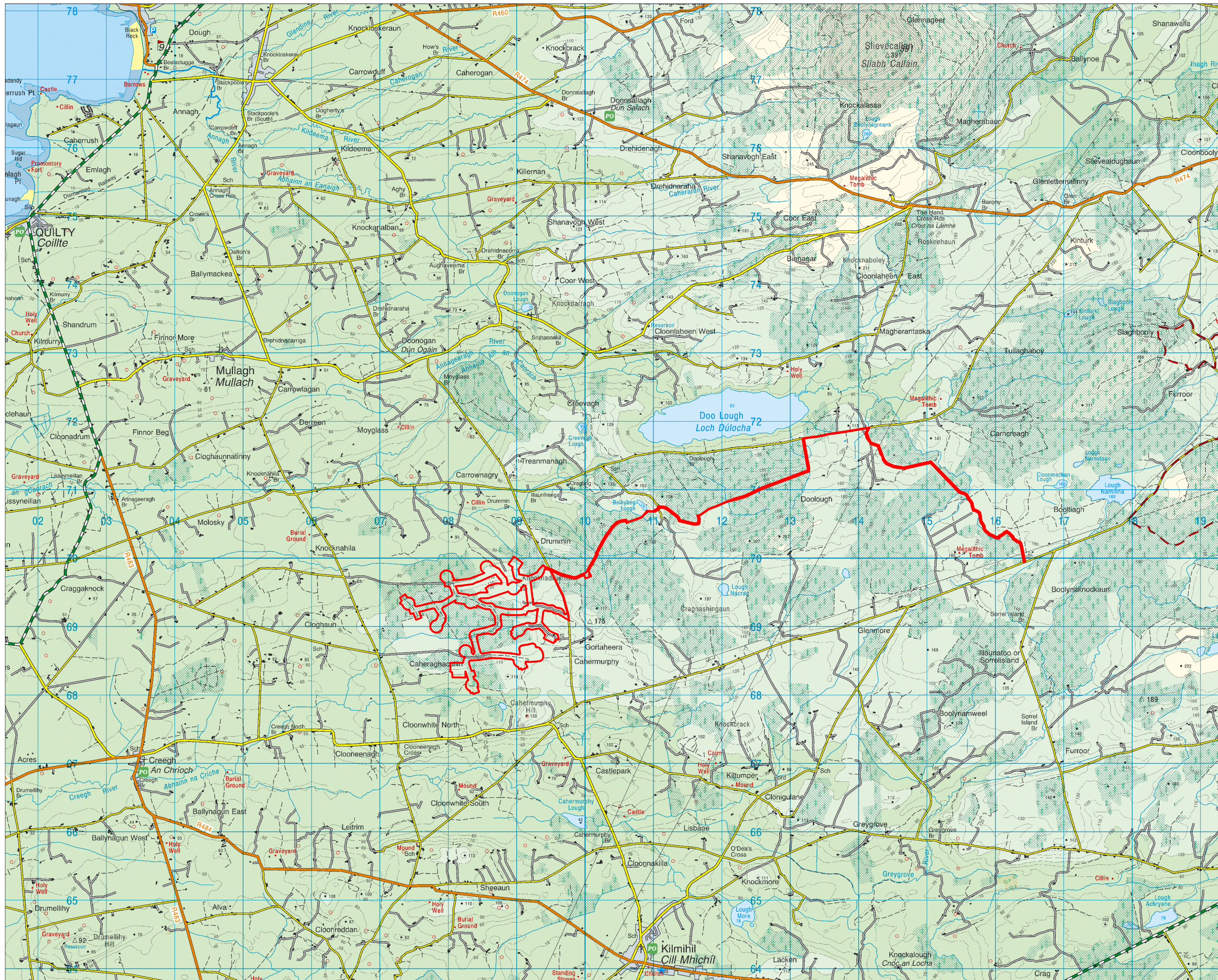




APPENDIX 4-1

**SITE LAYOUT PLANNING
DRAWINGS**



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Drawing Legend

— Planning Application Boundary



Location Context Map

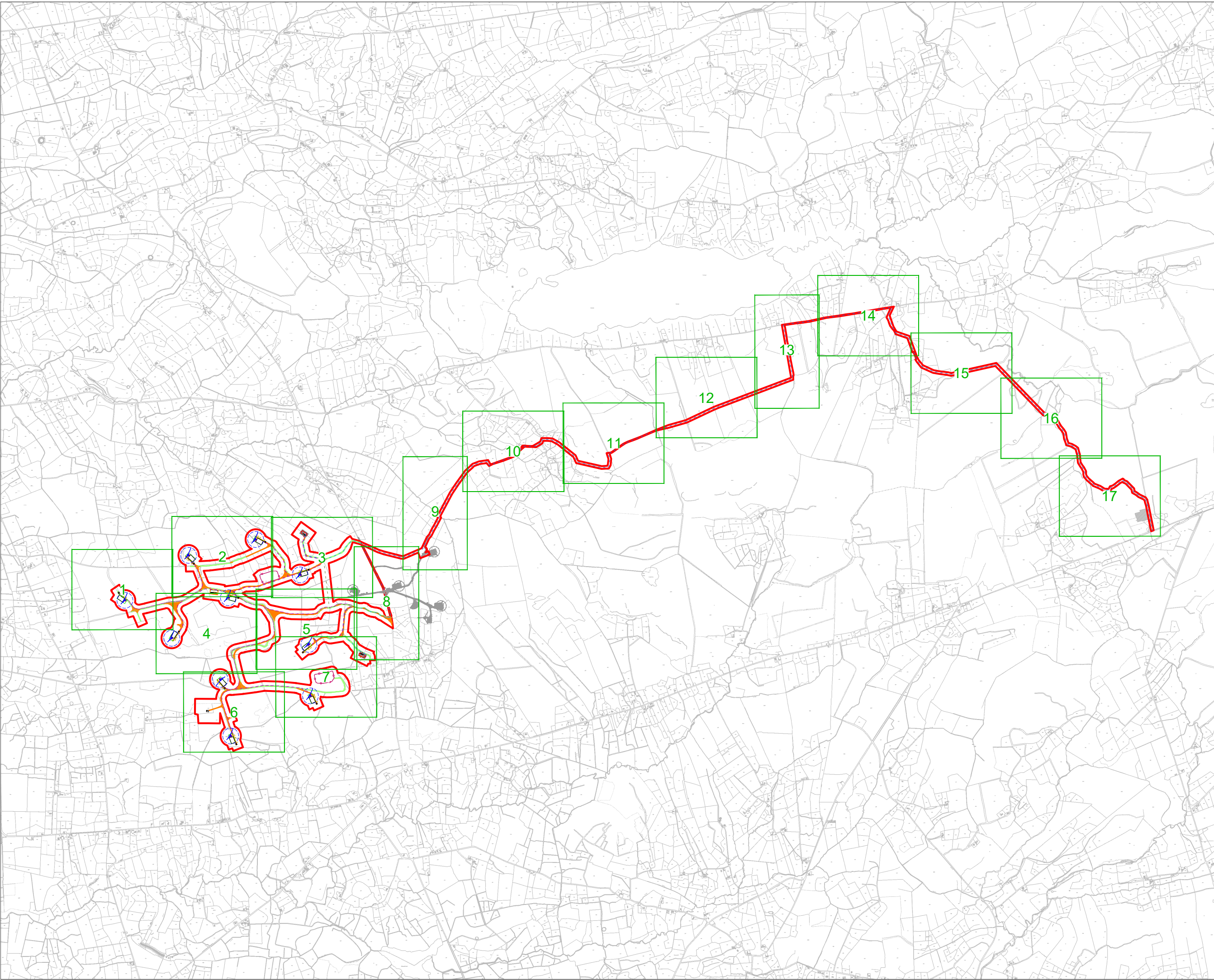
PROJECT TITLE:
Cahermurphy Two Wind Farm, Co. Clare

DRAWING BY: Joseph O'Brien	CHECKED BY: Eoin O'Sullivan
PROJECT NO: 170238	DRAWING NO: 170238 - 01
SCALE: 1:50,000 @ A3	DATE: 02.09.2020

OS SHEET No.: OS1016



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- Planning Application Boundary
 - Existing Road to be Upgraded
 - Proposed Road
 - Electrical Cable Trench
 - Works Area
 - Soft Levelled Area
 - Crane Pad Hardstanding Area
 - Turbine Foundation
 - Turbine Sweep Area
 - Borrow Pit
 - Existing Cahermurphy Wind Farm Planning Ref: 14 / 551



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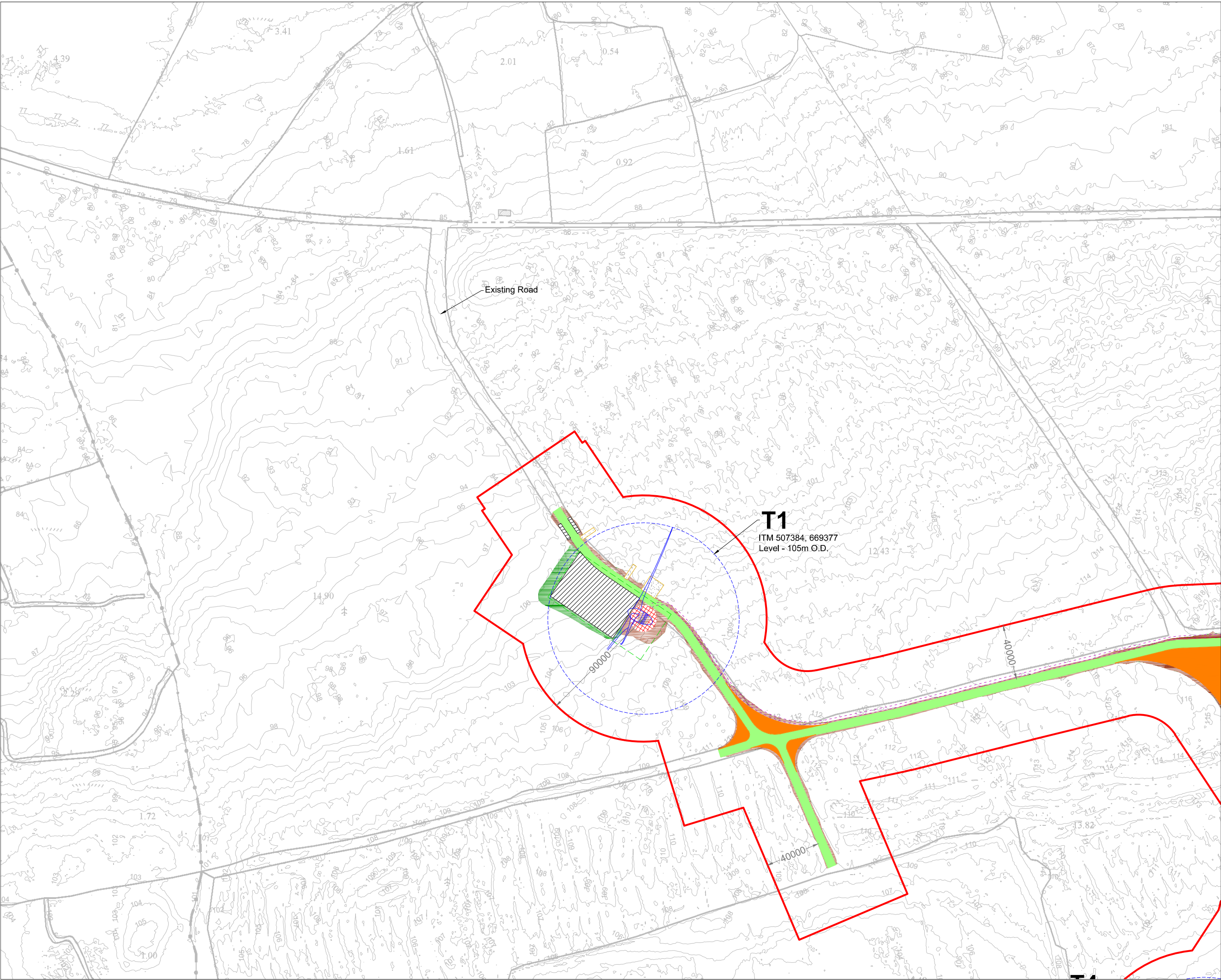
DRAWING TITLE:
Site Layout Key Plan

PROJECT TITLE:
Cahermurphy Two Wind Farm, Co. Clare

DRAWING BY: Joseph O'Brien	CHECKED BY: Eoin O'Sullivan
PROJECT No.: 170238	DRAWING No.: 170238 - 03
SCALE: 1:30,000 @ A3	DATE: 02.09.2020

OS SHEET No.: 4315, 4316, 4317, 4318, 4373, 4374, 4375, 4376, 4431, 4432, 4333, 4334, 4490, 4491, 4492, 4493

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 - Works Area
 - Soft Levelled Area
 - Crane Pad Hardstanding Area
 - Turbine Foundation
 - Turbine Sweep Area
 - Cut
 - Fill



DRAWING TITLE:
**Site Layout Sheet
1 of 17**

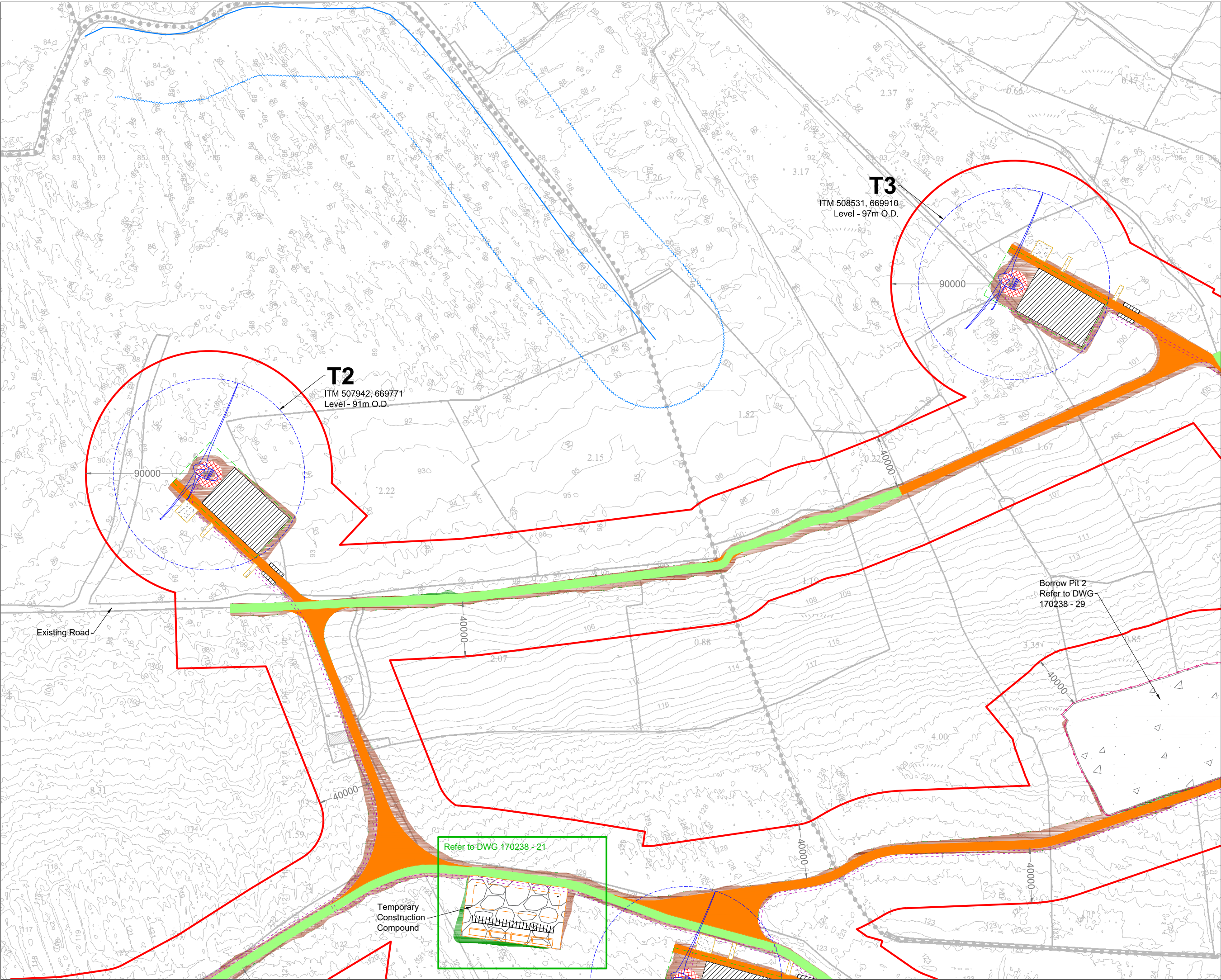
PROJECT TITLE:
Cahermurphy Two Wind Farm, Co. Clare

DRAWING BY: Joseph O'Brien	CHECKED BY: Eoin O'Sullivan
PROJECT No: 170238	DRAWING No: 170238 - 04
SCALE: 1:2,500 @ A3	DATE: 02.09.2020

OS SHEET No.: 4315, 4316, 4317, 4318, 4373, 4374, 4375, 4376, 4431, 4432, 4433, 4434, 4490, 4491, 4492, 4493

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- Planning Application Boundary
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 - Proposed Road
 - Electrical Cable Trench
 - River/Stream
 - River/Stream 50m Buffer
 - Works Area
 - Soft Levelled Area
 - Crane Pad Hardstanding Area
 - Turbine Foundation
 - Turbine Sweep Area
 - Borrow Pit
 - Cut
 - Fill

DRAWING TITLE:
**Site Layout Sheet
2 of 17**

PROJECT TITLE:
Cahermurphy Two Wind Farm, Co. Clare

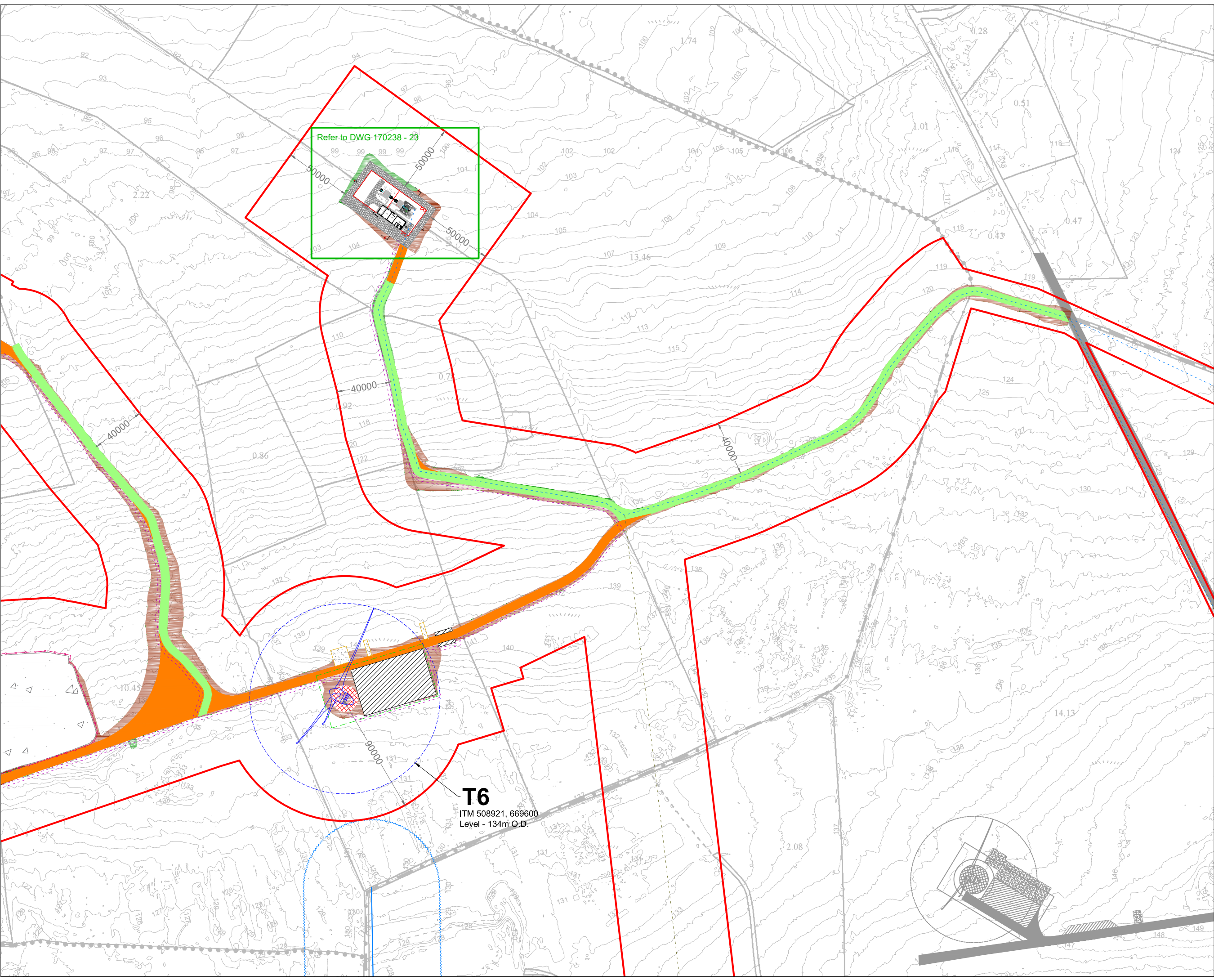
DRAWING BY: Joseph O'Brien	CHECKED BY: Eoin O'Sullivan
PROJECT No.: 170238	DRAWING No.: 170238 - 05
SCALE: 1:2,500 @ A3	DATE: 02.09.2020

OS SHEET No.: 4315, 4316, 4317, 4318, 4373, 4374, 4375, 4376, 4431, 4432, 4333, 4334, 4490, 4491, 4492, 4493

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Drawing Legend

	Planning Application Boundary
	Existing Road to be Upgraded
	Proposed Road
	Electrical Cable Trench
	River/Stream
	River/Stream 50m Buffer
	Works Area
	Soft Levelled Area
	Crane Pad Hardstanding Area
	Turbine Foundation
	Turbine Sweep Area
	Borrow Pit
	Cable Route
	Cable Route (Alternate)
	Cut
	Fill
	Existing Cahermurphy Wind Farm Planning Ref: 14 / 551

DRAWING TITLE:
**Site Layout Sheet
3 of 17**

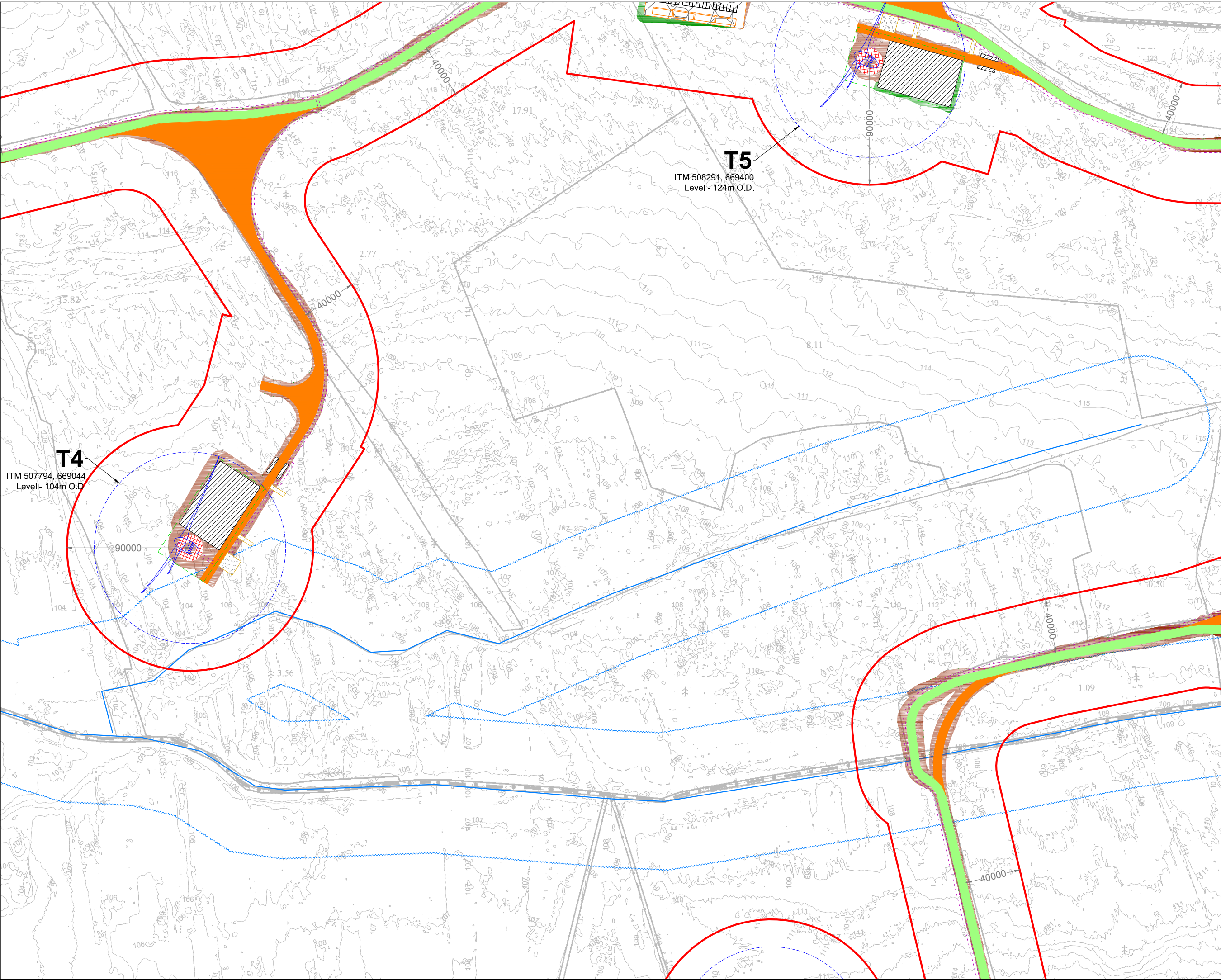
PROJECT TITLE:
Cahermurphy Two Wind Farm, Co. Clare

DRAWING BY: Joseph O'Brien	CHECKED BY: Eoin O'Sullivan
PROJECT No.: 170238	DRAWING No.: 170238 - 06
SCALE: 1:2,500 @ A3	DATE: 02.09.2020

OS SHEET No.: 4315, 4316, 4317, 4318, 4373, 4374, 4375, 4376, 4431, 4432, 4333, 4334, 4490, 4491, 4492, 4493

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 - Turbine Sweep Area
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DRAWING TITLE:
**Site Layout Sheet
4 of 17**

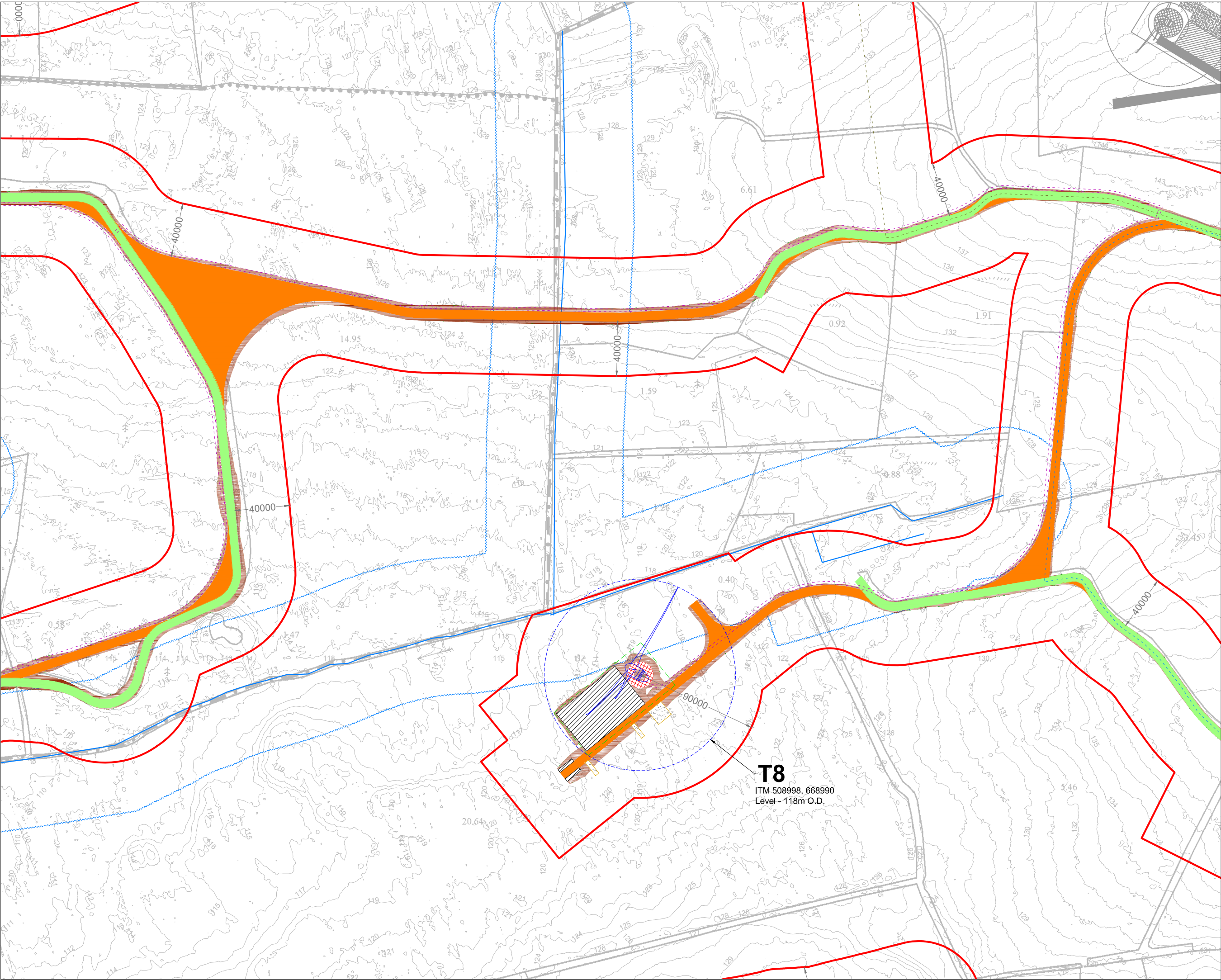
PROJECT TITLE:
Cahermurphy Two Wind Farm, Co. Clare

DRAWING BY: Joseph O'Brien	CHECKED BY: Eoin O'Sullivan
PROJECT No: 170238	DRAWING No.: 170238 - 07
SCALE: 1:2,500 @ A3	DATE: 02.09.2020

OS SHEET No.: 4315, 4316, 4317, 4318, 4373, 4374, 4375, 4376, 4431, 4432, 4333, 4334, 4490, 4491, 4492, 4493

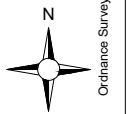
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 - Turbine Sweep Area
 - - - Cable Route
 - - - Cable Route (Alternate)
 - Cut
 - Fill
 - Existing Cahermurphy Wind Farm Planning Ref: 14 / 551



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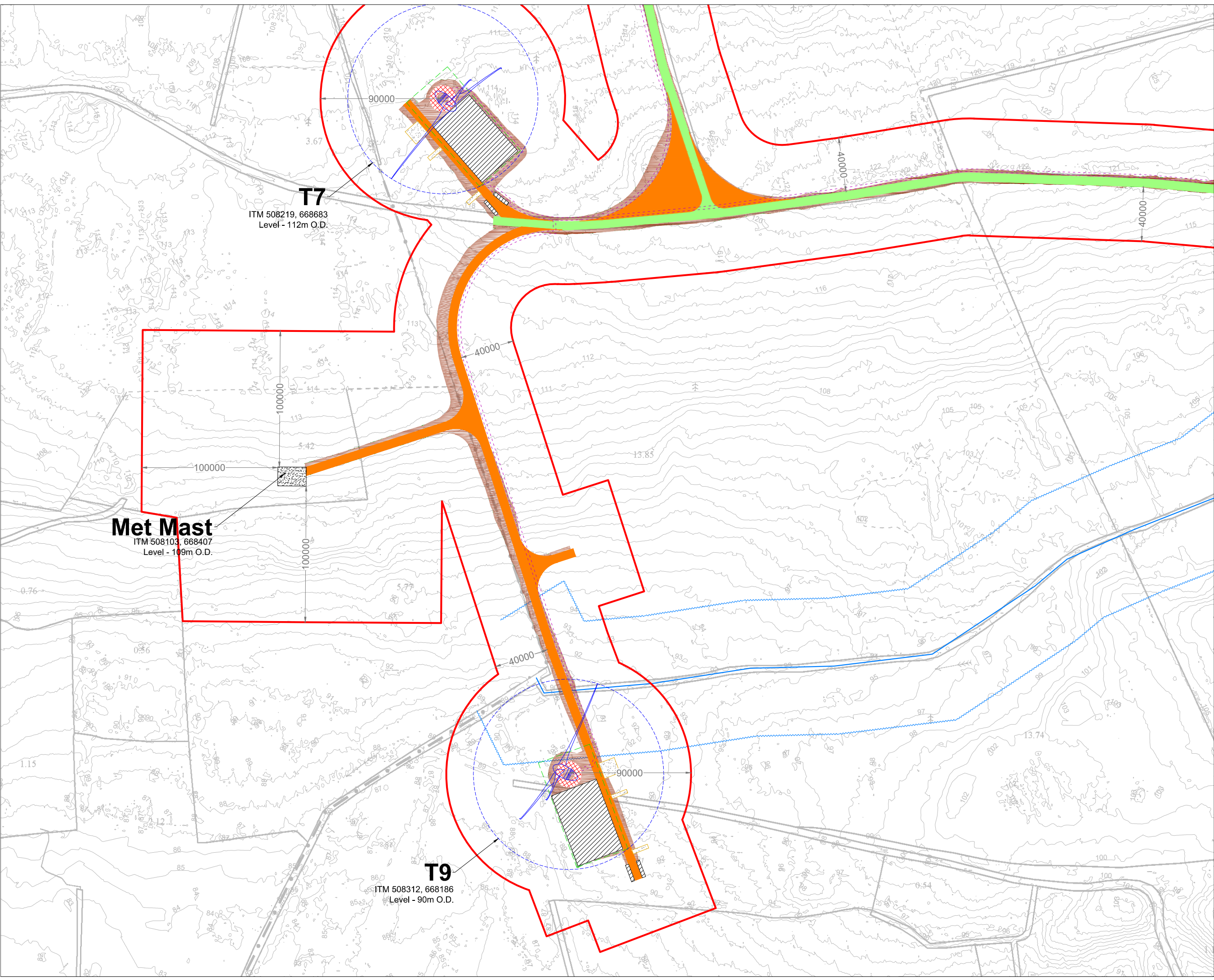
T8
ITM 508998, 668990
Level - 118m O.D.

DRAWING TITLE:
Site Layout Sheet
5 of 17

PROJECT TITLE:
Cahermurphy Two Wind Farm, Co. Clare

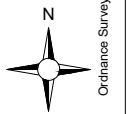
DRAWING BY: Joseph O'Brien	CHECKED BY: Eoin O'Sullivan
PROJECT No.: 170238	DRAWING No.: 170238 - 08
SCALE: 1:2,500 @ A3	DATE: 02.09.2020
OS SHEET No.: 4315, 4316, 4317, 4318, 4373, 4374, 4375, 4376, 4431, 4432, 4333, 4334, 4490, 4491, 4492, 4493	

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 - Cut
 - Fill



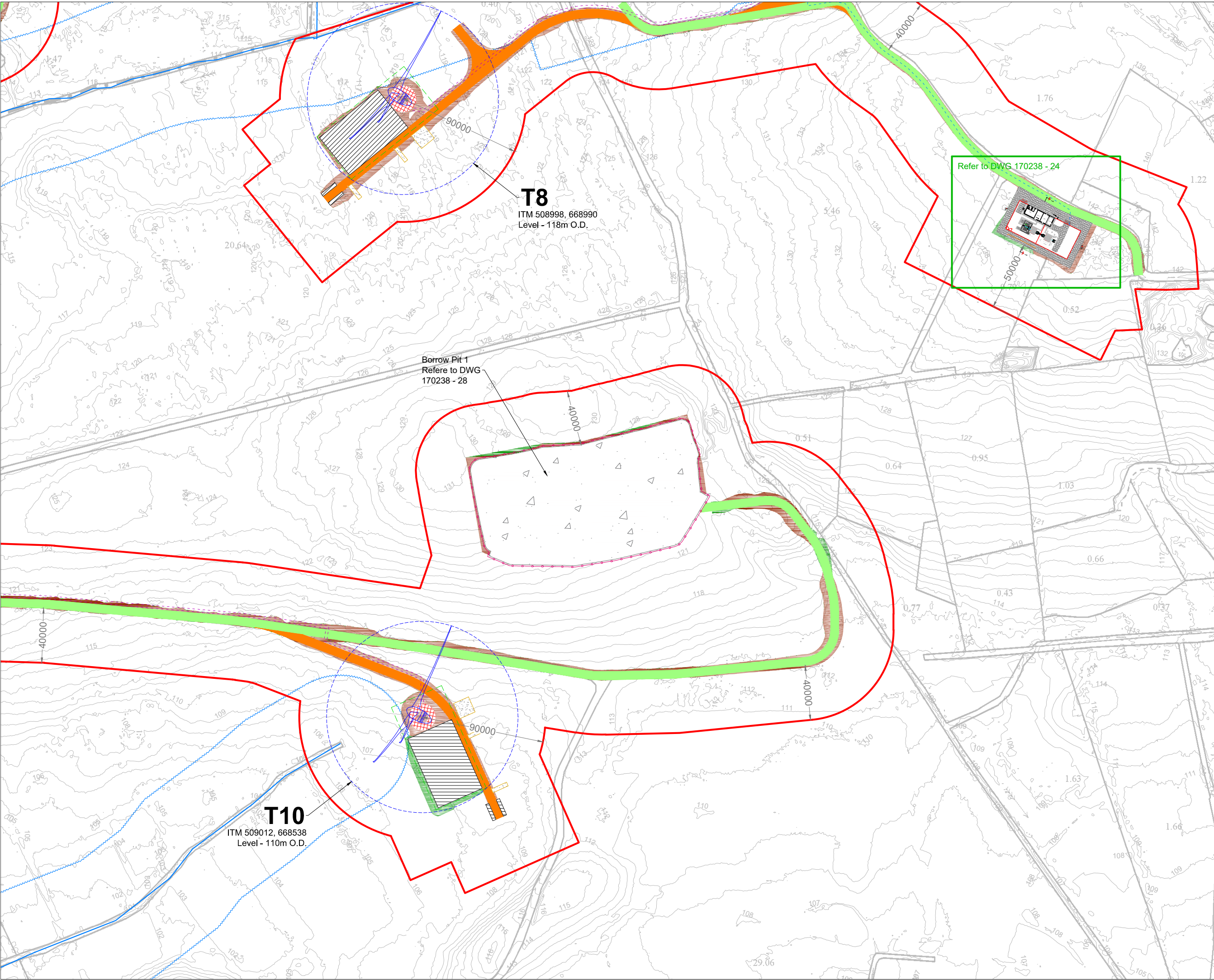
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DRAWING TITLE:
Site Layout Sheet
6 of 17

PROJECT TITLE:
Cahermurphy Two Wind Farm, Co. Clare

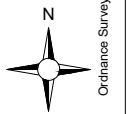
DRAWING BY: Joseph O'Brien	CHECKED BY: Eoin O'Sullivan
PROJECT No.: 170238	DRAWING No.: 170238 - 09
SCALE: 1:2,500 @ A3	DATE: 02.09.2020
OS SHEET No.: 4315, 4316, 4317, 4318, 4373, 4374, 4375, 4376, 4431, 4432, 4333, 4334, 4490, 4491, 4492, 4493	

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Website: www.mkofireland.ie



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 7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
 8. Final levels may vary depending on local ground conditions.
- Drainage Design Notes**
1. All drainage subject to micro-siting and optimisation on site.
 2. The locations of the interceptor drains, check dams, culverts, swales, stilling ponds and level spreaders are shown as indicative, and may be changed to suit the requirements of the local topography.
 3. Supervising hydrologist or environmental clerk of works (environmental scientist) to oversee installation of drainage features following detailed drainage design.
 4. Drainage measures to be installed prior to, or at the same time as the works areas they are intended to drain.
 5. Design elevation of the water surface along the route of the interceptor drains or swales will not be lower than the design elevation of the water surface in the outlet at the level spreader or stilling pond.
 6. The spacing and frequency of the check dams will be dependant on the gradient of the interceptor drain or swale in which they are being installed.
 7. Check dam designs to be selected best to suit particular topography and hydrological environment.
 8. Down gradient slope below level spreader onto which the water will dissipate to have a grade less the 6%.
 9. No direct discharge or pumping to watercourses will be permitted. All discharges from level spreaders or stilling ponds to be via vegetated filters. Selection or suitable areas to use as vegetation filters will be determined by the size of the contributing catchment, slope and ground conditions.
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 12. Existing drains/ditches to be incorporated or removed during wind farm construction.
 13. All drainage system features to be subject of inspection and maintenance plan.
 14. The layout shown is slightly offset for scale purposes, and all drainage would be installed as close to the road as possible.

- Drawing Legend**
- Planning Application Boundary
 - Existing Road to be Upgraded
 - Proposed Road
 - - - Electrical Cable Trench
 - River/Stream
 - - - River/Stream 50m Buffer
 - - - Works Area
 - Soft Levelled Area
 - Crane Pad Hardstanding Area
 - Turbine Foundation
 - Turbine Sweep Area
 - Borrow Pit
 - - - Cable Route
 - Cut
 - Fill



DRAWING TITLE:
**Site Layout Sheet
7 of 17**

PROJECT TITLE:
Cahermurphy Two Wind Farm, Co. Clare

DRAWING BY: Joseph O'Brien	CHECKED BY: Eoin O'Sullivan
PROJECT No.: 170238	DRAWING No.: 170238 - 10
SCALE: 1:2,500 @ A3	DATE: 02.09.2020
OS SHEET No.: 4315, 4316, 4317, 4318, 4373, 4374, 4375, 4376, 4431, 4432, 4333, 4334, 4490, 4491, 4492, 4493	

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7. Layout plans show typical turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drainage Design Notes

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Drawing Legend

- Planning Application Boundary
- Existing Road to be Upgraded
- Electrical Cable Trench
- Cable Route
- Cable Route (Alternate)
- Cut
- Fill
- Existing Cahermurphy Wind Farm Planning Ref: 14/551



**Site Layout Sheet
8 of 17**

ORdnance Survey Ireland Licence No. AR00218200

PROJECT TITLE	Cahermurphy Two Wind Farm, Co. Clare		
DRAWING BY	Joseph O'Brien	CHECKED BY	Eoin O'Sullivan
PROJECT NO.	170238	DRAWING NO.	170238 - 11
SCALE	1:2,500 @ A3	DATE	02.09.2020
OS SHEET NO.	4315, 4316, 4317, 4318, 4374, 4375, 4376, 4431, 4432, 4333, 4334, 4400, 4401, 4492, 4493		

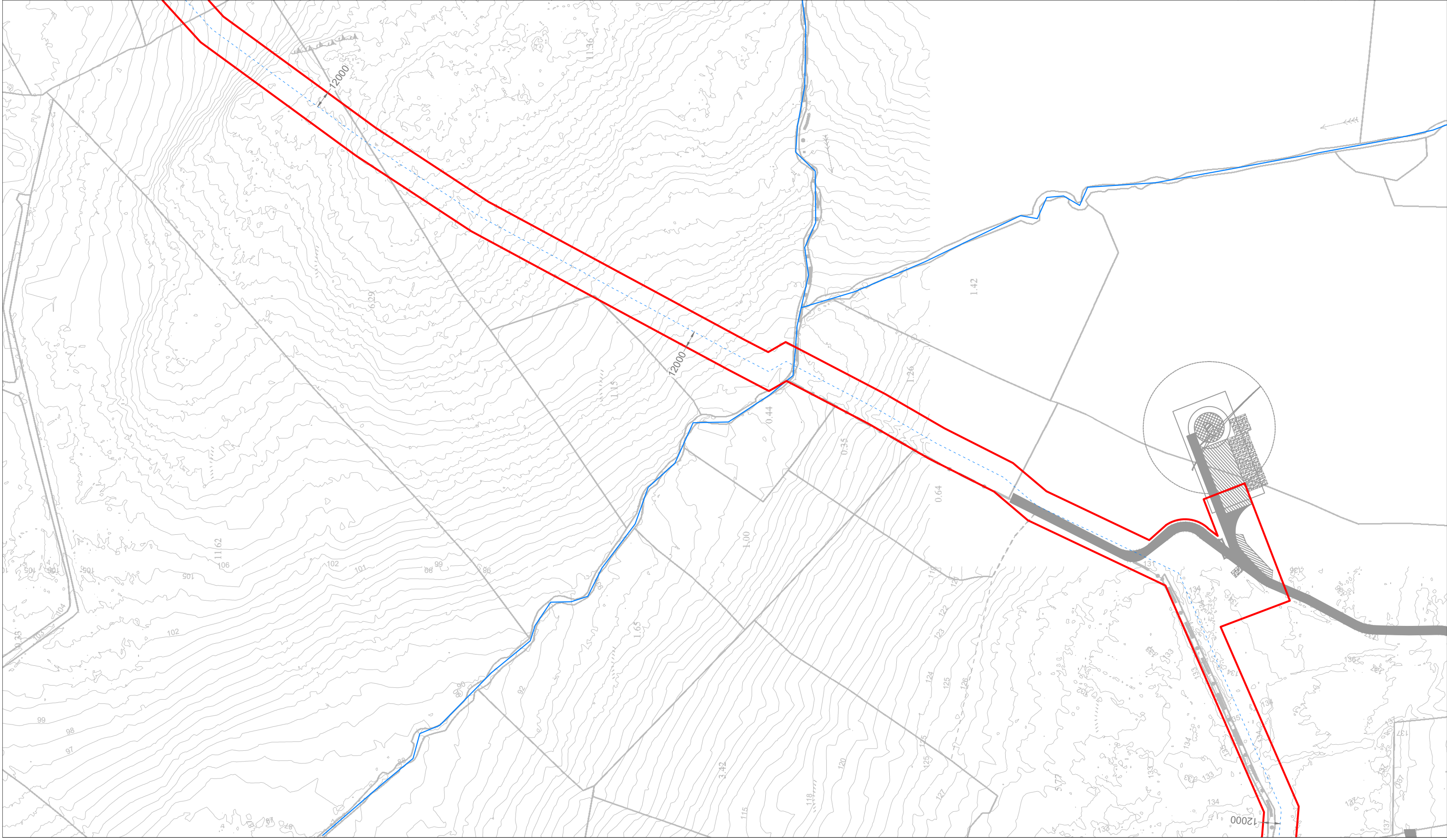
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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

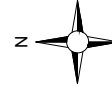
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Drawing Legend

- Planning Application Boundary
- River/Stream
- Cable Route
- █ Existing Cahermurphy Wind Farm Planning Ref: 14 / 501



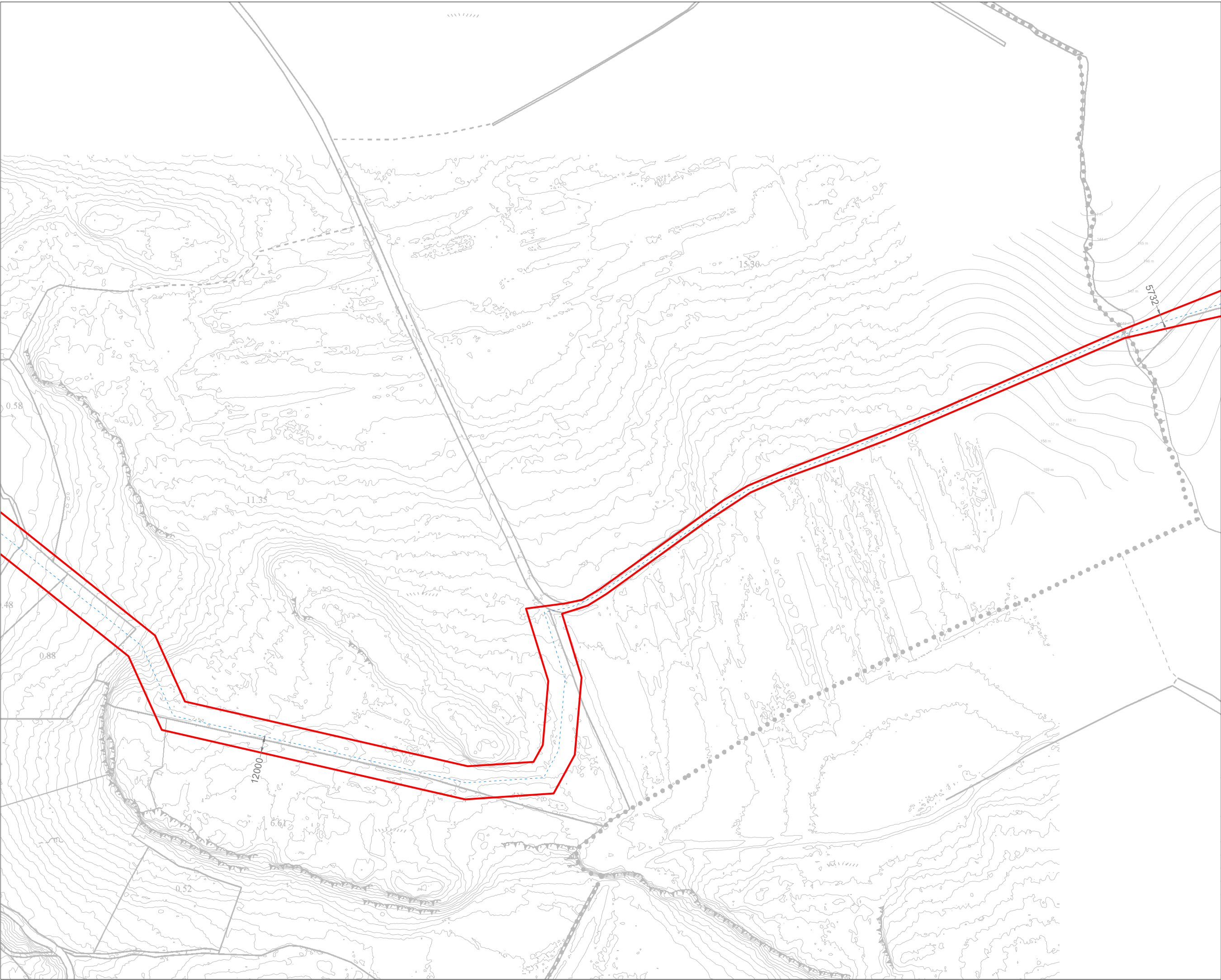
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Site Layout Sheet
9 of 17

PROJECT TITLE
Cahermurphy Two Wind Farm, Co. Clare

DRAWING BY	Joseph O'Brien	CHECKED BY	Eoin O'Sullivan
PROJECT No.	170238	DRAWING No.	170238 - 12
SCALE	1:2,500 @ A3	DATE	02.09.2020
OS SHEET No. : 4315, 4316, 4317, 4318, 4374, 4375, 4376, 4378, 4379, 4380, 4381, 4382, 4383, 4384, 4385, 4386, 4387, 4388, 4389, 4390, 4391, 4392, 4393			

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- Drawing Legend**
- Planning Application Boundary
 - - - Cable Route

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DRAWING TITLE:
**Site Layout Sheet
11 of 17**

PROJECT TITLE:
Cahermurphy Two Wind Farm, Co. Clare

DRAWING BY: Joseph O'Brien	CHECKED BY: Eoin O'Sullivan
PROJECT No.: 170238	DRAWING No.: 170238 - 14
SCALE: 1:2,500 @ A3	DATE: 02.09.2020

OS SHEET No.: 4315, 4316, 4317, 4318, 4373, 4374, 4375, 4376, 4431, 4432, 4333, 4334, 4490, 4491, 4492, 4493


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- Drawing Legend**
- Planning Application Boundary
 - - - Cable Route

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DRAWING TITLE:
Site Layout Sheet
12 of 17

PROJECT TITLE:
Cahermurphy Two Wind Farm, Co. Clare

DRAWING BY: Joseph O'Brien **CHECKED BY:** Eoin O'Sullivan

PROJECT No.: 170238 **DRAWING No.:** 170238 - 15

SCALE: 1:2,500 @ A3 **DATE:** 02.09.2020

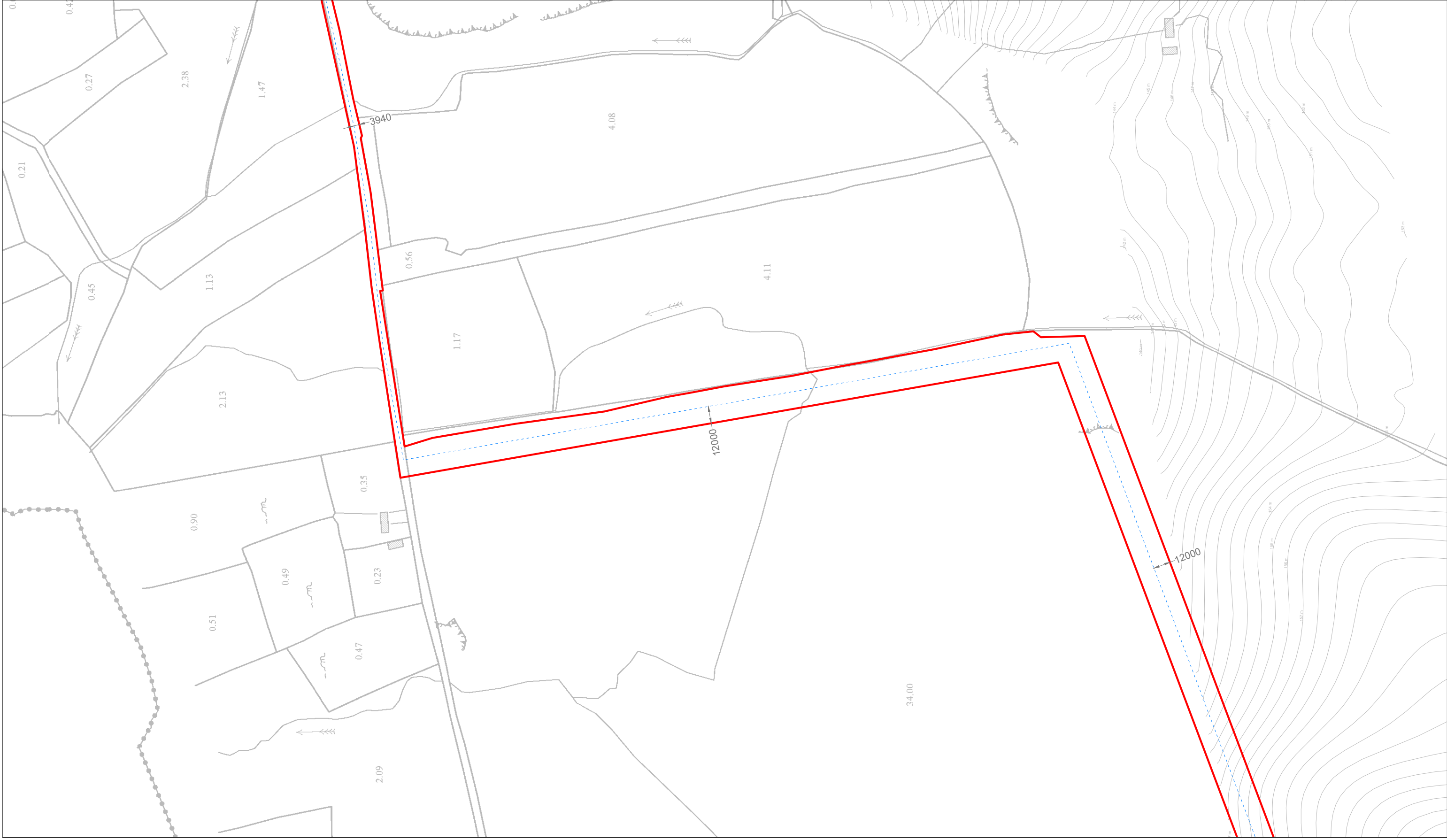
OS SHEET No.: 4315, 4316, 4317, 4318, 4373, 4374, 4375, 4376, 4431, 4432, 4333, 4334, 4490, 4491, 4492, 4493



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Drawing Legend

- Planning Application Boundary
- - - Cable Route



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**Site Layout Sheet
13 of 17**

PROJECT TITLE
Cahermurphy Two Wind Farm, Co. Clare

DRAWING BY:	Joseph O'Brien	CHECKED BY:	Eoin O'Sullivan
PROJECT No:	170238	DRAWING No:	170238 - 16
SCALE:	1:2,500 @ A3	DATE:	02.09.2020
OS SHEET No.:	4315, 4316, 4317, 4318, 4374, 4375, 4376, 4378, 4379, 4380, 4381, 4382, 4383, 4384, 4401, 4402, 4492, 4493		



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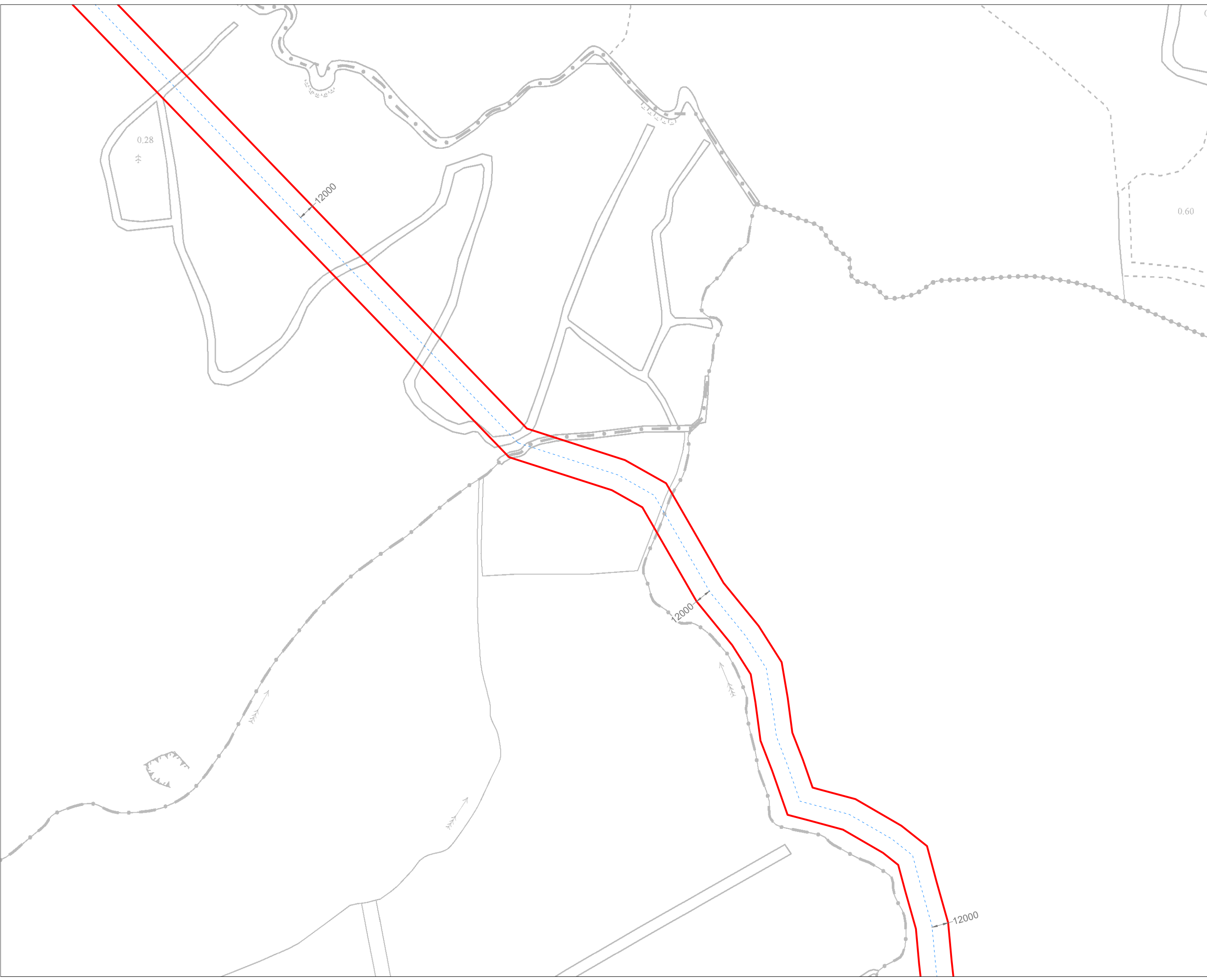
- Drawing Legend**
- Planning Application Boundary
 - - - Cable Route



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DRAWING TITLE: Site Layout Sheet 15 of 17	
PROJECT TITLE: Cahermurphy Two Wind Farm, Co. Clare	
DRAWING BY: Joseph O'Brien	CHECKED BY: Eoin O'Sullivan
PROJECT No.: 170238	DRAWING No.: 170238 - 18
SCALE: 1:2,500 @ A3	DATE: 02.09.2020
OS SHEET No.: 4315, 4316, 4317, 4318, 4373, 4374, 4375, 4376, 4431, 4432, 4333, 4334, 4490, 4491, 4492, 4493	

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- Drawing Legend**
- Planning Application Boundary
 - - - Cable Route



DRAWING TITLE:
**Site Layout Sheet
 17 of 17**

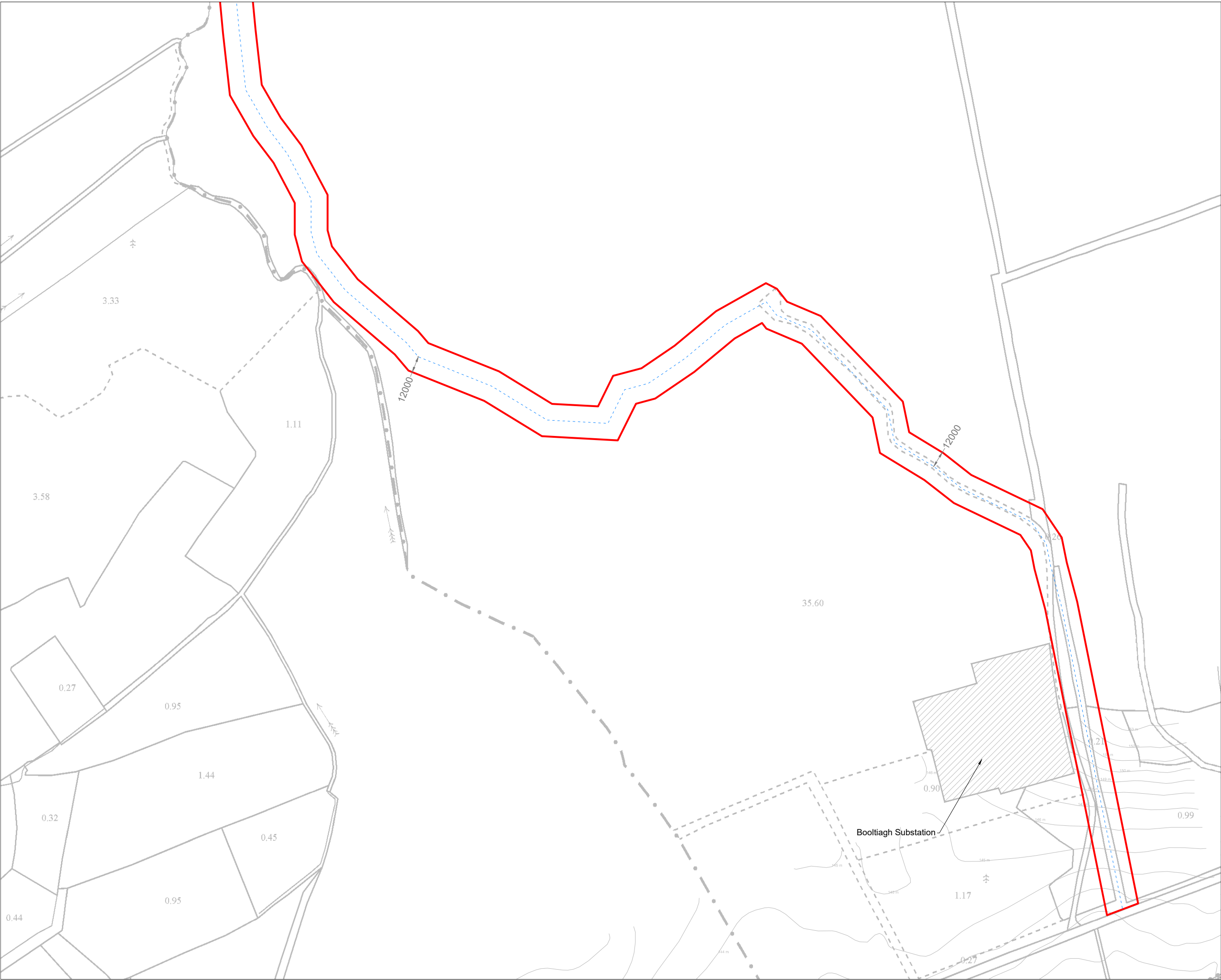
PROJECT TITLE:
Cahermurphy Two Wind Farm, Co. Clare

DRAWING BY: Joseph O'Brien	CHECKED BY: Eoin O'Sullivan
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PROJECT No.: 170238	DRAWING No.: 170238 - 19
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SCALE: 1:2,500 @ A3	DATE: 02.09.2020
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	OS SHEET No.: 4315, 4316, 4317, 4318, 4373, 4374, 4375, 4376, 4431, 4432, 4333, 4334, 4490, 4491, 4492, 4493



- Project Design Drawing Notes**
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 7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
 8. Final levels may vary depending on local ground conditions.
- Drainage Design Notes**
1. All drainage subject to micro-siting and optimisation on site.
 2. The locations of the interceptor drains, check dams, culverts, swales, stilling ponds and level spreaders are shown as indicative, and may be changed to suit the requirements of the local topography.
 3. Supervising hydrologist or environmental clerk of works (environmental scientist) to oversee installation of drainage features following detailed drainage design.
 4. Drainage measures to be installed prior to, or at the same time as the works areas they are intended to drain.
 5. Design elevation of the water surface along the route of the interceptor drains or swales will not be lower than the design elevation of the water surface in the outlet at the level spreader or stilling pond.
 6. The spacing and frequency of the check dams will be dependant on the gradient of the interceptor drain or swale in which they are being installed.
 7. Check dam designs to be selected best to suit particular topography and hydrological environment.
 8. Down gradient slope below level spreader onto which the water will dissipate to have a grade less the 6%.
 9. No direct discharge or pumping to watercourses will be permitted. All discharges from level spreaders or stilling ponds to be via vegetated filters. Selection or suitable areas to use as vegetation filters will be determined by the size of the contributing catchment, slope and ground conditions.
 10. Stilling ponds to be sized according to the area they will be receiving water from.
 11. Diversion of drainage ditches will only take place when alternative drainage ditch has been installed to handle the same water.
 12. Existing drains/ditches to be incorporated or removed during wind farm construction.
 13. All drainage system features to be subject of inspection and maintenance plan.
 14. The layout shown is slightly offset for scale purposes, and all drainage would be installed as close to the road as possible.

- Drawing Legend**
- Planning Application Boundary
 - - - Cable Route

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DRAWING TITLE:
**Site Layout Sheet
17 of 17**

PROJECT TITLE:
Cahermurphy Two Wind Farm, Co. Clare

DRAWING BY: Joseph O'Brien	CHECKED BY: Eoin O'Sullivan
PROJECT No.: 170238	DRAWING No.: 170238 - 20
SCALE: 1:2,500 @ A3	DATE: 02.09.2020

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