

Review of progress to-date on the N22 Baile Bhuirne to Macroom Road Development

N22BBM

Construction works commenced early in 2020 on the project and the following have been achieved at this stage:

At a high level, the Interim By-Pass of Macroom, 8 km in length, opened to general traffic on the 9th December 2022, ahead of schedule. Work is well advanced on the remaining 15km, with the last bridge on the scheme nearing completion at Slieveareagh at the western end of the project. The current schedule would suggest that the remainder of the project is likely to be completed by Q4 2023 with the full scheme being open to traffic.

Some of the works that have been carried out to-date in numerical terms are:

1. The final deck pour on the project was carried out in December 2022 on the high-level bridge at Slieveareagh, bringing the amount of concrete poured throughout the project to more than 29,000 cubic metres.

2. Slump tests are carried out on the concrete as it arrives to site to confirm that it is of the appropriate consistency and to date, more than 4,100 of these slump tests have been carried out.

3. Concrete cubes are taken of the fresh concrete as it is poured. These cubes are tested later on as the concrete cures and they confirm the compressive strength of the concrete. 4,833 Concrete Compressive Strength tests have been carried out to date and 100% compliance with Compressive Strength requirements has been achieved.

4. Significant amounts of steel reinforcement are required for Reinforced Concrete structures and to date more than 3,700 tonnes of steel reinforcement has been used on the project.

5. The construction of the mainline alignment of the new road involves cutting through areas and filling the low-lying areas, using the higher quality excavated material. This is referred to as a "Cut and Fill" type process and the carrying out of these processes is referred to as "Earthworks". This is the largest single operation involved in the delivery of the project and the volume of Earthworks on the project, as it nears completion, is currently greater than 2,600,000 cubic metres. All earthworks excavated in the cut areas has been re-used/recycled in the fill areas.

6. In terms of QA tests related to Earthworks, more than 6,500 tests were undertaken.

7. One of the most challenging elements of the work programme was rock removal by controlled blasting and 51 blasts were successfully carried out on the project.

8. Access Roads have been constructed for property owners affected by the project and to allow them the same level of access to their property as they had prior to the development of road project. To date 36 private access roads have been constructed and made available for use by property owners.

9. With the majority of bridge structures completed at this stage, currently 14 no. Overbridges/Underbridges have been completed and opened to general traffic.

10. The scheme also involved the construction of short lengths of local road and at this point, 30 no. local roads have been constructed and opened to general traffic.

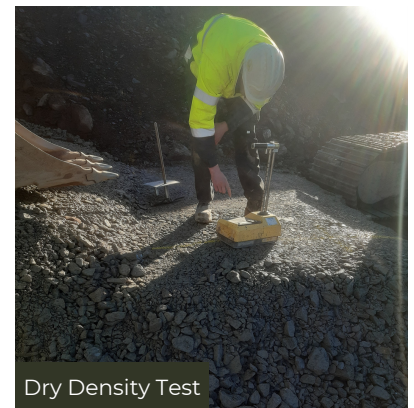
11. The route of the new road traverses a large number of streams and watercourses. Box culverts are installed to convey the larger watercourses through the site of the new road and more than 30 no. of these have been provided on the project.

12. Service ducts are being provided along the full length of the scheme and similarly with surface water drainage piping. To date, 35km of drainage and ducting have been installed.

13. Between Oct 2020 and Nov 2022, a total of 356 precast concrete bridge beams were lifted into position, the final sets being installed in the high-level bridge at Slieveareagh in Nov 2022. This corresponds to a cumulative beam length of 8,000 linear metres with over 50 structures complete.



Slump Test



Dry Density Test



Concrete Compressive Strength Test

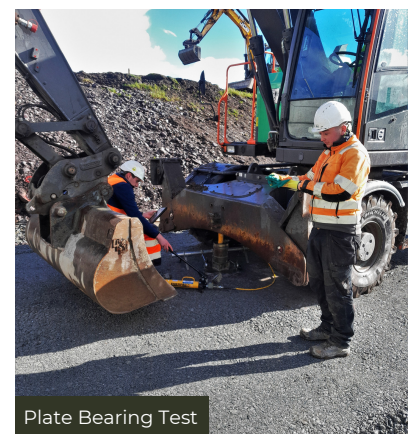


Plate Bearing Test



Waterproofing Adhesion Testing

In terms of Road Pavement Works some of the headline numbers are as follows:

1. Total volume of Sub-Base material (Clause 808) placed exceeds 31,000 cubic metres.
2. Total volume of Road Base material (CBGM: Cement Bound Granular Material) placed exceeds 34,000 cubic metres. More than 1,500 PSD, Nuclear Density, Moisture Content and Compressive Strength tests have been carried out on the CBGM to date.
3. Total area of Asphalt Basecourse placed exceeds 173,000 square metres.
4. Total volume of Binder Course and Wearing Course placed exceeds 144,000 cubic metres, with in excess of 1,500 Quality Assurance tests undertaken on all of the Blacktop layers to date.

Drainage Works:

1. The length of Drainage Channel works completed is of the order of 16km.
2. All surface water run-off from the new road will discharge to Attenuation Ponds before discharging to watercourses. To date 18 of these Attenuation Ponds have been constructed with 11 of them fully completed.

Other works:

1. Soil stabilisation works have been undertaken at the deep cut at Slieveragh and over 1,000 soil nails have been installed to date.
2. 50km of Road Markings and Road Stud have been provided to date.
3. More than 40 km of vehicle restraint barrier has been installed.
4. More than 1,500 metres of Environmental Barrier (Noise Barrier) have been installed to date.



Texture Depth Test