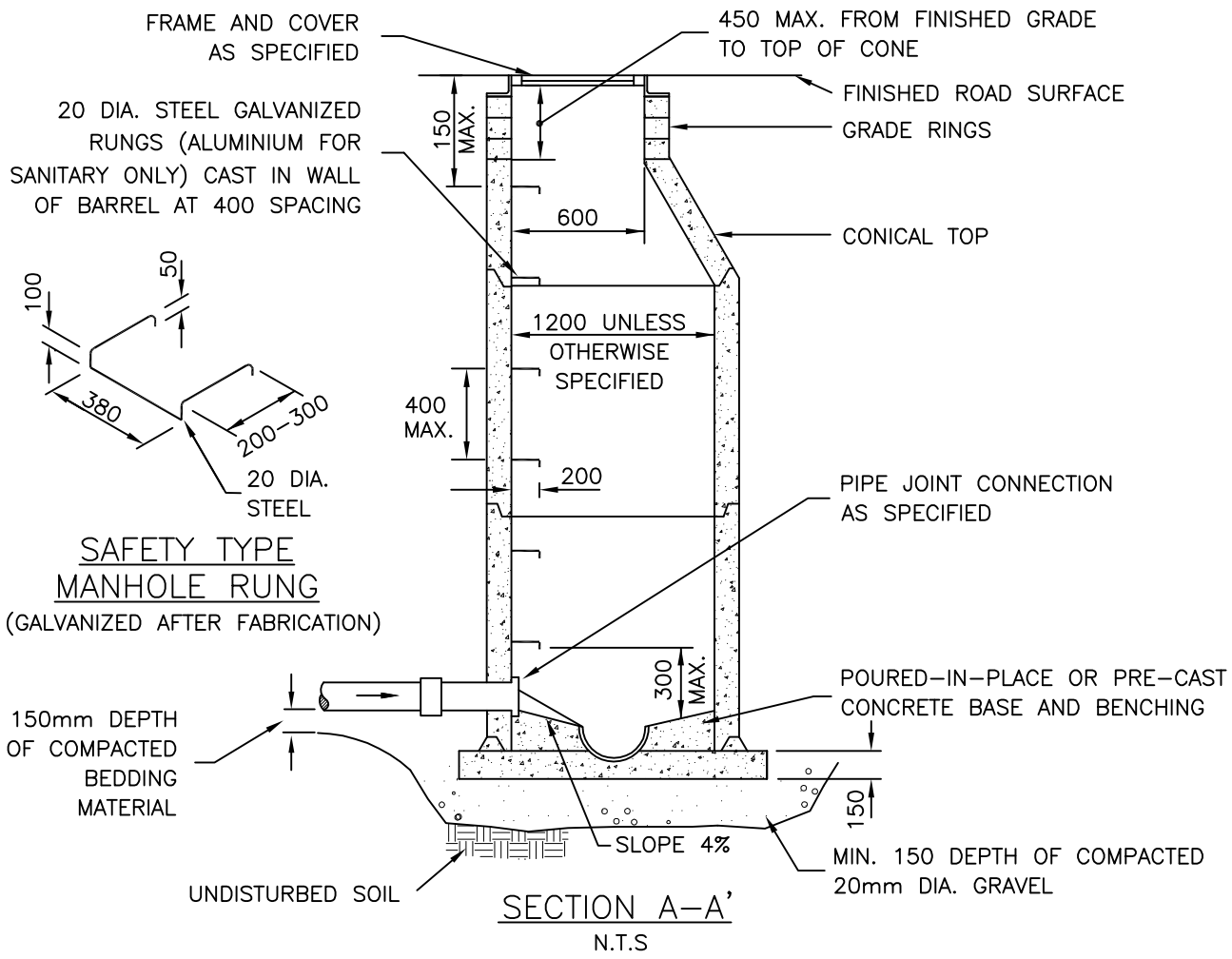
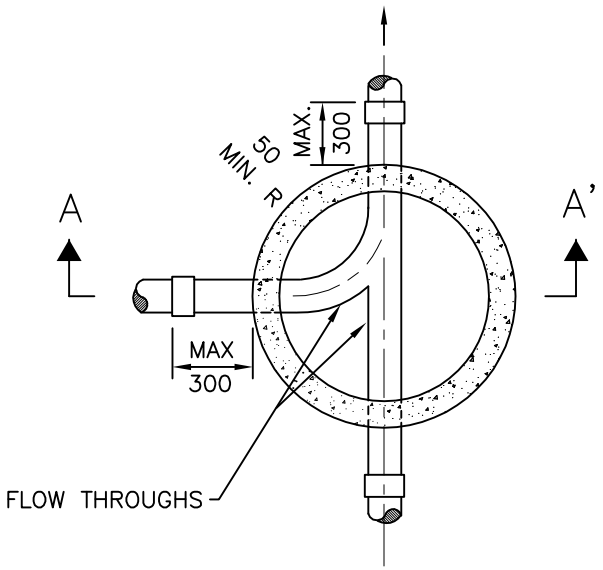


SAFETY TYPE MANHOLE RUNG

(GALVANIZED AFTER FABRICATION)

SECTION A–A'

N.T.S



PLAN

N.T.S

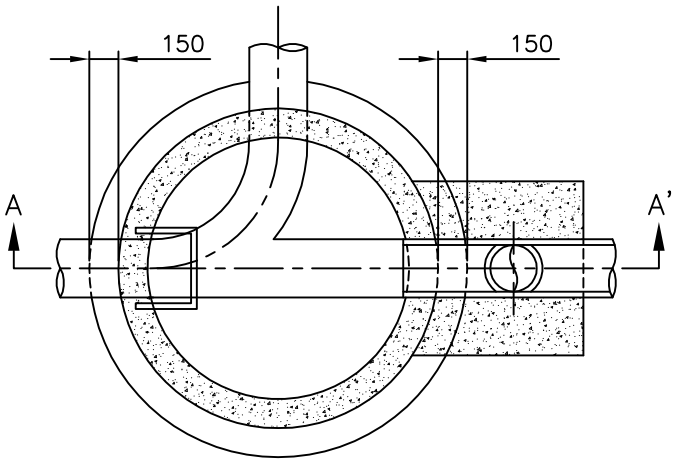
NOTES:

1. ALL PRE–CAST MANHOLES MUST CONFORM TOA.S.T.M. SPECIFICATIONS C478.
2. POURED–IN–PLACE CONCRETE SHALL HAVE 28 DAYSCOMPRESSIVE STRENGTH OF AT LEAST 25MPa.
3. ALL JOINTS TO BE SET WITH RUBBER GASKET AND SET WITH NON–SHRINK GROUT, INSIDE AND OUT, FOR THE FULL CIRCUMFERENCE.
4. FORM FLOW TROUGH IN PARTIALLY SET CONCRETE AND TROWEL SMOOTH.
5. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.
6. BACKFILL AROUND MH. WITH SELECT NATIVE MATERIAL. COMPACT TO 98% S.P.D.
7. FLAT TOP SECTION TO BE USED FOR MANHOLES UP TO 1.8m BURY.
8. ALL JOINTS TO BE WATERTIGHT. METHODS TO BE CONSISTENT WITH SITE CONDITIONS.
9. FOR MANHOLES 5.0m IN DEPTH OR GREATER, A SAFETY PLATFORM SHALL BE INSTALLED.
10. MANHOLES TO MEET REQUIREMENTS OF MANHOLE DETAILS AND SPECIFICATIONS.
11. SAFETY STEPS TO BE PROVIDED, SPACED AT 400 MAX. FIRST STEP 150 MAX. BELOW FRAME, LAST STEP 300 MAX. ABOVE BASE.

TITLE:

TYPE 5A PRE–CAST MANHOLE DETAIL

STANDARD DETAILS	
SCALE: N.T.S.	
DATE: SEPTEMBER 2010	
STD. DWG NO.	6–100

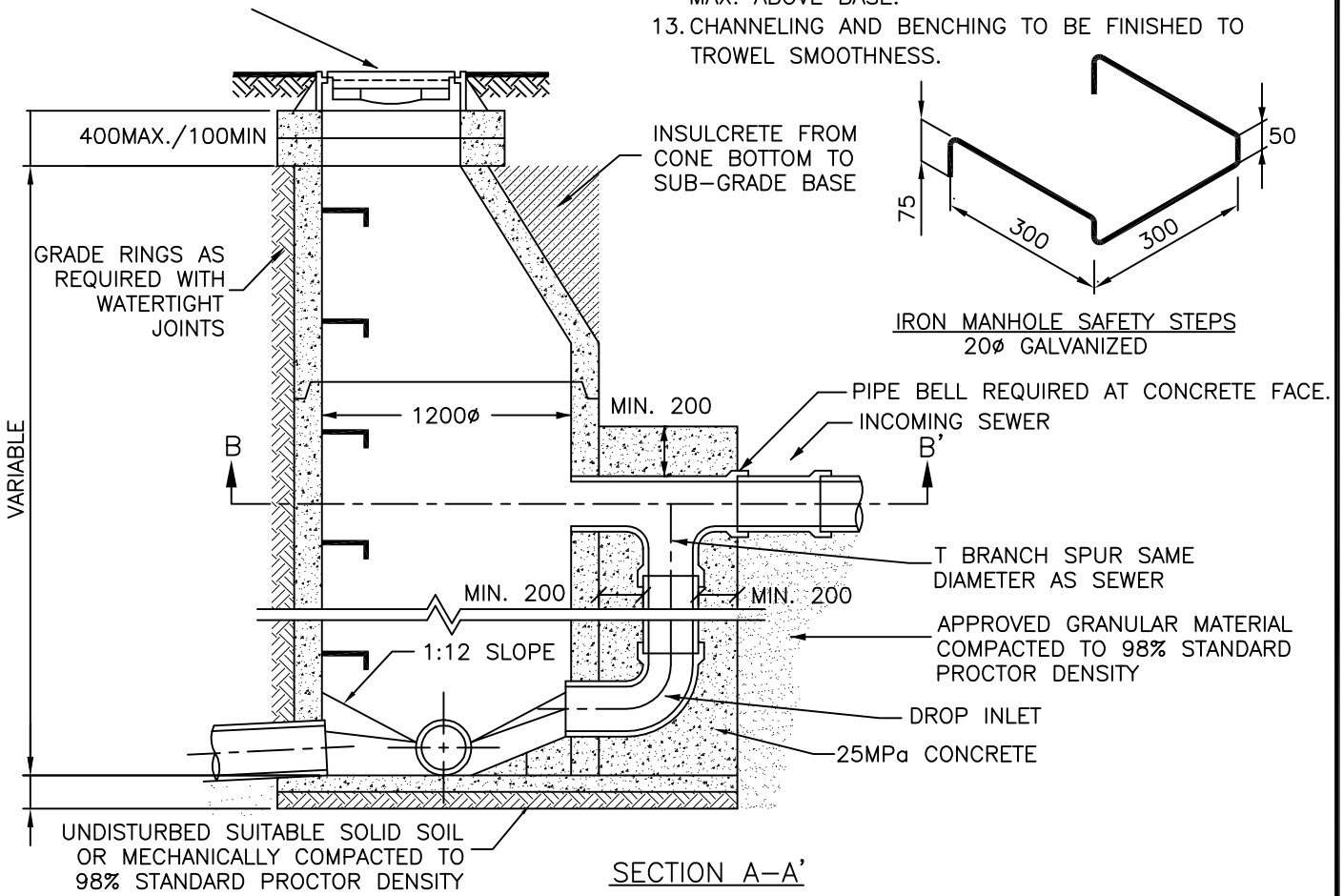


PLAN SECTION B–B'

NOTES:

1. ALL PRE–CAST MANHOLES MUST CONFORM TO A.S.T.M. SPECIFICATIONS C478.
2. POURED–IN–PLACE CONCRETE SHALL HAVE A 28 DAYCOMPRESSIVE STRENGTH OF AT LEAST 25MPa.
3. ALL JOINTS TO BE SET WITH RUBBER GASKET AND SET WITH NON–SHRINK GROUT, INSIDE AND OUT, AROUND FULL CIRCUMFERENCE.
4. FORM FLOW TROUGH IN PARTIALLY SET CONCRETE AND TROWEL SMOOTH.
5. ALL DIMENSIONS GIVEN IN MILLIMETRES.
6. MAX. DIST. FROM RIM TO TOP RUNG IS 800.
7. BACKFILL AROUND MH. WITH SELECT NATIVE MATERIAL COMPACT TO 98% S.P.D.
8. FLAT TOP SECTION TO BE USED FOR MANHOLES UP TO 1.8m BURY.
9. ALL JOINTS TO BE WATERTIGHT. METHODS TO BE CONSISTENT WITH SITE CONDITIONS.
10. FOR MANHOLES 5.0m IN DEPTH OR GREATER, A SAFETY PLATFORM SHALL BE INSTALLED.
11. MANHOLES TO MEET REQUIREMENTS OF MANHOLE DETAILS AND SPECIFICATIONS.
12. SAFETY STEPS TO BE PROVIDED, SPACED AT 400 MAX. FIRST STEP 150 MAX. BELOW FRAME, LAST STEP 300 MAX. ABOVE BASE.
13. CHANNELING AND BENCHING TO BE FINISHED TO TROWEL SMOOTHNESS.

IRON MANHOLE SAFETY STEPS
20ø GALVANIZED



SECTION A–A'

TITLE:

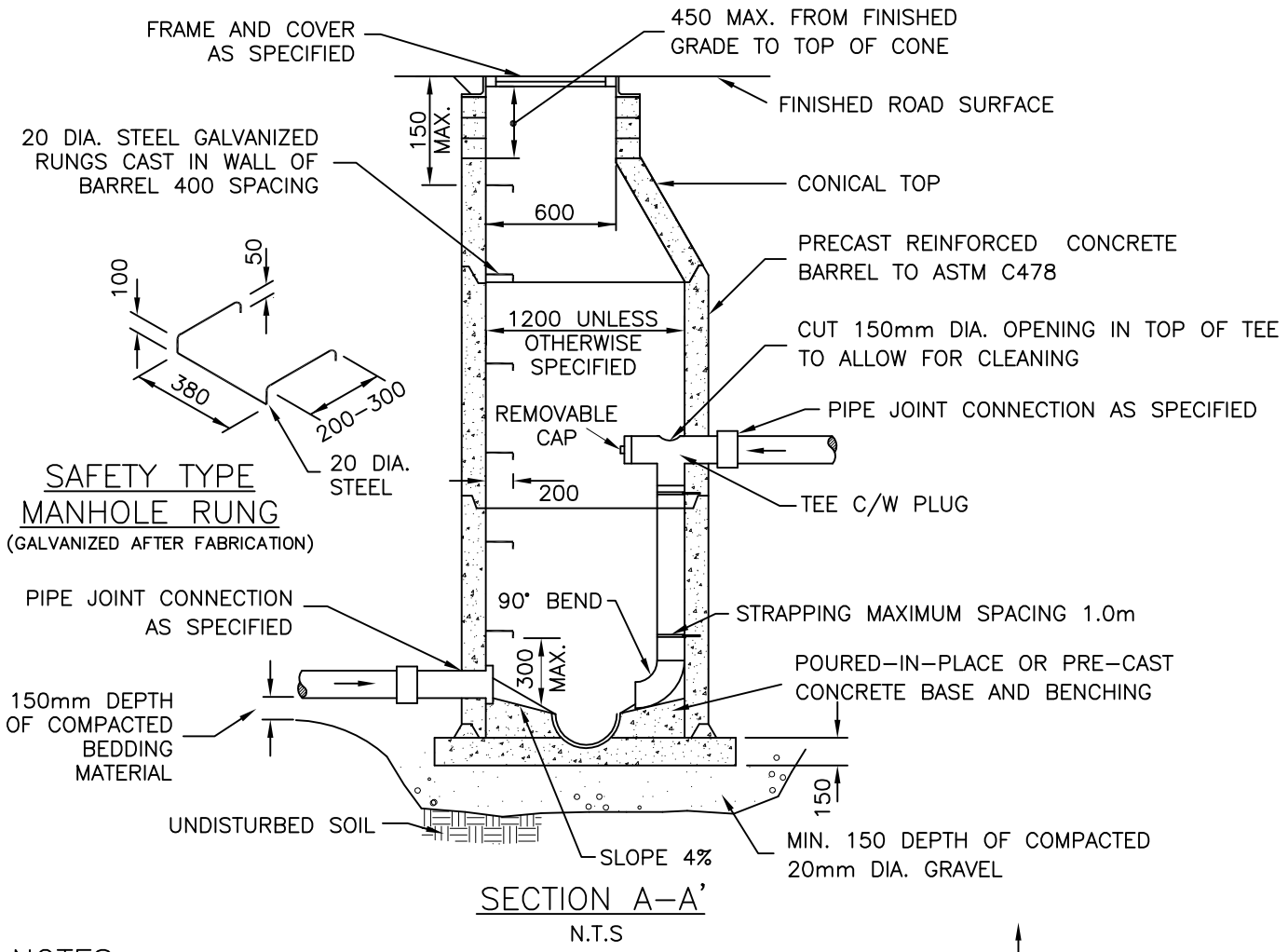
EXTERNAL DROP MANHOLE

STANDARD DETAILS

SCALE: N.T.S.

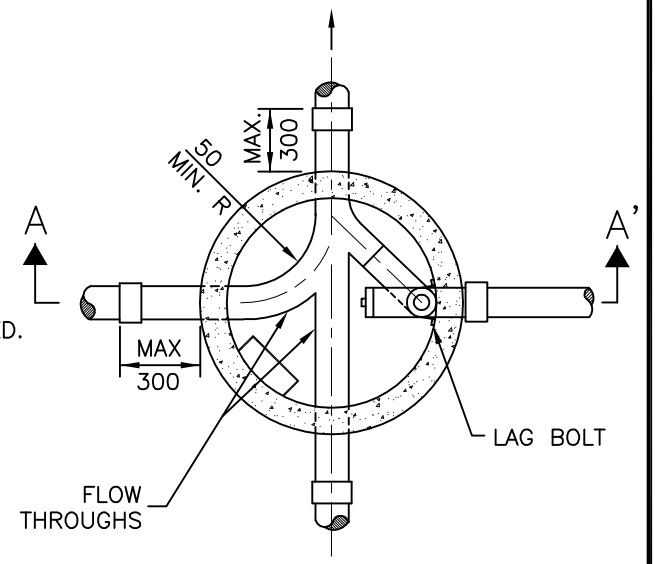
DATE: SEPTEMBER 2010

STD. DWG NO. 6–201



NOTES:

1. ALL PRE-CAST MANHOLES MUST CONFORM TO A.S.T.M. SPECIFICATIONS C478.
2. POURED-IN-PLACE CONCRETE SHALL HAVE 28 DAYS COMPRESSIVE STRENGTH OF AT LEAST 25MPa.
3. ALL JOINTS TO BE SET WITH RUBBER GASKET AND SET WITH NON-SHRINK GROUT, INSIDE AND OUT, FOR THE FULL CIRCUMFERENCE.
4. FORM FLOW THROUGH IN PARTIALLY SET CONCRETE AND TROWEL SMOOTH.
5. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.
6. BACKFILL AROUND MH. WITH SELECT NATIVE MATERIAL AND COMPACT TO 98% S.P.D.
7. FLAT TOP SECTION TO BE USED FOR MANHOLES UP TO 1.8m BURY.
8. ALL JOINTS TO BE WATERTIGHT. METHODS TO BE CONSISTENT WITH SITE CONDITIONS.
9. FOR MANHOLES 5.0m IN DEPTH AND GREATER, A SAFETY PLATFORM SHALL BE INSTALLED.
10. MANHOLES TO MEET REQUIREMENTS OF MANHOLE DETAILS AND SPECIFICATIONS.
11. LAG BOLTS AND STRAPPING ARE TO BE INSTALLED IMMEDIATELY BELOW THE TEE AND A CONTINUAL 1.0m VERTICAL SPACING TO THE BASE.
12. DIAMETER, SIZE, AND TYPE OF VERTICAL PIPE TO MATCH INLET PIPE.
13. SAFETY STEPS TO BE PROVIDED, SPACED AT 400 MAX. FIRST STEP 150 MAX. BELOW FRAME, LAST STEP 300 MAX. ABOVE BASE.

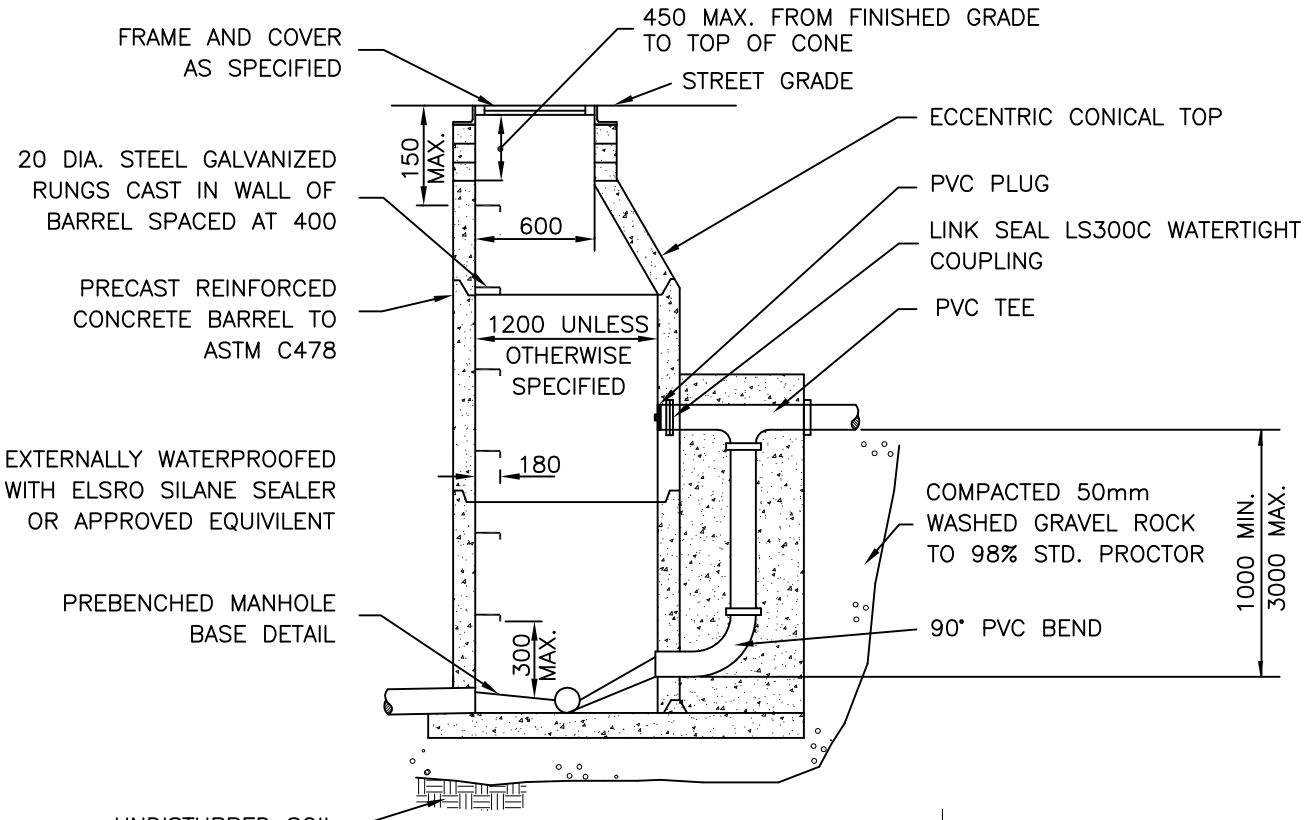


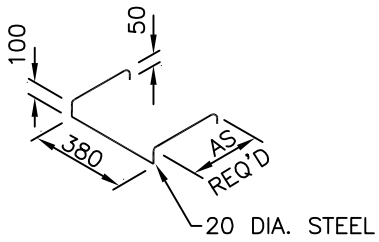
PLAN
N.T.S

TITLE:

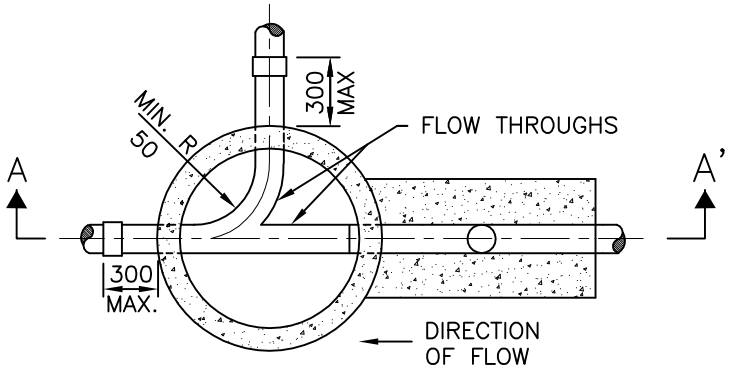
INTERIOR DROP MANHOLE DETAIL

STANDARD DETAILS	
SCALE: N.T.S.	
DATE: SEPTEMBER 2010	
STD. DWG NO.	6-202





SAFETY TYPE MANHOLE RUNG
(GALVANIZED AFTER FABRICATION)



SECTION A–A'

NOTES:

1. ALL PRE–CAST MANHOLES MUST CONFORM TO A.S.T.M. SPECIFICATIONS C478.
2. POURED–IN–PLACE CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF AT LEAST 25MPa.
3. ALL JOINTS TO BE SET WITH RUBBER GASKET AND SET WITH NON–SHRINK GROUT, INSIDE AND OUT, AROUND FULL CIRCUMFERENCE.
4. FORM FLOW TROUGH IN PARTIALLY SET CONCRETE AND TROWEL SMOOTH.
5. ALL DIMENSIONS IN MILLIMETRES.
6. BACKFILL AROUND MH. WITH SELECT NATIVE MATERIAL COMPACT TO 98% S.P.D.
7. FLAT TOP SECTION TO BE USED FOR MANHOLES UP TO 1.8m BURY.
8. ALL JOINTS TO BE WATERTIGHT. METHODS TO BE CONSISTENT WITH SITE CONDITIONS.
9. FOR MANHOLES 5.0m IN DEPTH OR GREATER, A SAFETY PLATFORM SHALL BE INSTALLED. SEE DETAIL B–110.
10. MANHOLES TO MEET REQUIREMENTS OF MANHOLE DETAILS AND SPECIFICATIONS.
11. SAFETY STEPS TO BE PROVIDED, SPACED AT 400 MAX. FIRST STEP 150 MAX. BELOW FRAME, LAST STEP 300 MAX. ABOVE BASE.
12 CHANNELING AND BENCHING TO BE FINISHED TO TROWEL SMOOTHNESS.

TITLE:

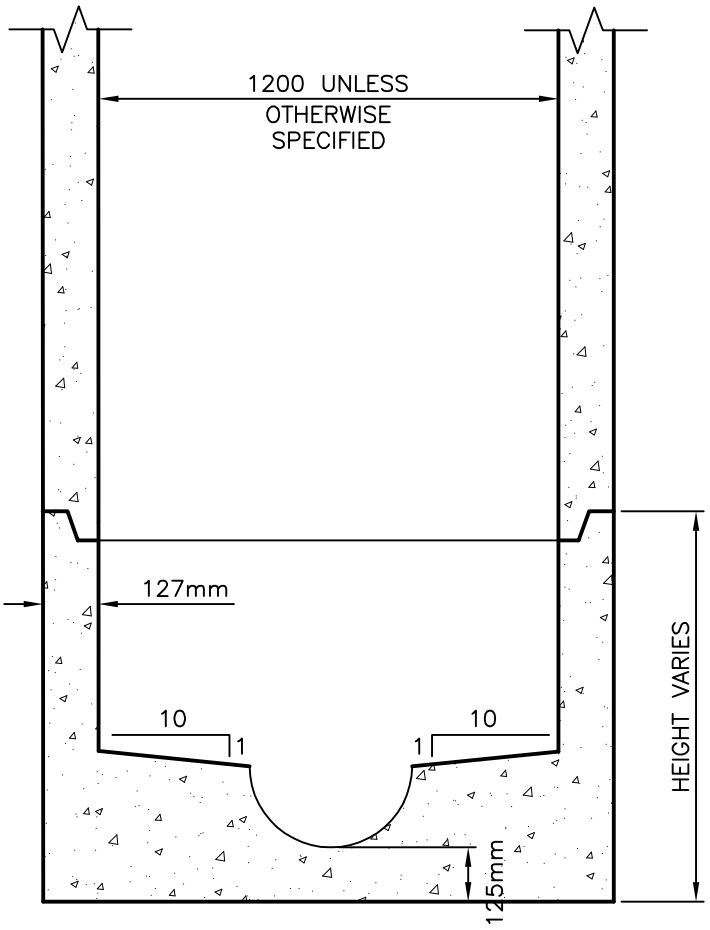
EXTERIOR DROP MANHOLE DETAIL

STANDARD DETAILS

SCALE: N.T.S.

DATE: SEPTEMBER 2010

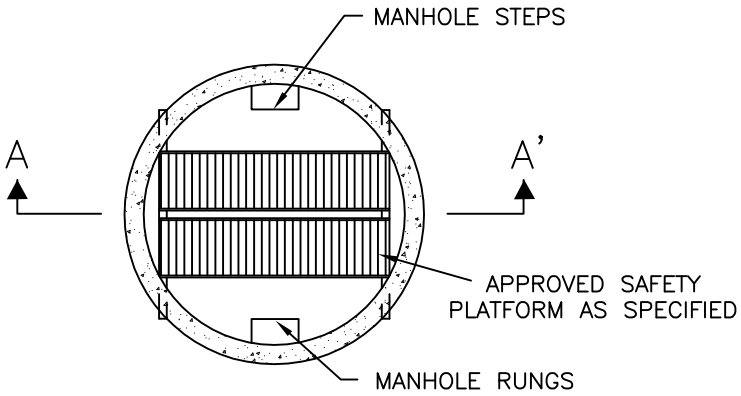
STD. DWG NO. 6–203



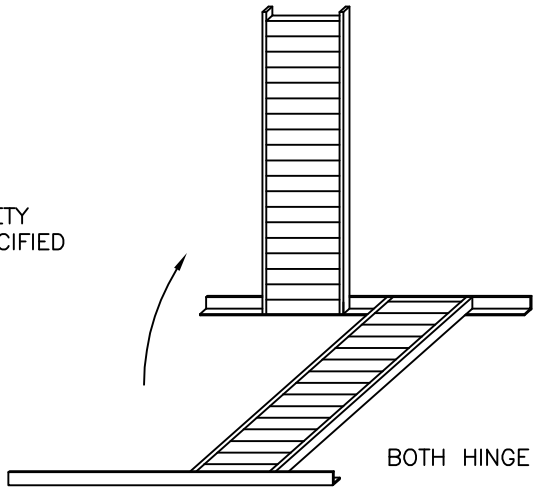
NOTES:

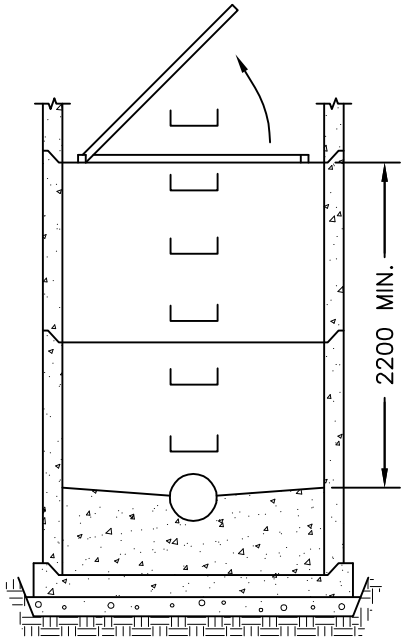
1. PREBENCHED MANHOLE BASES AS SUPPLIED BY CONCRETE MANUFACTURER.
2. SULPHATE RESISTANT CEMENT TO BE USED.
3. PIPE PENETRATIONS THROUGH MANHOLE WALL TO BE MADE USING KOR-N-SEAL MANHOLE TO PIPE SEALS.

	TITLE: PREBENCHED MANHOLE BASE	STANDARD DETAILS
		SCALE: N.T.S.
		DATE: SEPTEMBER 2010
		STD. DWG NO. 6-300



PLAN VIEW
N.T.S





SECTION A–A'
N.T.S

NOTES:

1. TO BE INSTALLED ON MANHOLES GREATERTHAN 5.0m DEEP.
2. MAXIMUM SPACING BETWEEN PLATFORMS TO BE 5.0m.
3. ALUMINUM GRATES TO BE MSU MISSISSAUGA OR APPROVED EQUAL.
4. TO BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

TITLE:

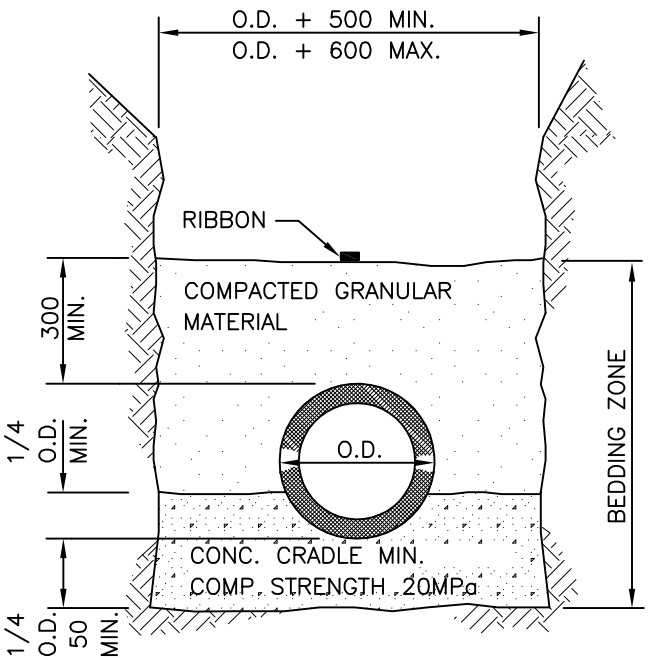
MANHOLE SAFETY PLATFORM

STANDARD DETAILS

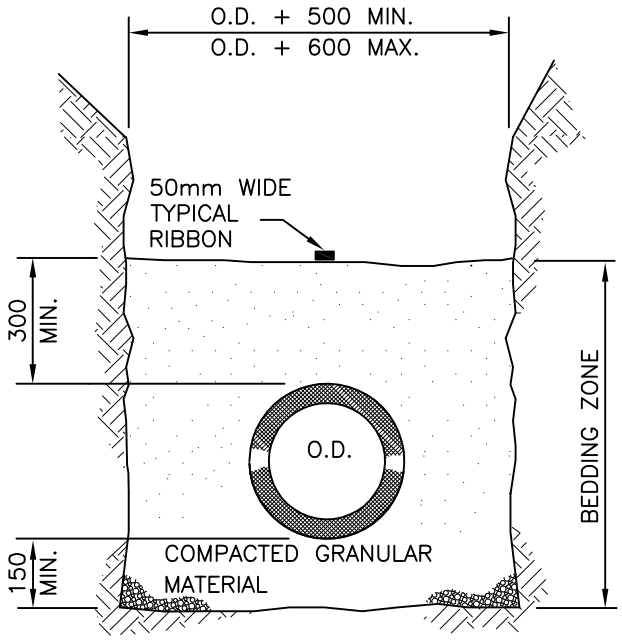
SCALE: N.T.S.

DATE: SEPTEMBER 2010

STD. DWG NO. 6–400



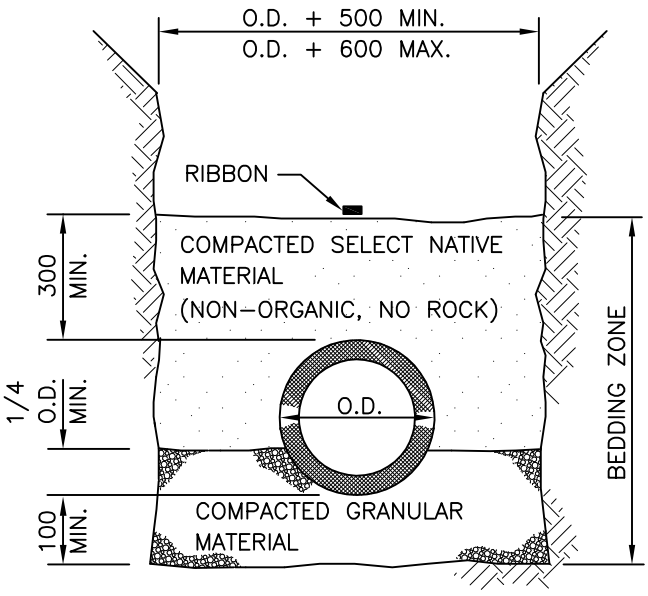
CLASS 'A' BEDDING



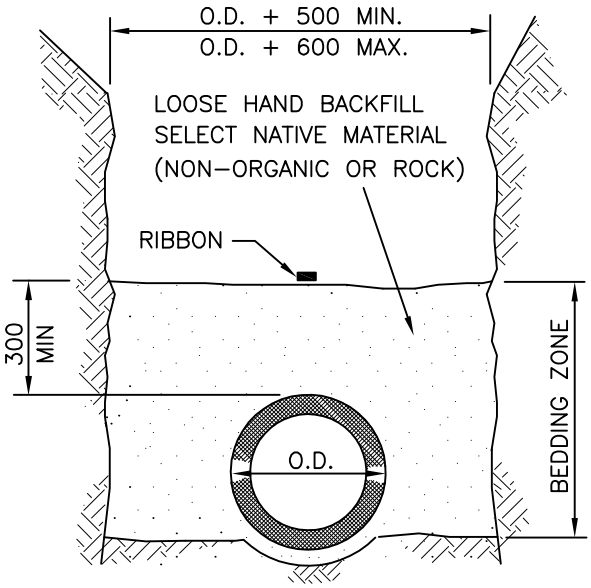
CLASS 'B' BEDDING

NOTES:

1. COMPACTION OF BEDDING ZONE SHALL BE AS PER SPECIFICATIONS. (MIN. 95% S.P.D.). TOP METRE MUST CONFORM TO SPECIFICATIONS (MIN 98% S.P.D.)
2. ALL DIMENSIONS ARE GIVEN IN MILLIMETRES UNLESS OTHERWISE STATED.
3. BACKFILL COMPACTION REQUIREMENTS WILL VARY. BACKFILL ABOVE PIPE ZONE TO BE APPROVED MATERIAL.
4. TRENCH SIDE SLOPES TO BE CONSISTENT WITH OCCUPATIONAL HEALTH AND SAFETY REQUIREMENTS.



CLASS 'C' BEDDING

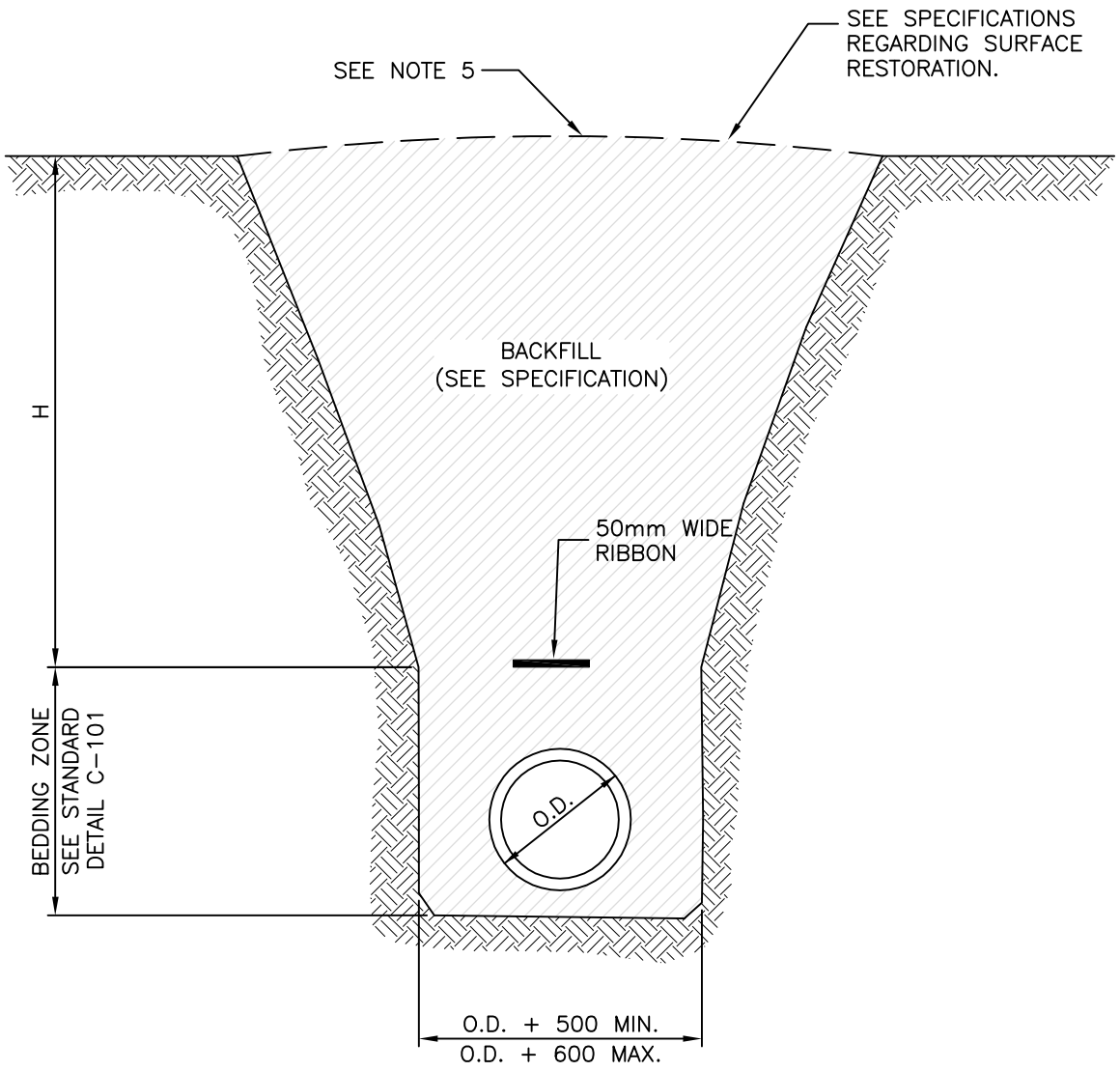


CLASS 'D' BEDDING

TITLE:

PIPE BEDDING DETAILS

STANDARD DETAILS	
SCALE: N.T.S.	
DATE: SEPTEMBER 2010	
STD. DWG NO.	6-500



NOTES:

1. WHEN CUT BACK SLOPES ARE TO BE USED IN LIEU OF CAGES AND SHORING, THESE SLOPES ARE TO MEET REQUIREMENTS OF LOCAL CODES.
2. SEE SPECIFICATIONS FOR MINIMUM COVER ABOVE PIPE.
3. MIN. PIPE ZONE WIDTH IS SPECIFIED TO ALLOW PROPER PIPE ZONE COMPACTION.
4. O.D. = OUTSIDE PIPE DIAMETER.
5. FOR UNCOMPACTED BACKFILL, CROWN TRENCH BY 0.1 x H.
6. RIBBON SHOULD BE PLACED ABOVE BURRIED PIPE AS PER DETAIL C-101.

TITLE:

TYPICAL TRENCH DETAIL

STANDARD DETAILS	
SCALE: N.T.S.	
DATE: SEPTEMBER 2010	
STD. DWG NO.	6-600