



# Abnormal Load Route Survey Report

Gordonbush Extension Wind Farm

SSE Renewables Developments (UK) Ltd

June 2015

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# Document history

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This document has been issued and amended as follows:

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001	02.03.15	For Inclusion as Appendix in ES	Alan Kerr/Bryan Tighe	Richard Bourne	Jonathan Plant
002	10.06.15	Incorporating minor changes to Drawings following legal and client review	Alan Kerr	-	-

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# 1 Introduction

## 1.1 Introduction

CH2M HILL have been commissioned by SSE Renewables Development (UK) Ltd (hereinafter referred to as SSE) to undertake a route review for the delivery of abnormal loads associated with the proposed extension of the Gordonbush Wind Farm, near Brora in Sutherland. CH2M HILL have been engaged to review the route for abnormal loads from the Port of Entry (POE) to the proposed site access.

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This report identifies the key points and issues associated with the horizontal alignment of the proposed route that may require remedial works to accommodate the predicted loads and should be used as a guide only. The designs of these remedial works are, however, beyond the agreed scope of works. This assessment identifies necessary further work and it is the responsibility of the wind farm Applicant to ensure that the access route from the POE to the site access is fit for purpose and that appropriate consideration for all road users has been made in accordance with the relevant health and safety legislation and ruling transport requirements.

## 1.2 Background

A 35 turbine wind farm at Gordonbush began construction in autumn 2010 and full commissioning was completed in June 2012. Turbine deliveries to site began in August 2011 and completed in February 2012.

The existing Gordonbush wind farm is located north-west of Brora, on the Gordonbush Estate, and is accessed via the A9 (T), the Clynelish and Moss roads and the C6 Strath Brora road to the site entrance. It is intended that the construction traffic route used for the existing development would be used for the Development.

## 1.3 Report Structure

This report is structured as follows:

- Description of the proposed Development, along with details of the proposed abnormal loads;
- the route review, the POE facilities and a summary of the swept path assessment results for the access route, based upon data provided by SSE;
- an abnormal loads management plan;
- the potential impact on underground or overhead services ascertaining if the maximum height and axle loading would have a detrimental impact that may require mitigation; and
- summary and conclusion.



## 2 Proposed Wind Farm

### 2.1 Site Description and Location

The Development is located to the southwest of Gordonbush Wind Farm, approximately 9.5km north-west of Brora, Sutherland. The proposed POE, site access, and abnormal load transport route are illustrated on Figure 2-1.

### 2.2 Proposed Turbine Details

SSE requested that the impacts of transporting the REpower 3.4M104 turbine, with a rotor diameter of 104m and a standard hub height of 80m were assessed. The component details of the nominated REpower 3.4M104 turbine as agreed with SSE, relevant to undertaking a horizontal tracking assessment, are summarised in Table 2-1.

**Table 2-1: REpower 3.4M104 Component Details**

Component	Approx. Length (m)	Approx. Width Bottom (m)	Approx. Width Top (mm)	Approx. Height (m)	Approx. Weight (t)
Blade	50.80	-	-	3.80	12.00
Tower Section 1 (Base)	13.00	4.300	4.300	-	59.00
Tower Section 2 (Mid 1)	20.00	4.300	3.628	-	-
Tower Section 3 (Mid 2)	20.00	3.628	3.002	-	-
Tower Section 4 (Top)	21.70	3.002	3.002	-	-

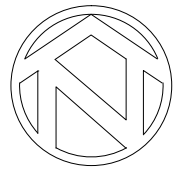
Based on the dimensions in Table 2-1, the blade and tower section 1 (base) have been assessed as these are deemed, with regard to geometry, to be the most onerous.

### 2.3 Crane Details

Based on experience, it is anticipated that a 9-axle 1200 tonne Liebherr LTM11200 telescopic crane (with a 100m telescopic boom), or similar, will be used to erect the proposed turbines. Figure 2-2 below illustrates the general layout of the potential crane<sup>1</sup>. The crane can be broken down to ensure that the axle loadings are no greater than 12 tonnes. However, the procurement of a suitable crane will be the responsibility of the Contractor.

<sup>1</sup> [http://www.liebherr.com/AT/en-GB/products\\_at.wfw/id-8607-0/measure-metric/tab-6048\\_1477](http://www.liebherr.com/AT/en-GB/products_at.wfw/id-8607-0/measure-metric/tab-6048_1477)





Site Access

Port of Entry

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GORDONBUSH EXTENSION WIND FARM

Notes

Rev	By	Chkd	Appvd	Date	Description

Drawing

Site Location and Proposed  
Abnormal Load Transport Route

Drawn by: AK Date: 25/06/12

Checked by: AK Date: 17/05/13

Approved by: JP Date: 17/05/13

Revision

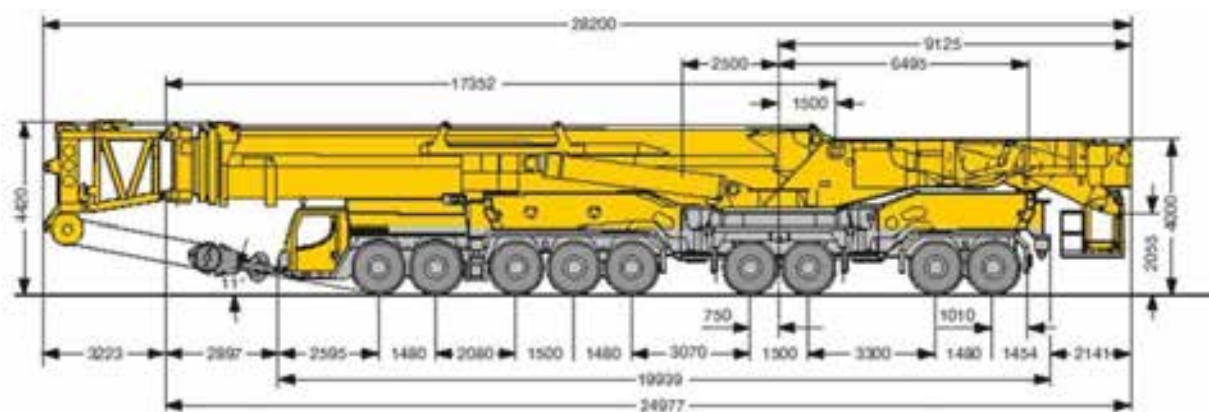
Figure 2-1

Drawing Scale: NTS

Drawn by: AK  
Checked by: AK  
Approved by: JP  
Revision  
Date: 25/06/12  
Date: 17/05/13  
Date: 17/05/13



Figure 2-2: 1200 tonne Liebherr Crane



## 3 Access Route Review

### 3.1 Introduction

The intention, as confirmed by SSE, is to make use of the same delivery route as used for construction traffic associated with the original Gordonbush Wind Farm (illustrated on Figure 2-1). Considering the previous reinforcement work undertaken to strengthen and widen the Clynelish and Moss roads and the C6 Strath Brora road for the original development to accommodate the associated abnormal loads, it is deemed prudent, and confirmed by SSE, to use this route for the Development.

### 3.2 Port of Entry

Invergordon Port is considered the optimum POE. It is located on the Cromarty Firth and handles a wide range of international cargoes, including wind farm and specialised project cargoes.

The port has the capacity to accommodate abnormal loads with easy access to the trunk road network for offsite transportation following the redevelopment of the port access to facilitate abnormal loads (shown in Photo 3-1). The Cromarty Firth has already been used extensively for the delivery and assembly of wind farm components destined for use on the Scottish mainland.



**Photo 3-1: Invergordon Port Access**

The abnormal route review was undertaken from Invergordon Port to the site access on 23 April 2013, by video survey. This method allows a full record of the route to be undertaken, with notes recorded during and following completion of the survey. Not only is this process efficient, it also provides a much safer working environment for staff. The video survey also allows a full record of the route to be kept for future reference.

### 3.3 Consultation

CH2M HILL has undertaken consultation with key organisations among the various roads agencies and authorities along the proposed delivery route that have a direct involvement or responsibility for roads and structures along the proposed delivery route. CH2M HILL contacted these key organisations stating that the proposed development would require the transportation of wind turbine blades, tower sections and nacelle components on the proposed route from Invergordon. Details of the proposed route and the key component dimensions and weights were provided to the key organisations. The organisations and their responses are summarised in Table 3-1. The full responses are attached as Appendix A.

**Table 3-1: Contacts and Responses**

Organisation	Response Summary
The Highland Council (structures)	Based on the assumption that the transport routes would be the same as the original Gordonbush Wind Farm development “there would not appear to be a problem with what is proposed”.  In due course further advice will be given following confirmation of the route and abnormal loads.
The Highland Council (Transport Planning)	Pre-application guidance was supplied based on THC prospective methodology for a Transport Statement / Assessment associated with the methodology for renewable energy proposals. It outlined the requirement to identify a preferred access route for the development.
Transport Scotland	The response noted that the approach being taken (i.e. following the same route as original wind farm) was acceptable and asked that any temporary modifications to the trunk road network are detailed.
Police Scotland	Police Scotland provided a response confirming the preferred route from the POE. It was confirmed that they would have no issues with the use of the unclassified road from Clynelish but it's suitability for the proposed loads weights and configurations should be ensured.  It was also confirmed that, in the interests of road safety and to minimise traffic disruption, all abnormal load movements will require a police escort and this would be reflected on the comments in the VR1 (application form to move abnormal loads).

### 3.4 Swept Path Assessment Results

During the public road route survey for abnormal loads, it was determined that a detailed swept path assessment was required at a number of the recorded Points of Interest (POI), illustrated on Figure 3-1 and Figure 3-2, (described in Table 3-2 as ‘tracking required’).

This report considers horizontal tracking assessments that have been undertaken from the POE to the site access, to determine the impact of transporting the most onerous REpower

3.4M104 turbine components<sup>2</sup>. Summaries of the assessment results are provided in Table 3-2 and the illustrated outputs are provided in Appendix B for review. It should be noted that manual rear wheel steer has been used at certain locations to minimise over-run i.e. widening to accommodate vehicle movements, and to avoid impacting on third-party land and this is highlighted on the Drawings in Appendix B (rear wheel steer has been used considerably on the Clynelish Road and the C6 Strath Brora road section of the route). Where mitigation works are required, these are illustrated on the swept path drawings. The works required are also summarised in Table 3-2. The risk index, noted below, has been used to quantify the significance of any required improvements and land take at all POI listed in Table 3-2:

- 0: Minimal risk;
- 1 – 3: Low risk, some road land take with limited modifications to street furniture;
- 4 – 6: Medium risk with some limited third party land and further investigation required on bridges and other structures;
- 7 – 9: High risk with extensive third party land, single track roads or major investigation required on structures; and
- 10: Route not feasible.

It should be noted that both sides of the carriageway on the public road network would be required along a significant proportion of the proposed delivery route due to the load and vehicle dimensions and the configuration of the loads on the vehicles. This would be particularly true at bends in the road. Therefore, appropriate traffic management would be required.

The drawings in Appendix B illustrate both the blade and base tower sections. The drawings are for information only and should not be scaled from. The colours provided on the swept paths are as follows:

- green: body swept path (vehicle/trailer outline);
- red: wheel swept path; and
- magenta: load swept path.

### 3.5 Swept Path Comments

It is important to note that the swept path assessments undertaken have been based on the data currently available i.e.:

- Ordnance Survey Mastermap data; and
- topographical data plans, provided by SSE, that include the widening areas associated with the existing Gordonbush Wind Farm, for the part of the route from the A9 (T) to the site access.

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<sup>2</sup> Note, this is no longer the candidate turbine and Appendix 12.2 includes selected assessments for the candidate turbine.

This information has been used as the basis of the swept path assessment undertaken for this study. It has been noted, while undertaking the assessment, that widening that was evident during the site visit does not always match with the widening illustrated on the plans provided. Therefore, the further assessment of the route should aim to confirm what widening has already been undertaken either by the distribution of existing drawings or undertaking further topographical surveys. Also, any areas of the original widening that this assessment uses may have to be strengthened or reconstructed prior to the delivery of the assessed loads.

It should also be noted that as a haulier has not been chosen to deliver the proposed abnormal loads, any alterations to the load or vehicle details considered as part of this assessment will invalidate the assessment results. The swept path assessments are based on a computer model of the likely vehicles and configurations that may be used, which also build in a degree of safety margin that tends to provide a conservative estimate of the required area. Engineering judgement has been used to determine the best path for the vehicles to take and the model has replicated this. However, what may have been achieved on the desktop review may not necessarily be replicated in reality. Consequently, it is recommended that a trial run must be undertaken before the delivery of actual components to confirm the findings of this and any future model based study.

It is assumed that the works required for the original development i.e. widening of culverts, have been undertaken and can accommodate the proposed abnormal load movements and therefore are not necessarily referred to in this assessment.

### **3.6 Future Works**

The future Works Contactor would present the final detailed design drawings to the relevant road authority for approval prior to the development commencing. All appropriate permits and consents for temporary works would be the responsibility of the Contractor. Prior to any road improvement works commencing the areas should be checked for underground utilities equipment. It is likely that all modifications carried out to the public road network will require to be reinstated to the relevant road department's satisfaction at the end of the turbine delivery and erection period.

### **3.7 Height Restrictions**

Significant quantities of overhead cables were recorded during the site visit and the clearance beneath all of these needs to be confirmed prior to the movement of any of the proposed abnormal loads. However, the locations recorded are not necessarily exhaustive and a review in consultation with the owners of the lines is needed, separate to this assessment.

With regard to height restrictions, it is worth noting that 'The Electrical Safety, Quality and Continuity Regulations 2002' states that the 'height above ground of any wire or cable which is attached to a support carrying any overhead line shall not be less than 5.8 metres at any point where it is over a road accessible to vehicular traffic'.

No bridges straddling the proposed route were recorded.

With regard to adjacent landscaping, The Highland Council's 'Roads and Transport Guidelines for New Developments' refers to the potential requirement to remove or cut back trees or vegetation along abnormal load delivery routes. Within these guidelines, reference is made to the location of trees stating that 'trees should be sited to permit full branch growth

and spread. Trees that are too close to the kerb may come into regular contact with high vehicles, affecting their growth. Where this could happen, trees should be sited such that their branches will not be within 450 mm of the kerblines for their first 5.3 m height.'

Although the Highland Council's guidelines regarding the location of trees is specifically for the locating of new trees, this provides a good basis for informing the necessary trimming of overhanging tree branches or side vegetation.

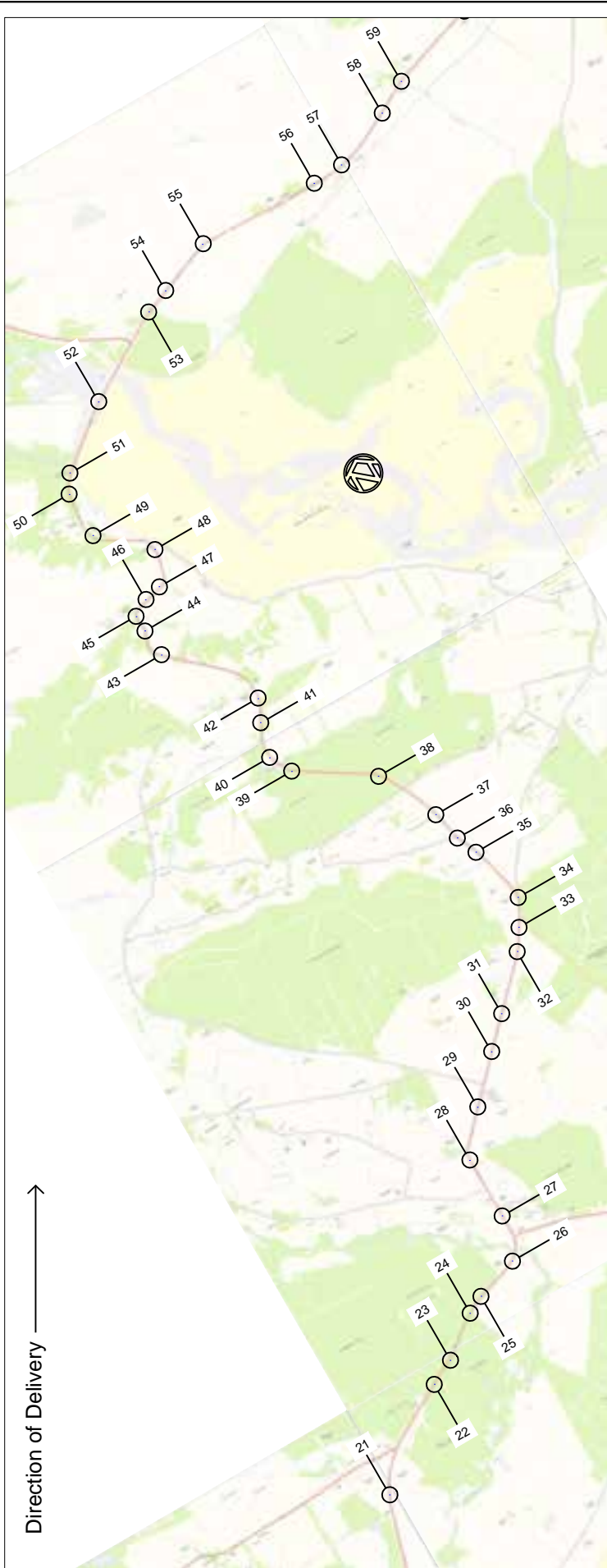
Table 3-2 includes a catalogue of the tree canopy and any other overhead issues cited during the 2013 route survey.

### 3.8 To Review Prior to Delivery

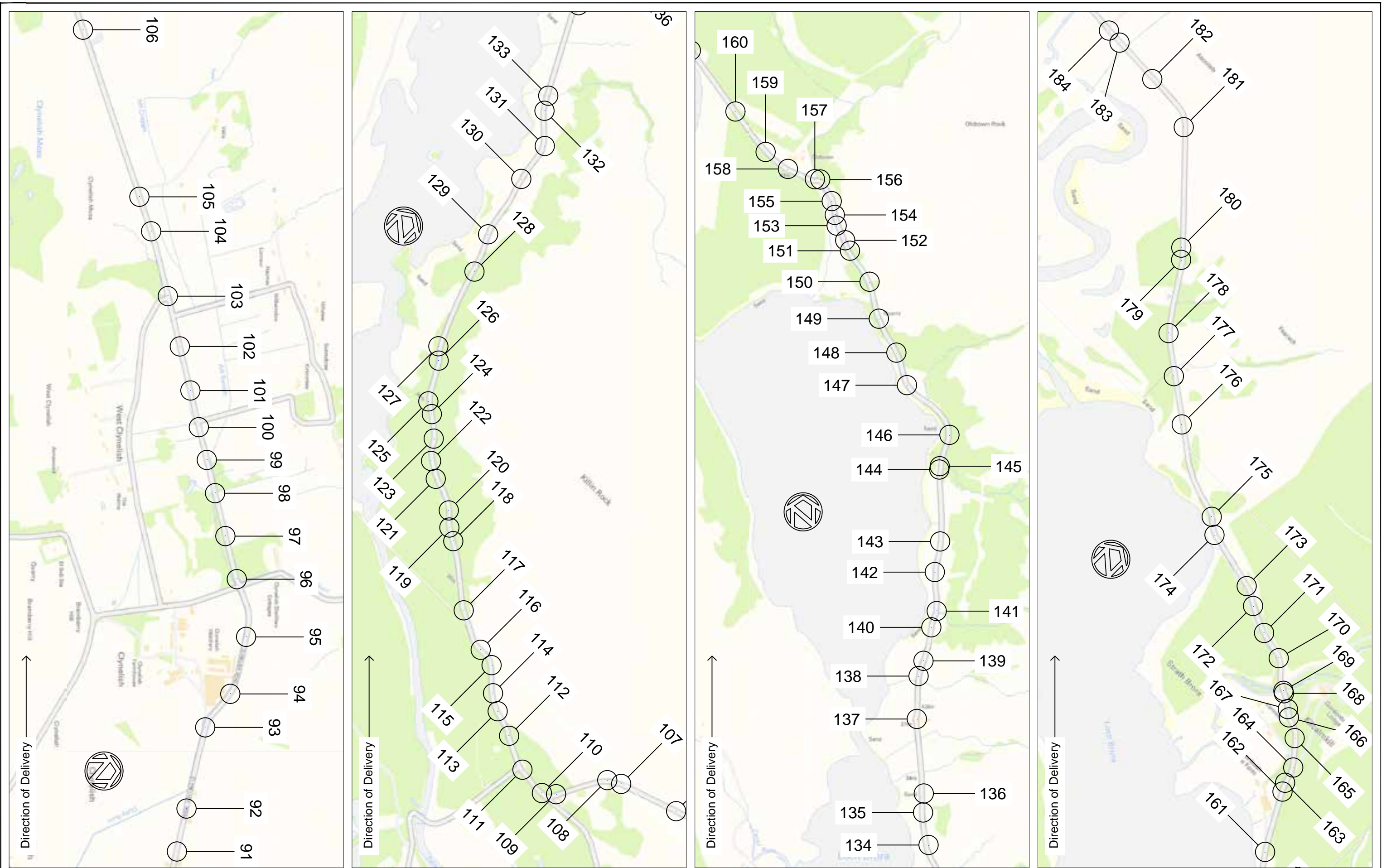
CH2M HILL has undertaken a high level review only of the access route from the POE to the proposed site access. The following must be undertaken prior to the delivery of the abnormal loads, to ensure load and road user safety:

- record site specific topographical survey data, where not currently available, and reassess the swept path assessments;
- a further review of maximum axle loading on structures along the proposed route in consultation with the relevant roads agencies;
- a review of clear heights with utility providers and the transport agencies along the route;
- undertake a trial run before the delivery of actual components to confirm the findings of this and any future model based study;
- final detailed design drawings will need to be presented to the relevant roads authority for approval prior to the development commencing with all appropriate permits and consents for temporary works the responsibility of the Contractor;
- all works must be carried out to the approval of the relevant road authority and all modifications carried out to the public road must be reinstated to their satisfaction;
- ensure any vegetation which may foul the loads is trimmed back to allow passage (this is of concern once the load is on the local road network and should be assessed for summer conditions);
- confirm there are no roadworks or closures that could affect the passage of the loads;
- check no new or diverted underground services on the proposed route are at risk from the abnormal loads;
- confirm that Police Scotland (North Division) are satisfied with the route being used and the roads authorities have been contacted regarding the proposed loads and suggested route;
- undertake a condition survey to determine the extents of any existing road defects and agree this in advance of any load movements with the roads agencies to protect the client group from unrelated damage claims; and
- the Applicant contacts the appropriate agencies to ensure that the above points are reviewed before the transport of the components commences.





















**Table 3-2: POI Summary (note comments in Section 3.5)**




POI 1	POI 2	POI 3
		
OSGR: 270475,868432	OSGR: 270721,868352	OSGR: 270908,868457
Tracking Required	Straddle Centre Line	Straddle Centre Line
Over-run and over-sail of the road boundary to the north and east of the Port entrance/exit will be necessary for both vehicles to make the required right-turn manoeuvre.  Use of manual rear wheel steer has been used to allow the blade vehicle to complete the turn.	Loads are anticipated to straddle the centre line.	Loads are anticipated to straddle the centre line.
Risk = 2, Low	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 – 01	-	-




POI 4	POI 5	POI 6
		
OSGR: 271264,868553	OSGR: 271448,868701	OSGR: 272107,869356
Straddle Centre Line	Straddle Centre Line	Tracking Required
Loads are anticipated to straddle the centre line.	Loads are anticipated to straddle the centre line.	Over-sail of footway required on inside of bend by both blade and tower component as vehicles make left-turn manoeuvre. Both sides of carriageway required to make manoeuvre as vehicles negotiate the junction.
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 2, Low Risk
-	-	See Drawing 652994/AA.00.01 – 06

POI 7	POI 8	POI 9
		
OSGR: 271939,869882	OSGR: 271426,869936	OSGR: 270713,869785
Bridge	Straddle Centre Line	Tracking Required
The road is carried over the railway line at this location.	Loads are anticipated to straddle the centre line.	Over-sail of road boundary north of the east-west carriageway will be necessary for both vehicles to make the required right-turn manoeuvre. The tip of the blade will over-sail into the road boundary south of the east-west carriageway. Use of manual rear wheel steer has been used to allow the blade vehicle to complete the turn.
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 3, Low
-	-	See Drawing 652994/AA.00.01 – 08









POI 10	POI 11	POI 12
		
OSGR: 270537,870038	OSGR: 270067,870892	OSGR: 271348,871299
Tree Canopy	Tracking Required	Tree Canopy
A review of the tree canopy at this location required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.	Areas of over-run and over-sail will be required on the western road boundary and of the road boundary north of the A9 to accommodate the manoeuvre. The removal of street furniture will also be required. This should be checked prior to delivery. Use of manual rear wheel steer has been used to allow the blade vehicle to complete the turn.	A review of the tree canopy at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.
Risk = 0, Minimal Risk	Risk = 3, Low	Risk = 0, Minimal Risk
-	See Drawing 652994/AA.00.01 – 10	-




POI 13	POI 14	POI 15
		
OSGR: 273393,872479	OSGR: 278398,876446	OSGR: 279220,877065
Overhead Cables and Side Vegetation	Overhead Cables	Overhead Cables
Consideration to be given to the presence of overhead cables. A review of the side vegetation at this location required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.	Consideration to be given to the presence of overhead cables.	Consideration to be given to the presence of overhead cables.
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk




POI 16	POI 17	POI 18
		
OSGR: 279337,877162	OSGR: 278826,880694	OSGR: 277543,881361
Tracking Required	Overhead Cables	Overhead Cables
It is anticipated that the blade vehicle will require the over-sail of the road boundary on the entry radius to the roundabout.	Consideration to be given to the presence of overhead cables.	Consideration to be given to the presence of overhead cables.
Risk = 1, Low Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 – 12	-	-









POI 19	POI 20	POI 21
		
OSGR: 276654,883505	OSGR: 275074,884304	OSGR: 274951,889243
Overhead Cables	Tracking Required	Straddle Centre Line and Overhead Cables
Consideration to be given to the presence of overhead cables.	To minimise the potential impact, our assessment proposes that the delivery vehicles will contraflow the roundabout (with an appropriate TMP as outlined in section 5 of this report), to continue northbound on the A9. To do so will require the delivery vehicles to over-sail the A9 south arm exit radius, as the vehicle enters the roundabout, and over-sail the A9 north arm entry radius, as the vehicle exits the roundabout. A minor over-sail of the blade tip will be necessary on the southern road boundary as the blade vehicle enters the roundabout.	Loads are anticipated to straddle the centre line. Consideration to be given to the presence of overhead cables.
Risk = 0, Minimal Risk	Risk = 2, Low Risk	Risk = 0, Minimal Risk
-	See Drawing 652994/AA.00.01 – 13	-

POI 22	POI 23	POI 24
		
OSGR: 275711,889833	OSGR: 275916,889938	OSGR: 276244,890185
Straddle Centre Line and Tree Canopy	Straddle Centre Line and Tree Canopy	Straddle Centre Line and Tree Canopy
<p>Loads are anticipated to straddle the centre line. A review of the tree canopy at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Loads are anticipated to straddle the centre line. A review of the tree canopy at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Loads are anticipated to straddle the centre line. A review of the tree canopy at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk

POI 25	POI 26	POI 27
		
OSGR: 276391,890259	OSGR: 276750,890381	OSGR: 276862,890737
Straddle Centre Line and Tree Canopy	Straddle Centre Line and Bridge	Overhead Cables
Loads are anticipated to straddle the centre line. A review of the tree canopy at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.	Loads are anticipated to straddle the centre line as the road is carried over the River Evelix (Evelix Bridge).	Consideration to be given to the presence of overhead cables.
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk




POI 28	POI 29	POI 30
		
OSGR: 276858,891255	OSGR: 277127,891593	OSGR: 277447,891924
Tracking Required and Overhead Cables	Overhead Cables and Tree Canopy	Overhead Cables
<p>It is anticipated that the vehicles will negotiate this bend with some over-sail of the road boundary which may require the removal of some adjacent street furniture. This should be checked prior to delivery.</p> <p>Consideration to be given to the presence of overhead cables.</p>	<p>Consideration to be given to the presence of overhead cables. A review of the tree canopy at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Consideration to be given to the presence of overhead cables.</p>
Risk = 1, Low Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk

POI 31	POI 32	POI 33
		
OSGR: 277670,892148	OSGR: 278032,892519	OSGR: 278140,892682
Overhead Cables	Straddle Centre Line	Overhead Cables and Side Vegetation
Consideration to be given to the presence of overhead cables.	Loads are anticipated to straddle the centre line.	Consideration to be given to the presence of overhead cables. A review of side vegetation at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk




POI 34	POI 35	POI 36
		
OSGR: 278254,892894	OSGR: 278143,893380	OSGR: 278070,893553
Tracking Required and Overhead Cables	Straddle Centre Line	Straddle Centre Line
<p>It is anticipated that the vehicles will negotiate this bend with over-sail of the road boundary which may require the removal of some adjacent street furniture. This should be checked prior to delivery.</p> <p>Consideration to be given to the presence of overhead cables.</p>	Loads are anticipated to straddle the centre line.	Loads are anticipated to straddle the centre line.
Risk = 1, Low Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 – 16	-	-









POI 37	POI 38	POI 39
		
OSGR: 278014,893804	OSGR: 277768,894302	OSGR: 277182,894683
Straddle Centre Line and Overhead Cables	Tracking Required	Straddle Centre Line and Overhead Cables
Loads are anticipated to straddle the centre line. Consideration to be given to the presence of overhead cables.	It is anticipated that the vehicles will negotiate this bend with over-sail of the road boundary which may require the removal of some adjacent street furniture. This should be checked prior to delivery.	Loads are anticipated to straddle the centre line. Consideration to be given to the presence of overhead cables.
Risk = 0, Minimal Risk	Risk = 1, Low Risk	Risk = 0, Minimal Risk




POI 40	POI 41	POI 42
		
OSGR: 277083,894868	OSGR: 277161,895150	OSGR: 277241,895328
Straddle Centre Line	Overhead Cables	Straddle Centre Line and Overhead Cables
Loads are anticipated to straddle the centre line.	Consideration to be given to the presence of overhead cables as from observation they seemed low during the site visit.	Loads are anticipated to straddle the centre line. Consideration to be given to the presence of overhead cables.
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk






POI 43	POI 44	POI 45
		
OSGR: 276742,896020	OSGR: 276723,896257	OSGR: 276720,896391
Tracking Required and Tree Canopy/Side Vegetation	Tracking Required and Tree Canopy/Side Vegetation	Tracking Required, Tree Canopy/Side Vegetation and Overhead Cables
<p>It is anticipated as shown in the estimate that the blade vehicle will require the over-sail of the road boundary on the inside of the bend.</p> <p>A review of the tree canopy and side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Loads are anticipated to straddle the centre line.</p> <p>A review of the tree canopy and side vegetation at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>It is anticipated that the blade will oversail the road boundary on both sides of the road as the loads negotiate this right-hand bend.</p> <p>Consideration also to be given to the presence of overhead cables and a review of the tree canopy and side vegetation is required prior to delivery (to ensure any vegetation is trimmed back to avoid fouling the loads).</p>
Risk = 2, Low Risk	Risk = 1, Low Risk	Risk = 2, Low Risk
See Drawing 652994/AA.00.01 – 17	See Drawing 652994/AA.00.01 – 18	See Drawing 652994/AA.00.01 – 19




POI 46	POI 47	POI 48
		
OSGR: 276853,896470	OSGR: 277001,896507	OSGR: 277121,896785
Tracking Required and Tree Canopy/Side Vegetation	Tracking Required and Tree Canopy/Side Vegetation	Straddle Centre Line, Tree Canopy and Overhead Cables
<p>It is anticipated that there will be minimal blade oversail of the road boundary as the delivery vehicles negotiate this bend.</p> <p>A review of the tree canopy and side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>It is anticipated that there will be minimal blade oversail of the road boundary as the delivery vehicles negotiate this bend.</p> <p>A review of the tree canopy and side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Loads are anticipated to straddle the centre line. A review of the tree canopy and side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads. Consideration to be given to the presence of overhead cables.</p>
Risk = 1, Low Risk	Risk = 1, Low Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 – 21	See Drawing 652994/AA.00.01 – 21	-




POI 49	POI 50	POI 51
		
OSGR: 276745,897132	OSGR: 276744,897512	OSGR: 276835,897660
Straddle Centre Line and Tree Canopy	Straddle Centre Line	Overhead Cables
Loads are anticipated to straddle the centre line. A review of the tree canopy at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.	Loads are anticipated to straddle the centre line.	Consideration to be given to the presence of overhead cables.
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk




POI 52	POI 53	POI 54
		
OSGR: 277321,898040	OSGR: 278035,898465	OSGR: 278236,898546
Straddle Centre Line	Straddle Centre Line and Tree Canopy	Tree Canopy
Loads are anticipated to straddle the centre line.	Loads are anticipated to straddle the centre line. A review of the tree canopy at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.	A review of the tree canopy at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk

POI 55	POI 56	POI 57
		
OSGR: 278681,898720	OSGR: 279706,898696	OSGR: 279971,898714
Tracking Required and Tree Canopy	Tree Canopy	Straddle Centre Line and Tree Canopy
<p>It is anticipated that the vehicles will negotiate this bend with over-sail of the road boundary.</p> <p>A review of the tree canopy at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>A review of the tree canopy at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Loads are anticipated to straddle the centre line. A review of the tree canopy at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk









POI 58	POI 59	POI 60
		
OSGR: 280462,898912	OSGR: 280724,899056	OSGR: 281448,899292
Overhead Cables and Tree Canopy	Straddle Centre Line, Overhead Cables and Bridge	Straddle Centre Line, Overhead Cables and Tree Canopy
A review of the tree canopy at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads. Consideration to be given to the presence of overhead cables.	Loads are anticipated to straddle the centre line as the road is carried over the Culmaily Burn. Consideration to be given to the presence of overhead cables.	Loads are anticipated to straddle the centre line. A review of the tree canopy at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads. Consideration to be given to the presence of overhead cables.
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk




POI 61	POI 62	POI 63
		
OSGR: 282559,899787	OSGR: 282751,899860	OSGR: 282952,899772
Prospective Vertical Tracking at Bridge	Tracking Required	Tracking Required
Although highlighted during the site visit it is likely that the vertical alignment at this location will be sufficient to accommodate the proposed abnormal load vehicles.	It is anticipated that the vehicles will negotiate this bend with over-sail of the northern and southern road boundaries which may require the removal of some adjacent street furniture, this should be checked prior to delivery.	It is anticipated that the vehicles will negotiate this bend with over-sail of the northern and southern road boundaries which may require the removal of some adjacent street furniture, this should be checked prior to delivery. Minor over-run is anticipated at the Church Street junction.  Use of manual rear wheel steering has been used to complete this manoeuvre for the blade delivery vehicle.
Risk = 1, Low Risk	Risk = 1, Low Risk	Risk = 3, Low Risk
-	See Drawing 652994/AA.00.01 – 31	See Drawing 652994/AA.00.01 – 32




POI 64	POI 65	POI 66
		
OSGR: 283446,900092	OSGR: 283679,900175	OSGR: 283776,900187
Straddle Centre Line	Straddle Centre Line	Tracking Required
Loads are anticipated to straddle the centre line.	Loads are anticipated to straddle the centre line.	It is anticipated that the vehicles will negotiate this bend with over-sail of the road boundaries.  A review of the tree canopy at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 2, Low Risk
-	-	See Drawing 652994/AA.00.01 – 35









POI 67	POI 68	POI 69
		
OSGR: 283886,900336	OSGR: 283997,900502	OSGR: 284269,900609
Tree Canopy and Side Vegetation	Tracking Required, Tree Canopy and Side Vegetation	Straddle Centre Line and Overhead Cables
A review of the tree canopy and side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.	Loads are anticipated to straddle the centre line. A review of the tree canopy and side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.	Loads are anticipated to straddle the centre line. Consideration to be given to the presence of overhead cables.
Risk = 0, Minimal Risk	Risk = 1, Low Risk	Risk = 0, Minimal Risk
-	See Drawing 652994/AA.00.01 – 37	-

POI 70	POI 71	POI 72
		
OSGR: 284385,900913	OSGR: 284606,901138	OSGR: 284978,901258
Tracking Required, Tree Canopy and Side Vegetation	Straddle Centre Line, Tree Canopy and Side Vegetation	Tree Canopy and Overhead Cables
Loads are anticipated to straddle the centre line. A review of the tree canopy and side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.	Loads are anticipated to straddle the centre line. A review of the tree canopy and side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.	A review of the tree canopy at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads. Consideration to be given to the presence of overhead cables.
Risk = 1, Low Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 – 39	-	-




POI 73	POI 74	POI 75
		
OSGR: 285351,901367	OSGR: 286686,901443	OSGR: 287015,901410
Straddle Centre Line	Straddle Centre Line	Straddle Centre Line
Loads are anticipated to straddle the centre line.	Loads are anticipated to straddle the centre line.	Loads are anticipated to straddle the centre line.
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk




POI 76	POI 77	POI 78
		
OSGR: 287269,901469	OSGR: 287640,901485	OSGR: 287856,901513
Straddle Centre Line	Overhead Cables and Tree Canopy	Straddle Centre Line
Loads are anticipated to straddle the centre line.	A review of the tree canopy at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads. Consideration to be given to the presence of overhead cables.	Loads are anticipated to straddle the centre line.
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk

POI 79	POI 80	POI 81
		
OSGR: 288131,901816	OSGR: 288507,902437	OSGR: 288606,902649
Overhead Cables	Overhead Cables	Tracking Required and Overhead Cables
Consideration to be given to the presence of overhead cables.	Consideration to be given to the presence of overhead cables.	Loads are anticipated to straddle the centre line. Consideration to be given to the presence of overhead cables.
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 2, Low Risk
-	-	See Drawing 652994/AA.00.01 – 44




POI 82	POI 83	POI 84
		
OSGR: 288784,902777	OSGR: 288993,902879	OSGR: 289403,903064
Overhead Cables	Overhead Cables	Overhead Cables
Consideration to be given to the presence of overhead cables.	Consideration to be given to the presence of overhead cables.	Consideration to be given to the presence of overhead cables.
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk









POI 85	POI 86	POI 87
		
OSGR: 289780,903217	OSGR: 290192,903837	OSGR: 290326,903913
Straddle Centre Line	Tracking Required	Straddle Centre Line
Loads are anticipated to straddle the centre line.	Loads are anticipated to straddle the centre line.	Loads are anticipated to straddle the centre line.
Risk = 0, Minimal Risk	Risk = 1, Low Risk	Risk = 0, Minimal Risk
-	See Drawing 652994/AA.00.01 – 46	See Drawing 652994/AA.00.01 – 47




POI 88	POI 89	POI 90
		
OSGR: 290481,903939	OSGR: 290582,903968	OSGR: 290384,905321
Straddle Centre Line	Tracking Required Over Bridge	Tracking Required and Overhead Cables
Loads are anticipated to straddle the centre line.	It is anticipated that the vehicles will negotiate this bend with over-sail of the road boundaries, making use of manual rear-wheel steering. Care will have to be taken to avoid impacting on the bridge structure and the adjacent memorial and street furniture. This should be checked prior to delivery. Minor over-run of the delivery vehicles onto the southern footway is anticipated at Memorial Square.	Over-run of roads boundary and over-sail into third-party land would be necessary. Manual rear-wheel steering has been modelled.  There is a derelict property, The Old School House, to the north of Clynelish Road, the grounds of which may provide an alternative area to accommodate the abnormal load movements. This will likely require over-run into this properties land. Temporary removal of street furniture and stone walls will be required. This should be checked prior to delivery.
Risk = 0, Minimal Risk	Risk = 3, Low Risk	Risk = 5, Medium Risk
See Drawing 652994/AA.00.01 – 48	See Drawing 652994/AA.00.01 – 49	See Drawing 652994/AA.00.01 – 50









POI 91	POI 92	POI 93
		
OSGR: 290320,905357	OSGR: 290180,905389	OSGR: 289917,905449
Narrow Section	Narrow Section	Right-hand Bend
An example of the narrowness of Clynelish Road where some widening works have been carried out for the earlier Gordonbush development.	Farm accesses and evidence of overhead cables. Clearance beneath overhead cables must be confirmed.	Right-hand bend at Distillery. Over-sail of the road boundaries (assumed to incorporate existing widening) are estimated although avoidance of any impact on third-party land should be possible, with use of manual rear-wheel steering (which has been modelled). Clearance beneath overhead cables must also be confirmed at this location.
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 3, Low Risk
See Drawing 652994/AA.00.01 – 50	See Drawing 652994/AA.00.01 – 50	See Drawing 652994/AA.00.01 – 51

POI 94	POI 95	POI 96
		
OSGR: 289809,905530	OSGR: 289624,905582	OSGR: 289437,905552
Left-hand Bend	Left-hand Bend	Narrow Section
<p>Over-sail of the road boundaries are estimated with some over-sail into third-party land also estimated on the inside of the bend (assumed distillery ownership).</p> <p>Note the location of trees adjacent to the boundary wall on third-part land.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Over-sail of the road boundaries and beyond with some over-sail into third-party land also estimated. Over-run into the road boundary does not prevent impacting on third-party land.</p> <p>Manual rear-wheel steering has been modelled.</p>	<p>Over-sail of the road boundaries estimated. Manual rear-wheel steering has been modelled.</p> <p>A review of the tree canopy and side vegetation at this location may be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>
Risk = 5, Medium Risk	Risk = 4, Medium Risk	Risk = 1, Low Risk
See Drawing 652994/AA.00.01 – 51	See Drawing 652994/AA.00.01 – 52	See Drawing 652994/AA.00.01 – 52




POI 97	POI 98	POI 99
		
OSGR: 289297,905515	OSGR: 289158,905481	OSGR: 289050,905454
Narrow Section	Narrow Section	Narrow Section
<p>Over-sail of the road boundaries estimated.</p> <p>A review of the tree canopy and side vegetation at this location may be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Over-sail of the bridge parapets and the road boundaries estimated.</p> <p>There may be a requirement to temporarily remove the bridge parapets to allow safe delivery of the turbine components.</p>	<p>Over-sail of the road boundaries estimated.</p>
Risk = 1, Low Risk	Risk = 5, Medium Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 – 52	See Drawing 652994/AA.00.01 – 53	See Drawing 652994/AA.00.01 – 53




POI 100	POI 101	POI 102
		
OSGR: 288944,905428	OSGR: 288825,905401	OSGR: 288682,905367
Narrow Section	Narrow Section	Narrow Section
<p>Over-sail of the road boundaries estimated.</p> <p>The location of the adjacent telegraph pole should be checked. It may be that this and the adjacent street furniture is required to be temporarily removed or relocated to allow safe delivery of the turbine components. This should be checked prior to delivery.</p> <p>A review of the tree canopy and side vegetation at this location may be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Over-sail of the road boundaries estimated.</p> <p>The location of the adjacent passing place sign should be checked, which will likely need to be temporarily removed or relocated to allow safe delivery of the turbine components.</p>	<p>Over-sail of the road boundaries estimated.</p> <p>The location of the adjacent passing place sign should be checked, although it is anticipated that this can be avoided.</p>
Risk = 2, Low Risk	Risk = 1, Low Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 – 53	See Drawing 652994/AA.00.01 – 54	See Drawing 652994/AA.00.01 – 54




POI 103	POI 104	POI 105
		
OSGR: 288518,905328	OSGR: 288309,905274	OSGR: 288196,905236
Narrow Section	Narrow Section	Narrow Section
Over-sail of the road boundaries estimated.	Over-sail of the road boundaries estimated. Manual rear-wheel steering has been modelled.  A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.	Over-sail of the road boundaries estimated.
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 – 54	See Drawing 652994/AA.00.01 – 55	See Drawing 652994/AA.00.01 – 55



POI 106	POI 107	POI 108
		
OSGR: 287655,905053	OSGR: 287466,904989	OSGR: 287428,904965
Narrow Section	Left-hand Bend	Left-hand Bend
Over-sail of the road boundaries estimated.	Significant over-sail of the road boundary estimated at this location, particularly on the inside of the bend. The raised slope on the inside of the bend will also have to be checked (more clearly seen on the photograph for POI 108). Manual rear-wheel steering has been modelled.  A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.	Significant over-sail of the road boundary estimated at this location, particularly on the inside of the bend. The raised slope on the inside of the bend will also have to be checked. Manual rear-wheel steering has been modelled.  A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.
Risk = 0, Minimal Risk	Risk = 2, Low Risk	Risk = 2, Low Risk
See Drawing 652994/AA.00.01 – 55	See Drawing 652994/AA.00.01 – 57	See Drawing 652994/AA.00.01 – 57






POI 109	POI 110	POI 111
		
OSGR: 287343,904816	OSGR: 287305,904786	OSGR: 287210,904795
Junction	Junction	Right-hand Bend
<p>Significant over-sail of the road boundaries estimated at this location, particularly on the inside of the bend for transporting the blade. Manual rear-wheel steering has been modelled.</p> <p>A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Significant over-sail of the road boundaries estimated at this location, particularly on the inside of the bend for transporting the blade.</p> <p>The sign in the road boundary will need to be removed/relocated.</p> <p>A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Over-sail of the road boundaries estimated at this location.</p> <p>A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>
Risk = 2, Low Risk	Risk = 2, Low Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 – 57	See Drawing 652994/AA.00.01 – 58	See Drawing 652994/AA.00.01 – 58




POI 112	POI 113	POI 114
		
OSGR: 287099,904842	OSGR: 287019,904872	OSGR: 286964,904903
Left-hand Bend	Right-hand Bend	Right-hand Bend
<p>Over-sail of the road boundaries estimated at this location getting particularly close to the fence on the inside of the bend. Manual rear-wheel steering has been modelled.</p> <p>A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Over-sail of the road boundaries estimated at this location. Manual rear-wheel steering has been modelled.</p> <p>A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Over-sail of the road boundaries estimated at this location.</p> <p>A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>
Risk = 1, Low Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 – 58	See Drawing 652994/AA.00.01 – 59	See Drawing 652994/AA.00.01 – 59

POI 115	POI 116	POI 117
		
OSGR: 286899,904964	OSGR: 286837,904974	OSGR: 286707,905026
Left-hand Bend	Right-hand Bend	Right-hand Bend
<p>Over-sail of the road boundaries are estimated with some over-sail into third-party land on the inside of the bend (note fenceline appears closer to carriageway in photograph than recorded on the topographic survey).</p> <p>A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Over-sail of the road boundaries are estimated.</p> <p>A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Over-sail of the road boundaries are estimated.</p> <p>A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p> <p>The use of manual rear-wheel steering has been modelled.</p>
Risk = 4, Medium Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 – 60	See Drawing 652994/AA.00.01 – 60	See Drawing 652994/AA.00.01 – 60




Clynelish 118	POI 119	POI 120
		
OSGR: 286525,905161	OSGR: 286487,905183	OSGR: 286444,905221
Cattle Grid	Right-hand Bend	Left-hand Bend
<p>The fence work surrounding the cattle grid to be adapted to allow its temporary removal to allow the abnormal loads to pass. Manual rear-wheel steering has been modelled.</p> <p>The weight capacity of the grid should be checked and made good, or removed, to accommodate axle loads.</p> <p>Over-sail of the road boundaries are estimated.</p>	<p>Over-sail of the road boundaries are estimated.</p> <p>A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Over-sail of the road boundaries are estimated.</p> <p>A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p> <p>The use of manual rear-wheel steering has been modelled.</p>
Risk = 2, Low Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 – 60	See Drawing 652994/AA.00.01 – 61	See Drawing 652994/AA.00.01 – 61




POI 121	POI 122	POI 123
		
OSGR: 286344,905263	OSGR: 286290,905293	OSGR: 286247,905351
Right-hand Bend	Right-hand Bend	Left-hand Bend
<p>Over-run, opposite the passing place, and over-sail of the road boundaries are estimated.</p> <p>A review of the tree canopy/side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Over-sail of the road boundaries are estimated.</p> <p>A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Over-run, on inside of bend before passing place, and over-sail of the road boundaries are estimated.</p> <p>A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p> <p>The use of manual rear-wheel steering has been modelled.</p>
Risk = 2, Low Risk	Risk = 0, Minimal Risk	Risk = 2, Low Risk
See Drawing 652994/AA.00.01 – 61	See Drawing 652994/AA.00.01 – 61	See Drawing 652994/AA.00.01 – 62









POI 124	POI 125	POI 126
		
OSGR: 286184,905402	OSGR: 286149,905424	OSGR: 286077,905541
Left-hand Bend	Right-hand Bend	Left-hand Bend
<p>Over-sail of the road boundaries are estimated.</p> <p>A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Over-sail of the road boundaries are estimated.</p> <p>A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Over-sail of the road boundaries are estimated.</p> <p>A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p> <p>The use of manual rear-wheel steering has been modelled.</p>
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 – 62	See Drawing 652994/AA.00.01 – 62	See Drawing 652994/AA.00.01 – 62






POI 127	POI 128	POI 129
		
OSGR: 286046,905573	OSGR: 285955,905827	OSGR: 285902,905942
Right-hand Bend	Narrow Section	Right-hand Bend
<p>Over-run, on the inside of the bend, and over-sail of the road boundaries are estimated.</p> <p>A review of the tree canopy/side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Over-sail of the road boundaries are estimated. Manual rear-wheel steering has been modelled.</p> <p>A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Over-sail of the road boundaries are estimated.</p> <p>A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p> <p>The use of manual rear-wheel steering has been modelled.</p>
Risk = 1, Low Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 – 62	See Drawing 652994/AA.00.01 – 62	See Drawing 652994/AA.00.01 – 62




POI 130	POI 131	POI 132
		
OSGR: 285851,906146	OSGR: 285829,906275	OSGR: 285748,906358
Right-hand Bend	Left-hand Bend	Right-hand Bend
<p>Over-sail of the road boundaries are estimated.</p> <p>A review of the side vegetation at this location is required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Slight over-run and over-sail of the road boundaries are estimated.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Over-sail of the road boundary estimated.</p> <p>The use of manual rear-wheel steering has been modelled.</p>
Risk = 0, Minimal Risk	Risk = 2, Low Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 – 63	See Drawing 652994/AA.00.01 – 63	See Drawing 652994/AA.00.01 – 63




POI 133	POI 134	POI 135
		
OSGR: 285722,906399	OSGR: 285584,906676	OSGR: 285566,906781
Culvert	Right-hand Bend	Right-hand Bend
<p>Culvert looks different than on topographical survey but it is anticipated that the loads can navigate without impacting on the structure.</p> <p>Over-sail of the road boundary likely.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Slight over-run and over-sail of the road boundaries estimated.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Over-sail of the road boundary estimated. A check of the slope on the inside of the bend is recommended.</p>
Risk = 0, Minimal Risk	Risk = 1, Low Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 – 64	See Drawing 652994/AA.00.01 – 64	See Drawing 652994/AA.00.01 – 64




POI 136	POI 137	POI 138
		
OSGR: 285569,906845	OSGR: 285546,907085	OSGR: 285551,907224
Left-hand Bend	Right-hand Bend	Cattle Grid
Over-sail of the road boundary estimated. The use of manual rear-wheel steering has been modelled.	Over-sail of the road boundary estimated, avoiding the adjacent street furniture, including the telegraph pole.	Over-sail of the road boundary estimated approaching cattle grid. The use of manual rear-wheel steering has been modelled.
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 – 64	See Drawing 652994/AA.00.01 – 65	See Drawing 652994/AA.00.01 – 65




POI 139	POI 140	POI 141
		
OSGR: 285567,907276	OSGR: 285593,907382	OSGR: 285610,907437
Cattle Grid	Right-hand Bend	Left-hand Bend
<p>The fence work surrounding the cattle grid to be adapted to allow its temporary removal to allow the abnormal loads to pass.</p> <p>The weight capacity of the grid should be checked and made good, or removed, to accommodate axle loads.</p> <p>Over-sail of the road boundaries are estimated.</p>	<p>Slight over-run and over-sail of the road boundaries estimated.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Over-run and over-sail of the road boundaries estimated.</p> <p>The use of manual rear-wheel steering has been modelled.</p>
Risk = 2, Low Risk	Risk = 1, Low Risk	Risk = 1, Low Risk
See Drawing 652994/AA.00.01 – 65	See Drawing 652994/AA.00.01 – 65	See Drawing 652994/AA.00.01 – 65






POI 142	POI 143	POI 144
		
OSGR: 285604,907561	OSGR: 285622,907660	OSGR: 285618,907893
Right-hand Bend	Left-hand Bend	Right-hand Bend
Over-sail of the road boundary estimated, avoiding the adjacent street furniture. The use of manual rear-wheel steering has been modelled.	Over-sail of the road boundary estimated. The use of manual rear-wheel steering has been modelled.	Over-sail of the road boundary estimated. The use of manual rear-wheel steering has been modelled.
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 – 66	See Drawing 652994/AA.00.01 – 66	See Drawing 652994/AA.00.01 – 66




POI 145	POI 146	POI 147
		
OSGR: 285620,907907	OSGR: 285651,908006	OSGR: 285514,908167
Bridge	Left-hand Bend	Right-hand Bend
<p>Over-sail of the bridge parapets and the surrounding road boundary estimated. It may be prudent to temporarily remove the bridge parapets to ease navigation.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Slight over-run, at a few locations, and over-sail of the road boundaries estimated.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Over-run (using widening evident on photo but not apparent on widening plans provided) on inside of the bend and over-sail beyond in the surrounding road boundary estimated.</p> <p>The use of manual rear-wheel steering has been modelled.</p>
Risk = 3, Low Risk	Risk = 2, Low Risk	Risk = 1, Low Risk
See Drawing 652994/AA.00.01 – 66 and See Drawing 652994/AA.00.01 – 67	See Drawing 652994/AA.00.01 – 67	See Drawing 652994/AA.00.01 – 67




POI 148	POI 149	POI 150
		
OSGR: 285480,908273	OSGR: 285422,908383	OSGR: 285393,908502
Left-hand Bend	Right-hand Bend	Left-hand Bend
<p>Slight over-run (using widening evident on photo but not apparent on widening plans provided) and over-sail beyond in the surrounding road boundary estimated.</p> <p>A review of the tree canopy/side vegetation at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Over-sail in the surrounding road boundary estimated. The passing place sign to be removed/relocated.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Over-sail in the surrounding road boundary estimated. It is estimated that the passing place sign can be avoided.</p> <p>The use of manual rear-wheel steering has been modelled.</p>
Risk = 1, Low Risk	Risk = 1, Low Risk	Risk = 1, Low Risk
See Drawing 652994/AA.00.01 – 67	See Drawing 652994/AA.00.01 – 67	See Drawing 652994/AA.00.01 – 67




POI 151	POI 152	POI 153
		
OSGR: 285329,908603	OSGR: 285314,908640	OSGR: 285286,908684
Right-hand Bend	Left-hand Bend	Right-hand Bend
<p>Over-sail of the road boundary estimated. A check of the slope on the inside of the bend is recommended.</p> <p>A review of the tree canopy/side vegetation at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Over-sail in the surrounding road boundary estimated.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Slight over-run (using widening evident on photo but not apparent on widening plans provided) and over-sail beyond in the surrounding road boundary estimated.</p> <p>A review of the side vegetation at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p> <p>The use of manual rear-wheel steering has been modelled.</p>
Risk = 1, Low Risk	Risk = 0, Minimal Risk	Risk = 1, Low Risk
See Drawing 652994/AA.00.01 – 67	See Drawing 652994/AA.00.01 – 68	See Drawing 652994/AA.00.01 – 68


POI 154	POI 155	POI 156
		
OSGR: 285280,908722	OSGR: 285270,908764	OSGR: 285233,908837
Left-hand Bend	Left-hand Bend/Oldtown Bridge	Oldtown Bridge
<p>Over-sail in the surrounding road boundary estimated.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Additional widening to accommodate estimated over-run and over-sail beyond that already undertaken for the original Gordonbush development. Considerable excavation will be required.</p> <p>Manual rear-wheel steering has been modelled.</p>	<p>Over-sail of the bridge parapets and the surrounding road boundary estimated. It will be necessary to temporarily remove the bridge parapets to ease navigation.</p> <p>In order to allow the vehicles to navigate the narrow bridge/carriageway it will be necessary to over-run and over-sail into the third-party land on the far side of the bridge/road.</p> <p>The use of manual rear-wheel steering has been modelled.</p>
Risk = 0, Minimal Risk	Risk = 6, Medium Risk	Risk = 8, High Risk
See Drawing 652994/AA.00.01 – 68	See Drawing 652994/AA.00.01 – 69	See Drawing 652994/AA.00.01 – 69






POI 157	POI 158	POI 159
		
OSGR: 285214,908837	OSGR: 285128,908869	OSGR: 285054,908925
Right-hand Bend/Oldtown Bridge	Right-hand Bend	Right-hand Bend
<p>The photograph is of the right-hand bend following the Bridge showing existing widening and the boundary wall where it will be necessary to over-run and over-sail into the third-party land.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Slight over-run and over-sail beyond in the surrounding road boundary estimated.</p> <p>The use of manual rear-wheel steering has been modelled.</p>	<p>Over-sail in the surrounding road boundary estimated.</p> <p>The use of manual rear-wheel steering has been modelled.</p>
Assessed as part of POI 156	Risk = 2, Low Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 – 69	See Drawing 652994/AA.00.01 –70	See Drawing 652994/AA.00.01 –70




POI 160	POI 161	POI 162
		
OSGR: 284956,909056	OSGR: 284813,909253	OSGR: 284715,909431
Narrow Section	Narrow Section	Right-hand Bend
<p>Over-sail in the surrounding road boundary estimated. Manual rear-wheel steering has been modelled.</p> <p>A review of the tree canopy at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Over-sail in the surrounding road boundary estimated.</p> <p>A review of the tree canopy at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Over-sail in the surrounding road boundary estimated.</p> <p>A review of the tree canopy at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 -70	See Drawing 652994/AA.00.01 -71	See Drawing 652994/AA.00.01 -71




POI 163	POI 164	POI 165
		
OSGR: 284701,909460	OSGR: 284684,909511	OSGR: 284620,909584
Left-hand Bend	Left-hand Bend	Left-hand Bend
<p>Over-sail anticipated into third-party land beyond the adjacent fenceline with the potential impact on trees/vegetation with additional over-sail within road boundary (note the sharp drop on the inside of the bend). Manual rear-wheel steering has been modelled.</p> <p>A review of the tree canopy at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Significant over-sail anticipated into third-party land beyond the adjacent fenceline with the potential impact on trees/vegetation. Manual rear-wheel steering has been modelled.</p> <p>A review of the tree canopy at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Significant over-sail anticipated into third-party land with the potential impact on trees/vegetation. Manual rear-wheel steering has been modelled.</p> <p>A review of the tree canopy at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>
Risk = 5, Medium Risk	Risk = 5, Medium Risk	Risk = 5, Medium Risk
See Drawing 652994/AA.00.01 -71	See Drawing 652994/AA.00.01 -71	See Drawing 652994/AA.00.01 -71




POI 166	POI 167	POI 168
		
OSGR: 284558,909619	OSGR: 284538,909633	OSGR: 284492,909662
Right-hand Bend	Left-hand Bend	Gordonbush Bridge
<p>The assessment has considered the proposed realigned road and Gordonbush Bridge at this location. Manual rear-wheel steering has been modelled.</p> <p>It is anticipated that there will be over-sail of the adjacent verge approaching the proposed bridge.</p>	<p>The assessment has considered the proposed realigned road and Gordonbush Bridge at this location. Manual rear-wheel steering has been modelled.</p> <p>It is anticipated that there will be over-sail of the adjacent verge approaching the proposed bridge.</p>	<p>The assessment has considered the proposed realigned road and Gordonbush Bridge at this location. Manual rear-wheel steering has been modelled.</p> <p>It is anticipated that there will be over-sail of the bridge parapets and the adjacent verge. The bridge parapets may have to be temporarily removed to ease navigation.</p>
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 4, Medium Risk
See Drawing 652994/AA.00.01 -72	See Drawing 652994/AA.00.01 -72	See Drawing 652994/AA.00.01 -72




POI 169	POI 170	POI 171
		
OSGR: 284484,909666	OSGR: 284399,909730	OSGR: 284307,909754
Right-hand Bend	Left-hand Bend	Right-hand Bend
<p>The assessment has considered the proposed realigned road and Gordonbush Bridge at this location. Manual rear-wheel steering has been modelled.</p> <p>It is anticipated that there will be over-sail of the adjacent verge following the proposed bridge.</p>	<p>Slight over-run, and over-sail beyond, estimated into the surrounding road boundary. Manual rear-wheel steering has been modelled.</p> <p>A review of the tree canopy at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Over-sail in the surrounding road boundary estimated. Manual rear-wheel steering has been modelled.</p> <p>A review of the tree canopy at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>
Risk = 0, Minimal Risk	Risk = 2, Low Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 -72	See Drawing 652994/AA.00.01 -72	See Drawing 652994/AA.00.01 -72




POI 172	POI 173	POI 174
		
OSGR: 284223,909790	OSGR: 284160,909822	OSGR: 283971,909865
Right-hand Bend	Left-hand Bend	Right-hand Bend
<p>Over-sail in the surrounding road boundary estimated. Manual rear-wheel steering has been modelled.</p> <p>A review of the tree canopy at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Over-sail in the surrounding road boundary estimated. Manual rear-wheel steering has been modelled.</p> <p>A review of the tree canopy/side vegetation at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Over-sail in the surrounding road boundary estimated. Manual rear-wheel steering has been modelled.</p> <p>A review of the tree canopy at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 -72	See Drawing 652994/AA.00.01 -73	See Drawing 652994/AA.00.01 -73

POI 175	POI 176	POI 177
		
OSGR: 283921,909901	OSGR: 283641,910043	OSGR: 283512,910136
Left-hand Bend	Narrow Section	Narrow Section
<p>Over-sail in the surrounding road boundary estimated. Manual rear-wheel steering has been modelled.</p> <p>A review of the tree canopy/side vegetation at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Over-sail in the surrounding road boundary estimated. Manual rear-wheel steering has been modelled.</p> <p>A review of the tree canopy at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Over-sail in the surrounding road boundary estimated. Manual rear-wheel steering has been modelled.</p> <p>A review of the tree canopy at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 -73	See Drawing 652994/AA.00.01 -74	See Drawing 652994/AA.00.01 -74

POI 178	POI 179	POI 180
		
OSGR: 283401,910223	OSGR: 283264,910420	OSGR: 283234,910448
Right-hand Bend	Left-hand Bend	Right-hand Bend
<p>Over-sail in the surrounding road boundary estimated, avoiding the passing place sign. Manual rear-wheel steering has been modelled.</p> <p>A review of the tree canopy at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Over-sail in the surrounding road boundary estimated. Manual rear-wheel steering has been modelled.</p> <p>A review of the side vegetation at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>	<p>Over-sail in the surrounding road boundary estimated, avoiding the passing place sign. Manual rear-wheel steering has been modelled.</p> <p>A review of the tree canopy at this location will be required prior to delivery to ensure any vegetation is trimmed back to avoid fouling the loads.</p>
Risk = 0, Minimal Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 -74	See Drawing 652994/AA.00.01 -76	See Drawing 652994/AA.00.01 -76

POI 181	POI 182	POI 183
		
OSGR: 282963,910730	OSGR: 282781,910768	OSGR: 282625,910777
Left-hand Bend	Narrow Section	Narrow Section
Slight over-run, and over-sail beyond, estimated into the surrounding road boundary. Manual rear-wheel steering has been modelled.	Slight over-sail in the surrounding road boundary estimated.	Slight over-sail in the surrounding road boundary estimated.  Consideration to be given to the presence of overhead cables.
Risk = 2, Low Risk	Risk = 0, Minimal Risk	Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 -76	See Drawing 652994/AA.00.01 -76	See Drawing 652994/AA.00.01 -77

POI 184

OSGR: 282573,910780
Junction leading to Site Access
Over-sail in the surrounding road boundary estimated on the inside of the bend and on the left-hand side of the carriageway. Manual rear-wheel steering has been modelled.
Risk = 0, Minimal Risk
See Drawing 652994/AA.00.01 -77



## 4 Site Entrance Location and Details

### 4.1 Proposed Site Entrance Location

Egress from the public road for construction vehicles, including abnormal load delivery vehicles, is proposed to be taken via the existing junction arrangement, and, therefore, any requirements are assumed to have already been addressed as part of the construction for the existing site entrance. Any prospective improvements, however, must be agreed with The Highland Council.

## 5 Recommendations for Abnormal Load Route

### 5.1 Proposed Management Measures

This technical appendix introduces a number of traffic management measures that could help reduce the impact of the abnormal load convoys. These measures are currently presented as indicative, to be confirmed with the various roads agencies and Police Scotland closer to the construction date. It is anticipated that the same, or similar, measures used during the delivery of the abnormal loads for the original Gordonbush Wind Farm would be used to mitigate the impact of any future abnormal load deliveries.

### 5.2 Convoy System

A police escort would be required to facilitate the delivery of the predicted loads. The police escort would be further supplemented by a civilian pilot car to assist with the escort duty. It is proposed that an advanced escort would warn oncoming vehicles ahead of the convoy, with one escort staying with the convoy at all times. The escorts and convoy would remain in radio contact at all times where possible.

The abnormal load convoys should be no more than three HGVs long, to permit safe transit along the delivery route and to allow limited overtaking opportunities for following traffic where it is safe to do so. Where designated passing bays are provided to allow oncoming vehicles to pass the convoy, these would be controlled by one of the escort vehicles. The passing bays would also be marked to discourage people parking in them. The passing bays are predominantly required for the delivery of turbine tower and nacelle components.

The times at which the convoys would travel would need to be agreed with Police Scotland. Typical delivery times for similar projects has seen the early morning periods used in constrained sections, as traffic levels are generally lighter than those found in the afternoon.

A full convoy operation plan would be developed in consultation with the various roads and constabulary agencies along the route and agreed before deliveries commence to the site.

### 5.3 Advance Warning Signage

Advance warning signs would be installed on the approaches to the affected roads network. Temporary signage advising drivers that abnormal loads would be operating could be erected on the route to help assist drivers, such as the example shown in Figure 5-1.

The purpose of the advance warning signage would be to help improve driver information and allow drivers of oncoming traffic to consider proceeding to the nearest convenient passing bay, or breaking their journey until the convoy has moved on.

To further improve driver information, it is suggested that Variable Message Signs (VMS), operated by Transport Scotland, are used to warn drivers of abnormal loads operating on the trunk road sections of the route. This would display information

warning of possible delays and would allow drivers to consider alternative routes, if possible.



Figure 5-1: Indicative Information Sign

## 5.4 Public Information

Information on the movement of abnormal load convoys should be provided to local media outlets to help assist the public plan their journeys in the days prior to the movement of the abnormal load convoys. Information could be provided to local newspapers and radio stations, which may include:

- Traffic Scotland;
- The Press and Journal newspaper;
- The Northern Times;
- Local community websites;
- Moray Firth Radio;
- BBC Radio Scotland; and
- BBC Radio nan Gaidheal.

Information would relate to expected vehicle movements from the POE through to the site accesses. It is hoped that this level of information would make residents aware of convoy movements and help reduce any potential conflicts.

It is also recommended that a local newsletter is produced for distribution to properties along the most affected sections of the proposed access route, advising of convoy movements and the measures put in place to ensure the safe and efficient operation of the road network.

## 6 Utility Impact

### 6.1 Utility Contacts

In order to review any impact on underground or overhead services, contact should be made with the following utility firms to ascertain if the maximum height and axle loading would have a detrimental impact that may require mitigation:

- Verizon UK Limited;
- Scottish Power Data Management;
- British Telecom;
- Scottish & Southern Energy;
- Geo Networks Limited;
- Scotland Gas Networks (SGN);
- Cable & Wireless;
- Thus PLC;
- Virgin Media; and
- National Grid.

No service impact assessments have been undertaken and these remain the responsibility of SSE Renewables Developments (UK) Ltd.

## 7 Summary

### 7.1 Background

An initial route review for the delivery of abnormal loads associated with the proposed Development has been undertaken from the POE through to the proposed site entrance, identifying the key points and issues associated with the route.

### 7.2 Route Review

Based on this initial assessment, it has been estimated that careful manoeuvring will be required at several key locations with mitigation required to accommodate the anticipated abnormal load movements at some. The public road section of the proposed route is the same as the route that was used to deliver the turbine components for the original Gordonbush Wind Farm.

CH2M HILL have identified the extent of the required improvement works based on horizontal tracking assessments and these are provided for guidance for the client group's civil engineers and quantity surveyors to review for engineering feasibility and cost review. It is the responsibility of the wind farm Applicant to ensure that the access route from the POE to the site is fit for purpose and that appropriate consideration for all road users has been made in accordance with the relevant health and safety legislation and ruling transport requirements.

### 7.3 Further Work

The following work is recommended:

- Undertake the work outlined in Section 3.8 prior to delivery;
- Review the constraint locations using a topographical base plan (where not currently available) to confirm the extents of mitigation works and requirement for land beyond the road boundary;
- Undertake a land registry review at the constraint points; and
- Prepare a detailed Traffic Management Plan (TMP).



## **Appendix A – Consultation Responses**

## Kerr, Alan/GLA

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**From:** Abnormal loads, North <abnormalloadsnorth@scotland.pnn.police.uk>  
**Sent:** 02 December 2014 09:56  
**To:** Tighe, Bryan/UKE  
**Subject:** RE: Gordonbush Windfarm Extension-Abnormal Loads [NOT PROTECTIVELY MARKED]

GPMS Classification: **NOT PROTECTIVELY MARKED**

Hi Bryan

In response to your request for comments regarding the extension to the Gordonbush wind farm, Police Scotland N Division recommend the following;

1. After departing the docks, the movements should turn right onto the B817 and continue to the traffic lights at Saltburn.
2. At the traffic lights, turn left onto the unclassified road to the Cromarty Firth Industrial Park and continue to the T junction.
3. At this T junction turn right to the junction with the A9 trunk road at Tomich.
4. At the A9 trunk road, turn right and continue to Brora.
5. We have no issues with the use of the unclassified road from Clynelish but you must ensure it is suitable for the proposed loads weights and configurations.
6. In the interests of road safety and to minimise traffic disruption, all of the movements from the docks to the site will require a police escort and this would be reflected on the comments in the VR1.

If I can be of further assistance. please do not hesitate to contact me.

Regards

PC 176 Alistair McBean  
Divisional Road Policing Unit  
N Division  
Police Scotland  
Dingwall Police Station  
Bridaig Road  
Dingwall

IV15 9QH

Tel; 01349 869566  
Fax; 01349 869568

---

**From:** Bryan.Tighe@ch2m.com [mailto:Bryan.Tighe@ch2m.com]  
**Sent:** 27 November 2014 15:10  
**To:** Abnormal loads, North; abloads@scotland.transerv.co.uk  
**Subject:** Gordonbush Windfarm Extension-Abnormal Loads

Please find attached a letter and plan detailing the proposed routing of components for the Gordonbush Wind Farm extension, near Brora.

I would welcome any comments you may have regarding the movement of these components along the proposed route.

Kind Regards

Bryan

**Bryan Tighe**

Technician

Transport Planning

**CH2M HILL**

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Edinburgh EH3 6LB

Direct Tel: +44 (0)131 730 3517

[www.ch2mhill.com](http://www.ch2mhill.com)

[www.gettingtoabercrombyplace.co.uk](http://www.gettingtoabercrombyplace.co.uk)

GPMS Classification: **NOT PROTECTIVELY MARKED** by User: Mcbean, Alistair

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Tha am fiosrachadh sa phost-d seo, agus ann an ceangal(an) sam bith na chois, prìobhaideach agus dh'fhaodte FO SHOCHAIR LAGHAIL. 'S ann a-mh' in airson an neach-uidhe a tha e. Mura tusa an neach-uidhe no mura h-eil dleasan ort a chur air adhart chun an neach-uidhe, thathar le seo a' leigeil fios dhut gu bheil e toirmisgte am post-d seo a chleachdadh air dh'igh sam bith, no fhoillseachadh, no sgrìdadh, no sgaoileadh, no riarachadh, no lethbhreac a dh'anamh dheth.

Ma th' inig am post-d seo thugad le mearachd, leig fios sa bhad chun an neach a sgaoil e, a' cleachdadh a' ghòireis fhreagairt ann am bathar-bog a' phuist-d agad no le fios a chur gu POILIS NA H-ALBA air (+44) 1786 289070 agus cuir 's dhan phost-d.

## Kerr, Alan/GLA

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**From:** David MacKenzie - Structures <david.gc.mackenzie@highland.gov.uk>  
**Sent:** 12 November 2014 15:17  
**To:** Kerr, Alan/UKE; Gordon Douglas - TECS Drummuie; Joanne Sutherland  
**Subject:** RE: Gordonbush Wind Farm Extension - Structural Review

Alan,

My assumption is that the transport to the Gordonbush Wind Farm Extension would be on the same route(s) as the earlier and original Gordonbush Wind Farm development.

That being the case, there would not appear to be a problem with what is proposed.

In due course, when you have identified your proposed route fully, and can confirm the likely abnormal loads, we'll be able to give better advice.

Regards

*David*

---

**From:** Alan.Kerr@ch2m.com [mailto:Alan.Kerr@ch2m.com]  
**Sent:** 05 November 2014 11:44  
**To:** David MacKenzie - Structures  
**Subject:** Gordonbush Wind Farm Extension - Structural Review

Hi David

We are currently considering the routing of abnormal loads to the proposed extension to the existing Gordonbush Wind Farm in the Highlands, west of Brora. The proposed port of entry is Invergordon. The routes under consideration are mainly on the A9 but would like your input where they are not. Any advice of what may need to be considered would be appreciated. The attached illustrates the proposed route to the site which is likely only to impact on Council roads between Port of Invergordon and the A9 and between the A9 north of Brora and the site access i.e. via Clynelish Road.

If you have any queries, please do not hesitate to contact me.

Regards

Alan.

**Alan Kerr BEng (Hons) CEng MCIHT**  
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*Transport Planning*  
*Transportation/Traffic Engineer*  
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Mura h-eil na beachdan a tha air an cur an cèill sa phost-d seo a' buntainn ri gnothachas Chomhairle na Gàidhealtachd, 's ann leis an neach fhèin a chuir air falbh e a tha iad, is chan eil iad an-còmhnaidh a'

riochdachadh beachdan na Comhairle, no buidhnean buntainneach, agus chan eil am post-d seo na phàirt de chunradh sam bith mura h-eil sin air innse.

**Listening \* Open \* Valuing \* Improving \* Supporting \* Partnering \* Delivering**  
**Èisteachd \* Fosgailte \* Luach \* Leasachadh \* Taic \* Com-pàirteachas \* Libhrigeadh**



## Kerr, Alan/GLA

---

**From:** Fred McIntosh <Fred.McIntosh@highland.gov.uk>  
**Sent:** 23 October 2014 15:10  
**To:** Kerr, Alan/UKE  
**Cc:** Ken McCorquodale  
**Subject:** FW: Gordonbush Wind Farm Extension - Traffic and Transport Inputs  
**Attachments:** Renewable Pre\_App Guidance.doc

**Importance:** High

Alan,

I have been asked to respond to your enquiry below regarding a proposed extension to the existing Gordonbush Wind Farm.

A Transport Assessment (TA) to consider the transport impacts of the proposed development will be required. In particular, the TA should identify all Council maintained roads likely to be affected by the various stages of the development and consider in detail the impact of development traffic on these roads. Where necessary, the TA should consider and propose measures necessary to mitigate the impact of development traffic. The range of matters to be included in the TA shall be as per the attached scoping advice note. Road capacity is unlikely to be an issue but the suitability of the existing local road network to accommodate development traffic will need to be carefully considered. You will note that in addition to observance of the EIA Regulations the TA should also take account of national transport guidance in the form of the Transport Scotland document, Transport Assessment Guidance.

Prior to its preparation, the detailed scope of the TA should be agreed with both Highland Council, as local roads authority, and Transport Scotland, as trunk roads authority. I would suggest that a draft scoping letter is first submitted for the consideration of each authority.

It is difficult to comment on the extent of the study network at this stage, without knowing the access routes that will be employed. A review of the information previously submitted in relation to the existing Gordonbush Wind Farm should give a better understanding of the extents of the road network to be considered and, presumably, your client will hold this information.

Once access routes have been confirmed and the extent of the study network is known, my colleague Greg Otreba should be able to advise on any relevant traffic data held by the Council. Greg's contact details are as follows, [Grzegorz.Otreba@highland.gov.uk](mailto:Grzegorz.Otreba@highland.gov.uk) , tel. 01463 252947.

Similarly my Road Safety colleague, Sarah Bryden should be able to advise on available accident data, and the charges for providing same, for any part of the study network. Sarah's contact details are as follows, [Sarah.Bryden@highland.gov.uk](mailto:Sarah.Bryden@highland.gov.uk) , tel. 01463 252938 .

Details of any committed development that need to be considered in the TA should be obtained from my planning colleagues in the Development Management team here at Council HQ.

With regard to existing constraints on the network and the assessment of Council maintained structures on the routes identified for construction traffic or abnormal loads, I would recommend early contact with the Council's Chief Structural Engineer, David Mackenzie. Contact details as follows, [david.gc.mackenzie@highland.gov.uk](mailto:david.gc.mackenzie@highland.gov.uk) , tel. 01349 886751 .

I trust these initial comments are of assistance.

Regards,

Fred

Fred McIntosh  
Transport Planning  
Development and Infrastructure  
The Highland Council

Tel. 01463 252941

# Renewable Energy Proposal

## Transport Statement/Assessment Methodology for Public Roads for which Highland Council is the Roads Authority

1. Identify all public roads affected by the development. In addition to transportation of all abnormal loads & vehicles (delivery of components) this should also include routes to be used by local suppliers and staff. It is expected that the developer submits a preferred access route for the development. All other access route options should be provided, having been investigated in order to establish their feasibility. This should clearly identify the pros and cons of all the route options and therefore provide a logical selection process to arrive at a preferred route.
2. Establish current condition of the roads. This work which should be undertaken by a consulting engineer acceptable to the Council and will involve an engineering appraisal of the routes including the following:
  - Assessment of structural strength of carriageway including construction depths and road formation where this is likely to be significant in respect of proposed impacts, including non-destructive testing and sampling as required.
  - Road surface condition and profile
  - Assessment of structures and any weight restrictions
  - Road widths, vertical and horizontal alignment and provision of passing places
  - Details of adjacent communities
3. Determine the traffic generation and distribution of the proposals throughout the construction and operation periods to provide accurate data resulting from the proposed development including
  - Nos. of light and heavy vehicles including staff travel
  - Abnormal loads
  - Duration of works
4. Current traffic flows including use by public transport services, school buses, refuse vehicles, commercial users, pedestrians, cyclists and equestrians.
5. Impacts of proposed traffic including
  - Impacts on carriageway, structures, verges etc.
  - Impacts on other road users
  - Impacts on adjacent communities
  - Swept path and gradient analysis where it is envisaged that transportation of traffic could be problematic
  - Provision of Trial Runs to be carried out in order to prove the route is achievable and/or to establish the extent of works required to facilitate transportation
6. Cumulative impacts with other developments in progress and committed developments including other Renewable Energy projects.
7. Proposed mitigation measures to address impacts identified in 5 above, including
  - Carriageway strengthening
  - Strengthening of bridges and culverts
  - Carriageway widening and/or edge strengthening
  - Provision of passing places
  - Road safety measures
  - Traffic management including measures to be taken to ensure that development traffic does not use routes other than the approved routes.
8. Details of residual effects.

The above information is not exhaustive and should be used as a guide to submitting all relevant information in relation to roads, traffic and transportation matters arising from the development proposals, which should be in the form of a Transport Statement/Assessment forming part of the Environmental Statement submission.

**Transport Planning Team**  
**Development & Infrastructure**

Our Ref SCT6970

3 November 2014

Alan Kerr  
Senior Engineer  
CH2MHILL  
16 Abercromby Place  
Edinburgh  
EH3 6LB

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G2 4QY

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Dear Sirs

**THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND)  
REGULATIONS 2000 SECTION 36 APPLICATION  
PROPOSED GORDONBUSH WIND FARM EXTENSION**

With reference to your recent correspondence on the above development, we write to inform you of our involvement as Term Consultants to Transport Scotland . Trunk Road and Bus Operations (TS-TRBO) in relation to the provision of advice on issues affecting the trunk road network.

We have received a copy of the Environmental Statement (Scoping Opinion) prepared by CH2MHILL on behalf of SSE Renewables Developments (UK) Ltd in support of the above development. Having reviewed the information provided, we would make the following comments on behalf of Transport Scotland.

**Development Proposal and Background**

We note from emailed correspondence from the applicant that the Gordonbush Wind Farm Extension is proposed to comprise 16 turbines with a maximum tip height of 130m. The proposal represents an extension to the operational Gordonbush Wind Farm which comprises 35 wind turbines and associated infrastructure with a total installed capacity of 72MW.

**Site Location**

The proposed Gordonbush Extension is located approximately 9.5km to the north-west of Brora, Sutherland. The site is to the south of the operational Gordonbush Wind Farm and to the north of the C6 Strath Brora Road. This road provides access to the A9(T) which is the nearest trunk road the site and the route that would provide strategic access.

**Access Strategy**

The scoping note makes no reference as to where the Wind Farm will be accessed from but it is assumed that it will be via Strath Brora Road which is where the operational Gordonbush windfarm was accessed. We would therefore request that this matter is clarified by the Environmental Statement and full details of the access provided.

### **Abnormal Loads**

The submitted Scoping information identifies that abnormal loads will be transported from the port of Invergordon and will travel via the A9(T) to Clynelish Road. It is noted that the turbine components are likely to follow the same routes as those associated with the existing operational Gordonbush Wind Farm.

It is also noted that a route survey report will be undertaken which will identify any constraints associated with this route. Transport Scotland finds this approach acceptable and would ask that any temporary modifications to the trunk road network are detailed.

### **Assessments of Environmental Impacts**

The Environmental Statement (ES) should provide information with regard to the construction stage including the preferred route options for the movement of any heavy loads along with an estimate of vehicle trip generation from the site and an indication of distribution/assignment of these trips. The report should also identify potential environmental impacts on the trunk road once the development is operational.

We would generally advise that the assessment of environment effects of road traffic should be undertaken in accordance with the guidance set out within the Institute of Environmental Management and Assessment (IEMA) publication Guidelines on the Environmental Assessment of Road Traffic (Guidance Note 1) , 1993. The IEMA guidelines generally advise that further assessment should be undertaken on:

- Highway links where traffic flows will increase by more than 30 (or the number of HGV's will increase by more than 30%); and
- Any specifically sensitive areas where the traffic flows have increased by 10 or more.

We would also advise that useful guidance is also provided within Planning Advice Note 1/2013 on the EIA process and the preparation of environmental statements.

Potential trunk road related environmental impacts such as driver delay, severance, pedestrian amenity, safety etc should be considered and assessed where appropriate (i.e. Where IEMA thresholds for further assessment are exceeded). In the case of the ES the methods adopted to assess the likely traffic and transportation impacts on traffics flows and transportation infrastructure should comprise:

- Determination of the baseline traffic and transportation conditions, and the sensitivity of the site and existence of any receptors likely to be affected in proximity of the trunk road network;
- Review of the development proposals to determine the predicted construction and operational requirements; and
- Assessment of the significance of predicted impacts from these transport requirements taking into account impact magnitude (before and after mitigation) and baseline environmental sensitivity.

### **Noise and Vibration**

Although we note that the request from the applicant was to provide a scoping opinion for a Traffic and Transport chapter to inform an Environmental Statement, we would note that generated traffic can cause related Noise and Vibration impacts. Therefore we have included guidance below with regard to the consideration and assessment of Noise and Vibration.

Impacts to sensitive receptors associated with noise and vibration arising from the proposed development during the construction and operational phases should be considered. Operational traffic noise and construction traffic noise should be assessed by considering the increase in traffic flows and following the principles of the Calculation of Road Traffic Noise (CRTN). Design Manual for Roads and Bridges (DMRB) Vol.11 states:

*"In the period following a change in traffic flow, people may find benefits or disbenefits when the noise changes are as small as 1dB(A) – equivalent to an increase in traffic flow of 25% or a decrease in traffic flow of 20%. These effects last for a number of years."*

PAN1/2011 advises that a change of 3dB(A) is the minimum perceptible under normal conditions, and a change of 10dB(A) corresponds roughly to halving or doubling the loudness of a sound.

Therefore, the Environmental Statement should consider potential impacts to identified trunk road receptors, in terms of:

- Predicted noise levels from construction traffic; and
- Any increases to road traffic attributed to the proposed development.

#### **Air Quality**

Generated traffic can also give rise to Air Quality impacts so guidance is provided below with regard to the assessment of Air Quality.

Transport Scotland require an Air Quality assessment to be undertaken at the trunk road network where a significant change in road traffic characteristics has been identified as a result of the proposed development. In such circumstances, changes in air quality at a worst case scenario sensitive receptor adjacent to the trunk road will require further assessment.

The first criteria for identifying roads with a significant traffic change is defined in the Environmental Protection UK Development Control: Planning for Air quality publication:

A change in annual daily traffic (AADT) flows of more than 5% or 10% (depending on local circumstances) on a road with more than 10,000 Annual Average Daily Traffic (AADT).

The second set of criteria is taken from the DMRB Air Quality Screening Criteria:

- Road alignment will change by 5m or more; or
- Daily traffic flows will change by 1,000 AADT or more; or
- Heavy Duty Vehicle (HDV) flows will change by 200 AADT or more;
- Daily average speed will change by 10 kilometres per hour (km/hr) or more; or
- Peak hour speed will change by 20km/hr or more.

In the assessment, a conservative approach should be utilised and traffic changes screened against both sets of criteria; if a road link triggers any of the criteria it should be assessed further. Where significant changes in traffic are not noted for any link, no further assessment needs to be undertaken.

Where environmental impacts have been fully investigated but found to be of little or no significance, it is sufficient to validate that part of the assessment by stating in the report:

- The work that has been undertaken e.g. Transportation/ Noise / Air Quality Assessments etc;
- What this has shown i.e. what impact if any has been identified; and
- Why it is not significant.

It is not necessary to include all the information gathered during the assessment of these impacts, although this information should be available, if requested.

I trust that the above is satisfactory and should you wish to discuss any issues raised in greater detail, please do not hesitate to contact me at our Glasgow Office.

Yours faithfully



**Alan DeVenny**  
Associate Director

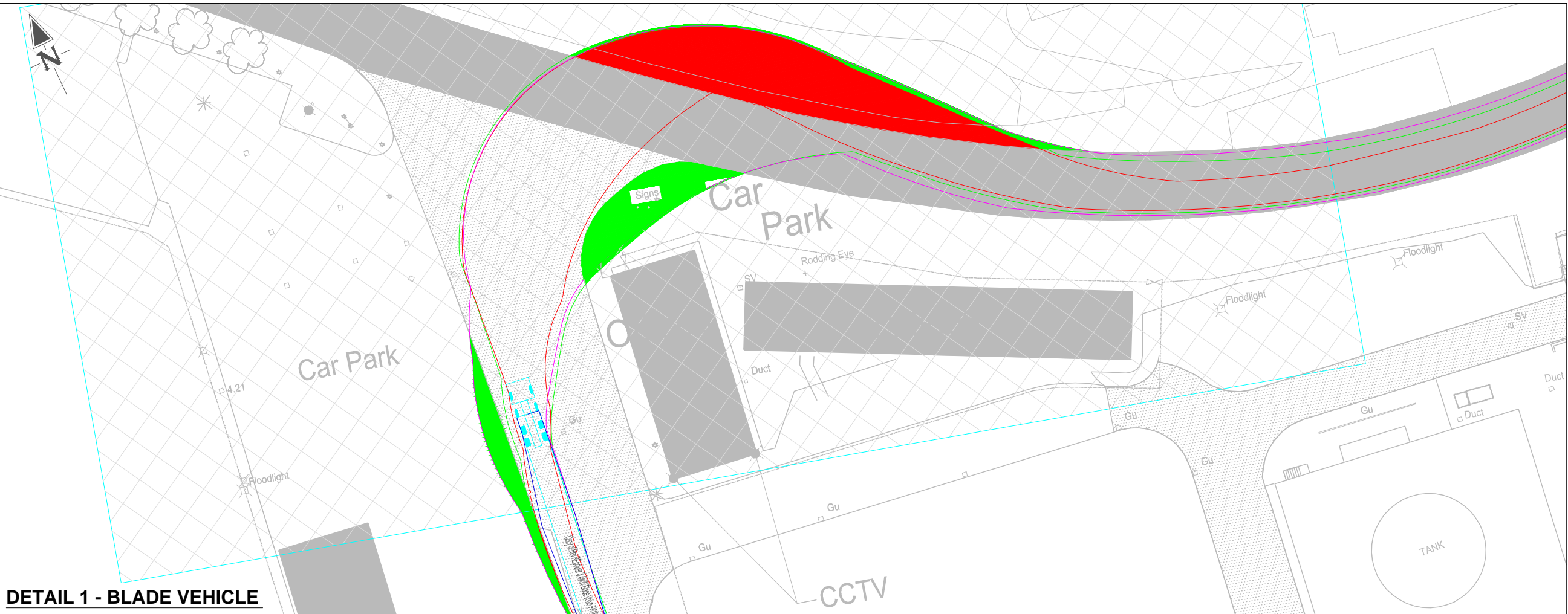
Tel 0141 226 6923

Email [Alan.DeVenny@jmp.co.uk](mailto:Alan.DeVenny@jmp.co.uk)

cc John McDonald - Transport Scotland (TRBO)  
[energyconsents@scotland.gsi.gov.uk](mailto:energyconsents@scotland.gsi.gov.uk)



## **Appendix B – Swept Path Assessment Drawings**



DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE

- Key Plan:
- Existing Road
  - Previous Widening
  - Load Envelope
  - Vehicle Body Envelope
  - Vehicle Wheel Base
  - Tower Rear Wheel Steering
  - Blade Rear Wheel Steering
  - Tower Over-sail Area Highlight
  - Blade Over-sail Area Highlight
  - Vehicle Overrun Within Highways

Notes:

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Rev	By	Chkd	Apprd	Date	Description



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www.ch2mhill.com

**CH2MHILL.**

Project:

GORDONBUSH EXTENSION  
WIND FARM

Drawing:

ABNORMAL LOAD  
ROUTE SURVEY  
INVERGORDON PORT

Drawn by: BT Date: 30/10/14  
Checked by: AK Date: 30/10/14  
Approved by: JP Date: 30/10/14

Drawing No. 652994/AA.00.01 - 01  
Revision -

Drawing Scale: 1:500 at A3

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User and Plot Date : Kernall, 10/12/2015 11:15 am



Key Plan:

- |   |                                 |
|---|---------------------------------|
|  | Existing Road                   |
|  | Previous Widening               |
|  | Load Envelope                   |
|  | Vehicle Body Envelope           |
|  | Vehicle Wheel Base              |
|  | Tower Rear Wheel Steering       |
|  | Blade Rear Wheel Steering       |
|  | Tower Over-sail Area Highlight  |
|  | Blade Over-sail Area Highlight  |
|  | Vehicle Overrun Within Highways |

Notes:

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Client



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[www.ch2mhill.com](http://www.ch2mhill.com)

**CH2MHILL.**

Project

GORDONBUSH EXTENSION  
WIND FARM

**Drawing**

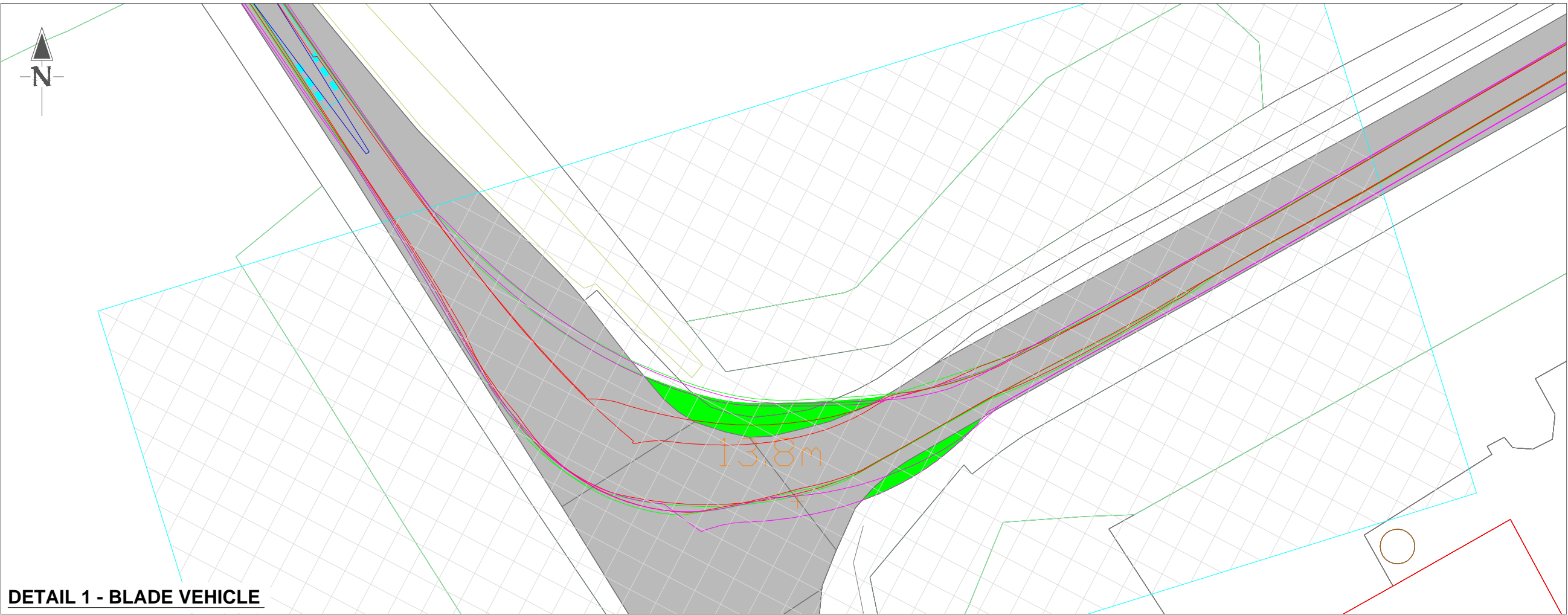
ABNORMAL LOAD  
ROUTE SURVEY  
CROMARTY VIEW - POI 6

Drawn by: BT	Date: 30/10/14
Checked by: AK	Date: 30/10/14
Approved by: JP	Date: 30/10/14

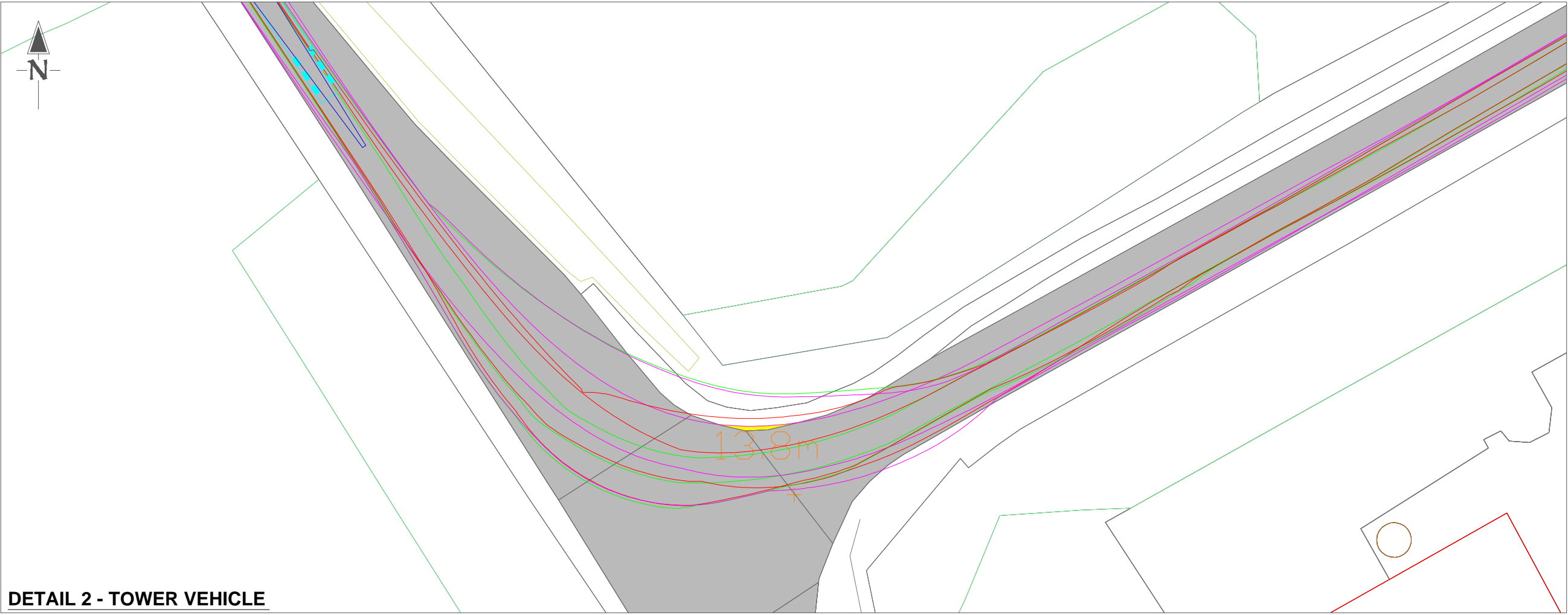
Drawing No.	Revision
652994/AA.00.01 - 06	-

Drawing Scale: 1:500 at A3





DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE

- Key Plan:
- Existing Road
  - Previous Widening
  - Load Envelope
  - Vehicle Body Envelope
  - Vehicle Wheel Base
  - Tower Rear Wheel Steering
  - Blade Rear Wheel Steering
  - Tower Over-sail Area Highlight
  - Blade Over-sail Area Highlight
  - Vehicle Overrun Within Highways

Notes:

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Rev	By	Chkd	Apprd	Date	Description

Client:



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Project:

GORDONBUSH EXTENSION  
WIND FARM

Drawing:

ABNORMAL LOAD  
ROUTE SURVEY  
POI 9

Drawn by: BT	Date: 30/10/14
Checked by: AK	Date: 30/10/14
Approved by: JP	Date: 30/10/14

Drawing No.	Revision
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User and Plot Data

DETAIL 1 - BLADE VEHICLE

DETAIL 2 - TOWER VEHICLE

Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Over-sail Area Highlight
- Blade Over-sail Area Highlight
- Vehicle Overrun Within Highways

Notes:

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Project:

GORDONBUSH EXTENSION  
WIND FARM

Drawing

ABNORMAL LOAD  
ROUTE SURVEY  
A9/TOMICH FARM JCN - POI 11

Drawn by: BT	Date: 30/10/14
Checked by: AK	Date: 30/10/14
Approved by: JP	Date: 30/10/14

Drawing No.	Revision
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User and Plot Date

DETAIL 1 - BLADE VEHICLE

DETAIL 2 - TOWER VEHICLE

Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Over-sail Area Highlight
- Blade Over-sail Area Highlight
- Vehicle Overrun Within Highways

Notes:

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Project:  
GORDONBUSH EXTENSION  
WIND FARM

Drawing:  
**ABNORMAL LOAD  
ROUTE SURVEY  
POI 16**

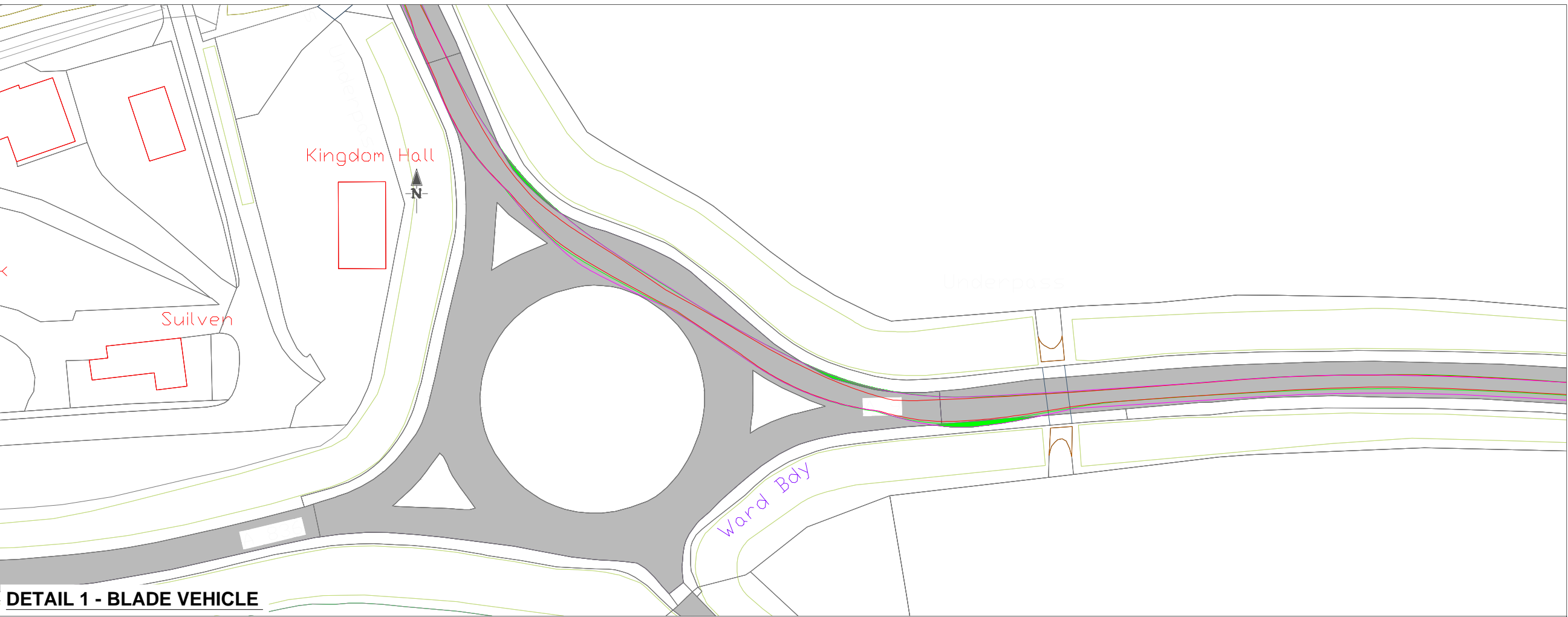
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Approved by: JP	Date: 30/10/14

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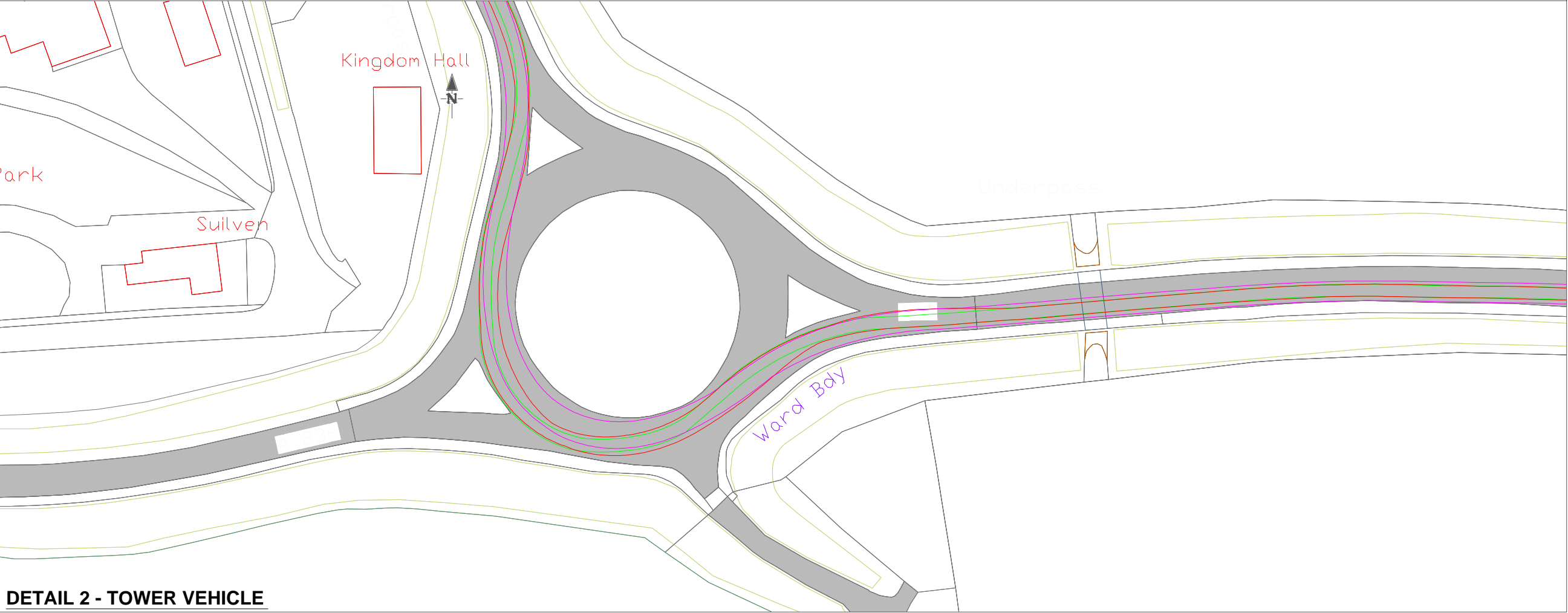
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User and Plot Date : kernall, 10/12/2015 11:18 am





DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE

Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Over-sail Area Highlight
- Blade Over-sail Area Highlight
- Vehicle Overrun Within Highways

Notes:

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Rev	By	Chkd	Apprd	Date	Description

Client:



**CH2MHILL.**

Project:

GORDONBUSH EXTENSION  
WIND FARM

Drawing:

ABNORMAL LOAD  
ROUTE SURVEY  
POI 20

Drawn by: BT	Date: 30/10/14
Checked by: AK	Date: 30/10/14
Approved by: JP	Date: 30/10/14

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DETAIL 1 - BLADE VEHICLE

DETAIL 2 - TOWER VEHICLE

- Key Plan:
- Existing Road
  - Previous Widening
  - Load Envelope
  - Vehicle Body Envelope
  - Vehicle Wheel Base
  - Tower Rear Wheel Steering
  - Blade Rear Wheel Steering
  - Tower Over-sail Area Highlight
  - Blade Over-sail Area Highlight
  - Vehicle Overrun Within Highways

Notes:

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Client:



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Project:

GORDONBUSH EXTENSION  
WIND FARM

Drawing:

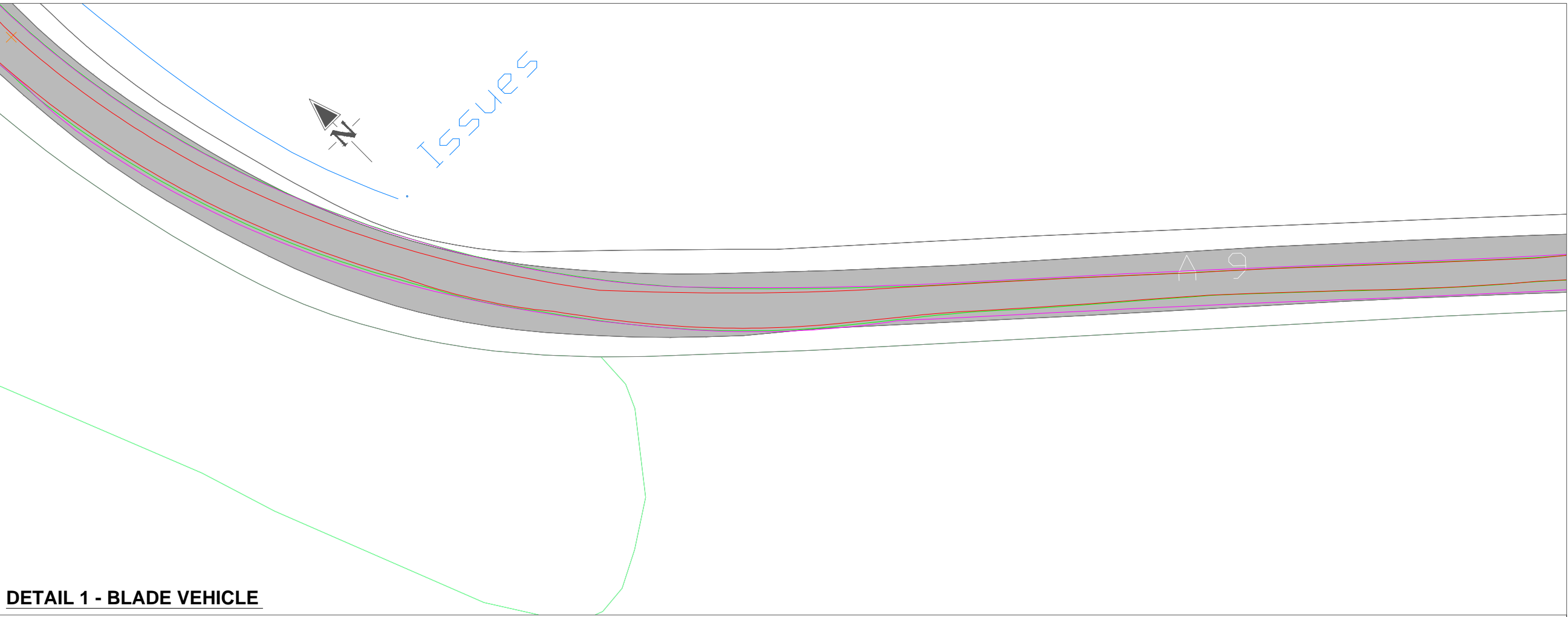
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ROUTE SURVEY  
POI 34

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Approved by: JP	Date: 30/10/14

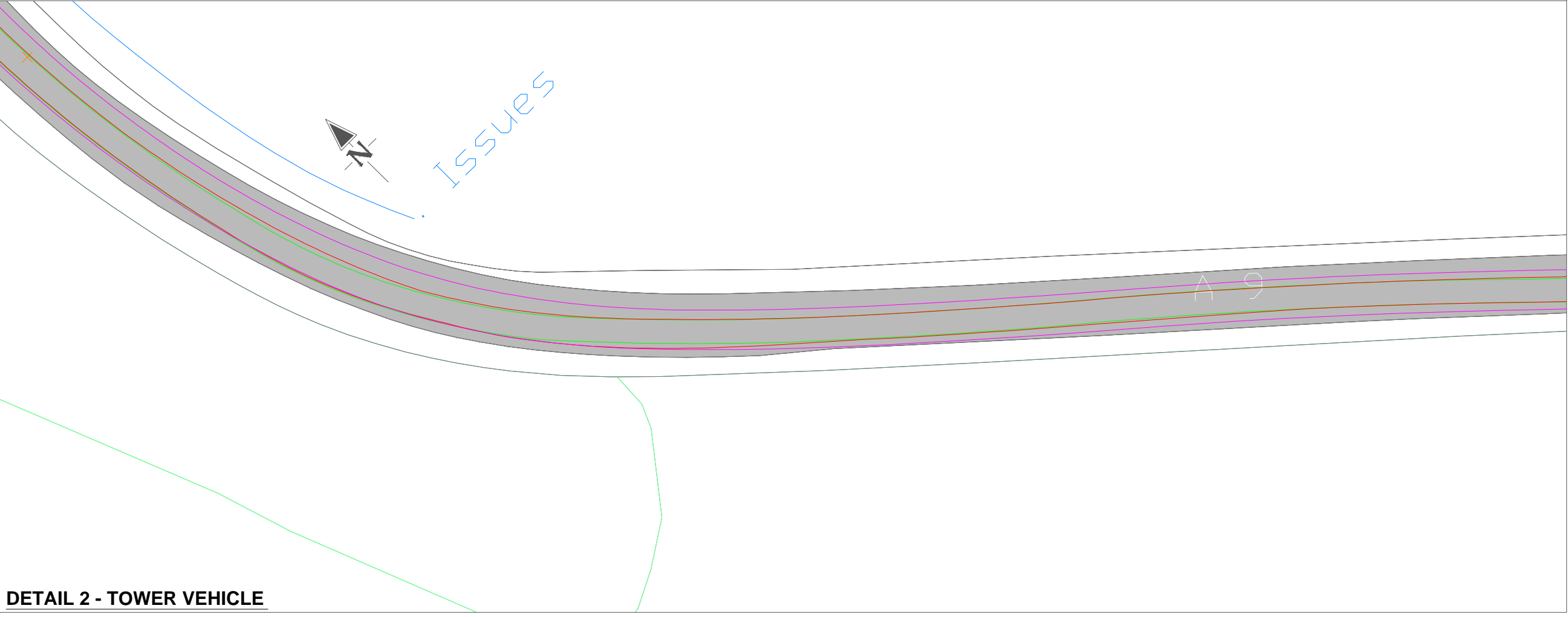
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User and Plot Date



DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE

Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Over-sail Area Highlight
- Blade Over-sail Area Highlight
- Vehicle Overrun Within Highways

Notes:

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Project:  
GORDONBUSH EXTENSION  
WIND FARM

Drawing:  
ABNORMAL LOAD  
ROUTE SURVEY  
POI 43

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Checked by: AK	Date: 30/10/14
Approved by: JP	Date: 30/10/14

Drawing No.	Revision
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User and PLOT data

DETAIL 1 - BLADE VEHICLE

DETAIL 2 - TOWER VEHICLE

Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Over-sail Area Highlight
- Blade Over-sail Area Highlight
- Vehicle Overrun Within Highways

Notes:

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Client:



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www.ch2mhill.com

Project:  
GORDONBUSH EXTENSION  
WIND FARM

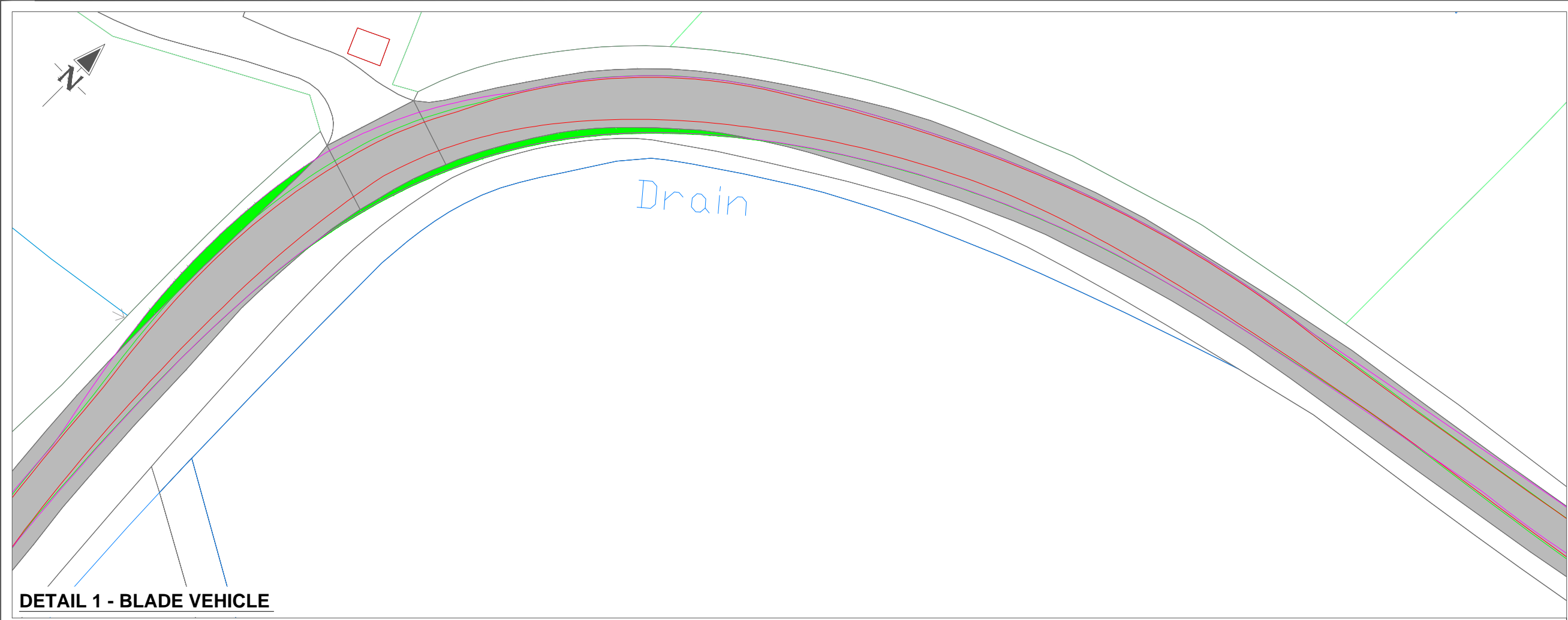
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POI 44

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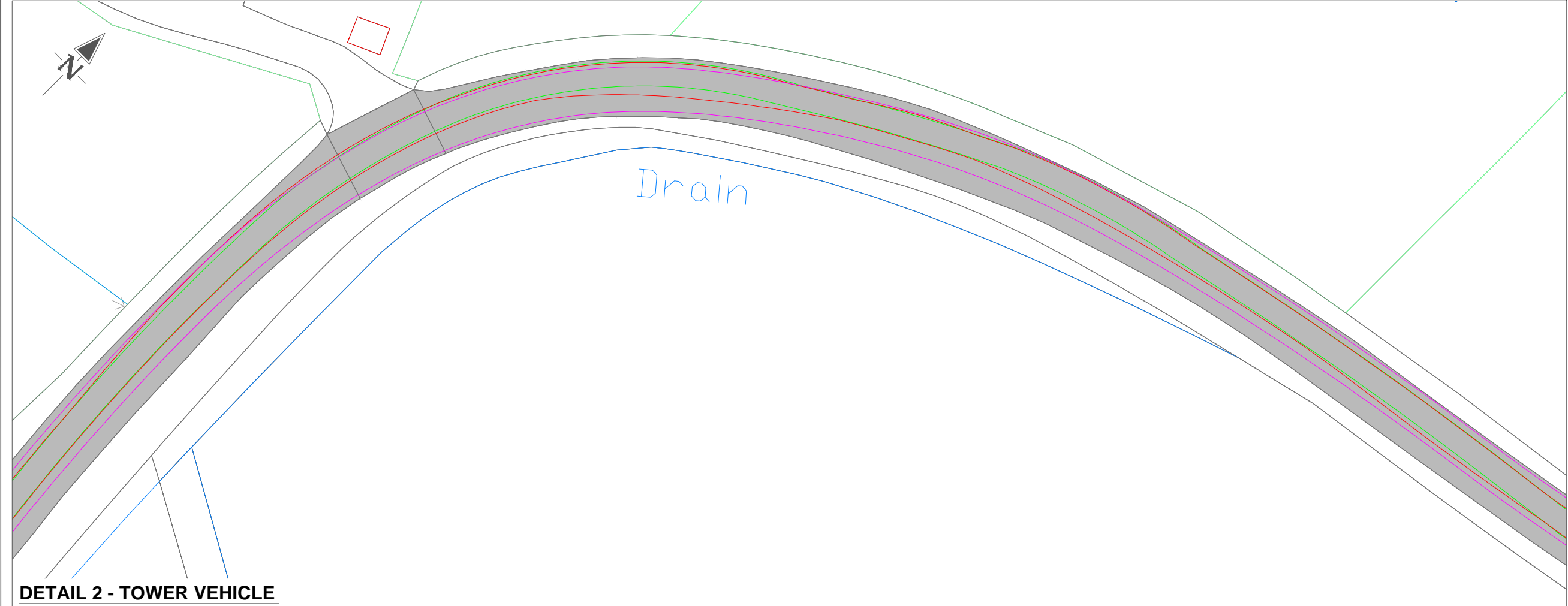
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User and Plot Date



DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE

- Key Plan:
- Existing Road
  - Previous Widening
  - Load Envelope
  - Vehicle Body Envelope
  - Vehicle Wheel Base
  - Tower Rear Wheel Steering
  - Blade Rear Wheel Steering
  - Tower Over-sail Area Highlight
  - Blade Over-sail Area Highlight
  - Vehicle Overrun Within Highways

Notes:

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Rev	By	Chkd	Apprd	Date	Description

Client



**CH2MHILL.**

Project

GORDONBUSH EXTENSION  
WIND FARM

Drawing

ABNORMAL LOAD  
ROUTE SURVEY  
POI 45

Drawn by: BT	Date: 30/10/14
Checked by: AK	Date: 30/10/14
Approved by: JP	Date: 30/10/14

Drawing No.	Revision
652994/AA.00.01 - 19	-

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User and Plot Date : kernall, 10/12/2015 - 11:18 am



DETAIL 1 - BLADE VEHICLE

DETAIL 2 - TOWER VEHICLE

Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Over-sail Area Highlight
- Blade Over-sail Area Highlight
- Vehicle Overrun Within Highways

Notes:

Reproduced from topographic survey data as supplied by SSE

Rev	By	Chkd	Apprd	Date	Description

Client:



**CH2MHILL.**  
16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

Project:  
GORDONBUSH EXTENSION  
WIND FARM

Drawing:  
ABNORMAL LOAD  
ROUTE SURVEY  
POI 46

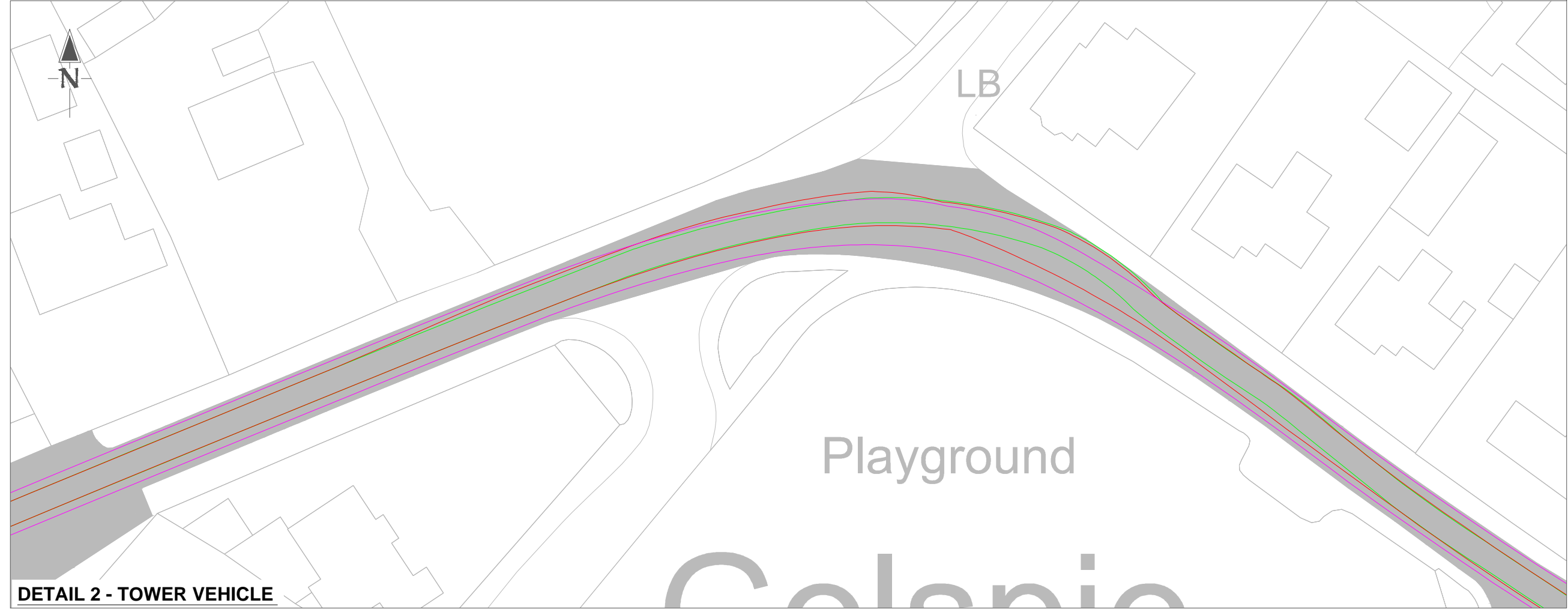
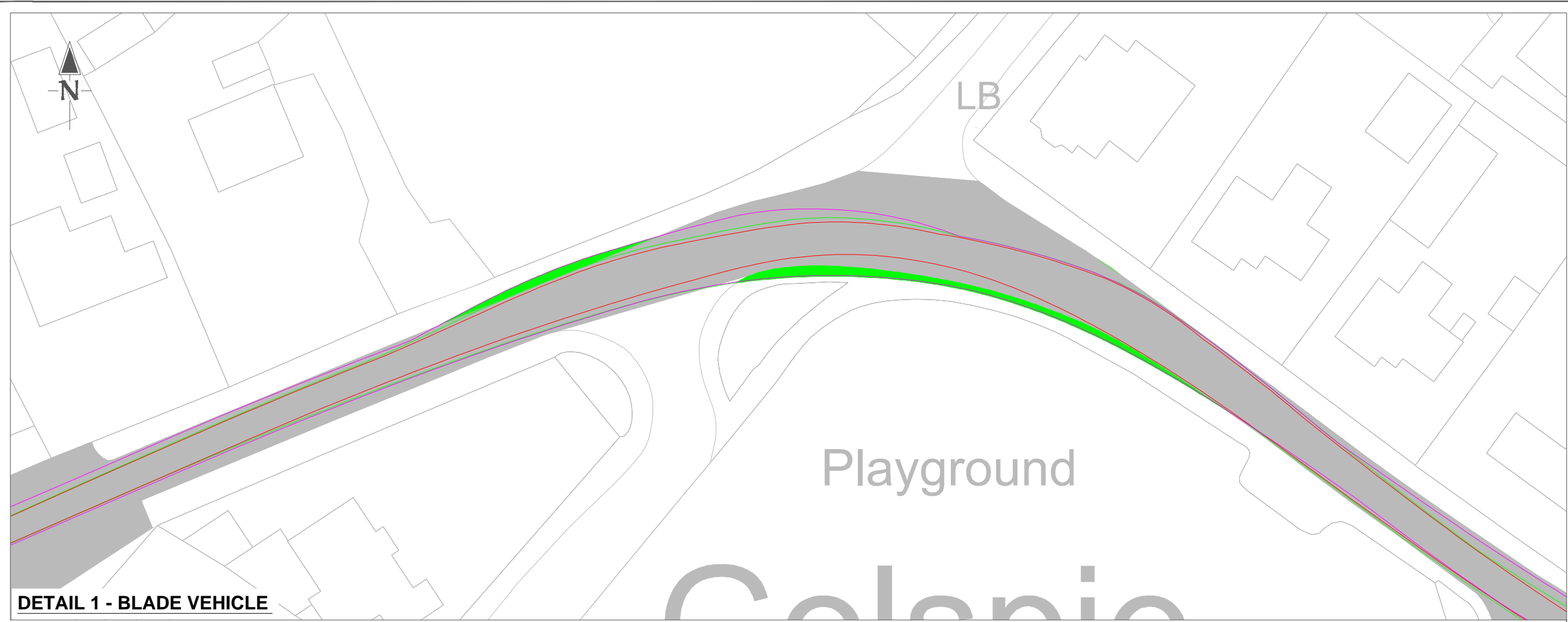
Drawn by: BT	Date: 30/10/14
Checked by: AK	Date: 30/10/14
Approved by: JP	Date: 30/10/14

Drawing No.	Revision
652994/AA.00.01 - 21	-

Drawing Scale: 1:500 at A3

Drawing file path & name : C:\Users\kernall\AppData\Local\Temp\AcPublish\_6560\_Gordonbush\_Ext\Investigation-Bora.dwg  
AcPublish file path : Kernall\_10/02/2015\_11:18 am  
User and Plot Date





- Key Plan:
- Existing Road
  - Previous Widening
  - Load Envelope
  - Vehicle Body Envelope
  - Vehicle Wheel Base
  - Tower Rear Wheel Steering
  - Blade Rear Wheel Steering
  - Tower Over-sail Area Highlight
  - Blade Over-sail Area Highlight
  - Vehicle Overrun Within Highways

Notes:

Reproduced from topographic survey data as supplied by SSE

Rev	By	Chkd	Apprd	Date	Description

Client:



**CH2MHILL.**

Project:

GORDONBUSH EXTENSION  
WIND FARM

Drawing:

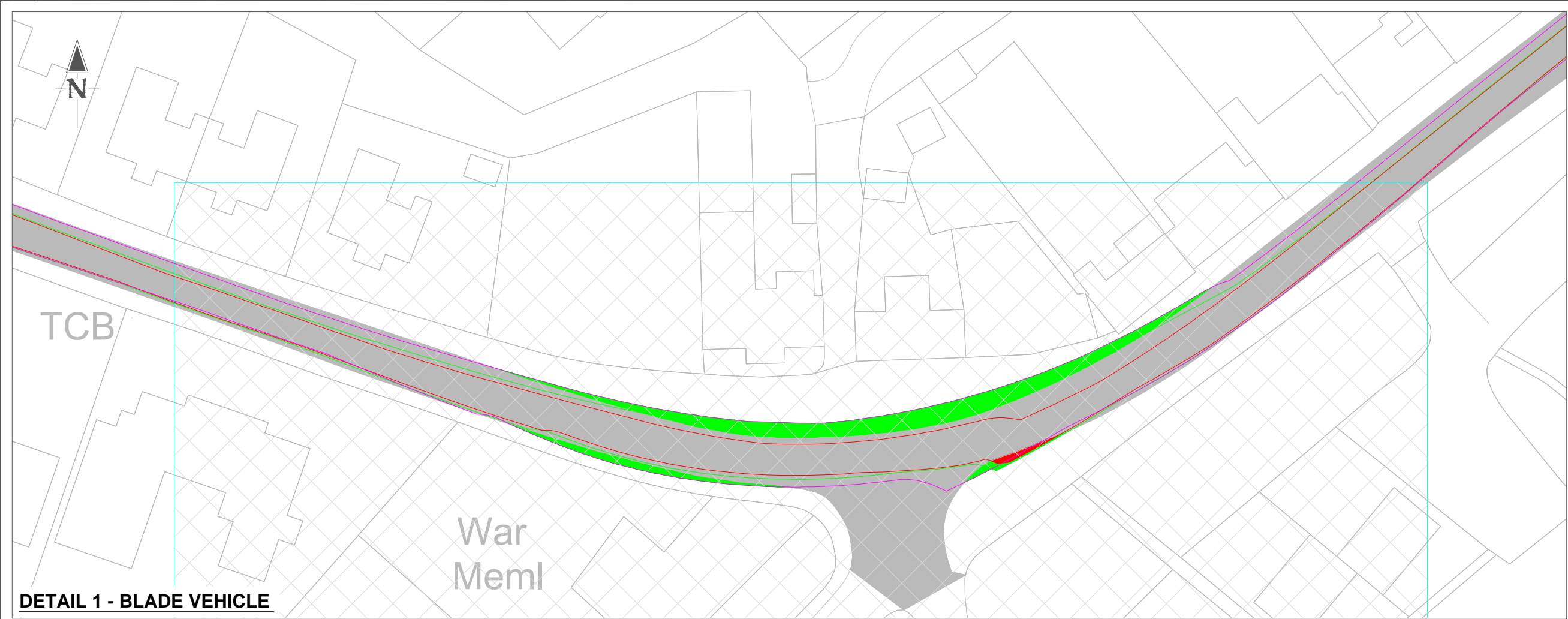
ABNORMAL LOAD  
ROUTE SURVEY  
POI 62

Drawn by: BT	Date: 30/10/14
Checked by: AK	Date: 30/10/14
Approved by: JP	Date: 30/10/14

Drawing No.	Revision
652994/AA.00.01 - 31	-

Drawing Scale: 1:500 at A3

Drawing file path & name : C:\Users\kernall\AppData\LocalTemp\AcPublish\_6560\_Gordonbush\_Extension\Bora.dwg  
AcPublish file path : C:\Users\kernall\AppData\LocalTemp\AcPublish\_6560  
User and Plot Date : kernall, 10/12/2015 - 11:15 am



- Key Plan:
- Existing Road
  - Previous Widening
  - Load Envelope
  - Vehicle Body Envelope
  - Vehicle Wheel Base
  - Tower Rear Wheel Steering
  - Blade Rear Wheel Steering
  - Tower Over-sail Area Highlight
  - Blade Over-sail Area Highlight
  - Vehicle Overrun Within Highways

Notes:

Reproduced from topographic survey data as supplied by SSE

Rev	By	Chkd	Apprd	Date	Description

Client:



**CH2MHILL.**

Project:

GORDONBUSH EXTENSION  
WIND FARM

Drawing:

ABNORMAL LOAD  
ROUTE SURVEY  
POI 63

Drawn by: BT	Date: 30/10/14
Checked by: AK	Date: 30/10/14
Approved by: JP	Date: 30/10/14

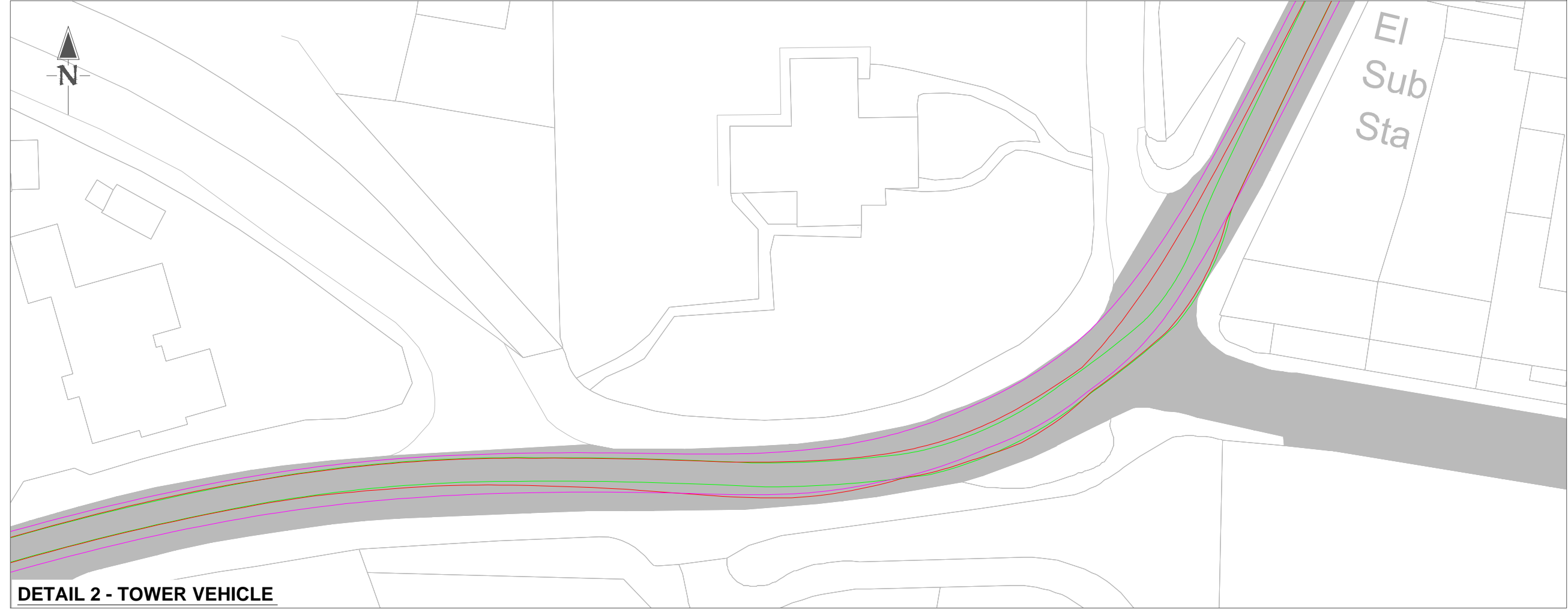
Drawing No.	Revision
652994/AA.00.01 - 32	-

Drawing Scale: 1:500 at A3

Drawing file path & name : C:\Users\kernall\AppData\Local\Temp\AC\Publicat\_6560\_Gordonbush\_Ext\Investigation\Bora\_Avg  
Accession file path : C:\Users\kernall\AppData\Local\Temp\AC\Publicat\_6560  
User and Print Date : kernall 10/12/2015 11:15 am



DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE

- Key Plan:
- Existing Road
  - Previous Widening
  - Load Envelope
  - Vehicle Body Envelope
  - Vehicle Wheel Base
  - Tower Rear Wheel Steering
  - Blade Rear Wheel Steering
  - Tower Over-sail Area Highlight
  - Blade Over-sail Area Highlight
  - Vehicle Overrun Within Highways

Notes:

Reproduced from topographic survey data as supplied by SSE

Rev	By	Chkd	Apprd	Date	Description

Client:



**CH2MHILL.**

Project:

GORDONBUSH EXTENSION  
WIND FARM

Drawing:

ABNORMAL LOAD  
ROUTE SURVEY  
POI 66

Drawing No.		Revision	
652994/AA.00.01 - 35		-	

Drawing Scale: 1:500 at A3

Drawing file path & name : C:\Users\kernall\AppData\Local\Temp\AcP\Publist\_6560\_Gordonbush\_Ext\Investigation-Bora.dwg  
Acadent file path : C:\Users\kernall\AppData\Local\Temp\AcP\Publist\_6560  
User and Plot Date : Kernall, 10/10/2015 - 11:15 am

DETAIL 1 - BLADE VEHICLE

DETAIL 2 - TOWER VEHICLE

Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Over-sail Area Highlight
- Blade Over-sail Area Highlight
- Vehicle Overrun Within Highways

Notes:

Reproduced from topographic survey data as supplied by SSE

Rev	By	Chkd	Apprd	Date	Description

Client:



**CH2MHILL.**  
16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

Project:  
GORDONBUSH EXTENSION  
WIND FARM

Drawing:  
**ABNORMAL LOAD  
ROUTE SURVEY  
POI 68**

Drawn by: BT	Date: 30/10/14
Checked by: AK	Date: 30/10/14
Approved by: JP	Date: 30/10/14

Drawing No.	Revision
652994/AA.00.01 - 37	-

Drawing Scale: 1:500 at A3

Drawing file path & name : C:\Users\kieral\AppData\LocalTemp\ACIPublist\_6560\_Gordonbush\_Ext\Investigation\Bora\_Avg  
Acadent file path : kerrak\_10102015\_1110 am  
User and Print Date



DETAIL 1 - BLADE VEHICLE

DETAIL 2 - TOWER VEHICLE

Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Over-sail Area Highlight
- Blade Over-sail Area Highlight
- Vehicle Overrun Within Highways

Notes:

Reproduced from topographic survey data as supplied by SSE

Rev	By	Chkd	Apprd	Date	Description

Client:



CH2M HILL  
16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

CH2MHILL.

Project:

GORDONBUSH EXTENSION  
WIND FARM

Drawing

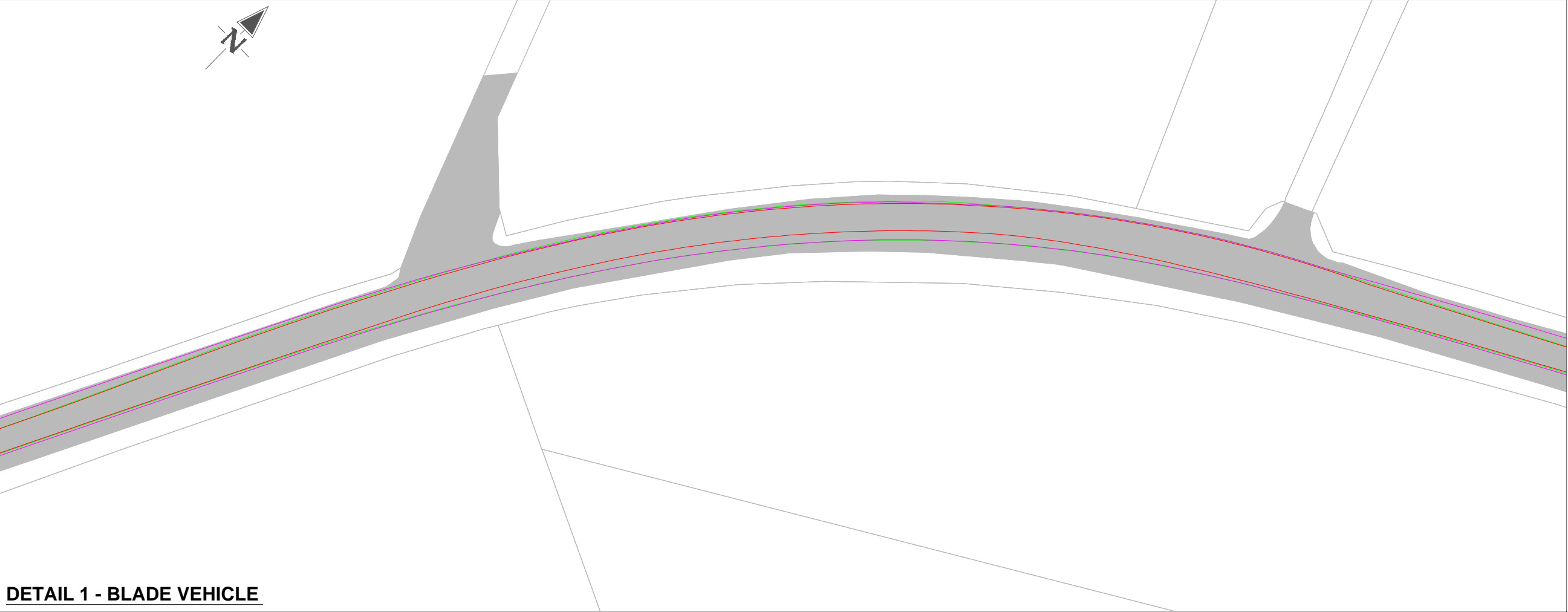
ABNORMAL LOAD  
ROUTE SURVEY  
POI 70

Drawn by: BT	Date: 30/10/14
Checked by: AK	Date: 30/10/14
Approved by: JP	Date: 30/10/14

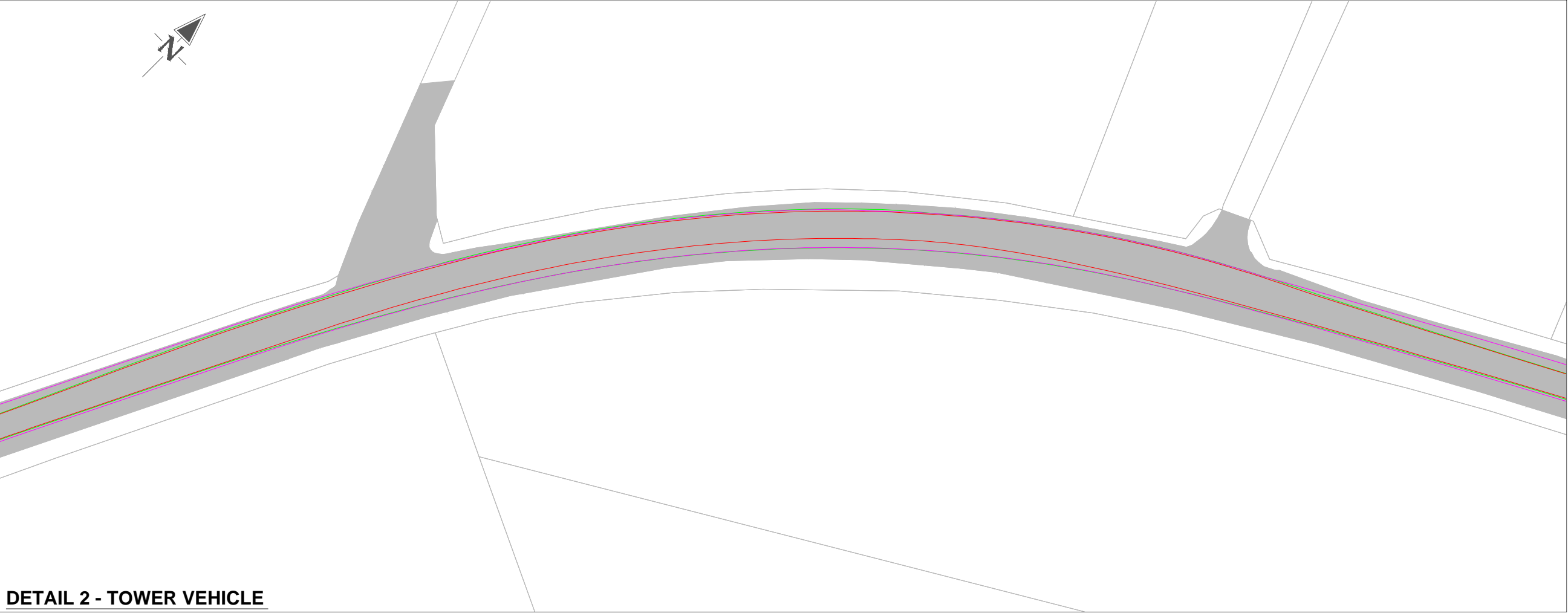
Revision No.	Revision
652994/AA.00.01 - 39	-

Drawing Scale: 1:500 at A3

Drawing file path & name : C:\Users\kernall\AppData\LocalTemp\AcPublish\_6560\_Gordonbush\_Ext\Investigation-Bora\_Avg  
AcPublish file path : C:\Users\kernall\AppData\LocalTemp\AcPublish\_6560  
User and Print Date : kernall, 10/12/2015 - 11:18 am



DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE

- Key Plan:
- Existing Road
  - Previous Widening
  - Load Envelope
  - Vehicle Body Envelope
  - Vehicle Wheel Base
  - Tower Rear Wheel Steering
  - Blade Rear Wheel Steering
  - Tower Over-sail Area Highlight
  - Blade Over-sail Area Highlight
  - Vehicle Overrun Within Highways

Notes:

Reproduced from topographic survey data as supplied by SSE

Rev	By	Chkd	Apprd	Date	Description
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Client:



**CH2MHILL.**

CH2M HILL  
16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

Project:

GORDONBUSH EXTENSION  
WIND FARM

Drawing:

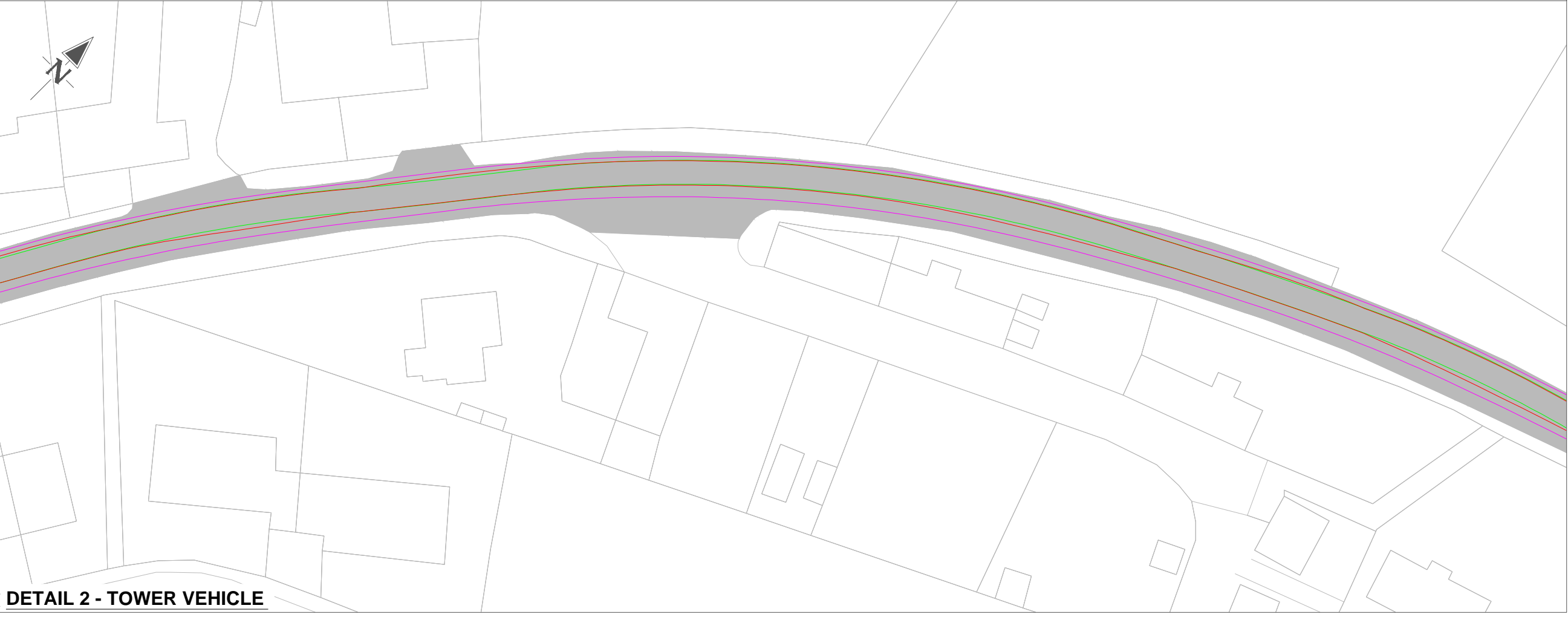
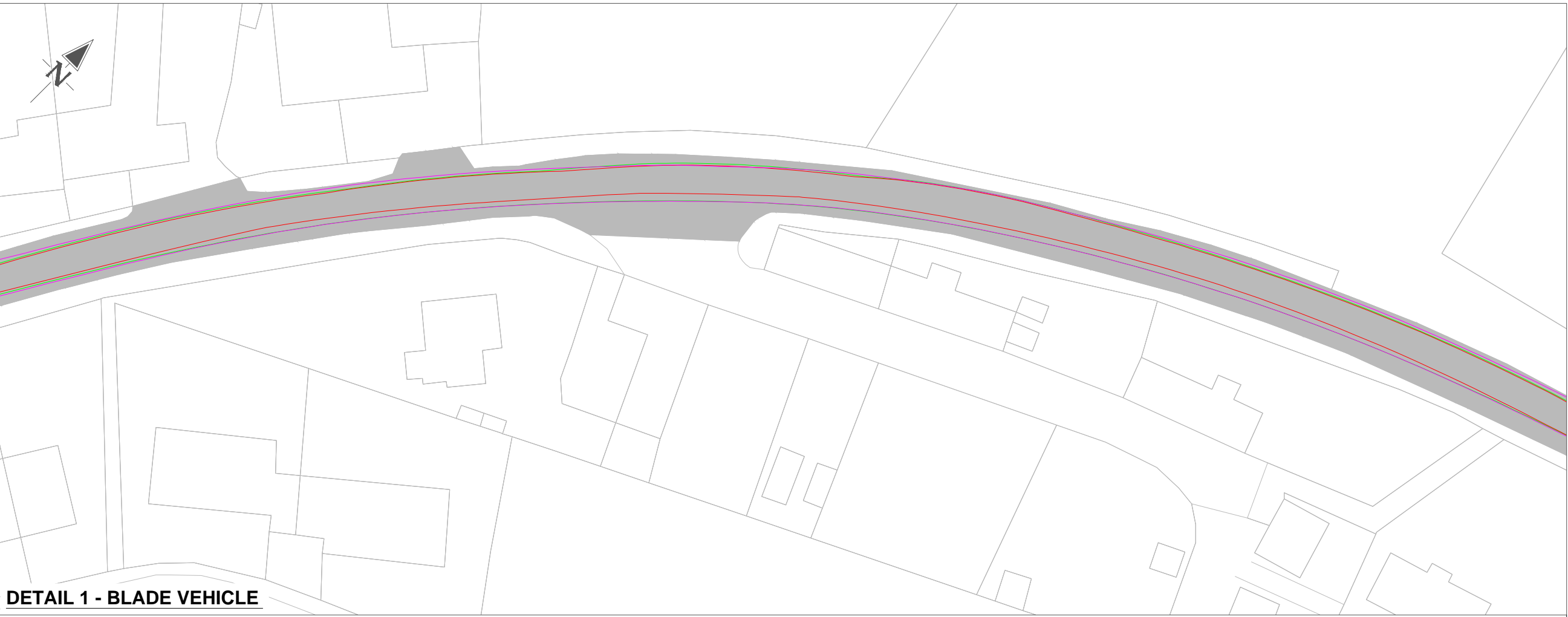
ABNORMAL LOAD  
ROUTE SURVEY  
POI 81

Drawn by: BT	Date: 30/10/14
Checked by: AK	Date: 30/10/14
Approved by: JP	Date: 30/10/14

Drawing No.	Revision
652994/AA.00.01 - 44	-

Drawing Scale: 1:500 at A3





- Key Plan:
- Existing Road
  - Previous Widening
  - Load Envelope
  - Vehicle Body Envelope
  - Vehicle Wheel Base
  - Tower Rear Wheel Steering
  - Blade Rear Wheel Steering
  - Tower Over-sail Area Highlight
  - Blade Over-sail Area Highlight
  - Vehicle Overrun Within Highways

Notes:

Reproduced from topographic survey data as supplied by SSE

Rev	By	Chkd	Apprd	Date	Description

Client:



**CH2MHILL.**

Project:

GORDONBUSH EXTENSION  
WIND FARM

Drawing:

ABNORMAL LOAD  
ROUTE SURVEY  
POI 86

Drawn by: BT	Date: 30/10/14
Checked by: AK	Date: 30/10/14
Approved by: JP	Date: 30/10/14

Drawing No.	Revision
652994/AA.00.01 - 46	-

Drawing Scale: 1:500 at A3

Drawing file path & name : C:\Users\kernall\AppData\LocalTemp\AcPublish\_6560\_Gordonbush\_Ext\Investigation-Bora.dwg  
AcPublish file path : Kernall\_10/22/2015\_11:15 am  
User and Plot Data

DETAIL 1 - BLADE VEHICLE

DETAIL 2 - TOWER VEHICLE

Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Over-sail Area Highlight
- Blade Over-sail Area Highlight
- Vehicle Overrun Within Highways

Notes:

Reproduced from topographic survey data as supplied by SSE

Rev	By	Chkd	Apprd	Date	Description

Client:



**CH2MHILL.**  
16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

Project:  
GORDONBUSH EXTENSION  
WIND FARM

Drawing:  
  
ABNORMAL LOAD  
ROUTE SURVEY  
POI 87

Drawn by: BT	Date: 30/10/14
Checked by: AK	Date: 30/10/14
Approved by: JP	Date: 30/10/14
Drawing No. 652994/AA.00.01 - 47	Revision -

Drawing Scale: 1:500 at A3

Drawing file path & name : C:\Users\kernall\appdata\local\temp\AcP\Publist\_6560\_Gordonbush Extension\Bora.dwg  
Acadenters file path : C:\Users\kernall\appdata\local\temp\AcP\Publist\_6560  
User and Plot Data : Kernall, 10/12/2015 - 11:18 am

DETAIL 1 - BLADE VEHICLE

DETAIL 2 - TOWER VEHICLE

Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Over-sail Area Highlight
- Blade Over-sail Area Highlight
- Vehicle Overrun Within Highways

Notes:

Reproduced from topographic survey data as supplied by SSE

Rev	By	Chkd	Apprd	Date	Description

Client:



**CH2MHILL.**  
16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

Project:  
GORDONBUSH EXTENSION  
WIND FARM

Drawing:  
**ABNORMAL LOAD  
ROUTE SURVEY  
POI 88**

Drawn by: BT	Date: 30/10/14
Checked by: AK	Date: 30/10/14
Approved by: JP	Date: 30/10/14

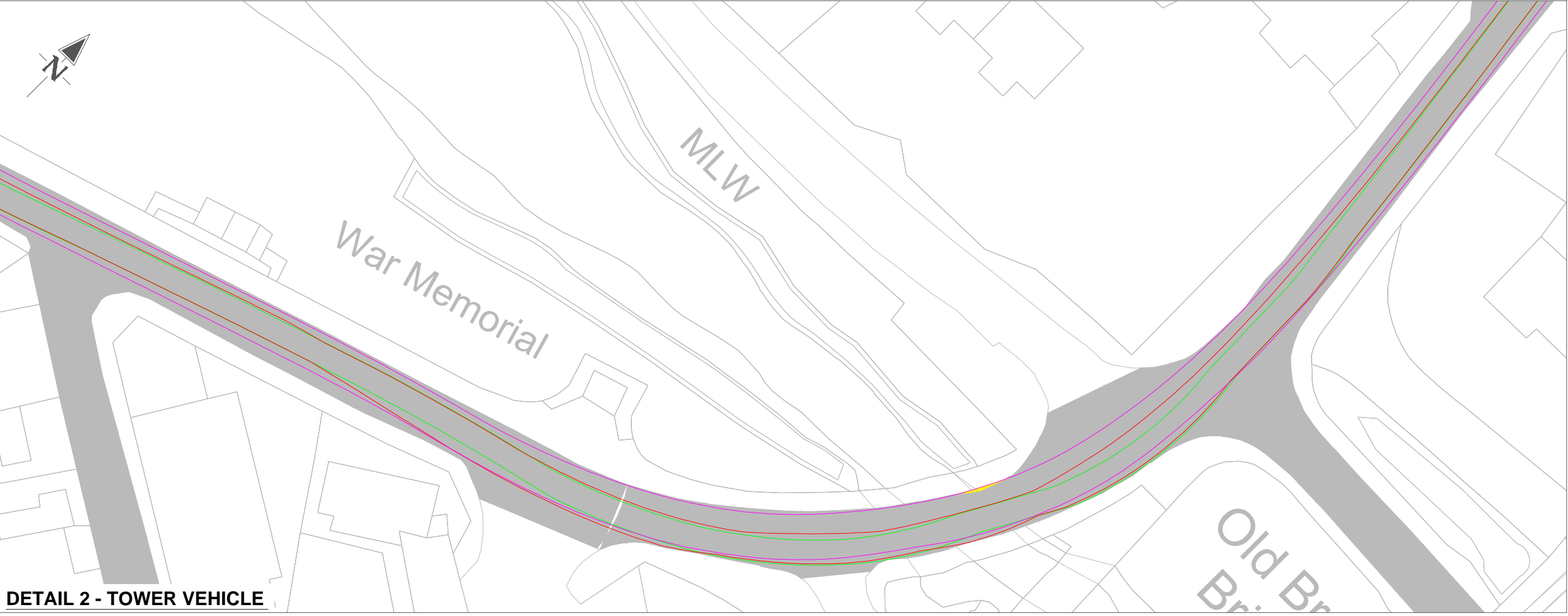
Drawing No. 652994/AA.00.01 - 48	Revision -
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Drawing Scale: 1:500 at A3

Drawing file path & name : C:\Users\kernall\AppData\LocalTemp\AcPublish\_6560\_Gordonbush\_Ext\Investigation-Bora\_Avg  
Accession file path : C:\Users\kernall\AppData\LocalTemp\AcPublish\_6560  
User and Print Date : kernall 10/12/2015 11:15 am



DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE

- Key Plan:
- Existing Road
  - Previous Widening
  - Load Envelope
  - Vehicle Body Envelope
  - Vehicle Wheel Base
  - Tower Rear Wheel Steering
  - Blade Rear Wheel Steering
  - Tower Over-sail Area Highlight
  - Blade Over-sail Area Highlight
  - Vehicle Overrun Within Highways

Notes:

Reproduced from topographic survey data as supplied by SSE

Rev	By	Chkd	Apprd	Date	Description

Client:



**CH2MHILL.**

Project:

GORDONBUSH EXTENSION  
WIND FARM

Drawing:

ABNORMAL LOAD  
ROUTE SURVEY  
POI 89

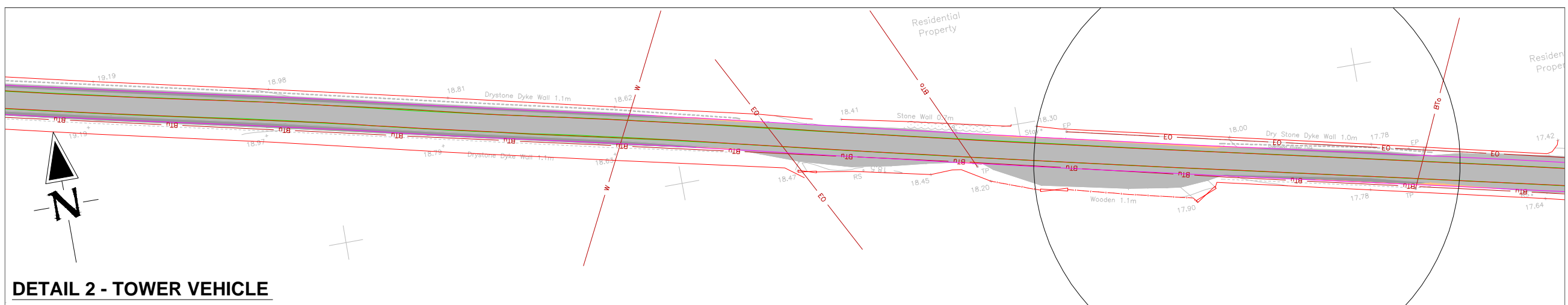
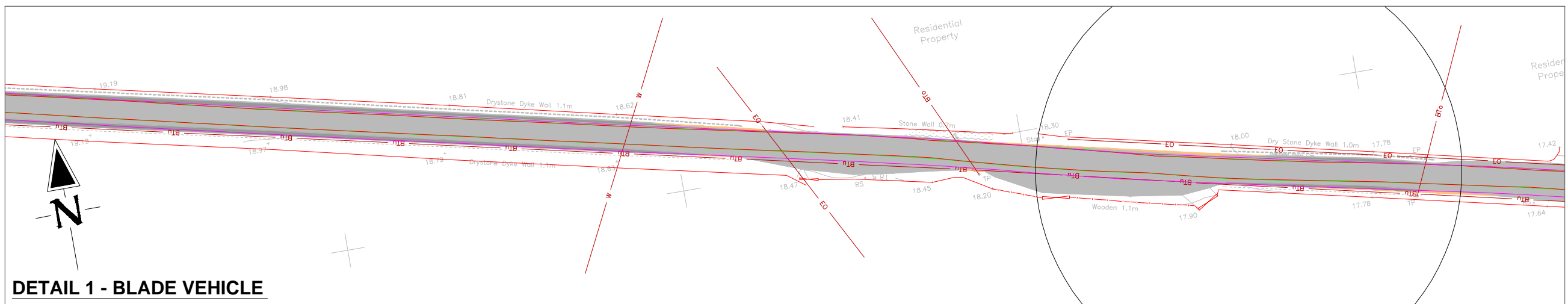
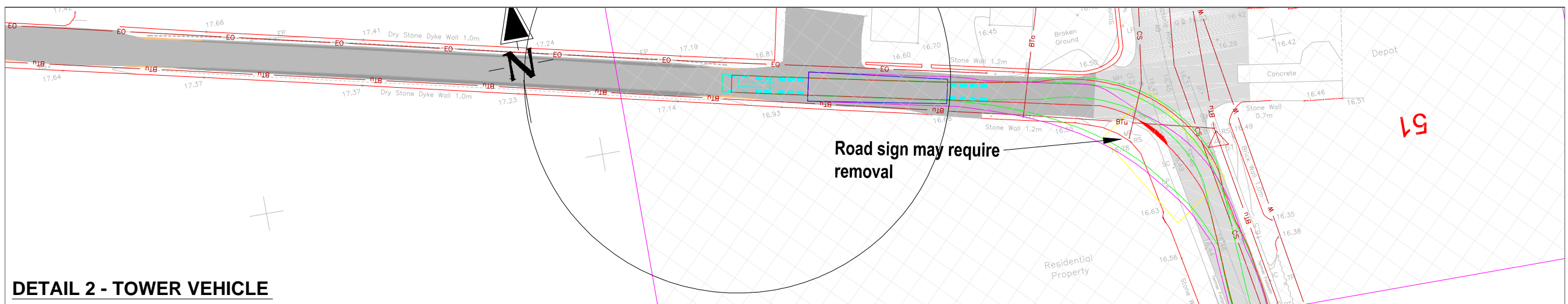
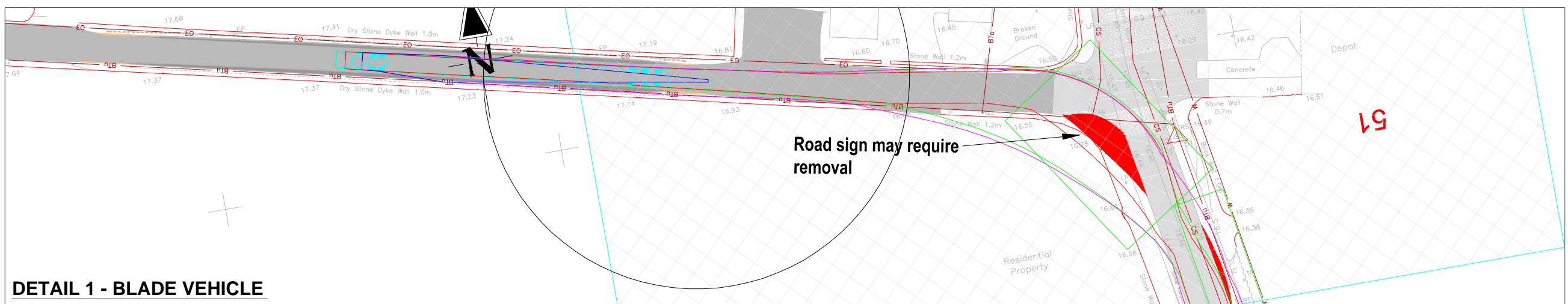
Drawn by: BT	Date: 30/10/14
Checked by: AK	Date: 30/10/14
Approved by: JP	Date: 30/10/14

Drawing No.	Revision
652994/AA.00.01 - 49	-











Drawing Scale: 1:500 at A3

Drawing file path & name : C:\Users\kernall\AppData\Local\Temp\AcPublish\_6560\_Gordonbush\_Ext\Investigation-Bora-Avg  
AcPublish file path : C:\Users\kernall\AppData\Local\Temp\AcPublish\_6560  
User and Plot Date : kernall 10/12/2015 11:15 am





### Key Plan:

-  Existing Road
-  Previous Widening
-  Load Envelope
-  Vehicle Body Envelope
-  Vehicle Wheel Base
-  Tower Rear Wheel Steering
-  Blade Rear Wheel Steering
-  Tower Overrun Area Highlight
-  Blade Overrun Area Highlight
-  Vehicle Overrun Within Highways

Notes:

Reproduced from topographic survey data as  
supplied by SSE

Rev	By	Chkd	Apprvd	Date	Description
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Client:



**H2M HILL**  
6 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3307  
[www.ch2mhill.com](http://www.ch2mhill.com)

**CH2MHILL.**

Project

GORDONBUSH EXTENSION  
WIND FARM

Drawing

ABNORMAL LOAD  
ROUTE SURVEY  
POI 90 - 92

Drawn by: BT	Date: 01/04/13
Checked by: AK	Date: 01/04/13
Approved by: JP	Date: 16/05/2013

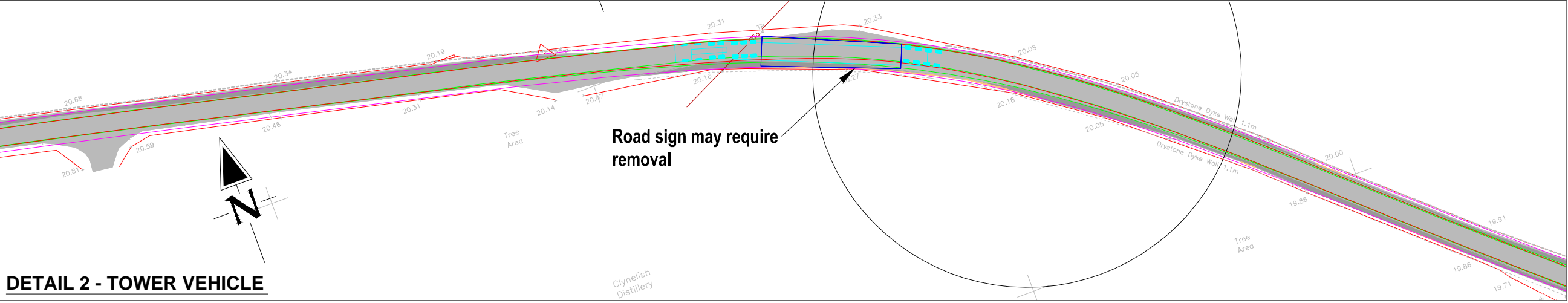
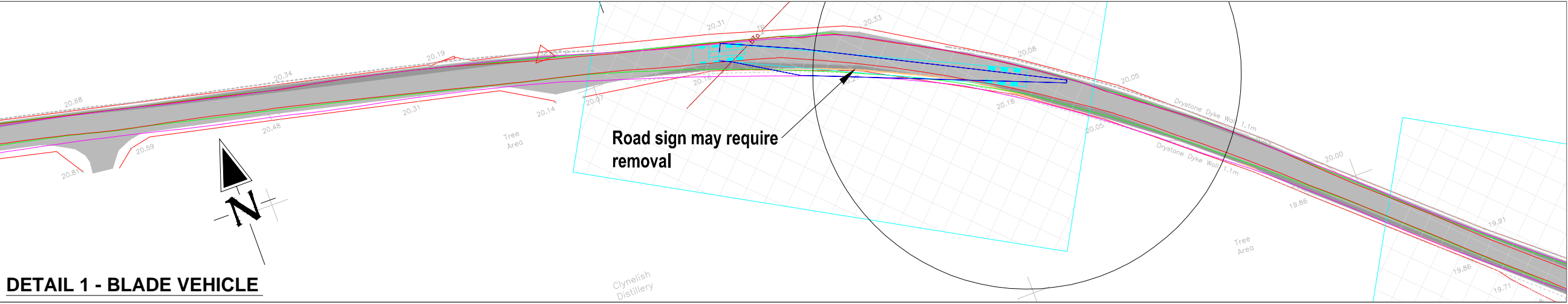
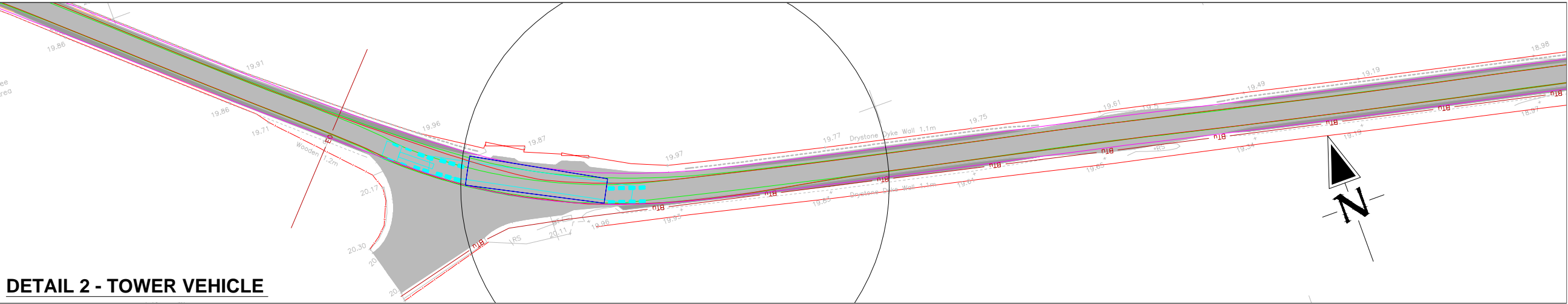
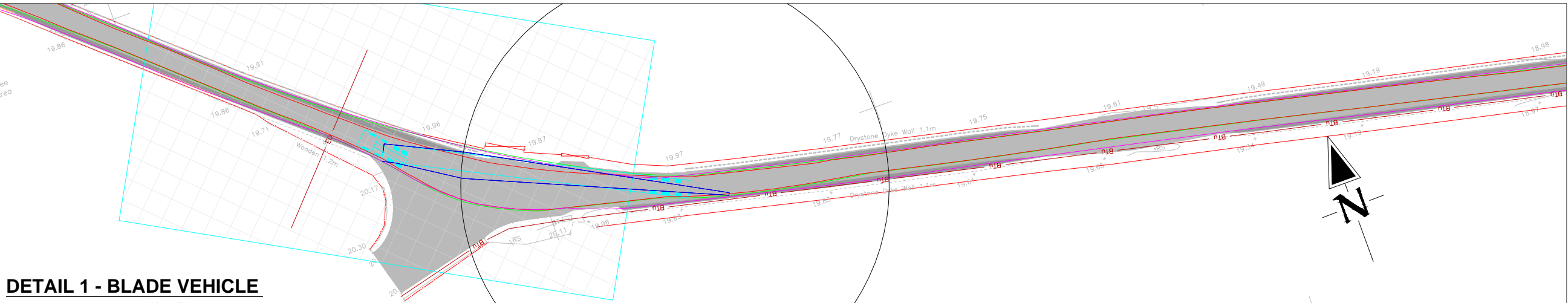
Drawing No.	Revision
201227/AJ.00.01 - 50	-

Drawing Scale: 1:750 at A3

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Drawing file path & name : \\qlabs02\Projects\TransportationConsulting4 - Transport Planning\ProjectiveUse Projects\GPRSSSE - SSE Wind Farm Framework (2012)27-2600220-019C to 300C- Improvement Works HGL Drawing job
reference file path      : \\qlabs02\Projects\TransportationConsulting4 - Transport Planning\ProjectiveUse Projects\GPRSSSE - SSE Wind Farm Framework (2012)27-2600220-019C to 300C- Improvement Works HGL Drawing job
Job                      : Kerrel_106.2015 + 118 am

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- Key Plan:
- Existing Road
  - Previous Widening
  - Load Envelope
  - Vehicle Body Envelope
  - Vehicle Wheel Base
  - Tower Rear Wheel Steering
  - Blade Rear Wheel Steering
  - Tower Overrun Area Highlight
  - Blade Overrun Area Highlight
  - Vehicle Overrun Within Highways

Notes:

Reproduced from topographic survey data as supplied by SSE

Rev	By	Chkd	Apprd	Date	Description



CH2M HILL  
16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

Project:

GORDONBUSH EXTENSION  
WIND FARM

Drawing:

ABNORMAL LOAD  
ROUTE SURVEY  
POI 93 - 94

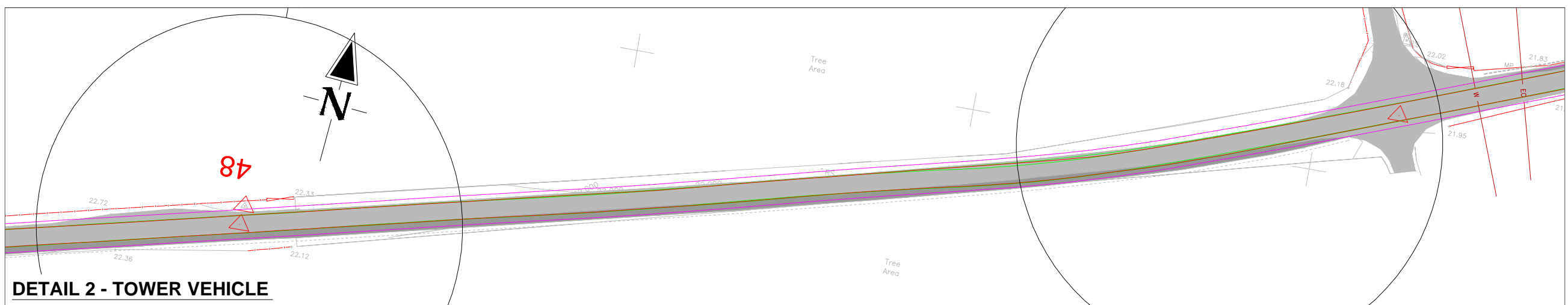
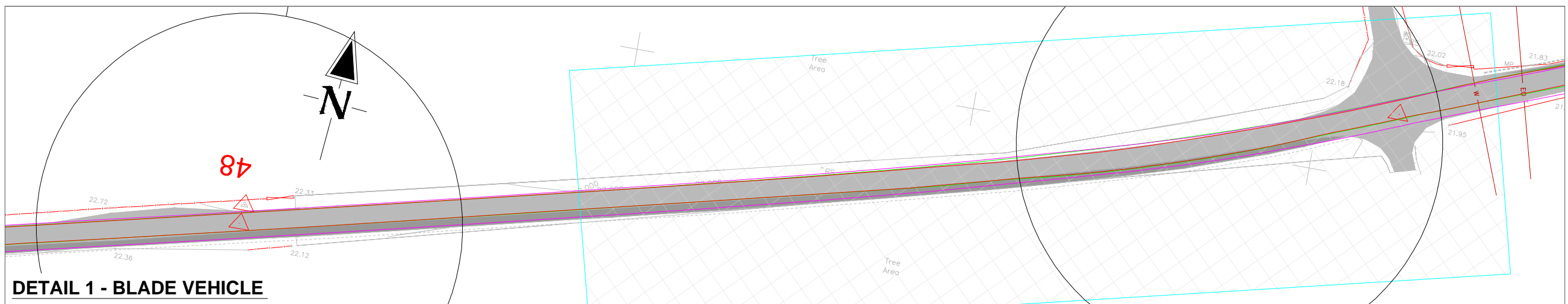
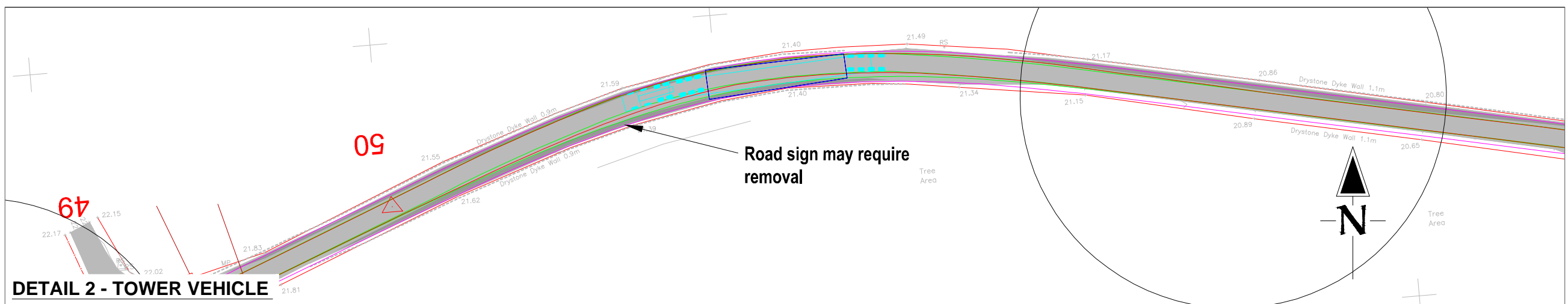
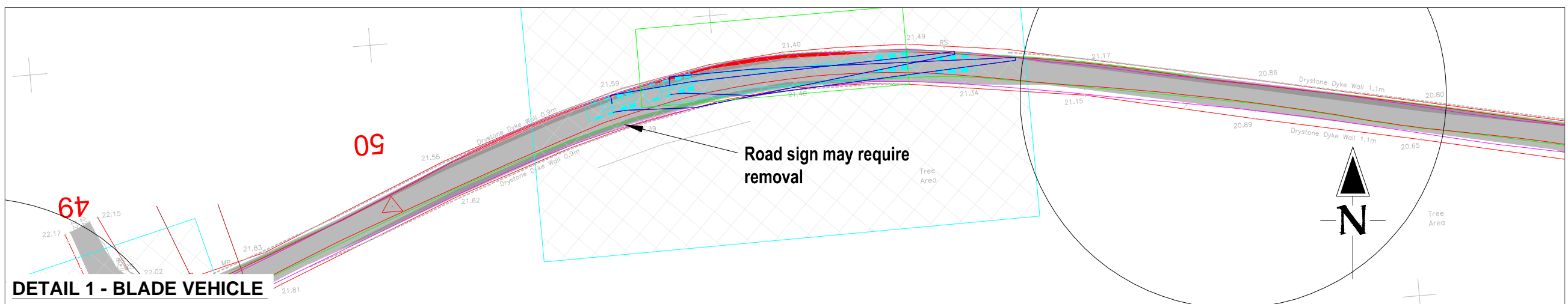
Drawn by: BT Date: 01/04/13  
Checked by: AK Date: 01/04/13  
Approved by: JP Date: 16/05/2013

Drawing No. 201227/AJ.00.01 - 51  
Revision -











Drawing Scale: 1:750 at A3

Drawing file path & name : g:\projects\201227\Transport\Projects\Live\Projects\Gordonbush Extension\WIND FARM\Improvement Works\HGL Drawing.dwg  
User and not for use : 16/05/2013 11:18 am





Key Plan:

-  Existing Road
-  Previous Widening
-  Load Envelope
-  Vehicle Body Envelope
-  Vehicle Wheel Base
-  Tower Rear Wheel Steering
-  Blade Rear Wheel Steering
-  Tower Overrun Area Highlight
-  Blade Overrun Area Highlight
-  Vehicle Overrun Within Highways

Notes:

Reproduced from topographic survey data as  
supplied by SSE

Rev	By	Chkd	Appr'd	Date	Description
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Client



**CH2M HILL**  
16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
[www.ch2mhill.com](http://www.ch2mhill.com)

**CH2MHILL.**

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Project

GORDONBUSH EXTENSION  
WIND FARM

Drawing

ABNORMAL LOAD  
ROUTE SURVEY  
POI 95 - 97

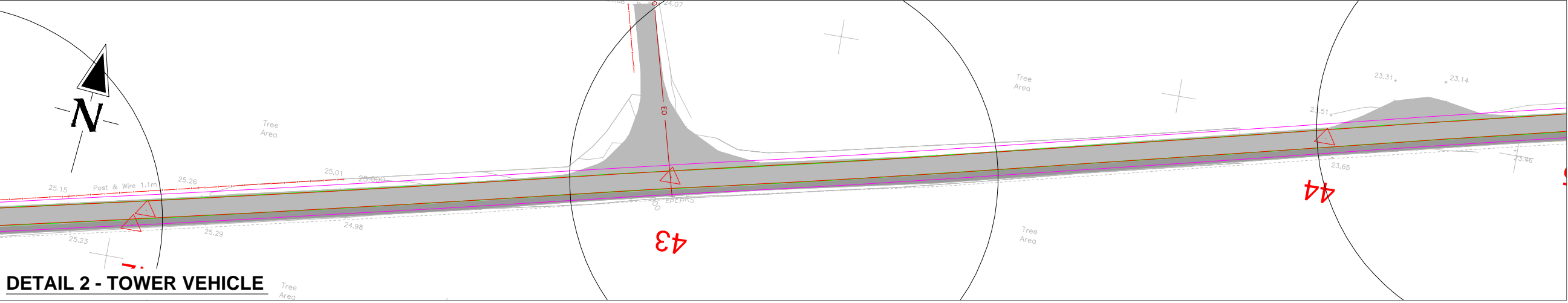
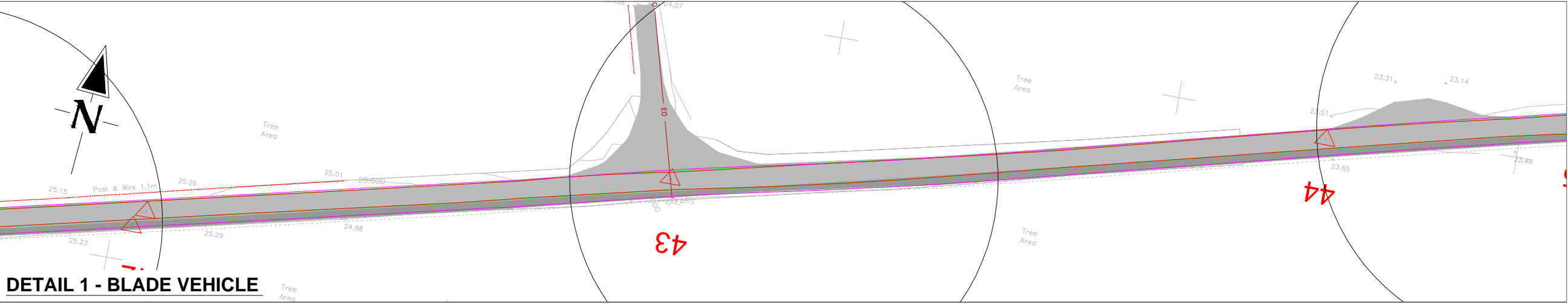
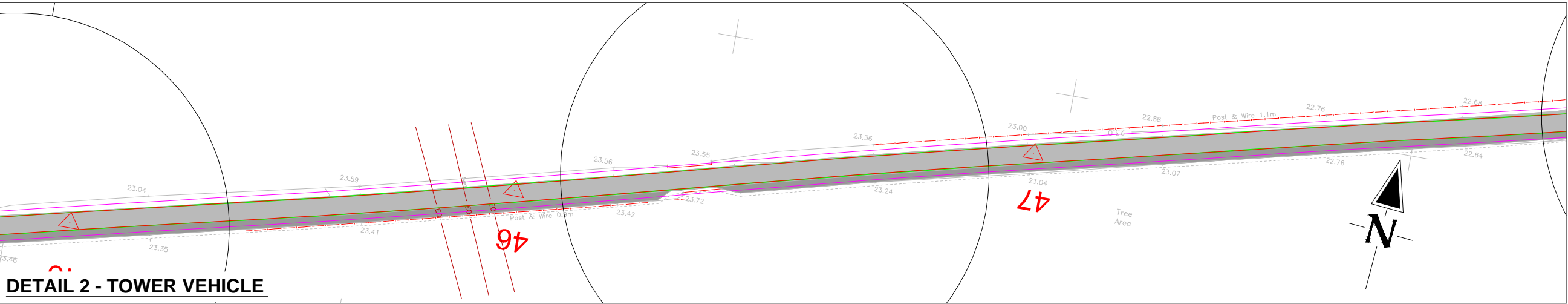
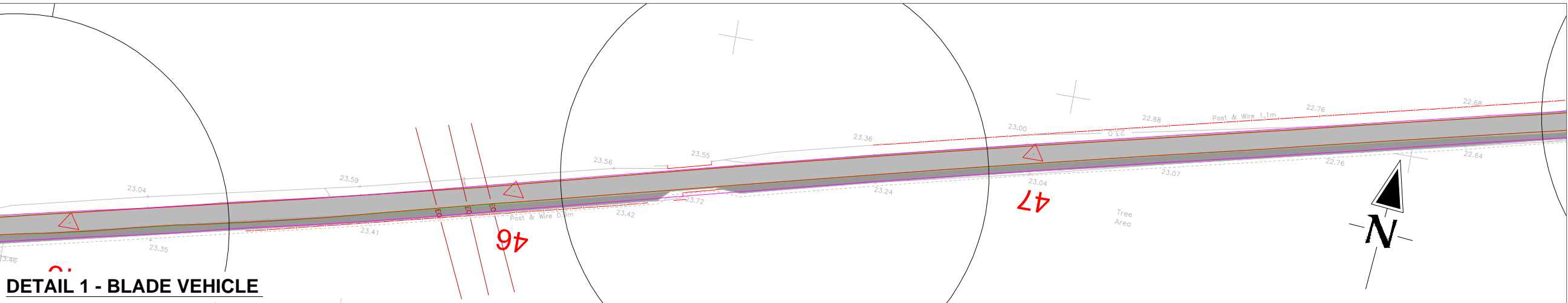
Drawn by: BT	Date: 01/04/13
Checked by: AK	Date: 01/04/13
Approved by: JP	Date: 16/05/2013

Drawing No.	Revision
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201227/A.1.00.01 - 52	-
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201227710:00:01 02

Drawing Scale: 1:750 at A3



Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Overrun Area Highlight
- Blade Overrun Area Highlight
- Vehicle Overun Within Highways

Notes:

Reproduced from topographic survey data as supplied by SSE

Rev	By	Chkd	Apprd	Date	Description

Client:



CH2M HILL  
16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

**CH2MHILL.**

Project:

GORDONBUSH EXTENSION  
WIND FARM

Drawing:

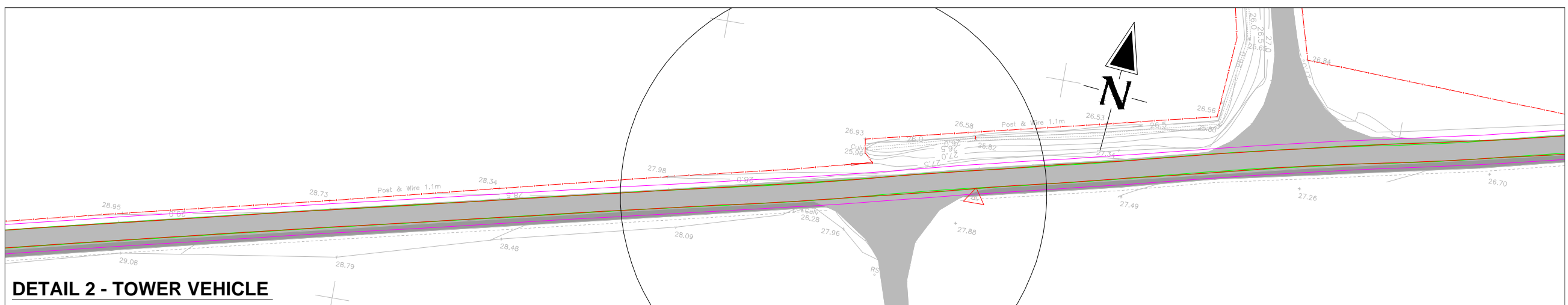
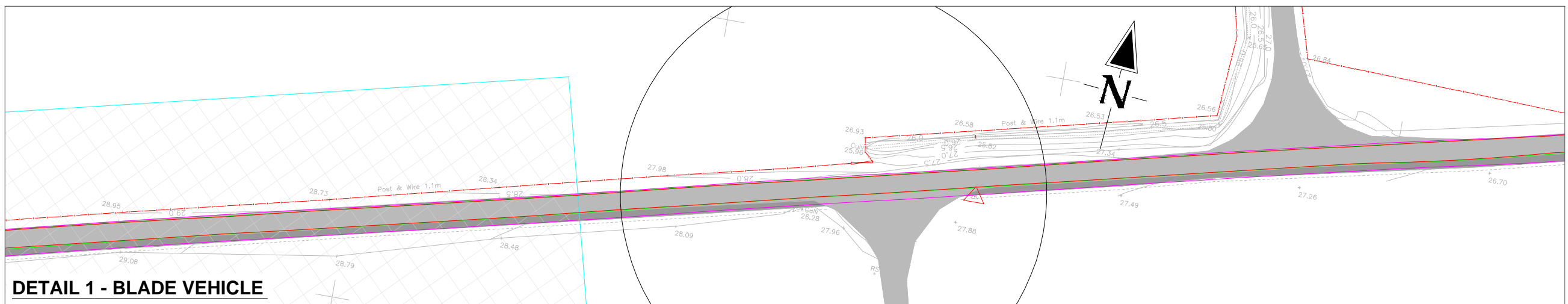
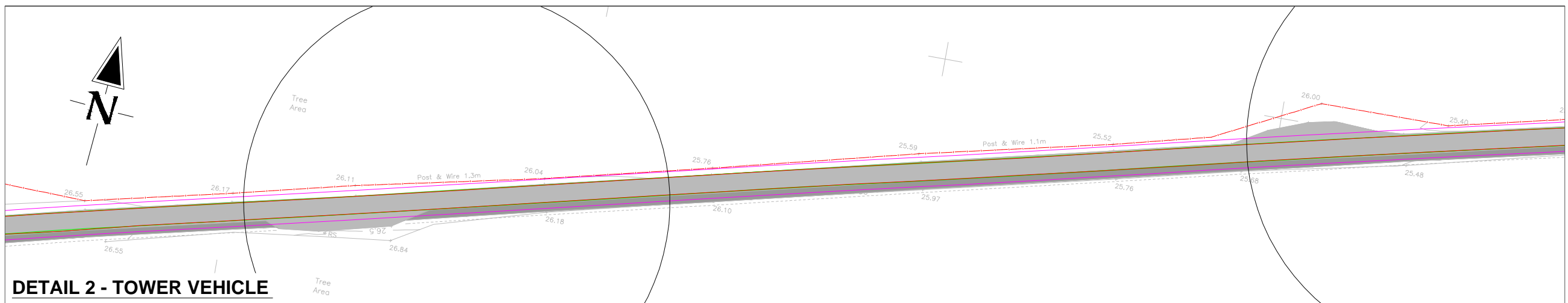
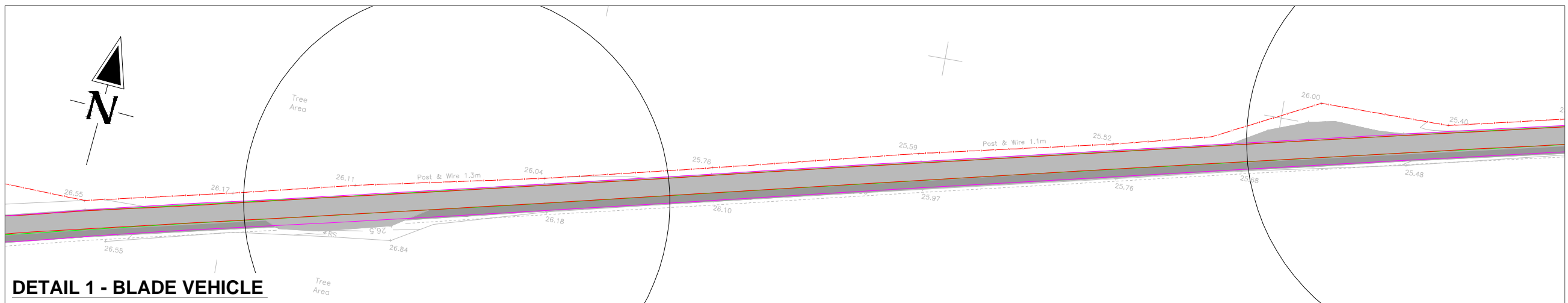
ABNORMAL LOAD  
ROUTE SURVEY  
POI 98 - 100

Drawn by: BT	Date: 01/04/13
Checked by: AK	Date: 01/04/13
Approved by: JP	Date: 16/05/2013











Drawing No.	Revision
201227/AJ.00.01 - 53	-

Drawing Scale: 1:750 at A3

Drawing file path & name : \\gallip202\projects\transportation\consulting\4. Transport Planning\Projects\Live Projects\GORDONBUSH - SSE Wind Farm Framework\201227-AJ.00.01-98 to 100 - Improvement Works HGL Drawing.dwg  
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User and job data : User: J.P. Date: 16/05/2013 11:15 am



Key Plan:

-  Existing Road
-  Previous Widening
-  Load Envelope
-  Vehicle Body Envelope
-  Vehicle Wheel Base
-  Tower Rear Wheel Steering
-  Blade Rear Wheel Steering
-  Tower Overrun Area Highlight
-  Blade Overrun Area Highlight
-  Vehicle Overrun Within Highways

Notes:

Reproduced from topographic survey data as  
supplied by SSE

-	-	-	-	-	-
Rev	By	Chkd	Apprvd	Date	Description

Client



**CH2M HILL**  
16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3300  
[www.ch2mhill.com](http://www.ch2mhill.com)

**CH2MHILL**

Project

GORDONBUSH EXTENSION  
WIND FARM

Drawing

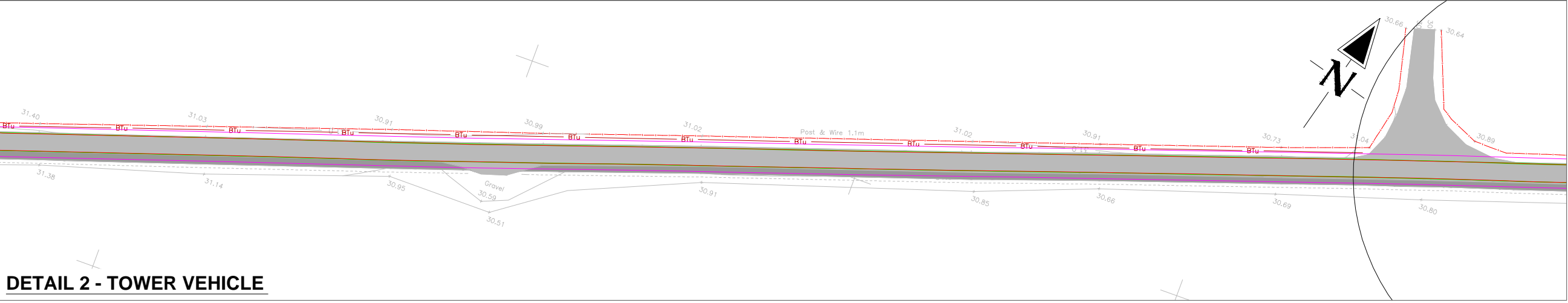
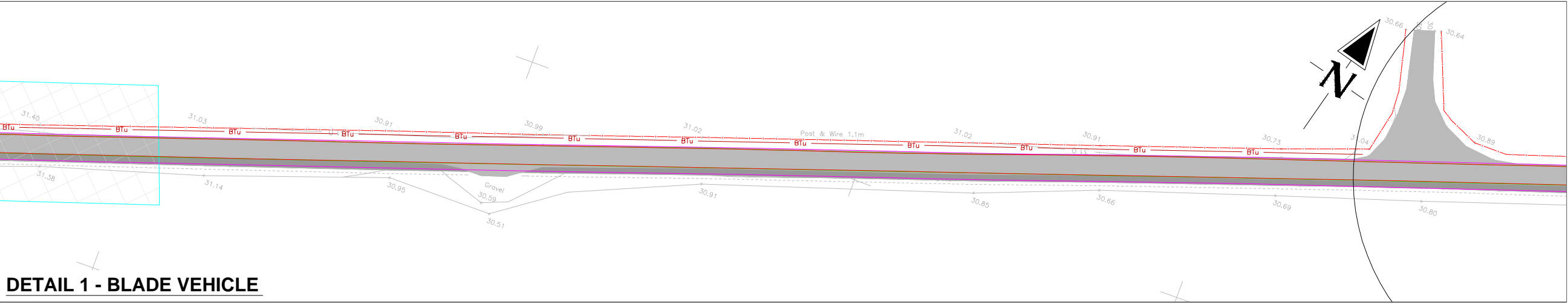
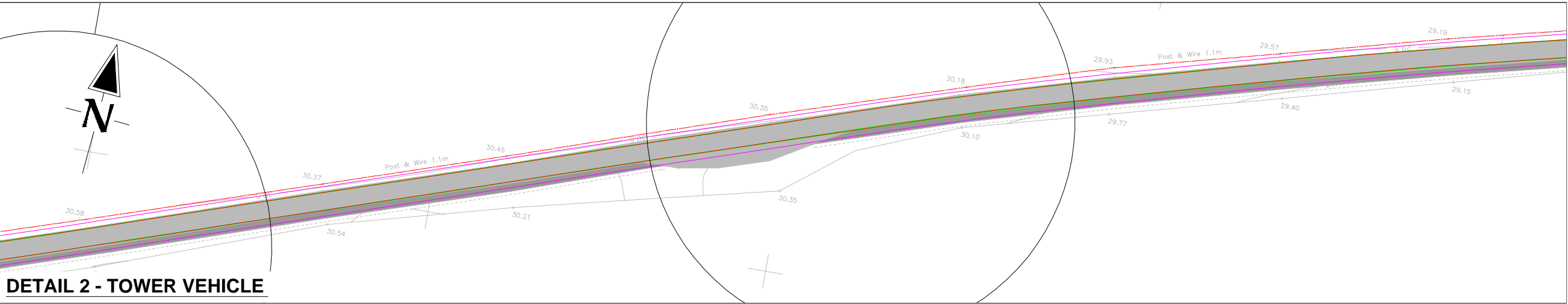
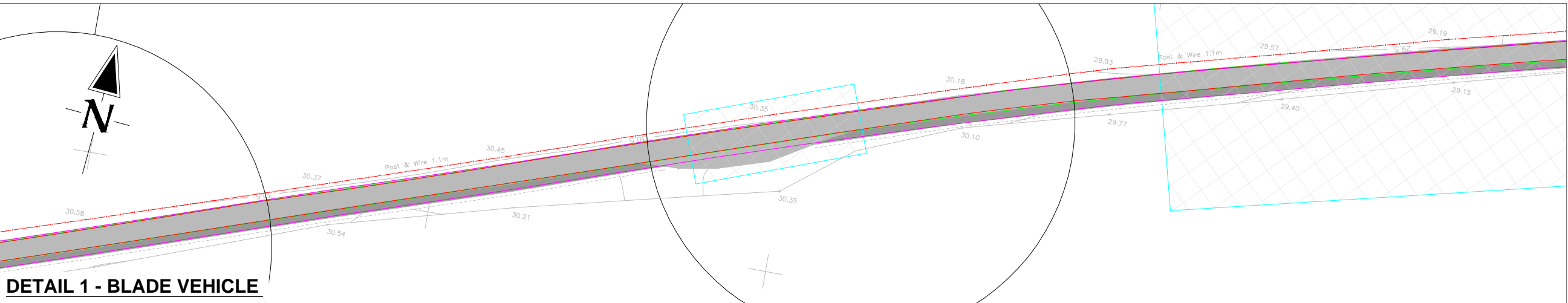
ABNORMAL LOAD  
ROUTE SURVEY  
POI 101 - 103

Drawn by: BT	Date: 01/04/13
Checked by: AK	Date: 01/04/13
Approved by: JP	Date: 16/05/20

Drawing No.	Revision
201227/AJ.00.01 - 54	-

Drawing Scale: 1:750 at A3

Drawing file path & name : \\gpc02\Projects\transistorator\Consulting4\_Transport Planning\Projects\Live Projects\GRESSE - SSE Wind Farm Framework (2012)7-26102020-0195 to 30C - Improvement Works HGL Drawing.dwg  
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Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Overrun Area Highlight
- Blade Overrun Area Highlight
- Vehicle Overun Within Highways

Notes:

Reproduced from topographic survey data as supplied by SSE

Rev	By	Chkd	Apprd	Date	Description

Client:

**CH2MHILL.**  
16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

Project:  
**GORDONBUSH EXTENSION  
WIND FARM**

Drawing:  
**ABNORMAL LOAD  
ROUTE SURVEY  
POI 104 - 105**

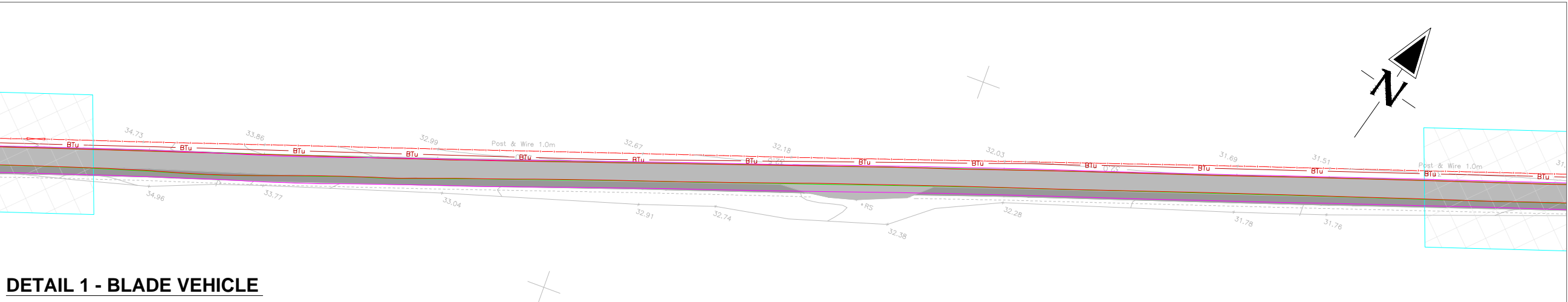
Drawn by: BT	Date: 01/04/13
Checked by: AK	Date: 01/04/13
Approved by: JP	Date: 16/05/2013

Drawing No.	Revision
201227/AJ.00.01 - 55	-

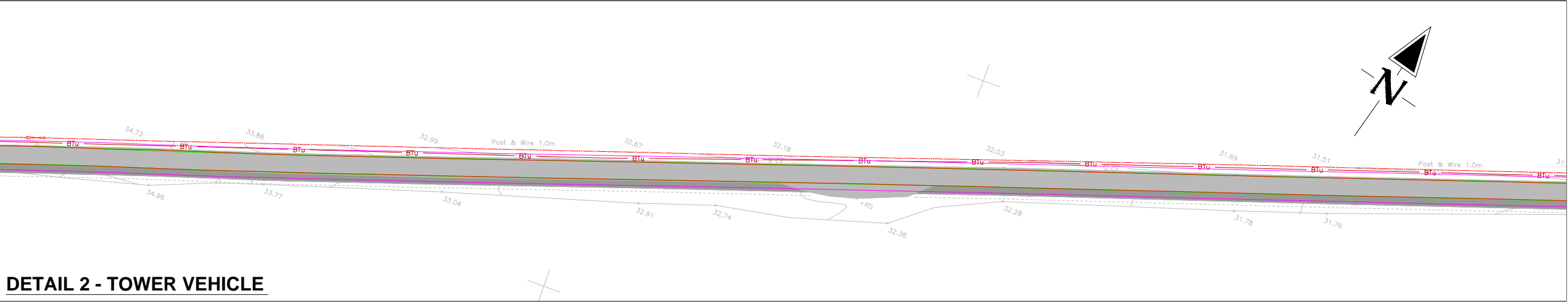
Drawing Scale: 1:750 at A3

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X-reference file path : g:\projects\201227\Transportation\Consulting\4. Transport Planning\Projects\Live Projects\GORDONBUSH - SSE Wind Farm Framework\201227-AJ000001-0192 to 300 - Improvement Works HGL Drawing.dwg  
User and role data : User: J.P. Date: 16/05/2013 11:15 am

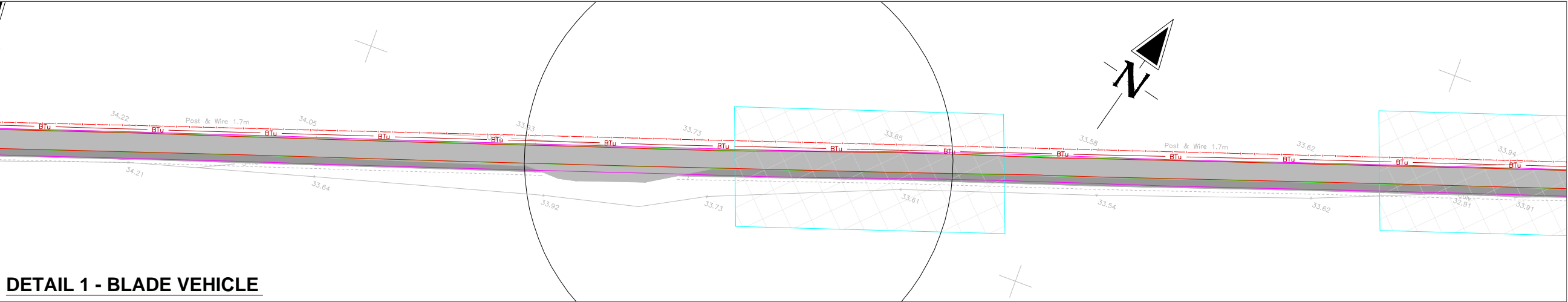




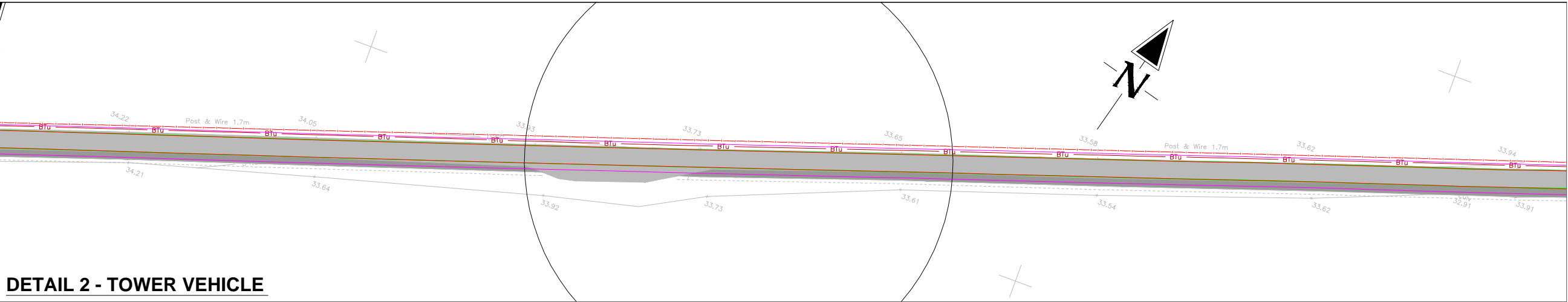
DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE



DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE

Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Overrun Area Highlight
- Blade Overrun Area Highlight
- Vehicle Overun Within Highways

Notes:

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Rev	By	Chkd	Apprd	Date	Description



CH2M HILL  
16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

Project  
GORDONBUSH EXTENSION  
WIND FARM

Drawing  
ABNORMAL LOAD  
ROUTE SURVEY  
POI 106

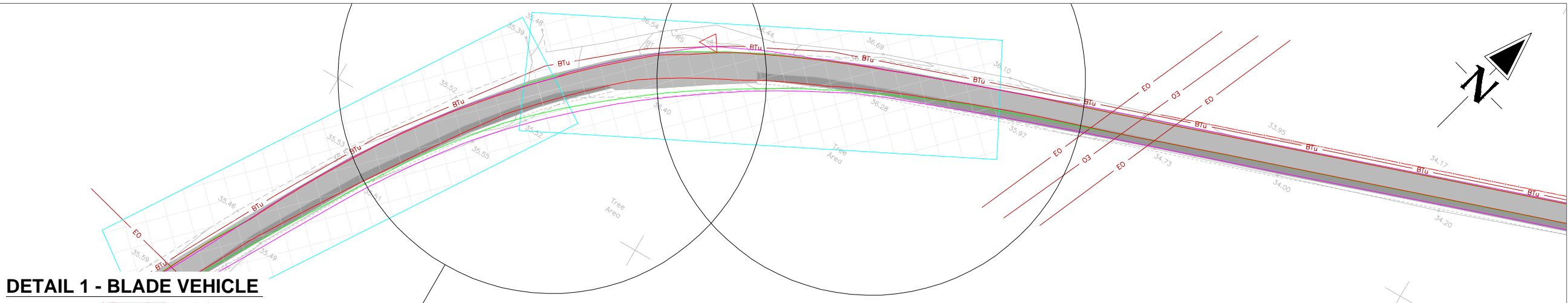
Drawn by: BT	Date: 01/04/13
Checked by: AK	Date: 01/04/13
Approved by: JP	Date: 16/05/2013

Drawing No.	Revision
201227/AJ.00.01 - 56	-

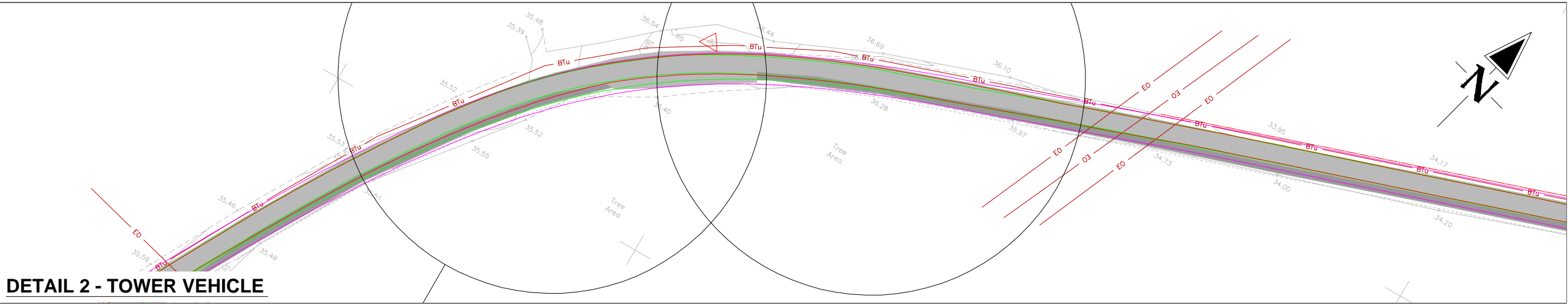
Drawing Scale: 1:750 at A3

Drawing file path & name : g:\2012\201227\Projects\Transport\Planning\Projects\Live\Projects\GORDONBUSH - SSE Wind Farm Framework\201227\201227-AJ.00.01-56-Improvement Works HGL Drawing.dwg  
X-reference file path : g:\2012\201227\Projects\Transport\Planning\Projects\Live\Projects\GORDONBUSH - SSE Wind Farm Framework\201227\201227-AJ.00.01-56-Improvement Works HGL Drawing.dwg  
User and Plot Date : User: J.01.02.2013 11:16 am

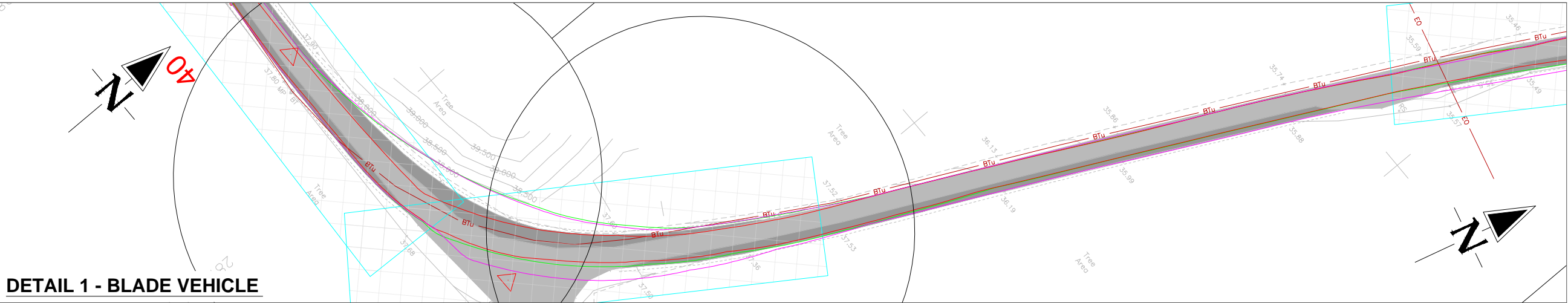




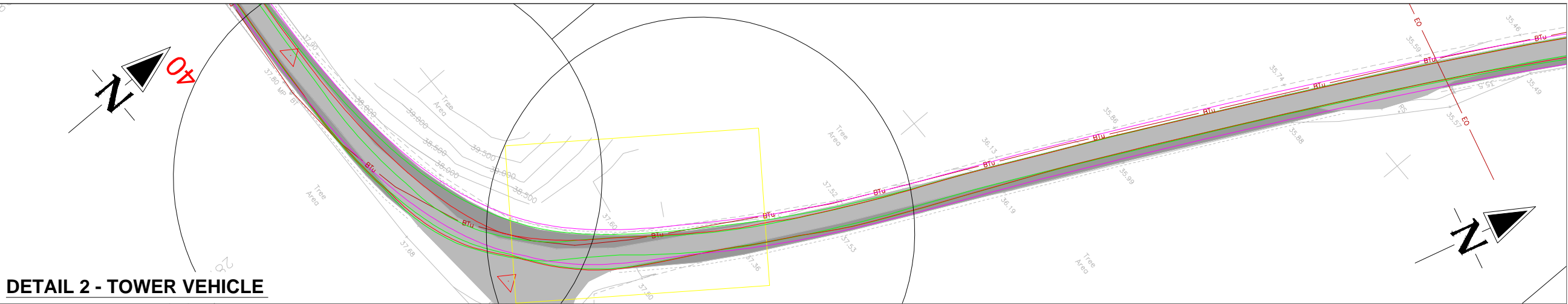
DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE



DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE

Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Overrun Area Highlight
- Blade Overrun Area Highlight
- Vehicle Overun Within Highways

Notes:

Reproduced from topographic survey data as supplied by SSE

Rev	By	Chkd	Apprd	Date	Description

Client:



CH2M HILL  
16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

Project:

GORDONBUSH EXTENSION  
WIND FARM

Drawing:

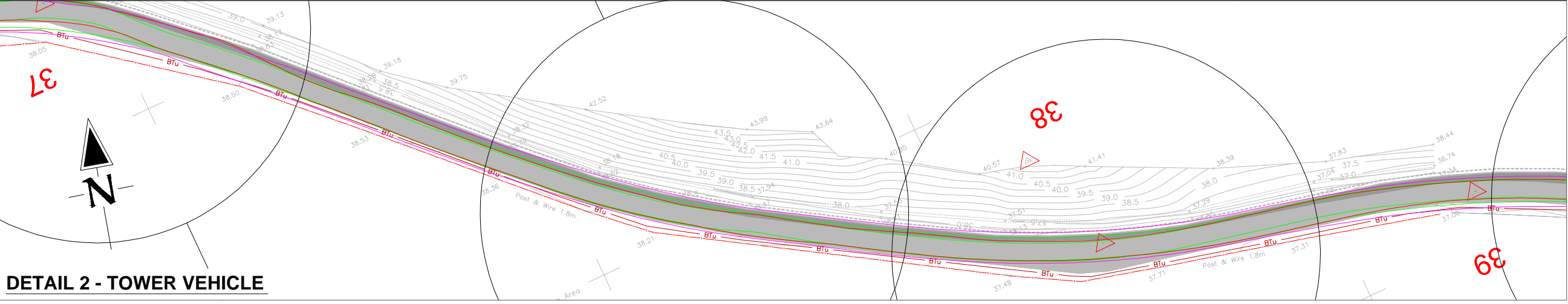
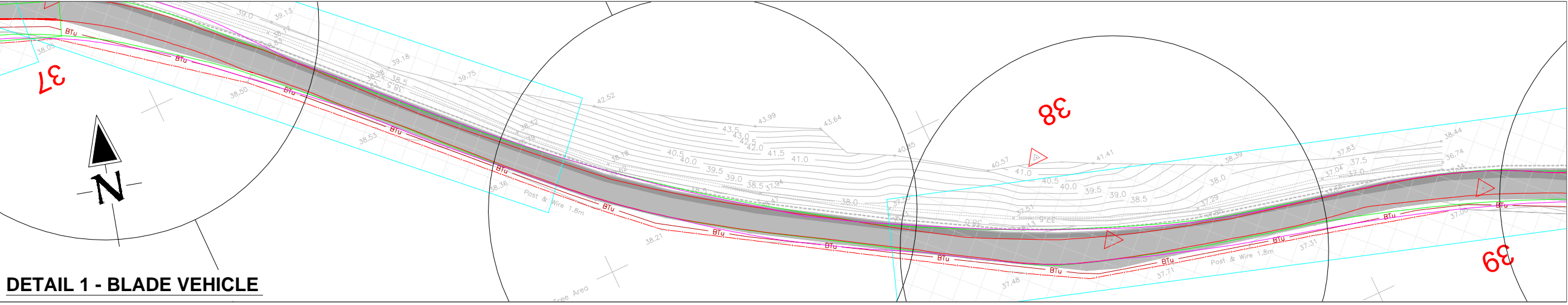
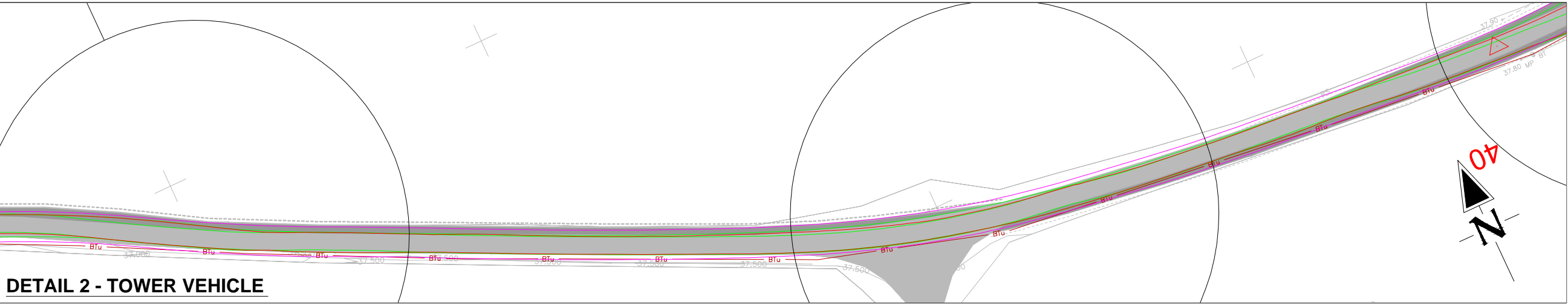
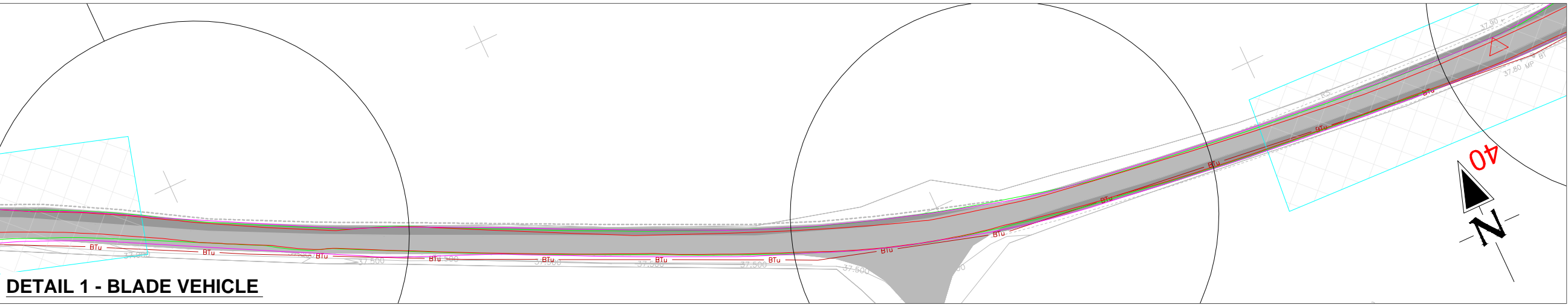
ABNORMAL LOAD  
ROUTE SURVEY  
POI 107 - 110

Drawn by: BT Date: 01/04/13  
Checked by: AK Date: 01/04/13  
Approved by: JP Date: 16/05/2013

Drawing No. 201227/AJ.00.01 - 57 Revision: -

Drawing Scale: 1:750 at A3

Drawing file path & name : g:\projects\201227\Transport\Projects\Live\Projects\Gordonbush Extension\CH2M Hill\201227-AJ.00.01-57.dwg  
X-reference file path : g:\projects\201227\Transport\Projects\Live\Projects\Gordonbush Extension\CH2M Hill\201227-AJ.00.01-57.dwg  
User and file path : User: CH2M Hill, Date: 16/05/2013, 11:18 am



- Key Plan:
- Existing Road
  - Previous Widening
  - Load Envelope
  - Vehicle Body Envelope
  - Vehicle Wheel Base
  - Tower Rear Wheel Steering
  - Blade Rear Wheel Steering
  - Tower Overrun Area Highlight
  - Blade Overrun Area Highlight
  - Vehicle Overun Within Highways

Notes:

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Rev	By	Chkd	Apprd	Date	Description



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www.ch2mhill.com

Project:  
GORDONBUSH EXTENSION  
WIND FARM

Drawing:  
ABNORMAL LOAD  
ROUTE SURVEY  
POI 111 - 114

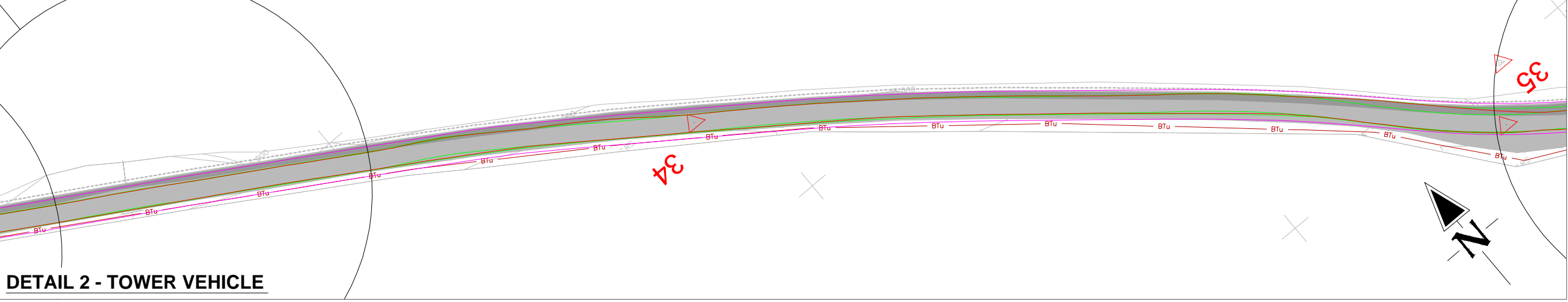
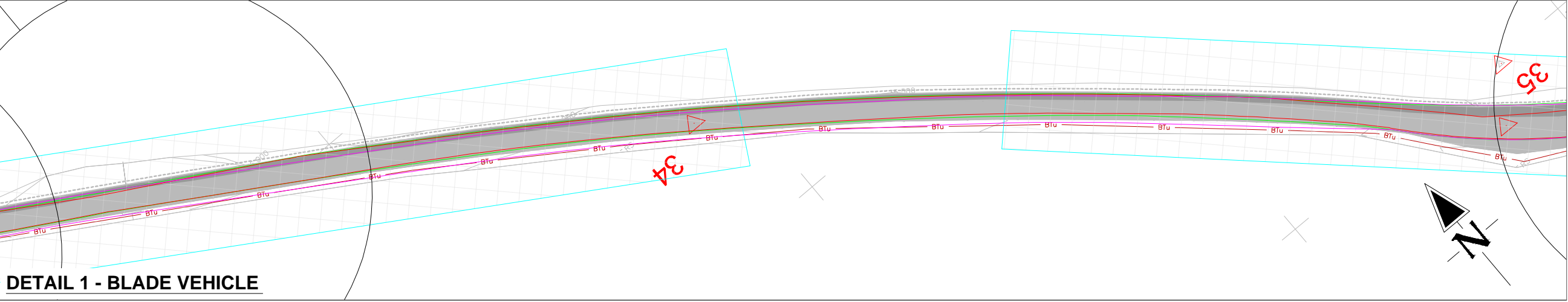
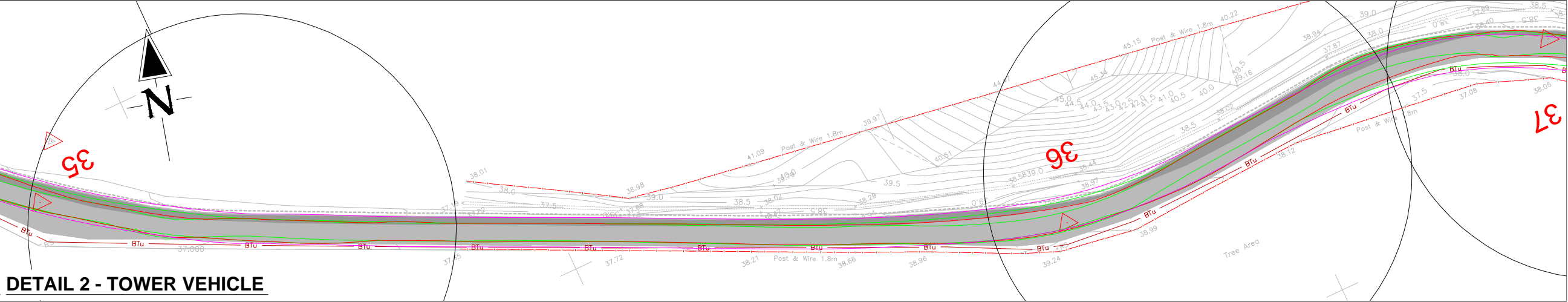
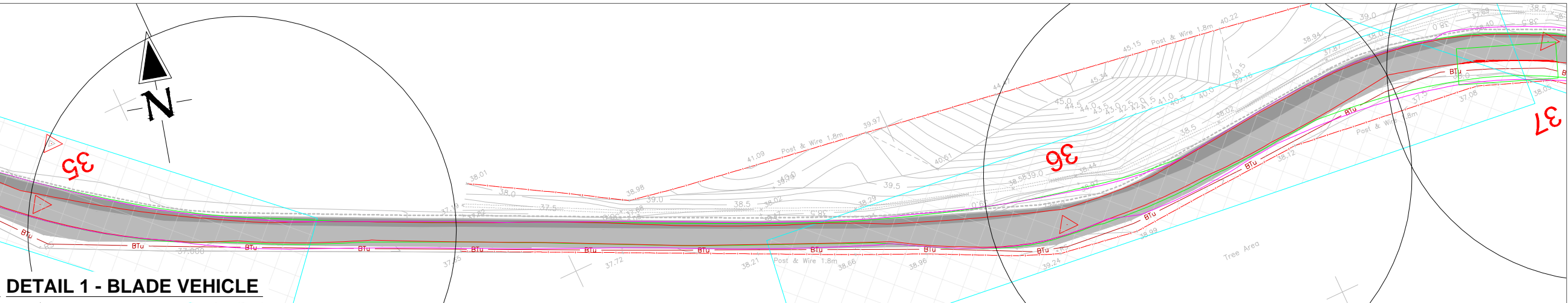
Drawn by: BT Date: 01/04/13  
Checked by: AK Date: 01/04/13  
Approved by: JP Date: 16/05/2013

Drawing No. 201227/AJ.00.01 - 58  
Revision -

Drawing Scale: 1:750 at A3

Drawing file path & name : \\g:\2012\2012\Projects\Transportation\Consulting\4. Transport Planning\Projects\Live Projects\Gordonbush Extension Wind Farm Framework\201227\201227-000001-01-58-114.dwg  
User and Date: 16/05/2013 11:16 am





- Key Plan:
- Existing Road
  - Previous Widening
  - Load Envelope
  - Vehicle Body Envelope
  - Vehicle Wheel Base
  - Tower Rear Wheel Steering
  - Blade Rear Wheel Steering
  - Tower Overrun Area Highlight
  - Blade Overrun Area Highlight
  - Vehicle Overun Within Highways

Notes:

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Rev	By	Chkd	Apprd	Date	Description
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CH2M HILL  
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www.ch2mhill.com

Project:  
GORDONBUSH EXTENSION  
WIND FARM

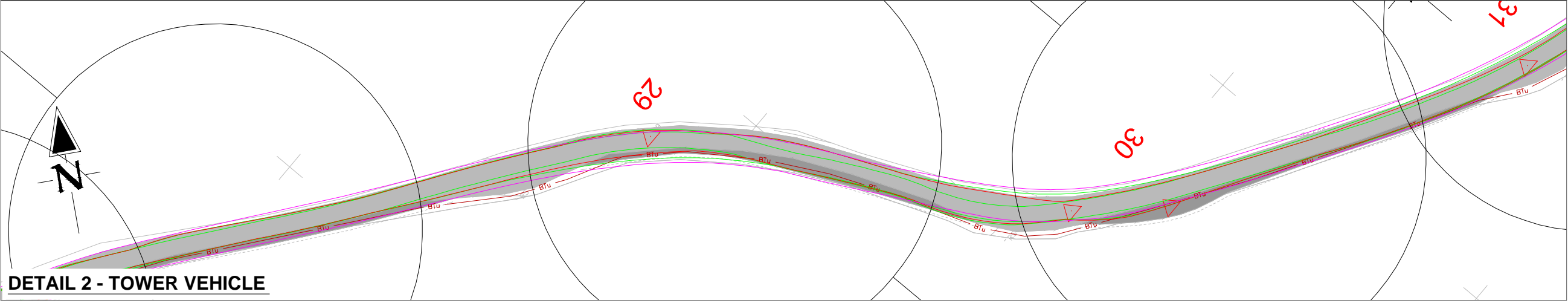
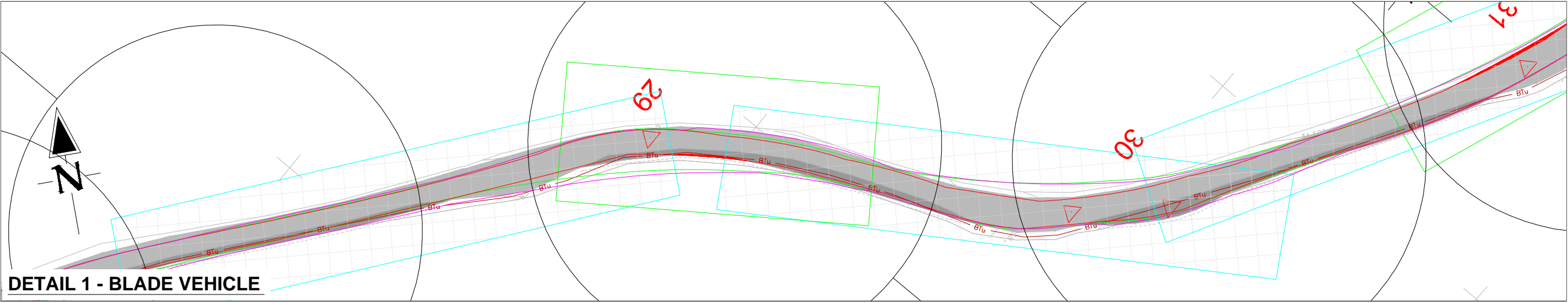
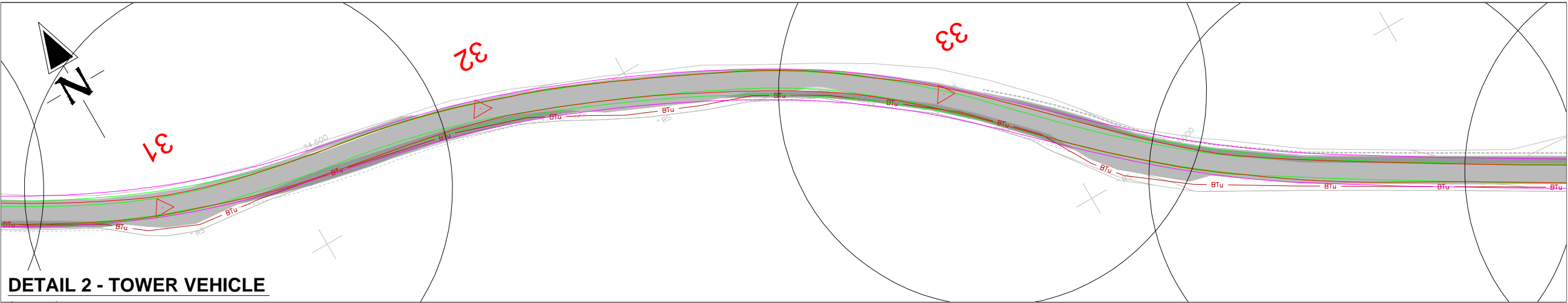
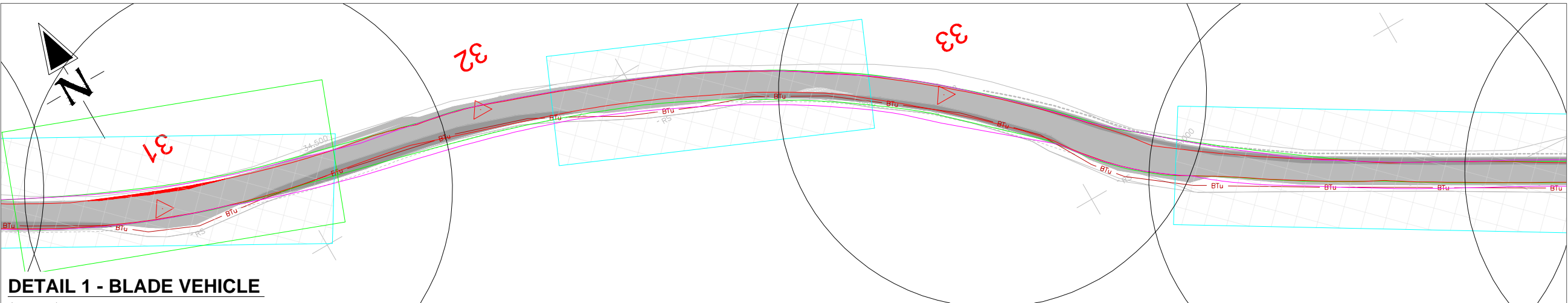
Drawing:  
ABNORMAL LOAD  
ROUTE SURVEY  
POI 115 - 118

Drawn by: BT	Date: 01/04/13
Checked by: AK	Date: 01/04/13
Approved by: JP	Date: 16/05/2013

Drawing No.	Revision
201227/AJ.00.01 - 59	-

Drawing Scale: 1:750 at A3

Drawing file path & name : g:\projects\201227\Transport\Projects\Live\Projects\Gordonbush\CH2M Hill\201227-AJ.00.01-59-Improvement Works HGL Drawing.dwg  
X-reference file path : g:\projects\201227\Transport\Projects\Live\Projects\Gordonbush\CH2M Hill\201227-AJ.00.01-59-Improvement Works HGL Drawing.dwg  
User and lot data : User: AK, Lot: 118



- Key Plan:
- Existing Road
  - Previous Widening
  - Load Envelope
  - Vehicle Body Envelope
  - Vehicle Wheel Base
  - Tower Rear Wheel Steering
  - Blade Rear Wheel Steering
  - Tower Overrun Area Highlight
  - Blade Overrun Area Highlight
  - Vehicle Overun Within Highways

Notes:

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Rev	By	Chkd	Apprd	Date	Description



**CH2MHILL.**  
16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

Project:  
**GORDONBUSH EXTENSION  
WIND FARM**

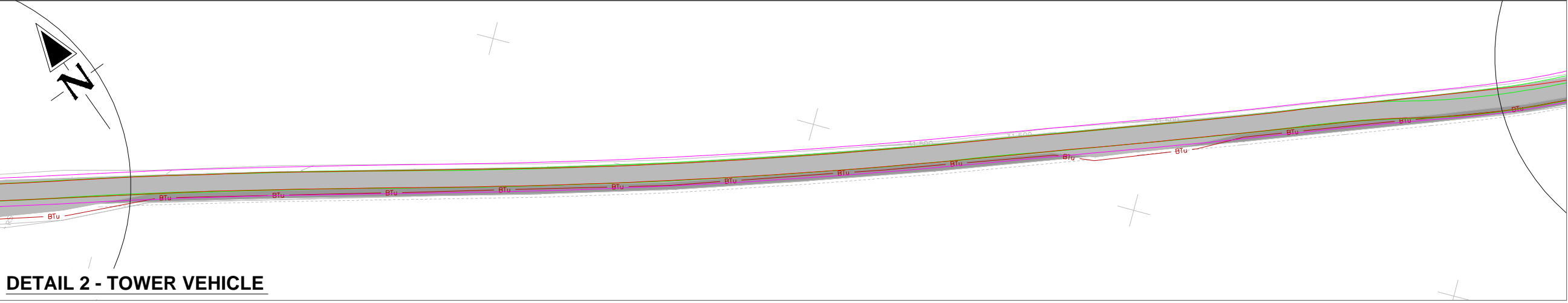
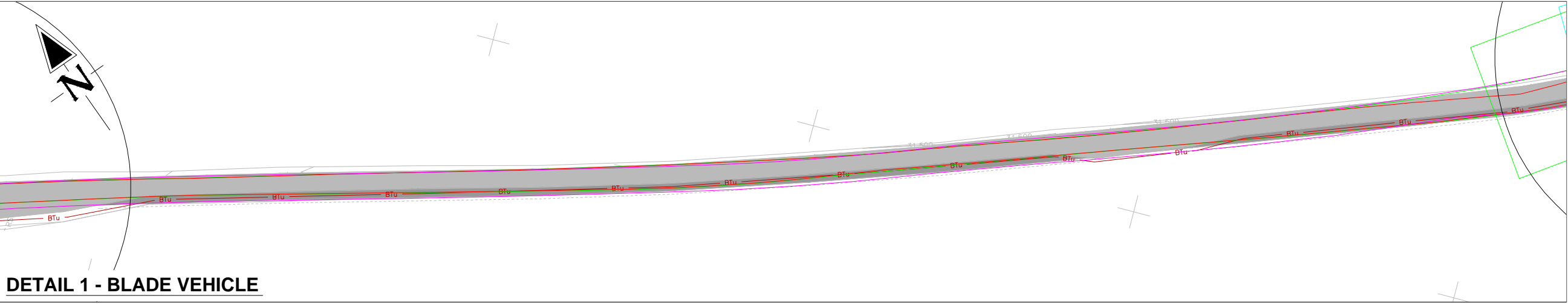
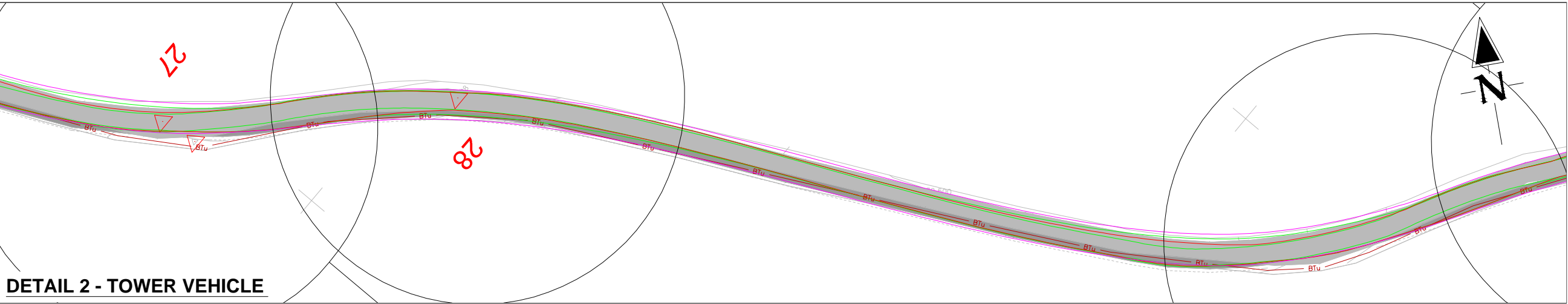
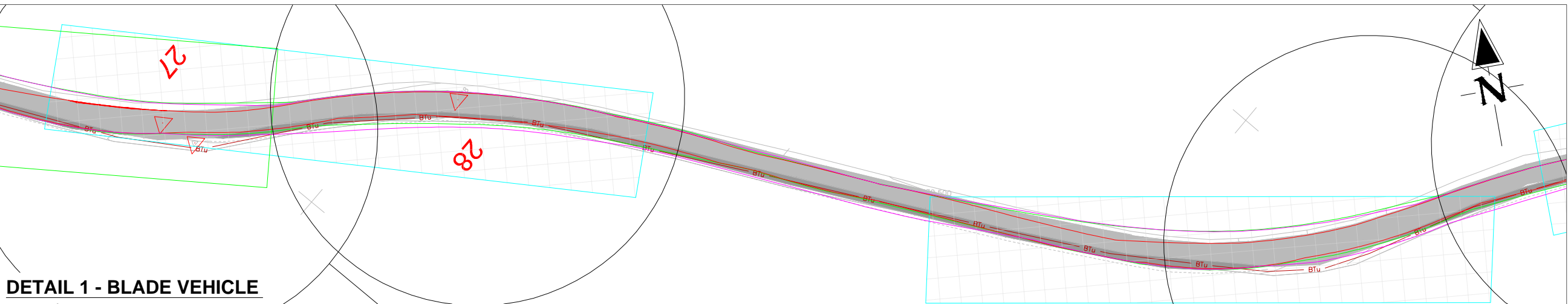
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**ABNORMAL LOAD  
ROUTE SURVEY  
POI 119 - 124**

Drawn by: BT	Date: 01/04/13
Checked by: AK	Date: 01/04/13
Approved by: JP	Date: 16/05/2013

Drawing No.	Revision
201227/AJ.00.01 - 60	-

Drawing Scale: 1:750 at A3

Drawing file path & name : g:\projects\201227\Transport\Projects\Live\Projects\Gordonbush Extension\WIND FARM\Improvement Works\HGL\_Drawing.dwg  
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User and lot data : User: AK, Lot: 119



Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Overrun Area Highlight
- Blade Overrun Area Highlight
- Vehicle Overun Within Highways

Notes:

Reproduced from topographic survey data as supplied by SSE

Rev	By	Chkd	Apprd	Date	Description



**CH2MHILL.**

Project:

GORDONBUSH EXTENSION  
WIND FARM

Drawing:

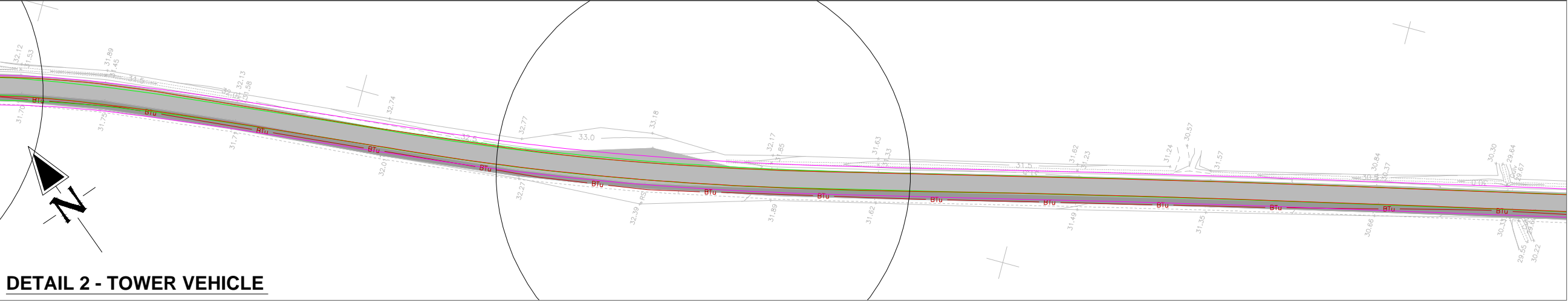
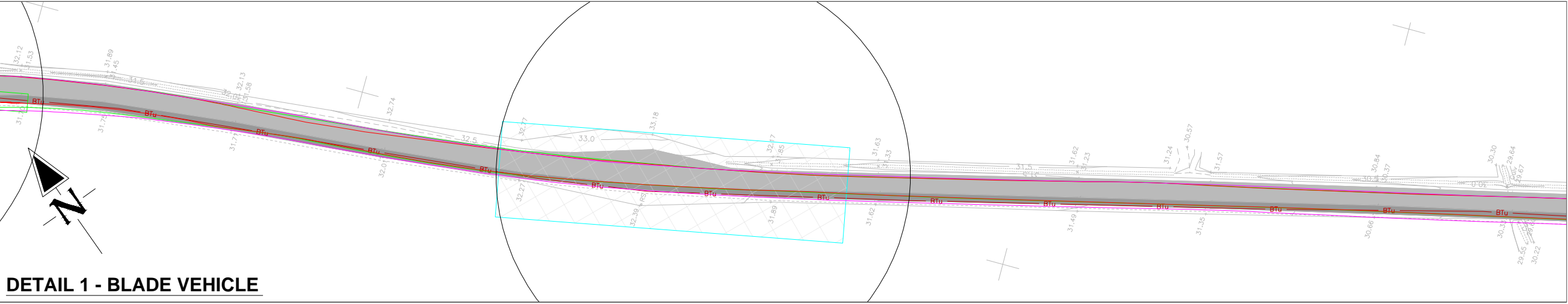
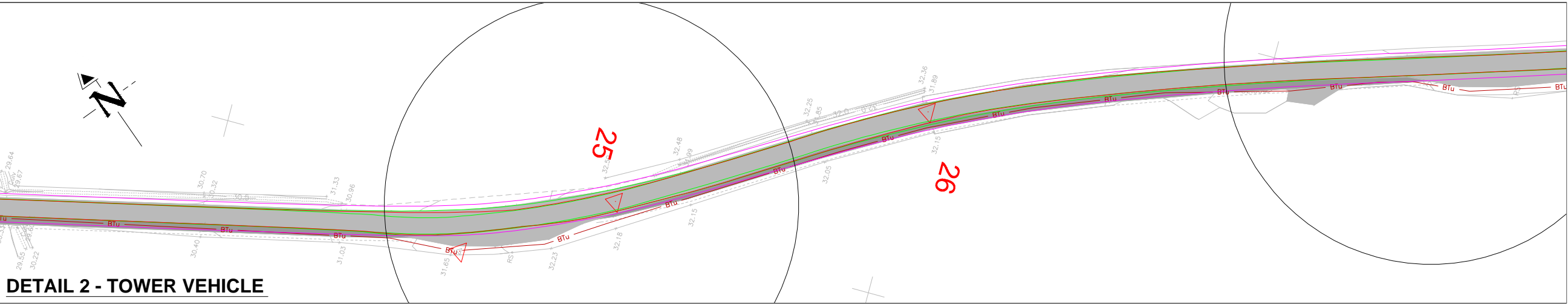
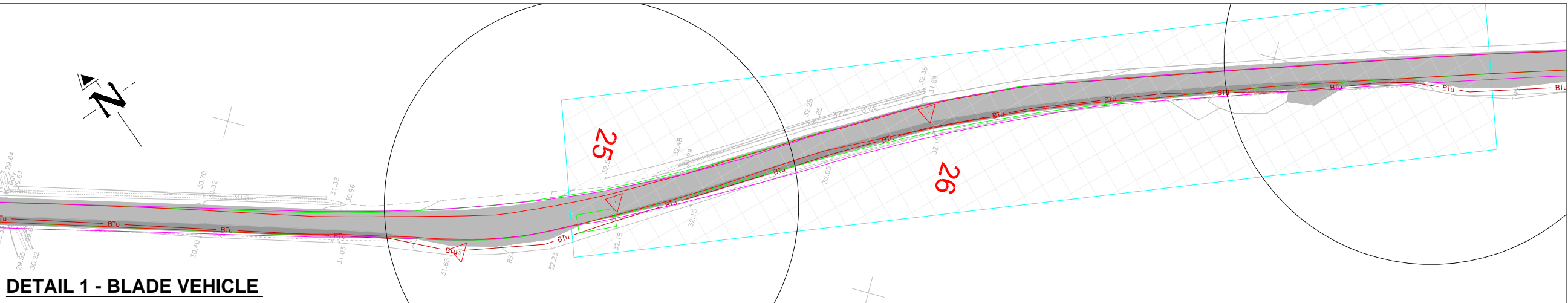
ABNORMAL LOAD  
ROUTE SURVEY  
POI 125 - 127

Drawn by: BT Date: 01/04/13  
Checked by: AK Date: 01/04/13  
Approved by: JP Date: 16/05/2013

Drawing No. 201227/AJ.00.01 - 61

Drawing Scale: 1:750 at A3






Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Overrun Area Highlight
- Blade Overrun Area Highlight
- Vehicle Overun Within Highways

Notes:

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Rev	By	Chkd	Apprd	Date	Description

Client: 

**CH2MHILL.**

Project: GORDONBUSH EXTENSION WIND FARM

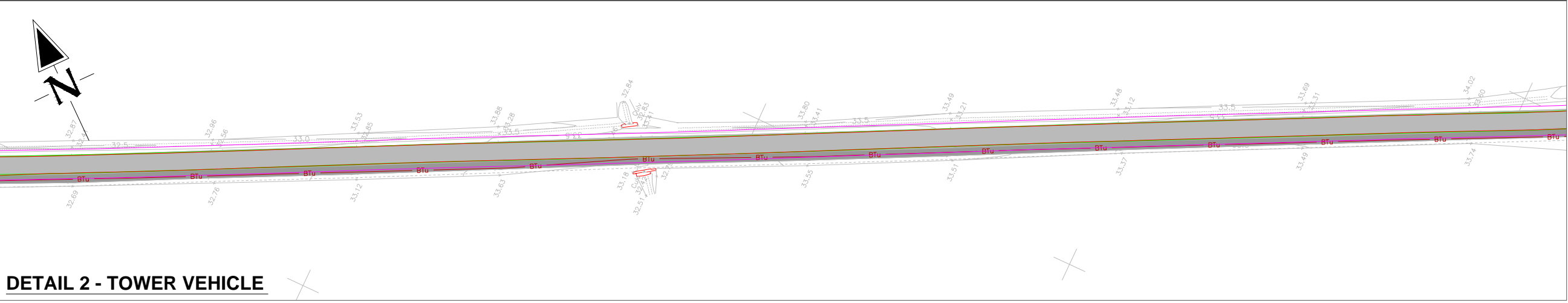
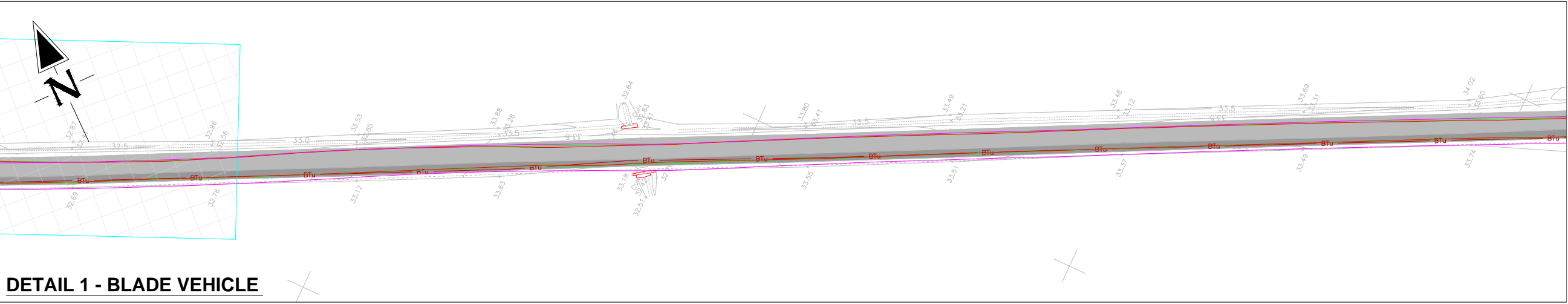
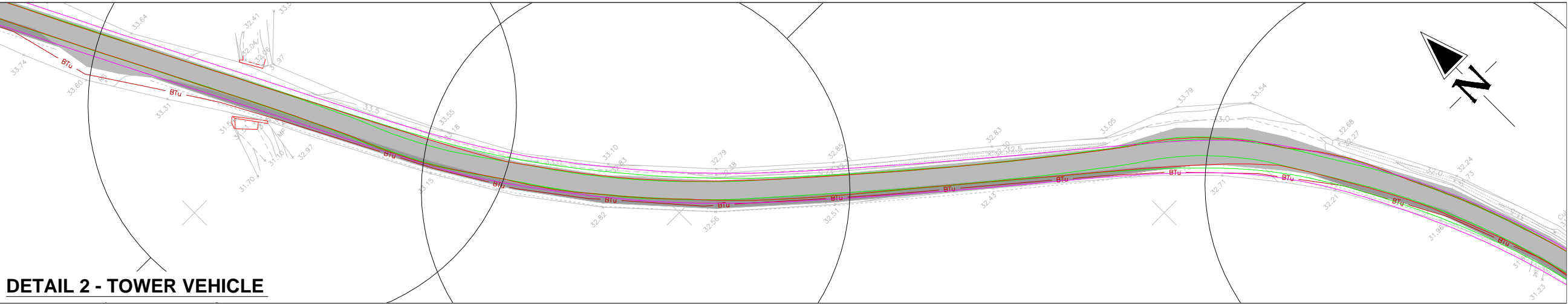
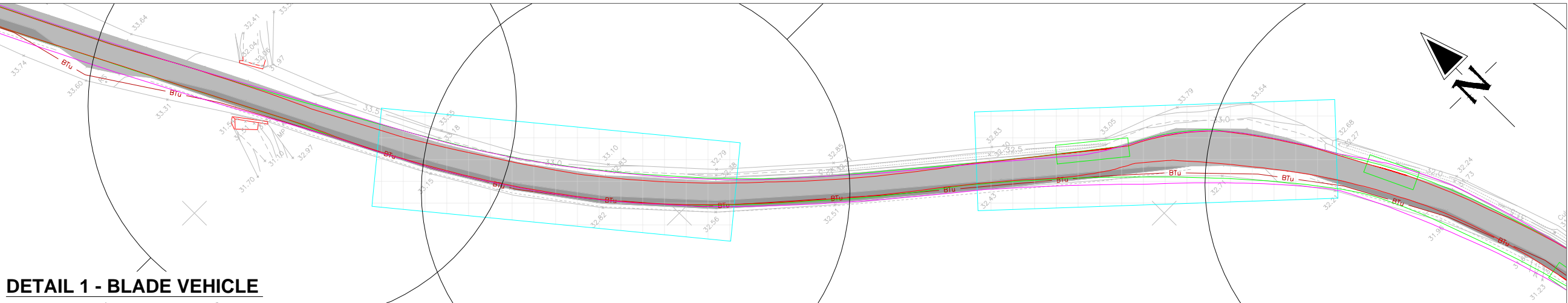
Drawing: ABNORMAL LOAD ROUTE SURVEY POI 128 - 130

Drawn by: BT	Date: 01/04/13
Checked by: AK	Date: 01/04/13
Approved by: JP	Date: 16/05/2013

Drawing No. 201227/AJ.00.01 - 62	Revision -
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Drawing Scale: 1:750 at A3

Drawing file path & name : g:\2012\2013\Projects\Transportation\Consulting\4. Transport Planning\Projects\Live Projects\GORSSE - SSE Wind Farm Framework\201227 - 201227-0192 to 300 - Improvement Works HSL Drawing.dwg  
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User and Plot Date : User: J.102.2013 11:16 am



Key Plan:


- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Overrun Area Highlight
- Blade Overrun Area Highlight
- Vehicle Overun Within Highways

Notes:

Reproduced from topographic survey data as supplied by SSE

Rev	By	Chkd	Apprd	Date	Description

Client:



**CH2MHILL.**

Project:

GORDONBUSH EXTENSION  
WIND FARM

Drawing:

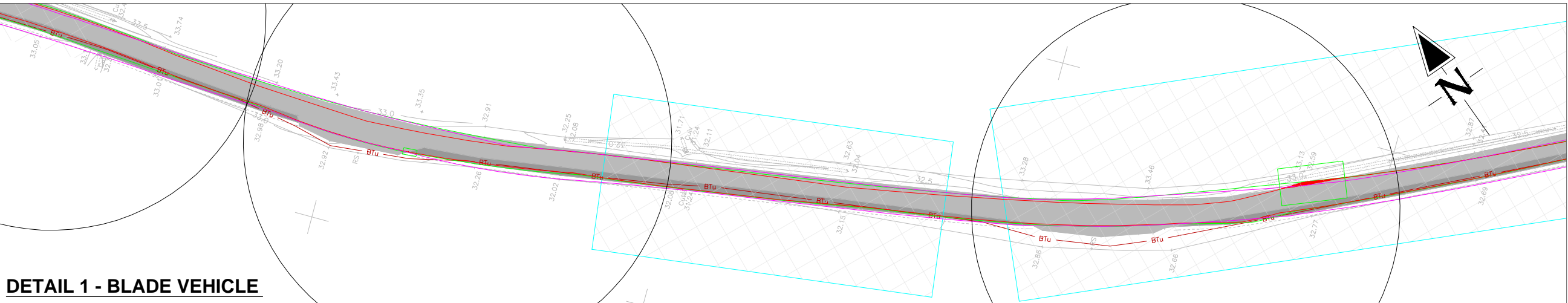
ABNORMAL LOAD  
ROUTE SURVEY  
POI 131 - 133

Drawn by: BT	Date: 01/04/13
Checked by: AK	Date: 01/04/13
Approved by: JP	Date: 16/05/2013

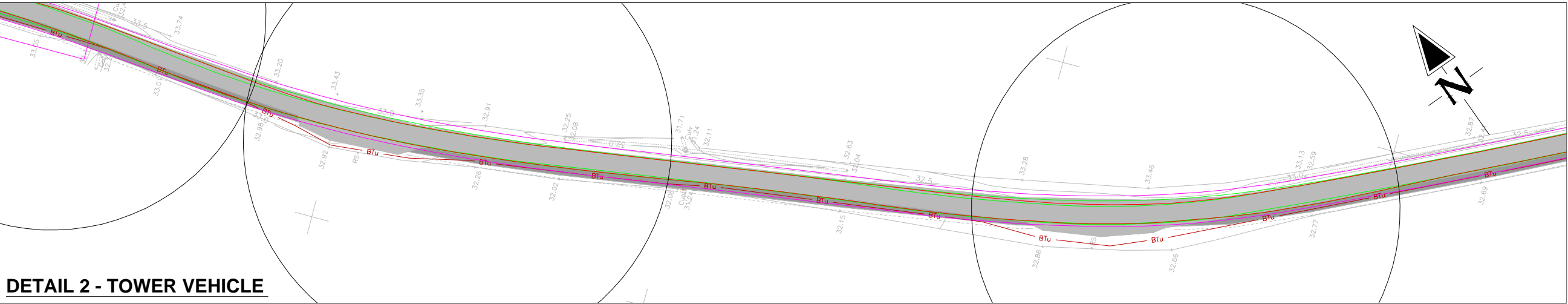
Drawing No.	Revision
201227/AJ.00.01 - 63	-

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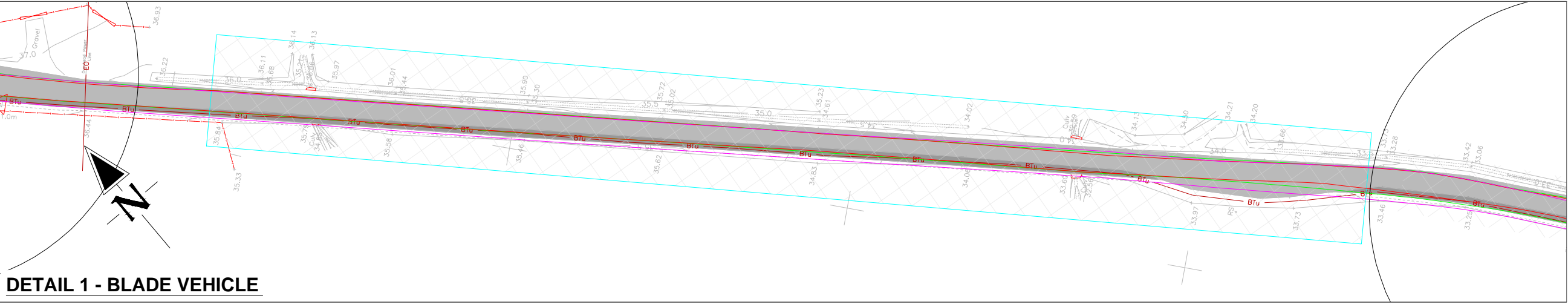
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User and Plot Data : User: CH2M, Plot Date: 16/05/2013 11:16 am



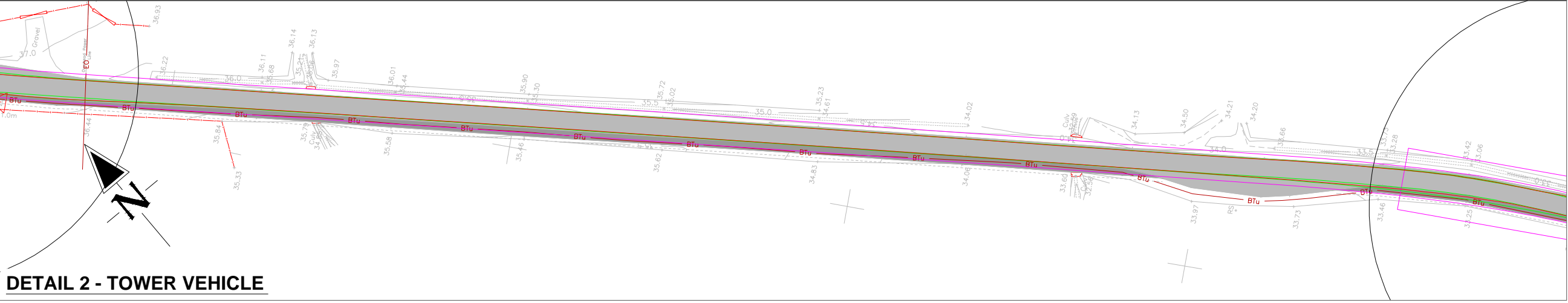
DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE



DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE

Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Overrun Area Highlight
- Blade Overrun Area Highlight
- Vehicle Overun Within Highways

Notes:

Reproduced from topographic survey data as supplied by SSE

Rev	By	Chkd	Apprd	Date	Description
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CH2M HILL  
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Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

Project:  
GORDONBUSH EXTENSION  
WIND FARM

Drawing:  
ABNORMAL LOAD  
ROUTE SURVEY  
POI 134 - 136

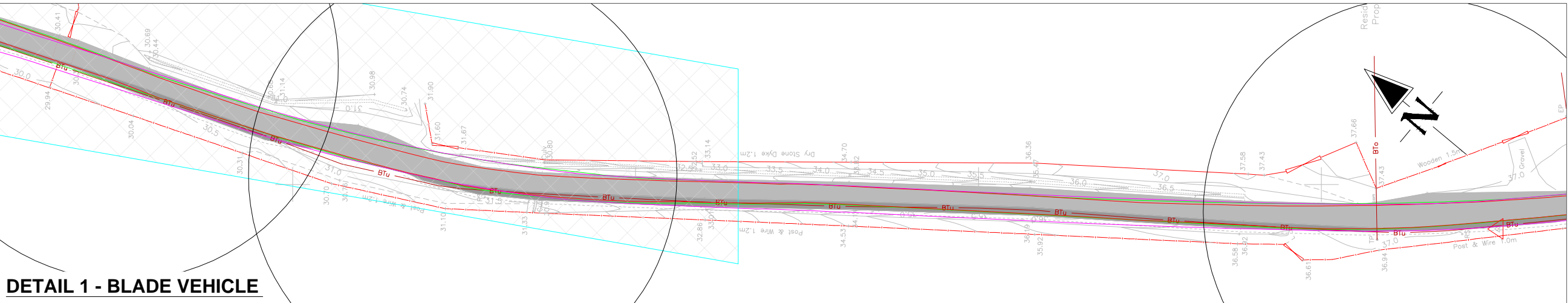
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Checked by: AK Date: 01/04/13  
Approved by: JP Date: 16/05/2013

Drawing No. 201227/AJ.00.01 - 64  
Revision -

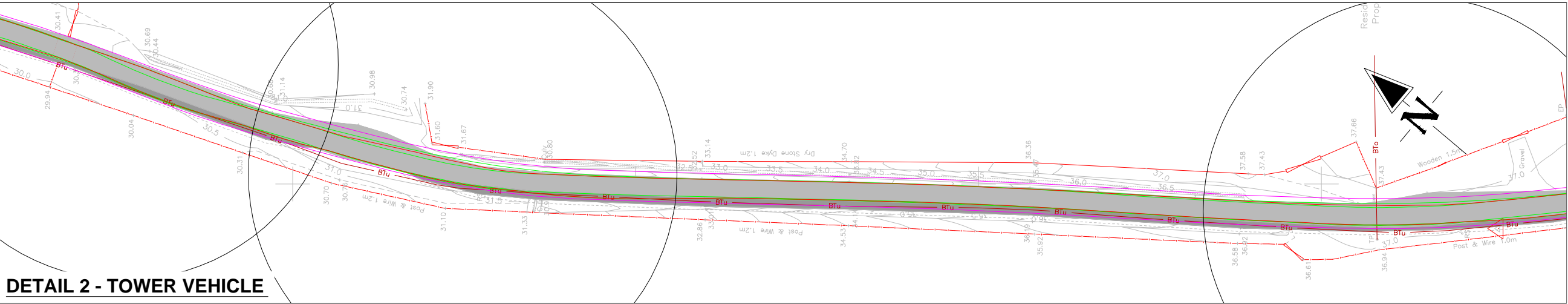
Drawing Scale: 1/750 at A3

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User and full date : user, 16/05/2013 11:18 am

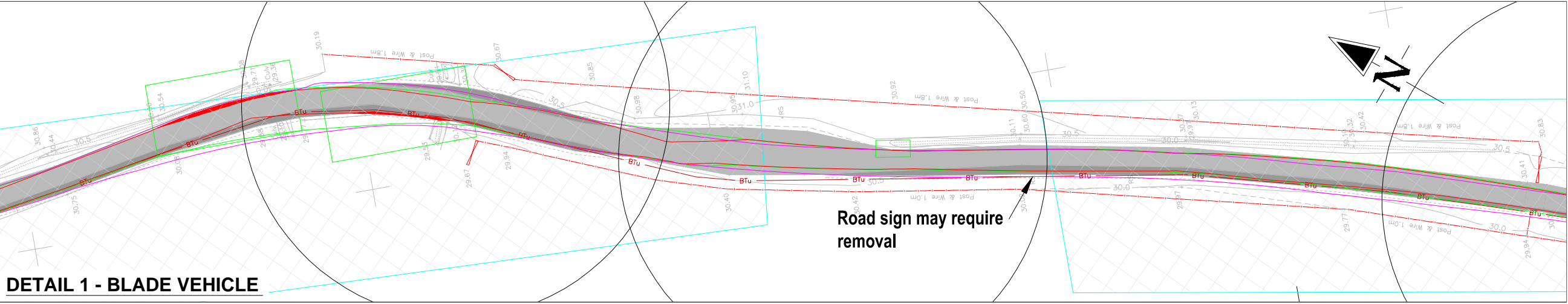




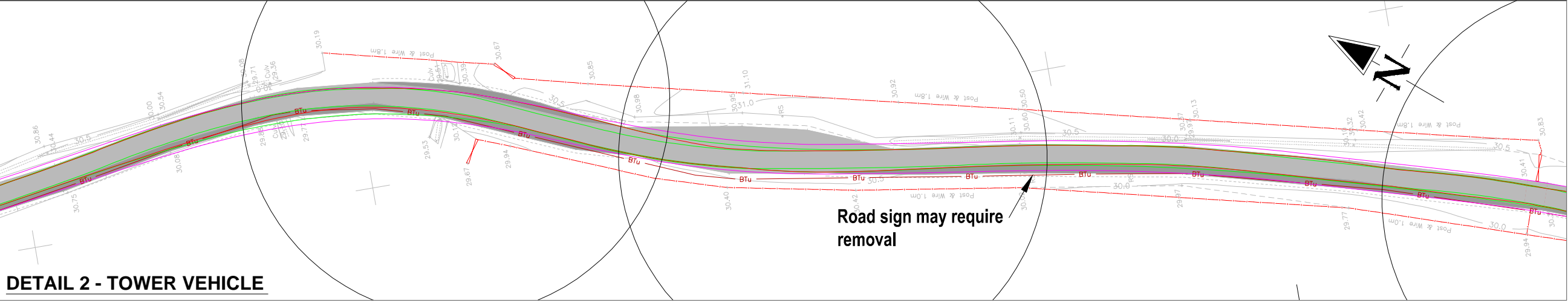
DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE



DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE

Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Overrun Area Highlight
- Blade Overrun Area Highlight
- Vehicle Overun Within Highways

Notes:

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Rev	By	Chkd	Apprd	Date	Description



CH2M HILL  
16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

Project:  
GORDONBUSH EXTENSION  
WIND FARM

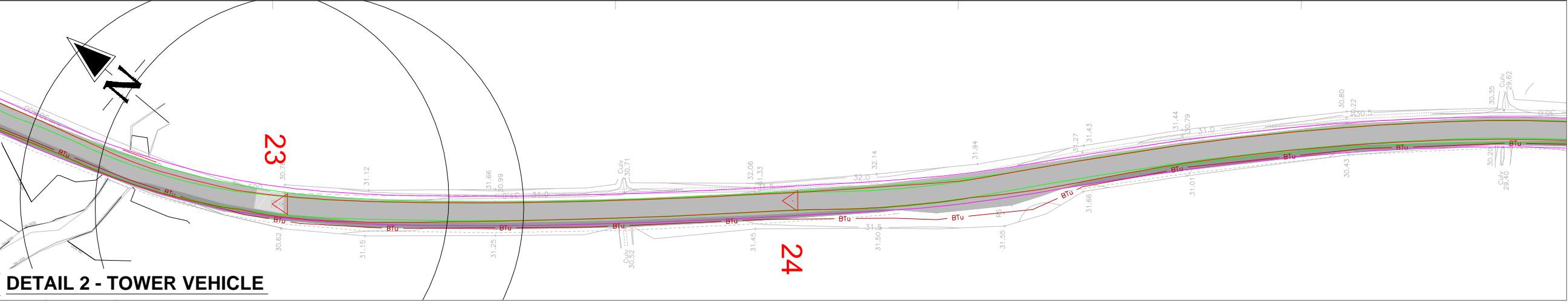
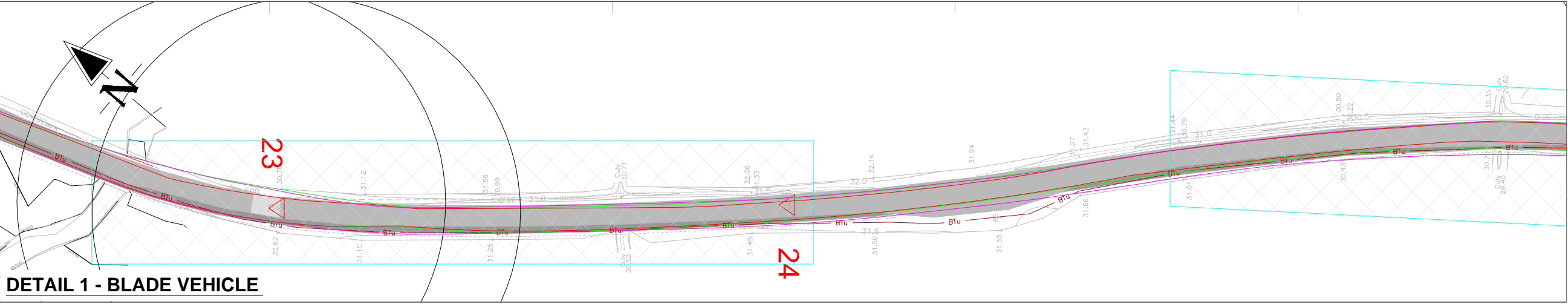
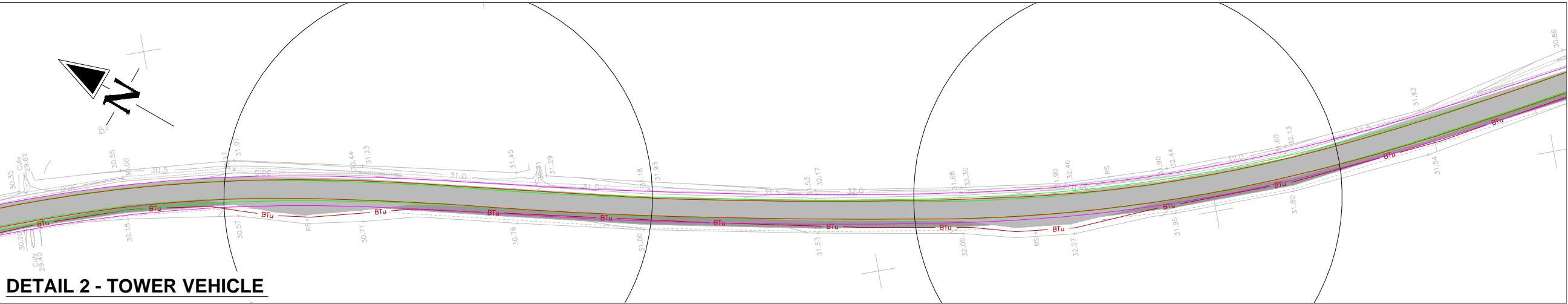
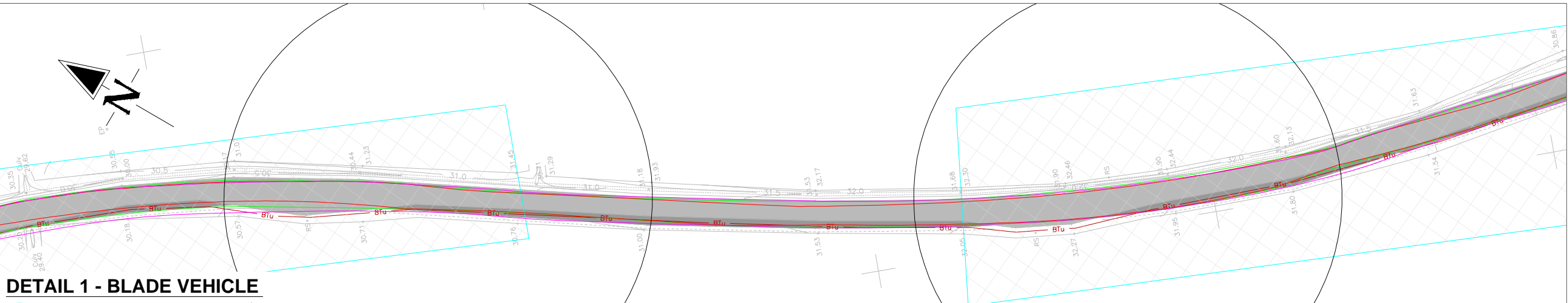
Drawing:  
ABNORMAL LOAD  
ROUTE SURVEY  
POI 137 - 141

Drawn by: BT	Date: 01/04/13
Checked by: AK	Date: 01/04/13
Approved by: JP	Date: 16/05/2013

Drawing No.	Revision
201227/AJ.00.01 - 65	-

Drawing Scale: 1/750 at A3

Drawing file path & name : g:\201227\Projects\Transportation\Consulting\4. Transport Planning\Projects\Live Projects\GORSSE - SSE Wind Farm Framework\201227\201227-0192 to 300 - Improvement Works HGL Drawing.dwg  
X-reference file path : g:\201227\Projects\Transportation\Consulting\4. Transport Planning\Projects\Live Projects\GORSSE - SSE Wind Farm Framework\201227  
User and file date : User: J. P. 16/05/2013 11:15 am



- Key Plan:
- Existing Road
  - Previous Widening
  - Load Envelope
  - Vehicle Body Envelope
  - Vehicle Wheel Base
  - Tower Rear Wheel Steering
  - Blade Rear Wheel Steering
  - Tower Overrun Area Highlight
  - Blade Overrun Area Highlight
  - Vehicle Overun Within Highways

Notes:

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Rev	By	Chkd	Apprd	Date	Description
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16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

Project:  
GORDONBUSH EXTENSION  
WIND FARM

Drawing:  
ABNORMAL LOAD  
ROUTE SURVEY  
POI 142 - 145

Drawn by: BT Date: 01/04/13  
Checked by: AK Date: 01/04/13  
Approved by: JP Date: 16/05/2013

Drawing No. 201227/AJ.00.01 - 66 Revision -

Drawing Scale: 1:750 at A3

Drawing file path & name : \\gallip202\projects\transportation\consulting\4. Transport Planning\Projects\Live Projects\GORSSE - SSE Wind Farm Framework\201227-AJ.00.01-66-Improvement Works HSL Drawing.dwg  
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User and job data : Name: 16/05/2013 11:18 am



DETAIL 1 - BLADE VEHICLE

DETAIL 2 - TOWER VEHICLE

DETAIL 1 - BLADE VEHICLE

DETAIL 2 - TOWER VEHICLE

Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Overrun Area Highlight
- Blade Overrun Area Highlight
- Vehicle Overun Within Highways

Notes:

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Rev	By	Chkd	Apprd	Date	Description

Client:



CH2M HILL  
16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

**CH2MHILL.**

Project:

GORDONBUSH EXTENSION  
WIND FARM

Drawing

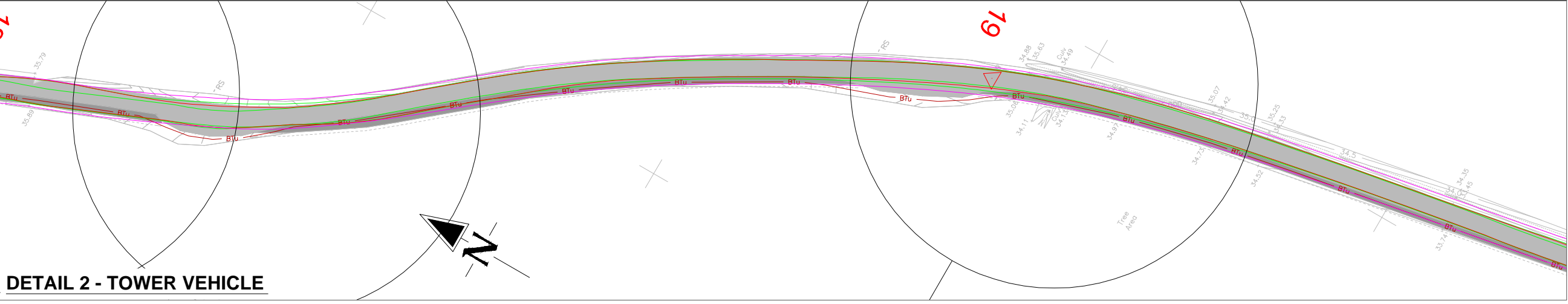
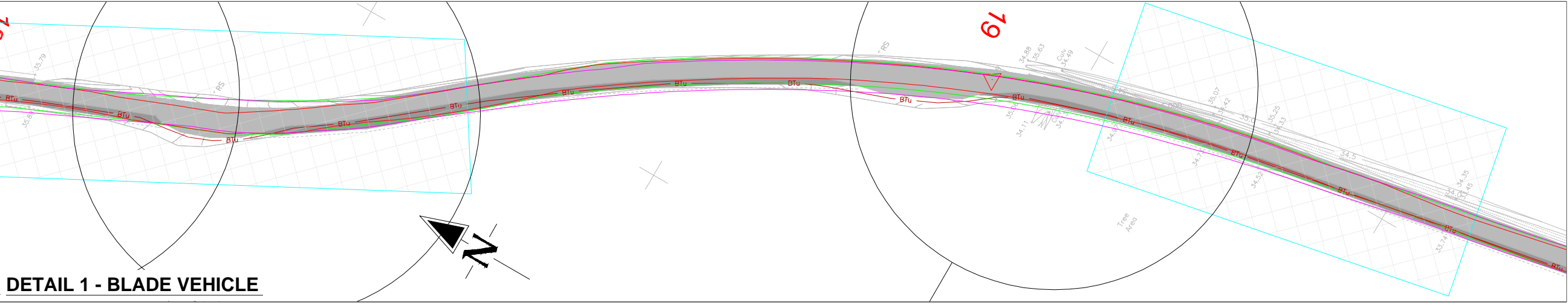
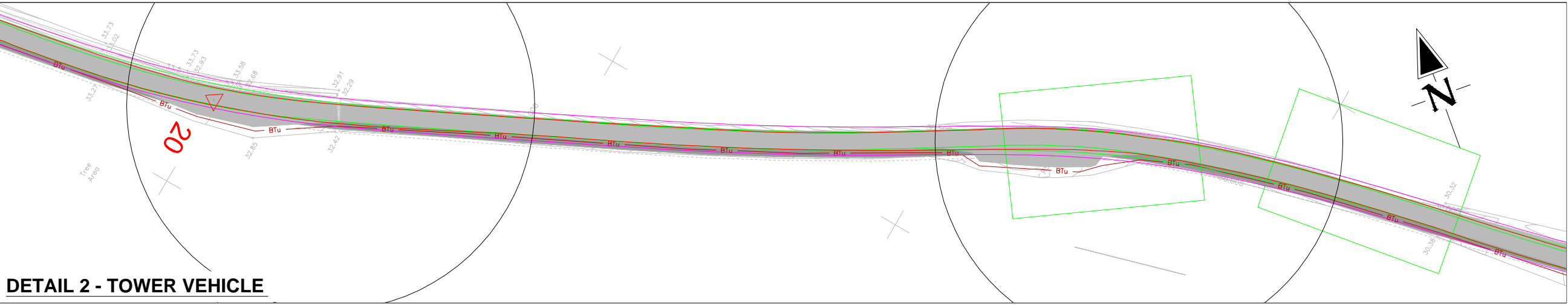
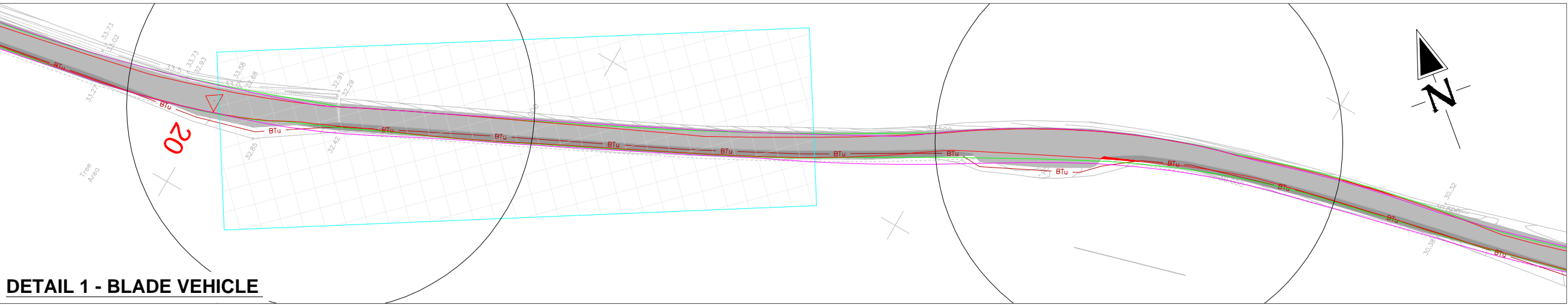
ABNORMAL LOAD  
ROUTE SURVEY  
POI 146 - 147

Drawn by: BT	Date: 01/04/13
Checked by: AK	Date: 01/04/13
Approved by: JP	Date: 16/05/2013

Drawing No.	Revision
201227/AJ.00.01 - 67	-

Drawing Scale: 1:750 at A3

Drawing file path & name : g:\projects\201227\Transport\Projects\Live\Projects\GORDONBUSH EXTENSION\WIND FARM\Improvement Works\HSL\Drawing.dwg  
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User and lot data : User: J.P. Date: 16/05/2013 11:18 am



Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Overrun Area Highlight
- Blade Overrun Area Highlight
- Vehicle Overun Within Highways

Notes:

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Rev	By	Chkd	Apprd	Date	Description

Client:

**CH2MHILL.**

Project:  
GORDONBUSH EXTENSION  
WIND FARM

Drawing:  
  
ABNORMAL LOAD  
ROUTE SURVEY  
POI 148 - 151

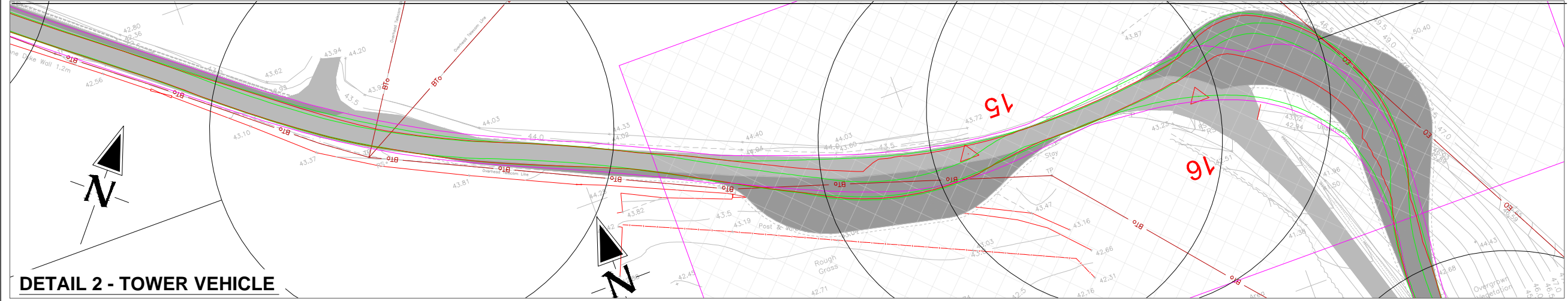
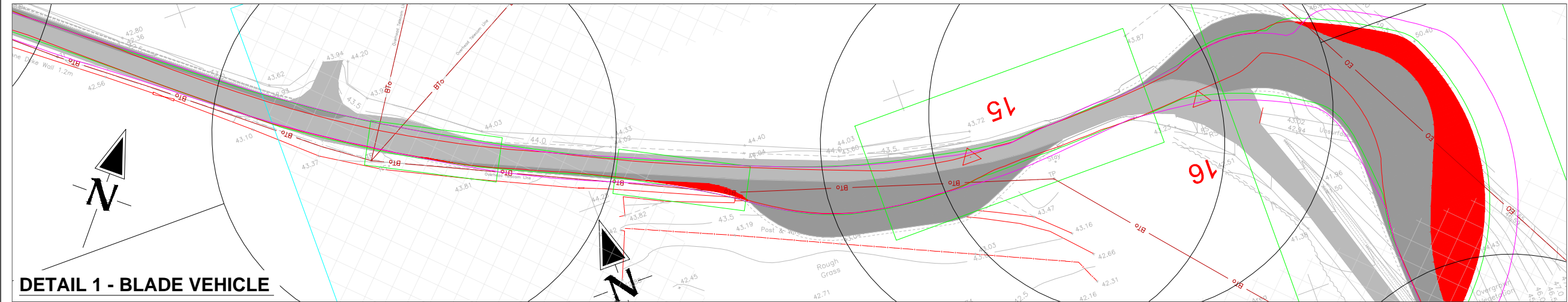
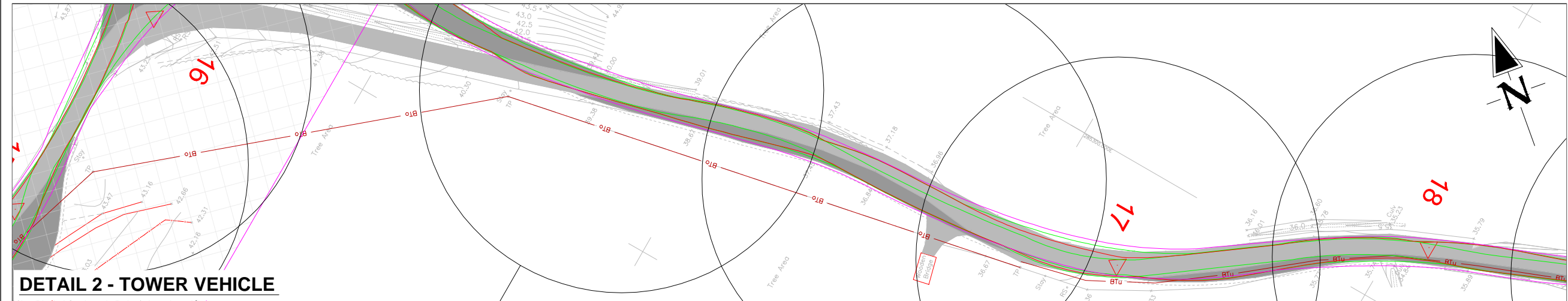
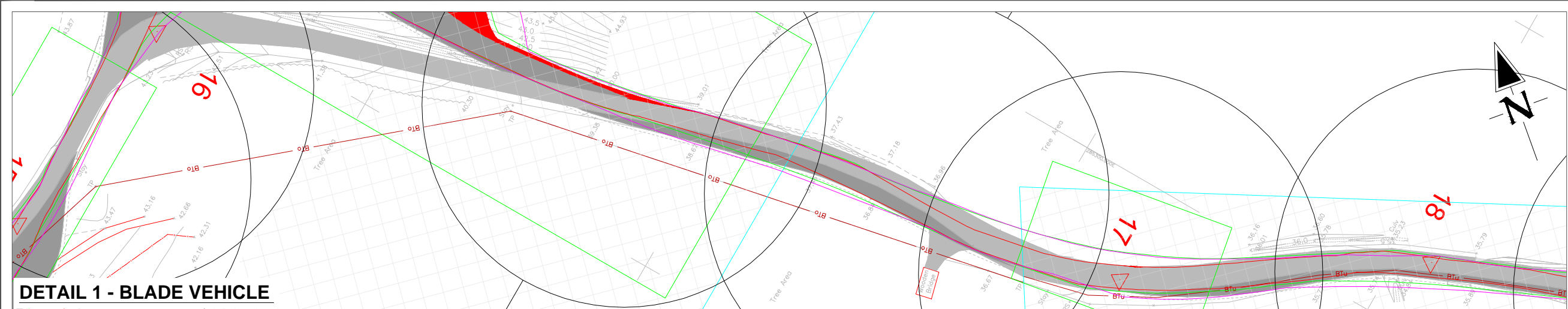
Drawn by: BT	Date: 01/04/13
Checked by: AK	Date: 01/04/13
Approved by: JP	Date: 16/05/2013

Drawing No.	Revision
201227/AJ.00.01 - 68	-

Drawing Scale: 1:750 at A3

Drawing file path & name : g:\projects\201227\Transportation\Consulting\4. Transport Planning\Projects\Live Projects\GORDONBUSH - SSE Wind Farm Framework (201227) 201227-0192 to 300 - Improvement Works HGL Drawing.dwg  
X-reference file path : g:\projects\201227\Transportation\Consulting\4. Transport Planning\Projects\Live Projects\GORDONBUSH - SSE Wind Farm Framework (201227) 201227-0192 to 300 - Improvement Works HGL Drawing.dwg  
User and lot data : User: J. P. 16/05/2013 11:15 am





Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Overrun Area Highlight
- Blade Overrun Area Highlight
- Vehicle Overun Within Highways

Notes:

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Rev	By	Chkd	Apprd	Date	Description



CH2M HILL  
16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

Project  
GORDONBUSH EXTENSION  
WIND FARM

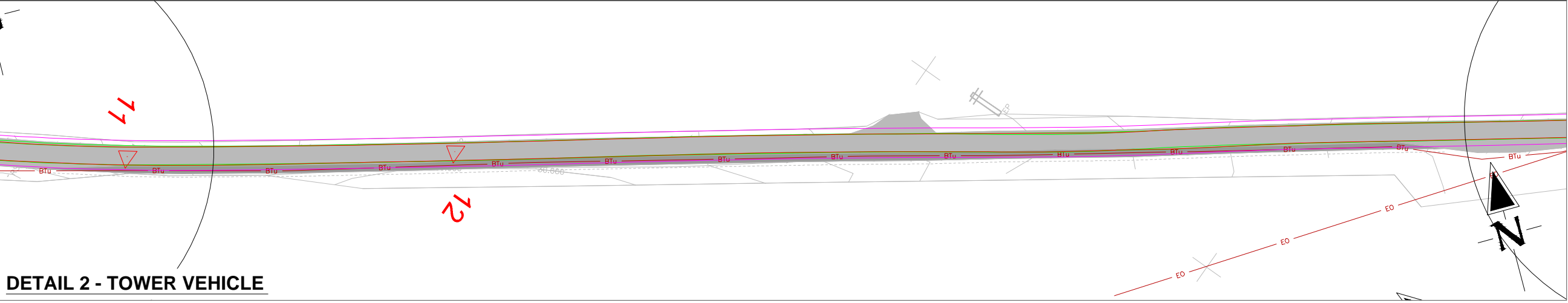
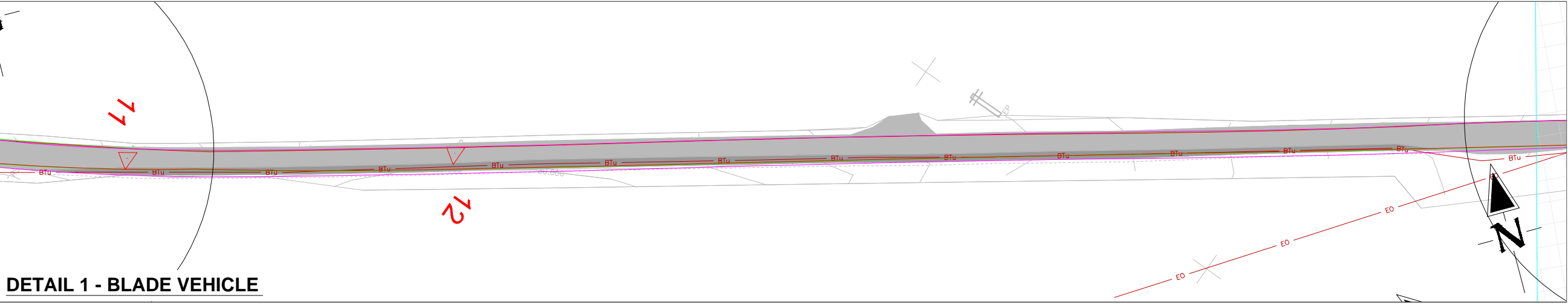
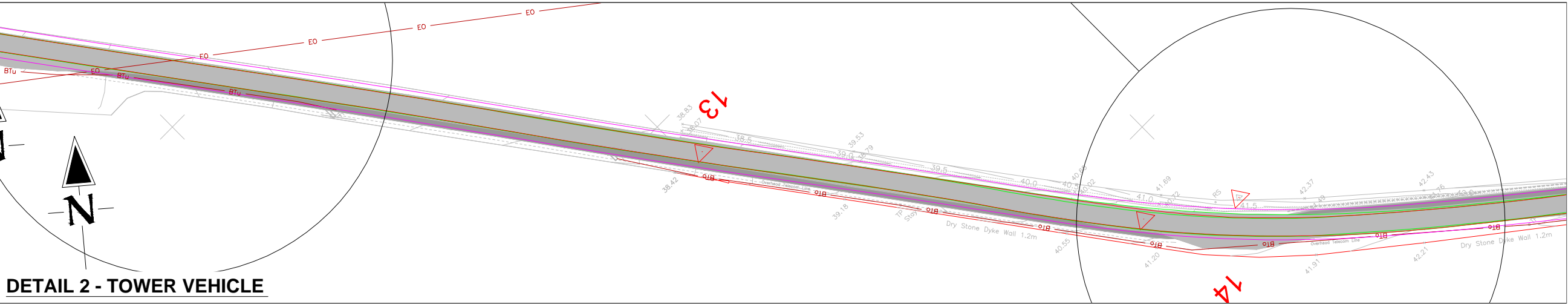
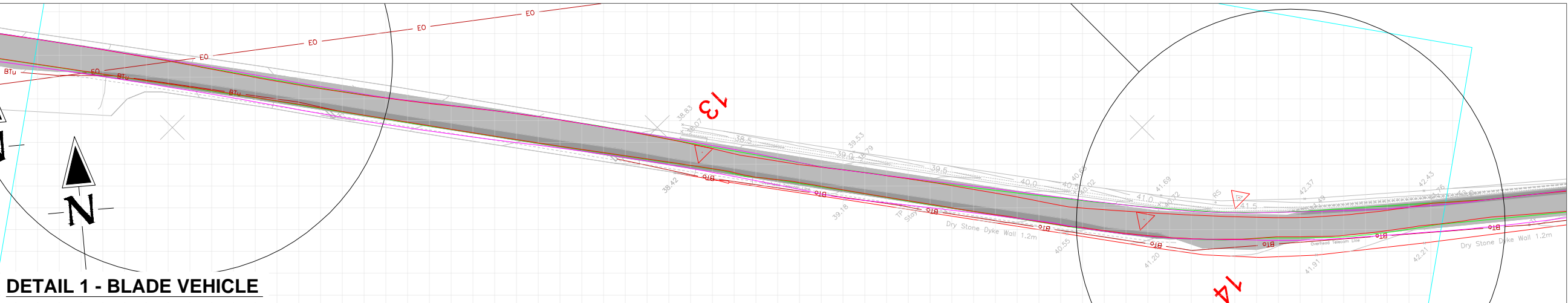
Drawing  
ABNORMAL LOAD  
ROUTE SURVEY  
POI 152 - 158

Drawn by: BT Date: 01/04/13  
Checked by: AK Date: 01/04/13  
Approved by: JP Date: 16/05/2013

Drawing No. 201227/AJ.00.01 - 69 Revision -

Drawing Scale: 1:750 at A3

Drawing file path & name : g:\201227\Projects\Transportation\Consulting\4. Transport Planning\Projects\Live Projects\GORDONBUSH - SSE Wind Farm Framework\201227\201227-01-96 to 300 - Improvement Works HGL Drawing.dwg  
Xrefs file path : g:\201227\Projects\Transportation\Consulting\4. Transport Planning\Projects\Live Projects\GORDONBUSH - SSE Wind Farm Framework\201227  
User and Job Data : User: J.16.02.2013 11:16 am



- Key Plan:
- Existing Road
  - Previous Widening
  - Load Envelope
  - Vehicle Body Envelope
  - Vehicle Wheel Base
  - Tower Rear Wheel Steering
  - Blade Rear Wheel Steering
  - Tower Overrun Area Highlight
  - Blade Overrun Area Highlight
  - Vehicle Overun Within Highways

Notes:

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16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

Project:  
GORDONBUSH EXTENSION  
WIND FARM

Drawing:  
ABNORMAL LOAD  
ROUTE SURVEY  
POI 159 - 161

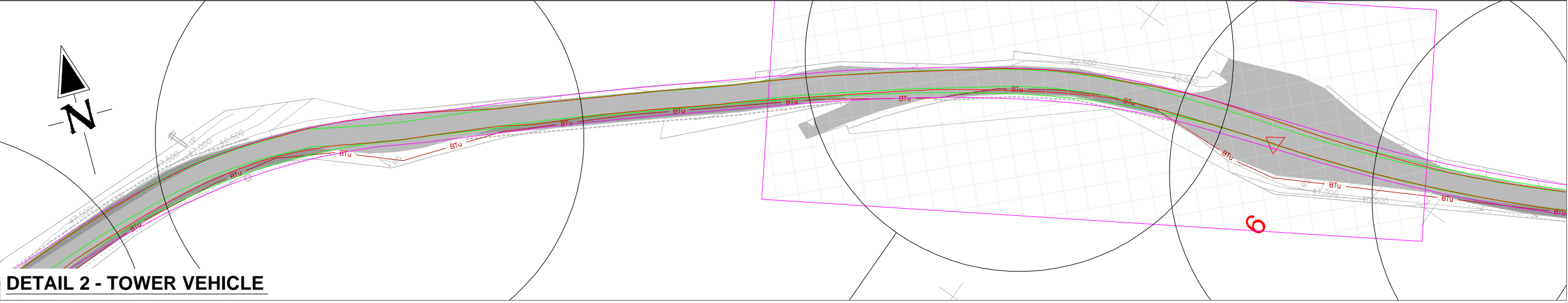
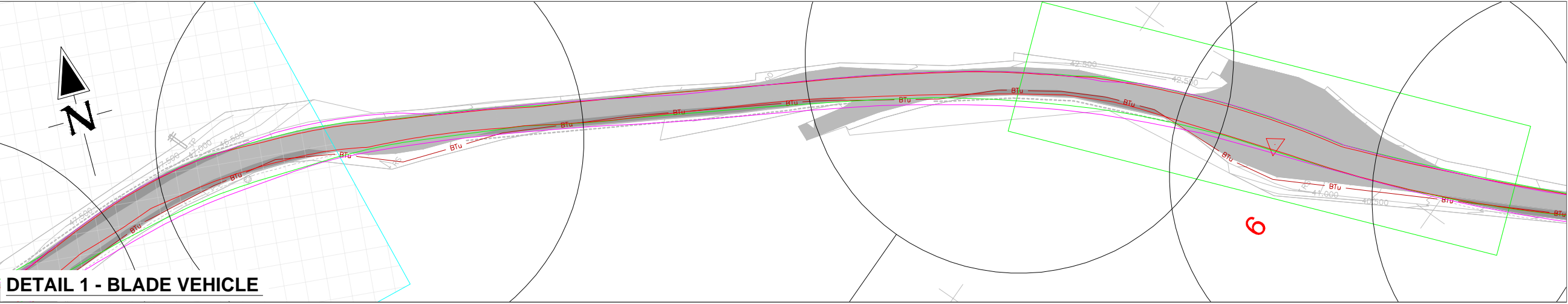
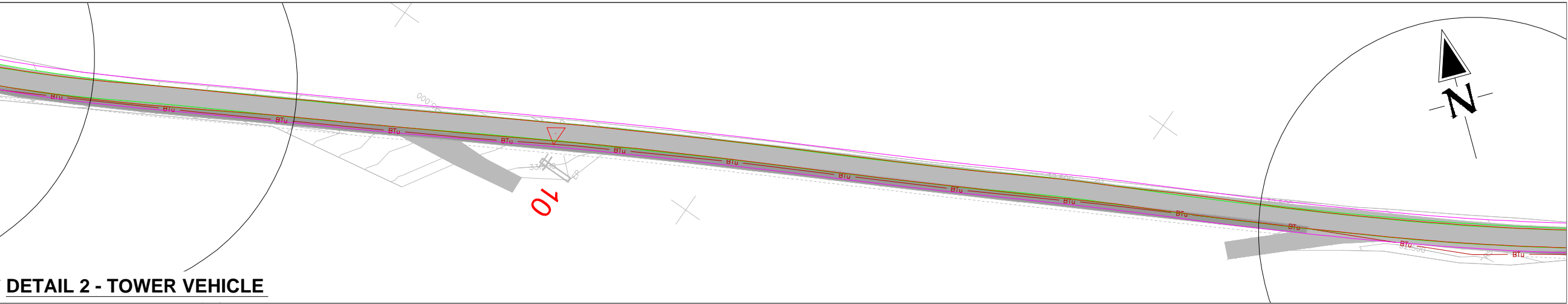
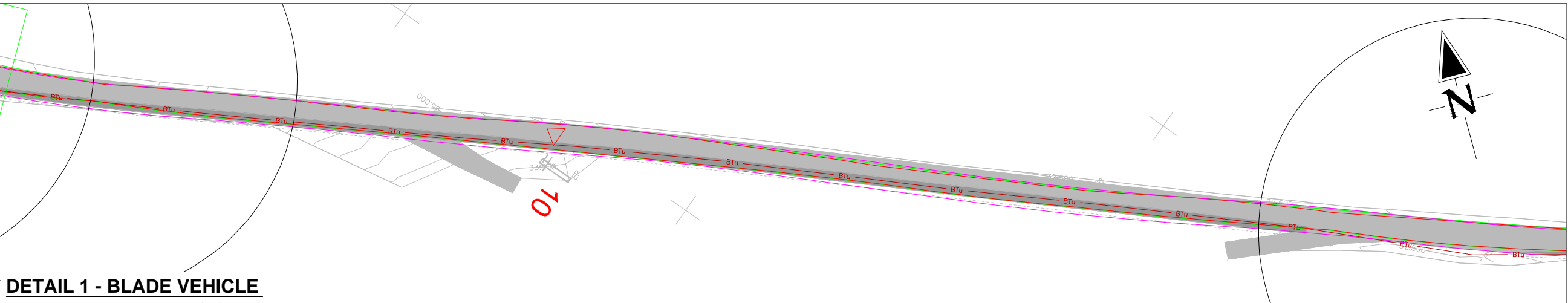
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Checked by: AK Date: 01/04/13  
Approved by: JP Date: 16/05/2013

Drawing No. 201227/AJ.00.01 - 70  
Revision -

Drawing Scale: 1:750 at A3

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User and Plot Date : User: J. 16/05/2013 11:10 am





- Key Plan:
- Existing Road
  - Previous Widening
  - Load Envelope
  - Vehicle Body Envelope
  - Vehicle Wheel Base
  - Tower Rear Wheel Steering
  - Blade Rear Wheel Steering
  - Tower Overrun Area Highlight
  - Blade Overrun Area Highlight
  - Vehicle Overun Within Highways

Notes:

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Rev	By	Chkd	Apprd	Date	Description



**CH2MHILL.**  
16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

Project:  
**GORDONBUSH EXTENSION  
WIND FARM**

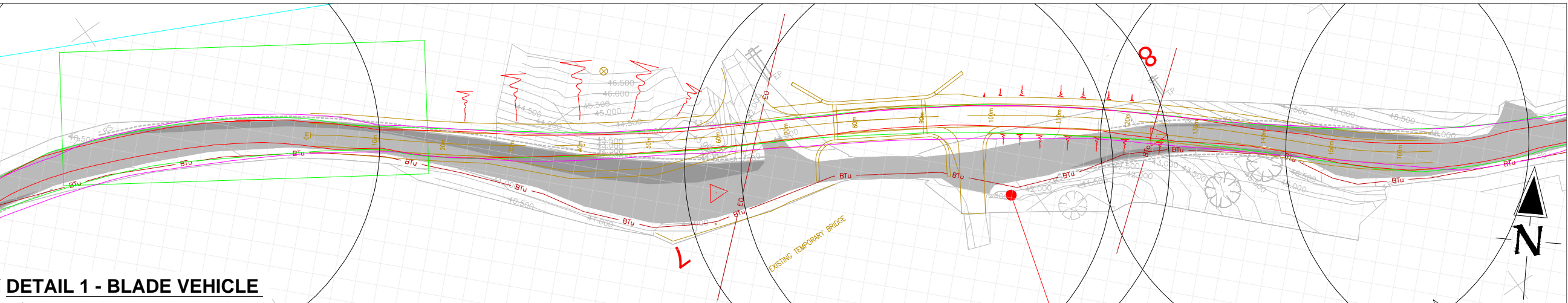
Drawing:  
**ABNORMAL LOAD  
ROUTE SURVEY  
POI 161 - 165**

Drawn by: BT	Date: 01/04/13
Checked by: AK	Date: 01/04/13
Approved by: JP	Date: 16/05/2013

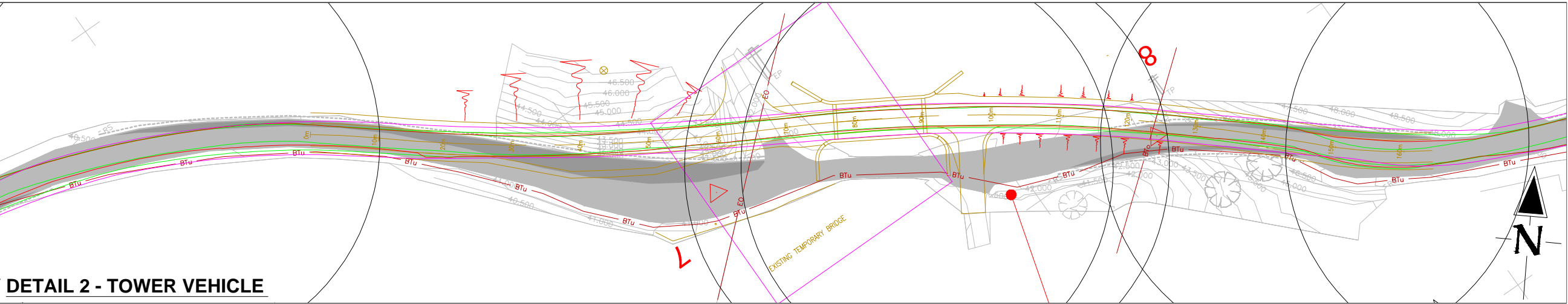
Drawing No. <b>201227/AJ.00.01 - 71</b>	Revision -
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Drawing Scale: 1:750 at A3

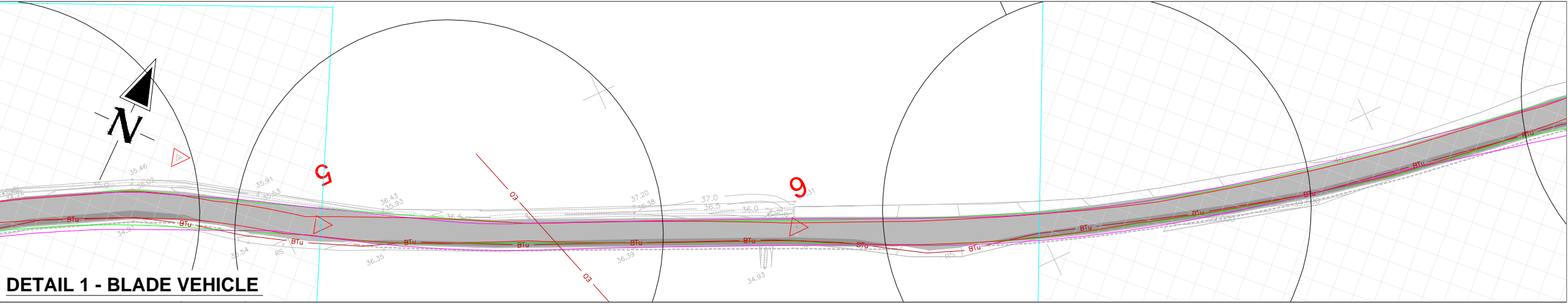




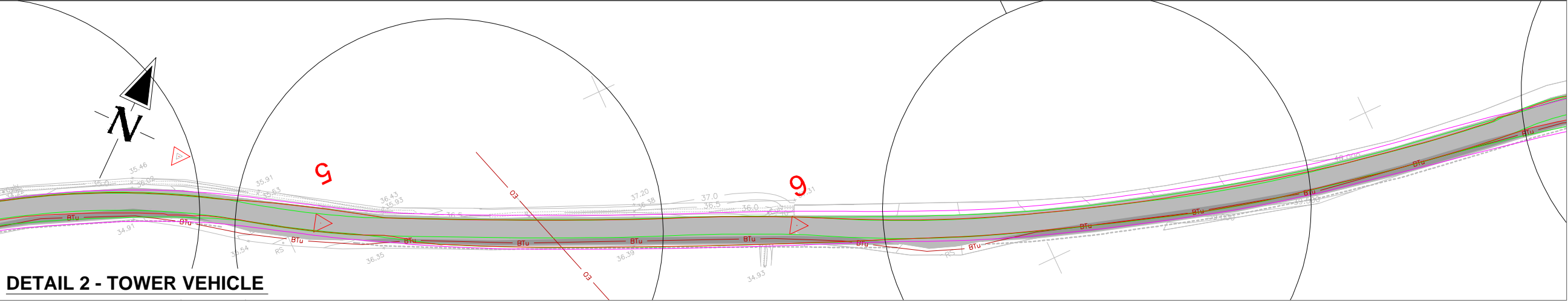
DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE



DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE

Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Overrun Area Highlight
- Blade Overrun Area Highlight
- Vehicle Overun Within Highways

Notes:

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Rev	By	Chkd	Apprd	Date	Description
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CH2M HILL  
16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

Project:  
GORDONBUSH EXTENSION  
WIND FARM

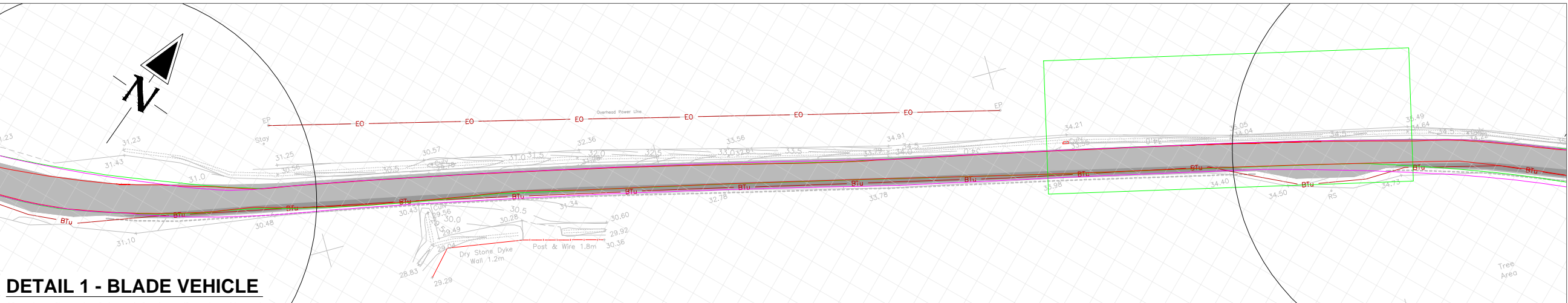
Drawing:  
ABNORMAL LOAD  
ROUTE SURVEY  
POI 166 - 173

Drawn by: BT Date: 01/04/13  
Checked by: AK Date: 01/04/13  
Approved by: JP Date: 16/05/2013

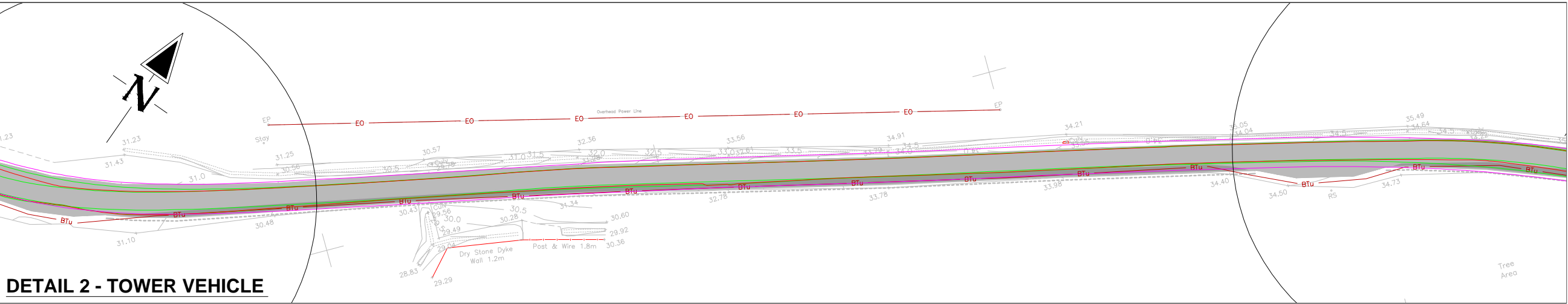
Drawing No.: 201227/AJ.00.01 - 72  
Revision: -

Drawing Scale: 1:750 at A3

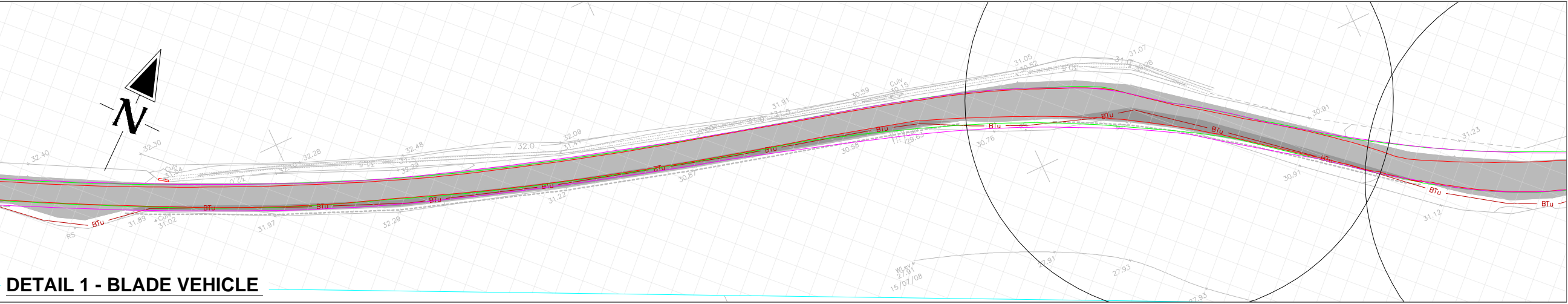
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User and Date : J. Hill 16/05/2013 11:18 am



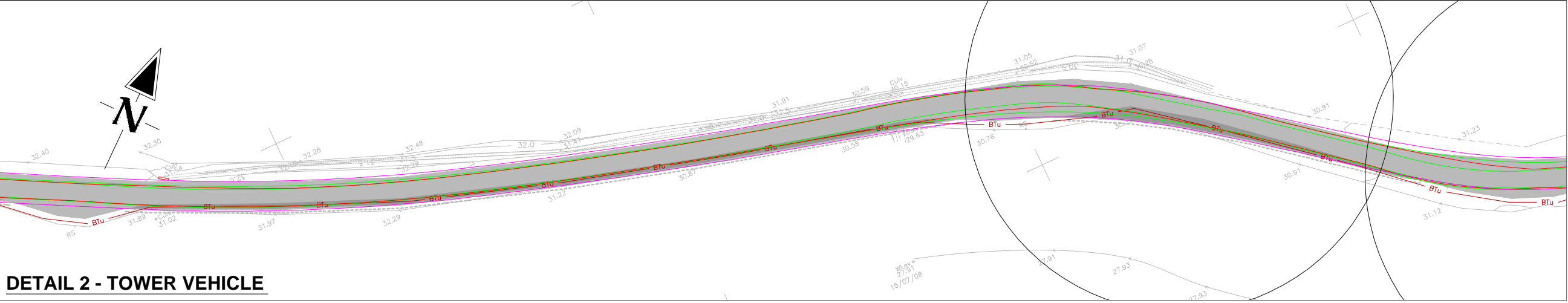
DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE



DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE

Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Overrun Area Highlight
- Blade Overrun Area Highlight
- Vehicle Overrun Within Highways

Notes:

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Rev	By	Chkd	Apprd	Date	Description
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Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

Project:  
GORDONBUSH EXTENSION  
WIND FARM

Drawing:  
ABNORMAL LOAD  
ROUTE SURVEY  
POI 173 - 175

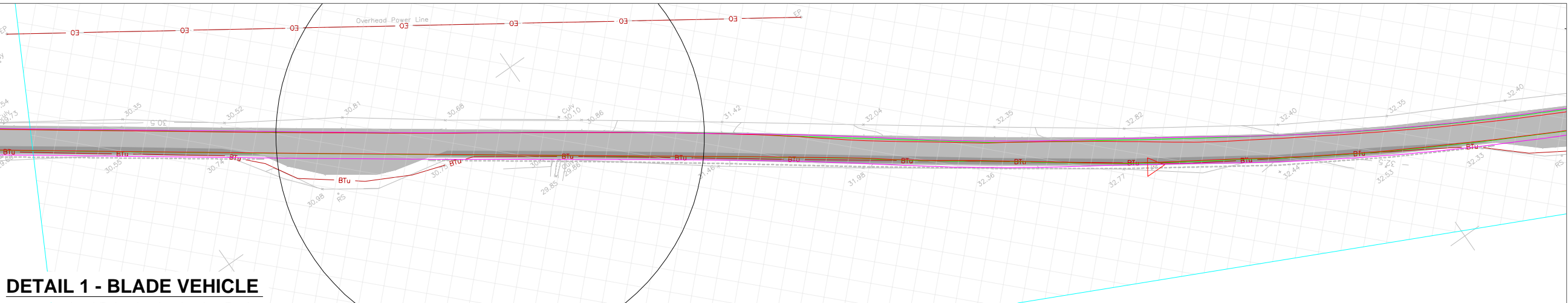
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Approved by: JP Date: 16/05/2013

Drawing No. 201227/AJ.00.01 - 73  
Revision -

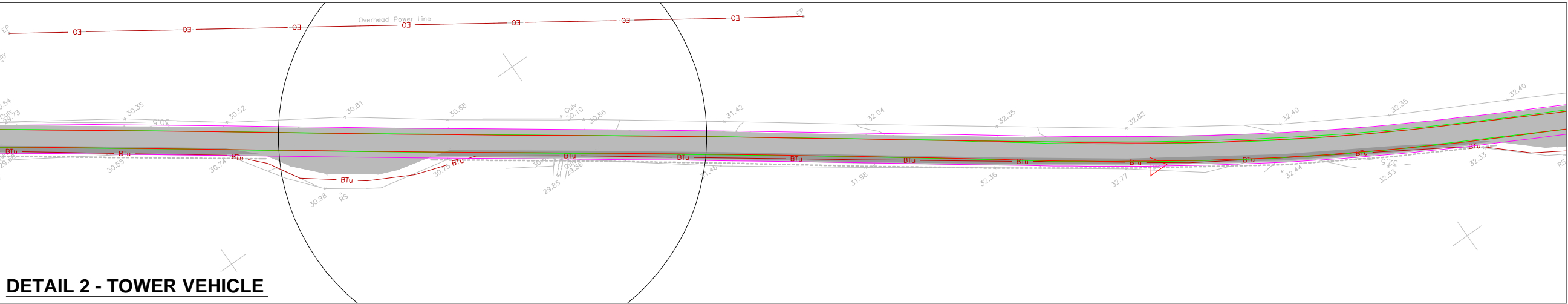
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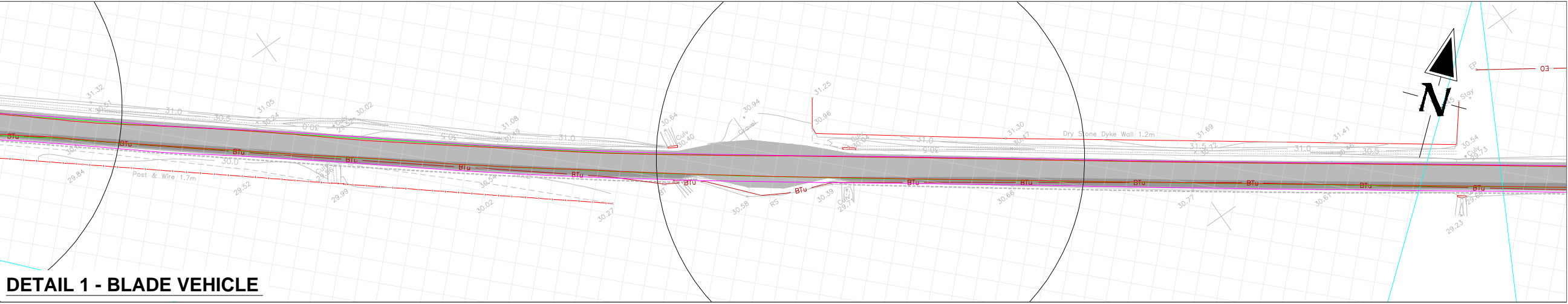




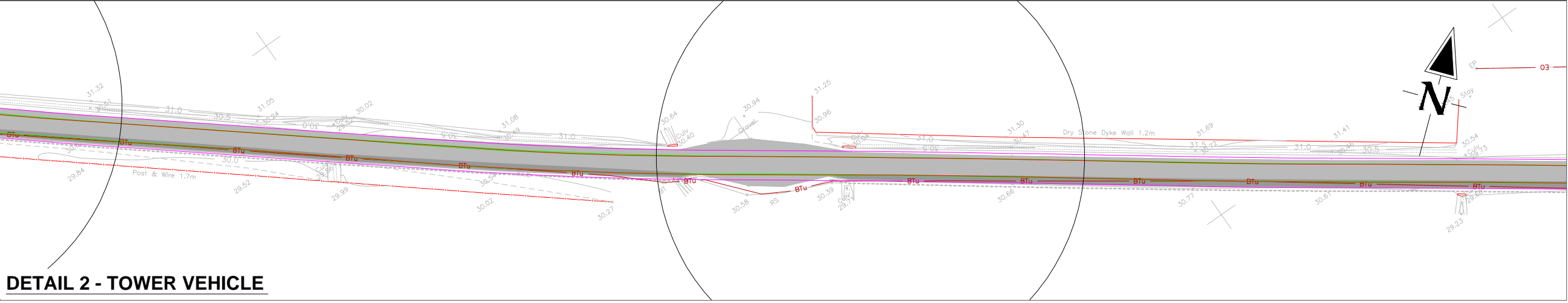
DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE



DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE

Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Overrun Area Highlight
- Blade Overrun Area Highlight
- Vehicle Overun Within Highways

Notes:

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Rev	By	Chkd	Apprd	Date	Description
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Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

Project:  
GORDONBUSH EXTENSION  
WIND FARM

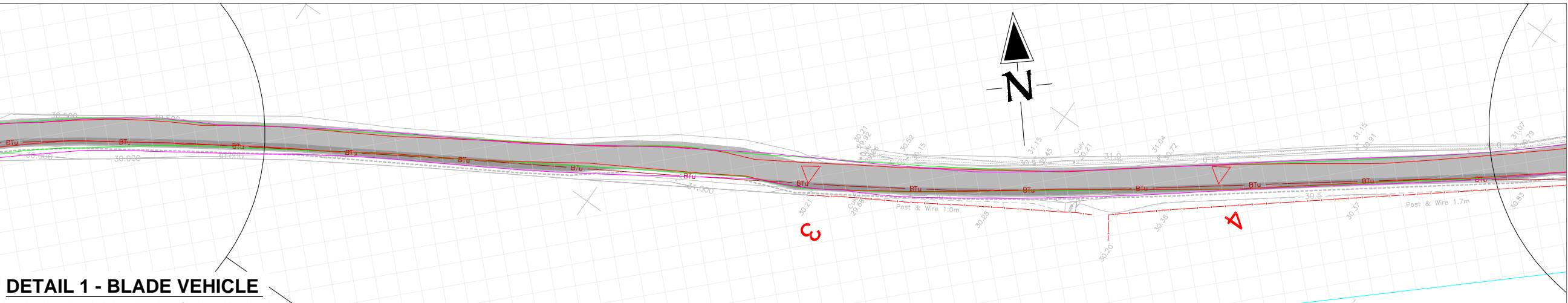
Drawing:  
ABNORMAL LOAD  
ROUTE SURVEY  
POI 176 - 177

Drawn by: BT Date: 01/04/13  
Checked by: AK Date: 01/04/13  
Approved by: JP Date: 16/05/2013

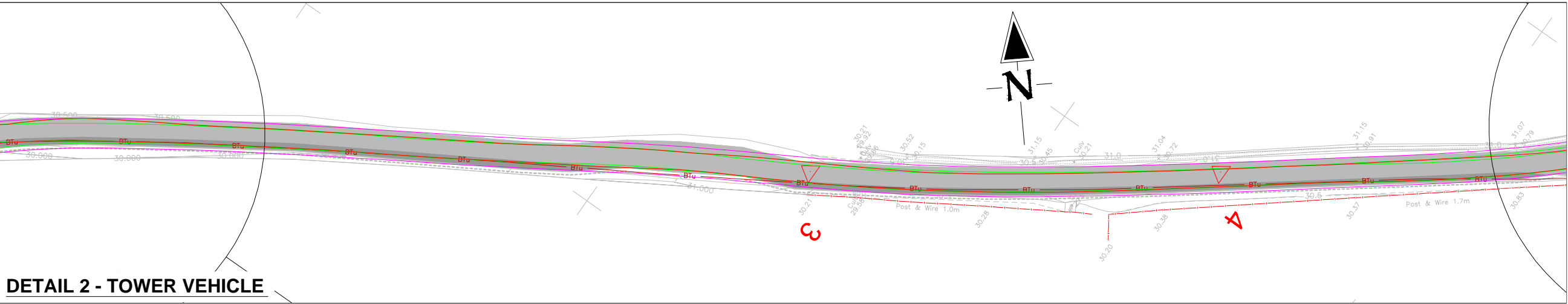
Drawing No. 201227/AJ.00.01 - 74  
Revision -

Drawing Scale: 1:750 at A3

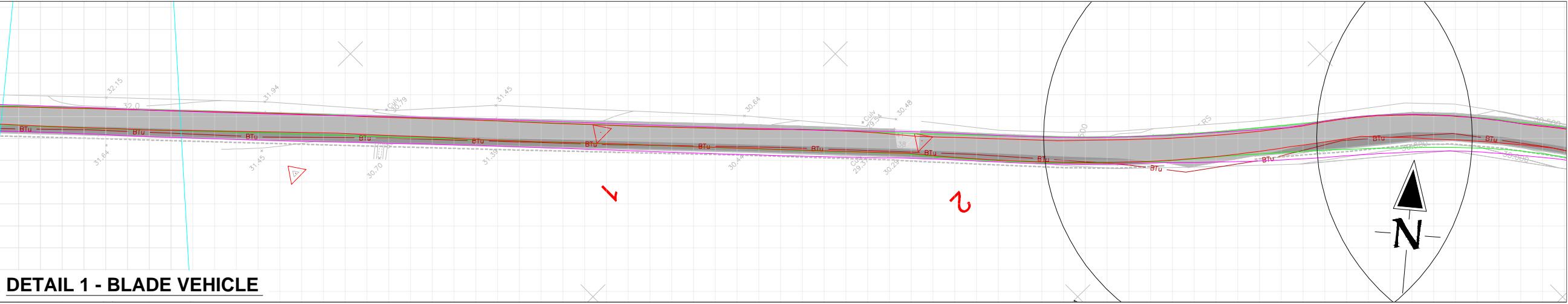
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Xrefs file path : g:\projects\201227\Transport\Projects\Live\Projects\Gordonbush Extension\WIND FARM\Improvement Works\HGL\_Drawing.dwg  
User and lot data : User: J. P. Lot: 1



DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE



DETAIL 1 - BLADE VEHICLE



DETAIL 2 - TOWER VEHICLE

Key Plan:

- Existing Road
- Previous Widening
- Load Envelope
- Vehicle Body Envelope
- Vehicle Wheel Base
- Tower Rear Wheel Steering
- Blade Rear Wheel Steering
- Tower Overrun Area Highlight
- Blade Overrun Area Highlight
- Vehicle Overun Within Highways

Notes:

Reproduced from topographic survey data as supplied by SSE

Rev	By	Chkd	Apprd	Date	Description
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Client:



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16 Abercromby Place, Edinburgh EH3 6LB  
Tel +44 (0)131 272 3307 Fax +44 (0)131 272 3301  
www.ch2mhill.com

CH2MHILL

Project:

GORDONBUSH EXTENSION  
WIND FARM

Drawing:

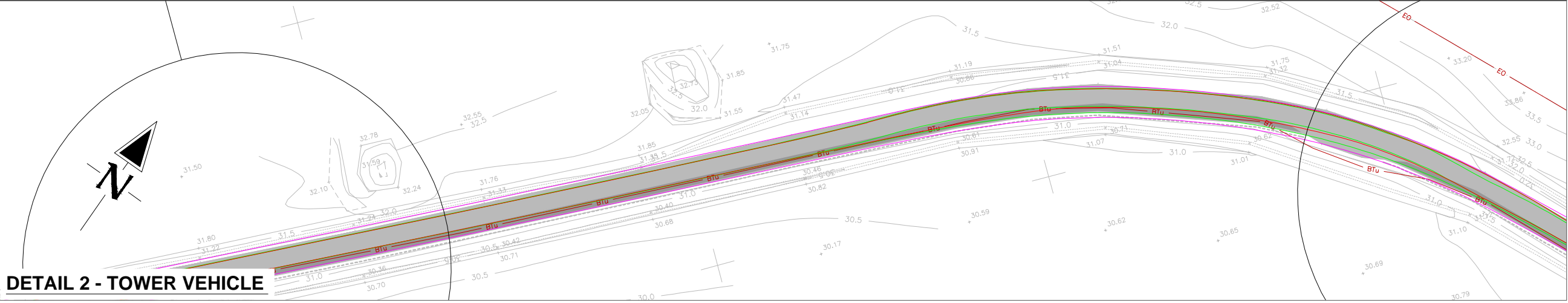
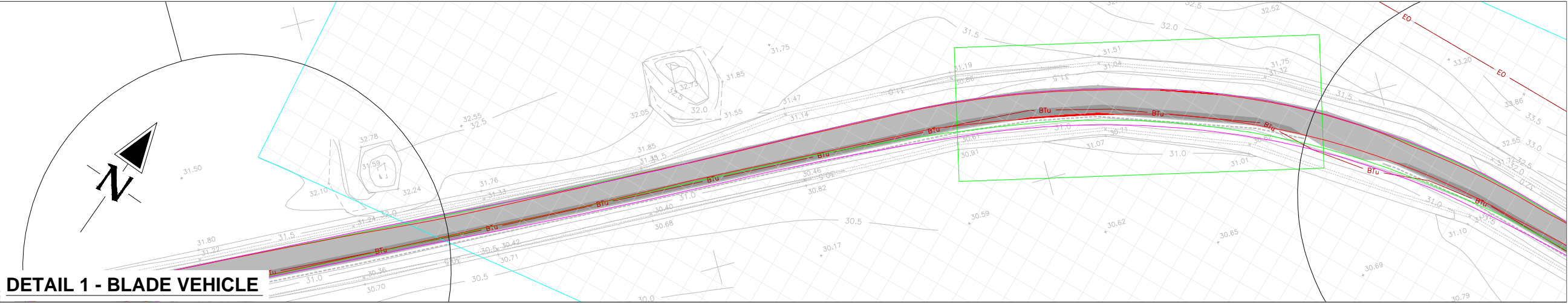
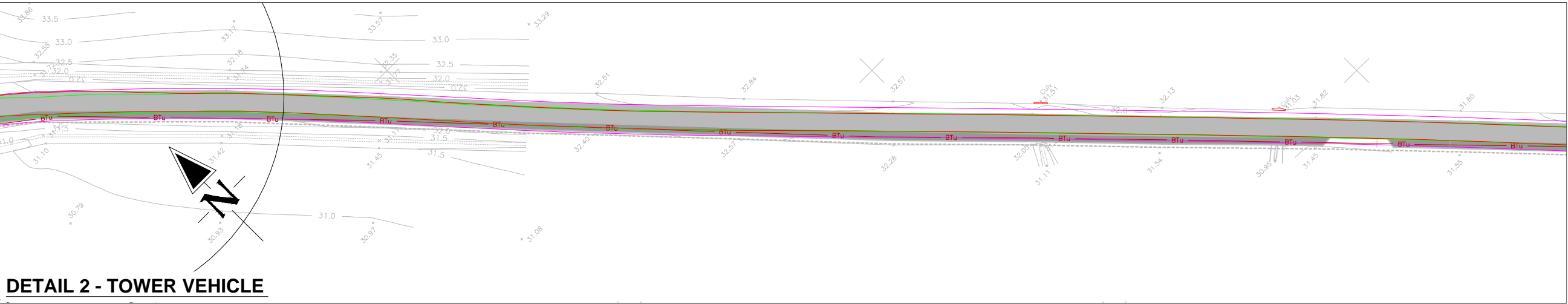
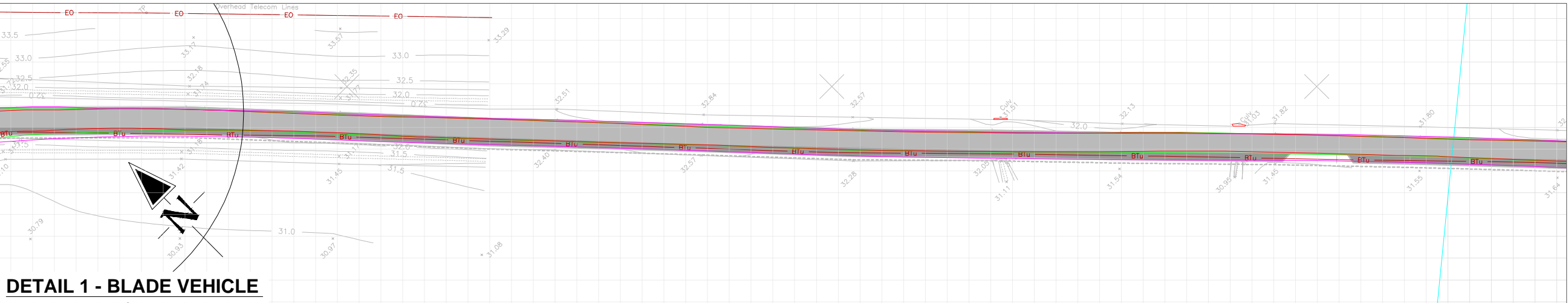
ABNORMAL LOAD  
ROUTE SURVEY  
POI 178 - 180

Drawn by: BT	Date: 01/04/13
Checked by: AK	Date: 01/04/13
Approved by: JP	Date: 16/05/2013

Drawing No.	Revision
201227/AJ.00.01 - 75	-

Drawing Scale: 1:750 at A3

Drawing file path & name : g:\projects\201227\Transportation\Consulting\4. Transport Planning\Projects\Live Projects\GORSSE - SSE Wind Farm Framework\201227\201227-01-96 to 300 - Improvement Works HGL Drawing.dwg  
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User and lot data : User: J.P. Date: 16/05/2013 11:15 am



- Key Plan:
- Existing Road
  - Previous Widening
  - Load Envelope
  - Vehicle Body Envelope
  - Vehicle Wheel Base
  - Tower Rear Wheel Steering
  - Blade Rear Wheel Steering
  - Tower Overrun Area Highlight
  - Blade Overrun Area Highlight
  - Vehicle Overrun Within Highways

Notes:

Reproduced from topographic survey data as supplied by SSE

Rev	By	Chkd	Apprd	Date	Description
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Project:  
GORDONBUSH EXTENSION  
WIND FARM

Drawing:  
ABNORMAL LOAD  
ROUTE SURVEY  
POI 181 - 182

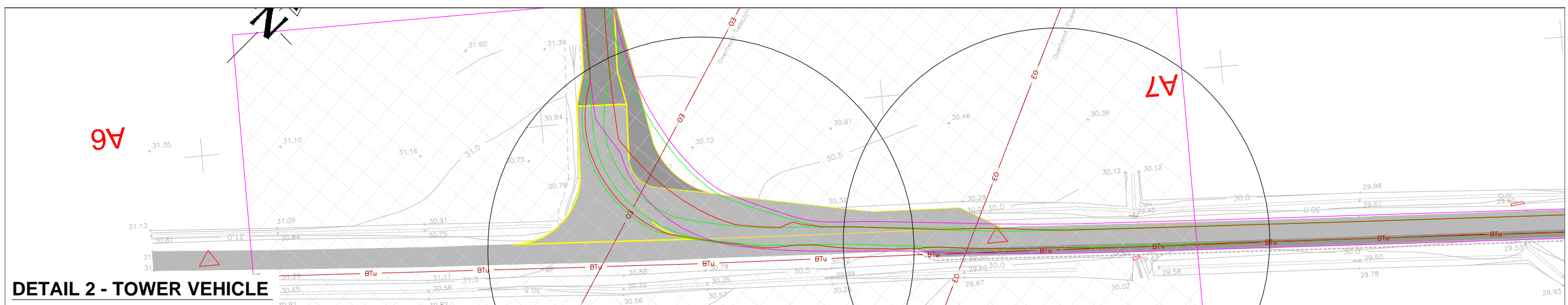
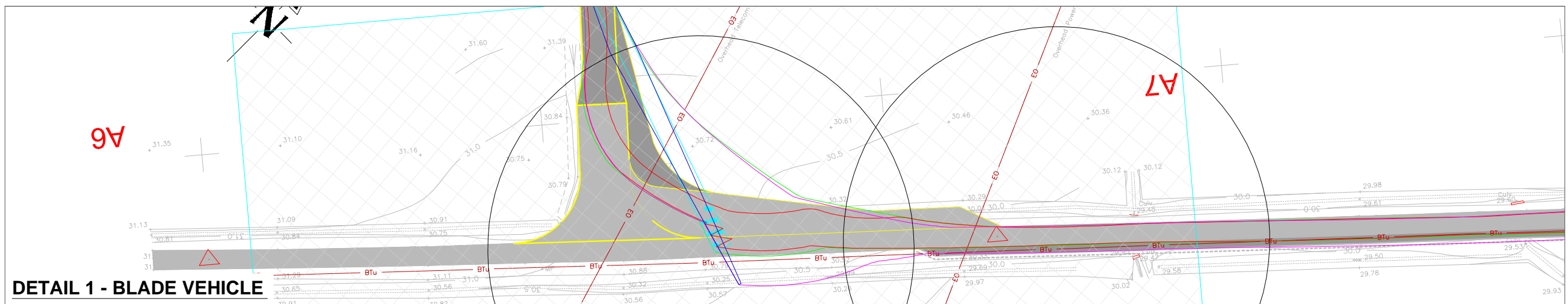
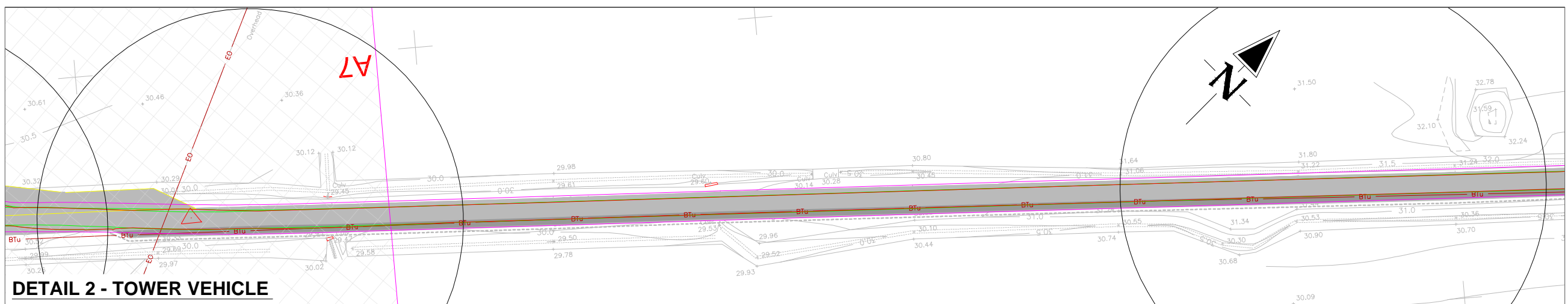
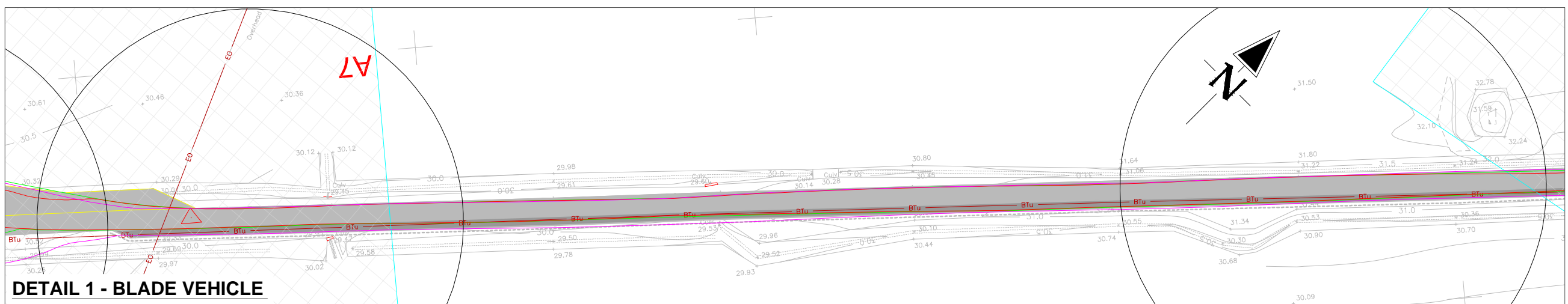
Drawn by: BT Date: 01/04/13  
Checked by: AK Date: 01/04/13  
Approved by: JP Date: 16/05/2013

Drawing No. 201227/AJ.00.01 - 76 Revision -











Drawing Scale: 1:750 at A3

Drawing file path & name : g:\201227\Projects\Transportation\Consulting\4. Transport Planning\Projects\Live Projects\Gordonbush Extension Wind Farm Framework\201227-AJ.00.01-76-Improvement Works HGL Drawing.dwg  
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User and lot data : User: J. P. Date: 16/05/2013 11:11 am





Key Plan:

-  Existing Road
-  Previous Widening
-  Load Envelope
-  Vehicle Body Envelope
-  Vehicle Wheel Base
-  Tower Rear Wheel Steering
-  Blade Rear Wheel Steering
-  Tower Overrun Area Highlight
-  Blade Overrun Area Highlight
-  Vehicle Overrun Within Highways

Notes:

Reproduced from topographic survey data as  
supplied by SSE

Rev	By	Chkd	Appr'd	Date	Description
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Client



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Project

GORDONBUSH EXTENSION  
WIND FARM

Drawing

ABNORMAL LOAD  
ROUTE SURVEY  
POI 182 - 184

Drawn by: BT	Date: 01/04/13
Checked by: AK	Date: 01/04/13
Approved by: JP	Date: 16/05/2013

Drawing No.	Revision
201227/AJ.00.01 - 77	-

Drawing Scale: 1:750 at A3

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