

Session : 4

Edenderry Inner Relief Road

**John Mitchell,
A/ Senior Engineer,
Offaly County Council**

Edenderry Inner Relief Road Constructing Roads over soft ground



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Edenderry Town (1)

- 31km from Tullamore & just 50km from Dublin
- Population has more than doubled since 1996 to 7,888 in 2022
- Commuter town
- Rosderra Irish Meats factory employing over 500 people



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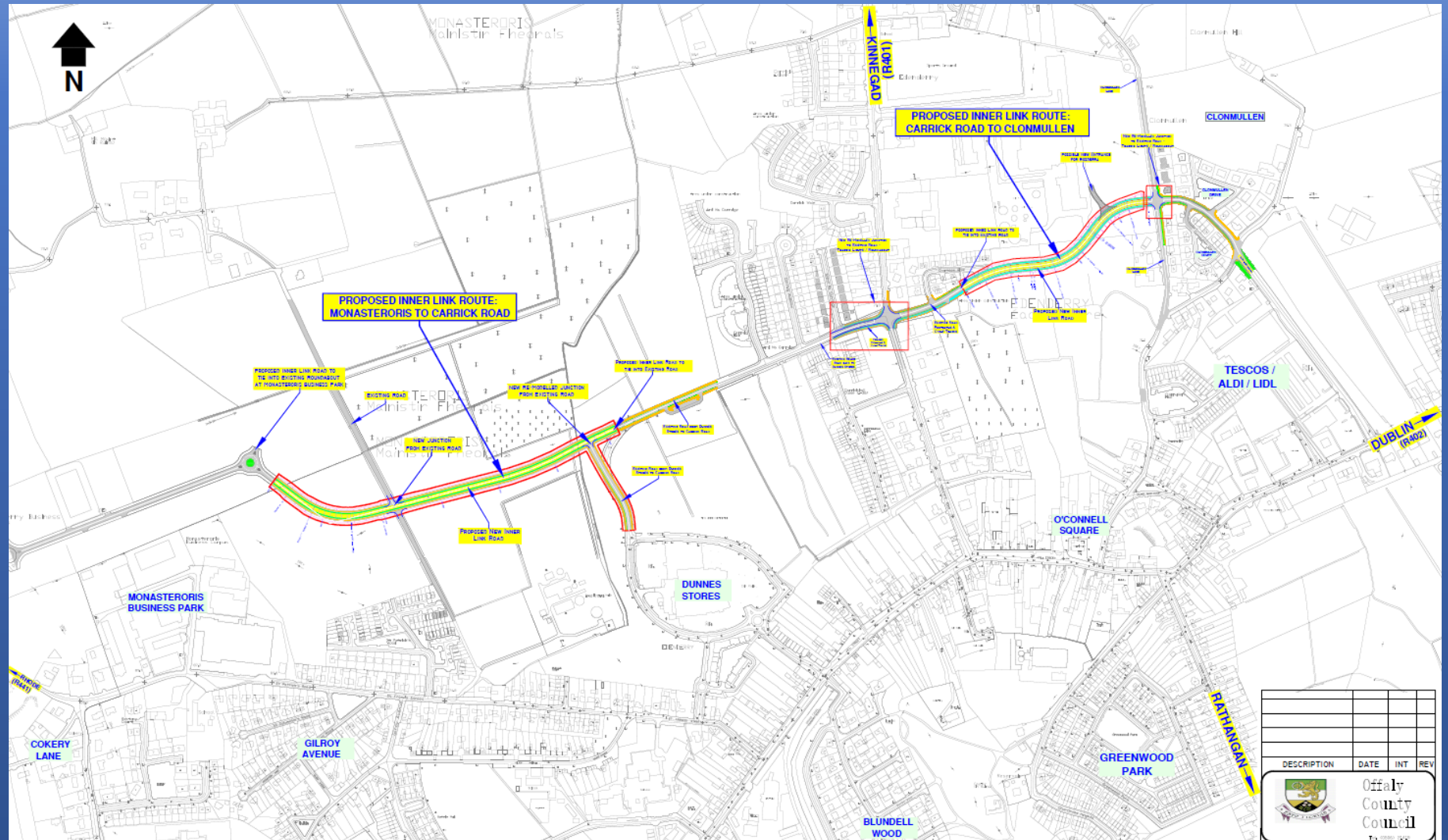
Edenderry Town (2)



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Part 8



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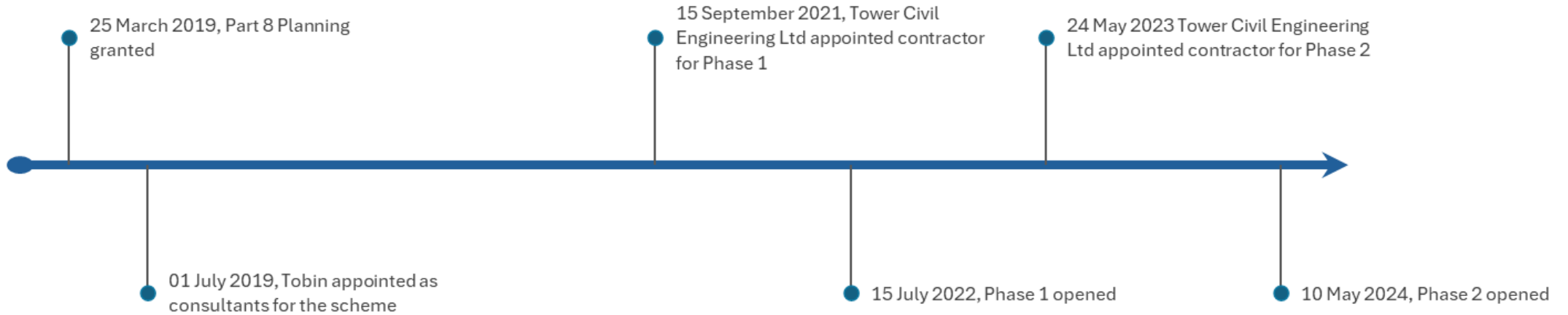
Extent of soft ground impacting scheme



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Edenderry Inner Relief Road

Edenderry Inner Relief Road Timeline



Phase 1: Challenges

- 8 No. Wells found on what was previously Rosderra lands, along new road footprint.



Location of Wells



Well Locations relative to Rosderra Plant

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Phase 1: Challenges – Contd.,

Well Decommissioning:



Steel Liner in Concrete



Concrete Capping



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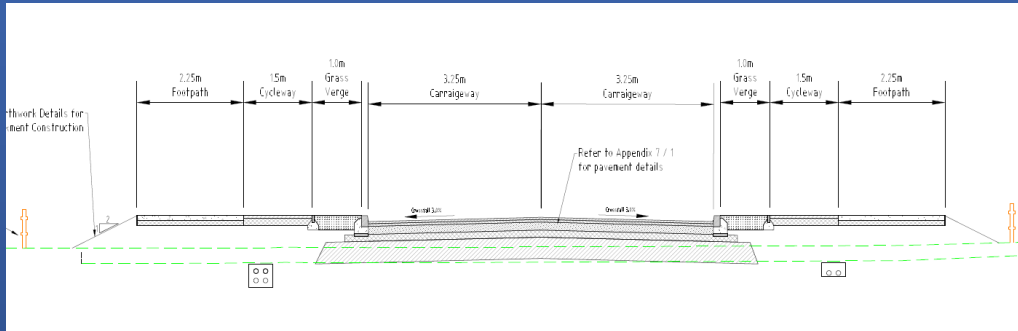
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Phase 1: Design

The scheme was designed DMURS

- Brief was to design all new junctions (3 No.) along new Relief Road to DMURS standards.
- Carrick Road junction which is a full signalised junction with pedestrian & cycling control designed to corner radii of 10m, 7m, 9m & 6.5m.

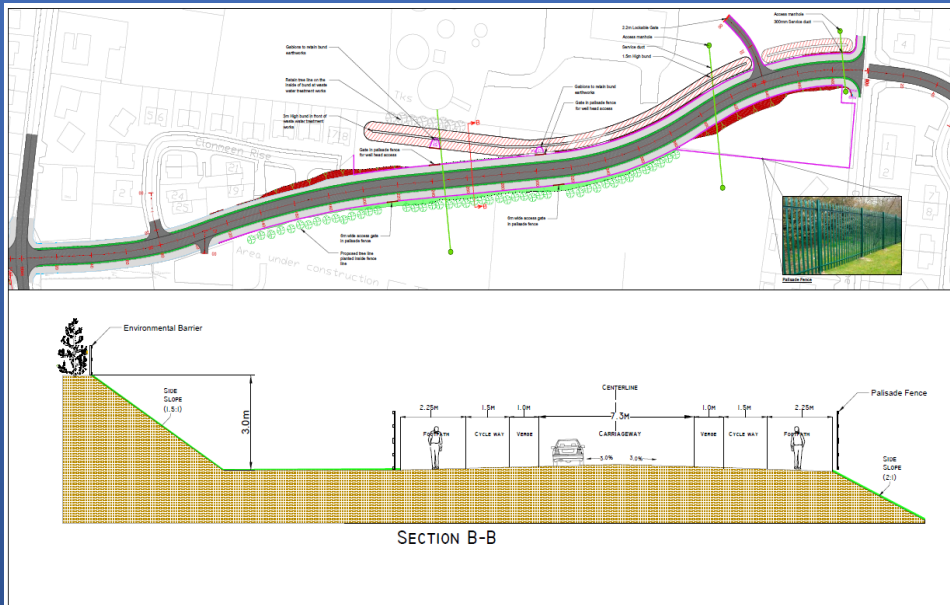


Landscaping Detail

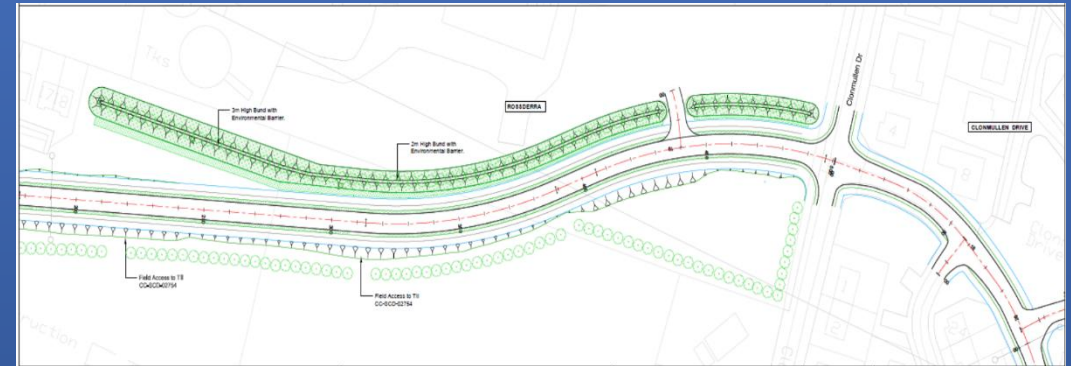
Phase 1: Design - Contd.,

Bund & Environmental Barrier

- Following agreement with Rosderra, a 2m high bund with environmental barrier was constructed and installed to mitigate noise & odour issues emanating from the manufacturing process ongoing at the Rosderra Meat Plant.
- Bund & environmental barrier details along with landscaping details are shown below:



Bund & Environmental Barrier Detail



Landscaping Detail

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Phase 1: Finished Scheme (Scheme outturn cost €2.6m)



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Phase 1: Finished Scheme (2)



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Phase 2: Challenges – Deep Peat



Edenderry
Town Hall

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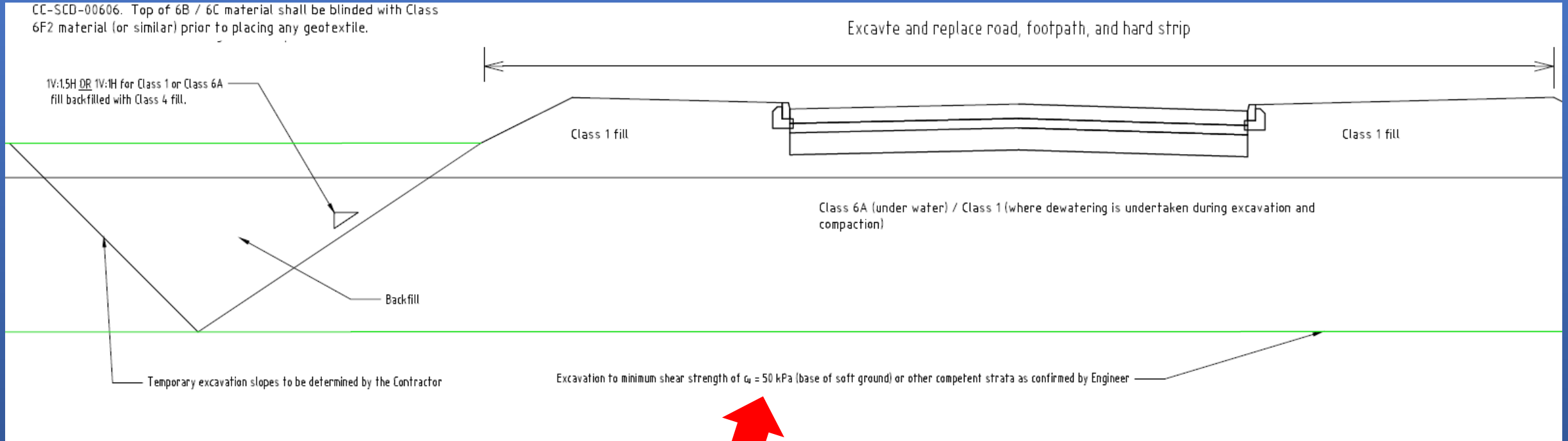
Phase 2: Design – Initial Gound Investigation Field Work

Initial Field Work:

- 6 No. cable percussive boreholes with 3 No. additional boreholes
- 2 No. rotary boreholes
- 19 No. trial pits
- 8 No. slit trenches with 1 No. additional trench
- 6 No. road cores with dynamic probes



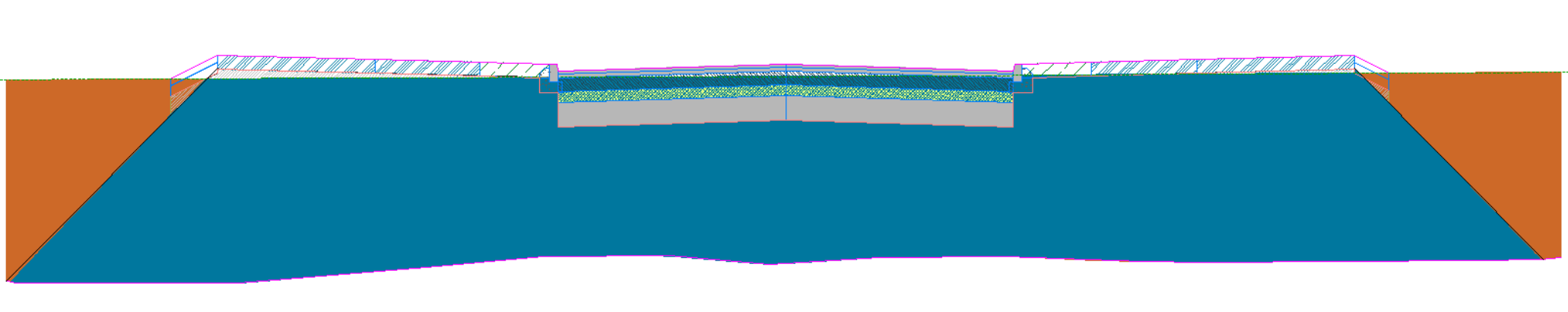
Phase 2: Design – Typical Earthworks Cross Section



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Phase 2: Construction – Designed Cross Section



Typical Designed Cross Section

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Phase 2: Construction – Excavation



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Phase 2: Construction – Subgrade Verification



Photo 1: Gravels: Penetration, in-situ or in bucket



Photo 2: Thumb Test – Soft Marle



Photo 3a: Soft Marle



Photo 3b: HVSV – 50 kPa min

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Phase 2: Construction – Water Management



Photo 1: Keep the sump close to the front of the excavation



Photo 2: Fabric acting as filter



Photo 3: Sumps left in fill if required later.

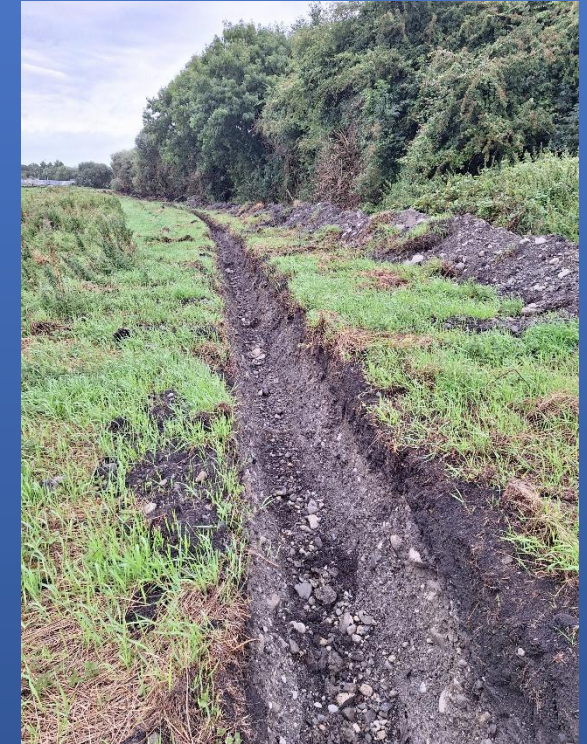
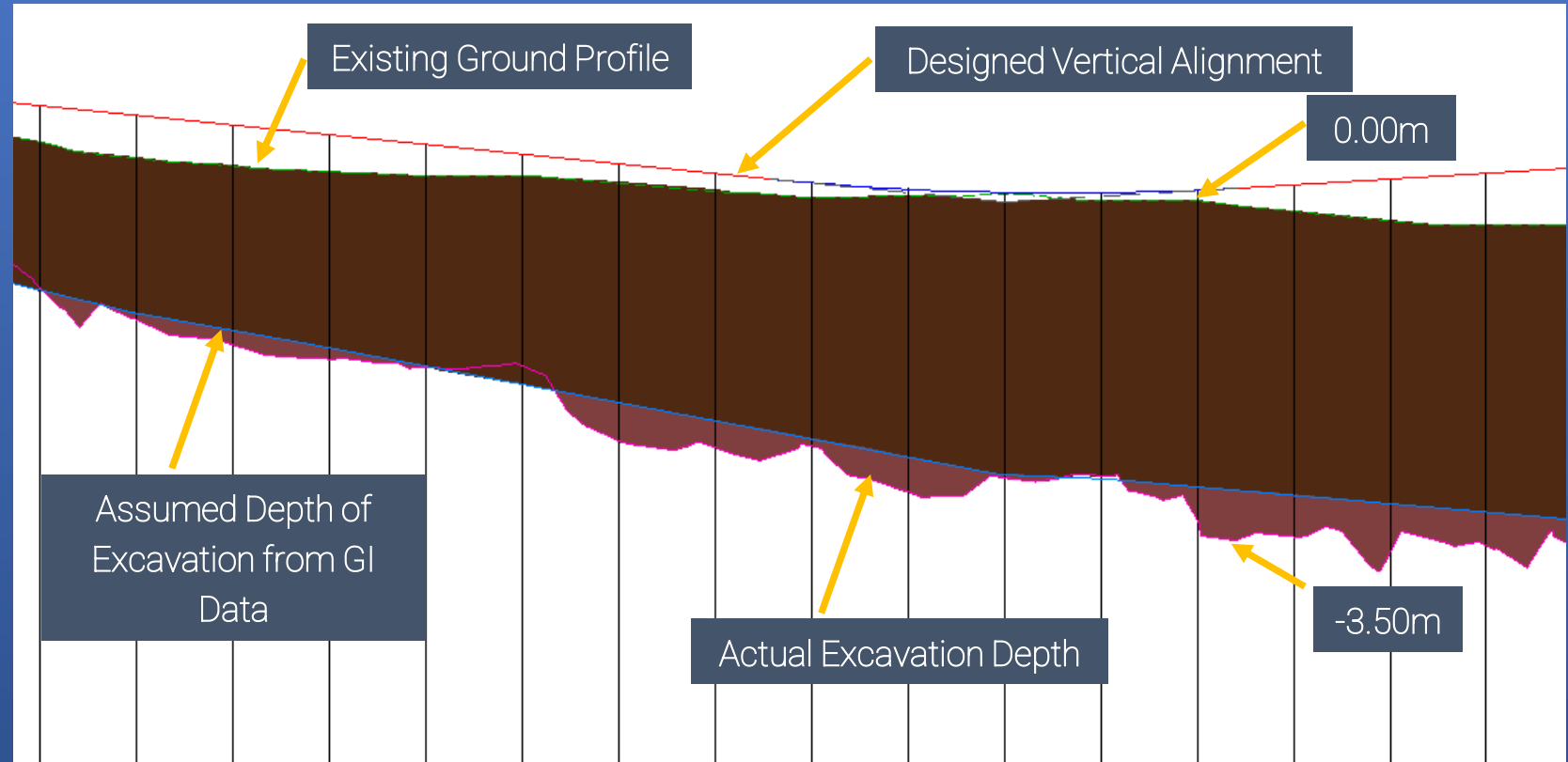


Photo 4: Discharge to V-Drain to act as soakaway during construction.

Phase 2: Construction – As Built Longitudinal Cross Section

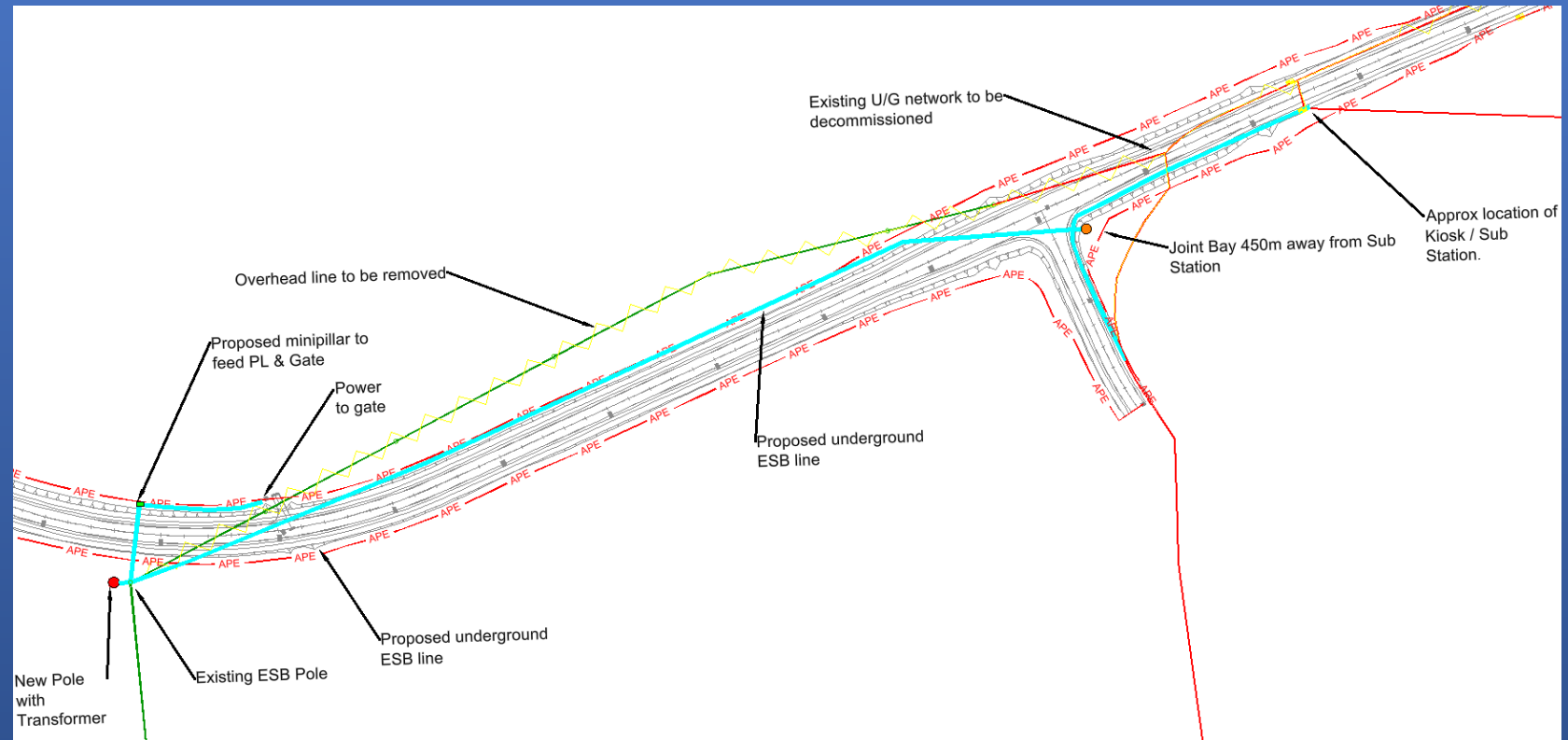
Typical As-Built Longitudinal Cross Section

- Designed Pavement Vertical Alignment
- Existing Ground Profile
- Assumed Depth of Excavation from Ground Investigation report
- Contractors recorded Excavation depths



Phase 2: Construction – ESB Overhand Lines

- 4 ESB Poles to be removed
- Jointing bay to be installed
- Overhand lines to be diverted underground



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Phase 2: Construction – Services Installation



Photo 1: ESB Ducting



Photo 2: Public Lighting



Photo 3: Comms



Photo 4: Wastewater Infrastructure

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Phase 2 Finished Scheme (scheme cost €3.9m)



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Scheme Evaluation: Carrick road junction



Traffic Impact of Scheme (2025 counts)



2019 counts

Location D:
AADT 2684
%HHGV 2%

Location E:
AADT 17050
%HHGV 2.25%

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Looking forward: €15 Edenderry Regeneration Project

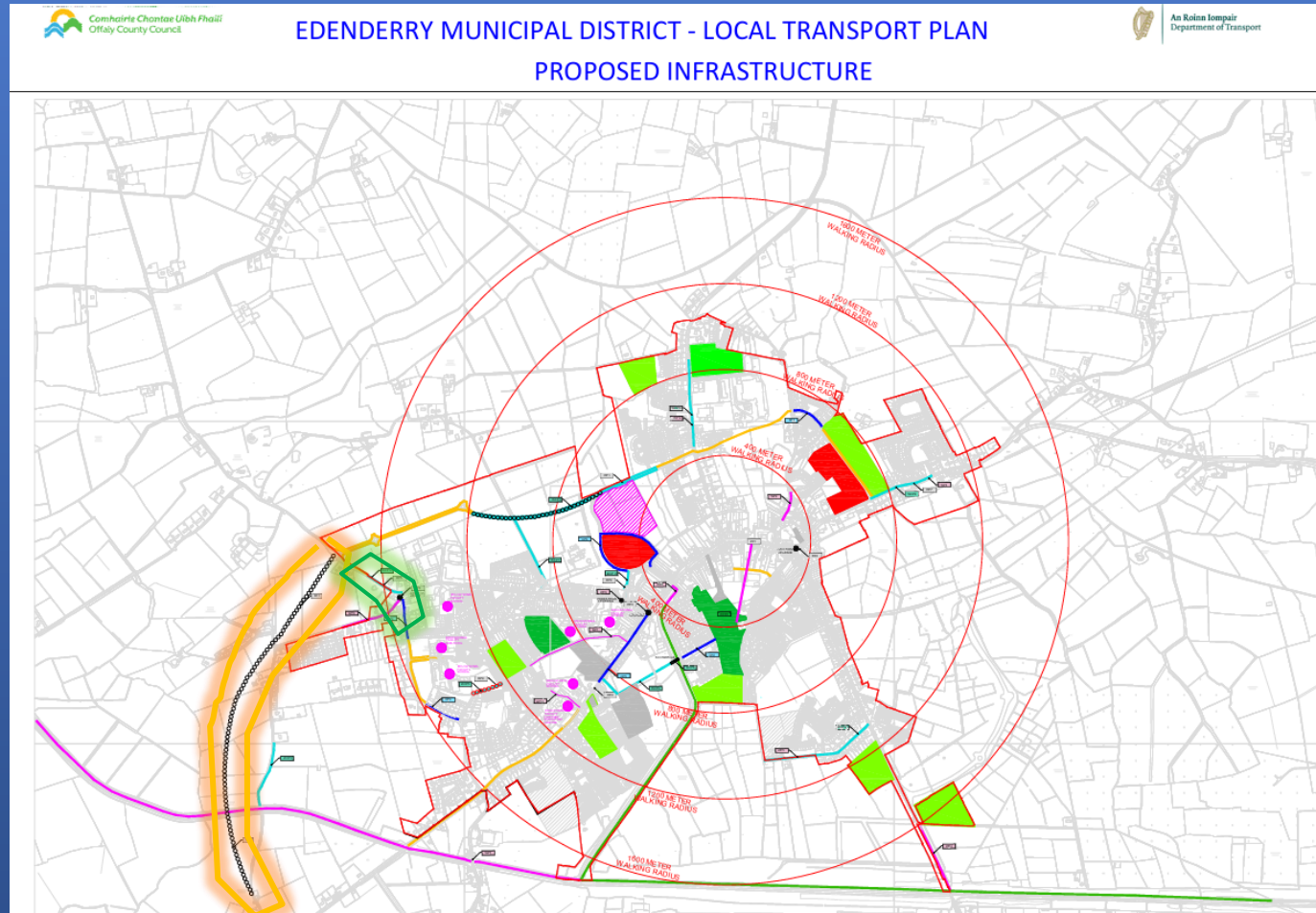


Concept Image of Edenderry Regeneration Project – new Community Library and Arts Space

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Looking forward - R441 Monasteroris & Phase 3 of IRR



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THANK YOU



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Code.

**Questions must include name
and associated Local Authority
to be considered by the panel.**

