

NOTES

- GENERAL
- 1) THESE DRAWINGS TO BE READ IN CONJUNCTION WITH ALL RELEVANT HAYES HIGGINS ENGINEERING DRAWINGS AND SPECIFICATIONS.
 - 2) DO NOT SCALE. USE FIGURED DIMENSIONS ONLY.
 - 3) FOLL WATER/WASTE WATER TO CURRENT RISH WATER SPECIFICATION AND DETAILS (HW-CDS-500-07).

NOTES

<p>DETAIL 01 – RISH AND SERVICE CONNECTION PERFORMER</p> <p>NOTES:</p> <ol style="list-style-type: none"> 1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE. 2. AN INSPECTION CHAMBER SHOULD BE LOCATED AT OR WITHIN 1m OF THE PROPERTY BOUNDARY AT THE UPSTREAM END OF THE PIPE. THE LOCATION ON THE PRIVATE SIDE OF THE CONNECTION SHOULD BE AGREED WITH RISH WATER ON AN ALTERNATIVE LOCATION. 3. ANY PIPE AND ASSOCIATED CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH A PRIVATE DRAIN AND SHOULD BE CONSTRUCTED IN ACCORDANCE WITH BUILDING REGULATIONS. 	<p>DETAIL 02 – TYPICAL SERVICE LAYOUT INDICATING SEPARATION DISTANCES</p> <p>NOTES:</p> <ol style="list-style-type: none"> 1. THE SEPARATION DISTANCES OUTLINED ARE GENERAL GUIDELINES. 2. DISTANCES IN EXCESS OF THESE MINIMA SHALL BE PROVIDED FOR SERVICES SUCH AS GAS, ELECTRICITY, FIBRE-OPTIC OR ON PARTICULAR UTILITY PROVIDERS SHALL BE CONSULTED TO DETERMINE THESE MINIMUM SEPARATION DISTANCES AND POINTS OF SEPARATION DISTANCES SHALL BE PROVIDED TO RISH WATER AT DESIGN STAGE. 3. NOTIFICATION IN WRITING IS REQUIRED TO BE PROVIDED TO THE UTILITY PROVIDER AT LEAST 14 DAYS BEFORE WORKING COMMENCES ON SITE. THIS AGREEMENT SHALL BE IN ACCORDANCE WITH THE UTILITY PROVIDER'S SERVICE MANUAL OR WATER/WASTE RESING MANUAL.
<p>DETAIL 03 – TYPICAL SERVICE/SERVICE PIPE CONNECTION</p> <p>NOTES:</p> <ol style="list-style-type: none"> 1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE. 2. AS FAR AS PRACTICABLE, JUNCTIONS AND SERVICE CONNECTIONS SHALL BE BUILT IN RISE OR BEING CONSTRUCTED WHERE THE SERVICE PIPE IS AT LEAST 100mm ABOVE THE LEVEL OF THE CONVECTING PIPE. THE SERVICE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE UTILITY PROVIDER'S SERVICE MANUAL OR WATER/WASTE RESING MANUAL. 3. THE SERVICE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE UTILITY PROVIDER'S SERVICE MANUAL OR WATER/WASTE RESING MANUAL. 4. WHERE THE CONNECTION IS BEING MADE TO A SERVICE WITH A NOMINAL INTERNAL DIAMETER OF 300mm DIAMETER OR LESS, CONNECTIONS SHALL BE MADE USING 49 ANGLE JOINTS. 5. WHERE THE CONNECTION IS BEING MADE TO A SERVICE WITH A NOMINAL INTERNAL DIAMETER IS GREATER THAN HALF THE DIAMETER OF THE SERVICE, AN ACCESS MANHOLE SHALL BE PROVIDED TO FORM THE CONNECTION POINT. 6. IF THE DIAMETER OF THE CONNECTION PIPE IS LESS THAN OR EQUAL TO HALF THE DIAMETER OF THE SERVICE, THEN THE CONNECTION SHALL FITTING WITH A SLOW BEND BETWEEN THE SPODE AND THE CONNECTION SERVICE/DRAIN. 	<p>THE MAIN OR GAN GROUND INFO DATA LARGER DIAMETERS SYSTEMS DESCRIBED NOTIFIED AT LEAST 14 DAYS IN ADVANCE. ANY NOTIFICATION REQUIREMENTS OF OTHER UTILITY PROVIDERS (GAS, GAS MAIN, TELECOMMUNICATION ETC.)</p> <ol style="list-style-type: none"> 1. DETAILED PROGRESS INCLUDING WORK METHOD STATEMENTS, INSURANCE CERTIFICATION AND DETAILS OF WORK COMPLETED OF A SIMILAR NATURE MUST BE CONSIDERED BEFORE PROCEEDING WITH ISSUE. ALL SUCH WORKS IN THE VICINITY OF AERIAL WATER MAINS AND SERVICES SHALL BE SUBJECT TO WRITTEN AGREEMENT WITH RISH WATER BEFORE COMMENCEMENT OF WORKS ON SITE. THIS AGREEMENT SHALL BE IN ACCORDANCE WITH THE UTILITY PROVIDER'S SERVICE MANUAL OR WATER/WASTE RESING MANUAL. 2. IMMEDIATELY TO RISH WATER, THE PERSON WHO CARRIES THE DRAINAGE TO A SERVICE MAIN OR FITTING WILL BE REQUIRED TO HAVE COMMUNICATION WITH THE UTILITY PROVIDER OF THE WATER SERVICES ACT 2007. 3. UNDER NO CIRCUMSTANCES WILL RISH WATER ACCEPT SERVICES MAIN INSTALLATIONS UNDER STRUCTURES, EXISTING OR NEW EXISTING STRUCTURES OR FITTINGS THAT WILL INHIBIT ACCESS FOR POST INSTALLATION MAINTENANCE AND ACCESS. 4. THE MINIMUM CLEAR SPACE SHALL BE 1.5m DEEP OR 1.5m DEEPER IF THE DIAMETER IS GREATER THAN 300mm. THE MINIMUM CLEAR SPACE IN THESE SITUATIONS SHALL BE GREATER THAN 1.5m DEEPER IF THE DIAMETER IS GREATER THAN 300mm.
<p>DETAIL 04 – PRIVATE SITE INSPECTION CHAMBER</p> <p>NOTES:</p> <ol style="list-style-type: none"> 1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE. 2. THE CHAMBER SHALL BE LOCATED AT OR WITHIN 1m OF THE PROPERTY BOUNDARY AT THE UPSTREAM END OF THE PIPE. 3. ANY PIPE AND ASSOCIATED ACCESS UPSTREAM OF THE CHAMBER SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE BUILDING REGULATIONS. 4. ACCESS POINTS SHOULD BE LOCATED SO THAT MAINTENANCE AT ALL TIMES FOR USE. THEY SHOULD ALSO BEAR IN MIND THE REQUIREMENTS OF THE UTILITY PROVIDER'S SERVICE MANUAL OR WATER/WASTE RESING MANUAL. 5. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW BY RISH WATER. 6. 200mm ALL AROUND, 100mm DEEP CONCRETE PAVING SHALL BE PROVIDED TO RISH WATER. 7. 200mm ALL AROUND, 100mm DEEP CONCRETE PAVING SHALL BE PROVIDED TO RISH WATER. 8. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW BY RISH WATER. 9. 200mm ALL AROUND, 100mm DEEP CONCRETE PAVING SHALL BE PROVIDED TO RISH WATER. 	<p>CONNECTIONS MADE WITH SPODE FITTINGS SHALL BE MADE BY CUTTING AND SAFETY REQUIREMENTS TO THE PIPE AND IN ACCORDANCE WITH THE UTILITY PROVIDER'S SERVICE MANUAL OR WATER/WASTE RESING MANUAL. THE USE OF JOINTS SHALL BE LIMITED TO THE POINTS OF ENTRY AND EXIT FROM THE CHAMBER. THE USE OF JOINTS SHALL BE LIMITED TO THE POINTS OF ENTRY AND EXIT FROM THE CHAMBER.</p>
<p>DETAIL 05 – TRENCH BACKFILL AND BONDING</p> <p>NOTES:</p> <ol style="list-style-type: none"> 1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE. 2. THE MINIMUM DEPTH OF COVER FROM THE FINISHED SURFACE TO THE CROWN OF GRANULAR PIPES WITHOUT BACKFILL SHOULD BE AS FOLLOWS: <ul style="list-style-type: none"> A) GRANULARS AND PATHWAYS WITHOUT ANY POSSIBILITY OF VEHICULAR LOADS – DEPTH NOT LESS THAN 0.5M (THIS WOULD NORMALLY RELATE TO DRAINS IN PRIVATE PROPERTIES AND CONCRETE PRODUCTS ARE UNDERPANEL AND SHOULD BE INSTALLED IN ACCORDANCE WITH THE UTILITY PROVIDER'S SERVICE MANUAL OR WATER/WASTE RESING MANUAL.) B) DRAINWAYS, PARKING AREAS AND YARDS WITH HEIGHT RESTRICTIONS TO PREVENT ENTRY BY VEHICLES WITH A GROSS VEHICLE WEIGHT EXCESS OF 7.5 TONNES – DEPTH NOT LESS THAN 0.5M. C) OTHER HIGHWAYS AND PARKING AREAS WITH HEIGHT RESTRICTIONS TO PREVENT ENTRY BY VEHICLES WITH A GROSS VEHICLE WEIGHT EXCESS OF 7.5 TONNES – DEPTH NOT LESS THAN 1.2M. 3. CHASE 804/808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS IS TO BE USED AS BACKFILL MATERIAL WHERE THE SERVICE MAIN IS LOCATED IN AREAS OF ROAD PAVEMENTS OR WHEN THE NEAREST PART OF THE ROADWAY IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY. CHASE 804/808 IS TO BE COMPARED AS PER CHASE SIZE OF THE NATIONAL ROADWORKS SPECIFICATION. CHASE 808 IS TO BE USED IN AREAS OF ROAD PAVEMENTS OR WHEN THE NEAREST PART OF THE ROADWAY IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY. CHASE 804/808 IS TO BE USED IN AREAS OF ROAD PAVEMENTS OR WHEN THE NEAREST PART OF THE ROADWAY IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY. CHASE 804/808 IS TO BE USED IN AREAS OF ROAD PAVEMENTS OR WHEN THE NEAREST PART OF THE ROADWAY IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY. 4. SELECTED DUCTED MATERIAL MAY BE USED IN AREAS OF ROAD PAVEMENTS OR WHEN THE NEAREST PART OF THE ROADWAY IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY. CHASE 804/808 IS TO BE USED IN AREAS OF ROAD PAVEMENTS OR WHEN THE NEAREST PART OF THE ROADWAY IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY. 5. PIPE BEDDING SHALL COMPLY WITH BS 448-02 AND BS 448-01 GRANULAR MATERIAL SHALL BE 10mm TO 20mm GRADED AGGREGATE OR FROM SINGLE SIZED AGGREGATE IS IN 1524C CONCRETE BEDDING SHALL BE TO DETAIL - 06. 6. IN SPT GROUND CONDITIONS (CBR < 5) THE MATERIAL SHOULD BE EXCAVATED AND DISPOSED OF IN ACCORDANCE WITH THE WASTE MANAGEMENT ACT AND CLASS 804 / 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS SHALL BE USED IN AREAS OF ROAD PAVEMENTS OR WHEN THE NEAREST PART OF THE ROADWAY IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY. 7. IN UNDESIGNED AREAS, TYPE B BACKFILL (SELECTED EXCAVATED MATERIAL) WILL BE ALLOWED ABOVE THE SERVICE MAIN. GRANULAR MATERIAL IN THE CASE OF ROAD PAVEMENTS OR WHEN THE NEAREST PART OF THE ROADWAY IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY. CHASE 804/808 IS TO BE USED IN AREAS OF ROAD PAVEMENTS OR WHEN THE NEAREST PART OF THE ROADWAY IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY. CHASE 804/808 IS TO BE USED IN AREAS OF ROAD PAVEMENTS OR WHEN THE NEAREST PART OF THE ROADWAY IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY. 8. PIPES SHALL NOT BE SUPPORTED ON STONES OR BRICKS. UNLESS SPECIFIED AT ANY POINT ALONG THE TRENCH, ROCK SHALL BE EXCAVATED TO A DEPTH OF 150mm BELOW THE ACTUAL DEPTH OF THE TRENCH WITH VOID FILLED WITH CLASS 804/808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS. THE GRANULAR MATERIAL SHALL BE Laid ABOVE THE VOID BACKFILL MATERIAL. 9. NON DEGRADABLE MARKERS ARE TO BE INSTALLED AT THE TOP OF THE BEDDING LAYER IN THE CASE OF NON UTILITY PROVIDER MATERIAL. THE MARKERS SHALL BE 100mm DIA. AND 100mm HIGH. THE WASTE WATER PUMPING STATION AND THE DISCHARGE MANHOLE. 10. TRENCH WIDTH FOR PIPE SIZES < 400mm MAY BE 450mm SUBJECT TO CONSTRUCTION BEING OPEN TO THE TRENCH DEPTH, HEALTH & SAFETY & CONSTRUCTION ACCESS REQUIREMENTS. 11. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS. 12. EXISTING ROAD REINSTATEMENT TO COMPLY WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS SHALL BE USED IN AREAS OF ROAD PAVEMENTS OR WHEN THE NEAREST PART OF THE ROADWAY IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY. 	

<p>DETAIL 06 – CONCRETE BOX MANHOLE AND SURROUND TO WASTEWATER PIPES</p> <p>NOTES:</p> <ol style="list-style-type: none"> 1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE. 2. CONCRETE PIPE RISERS AND MANHOLES MAY BE CAST IN PLACE AND SHALL BE SUBJECT TO INSPECTION AND ASSESSMENT BY RISH WATER BEFORE ADVANCING WITH THE WORKS. 3. MANHOLE DEPTH AND MANHOLES SHALL BE AS PER THE UTILITY PROVIDER'S SERVICE MANUAL OR WATER/WASTE RESING MANUAL. 4. CONCRETE TO BE IN ACCORDANCE WITH BS EN 206 AND TO BE CLASS C30/37. 5. FINISH JOINTS FROM WORK TO PROVIDE A ROUGH CAST FINISH. 6. EXPANSION JOINTS IN THE CONCRETE SHALL BE PROVIDED AT ALL PIPE JOINTS TO ALLOW FOR PIPE THERMAL COMPRESSION. JOINTS SHALL BE LOCATED AT 10m INTERVALS OR 6m INTERVALS IN AREAS OF ROAD PAVEMENTS OR WHEN THE NEAREST PART OF THE ROADWAY IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY. CHASE 804/808 IS TO BE USED IN AREAS OF ROAD PAVEMENTS OR WHEN THE NEAREST PART OF THE ROADWAY IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY. 7. POLYETHYLENE PIPES SHALL BE MARKED IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS. CHASE 804/808 IS TO BE USED IN AREAS OF ROAD PAVEMENTS OR WHEN THE NEAREST PART OF THE ROADWAY IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY. 8. BITUMINOUS MATERIAL SHALL NOT BE PUT IN CONTACT WITH PE OR PVC PIPES. 	<p>DETAIL 07 – BACKFLOW MANHOLE (450mm dia)</p> <p>NOTES:</p> <ol style="list-style-type: none"> 1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE. 2. SOLID BACKWORK TO BE OF HIGH STRENGTH (20N/mm²) TO BS EN 771. 3. MAXIMUM DEPTH OF BLOCK WORK MANHOLE IS 1.20m. THE USE OF BLOCK WORK IN DEEPER MANHOLES WILL BE CONSIDERED ON A CASE BY CASE BASIS. STRUCTURAL DESIGN AND BE SUBJECT TO RISH WATER REVIEW. 4. WALLS TO BE CAST IN PLACE AND NOT PLASTERED INTERNALLY. INTERNAL LINING OF ENGINEERING BRICK TO BS EN 771-1 TO A HEIGHT OF 1m ABOVE BEDDING. BACKWORK TO BE SUBJECT TO RISH WATER REVIEW. 5. STRUCTURAL DESIGN AND REINFORCEMENT DETAILS FOR ROAD AND TRAFFIC CONDITIONS SHALL BE PROVIDED TO RISH WATER FOR REVIEW AND APPROVED BY RISH WATER. 6. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW BY RISH WATER. 7. 200mm ALL AROUND, 100mm DEEP CONCRETE PAVING SHALL BE PROVIDED TO RISH WATER.
<p>DETAIL 08 – PRECAST CONCRETE MANHOLE</p> <p>NOTES:</p> <ol style="list-style-type: none"> 1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE. 2. PRE-CAST MANHOLES MUST COMPLY WITH BS EN 206-2013. 3. THICKER MANHOLE BASES REQUIRED FOR MANHOLES IN EXCESS OF 2m DEEP WHERE THE SITE IS GREATER THAN THE STANDARD MANHOLE SIZE. 4. MANHOLE PRE-CAST CONCRETE BASES MAY BE USED IN AREAS OF ROAD PAVEMENTS OR WHEN THE NEAREST PART OF THE ROADWAY IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY. CHASE 804/808 IS TO BE USED IN AREAS OF ROAD PAVEMENTS OR WHEN THE NEAREST PART OF THE ROADWAY IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY. 5. STRUCTURAL DESIGN AND REINFORCEMENT DETAILS FOR ROAD AND TRAFFIC CONDITIONS SHALL BE PROVIDED TO RISH WATER FOR REVIEW AND APPROVED BY RISH WATER. 6. MANHOLES GREATER THAN 3m IN DEPTH WILL REQUIRE A DETAILED STRUCTURAL DESIGN AND BE SUBJECT TO RISH WATER REVIEW. 7. MANHOLE ROOFS SHALL CONSIST OF A REINFORCED CONCRETE SLAB OF IN-SITU CONCRETE C30/37 WITH A MINIMUM COVER THICKNESS OF 220mm DESIGNED TO CARRY APPROVED PRE-CAST CONCRETE ROOF SLABS. APPROVED PRE-CAST CONCRETE ROOF SLABS MAY BE USED SUBJECT TO RISH WATER REVIEW AND COMPLIANCE WITH BS EN 206-2013. 8. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW BY RISH WATER. 9. 200mm ALL AROUND, 100mm DEEP CONCRETE PAVING SHALL BE PROVIDED TO RISH WATER. 	<p>DETAIL 09 – IN-SITU CONCRETE MANHOLE</p> <p>NOTES:</p> <ol style="list-style-type: none"> 1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE. 2. IN-SITU MANHOLES TO HAVE A MINIMUM DEPTH OF 2.0m. THE USE OF BLOCK WORK IN DEEPER MANHOLES WILL BE CONSIDERED ON A CASE BY CASE BASIS. STRUCTURAL DESIGN AND BE SUBJECT TO RISH WATER REVIEW. 3. STRUCTURAL DESIGN AND REINFORCEMENT DETAILS FOR ROAD AND TRAFFIC CONDITIONS SHALL BE PROVIDED TO RISH WATER FOR REVIEW AND APPROVED BY RISH WATER. 4. WALLS TO BE CAST IN PLACE AND NOT PLASTERED INTERNALLY. INTERNAL LINING OF ENGINEERING BRICK TO BS EN 771-1 TO A HEIGHT OF 1m ABOVE BEDDING. BACKWORK TO BE SUBJECT TO RISH WATER REVIEW. 5. STRUCTURAL DESIGN AND REINFORCEMENT DETAILS FOR ROAD AND TRAFFIC CONDITIONS SHALL BE PROVIDED TO RISH WATER FOR REVIEW AND APPROVED BY RISH WATER. 6. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW BY RISH WATER. 7. 200mm ALL AROUND, 100mm DEEP CONCRETE PAVING SHALL BE PROVIDED TO RISH WATER. 8. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW BY RISH WATER. 9. 200mm ALL AROUND, 100mm DEEP CONCRETE PAVING SHALL BE PROVIDED TO RISH WATER.
<p>DETAIL 10 – BACKFLOW MANHOLES</p> <p>NOTES:</p> <ol style="list-style-type: none"> 1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE. 2. MANHOLE DEPTH AND MANHOLES SHALL BE AS PER THE UTILITY PROVIDER'S SERVICE MANUAL OR WATER/WASTE RESING MANUAL. 3. ALL CHAMBERS TO BE CHECKED FOR LIGHT CONDITIONS WITH THE SITE SHOULD BE PROVIDED TO RISH WATER FOR REVIEW AND APPROVED BY RISH WATER. 4. ALL CONCRETE TO BE IN ACCORDANCE WITH BS EN 206. 5. MANHOLE DETAILS TO BE IN ACCORDANCE WITH DETAIL - 07, 08 & 09. 	

PROJECT NO.	23D0059
CLIENT	DUN LAOGHAIRE COUNTY COUNCIL
PROJECT NAME	RESIDENTIAL HOUSING DEVELOPMENT AT BLACKGLEN ROAD
DRAWING NAME	IRISH WATER FOUL & SURFACE DRAINAGE DETAILS SHEET 4 OF 4
DRAWING NO.	04D
REGION	P
SCALE	AS SHOWN
ISSUED BY	R.O.C.
DESIGNED BY	L.M.
CHECKED BY	L.M.
APPROVED BY	D.H.

HAYES HIGGINS PARTNERSHIP
 The Glass House, 11 Coke Lane
 Smithfield, Dublin 7. Tel: 01 6612321
 E-mail: admin@hayeshiggins.ie
 Our House Lane, Kildenny, Tel: (056) 7764710
 Email: info@hh.ie