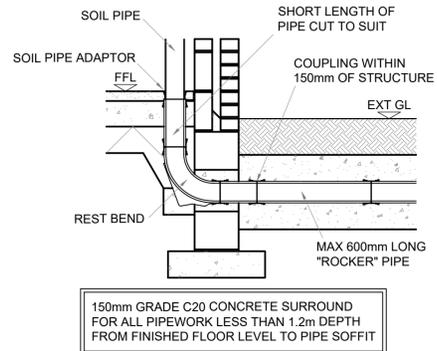
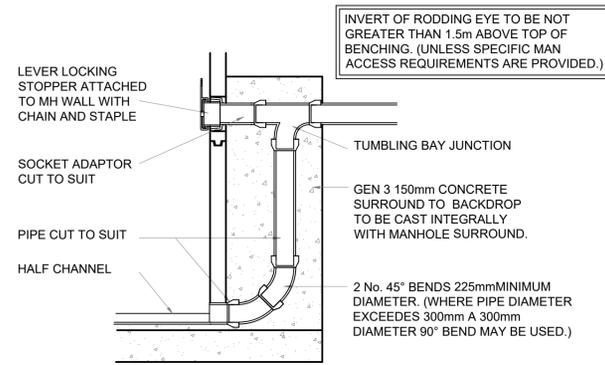


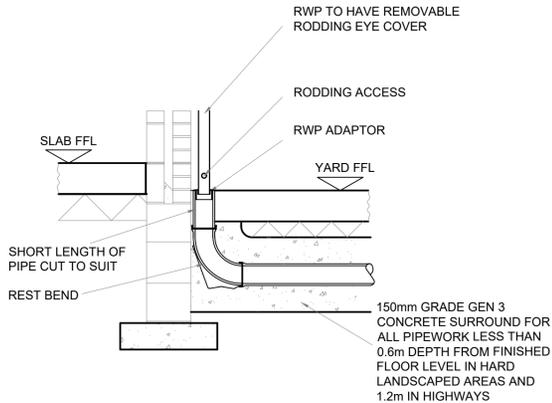
**RODDING EYE DETAIL**



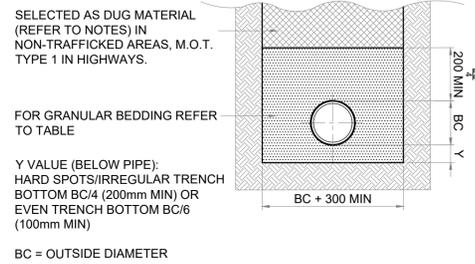
**SOIL AND VENT PIPE CONNECTION**



**EXTERNAL VERTICAL BACKDROP**



**EXTERNAL RAINWATER PIPE CONNECTION**



**PIPE BEDDING CLASS S**

**DRAINAGE NOTES**

1. THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT AND DIVERSION WORKS AS NECESSARY, TO ALL EXISTING SERVICES.
2. THE CONTRACTOR SHALL ALLOW FOR DEALING WITH SURFACE WATER RUN-OFF INTO EXCAVATIONS AND FROM GROUNDWATER BY MEANS OF SUMPS, PUMPING AND DE-WATERING AS APPROPRIATE, IN ORDER TO KEEP THE EXCAVATION AS REASONABLY DRY AS POSSIBLE DURING THE CONSTRUCTION OF THE WORKS.
3. ALL PLOT DRAINAGE WITHIN THE SITE IS TO COMPLY WITH THE REQUIREMENTS OF BSEN752 AND BUILDING REGULATIONS PART H.
4. ALL PLOT DRAINAGE PIPES TO BE LAID IN TRENCHES BEDDED CLASS 'S' ON SINGLE SIZED AGGREGATE AND BACKFILLED WITH APPROVED SELECTED FILL (40mm DOWN) REUSED FROM EXCAVATED MATERIAL, UNDER BUILDINGS AND WHERE COVER TO INVERT IS LESS THAN 600mm UNDER TRAFFICKED AREAS, PIPES TO BE CAST IN CONCRETE (CLASS Z BEDDING).
5. SELECTED BACKFILL MATERIAL SHALL CONSIST OF UNIFORM EXCAVATED MATERIAL, FREE FROM STONES LARGER THAN 40mm, CLAY LUMPS LARGER THAN 75mm, TREE ROOTS, CONTAMINATED MATERIAL. SELECTED BACKFILL MATERIAL IS TO BE PLACED IN LAYERS NOT EXCEEDING 150mm THICKNESS. THE MATERIAL SHALL BE COMPACTED TO ACHIEVE NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED IN LABORATORY COMPACTION TESTS. SUFFICIENT TESTING SHALL BE CARRIED OUT, BY THE CONTRACTOR, TO DEMONSTRATE THIS IS ACHIEVED (NUMBER AND FREQUENCY OF TESTING TO BE AGREED). WHERE THE MOISTURE CONTENT OF THE MATERIAL PROHIBITS COMPLIANCE WITH THE ABOVE 6F1 OR SIMILAR IMPORTED MATERIAL SHALL BE USED.
6. CLASS Z CONCRETE ENCASEMENT REQUIRED WHERE VERTICAL CLEARANCE BETWEEN THE TWO PIPES IS LESS THAN 300mm.
7. ALL PIPEWORK WITHIN MANHOLES ARE TO BE LAID SOFFIT TO SOFFIT (UNO). ALL CHAMBER INVERT LEVELS ARE FOR THE OUTGOING PIPE LEVELS. BACKDROP PIPEWORK SHALL BE CONNECTED AT SOFFIT TO SOFFIT WITH THE RODDING ACCESS LEVEL SPECIFIED.
8. ALL DRAINS TO BE LAID IN ACCORDANCE WITH THE MANUFACTURERS GUIDANCE.
9. ALL DRAINAGE INSITU CONCRETE SHALL BE GEN3 (U.N.O).
10. ANY GRADIENTS OF DRAINS INDICATED ARE INDICATIVE ONLY AND THE CONTRACTOR SHALL INSTALL THE DRAINS TO THE SPECIFIED LEVELS SHOWN FOR EACH MANHOLE. CATCHPIT INVERT LEVELS ARE FOR THE OUTGOING PIPE WITH THE SUMP LEVEL SPECIFIED SEPARATELY.
11. CO-ORDINATE SETTING OUT INFORMATION FOR MANHOLES IS TO THE INTERSECTION THE DRAINS AND NOT THE CENTRE OF THE MANHOLE.
12. COVER LEVELS OF THE MANHOLES ARE PROVISIONAL AND SUBJECT TO ADJUSTMENT ON SITE TO SUIT THE FINISHED GROUND LEVELS. ALL EXTERNAL WORKS CONSTRUCTION AREAS TO BE AS LOCATED BY THE ARCHITECT.
13. GULLY GRATINGS AND STEEL CHANNEL COVERS ARE TO BE IN ACCORDANCE WITH BSEN124 AS FOLLOWS:
  - a) AREAS SUBJECT TO VEHICULAR OVERRUN: CLASS D400 MINIMUM.
  - b) AREAS NOT SUBJECT TO REGULAR VEHICLE OVERRUN (ADJACENT TO KERBS ETC): CLASS C250.
  - c) GULLY GRATES ADJACENT TO KERBS SHALL BE HINGED ON THE SIDE OF THE TRAFFIC DIRECTION (LEFT HAND SIDE).
14. ALL BRICKWORK IN CONNECTION WITH DRAINAGE IS TO BE SOLID CLASS B ENGINEERING BRICK TO BS3921.
15. ALL PRECAST CONCRETE PIPES, CHAMBER PRODUCTS AND ROAD GULLIES SHALL BE TO BS5911 AND BE KITEMARKED.
16. ALL DRAINAGE INSITU CONCRETE SHALL BE GEN3.
17. ALL INSITU AND CONCRETE PRODUCTS SHALL COMPLY WITH THE REQUIREMENTS FOR SULPHATE EXPOSURE IN ACCORDANCE WITH BRE SPECIAL DIGEST 1, CONCRETE IN AGGRESSIVE GROUND (2001) PART 1: TABLE 2.
18. UPON COMPLETION OF THE WORKS THE CONTRACTOR SHALL CLEAN ALL DRAINAGE BY JETTING, REMOVING ALL DEBRIS FROM SITE. NO DEBRIS SHALL BE PERMITTED TO ENTER THE EXISTING DRAINAGE SYSTEM.
19. CONSTRUCTION JOINTS IN CONCRETE SURROUND MUST NOT BE WITHIN 150MM OF CHAMBER/SHAFT RING JOINTS. ROCKER PIPES TO BE SURROUNDED WITH CONCRETE LOCATED 150mm MINIMUM 200mm MAXIMUM FROM THE FIRST FLEXIBLE JOINT TO THE MANHOLE WALL.
20. SOFT SPOTS IN THE TRENCH FORMATION SHALL BE REMOVED AND REPLACED WITH GRANULAR BEDDING UNLESS INSTRUCTED OTHERWISE.
21. LATERAL CONNECTIONS IN BETWEEN MANHOLE RUNS SHALL BE FORMED BY USING PURPOSE MADE JUNCTION FITTINGS. BEND FITTINGS SHALL BE PROVIDED WHERE APPROPRIATE TO DIRECT THE FLOW INTO MAIN RUNS.
22. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LIAISE WITH BUILDING CONTROL FOR APPROVALS, INTERIM INSPECTION, SNAGGING AND FINAL INSPECTIONS OF THEIR WORK.
23. AT THE CONCLUSION OF THE WORKS THE CONTRACTOR SHALL PROVIDE A MARKED UP DRAWING TO RECORD ANY AS BUILT VARIATIONS.
24. ALL ROOF RWDP TO BE 1000, ALL OTHER PLOT SURFACE WATER DRAINAGE TO BE 1500 UNLESS STATED OTHERWISE. ALL PLOT FOUL WATER PIPES TO BE 1000 UNLESS STATED OTHERWISE.

**GENERAL NOTES:**

1. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, ENGINEERS, ARCHITECTS & SERVICES DRAWINGS, INCLUDING APPROVED BUILDERS WORK DRAWINGS. CONTRACTOR TO NOTIFY ENGINEER OF DISCREPANCIES BETWEEN STRUCTURAL DRAWINGS AND SPECIFICATIONS OR OTHER DRAWINGS.
2. DO NOT SCALE FROM THIS DRAWING. WORK TO DIMENSIONS OR CO-ORDINATES PROVIDED. ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE NOTED. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS, SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY.

S2	FOR INFORMATION	26.06.24	WF
Stat	Purpose of issue	Date	Auth
P01	FIRST ISSUE	MF	26.06.24
Rev	Description	By	Date

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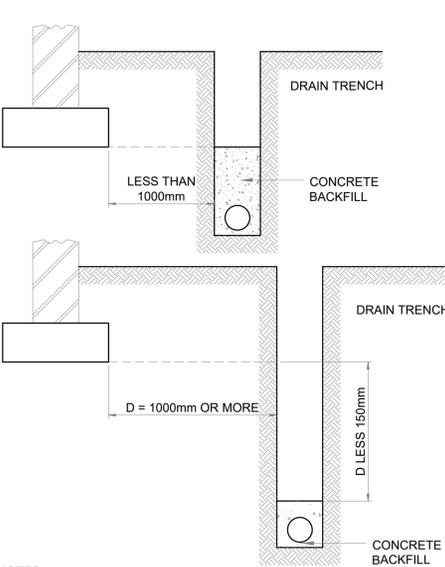
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**Mandale Homes**

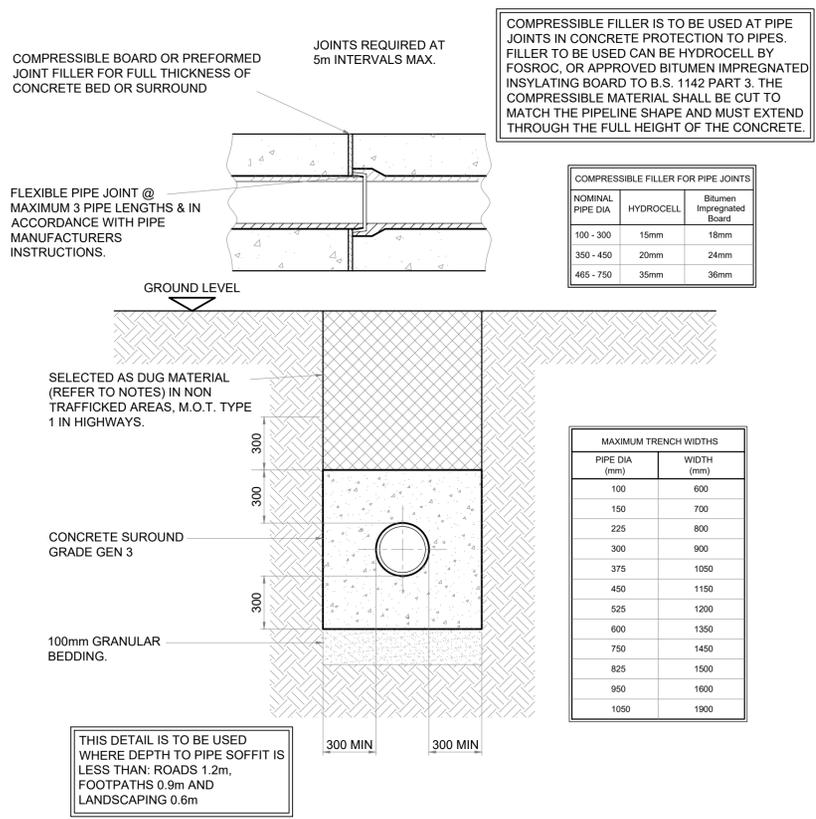
Project: **HANGING HEATON BATLEY**

Title: **PROPOSED DRAINAGE DETAILS SHEET 1**

Sheet Size	Original Scale	Designed/Drawn	Checked	Authorised
<b>A1</b>	1:250	MF	WF	WF
Status	Drawing Number	Date	Date	Date
<b>S2</b>	24004-LE-00-ZZ-DR-D-0110	26.06.24	26.06.24	26.06.24
Rev				
				<b>P01</b>



**PIPE RUNS ADJACENT TO BUILDING**



**CLASS 'Z' PIPE BEDDING**

COMPRESSIBLE FILLER IS TO BE USED AT PIPE JOINTS IN CONCRETE PROTECTION TO PIPES. FILLER TO BE USED CAN BE HYDROCELL BY FOSROC, OR APPROVED BITUMEN IMPREGNATED INSULATING BOARD TO B.S. 1142 PART 3. THE COMPRESSIBLE MATERIAL SHALL BE CUT TO MATCH THE PIPELINE SHAPE AND MUST EXTEND THROUGH THE FULL HEIGHT OF THE CONCRETE.

NOMINAL PIPE DIA	HYDROCELL	Bitumen Impregnated Board
100 - 300	15mm	18mm
350 - 450	20mm	24mm
465 - 750	35mm	36mm

Sieve Size (mm)	Percentage by mass passing BS sieves for nominal sizes					
	Graded Aggregate (mm)	14 to 5	40	20	14	10
50.0	100	---	---	---	---	---
37.5	90 - 100	100	---	85 - 100	100	---
20.0	35 - 70	90 - 100	100	0 - 25	85 - 100	100
14.0	---	---	90 - 100	---	---	85 - 100
10.0	10 - 40	30 - 60	50 - 85	0 - 5	0 - 25	0 - 50
5.0	0 - 5	0 - 10	0 - 10	---	0 - 5	0 - 25
2.36	---	---	---	---	---	0 - 5

**RIGID PIPES BEDDING GRADING**

BASED ON BS EN 1610 : 1997 TABLE B.15  
FOR RIGID PIPES THE BEDDING SHOULD BE SINGLE SIZE MATERIAL OR GRADED MATERIAL FROM 5MM UP TO A MAX SIZE OF 10MM FOR 100MM PIPES; 14MM FOR 150MM PIPES; 20MM FOR 225MM TO 600MM PIPES; 40MM FOR OVER 675MM PIPES

PIPE DIA (mm)	WIDTH (mm)
100	600
150	700
225	800
300	900
375	1050
450	1150
525	1200
600	1350
750	1450
825	1500
950	1600
1050	1900

- NOTES**
1. CONCRETE TO BE GRADE GEN 3
  2. JOINTS TO BE PROVIDED IN CONCRETE SURROUND AT NOT GREATER THAN 5.0m CENTRES. BUILDING REGULATIONS PART H1 PARA A11
  3. WHERE THE TRENCH IS WITHIN 1m OF THE BUILDING THE TRENCH SHALL BE FILLED WITH CONCRETE UP TO THE LOWEST LEVEL OF THE FOUNDATIONS. WHERE THE TRENCH IS FURTHER THAN 1000mm FROM THE BUILDING, THE TRENCH SHALL BE FILLED WITH CONCRETE UP TO A LEVEL, BELOW THE LOWEST LEVEL OF THE FOUNDATION, EQUAL TO THE DISTANCE FROM THE BUILDING LESS 150mm.