

**Application Ref: NP/12/0346**

<b>Application Type</b>	Full
<b>Grid Ref:</b>	SS08159948
<b>Applicant</b>	Ms Heulwen Davies
<b>Agent</b>	Mr D Morris, Newlandowner Ltd
<b>Proposal</b>	Erection of one free standing small scale wind turbine
<b>Site Location</b>	Norchard Farm, The Ridgeway, Manorbier, Tenby, Pembrokeshire, SA70 8LD
<b>Case Officer</b>	Richard James

**Summary**

This is a full application for a "Small Scale" 5kw Evance R9000 wind turbine, to provide a renewable energy source for Norchard Farm, an agricultural holding to the South of the Ridgeway in the Manorbier Community Council area. This application has been brought to Committee as the view of Penally Community Council conflicts with your officer's view. Although the comments of a neighbouring Community Council would not normally influence the delegation procedure, as wind turbines have the potential to be viewed across a wide landscape area and in respect of the proximity of the proposal to the boundary of Penally Community Council, it is considered, at the Head of Development Management's discretion, that the application should be determined by the Committee. The proposed wind turbine is not considered to cause any significant detrimental impact upon the special landscape character of the National Park, both in isolation and when taking into account the nearby proposals of Thornhill and Shipping Hill Farm (NP/12/0296 and NP/12/0299 respectfully and also on this agenda). The proposal raises no other planning concerns, subject to the placing of appropriate conditions to any approval given. As such the application is considered to comply with the relevant policies of the LDP and is therefore recommended for approval.

**Consultee Response**

**Manorbier Community Council:** Approve

**Countryside Council for Wales:** No objection

**Dyfed Archaeological Trust:** No adverse comments

**Ecologist - Pembrokeshire County Council:** No objection

**Environment Agency Wales:** Conditional Consent

**MOD:** No objection

**NATS:** No objection

**PCC - Head of Public Protection:** No objection

**PCC - Transportation & Environment:** No objection

**Penally Community Council:** Objecting - the turbine would be visible from the Ridgeway and Coastal Path and there is a possibility of noise pollution

### **Public Response**

None received.

### **Policies considered**

Please note that these policies can be viewed on the Policies page  
Pembrokeshire Coast National Park website -  
<http://www.pembrokeshirecoast.org.uk/default.asp?PID=549>

LDP Policy 01 - National Park Purposes and Duty  
LDP Policy 07 - Countryside  
LDP Policy 08 - Special Qualities  
LDP Policy 11 - Protection of Biodiversity  
LDP Policy 13 - Historic Landscapes Parks and Gardens  
LDP Policy 15 - Conservation of the Pembrokeshire Coast National Park  
LDP Policy 29 - Sustainable Design  
LDP Policy 30 - Amenity  
LDP Policy 33 - Renewable Energy  
LDP Policy 53 - Impacts on traffic  
PPW4 Chapter 04 - Planning for Sustainability  
PPW4 Chapter 05 - Conserving and Improving Natural Heritage and the Coast  
PPW4 Chapter 06 - Conserving the Historic Environment  
PPW4 Chapter 12 - Infrastructure and Services  
PPW4 Chapter 13 - Minimising and Managing Environmental Risks and Pollution  
SPG05 - Sustainable Design  
SPG06 - Landscape Character Assessment Study, June 2009  
SPG13 - Archaeology  
SPG14 - Renewable Energy

### **Officer's Appraisal**

#### **Background**

Norchard Farm is located at the end of a private driveway, from Norchard lane, which leads up to the Ridgeway. The complex is nestled into the bottom of the Ridgeway valley, with surrounding woodland, which is protected by a Tree Preservation Order (TPO). The farmhouse and associated traditional outbuildings are all listed buildings, a more conventional, modern style agricultural building also exists on site. The application site is located to the North of the complex (approximately 260m away) within an agricultural field,

up the South facing hillside of the valley. The site is located within Landscape Character Area (LCA) 4 – Manorbier/Freshwater East, as defined in the Authority's Landscape Character Assessment SPG. It is also within a designated Historic Landscape. The landscape here comprises rolling landscape along the valley, with high level, well established hedgerow along the highways and field boundaries. Pockets of trees and small woodlands also exist throughout the landscape context. The historic strip-field system in this area represents surviving elements of past agricultural management. There are no immediate neighbouring properties to the site location.

### **History**

There is no relevant planning history on the site, however the Authority currently has an invalid application seeking planning permission and listed building consent for solar panels onto the roof of an outbuilding.

### **Constraints**

Historic Landscape – impact to be assessed below.  
Tree Preservation Order – TPO 12  
Public Right of Way – impact to be assessed below.

### **Current Proposal**

This is a full application for a 5kw Evance R9000 wind turbine, measuring 15m to the hub and 17.75m to the blade tip, with a blade diameter of 5.5m, to provide a renewable energy source for the dwelling/complex.

### **Key Issues**

The application raises the following planning matters:-

- The planning policy context and the principle of development;
- The visual impact upon the existing landscape character of the area and integrity of the Historic Landscape;
- The impact upon amenity and public safety;
- The impact upon existing levels of biodiversity and the physical environment;
- The impact upon the archaeological interest of the site;
- The impact upon the integrity of surrounding trees and hedgerow;
- The impact upon highway safety;
- The impact upon air traffic.

### The planning policy context and the principle of development

National guidance in relation to renewable energy is set out in PPW4 and TAN 8 and advises that renewable energy projects should generally be supported so long as the designated areas such as National Parks are not compromised. National guidance, together with the main policies of the LDP

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(1, 8, 15 and 29) seeks to balance this support with the need to conserve and enhance the special landscape character and natural beauty of the National Park.

LDP Policy 33 states that, amongst other things, small scale proposals will be considered favourably subject to there being no over-riding environmental and amenity considerations.

Having regard to the thresholds set out in the Authority's SPG on Renewable Energy, the size and output of the proposed turbine is considered as a "Small Scale" turbine. The Landscape Character Assessment SPG identifies this area (LCA 4 – Manorbier/Freshwater East) as having a "Moderate" sensitivity to small scale turbines. It accepts that the principle of erecting small scale wind turbines in this area is acceptable, subject to the careful consideration of any application put forward with regard to the above key issues.

The visual impact upon the existing landscape character of the area and integrity of the Historic Landscape

This is the final application, of the three presented to the September Committee, for this model turbine within the locality. The other two applications are for Thornhill and Shipping Hill Farm, to the North and South. Due to the close proximity of the three applications, the Landscape Visual Impact Assessment (LVIA) for all three applications was conducted on the same day. This enabled the assessment of potential cumulative impact to be carried out more effectively. The LVIA for this particular application comprised a desk based study to map the Zone of Theoretical Visibility (ZTV), the siting of a JCB tractor on the site location your officer visiting selected viewpoints within the surrounding landscape area (informed by the ZTV) to assess visual impact against the criteria of LDP Policy and Renewable Energy SPG. Whilst it was initially intended to site the same cherry picker on this site, as with the previous two applications, due to the sloping land this was not possible. Your officer considers that a valid LVIA has been carried out, despite this alteration in methodology.

With specific regard to this application, the LVIA found that, as with the other two applications, the proposed turbine will be screened from many views surrounding the site, as a result of the topography and mature trees and hedgerow which dominate this landscape area. The turbine will be visible from the gateway to the North of Shipping Hill Farm, from gateways to the South East, from a section of the coastal path to the South East and along the public right of way which runs past the site through the field.

Dealing firstly with the view from the Shipping Hill gateway, all 3 turbines are visible from this point, with the coastline and Caldey Island within the same panoramic view. From this view, whilst representing a more centralised location than the other 2 applications, in relation to the backdrop of the coast line, the turbine is sited on lower ground, deeper into the valley, among the surrounding woodland. The turbine will remain below the skyline, thus not

## Item 6 - Report on Planning Applications

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protruding into the backdrop of the coast, remaining within the context of the surrounding woodland in terms of scale. This view is also quickly obscured by hedgerow when travelling along the road.

From glimpses through 2 gateways to the South East along the A4139, East of Lydstep, the turbine will appear well below the skyline of the South facing hillside and will be a sufficient distance away so as not to be visually prominent or overbearing. Again, these views are through breaks in the well established hedgerow which screens all 3 application proposals for the vast majority of the road network.

From the coastal path further to the South East, the proposed turbine will be visible, however, the considerations above are re-inforced. The turbine will appear further below the skyline and is now some 1.6km inland. The turbine's slight design and relatively small blade diameter result in low visual prominence from this distance. The main coastal views to the West, looking down onto Lydstep beach, and to the East are not affected.

It is inevitable that, whilst walking along the public right of way which runs through the site field, the turbine will be clearly visible and its full scale appreciated. From this field, the main views over the surrounding landscape are out over the valley to the South and to the coast to the South East. No wider landscape views are available past the Ridgeway to the North. From this location, the turbine can be associated with Norchard Farm, which is clearly visible at the bottom of the valley.

As a result of the above considerations, the proposed turbine is considered acceptable in terms of its visual impact upon the existing landscape character of the area and integrity of the Historic Landscape.

### The impact upon amenity and public safety

The proposal is not considered to cause any other harm to the existing amenity levels of the area. The application is accompanied by details of expected noise output, the Environmental Health department of Pembrokeshire County Council has been consulted and raise no objections or suggested conditions. The turbine will not cause any shadow flicker disturbance to the nearest properties, which are well screened from the proposal. Although a public right of way runs through the field, the turbine is located a safe distance away from the defined route, all reasonable precautions have been taken to ensure the safety of users of this footpath. The proposed turbine is not therefore considered to cause any risk to public safety.

### The impact upon existing levels of biodiversity and the physical environment

An ecological walkover survey has been submitted with the application, which concludes that the turbine is located a sufficient distance away from hedgerows and other habitat areas so as not to cause disturbance to habitats

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and species in the area. Similar recommendations to those within the Shipping Hill application are given within this application report, to further ensure that no harm is caused. These include, amongst others, conducting the works outside of the bird breeding season (April-June), maintaining a construction free zone around the woodland etc. The Authority's Planning Ecologist and CCW have raised no objections, provided these mitigation measures are carried out. This can be controlled via a planning condition should approval be given. The proposal is therefore considered acceptable on these grounds.

The Environment Agency, whilst raising no objections, has highlighted that wind turbine developments cause the greatest threat to the environment during their construction. The site is located within a Source Protection Zone 1, designated to protect high quality potable groundwater supplies. A condition requiring the submission of a Method Statement detailing all necessary pollution prevention measures during the construction phase of the development has been recommended, to prevent contaminated water entering existing watercourses. This condition can be placed, should approval be given.

### The impact upon the archaeological interest of the site

The application site lies within the Registered Historic Landscape of Manorbier and within a short distance of several sites of historical and archaeological interest. Dyfed Archaeological Trust has been consulted and initially recommended that an Historic Environment Appraisal be carried out, in order for it to provide a definitive view. This was duly conducted, the Trust was reconsulted and based on the findings of this appraisal, has recommended that the proposal is unlikely to have a significantly negative impact upon the historic environment, and subsequently recommend no further action in this instance.

### The impact upon the integrity of surrounding trees and hedgerow

The proposal does not propose to intersect the protected woodland to the South, the cable route will run through an existing gateway to the South and through the fields to connect back to the dwelling. It has been recommended that exclusion zone fencing is erected around the existing protected trees to ensure their protection from heavy vehicle or contaminant damage. This can be required by a planning condition should approval be given.

### The impact upon highway safety

The proposal utilises the existing access points and also proposes no new tracks. The Highways Authority has been consulted and raises no objections or concerns, including during the construction phase of the development, where large/heavy vehicles will be attracted to the site. Once constructed, the proposal will attract little vehicular movements, only those for annual maintenance. The proposal is considered acceptable on these grounds.

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The impact upon air traffic

Wind turbines of a certain scale can cause disruption and physical obstruction to air traffic movements and radar installations. Both the Defence Infrastructure Organisation of the MOD and National Air Traffic Services have been consulted. No objections have been raised. The MOD have requested that they be notified of the date construction starts and ends, the height of construction equipment and the latitude and longitude of the turbine for their flying charts, this can be controlled via a planning condition should approval be given. The proposal is considered acceptable on air traffic grounds.

**Conclusion**

The proposed wind turbine is not considered to cause any significant detrimental impact upon the special landscape character of the National Park, both in isolation and when taking into account the nearby proposals of Thornhill and Shipping Hill Farm (NP/12/0296 and NP/12/0299 respectfully). The proposal raises no other planning concerns, subject to the placing of appropriate conditions to any approval given. As such the application is considered to comply with the relevant policies of the LDP and is therefore recommended for approval.

Recommendation

Approve.

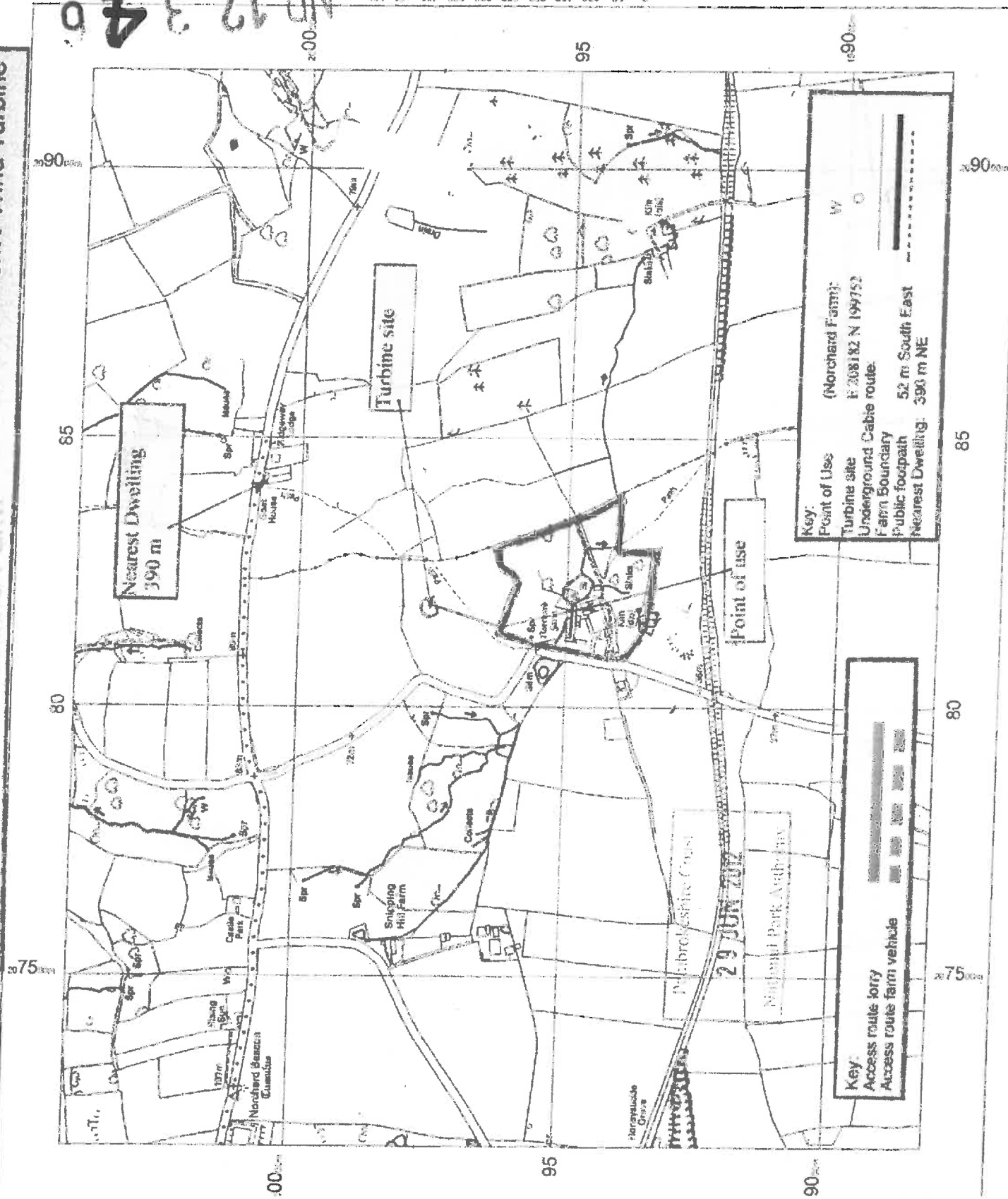
Conditions

Standard conditions relating to time, accordance with plans and submitted information, the removal of the turbine from the site should the turbine fail to produce energy in a running 12 month period, the agreement of a method statement for pollution prevention measures and hedgerow/tree protection and the submission of MOD required details.

**ATION PLAN**

**Norchard Farm Manorbier, Tenby SA70 8LD One Small 5kW Wind Turbine**

NP 12 3 4 6



**Key:**  
 Access route lorry  
 Access route farm vehicle

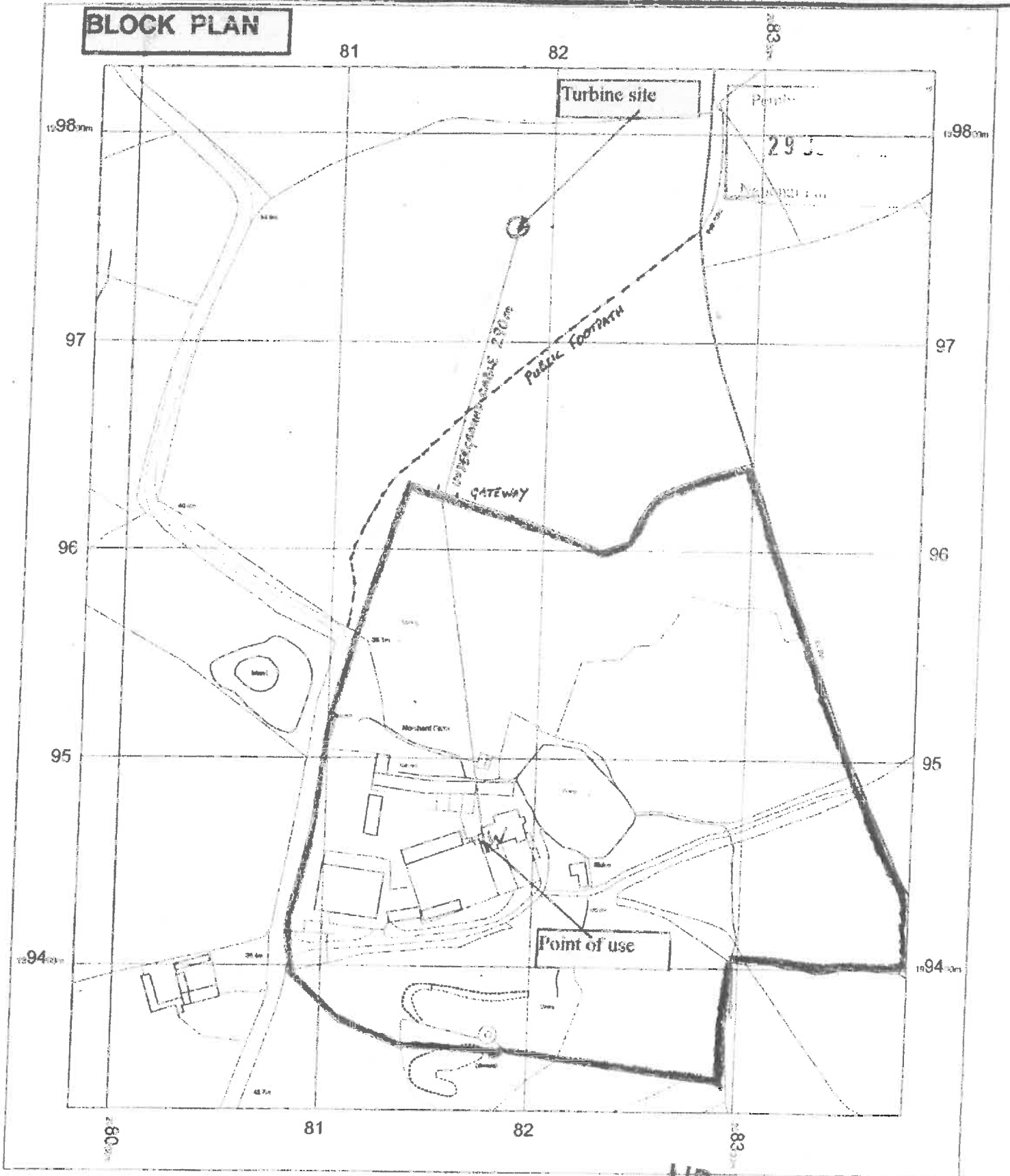
**Key:**  
 Point of Use (Norchard Farm): W  
 Turbine site E 208182 N 199752  
 Underground Cable route.  
 Farm Boundary 52 m South East  
 Public footpath 390 m NE  
 Nearest Dwelling: 390 m NE

OS 1:10,000 Mapping  
 21 June 2012, ID:  
 BLT-00158448  
 www.planningapplications.co.uk  
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Norchard Farm Manorbier, Tenby SA70 8LD One Small 5kW Wind Turbi

**BLOCK PLAN**

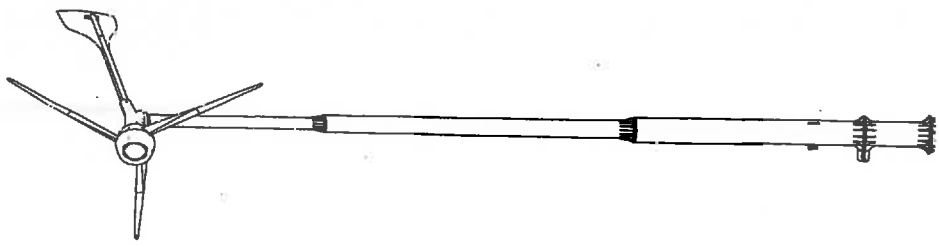
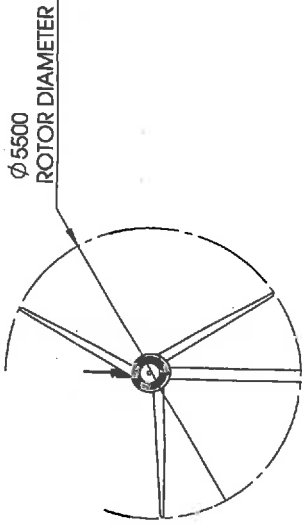
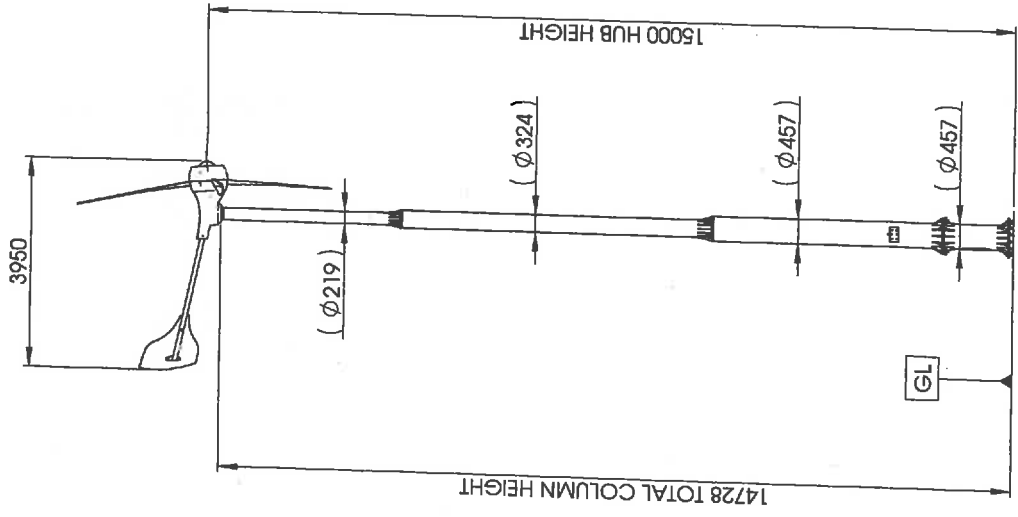


Key:	
Access route lorry	
Access route farm vehicle	

Point of Use	(Norchard Farm)	W
Turbine site	E 208182 N 199752	O
Underground Cable route		
Farm Boundary		

NP 12 3 4 6





ISOMETRIC VIEW

NP 12 3 46

Public Release Grant  
Municipal Park Authority  
10 JUL 2012  
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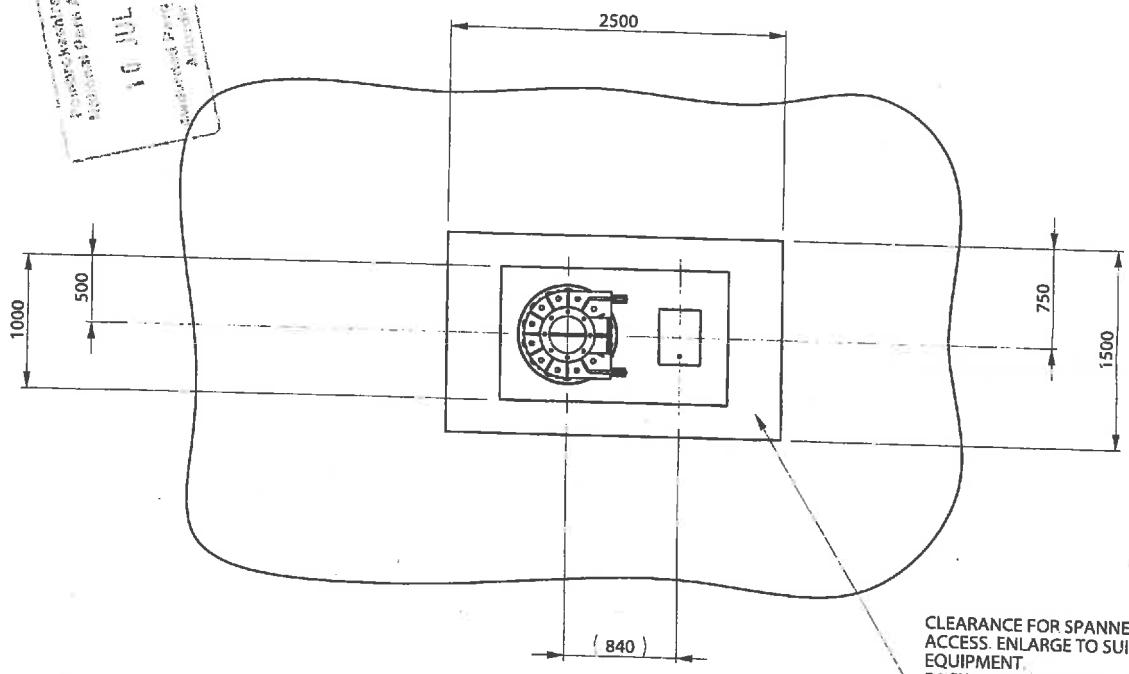
NOTE: TOWER FINISH - GALVANISED STEEL

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PROJECT 15M HUTCHINSON RAM TOWER OUTLINE SCALE 1:100 A3 MASS - kg TITLE		TOLERANCE WHERE NO LIMIT SPECIFIED <table border="1"> <tr> <th>NOM. SIZE</th> <th>OVER 0</th> <th>6</th> <th>30</th> <th>200</th> <th>400</th> <th>1000</th> </tr> <tr> <td>INCL.</td> <td>0</td> <td>6</td> <td>30</td> <td>200</td> <td>400</td> <td>1000</td> </tr> <tr> <td>MACHINED</td> <td><math>\pm 0.2</math></td> <td><math>\pm 0.2</math></td> <td><math>\pm 0.5</math></td> <td><math>\pm 0.8</math></td> <td><math>\pm 1.0</math></td> <td><math>\pm 1.5</math></td> </tr> <tr> <td>FABRICATED</td> <td><math>\pm 1.0</math></td> <td><math>\pm 1.0</math></td> <td><math>\pm 1.5</math></td> <td><math>\pm 2.0</math></td> <td><math>\pm 2.0</math></td> <td><math>\pm 2.0</math></td> </tr> </table>		NOM. SIZE	OVER 0	6	30	200	400	1000	INCL.	0	6	30	200	400	1000	MACHINED	$\pm 0.2$	$\pm 0.2$	$\pm 0.5$	$\pm 0.8$	$\pm 1.0$	$\pm 1.5$	FABRICATED	$\pm 1.0$	$\pm 1.0$	$\pm 1.5$	$\pm 2.0$	$\pm 2.0$	$\pm 2.0$
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THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ISKRA WIND TURBINES LTD. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ISKRA WIND TURBINES LTD IS PROHIBITED.		FINISH SPEC MATERIAL SPEC																													
ALL DIMENSIONS TO FACE UNLESS OTHERWISE SPECIFIED 3RD ANGLE PROJECTION		PROJECT 15M HUTCHINSON RAM TOWER OUTLINE SCALE 1:100 A3 MASS - kg TITLE																													

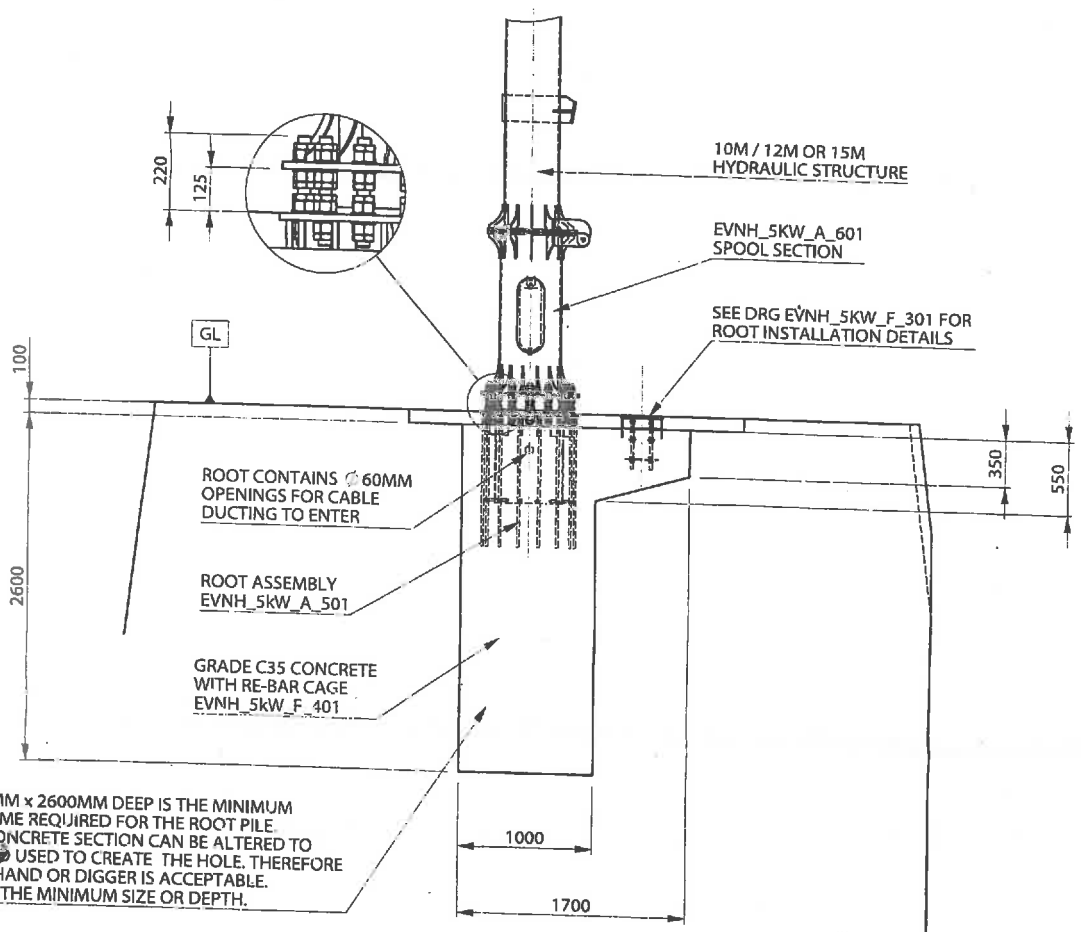
AMENDMENTS	DATE	DRN
OVERALL TURBINE LENGTH ADDED	23/04/2010	GT
INITIAL RELEASE FOR PLANNING SUBMISSION	02/03/2010	GT

ISKRA WIND TURBINES LTD

Hutchinsons Civil Engineering  
 10 JUL 2009  
 Approved Plans Authority  
 Approved Plans Authority



CLEARANCE FOR SPANNER ACCESS. ENLARGE TO SUIT EQUIPMENT. BACKFILL WITH GRAVEL UPON COMPLETION OF GROUND WORKS

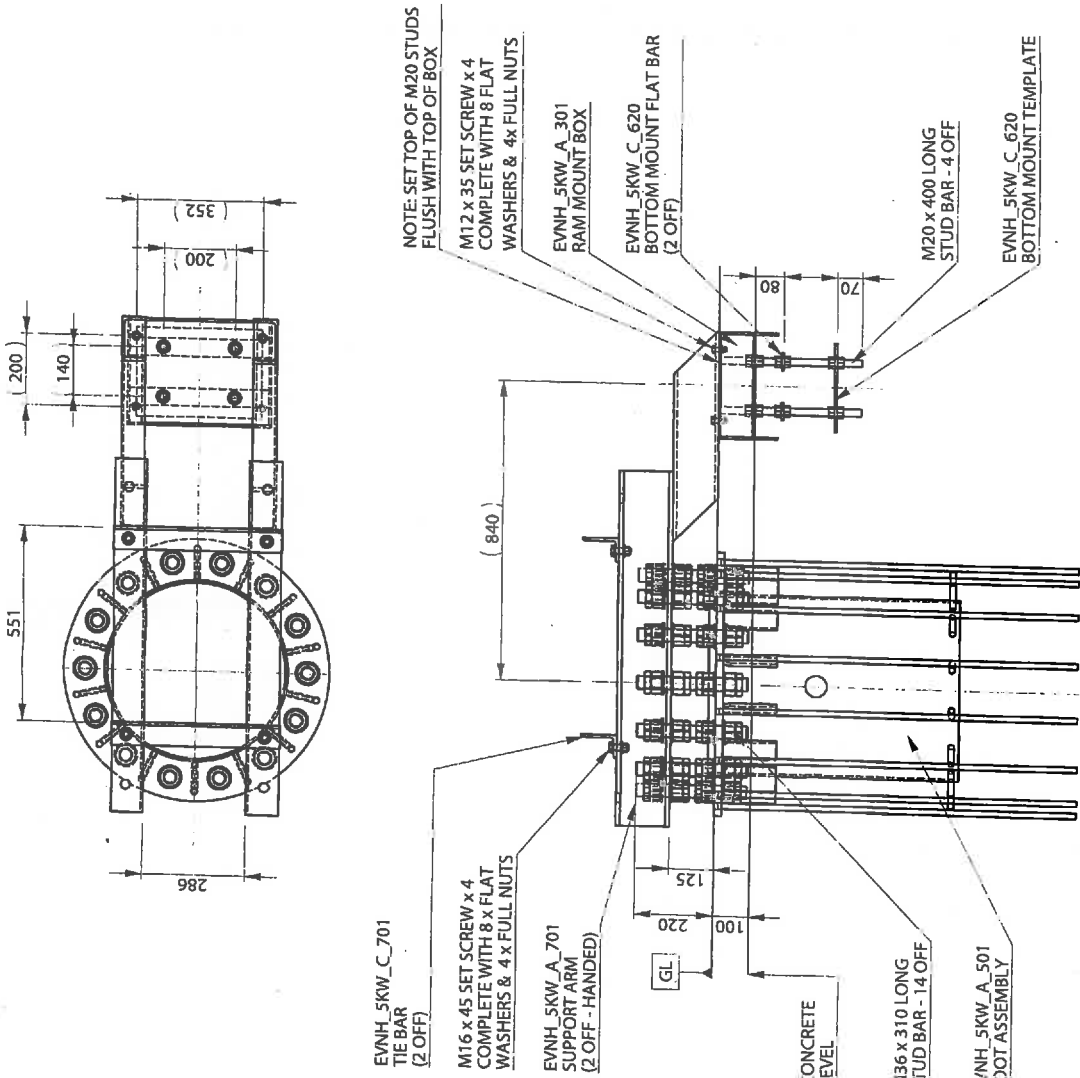


1000MM x 1000MM x 2600MM DEEP IS THE MINIMUM CONCRETE VOLUME REQUIRED FOR THE ROOT PILE. THE SHAPE OF CONCRETE SECTION CAN BE ALTERED TO SUIT THE METHOD USED TO CREATE THE HOLE. THEREFORE A HOLE DUG BY HAND OR DIGGER IS ACCEPTABLE. DO NOT REDUCE THE MINIMUM SIZE OR DEPTH.

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<b>NOTES:</b> 1. ALL DIMENSIONS ARE IN MILLIMETRES WITH LEVELS SHOWN IN METRES. 2. ALL DIMENSIONS NOT TOLERANCED TO BE WITHIN ±0.50mm. 3. STEELWORK TO BE TO BS 7688 OR BS EN 10121-1, GRADE S275 (UNLESS OTHERWISE SPECIFIED), & FABRICATED IN ACCORDANCE WITH BS 5950. 4. ALL BOLTS TO BE GRADE 8.8 SPUN GALVANISED TO BS 3692. 5. ALL STEELWORK TO BE PICKLED AND HOT DIP GALVANISED IN ACCORDANCE WITH BS EN ISO 1461 (UNLESS OTHERWISE SPECIFIED). 6. REMOVE ALL BURRS AND SHARP EDGES.				<b>MATERIAL:</b>  <b>FINISH:</b>  <b>MASS (Kg.):</b>		 TEL: +44 (0)151 422 9990 FAX: +44 (0)151 420 5100 www.hutchinsonengineering.co.uk  EVERITE ROAD, WIDNES, CHESHIRE, WA8 8PT		<b>CLIENT:</b> EVANCE <b>PROJECT:</b> EVANCE SKW - 10M / 12M / 15M HYDRAULIC STRUCTURE <b>TITLE:</b> FOUNDATION ARRANGEMENT <b>REVISION:</b> A3	
<b>FOR MANUFACTURE</b> A.P.H. L.J.B. 17/12/2009	<b>DESCRIPTION</b> DRAWN APP'D DATE	<b>SCALE:</b> 1:40 <b>DATE:</b> 17/12/2009	<b>REVISION:</b> A	<b>DWG No.:</b> EVNH_SKW_F_001					

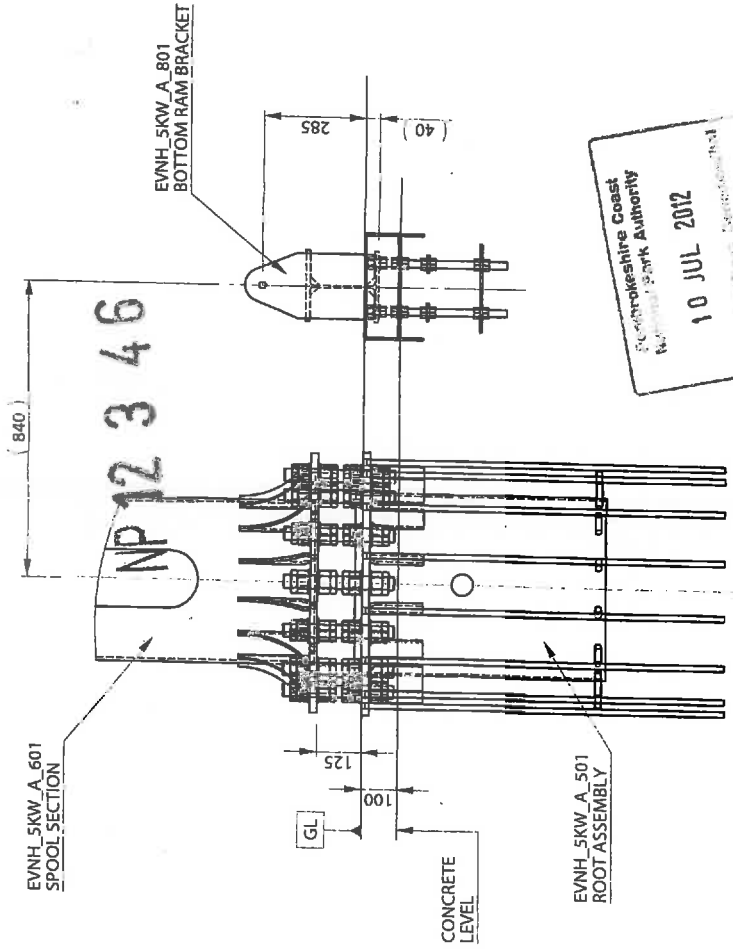
INSTALLATION JIG LAYOUT



INSTALLING POLE AND LOWER RAM BRACKET

ONCE THE ROOT IS INSTALLED AND CONCRETE HAS SET, THE INSTALLATION SUPPORTS ARE REMOVED LEAVING THE RAM MOUNT BOX SET INTO THE CONCRETE. THE SPOOL SECTION AND BOTTOM RAM BRACKET IS NOW INSTALLED AS SHOWN BELOW AND LEVELLED.

THE LOWER RAM BRACKET IS EVENTUALLY REMOVED AND REPLACED WITH THE BOXLID, ONCE THE STRUCTURE HAS BEEN FULLY INSTALLED AND ERECTED.



10 JUL 2012

Coast  
North West  
Authority

AMOUNT OF WORK TO BE COMPLETED

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REV.	FOR MANUFACTURE	DATE	BY	APPD
A	A.P.H.	08/12/2009	J.L.B.	

MATERIAL:	SEE DETAILS
FINISH:	
MASS (KG.):	

CLIENT:	PROJECT:	TITLE:
EVANCE	EVANCE RW - 10M / 12M / 15M HYDRAULIC STRUCTURE	ROOT INSTALLATION LAYOUT

DRAWN:	APPD:	CHECKED:	SCALE:	DATE:
A.P.H.	J.L.B.	J.L.B.	1:15	08/12/2009

PROJECT:	CLIENT:	SCALE:	DATE:
EVNH_5KW_F_301	EVANCE	1:15	08/12/2009

COMPANY:	ADDRESS:	CONTACT:
hutchinson engineering	EVERETE ROAD, WIDNES, CHESHIRE WA9 8TF	TEL: +44 (0)151 422 9990 FAX: +44 (0)151 420 5100 www.hutchinsonengineering.co.uk

NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN IN METRES.
2. ALL DIMENSIONS NOT TOLERANCED TO BE WITHIN ±0.50mm.
3. STEELWORK TO BE TO BS 768 OR BS EN 10210-1 OR BS EN 10210-2 UNLESS OTHERWISE SPECIFIED.
4. ALL BOLTS TO BE GRADE 8.8 UNLESS OTHERWISE SPECIFIED.
5. GALVANISED TO BS 5950.
6. DIMENSIONS TO BE IN ACCORDANCE WITH BS EN 50261-1 UNLESS OTHERWISE SPECIFIED.
7. REMOVE ALL BURRS AND SHARP EDGES.

NOTE:  
SEE DRAWING EVNH\_5KW\_F\_401 FOR ROOT CONCRETE DETAILS

MP 12 3 4 6

10 JUL 2012

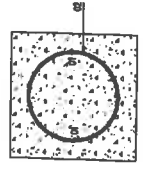
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CONCRETE NOTE

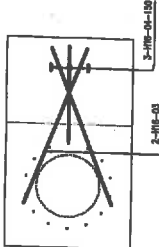
1. ALL STRUCTURAL CONCRETE TO BE GRADE C35 WITH A MAXIMUM FREE WATER/CEMENT RATIO OF 0.5. MINIMUM CEMENT CONTENT OF 300kg/m<sup>3</sup>. NOMINAL AGGREGATE SIZE 20mm. ALL IN ACCORDANCE WITH BS 8100 PART 1, 1985.
2. CONCRETE MIX WITH "VERY SEVERE EXPOSURE" CONDITIONS, AS DEFINED IN BS 8100 PART 1, 1987 AND CLASS 2 SULPHATE RESISTANCE IN ACCORDANCE WITH BS 5329 PART 1, 1987.
3. MINIMUM COVER TO ANY BAR SHALL BE AS STATED, BUT IN NO CASE LESS THAN 65mm.
4. FOUNDATION HAS BEEN DESIGNED FOR A WORST CASE SCENARIO OF "POOR" SOIL CONDITIONS AS DEFINED IN SPECIFICATION 106547:2004 - GUIDANCE ON THE USE OF BS EN 4031 AND BS EN 4033 - POOR SOIL IS DEFINED AS "SOFT CLAY, CLAY LOAM, POORLY COMPACTED SAND, CLAYS NORMALLY WITH LARGE AMOUNT OF SILT AND VEGETABLE MATTER AND MADE UP GROUND. THEY ARE USUALLY OF LOW STRENGTH AND COMPRESSIBILITY". THIS DESIGN IS VALID FOR BETTER SOIL CONDITIONS.
5. DESIGN ENGINEER TO BE CONSULTED PRIOR TO POURING OF CONCRETE WHERE GROUND IS FOUND TO BE SOFT, RUNNY, LOOSE OR VARIES SIGNIFICANTLY ACROSS FORMATION. ALSO IN AREAS OF SEVERE CONTAMINATION, OR WHERE HIGH SULPHATE LEVELS ARE FOUND TO BE PRESENT.
6. CONTRACTOR SHALL CHECK ALL RELEVANT DIMENSIONS AND LEVELS PRIOR TO CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THE ACCURACY OF ALL WORK AND THE CORRECT SETTING OUT ON SITE.

GENERAL NOTES

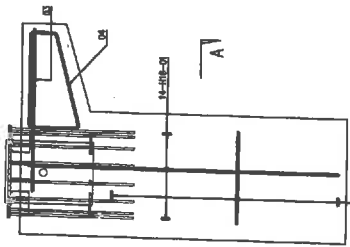
1. THIS DRAWING IS TO READ IN CONJUNCTION WITH RELEVANT FOUNDATION DRAWING.
2. BARS LISTED ON BENDING SCHEDULE.
3. REINFORCING BARS TO BE GRADE BS500A, BS500B, OR BS500C, DEFORMED IN ACCORDANCE WITH BS5966:2005 (P=500N/mm<sup>2</sup>).
4. MINIMUM COVER TO ANY BAR SHALL BE -  
65mm TO TOP OF FOUNDATION  
65mm TO SIDES OF FOUNDATION  
75mm TO UNDERSIDE OF FOUNDATION



SECTION A-A

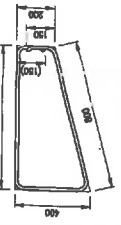


PLAN VIEW



ELEVATION

MEMBER	BAR MARK	TYPE AND SIZE	No. OF MEMBERS	No. IN EACH	TOTAL No.	LENGTH OF EACH BAR mm	SHAPE CODE	A mm	B mm	C mm	D mm
FOUNDATION	01	H16	1	14	14	2450	00	2450			
FOUNDATION	02	H8	1	7	7	2350	75	750			
FOUNDATION	03	H16	1	2	2	1350	00	1350			
FOUNDATION	04	H16	1	3	3	2150	89				



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REV	DESCRIPTION	DATE	BY	APP'D
A	USE CONSTRUCTION			

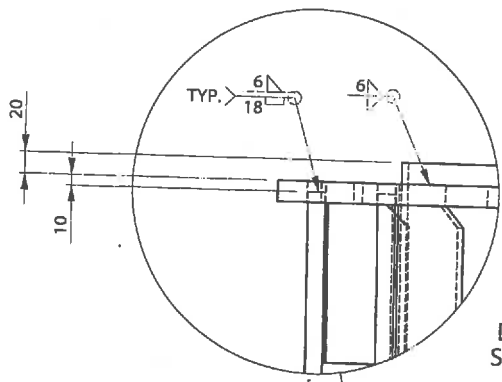
MATERIAL: \_\_\_\_\_  
 GENERAL: \_\_\_\_\_

CLIENT: ENWAVE  
 PROJECT: SWM TO 12 & 15m BAM TILT INSTALLATIONS  
 DRAWING: TILEROOT CONCRETE DETAILS

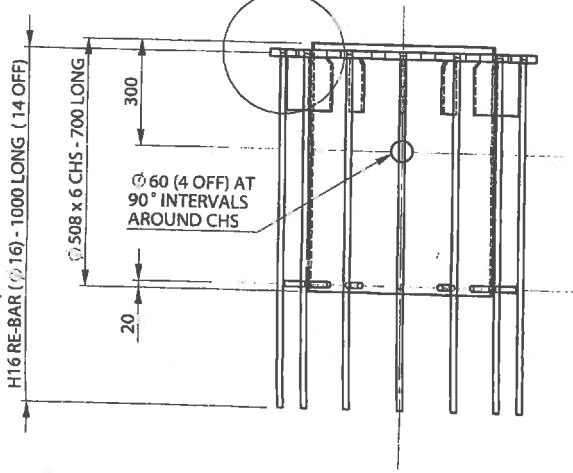
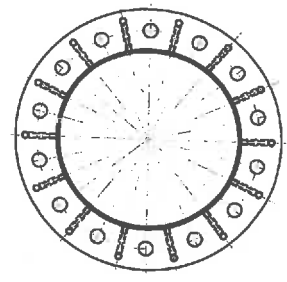
DESIGNER: ENWAVE  
 CHECKED BY: ENWAVE  
 DRAWN BY: ENWAVE

DRAWING No: ENWH\_SWM\_F\_401

SHEET: 1 OF 1  
 SCALE: 1:50  
 DATE: 10 JUL 2012



DETAIL A  
SCALE 1:5

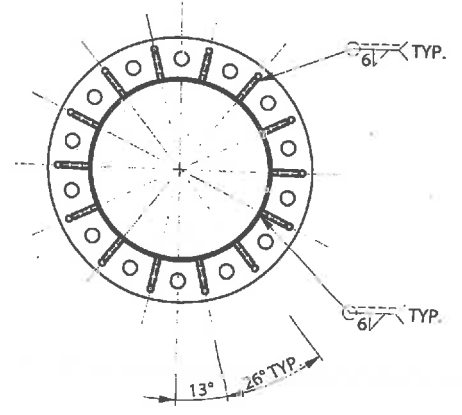
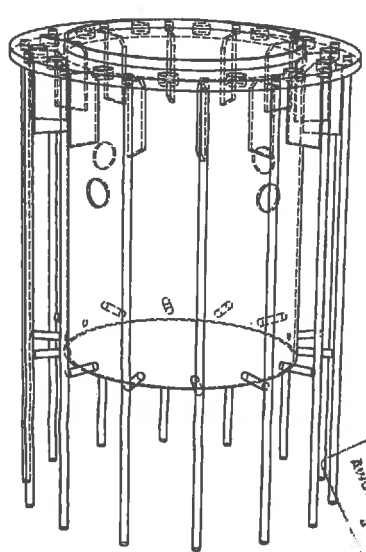


ROOT FLANGE  
EVNH\_5kW\_C\_501

GUSSET PLATE (14 OFF)  
EVNH\_5kW\_C\_502

H16 RE-BAR (Ø16)  
- 78MM LONG (14 OFF)

6 TYP.



6 TYP.

6 TYP.

13° 26° TYP.

10 JUL 2012  
Everite Road, Widnes, Cheshire, W48 8PT  
HUTCHINSON ENGINEERING LTD

NP 12 3 46

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FOR MANUFACTURE		A.P.M.	L.L.B.	20/11/2008	<b>NOTES:</b> 1. ALL DIMENSIONS ARE IN MILLIMETRES WITH LEVELS SHOWN IN METRES. 2. ALL DIMENSIONS NOT TOLERANCED TO BE WITHIN ±0.50mm. 3. STEELWORK TO BE TO BS 7668 OR BS EN 10113-1, GRADE S275 (UNLESS OTHERWISE SPECIFIED), & FABRICATED IN ACCORDANCE WITH BS 5950. 4. ALL BOLTS TO BE GRADE 8.8 SPUN GALVANISED TO BS 3092. 5. ALL STEELWORK TO BE PICKLED AND HOT DIP GALVANISED IN ACCORDANCE WITH BS EN ISO:1461 (UNLESS OTHERWISE SPECIFIED). 6. REMOVE ALL BURRS AND SHARP EDGES.	<b>MATERIAL:</b> SEE DETAILS		 TEL: +44 (0)151 422 9990 FAX: +44 (0)151 420 5100 www.hutchinsonengineering.co.uk	<b>CLIENT:</b> EVANCE <b>PROJECT:</b> EVANCE 5kW - 10M / 12M / 15M HYDRAULIC STRUCTURE <b>TITLE:</b> ROOT ASSEMBLY		<b>A3</b>
DESCRIPTION		DRAWN	APPROV	DATE		<b>FINISH:</b> GALVANISED			<b>MASS (Kg.):</b> 116.69		
									DRAWN: A.P.H.    APPD: L.L.B.    CHECKED: L.L.B.    SCALE: 1:15    DATE: 22/01/2008    REVISION:		
									ENVH_5kW_A_501		
									<b>A</b>		