Knockalton and Rathurles GWS Amalgamation.

Knockalton GWS and Rathurles GWS are located approximately 4km east of Nenagh. Rathurles is an unregulated scheme, two of its connections are transferring over to Knockalton GWS, the remaining connections are connected to UE and Knockalton GWS. The schemes applied for and were successful in getting funding to be amalgamated.

1. Project Overview

The project involves the engineering design of extensions to the Knockalton GWS to connect two properties currently served by Rathurles GWS. The watermains are approximately 170m in length, comprising 48m of 100mm and 170m of 50mm. The alignments are located along a Regional road R491 and local Primary Road L-1216, running through both the grass verge and the paved carriageway. The project also includes the laying of 350m of 12.5mm service pipe from new meter boxes to the two properties. (68m & 282m). Additional work involves laying 50m of 100mm watermain from a new source to an existing watermain serving the existing pumphouse, this watermain will be laid completely in agricultural land.
The Consultant Engineer will provide full civil engineering, project management, and health and safety design services.

2. Standards & Regulatory Compliance

All works must be designed in strict accordance with current Irish legislation, standards, and guidelines, including but not limited to:

- Uisce Éireann Standards: Code of Practice for Water Infrastructure and Water Infrastructure Standard Details.
- Road Openings: Department of Transport Guidelines for Managing Openings in Public Roads (The "Purple Book").
- Traffic Management: Chapter 8 of the Traffic Signs Manual.
- Health & Safety: Safety, Health and Welfare at Work (Construction) Regulations.

3. Detailed Scope of Services

Phase 1: Site Investigations & Asset Verification

- Topographical Survey: Procure and manage a detailed topographical survey of the two locations of the proposed watermain locations. Total length 170m.
- Utility Mapping: Obtain statutory utility records (ESB, Eir, Gas Networks Ireland, etc.) and perform a non-destructive utility survey (GPR) along the route.
- Asset Verification: Coordinate and supervise physical slit trenches at critical tie-in locations to confirm the material, depth, and exact diameter of the existing live water network.
- Ground Investigation: Supervise trial pits to establish soil profiles, rock depth, and groundwater levels.

Phase 2: Detailed Engineering Design

- Alignment & Longitudinal Sections: Determine the optimum pipeline alignment within the grass verge and carriageway to minimize utility conflicts. Prepare detailed plan and profile drawings.
- Pipe Specification: Specify appropriate pipe materials (e.g., HPPE/Barrier pipe) and pressure ratings based on network requirements.
- Depths & Bedding: Design trench cross-sections ensuring a minimum depth of cover of 900 mm in verges and 1,200 mm in the carriageway, specifying standard bedding and surround materials.

- Design the positioning and chamber details for sluice valves, air valves, scour valves, and fire hydrants in line with Uisce Éireann standard details.
- Tie-in Design: Engineer the specific connection method to the existing live network, including necessary isolation valves, step-couplings, and chlorination/sampling points.
- Pavement Reinstatement: Formulate a detailed road and verge reinstatement schedule meeting the requirements of the relevant Local Authority.

Phase 3: Traffic Management Planning (TMP) & Licensing

- TMP Design: Develop a phased temporary Traffic Management Plan in compliance with Chapter 8 of the Traffic Signs Manual, addressing the constraints of a narrow local road.
- Control Measures: Determine appropriate traffic control mechanisms (e.g., Stop/Go systems, temporary traffic signals, or full road closure/diversion routes).
- Licensing Administration: Prepare, submit, and manage the Road Opening Licence (ROL) application via the MapRoad / MRL system on behalf of the client.
- Access Continuity: Ensure the TMP maintains continuous, safe access for residents, agricultural machinery, and emergency services.

Phase 4: Statutory Approvals & Stakeholder Management

- Tipperary County Council Liaison: Prepare technical submission packages to secure Technical Acceptance (TA) and coordinate the connection agreement process.
- Environmental Screening: Conduct an initial environmental and ecological screening (e.g., Appropriate Assessment screening stage) to identify potential impacts on local watercourses or protected areas.
- Landowner Liaison: Identify and assist in securing any temporary working easements or permanent wayleaves if required.

Phase 5: Health & Safety (PSDP)

- PSDP Appointment: Act as the Project Supervisor for the Design Process (PSDP) under Irish health and safety legislation.
- Risk Mitigation: Prepare a Design Risk Assessment (DRA) to identify, eliminate, or mitigate risks associated with the construction and future maintenance of the watermain.
- Safety File: Compile the preliminary Health & Safety File to be handed over to the contractor.

Phase 6: Procurement Support

- Tender Documents: Prepare a comprehensive tender package including technical specifications, Bills of Quantities and a construction drawing suite.
- Tender Evaluation: Respond to technical queries from tendering contractors and assist the client in evaluating returned tenders.

4. Key Deliverables

- Topographical, utility, and slit-trench survey reports.
- Detailed Design Drawings (Plans, Profiles, Tie-in schematics, and Standard Details).
- Phased Traffic Management drawings and approved MapRoad ROL documentation.
- Design Risk Assessment (DRA) and Preliminary Health & Safety File.
- Complete Tender Package (Specifications, Drawings, and Bill of Quantities).