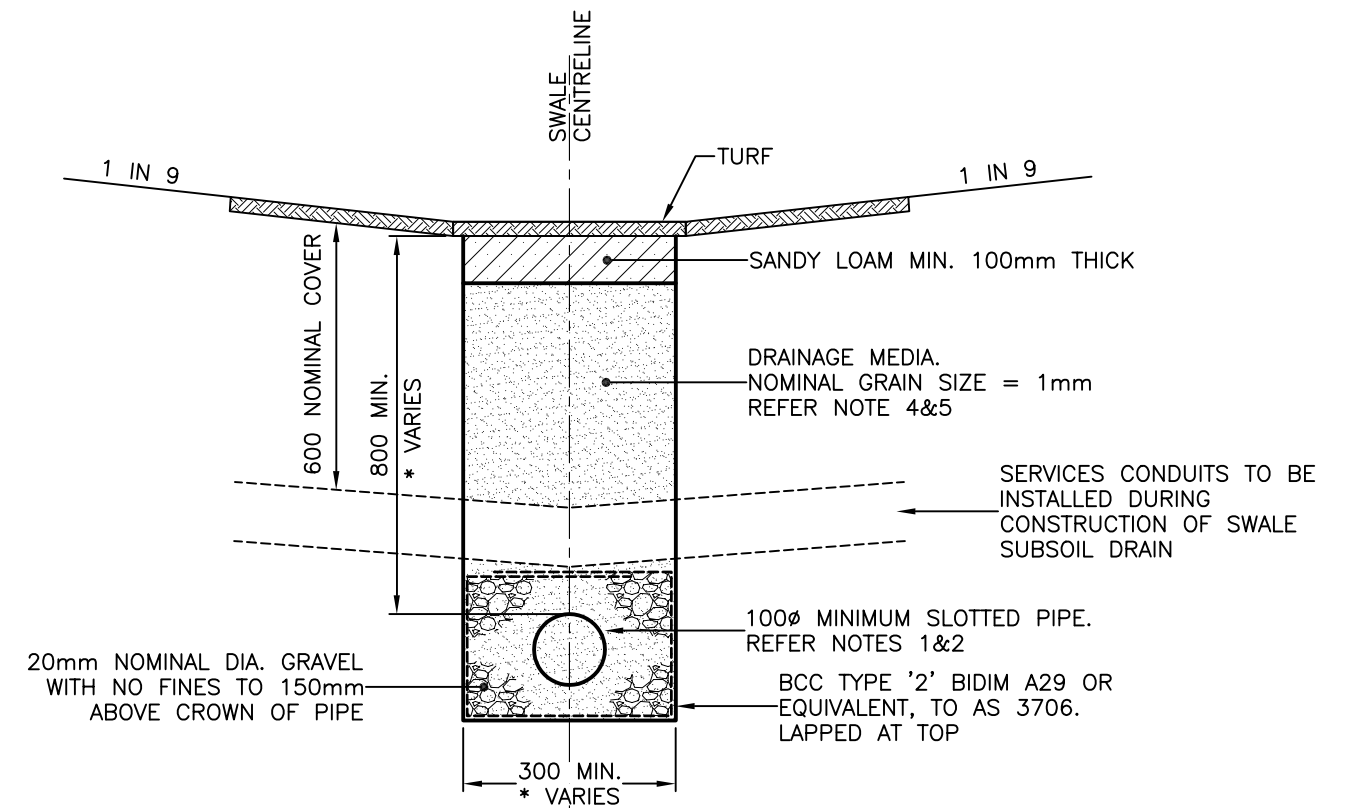
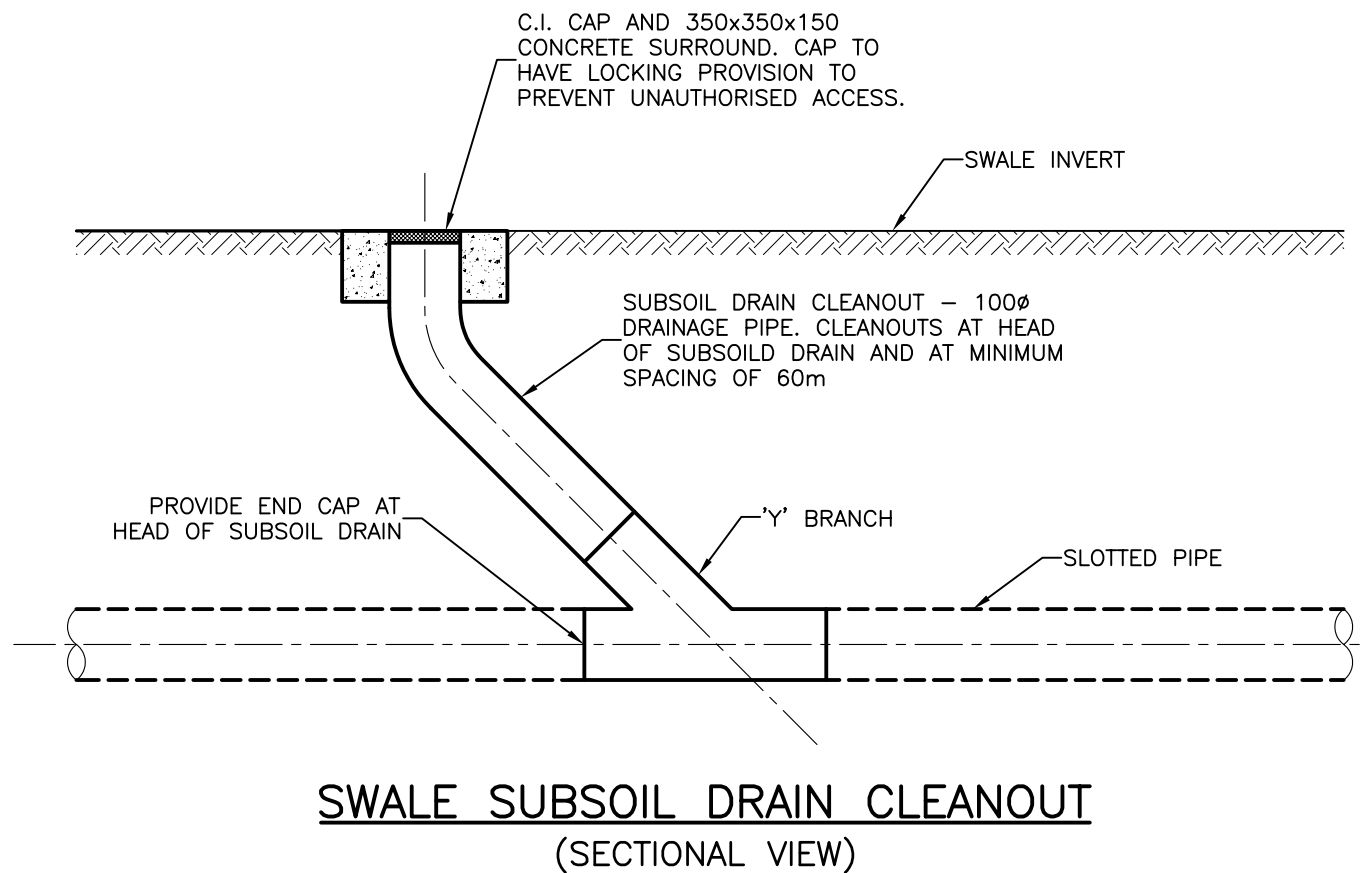


DRAFT ISSUE
FOR DISCUSSION PURPOSES

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* WHEN USED FOR BIO RETENTION, TRENCH WIDTH AND DEPTH MAY BE INCREASED WITH THE APPROVAL OF THE APPROPRIATE PUBLIC UTILITY AUTHORITY. REFER PROJECT DRAWINGS FOR DETAILS.

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FOR DISCUSSION PURPOSES

NOTES:

- SUBSOIL DRAIN MAY HAVE TWO FUNCTIONS; DEWATERING THE VEGETATED SWALE AND THE CONVEYANCE OF ROOFWATER IN ACCORDANCE WITH UMS 154. THE SLOTTED PIPE DIAMETER SHALL BE DETERMINED IN ACCORDANCE WITH UMS 154, DEPENDING ON THE NUMBER OF HOUSES CONNECTED TO THE SYSTEM. FOR COMPLEX SYSTEMS A DETAILED HYDRAULIC DESIGN IN ACCORDANCE WITH QUDM SHALL BE UNDERTAKEN.
- SLOTTED PIPES TO SUBSOIL DRAINS TO BE MINIMUM 100mm DIAMETER:
 - uPVC PIPES AND FITTINGS FOR DRAIN, WASTE AND VENT APPLICATIONS, JOINT TYPE, SOLVENT WELDED, MINIMUM SEWER CLASS SN8 MANUFACTURED IN ACCORDANCE WITH AS1260.
 - FIBRE REINFORCED CONCRETE PIPE MINIMUM CLASS 2, MANUFACTURED TO AS4139. JOINT TYPE, RUBBER RING (SUPERTITE).
 - POLYOLEFIN PIPES MANUFACTURED IN ACCORDANCE WITH DRAFT A0308-2003-06-10 "POLYETHYLENE AND POLYPROPYLENE PIPES AND FITTINGS FOR DRAINAGE AND SEWERAGE APPLICATIONS".
- MINIMUM PIPE GRADES TO COMPLY GENERALLY WITH AS3500 - NATIONAL PLUMBING AND DRAINAGE CODE PART 3 STORMWATER DRAINAGE:
 - 1.0% GRADE FOR PIPES ≥ 150 DIAMETER.
- DRAINAGE MEDIA TO BE CLEAN SAND WITH LITTLE OR NO FINES (USCS CLASSIFICATIONS SW AND SP).
- FOR FILTRATION MEDIA PARTICLE SIZE FOR BIO RETENTION REFER BIO-RETENTION CELL WIDTH DESIGN CHARTS AND OR PROCEDURE (CHAPTER 3, WATER SENSITIVE URBAN DESIGN ENGINEERING GUIDELINES - STORMWATER).

DRAFT ISSUE
FOR DISCUSSION PURPOSES

DRAFT DESIGN APPROVED FOR ISSUE
SIGNATURE : P Cotton signature on original DATE : 03/09/04
MANAGER INFRASTRUCTURE MANAGEMENT - R.P.E.Q: 2546

DRAFT ISSUE
FOR DISCUSSION PURPOSES

ISSUE	AMENDMENT	DRAWN DATE	CHK'D DATE	APPR'D DATE
DFT2	REDUCED PIPE DIAMETER, CLASSES AND TYPES	FEB '05	KP '05	PC '05
DRAFT	DRAFT ISSUE FOR DISCUSSION	JUN '03	JUL '04	JUL '04

DESIGN AUTHORISED FOR ISSUE					
DESIGN	CD/UMD	DATE	Jun '03		
DRAWN	CD/UMD	DATE	Jun '03		
CHECKED	IM - UMD	DATE	Jul '04		
DRAWING FILENAME	\UMS 153 (DRAFT)				
ASSOCIATED PLANS					
PRINCIPAL ENGINEER STRATEGIC INFRASTRUCTURE MANAGEMENT					



BRISBANE CITY COUNCIL - URBAN MANAGEMENT DIVISION

WATER SENSITIVE URBAN DESIGN
SWALE SUBSOIL DRAIN SECTIONS
TO GRASSED SWALES

SCALE	
NOT TO SCALE	
DWG No.	UMS 153
ORIGINAL SIZE	A3
REVISION	DFT2