

11 Traffic and transport

11.1 Introduction

This section of the EIS has been prepared in conjunction with Martin Peters and Associates / FMW Consultancy (MPA/FMW) who prepared the Traffic and Transport Assessment (TTA) to support the EIS and planning for the proposed Atlantic Marine Energy Test Site (AMETS) substation at Belmullet, Co. Mayo.

The assessment report has been prepared following extensive discussions with Mayo County Council on the nature and contents of the TTA. Further detail on this is provided in Chapter 4 of this report. The TTA is included in **Appendix 8: Traffic and Transport Assessment**.

11.2 Approach and methodology

A scoping document was prepared by MPA/FMW in June 2011 and was sent to Mayo County Council (Senior Executive Engineer, Roads Design Office, Castlebar and the Area Engineer, Belmullet) for comment and approval. Formal approval of the scope was received on 26 July 2011.

The scope set out the approach and methodology for a traffic survey at key locations leading to the proposed substation location. The locations were discussed and agreed with Mayo County Council prior to survey commencement. At the request of the Council, the survey period included the peak summer arts festival period (when traffic volumes would be expected to be at their highest) and one period outside the tourist season.

It was also agreed that a safety checklist would be assessed in the TTA, including passing, sightlines at junctions, school opening times, and so on.

Traffic surveys were undertaken at three locations as agreed with MCC as part of the scoping exercise for the TTA.

Automatic Traffic Counters (ATCs) were installed at the locations indicated in Table 11-1 between Friday 12 August and Monday 22 August 2011 (Figure 11-1):

Table 0-1: Traffic Count Locations

| Traffic Count Location | Description |
|--------------------------|--|
| Count Location 1 – L5233 | Close to the junction with the local road serving the site |
| Count Location 2 – R313 | Close to the junction with the L5233 north of Binghamstown |
| Count Location 3 – R313 | In Belmullet (south of the bridge). |

It is standard practice to undertake traffic surveys during the school term as this normally coincides with the highest traffic levels. However, given that the Belmullet / Erris region is a tourist area, it was agreed with MCC that traffic surveys should be undertaken during the peak tourist season (August). Moreover, the surveys were actually carried out during the Belmullet Festival (13 to 21 August 2011) in order to obtain the highest traffic levels that the area experiences each year.

Traffic data available from published reports was also used to develop the baseline for the area.

Projected traffic counts associated with the construction and operation of the substation site were compared with existing traffic volumes and the impact of the projected increased traffic flow assessed.

11.3 Baseline

11.3.1 Road network

The site is located at Belderra Strand, which is situated on the west coast of the Mullet Peninsula in west County Mayo approximately 7km from Belmullet.

The site is served by the R313 and L5233 which provide access to Belmullet and beyond.

The L5233 leads from the R313 at Binghamstown to Cross via Belderra Strand and the site location. The L5233 is generally 2.5–3m wide and provides numerous formal and informal opportunities for vehicles to pass where necessary as shown in the photograph in Figure 11-2 below.

The R313 runs from Bangor to Blacksod via Belmullet and provides the main route for travel along the southern part of the Mullet Peninsula. The R313 is generally 6m wide (minimum) and provides two lanes of traffic along its length as shown in the photograph in Figure 11-3.

Figure 11-4 shows the road network that serves the site at Belderra Strand.

The site is connected to the L5233 via a local road as shown in the photograph in Figure 11-5 below. This road is 2.5m wide and is unsurfaced between the junction with the L5233 and a point just southwest of the site area.

11.3.2 Traffic volumes

Traffic surveys were undertaken at three locations as agreed with Mayo County Council as part of the scoping exercise for the TTA.

Table 11-2 shows that the roads serving the site have significant amounts of spare capacity when compared to their typical carrying capacities and thus link capacity should not be an issue of concern.

Table 11-2: Surveyed traffic volumes

| Count Location | 5-day average | 7-day average | Typical link capacity* | % spare capacity |
|-----------------------|---------------|---------------|------------------------|------------------|
| 1 – L5233 | 270 | 255 | 6,500 | 99% |
| 2 – R313 Binghamstown | 2,800 | 2,606 | 20,250 | 86% |
| 3 – R313 Belmullet | 7,195 | 7,576 | 18,000 | 58% |

* Based on values in the *Design Manual for Roads and Bridges*, TA 46/97 and 79/99.

The *Corrib Onshore Pipeline EIS* (Chapter 7, Traffic) contains traffic data for the R313 to the east of Belmullet (west of the R313/R134 junction). This was collected in August and September 2007, and the August surveys were undertaken the week before the Belmullet Festival. Using the two sets of data collected in 2007, the Corrib EIS derives an annual average daily traffic (AADT) of 3,624 on the R313.

This level of traffic is less than half that surveyed in August 2011 during the Belmullet Festival. This can be explained by the fact that the Festival attracts thousands of additional visitors to

the town and also as the 2011 surveys were undertaken in the centre of the town rather than 4km east of the town on the R313.

In order to provide a robust assessment of the traffic impact of the proposed AMETS facility, the TTA takes into account the AADT and the volumes for August (during the Belmullet Festival).

11.3.3 Accident record

The Road Safety Authority's collision data shows that there were no collisions in the vicinity of the site between 2005 and 2009.

In the same period there were ten collisions on the R313 in Belmullet 8 of which resulted in slight injuries and two in serious injuries.

This data shows that the surrounding road network has a good safety record and that there are no particular locations where road safety is an issue that could be exacerbated by the traffic associated with the proposed AMETS facility.

11.3.4 Junction geometry

The layout of the junction between the L5233 and the local road connecting to the site is shown in Figure 11-6.

The visibility to the east along the L5233 is partially restricted at present due to the collapse of the turf/stone wall in this location. This can be seen in the photograph in Figure 11-7 below.

The visibility splays currently available at this junction are 2.4m x 30m / 70m to the east and west respectively.

The junction of the L5233 with the R313 provides good visibility in either direction as shown in the photographs in Figure 11-8 and Figure 11-9 below.

11.4 Potential impacts

Increased traffic volumes may cause congestion of the local road network leading to the site and through Belmullet itself, particularly at peak traffic periods. Increased traffic could also pose a road safety and accident risk in sensitive areas, in areas with a poor safety record, and where routes pass school buildings.

For the purposes of the TTA, it is assumed that all of the traffic associated with the AMETS facility will travel to and from the site via the L5233 and the R313 through Belmullet.

The following sections set out the predicted traffic impact that AMETS will have in its construction, operational and decommissioning phases.

11.4.1 Predicted traffic impact

Construction phase

Trip generation estimates are based on a construction programme of 6 months, an assessment of duration of operations and the requirements for deliveries and removals. The works to the site are divided into site strip / preparation and general building and civil engineering works.

Excavated material from the site will be used to construct the earthen berm around the substation compound. Approximately 2000m³ of soil will be excavated for site strip / preparation and road construction.

Of this, 1,600m³ will be used in the berm leaving a surplus of 400m³ of excavated soil. Taking into account bulking of the excavated soil, approximately 600m³ of excavated material will need to be removed from the site.

Using a tipper truck of 9m³ capacity, this will require approximately sixty-seven truck-loads; and allowing ten working days for this work, there comes to seven truck-loads per day or fourteen trips.

The estimated quantity of truck movements associated with the main civil works are detailed in the Traffic and Transport Assessment Report in **Appendix 8**, along with estimated duration of the operations within the context of the 6-month programme.

A maximum of six trips is projected during the civil engineering and building works. This is based on tipper truck capacity of 9m³ and concrete truck capacity of 6m³ per load. These are high-level conservative estimates based on planning drawings only and subject to revision following detailed design.

Construction staff movements are estimated at four–six trips per day during the site strip and preparation phase (two to four staff) and ten–fifteen trips per day during the main building and civil engineering works (five–ten staff).

This gives a total of up to twenty vehicle trips per day during the site strip and preparation phase and a maximum of twenty-one trips during the main building and civil engineering works.

It is assumed that all of the traffic associated with the AMETS facility will travel to and from the site via the L5233 and the R313 through Belmullet.

The impact of the anticipated number of additional trips upon the existing levels of traffic on the surrounding road network is summarised in Table 11-3 below.

Table 11-3: Traffic impact summary – surveyed traffic volumes

| Count location | 7-day average | Development trips | % Increase | % Spare capacity (with development trips) |
|-------------------------------|---------------|-------------------|------------|---|
| 1 – L5233 | 255 | +21 | 8.2% | 91% |
| 2 – R313 Binghamstown | 2,606 | +21 | 0.08% | 86% |
| 3 – R313 Belmullet (Festival) | 7,576 | +21 | 0.03% | 58% |
| *R313 Belmullet (AADT) | 3,801 | +21 | 0.06% | 79% |

*This figure is based on 2007 count data for the Corrib EIS factored to take account of expected traffic growth to 2011 (Annual Medium Growth Factor in Table 5.5.1 of the NRA Project Appraisal Guidelines, West of Ireland.)

As Table 11-3 shows, the proposed AMETS facility will increase existing traffic flows on the L5233 by a maximum of 8.2%, below the 10% threshold agreed with Mayo County Council. In summary, the traffic associated with AMETS will have minimal impact upon the capacity of the surrounding road network and is not an issue of concern. This concurs with discussions with Mayo County Council prior to preparing the TTA.

Operational phase

Traffic movements to and from the site during the operation phase will be very low and the impact is predicted to be negligible.

Traffic to Frenchport Pier and Ballyglass Pier will also be very low in volume with an estimated two to four vehicles per day using these facilities when WECs are deployed and maintained at the test site.

Decommissioning phase

The decommissioning phase would involve an intense period of material removal from the site and possibly the importation of soil. Traffic movements would be similar to the construction phase with similar predicted levels of impact.

11.4.2 Safety impact

Provision for the safety of existing and future road users is an important consideration in the design of any proposed development and this has been considered in detail during the development of the proposed scheme layout. This section outlines key safety issues and how these have been addressed.

Construction phase

The local road to the site (L5233), is currently about 3– 3.5m in width with numerous areas where there is provision for passing. These take the form of formal and informal passing bays as shown in the photographs in Figure 11-10a and Figure 11-10b below.

Along this road there is a school at Binghamstown, and in the vicinity of the school there is a set-down area for cars and buses that is shared with the church car park. The road in this area is up to 5m in width.

As the level of traffic to be generated by the proposed development is low and the background traffic levels are well within the road capacity and considering there is no history of collisions in the area (RSA data) there are no specific safety concerns.

Given the good existing safety record on the surrounding roads and the minimal increase in traffic volumes attributable to the proposed AMETS facility, it is considered that the development will not have an adverse effect upon road safety.

Operational phase

Operational traffic levels will be low and no significant impact is predicted.

Decommissioning phase

Potential safety impacts during the decommissioning phase will be similar to those in the construction phase and will be low.

11.4.3 Access road

Construction phase

The access road to the site from the L5233 is currently about 2.5–3m in width with no provision for passing – as shown in photographs 9 and 10 below.

As part of the development works for the project it is proposed to widen this road to a minimum of 3m and to provide a single passing bay between the site access and the junction with the L5233.

Furthermore, it is proposed to surface this road and formalise the running surface. These works along with the low levels of traffic will ensure safe access and egress to the site.

The entrance to the proposed site is to be taken from the local road off the L5233. Given that the site access is located on this small local road and in order to ensure safety at the entrance, a simple priority controlled entrance is proposed here. The site access will be a minimum of 3m in

width and will be set out in accordance with the recommendations of the National Roads Authority *Design Manual for Roads and Bridges* (NRA DMRB TD 41/42) where relevant.

The issue of traffic safety at the proposed access to the development has been considered in the preparation of the entrance design, including entrance geometry and sightlines. The design proposed will ensure sufficient and safe access to the site from the local road and no significant impact on safety is predicted.

Operational phase

No additional works related to the access road are foreseen during this phase and no additional impacts will occur.

Decommissioning phase

The access roads developed during the construction phase will be adequate for the decommissioning phase and no additional impact is foreseen.

11.5 Mitigation

11.5.1 Construction phase

The volume of traffic movements associated with the construction phase of the AMETS substation and land works will be very low contributing just 8.2% to the baseline traffic in the area (on the L5233) and no specific mitigation is required with respect to traffic volume. There are sufficient passing bays along the local roads to facilitate passing and the project will not give rise to any traffic congestion in the area.

From the access and safety aspect, mitigation will be principally by design, and impacts can be minimised by ensuring the following are undertaken:

- Positioning the substation site access on the local road to provide adequate sight visibility in accordance with the recommendations of the NRA DMRB TD41/42 where relevant
- Internal site access road to have a max 1:20 gradient
- Set back the boundaries along the local road to provide adequate visibility splays
- Reposition and rebuild the turf/stone bank at the L5233 / local road junction to facilitate turning onto the road and sightlines at the junction
- Realign radius at L5233 / local road junction to facilitate rigid truck access
- Fund the surface dressing of the local road from the junction with the L5233 to a point south of the site area (where the existing road is already surfaced)
- Restrict delivery times to avoid conflict with school opening and closing times – 08.00–09.30 and 14.30–15.30.

Mitigation requirements recommended by the TTA consultants have already been incorporated into the design of the site entrance and access roads to the substation. Implementation of the additional mitigation requirements during the construction phase will ensure that negligible impact will occur.

11.5.2 Operational phase

Consultation with local pier users at Ballyglass and Frenchport will take place on an ongoing basis to ensure congestion is avoided. No additional mitigation is foreseen during the operational phase.

11.5.3 Decommissioning phase

During the decommissioning phase vehicle movements will be restricted to avoid conflict with school opening and closing times – 08.00–09.30 and 14.30–15.30.

11.6 Conclusion

Subject to the implementation of the proposed mitigation measures identified in 11.5 above, the construction, operational or decommissioning phases of the AMETS project will result in no significant impacts.

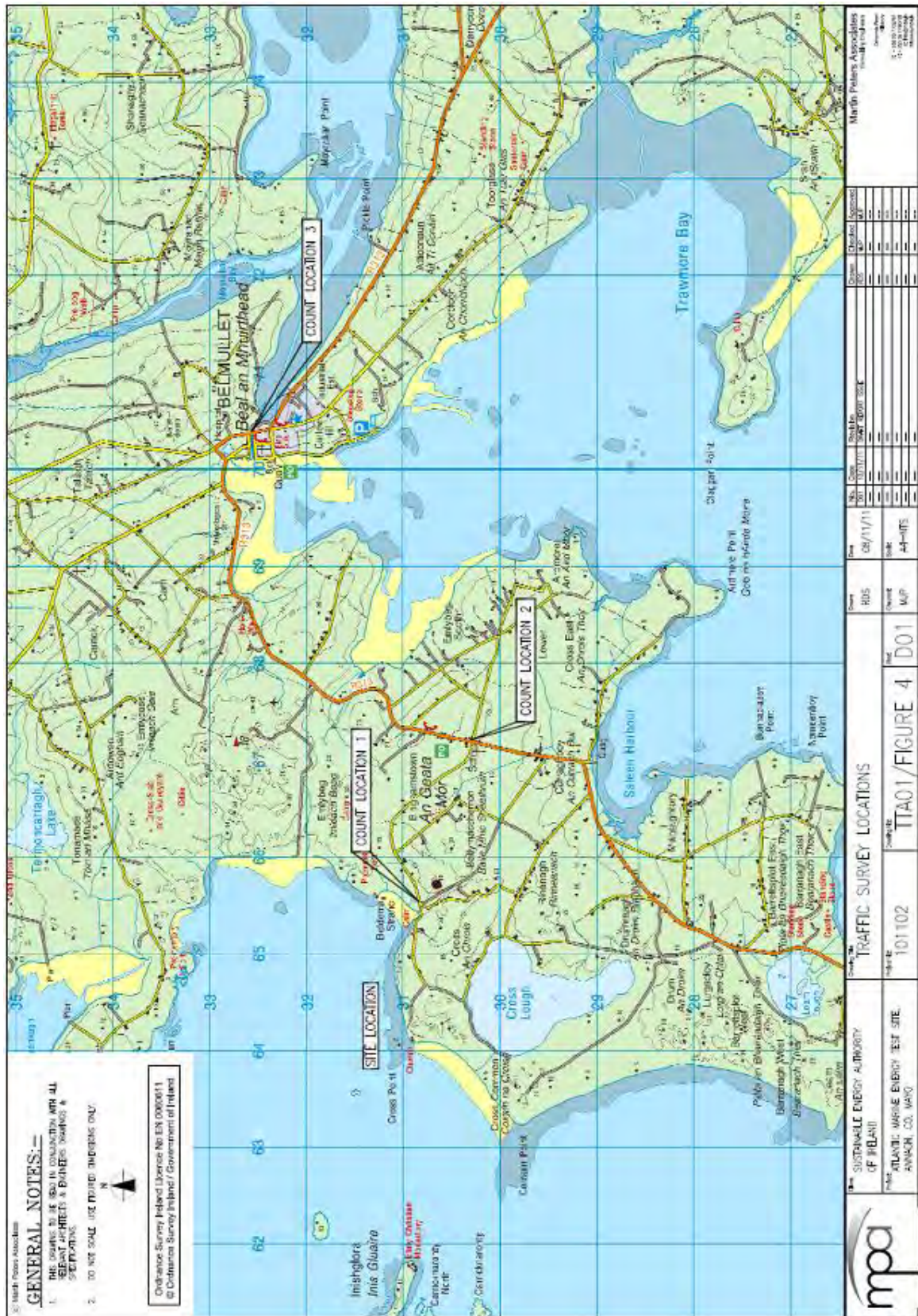


Figure 11-1: Traffic count location



Figure 11-2: L5233, near to the site with a passing bay



Figure 11-3: R313 Binghamstown

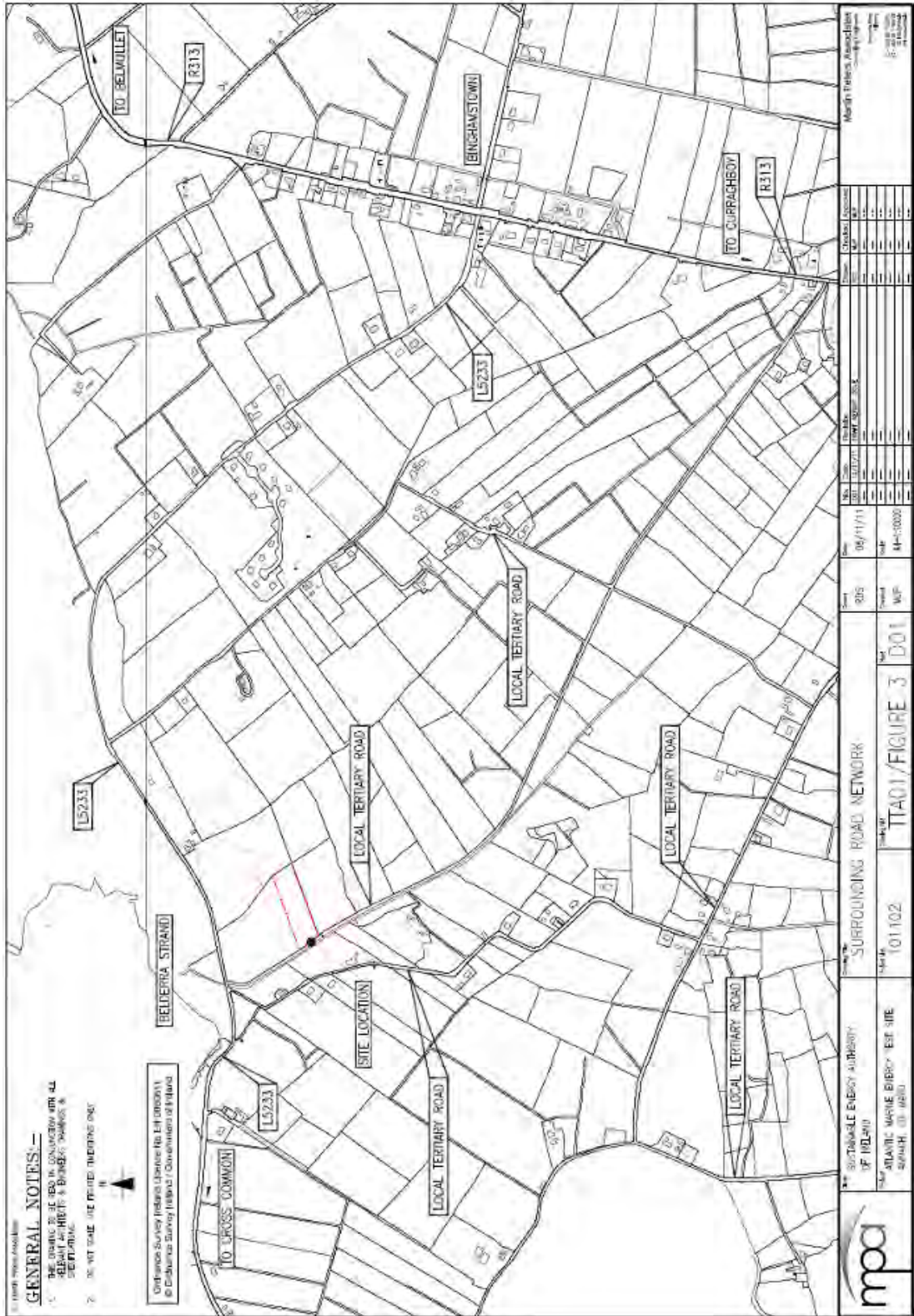


Figure 11-4: Local road network



Figure 11-5: Local road connecting site to L5233

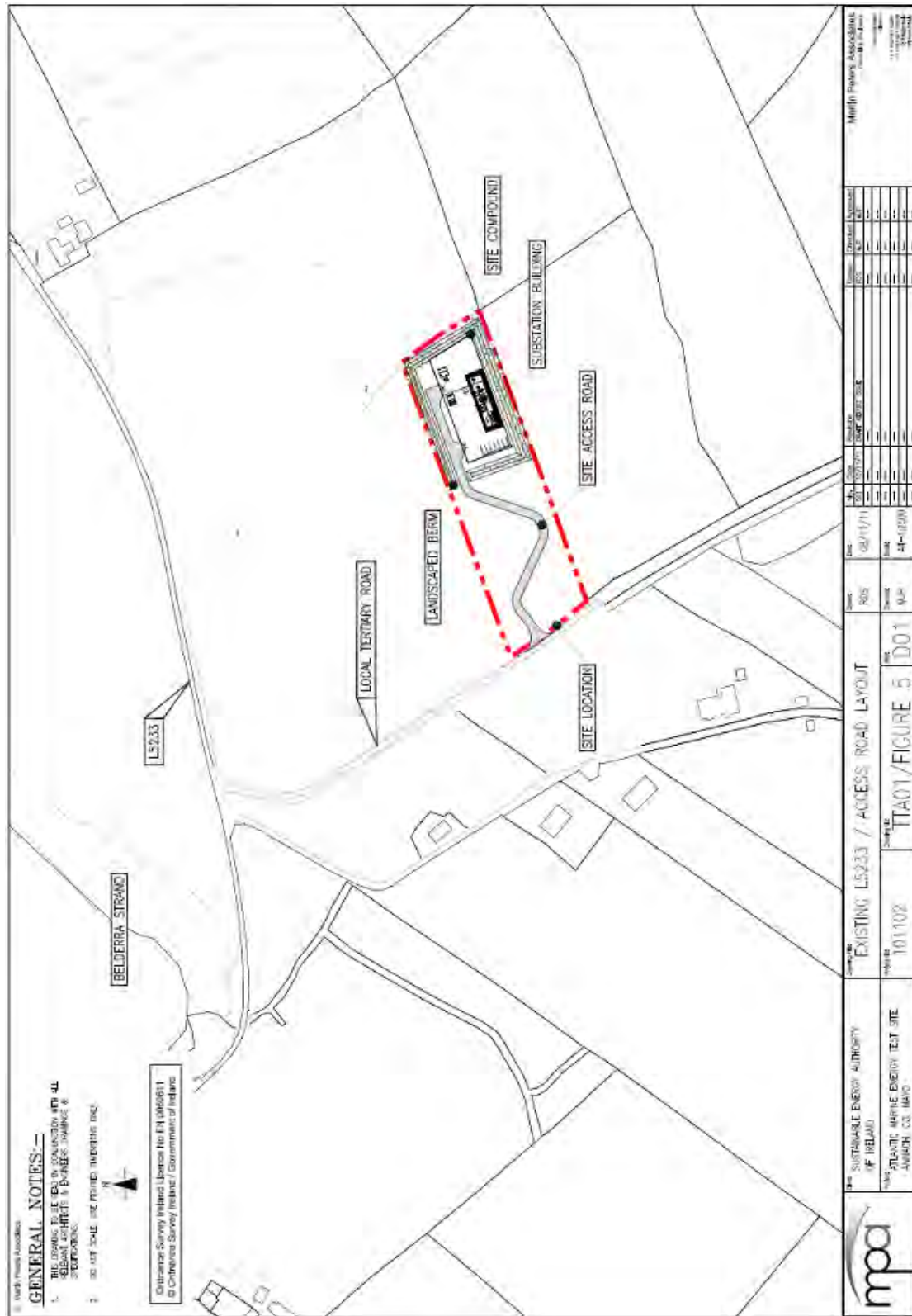


Figure11-6: Junction layout at L5233 and local road at site location



Figure 11-7: L5233 – local road junction



Figure 11-8: R313 / L5233 junction visibility splays



Figure 11-9: R313 / L5233 junction visibility splays



Figure 11-10a: L5233 with passing bays



Figure 11-10b: L5233 with passing bays



Figure 11-11a: local road to site



Figure 11-11b: local road to site