



## PRELIMINARY SUBJECT TO SECTION 104 APPROVAL

**ALL ADOPTABLE DRAINAGE MUST COMPLY WITH SEWERS FOR ADOPTION 6TH EDITION AND SEVERN TRENT WATER REQUIREMENTS**

**THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGN DRAWINGS AND OTHER INFORMATION**

**Materials For Adoptable Sewers**

**PIPES 150mm - 300mm DIA ->**

SURFACE AND FOUL WATER PIPES ARE TO BE EXTRA STRENGTH HTRIPED CLAY WITH FLEXIBLE MECHANICAL JOINTS. PIPES MUST COMPLY WITH THE RELEVANT REQUIREMENTS OF BS EN 295-1:1995 AND BS 55-1991 (surface water pipes only).

**PIPES > 300mm-**

DIA SURFACE AND FOUL WATER PIPES ARE TO BE HIGH STRENGTH CONCRETE. CONCRETE PIPES MUST COMPLY WITH THE RELEVANT PROVISIONS OF BS 5911-1:2002.

**Drainage Points**

PRELIMINARY CONTRACTOR TO CHECK AGAINST HOUSE TYPE WORKING DRAWINGS PRIOR TO CONSTRUCTION WORKS COMMENCING

CLIENT TO CHECK ALL POSITIONS, SIZES, LEVELS OF EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF WORKS ON SITE AND REPORT ANY DISCREPANCIES IMMEDIATELY FOR DIVERSIONS TO BE ARRANGED

**A SCREEN AND SUMP IS TO BE FITTED OVER THE OUTGOING PIPE TO THE LAST NEW SURFACE AND FOUL MANHOLES BEFORE ENTERING THE EXISTING SEWERS IN ACCORDANCE WITH SEWERS FOR ADOPTION 6. THE SCREEN SHALL ONLY BE REMOVED ONCE ON SITE CONSTRUCTION WORKS HAVE BEEN COMPLETED**

**GENERAL NOTES**

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH RELEVANT ARCHITECTURAL AND ENGINEERING DRAWINGS.
- ROADS FOOTPATHS AND PARKING BAYS WHICH FORM PART OF THE HIGHWAY TO BE ADOPTED UNDER SECTION 38 OF THE HIGHWAYS ACT 1980 SHALL COMPLY WITH THE RELEVANT COUNCIL HIGHWAY SPECIFICATION.
- SEWERS TO BE ADOPTED UNDER SECTION 104 OF THE WATER INDUSTRIES ACT 1991 SHALL COMPLY WITH THE WATER AUTHORITIES ASSOCIATION 'SEWERS FOR ADOPTION 6TH EDITION AND COMBINED ADDENDUM' OR THE CURRENT WATER AUTHORITIES SPECIFICATIONS.
- ALL PIPE MATERIALS TO BE USED IN ADOPTABLE SEWERS SHALL BE AS SPECIFIED ON THE ROAD AND SEWER SECTION BOX. CLAYWARE TO COMPLY TO BS EN 295, CONCRETE TO COMPLY TO BS 5911, UNPLASTICISED PVC PIPES TO BS 4660/ BS EN 1401-1:1998 (PVC PIPES ONLY TO BE USED AS AGREED WITH THE WATER AUTHORITY AND AS RECOMMENDED BY THE GROUND REPORT). THE USE OF PLASTIC PIPES SHOULD NOT BE USED IN CONTAMINATED GROUND.
- PIPES TO BE LAID WITH CLASS 5 BEDDING UNLESS OTHERWISE STATED. THE MINIMUM REQUIREMENT FOR PIPES TO BE USED IN ADOPTABLE SEWERS IS TO BE AS FOLLOWS:  
 150MM DIA - CLASS 187 - MIN CRUSHING STRENGTH 28KN/M<sup>2</sup>  
 225MM DIA - CLASS 120 - MIN CRUSHING STRENGTH 28KN/M<sup>2</sup>  
 300MM DIA - CLASS 120 - MIN CRUSHING STRENGTH 36KN/M<sup>2</sup>  
 LARGER THAN 300MM DIA - HIGH STRENGTH CONCRETE. WHERE COVER TO PIPES IS LESS THAN 1200MM UNDER CARRIAGEWAY OR VEHICULAR ACCESS AREAS THEY SHALL HAVE 150MM GRADE C20 CONCRETE SLAB PROTECTION. FLEXIBILITY OF JOINTS BEING MAINTAINED BY USING COMPRESSIBLE FIBREBOARD AT INTERVALS NOT EXCEEDING 5M.
- ALL EXISTING DRAINAGE INVERT LEVELS, DIAMETERS AND LOCATIONS ARE TO BE CHECKED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF ANY PROPOSED DRAINAGE WORK. ANY DIFFERENCE BETWEEN ACTUAL AND DRAWN DETAILS IS TO REPORTED IMMEDIATELY.
- POSITIONS OF EXISTING SERVICES/STAFFORY UNDERTAKERS APPARATUS ADJACENT TO OR CROSSING PROPOSED SEWERS IS TO BE CHECKED BY THE CONTRACTOR PRIOR TO STARTING WORK.

**Sewer Trent Water Manhole Requirements For Sewers For Adoption 6th Edition - Adoptions & Diversions**

**General requirements**

Copies of delivery notes for concrete and pipe bedding will be required intermittently as the job progresses. All other component units must be kite-marked.

**Channels and Benching**

All chambers with pipe sizes 150mm, 225mm, 300mm must have sweep bends and channels. All benching to be a minimum 40mm thick granolithic concrete trowelled to a smooth finish.

**Ironwork in Manholes**

If the chamber is less than 3m deep double encapsulated step rungs are required unless otherwise approved. If the chamber is over 3m deep hot dipped galvanneep mild steel ladders are required. There must be 900mm between ladder and back of shaft. Depth is measured from finished cover level to the top of the benching. The maximum distance between cover level and the first step must be 675mm.

**Brickwork**

Min 2 max 4 courses under frame and must be solid class B engineering bricks or concrete spacing rings neatly pointed up. English Bond to be used on all brickwork. Sulphate resisting cement must be used in all locations.

**Cover and Frames**

Cover slab opening, cover and frames must be 675 x 675 unless otherwise approved. DN400 shall be used at all locations. On spine roads must be 1500mm deep. On residential cul-de-sacs 1000mm may be used subject to approval. Frames for manhole covers should be bedded in a polyester resin bedding mortar in all situations where covers are sited in NRSWA Road Categories I, II or III.

\*Infill\* type covers should not be used.

In block paved areas 150mm deep frames must be used (in accordance with cl 2.8.6 SA6 p.25)

**PUBLIC DRAINAGE**

FOUL WATER  
Manhole  
Pipe line  
Rising Main

SURFACE WATER  
Pipe line

HIGHWAY DRAINAGE  
Manhole  
Gully  
Highway Drain / Gully Connection

OTHER  
Non-Adoptable Sewer  
Culverted Watercourse  
Sever Easement

REV | DESCRIPTION | DATE | BY | AUTH

AF | EXTENSION TO ROAD 3 REMOVED. | 20/07/17 | NB | DCB

AD | PUMPING STATION COMPOUND LEVEL AMENDED | 10/05/17 | NGW | DCB

AE | DRAINAGE AMENDED IN ACCORDANCE WITH BELLWAY HOMES FUTURE PHASE 1 C LAYOUT | 20/04/17 | NGW | DCB

AC | FURTHER GULLY ADDED TO RIGHT HAND CHANNELE OF ROAD 1 & CHANNELE L33 | 09/05/17 | NGW | DCB

AB | FWS AND SWS DRAINAGE AMENDED IN ROAD 3 | 17/03/17 | NGW | DCB

AA | GULLY ADDED TO DOWNSTREAM TANGENT POINT OF RADUS AT JUNCTION OF ACCESS TO SCHOOL ON ROAD 1 | 15/03/17 | NGW | DCB

Z | DRAINAGE LATERAL ADDED TO MH F53 | 07/03/17 | NGW | DCB

Y | CUL DE SAC LEADING TO PUMPING STATION (ADJACENT AND AM) | 01/03/17 | NGW | DCB

X | FWS AND SWS DRAINAGE AMENDED IN ROAD 3 AND ALONG OUTCALL ROUTE TO BALANCING POOL | 17/01/17 | NGW | DCB

W | ROAD GULLIES ADJACENT TO P59/67 INSTALLED TO HIGH SIDE OF BUILD OUT TACTILE PAVING ADDED | 16/01/17 | CG | NGW

V | RISING MAIN ROUTE AMENDED AS REQUESTED BY CLIENT | 10/01/17 | NGW | DCB

U | DRAINAGE LATERALS ADDED TO MANHOLES SERVING ST MOODVEN HOMES PARCELS AS DISCUSSED WITH CLIENT | 05/01/17 | NGW | DCB

T | DRAINAGE LATERALS ADDED TO MANHOLES POSITIONED WHERE FUTURE POTENTIAL CONNECTORS COULD BE MADE IN THE VICINITY OF THE LAND SALE AREA | 03/01/17 | NGW | DCB

S | DITCH COURSE - HEDNALL SCI & SC2 REPOSITIONED | 13/12/16 | NW | DE

R | DITCH COURSE AMENDED BETWEEN SCI & SCI1 MAINTENANCE STRIP REPOSITIONED AND OTHER SIDE OF DITCH ADJACENT TO NEWY ZONE AND FWS & SWS DRAINAGE AMENDED AT END OF ROAD 3 LEADING TO BALANCING POOL | 08/12/16 | NW | DE

Q | DITCH COURSE MAINTENANCE STRIP ADDED AS REQUESTED BY L1FA AND TEMPORARY TURNING HEAD ADDED | 07/12/16 | NW | DE

P | HOUSING LAYOUT REV 0 ADDED AND RISING MAIN DIAMETERS AND MATERIALS CONFIRMED ON DRAWING FOLLOWING KYLEM SURGE ANALYSIS | 01/12/16 | RA | DE

N | CULVERTED WATERCOURSE PIPE SIZE INCREASED TO SUITE L1FA REQUIREMENTS | 01/12/16 | RA | DE

M | INVERT LEVELS ADJACENT TO MH 540-548 AND F23-F31-F73 FWS AMENDED TO SUITE L1FA SCHEDULE, SECTIONS AND MANHOLE SCHEDULE | 21/11/16 | NW | DE

L | WHOLE OF CULVERTED WATERCOURSE UNLOCKED AND NOTE REFERENCING TO ANTI-PARKING MEASURES ADDED | 14/11/16 | NW | DE

K | FURTHER EASEMENT WIDTHS ADDED, PROPOSED CULVERTED WATERCOURSE UNLOCKED AND RISING MAIN NOTES ADDED IN ACCORDANCE WITH SW COMMENTS | 01/11/16 | NW | DE

J | FURTHER MINOR AMENDMENTS TO RISING MAIN ROUTE FOLLOWING PRODUCTION OF FULL SCHEMATIC SECTION FOR SURGE ANALYSIS | 21/10/16 | NW | DE

H | LATEST LAYOUT FOR ST MOODVEN HOMES PARCELS ADDED | 20/10/16 | NW | DE

G | MINOR AMENDMENTS TO RISING MAIN ROUTE FOLLOWING STW COMMENTS | 13/10/16 | NW | DE

F | DRAINAGE DESIGNED BY OTHERS IDENTIFIED ON PLAN TO BE INCLUDED IN PHASE 1 B SECTION 104 TECHNICAL APPROVAL | 07/10/16 | NW | DE

E | DRAINAGE LAYOUT AMENDED IN ACCORDANCE WITH LATEST DRAINAGE STRATEGY | 08/09/16 | NW | DE

D | SITE BOUNDARY ADDED FOR S104 APPROVAL | 21/06/16 | NW | DE

C | DRAINAGE STRATEGY AMENDED FOLLOWING FUTURE LAND SALE OF NORTH PARCELS OF SITE, FWS AMENDED IN ACCORDANCE WITH DETAILED EXTERNAL WORKS DESIGN OF ST MOODVEN HOMES PARCELS AND SEWER MATERIAL AMENDED TO CLAY AND CONCRETE | 02/06/16 | NW | DE

B | LATEST LAYOUT AND UPDATED SURVEY ADDED, PUMPING STATION COMPOUND LAYOUT ADDED, SURFACE WATER OUTFALL TO BALANCING POOL AMENDED IN ACCORDANCE WITH WATERMAN APPROVALS. ALL NEW REVISIONS MADE IN ACCORDANCE WITH PRELIMINARY CUT AND FILL EXERCISE | 13/04/16 | NW | DE

A | DRAWING AMENDED TO SHOW LATEST LAYOUT | 13/02/16 | CG | NW