GENERAL NOTES:

1. DO NOT SCALE. ALL DIMENSIONS ON DRAWINGS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE. USE FIGURED DIMENSIONS ONLY.
2. ALL SETTING OUT DIMENSIONS TO BE CHECKED AGAINST ARCHITECTS DRAWINGS. ARCHITECTS DRAWINGS TO TAKE PRECEDENCE.
3. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECT'S, ENGINEER'S AND MANUFACTURERS' DRAWINGS AND SPECIFICATIONS.
4. CIVIL AND STRUCTURAL DRAWINGS TO BE READ IN CONJUNCTION WITH CIVIL & STRUCTURAL SPECIFICATIONS & ALL ARCHITECTS AND SERVICES DRAWINGS AND SPECIFICATIONS.
5. ANY QUERIES OR DISCREPANCIES ARE TO BE REFERRED TO THE EMPLOYER'S REPRESENTATIVE IMMEDIATELY.
6. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING OF LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. BEFORE RELATED WORK COMMENCES THE CONTRACTOR SHALL SUBMIT A METHOD STATEMENT AND SEQUENCE OF WORK TO THE ENGINEER AND ARCHITECT FOR APPROVAL.
7. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES IDENTIFIED SHOULD BE NOTIFIED IN WRITING TO BOTH THE ENGINEER AND ARCHITECT AS SOON AS POSSIBLE.
8. WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM. OTHER STANDARDS MAY ONLY BE CONSIDERED FOLLOWING PRIOR APPROVAL BY THE ENGINEER.
9. ALL LEVELS ARE RELATED TO THE ORDNANCE DATUM (O.D.) - MALIN HEAD UNLESS NOTED OTHERWISE
10. THE CONTRACTOR SHALL NOTE, AND MAKE ALLOWANCES FOR, THE MEASURES NECESSARY TO COMPLY WITH THE WASTE MINIMISATION AND RECYCLING TARGETS SET OUT IN THE SPECIFICATION.
11. FOR DETAILS AND SETTING OUT OF RWP, SVP, WVP AND ALL OPENINGS REFER TO RELEVANT ARCHITECTS DRAWINGS.
12. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING ALL GROUND AND SURFACE WATER WITHIN THE SITE DURING THE CONSTRUCTION WORKS. AT NO POINT SHOULD ANY CONTAMINATED WATER FROM THE SITE BE DISCHARGED TO AN EXISTING DRAIN OR SEWER. REFER TO SITE INVESTIGATION REPORT FOR FURTHER INFORMATION ON GROUND WATER LEVELS. PLEASE ALSO REFER TO CONTROL OF SURFACE WATER/GROUNDWATER NOTES.
13. ANY PROPRIETARY PRODUCTS REFERENCED ON THE DRAWINGS CAN BE SUBSTITUTED WITH EQUIVALENT ALTERNATIVES, FOLLOWING APPROVAL BY EITHER THE ENGINEER OR THE ARCHITECT.
14. PROPRIETARY PRODUCT NAMES, MANUFACTURER'S NAMES, SUPPLIERS NAMES, NATIONAL STANDARDS. WHERE A SPECIFICATION OR A DESCRIPTION OF A PRODUCT OR ELEMENT OF WORK INCLUDES A SPECIFIC MAKE OR SOURCE SUCH AS A PRODUCT NAME OR MANUFACTURERS NAME OR A SUPPLIERS NAME, OR A NATIONAL STANDARD, THE SPECIFICATION OR DESCRIPTION SHALL BE DEEMED TO BE ACCOMPANIED BY THE WORDS "OR EQUIVALENT" NOTWITHSTANDING THAT THOSE EXACT WORDS MAY NOT IN FACT ACCOMPANY THE NAME OR STANDARD. THIS ALSO APPLIES WHERE THE NAME OR STANDARD IS ACCOMPANIED BY OTHER WORDS SUCH AS "OR EQUAL APPROVED" OR SUCHLIKE PHRASES
15. VIBRATION AND NOISE MONITORS TO BE INSTALLED ON SITE AND ALSO ON ADJACENT BUILDINGS IN ACCORDANCE WITH ARCHITECTS SPECIFICATION, PUNCH SPECIFICATION, BS 7385, BS 5228 DMRB VOLUME 11 AND CIRIA TECHNICAL NOTE 142.
16. WHENEVER CONTRADICTORY ADVICE IS APPARENT IN THE CIVIL ENGINEERING WORKS REQUIREMENTS THE MOST ONEROUS GUIDANCE SHALL BE DEEMED TO TAKE PRECEDENCE.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING OUT ALL DRAINAGE INFRASTRUCTURE TO ENSURE NO CLASHES OCCUR WITH OTHER UNDERGROUND SERVICES AND UTILITIES INCLUDING SERVICE DUCTS, CHAMBERS ETC
18. ONLY THE PRINCIPAL EXISTING SERVICES AND FEATURES HAVE BEEN INDICATED WITH APPROXIMATE LOCATIONS. ACTUAL POSITIONS SHALL BE ESTABLISHED AND VERIFIED ON SITE BY THE CONTRACTOR.
19. THE CONTRACTOR SHALL BE REQUIRED TO FIT ALL PROPOSED INFRASTRUCTURE TO ENSURE NO CLASHES WITH ALL EXISTING AND PROPOSED UTILITIES AND SERVICES, BOTH OVERGROUND AND UNDERGROUND. THE CONTRACTOR SHALL BE REQUIRED TO COMPLY WITH THE MINIMUM RECOMMENDED SEPARATION DISTANCES BETWEEN ALL EXISTING AND PROPOSED SERVICES AS DETAILED ON IRISH WATER DRAWING STD-WW-05. THE CONTRACTOR SHALL BE DEEMED TO COMPLY WITH ALL THESE REQUIREMENTS IN THEIR TENDER PRICE.
20. CONTRACTOR TO ALLOW FOR UNDERTAKING SLIT TRENCHES TO ESTABLISH LOCATION OF EXISTING SERVICES PRIOR TO SERVICES CONSTRUCTION COMMENCING. THIS INFORMATION IS TO SUBMITTED TO THE ENGINEER 10 DAYS PRIOR TO COMMENCEMENT OF WORKS.
21. REFER TO THE FOLLOWING SITE INVESTIGATION DOCUMENTS FOR INDICATIVE INFORMATION OF SITE CONDITIONS:

 21. 3no. TRIAL PIT EXCAVATION REPORT CARRIED OUT BY GROUND INVESTIGATIONS IRELAND.

ROAD MARKINGS AND SIGNAGE:

1. ALL ROAD MARKINGS AND SIGNAGE TO BE IN ACCORDANCE WITH THE DEPARTMENT OF TRANSPORT, TOURISM AND SPORT TRAFFIC SIGNS MANUAL.
2. ALL ROAD MARKING MATERIALS TO COMPLY WITH EU REGULATION NO. 305/2011 IN RELATION TO CE MARKINGS AND DECLARATION OF PERFORMANCE (DOP).
3. ALL ROAD MARKINGS ON ASPHALT/CONCRETE SURFACES TO BE THERMOPLASTIC PAINT WITH REFLECTIVE BEADS.
4. ON CONCRETE SURFACES, CONCRETE TO BE SAND BLASTED AND PRIMER APPLIED PRIOR TO APPLICATION OF PAINT.
5. ALL ROAD MARKINGS ON BRICK PAVED SURFACES TO BE SPECTRUM TRAFFIC LINE 9612 PAINT OR APPROVED EQUIVALENT.

TEMPORARY WORKS FOR EXCAVATIONS

1. CONTRACTOR/SUB CONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION AND REMOVAL OF ALL TEMPORARY WORKS AND CO-ORDINATION WITH THE PERMANENT WORKS. REFER ALSO TO HEALTH & SAFETY RISK ASSESSMENTS
2. THE DESIGN OF TEMPORARY WORKS FOR ANY EXCAVATION WORK SHALL CONSIDER THE FOLLOWING;
   a) ALL CURRENT HEALTH AND SAFETY REGULATIONS
   b) SLOPE STABILITY (SOILS NOT CUT STEEPER THAN 1V:2H)
   c) PINCH POINTS
   d) GROUNDWATER
   e) SURCHARGING FROM ADJACENT MATERIALS \ PLANT
   f) PRESENCE OF WATER BEARING COARSE GRAINED SOILS
3. TEMPORARY WORKS DESIGNER SHALL BE A CHARTERED ENGINEER WITH RELEVANT EXPERIENCE.
4. DETAILS OF TEMPORARY WORKS INCLUDING METHOD STATEMENTS SHALL BE SUBMITTED TO THE DESIGN TEAM INCLUDING THE PSDP FOR COMMENT THREE WEEKS PRIOR TO COMMENCEMENT OF THE WORKS.
5. A DILAPIDATION SURVEY OF ADJACENT BUILDINGS AND ROADS IS TO BE CARRIED OUT BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF THE WORKS. COPIES OF THE REPORT TO BE ISSUED TO ALL DESIGN TEAM MEMBERS.
6. COMMENTS BY CONSULTANTS IN NO WAY ALLEVIATE THE CONTRACTOR, SUB-CONTRACTORS OR TEMPORARY WORKS DESIGNER OF THEIR TEMPORARY WORKS DESIGN RESPONSIBILITY.
7. IT IS THE CONTRACTORS RESPONSIBILITY TO MONITOR THE MOVEMENT OF ADJACENT BUILDINGS, NOISE, DUST AND VIBRATIONS IN ACCORDANCE WITH THE RELEVANT STANDARDS. REFER ALSO TO ARCHITECTS AND PUNCH SPECIFICATION.
8. THE CONTRACTOR TO REFER TO THE PRELIMINARY HEALTH AND SAFETY PLAN, DRAWINGS, SPECIFICATIONS IN ADVANCE OF CARRYING OUT THE WORKS AND THE PREPARATION OF THEIR HEALTH AND SAFETY PLAN.
9. CONTRACTOR TO ENSURE THAT THE TEMPORARY WORKS DESIGNER IS ISSUED WILL ALL RELEVANT DOCUMENTATION.
10. STABILITY AND INTEGRITY OF ALL CIVIL AND STRUCTURAL ELEMENTS TO BE MAINTAINED BY THE CONTRACTOR DURING THE CONSTRUCTION WORKS.
11. THE CONTRACTOR TO PROCURE ALL RELEVANT PERMITS FROM THE LOCAL AUTHORITY PRIOR TO COMMENCEMENT OF THE WORKS.
12. CONTRACTOR MUST LOCATE ALL BELOW GROUND SERVICES.THIS MAY REQUIRE THE CONTRACTOR TO CARRYOUT ADDITIONAL INVESTIGATION WORKS PRIOR TO COMMENCEMENT ON SITE. ALL SERVICES TO REMAIN TO BE PROTECTED FOR THE DURATION OF THE WORKS.
13. TEMPORARY BRACING WHERE REQUIRED TO BE DESIGNED AND CO-ORDINATED BY THE CONTRACTOR,TEMPORARY WORKS DESIGNER AND RELEVANT SUB-CONTRACTORS.

DEMOLITION WORKS:

1. PRIOR TO THE START OF ANY WORKS, THE CONTRACTOR MUST ENSURE THAT ALL SERVICES (WATER, GAS, ESB ETC) SERVING THE BUILDING ARE FULLY DISCONNECTED AND ISOLATED. CONTACT MUST BE MADE WITH THE RELEVANT SERVICES PROVIDERS IN THIS REGARD.
2. ANY SERVICES TO BE MADE REDUNDANT ARE TO BE STRIPPED OUT AND REMOVED COMPLETELY AS PART OF THE WORKS.
3. ALL ABANDONED SEWER PIPES TO BE FILLED WITH C12/15 CONCRETE. ABANDONED MANHOLES TO BE BROKEN OUT IF POSSIBLE. OTHERWISE THEY SHOULD BE FILLED WITH C12/15 CONCRETE.
4. ALL EXISTING SERVICES TO REMAIN IN USE ARE TO BE FULLY PROTECTED THROUGHOUT THE CONTRACT PERIOD.
5. THE CONTRACTOR TO SUBMIT A FULL METHOD STATEMENT ON ALL THE PROPOSED DEMOLITION WORKS. THIS STATEMENT SHOULD PROVIDE ALL TEMPORARY CALCULATIONS/DETAILS REQUIRED GUARANTEEING FULL STABILITY OF THE BUILDING DURING ALL STAGES OF DEMOLITION WORKS. CONTRACTOR TO APPOINT SUITABLY EXPERIENCED CHARTERED ENGINEER TO CARRY OUT TEMPORARY DESIGN AND CALCULATIONS.
6. THE CONTRACTOR TO SUBMIT A FULL DESIGN/DETAIL OF HOARDING TYPE AND SUPPORT REQUIREMENT.
7. UNKNOWN OCCURRENCES: GIVE NOTICE IMMEDIATELY OF SUSPECTED ASBESTOS CONTAINING MATERIALS (ACM'S) WHEN DISCOVERED. DO NOT DISTURB. ACM'S TO REMOVED BY A SPECIALIST ASBESTOS REMOVAL CONTRACTOR WHO SHALL BE A MEMBER OF ARCA. WHERE REQUIRED, HSA TO BE NOTIFIED.

NOTE:

1. THIS DRAWING PROVIDES A BRIEF SUMMARY OF THE PROJECT SPECIFICATION. IT SHOULD BE READ IN CONJUNCTION WITH THE PUNCH AND DESIGN TEAM PROJECT SPECIFICATIONS.
2. THE CONTRACTOR SHOULD CHECK FOR DISCREPANCIES AND THEY SHOULD BE REPORTED TO THE ENGINEER FOR CLARIFICATION BEFORE ANY WORK COMMENCES.
3. IT SHOULD BE NOTED THAT ANY REFERENCE TO "ENGINEER" WITHIN ARCHITECTURAL AND/OR M&E DOCUMENTS MAY NOT RELATE TO PUNCH CONSULTING ENGINEERS AS BEING THAT "ENGINEER". REFERENCE SHOULD BE MADE TO CONTRACTORS DESIGN RESPONSIBILITIES ON THE STANDARD NOTES DRAWING.
4. MAIN CONTRACTOR TO CARRY OUT CONDITION SURVEY OF ADJACENT PROPERTIES AND BOUNDARY WALLS PRIOR TO COMMENCEMENT OF WORKS ON SITE.
5. THE CONTRACTOR MUST PROVIDE CE MARKING WITH DECLARATION OF PERFORMANCE FOR ALL PRODUCTS COVERED UNDER THE CONSTRUCTION PRODUCTS REGULATIONS.

AS BUILT DRAWINGS

1. AS BUILT DRAWINGS TO BE PROVIDED IN ACCORDANCE WITH PUNCH SITEWORKS SPECIFICATIONS AND IRISH WATER CODE OF PRACTICE (WATER AND WASTE WATER)

CONTRACTORS DESIGN RESPONSIBILITIES:

1. THE FOLLOWING IS A NON-EXHAUSTIVE LIST OF THE CONTRACTOR DESIGN RESPONSIBILITIES. REFERENCE SHOULD ALSO BE MADE TO THE DESIGN CONTRACT SPECIFICATIONS:
   a) ALL PRECAST CONCRETE ELEMENTS.
   b) ALL HANDRAILS AND BALUSTRADES, INCLUDING ALL FIXINGS.
   c) ALL TEMPORARY WORKS.
   d) ATTENUATION TANK.
   e) PERMEABLE PAVING
2. THE CONTRACTOR MUST SUPPLY ALL ANCILLARY DESIGN CERTIFICATES AND MATERIALS CERTIFICATES IN COMPLIANCE WITH THEIR DUTIES AS SET OUT BY THE "BUILDING CONTROL REGULATIONS 2014 CODE OF PRACTICE FOR INSPECTING AND CERTIFYING BUILDING WORKS". THE CONTRACTOR MUST ALSO ENSURE THE COORDINATION AND PROVISION OF ALL TEST CERTIFICATES AND CONFIRMATIONS TO THE SATISFACTION OF THE ASSIGNED CERTIFIER OR OTHER DESIGNATED INSPECTORS OR CERTIFIERS PROVIDING ANCILLARY CERTIFICATES, MAINTAIN RECORDS AND FACILITATE THE COORDINATION OF SITE INSPECTIONS.

COLLATERAL WARRANTEES REQUIRED FROM CONTRACTOR:

1. PRECAST CONCRETE ELEMENTS
2. ATTENUATION TANK SYSTEMS
3. HANDRAILS & BALUSTRADES INCLUDING FIXINGS
4. PERMEABLE PAVING

DRAINAGE GENERAL:

1. CONTRACTOR TO PROVIDE INVERT LEVEL, COVER LEVEL, PIPE DIAMETER AND DIRECTION OF FLOW IN EXISTING MANHOLES. INFORMATION TO BE SUBMITTED TO PUNCH 15 WORKING DAYS PRIOR TO COMMENCEMENT ON SITE.
2. WHERE A NEW MANHOLE/CONNECTION IS TO BE CONSTRUCTED ON AN EXISTING SURFACE WATER/FOUL WATER/COMBINED SEWER, CONTRACTOR TO UNDERTAKE A SLIT TRENCH TO CONFIRM INVERT LEVEL AND PIPE DIAMETER OF EXISTING SEWER. INFORMATION TO BE SUBMITTED TO PUNCH 15 WORKING DAYS PRIOR TO COMMENCEMENT ON SITE.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING OUT ALL DRAINAGE INFRASTRUCTURE TO ENSURE NO CLASHES OCCUR WITH SERVICE DUCTS, CHAMBERS ETC.
4. CARE SHOULD BE TAKEN BY THE CONTRACTOR WHEN HANDLING PIPES, PARTICULARLY WHEN UNLOADING AND STACKING, SO AS TO AVOID DAMAGING THEM.
5. ALL PIPE SEALS AND GASKETS SHOULD BE STORED INDOORS AWAY FORM DIRECT SUNLIGHT.
6. ALL SEWERS TO BE THERMOPLASTIC STRUCTURED WALL SEWER PIPE AND SHALL COMPLY WITH THE RELEVANT PROVISIONS OF IS EN 13476. PIPES TO BE OF STIFFNESS CLASS 8KN/m² AND BE CAPABLE OF DEMONSTRATING A JETTING RESISTANCE OF 2,600 PSI (180 BAR) WITHOUT DAMAGE WHEN TESTED IN ACCORDANCE WITH WIS 4-35-01.
7. EXCAVATION SHOULD NOT BE CARRIED OUT TOO FAR IN ADVANCE OF PIPE INSTALLATION. ALL RELEVANT HEALTH & SAFETY REQUIREMENTS IN RESPECT OF EXCAVATION SHOULD BE OBSERVED BY THE CONTRACTOR DURING EXCAVATION WORKS.
8. THE MINIMUM DEPTH OF COVER TO PIPES FROM THE FINISHED SURFACE TO THE CROWN OF THE PIPE ***WITHOUT PROTECTION*** IS AS FOLLOWS:
   a) 1200mm ROADWAYS/CAR PARKS
   b) 900mm OPEN SPACES & FOOTPATHS NOT ADJACENT TO ROADS
   c) 600mm GARDENS WITHOUT ANY POSSIBILITY OF VEHICULAR ACCESS
9. WHERE MINIMUM DEPTH OF COVER TO PIPES ***IS ACHIEVED***, PLEASE REFER TO IRISH WATER STANDARD DETAIL "TRENCH BACKFILL AND BEDDING" DRAWING. THIS DRAWING IS ALSO APPLICABLE TO SURFACE WATER SEWERS
10. WHERE MINIMUM DEPTH OF COVER TO PIPES ***IS NOT ACHIEVED***, PLEASE REFER TO IRISH WATER STANDARD DETAIL "CONCRETE BED, HAUNCH AND SURROUND" DRAWING. THIS DRAWING IS ALSO APPLICABLE TO SURFACE WATER SEWERS.
11. THE CONTRACTOR SHOULD PLAN HIS WORK FOR CHAMBERS AND MANHOLES SO AS TO MINIMISE AS MUCH AS POSSIBLE WORKING REQUIRED IN CONFINED SPACES.
12. JOINT LUBRICANTS FOR SLIDING JOINTS SHALL HAVE NO DELETERIOUS EFFECT ON EITHER THE JOINT RINGS OR PIPES AND SHALL BE UNAFFECTED BY SEWAGE.
13. ALL ABANDONED SEWER PIPES TO BE FILLED WITH C12/15 CONCRETE. ABANDONED MANHOLES TO BE BROKEN OUT IF POSSIBLE. OTHERWISE THEY SHOULD BE FILLED WITH C12/15 CONCRETE.
14. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE RELEVANT SERVICE PROVIDERS IN ADVANCE OF ANY PLANNED EXCAVATION WORKS TO VERIFY THE LOCATION, DEPTH AND NATURE OF ANY UNDERGROUND SERVICES.
15. <u>ROCKER PIPES;</u>
   a) ROCKER PIPES TO BE PROVIDED AT ALL LOCATIONS WHERE;
      i. A PIPE ENTERS OR LEAVES A MANHOLE, PUMPING STATION OR OTHER RIGID STRUCTURE.
      ii. A PIPE ENTERS OR LEAVES A CONCRETE ENCASEMENT.
      iii. ANY LOCATION AS DIRECTED BY THE ENGINEER.
   b) ROCKER PIPE JOINT TO BE LOCATED AS NOTE ON IRISH WATER MANHOLE STANDARD DETAIL. THE EFFECTIVE LENGTH OF THE ROCKER PIPE SHOULD BE;
      i. PIPE DIAMETER 150mm TO 600mm: 0.60m
      ii. PIPE DIAMETER 600mm TO 750mm: 1.00m
      iii. PIPE DIAMETER GREATER THAN 750mm: 1.25m
16. PIPEWORK AND BENCHING TO A SINGLE MANHOLE CHAMBER SHOULD BE COMPLETED AND THE ENGINEER INVITED TO INSPECT SAME BEFORE ALL REMAINING CHAMBERS ARE COMPLETED.
17. ONLY PROPRIETARY CONNECTION PIECES TO BE USED FOR MAKING CONNECTIONS TO SEWERS.
18. WHEN INSTALLING FLEXIBLE PIPES (SINGLE\TWIN WALLED PVC OR SIMILAR) PARTICULAR CARE SHOULD BE TAKEN BY THE CONTRACTOR TO ENSURE THE PIPES ARE WELL BEDDED AND SURROUNDED IN GOOD QUALITY GRANULAR MATERIAL IN ACCORDANCE WITH THE SPECIFICATION.
19. THE CONTRACTOR MUST TAKE GREAT CARE WHEN COMPACTING MATERIAL OVER DRAINAGE PIPES SO AS NOT TO DISLODGE THEM FROM THEIR CORRECT LINE AND LEVEL.
20. ALL MANHOLES TO BE CONSTRUCTED WITH PRECAST CONCRETE RINGS IN ACCORDANCE WITH RELEVANT ENGINEERS DETAILS DRAWING.
21. PROPRIETARY CONNECTIONS TO BE USED THROUGHOUT.
22. ALL JOINTS TO BE WATERTIGHT TO CL 504 SUB CLAUSE 3 OF THE NRA SPECIFICATION FOR ROADWORKS.
23. MANHOLES WITHIN PAVING TO BE RECESSED TO RECEIVE PAVIORS AND LOCKABLE FACTA CLASS D (EN124 CLASS D400).
24. MANHOLES IN TARMACADAM/GRASSED AREAS TO BE NON ROCK D400 LOCKABLE MANHOLES.
25. TRENCHES IN EXISTING SURFACES TO BE SAW CUT.
26. IF CONSTRUCTING MANHOLE CHAMBERS USING PRECAST CONCRETE RINGS, THE CONTRACTOR SHOULD ENSURE THAT THE JOINTS IN THE PRECAST CONCRETE RINGS ARE STAGGERED WITH THE JOINTS IN THE CONCRETE SURROUND TO REDUCE THE POSSIBILITY OF GROUND WATER INGRESS.
27. WHERE A CONNECTION IS REQUIRED TO AN EXISTING PUBLIC SEWER SYSTEM, THE CONTRACTOR MUST MAKE A FORMAL APPLICATION TO THE LOCAL AUTHORITY TO DO SO.
28. A DETAILED METHOD STATEMENT MUST BE SUBMITTED TO THE LOCAL AUTHORITY FOR APPROVAL AT LEAST FOUR WEEKS IN ADVANCE OF THE PLANNED CONSTRUCTION WORKS.
29. WHERE NEW DRAINAGE INFRASTRUCTURE IS TO CROSS AN EXISTING ROAD, THE CONTRACTOR IS REQUIRED TO:
   c) CONTACT THE RELEVANT AUTHORITIES WELL IN ADVANCE OF THE PLANNED WORKS.
   d) MAKE AN APPLICATION AND PAY FOR A ROAD OPENING LICENCE IF APPLICABLE.
   e) MAKE GOOD THE EXISTING ROAD TO THE SATISFACTION OF THE ENGINEER & THE RELEVANT AUTHORITIES ON COMPLETION OF THE WORKS.
30. THE CONTRACTOR IS ADVISED TO COMPLETE AIR TESTING ON A DAILY BASIS DURING THE COURSE OF THE WORKS TO ENSURE ISOLATION OF ANY FAILED TESTS.
31. THE COMPLETE DRAINAGE WORKS SHOULD BE PROTECTED, WHERE NECESSARY, FROM LOADS IMPOSED BY CONSTRUCTION PLANT DURING CONSTRUCTION.
32. ON COMPLETION OF THE WORKS, THE CONTRACTOR MUST ENSURE ALL INTERNAL SURFACES OF THE NEW SEWERS ARE THOROUGHLY CLEANED TO REMOVE ALL DELETERIOUS MATERIAL. THIS MATERIAL MUST BE PREVENTED FROM ENTERING THE PUBLIC SEWER SYSTEM.
33. A CCTV SURVEY AND JET CLEANING OF THE COMPLETED UNDERGROUND DRAINAGE NETWORK TO BE CARIED OUT BY THE CONTRACTOR ON COMPLETION OF THE WORKS IN ACCORDANCE WITH PUNCH SITEWORKS SPECIFICATION. IT IS RECOMMENDED THAT THIS EXERCISE IS COMPLETED BEFORE FINAL SURFACE COURSES AND FINISHES ARE APPLIED IN CASE ANY REMEDIAL WORKS ARE REQUIRED TO THE DRAINAGE.
34. WHERE WORKS ARE TO BE UNDERTAKEN IN A LIVE SITE, DISRUPTION TO EXISTING SEWERS CANNOT BE TOLERATED. THE PROGRAMME FOR DIVERSION/ABANDONING OF THE SEWERS TO BE AGREED WITH THE ENGINEER/CLIENT/LOCAL AUTHORITY/IRISH WATER PRIOR TO COMMENCEMENT OF ANY SITE WORKS. CONTRACTOR TO DESIGN AND PROVIDE FOR OVER PUMPING.
35. ALL INTERNAL DRAINAGE LOCATIONS INCLUDING POP UPS TO BE INSTALLED AS PER ARCHITECT/M&E DRAWINGS.
36. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING ALL TEMPORARY WORKS.
37. WHERE MANHOLES ARE LESS THAN 1m DEEP, A BLOCKWORK MANHOLE IN ACCORDANCE WITH IRISH WATER STANDARD DETAILS TO BE USED.

DRAINAGE: SURFACE WATER:

1. ALL GULLY TRAPS/ACCESS JUNCTION PIPE RUNS TO BE 150mm DIAMETER UPVC LAID TO GRADIENTS NOT EXCEEDING 1:50, UNLESS NOTED OTHERWISE.
2. ALL GULLIES TO BE LOCKABLE CAVANAGH HIPPO STYLE GULLY OR APPROVED EQUIVALENT
3. GULLIES CONNECTING TO A FOUL SEWER MUST BE TRAPPED.
4. TESTING OF ALL SEWERS MUST BE COMPLETED AND SIGNED OFF BY THE ENGINEER PRIOR TO ANY GULLY CONNECTIONS BEING MADE TO THE MAIN SEWER BY THE CONTRACTOR.
5. ALL DRAINAGE CHANNEL TO BE "M150D MULTDRAIN" CHANNEL BY ACO OR SIMILAR APPROVED
6. COVERS TO DRAINAGE CHANNELS TO BE LOCKABLE D400 DUCTILE IRON "HEELGUARD" GRATING BY ACO OR SIMILAR APPROVED
7. ALL JOINTS ALONG DRAINAGE CHANNEL RUNS TO BE SEALED WITH SILICONE.
8. ALL SEPARATORS TO BE FITTED WITH OIL LEVEL ALARM SYSTEM AND AUTOMATIC CLOSURE VALVES.
9. ALL PETROL INTERCEPTORS TO BE A KLARGESTOR NSBP006 BYPASS SEPARATOR OR SIMILAR APPROVED.
10. ACO SUMP UNIT (OR APPROVED EQUIVALENT) TO BE PROVIDED AT ALL ACO DRAIN OUTLETS.
11. CONNECTION PIPE FROM ACO SUMP UNIT TO BE 110mm DIA.
12. PLEASE REFER TO MANUFACTURER FOR FOUNDATION/SURROUND DETAIL.
13. GATIC SLOT DRAIN OR APPROVED EQUIVALENT ACCESS POINTS TO BE PROVIDED AT THE START OF ALL RUNS AND AT ANY CHANGE OF DIRECTION. ACCESS COVER TO BE RECESSED TO RECEIVE PAVING. PLEASE REFER TO MANUFACTURER FOR FOUNDATION/SURROUND DETAIL.
14. GATIC SLOT DRAIN OR APPROVED EQUIVALENT SILT TRAP TO BE PROVIDED AT ALL OUTLET LOCATIONS. ACCESS COVER TO BE RECESSED TO RECEIVE PAVING. PLEASE REFER TO MANUFACTURER FOR FOUNDATION/SURROUND DETAIL.
15. SLOT DRAIN TO BE CONSTRUCTED IN 1m SECTIONS TO ACHIEVE DESIRED CURVES.
16. SLOT DRAIN ACCESS/SILT BOXES TO BE MITRED OFF SITE WHERE A 90 DEGREE CONNECTION IS NOT POSSIBLE.
17. CONNECTION PIPES FROM SILT BOXES TO MATCH DIAMETER OF SLOT DRAIN.
18. MARKER TAPE (WITH TRACE WIRE) TO BE PROVIDED AT THE TOP OF PIPE BEDDING LAYER. MARKER TAPE TO BE IN ACCORDANCE WITH THE IRISH WATER CODE OF PRACTICE AND STANDARD DETAILS.

FOUL WATER SEWER:

1. ALL DRAINAGE PIPES BETWEEN ACCESS JUNCTIONS (AJ'S) TO BE 150mm DIAMETER UPVC LAID TO GRADIENTS NOT EXCEEDING AT 1:40, UNLESS NOTED OTHERWISE.
2. VENT STACK IN ACCORDANCE WITH IRISH WATER STANDARD DETAILS TO BE PROVIDED AT THE HEAD OF ALL FOUL WATER SEWERS.
3. MARKER TAPE (WITH TRACE WIRE) TO BE PROVIDED AT THE TOP OF PIPE BEDDING LAYER. MARKER TAPE TO BE IN ACCORDANCE WITH THE IRISH WATER CODE OF PRACTICE AND STANDARD DETAILS.

FILTER DRAIN

1. RAIN WATER PIPE TO BE TERMINATED IN THE FILTER MATERIAL. NO DIRECT CONNECTION TO THE PIPE. OPENING THROUGH GEOTEXTILE TO BE MADE GOOD AT RAIN WATER PIPE ENTRY.

ATTENUATION TANKS

1. CONTRACTOR TO ENSURE THAT NO CONSTRUCTION MATERIAL (GRANULAR MATERIAL, WASH DOWN FROM PLASTERING ETC.) ENTERS THE ATTENUATION/INFILTRATION TANK. IF THERE IS EVIDENCE OF CONSTRICTION MATERIAL IN THE ATTENUATION/INFILTRATION TANK THE CONTRACTOR WILL BE LIABLE FOR REPLACING THE ENTIRE ATTENUATION/INFILTRATION TANK.
2. TRAFFICKING BY CONSTRUCTION PLANT INCLUDING MECHANICAL EQUIPMENT MUST BE AVOIDED. IN PARTICULAR OUTRIGGERS FROM CRANES, TELEPORTERS ETC. AND POINT LOADS ARE NOT PERMITTED OVER THE EXTENT OF THE ATTENUATION/INFILTRATION TANK. PLEASE REFER TO ATTENUATION/INFILTRATION TANK MANUFACTURER FOR FURTHER RESTRICTIONS.
3. HERRAS FENCING OR SIMILAR APPROVED TO BE PLACED ON THE PERIMETER OF THE ATTENUATION/INFILTRATION TANK TO ENSURE CONSTRUCTION TRAFFIC DOES NOT DRIVE OVER EXTENT OF ATTENUATION/INFILTRATION TANK.

WATERMAIN:

1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS & MANUFACTURERS DRAWINGS & SPECIFICATIONS.
2. ALL MATERIALS, SUBSTANCES AND PRODUCTS IN CONTACT WITH POTABLE WATER SHALL COMPLY IN ALL RESPECTS WITH THE EUROPEAN COMMUNITIES (DRINKING WATER) (NO. 2) REGULATIONS, 2007 (S.I. NO. 278 OF 2007) AND SHALL BE INCLUDED IN THE LATEST "LIST OF APPROVED PRODUCTS AND PROCESSES" PUBLISHED BY THE DRINKING WATER INSPECTORATE FOR ENGLAND AND WALES. THE CONTRACTOR SHALL PRODUCE DOCUMENTARY EVIDENCE THAT THE SUBSTANCE OR PRODUCT HAS BEEN SPECIFICALLY APPROVED UNDER THE DWI SYSTEM, OR EQUIVALENT APPROVAL SYSTEM.
3. ALL PROPOSED PIPE DIAMETERS ARE NOMINAL.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING OUT WATERMAINS & VALVES TO ENSURE NO CLASHES WITH SERVICE DUCTS OR PIPES. CONTRACTOR TO CO-ORDINATE CONSTRUCTION OF WATERMAINS WITH ALL OTHER GROUND SERVICES AND UTILITIES.
5. ALL THRUST BLOCKS MUST BE CAST AGAINST UNDISTURBED GROUND. FLEXIBLE PIPES SHOULD BE WRAPPED IN PLASTIC SHEETING IN ACCORDANCE WITH THE IRISH WATER CODE OF PRACTICE AND STANDARD DETAILS.
6. MARKER POSTS AND PLATES TO BE PROVIDED FOR ALL VALVES, METERS AND HYDRANTS.
7. TESTING AND COMMISSIONING - ALL ON SITE AND OFF SITE TESTING (PRESSURE TESTING, JOINT TESTING, DISINFECTION OF WATERMAIN TESTING, COMMISSIONING TESTING ETC.) TO BE UNDERTAKEN BY EXTERNAL TESTER. ALL TESTING AND CERTIFICATION TO BE UNDERTAKEN IN ACCORDANCE WITH THE IRISH WATER CODE OF PRACTICE, MUST PASS THE RELEVANT TESTS AND BE SUBMITTED TO THE ENGINEER.
8. TESTING BETWEEN LIVE SHUT VALVES WILL NOT BE ACCEPTED UNDER ANY CIRCUMSTANCE.
9. WHERE PIPE RUN IS LOCATED ADJACENT TO FOUNDATION AND IS AT A LEVEL BELOW UNDERSIDE OF THE FOUNDATION, PIPE TRENCH TO BE BACKFILLED TO FORMATION LEVEL WITH CLASS 15/20 CONCRETE.
10. PROVIDE ANCHOR/THRUST BLOCKS ON ALL HORIZONTAL BENDS EQUAL TO OR IN EXCESS OF 11.25°, ALL VERTICAL BENDS, DEAD ENDS, TAPERS TEES ON ALL PIPES ETC. IN ACCORDANCE WITH THE IRISH WATER CODE OF PRACTICE AND STANDARD DETAILS.
11. TRENCHES IN EXISTING SURFACES TO BE SAW CUT.
12. ALL INDIVIDUAL CONNECTIONS TO THE EXISTING WATERMAINS TO BE DISCONNECTED AND RECONNECTED TO THE NEW WATERMAIN WHEN IT HAS BEEN MADE LIVE.
13. FINAL CONNECTION DETAILS TO BE AGREED WITH IRISH WATER.
14. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING ALL TEMPORARY WORKS, SUPPORTS AND VALVING TO ENSURE THE WATERMAIN REMAINS ADEQUATELY ANCHORED AND STABLE FOR THE DURATION OF THE TEST.

ROAD OPENING LICENCE AND TRAFFIC MANAGEMENT

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE APPLICATION AND PAYMENT OF ALL ROAD OPENING LICENCES IN ACCORDANCE WITH THE DEPARTMENT OF THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT (DOEHLG) "GUIDELINES FOR THE OPENING, BACKFILLING AND REINSTATEMENT OF TRENCHES IN PUBLIC ROADS" AND THE RELEVANT LOCAL AUTHORITY REQUIREMENTS. THE CONTRACTOR SHALL ALLOW IN THEIR PROGRAMME FOR ALL RELEVANT PROCEDURES TO BE ADOPTED IN THE DOEHLG GUIDELINES AND THE RELEVANT LOCAL AUTHORITY REQUIREMENTS. THE CONTRACTOR SHALL PAY ALL OF THE LICENCE FEES, AND APPLICATION COSTS AND SHALL INCLUDE FOR THESE COSTS IN THE TENDERED CONTRACT SUM. ALL BACKFILLING AND REINSTATEMENT ON THE PUBLIC ROADS SHALL BE COMPLETE IN ACCORDANCE WITH THE "GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS"- APRIL 2017 (PURPLE BOOK).
2. ROAD REINSTATEMENT WORKS SHALL BE COMPLETED IN ACCORDANCE WITH THESE WORKS REQUIREMENTS AND ALL LOCAL AUTHORITY REQUIREMENTS. THIS SHALL INCLUDE TEMPORARY AND PERMANENT REINSTATEMENT IN ACCORDANCE WITH THE GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS DOCUMENT.
3. THE CONTRACTOR SHALL AGREE THEIR PROPOSED PHASING PLAN AND TRAFFIC MANAGEMENT PLAN FOR ALL PROPOSED ROAD AND INFRASTRUCTURE WORKS WITH THE LOCAL AUTHORITY AS PARK OF THE ROAD OPENING LICENCE APPLICATION.
4. THE CONTRACTOR SHALL NOTE THAT ALL MAIN THOROUGHFARE ROADS SHALL BE REQUIRED TO REMAIN OPERATIONAL DURING THE COURSE OF THE WORKS. ANY PROPOSED DIVERSIONS AND/OR ROAD CLOSURES SHALL BE AGREED IN ADVANCE WITH THE LOCAL AUTHORITY AS PART OF THE ROAD OPENING LICENCE APPLICATION PROCESS.
5. THE CONTRACTOR SHALL BE DEEMED TO INCLUDE ANY AND ALL LOCAL AUTHORITY REQUIREMENTS RELATING TO ROAD OPENING LICENCES, TRAFFIC MANAGEMENT, PHASING, PROGRAMMING, FEES, BONDS AND CHARGES IN THEIR TENDER SUM. NO ADDITIONAL COSTS SHALL BE ENTAILED.

DEALING WITH SURFACE/GROUNDWATER

1. THE CONTRACTOR SHALL ALLOW AND BE RESPONSIBLE FOR THE CONTROL OF GROUND/SURFACE WATER IN ALL TEMPORARY EXCAVATIONS AND IN ALL TEMPORARY SITUATIONS DURING THE COURSE OF THE WORKS.
2. THE CONTRACTOR SHALL AGREE/OBTAIN APPROVAL FOR DISPOSAL POINT OF GROUND/SURFACE WATER WITH THE RELEVANT STATUTORY BODIES (LOCAL AUTHORITY, IRISH WATER, FISHERIES, EPA ETC.).
3. ANY GROUND OR SURFACE WATER PERMITTED TO ENTER AN EXISTING WATER COURSE OR SURFACE WATER NETWORK MUST COMPLY WITH THE FOLLOWING:
   a. SUSPENDED SOLIDS ENTERING THE WATERCOURSE/SURFACE WATER NETWORK CANNOT BE GREATER THAN 25MG/L AS PER THE FRESH WATER FISH DIRECTIVE GUIDELINES. TESTING IS REQUIRED TO VERIFY THAT THIS STANDARD IS BEING ACHIEVED PRIOR TO DISCHARGING TO WATERCOURSE/SURFACE WATER NETWORK AND WEEKLY TESTING THEREAFTER. TEST CERTIFICATES TO BE ISSUED TO ENGINEER FOR REVIEW.
   b. HYDROCARBONS ENTERING THE WATERCOURSE/SEWER CANNOT BE GREATER THAN 5MG/L. TESTING IS REQUIRED AS ABOVE.
   c. ALL TEMPORARY PUMPS, HOLDING TANKS, PRIMARY SETTLEMENT TANKS, SECONDARY SETTLEMENT TANKS AND ANY OTHER PLANT/EQUIPMENT REQUIRED TO ACHIEVE 25MG/L OR LESS SUSPENDED SOLIDS AND 5MG/L OR LESS HYDROCARBONS ENTERING THE WATERCOURSE/STREAM TO BE DESIGNED BY THE CONTRACTOR.
   d. PLEASE NOTE THE FRESH WATER FISH DIRECTIVE MENTIONED ABOVE ARE FORMALLY REFERRED TO AS "COUNCIL DIRECTIVE OF 18TH JULY 1978 ON THE QUALITY OF FRESH WATERS NEEDING PROTECTION OR IMPROVEMENT IN ORDER TO SUPPORT FISH LIFE (78/659/EEC)".
   e. STATUTORY BODY REQUIREMENTS
4. NOT WITHSTANDING THE ABOVE, THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A DETAILED METHOD STATEMENT INCLUDING PROPOSED MEASURES FOR THE CONTROL, MANAGEMENT AND TESTING OF GROUND AND SURFACE WATER GENERATED DURING CONSTRUCTION AT LEAST 4 WEEKS IN ADVANCE OF COMMENCEMENT OF THE WORKS.
5. THE CONTRACTOR SHALL PROVIDE THE ENGINEER/EMPLOYER'S REPRESENTATIVE WITH WEEKLY TESTING REPORTS FROM AN INAB ACCREDITED LABORATORY OF THE TOTAL SUSPENDED SOLIDS, BOD, PH, TEMPERATURE, HYDROCARBONS AND SULPHATE OF THE TREATED GROUND/SURFACE WATER PRIOR TO DISCHARGE.
6. TREATMENT SYSTEM(S) FOR GROUND/SURFACE WATER SHALL BE INSPECTED ON A DAILY BASIS AND A COPY OF ALL RECORDS (INCLUDING TESTING AND MAINTENANCE) SHALL BE KEPT IN A SITE LOG BOOK.
7. AN EMERGENCY RESPONSE PROCEDURE SHALL BE PUT IN PLACE TO DEAL WITH FAILURE OF THE TREATMENT SYSTEM(S).
8. ALL STORAGE TANK AREAS AND DRUM STORAGE AREAS WHICH CONTAIN OILS, CHEMICALS OR OTHER SUBSTANCES WHICH ARE, OR COULD BE, HARMFUL TO AQUATIC ENVIRONMENT WHICH ARE LIABLE TO SPILLAGE OR SEEPAGE SHALL BE RENDERED IMPERVIOUS TO THE MATERIALS STORED THEREIN. ADDITIONAL, THESE TANKS SHALL BE BUNDED, EITHER LOCALLY OR REMOTELY, TO A VOLUME OF 110% OF THE TANKS OR DRUMS WITHIN EACH INDIVIDUAL BUNDED AREA AND/OR FITTED WITH INTERCEPTOR, OR OTHERWISE DESIGNED IN ORDER TO GIVE PROTECTION TO SURFACE WATER AND GROUND WATERS ON SPILLAGE OR SEEPAGE OF THE STORED MATERIALS.
9. THE INTEGRITY AND TIGHTNESS OF ALL BUNDED STRUCTURES AND THEIR RESISTANCE TO PENETRATION BY WATER OR OTHER MATERIALS STORED THEREIN SHALL BE TESTED AND DEMONSTRATED TO THE ENGINEER PRIOR TO USE ON SITE.
10. NO FUEL STORAGE TANKS SHALL BE ERECTED ON SITE.
11. AN EMERGENCY RESPONSE PROCEDURE SHALL BE PUT IN PLACE FOR DEALING WITH SPILLAGES OF POLLUTANT MATERIALS.

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COLOUR DRAWING

BUILDING INFORMATION MODELLING (BIM) I.S. EN ISO 19650-2:2018 NSAI Certified

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