## **GENERAL NOTES:**

- 1. THE CONTRACTOR IS TO INCLUDE FOR THE EMPLOYMENT OF A CHARTERED ENGINEER WITH PI INSURANCE TO €6.5M TO WITNESS THE INSTALLATION OF ALL AIR TESTS AND OTHER IRISH WATER QA AS REQUIRED UNDER IRISH WATER QUALITY ASSURANCE (QA) FIELD INSPECTION REQUIREMENTS MANUAL, SEPTEMBER 2017 VERSION 1
- 2. IT IS A REQUIREMENT OF THE MAIN CONTRACTOR TO AGREE THE REQUIRED Q.A. WITH THE IRISH WATER FIELD INSPECTORS, RETAIN ALL THE QA DOCUMENTS ON SITE AND REPAIR ANY DEFECTS.
- 3. THE MAIN CONTRACTORS CHARTERED ENGINEERS AND THE MAIN CONTRACTOR ARE RESPONSIBLE FOR ACREEING ON SITE CONFORMANCE WITH IRISH WATER PRIOR TO HAND OVER OF THE WORKS TO IW. THE PRICE FOR ALL THE ABOVE IS TO BE INCLUDED IN THE MAIN CONTRACTORS TENDER SUM.
- 4. ALL WATERMAIN AND WASTEWATER SEWERS SHALL BE IN COMPLIANCE WITH THE LATEST VERSION OF THE IRISH WATER PUBLISHED CONSTRUCTION AND DEVELOPER SERVICES DOCUMENTS. REFER TO THE IRISH WATER WEBSITE AT WWW.WATER.IE

### IRISH WATER DESIGN CODE OF PRACTICE AND STANDARD DETAILS

IW-CDS-5020-01 WATER INFRASTRUCTURE STANDARD DETAILS	
IW-CDS-5020-03 WASTEWATER INFRASTRUCTURE STANDARD DETAILS	
IW-CDS-5030-01 CODE OF PRACTICE FOR WATER INFRASTRUCTURE	
IW-CDS-5030-03 CODE OF PRACTICE FOR WASTEWATER INFRASTRUC	TURE

## DRAINAGE NOTES:

- 1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
- ALL LEVELS ARE IN METRES ABOVE DATUM UNLESS OTHERWISE NOTED.
- 4. ALL PIPE DIAMETERS ARE NORMAL.
- 5. THE CONTRACTOR MUST CONTACT THE RELEVANT AUTHORITIES INCLUDING IRISH WATER PRIOR TO CONSTRUCTION WORK, & SATISFY HIMSELF IN RESPECT TO THE LOCATION OF ALL EXISTING SERVICES.
- 6. ALL SEWER & DRAIN PIPES UNLESS OTHERWISE STATED ARE TO BE OF STIFFNESS CLASS 8KN/M2 'SN8' THERMOPLASTIC STRUCTURED WALL PIPES AND TO BE CAPABLE OF DEMONSTRATING A JETTING RESISTANCE OF 2.600psi (180 BAR) WITHOUT DAMAGE WHEN TESTED IN ACCORDANCE WITH SECTION 3.3 OF WIS 4-35-01 (2008).
- 7. ALL BEDDING TO SEWERS SHALL BE TO WITH IRISH WATERS STANDARD DETAIL STD-WW-08 UNLESS OTHERWISE NOTED.
- 8. ALL MANHOLES CAN BE EITHER PRECAST CONCRETE RING MANHOLES OR BLOCKWORK UNLESS OTHERWISE STATED.
- 9. 600mm MAX. LENGTH ROCKER PIPES ARE TO BE PROVIDED ON
- (A) A PIPE ENTERS A MANHOLE OR PUMPING STATION.
- (B) A PIPE LEAVES A MANHOLE.
- (C) A PIPE ENTERS CONCRETE ENCASEMENT.
  (D) A PIPE LEAVES CONCRETE ENCASEMENT.
- (E) ANY OTHER LOCATION AS DIRECTED BY THE ENGINEER.
- 10. ALL SEWER ROCKER PIPES ARE TO BE FORMED BY CUTTING & TRIMMING A LENGTH OF SPIGOT & SOCKET PIPE TO FORM A SPIGOT AT THE CUT END, THEREBY FORMING SPIGOT & SOCKET JOINTS AT BOTH ENDS OF THE ROCKER PIPE.
- 11. WHERE SEWER PIPES OR RISING MAINS CONNECT TO EXISTING MANHOLES, THE CONTRACTOR IS REQUIRED TO:
- (A) CONTACT THE RELEVANT AUTHORITIES PRIOR TO COMMENCING WORK.

  (B) MAKE GOOD THE EXISTING CHAMBER WALL AT THE PROPOSED POINT OF PENETRATION & ADJUST THE EXISTING BENCHING TO THE SATISFACTION OF THE ENGINEER.
- 12. WHERE SEWER PIPES, RISING MAINS OR ROAD GULLY DRAINS CROSS EXISTING ROADS, THE CONTRACTOR IS REQUIRED TO:
- (A) CONTACT THE RELEVANT AUTHORITIES PRIOR TO COMMENCING WORK. (B) MAKE GOOD THE EXISTING ROAD TO ITS ORIGINAL SPECIFICATION AS
- APPROVED BY THE ENGINEER.
- APPROVED BY 1HE ENGINEER.

  13. MINIMUM FALLS INDICATED ON DRAINAGE PIPES, LEVELS TO BE REVISED IF MANHOLE LOCATIONS ARE MODIFIED BY CONTRACTOR.

  14. CONCRETE PROTECTION TO BE PROVIDED AROUND ALL PIPES WHERE COVER TO SOFT

PROPRIETARY ACCESS JUNCTIONS TO BE USED TO DEPTHS OF 600mm

450x450mm INSPECTION CHAMBERS TO BE USED AT DEPTHS OF 600-1000mm.

MANHOLES TO DETAILS TO BE USED AT DEPTHS OVER 1000mm.

# TESTING OF SEWERS

(A) FOUL AND SURFACE WATER SEWERS TO BE TESTED EITHER A WATER OF AIR TEST. IF THE AIR TEST IS CARRIED OUT AND THE RESULTS SHOW A FAILURE THEN A WATER TEST SHALL BE SUBSEQUENTLY CARRIED OUT TO DETERMINE

(B)WATER TESTS CARRIED OUT SHALL BE TESTED IN UNDER A HEAD OF WATER IN ACCORDANCE WITH BS 8301 1995, AND CARRIED OUT FOR A MINIMUM OF 30 MINUTES

(C)THE CONTRACTOR IS TO ENGAGE AN ENGINEER WITH PROFESSIONAL INDEMNITY INSURANCE TO SUPERVISE ALL AIR/WATER TESTS ON MAINS BEFORE

(D) ON COMPLETION OF ALL SEWERS DRAINS AND GULLIES, ALL SEWERS SHALL BE FLUSHED OUT AND LETT FREE FROM DEFECT AND OBSTRUCTION AND SUBSEQUENTLY A CITY SURVEY SHALL BE CARRIED OUT BY AN INDEPENDENT CONTRACTOR OF THE AS BUILT DRAINAGE. THE CCTV SURVEY SHALL INCLUDE A REPORT AND DVD AND SHALL BE SUBMITTED TO THE ENGINEER AND ARCHITECT PRIOR TO PRACTICAL COMPLETION.

(E) ON COMPLETION OF ALL SEWERS, DRAINS AND GULLIES AN AS-BUILT SURVEY MUST BE SUBMITTED INCLUDING LOCATION OF MANHOLES RELATIVE TO THE BUILDING OUTLINE, COVER, INVERT LEVELS AND PIPE DIAMETERS. TO THE ENCINEER AND ARCHITECT FOR THEIR REVIEW PRIOR TO PRACTICAL

#### WATERMAIN NOTES:

- ALL WATERMAINS SHALL BE 100mm Ø HDPE TYPE PE-80 WATERMAIN WITH AN SDR-11 OR SDR-17 RATING AND COMPLY WITH SECTION 3.9 OF THE IRISH WATER CODE OF PRACTICE.
- ALL WATERMAINS SHOULD BE LOOPED TO AVOID DEAD ENDS AND SHALL BE BLUE IN COLOUR.
- 3. ONLY USE ALL FLANGED T's & ALL FLANGED VALVES.
- 4. USE ANTI-CLOCKWISE (LEFT-HAND CLOSING) SLUICE VALVES.
- 5. DO NOT USE DUCTILE IRON TAILS USE FLANGE ADAPTORS WHERE APPLICABLE.
- THE DEPTH OF THE SLUICE VALVE SPINDLE CAP TO BE IN ACCORDANCE WITH IRISH WATER STANDARD DETAILS STD-W-14 & STD-W-15.
- THE DEPTH OF THE HYDRANT OUTLET TO BE IN ACCORDANCE WITH IRISHWATER STANDARD DETAILS STD-W-16 TO STD-W-19.
- AN APPROVED MARKER TAPE CONTAINING A TRACER WIRE, SHOULD BE AFFIXED TO THE TOP SURFACE OF ALL WATERMAINS.
- NO PIPE, CABLE, CONDUIT OR OTHER SERVICE SHOULD BE LAID LONGITUDINALLY OVER THE LINE OF A WATERMAIN.
- 11. ENSURE MARKER PLATES ARE IN PLACE.

DISCUSSED ON SITE WITH CONTRACTOR.

- ALL WATERMAINS SHALL BE TESTED IN ACCORDANCE WITH SECTION 4.11.3 OF THE IRISH WATER CODE OF PRACTICE IN THE PRESENCE OF A MEMBER OF STAFF FROM IRISH WATER OR THEIR AGENTS. DETAILS OF TESTING PROCEDURE TO BE
- 12. ALL HYDRANTS TO BE PUT IN, IN ACCORDANCE WITH TECHNICAL GUIDANCE DOCUMENT B OF THE BUILDING REGULATIONS 2000/2007 S.S 5.1.6 T.G.D.B & B.5.1 T.G.B.D & THE D.O.E. "RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS
- 13. HYDRANTS TO BE LOCATED IN ACCORDANCE WITH THE FIRE OFFICER'S RECOMMENDATIONS.
- 14. PROVIDE THRUST BLOCKS AT ALL CHANGES IN DIRECTION.
- 15. ALL CONNECTIONS POINTS TO BUILDING TO BE SERVICED WITH A MINIMUM OF Somm OUTSIDE DIAMETER, 20mm INSIDE DIAMETER PE100 HDPE PIPE WITH AN SDR RATING OF 17.
- 16. ALL WATERMAINS, METERS, HYDRANTS & VALVES TO BE INSTALLED, TESTED & CLEANED IN ACCORDANCE WITH IRISH WATER SPECIFICATIONS.
- BUTT FUSION WELDING AND ELECTRO FUSION JOINTING OF PIPES SHALL ONLY BE CARRIED OUT BY TRAINED OPERATIVES IN POSSESSION OF A CURRENT TRAINING CERTIFICATE, USING FULLY AUTOMATIC APPROVED JOINTING MACHINE/RIGS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. THE IDENTITY OF THE HDPE PIPELINE MANUFACTURER SHALL BE MADE KNOWN TO IRISH WATER PRIOR TO COMMENCEMENT OF THE INSTALLATION.
- 18. ALL TESTING (PRESSURE CHLORINATION & BACTERIAL) TESTS TO BE IN ACCORDANCE WITH SECTION 4.10 OF THE IRISH WATER CODE OF PRACTICE. THE ENGINEER IS TO INSPECT THE PRESSURE TEST AFTER THE WATER CONTROL METRES ARE INSTALLED. ALL HYDRANTS & VALVES ARE TO BE INCLUDED IN THE TEST.
- ALL CERTIFICATION AND TESTING (INCLUDING INDEPENDENT THIRD PARTY CERTIFICATION)
  TO BE PROVIDED TO CONFIRM QUALITY ASSURANCE COMPLIANCE. EACH JOINT
  SHALL BE CLEARLY MARKED WITH THE JOINT LOGGED AUTOMATICALLY ON THE
- A PRINTOUT OF THE JOINT DETAILS, WITH A GPS LOCATION OF EACH JOINT, SHALL BE PROVIDED AND RETAINED FOR QUALITY ASSURANCE PURPOSES.
- 21. CONNECTING TO EXISTING MAINS IS TO BE CARRIED OUT BY IRISH WATER OR AN
- WHEN EXISTING AC WATERMAINS ARE PRESENT A SPECIFIC METHOD STATEMENT SHALL BE SUBMITTED TO IRISH WATER PRIOR TO WORKS TAKING PLACE AND SUBJECT TO WRITTEN APPROVAL, DETAILING THE PROTECTION TO BE PUT IN PLACE TO EXISTING MAINS, METHOD OF REMOVAL OF EXISTING AC, METHOD OF DISPOSAL OF EXISTING AC AND METHOD OF CONNECTION TO EXISTING AC
- FIRE HYDRANTS TO BE POSITIONED A MINIMUM OF 6m FROM THE PROPOSED
- 2. LOCATIONS OF FIRE HYDRANTS AS PER FIRE CERTIFICATE DRAWINGS
- 3. FIRE HYDRANTS TO BE IN ACCORDANCE WITH THE FIRE OFFICER RECOMMENDATIONS.
- ALL FIRE HYDRANTS TO BE LOCATED IN ACCORDANCE WITH TECHNICAL GUIDANCE DOCUMENT B OF BUILDING REGULATIONS. 1997 & TECHNICAL GUIDANCE DOCUMENT B OF BUILDING REGULATIONS, 2006 STATUTORY INSTRUMENT 497 OF 1997.
- FINAL VERIFICATION SHOULD BE SOUGHT FROM THE FIRE AUTHORITY FOR AGREED LAYOUT OF ALL HYDRANTS & THE NUMBER OF WATER SUPPLY CONNECTIONS TO THE FIRE WATER RING MAIN.

# WASTEWATER NOTES:

- 1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
- 2. ALL LEVELS ARE IN METRES ABOVE DATUM UNLESS OTHERWISE NOTED.
- 3. THE CONTRACTOR MUST CONTACT THE RELEVANT AUTHORITIES PRIOR TO CONSTRUCTION WORK, & SATISFY HIMSELF IN RESPECT TO THE LOCATION OF ALL EXISTING SERVICES.
- 4. ALL SEWER & DRAIN PIPES ARE OF STIFFNESS CLASS 8KN/M2 'SN8' UNLESS OTHERWISE STATED.
- ALL BEDDING TO SEWERS SHALL BE TO WITH IRISH WATER STANDARD DETAIL

- A PIPE LEAVES A MANHOLE

- 8. ALL SEWER ROCKER PIPES ARE TO BE FORMED BY CUTTING & TRIMMING A LENGTH OF SPIGOT & SOCKET PIPE TO FORM A SPIGOT AT THE CUT END, THEREBY FORMING SPIGOT & SOCKET JOINTS AT BOTH ENDS OF THE ROCKER PIPE.
- (A) CONTACT THE RELEVANT AUTHORITIES PRIOR TO COMMENCING WORK.

  (B) MAKE GOOD THE EXISTING CHAMBER WALL AT THE PROPOSED POINT OF PENETRATION & ADJUST THE EXISTING BENCHING TO THE SATISFACTION OF THE ENGINEER.
- (B) MAKE GOOD THE EXISTING ROAD TO ITS ORIGINAL SPECIFICATION AS APPROVED BY THE ENGINEER.
- MINIMUM FALLS INDICATED ON DRAINAGE PIPES, LEVELS TO BE REVISED IF MANHOLE LOCATIONS

- 16. MANHOLES TO DETAILS TO BE USED AT DEPTHS OVER 1000mm

ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH 'RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS FOR HOUSING AREAS', DEPARTMENT OF THE ENVIRONMENT AND THE IRISH WATER PUBLISHED CONSTRUCTION AND DEVELOPER SERVICES DOCUMENTS FOUND ON THE IRISH WATER WEBSITE AT

THE CONTRACTOR IS TO INCLUDE FOR THE EMPLOYMENT OF A CHARTERED ENGINEER WITH PL INSURANCE TO 66.5m. THE CONTRACTOR IS TO NICLUDE FOR THE EMPLOYMENT OF A CHARTERED ENGINEER WITH PI INSURANCE TO 66.5m TO WITNESS THE INSTALLATION OF ALL AIR TESTS & OTHER TISKS WATER OAS REQUIRED UNDER THE IRRST WATER OAS REQUIRED UNDER THE IRRST WATER OAS REQUIRED UNDER THE THE NICH PLANT VERSION 1. IT IS A REQUIREMENT OF THE MAIN CONTRACTOR TO AGREE THE REQUIREMENTS MANUAL, SEPTEMBER 2017 VERSION 1. IT IS A REQUIREMENT OF THE WAS CONTRACTOR OA GREE THE REQUIREMED OA WITH THE WI FIELD INSECTIORS, RETAIN LITTLE OF ADDITIONAL THE WAS DECIVILED ON SITE & REPAIR MAY DEFECTS. THE MAIN CONTRACTOR ARE RESPONSIBLE FOR AGREEING ON SITE CONFORMANCE WITH WY PRIOR TO HAND OVER OF THE WORKS TO INSIST WATER. THE PRICE FOR ALL THE ABOVE IS TO BE INCLUDED IN THE MAIN CONTRACTORS TENDER

- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH 'RECOMMENDATIONS FOR SITE DEVELOPMENT
- 20. CONCRETE PROTECTION WILL BE PROVIDED OVER PIPES WHERE THE DEPTH OF COVER TO PIPES UNDER ROADS IS LESS THAN 1200mm & 900mm UNDER GRASSED/PAVED AREAS.
- 21. CONTRACTOR TO REFER TO LATEST IRISH WATER SPECIFICATION AT TIME OF CONSTRUCTION FOR ALL WASTEWATER DETAILS PRIOR TO COMMENCING CONSTRUCTION. REFER TO WEBSITE https:/www.water.ie/connections.

# WASTEWATER NOTES:

- 1. FOUL & SURFACE WATER SEWERS TO BE TESTED EITHER BY WATER OR AIR TEST. IF THE AIR TEST IS CARRIED OUT & THE RESULTS SHOW A FAILURE THEN A WATER TEST SHALL BE SUBSEQUENTLY CARRIED OUT TO DETERMINE ACCEPTANCE OR REJECTION.
- ACCORDANCE WITH BS 8301 1995, & CARRIED OUT FOR A MINIMUM OF 30 MINUTES.
- THE CONTRACTOR IS TO ENGAGE AN ENGINEER WITH PROFESSIONAL INDEMNITY INSURANCE TO SUPERVISE ALL AIR/WATER TESTS ON MAINS BEFORE BACKFILLING.
- SHALL INCLUDE A REPORT & DVD & SHALL BE SUBMITTED TO THE ENGINEER & ARCHITECT PRIOR TO PRACTICAL COMPLETION.
- PRACTICAL COMPLETION.

- STD-WW-08 UNLESS OTHERWISE NOTED

ALL MANHOLES CAN BE EITHER PRECAST CONCRETE RING MANHOLES OR BLOCKWORK UNLESS

- 7. 600mm MAX. LENGTH ROCKER PIPES ARE TO BE PROVIDED ON SEWER WHERE
- A PIPE ENTERS A MANHOLE OR PUMPING STATION.
- A PIPE ENTERS CONCRETE ENCASEMENT
- A PIPE LEAVES CONCRETE ENCASEMENT
- ANY OTHER LOCATION AS DIRECTED BY THE ENGINEER.
- WHERE SEWER PIPES OR RISING MAINS CONNECT TO EXISTING MANHOLES, THE CONTRACTOR IS
- 10. WHERE SEWER PIPES, RISING MAINS OR ROAD GULLY DRAINS CROSS EXISTING ROADS, THE CONTRACTOR IS REQUIRED TO:
- CONTACT THE RELEVANT AUTHORITIES PRIOR TO COMMENCING WORK.
- ARE MODIFIED BY CONTRACTOR.
- 12. CONCRETE PROTECTION TO BE PROVIDED AROUND ALL PIPES UNO.
- 13. ALL BRANCH & PERIMETER DRAINAGE ARE TO BE DETAILED BY ARCHITECT.
- 14. PROPRIETARY ACCESS JUNCTIONS TO BE USED TO DEPTHS OF 600mm OR LESS.
- 15. 450x450mm INSPECTION CHAMBERS TO BE USED AT DEPTHS OF 600-1000mm

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18. ALL FOUL MANHOLE BASES TO BE PRECAST CONCRETE PRE-BENCHED OFF SITE.

WORKS FOR HOUSING AREAS', DEPARTMENT OF THE ENVIRONMENT.

- WATER TESTS CARRIED OUT SHALL BE TESTED IN LINDER A HEAD OF WATER IN
- 4. ON COMPLETION OF ALL SEWERS DRAINS & GULLIES, ALL SEWERS SHALL BE FLUSHED OUT & LEFT FREE FROM DEFECT & OBSTRUCTION & SUBSEQUENTLY A CCTV SURVEY SHALL BE CARRIED OUT BY AN INDEPENDENT CONTRACTOR OF THE AS BUILT DRAINAGE. THE CCTV SURVEY
- 5. ON COMPLETION OF ALL SEWERS, DRAINS & GULLIES AN AS-BUILT SURVEY MUST BE SUBMITTED INCLUDING LOCATION OF MANHOLES RELATIVE TO THE BUILDING OUTLINE, COVER, INVERT LEVELS & PIPE DIAMETERS TO THE ENGINEER & ARCHITECT FOR THEIR REVIEW PRIOR TO

# **GENERAL NOTES:**

NOTES:

- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, SERVICE ENGINEERS DRAWINGS & SPECIFICATIONS.
- ALL LEVELS ARE STRUCTURAL UNLESS NOTED
- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT BUILDING REGULATIONS.
- DO NOT SCALE WORK TO FIGURE DIMENSIONS ONLY.





		Issue register	=	_	=
Rev.	Date	Description	Dwn.	Chkd.	Αp
PL1	08.02.19	PLANNING ISSUE	EH	мс	٨
PL2	25.02.19	PLANNING ISSUE	EH	MC	١
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KILKENNY COUNTY COUNCIL

CROKERS HILL HOUSING DEVELOPMENT

PLANNING ISSUE

CIVIL NOTES

18KK003 C-000 PL2 07.02.19 N.T.S. N.PATTERSON E. HOARE M.CARR



Gas House Lane, Kilkenny. æ \_⊒

Partnership E-mail

) HAYES HIGGINS PARTNERSHI