

PLAN  
STANDARD PIT (ON GRADE)  
SCALE 1:25

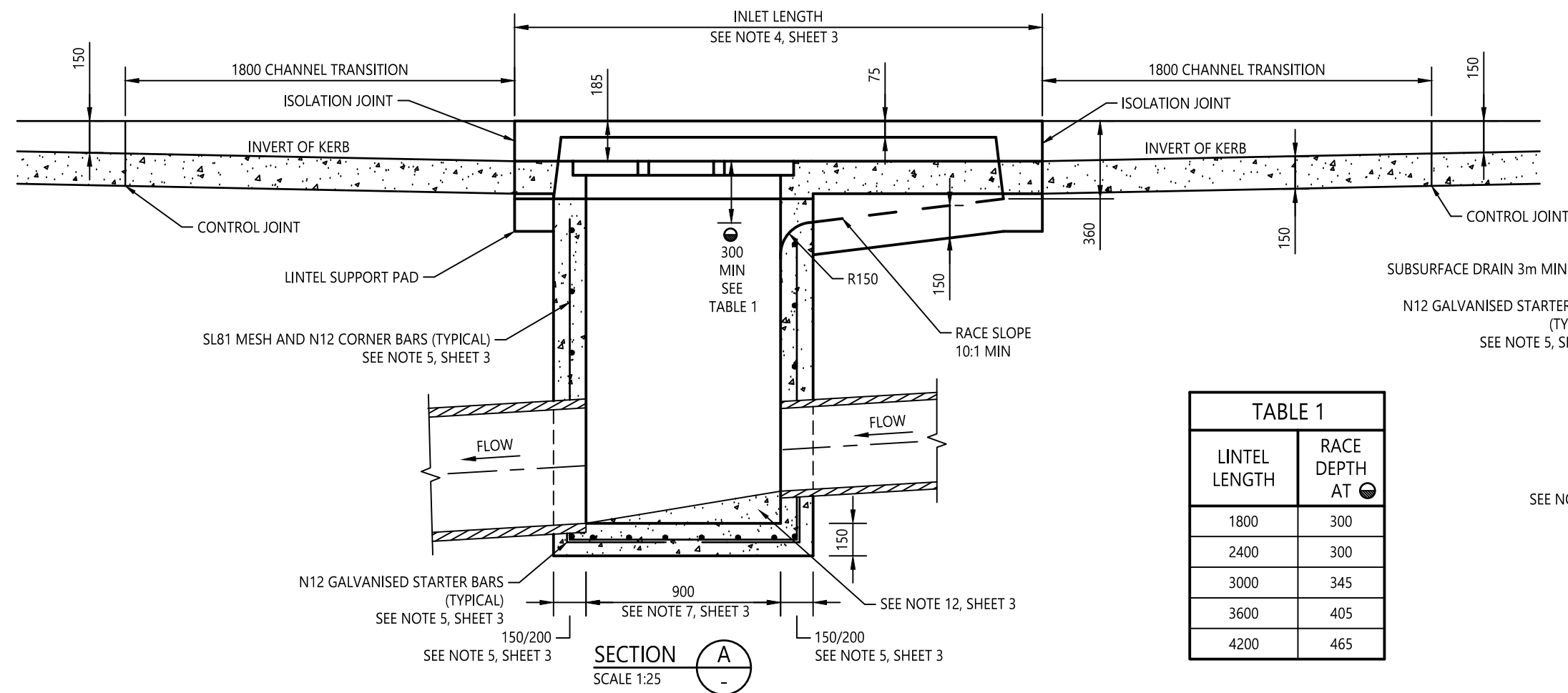

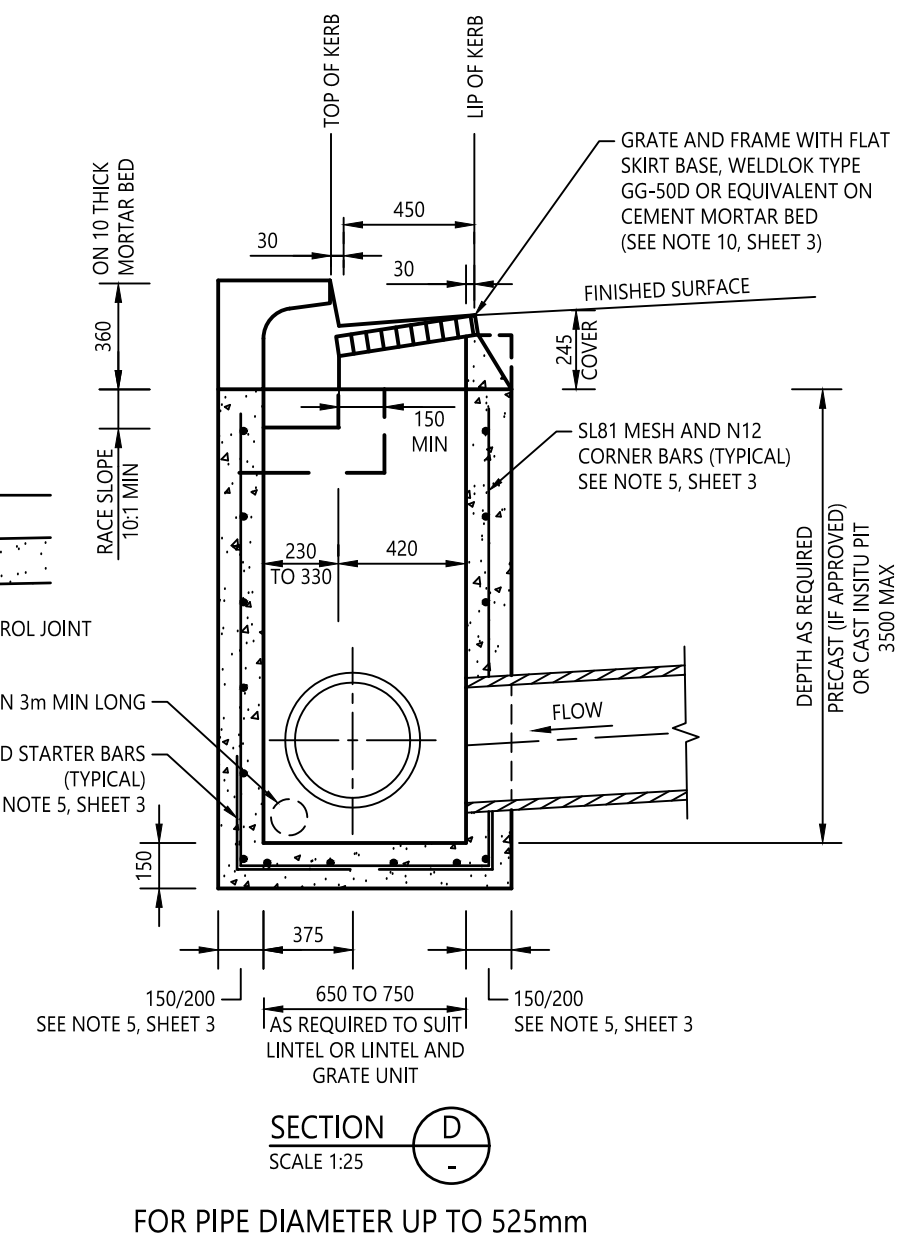
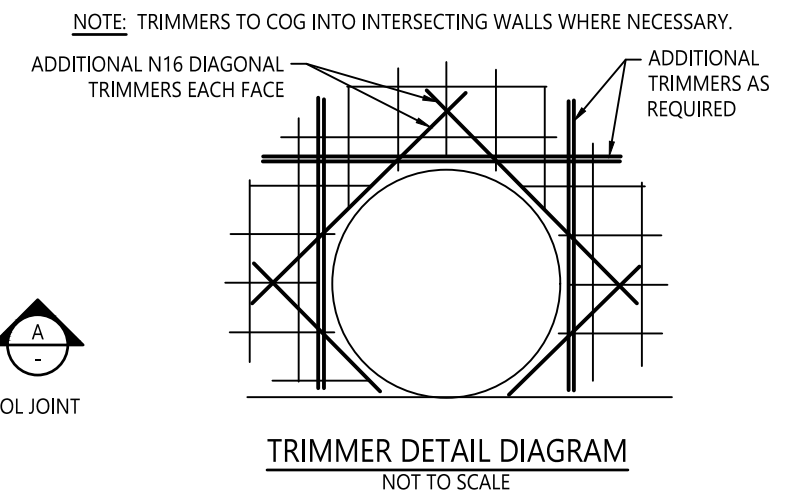


TABLE 1	
LINTEL LENGTH	RACE DEPTH AT 
1800	300
2400	300
3000	345
3600	405
4200	465



					<div>SCALE ON ORIGINAL A3 SIZE DRAWING</div> <div><div>025050075010001250</div><div><div></div><div></div><div></div><div></div><div></div></div><div>1:25</div></div>	<div>DRAWN</div> <div>C SHEPPEARD</div> <div>CHECKED</div> <div>M BAMBER</div> <div>DATE</div> <div>28/4/20</div> <div>UNIT MANAGER APPROVAL</div> <div><div></div></div> <div>ASSETS PLANNING AND DESIGN</div>	<div><div>Central Coast Council</div></div> <div>ROADS TRANSPORT DRAINAGE AND WASTE</div>	<div>Central Coast Council</div> <div>STORMWATER DRAINAGE SERIES</div> <div>STANDARD GRATED GULLY PIT</div>	<div>STANDARD DRAWING</div> <div><div>DRAWING NUMBER</div><div>SD0401</div><div>SHEET 1 OF 3</div></div> <div><div>REV</div><div>-</div><div>A3</div></div>		
REV	AMENDMENT	DATE	DRAWN	APRVD	ALL DIMENSIONS IN mm UNLESS OTHERWISE SHOWN						

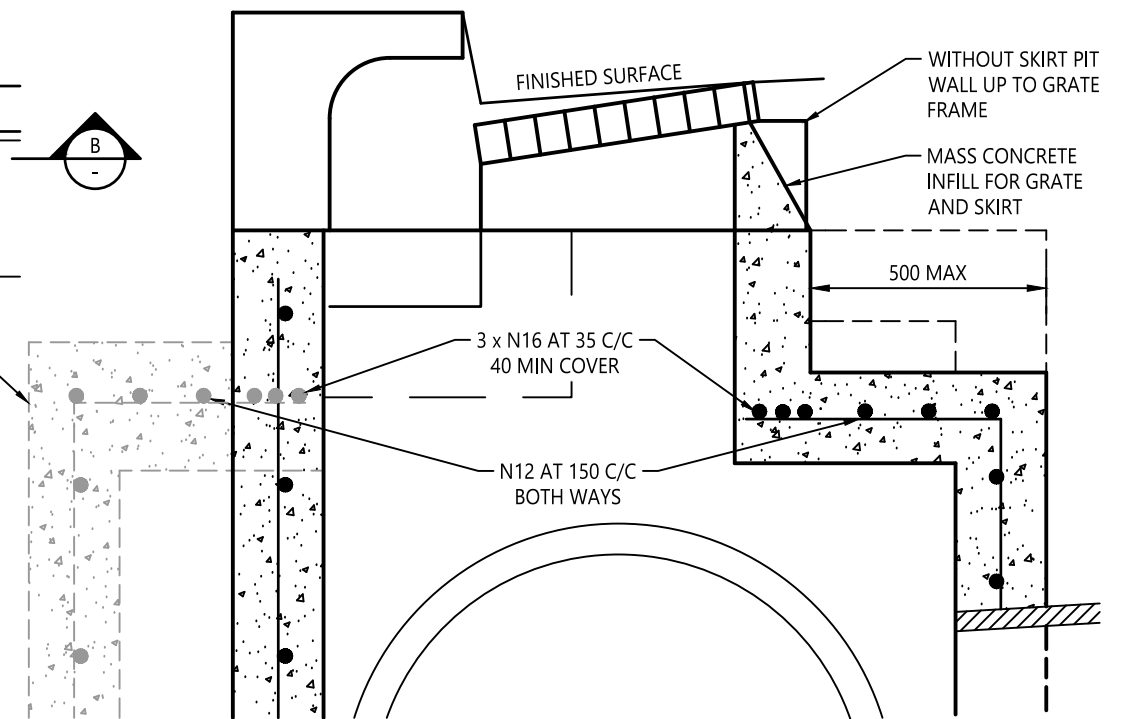
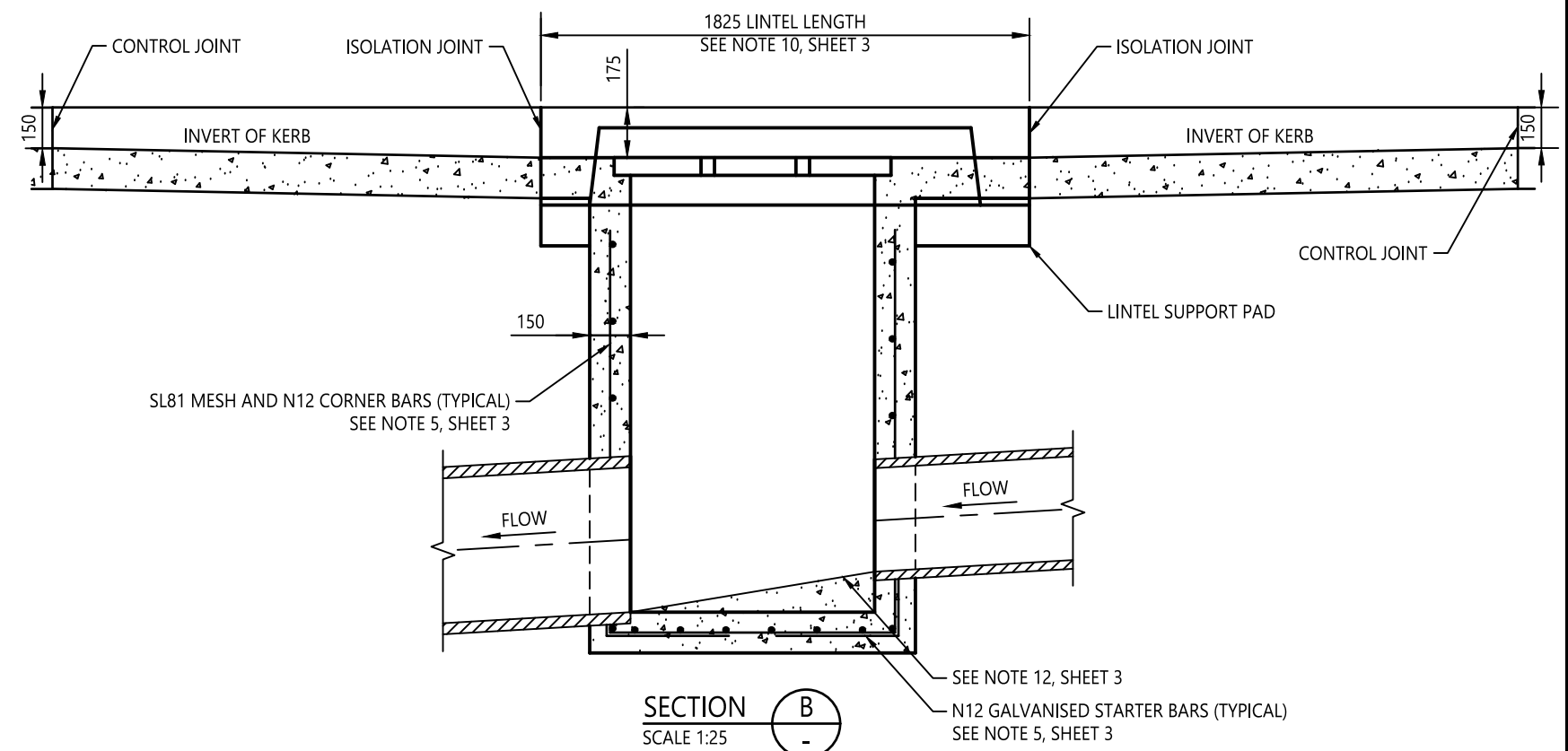



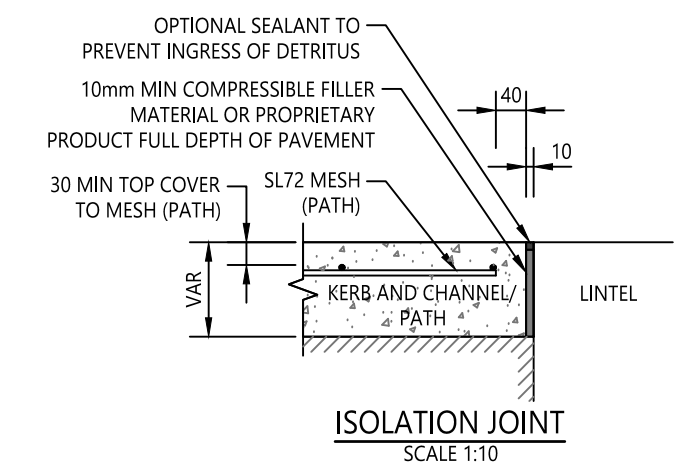
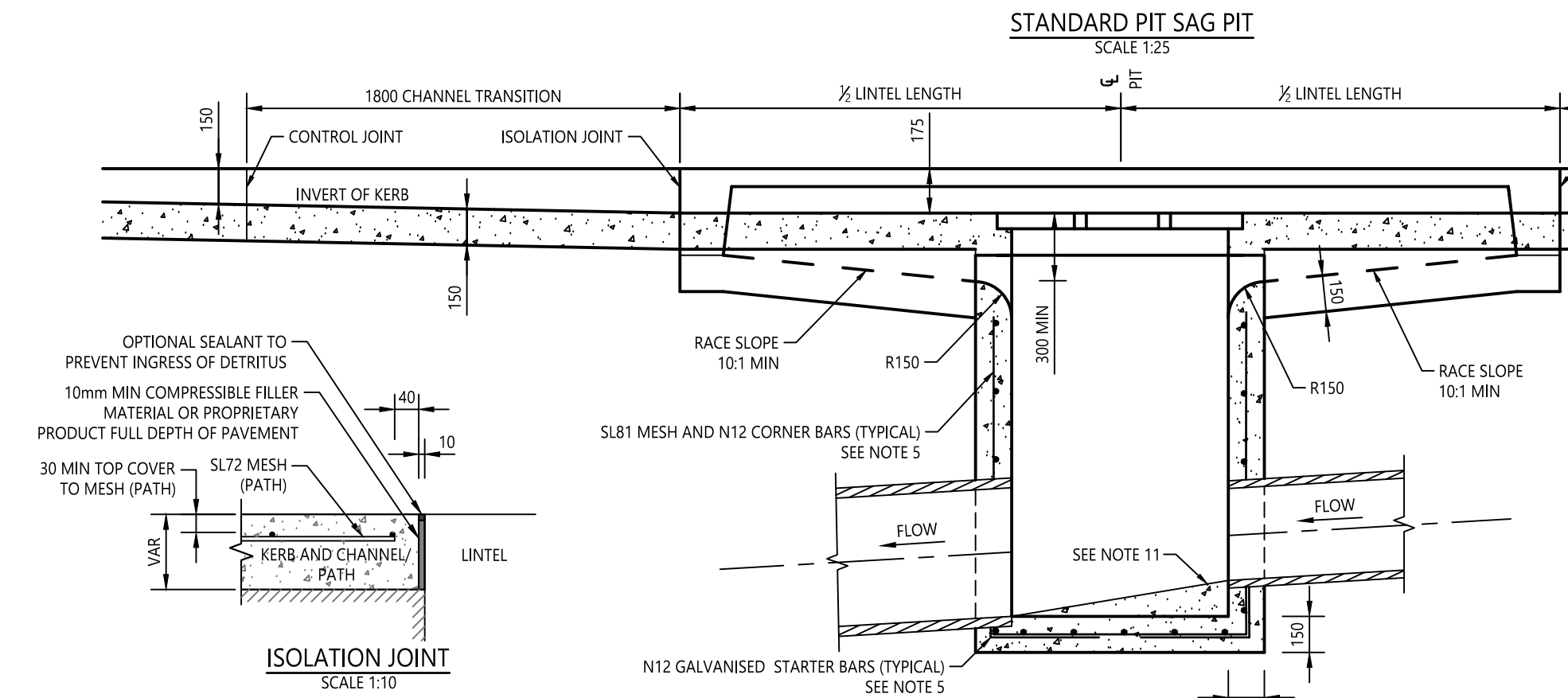
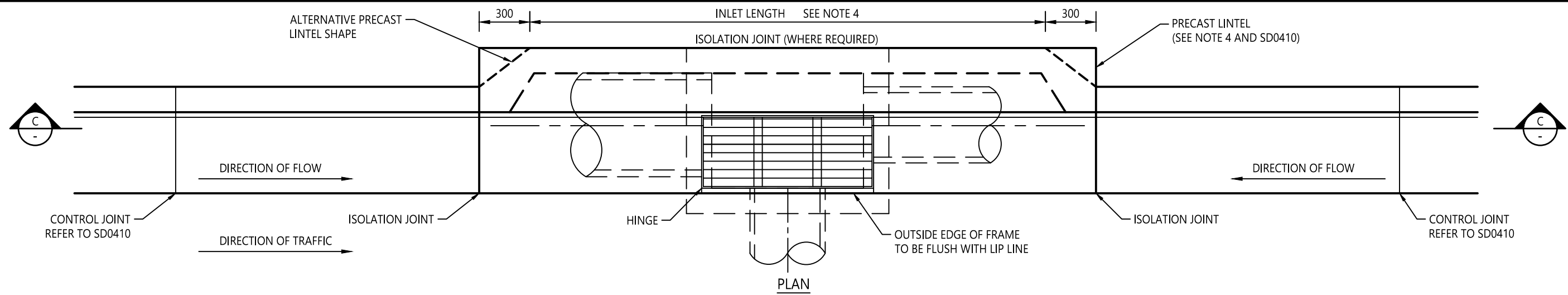


TABLE 2	
*	PIPE DIAMETER RANGE
900	600mm TO 750mm INCLUSIVE
1200	825mm TO 900mm INCLUSIVE
D+250	FOR PIPES > 900mm
ND+[(N-1)x250]+250	FOR MULTIPLE PIPES

(WHERE N=NUMBER OF LINES)



					SCALE ON ORIGINAL A3 SIZE DRAWING	DRAWN	C SHEPPEARD		Central Coast Council	STANDARD DRAWING		
					0      250      500      750      1000      1250	CHECKED	M BAMBER				DRAWING NUMBER	REV
						DATE	28/4/20				SD0401	-
					1:25	UNIT MANAGER APPROVAL						
												
REV	AMENDMENT	DATE	DRAWN	APRVD	ALL DIMENSIONS IN mm UNLESS OTHERWISE SHOWN	ASSETS PLANNING AND DESIGN		ROADS TRANSPORT DRAINAGE AND WASTE	STORMWATER DRAINAGE SERIES STANDARD GRATED GULLY PIT	SHEET 2 OF 3	A3	

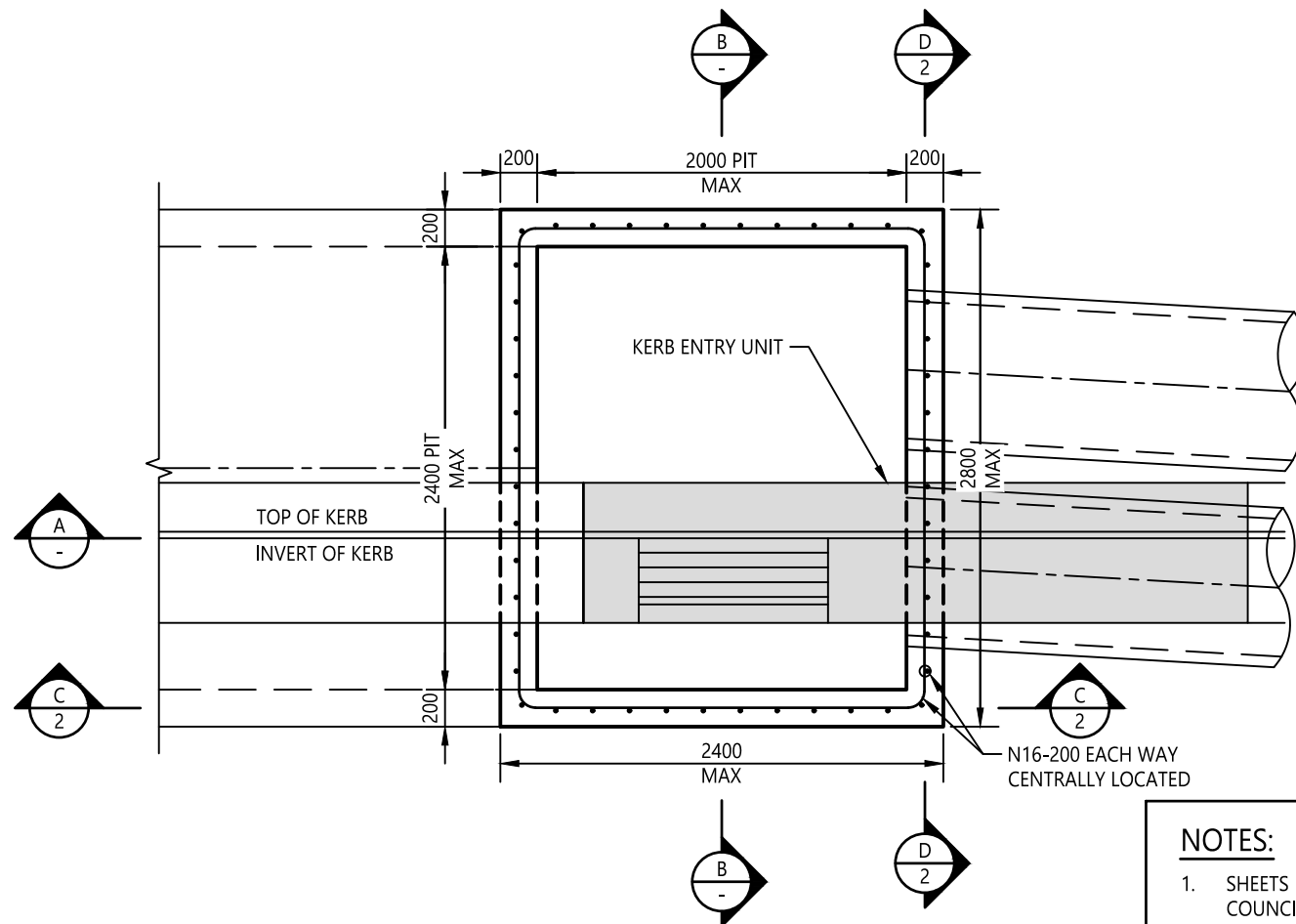


- NOTES:**
- REFER TO STANDARD DRAWING SD0402, SHEET 3, FOR SPECIFIC NOTES ON CONCRETE REINFORCEMENT.
  - CUSTOM-MADE PRECAST PITS SHALL BE USED IN THE ROAD RESERVE WHERE PRACTICABLE AND SHALL BE DESIGNED IN ACCORDANCE WITH AS 1597, AS 3600 AND AS 5100. 'KNOCKOUT PITS' SHALL NOT BE USED UNLESS OTHERWISE APPROVED BY COUNCIL'S REPRESENTATIVE.
  - INTEGRAL PRECAST KERB INLET AND GRATE UNITS SHALL BE PLACED ON A 150mm MINIMUM N20 CONCRETE/KERB MIX BED.
  - COMBINED PRECAST LINTEL AND GRATE UNITS (LOAD CLASS D) SHALL BE USED IN THE ROAD RESERVE IN ACCORDANCE WITH SD0410 UNLESS OTHERWISE APPROVED BY COUNCIL'S REPRESENTATIVE. DIMENSIONS SHOWN ON PLAN TO DENOTE CLEAR OPENINGS. MIN SIZE 1.2m. DIMENSIONS MAY VARY BETWEEN MANUFACTURERS.
  - PITS DEEPER THAN 1.5m SHALL BE CONSTRUCTED WITH 200mm THICK REINFORCED CONCRETE WALLS IN ACCORDANCE WITH TABLE 3 ON SHEET 3.
  - DEPTH OF PIT SHALL NOT EXCEED 3.5m.
  - ALL PITS SHOWN ARE STANDARD 900mm LONG OR 1450mm WIDE. REFER TO SD0402 FOR FURTHER DETAILS ON OVERSIZE PITS > 900mm LONG OR > 1450mm WIDE.
  - PIPE PENETRATIONS INTO PIT WALLS SHALL INCLUDE STEEL REINFORCEMENT TRIMMER BARS AS SHOWN IN TRIMMER DETAIL DIAGRAM ON SHEET 1.
  - CONCRETE STRENGTH GRADE SHALL BE N32 MINIMUM UNLESS OTHERWISE SPECIFIED.
  - WELDLOK GRATE WITH FLAT SKIRT BASE TYPE GG 52D OR WELDLOK GRATE AND FRAME TYPE GG 50D OR APPROVED EQUIVALENT TO BE USED. GRATE AND FRAME SHALL BE LOAD CLASS D HOT-DIP GALVANISED 80-85 MICRONS THICK. ALL GRATES SHALL BE BICYCLE SAFE AND PROVIDED WITH LOCKING CLIP.
  - PROVIDE STEP-IRONS FOR PITS DEEPER THAN 600mm.
  - ALL PITS SHALL BE STREAMLINED AND BENCHED WHERE REQUIRED. NO RENDERING PERMITTED IN STRUCTURAL COMPONENTS.
  - 100Ø SUBSURFACE DRAINAGE PIPE 3m MIN LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED ADJACENT TO INLET PIPES.
  - THIS STANDARD DRAWING REFERS TO PITS CONSTRUCTED ADJACENT TO FLEXIBLE PAVEMENTS. TOTAL ISOLATION OF PITS IS REQUIRED ADJACENT TO RIGID PAVEMENTS.

TABLE 3 - CONCRETE THICKNESS AND REINFORCEMENT DETAILS						
INTERNAL DEPTH (m)	BASE THICKNESS (mm)	WALL THICKNESS (mm)	MAX LENGTH (mm)	MAX WIDTH (mm)	REINFORCEMENT SEE NOTES 1 AND 2 BELOW	
					BASE	WALLS
≤ 1.5	150	150	900	1450	UNREINFORCED	
1.5 - 3.5	150	200			SL81 MESH - N12 500 x 500 GALVANISED STARTER BARS AT 200 C/C AND N12 500 x 500 CORNER BARS AT 400 C/C	
> 3.5	STRUCTURAL ENGINEERING DESIGN REQUIRED					

- NOTES:**
- REFER TO STANDARD DRAWING SD0402 FOR OVERSIZE GULLY PIT DIMENSIONS
  - PIT WALLS AND BASE ON STATE ROADS AND B-DOUBLE ROUTES SHALL BE REINFORCED WITH RL1218 MESH - REFER TO TfNSW STANDARD DRAWING R0220 SERIES

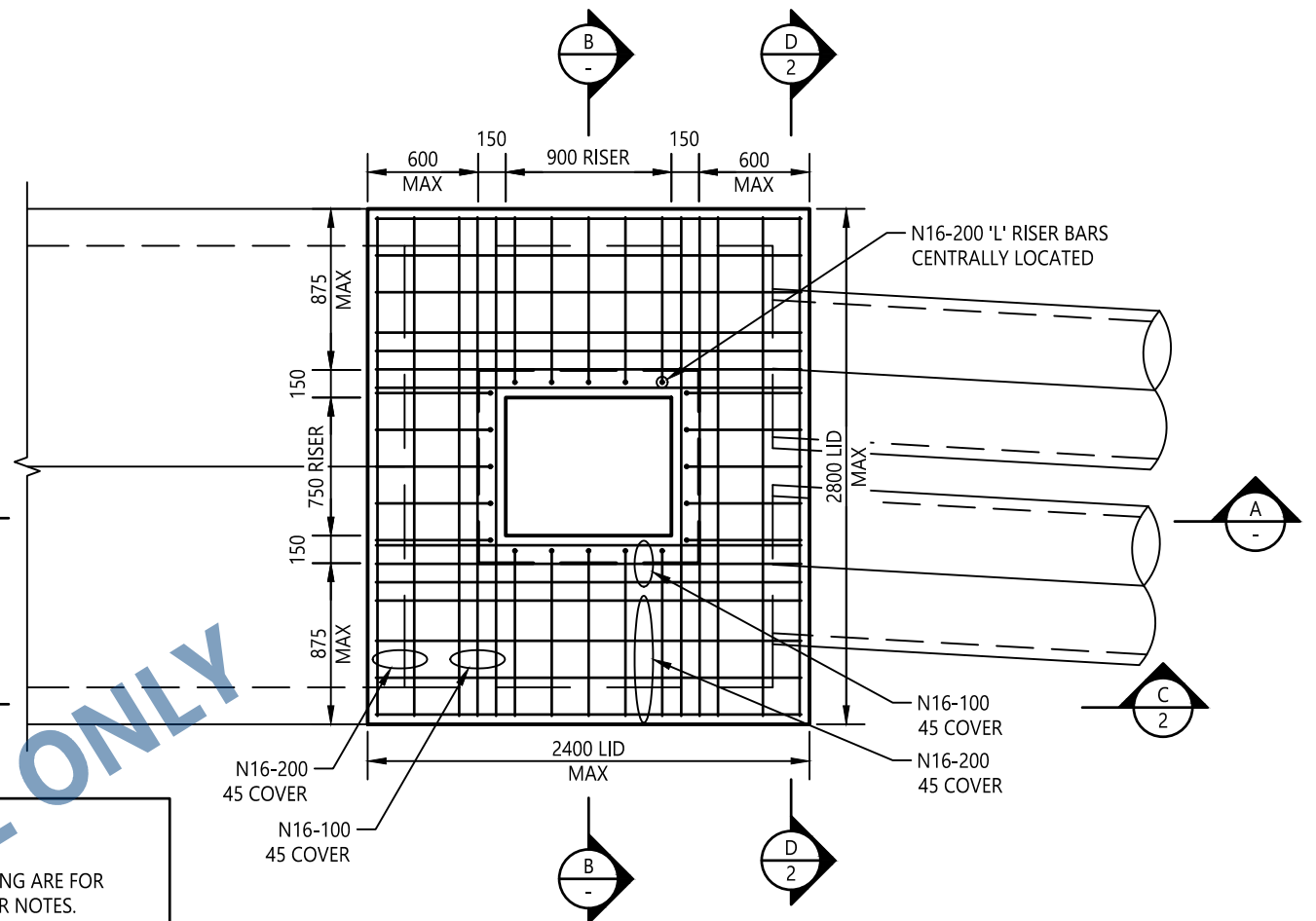
REV	AMENDMENT	DATE	DRAWN	APRVD	SCALE ON ORIGINAL A3 SIZE DRAWING 0 100 200 300 400 500 1:10 0 250 500 750 1000 1250 1:25	DRAWN C SHEPPEARD CHECKED M BAMBER DATE 28/4/20 UNIT MANAGER APPROVAL 	ASSETS PLANNING AND DESIGN	ROADS TRANSPORT DRAINAGE AND WASTE		Central Coast Council	STANDARD DRAWING	
											DRAWING NUMBER SD0401	REV -
STORMWATER DRAINAGE SERIES STANDARD GRATED GULLY PIT											SHEET 3 OF 3	A3



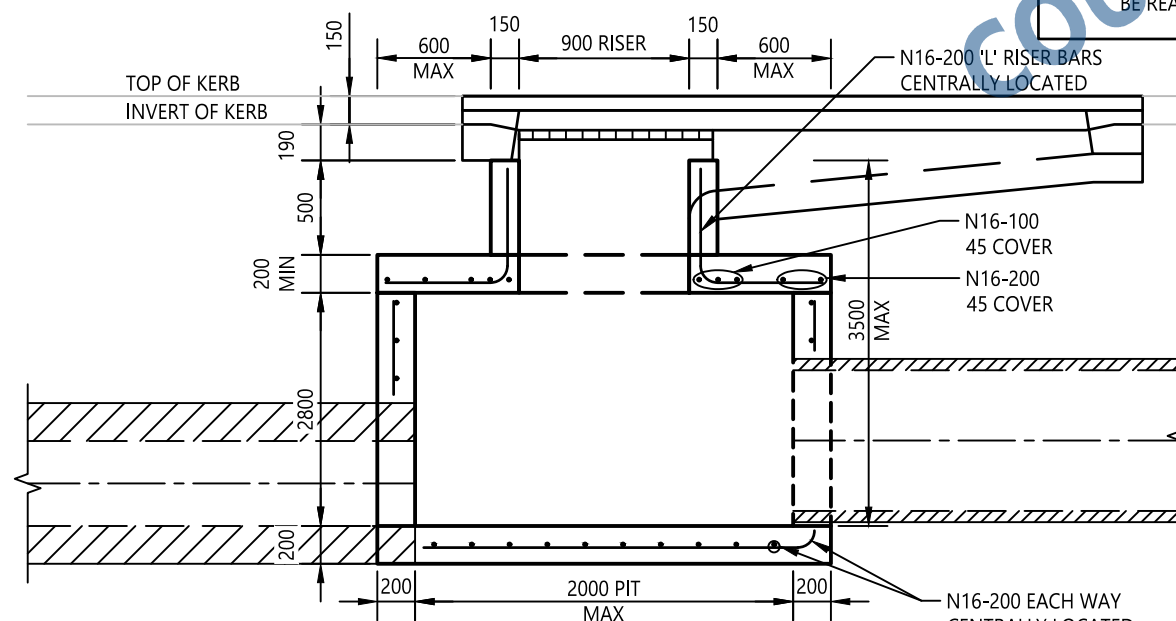
**WALL REINFORCEMENT PLAN**  
SCALE 1:40

**NOTES:**

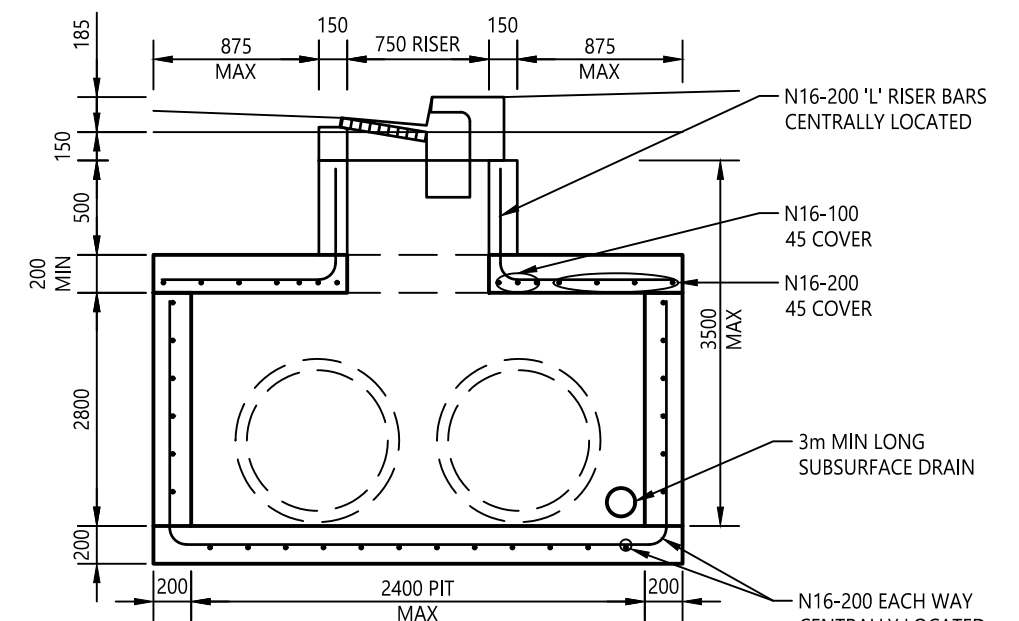
1. SHEETS 1 AND 2 OF THIS STANDARD DRAWING ARE FOR COUNCIL-USE ONLY. SEE SHEET 3 FOR OTHER NOTES.
2. LARGER SIZE PITS OR IRREGULAR SHAPED PITS SHALL BE DESIGNED BY A SUITABLY QUALIFIED AND EXPERIENCED CIVIL/STRUCTURAL ENGINEER.
3. THE BENEFIT OF CONSTRUCTING A RISER WOULD NOT LIKELY BE REALISED FOR PIT DEPTHS <3m.



**LID REINFORCEMENT PLAN**  
SCALE 1:40



**SECTION A-A**  
SCALE 1:40



**SECTION B-B**  
SCALE 1:40

SCALE ON ORIGINAL A3 SIZE DRAWING

0 400 800 1200 1600 2000

1:40

DRAWN T WILLIS  
CHECKED M BAMBER  
DATE 28/4/20  
UNIT MANAGER APPROVAL

ASSETS PLANNING AND DESIGN



ROADS TRANSPORT DRAINAGE AND WASTE

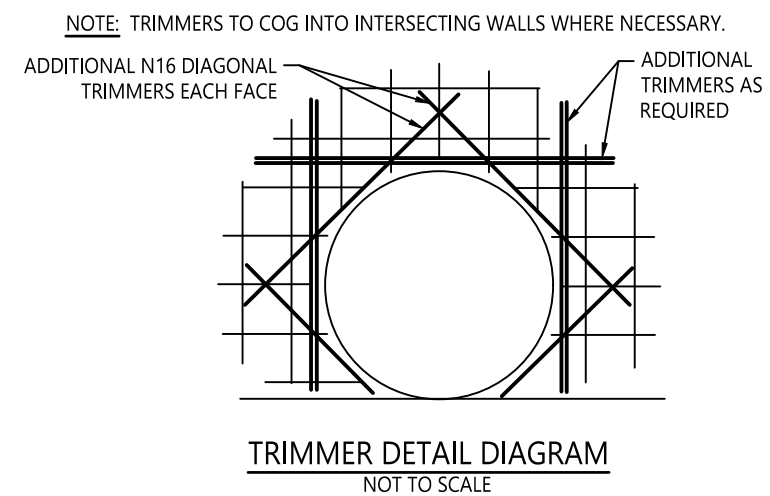
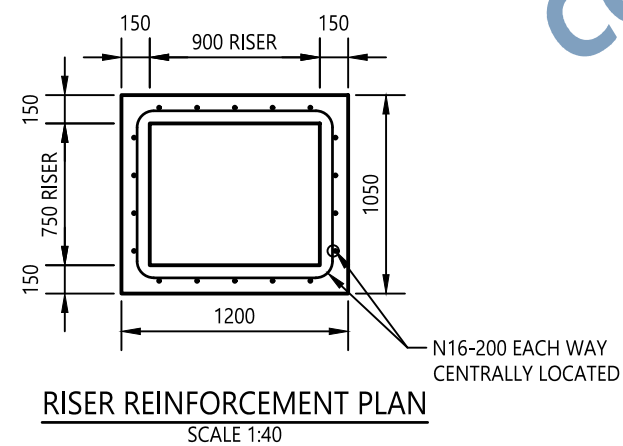
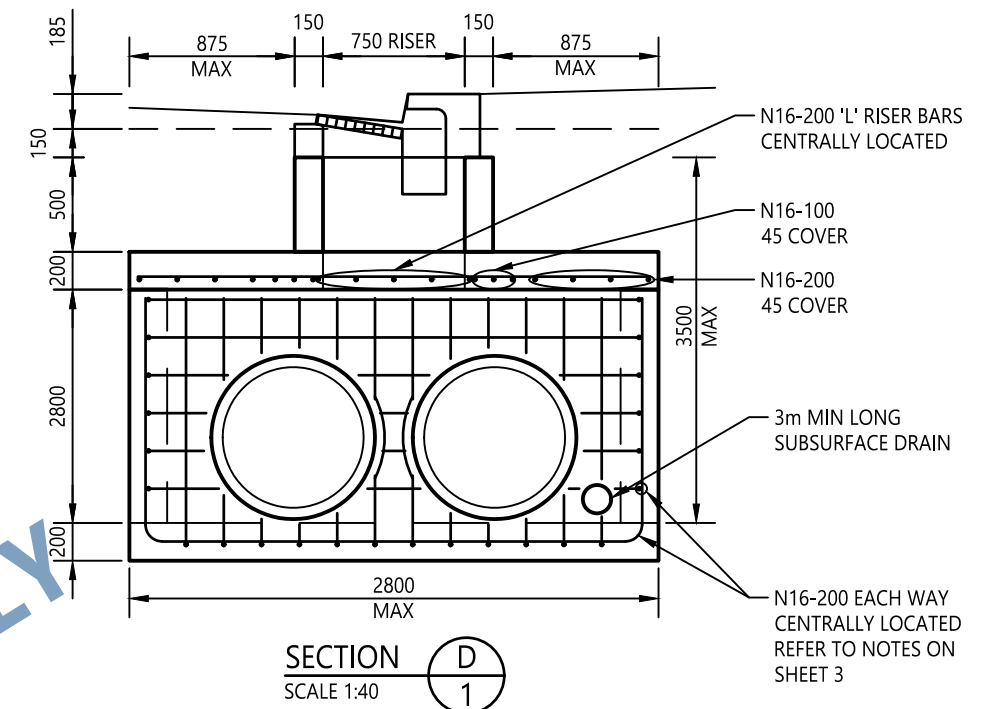
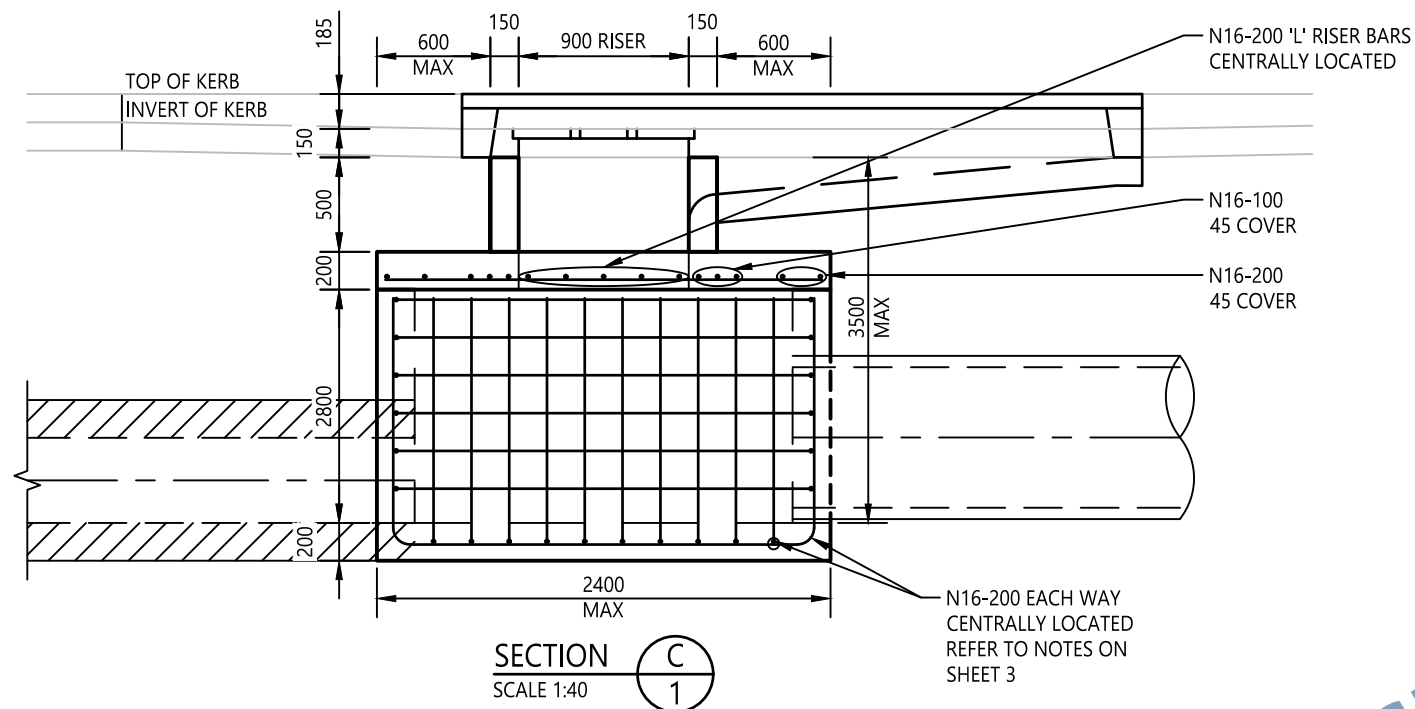
**Central Coast Council**



**STORMWATER DRAINAGE SERIES  
OVERSIZE GULLY PIT**

**STANDARD DRAWING**

DRAWING NUMBER	REV
SD0402	-
SHEET 1 OF 3	A3





REV	AMENDMENT	DATE	DRAWN	APRVD	SCALE ON ORIGINAL A3 SIZE DRAWING		DRAWN	T WILLIS		Central Coast Council		STANDARD DRAWING						
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							DATE	28/4/20										
							ALL DIMENSIONS IN mm UNLESS OTHERWISE SHOWN					UNIT MANAGER APPROVAL 		ASSETS PLANNING AND DESIGN		ROADS TRANSPORT DRAINAGE AND WASTE		SD0402
					SHEET 2 OF 3													A3
					STORMWATER DRAINAGE SERIES OVERSIZE GULLY PIT													

REINFORCED CONCRETE PIT NOTES:

1.
- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
2.
- EXPOSURE CLASSIFICATION AND CONCRETE STRENGTH GRADE IN ACCORDANCE WITH TABLE 4.3 AS 3600-2009:

EXPOSURE CLASSIFICATION	CONCRETE STRENGTH GRADE	LOCATION
B1	N32	1 TO 50km FROM COASTLINE
B2	N40	WITHIN 1km OF SALTWATER SHORELINE

3.
- MINIMUM CONCRETE COVER TO REINFORCEMENT SHALL COMPLY WITH TABLE 4.10.3.2 AS 3600-2009:

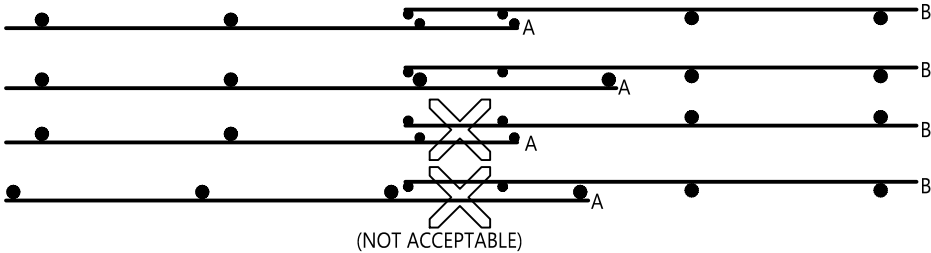
Exposure Classification	REQUIRED COVER (mm)				
	CHARACTERISTIC STRENGTH (f'c)				
	20 MPa	25 MPa	32 MPa	40 MPa	≥50 MPa
A1	20	20	20	20	20
A2	(50)	30	25	20	20
B1	-	(60)	40	30	25
B2	-	-	(65)	45	35
C1	-	-	-	(70)	50
C2	-	-	-	-	65

4.
- DESIGN COVER TO REINFORCEMENT SHALL BE 65mm TO UNPROTECTED GROUND AND 40mm TO EXTERNAL EXPOSURE. THE REINFORCEMENT SHALL BE PLACED TOWARDS THE OUTSIDE FACE OF THE PANEL WITHIN THE ZONE DEFINED BY THESE LIMITS.
5.
- ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON INSULATED STEEL OR PLASTIC CHAIRS, GENERALLY AT NOT GREATER THAN 800mm CENTRES BOTH WAYS.
6.
- ALL TIE WIRES SHALL BE BENT SO AS NOT TO INTRUDE INTO THE COVER ZONE.
7.
- MINIMUM BAR SPLICE SHALL BE 450mm.
8.
- SPLICES IN REINFORCEMENT SHALL ONLY BE MADE IN POSITION SHOWN. LAPS SHALL BE IN ACCORDANCE WITH AS 3600 AND NOT LESS THAN THE DEVELOPMENT LENGTH FOR EACH BAR AS SHOWN IN THE TABLE BELOW UNLESS OTHERWISE NOTED:

BAR SIZE	LAP MIN
N10	450
N12	500
N16	650
N20	1000

BOTTOM BAR LAPPED AT SUPPORTS AND TOP BAR LAPPED AT MID SPAN



9.
- SLAB MESH SHALL BE LAPPED BY ONE FULL PANEL OF MESH SO THAT THE TWO OUTERMOST TRANSVERSE WIRES OF ONE SHEET OVERLAP THE TWO OUTERMOST TRANSVERSE WIRES OF THE SHEET BEING LAPPED SUCH AS SHOWN IN THE DIAGRAM BELOW:

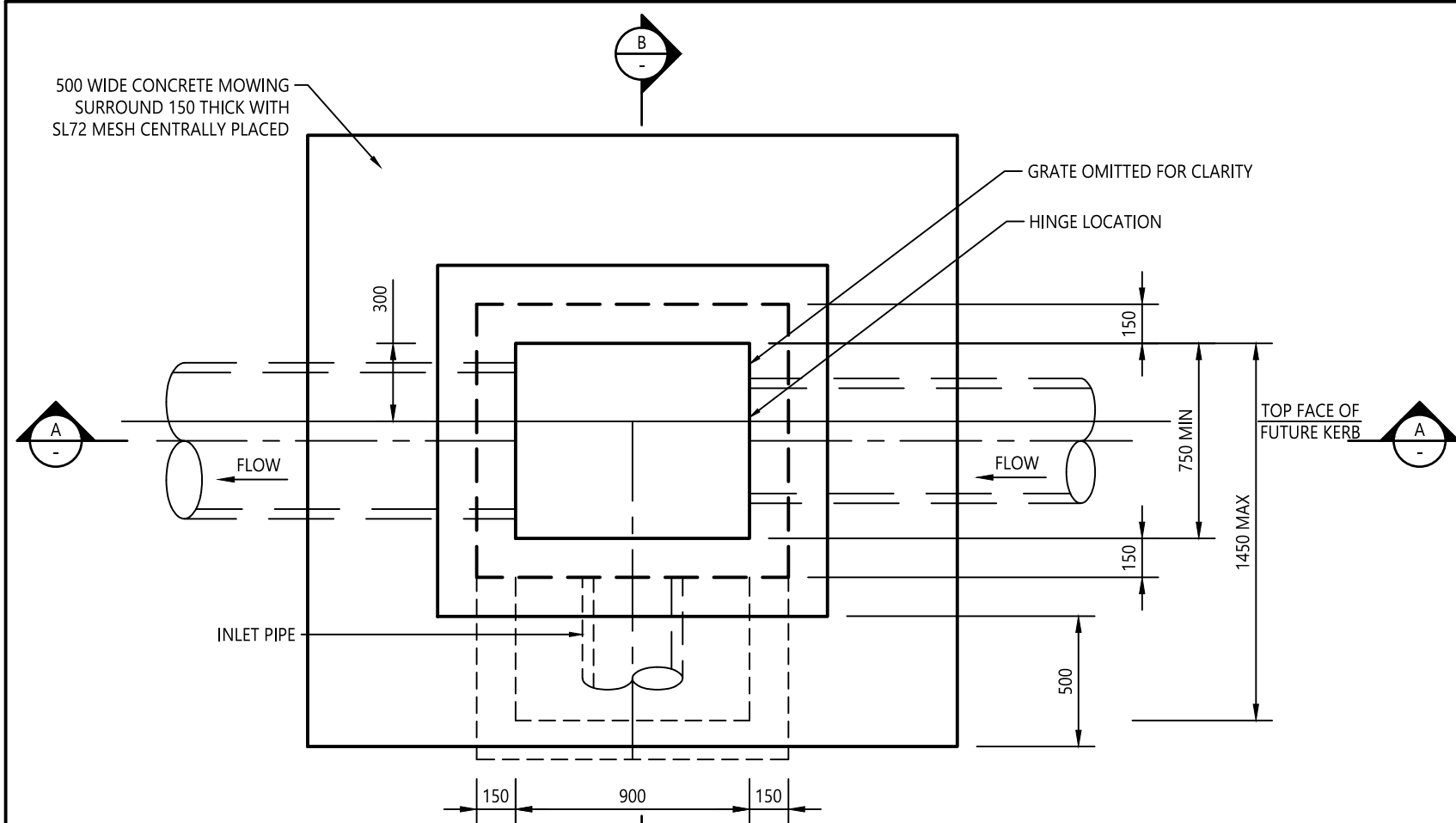


10.
- WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS OTHERWISE SHOWN OR APPROVED BY THE ENGINEER.
11.
- ALL STEEL REINFORCEMENT SHALL BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO PLACEMENT OF CONCRETE.
12.
- ADMIXTURES AND CONCRETE MATERIAL CONTAINING CALCIUM CHLORIDE OR OTHER CHLORIDE SALTS SHALL NOT BE USED. THE MATERIALS, MANUFACTURE, HANDLING, PLACING, FINISHING AND CURING OF THE CONCRETE SHALL BE IN ACCORDANCE WITH AS 3600 AND ACCEPTED BUILDING PRACTICE.

ELEMENT	SLUMP	AGG. SIZE MAX	CEMENT TYPE	AS 3600 (EXP. CLASS)	ADMIX.
PIT	80	20	A	32 MPa (B1) 40 MPa (B2)	Nil

13.
- NO HOLES OR CHASES OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
14.
- ALL CONCRETE SHALL BE COMPACTED WITH AN APPROVED INTERNAL VIBRATOR.
15.
- CONCRETE SHALL BE MOIST CURED FOR 7 DAYS SO THAT THE DESIGN REQUIREMENTS FOR SERVICEABILITY, DURABILITY AND STRENGTH ARE ACHIEVED. EFFECTIVE MOIST CURING MAY BE OBTAINED BY A COMBINATION OF MEANS SUCH AS WET CURING, SEALING WITH PLASTIC SHEETS OR OTHER MEANS APPROVED BY THE ENGINEER. PROPPING AND BACKPROPPING OF FORMWORK, AND STRIPPING OF FORMWORK ARE TO BE IN ACCORDANCE WITH AS 3610 AND AS 3600 UNLESS SPECIFICALLY VARIED BY THE SUPERVISING ENGINEER.
16.
- PIT WALLS HAVE BEEN DESIGNED FOR EARTH PRESSURES WITH LEVEL BACKFILL CONDITIONS. PITS HAVE BEEN DESIGNED IN ACCORDANCE WITH AS 3735-2001 CONCRETE STRUCTURES FOR RETAINING LIQUIDS.
17.
- THE PIT STRUCTURE DETAILED HAS BEEN DESIGNED FOR LOAD CLASS D CLASSIFICATION IN ACCORDANCE WITH AS 3996-2006, WITH A NOMINAL WHEEL LOADING OF 8000kg. PIT COVERS AND GRATES SHALL BE OF ADEQUATE CAPACITY TO COMPLY WITH THE REQUIREMENTS OF THIS CLASSIFICATION.
18.
- AT PENETRATIONS IN SLABS, UNLESS OTHERWISE DETAILED, REINFORCEMENT SHALL NOT BE CUT BUT SHALL BE GATHERED EQUALLY TO EACH SIDE OF PENETRATION AND EXTRA REINFORCEMENT PROVIDED BETWEEN THE PENETRATIONS AS DIRECTED BY THE ENGINEER.
19.
- ALL RODS IN TRIMMER ROD GROUPS OF THE SAME LENGTH ARE TO HAVE A SPACING OF APPROXIMATELY 75mm CENTRES.
20.
- PROVIDE STEP-IRONS FOR PITS DEEPER THAN 600mm.
21.
- LARGER SIZE OR IRREGULAR SHAPED PITS SHALL BE DESIGNED BY AN APPROPRIATELY QUALIFIED AND EXPERIENCED ENGINEER.
22.
- DEPTH OF PIT SHALL NOT EXCEED 3.5m.

					SCALE ON ORIGINAL A3 SIZE DRAWING	DRAWN	T WILLIS		Central Coast Council	STANDARD DRAWING	
					NOT TO SCALE	CHECKED	M BAMBER				DRAWING NUMBER
						DATE	28/4/20			SD0402	
						UNIT MANAGER APPROVAL					
REV	AMENDMENT	DATE	DRAWN	APRVD	ALL DIMENSIONS IN mm UNLESS OTHERWISE SHOWN	ASSETS PLANNING AND DESIGN	ROADS TRANSPORT DRAINAGE AND WASTE	STORMWATER DRAINAGE SERIES OVERSIZE GULLY PIT			



### NOTES:

- REFER TO STANDARD DRAWING SD0402, SHEET 3, FOR SPECIFIC NOTES ON CONCRETE REINFORCEMENT.
- CUSTOM-MADE PRECAST PITS SHALL BE USED IN THE ROAD RESERVE WHERE PRACTICABLE AND SHALL BE DESIGNED IN ACCORDANCE WITH AS 1597, AS 3600 AND AS 5100. 'KNOCKOUT PITS' SHALL NOT BE USED UNLESS OTHERWISE APPROVED BY COUNCIL'S REPRESENTATIVE.
- PITS DEEPER THAN 1.5m SHALL BE CONSTRUCTED WITH 200mm THICK REINFORCED CONCRETE WALLS IN ACCORDANCE WITH TABLE 2.
- DEPTH OF PIT SHALL NOT EXCEED 3.5m.
- ALL PITS SHOWN ARE STANDARD 900mm LONG OR 1450mm WIDE. REFER TO SD0402 FOR FURTHER DETAILS ON OVERSIZE PITS > 900mm LONG OR > 1450mm WIDE.
- CONCRETE STRENGTH GRADE SHALL BE N32 MINIMUM UNLESS OTHERWISE SPECIFIED.
- BCP PLD-RSG99 PRECAST APRON WITH GRATE, WELDLOK SPG99 GRATE OR APPROVED EQUIVALENT TO BE USED. GRATE AND FRAME TO BE HOT-DIP GALVANISED 80-85 MICRONS THICK. ALL GRATES TO BE PROVIDED WITH LOCKING CLIP.
- PROVIDE STEP-IRONS FOR PITS DEEPER THAN 600mm.
- NO RENDERING PERMITTED IN STRUCTURAL COMPONENTS.
- ALL PITS SHALL BE STREAMLINED AND BENCHED WHERE REQUIRED.
- 100Ø SUBSURFACE DRAINAGE PIPE 3m MIN LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED ADJACENT TO INLET PIPES.
- PROVIDE TWO MINIMUM WHITE REFLECTORISED GUIDE POSTS EITHER SIDE OF PIT, WHERE REQUIRED.

TABLE 2 - CONCRETE THICKNESS AND REINFORCEMENT DETAILS

INTERNAL DEPTH (m)	BASE THICKNESS (mm)	WALL THICKNESS (mm)	MAX LENGTH (mm)	MAX WIDTH (mm)	REINFORCEMENT SEE NOTE BELOW	
					BASE	WALLS
≤ 1.5	150	150	900	1450	UNREINFORCED	
1.5 - 3.5	150	200			SL81 MESH - N12 500 x 500 GALVANISED STARTER BARS AT 200 C/C AND N12 500 x 500 CORNER BARS AT 400 C/C	
> 3.5	STRUCTURAL ENGINEERING DESIGN REQUIRED					

NOTE: REFER TO STANDARD DRAWING SD0402 FOR OVERSIZE GULLY PIT DIMENSIONS

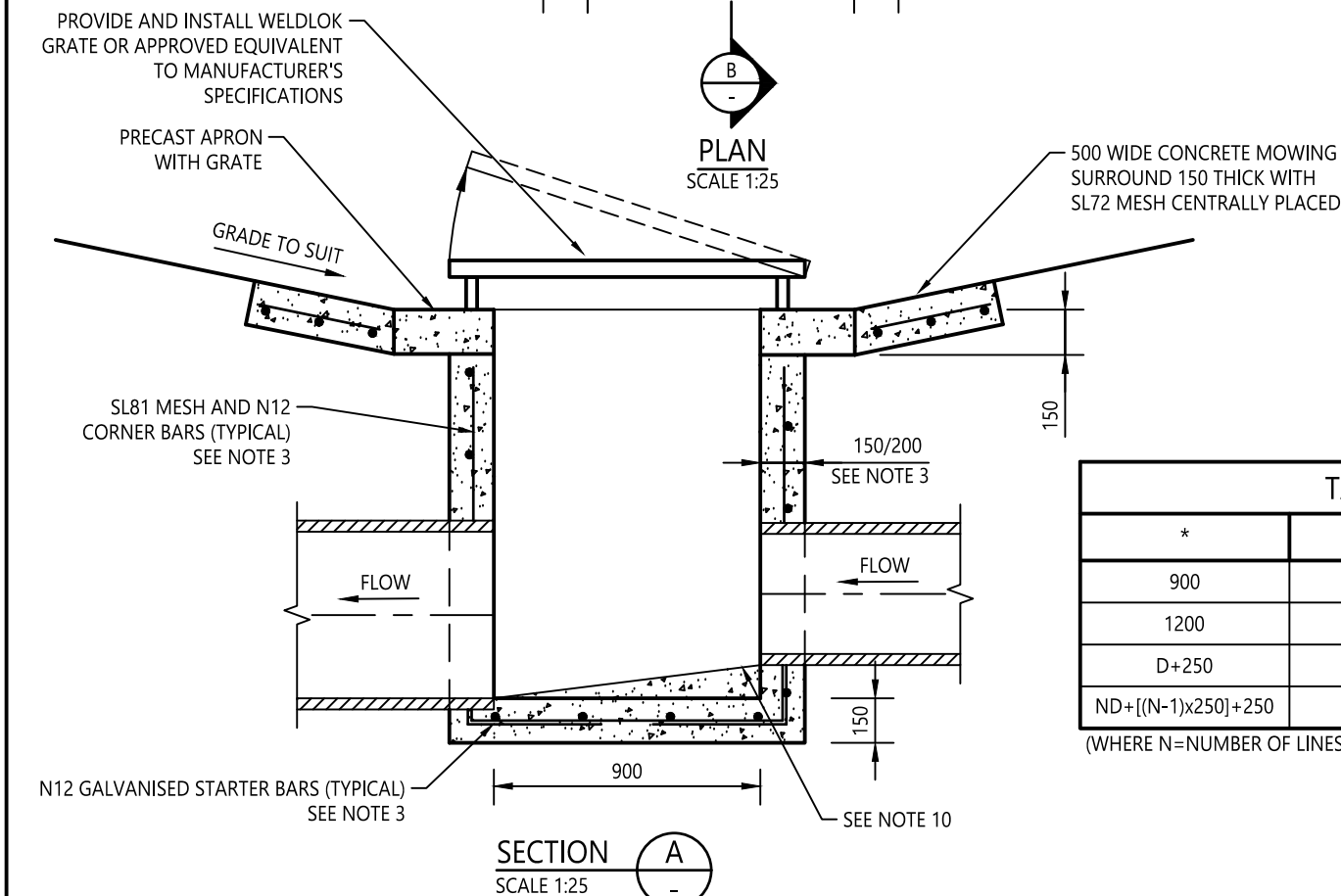
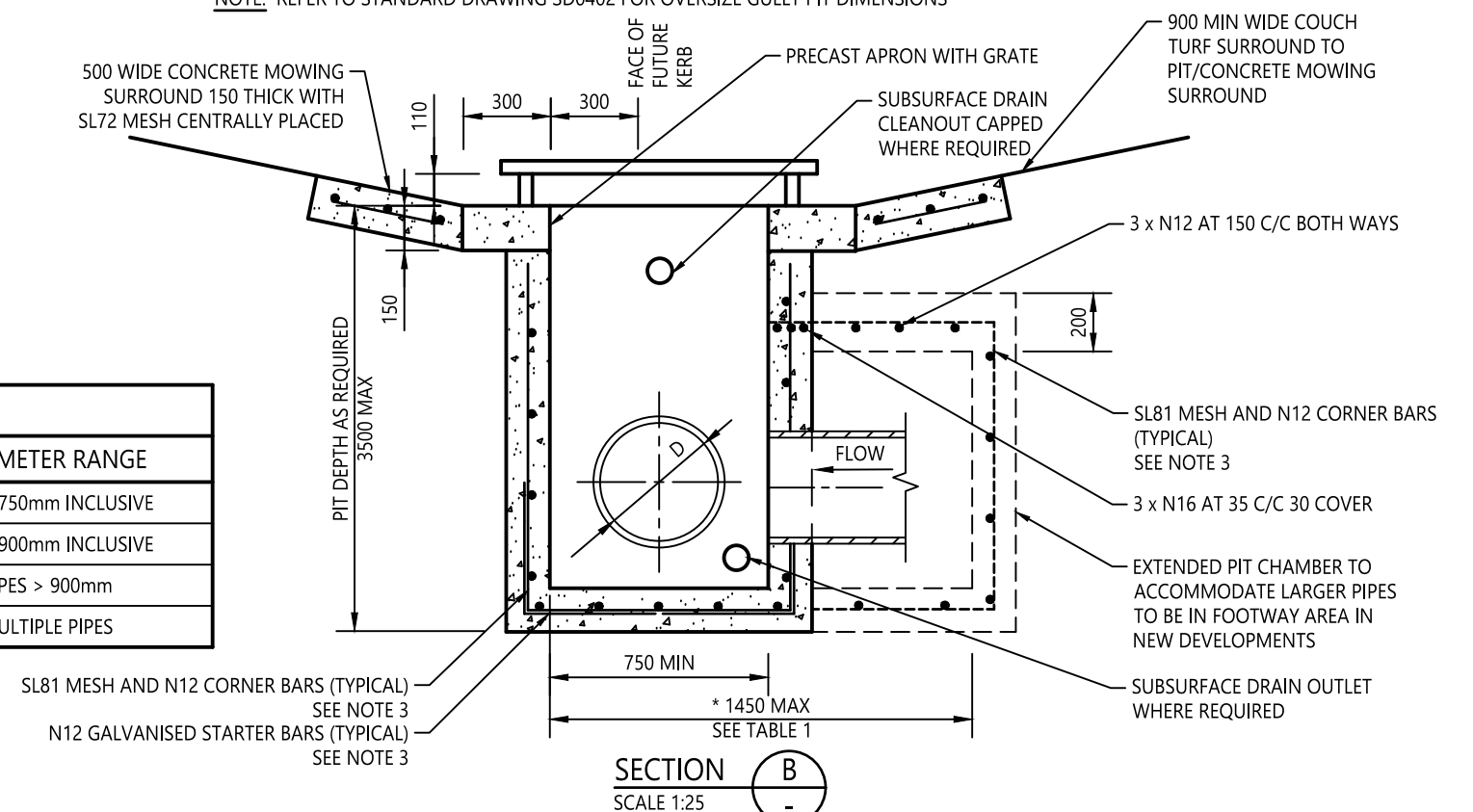


TABLE 1

*	PIPE DIAMETER RANGE
900	600mm TO 750mm INCLUSIVE
1200	825mm TO 900mm INCLUSIVE
D+250	FOR PIPES > 900mm
ND+[(N-1)x250]+250	FOR MULTIPLE PIPES

(WHERE N=NUMBER OF LINES)

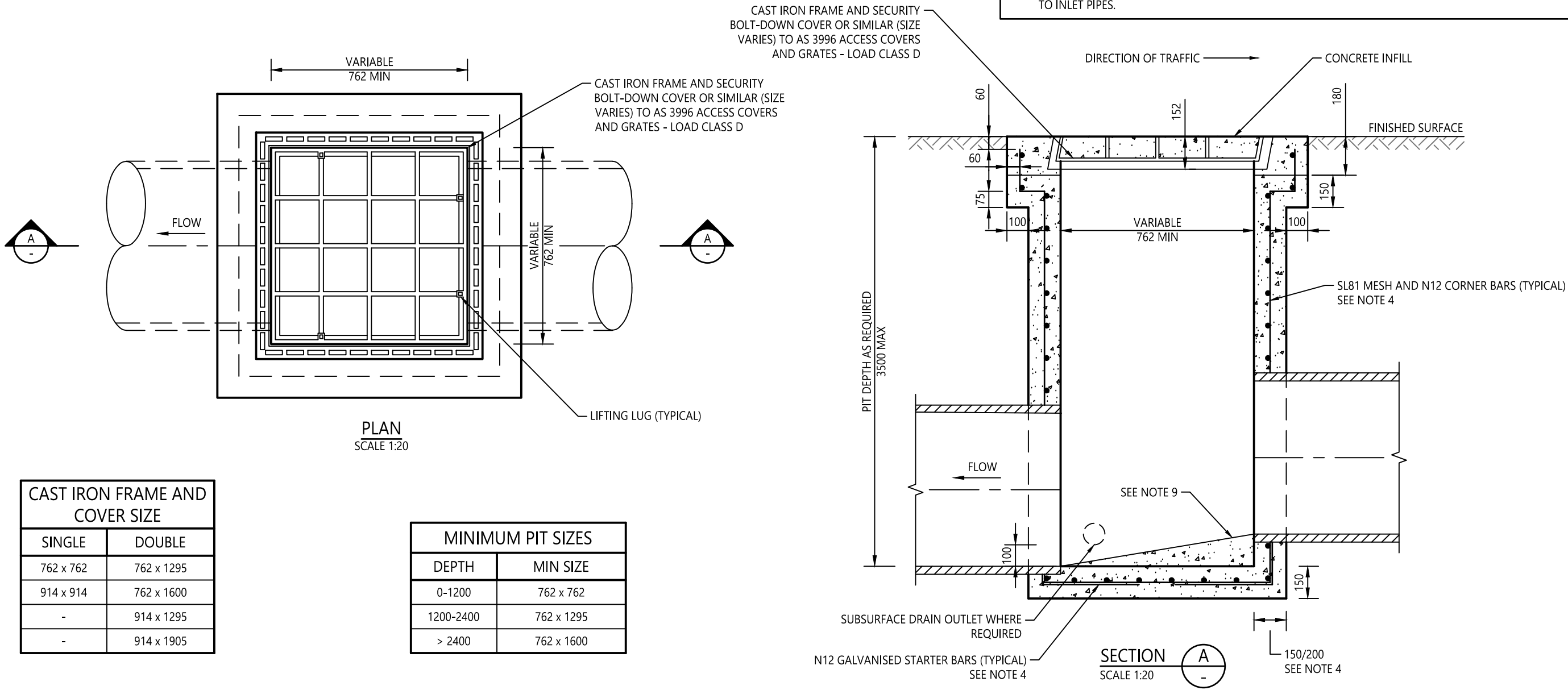


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											DRAWING NUMBER SD0403	REV -
											SHEET 1 OF 1	A3

TABLE 1 - CONCRETE THICKNESS AND REINFORCEMENT DETAILS					
INTERNAL DEPTH (m)	BASE THICKNESS (mm)	WALL THICKNESS (mm)	MAX LENGTH (mm)	MAX WIDTH (mm)	REINFORCEMENT SEE NOTES 1 AND 2 BELOW
					BASE
≤ 1.5	150	150	900	1450	UNREINFORCED
1.5 - 3.5	150	200			SL81 MESH - N12 500 x 500 GALVANISED STARTER BARS AT 200 C/C AND N12 500 x 500 CORNER BARS AT 400 C/C
> 3.5	STRUCTURAL ENGINEERING DESIGN REQUIRED				

- NOTES:
- REFER TO STANDARD DRAWING SD0402 FOR OVERSIZE GULLY PIT DIMENSIONS
  - PIT WALLS AND BASE ON STATE ROADS AND B-DOUBLE ROUTES SHALL BE REINFORCED WITH RL1218 MESH - REFER TO TfNSW STANDARD DRAWING R0220 SERIES

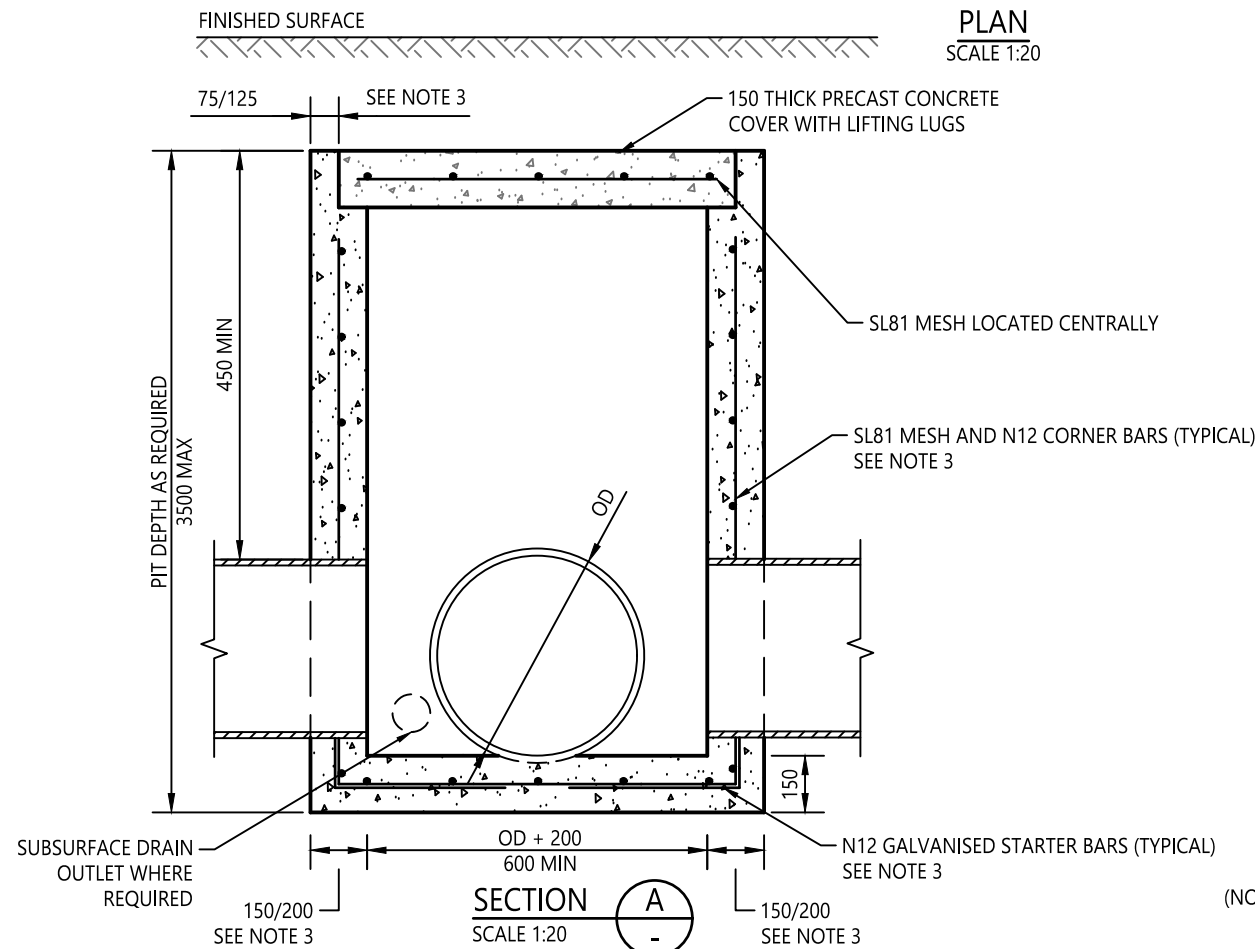
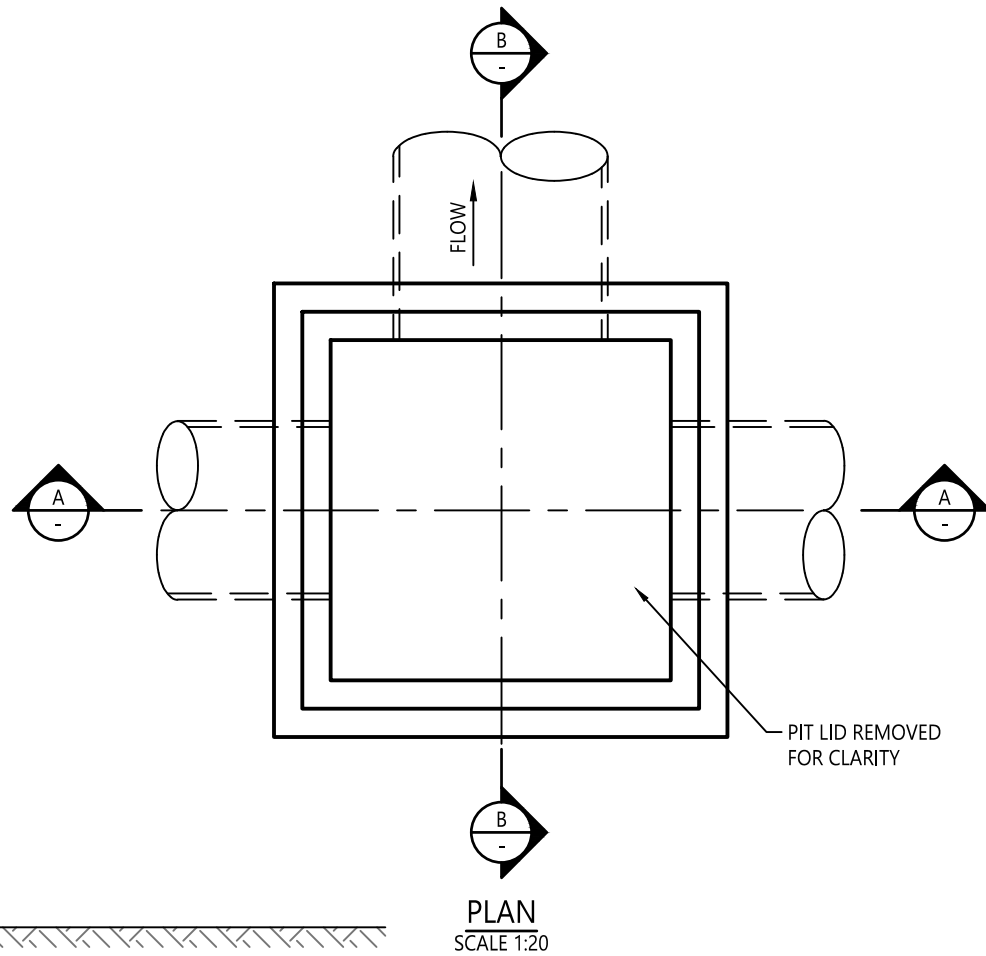
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  - CAST IRON FRAME AND COVER SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION.
  - PITS DEEPER THAN 1.5m SHALL BE CONSTRUCTED WITH 200mm THICK REINFORCED CONCRETE WALLS IN ACCORDANCE WITH TABLE 1.
  - DEPTH OF PIT SHALL NOT EXCEED 3.5m.
  - PROVIDE STEP-IRONS FOR PITS DEEPER THAN 600mm.
  - CONCRETE STRENGTH GRADE SHALL BE N32 MINIMUM UNLESS OTHERWISE SPECIFIED.
  - NO RENDERING PERMITTED IN STRUCTURAL COMPONENTS.
  - ALL PITS SHALL BE STREAMLINED AND BENCHED WHERE REQUIRED.
  - 100Ø SUBSURFACE DRAINAGE PIPE 3m MIN LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED ADJACENT TO INLET PIPES.



JUNCTION BOX WITH CAST IRON FRAME AND COVER

REV	AMENDMENT	DATE	DRAWN	APRVD	SCALE ON ORIGINAL A3 SIZE DRAWING 0 200 400 600 800 1000 1:20	DRAWN C SHEPPEARD CHECKED M BAMBER DATE 28/4/20 UNIT MANAGER APPROVAL 	ASSETS PLANNING AND DESIGN		ROADS TRANSPORT DRAINAGE AND WASTE	Central Coast Council STORMWATER DRAINAGE SERIES JUNCTION BOX	STANDARD DRAWING	
											DRAWING NUMBER	REV
											SD0404	-
											SHEET 1 OF 2	A3





**BURIED JUNCTION BOX**  
(NOT PERMITTED UNLESS SPECIFICALLY APPROVED  
BY COUNCIL'S REPRESENTATIVE)

**NOTES:**

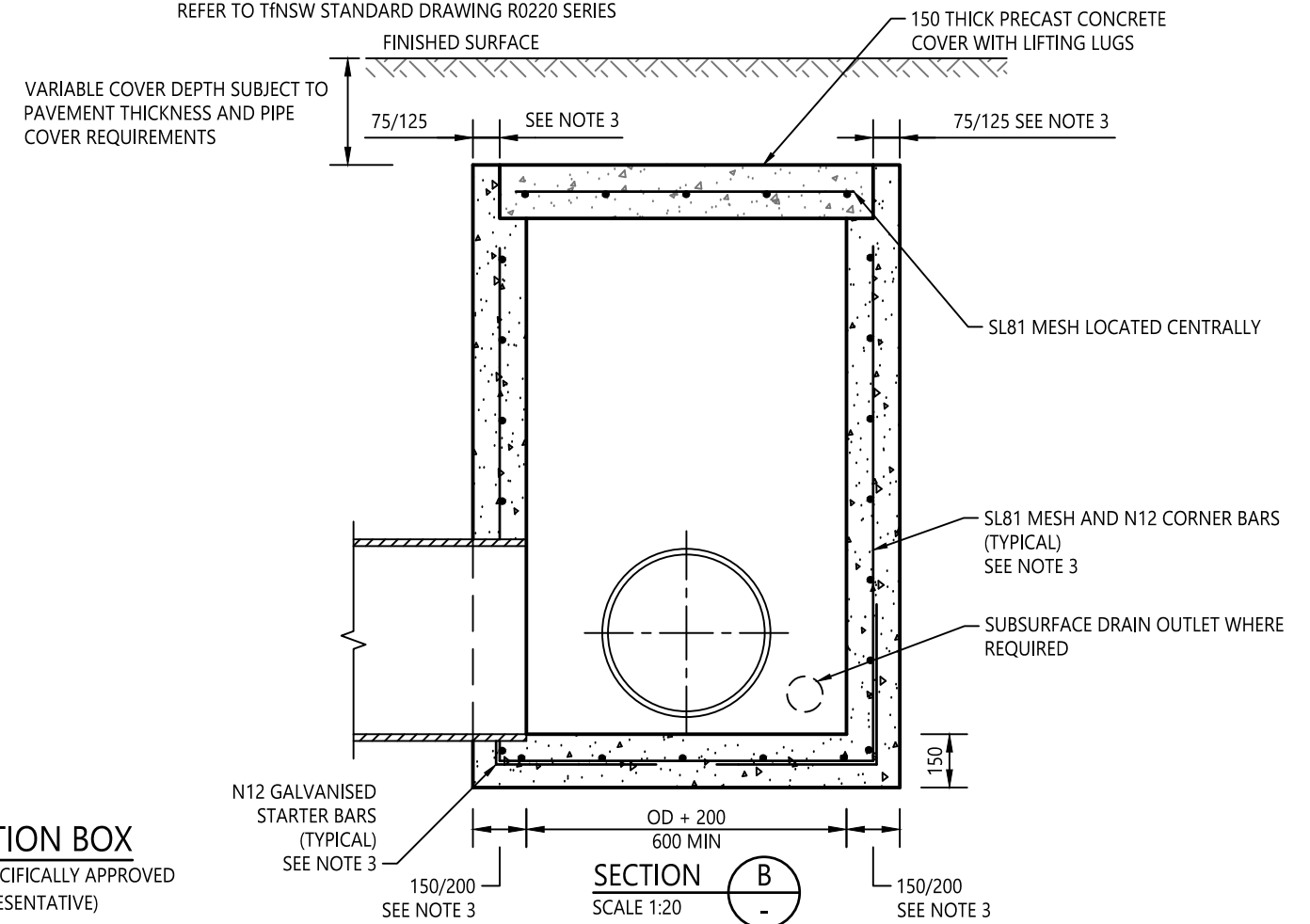
1. REFER TO STANDARD DRAWING SD0402, SHEET 3, FOR SPECIFIC NOTES ON CONCRETE REINFORCEMENT.
2. CUSTOM-MADE PRECAST PITS SHALL BE USED IN THE ROAD RESERVE WHERE PRACTICABLE AND SHALL BE DESIGNED IN ACCORDANCE WITH AS 1597, AS 3600 AND AS 5100. 'KNOCKOUT PITS' SHALL NOT BE USED UNLESS OTHERWISE APPROVED BY COUNCIL'S REPRESENTATIVE.
3. PITS DEEPER THAN 1.5m SHALL BE CONSTRUCTED WITH 200mm THICK REINFORCED CONCRETE WALLS IN ACCORDANCE WITH TABLE 2.
4. DEPTH OF PIT SHALL NOT EXCEED 3.5m.
5. CONCRETE STRENGTH GRADE SHALL BE N32 MINIMUM UNLESS OTHERWISE SPECIFIED.
6. PROVIDE STEP-IRONS FOR PITS DEEPER THAN 600mm UNLESS OTHERWISE ADVISED BY COUNCIL'S REPRESENTATIVE.
7. ALL PITS SHALL BE STREAMLINED AND BENCHED WHERE REQUIRED. NO RENDERING PERMITTED IN STRUCTURAL COMPONENTS.
8. 100Ø SUBSURFACE DRAINAGE PIPE 3m MIN LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED ADJACENT TO INLET PIPES.



**TABLE 2 - CONCRETE THICKNESS AND REINFORCEMENT DETAILS**

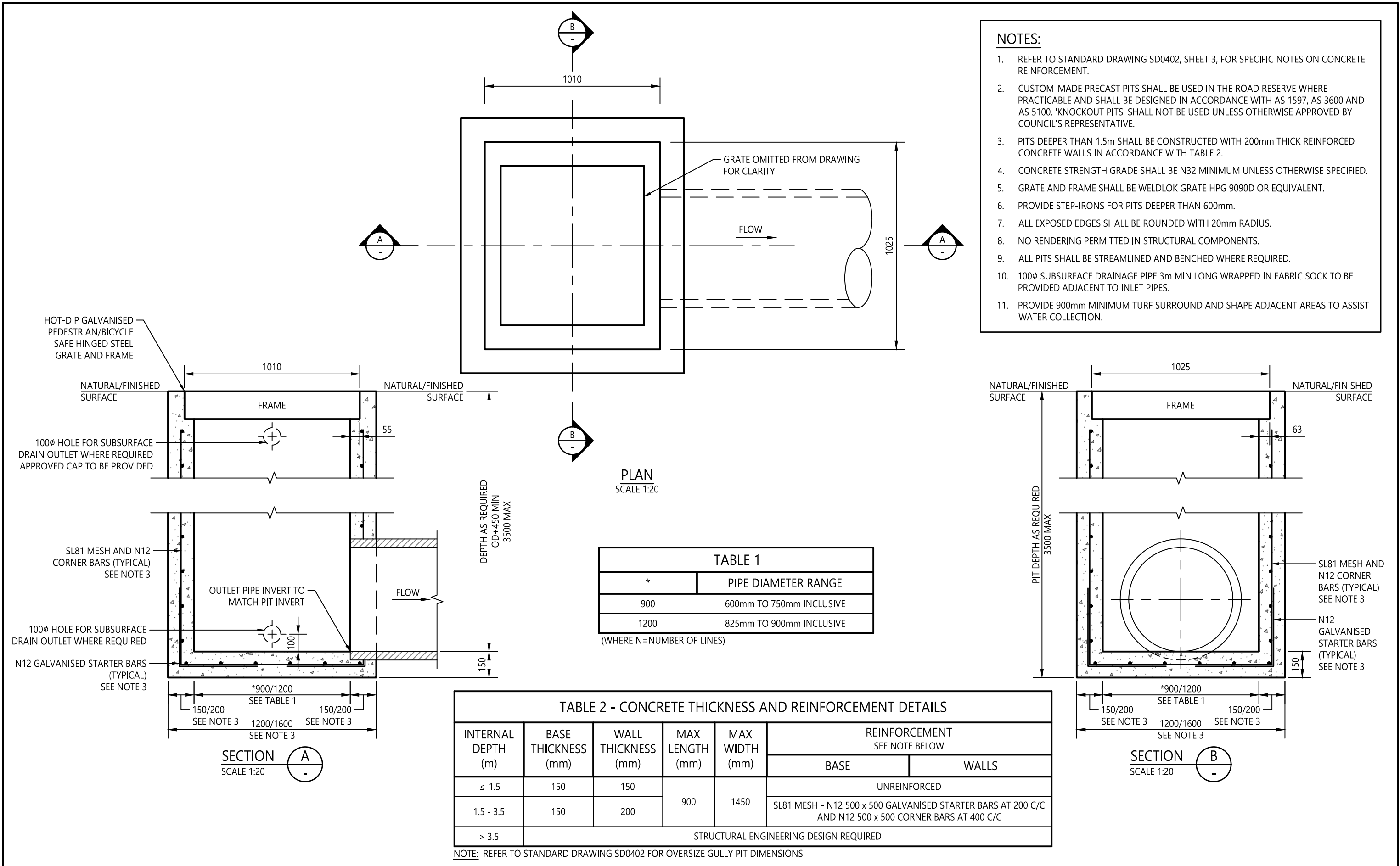
INTERNAL DEPTH (m)	BASE THICKNESS (mm)	WALL THICKNESS (mm)	MAX LENGTH (mm)	MAX WIDTH (mm)	REINFORCEMENT SEE NOTES 1 AND 2 BELOW	
					BASE	WALLS
≤ 1.5	150	150	900	1450	UNREINFORCED	
1.5 - 3.5	150	200			SL81 MESH - N12 500 x 500 GALVANISED STARTER BARS AT 200 C/C AND N12 500 x 500 CORNER BARS AT 400 C/C	
> 3.5	STRUCTURAL ENGINEERING DESIGN REQUIRED					

**NOTES:**

1. REFER TO STANDARD DRAWING SD0402 FOR OVERSIZE GULLY PIT DIMENSIONS
2. PIT WALLS AND BASE ON STATE ROADS AND B-DOUBLE ROUTES SHALL BE REINFORCED WITH RL1218 MESH - REFER TO TfNSW STANDARD DRAWING R0220 SERIES

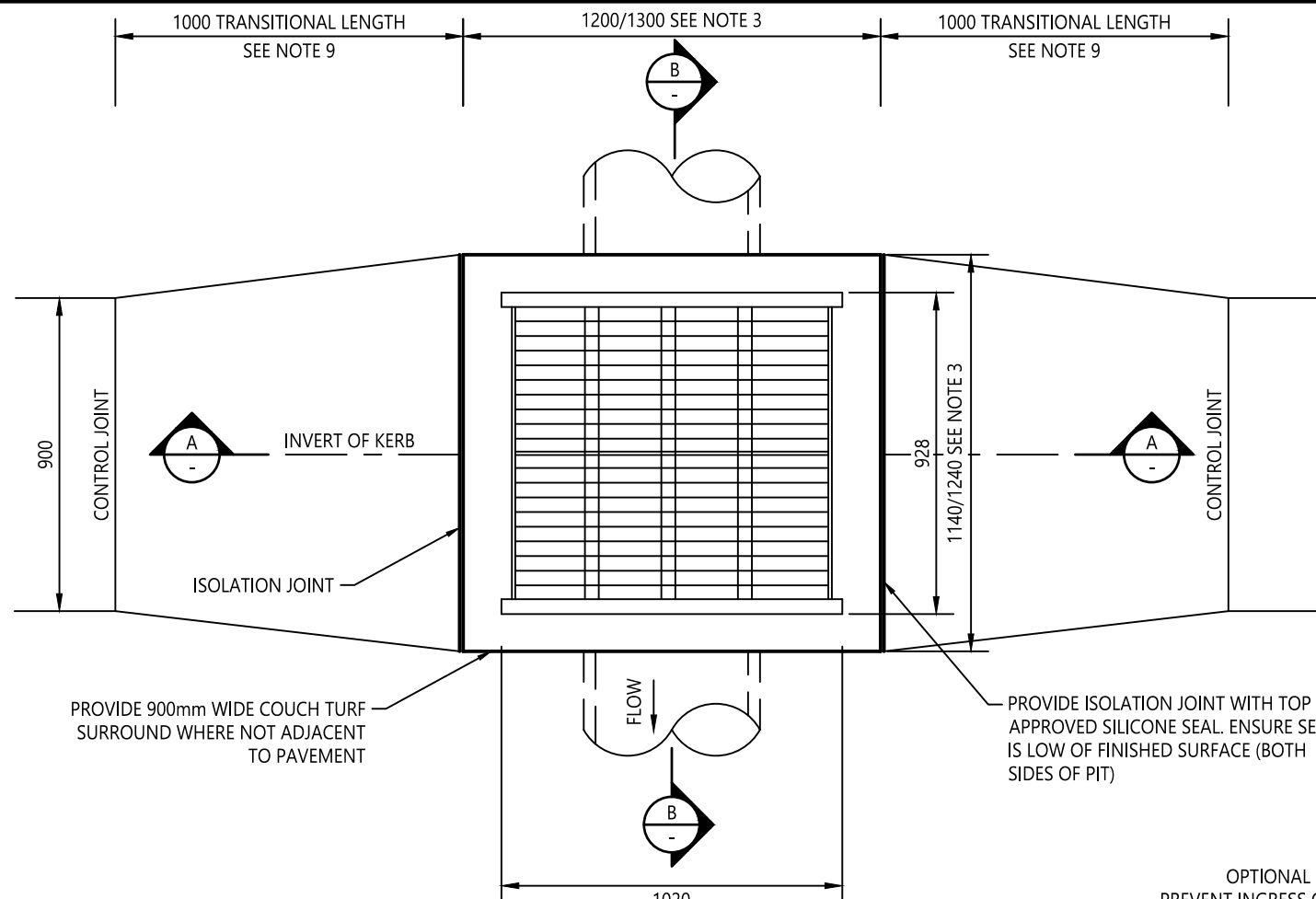


REV	AMENDMENT	DATE	DRAWN	APRVD	SCALE ON ORIGINAL A3 SIZE DRAWING		DRAWN	C SHEPPEARD		Central Coast Council		STANDARD DRAWING	
					<div>02004006008001000</div> <div><div></div><div></div><div></div><div></div><div></div></div> <div>1:20</div>		CHECKED	M BAMBER		STORMWATER DRAINAGE SERIES JUNCTION BOX	DRAWING NUMBER	REV	
							DATE	28/4/20			SD0404	-	
							UNIT MANAGER APPROVAL						
									ROADS TRANSPORT DRAINAGE AND WASTE				
ALL DIMENSIONS IN mm UNLESS OTHERWISE SHOWN							ASSETS PLANNING AND DESIGN				SHEET 2 OF 2		A3



**NOTES:**

1. REFER TO STANDARD DRAWING SD0402, SHEET 3, FOR SPECIFIC NOTES ON CONCRETE REINFORCEMENT.
2. CUSTOM-MADE PRECAST PITS SHALL BE USED IN THE ROAD RESERVE WHERE PRACTICABLE AND SHALL BE DESIGNED IN ACCORDANCE WITH AS 1597, AS 3600 AND AS 5100. 'KNOCKOUT PITS' SHALL NOT BE USED UNLESS OTHERWISE APPROVED BY COUNCIL'S REPRESENTATIVE.
3. PITS DEEPER THAN 1.5m SHALL BE CONSTRUCTED WITH 200mm THICK REINFORCED CONCRETE WALLS IN ACCORDANCE WITH TABLE 2.
4. CONCRETE STRENGTH GRADE SHALL BE N32 MINIMUM UNLESS OTHERWISE SPECIFIED.
5. GRATE AND FRAME SHALL BE WELDLOK GRATE HPG 9090D OR EQUIVALENT.
6. PROVIDE STEP-IRONS FOR PITS DEEPER THAN 600mm.
7. ALL EXPOSED EDGES SHALL BE ROUNDED WITH 20mm RADIUS.
8. NO RENDERING PERMITTED IN STRUCTURAL COMPONENTS.
9. ALL PITS SHALL BE STREAMLINED AND BENCHED WHERE REQUIRED.
10. 100Ø SUBSURFACE DRAINAGE PIPE 3m MIN LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED ADJACENT TO INLET PIPES.
11. PROVIDE 900mm MINIMUM TURF SURROUND AND SHAPE ADJACENT AREAS TO ASSIST WATER COLLECTION.



# NOTES:

- REFER TO STANDARD DRAWING SD0402, SHEET 3, FOR SPECIFIC NOTES ON CONCRETE REINFORCEMENT.
- CUSTOM-MADE PRECAST PITS SHALL BE USED IN THE ROAD RESERVE WHERE PRACTICABLE AND SHALL BE DESIGNED IN ACCORDANCE WITH AS 1597, AS 3600 AND AS 5100. 'KNOCKOUT PITS' SHALL NOT BE USED UNLESS OTHERWISE APPROVED BY COUNCIL'S REPRESENTATIVE.
- PITS DEEPER THAN 1.5m SHALL BE CONSTRUCTED WITH 200mm THICK REINFORCED CONCRETE WALLS IN ACCORDANCE WITH TABLE 2.
- DEPTH OF PIT SHALL NOT EXCEED 3.5m.
- CONCRETE STRENGTH GRADE SHALL BE N32 MINIMUM UNLESS OTHERWISE SPECIFIED.
- PROVIDE STEP-IRONS FOR PITS DEEPER THAN 600mm.
- NO RENDERING PERMITTED IN STRUCTURAL COMPONENTS.
- ALL PITS SHALL BE STREAMLINED AND BENCHED WHERE REQUIRED.
- DIFFERENCE IN SHAPE OF KERB TO MATCH SHAPE OF GRATE SURROUND SHALL BE SMOOTHED IN TRANSITIONAL LENGTH.
- 100 $\phi$  SUBSURFACE DRAINAGE PIPE 3m MIN LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED ADJACENT TO INLET PIPES.

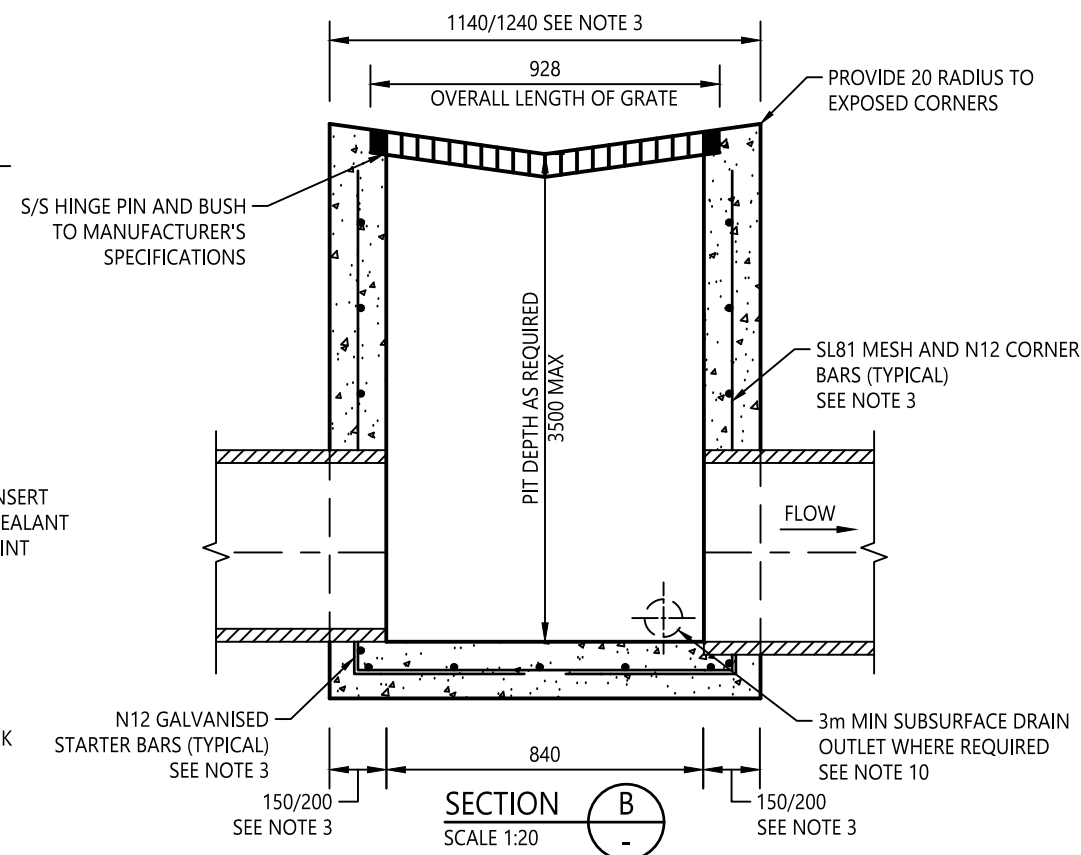
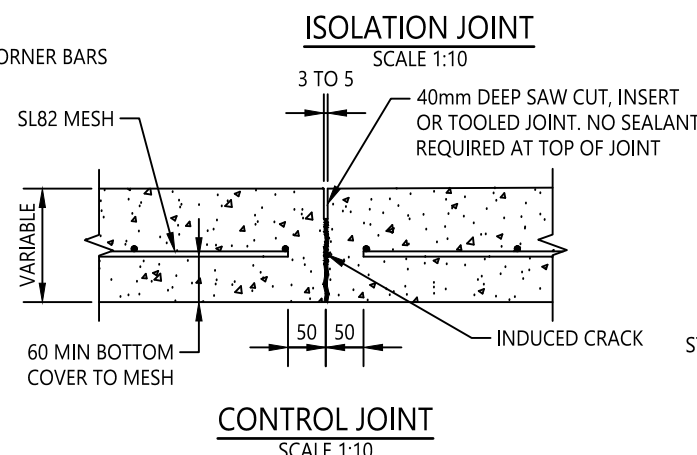
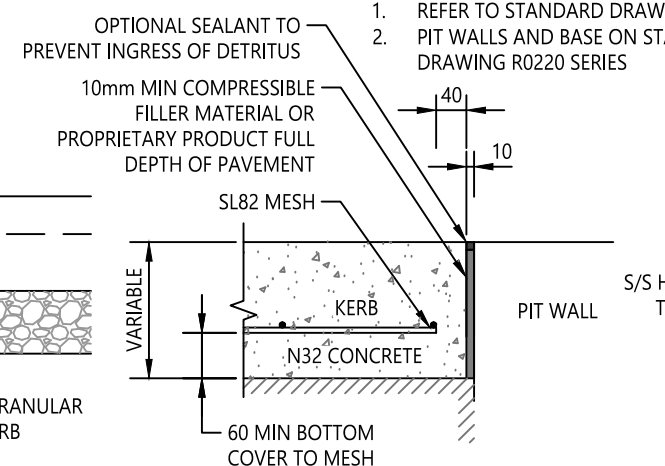
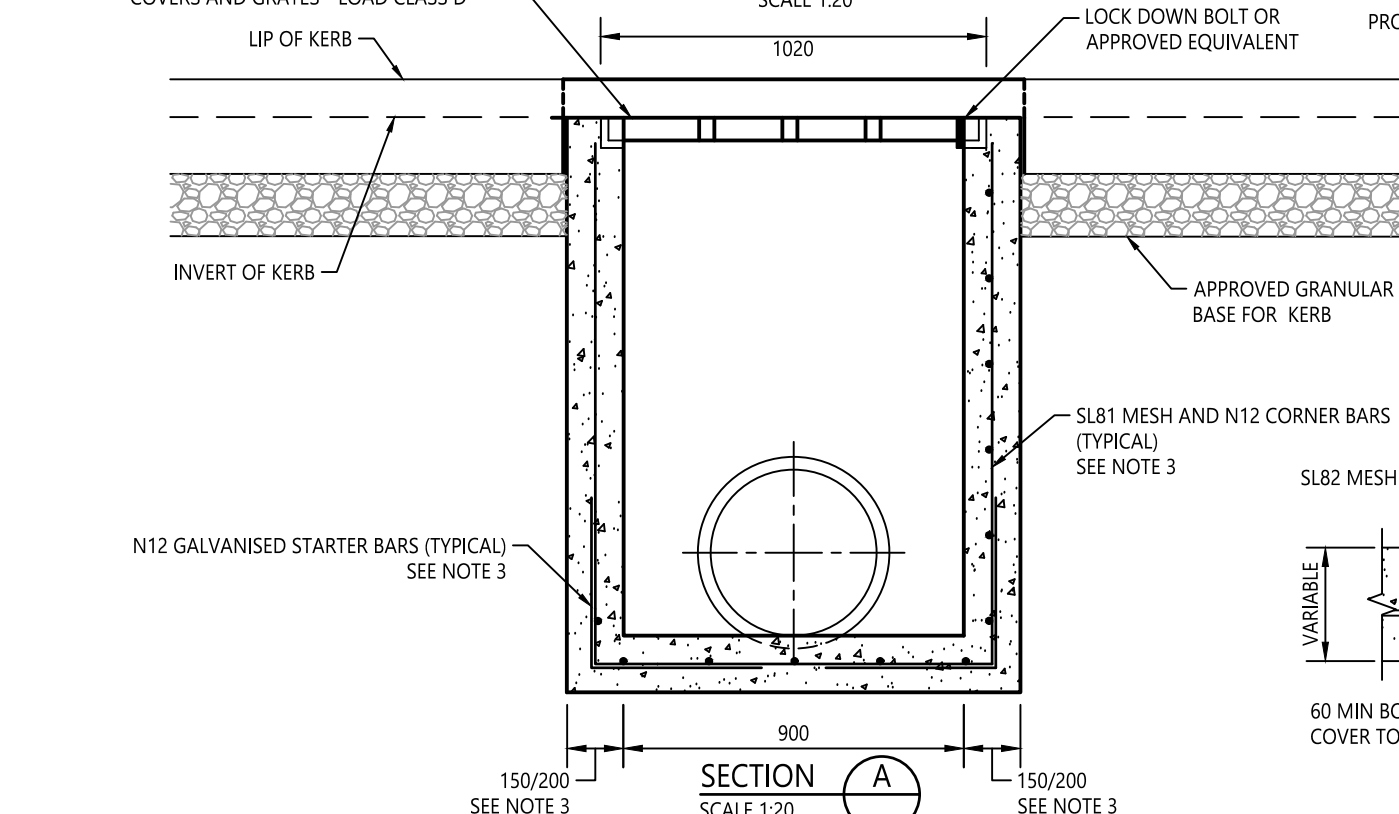
TABLE 2 - CONCRETE THICKNESS AND REINFORCEMENT DETAILS

INTERNAL DEPTH (m)	BASE THICKNESS (mm)	WALL THICKNESS (mm)	MAX LENGTH (mm)	MAX WIDTH (mm)	REINFORCEMENT SEE NOTES 1 AND 2 BELOW	
					BASE	WALLS
≤ 1.5	150	150	900	1450	UNREINFORCED	
1.5 - 3.5	150	200			SL81 MESH - N12 500 x 500 GALVANISED STARTER BARS AT 200 C/C AND N12 500 x 500 CORNER BARS AT 400 C/C	
> 3.5	STRUCTURAL ENGINEERING DESIGN REQUIRED					

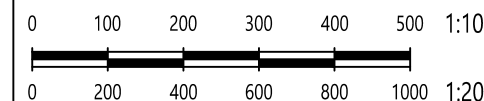
## NOTES:

- REFER TO STANDARD DRAWING SD0402 FOR OVERSIZE GULLY PIT DIMENSIONS
- PIT WALLS AND BASE ON STATE ROADS AND B-DOUBLE ROUTES SHALL BE REINFORCED WITH RL1218 MESH - REFER TO TfNSW STANDARD DRAWING R0220 SERIES

WELDLOK DCG 98D HOT-DIP GALVANISED BICYCLE SAFE GRATE OR EQUIVALENT TO AS 3996 ACCESS COVERS AND GRATES - LOAD CLASS D



SCALE ON ORIGINAL A3 SIZE DRAWING



ALL DIMENSIONS IN mm UNLESS OTHERWISE SHOWN

DRAWN C SHEPPEARD  
CHECKED M BAMBER  
DATE 28/4/20  
UNIT MANAGER APPROVAL  
ASSETS PLANNING AND DESIGN



Central Coast Council

STORMWATER DRAINAGE SERIES  
FLUSH GRATED GULLY PIT FOR SB KERB

STANDARD DRAWING

DRAWING NUMBER SD0406  
REV -  
SHEET 1 OF 1  
A3

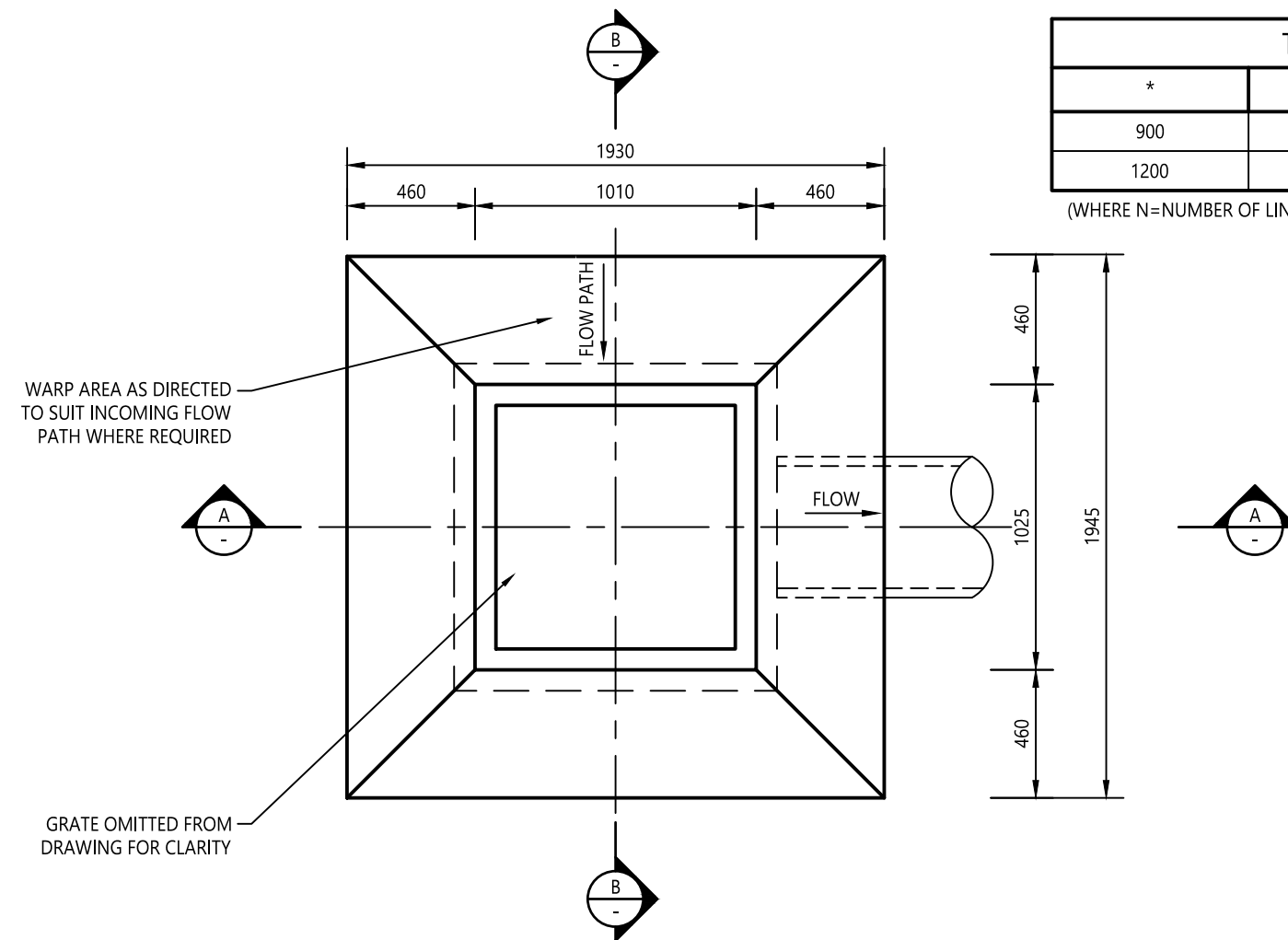


TABLE 1	
*	PIPE DIAMETER RANGE
900	600mm TO 750mm INCLUSIVE
1200	825mm TO 900mm INCLUSIVE

(WHERE N=NUMBER OF LINES)

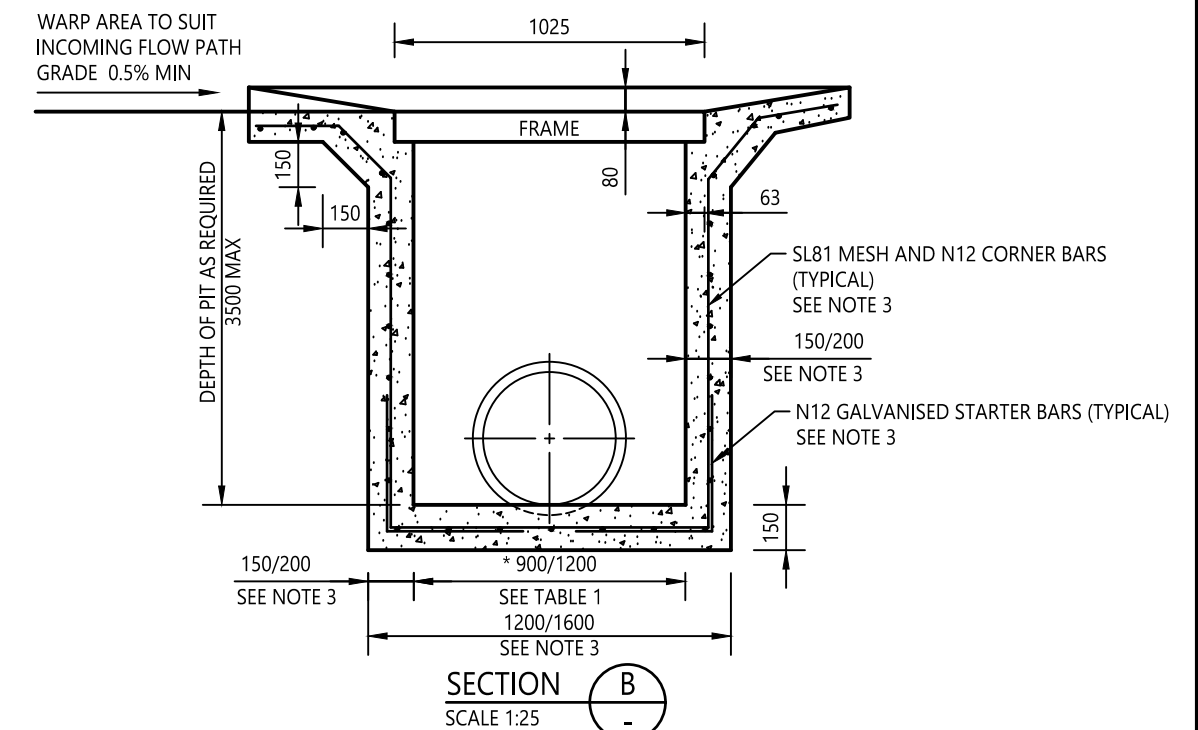
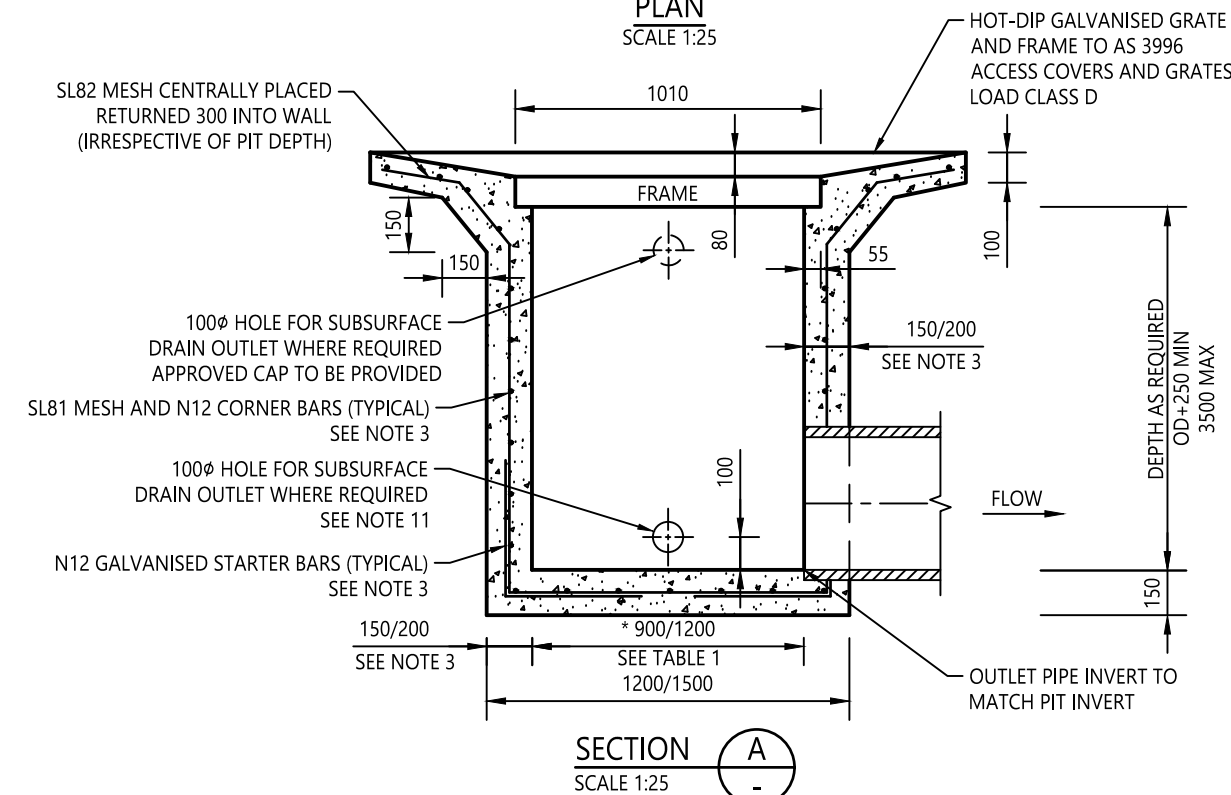
#### NOTES:

1. REFER TO STANDARD DRAWING SD0402, SHEET 3, FOR SPECIFIC NOTES ON CONCRETE REINFORCEMENT.
2. CUSTOM-MADE PRECAST PITS SHALL BE USED IN THE ROAD RESERVE WHERE PRACTICABLE AND SHALL BE DESIGNED IN ACCORDANCE WITH AS 1597, AS 3600 AND AS 5100. 'KNOCKOUT PITS' SHALL NOT BE USED UNLESS OTHERWISE APPROVED BY COUNCIL'S REPRESENTATIVE.
3. PITS DEEPER THAN 1.5m SHALL BE CONSTRUCTED WITH 200mm THICK REINFORCED CONCRETE WALLS IN ACCORDANCE WITH TABLE 2.
4. DEPTH OF PIT SHALL NOT EXCEED 3.5m.
5. CONCRETE STRENGTH GRADE SHALL BE N32 MINIMUM UNLESS OTHERWISE SPECIFIED.
6. GRATE AND FRAME SHALL BE LOCKABLE WELDLOK GRATE HPG 9090D OR EQUIVALENT.
7. PROVIDE STEP-IRONS FOR PITS DEEPER THAN 600mm.
8. ALL EXPOSED EDGES SHALL BE ROUNDED WITH 20mm RADIUS.
9. NO RENDERING PERMITTED IN STRUCTURAL COMPONENTS.
10. ALL PITS SHALL BE STREAMLINED AND BENCHED WHERE REQUIRED.
11. 100 $\phi$  SUBSURFACE DRAINAGE PIPE 3m MIN LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED ADJACENT TO INLET PIPES.
12. PROVIDE 900mm MINIMUM TURF SURROUND AND SHAPE ADJACENT AREAS TO ASSIST WATER COLLECTION.
13. SHAPE ADJACENT AREAS TO ASSIST WATER COLLECTION.

TABLE 2 - CONCRETE THICKNESS AND REINFORCEMENT DETAILS

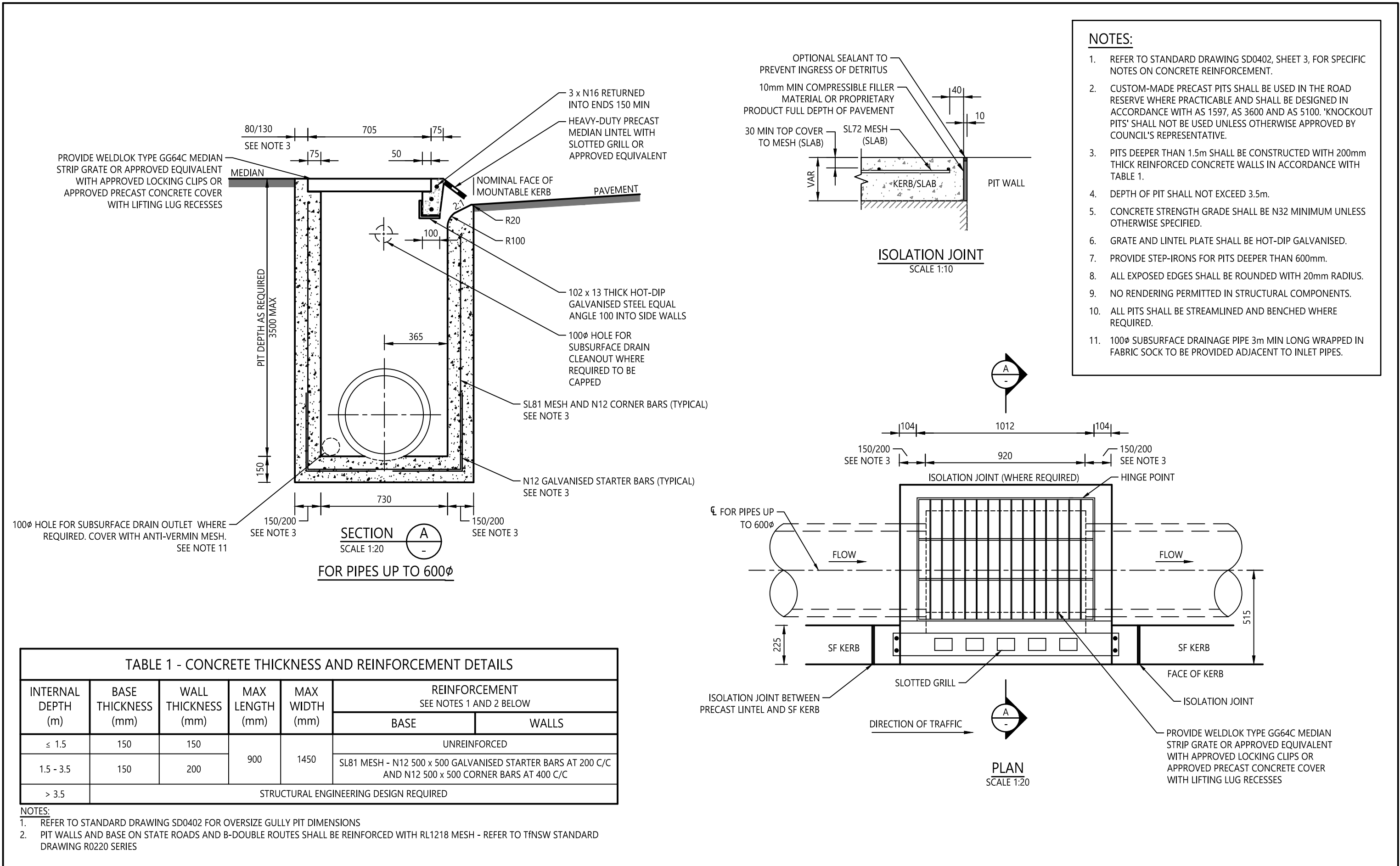
INTERNAL DEPTH (m)	BASE THICKNESS (mm)	WALL THICKNESS (mm)	MAX LENGTH (mm)	MAX WIDTH (mm)	REINFORCEMENT SEE NOTE BELOW	
					BASE	WALLS
≤ 1.5	150	150	900	1450	UNREINFORCED	
1.5 - 3.5	150	200			SL81 MESH - N12 500 x 500 GALVANISED STARTER BARS AT 200 C/C AND N12 500 x 500 CORNER BARS AT 400 C/C	
> 3.5	STRUCTURAL ENGINEERING DESIGN REQUIRED					

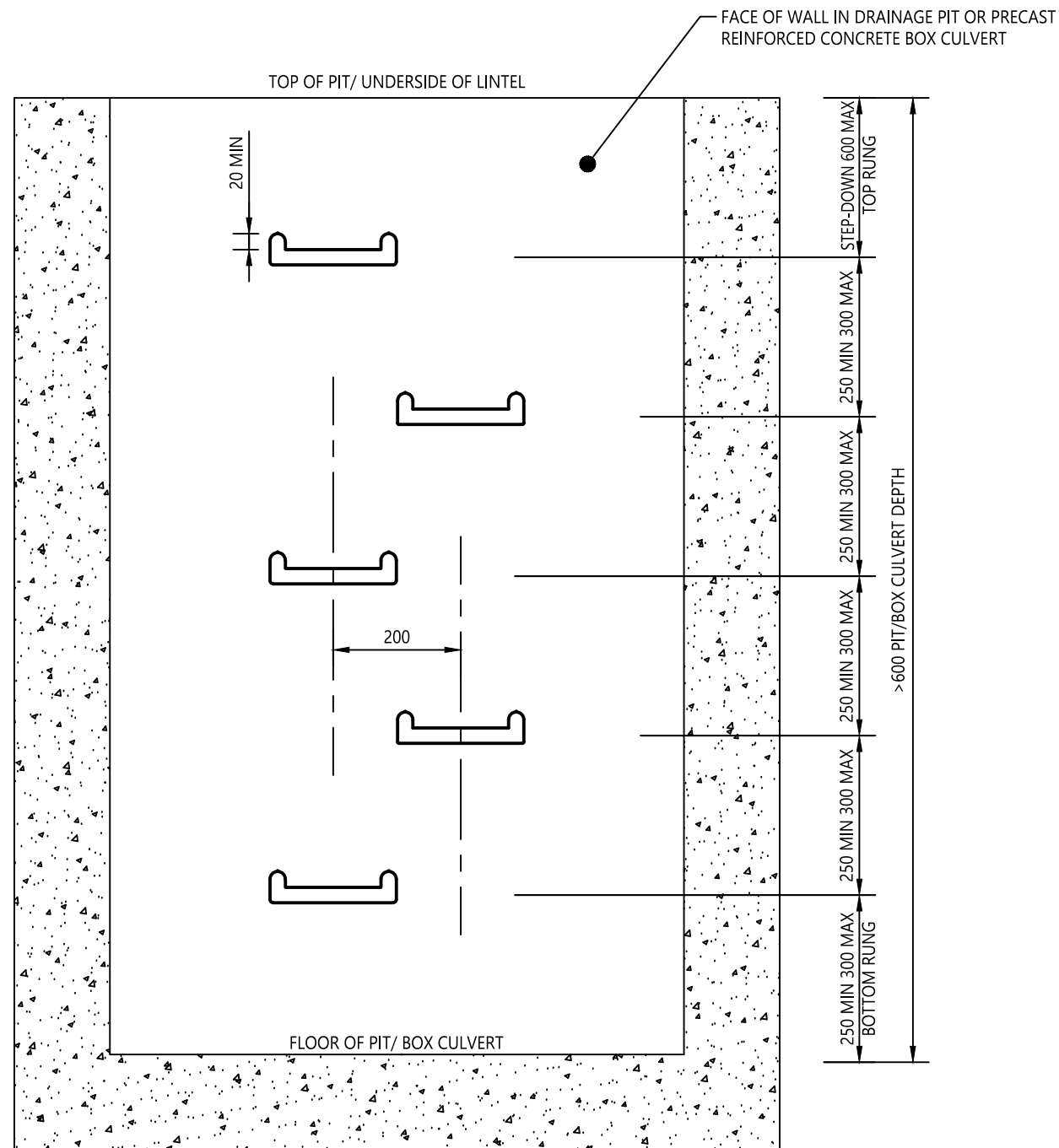
NOTES: REFER TO STANDARD DRAWING SD0402 FOR OVERSIZE GULLY PIT DIMENSIONS



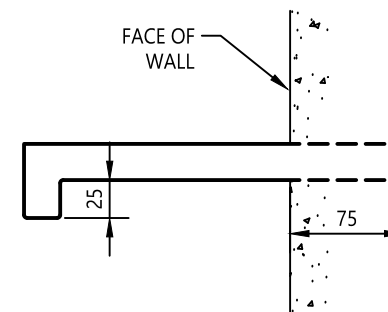
					<div>SCALE ON ORIGINAL A3 SIZE DRAWING</div> <div>025050075010001250</div> <div><div></div></div> <div>1:25</div>	<div>DRAWN</div> <div>C SHEPPEARD</div> <div>CHECKED</div> <div>M BAMBER</div> <div>DATE</div> <div>28/4/20</div> <div>UNIT MANAGER APPROVAL</div> <div><div></div></div> <div>ASSETS PLANNING AND DESIGN</div>	<div><div>Central Coast Council</div></div> <div>ROADS TRANSPORT DRAINAGE AND WASTE</div>	<div>Central Coast Council</div> <div>STORMWATER DRAINAGE SERIES DEPRESSED GRATED GULLY PIT</div>	<div>STANDARD DRAWING</div> <div>DRAWING NUMBER</div> <div>SD0407</div> <div>SHEET 1 OF 1</div> <div>REV</div> <div>-</div> <div>A3</div>	
REV	AMENDMENT	DATE	DRAWN	APRVD	ALL DIMENSIONS IN mm UNLESS OTHERWISE SHOWN					



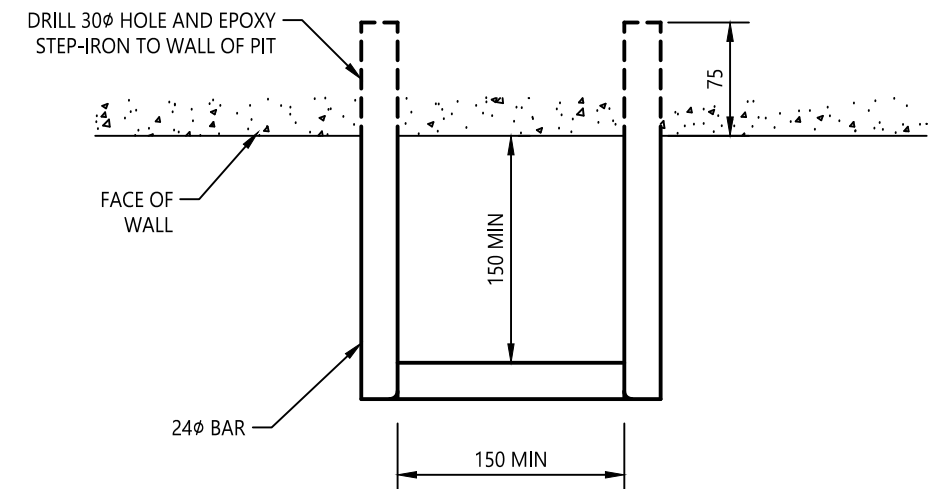




**FRONT ELEVATION**  
SCALE 1:10






**SIDE ELEVATION**  
SCALE 1:5

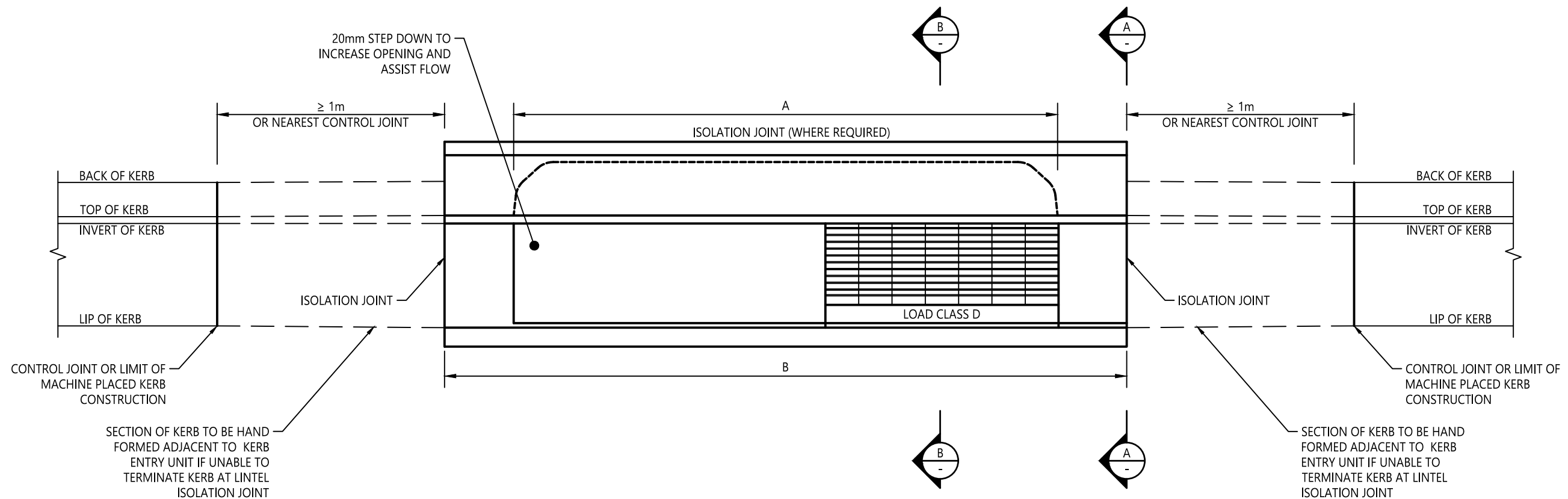


**PLAN**  
SCALE 1:5

**NOTES:**

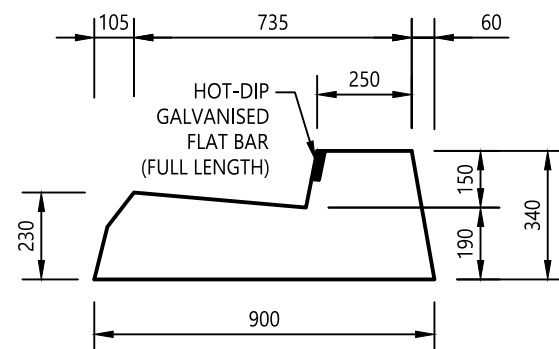
1. INDIVIDUAL-RUNG (STEP-IRON) LADDERS SHALL BE PROVIDED FOR PITS DEEPER THAN 600mm AND WHERE THE VERTICAL RISE DOES NOT EXCEED 6m BETWEEN LANDINGS. LADDERS EXCEEDING 3.5m FALL DISTANCE REQUIRE SOME FORM OF FALL ARREST SYSTEM.
2. PRECAST PITS SHOULD BE SUPPLIED WITH PREFABRICATED INDIVIDUAL RUNG (STEP-IRON) LADDERS INSTALLED.
3. INDIVIDUAL-RUNG (STEP-IRON) LADDERS SHALL COMPLY WITH AS 1657.
4. STEP-IRONS SHALL BE FABRICATED FROM 24mm DEFORMED BAR TO AS/NZS 4761 STEEL REINFORCING MATERIALS AND SHALL COMPLY WITH THE LOAD TESTING AND DEFLECTION REQUIREMENTS OF EN 13101.
5. STEP-IRONS SHALL BE HOT-DIP GALVANISED.
6. PROPRIETARY PLASTIC ENCAPSULATED STEP-IRONS OR EQUIVALENT PRODUCT MAY BE USED WHERE APPROVED BY COUNCIL'S REPRESENTATIVE.
7. STEP-IRONS SHALL BE LOCATED CLEAR OF STORMWATER THROUGH FLOWS AND ON WALLS CLEAR OF PIPES, WHERE PRACTICABLE.
8. ALL BENDS IN STEP-IRONS TO BE FORMED AROUND A <10mm PIN.

REV	AMENDMENT	DATE	DRAWN	APRVD	SCALE ON ORIGINAL A3 SIZE DRAWING		DRAWN	C SHEPPEARD		Central Coast Council		STANDARD DRAWING	
					0 50 100 150 200 250 1:5  0 100 200 300 400 500 1:10		CHECKED	M BAMBER		UNIT MANAGER APPROVAL 	STORMWATER DRAINAGE SERIES INDIVIDUAL-RUNG (STEP-IRON) LADDER FOR DRAINAGE PITS	DRAWING NUMBER	REV
							DATE	28/4/20				SD0409	-
					ALL DIMENSIONS IN mm UNLESS OTHERWISE SHOWN		ASSETS PLANNING AND DESIGN					ROADS TRANSPORT DRAINAGE AND WASTE	SHEET 1 OF 1

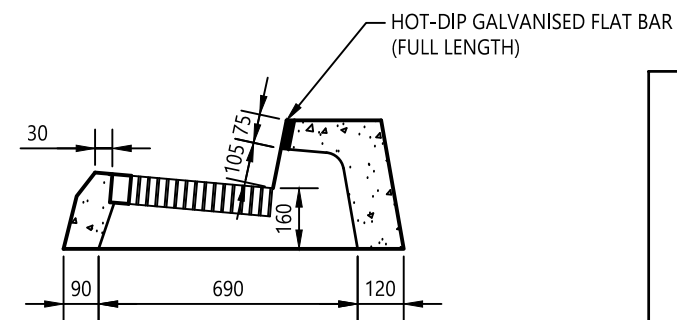


PLAN  
INTEGRAL PRECAST KERB ENTRY UNIT  
SCALE 1:20

KERB ENTRY UNITS	
OPENING A	OVERALL LENGTH B
1200	1500
1800	2400
2400	3000
3000	3600



END VIEW A  
SCALE 1:20



SECTION B  
SCALE 1:20

#### INDEX:




SHEET 1: INTEGRAL PRECAST KERB ENTRY UNIT.

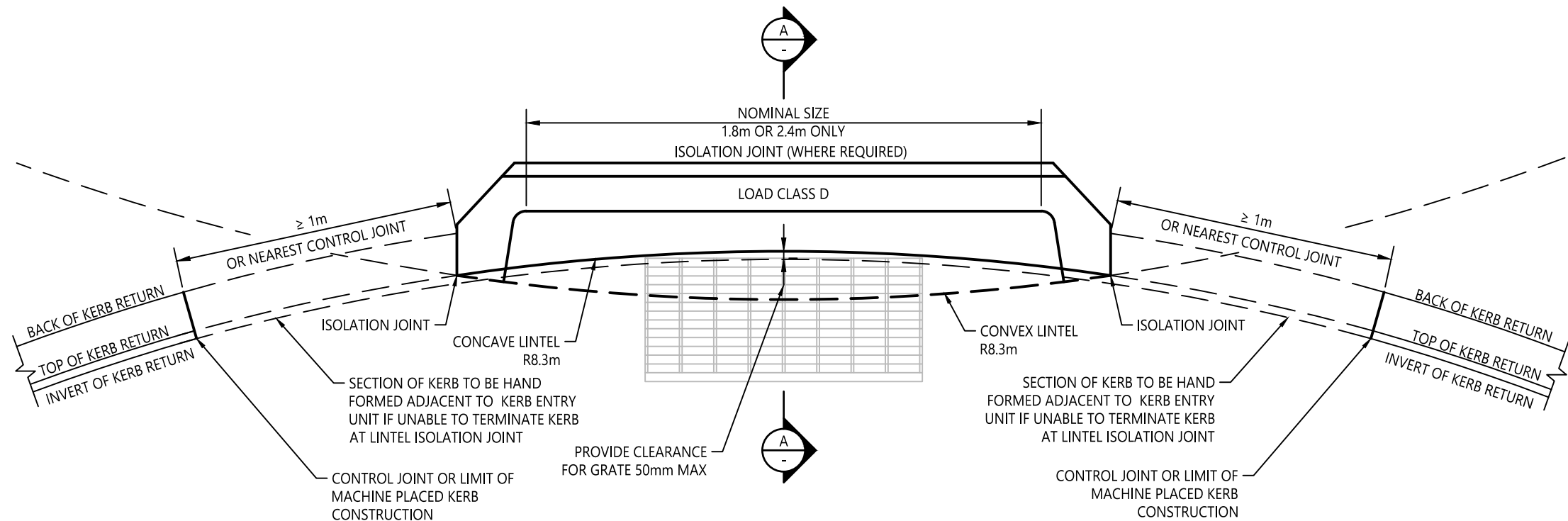
SHEET 2: PRECAST STAND-ALONE STRAIGHT AND CURVED KERB LINTEL UNIT.

SHEET 3: INFILL DETAILS BEHIND LINTELS AND JOINT DETAILS.

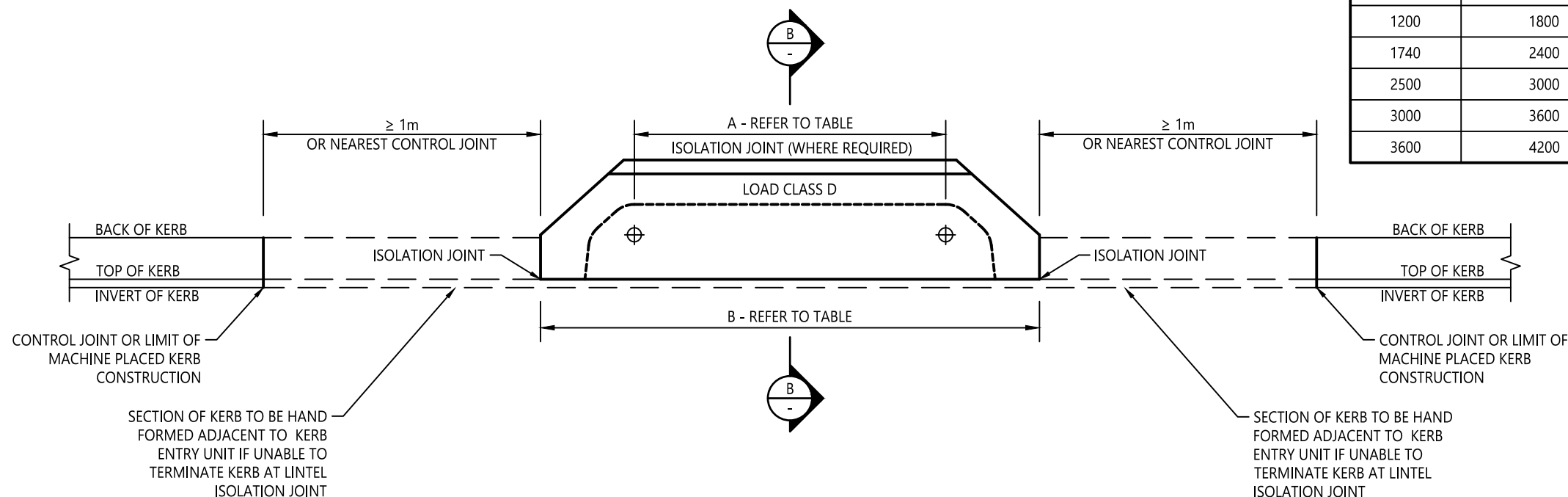
#### NOTES:

1. CONCRETE STRENGTH GRADE SHALL BE N32 MINIMUM UNLESS OTHERWISE SPECIFIED.
2. COVER TO REINFORCEMENT SHALL BE 40mm MINIMUM UNLESS OTHERWISE SPECIFIED.
3. EXPOSED SURFACES SHALL BE OFF-STEEL FORM FINISH OR OF HIGH QUALITY STEEL FLOAT FINISH.
4. ALL EXPOSED EDGES SHALL BE ROUNDED WITH A 10mm RADIUS.
5. HOT-DIP GALVANISING SHALL BE IN ACCORDANCE WITH AS 4680.
6. INTEGRAL KERB ENTRY UNIT BASED ON BCP PRECAST PRODUCT DIMENSIONS AND SHALL BE LOAD CLASS D.
7. PRODUCT DIMENSIONS VARY BETWEEN MANUFACTURERS.

					SCALE ON ORIGINAL A3 SIZE DRAWING	DRAWN	C SHEPPEARD		Central Coast Council		STANDARD DRAWING	
					<div>02004006008001000</div> <div></div> <div>1:20</div>	CHECKED	M BAMBER		STORMWATER DRAINAGE SERIES PRECAST CONCRETE LINTELS	DRAWING NUMBER	REV	
						DATE	28/4/20			SD0410	-	
						UNIT MANAGER APPROVAL						
REV	AMENDMENT	DATE	DRAWN	APRVD	ALL DIMENSIONS IN mm UNLESS OTHERWISE SHOWN	 ASSETS PLANNING AND DESIGN		ROADS TRANSPORT DRAINAGE AND WASTE	SHEET 1 OF 3		A3	

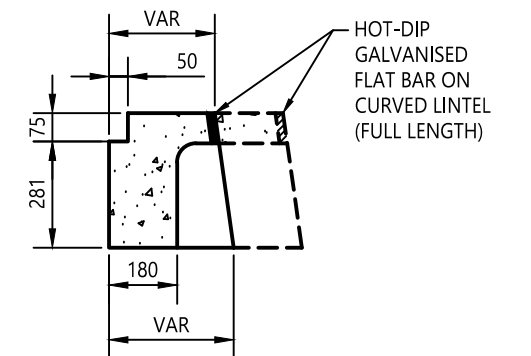


PLAN  
PRECAST STAND-ALONE CURVED KERB LINTEL UNIT  
SCALE 1:20

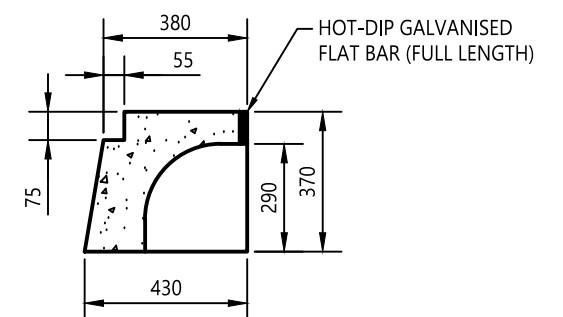


PLAN  
PRECAST STAND-ALONE STRAIGHT KERB LINTEL UNIT  
SCALE 1:20

STAND-ALONE STRAIGHT KERB LINTELS	
OPENING A	OVERALL LENGTH B
900	1500
1200	1800
1740	2400
2500	3000
3000	3600
3600	4200



SECTION A  
SCALE 1:20



SECTION B  
SCALE 1:20

## INDEX:


**SHEET 1:** INTEGRAL PRECAST KERB ENTRY UNIT.

**SHEET 2:** PRECAST STAND-ALONE STRAIGHT AND CURVED KERB LINTEL UNIT.

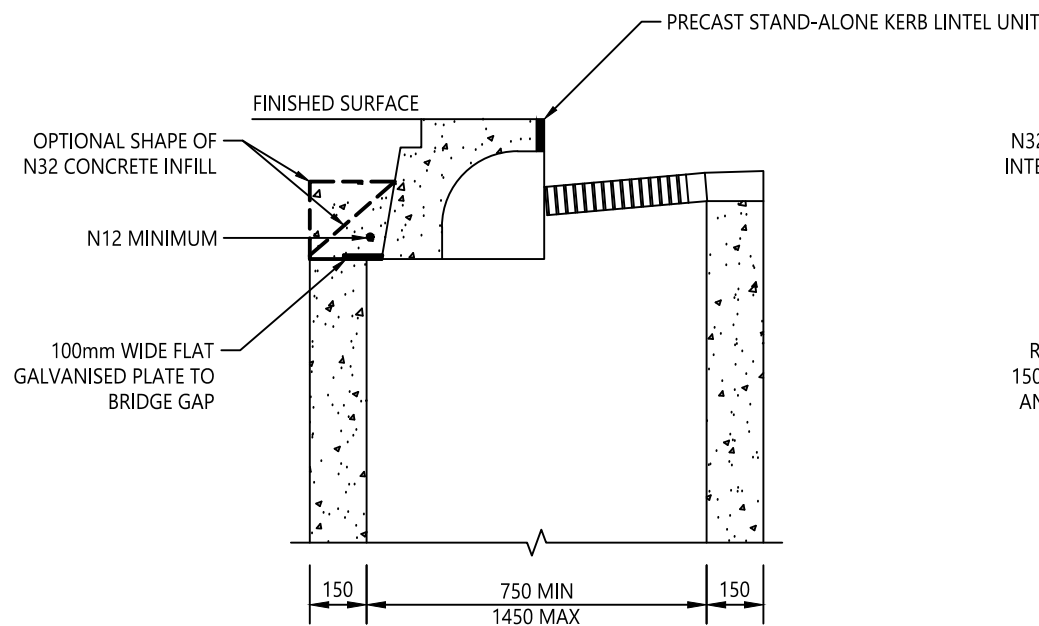
**SHEET 3:** INFILL DETAILS BEHIND LINTELS AND JOINT DETAILS.

## NOTES:

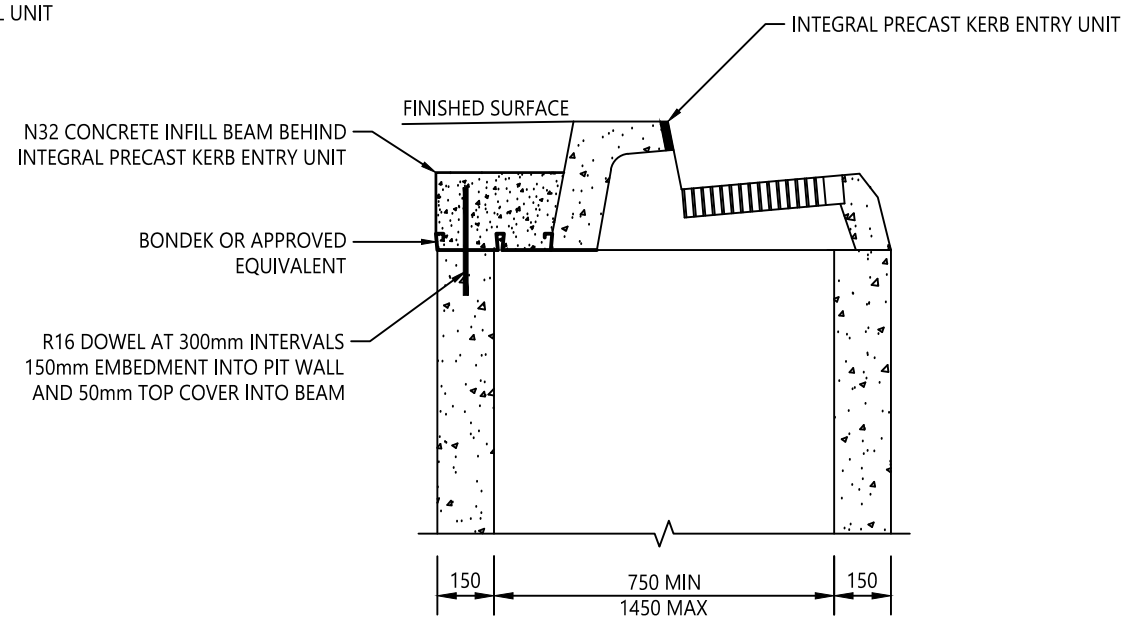
1. CONCRETE STRENGTH GRADE SHALL BE N32 MINIMUM UNLESS OTHERWISE SPECIFIED.
2. COVER TO REINFORCEMENT SHALL BE 40mm MINIMUM UNLESS OTHERWISE SPECIFIED.
3. EXPOSED SURFACES SHALL BE OFF-STEEL FORM FINISH OR OF HIGH QUALITY STEEL FLOAT FINISH.
4. ALL EXPOSED EDGES SHALL BE ROUNDED WITH A 10mm RADIUS.
5. HOT-DIP GALVANISING SHALL BE IN ACCORDANCE WITH AS 4680.
6. STAND-ALONE LINTEL UNIT BASED ON BCP PRECAST PRODUCT DIMENSIONS AND SHALL BE LOAD CLASS D.
7. CURVED LINTEL UNIT BASED ON ROCLA PRODUCT DIMENSIONS AND SHALL BE LOAD CLASS D.
8. PRODUCT DIMENSIONS VARY BETWEEN MANUFACTURERS.

REV	AMENDMENT	DATE	DRAWN	APRVD	SCALE ON ORIGINAL A3 SIZE DRAWING	DRAWN	C SHEPPEARD		Central Coast Council		STANDARD DRAWING	
					02004006008001000	CHECKED	M BAMBER		STORMWATER DRAINAGE SERIES PRECAST CONCRETE LINTELS	DRAWING NUMBER	REV	
					1:20	DATE	28/4/20			SD0410	-	
					UNIT MANAGER APPROVAL	ASSETS PLANNING AND DESIGN			ROADS TRANSPORT DRAINAGE AND WASTE	SHEET 2 OF 3	A3	

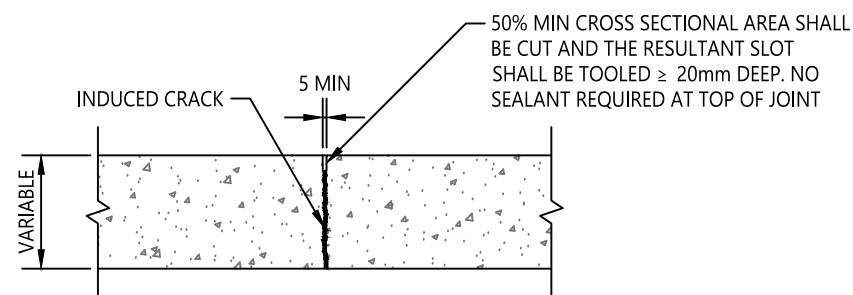




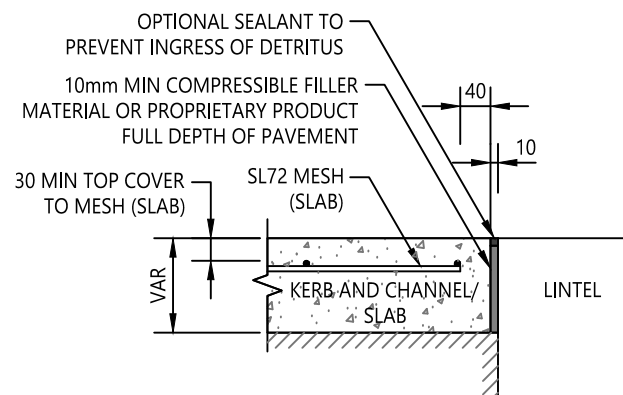
INFILL DETAILS BEHIND PRECAST STAND-ALONE KERB  
LINTEL UNIT FOR PITS WIDER THAN 650mm  
SCALE 1:20



INFILL DETAILS BEHIND PRECAST INTEGRAL KERB  
ENTRY UNIT FOR PITS WIDER THAN 650mm  
SCALE 1:20



CONTROL JOINT IN KERB AND CHANNEL  
SCALE 1:10



ISOLATION JOINT  
SCALE 1:10

## INDEX:

**SHEET 1:** INTEGRAL PRECAST KERB ENTRY UNIT.

**SHEET 2:** PRECAST STAND-ALONE STRAIGHT AND CURVED KERB LINTEL UNIT.

**SHEET 3:** INFILL DETAILS BEHIND LINTELS AND JOINT DETAILS.

## NOTES:

1. CONCRETE STRENGTH GRADE SHALL BE N32 MINIMUM UNLESS OTHERWISE SPECIFIED.
2. COVER TO REINFORCEMENT SHALL BE 40mm MINIMUM UNLESS OTHERWISE SPECIFIED.
3. EXPOSED SURFACES SHALL BE OFF-STEEL FORM FINISH OR OF HIGH QUALITY STEEL FLOAT FINISH.
4. ALL EXPOSED EDGES SHALL BE ROUNDED WITH A 10mm RADIUS.
5. HOT-DIP GALVANISING SHALL BE IN ACCORDANCE WITH AS 4680.
6. STAND-ALONE LINTEL UNIT BASED ON BCP PRECAST PRODUCT DIMENSIONS AND SHALL BE LOAD CLASS D.
7. CURVED LINTEL UNIT BASED ON ROCLA PRODUCT DIMENSIONS AND SHALL BE LOAD CLASS D.
8. PRODUCT DIMENSIONS VARY BETWEEN MANUFACTURERS.

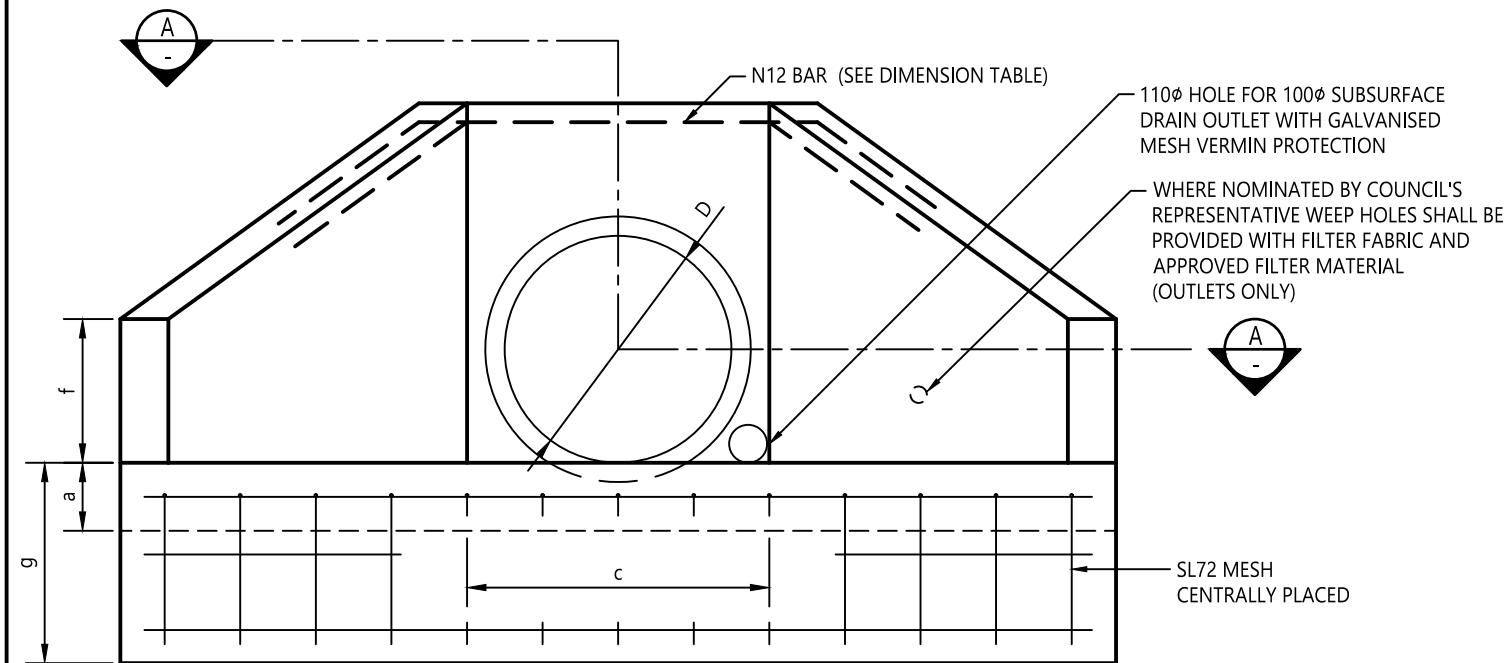
## CONTROL JOINT (CJ) NOTES:

1. SAW CUT DEPTH OF THE WEAKENED PLANE JOINT SHALL BE 0.25 TIMES THICKNESS OF SLAB.
2. CONTROL JOINT SPACING SHALL BE 3m MAXIMUM IN KERB AND CHANNEL.
3. MAXIMUM CONTROL JOINT SPACING SHALL BE NO GREATER THAN 1.5 TIMES THE WIDTH OF THE SLAB PANEL.

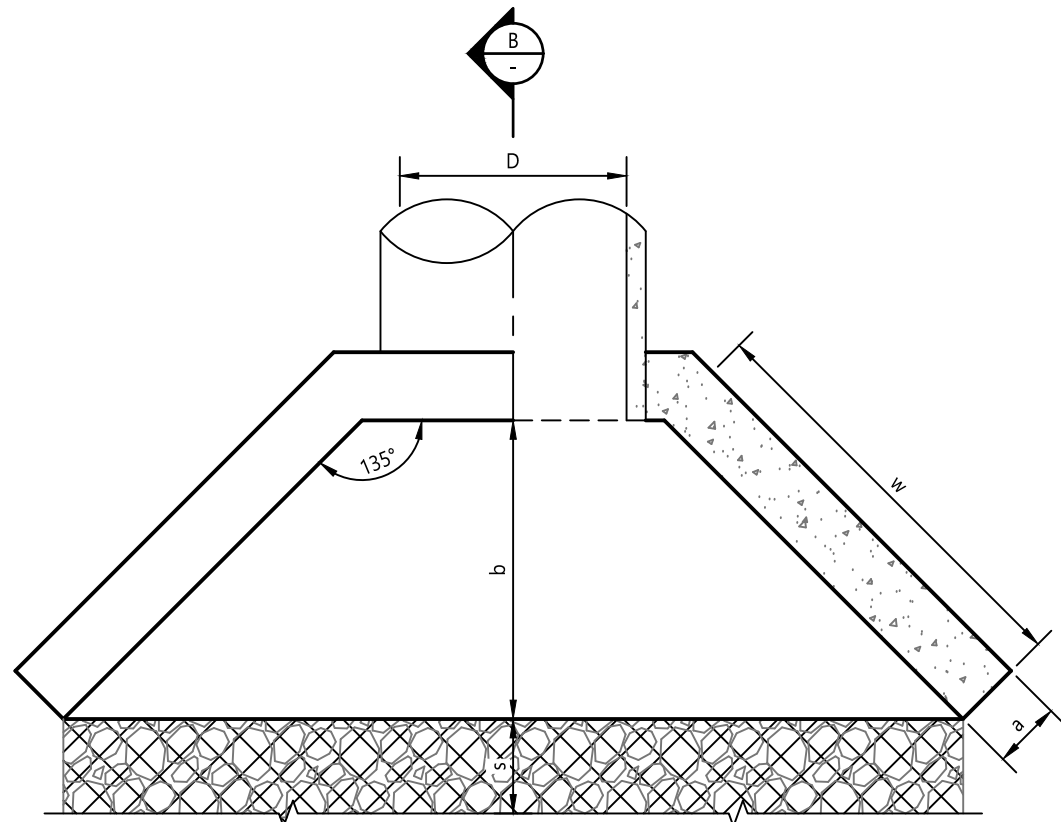
## ISOLATION JOINT (IJ) NOTE:

1. ISOLATION JOINTS SHALL BE PROVIDED AT ALL LINTEL AND KERB AND CHANNEL INTERFACES AND BETWEEN ALL LINTELS AND FOOTPATH/SHARED PATH SLABS.

REV	AMENDMENT	DATE	DRAWN	APRVD	SCALE ON ORIGINAL A3 SIZE DRAWING 0 100 200 300 400 500 1:10 0 200 400 600 800 1000 1:20	DRAWN C SHEPPEARD CHECKED M BAMBER DATE 28/4/20 UNIT MANAGER APPROVAL 	ASSETS PLANNING AND DESIGN	ROADS TRANSPORT DRAINAGE AND WASTE		Central Coast Council	STANDARD DRAWING	
											DRAWING NUMBER	REV
											SD0410	-
											SHEET 3 OF 3	A3



ELEVATION  
SCALE 1:20

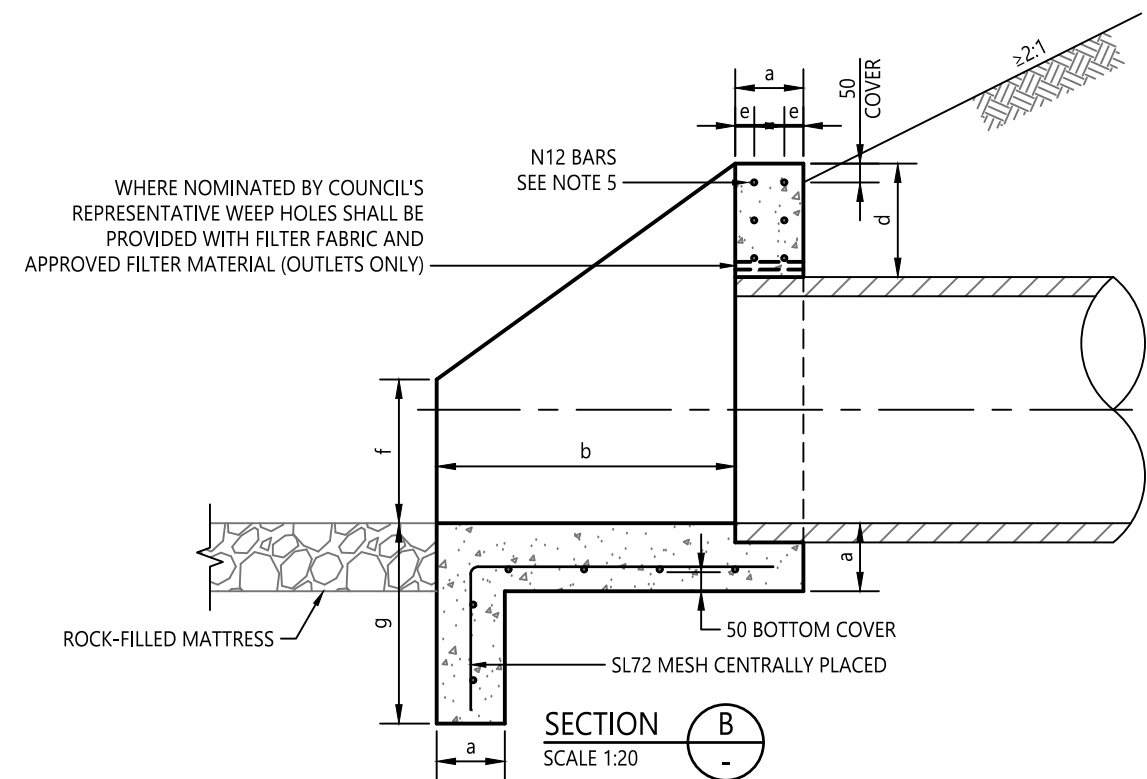


PLAN/SECTION  
SCALE 1:20

## NOTES:

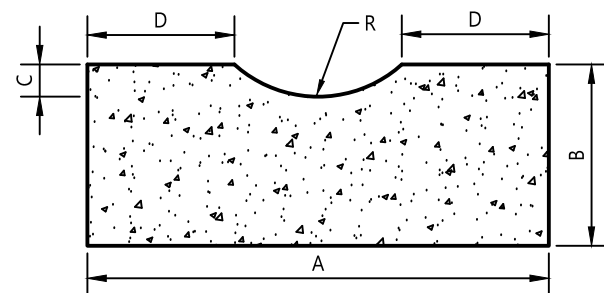
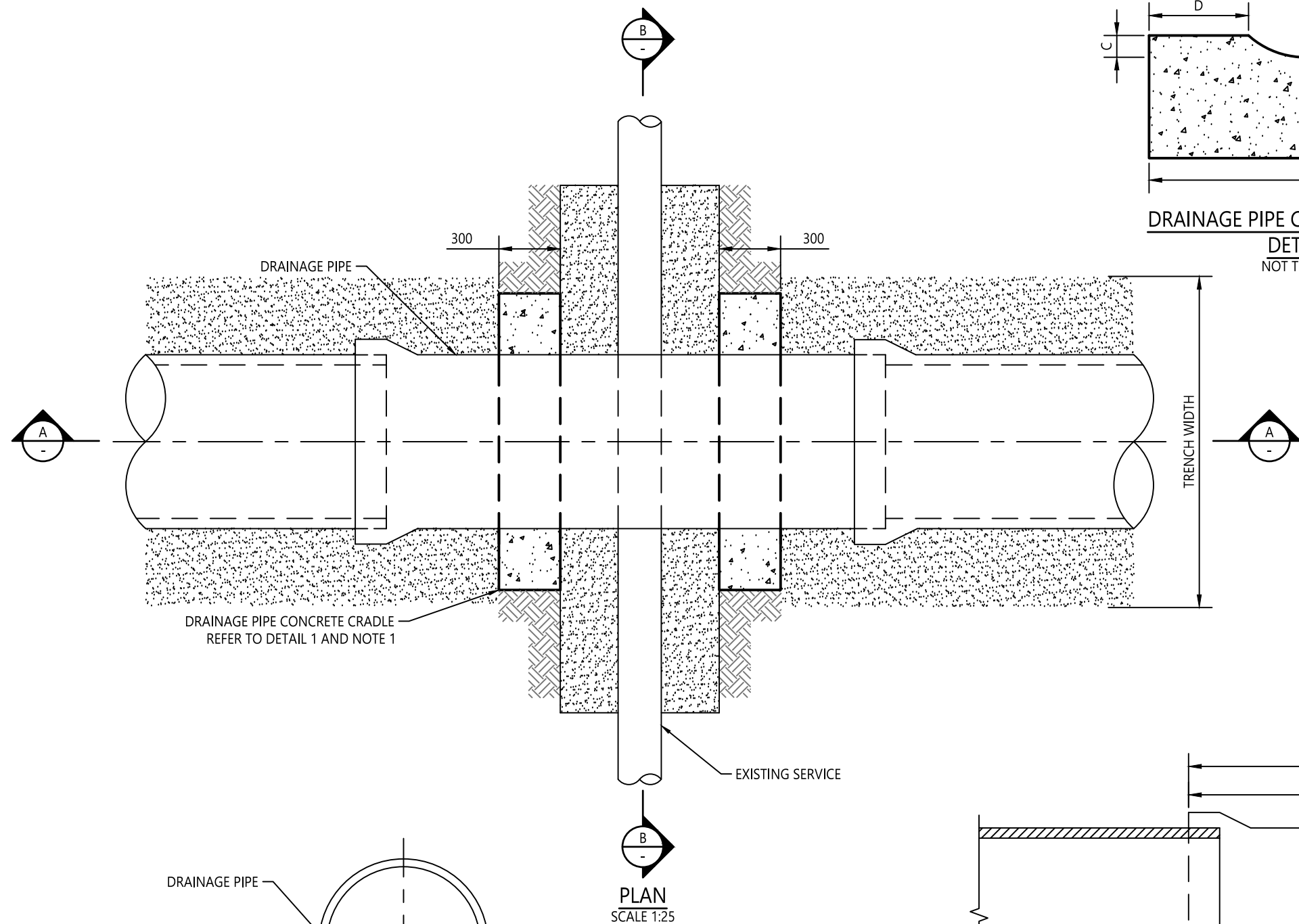
- USE OF PRECAST HEADWALL PREFERRED.
- PROVIDE 25mm CHAMFER ON ALL EXPOSED SURFACES.
- CONCRETE STRENGTH GRADE SHALL BE N32 MINIMUM - REFER TO SD0402, SHEET 3, FOR SPECIFIC NOTES ON CONCRETE REINFORCEMENT.
- HEADWALL WITH INTEGRAL ENERGY DISSIPATORS IN LIEU OF STANDARD HEADWALL SHALL BE PROVIDED WHERE CALCULATED VELOCITY EXCEEDS 2.0m/s.
- WHERE ADDITIONAL HEIGHT TO RETAIN FILL IS REQUIRED KERB HEIGHT 'd', WINGWALL HEIGHT 'f' AND KERB WIDTH 'a' SHALL BE ADJUSTED WITH THE PROVISION OF ADDITIONAL REINFORCING.
- WHERE NOMINATED BY COUNCIL'S REPRESENTATIVE OR SHOWN ON THE APPROVED PLANS, THE MATTRESS LENGTH SHALL BE ADJUSTED.
- SAFETY FENCING SHALL BE PROVIDED AROUND THE HEADWALL WHERE DETERMINED BY COUNCIL'S REPRESENTATIVE.
- REFER TO TfNSW STANDARD DRAWINGS FOR PIPE SIZES LARGER THAN 900Ø.
- REFER TO TfNSW STANDARD DRAWINGS FOR LARGER PIPE DIAMETERS, MULTIPLE PIPES AND BOX CULVERTS.

D	Nominal pipe diameter	375	450	525	600	675	750	900
a	Apron, cut-off wall, kerb and wingwall	150	150	150	180	190	205	230
b	Apron length	490	590	700	790	910	1025	1260
c	Face of headwall width	600	700	750	800	850	900	1050
d	Kerb height	230	230	230	300	300	300	300
e	Kerb reinforcement cover	40	40	40	50	50	50	50
f	Wingwall height	300	300	300	380	380	380	380
g	Cut-off wall depth	450	450	450	530	530	600	600
W	Wingwall	690	840	990	1120	1290	1450	1780
S	Mattress length (See note 6)	1800	2000	2000	2400	2400	3000	3000
E1		840	915	990	1100	1175	1250	1400
		200	200	200	600	600	600	600
	Reinforcement diameter	12	12	12	12	12	12	12



SECTION  
SCALE 1:20

REV	AMENDMENT	DATE	DRAWN	APRVD	SCALE ON ORIGINAL A3 SIZE DRAWING	DRAWN	C SHEPPEARD	CENTRAL COAST COUNCIL	CENTRAL COAST COUNCIL	STANDARD DRAWING
					0 200 400 600 800 1000 1:20	CHECKED	M BAMBER			DRAWING NUMBER
						DATE	28/4/20			SD0411
						UNIT MANAGER APPROVAL				REV
										-
						ASSETS PLANNING AND DESIGN				SHEET 1 OF 1
						ROADS TRANSPORT DRAINAGE AND WASTE				A3

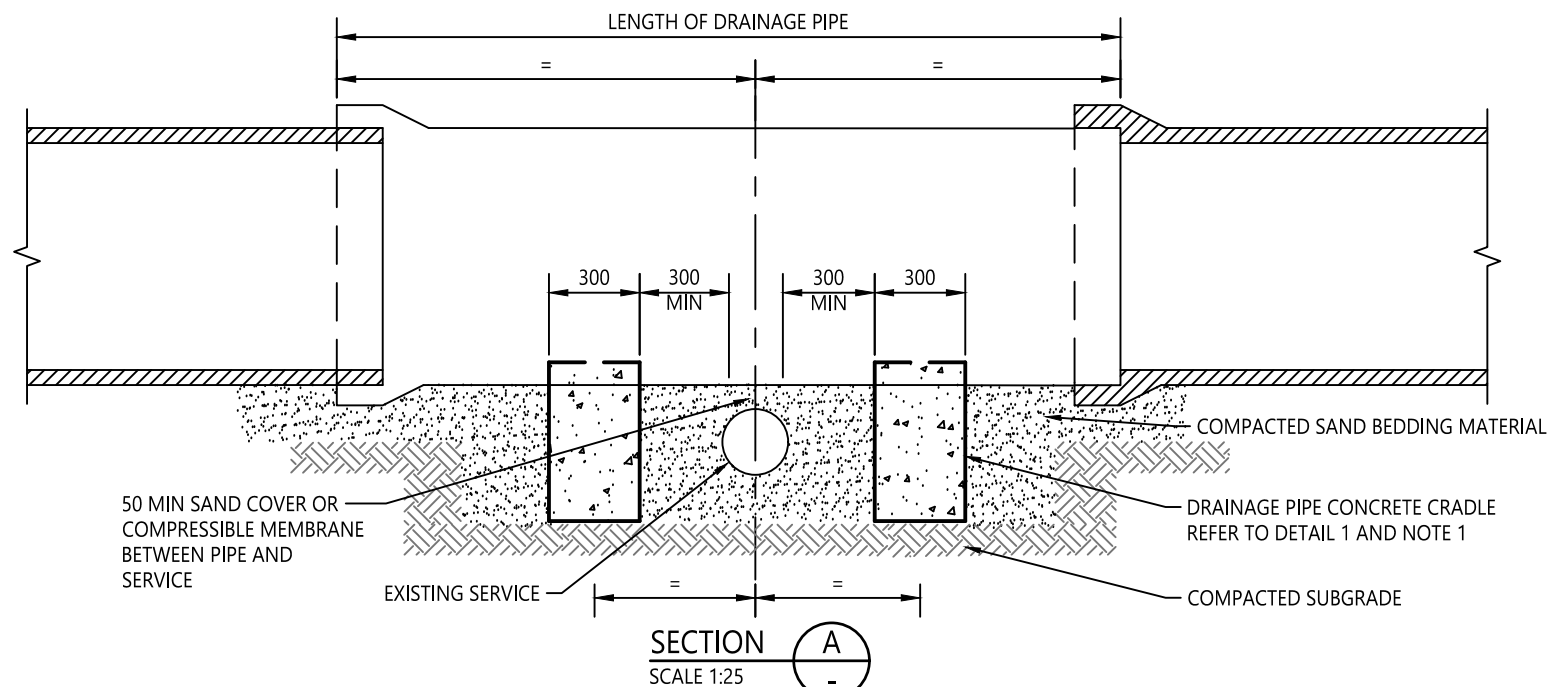
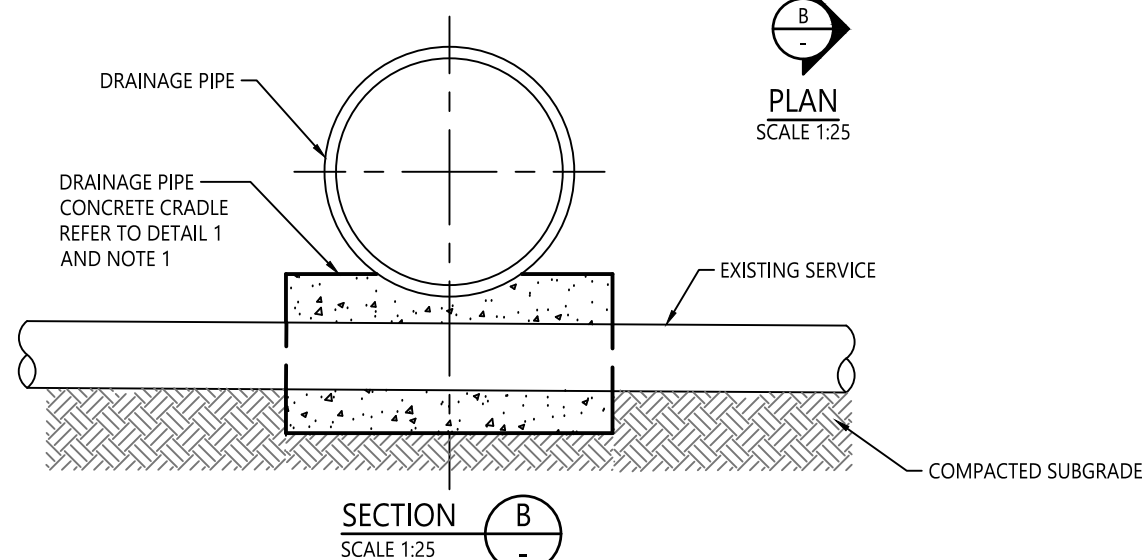


# NOTES:

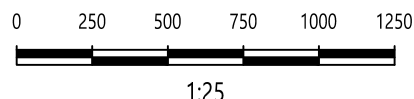
1. CONCRETE STRENGTH GRADE SHALL BE N25 UNLESS OTHERWISE SPECIFIED.
2. CONSULT WITH UTILITY ASSET OWNER ON REQUIRED SERVICE SUPPORT AND CLEARANCE REQUIREMENTS.
3. ENSURE A FULL LENGTH OF DRAINAGE PIPE IS SUSPENDED ON DRAINAGE PIPE CONCRETE SUPPORT CRADLES.

## DRAINAGE PIPE CONCRETE CRADLE DIMENSIONS

PIPE DIAMETER	A	B	C	D	R (RADIUS)
225	880	450 MIN	75	300	140
300	962	450 MIN	75	300	181
375	1045	450 MIN	75	300	223
450	1135	450 MIN	75	300	267
525	1215	450 MIN	75	300	308
600	1300	450 MIN	75	300	349
750	1465	450 MIN	75	300	432
825	1545	450 MIN	75	300	473
900	1630	450 MIN	75	300	515
1050	1795	450 MIN	75	300	597
1200	1960	450 MIN	75	300	680



SCALE ON ORIGINAL A3 SIZE DRAWING



DRAWN C SHEPPEARD  
CHECKED M BAMBER  
DATE 28/4/20  
UNIT MANAGER APPROVAL  
ASSETS PLANNING AND DESIGN



Central Coast Council

STORMWATER DRAINAGE SERIES  
CONCRETE SUPPORT CRADLE

STANDARD DRAWING

DRAWING NUMBER SD0412	REV -
SHEET 1 OF 1	A3

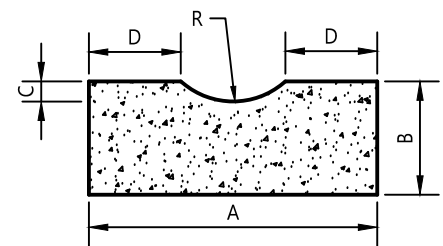
INDEX:

**SHEET 1:** CONCRETE CRADLE SUPPORTING DRAINAGE PIPE WHERE GRAVITY SEWER MAIN IS LOCATED BELOW DRAINAGE LINE.

**SHEET 2:** CONCRETE CRADLE SUPPORTING GRAVITY SEWER MAIN WHERE DRAINAGE PIPE IS LOCATED BELOW THE GRAVITY SEWER MAIN.

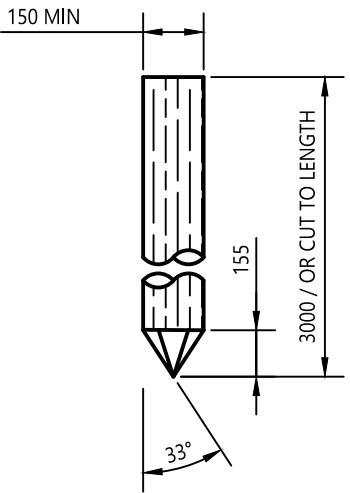
NOTES:

1. PRIOR TO COMMENCEMENT OF WORKS ALL AFFECTED GRAVITY SEWER MAINS SHALL BE RELINED USING NON-DESTRUCTIVE TRENCHLESS RE-LINING TECHNOLOGY.
2. ENSURE A FULL LENGTH OF DRAINAGE PIPE IS SUSPENDED ON DRAINAGE PIPE CRADLES.
3. ARRANGE A QUALIFIED GEOTECHNICAL INVESTIGATOR TO DETERMINE THE SOIL'S BEARING PROPERTIES. WHERE POOR SOIL BEARING CAPACITY HAS BEEN IDENTIFIED, TREATED PINE LOGS ARE TO BE USED. PINE LOGS ARE TO BE 150mm STRUCTURAL CLASS H5. PILES ARE TO BE DRIVEN UNTIL REFUSAL OR UNTIL SIGNIFICANT RESISTANCE IS MET. PILE TO BE CUT ONCE LENGTH HAS BEEN ACHIEVED.
4. CONCRETE STRENGTH GRADE SHALL BE N25 UNLESS OTHERWISE SPECIFIED.
5. ALL SERVICES TO BE EXPOSED IN THE AFFECTED AREA PRIOR TO COMMENCEMENT OF CONSTRUCTION.



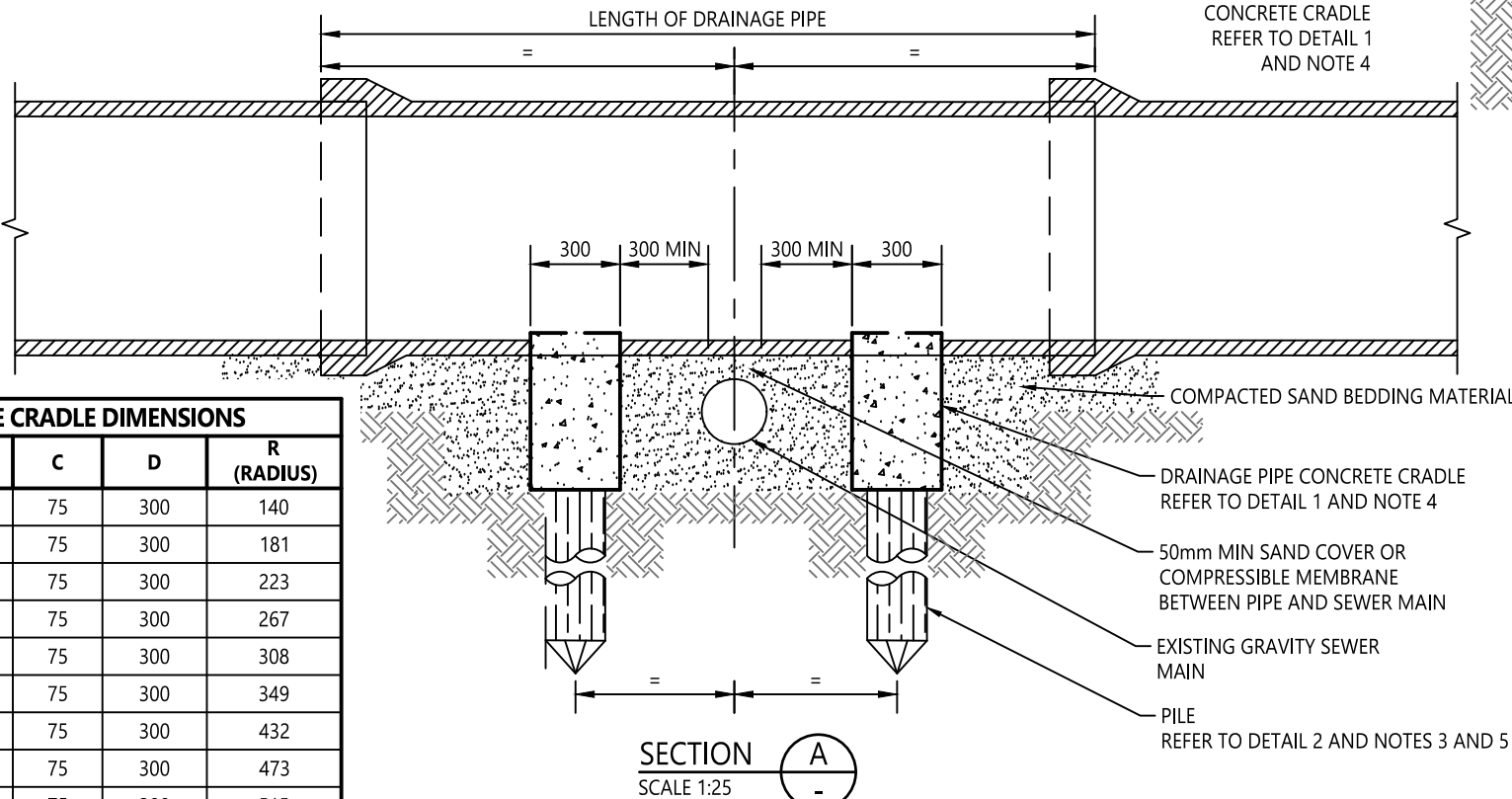
DRAINAGE PIPE CONCRETE CRADLE

DETAIL 1  
NOT TO SCALE

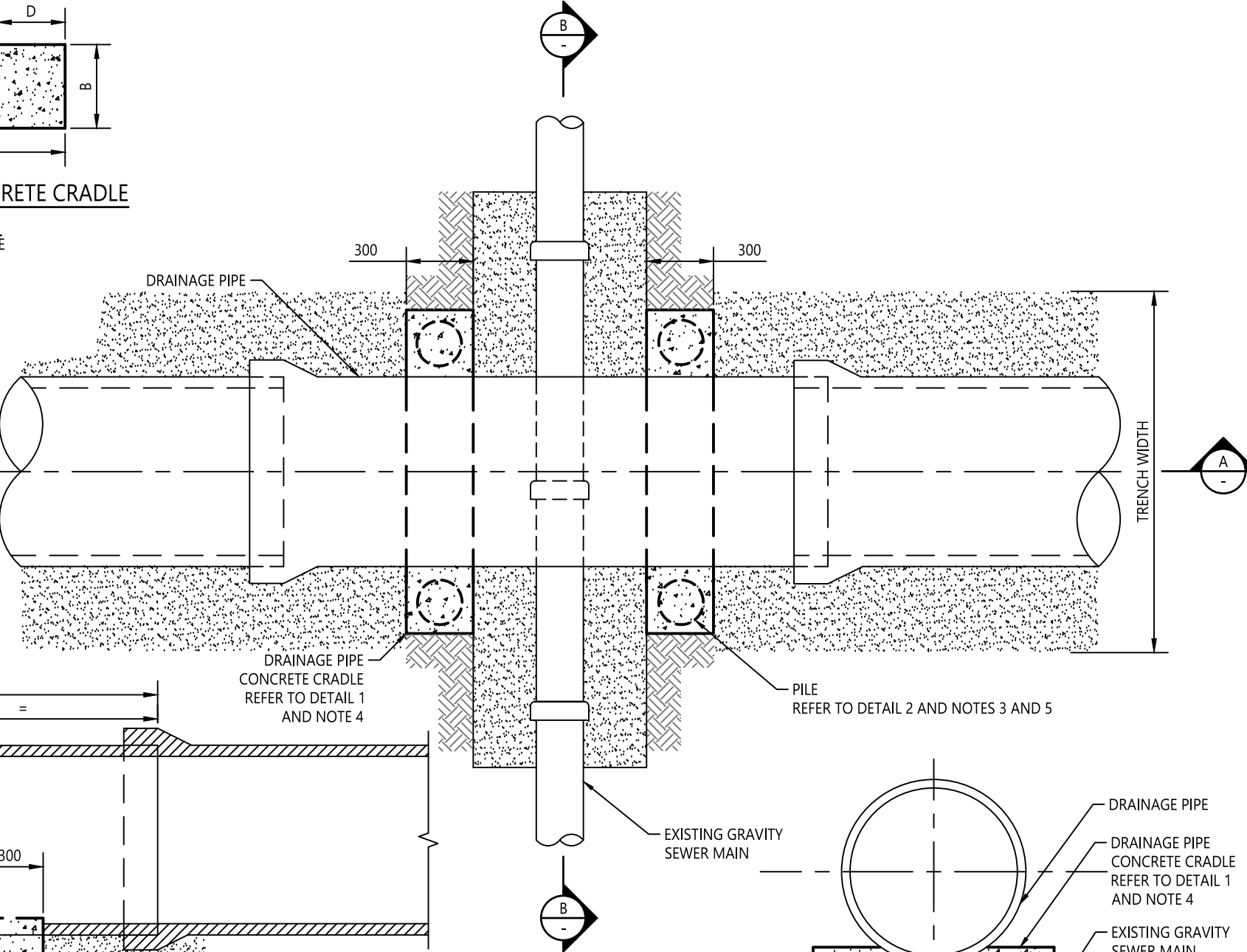


PILE - TREATED PINE LOG

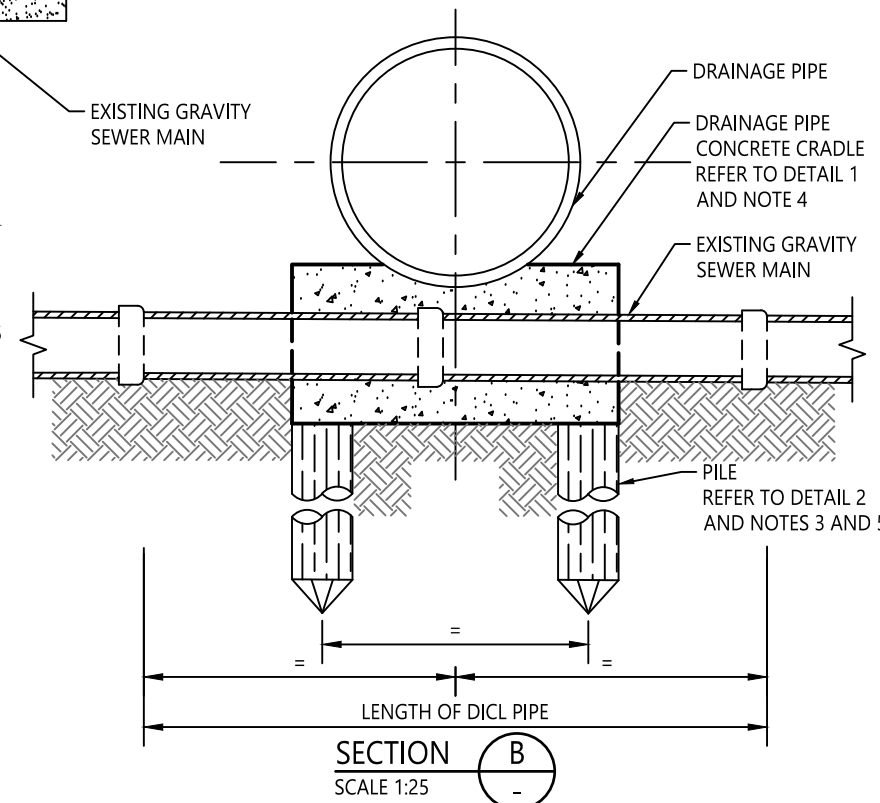
DETAIL 2  
SCALE 1:20



SECTION A  
SCALE 1:25



PLAN  
SCALE 1:25



SECTION B  
SCALE 1:25

DRAINAGE PIPE CONCRETE CRADLE DIMENSIONS					
PIPE DIAMETER	A	B	C	D	R (RADIUS)
225	880	450 MIN	75	300	140
300	962	450 MIN	75	300	181
375	1045	450 MIN	75	300	223
450	1135	450 MIN	75	300	267
525	1215	450 MIN	75	300	308
600	1300	450 MIN	75	300	349
750	1465	450 MIN	75	300	432
825	1545	450 MIN	75	300	473
900	1630	450 MIN	75	300	515
1050	1795	450 MIN	75	300	597
1200	1960	450 MIN	75	300	680

REV	AMENDMENT	DATE	DRAWN	APRVD	SCALE ON ORIGINAL A3 SIZE DRAWING 0 200 400 600 800 1000 1:20 0 250 500 750 1000 1250 1:25	DRAWN	C SHEPPEARD		Central Coast Council	STORMWATER DRAINAGE SERIES GRAVITY SEWER MAIN PROTECTION	STANDARD DRAWING	
						CHECKED	M BAMBER				DRAWING NUMBER	REV
						DATE	28/4/20				SD0413	-
						UNIT MANAGER APPROVAL 					SHEET 1 OF 2	A3
ALL DIMENSIONS IN mm UNLESS OTHERWISE SHOWN					ASSETS PLANNING AND DESIGN	ROADS TRANSPORT DRAINAGE AND WASTE		© Central Coast Council 2020				



INDEX:

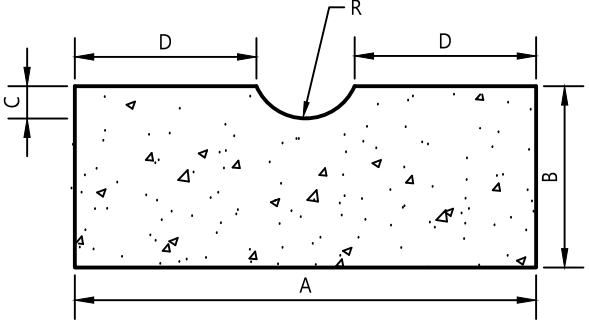
**SHEET 1:** CONCRETE CRADLE SUPPORTING DRAINAGE PIPE WHERE GRAVITY SEWER MAIN IS LOCATED BELOW DRAINAGE LINE.

**SHEET 2:** CONCRETE CRADLE SUPPORTING GRAVITY SEWER MAIN WHERE DRAINAGE PIPE IS LOCATED BELOW THE GRAVITY SEWER MAIN.

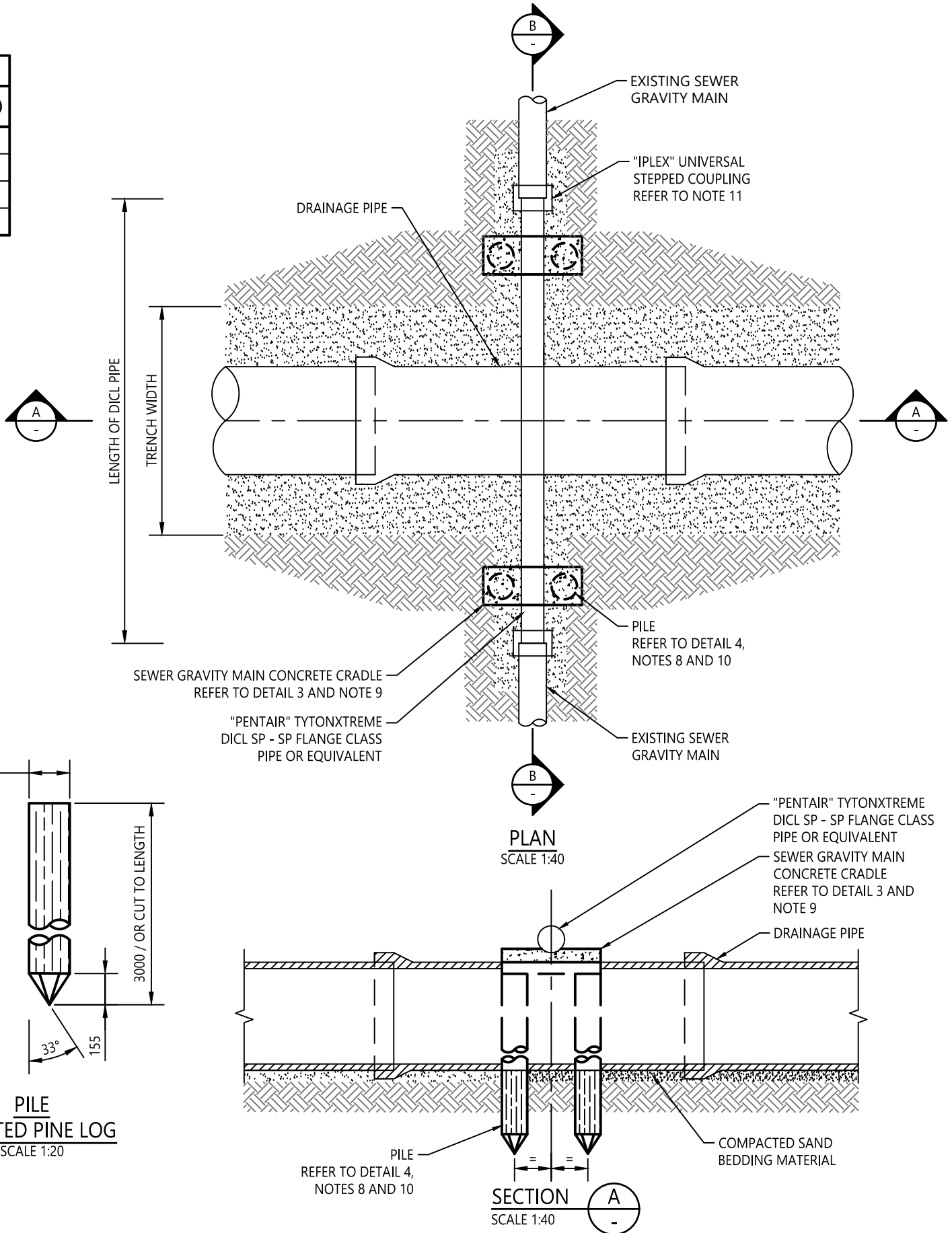
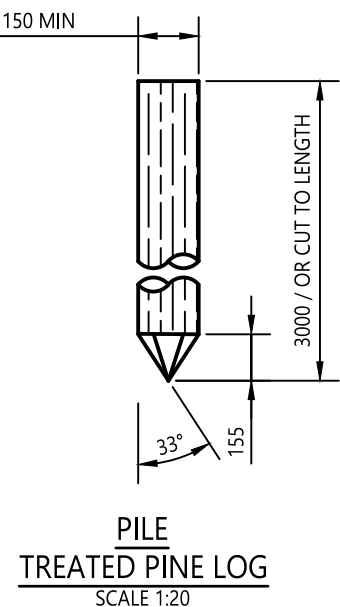
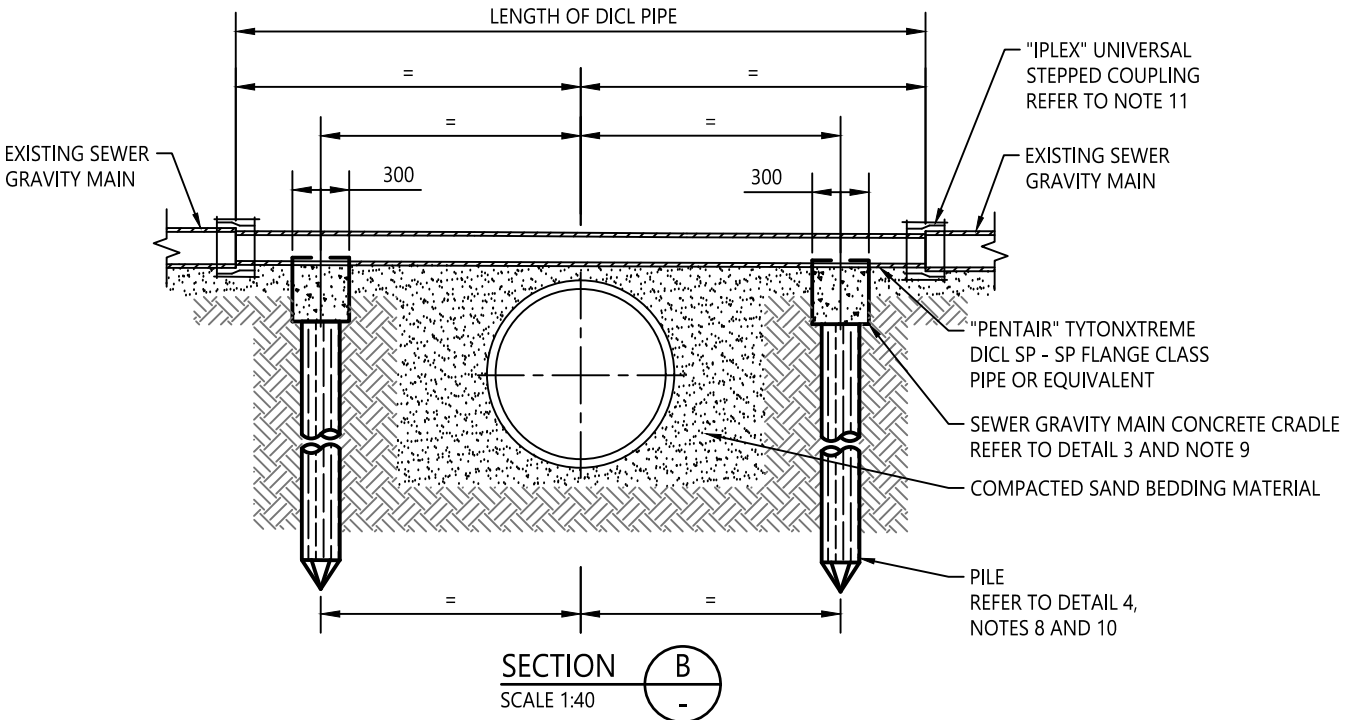
NOTES:

1. ALL DICL PIPES TO CONFORM TO AS/NZS 2280.
2. ALL DICL PIPE TO BE "PENTAIR" TYTONXTREME SP - SP FLANGE CLASS OR EQUIVALENT.
3. THERE ARE TO BE NO DEFLECTIONS AT PIPE JOINTS.
4. THERE ARE TO BE NO DEFLECTIONS AT FITTINGS.
5. ALL FITTINGS ARE TO BE FBE - (FUSION BONDED EPOXY) COATED OR STAINLESS STEEL CONSTRUCTION.
6. ENSURE A FULL LENGTH OF DICL PIPE IS SUSPENDED ON PILES.
7. ONCE GRAVITY SEWER MAIN HAS BEEN REINSTATED ALL AFFECTED SEWER GRAVITY MAINS SHALL BE RELINED USING NON-DESTRUCTIVE TRENCHLESS RELINING TECHNOLOGY.
8. TO ENSURE SETTLING OF THE DRAINAGE EXCAVATION DOES NOT AFFECT SEWER GRAVITY MAINS, 150mm CLASS H5 TREATED PINE PILES ARE TO BE DRIVEN UNTIL REFUSAL, UNTIL PILES ARE BELOW INVERT LEVEL OF DRAINAGE EXCAVATION, OR SIGNIFICANT RESISTANCE IS MET. PILES TO BE CUT TO LENGTH ONCE THIS HAS BEEN ACHIEVED.
9. CONCRETE STRENGTH GRADE SHALL BE N25 UNLESS OTHERWISE SPECIFIED.
10. CAUTION: ALL SERVICES TO BE EXPOSED IN THE AFFECTED AREA PRIOR TO COMMENCEMENT OF CONSTRUCTION.
11. WHEN USING IPLEX UNIVERSAL STEPPED COUPLING, REFER TO MANUFACTURER'S HANDBOOK FOR SIZING AND PRODUCT CODES.

SEWER GRAVITY MAIN CONCRETE CRADLE DIMENSIONS					
PIPE DIAMETER	A	B	C	D	R (RADIUS)
100	715	300	35	300	61
150	765	300	75	300	88
225	840	450 MIN	75	300	130
300	915	450 MIN	75	300	172

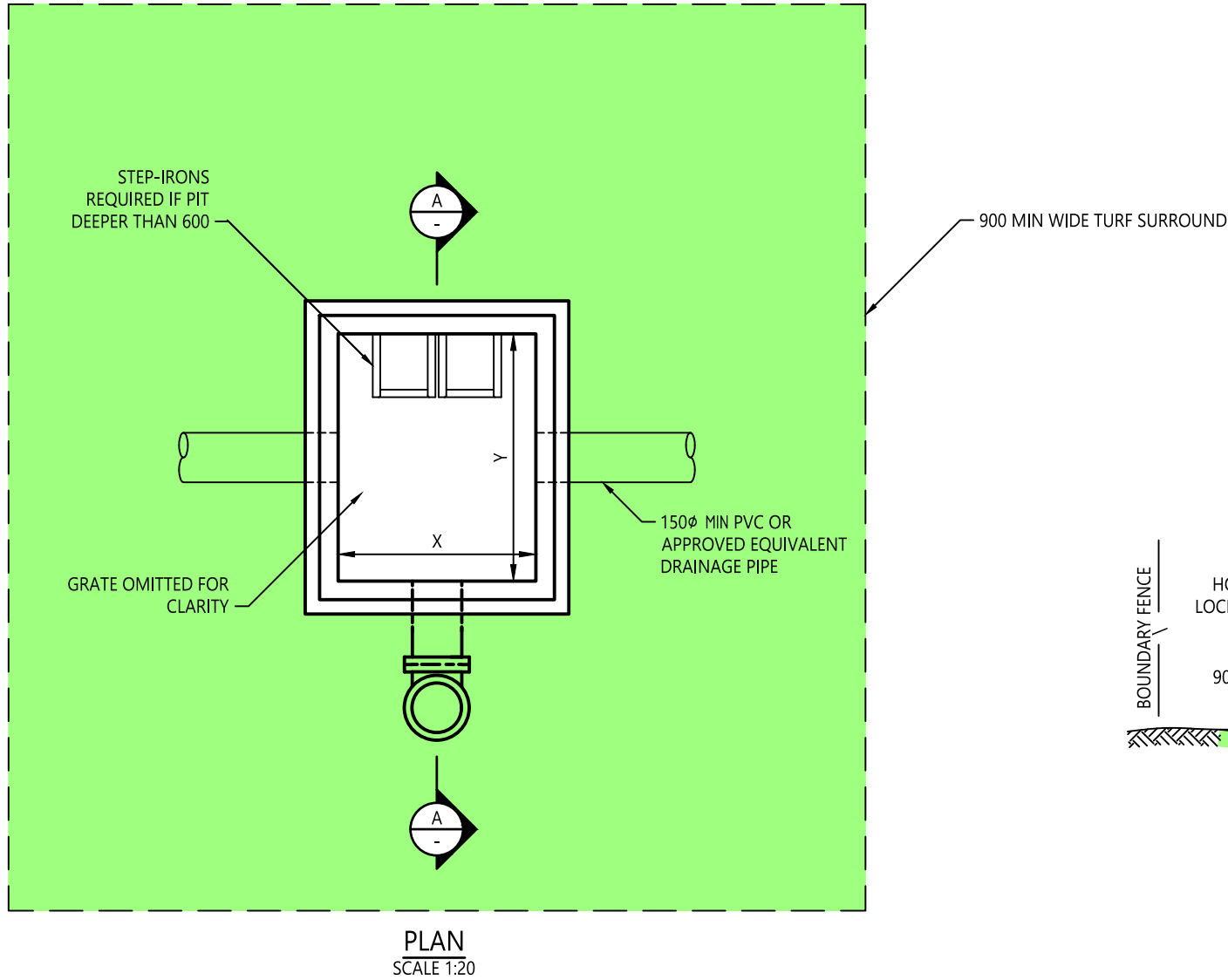


SEWER GRAVITY MAIN CONCRETE CRADLE  
DETAIL 3  
NOT TO SCALE

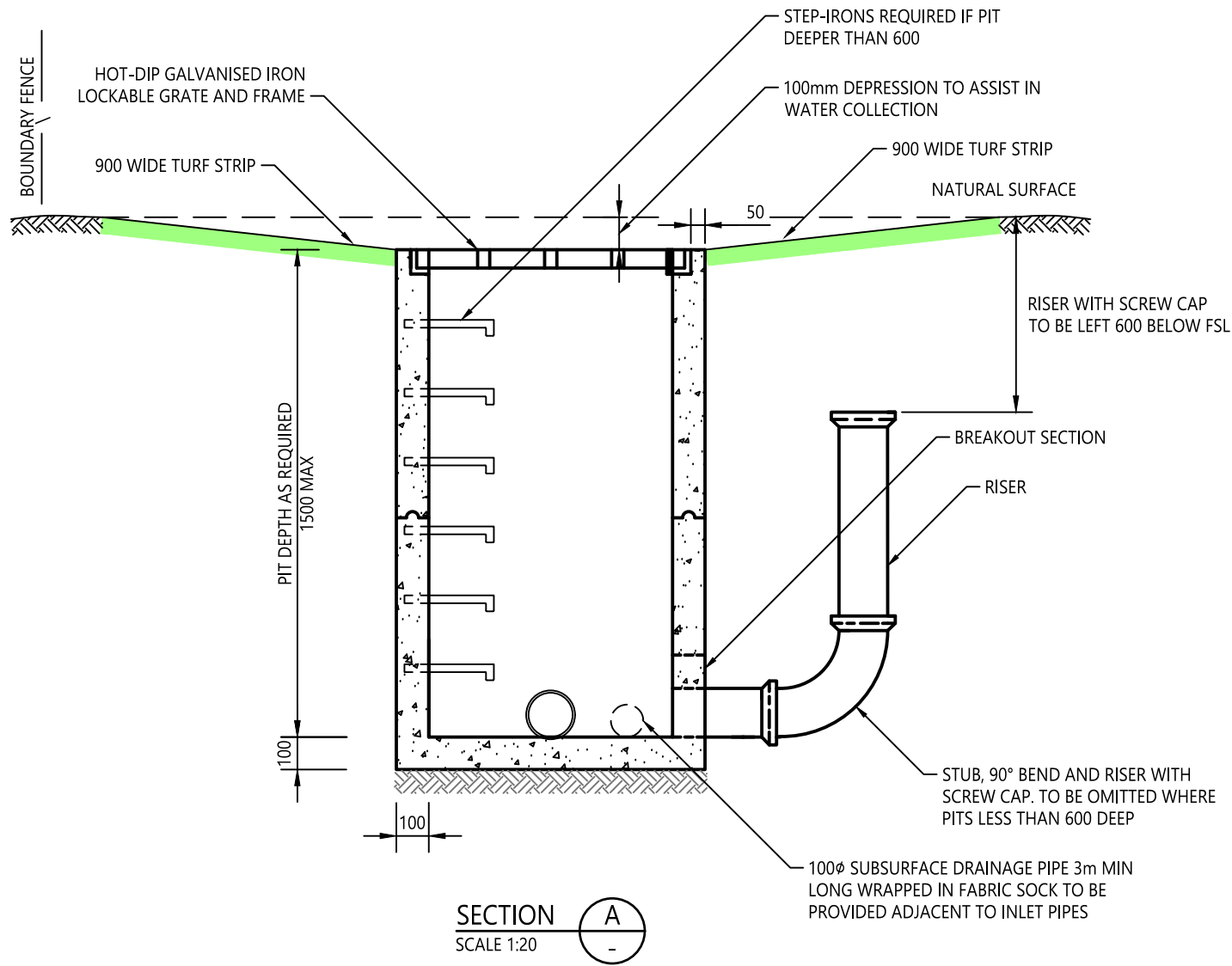


REV	AMENDMENT	DATE	DRAWN	APRVD	SCALE ON ORIGINAL A3 SIZE DRAWING 0 200 400 600 800 1000 1:20 0 400 800 1200 1600 2000 1:40	DRAWN	C SHEPPEARD		Central Coast Council	STORMWATER DRAINAGE SERIES GRAVITY SEWER MAIN PROTECTION	STANDARD DRAWING	
						CHECKED	M BAMBER				DRAWING NUMBER	REV
						DATE	28/4/20				SD0413	-
						UNIT MANAGER APPROVAL 					SHEET 2 OF 2	A3
ALL DIMENSIONS IN mm UNLESS OTHERWISE SHOWN						ASSETS PLANNING AND DESIGN		ROADS TRANSPORT DRAINAGE AND WASTE				

- NOTES:**
- THIS STANDARD DRAWING TO BE READ IN CONJUNCTION WITH COUNCIL'S CIVIL WORKS SPECIFICATION.
  - PRECAST PITS SHALL BE USED RATHER THAN CAST IN-SITU WHERE PRACTICABLE.
  - GRATE AND FRAME SHALL BE HOT-DIP GALVANISED.
  - DEPTH OF PIT SHALL NOT EXCEED 1.5m.
  - PROVIDE STEP-IRONS FOR PITS DEEPER THAN 600mm.
  - CONCRETE STRENGTH GRADE SHALL BE N32 MINIMUM UNLESS OTHERWISE SPECIFIED.
  - ALL EXPOSED EDGES SHALL BE ROUNDED WITH 20mm RADIUS.
  - NO RENDERING PERMITTED IN STRUCTURAL COMPONENTS.
  - ALL PITS SHALL BE STREAMLINED AND BENCHED WHERE REQUIRED.
  - 100Ø SUBSURFACE DRAINAGE PIPE 3m MIN LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED ADJACENT TO INLET PIPES.



MINIMUM PIT DIMENSIONS				
		RESIDENTIAL PIT DEPTH		INDUSTRIAL PIT DEPTH
		450 - 1200	1200 - 1500	450-1500
PIT SIZE	X	450	600	750
	Y	450	750	750

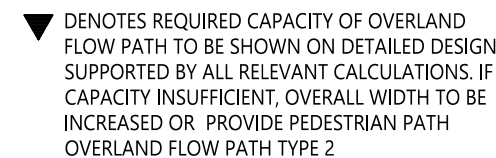


REV	AMENDMENT	DATE	DRAWN	APRVD	SCALE ON ORIGINAL A3 SIZE DRAWING	DRAWN	C SHEPPEARD		Central Coast Council	STORMWATER DRAINAGE SERIES INTERALLOTMENT DRAINAGE PIT	STANDARD DRAWING	
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ALL DIMENSIONS IN mm UNLESS OTHERWISE SHOWN					DATE	28/4/20	SHEET 1 OF 1				-	
					UNIT MANAGER APPROVAL 		A3					

ASSETS PLANNING AND DESIGN




ROADS TRANSPORT DRAINAGE AND WASTE

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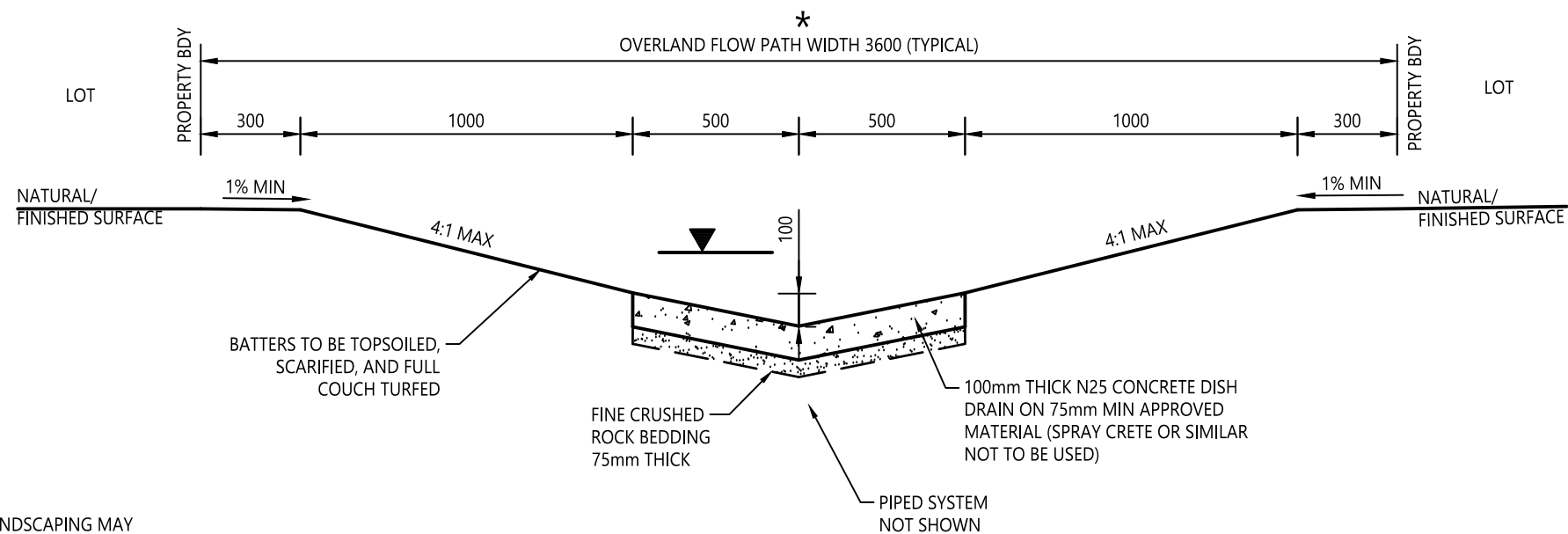


PEDESTRIAN PATH OVERLAND FLOW PATH TYPE 2  
SCALE 1:20

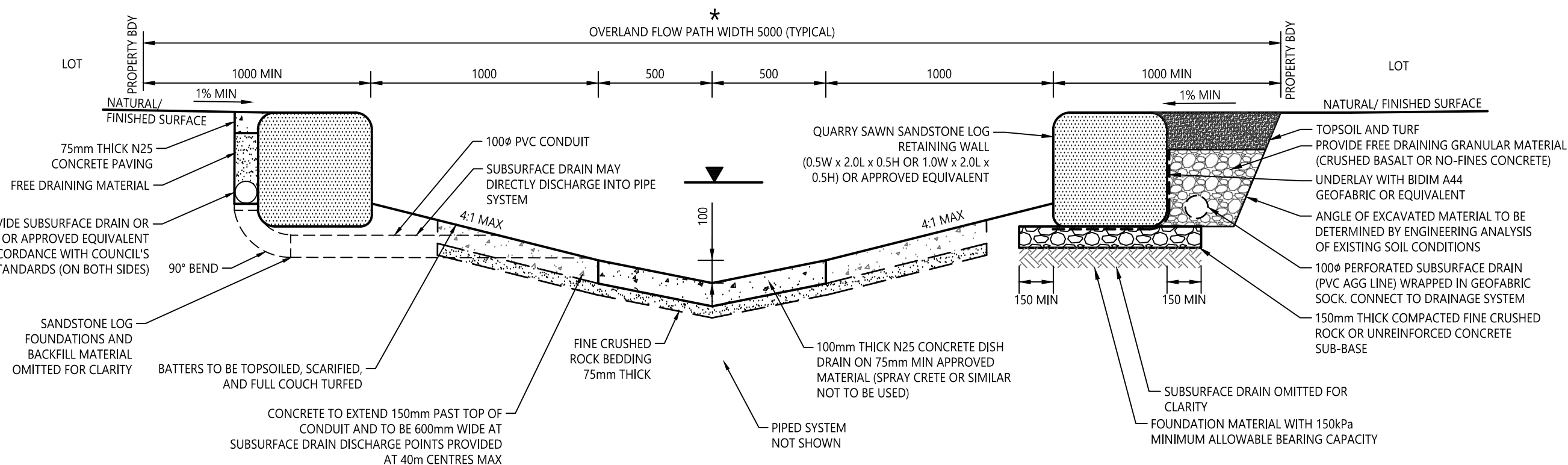
1. EXPANSION JOINT SPACING SHALL BE 12m MAXIMUM IN FOOTPATH SLABS; AND WHERE KERB AND CHANNEL ABUTS A STRUCTURAL ELEMENT.
2. A SYSTEM TO CORRECTLY ALIGN DOWELS SHALL BE PROVIDED.
3. BOND-BREAKING COMPOUND AND END CAP MAY BE REPLACED WITH A PURPOSE-MADE DOWEL SLEEVE.

					SCALE ON ORIGINAL A3 SIZE DRAWING  0      200      400      600      800      1000 1:20	DRAWN      C SHEPPEARD CHECKED      M BAMBER DATE      28/4/20 UNIT MANAGER APPROVAL 		Central Coast Council STORMWATER DRAINAGE SERIES OVERLAND FLOW PATH	STANDARD DRAWING DRAWING NUMBER      REV SD0415      - SHEET 1 OF 2      A3
REV	AMENDMENT	DATE	DRAWN	APRVD	ALL DIMENSIONS IN mm UNLESS OTHERWISE SHOWN	ASSETS PLANNING AND DESIGN	ROADS TRANSPORT DRAINAGE AND WASTE		





NON-PEDESTRIAN OVERLAND FLOW PATH TYPE 1  
SCALE 1:20



NON-PEDESTRIAN OVERLAND FLOW PATH TYPE 2  
SCALE 1:20

## INDEX:

**SHEET 1:** PEDESTRIAN PATH OVERLAND FLOW PATH TYPE 1 AND 2.




**SHEET 2:** NON-PEDESTRIAN OVERLAND FLOW PATH TYPE 1 AND 2.

## NOTES:

- DESIGN OF OVERLAND FLOW PATHS SHALL ADDRESS APPROPRIATE SAFETY CRITERIA FOR PEOPLE AND VEHICLES IN ACCORDANCE WITH CURRENT AUSTRALIAN RAINFALL AND RUNOFF GUIDELINES.
- DEPTHS OF FLOW GENERALLY SHOULD NOT EXCEED 0.5m AND THE PRODUCT OF VELOCITIES AND DEPTHS IN MAJOR OVERLAND FLOW PATHS GENERALLY SHOULD NOT EXCEED 0.4m<sup>2</sup>/s FOR MAJOR DESIGN STORM FLOWS.
- INSTALL COUNCIL'S STANDARD FLOOD WARNING SIGNS WHERE DIRECTED.
- DRAINAGE RESERVE/OVERLAND FLOW PATH SHALL BE ADEQUATELY FENCED.
- ACCESS FOR MAINTENANCE SHALL BE PROVIDED.
- CONTROL JOINTS IN DISH DRAIN TO BE 25mm DEEP AND PLACED AT NO MORE THAN 5m INTERVALS. EXPANSION JOINTS TO BE PLACED AT NO MORE THAN 12m INTERVALS. JOINTING MATERIAL TO BE APPROVED 10mm THICK BITUMINOUS MATERIAL TO THE FULL DEPTH OF THE CONCRETE OR AS DIRECTED BY COUNCIL'S REPRESENTATIVE.
- GENERALLY A 300mm FREEBOARD TO FLOOR LEVEL WILL BE REQUIRED.

## LEGEND

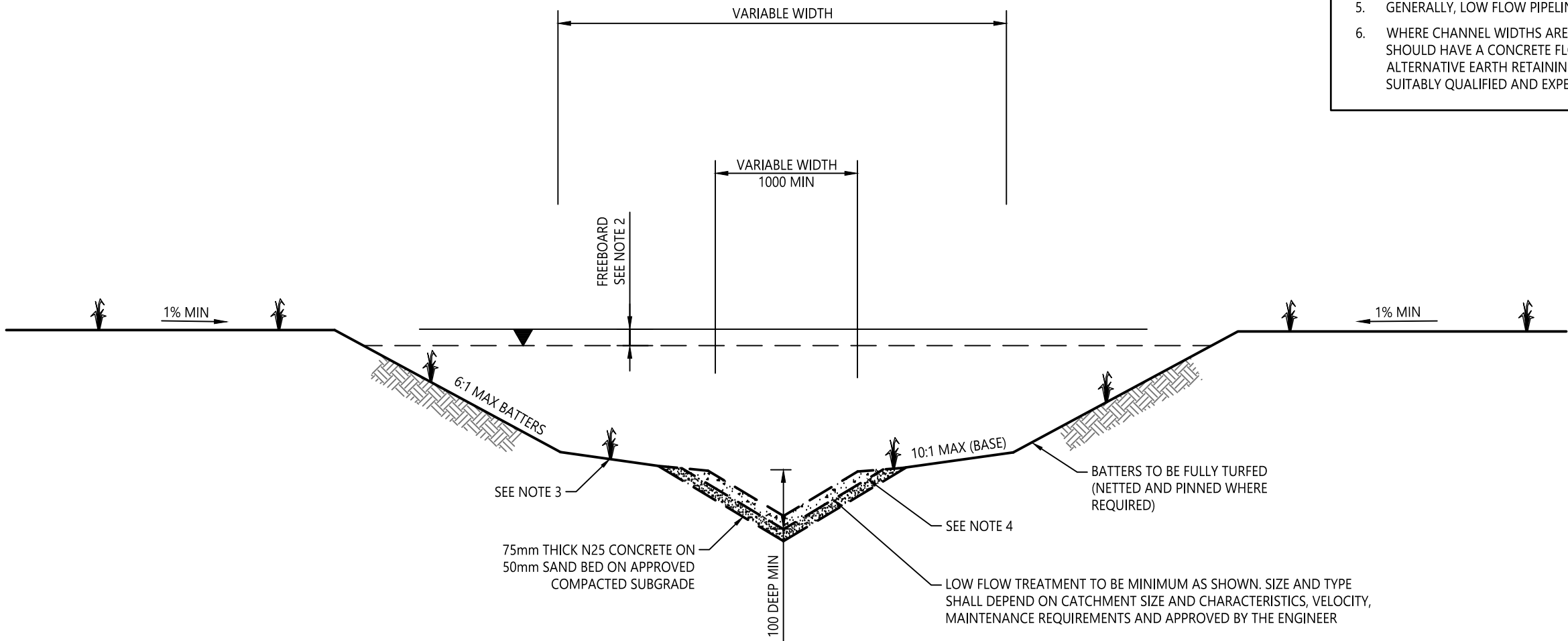
- ★ WIDTH MAY BE INCREASED. LANDSCAPING MAY BE PROVIDED OUTSIDE OF THE PROPOSED AREA
- ▼ DENOTES REQUIRED CAPACITY OF OVERLAND FLOW PATH TO BE SHOWN ON DETAILED DESIGN SUPPORTED BY ALL RELEVANT CALCULATIONS. IF CAPACITY INSUFFICIENT, OVERALL WIDTH TO BE INCREASED OR PROVIDE OVERLAND FLOW PATH TYPE 2

					<div>SCALE ON ORIGINAL A3 SIZE DRAWING</div> <div>02004006008001000</div> <div></div> <div>1:20</div>	<div>DRAWN</div> <div>C SHEPPEARD</div> <div>CHECKED</div> <div>M BAMBER</div> <div>DATE</div> <div>28/4/20</div> <div>UNIT MANAGER APPROVAL</div> <div></div> <div>ASSETS PLANNING AND DESIGN</div>	<div></div> <div>ROADS TRANSPORT DRAINAGE AND WASTE</div>	<div>Central Coast Council</div> <div>STORMWATER DRAINAGE SERIES OVERLAND FLOW PATH</div>	<div>STANDARD DRAWING</div> <div>DRAWING NUMBER</div> <div>SD0415</div> <div>REV</div> <div>-</div> <div>SHEET 2 OF 2</div> <div>A3</div>	
REV	AMENDMENT	DATE	DRAWN	APRVD	ALL DIMENSIONS IN mm UNLESS OTHERWISE SHOWN					





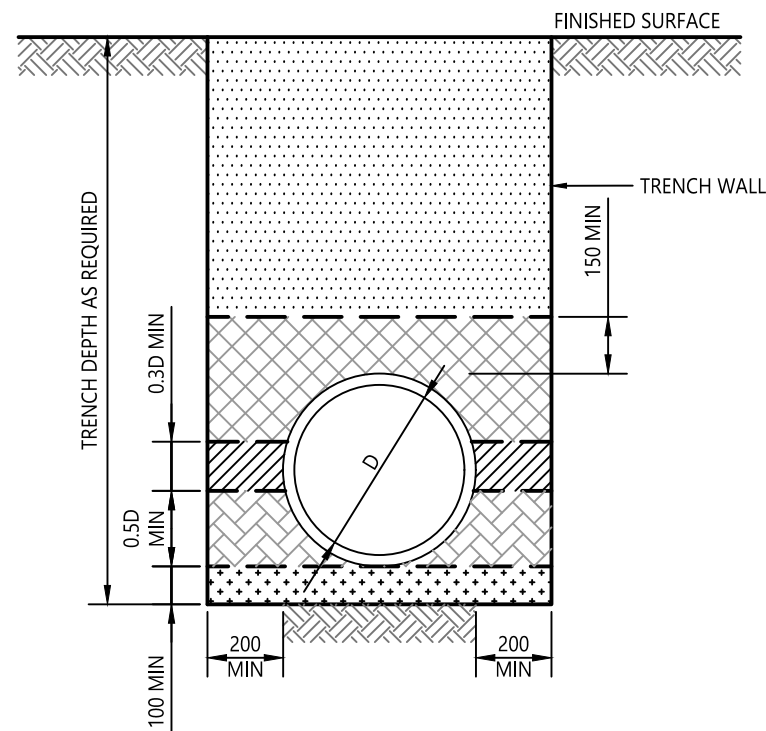
NOTES:

1. THIS STANDARD DRAWING IS TO BE USED AS A GUIDE ONLY FOR THE PREPARATION OF OTHER DESIGNS.
2. FREEBOARD REQUIREMENTS VARY DEPENDING ON SITE LOCATION. REFER TO COUNCIL'S CIVIL WORKS DESIGN GUIDELINES AND CONSTRUCTION SPECIFICATION.
3. PROVIDE ADEQUATE SCOUR PROTECTION/VEGETATION STABILISING TREATMENT ADJACENT TO CONCRETE LOW FLOW TREATMENT.
4. SUBSURFACE DRAINAGE FOR CHANNEL BASE AND ADJACENT TO DROP STRUCTURES MAY BE REQUIRED.
5. GENERALLY, LOW FLOW PIPELINES WILL NOT BE PERMITTED.
6. WHERE CHANNEL WIDTHS ARE CONSTRAINED, THE CHANNEL SHOULD HAVE A CONCRETE FLOOR AND VERTICAL WALLS, OR ALTERNATIVE EARTH RETAINING STRUCTURE, DESIGNED BY A SUITABLY QUALIFIED AND EXPERIENCED ENGINEER.

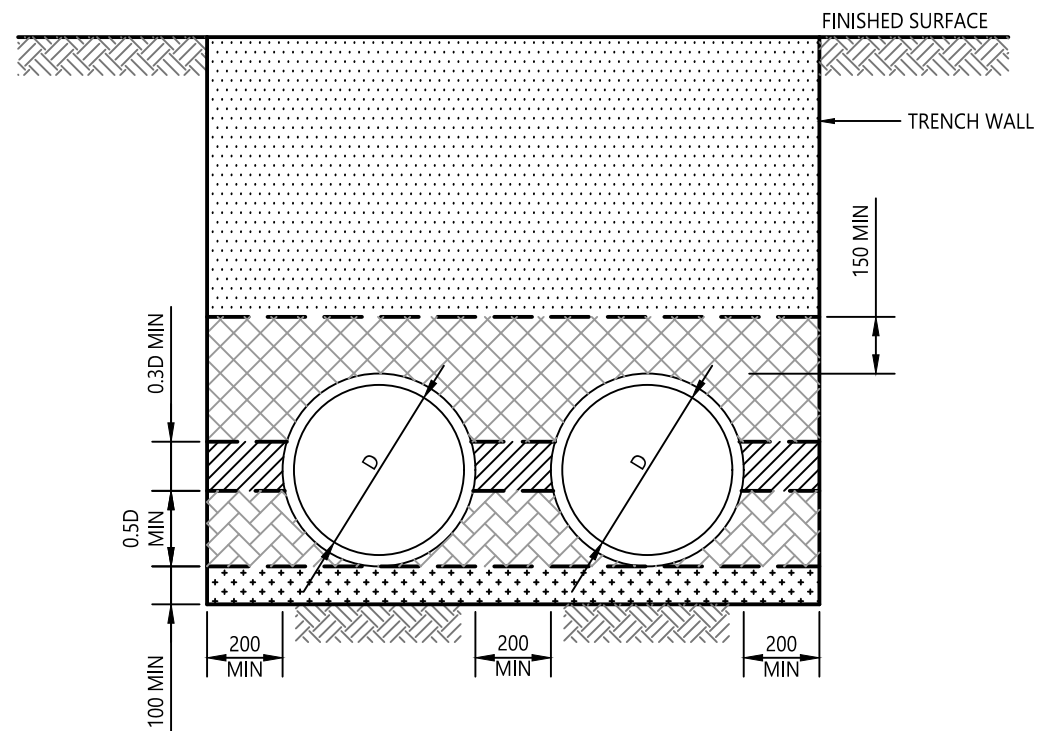


OPEN CHANNEL  
NOT TO SCALE

					SCALE ON ORIGINAL A3 SIZE DRAWING	DRAWN	C SHEPPEARD		Central Coast Council		STANDARD DRAWING	
					NOT TO SCALE	CHECKED	M BAMBER				DRAWING NUMBER	REV
						DATE	28/4/20		UNIT MANAGER APPROVAL 	SD0416	-	
						ASSETS PLANNING AND DESIGN						SHEET 1 OF 1
REV	AMENDMENT	DATE	DRAWN	APRVD	ALL DIMENSIONS IN mm UNLESS OTHERWISE SHOWN	ROADS TRANSPORT DRAINAGE AND WASTE		STORMWATER DRAINAGE SERIES OPEN CHANNEL				



**DRAINAGE PIPE TRENCH CONSTRUCTION**  
SCALE 1:20



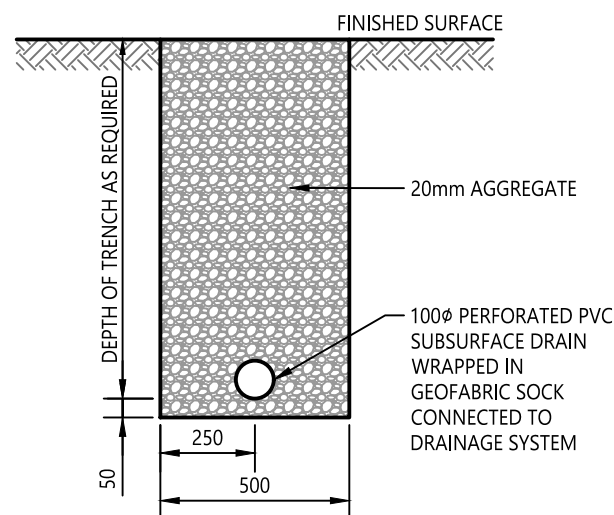
**MULTIPLE DRAINAGE PIPE TRENCH CONSTRUCTION**  
SCALE 1:20

### NOTES:

1. THIS DRAWING IS PARTLY BASED ON DETAILS IN TfNSW STANDARD DRAWING R0240-01 AND AS/NZS 3725.
2. BEDDING AND BACKFILLING OF REINFORCED CONCRETE PIPES AND FIBRE-REINFORCED CEMENT PIPES SHALL BE IN ACCORDANCE WITH AS/NZS 3725 TYPE HS SUPPORT.
3. REINFORCED CONCRETE PIPES SHALL BE MANUFACTURED IN ACCORDANCE WITH AS 4058; AND FIBRE REINFORCED CEMENT PIPES SHALL BE MANUFACTURED IN ACCORDANCE WITH AS 4139.
4. WHERE MINIMUM DISTANCES CANNOT BE ACHIEVED, A CONTROLLED LOW STRENGTH MATERIAL MAY BE USED.
5. WHERE PRACTICABLE, MINIMUM PIPE COVER SHALL BE PROVIDED TO THE PIPE MANUFACTURER'S SPECIFICATION, OR BY THE USE OF A PIPE CLASS PROGRAM.
6. TRENCH EXCAVATIONS AT LEAST 1.5m DEEP SHALL REQUIRE BENCHING, SHORING OR BATTERING TO SUPPORT ALL SIDES OF THE TRENCH, TO COMPLY WITH WORK HEALTH AND SAFETY LEGISLATION.

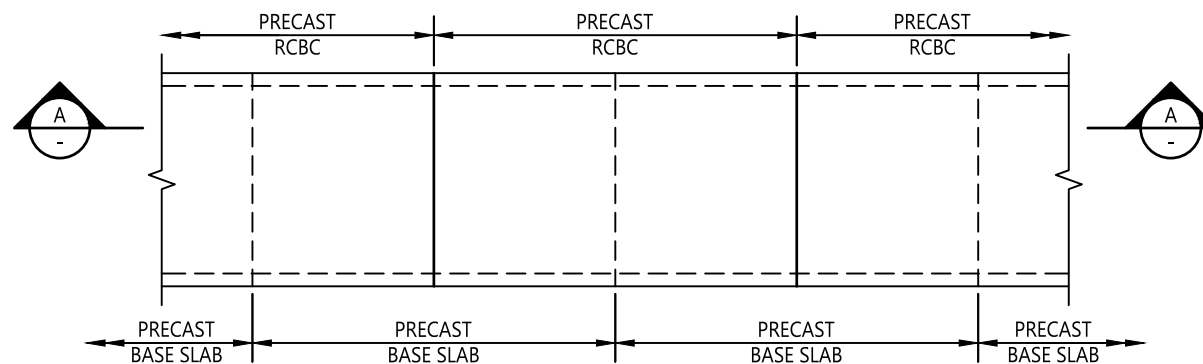
### LEGEND

	BACKFILL/ROAD PAVEMENT
	OVERLAY ZONE
	SIDE ZONE
	HAUNCH ZONE
	BED ZONE
	NATURAL SURFACE OR COMPACTED FILL

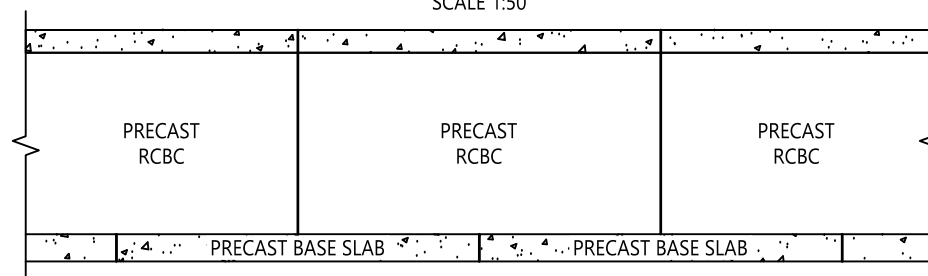


NOTE: PROVIDE FLUSHING POINTS AT 30m INTERVALS.

**TRENCH DRAIN**  
SCALE 1:20



**PLAN**  
SCALE 1:50

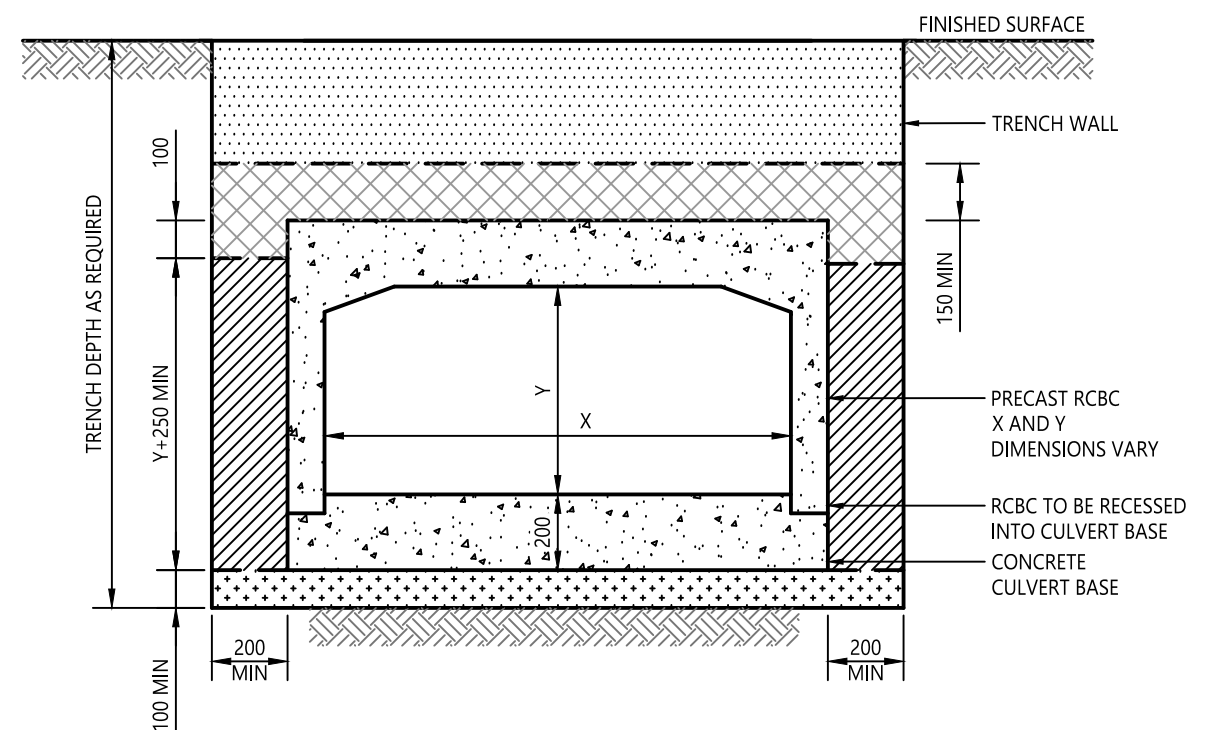


**SECTION**  
SCALE 1:50


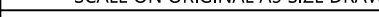

### BOX CULVERT PLACEMENT

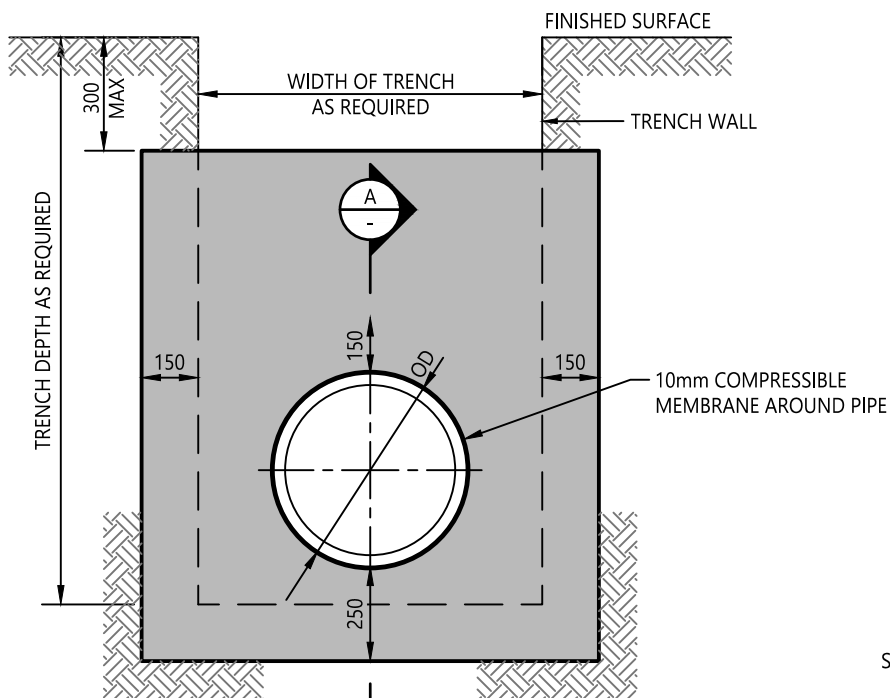
### BOX CULVERT PLACEMENT NOTES:

1. FULL LENGTH CULVERTS AND BASE SLABS SHALL BE STAGGERED TO ENSURE CULVERT JOINTS ARE LOCATED AT BASE SLAB MIDPOINTS.
2. SPLAY UNITS SHALL ALIGN WITH THEIR CORRESPONDING BASE SLAB.

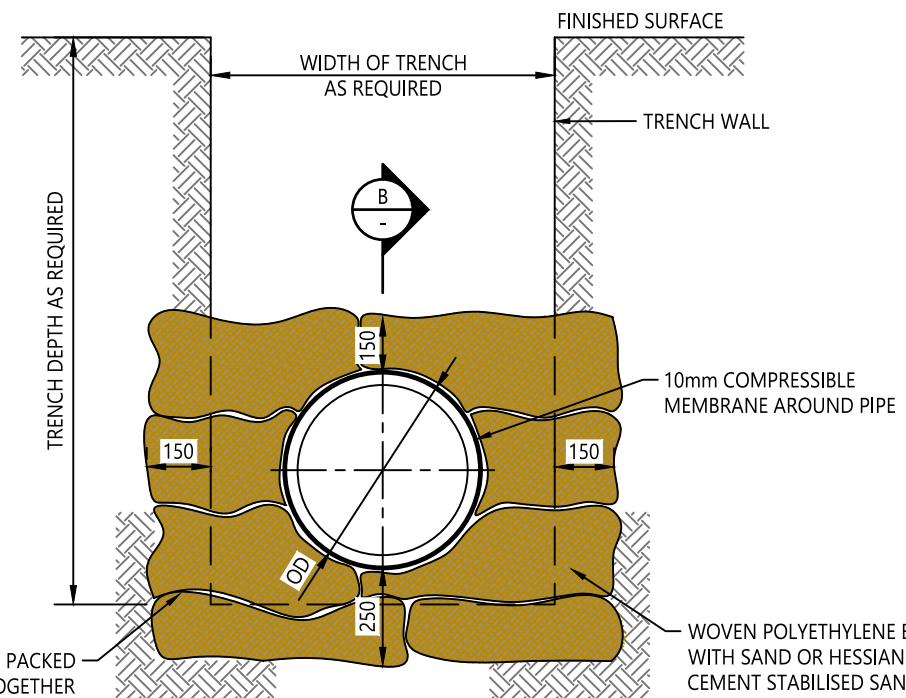


**BOX CULVERT TRENCH CONSTRUCTION**  
SCALE 1:20

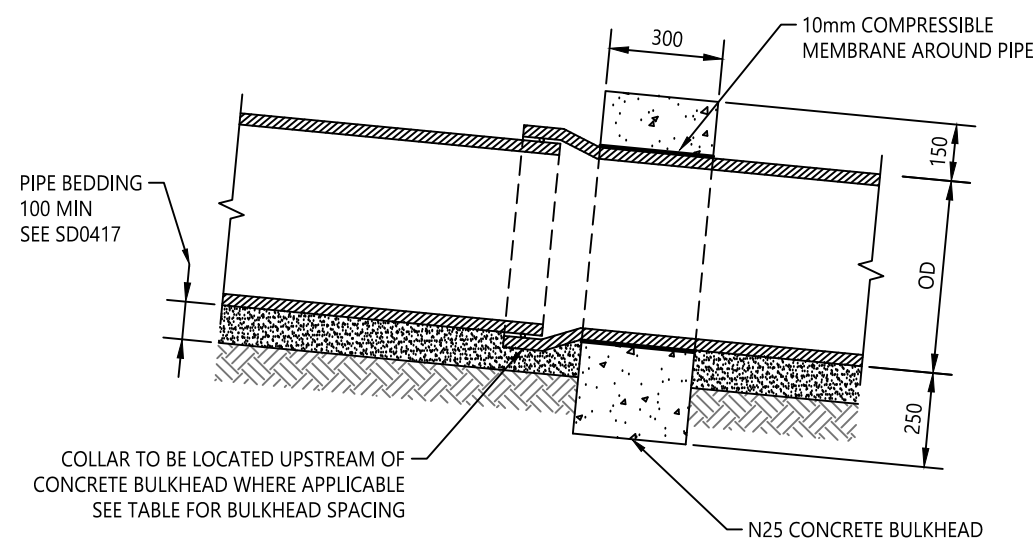
					SCALE ON ORIGINAL A3 SIZE DRAWING		DRAWN	C SHEPPEARD		Central Coast Council		STANDARD DRAWING		
							CHECKED	M BAMBER						
							DATE	28/4/20						
							UNIT MANAGER APPROVAL							
														
REV	AMENDMENT	DATE	DRAWN	APRVD	ALL DIMENSIONS IN mm UNLESS OTHERWISE SHOWN		ASSETS PLANNING AND DESIGN		ROADS TRANSPORT DRAINAGE AND WASTE		STORMWATER DRAINAGE SERIES RCP/FRC DRAINAGE PIPE TRENCH CONSTRUCTION AND TRENCH DRAIN		DRAWING NUMBER SD0417	REV -
													SHEET 1 OF 1	A3



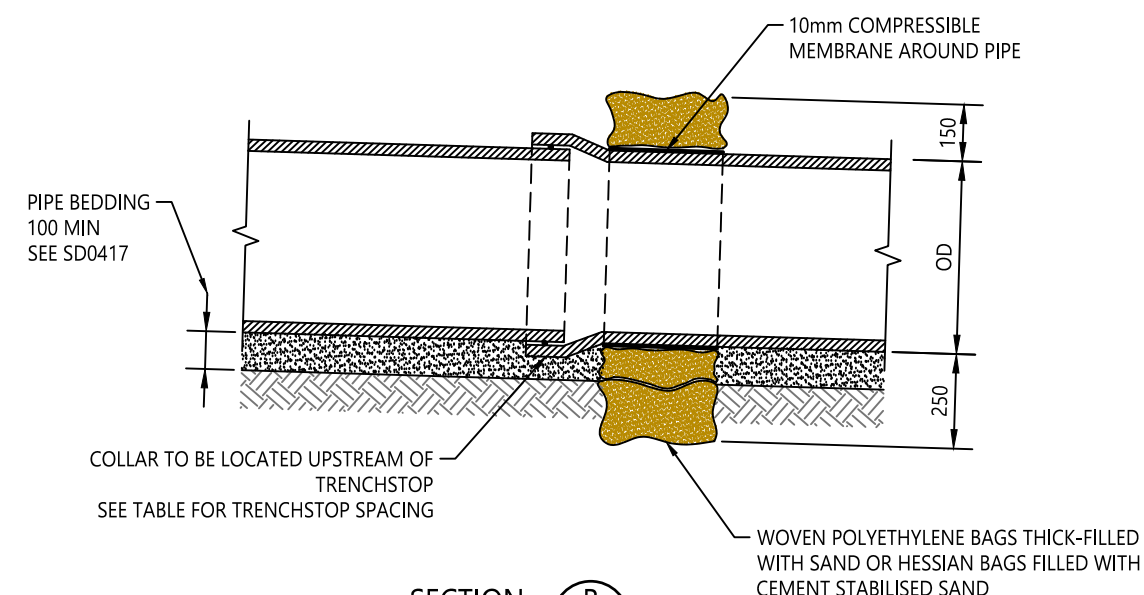
**CONCRETE BULKHEAD  
ELEVATION**  
SCALE 1:20



**TRENCHSTOP  
ELEVATION**  
SCALE 1:20



**SECTION A**  
SCALE 1:20



**SECTION B**  
SCALE 1:20

**NOTES:**

1. CONCRETE BULKHEADS AND TRENCHSTOPS FOR FLEXIBLE BURIED PIPELINES SHALL COMPLY WITH AS/NZS 2566.2.
2. CONCRETE BULKHEADS AND TRENCHSTOPS ALSO MAY BE CONSTRUCTED FOR FIBRE-REINFORCED CEMENT OR REINFORCED CONCRETE STORMWATER DRAINAGE PIPELINES ON STEEP SLOPES WHERE DETERMINED BY COUNCIL'S REPRESENTATIVE TO BE A SITE SPECIFIC REQUIREMENT.
3. CONCRETE BULKHEADS AND TRENCHSTOPS ARE TO BE CONSTRUCTED AT LOCATIONS AS SPECIFIED ON DESIGN DRAWINGS.
4. CONCRETE BULKHEADS AND TRENCHSTOPS TO BE KEYED INTO SIDES AND BOTTOM OF TRENCH AGAINST A BEARING SURFACE OF UNDISTURBED SOIL.
5. CONCRETE STRENGTH GRADE SHALL BE N25 UNLESS OTHERWISE SPECIFIED.
6. POLYETHYLENE OR HESSIAN BAGS SHALL BE SEALED TO PREVENT LEAKAGE OF CONTAINED MATERIAL.
7. PIPES ARE NOT TO BE DEFORMED DURING PLACEMENT OF CONCRETE.
8. COMPRESSIBLE MEMBRANE AROUND PIPE TO BE 10mm POLYSTYRENE.
9. REFER TO TABLE BELOW FOR APPROPRIATE TREATMENT BASED ON GRADE OF PIPELINE.

REQUIREMENT FOR BULKHEADS AND TRENCHSTOPS		
GRADE	REQUIREMENT	SPACING (S)
%		m
5 - 14	TRENCHSTOP	$S = 100/\text{GRADE}\%$
15 - 29	CONCRETE BULKHEAD	$S = L/\text{GRADE}\%$ (450m MAX) WHERE $L = 80 \times \text{PIPE LENGTH}^* \text{ (m)}$ WHERE $L > 100\text{m}$ USE INTERMEDIATE TRENCHSTOPS AT SPACING $< 100/\text{GRADE}\%$
30 - 50	CONCRETE ENCASEMENT AND CONCRETE BULKHEADS	$S = 100/\text{GRADE}\%$
>50	SPECIAL DESIGN	

SOURCE: AS/NZS 2566.2  
\* PIPE LENGTH IS THE STANDARD PIPE LENGTH INSTALLED

REV	AMENDMENT	DATE	DRAWN	APRVD	SCALE ON ORIGINAL A3 SIZE DRAWING 0 200 400 600 800 1000 1:20	DRAWN	C SHEPPEARD		<b>Central Coast Council</b>  STORMWATER DRAINAGE SERIES CONCRETE BULKHEAD AND TRENCHSTOP DETAILS	STANDARD DRAWING		
						CHECKED	M BAMBER			DRAWING NUMBER	REV	
					DATE	28/4/20					SD0418	-
UNIT MANAGER APPROVAL 						ASSETS PLANNING AND DESIGN				ROADS TRANSPORT DRAINAGE AND WASTE	SHEET 1 OF 1	A3