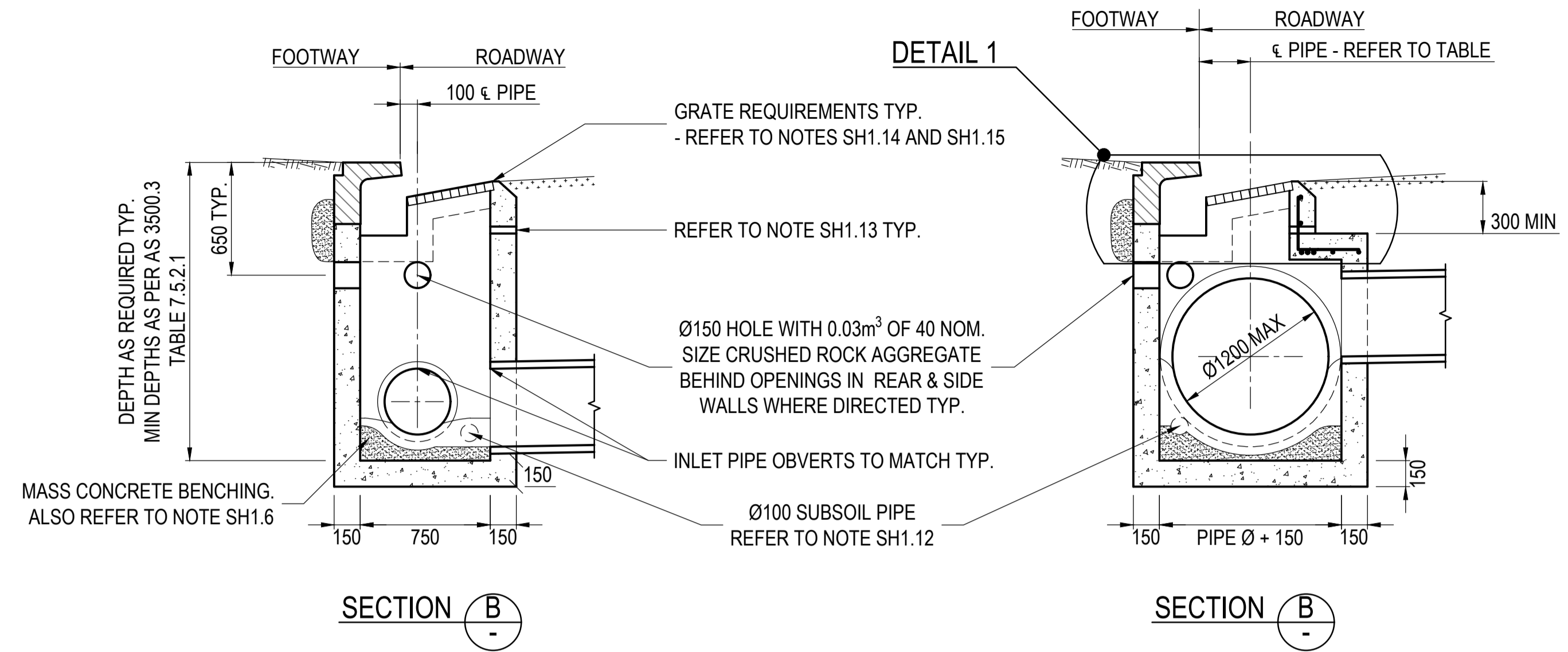


MAXIMUM FRONT ENTRY PIPE DIA. *	
STRAIGHT ENTRY	750
SKEW ENTRY 15°	525

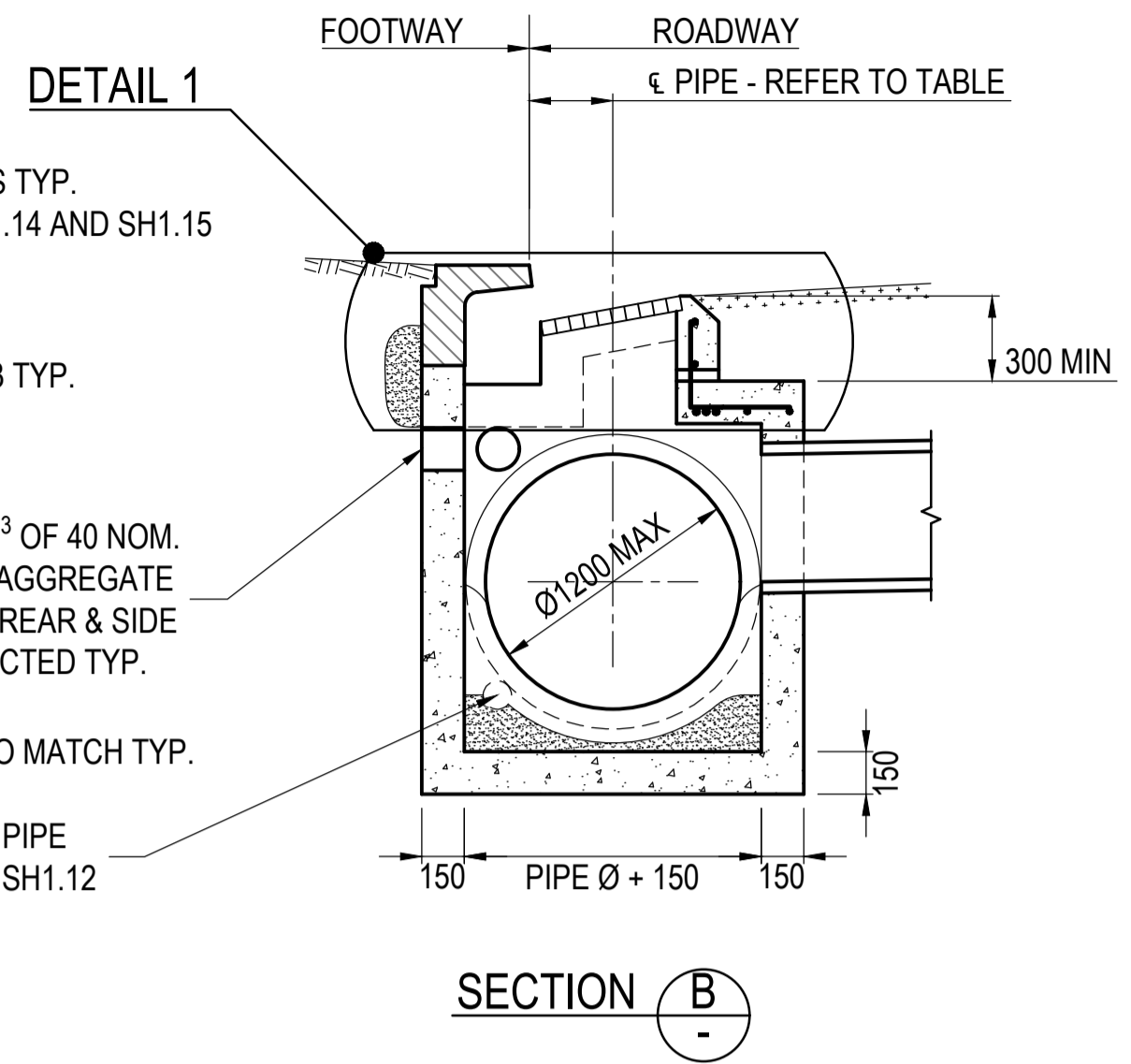
* OTHERWISE SITE SPECIFIC ENGINEER DESIGNED PIT REQUIRED

STANDARD KERB INLET PIT

FRONT ENTRY PIPE MAX DIAMETER - REFER TO TABLE

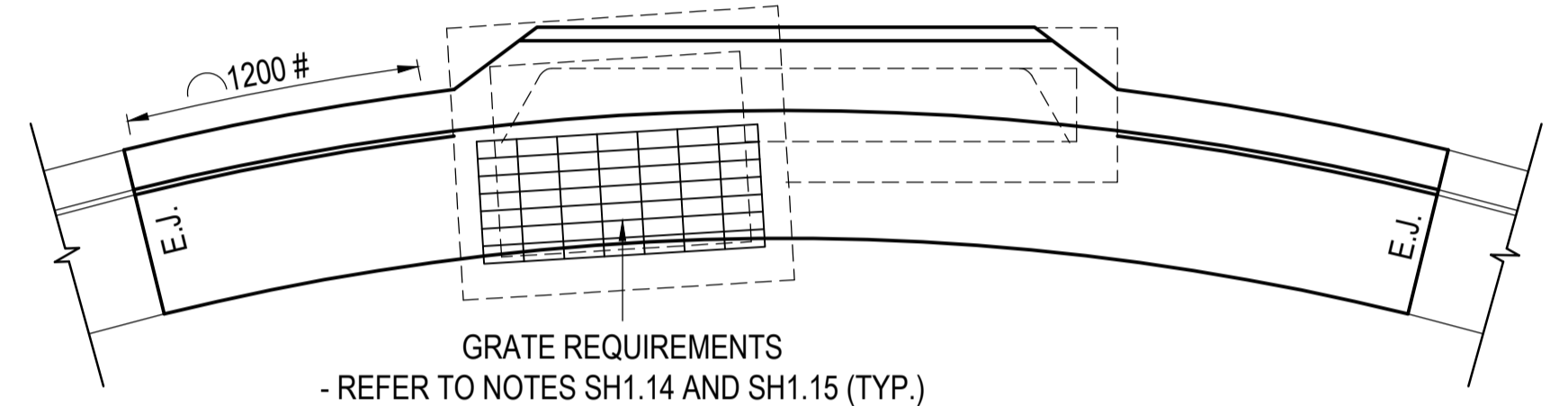


STANDARD GRATED KERB INLET FOR PIPES ≤ Ø525



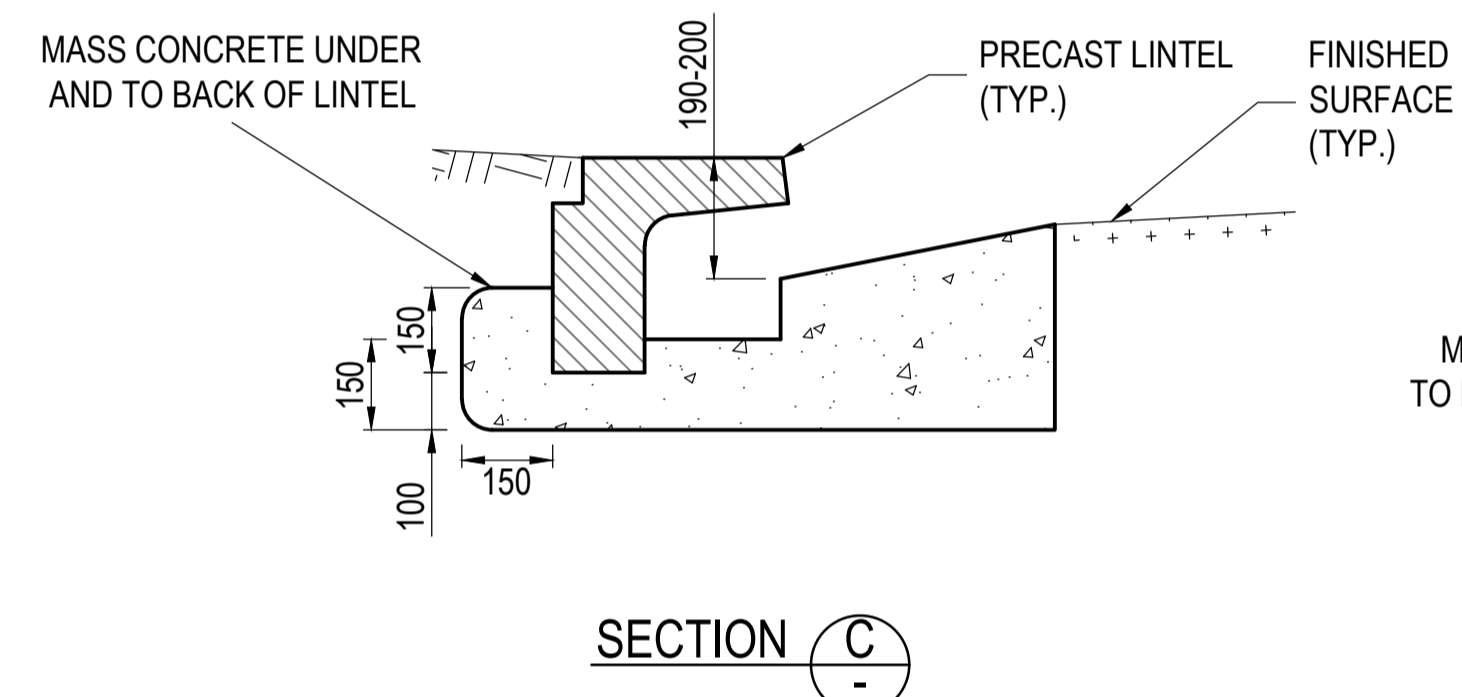
STANDARD GRATED KERB INLET FOR PIPES Ø600 TO Ø1200 (ENLARGED CHAMBER)

PIPE ϵ FOR PIPES $\phi 600$ TO $\phi 1200$	
PIPE DIAMETER	ϵ PIPE
600	150
675	180
750	220
825	255
900	295
1050	370
1200	445

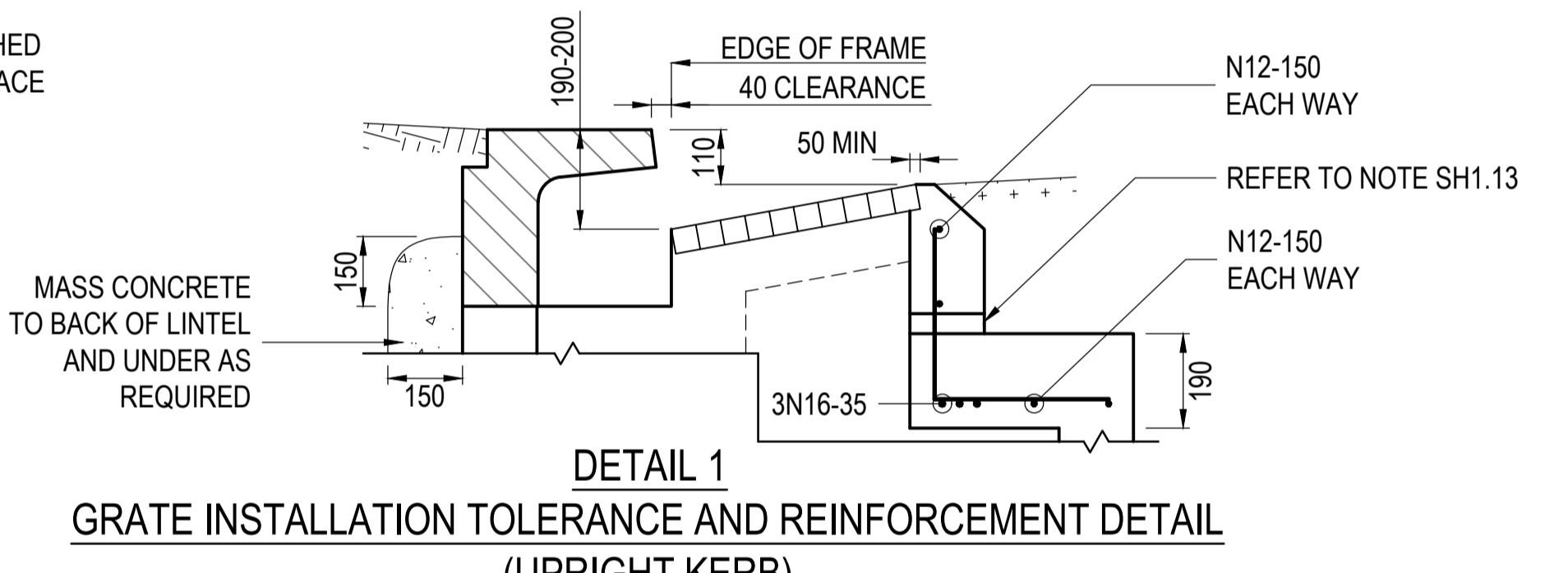


STANDARD PIT (CONCAVE)

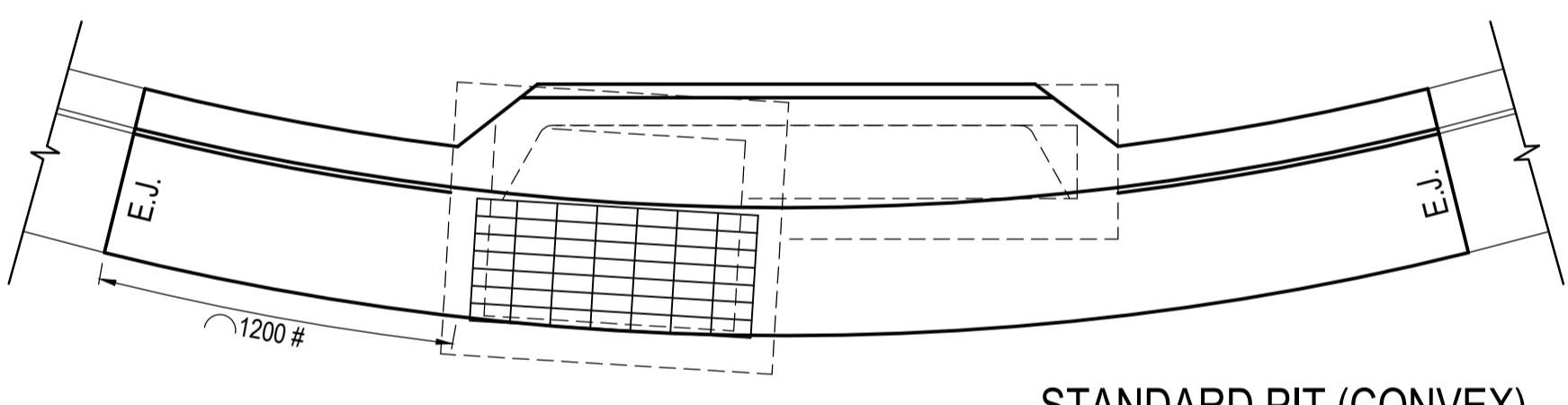
TRANSITION - INCREASE GUTTER DEPTH FROM NOMINAL KERB DEPTH (100 - 150) TO 190 - 200 TO SUIT LINTEL HEIGHT. TRANSITION MAY NOT BE REQUIRED WHEN USING PRECAST INTEGRAL LINTEL AND RACE (CHECK WITH INSPECTOR)



SECTION C



DETAIL 1 GRATE INSTALLATION TOLERANCE AND REINFORCEMENT DETAIL (UPRIGHT KERB)

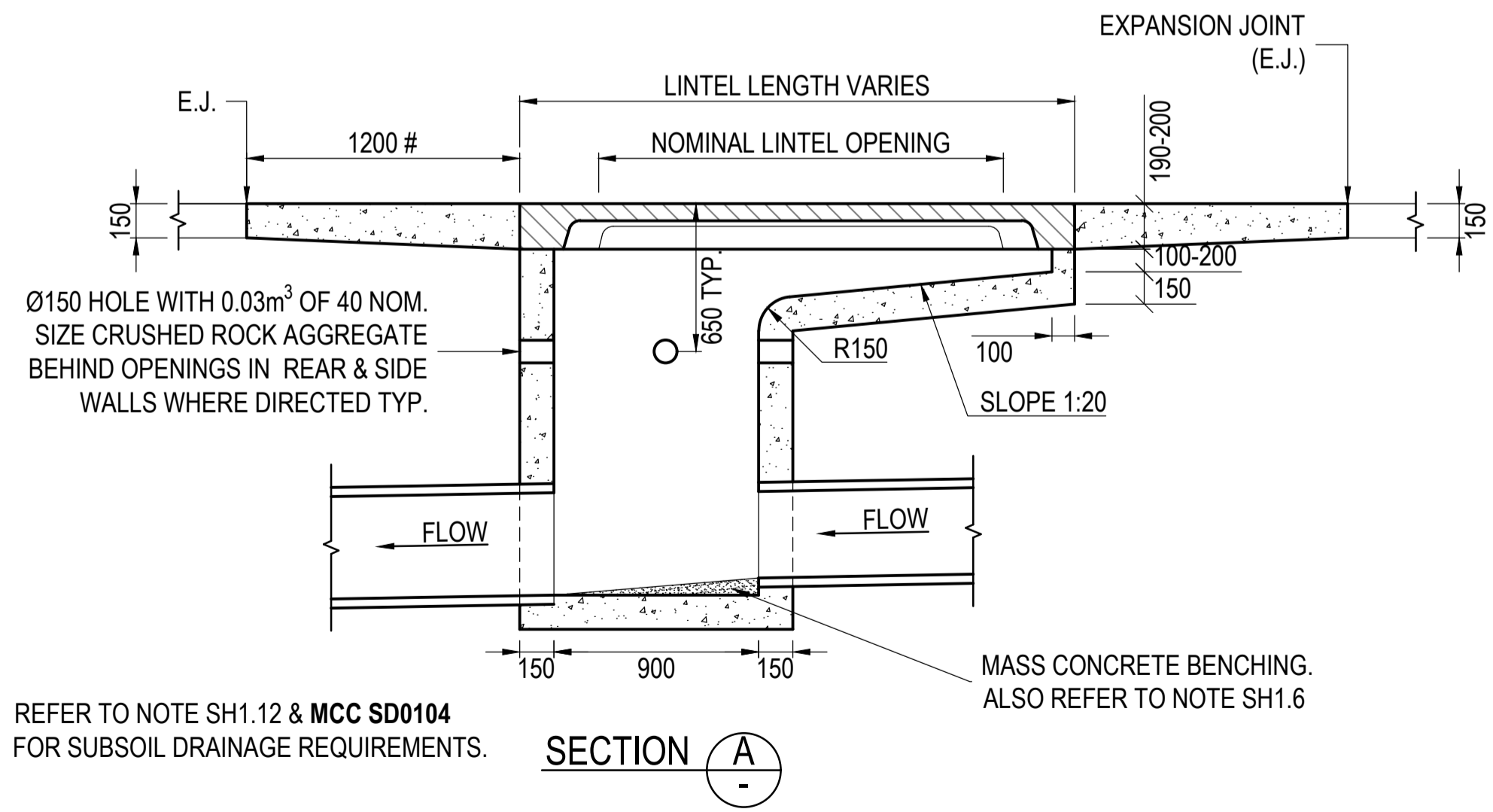


STANDARD PIT (CONVEX)

NOTES - SHEET 1

- SH1.1. NOT TO SCALE. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
- SH1.2. REINFORCEMENT: REINFORCEMENT IS DRAWN DIAGRAMMATICALLY & EXAGGERATED FOR CLARITY. ALL REINFORCING BARS SHALL BE GRADE D500N TO AS 4671 UNLESS NOTED OTHERWISE. ALL MESH SHALL BE GRADE 500L TO AS 4671.
- SH1.3. CONCRETE COVER: CLEAR COVER TO REINFORCEMENT SHALL BE 50 MINIMUM U.N.O. EXPOSURE CLASSIFICATION IS ASSUMED TO BE B1 AS PER AS 5100. IN AREAS WITH HIGHER EXPOSURE CLASSIFICATIONS, COVER TO REINFORCEMENT IS TO BE INCREASED ACCORDINGLY TO AS 5100.
- SH1.4. CONCRETE: CHARACTERISTIC COMPRESSIVE STRENGTH (f_c) OF ALL CONCRETE SHALL BE A MINIMUM OF 32 MPa, AT 28 DAYS. ALL CONCRETE SHALL CONFORM TO AS 1379. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF AS 5100 INCLUDING AMENDMENTS.
- SH1.5. CONCRETE FINISH: EXPOSED SURFACES TO BE OFF STEEL FORM FINISH OR OF HIGH QUALITY STEEL FLOAT FINISH. ALL EXPOSED EDGES TO BE ROUNDED TO 5 RADIUS.
- SH1.6. MASS CONCRETE BENCHING: TOP OF BENCHING SHALL BE QUARTER OF THE OUTLET PIPE DIAMETER AND A MINIMUM 50 THICK AT THE OUTLET PIPE INVERT AND GRADED TO DRAIN TO DOWNSTREAM OUTLET.
- SH1.7. PRECAST CONCRETE: ALL PRECAST COMPONENTS TO BE FACTORY PRODUCED OF VIBRATED CONCRETE AND STEAM CURED. PRECAST PITS ARE TO CONFORM TO AS/NZS 3500.3 CLAUSES 2.12.8 AND 7.5.
- SH1.8. PRECAST CONCRETE: PRECAST PIT UNITS WITH THIN WALL SECTIONS ON ALL 4 SIDES WILL NOT BE ACCEPTED WITHIN ROAD RESERVE AND MCC TRAFFICABLE AREAS.
- SH1.9. PIT WALLS SHALL BE CONSTRUCTED OF SUFFICIENT INTERNAL DIMENSIONS TO AVOID 'BIRD MOUTHING' OF PIPES.
- SH1.10. NO HOLES, CHASES OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.
- SH1.11. THE DESIGN, CERTIFICATION, CONSTRUCTION, INSPECTION AND PERFORMANCE OF THE FORMWORK AND FALSE WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- SH1.12. SUBSOIL DRAINAGE: Ø100 SUBSOIL DRAINAGE PIPE 3000 LONG, OR FULL WIDTH OF ROAD, WRAPPED IN FABRIC SOCK TO BE PROVIDED IN PIPE TRENCHES ADJACENT TO INLET PIPES. REFER TO MCC SD0104 FOR FURTHER DETAILS.

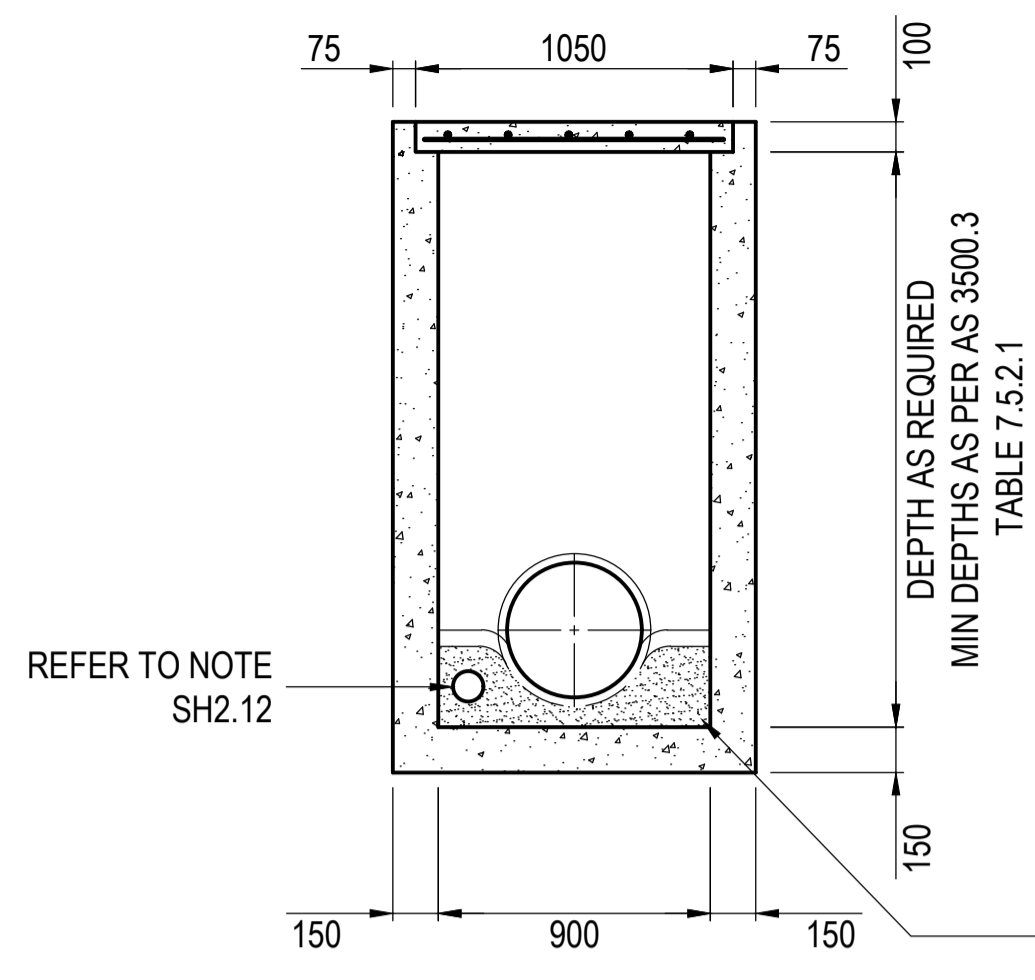
- SH1.13. CONSTRUCTION DRAINAGE: DURING CONSTRUCTION, PROVIDE Ø40 WEEP HOLE AT SUBGRADE LEVEL AT SAG PITS. SEAL WEEP HOLE WITH GROUT ONCE PAVEMENT IS CONSTRUCTED.
- SH1.14. GRATES: GRATES SHALL BE FULLY WELDED WITH A MINIMUM HYDRAULIC AREA OF 0.3 m², BE PROVIDED WITH SECURITY BOLT-DOWN/S, BE LOAD CLASS D (TO BE APPROVED PRIOR TO CONSTRUCTION OR PRIOR TO ISSUE OF SWC BY MCC), BICYCLE SAFE IN ACCORDANCE WITH AS 3996 AND TAGGED WITH MANUFACTURERS NAME, LOAD CLASS, GRATE WEIGHT AND CODE NUMBER AS REQUIRED BY AS 3996.
- SH1.15. GRATE INSTALLATION: ALL PIT GRATES ARE TO BE SET PARALLEL AND IN LINE WITH THE LIP OF KERB. DURING INSTALLATION OF GRATE AND FRAME, ENSURE CLEARANCE BETWEEN LINTEL AND OPENED GRATE IS ACHIEVED. REFER TO GRATE INSTALLATION TOLERANCE DETAIL ABOVE.
- SH1.16. LINTELS: LENGTH OF LINTELS SHOWN REFERS TO THE 'NOMINAL LINTEL OPENING' OR CLEAR LENGTH OF OPENING.
- SH1.17. OTHER KERB PROFILES: FOR KERB PROFILES OTHER THAN STANDARD SA, LINTELS ARE TO BE LAID A MAXIMUM 30 HIGHER THAN THE TOP OF KERB TO MAINTAIN SAFE GRATE CROSSFALL AND OPENING CLEARANCES. LINTEL MAY NEED TO BE SET BACK FROM NOMINAL KERB LINE AS DIRECTED BY MCC INSPECTOR. TRANSITION KERB RISE OVER 1.2 m. MAINTAIN MINIMUM 1% VERGE CROSSFALL BEHIND LINTEL.
- SH1.18. SAG PITS: AT SAG PITS, GRATES SHALL BE PLACED CENTRALLY TO THE LINTEL WITH AN INLET RACE ON BOTH SIDES.
- SH1.19. PITS GREATER THAN 600 DEEP: PROVIDE INDIVIDUAL-RUNG (STEP-IRON) LADDERS IN ACCORDANCE WITH MCC AUS-SPEC 1354 AND AS 1657 CL.7.6 ON OPPOSITE WALL TO GRATE HINGE - REFER TO DETAILS ON SHEET 4. SHARP EDGES ARE TO BE ROUNDED AND INDIVIDUAL-RUNG LADDER COMPONENTS ARE TO BE HOT DIP GALVANISED AFTER FABRICATION.
- SH1.20. PITS GREATER THAN 1200 DEEP: PROVIDE SL82 MESH CENTRALLY IN WALLS AND FLOOR WITH A MINIMUM 50 COVER. OVERLAP MESH 300 AT WALL CORNERS AND INTO THE FLOOR, OR ALTERNATIVELY, PROVIDE 400 X 400 N12 COGS AT 200 CENTRES.
- SH1.21. GALVANISING: TO BE IN ACCORDANCE WITH AS 1214 AND AS 4680 FOR ALL EXPOSED COMPONENTS.
- SH1.22. CUTTING OF PIPES: ALL CUT CONCRETE PIPES SHALL HAVE THEIR CUT END SEALED WITH EPOXY MORTAR TO PROTECT THE STEEL REINFORCEMENT.



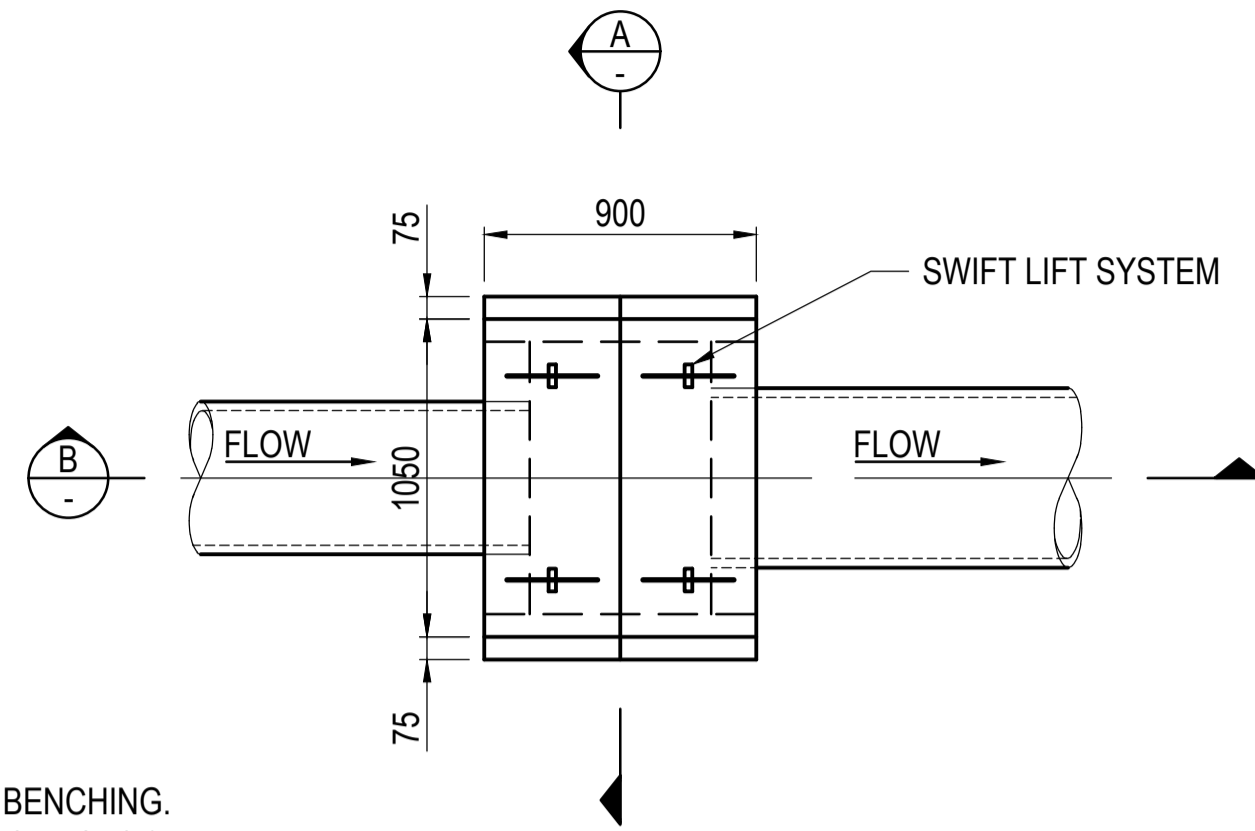
SECTION A

REFER TO NOTE SH1.12 & MCC SD0104 FOR SUBSOIL DRAINAGE REQUIREMENTS.

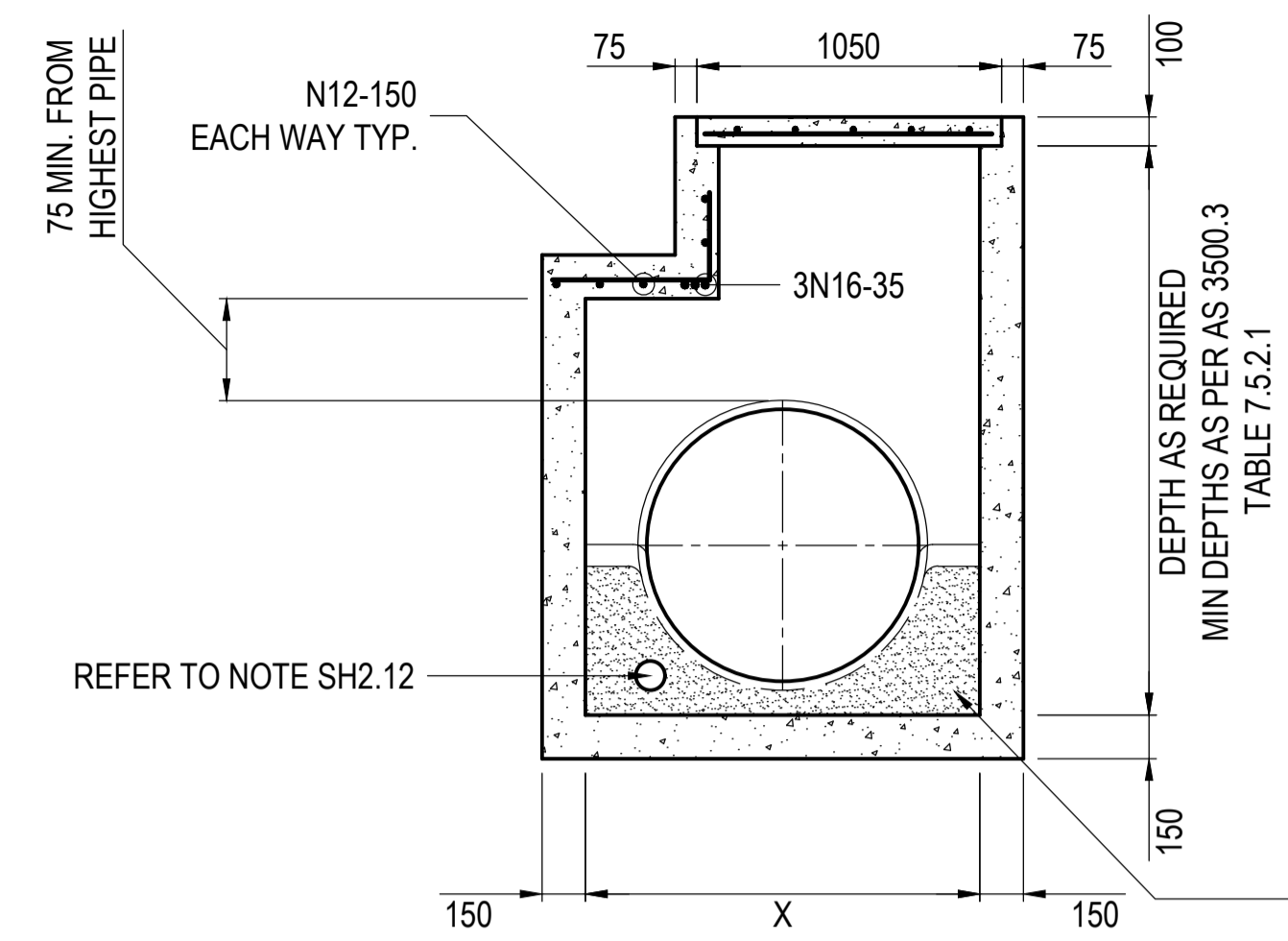
100mm at A3 Or 200mm at A1 Size



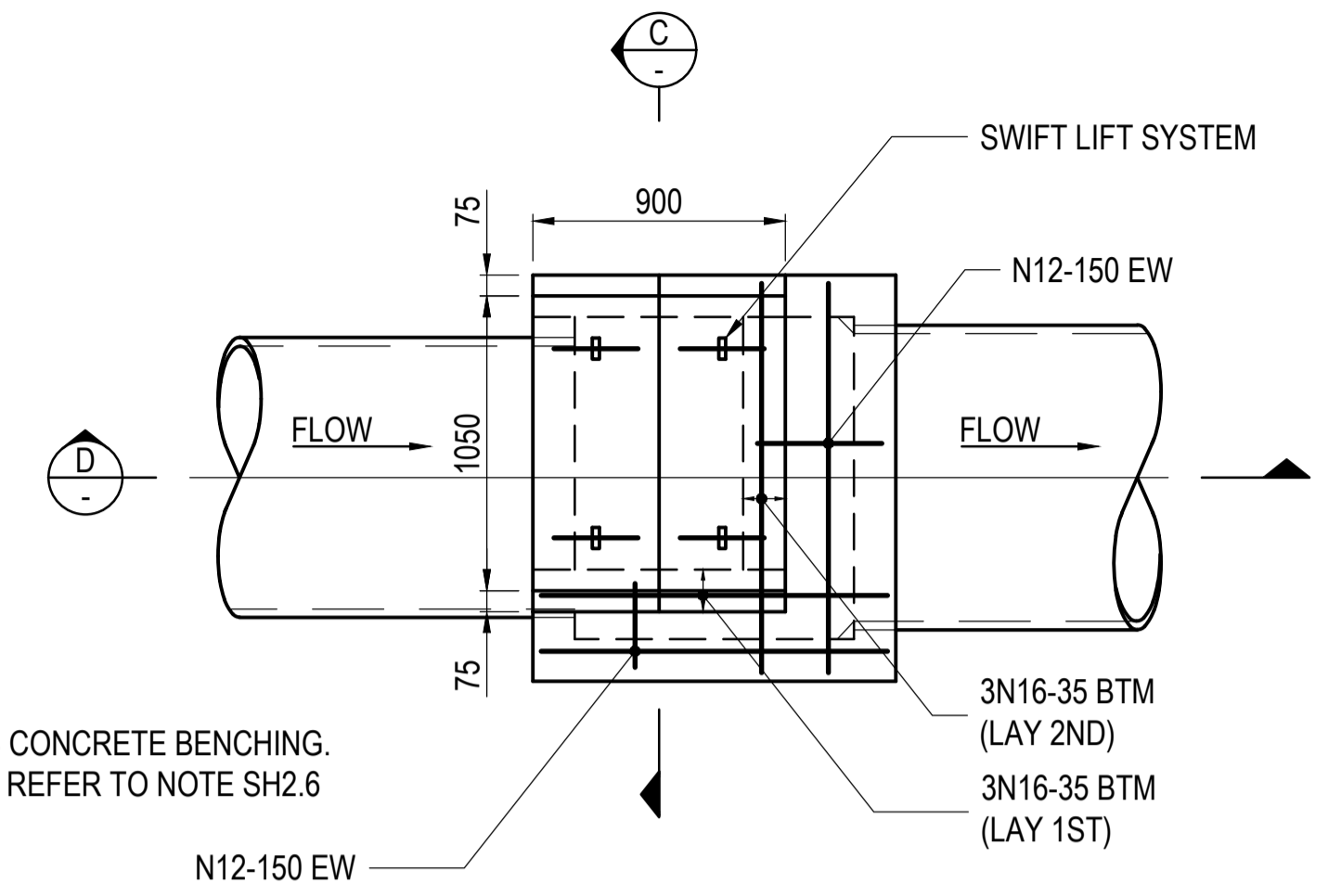
SECTION A



PLAN - LETTER BOX PIT TYPE A

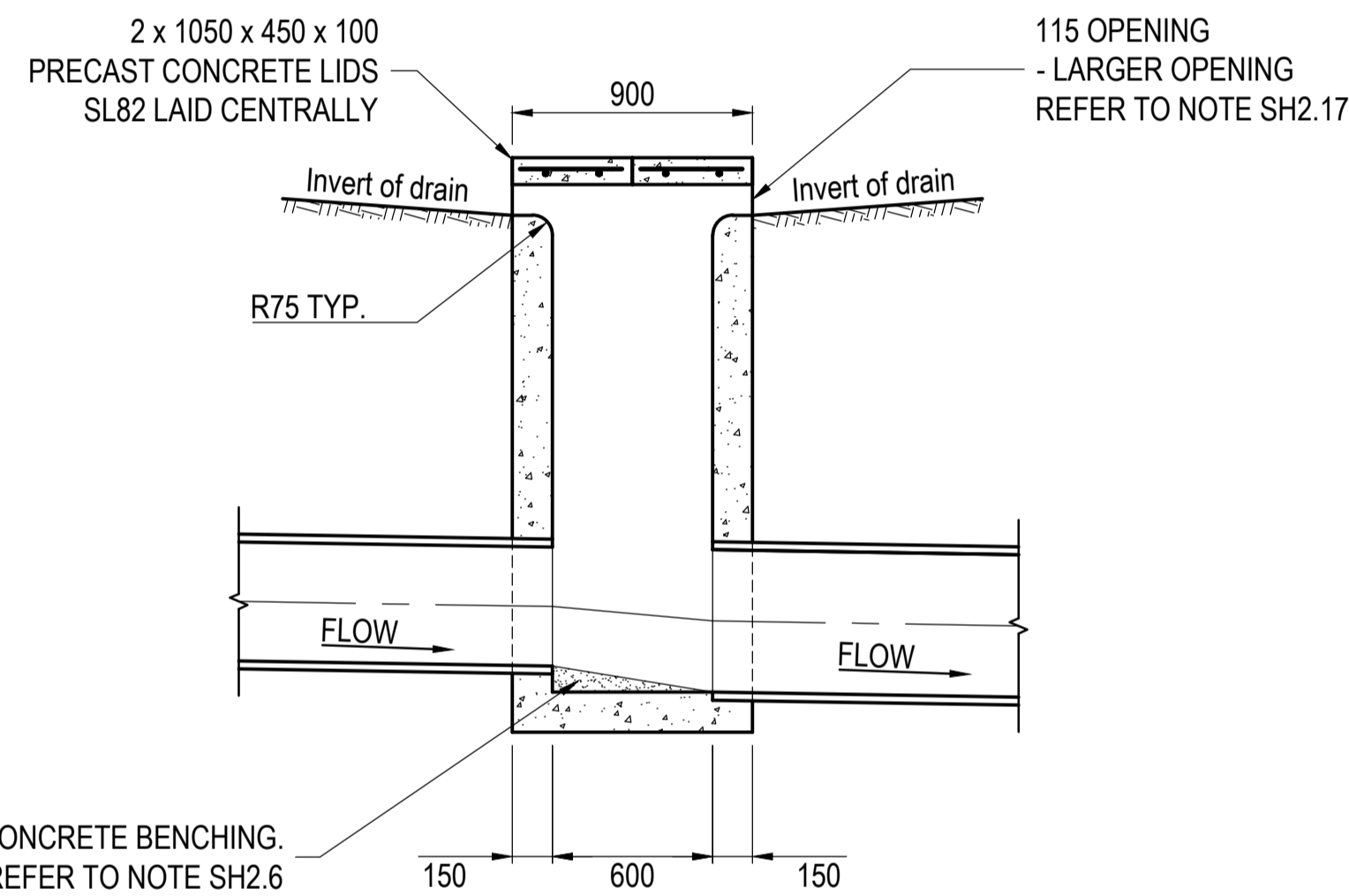


SECTION C



PLAN - LETTER BOX TYPE B

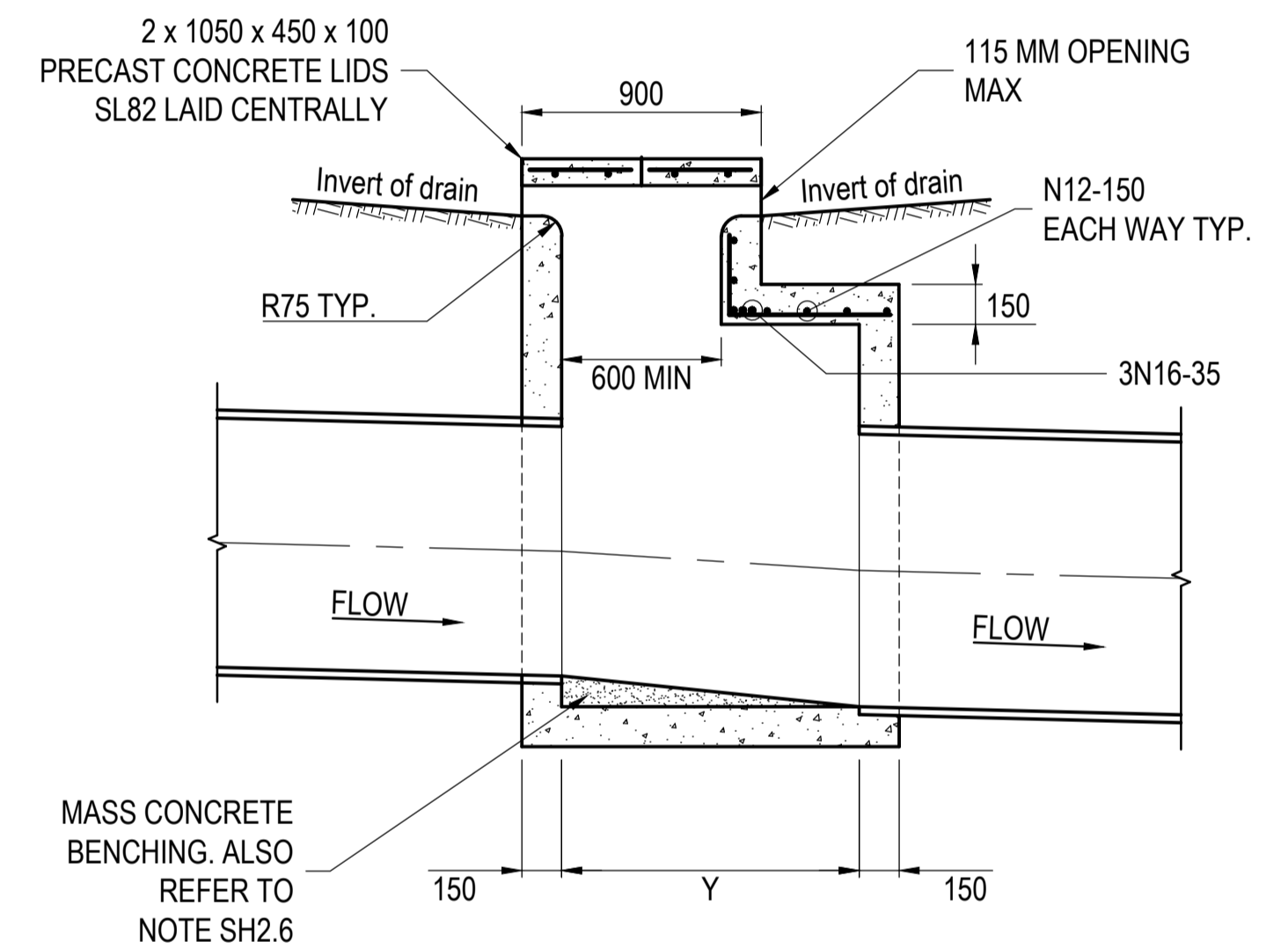
TYPE A PIT	
PIPE AND ORIENTATION	MAXIMUM DIAMETER
INLET/OUTLET PIPE ON STRAIGHT	825
INLET/OUTLET PIPE ON 45° SKEW	525
SIDE ENTRY/OUTLET PIPE AT 90°	600
SIDE ENTRY/OUTLET PIPE AT 45°	375



SECTION B

TYPE B PIT	
PIPE AND ORIENTATION	MAXIMUM DIAMETER
INLET/OUTLET PIPE ON STRAIGHT	1800
INLET/OUTLET PIPE ON 45° SKEW	1200
SIDE ENTRY/OUTLET PIPE AT 90°	1050
SIDE ENTRY/OUTLET PIPE AT 45°	750

TYPE B PIT			
DIAMETER OF OUTLET PIPE ON STRAIGHT	X	Y	
900	1050	900	
1050	1200	900	
1200	1350	900	
1350	1500	1050	
1500	1650	1200	
1650	1800	1200	
1800	1950	1200	



SECTION D

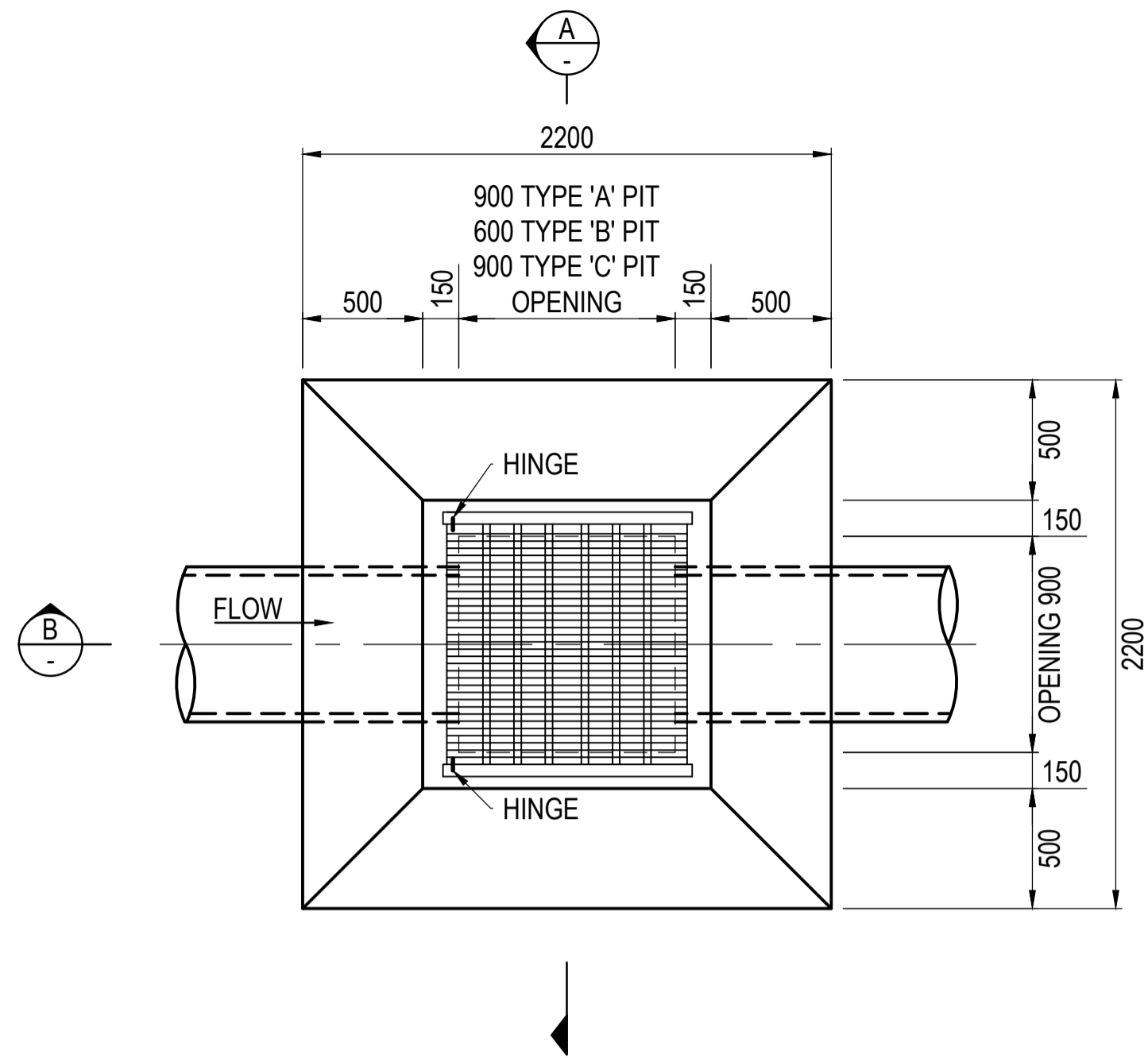
NOTES - SHEET 2

- SH2.1. NOT TO SCALE. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
- SH2.2. REINFORCEMENT: REINFORCEMENT IS DRAWN DIAGRAMMATICALLY & EXAGGERATED FOR CLARITY. ALL REINFORCING BARS SHALL BE GRADE D500N TO AS 4671 UNLESS NOTED OTHERWISE. ALL MESH SHALL BE GRADE 500L TO AS 4671.
- SH2.3. CONCRETE COVER: CLEAR COVER TO REINFORCEMENT SHALL BE 50 MINIMUM U.N.O. EXPOSURE CLASSIFICATION IS ASSUMED TO BE B1 AS PER AS 5100. IN AREAS WITH HIGHER EXPOSURE CLASSIFICATIONS, COVER TO REINFORCEMENT IS TO BE INCREASED ACCORDINGLY TO AS 5100.
- SH2.4. CONCRETE: CHARACTERISTIC COMPRESSIVE STRENGTH (f_c) OF ALL CONCRETE SHALL BE A MINIMUM OF 32 MPa, AT 28 DAYS. ALL CONCRETE SHALL CONFORM TO AS 1379. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF AS 5100 INCLUDING AMENDMENTS.
- SH2.5. CONCRETE FINISH: EXPOSED SURFACES TO BE OFF STEEL FORM FINISH OR OF HIGH QUALITY STEEL FLOAT FINISH. ALL EXPOSED EDGES TO BE ROUNDED TO 5 RADIUS.
- SH2.6. MASS CONCRETE BENCHING: TOP OF BENCHING SHALL BE QUARTER OF THE OUTLET PIPE DIAMETER AND A MINIMUM 50 THICK AT THE OUTLET PIPE INVERT AND GRADED TO DRAIN TO DOWNSTREAM OUTLET.
- SH2.7. PRECAST CONCRETE: ALL PRECAST COMPONENTS TO BE FACTORY PRODUCED OF VIBRATED CONCRETE AND STEAM CURED. PRECAST PITS ARE TO CONFORM TO AS/NZS 3500.3 CLAUSES 2.12.8 AND 7.5.
- SH2.8. PRECAST CONCRETE: PRECAST PIT UNITS WITH THIN WALL SECTIONS ON ALL 4 SIDES WILL NOT BE ACCEPTED WITHIN THE ROAD RESERVE AND MCC TRAFFICABLE AREAS.

- SH2.9. PIT WALLS SHALL BE CONSTRUCTED OF SUFFICIENT INTERNAL DIMENSIONS TO AVOID 'BIRD MOUTHING' OF PIPES.
- SH2.10. NO HOLES, CHASES OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.
- SH2.11. FORMWORK AND FALSEWORK: THE DESIGN, CERTIFICATION, CONSTRUCTION, INSPECTION AND PERFORMANCE OF THE FORMWORK AND FALSE WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- SH2.12. SUBSOIL DRAINAGE: Ø100 SUBSOIL DRAINAGE PIPE 3000 LONG, OR FULL WIDTH OF ROAD, WRAPPED IN FABRIC SOCK TO BE PROVIDED IN PIPE TRENCHES ADJACENT TO INLET PIPES. REFER TO MCC SD0104 FOR FURTHER DETAILS.
- SH2.13. PITS GREATER THAN 600 DEEP: PROVIDE INDIVIDUAL-RUNG (STEP-IRON) LADDERS IN ACCORDANCE WITH MCC AUS-SPEC 1354 AND AS 1657 CL7.6 ON ONE WALL - REFER TO DETAILS ON SHEET 4. SHARP EDGES ARE TO BE ROUNDED AND INDIVIDUAL-RUNG LADDER COMPONENTS ARE TO BE HOT DIP GALVANISED AFTER FABRICATION.
- SH2.14. PITS GREATER THAN 1200 DEEP: PROVIDE SL82 MESH CENTRALLY IN WALLS AND FLOOR WITH A MINIMUM 50 COVER. OVERLAP MESH 300 AT WALL CORNERS AND INTO THE FLOOR, OR ALTERNATIVELY, PROVIDE 400 X 400 N12 COGS AT 200 CENTRES.
- SH2.15. GALVANISING: TO BE IN ACCORDANCE WITH AS 1214 AND AS 4680 FOR ALL EXPOSED COMPONENTS.
- SH2.16. CUTTING OF PIPES: ALL CUT CONCRETE PIPES SHALL HAVE THEIR CUT END SEALED WITH EPOXY MORTAR TO

- PROTECT THE STEEL REINFORCEMENT.
- SH2.17. SURFACE INLET PIT OPENINGS: IF OPENING IS GREATER THAN 115 A SUITABLE FRAME IS TO BE INSTALLED TO MCC SATISFACTION.
- SH2.18. FOR LARGE PITS ACCESS MANHOLE SIMILAR TO JUNCTION PITS WILL BE REQUIRED.

100mm at A3 Or 200mm at A1 Size



**PLAN - STANDARD GRATED PIT
TYPE A, B & C**

SUITABLE IN AREAS STRICTLY ACCESSIBLE BY PEDESTRIANS ONLY. NOT SUITABLE FOR AREAS ACCESSIBLE BY VEHICLES

**SURCHARGE PIT NOMINAL INSIDE
DIMENSIONS & GRATE TYPES**

Pit	OPENING SIZE	AS 3996 LOAD CLASS*	LEGS
Type A	900 x 900	AS 3996 TABLE 3.1	YES**
Type B	600 x 900	AS 3996 TABLE 3.1	NO
Type C	900 x 900	AS 3996 TABLE 3.1	NO

* ALSO REFER TO NOTE SH3.15
** GRATE FITTED WITH LEGS AS PER DETAIL 1

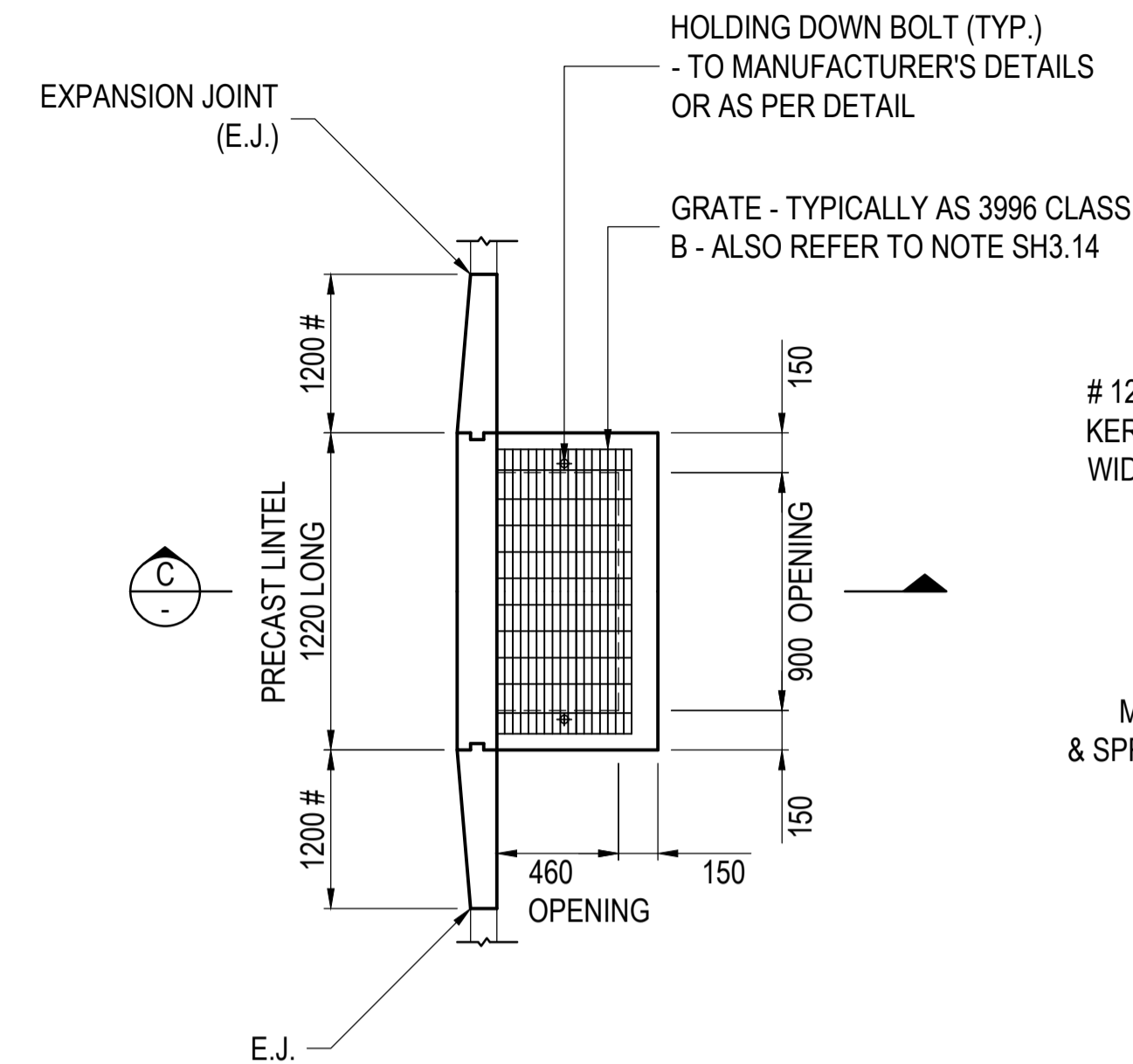
**SURCHARGE PITS - PIPE
MAX. DIA. (mm)**

INLET PIPE ON STRAIGHT	750
OUTLET PIPE ON STRAIGHT	750

1-M12 GALV. HOLDING DOWN BOLT PER LEG. BOLTS 150 LONG WITH 35 MM PROJECTION OR AS REQUIRED BY GRATE MANUFACTURER

**DETAIL 1
HOLDING DOWN BOLT
(PIT TYPE A SHOWN)**

LEGS AND BASEPLATE TO MANUFACTURER'S DETAILS

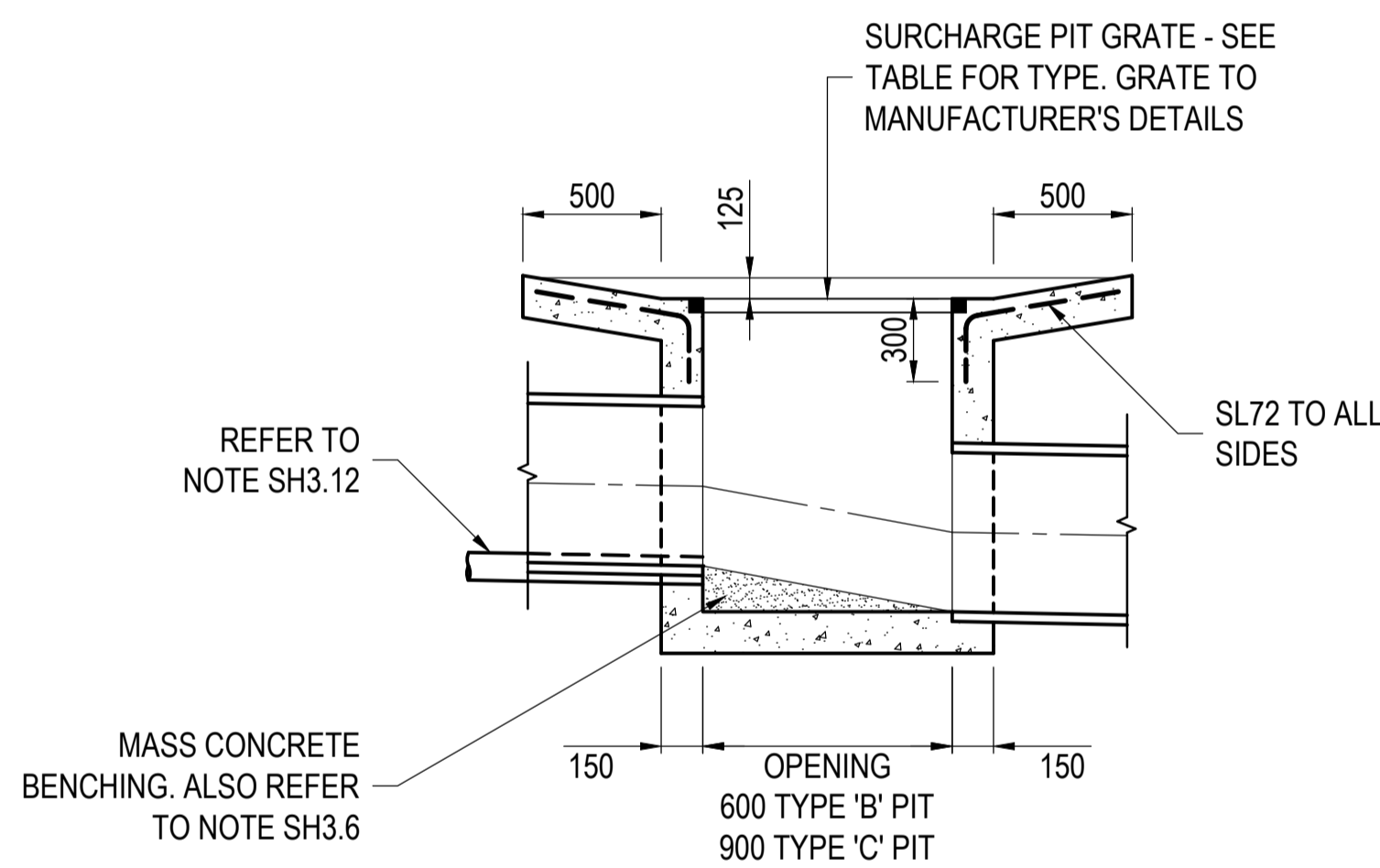


**PLAN - STANDARD PATHWAY
GRATED PITS TYPE A & B**

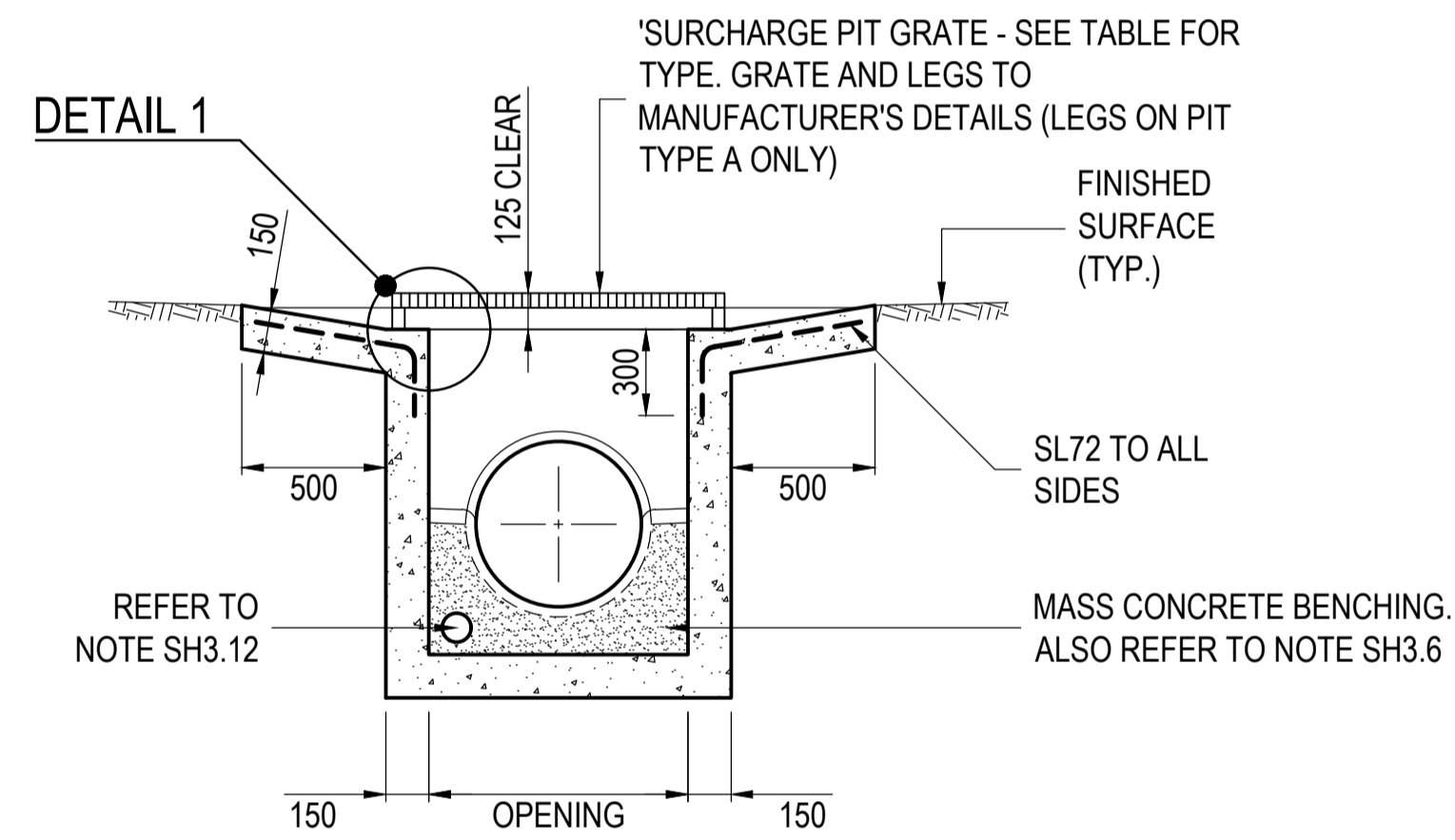
1200 TRANSITION FOR 100 TO 150 KERB HEIGHT & 125 TO 150 KERB WIDTH WHERE APPLICABLE

M12 GALV. NUT & SPRING WASHER
30 x 6 PL x 50 LONG WELDED TO RIBS
1 M12 GALV. BOLT 150 LONG SET IN CONCRETE

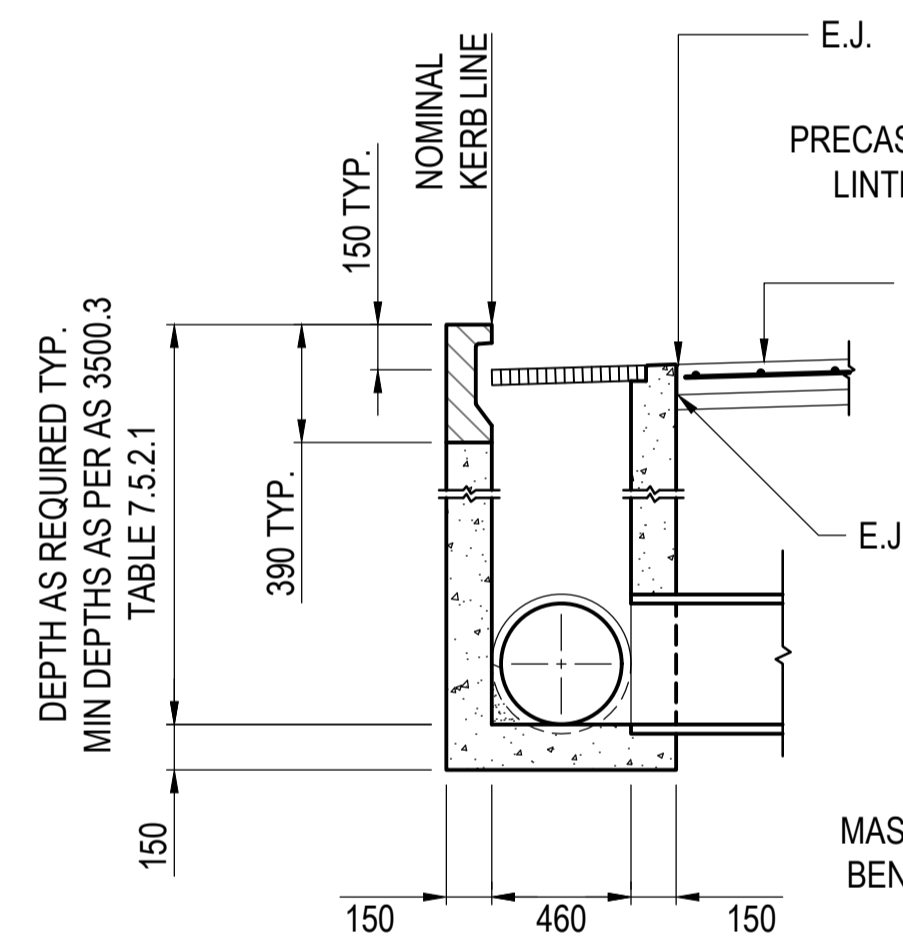
**PATHWAY GRATED PIT
HOLDING DOWN BOLT
DETAIL**



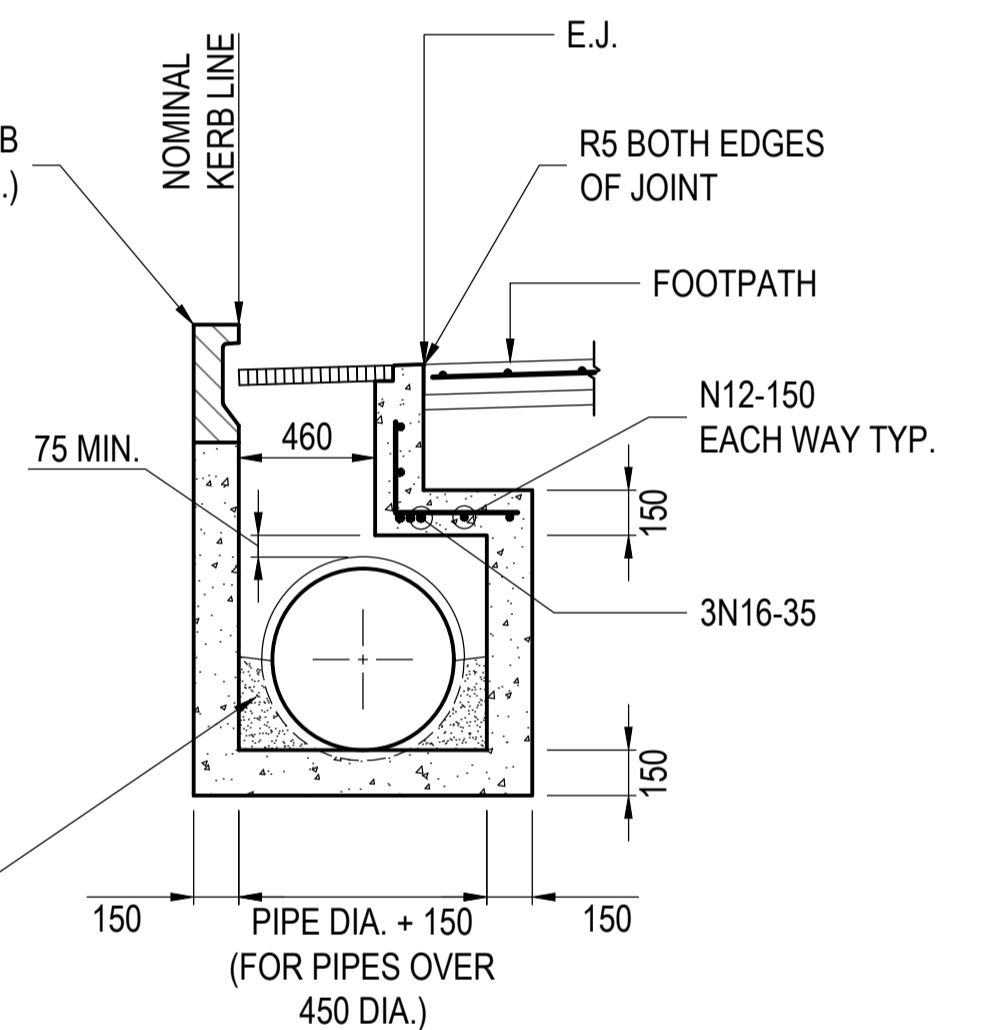
**SECTION B - GRATED PIT
TYPES B & C SHOWN**



**SECTION A - GRATED PIT
TYPE A SHOWN**



**SECTION C - PATHWAY PIT
TYPE A**



**SECTION C - PATHWAY PIT
TYPE B**

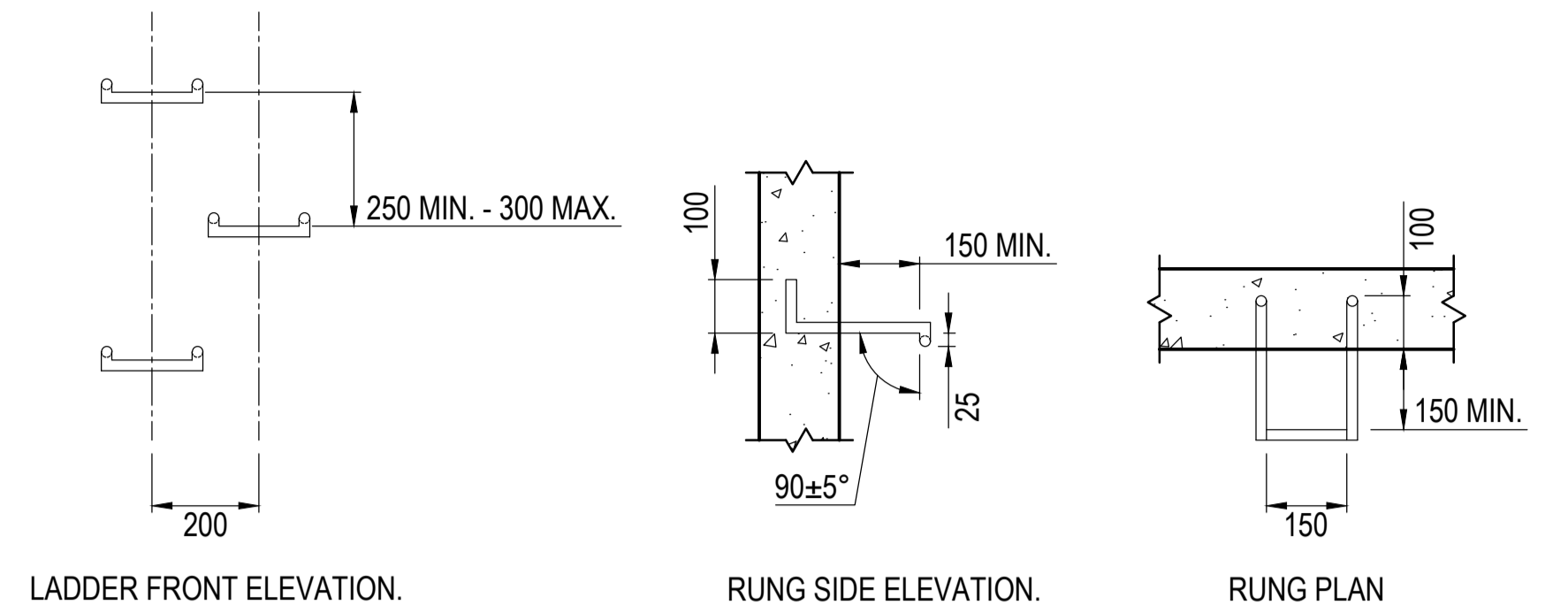
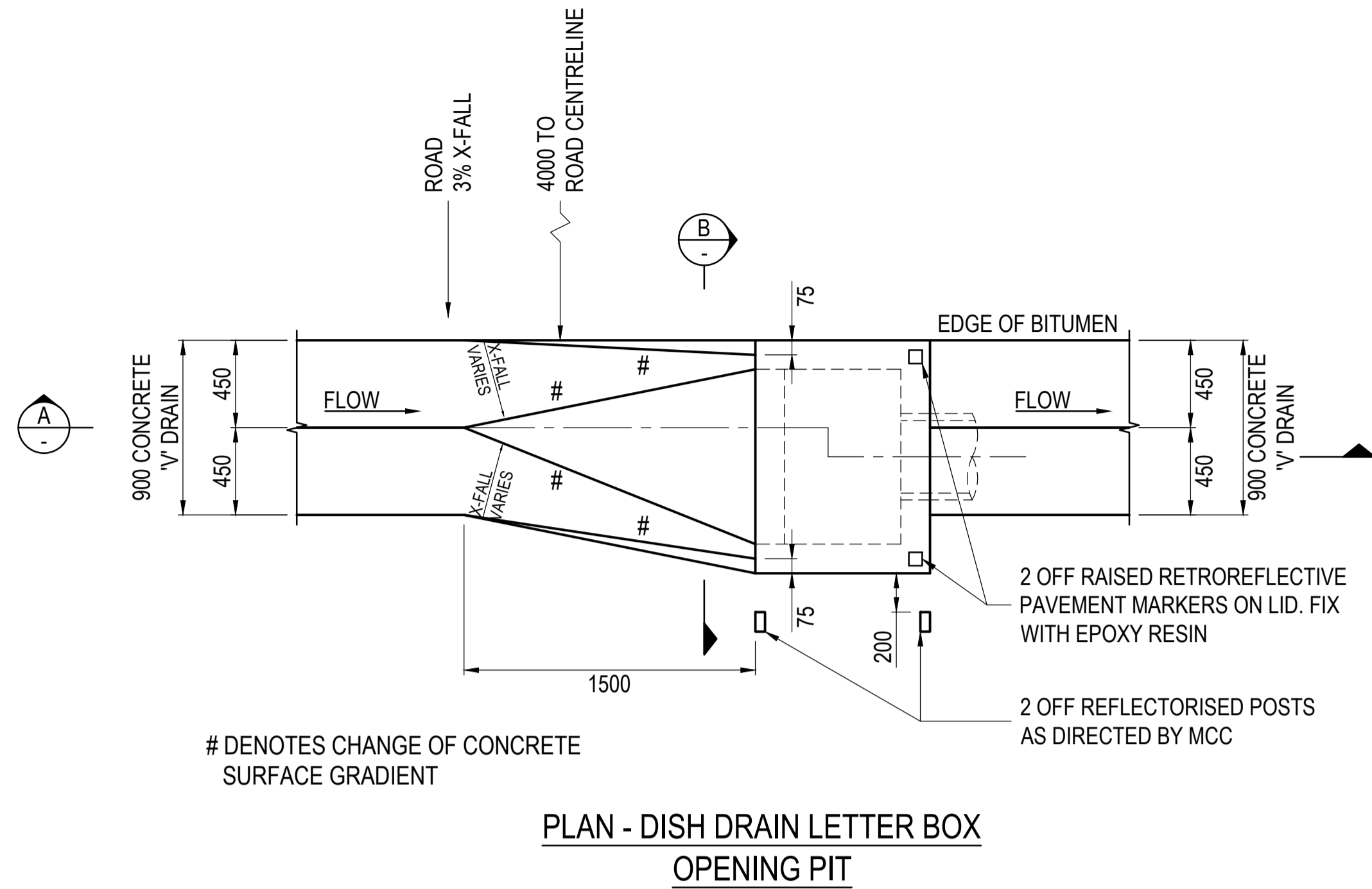
NOTES - SHEET 3

- SH3.1. NOT TO SCALE. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
- SH3.2. **REINFORCEMENT:** REINFORCEMENT IS DRAWN DIAGRAMMATICALLY & EXAGGERATED FOR CLARITY. ALL REINFORCING BARS SHALL BE GRADE D500N TO AS4671 UNLESS NOTED OTHERWISE. ALL MESH SHALL BE GRADE 500L TO AS 4671.
- SH3.3. **CONCRETE COVER:** CLEAR COVER TO REINFORCEMENT SHALL BE 50 MINIMUM U.N.O. EXPOSURE CLASSIFICATION IS ASSUMED TO BE B1 AS PER AS 5100. IN AREAS WITH HIGHER EXPOSURE CLASSIFICATIONS, COVER TO REINFORCEMENT IS TO BE INCREASED ACCORDINGLY TO AS 5100.
- SH3.4. **CONCRETE:** CHARACTERISTIC COMPRESSIVE STRENGTH (f_c) OF ALL CONCRETE SHALL BE A MINIMUM OF 32 MPa, AT 28 DAYS. ALL CONCRETE SHALL CONFORM TO AS 1379. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF AS 5100 INCLUDING AMENDMENTS.
- SH3.5. **CONCRETE FINISH:** EXPOSED SURFACES TO BE OFF STEEL FORM FINISH OR OF HIGH QUALITY STEEL FLOAT FINISH. ALL EXPOSED EDGES TO BE ROUNDED TO 5 RADIUS.
- SH3.6. **MASS CONCRETE BENCHING:** TOP OF BENCHING SHALL BE QUARTER OF THE OUTLET PIPE DIAMETER AND A MINIMUM 50 THICK AT THE OUTLET PIPE INVERT AND GRADED TO DRAIN TO DOWNSTREAM OUTLET.
- SH3.7. **PRECAST CONCRETE:** ALL PRECAST COMPONENTS TO BE FACTORY PRODUCED OF VIBRATED CONCRETE AND STEAM CURED. PRECAST PITS ARE TO CONFORM TO AS/NZS 3500.3 CLAUSES 2.12.8 AND 7.5.
- SH3.8. **PRECAST CONCRETE:** PRECAST PIT UNITS WITH THIN WALL SECTIONS ON ALL 4 SIDES WILL NOT BE

- ACCEPTED WITHIN ROAD RESERVE AND MCC TRAFFICABLE AREAS.
- SH3.9. PIT WALLS SHALL BE CONSTRUCTED OF SUFFICIENT INTERNAL DIMENSIONS TO AVOID 'BIRD MOUTHING' OF PIPES.
- SH3.10. NO HOLES, CHASES OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.
- SH3.11. THE DESIGN, CERTIFICATION, CONSTRUCTION, INSPECTION AND PERFORMANCE OF THE FORMWORK AND FALSE WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- SH3.12. **SUBSOIL DRAINAGE:** Ø100 SUBSOIL DRAINAGE PIPE 3000 LONG, OR FULL WIDTH OF ROAD, WRAPPED IN FABRIC SOCK TO BE PROVIDED IN PIPE TRENCHES ADJACENT TO INLET PIPES. REFER TO **MCC SD0104** FOR FURTHER DETAILS.
- SH3.13. **PATHWAY PIT GRATES:** GRATES SHALL BE FULLY WELDED, HYDRAULICALLY OPTIMISED, BE PROVIDED WITH SECURITY BOLT-DOWNS, BE LOAD CLASS B (TO BE APPROVED PRIOR TO CONSTRUCTION OR PRIOR TO ISSUE OF SWC BY MCC), AND BICYCLE SAFE IN ACCORDANCE WITH AS 3996 AND TAGGED WITH MANUFACTURES NAME, LOAD CLASS, GRATE WEIGHT AND CODE NUMBER AS REQUIRED BY AS 3996.
- SH3.14. **PATHWAY PIT GRATE INSTALLATION:** ALL PIT GRATES ARE TO BE SET PARALLEL AND IN LINE WITH THE LIP OF KERB. DURING INSTALLATION OF GRATE AND FRAME, ENSURE CLEARANCE BETWEEN LINTEL AND OPENED GRATE IS ACHIEVED.

- SH3.15. **GRATED PIT GRATES:** GRATES SHALL BE FULLY WELDED, HYDRAULICALLY OPTIMISED, BE PROVIDED WITH SECURITY BOLT-DOWNS, BE HINGED, BE LOAD CLASS A (TO BE APPROVED PRIOR TO CONSTRUCTION OR PRIOR TO ISSUE OF SWC BY MCC), BICYCLE SAFE IN ACCORDANCE WITH AS 3996 AND TAGGED WITH MANUFACTURES NAME, LOAD CLASS, GRATE WEIGHT AND CODE NUMBER AS REQUIRED BY AS 3996.
- SH3.16. **PITS GREATER THAN 600 DEEP:** PROVIDE INDIVIDUAL-RUNG (STEP-IRON) LADDERS IN ACCORDANCE WITH MCC AUS-SPEC 1354 AND AS 1657 CL7.6 ON WALL OPPOSITE GRATE HINGE - REFER TO DETAILS ON SHEET 4. SHARP EDGES ARE TO BE ROUNDED AND INDIVIDUAL-RUNG LADDER COMPONENTS ARE TO BE HOT DIP GALVANISED AFTER FABRICATION.
- SH3.17. **PITS GREATER THAN 1200 DEEP:** PROVIDE SL82 MESH CENTRALLY IN WALLS AND FLOOR WITH A MINIMUM 50 COVER. OVERLAP MESH 300 AT WALL CORNERS AND INTO THE FLOOR, OR ALTERNATIVELY, PROVIDE 400 X 400 N12 COGS AT 200 CENTRES.
- SH3.18. **GALVANISING:** TO BE IN ACCORDANCE WITH AS 1214 AND AS 4680 FOR ALL EXPOSED COMPONENTS.
- SH3.19. **CUTTING OF PIPES:** ALL CUT CONCRETE PIPES SHALL HAVE THEIR CUT END SEALED WITH EPOXY MORTAR TO PROTECT THE STEEL REINFORCEMENT.
- SH3.20. THESE PITS ARE NOT APPLICABLE TO BIORETENTION BASINS. SPECIAL PITS NEED TO BE DESIGNED TO COUNCIL'S SATISFACTION.
- SH3.21. APRON MAY BE EXCLUDED ON INTERALLOTMENT PITS.

100mm at A3 Or 200mm at A1 Size

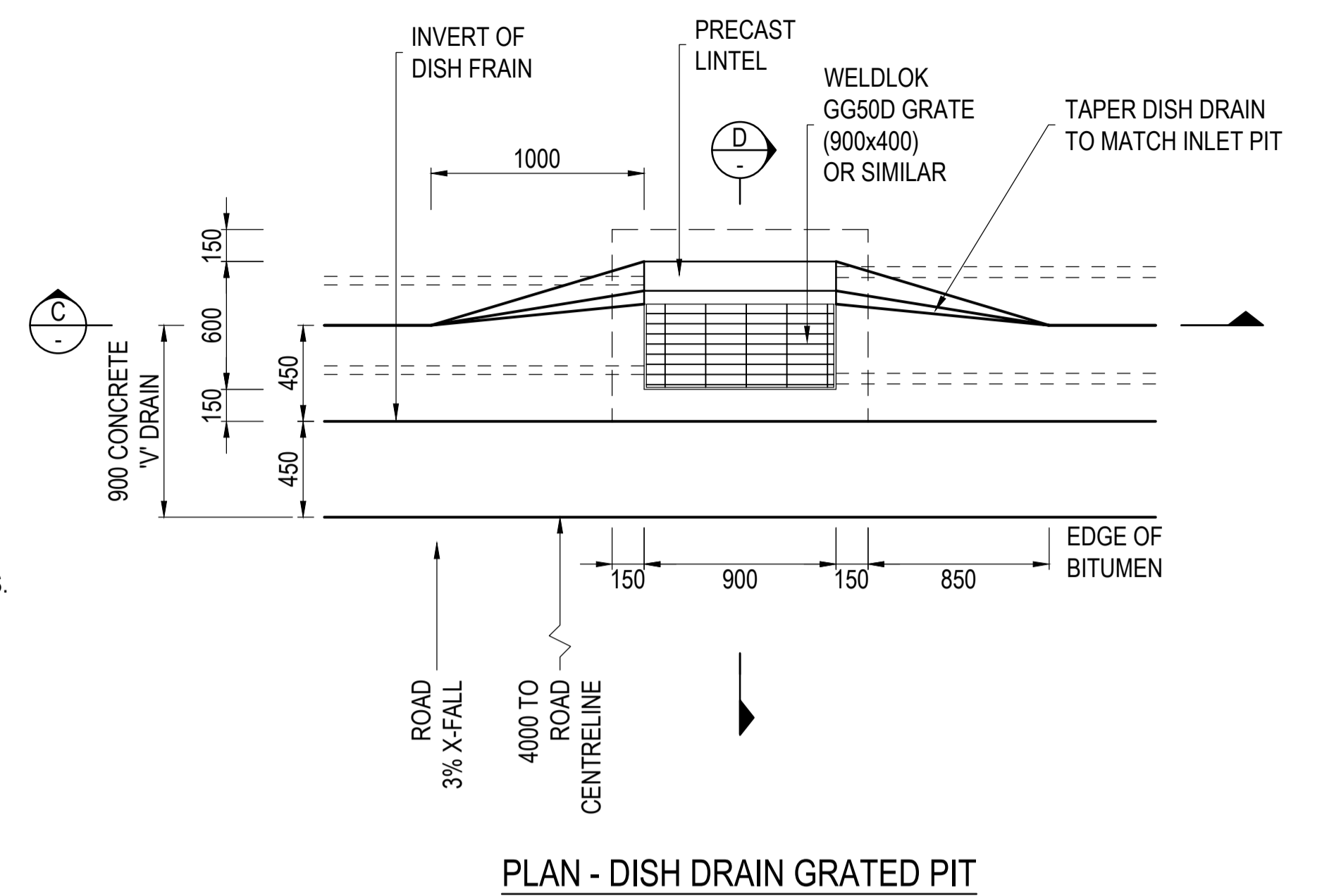


INDIVIDUAL-RUNG (STEP-IRON)
LADDER DETAILS

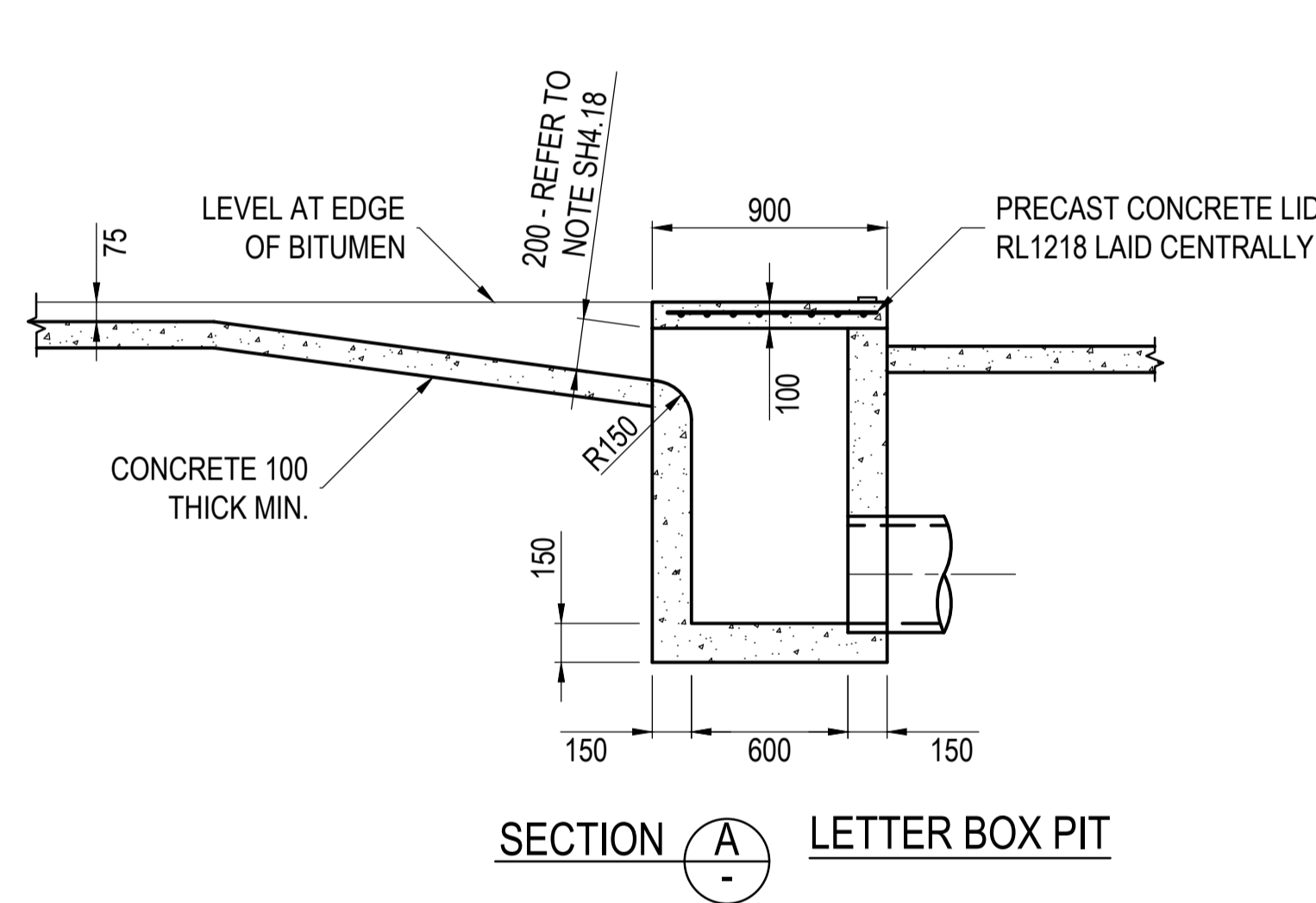
REFER TO NOTE SH4.14 FOR
ADDITIONAL REQUIREMENTS.
Ø20 BAR MINIMUM

CAPACITY OF INLET SLOT (900 x 200)	
ON GRADE	148 L/s
AT SAG*	268 L/s

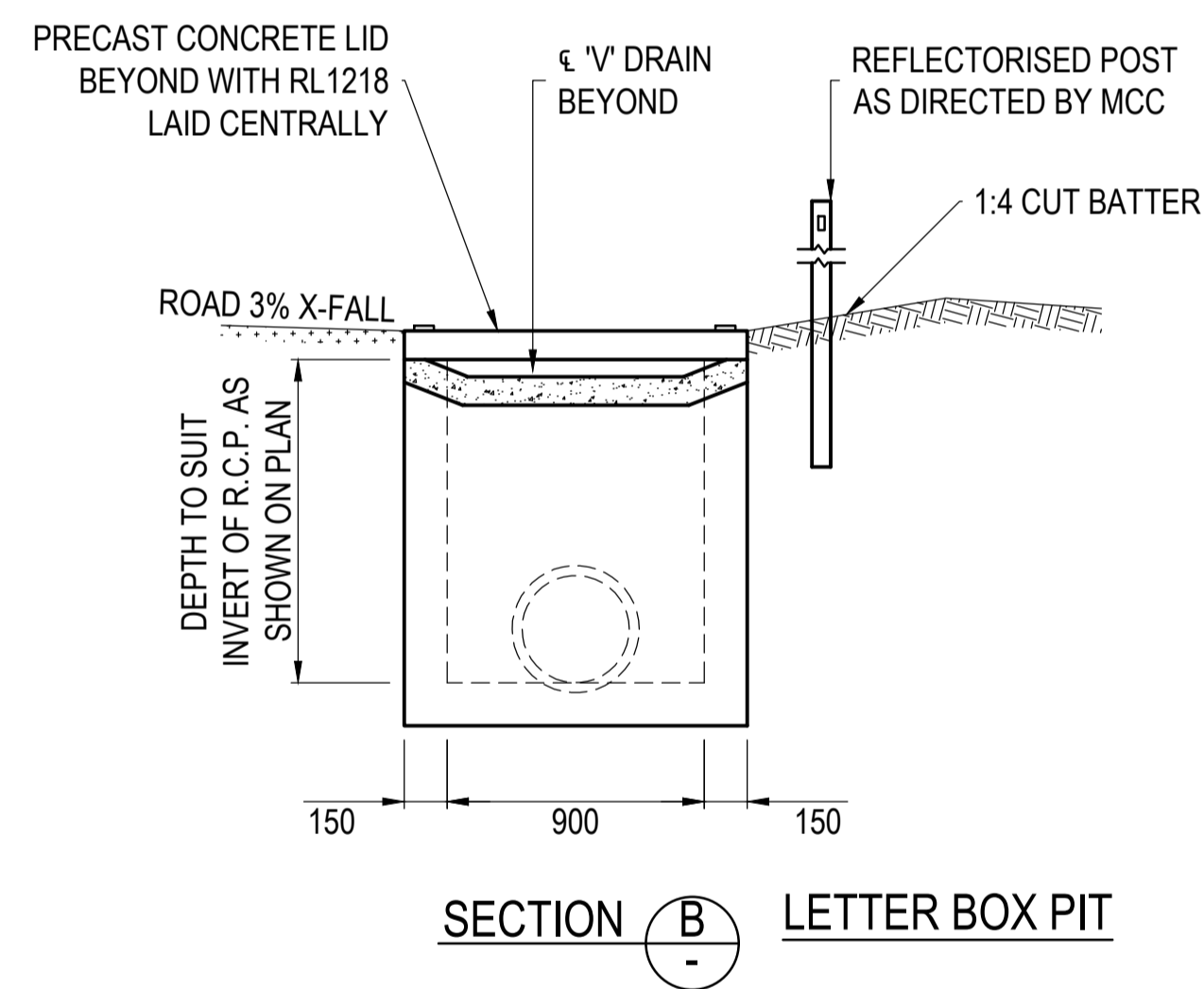
* WHEN LOCATED IN SAG, PIT TO HAVE
ENTRY SLOT EACH SIDE & 'V' DRAINS
FALL TO PIT BOTH SIDES.



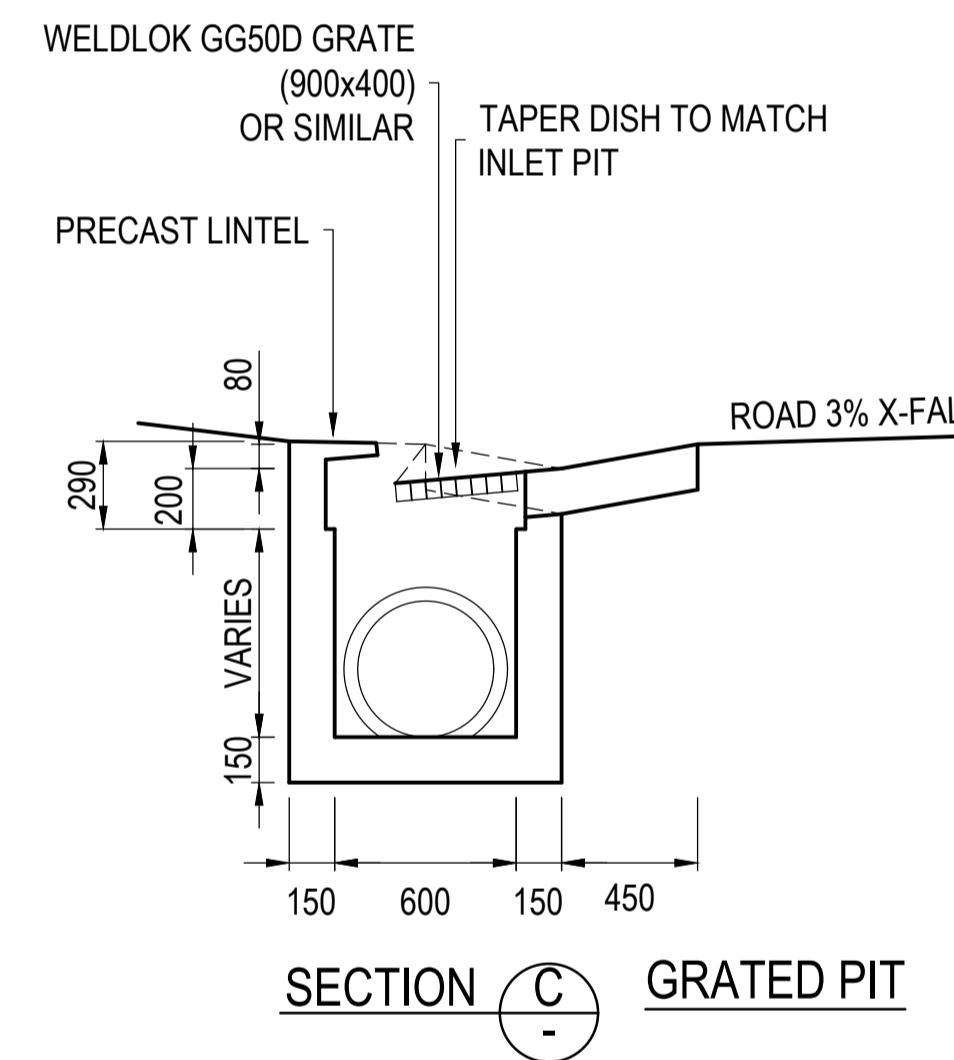
PLAN - DISH DRAIN GRATED PIT



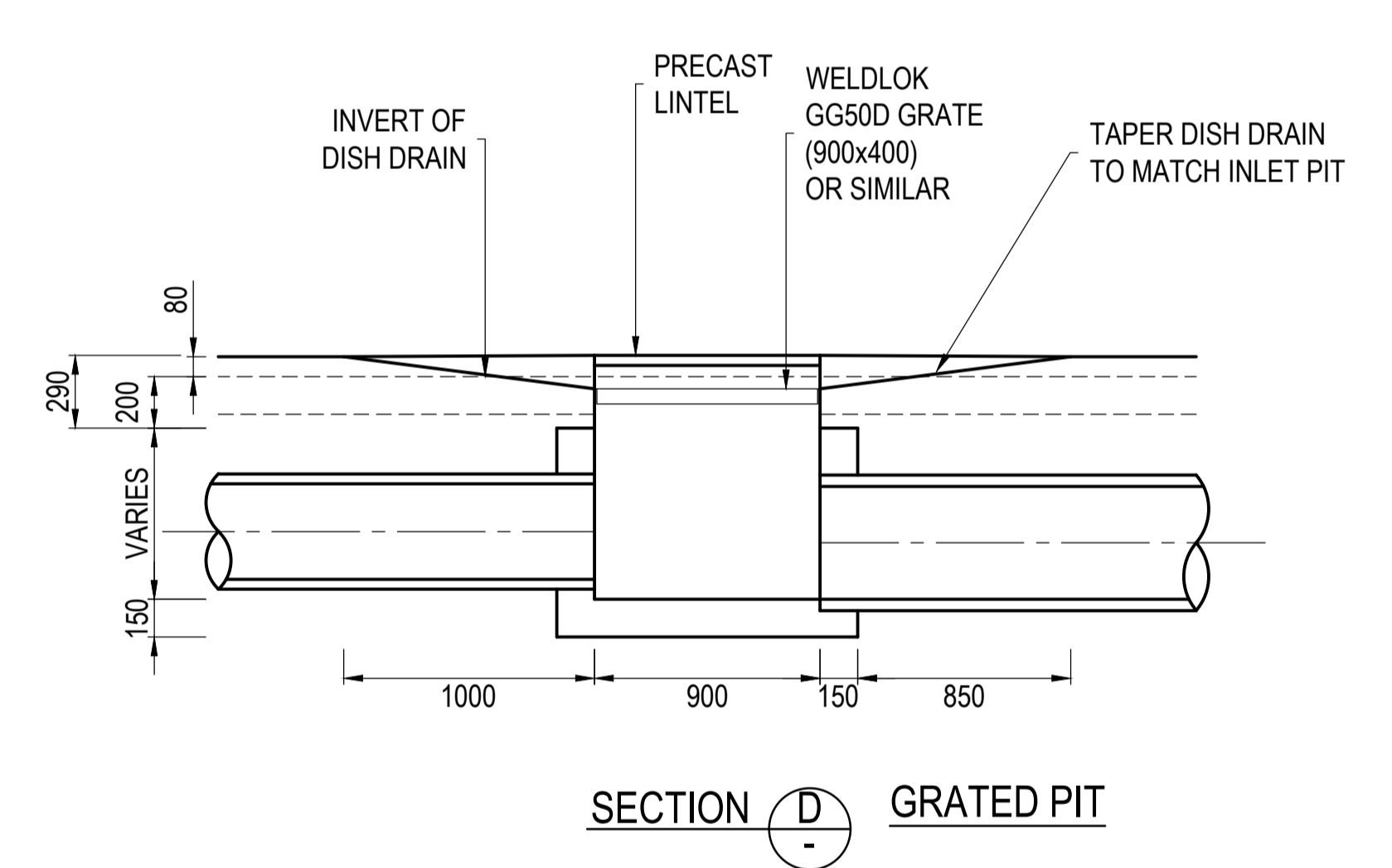
SECTION A LETTER BOX PIT



SECTION B LETTER BOX PIT



SECTION C GRATED PIT



SECTION D GRATED PIT

NOTES - SHEET 4

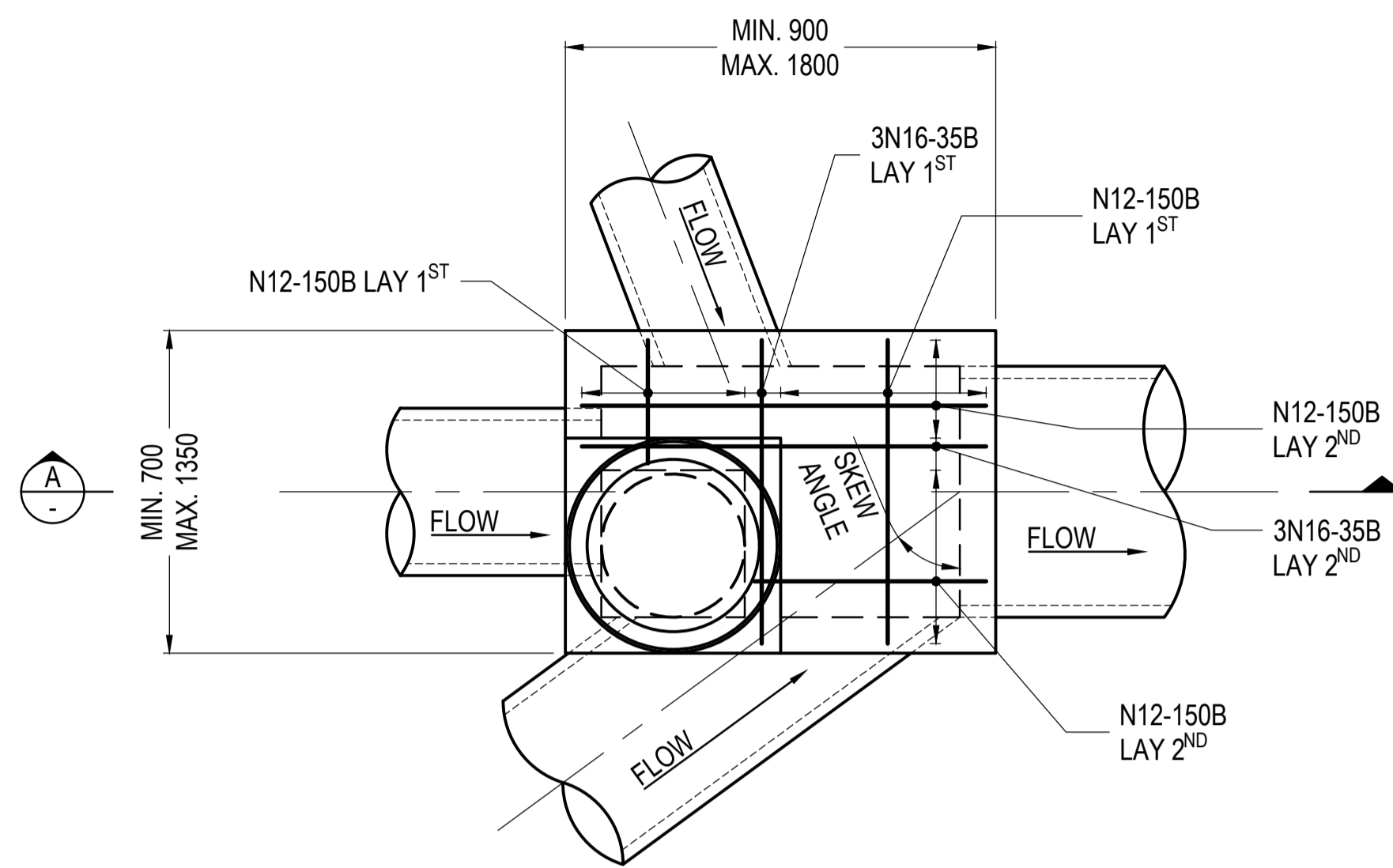
- SH4.1. NOT TO SCALE. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
- SH4.2. **REINFORCEMENT:** REINFORCEMENT IS DRAWN DIAGRAMMATICALLY & EXAGGERATED FOR CLARITY. ALL REINFORCING BARS SHALL BE GRADE D500N TO AS 4671 UNLESS NOTED OTHERWISE. ALL MESH SHALL BE GRADE 500L TO AS 4671.
- SH4.3. **CONCRETE COVER:** CLEAR COVER TO REINFORCEMENT SHALL BE 50 mm MINIMUM U.N.O. EXPOSURE CLASSIFICATION IS ASSUMED TO BE B1 AS PER AS 5100. IN AREAS WITH HIGHER EXPOSURE CLASSIFICATIONS, COVER TO REINFORCEMENT IS TO BE INCREASED ACCORDINGLY TO AS 5100.
- SH4.4. **CONCRETE:** CHARACTERISTIC COMPRESSIVE STRENGTH (f_c) OF ALL CONCRETE SHALL BE A MINIMUM OF 32 MPa, AT 28 DAYS. ALL CONCRETE SHALL CONFORM TO AS 1379. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF AS 5100 INCLUDING AMENDMENTS.
- SH4.5. **CONCRETE FINISH:** EXPOSED SURFACES TO BE OFF STEEL FORM FINISH OR OF HIGH QUALITY STEEL FLOAT FINISH. ALL EXPOSED EDGES TO BE ROUNDED TO 5 RADIUS.
- SH4.6. **MASS CONCRETE BENCHING:** TOP OF BENCHING SHALL BE QUARTER OF THE OUTLET PIPE DIAMETER AND A MINIMUM 50 THICK AT THE OUTLET PIPE INVERT AND GRADED TO DRAIN TO DOWNSTREAM OUTLET.
- SH4.7. **PRECAST CONCRETE:** ALL PRECAST COMPONENTS TO BE FACTORY PRODUCED OF VIBRATED CONCRETE AND STEAM CURED. PRECAST PITS ARE TO CONFORM TO AS/NZS 3500.3 CLAUSES 2.12.8 AND 7.5.
- SH4.8. **PRECAST CONCRETE:** PRECAST PIT UNITS WITH THIN WALL SECTIONS ON ALL 4 SIDES WILL NOT BE

- ACCEPTED WITHIN ROAD RESERVE AND MCC TRAFFICABLE AREAS.
- SH4.9. PIT WALLS SHALL BE CONSTRUCTED OF SUFFICIENT INTERNAL DIMENSIONS TO AVOID 'BIRD MOUTHING' OF PIPES.
- SH4.10. NO HOLES, CHASES OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.
- SH4.11. THE DESIGN, CERTIFICATION, CONSTRUCTION, INSPECTION AND PERFORMANCE OF THE FORMWORK AND FALSE WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- SH4.12. **SUBSOIL DRAINAGE:** Ø100 SUBSOIL DRAINAGE PIPE 3000 LONG, OR FULL WIDTH OF ROAD, WRAPPED IN FABRIC SOCK TO BE PROVIDED IN PIPE TRENCHES ADJACENT TO INLET PIPES. REFER TO MCC SD0104 FOR FURTHER DETAILS.
- SH4.13. **CONSTRUCTION DRAINAGE:** DURING CONSTRUCTION, PROVIDE Ø40 WEEP HOLE AT SUBGRADE LEVEL AT SAG PITS. BACKFILL WEEP HOLE WITH GROUT ONCE PAVEMENT IS CONSTRUCTED.
- SH4.14. **PITS GREATER THAN 600 DEEP:** PROVIDE INDIVIDUAL-RUNG (STEP-IRON) LADDERS IN ACCORDANCE WITH MCC AUS-SPEC 1354 AND AS 1657 CL7.6 ON ONE WALL - REFER TO DETAILS ON SHEET 4. SHARP EDGES ARE TO BE ROUNDED AND INDIVIDUAL-RUNG LADDER COMPONENTS ARE TO BE HOT DIP GALVANISED AFTER FABRICATION.
- SH4.15. **PITS GREATER THAN 1200 DEEP:** PROVIDE SL82 MESH CENTRALLY IN WALLS AND FLOOR WITH A MINIMUM 50

- COVER. OVERLAP MESH 300 AT WALL CORNERS AND INTO THE FLOOR, OR ALTERNATIVELY, PROVIDE 400 X 400 N12 COGS AT 200 CENTRES.
- SH4.16. **GALVANISING:** TO BE IN ACCORDANCE WITH AS 1214 AND AS 4680 FOR ALL EXPOSED COMPONENTS.
- SH4.17. **CUTTING OF PIPES:** ALL CUT CONCRETE PIPES SHALL HAVE THEIR CUT END SEALED WITH EPOXY MORTAR TO PROTECT THE STEEL REINFORCEMENT.
- SH4.18. **SURFACE INLET PIT OPENINGS:** AN R20 GALVANISED BAR SHALL BE PLACED HORIZONTALLY ACROSS THE OPENING AT MID-HEIGHT WHEN OPENINGS GREATER THAN 115 ARE REQUIRED.
- SH4.19. **PIT LOCATION:** ON NARROW ROADS DEVIATE THE PIT LOCATION FROM DISHDRAIN LINE TO ALLOW REQUIRED CLEARANCE FROM ROAD CENTRELINE. SEAL TO EXTEND TO PIT LOCATION.
- SH4.20. **GRATES:** GRATES SHALL BE FULLY WELDED WITH A MINIMUM HYDRAULIC AREA OF 0.3 m², BE PROVIDED WITH SECURITY BOLT-DOWNS, BE LOAD CLASS D (TO BE APPROVED PRIOR TO CONSTRUCTION OR PRIOR TO ISSUE OF SWC BY MCC), BICYCLE SAFE IN ACCORDANCE WITH AS 3996 AND TAGGED WITH MANUFACTURERS NAME, LOAD CLASS, GRATE WEIGHT AND CODE NUMBER AS REQUIRED BY AS 3996.
- SH4.21. **GRATE INSTALLATION:** ALL PIT GRATES ARE TO BE SET PARALLEL AND IN LINE WITH THE LIP OF KERB. DURING INSTALLATION OF GRATE AND FRAME, ENSURE CLEARANCE BETWEEN LINTEL AND OPENED GRATE IS ACHIEVED. REFER TO GRATE INSTALLATION TOLERANCE DETAIL ABOVE.

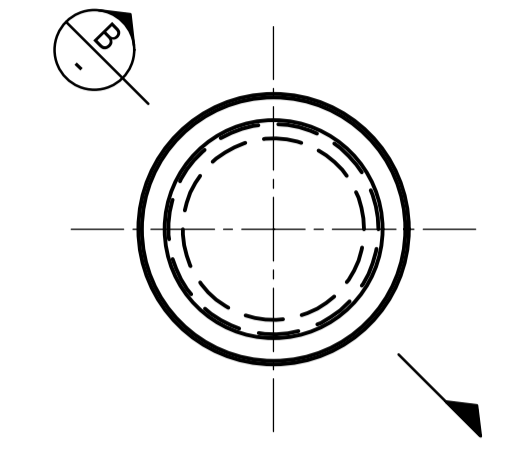
100mm at A3 Or 200mm at A1 Size

Rev.	Date	Description	Drawn	Auth.	Rev.	Date	Description	Drawn	Auth.	AutoCAD File: SD0110 Stormwater Pits.dwg	Midcoast Council Logo	Drawn BAC / VC	Checked VC 11/02/2021	Approved on Behalf of Midcoast Council <i>R. J. Patten</i>	Plan Details STANDARD DRAWING STORMWATER PITS SHEET 4 - DISH DRAIN WITH PIT	Sheet No. 4	Revision B
															No. of Sheets 5	Standard Dwg No. SD0110	

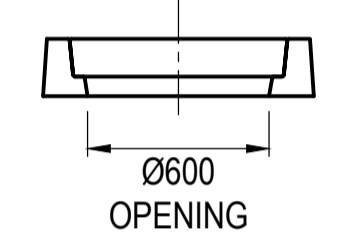


PLAN - JUNCTION PIT / JUNCTION BOX

MAXIMUM PIPE DIAMETERS	
OUTLET STRAIGHT	DN900
OUTLET SKEW	DN825
SIDE INLET SKEW ~40°	DN825



PLAN - TYPICAL PRECAST MANHOLE COVER



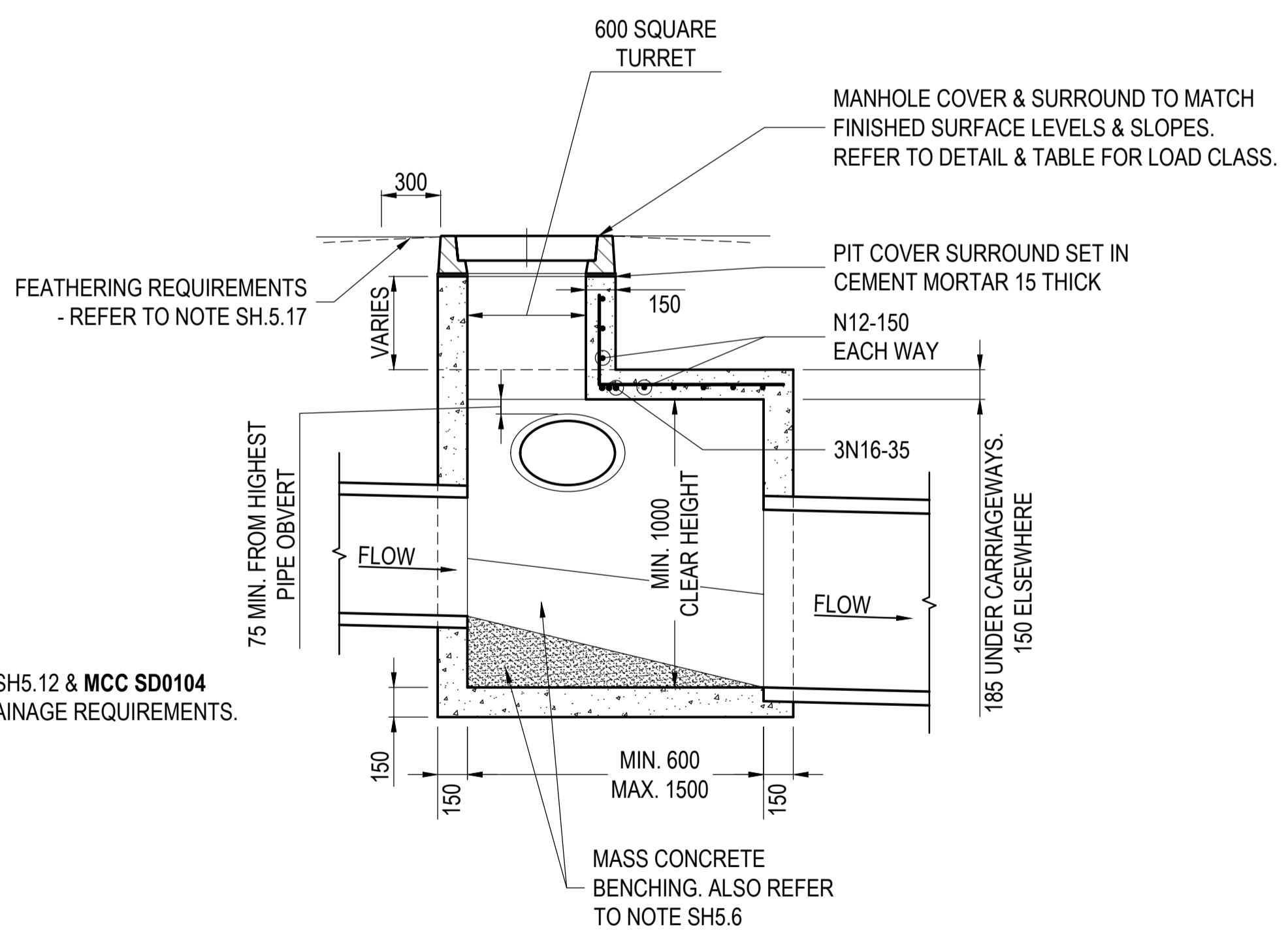
SECTION B-B

MANHOLE COVER AND SURROUND	
LOCATION	AS 3996 LOAD CLASS*
ROADS	D
FOOTPATH	B

* ALSO REFER TO NOTE SH5.19

NEW PIT INSTALLATIONS
NEW PITS MAY BE INSTALLED WITH CAST DUCTILE IRON MANHOLE COVERS WITH CONCRETE SURROUNDS AS AN ALTERNATIVE.

MANHOLE COVER AND SURROUND IS TO BE CIRCULAR TO SUIT A Ø600 CLEAR OPENING AND COMPLY WITH AS 3996. ALL DIMENSIONS, MATERIALS, REINFORCEMENT AND LIFTING PROVISIONS TO MANUFACTURER'S DETAILS. SECURITY BOLT-DOWN REQUIRED IF APPLICABLE (CAST-IRON COVERS OR SIMILAR).



SECTION A-A

NOTES - SHEET 5

- SH5.1. NOT TO SCALE. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
- SH5.2. REINFORCEMENT: REINFORCEMENT IS DRAWN DIAGRAMMATICALLY & EXAGGERATED FOR CLARITY. ALL REINFORCING BARS SHALL BE GRADE D500N TO AS 4671 UNLESS NOTED OTHERWISE. ALL MESH SHALL BE GRADE 500L TO AS 4671.
- SH5.3. CONCRETE COVER: CLEAR COVER TO REINFORCEMENT SHALL BE 50 MINIMUM U.N.O. EXPOSURE CLASSIFICATION IS ASSUMED TO BE B1 AS PER AS 5100. IN AREAS WITH HIGHER EXPOSURE CLASSIFICATIONS, COVER TO REINFORCEMENT IS TO BE INCREASED ACCORDINGLY TO AS 5100.
- SH5.4. CONCRETE: CHARACTERISTIC COMPRESSIVE STRENGTH (f_{ck}) OF ALL CONCRETE SHALL BE A MINIMUM OF 32 MPa, AT 28 DAYS. ALL CONCRETE SHALL CONFORM TO AS 1379. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF AS 5100 INCLUDING AMENDMENTS.
- SH5.5. CONCRETE FINISH: EXPOSED SURFACES TO BE OFF STEEL FORM FINISH OR OF HIGH QUALITY STEEL FLOAT FINISH. ALL EXPOSED EDGES TO BE ROUNDED TO 5 RADIUS.
- SH5.6. MASS CONCRETE BENCHING: TOP OF BENCHING SHALL BE QUARTER OF THE OUTLET PIPE DIAMETER AND A MINIMUM 50 THICK AT THE OUTLET PIPE INVERT AND GRADED TO DRAIN TO DOWNSTREAM OUTLET.
- SH5.7. PRECAST CONCRETE: ALL PRECAST COMPONENTS TO BE FACTORY PRODUCED OF VIBRATED CONCRETE AND STEAM CURED. PRECAST PITS ARE TO CONFORM TO AS/NZS 3500.3 CLAUSES 2.12.8 AND 7.5.
- SH5.8. PRECAST CONCRETE: PRECAST PIT UNITS WITH THIN WALL SECTIONS ON ALL 4 SIDES WILL NOT BE ACCEPTED WITHIN ROAD RESERVE AND MCC TRAFFICABLE AREAS.
- SH5.9. PIT WALLS SHALL BE CONSTRUCTED OF SUFFICIENT INTERNAL DIMENSIONS TO AVOID 'BIRD MOUTHING' OF PIPES.
- SH5.10. NO HOLES, CHASES OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.
- SH5.11. FORMWORK AND FALSEWORK: THE DESIGN, CERTIFICATION, CONSTRUCTION, INSPECTION AND PERFORMANCE OF THE FORMWORK AND FALSE WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- SH5.12. SUBSOIL DRAINAGE: Ø100 SUBSOIL DRAINAGE PIPE 3000 LONG, OR FULL WIDTH OF ROAD, WRAPPED IN FABRIC SOCK TO BE PROVIDED IN PIPE TRENCHES ADJACENT TO INLET PIPES. REFER TO MCC SD0104 FOR FURTHER DETAILS.
- SH5.13. PITS GREATER THAN 600 DEEP: PROVIDE INDIVIDUAL-RUNG (STEP-IRON) LADDERS IN ACCORDANCE WITH MCC AUS-SPEC 1354 AND AS 1657 CL7.6 ON ONE WALL UNDER LID - REFER TO DETAILS ON SHEET 4. SHARP EDGES ARE TO BE ROUNDED AND INDIVIDUAL-RUNG LADDER COMPONENTS ARE TO BE HOT DIP GALVANISED AFTER FABRICATION.
- SH5.14. PITS GREATER THAN 1200 DEEP: PROVIDE SL82 MESH CENTRALLY IN WALLS AND FLOOR WITH A MINIMUM 50 COVER. OVERLAP MESH 300 AT WALL CORNERS AND INTO THE FLOOR, OR ALTERNATIVELY, PROVIDE 400 X 400 N12 COGS AT 200 CENTRES.
- SH5.15. GALVANISING: TO BE IN ACCORDANCE WITH AS 1214 AND AS 4680 FOR ALL EXPOSED COMPONENTS.
- SH5.16. CUTTING OF PIPES: ALL CUT CONCRETE PIPES SHALL HAVE THEIR CUT END SEALED WITH EPOXY MORTAR TO PROTECT THE STEEL REINFORCEMENT.
- SH5.17. PREMIX FEATHERING: 300 WIDE FEATHERING WITH PREMIX ALL AROUND PRIOR TO HOTMIX FOR PITS IN CARRIAGEWAY LOCATIONS. NO FEATHERING REQUIRED WHERE: 1. FLUSH SEAL IS THE FINAL SURFACE OF CARRIAGEWAY; 2. CONCRETE PAVEMENT.
- SH5.18. PROVISIONS TO BE MADE FOR Ø15 LIFTING HOOKS BY INSERTION OF THREADED SOCKETS INTO LINTEL & SURROUND AT POINT OF BALANCE.
- SH5.19. MANHOLE COVER AND SURROUND: LOAD CLASSES AS PER TABLE ABOVE (TO BE APPROVED PRIOR TO CONSTRUCTION OR PRIOR TO ISSUE OF SWC BY MCC) IN ACCORDANCE WITH AS 3996 AND TAGGED WITH MANUFACTURER'S NAME, LOAD CLASS, GRATE WEIGHT AND CODE NUMBER AS REQUIRED BY AS 3996.

100mm at A3 Or 200mm at A1 Size

Rev.	Date	Description	Drawn	Auth.	Rev.	Date	Description	Drawn	Auth.	AutoCAD File: SD0110 Stormwater Pits.dwg	Drawn BAC, VC	Checked VC 11/02/2021	Approved on Behalf of Midcoast Council 	Plan Details STANDARD DRAWING STORMWATER PITS SHEET 6 - JUNCTION PIT	Sheet No. 5	Revision B
B	24/02/2021	ISSUED FOR CONSTRUCTION	BAC	GC											No. of Sheets 5	Standard Dwg No. SD0110