Environmental Impact Statement

Uungula Wind Farm

Appendix N: Twelve Mile Road Design (iCubed Consulting Pty Ltd, 2020)

May 2020

CWP Renewables Pty Ltd
(02) 4013 4640

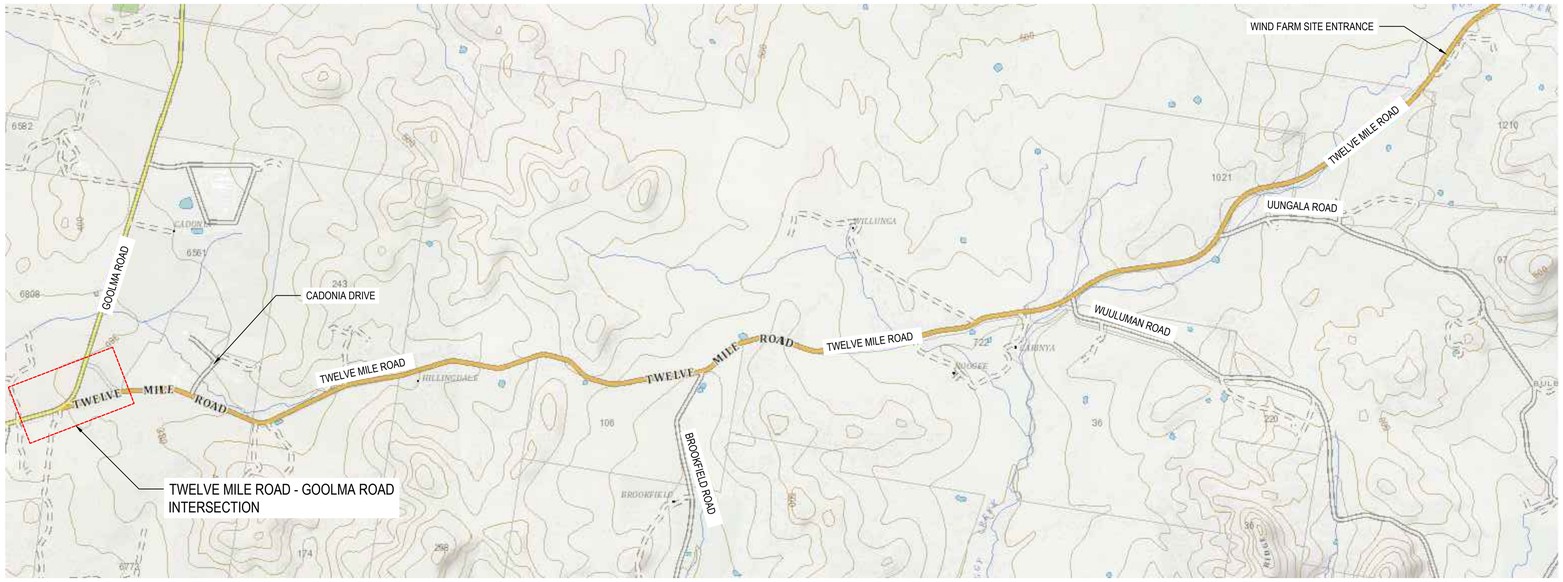
P.O. Box 1708 Newcasltle NSW 2300
cwprenewables.com

UUNGULA WIND FARM

TWELVE MILE ROAD

FOR

CWP RENEWABLES PTY LTD



TWELVE MILE ROAD LOCALITY PLAN

SCALE 1:NTS

TWELVE MILE ROAD - DRAWING INDEX

No	DESCRIPTION	DATE
E	FOR APPROVAL	14.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
B	FOR REVIEW	17.03.2020
A	FOR REVIEW	16.03.2020

REVISION HISTORY

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engineering consultants
innovation, ingenuity, inspiration
L2 39 Sherwood Rd Toowong, Qld 4066
www.icubed.com.au
ABN 89 106 675 156
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mail@icubed.com.au
ACN 106 675 156

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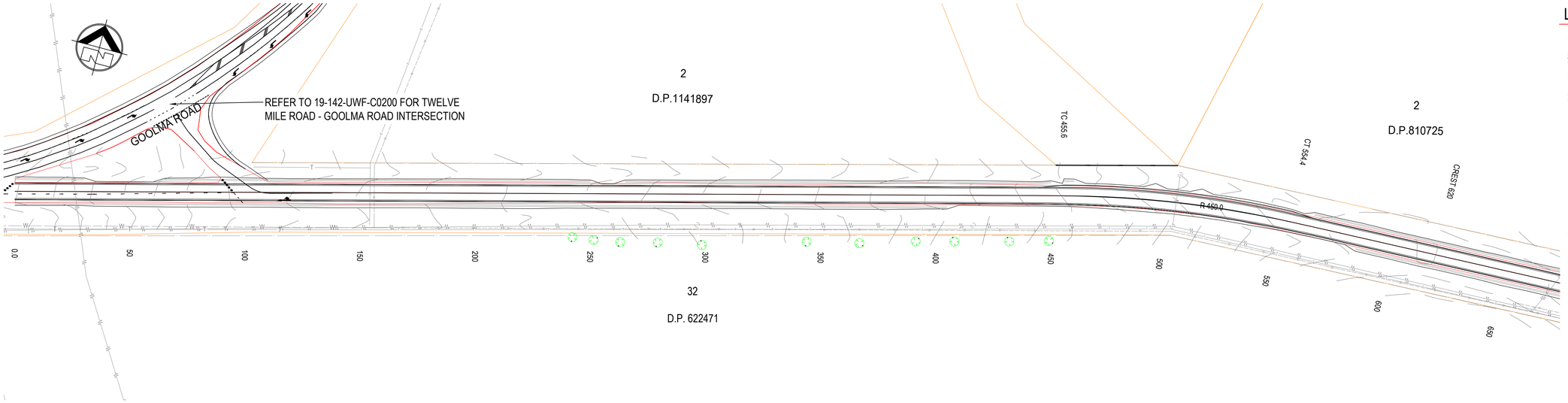
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LOCALITY PLAN, TITLE SHEET
& DRAWING INDEX

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE NTS	SIZE A1				

DRAWING CODE 19-142-UWF-C0100

REV E

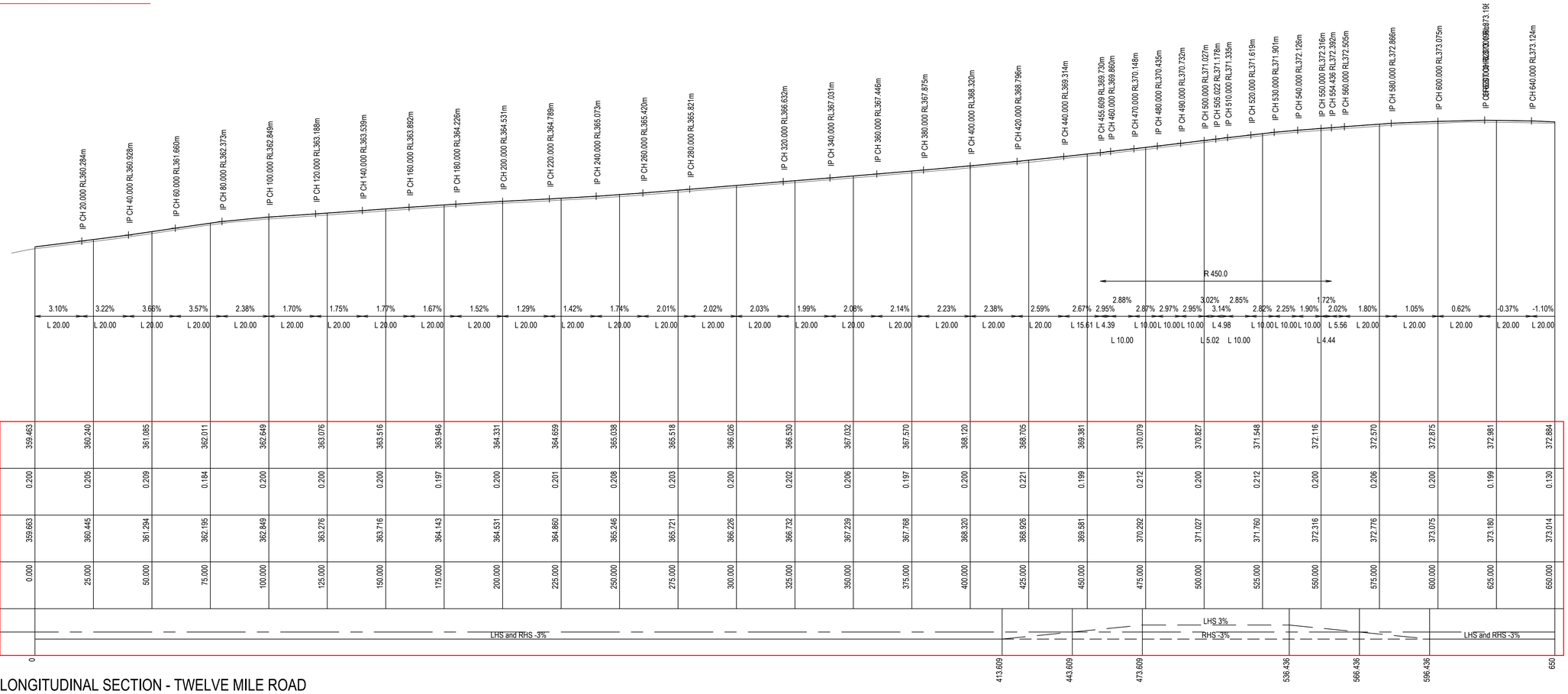


LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING TWELVE MILE ROAD
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL

TWELVE MILE ROAD - LAYOUT PLAN - SHEET 1

SCALE 1:1000



LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
E	FOR APPROVAL	14.05.2020
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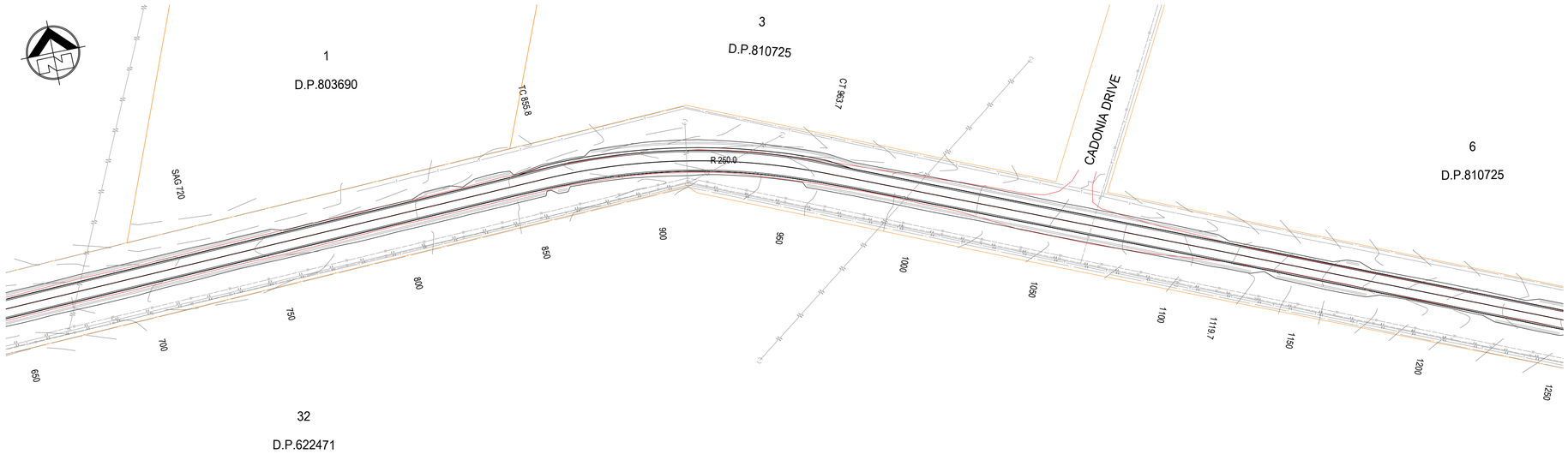
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 1

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE SHOWN	SIZE A1				

DRAWING CODE 19-142-UWF-C0101

REV E



LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING TWELVE MILE ROAD
- EXISTING OVERHEAD POWERLINE
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- EXISTING TREE
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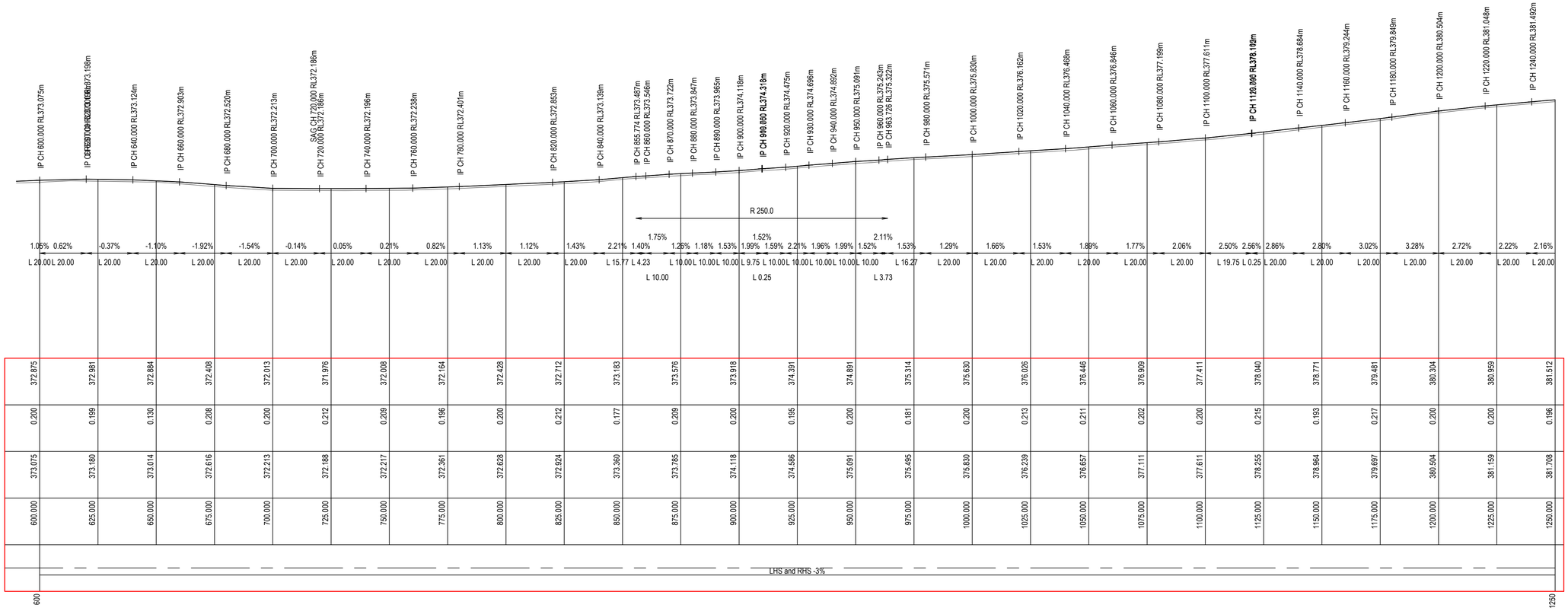
TWELVE MILE ROAD - LAYOUT PLAN - SHEET 2

SCALE 1:1000



Horiz. Curve Data (m): R 250.0

Vertical Geometry Grade: 1.05% 0.62% -0.37% -1.10% -1.92% -1.54% -0.14% 0.05% 0.21% 0.82% 1.13% 1.12% 1.43% 2.21% 1.40% 1.75% 1.26% 1.18% 1.53% 1.99% 1.52% 1.59% 2.21% 1.96% 1.99% 1.52% 2.11% 1.53% 1.29% 1.66% 1.53% 1.89% 1.77% 2.06% 2.50% 2.56% 2.86% 2.80% 3.02% 3.28% 2.72% 2.22% 2.16%

Vertical Grade Length (m): L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 15.77 L 4.23 L 10.00 L 10.00 L 10.00 L 10.00 L 9.75 L 0.25 L 10.00 L 10.00 L 10.00 L 10.00 L 10.00 L 3.73 L 16.27 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 19.75 L 0.25 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00

Vertical Curve Length (m)

Vertical Curve Radius (m)

DATUM R.L. 354.000

EXISTING SURFACE	372.875	372.981	372.884	372.408	372.013	371.976	372.008	372.164	372.428	372.712	373.183	373.576	373.918	374.391	374.891	375.314	375.630	376.026	376.446	376.909	377.411	378.040	378.771	379.481	380.304	380.559	381.512
DEPTH TO DESIGN	0.200	0.199	0.130	0.208	0.200	0.212	0.209	0.196	0.200	0.212	0.177	0.209	0.200	0.195	0.200	0.181	0.200	0.213	0.211	0.202	0.200	0.215	0.193	0.217	0.200	0.200	0.196
DESIGN C.L. SURFACE	373.075	373.180	373.014	372.616	372.213	372.188	372.217	372.361	372.628	372.924	373.360	373.785	374.118	374.586	375.091	375.495	375.830	376.239	376.657	377.111	377.611	378.255	378.964	379.697	380.504	381.159	381.708
CHAINAGE	600.000	625.000	650.000	675.000	700.000	725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000	975.000	1000.000	1025.000	1050.000	1075.000	1100.000	1125.000	1150.000	1175.000	1200.000	1225.000	1250.000
SUPER ELEV.																											

LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
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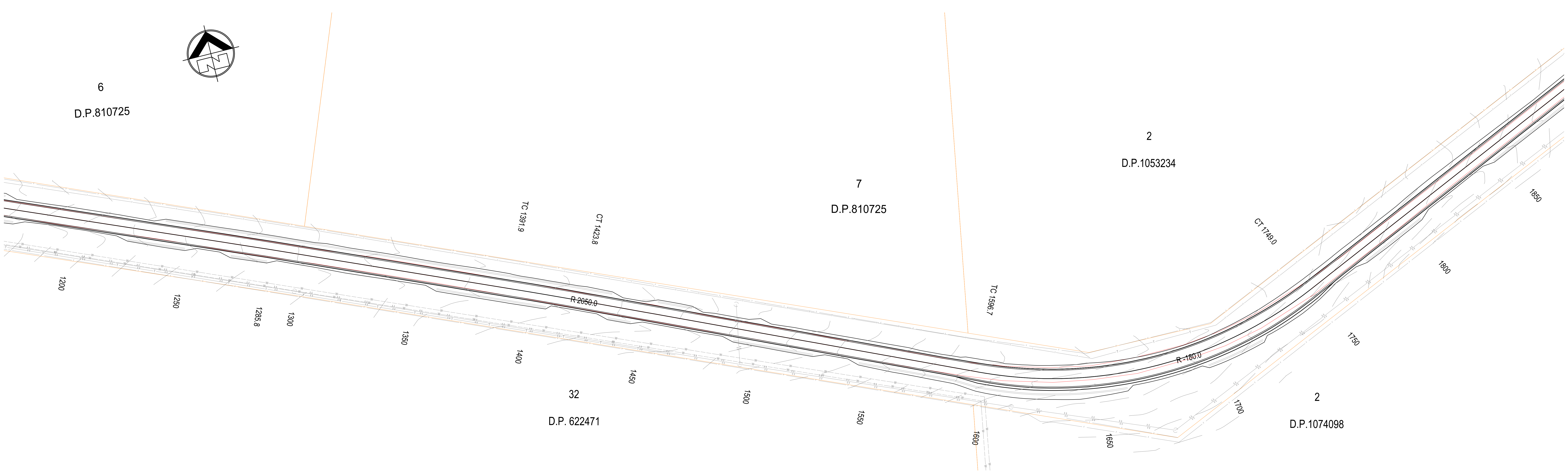
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 2

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE SHOWN	SIZE A1				

DRAWING CODE 19-142-UWF-C0102

REV E

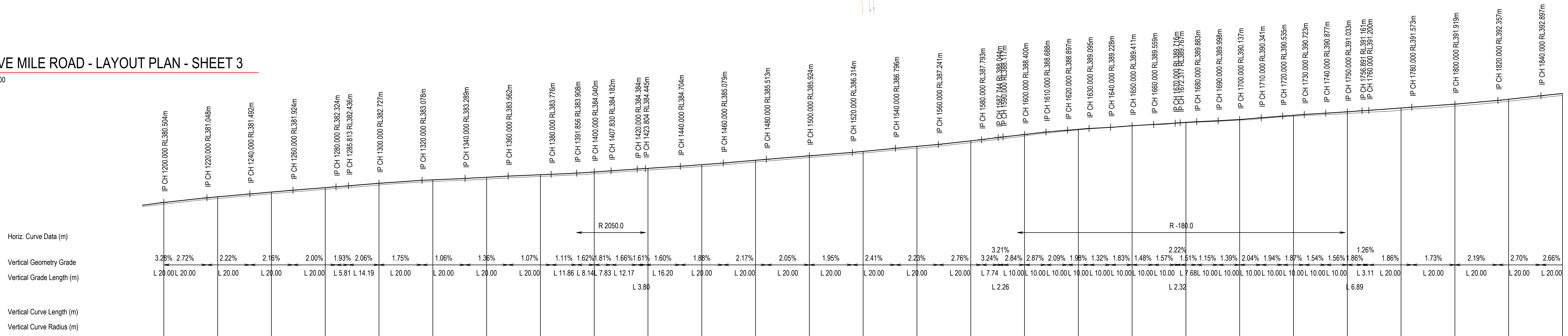


LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING TWELVE MILE ROAD
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL

TWELVE MILE ROAD - LAYOUT PLAN - SHEET 3

SCALE 1:1000

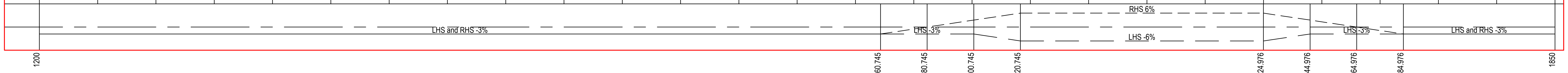


DATUM R.L. 362.000

EXISTING SURFACE	380.304	380.959	381.512	382.027	382.527	382.933	383.214	383.521	383.840	384.264	384.682	385.207	385.724	386.235
DEPTH TO DESIGN	0.200	0.200	0.196	0.197	0.200	0.198	0.212	0.202	0.200	0.200	0.210	0.198	0.200	0.200
DESIGN C.L. SURFACE	380.504	381.159	381.708	382.224	382.727	383.131	383.426	383.723	384.040	384.464	384.892	385.405	385.924	386.435
CHAINAGE	1200.000	1225.000	1250.000	1275.000	1300.000	1325.000	1350.000	1375.000	1400.000	1425.000	1450.000	1475.000	1500.000	1525.000

EXISTING SURFACE	386.803	387.447	388.229	388.951	389.428	389.767	390.068	390.521	390.825	391.235	391.698	392.263	392.936
DEPTH TO DESIGN	0.216	0.208	0.171	0.046	-0.017	0.041	0.069	0.108	0.208	0.245	0.221	0.229	0.227
DESIGN C.L. SURFACE	387.019	387.655	388.400	388.996	389.411	389.808	390.137	390.629	391.033	391.480	391.919	392.492	393.163
CHAINAGE	1550.000	1575.000	1600.000	1625.000	1650.000	1675.000	1700.000	1725.000	1750.000	1775.000	1800.000	1825.000	1850.000

SUPER ELEV.



LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
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PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 3

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE	SHOWN	SIZE	A1		
DRAWING CODE	19-142-UWF-C0103	REV	E		

LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
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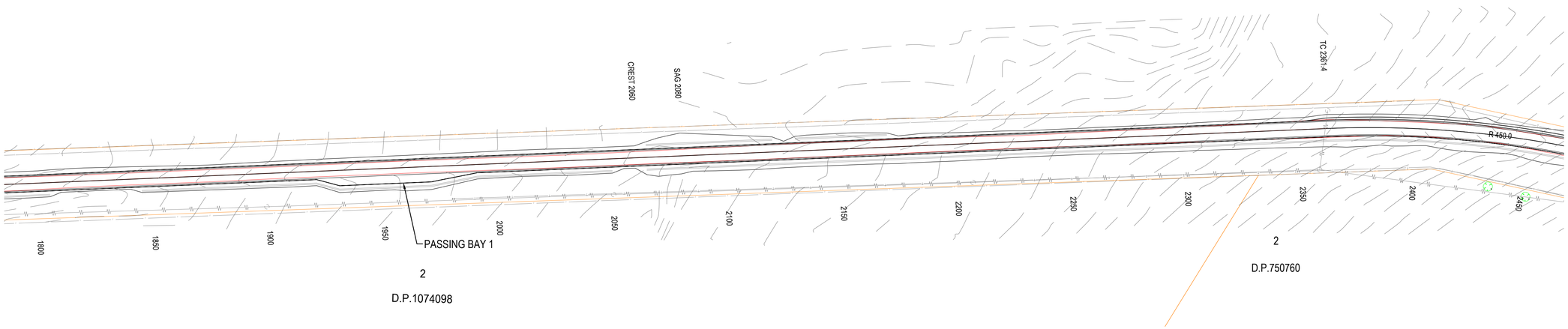
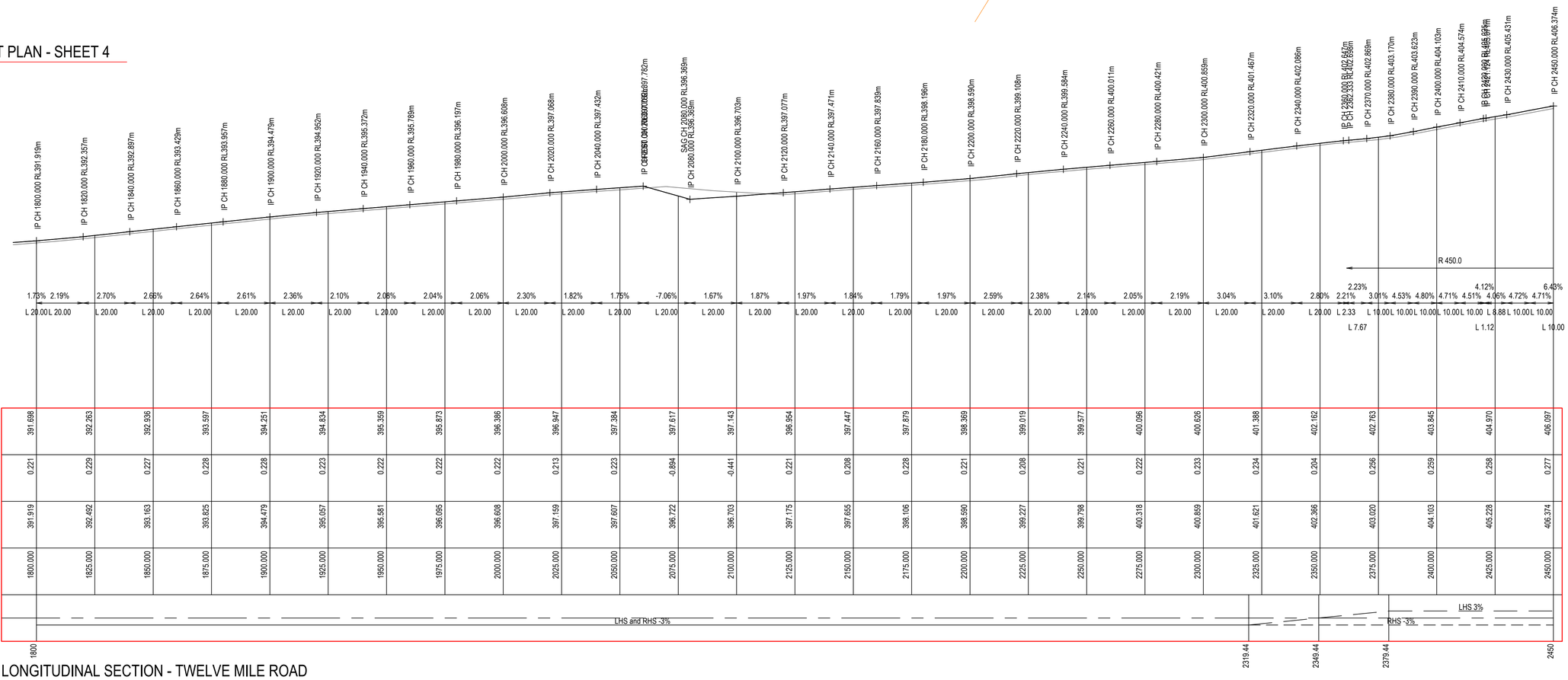


TWELVE MILE ROAD - LAYOUT PLAN - SHEET 4

SCALE 1:1000



CHAINAGE	EXISTING SURFACE	DEPTH TO DESIGN	DESIGN C.L. SURFACE
1800.000	391.698	0.221	391.919
1825.000	392.263	0.229	392.492
1850.000	392.936	0.227	393.163
1875.000	393.597	0.228	393.825
1900.000	394.251	0.228	394.479
1925.000	394.834	0.223	395.057
1950.000	395.359	0.222	395.581
1975.000	395.873	0.222	396.095
2000.000	396.386	0.222	396.608
2025.000	396.947	0.213	397.159
2050.000	397.384	0.223	397.607
2075.000	397.617	-0.894	396.722
2100.000	397.143	-0.441	396.703
2125.000	396.954	0.221	397.175
2150.000	397.447	0.208	397.655
2175.000	397.879	0.228	398.106
2200.000	398.369	0.221	398.590
2225.000	399.019	0.208	399.227
2250.000	399.577	0.221	399.798
2275.000	400.096	0.222	400.318
2300.000	400.626	0.233	400.859
2325.000	401.388	0.234	401.621
2350.000	402.162	0.204	402.366
2375.000	402.763	0.256	403.020
2400.000	403.845	0.259	404.103
2425.000	404.970	0.258	405.228
2450.000	406.097	0.277	406.374

LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
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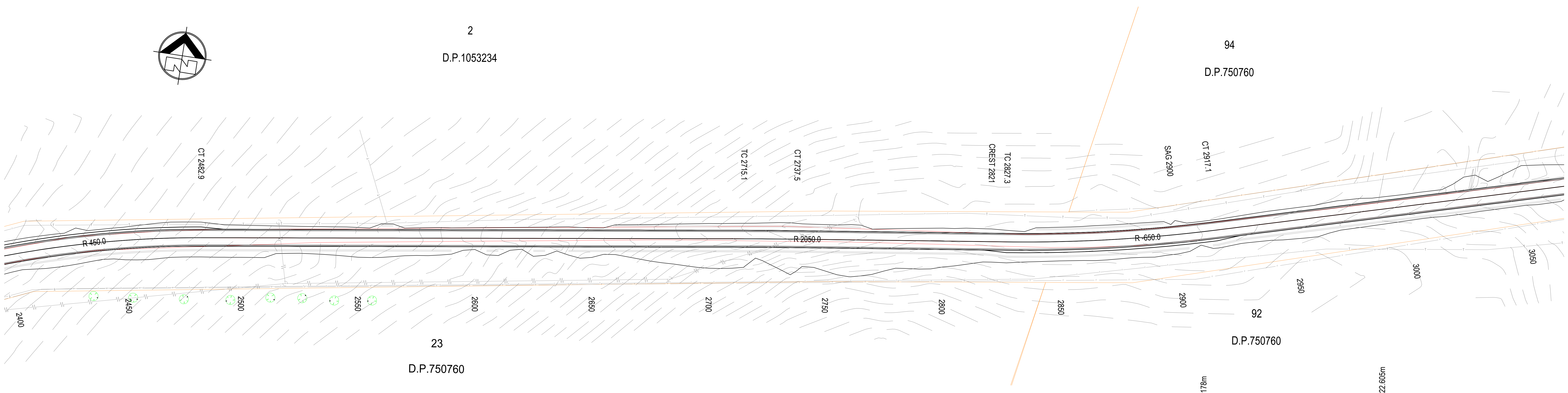
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 4

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE	SHOWN	SIZE	A1		

DRAWING CODE 19-142-UWF-C0104

REV E

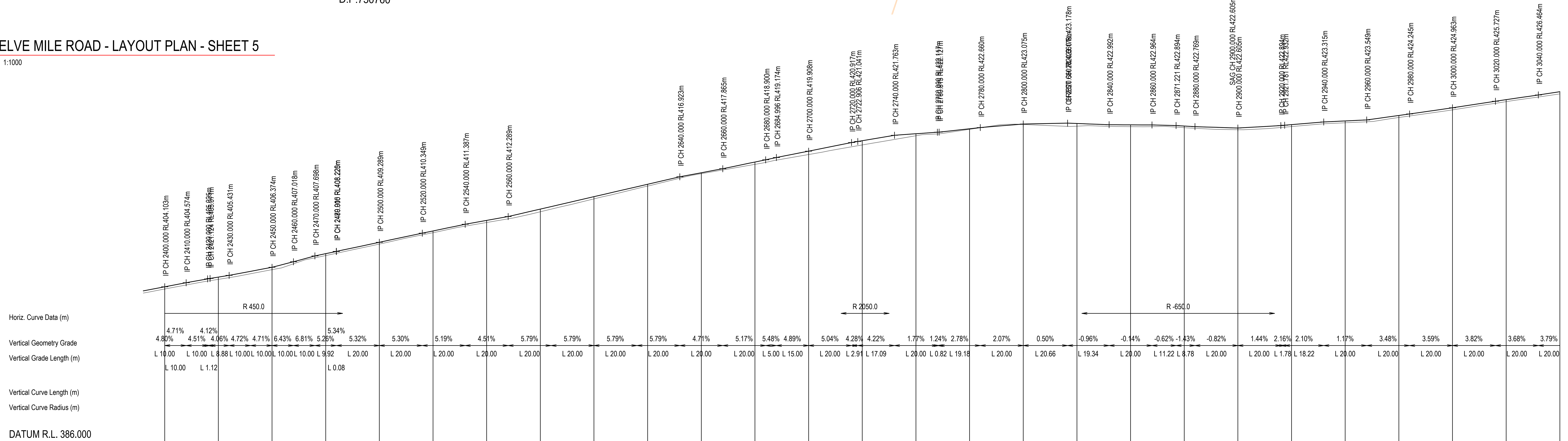


LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING TWELVE MILE ROAD
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL

TWELVE MILE ROAD - LAYOUT PLAN - SHEET 5

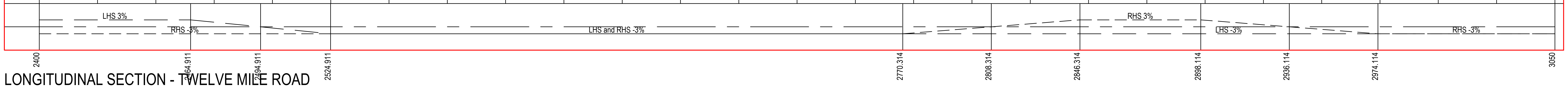
SCALE 1:1000



EXISTING SURFACE	403.845	404.970	406.097	407.741	409.078	410.404	411.598	412.846	414.347	415.845	417.278	418.371	419.513
DEPTH TO DESIGN	0.259	0.258	0.277	0.220	0.211	0.205	0.240	0.312	0.260	0.209	0.117	0.270	0.395
DESIGN C.L. SURFACE	404.103	405.228	406.374	407.961	409.289	410.609	411.838	413.158	414.606	416.054	417.394	418.641	419.908
CHAINAGE	2400.000	2425.000	2450.000	2475.000	2500.000	2525.000	2550.000	2575.000	2600.000	2625.000	2650.000	2675.000	2700.000

EXISTING SURFACE	420.636	421.705	422.454	423.021	422.822	422.766	422.649	422.412	422.779	423.220	423.833	424.722	425.684	426.585
DEPTH TO DESIGN	0.493	0.235	0.068	0.054	0.315	0.213	0.191	0.194	0.220	0.212	0.238	0.241	0.226	0.258
DESIGN C.L. SURFACE	421.129	421.940	422.521	423.075	423.136	422.978	422.841	422.605	423.000	423.432	424.071	424.963	425.911	426.843
CHAINAGE	2725.000	2750.000	2775.000	2800.000	2825.000	2850.000	2875.000	2900.000	2925.000	2950.000	2975.000	3000.000	3025.000	3050.000

SUPER ELEV.



LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

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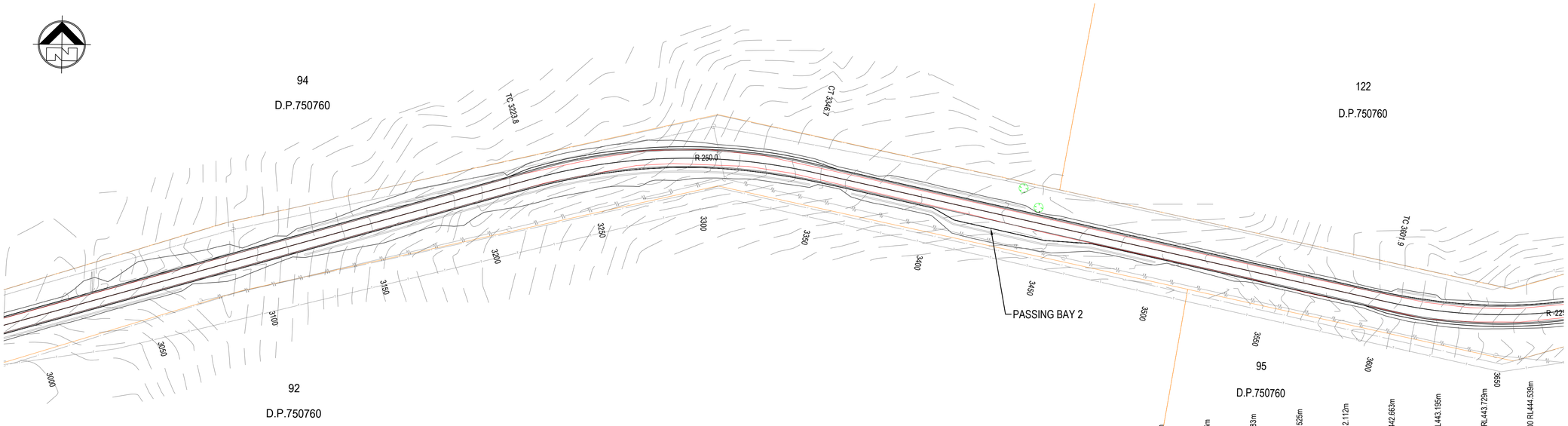
DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 5

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE	SHOWN	SIZE	A1		

DRAWING CODE
19-142-UWF-C0105

REV
E



LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
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- EXISTING TWELVE MILE ROAD
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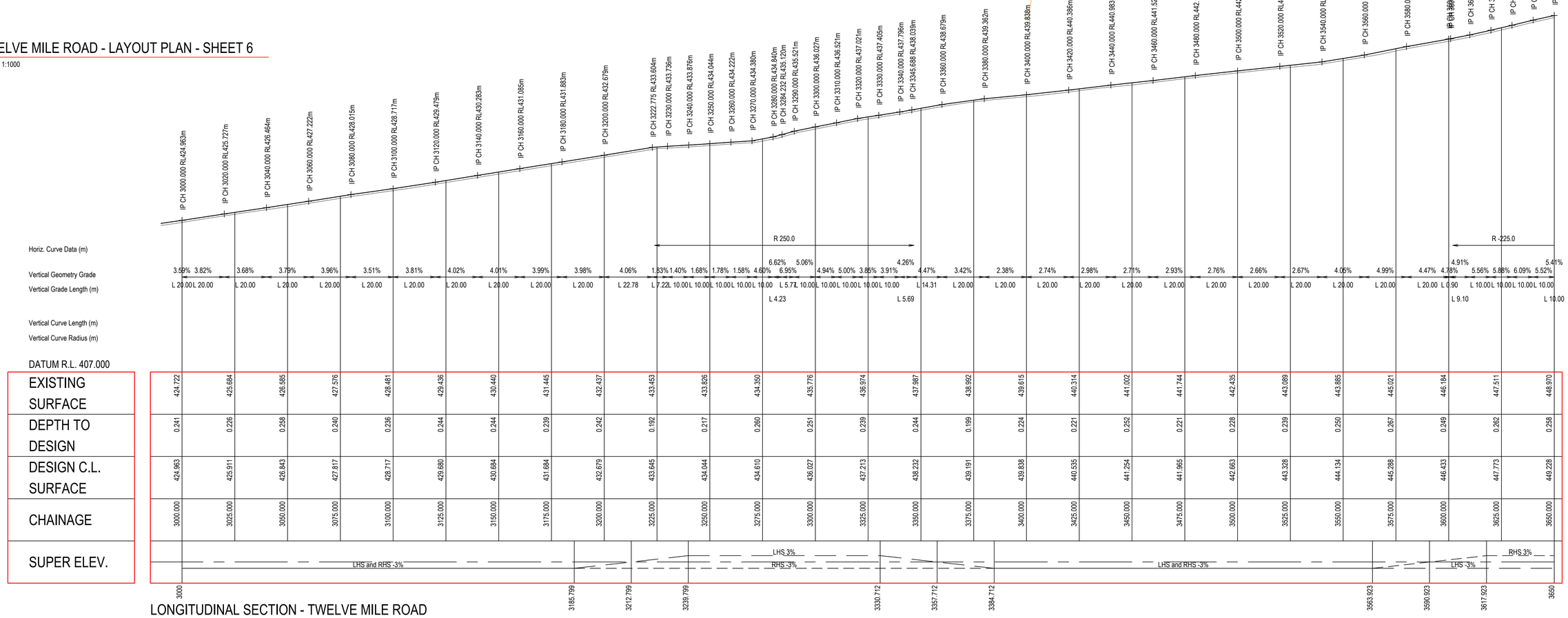
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL

TWELVE MILE ROAD - LAYOUT PLAN - SHEET 6

SCALE 1:1000



LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
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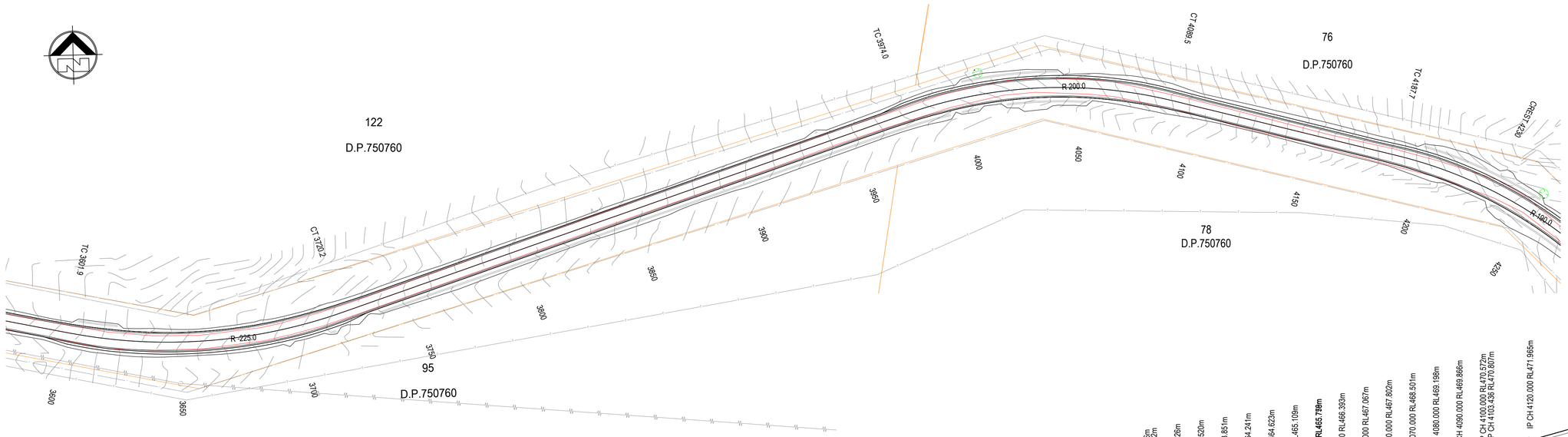
LAYOUT AND LONGSECTION
SHEET 6

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE SHOWN	SIZE A1				

DRAWING CODE 19-142-UWF-C0106

REV E



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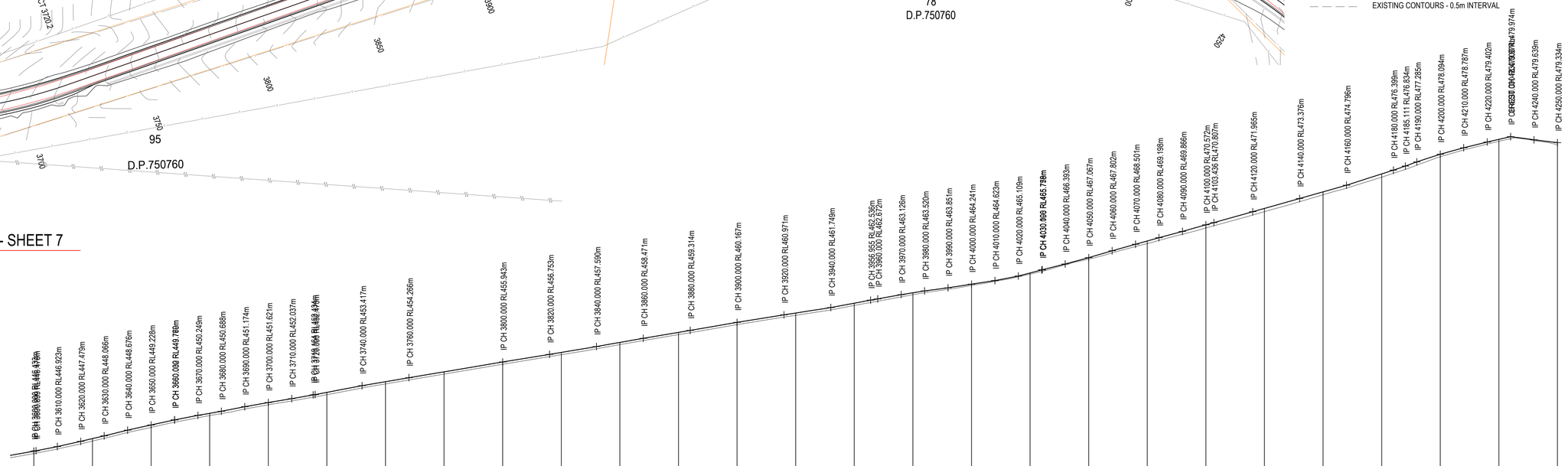
TWELVE MILE ROAD - LAYOUT PLAN - SHEET 7

SCALE 1:1000



Chainage	Existing Surface	Depth to Design	Design C.L. Surface
3600.000	446.184	0.249	446.433
3625.000	447.511	0.262	447.773
3650.000	448.970	0.258	449.228
3675.000	450.227	0.241	450.468
3700.000	451.376	0.245	451.621
3725.000	452.449	0.258	452.707
3750.000	453.604	0.238	453.841
3775.000	454.652	0.243	454.895
3800.000	455.700	0.243	455.943
3825.000	456.714	0.248	456.962
3850.000	457.797	0.234	458.031
3875.000	458.864	0.240	459.103
3900.000	459.925	0.242	460.167
3925.000	460.923	0.242	461.165
3950.000	461.975	0.238	462.213
3975.000	463.116	0.207	463.323
4000.000	464.105	0.136	464.241
4025.000	465.318	0.116	465.433
4050.000	466.925	0.142	467.067
4075.000	468.577	0.273	468.850
4100.000	470.233	0.339	470.572
4125.000	471.975	0.343	472.318
4150.000	473.776	0.310	474.086
4175.000	475.656	0.342	475.998
4200.000	477.831	0.263	478.094
4225.000	479.478	0.210	479.688
4250.000	479.105	0.229	479.334

LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
E	FOR APPROVAL	14.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
B	FOR REVIEW	17.03.2020
A	FOR REVIEW	28.06.2019

REVISION HISTORY

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mail@icubed.com.au
ACN 106 675 156

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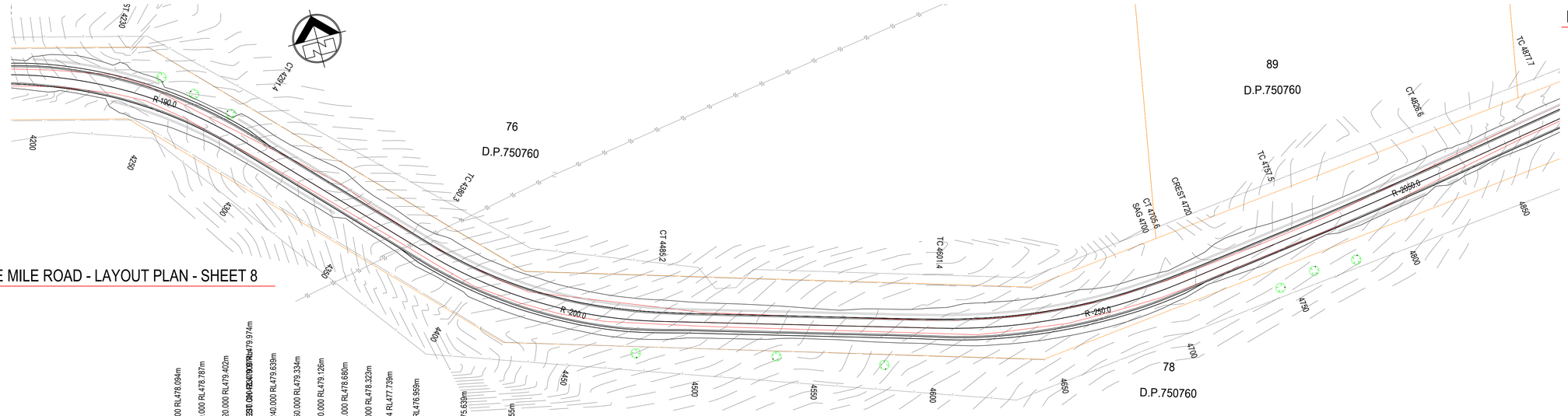
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 7

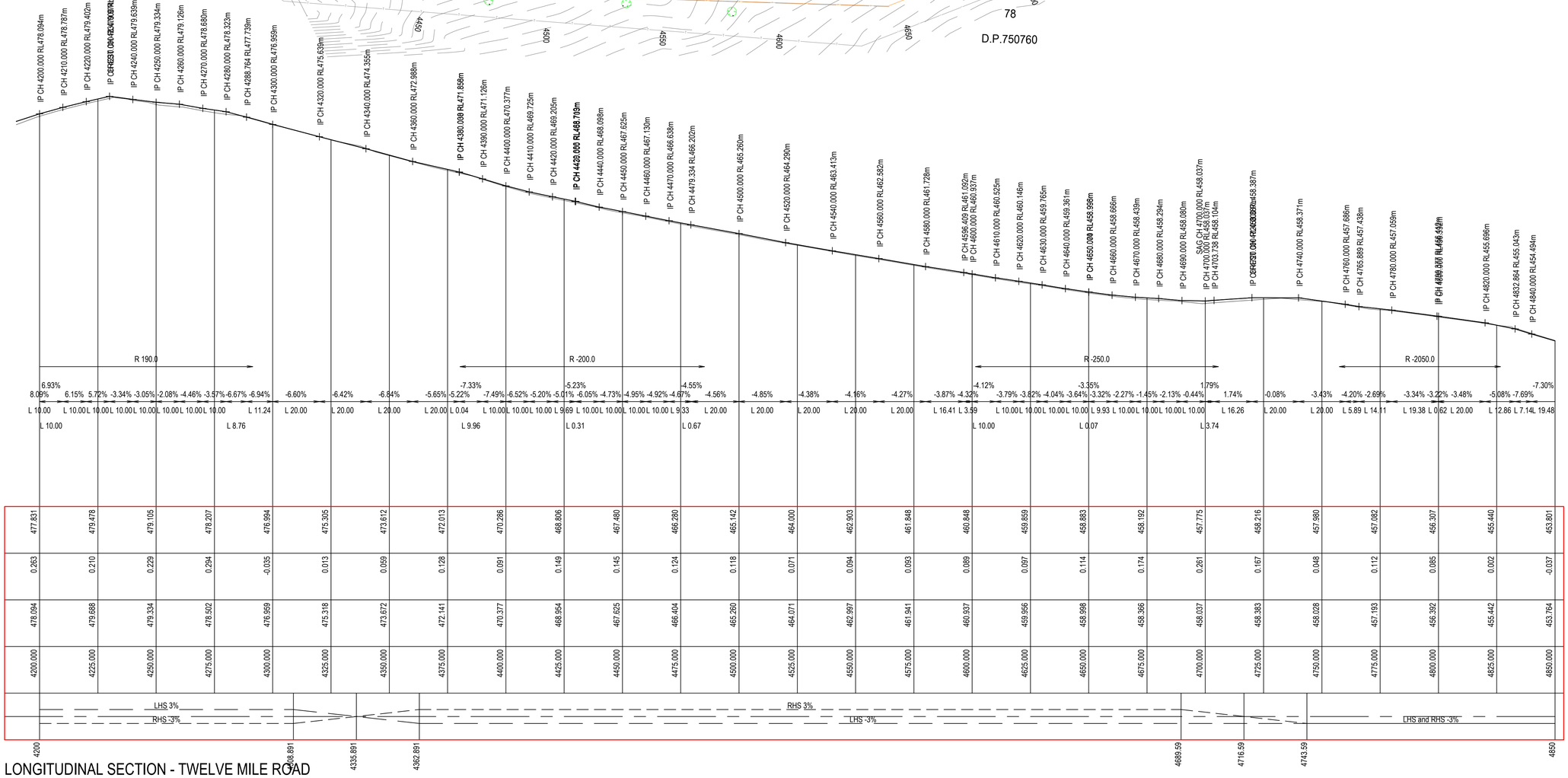
DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE SHOWN	SIZE A1				

DRAWING CODE 19-142-UWF-C0107
REV E



TWELVE MILE ROAD - LAYOUT PLAN - SHEET 8

SCALE 1:1000



LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
E	FOR APPROVAL	14.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
B	FOR REVIEW	17.03.2020
A	FOR REVIEW	28.06.2019

REVISION HISTORY

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ACN 106 675 156

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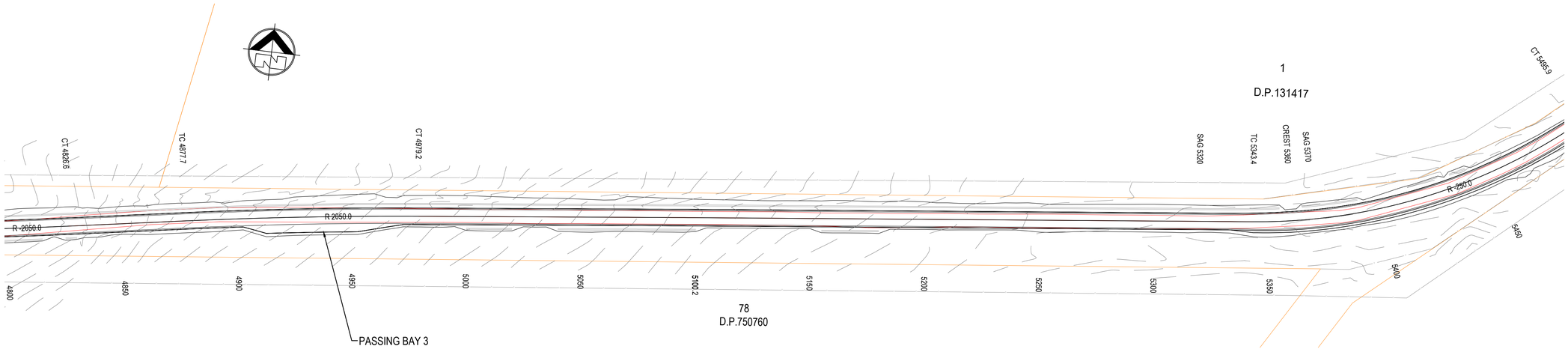
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 8

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE	SHOWN	SIZE	A1		

DRAWING CODE 19-142-UWF-C0108

REV E

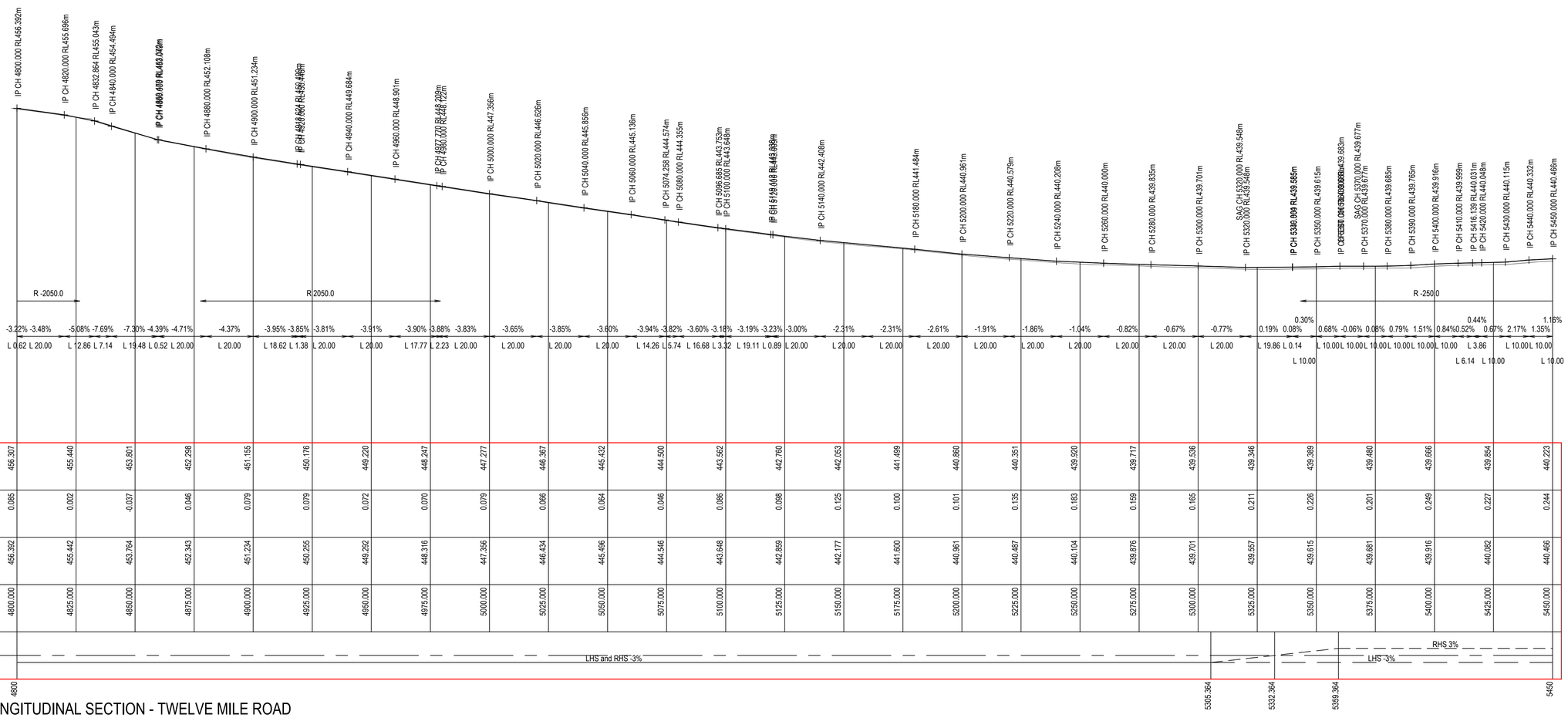


LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING TWELVE MILE ROAD
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL

TWELVE MILE ROAD - LAYOUT PLAN - SHEET 9

SCALE 1:1000



LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
E	FOR APPROVAL	14.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
B	FOR REVIEW	17.03.2020
A	FOR REVIEW	28.06.2019

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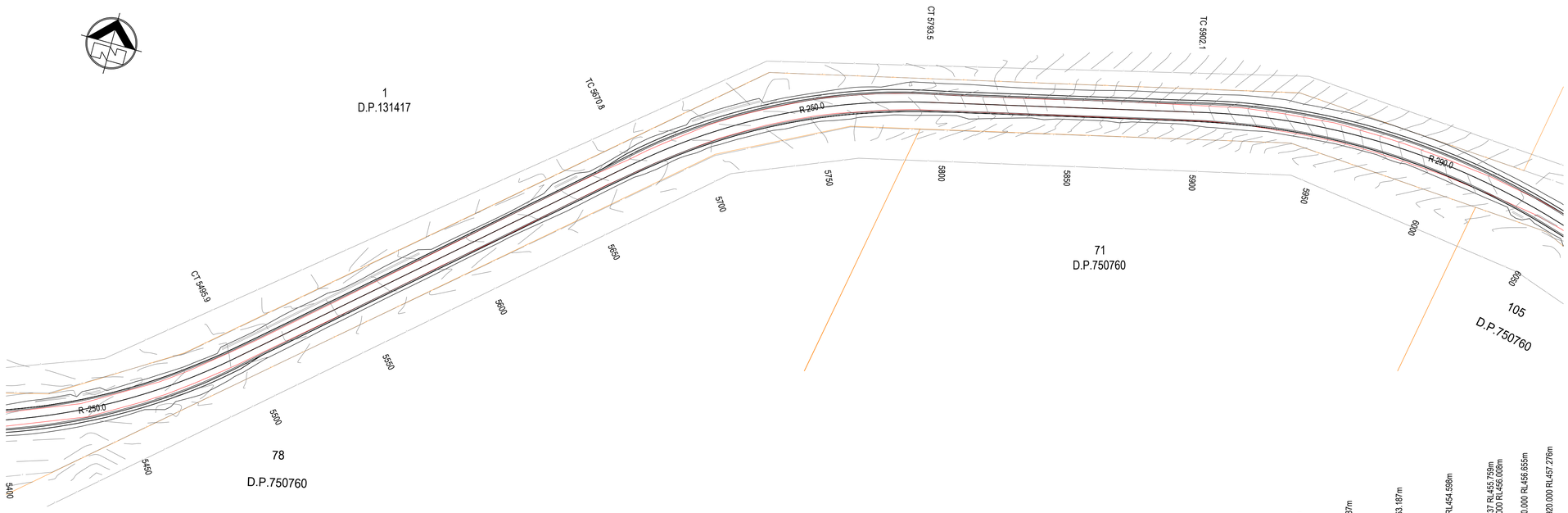
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 9

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE SHOWN	SIZE A1				

DRAWING CODE 19-142-UWF-C0109

REV E

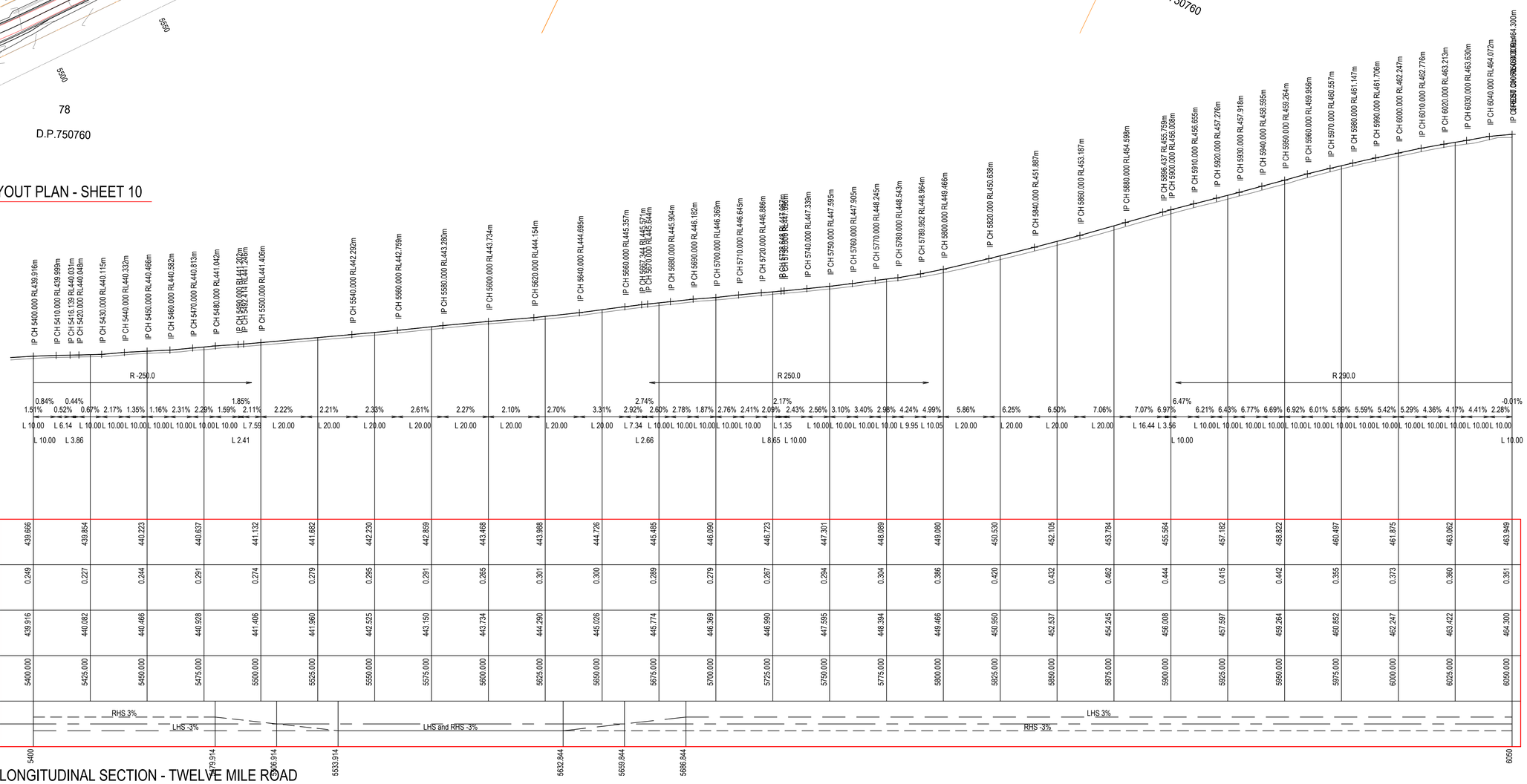


LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING TWELVE MILE ROAD
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL

TWELVE MILE ROAD - LAYOUT PLAN - SHEET 10

SCALE 1:1000



LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
E	FOR APPROVAL	14.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
B	FOR REVIEW	17.03.2020
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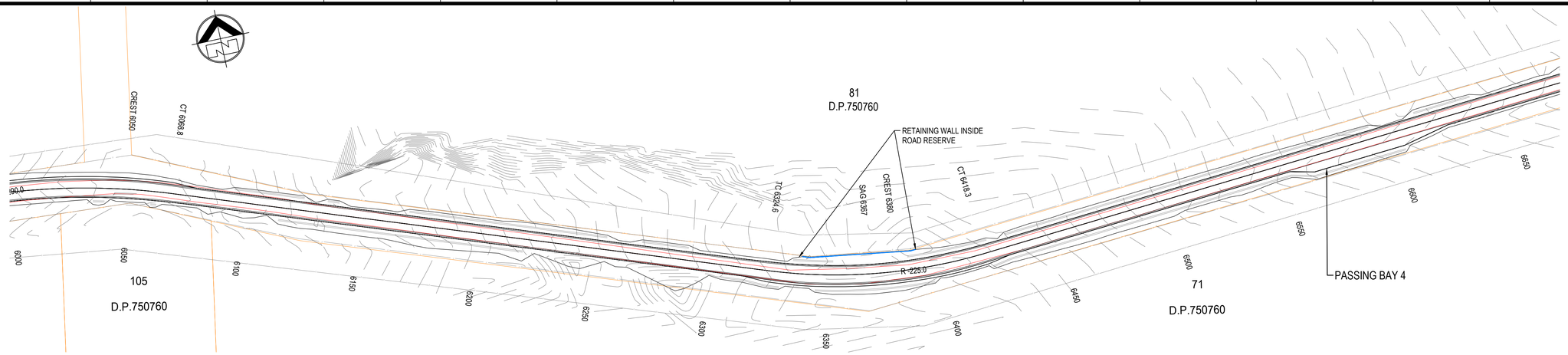
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 10

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE SHOWN	SIZE A1				

DRAWING CODE 19-142-UWF-C0110

REV E

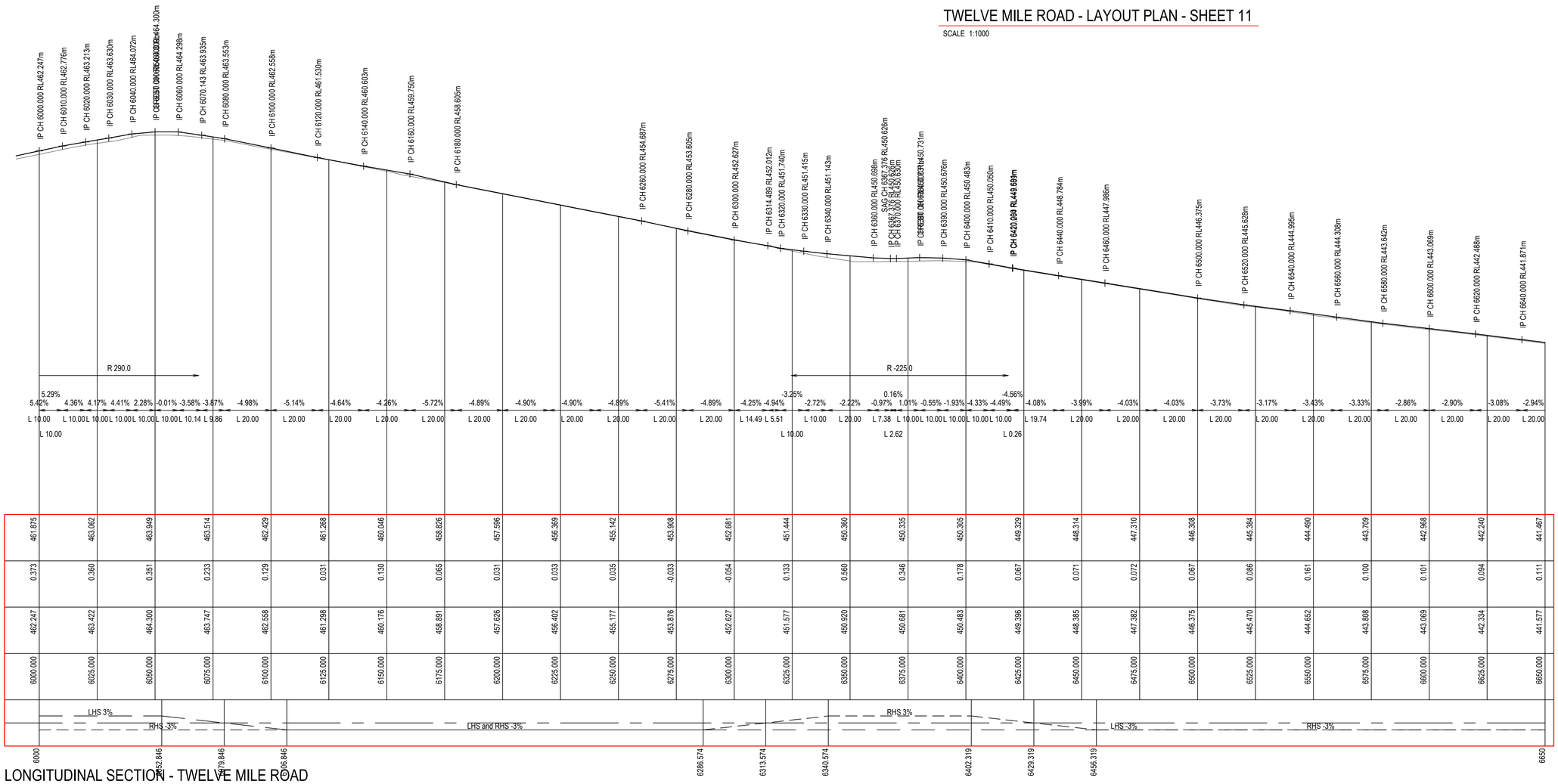


LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING TWELVE MILE ROAD
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL

TWELVE MILE ROAD - LAYOUT PLAN - SHEET 11

SCALE 1:1000



LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
E	FOR APPROVAL	13.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
B	FOR REVIEW	17.03.2020
A	FOR REVIEW	28.06.2019

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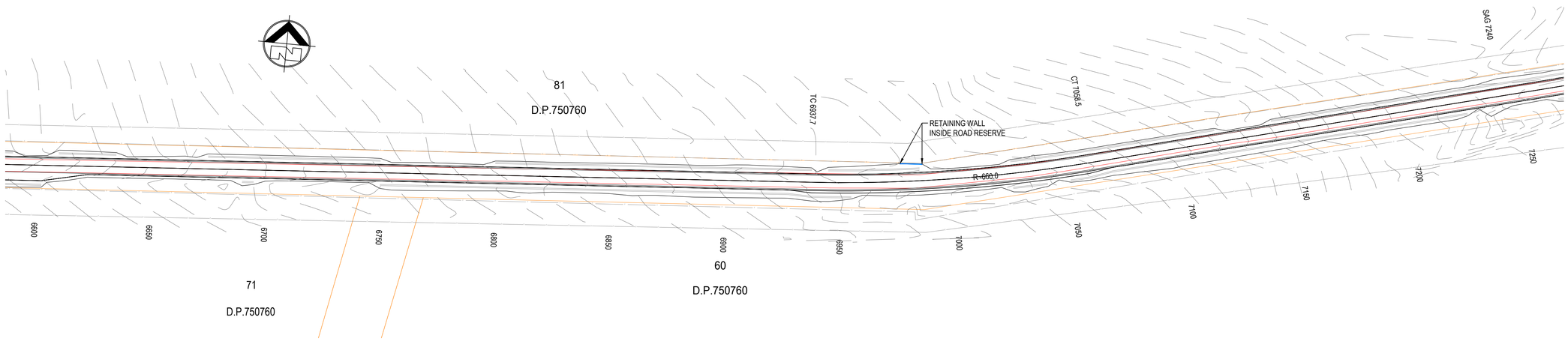
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 11

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE	SHOWN	SIZE	A1		

DRAWING CODE 19-142-UWF-C0111

REV E

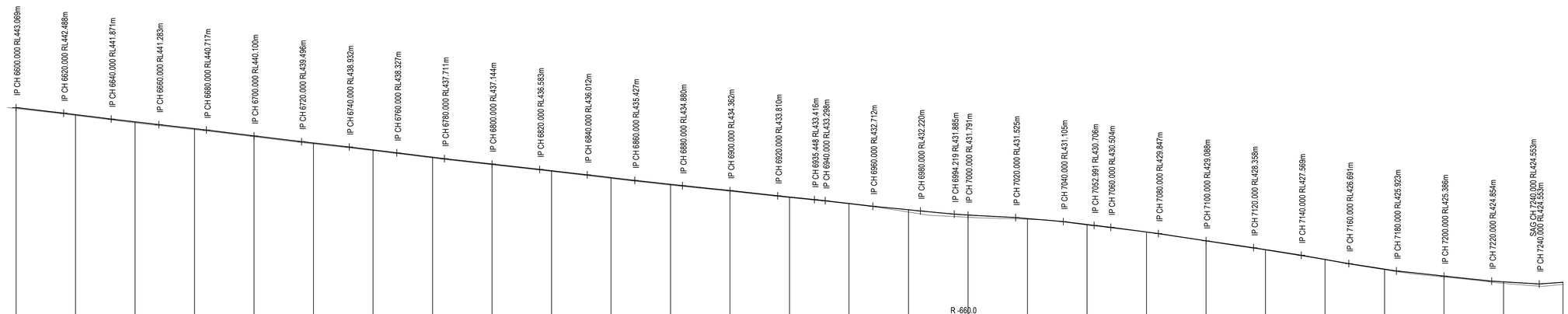


LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING TWELVE MILE ROAD
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL

TWELVE MILE ROAD - LAYOUT PLAN - SHEET 12

SCALE 1:1000



Horiz. Curve Data (m)

Vertical Geometry Grade: -2.86% -2.90% -3.08% -2.94% -2.83% -3.08% -3.02% -2.82% -3.02% -3.08% -2.83% -2.80% -2.86% -2.92% -2.74% -2.59% -2.76% -2.55% -2.58% -2.93% -2.46% -2.36% -1.62% -1.33% -2.10% -3.07% -2.89% -3.29% -3.79% -3.65% -3.94% -4.39% -3.84% -2.69% -2.66% -1.51% 1.82%

Vertical Grade Length (m): L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 15.45 L 4.55 L 20.00 L 20.00 L 14.22 L 5.78 L 20.00 L 20.00 L 12.99 L 7.01 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00

Vertical Curve Length (m)

Vertical Curve Radius (m)

DATUM R.L. 406.000

CHAINAGE	EXISTING SURFACE	DEPTH TO DESIGN	DESIGN C.L. SURFACE
6600.000	442.968	0.101	443.069
6625.000	442.240	0.094	442.334
6650.000	441.467	0.111	441.577
6675.000	440.756	0.102	440.858
6700.000	440.006	0.094	440.100
6725.000	439.258	0.097	439.355
6750.000	438.551	0.079	438.630
6775.000	437.781	0.084	437.865
6800.000	437.065	0.079	437.144
6825.000	436.366	0.074	436.440
6850.000	435.638	0.082	435.720
6875.000	434.928	0.089	435.017
6900.000	434.293	0.069	434.362
6925.000	433.620	0.062	433.682
6950.000	432.965	0.040	433.005
6975.000	432.104	0.239	432.343
7000.000	431.560	0.231	431.791
7025.000	431.354	0.066	431.420
7050.000	430.748	0.050	430.798
7075.000	429.992	0.018	430.011
7100.000	429.067	0.021	429.088
7125.000	428.121	0.040	428.161
7150.000	427.103	0.027	427.130
7175.000	426.054	0.061	426.115
7200.000	425.280	0.105	425.386
7225.000	424.634	0.145	424.779
7250.000	424.516	0.218	424.735

SUPER ELEV.: LHS and RHS -3% (6600 – 6886.742); RHS 3% (6886.742 – 6923.742); LHS -3% (6923.742 – 6960.742); RHS -3% (6960.742 – 7250)

LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
E	FOR APPROVAL	13.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
B	FOR REVIEW	17.03.2020
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REVISION HISTORY

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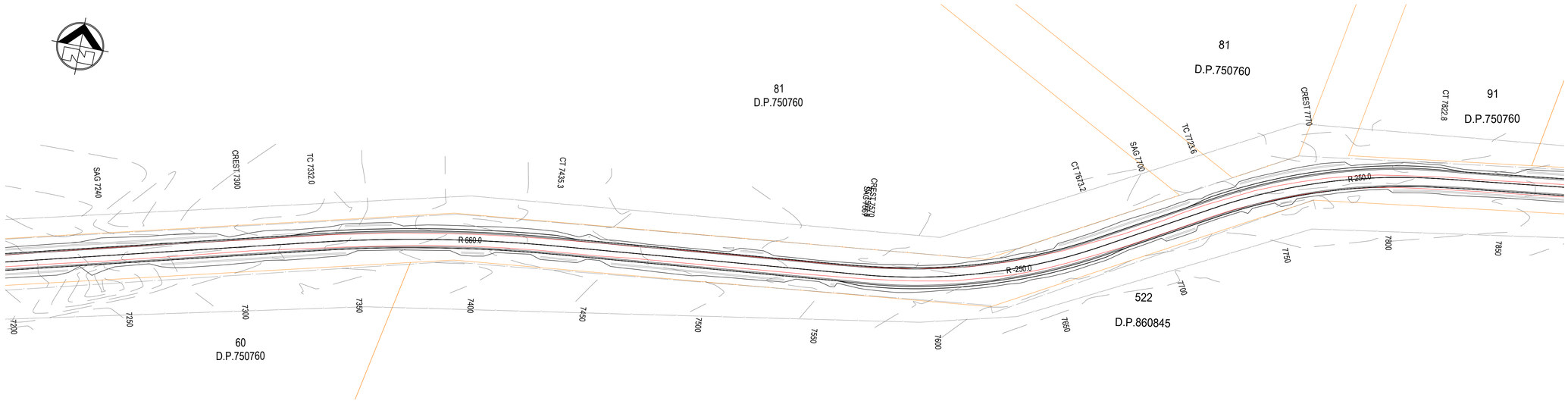
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 12

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE SHOWN	SIZE A1				

DRAWING CODE 19-142-UWF-C0112

REV E

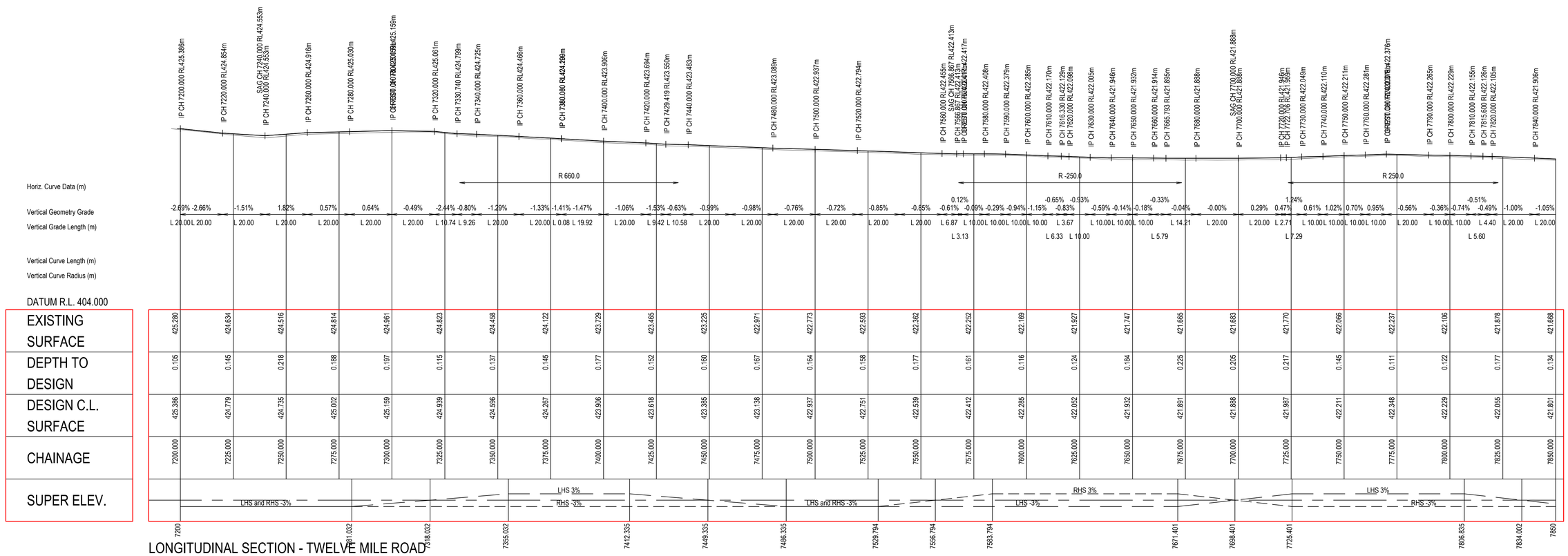


LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING TWELVE MILE ROAD
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL

TWELVE MILE ROAD - LAYOUT PLAN - SHEET 13

SCALE 1:1000



LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
E	FOR APPROVAL	13.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
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ACN 106 675 156
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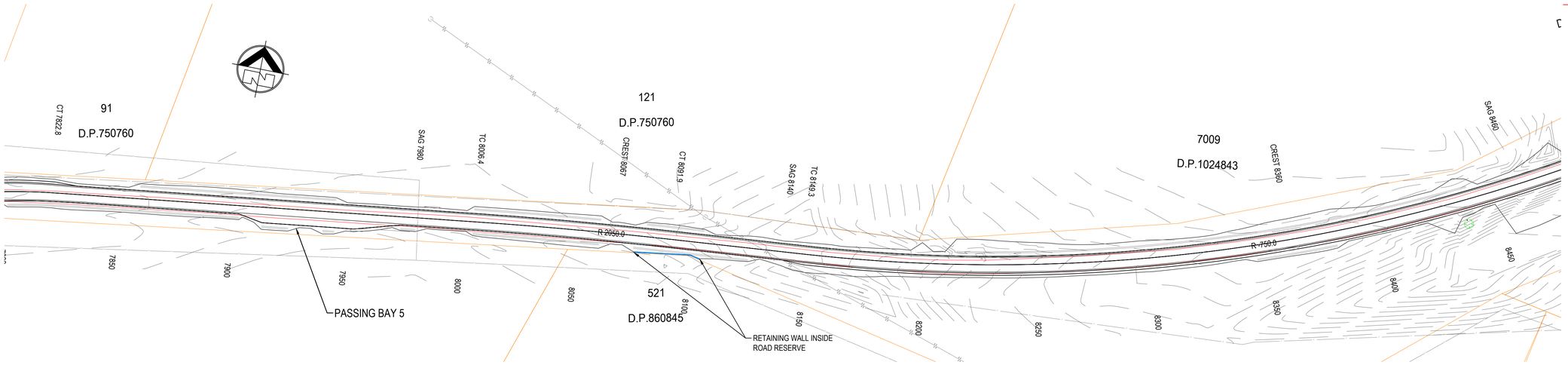
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 13

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE SHOWN	SIZE A1				

DRAWING CODE 19-142-UWF-C0113

REV E

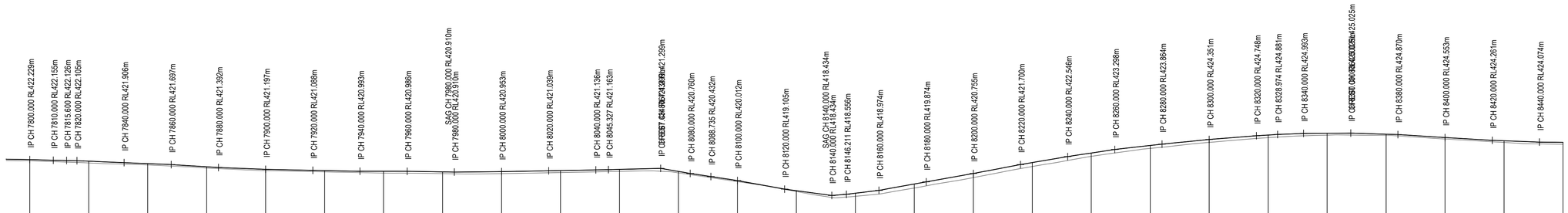


LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING TWELVE MILE ROAD
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL

TWELVE MILE ROAD - LAYOUT PLAN - SHEET 14

SCALE 1:1000



Horiz. Curve Data (m)

Vertical Geometry Grade: -0.36% -0.51% -0.74% -0.49% -1.00% -1.05% -1.53% -0.97% -0.54% -0.47% -0.04% -0.38% 0.22% 0.44% 0.43% 0.48% 0.50% 0.61% -4.29% -3.75% -3.73% -4.54% -3.35% 1.96% 3.03% 4.50% 4.41% 4.73% 4.23% 3.76% 2.83% 2.44% 1.99% 1.48% 1.02% 0.16% -0.78% -1.58% -1.46% -0.94% -0.27%

Vertical Grade Length (m): L 10.00 L 5.60 L 10.00 L 4.40 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 1.92 L 18.08 L 20.00 L 5.33 L 22.11 L 12.57 L 8.73 L 11.27 L 20.00 L 20.00 L 6.21 L 13.79 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 8.97 L 11.03 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00

Vertical Curve Length (m)

Vertical Curve Radius (m)

DATUM R.L. 400.000

EXISTING SURFACE	422.106	421.878	421.668	421.340	421.062	420.932	420.805	420.752	420.746	420.855	420.982	420.830	419.899	418.852	418.346	419.218	420.323	421.497	422.573	423.411	424.045	424.542	424.817	424.789	424.408	424.045	423.849
DEPTH TO DESIGN	0.122	0.177	0.134	0.128	0.134	0.133	0.184	0.177	0.206	0.208	0.210	0.144	0.113	0.086	0.325	0.431	0.432	0.414	0.349	0.311	0.307	0.280	0.193	0.119	0.145	0.169	0.197
DESIGN C.L. SURFACE	422.229	422.055	421.801	421.468	421.197	421.064	420.989	420.929	420.953	421.064	421.191	420.974	420.012	418.937	418.671	419.649	420.755	421.911	422.922	423.722	424.351	424.822	425.009	424.909	424.553	424.214	424.046
CHAINAGE	7800.000	7825.000	7850.000	7875.000	7900.000	7925.000	7950.000	7975.000	8000.000	8025.000	8050.000	8075.000	8100.000	8125.000	8150.000	8175.000	8200.000	8225.000	8250.000	8275.000	8300.000	8325.000	8350.000	8375.000	8400.000	8425.000	8450.000

SUPER ELEV.: LHS 3%; RHS -3%; LHS and RHS -3%; LHS -3%; RHS 3%

7800 7806.835 7833.835 7860.835 8098.299 8135.299 8172.299 8450

LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
E	FOR APPROVAL	13.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
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ACN 106 675 156

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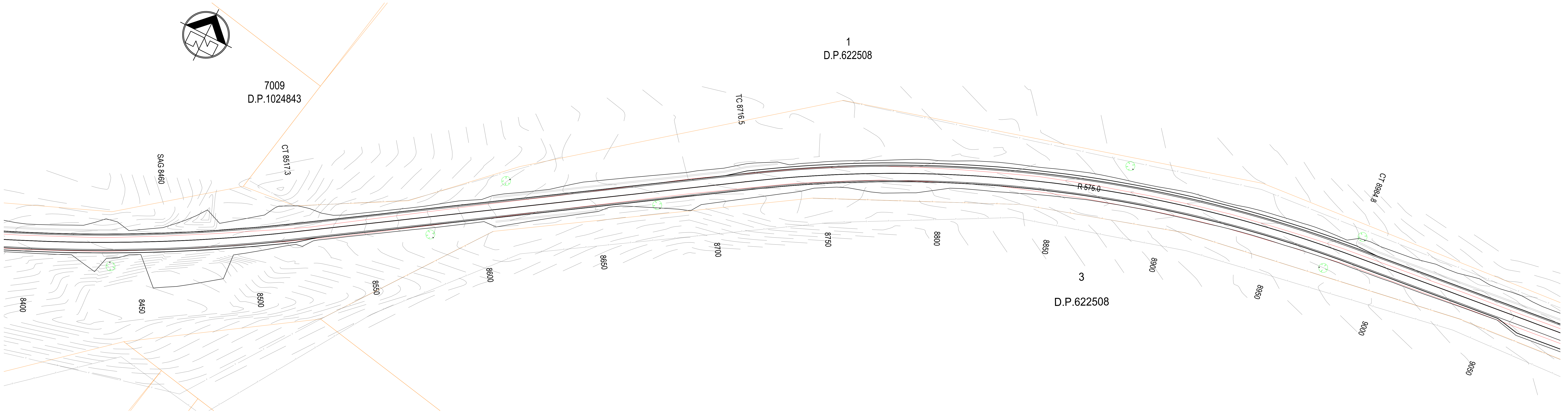
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 14

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE SHOWN	SIZE A1				

DRAWING CODE 19-142-UWF-C0114

REV E

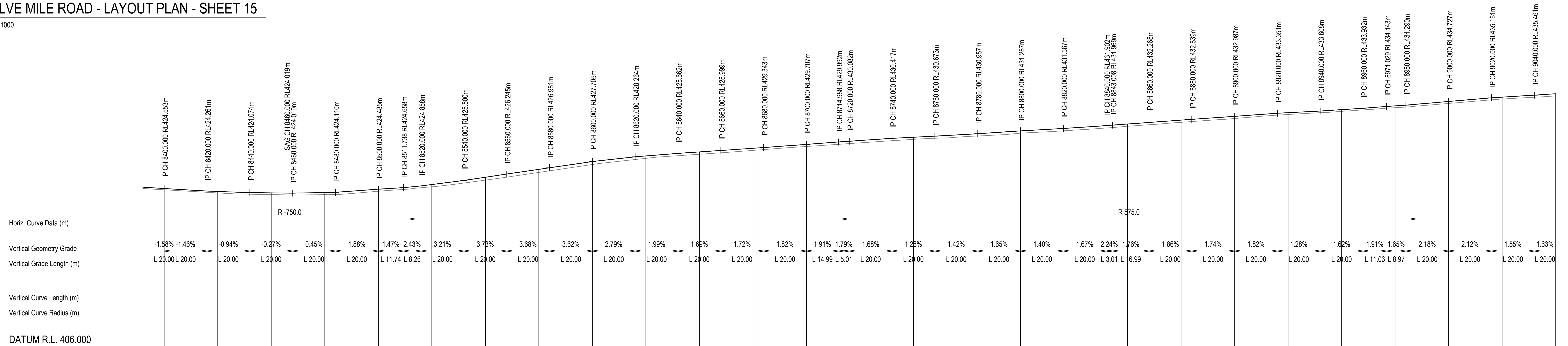


LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING TWELVE MILE ROAD
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL

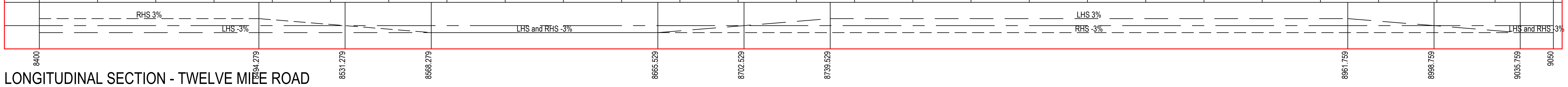
TWELVE MILE ROAD - LAYOUT PLAN - SHEET 15

SCALE 1:1000



EXISTING SURFACE	424.408	424.045	423.849	423.838	424.240	424.762	425.538	426.441	427.361	428.085	428.558	429.006	429.465	429.894	430.301	430.628	431.026	431.375	431.831	432.291	432.737	433.206	433.568	434.001	434.495	435.010	435.367
DEPTH TO DESIGN	0.145	0.169	0.197	0.249	0.244	0.257	0.335	0.356	0.343	0.278	0.273	0.251	0.241	0.272	0.244	0.258	0.261	0.275	0.261	0.256	0.250	0.210	0.203	0.207	0.232	0.218	0.257
DESIGN C.L. SURFACE	424.553	424.214	424.046	424.087	424.485	425.019	425.873	426.797	427.705	428.363	428.830	429.257	429.707	430.166	430.545	430.886	431.287	431.651	432.092	432.547	432.987	433.415	433.770	434.208	434.727	435.228	435.624
CHAINAGE	8400.000	8425.000	8450.000	8475.000	8500.000	8525.000	8550.000	8575.000	8600.000	8625.000	8650.000	8675.000	8700.000	8725.000	8750.000	8775.000	8800.000	8825.000	8850.000	8875.000	8900.000	8925.000	8950.000	8975.000	9000.000	9025.000	9050.000

SUPER ELEV.



LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
E	FOR APPROVAL	13.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
B	FOR REVIEW	17.03.2020
A	FOR REVIEW	28.06.2019

REVISION HISTORY

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ACN 106 675 156

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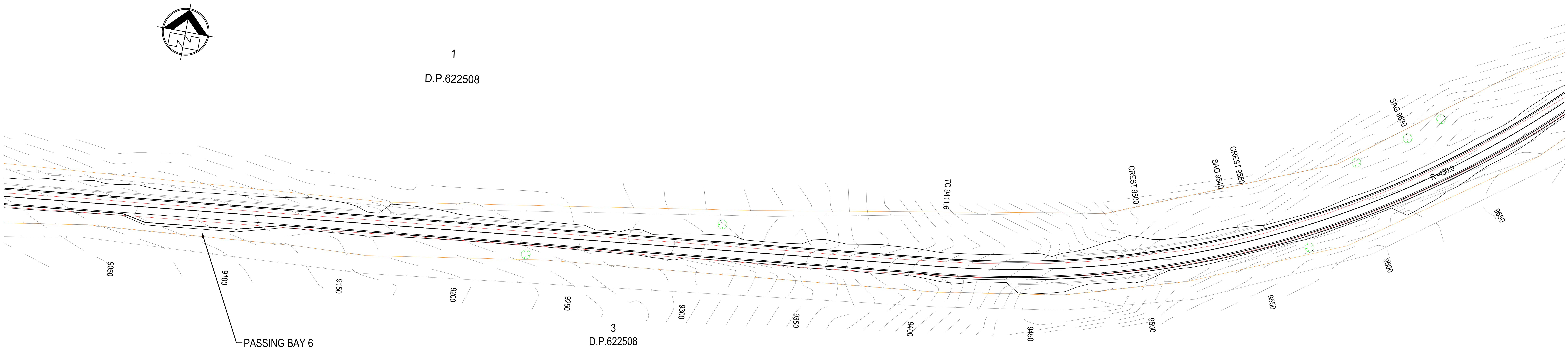
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 15

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE SHOWN	SIZE A1				
DRAWING CODE	19-142-UWF-C0115			REV	E



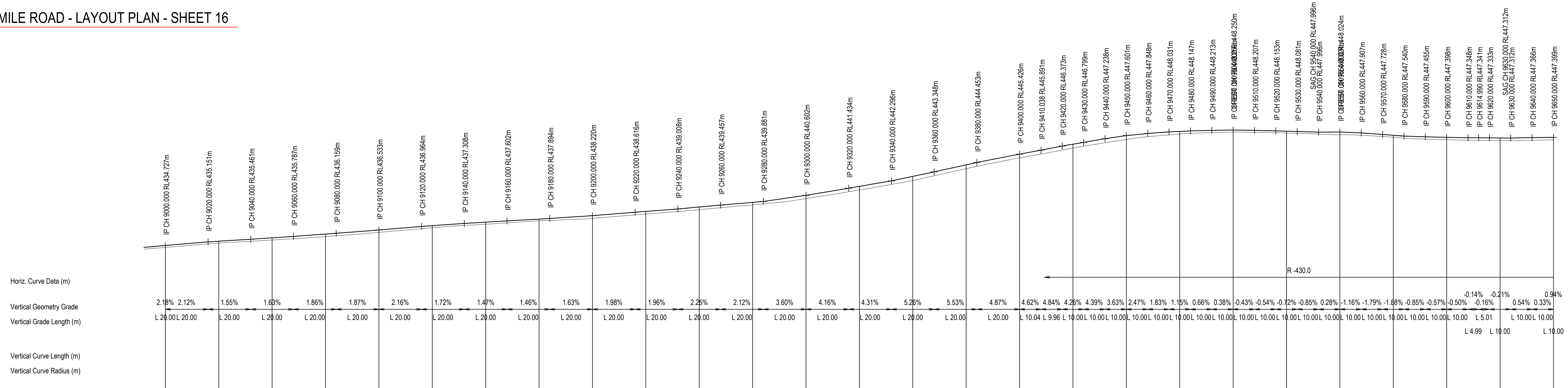
LEGEND

▬	PROPOSED TWELVE MILE ROAD
▬	PROPOSED TWELVE MILE ROAD BATTER
▬	EXISTING TWELVE MILE ROAD
▬	EXISTING OVERHEAD POWERLINE
▬	EXISTING UNDERGROUND ELECTRICAL
▬	EXISTING UNDERGROUND TELECOMMUNICATIONS
▬	EXISTING WATER MAIN
▬	EXISTING FENCELINE
●	EXISTING TREE
- -	EXISTING CONTOURS - 0.5m INTERVAL

▬	PROPERTY BOUNDARY

TWELVE MILE ROAD - LAYOUT PLAN - SHEET 16

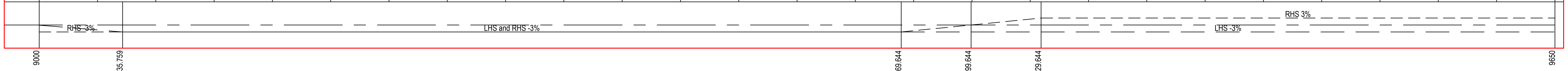
SCALE 1:1000



DATUM R.L. 416.000

EXISTING SURFACE	434.495	435.010	435.367	435.773	436.265	436.804	437.213	437.619	437.905	438.412	438.926	439.486	440.217	441.227	442.336	443.728	444.996	446.146	447.139	447.784	448.013	447.900	447.695	447.407	447.121	447.028	447.098
DEPTH TO DESIGN	0.232	0.218	0.257	0.293	0.268	0.246	0.242	0.202	0.315	0.303	0.307	0.289	0.384	0.423	0.486	0.449	0.430	0.441	0.462	0.305	0.237	0.217	0.329	0.226	0.277	0.294	0.302
DESIGN C.L. SURFACE	434.727	435.228	435.624	436.066	436.533	437.050	437.455	437.821	438.220	438.714	439.232	439.775	440.602	441.649	442.822	444.177	445.426	446.586	447.601	448.089	448.250	448.117	448.024	447.634	447.398	447.322	447.399
CHAINAGE	9000.000	9025.000	9050.000	9075.000	9100.000	9125.000	9150.000	9175.000	9200.000	9225.000	9250.000	9275.000	9300.000	9325.000	9350.000	9375.000	9400.000	9425.000	9450.000	9475.000	9500.000	9525.000	9550.000	9575.000	9600.000	9625.000	9650.000

SUPER ELEV.



LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
E	FOR APPROVAL	13.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
B	FOR REVIEW	17.03.2020
A	FOR REVIEW	28.06.2019

REVISION HISTORY

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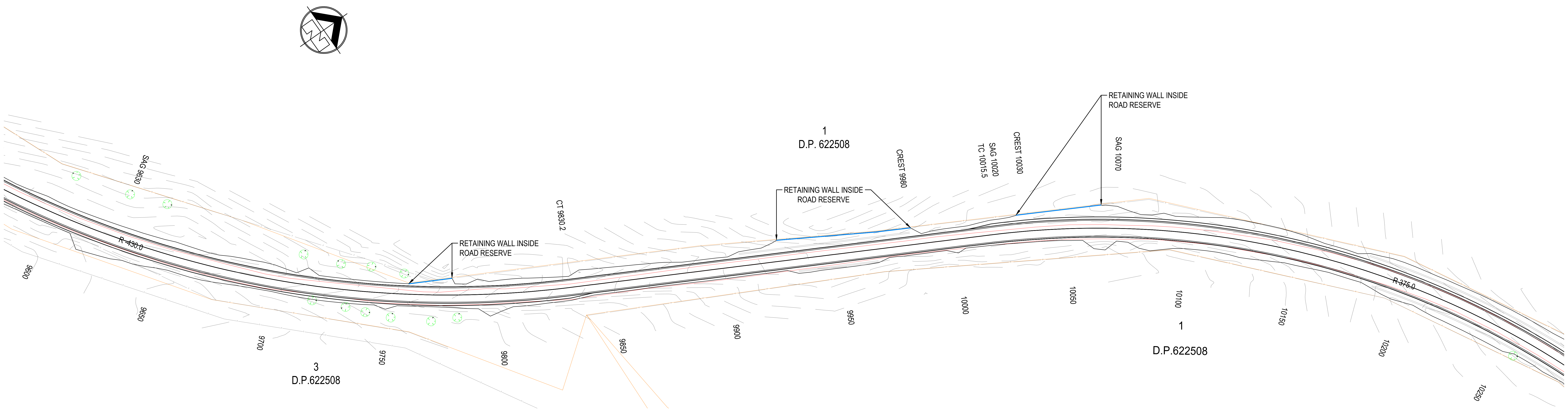
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 16

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE	SHOWN	SIZE	A1		

DRAWING CODE
19-142-UWF-C0116

REV
E

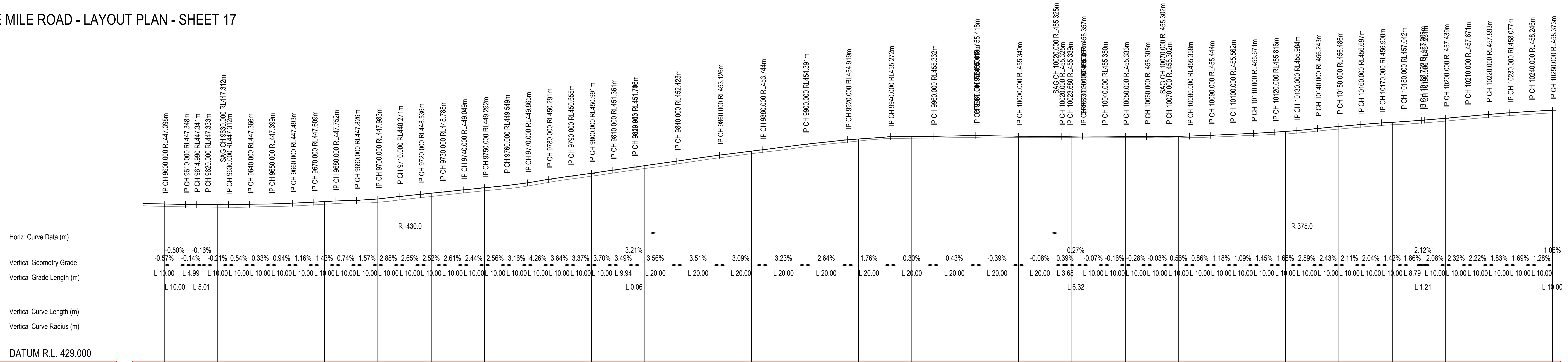


LEGEND

—	PROPERTY BOUNDARY
—	PROPOSED TWELVE MILE ROAD
—	PROPOSED TWELVE MILE ROAD BATTER
—	EXISTING TWELVE MILE ROAD
—	EXISTING OVERHEAD POWERLINE
—	EXISTING UNDERGROUND ELECTRICAL
—	EXISTING UNDERGROUND TELECOMMUNICATIONS
—	EXISTING WATER MAIN
—	EXISTING FENCELINE
○	EXISTING TREE
—	EXISTING CONTOURS - 0.5m INTERVAL

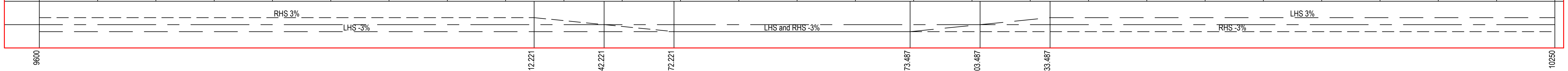
TWELVE MILE ROAD - LAYOUT PLAN - SHEET 17

SCALE 1:1000



EXISTING SURFACE	447.121	447.028	447.098	447.372	447.607	448.278	448.945	449.717	450.660	451.555	452.462	453.291	454.090	454.771	455.099	455.176	455.192	455.206	455.189	455.144	455.332	455.612	456.178	456.680	457.106	457.667	458.065
DEPTH TO DESIGN	0.277	0.294	0.302	0.309	0.376	0.384	0.348	0.361	0.331	0.333	0.312	0.298	0.301	0.236	0.203	0.220	0.148	0.137	0.144	0.186	0.230	0.288	0.308	0.291	0.333	0.318	0.308
DESIGN C.L. SURFACE	447.398	447.322	447.399	447.681	447.983	448.662	449.292	450.078	450.991	451.888	452.774	453.590	454.391	455.007	455.302	455.396	455.340	455.343	455.333	455.330	455.562	455.900	456.486	456.971	457.439	457.985	458.373
CHAINAGE	9600.000	9625.000	9650.000	9675.000	9700.000	9725.000	9750.000	9775.000	9800.000	9825.000	9850.000	9875.000	9900.000	9925.000	9950.000	9975.000	10000.000	10025.000	10050.000	10075.000	10100.000	10125.000	10150.000	10175.000	10200.000	10225.000	10250.000

SUPER ELEV.



LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
E	FOR APPROVAL	13.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
B	FOR REVIEW	17.03.2020
A	FOR REVIEW	28.06.2019

REVISION HISTORY

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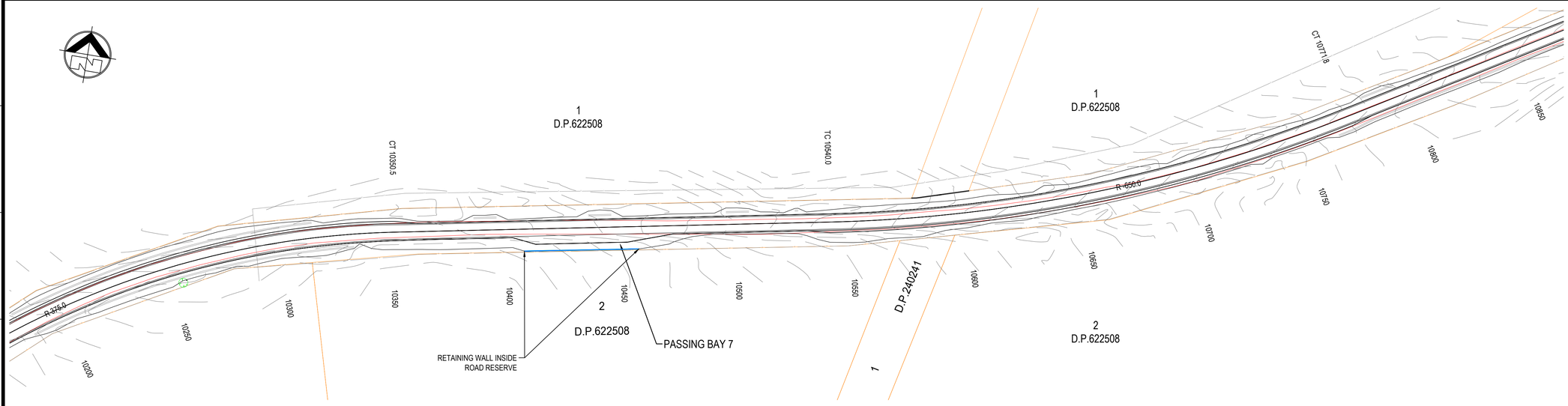
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 17

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE	SHOWN	SIZE	A1		

DRAWING CODE
19-142-UWF-C0117
REV
E



LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING TWELVE MILE ROAD
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL

TWELVE MILE ROAD - LAYOUT PLAN - SHEET 18

SCALE 1:1000

Horiz. Curve Data (m): R 375.0; R -650.0

Vertical Geometry Grade: 2.08% 2.32% 2.22% 1.83% 1.69% 1.28% 1.06% 1.02% 1.28% 0.83% 0.41% 0.57% 0.44% 0.25% 0.11% 0.64% 0.53% 0.49% 1.01% 1.34% 1.75% 1.81% 2.77% 2.50% 2.71% 2.89% 2.87% 2.64% 2.78% 3.38% 3.45% 2.47% 2.92% 2.79% 1.99% 2.92% 3.06% 2.89% 2.71% 2.65% 2.52% 2.68% 2.51% 2.73% 2.79% 3.32%

Vertical Grade Length (m): L 10.00 L 10.00 L 10.00 L 10.00 L 10.00 L 10.00 L 10.00 L 10.00 L 10.00 L 10.00 L 10.00 L 10.00 L 10.00 L 10.00 L 10.00 L 10.00 L 6.10 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 6.47 L 13.53 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 10.03 L 9.97 L 20.00 L 20.00 L 20.00 L 20.00 L 20.00 L 13.60 L 6.40 L 20.00 L 20.00 L 20.00 L 20.00

Vertical Curve Length (m): L 10.00; L 3.90

Vertical Curve Radius (m):

DATUM R.L. 439.000

EXISTING SURFACE	457.106	457.667	458.065	458.290	458.527	458.656	458.740	458.939	459.304	459.743	460.280	460.928	461.569	462.277	462.936	463.690	464.551	465.159	465.917	466.526	467.301	467.986	468.647	469.299	469.961	470.701	471.400
DEPTH TO DESIGN	0.333	0.318	0.308	0.355	0.305	0.289	0.294	0.298	0.252	0.254	0.266	0.270	0.297	0.310	0.328	0.359	0.356	0.388	0.348	0.374	0.357	0.386	0.396	0.389	0.343	0.308	0.358
DESIGN C.L. SURFACE	457.439	457.985	458.373	458.645	458.832	458.946	459.034	459.236	459.555	459.997	460.546	461.198	461.866	462.587	463.264	464.049	464.907	465.547	466.264	466.901	467.658	468.372	469.043	469.689	470.324	471.009	471.759
CHAINAGE	10200.000	10225.000	10250.000	10275.000	10300.000	10325.000	10350.000	10375.000	10400.000	10425.000	10450.000	10475.000	10500.000	10525.000	10550.000	10575.000	10600.000	10625.000	10650.000	10675.000	10700.000	10725.000	10750.000	10775.000	10800.000	10825.000	10850.000

SUPER ELEV.: LHS 3%; RHS -3%; LHS and RHS -3%; RHS 3%; LHS -3%; RHS -3%

10200 10332.46 10362.46 10392.46 10489.046 10526.046 10563.046 10748.834 10785.834 10822.834 10850

LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
E	FOR APPROVAL	13.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
B	FOR REVIEW	17.03.2020
A	FOR REVIEW	28.06.2019

REVISION HISTORY

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ACN 106 675 156

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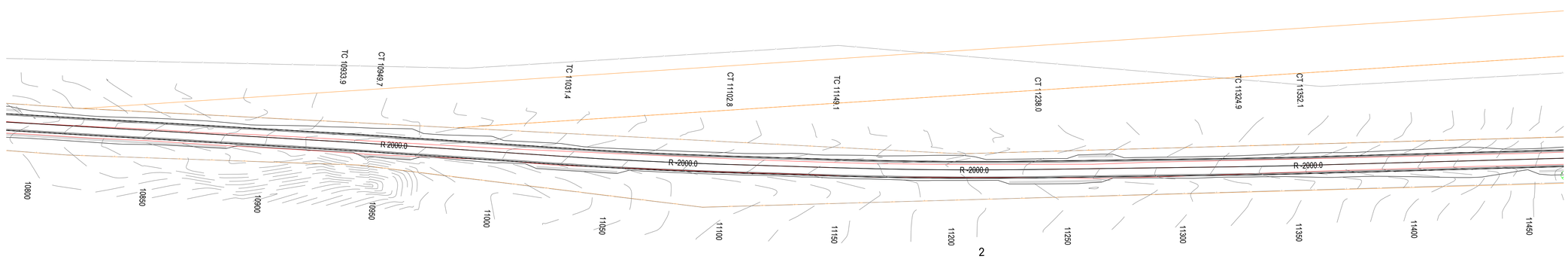
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 18

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE SHOWN	SIZE A1				

DRAWING CODE 19-142-UWF-C0118

REV E



LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING TWELVE MILE ROAD
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL

TWELVE MILE ROAD - LAYOUT PLAN - SHEET 19

SCALE 1:1000

DATUM R.L. 452.000

EXISTING SURFACE	469.981	470.701	471.400	472.240	472.931	473.647	474.201	474.548	474.698	475.338	475.816	476.289	476.757	477.143	477.686	478.065	478.487	478.909	479.288	479.713	480.227	480.762	481.378	482.083	482.874	483.684	484.381
DEPTH TO DESIGN	0.343	0.308	0.358	0.283	0.266	0.244	0.213	0.247	0.234	0.247	0.242	0.238	0.234	0.249	0.230	0.237	0.235	0.227	0.235	0.242	0.236	0.247	0.247	0.260	0.261	0.247	0.276
DESIGN C.L. SURFACE	470.324	471.009	471.759	472.523	473.197	473.890	474.414	474.795	475.132	475.585	476.058	476.527	476.992	477.392	477.916	478.301	478.722	479.137	479.503	479.956	480.463	481.008	481.625	482.343	483.135	483.931	484.657
CHAINAGE	10800.000	10825.000	10850.000	10875.000	10900.000	10925.000	10950.000	10975.000	11000.000	11025.000	11050.000	11075.000	11100.000	11125.000	11150.000	11175.000	11200.000	11225.000	11250.000	11275.000	11300.000	11325.000	11350.000	11375.000	11400.000	11425.000	11450.000
SUPER ELEV.	LHS -3%																LHS and RHS -3%										

10800 472.834 11450

LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
E	FOR APPROVAL	14.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
B	FOR REVIEW	17.03.2020
A	FOR REVIEW	28.06.2019

REVISION HISTORY

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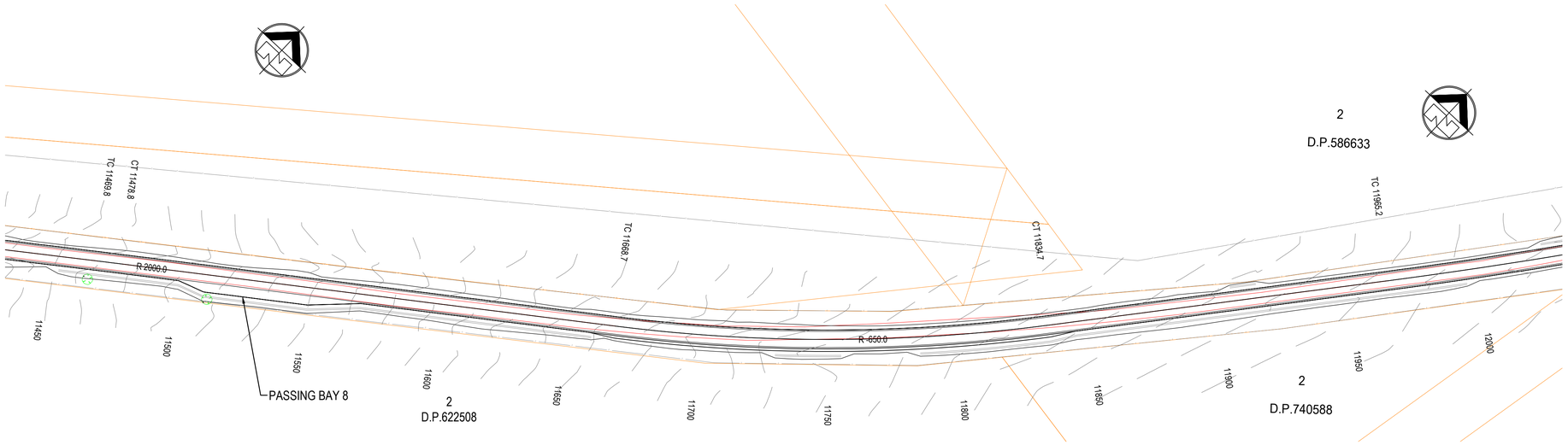
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 19

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE SHOWN	SIZE A1				

DRAWING CODE 19-142-UWF-C0119

REV E

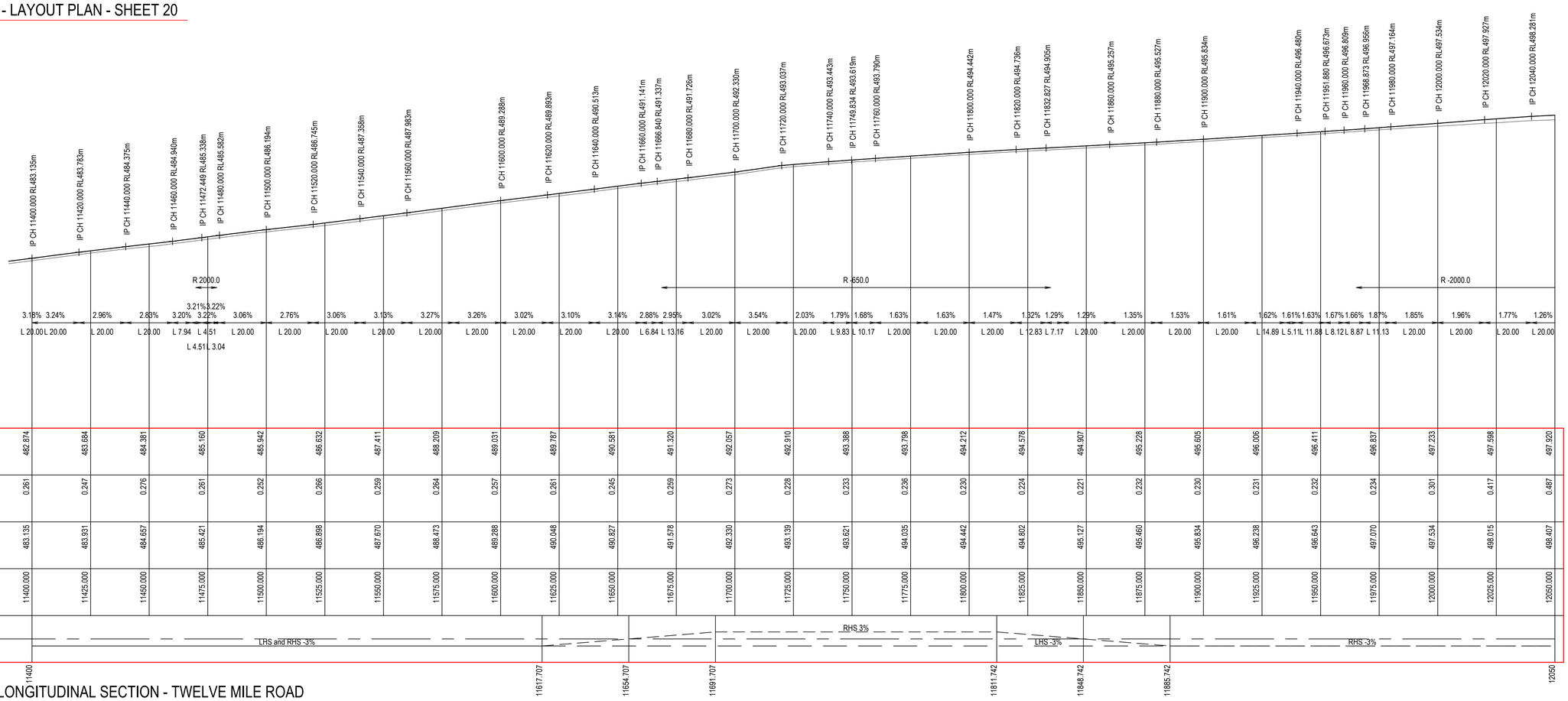


LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING TWELVE MILE ROAD
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL

TWELVE MILE ROAD - LAYOUT PLAN - SHEET 20

SCALE 1:1000



LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
E	FOR APPROVAL	14.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
B	FOR REVIEW	17.03.2020
A	FOR REVIEW	28.06.2019

REVISION HISTORY

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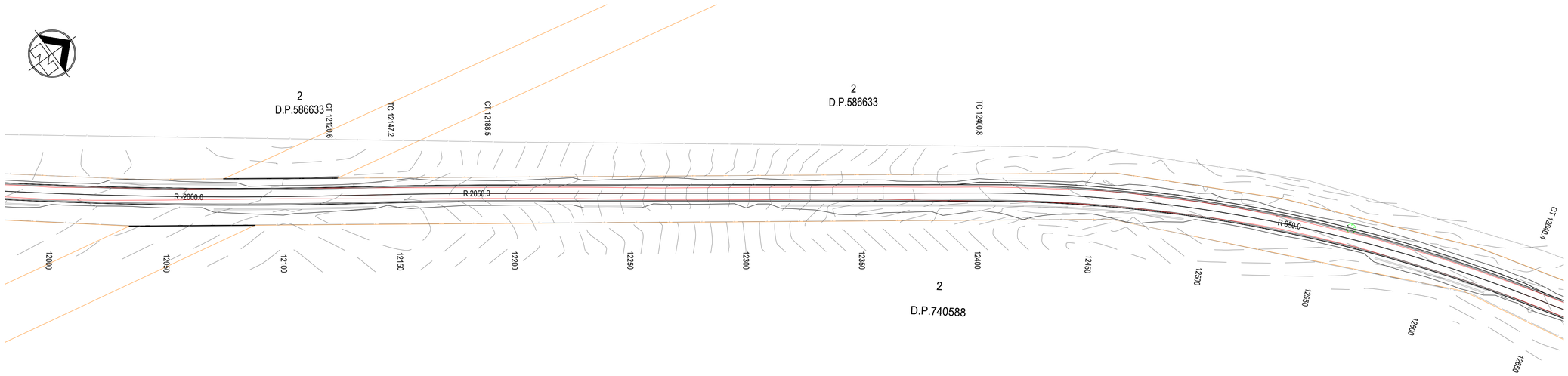
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 20

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE SHOWN	SIZE A1				

DRAWING CODE 19-142-UWF-C0120

REV E

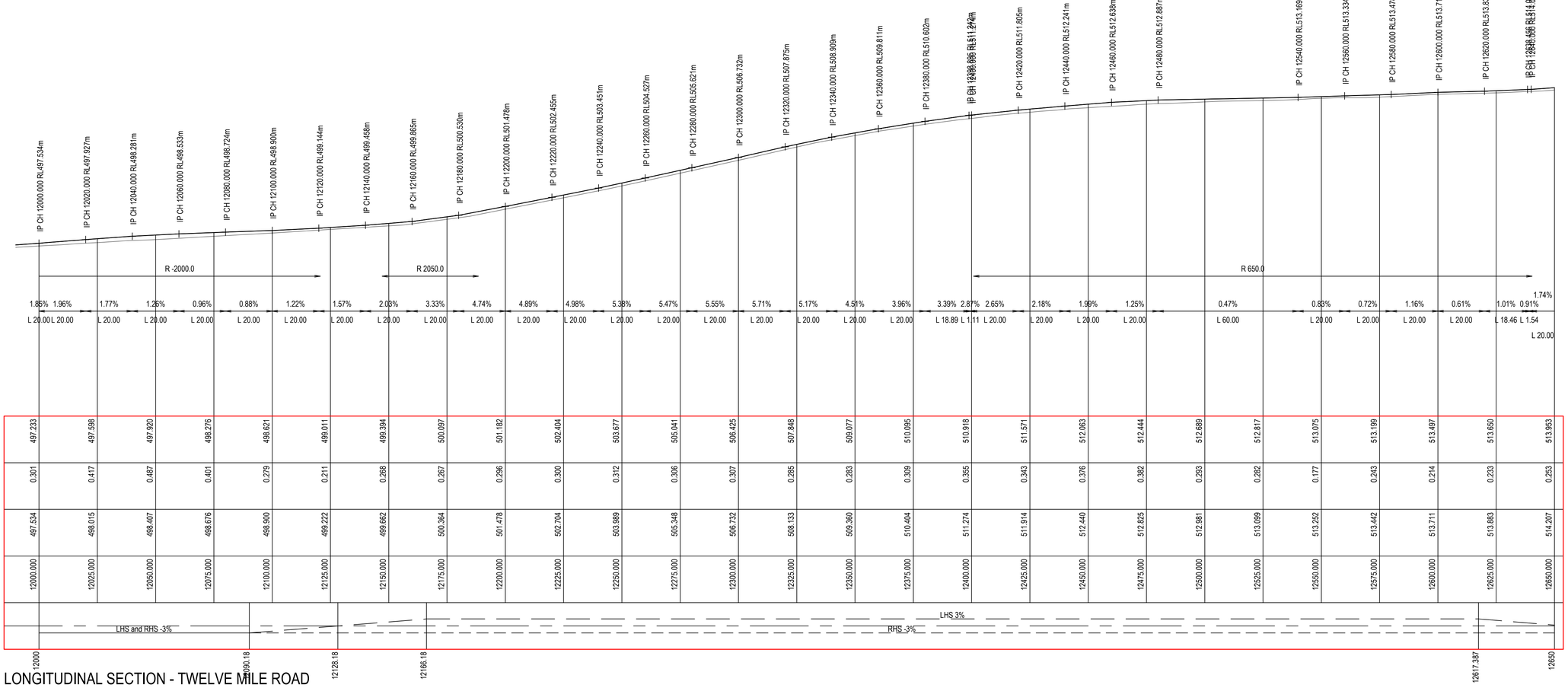


LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING TWELVE MILE ROAD
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL

TWELVE MILE ROAD - LAYOUT PLAN - SHEET 21

SCALE 1:1000



Horiz. Curve Data (m)

Vertical Geometry Grade: 1.85% 1.96% 1.77% 1.26% 0.96% 0.88% 1.22% 1.57% 2.03% 3.33% 4.74% 4.89% 4.98% 5.38% 5.47% 5.55% 5.71% 5.17% 4.51% 3.96% 3.39% 2.87% 2.65% 2.18% 1.99% 1.25% 0.47% 0.83% 0.72% 1.16% 0.61% 1.01% 0.91% 1.74%

Vertical Grade Length (m): L 20.00 L 18.89 L 1.11 L 20.00 L 20.00 L 20.00 L 20.00 L 60.00 L 20.00 L 20.00 L 20.00 L 20.00 L 18.46 L 1.54 L 20.00

Vertical Curve Length (m)

Vertical Curve Radius (m)

DATUM R.L. 479.000

EXISTING SURFACE	497.233	497.598	497.920	498.276	498.621	499.011	499.394	500.097	501.182	502.404	503.677	505.041	506.425	507.848	509.077	510.095	510.918	511.571	512.063	512.444	512.689	512.817	513.075	513.199	513.497	513.650	513.953
DEPTH TO DESIGN	0.301	0.417	0.487	0.401	0.279	0.211	0.268	0.267	0.296	0.300	0.312	0.306	0.307	0.285	0.283	0.309	0.355	0.343	0.376	0.382	0.293	0.282	0.177	0.243	0.214	0.233	0.253
DESIGN C.L. SURFACE	497.534	498.015	498.407	498.676	498.900	499.222	499.662	500.364	501.478	502.704	503.989	505.348	506.732	508.133	509.360	510.404	511.274	511.914	512.440	512.825	512.981	513.099	513.252	513.442	513.711	513.883	514.207
CHAINAGE	12000.000	12025.000	12050.000	12075.000	12100.000	12125.000	12150.000	12175.000	12200.000	12225.000	12250.000	12275.000	12300.000	12325.000	12350.000	12375.000	12400.000	12425.000	12450.000	12475.000	12500.000	12525.000	12550.000	12575.000	12600.000	12625.000	12650.000

LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
E	FOR APPROVAL	14.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
B	FOR REVIEW	17.03.2020
A	FOR REVIEW	28.06.2019

REVISION HISTORY

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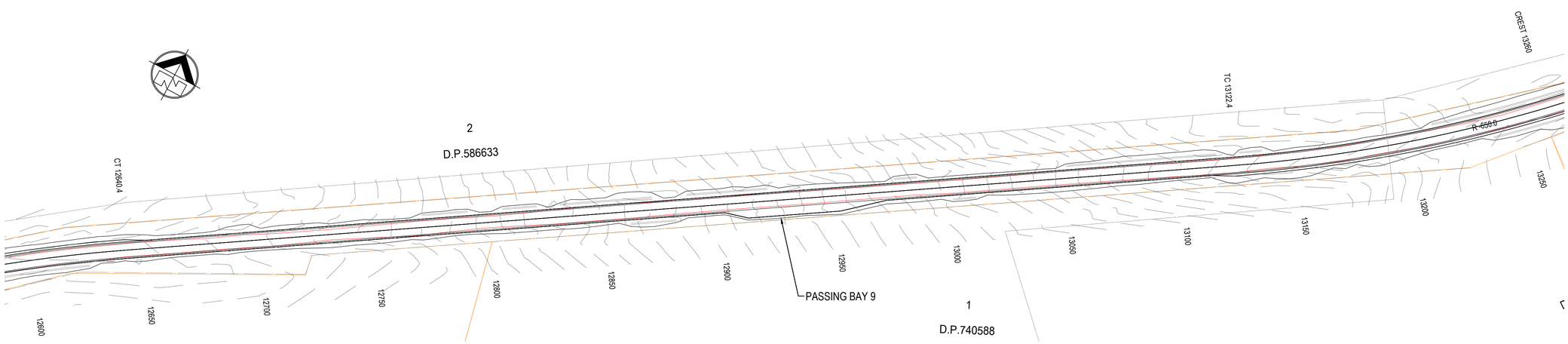
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 21

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE SHOWN	SIZE A1				

DRAWING CODE 19-142-UWF-C0121

REV E

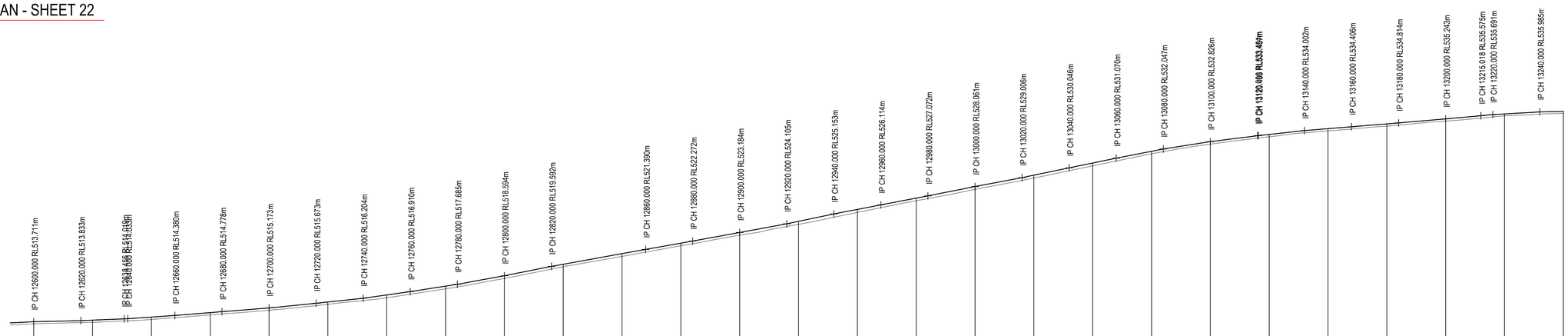


LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING TWELVE MILE ROAD
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL

TWELVE MILE ROAD - LAYOUT PLAN - SHEET 22

SCALE 1:1000



Horiz. Curve Data (m)

Vertical Geometry Grade: 1.16% 0.61% 1.01% 0.91% 1.74% 1.99% 1.97% 2.50% 2.65% 3.53% 3.88% 4.55% 4.99% 4.50% 4.49% 4.41% 4.56% 4.60% 5.24% 4.80% 4.79% 4.94% 4.72% 5.20% 5.12% 4.89% 3.89% 3.14% 2.80% 2.73% 2.02% 2.04% 2.14% 2.21% 2.33% 1.47% 0.37%

Vertical Grade Length (m): L 20.00 L 20.00 L 18.46 L 1.54 L 20.00 L 0.46 L 19.54 L 20.00 L 20.00 L 20.00 L 15.02 L 4.98 L 20.00 L 20.00

Vertical Curve Length (m)

Vertical Curve Radius (m)

DATUM R.L. 495.000

EXISTING SURFACE	513.497	513.650	513.953	514.442	514.930	515.563	516.262	517.201	518.302	519.546	520.645	521.782	522.899	524.049	525.311	526.550	527.765	528.960	530.254	531.535	532.562	533.340	533.967	534.469	535.010	535.558	535.821
DEPTH TO DESIGN	0.214	0.233	0.253	0.237	0.243	0.243	0.295	0.290	0.292	0.271	0.296	0.270	0.285	0.319	0.323	0.283	0.296	0.306	0.304	0.268	0.263	0.251	0.236	0.243	0.233	0.206	0.201
DESIGN C.L. SURFACE	513.711	513.883	514.207	514.679	515.173	515.806	516.557	517.491	518.594	519.817	520.941	522.052	523.184	524.367	525.634	526.833	528.061	529.266	530.558	531.803	532.826	533.591	534.204	534.712	535.243	535.764	536.022
CHAINAGE	12600.000	12625.000	12650.000	12675.000	12700.000	12725.000	12750.000	12775.000	12800.000	12825.000	12850.000	12875.000	12900.000	12925.000	12950.000	12975.000	13000.000	13025.000	13050.000	13075.000	13100.000	13125.000	13150.000	13175.000	13200.000	13225.000	13250.000

SUPER ELEV.: LHS 3%; RHS -3%; LHS and RHS -3%; RHS 3%; LHS -3%

12600 12617.387 12654.387 12691.387 13071.396 13108.396 13145.396 13250

LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
E	FOR APPROVAL	13.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
B	FOR REVIEW	17.03.2020
A	FOR REVIEW	28.06.2019

REVISION HISTORY

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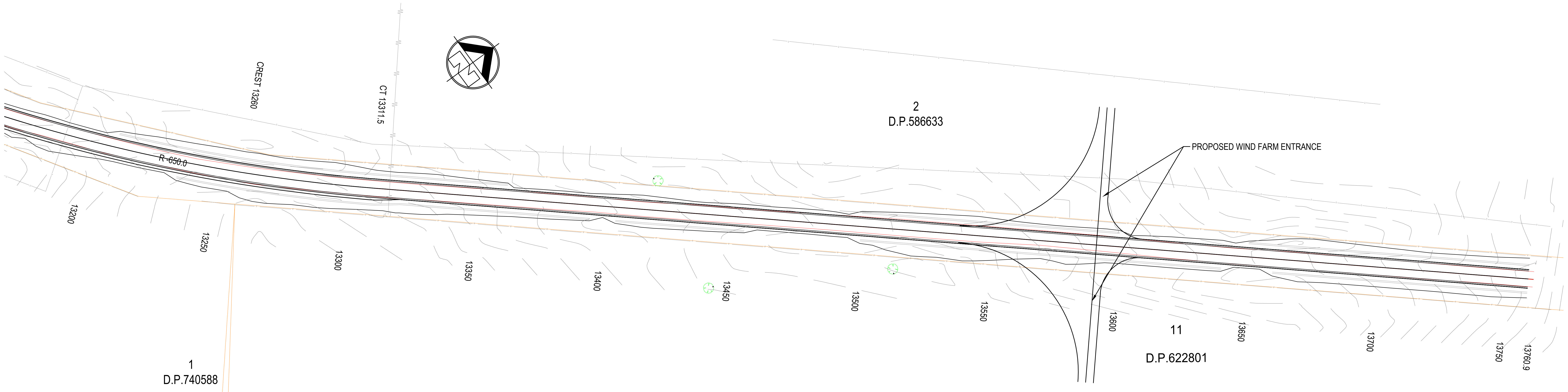
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 22

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE SHOWN	SIZE A1				

DRAWING CODE 19-142-UWF-C0122

REV E



TWELVE MILE ROAD - LAYOUT PLAN - SHEET 23

SCALE 1:1000

LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING TWELVE MILE ROAD
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL

Horiz. Curve Data (m): R -650.0

Vertical Geometry Grade: 2.14% 2.21% 2.33% 1.47% 0.37% -1.01% -1.18% -1.64% -1.30% -1.80% -2.31% -2.34% -1.54% -1.96% -1.73% -2.14% -2.00% -1.51% -1.66% -1.90% -1.74% -2.53% -2.69% -2.00% -2.31% -1.56% -2.64% -3.70% -3.82% -4.27% -4.87%

Vertical Grade Length (m): L 20.00 L 15.02 L 4.98 L 20.00 L 20.00 L 20.00 L 20.00 L 9.57 L 10.43 L 20.00 L 18.83

Vertical Curve Length (m)

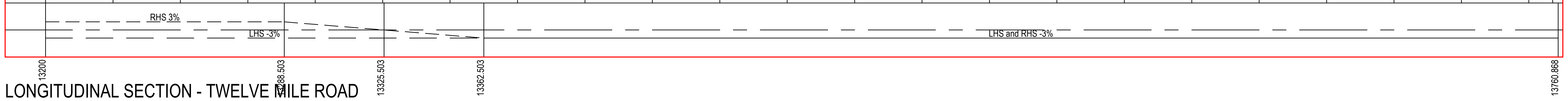
Vertical Curve Radius (m)

DATUM R.L. 506.000

EXISTING SURFACE	535.010	535.558	535.821	535.698	535.445	535.094	534.576	533.987	533.560	533.079	532.621	532.103
DEPTH TO DESIGN	0.233	0.206	0.201	0.208	0.176	0.144	0.161	0.168	0.169	0.172	0.156	0.161
DESIGN C.L. SURFACE	535.243	535.764	536.022	535.906	535.620	535.238	534.737	534.155	533.729	533.251	532.777	532.264
CHAINAGE	13200.000	13225.000	13250.000	13275.000	13300.000	13325.000	13350.000	13375.000	13400.000	13425.000	13450.000	13475.000

EXISTING SURFACE	531.692	531.271	530.805	530.286	529.600	529.094	528.530	527.988	527.134	526.242	525.216	524.772
DEPTH TO DESIGN	0.170	0.163	0.170	0.135	0.157	0.147	0.208	0.198	0.181	0.096	-0.006	0.007
DESIGN C.L. SURFACE	531.862	531.434	530.975	530.422	529.757	529.240	528.738	528.186	527.315	526.337	525.209	524.779
CHAINAGE	13500.000	13525.000	13550.000	13575.000	13600.000	13625.000	13650.000	13675.000	13700.000	13725.000	13750.000	13758.834

SUPER ELEV.



LONGITUDINAL SECTION - TWELVE MILE ROAD

Scale Horiz. 1:1000
Vert. 1:250

No	DESCRIPTION	DATE
E	FOR APPROVAL	14.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
B	FOR REVIEW	17.03.2020
A	FOR REVIEW	28.06.2019

REVISION HISTORY

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ACN 106 675 156

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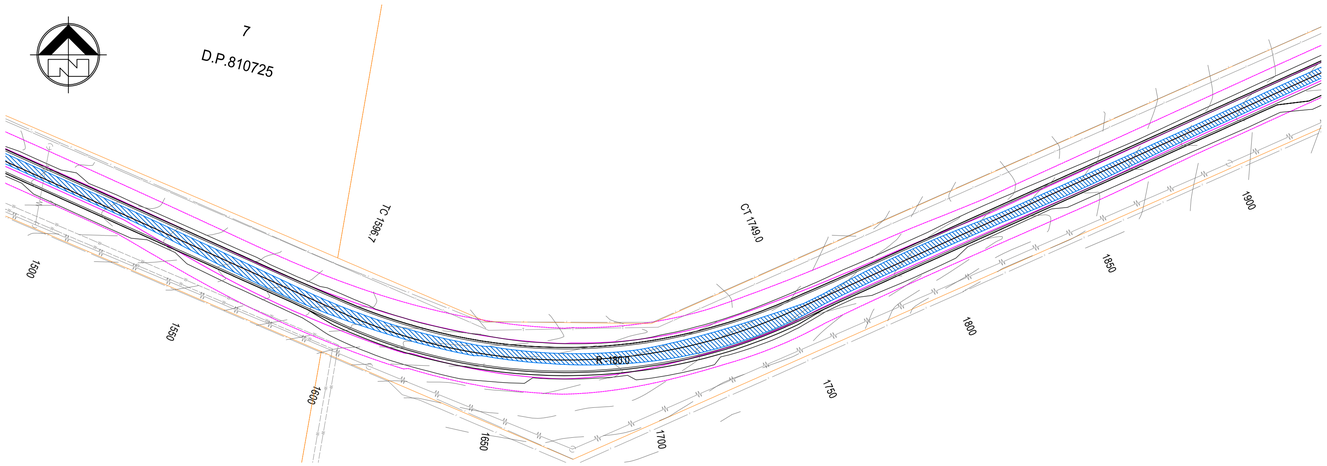
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
LAYOUT AND LONGSECTION
SHEET 23

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE	SHOWN	SIZE	A1		

DRAWING CODE 19-142-UWF-C0123
REV E

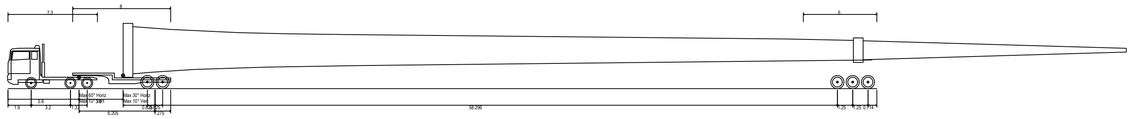


BLADE TRAILER LAYOUT PLAN CH1500-CH1900

SCALE 1:1000

LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL
- VEHICLE WHEEL BASE
- BLADE TIP OVERSAIL

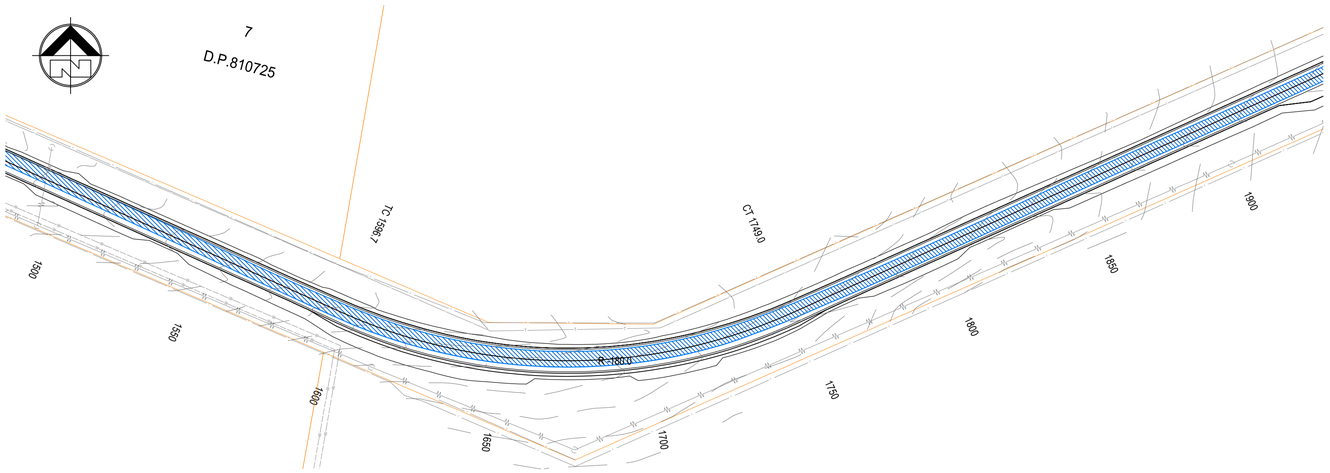


19-142-83.5m Blade Truck and Trailer (With Dolly)

Overall Length	70.910m
Overall Width	2.591m
Overall Body Height	5.326m
Min Body Ground Clearance	0.348m
Max Track Width	3.048m
Lock-to-lock time	5.00s
Max Steering Angle (Virtual)	30.00°

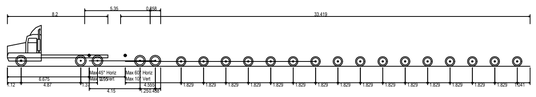
BLADE TRAILER DETAIL

SCALE 1:NTS



16 - ROW FLOAT LAYOUT PLAN CH1500-CH1900

SCALE 1:1000



DRAKE 16 (4.3m Wide)

Overall Length	42.656m
Overall Width	4.300m
Overall Body Height	3.341m
Min Body Ground Clearance	0.388m
Max Track Width	2.500m
Lock-to-lock time	6.00s
Wall to Wall Turning Radius	24.047m

16 ROW FLOAT DETAIL

SCALE 1:NTS

No	DESCRIPTION	DATE
E	FOR APPROVAL	14.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
B	FOR REVIEW	17.03.2020
A	FOR REVIEW	28.06.2019

REVISION HISTORY

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PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
VEHICLE MOVEMENTS
SHEET 1

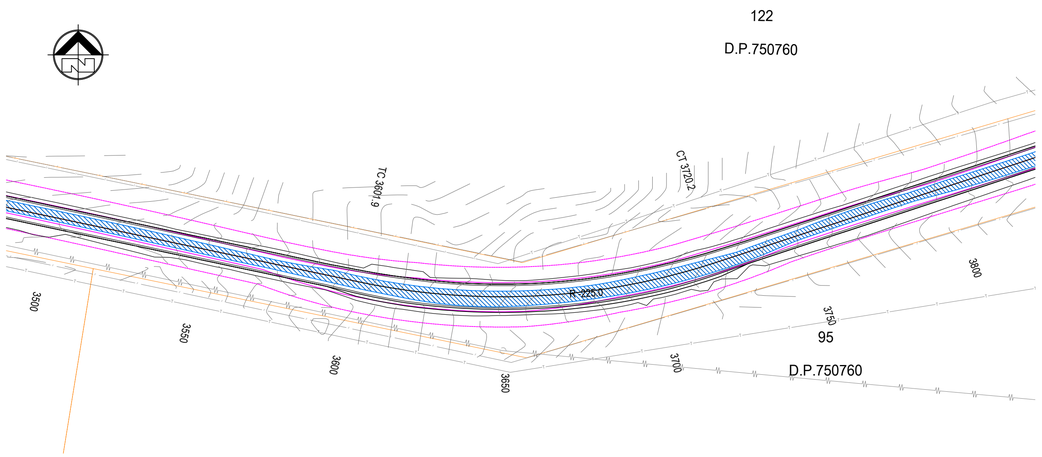
DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE	SHOWN	SIZE	A1		

DRAWING CODE 19-142-UWF-C0130

REV E

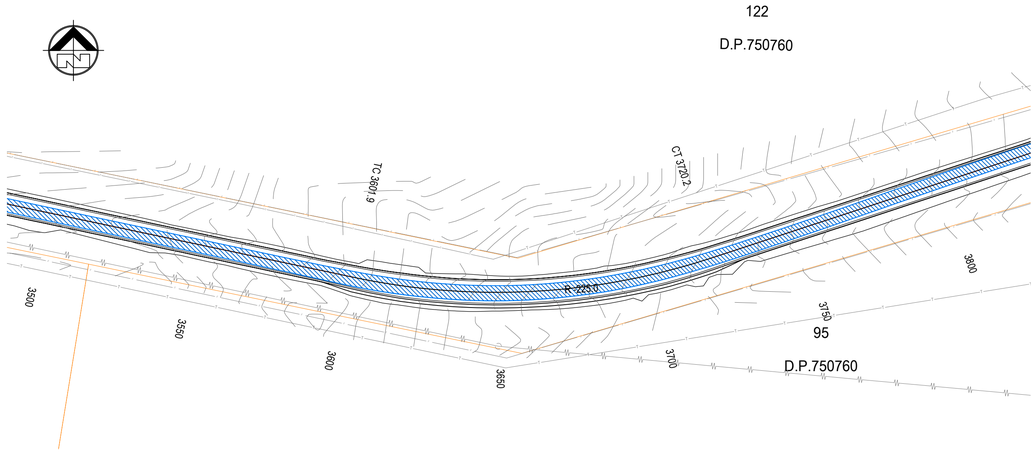
LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL
- VEHICLE WHEEL BASE
- BLADE TIP OVERSAIL



BLADE TRAILER LAYOUT PLAN CH3500-CH3800

SCALE 1:1000



16- ROW FLOAT LAYOUT PLAN CH3500-CH3800

SCALE 1:1000

No	DESCRIPTION	DATE
E	FOR APPROVAL	14.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
B	FOR REVIEW	17.03.2020
A	FOR REVIEW	28.06.2019

REVISION HISTORY

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PO Box 878 Toowong, Qld 4066 mail@icubed.com.au ACN 106 675 156

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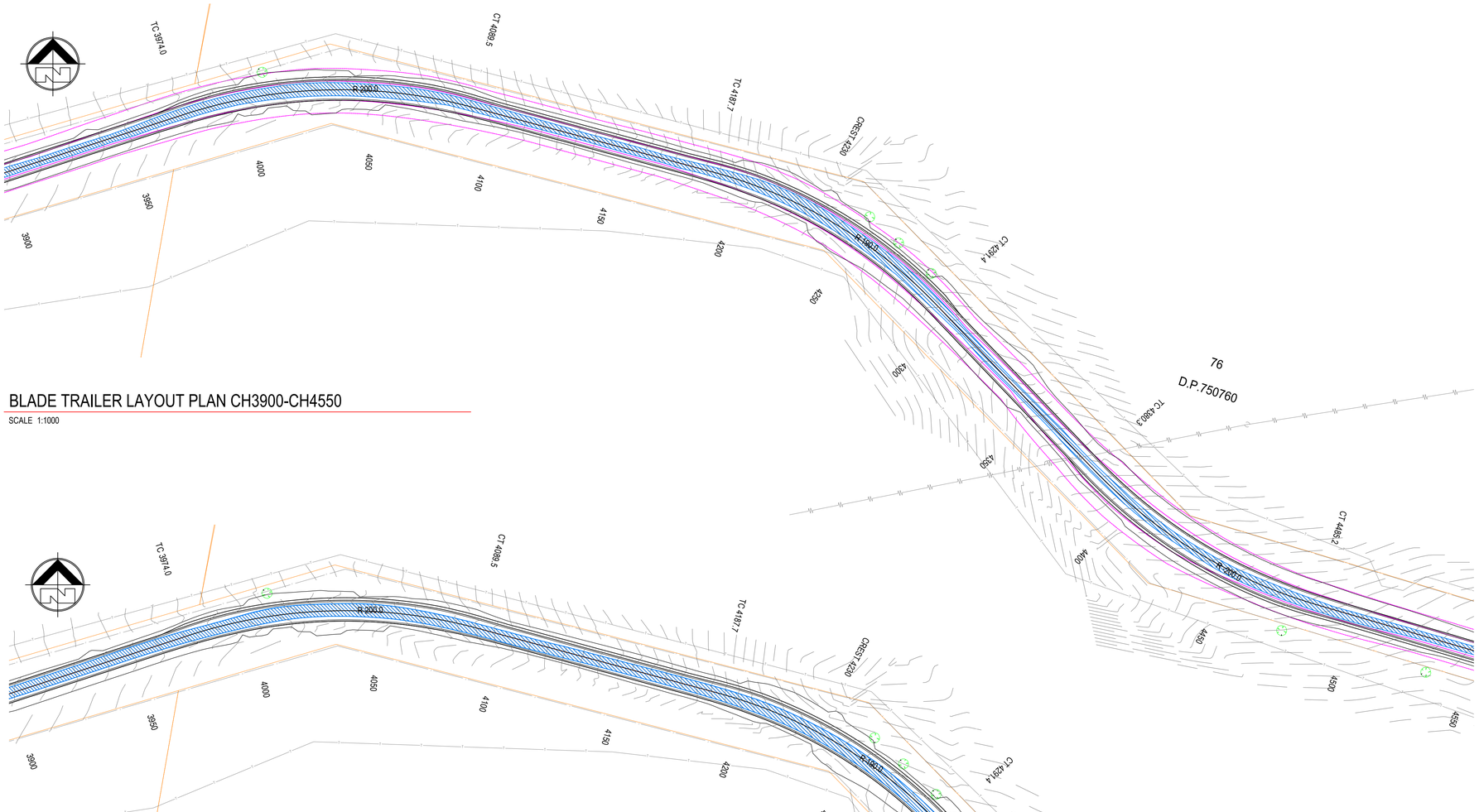
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
VEHICLE MOVEMENTS
SHEET 2

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE SHOWN	SIZE A1				

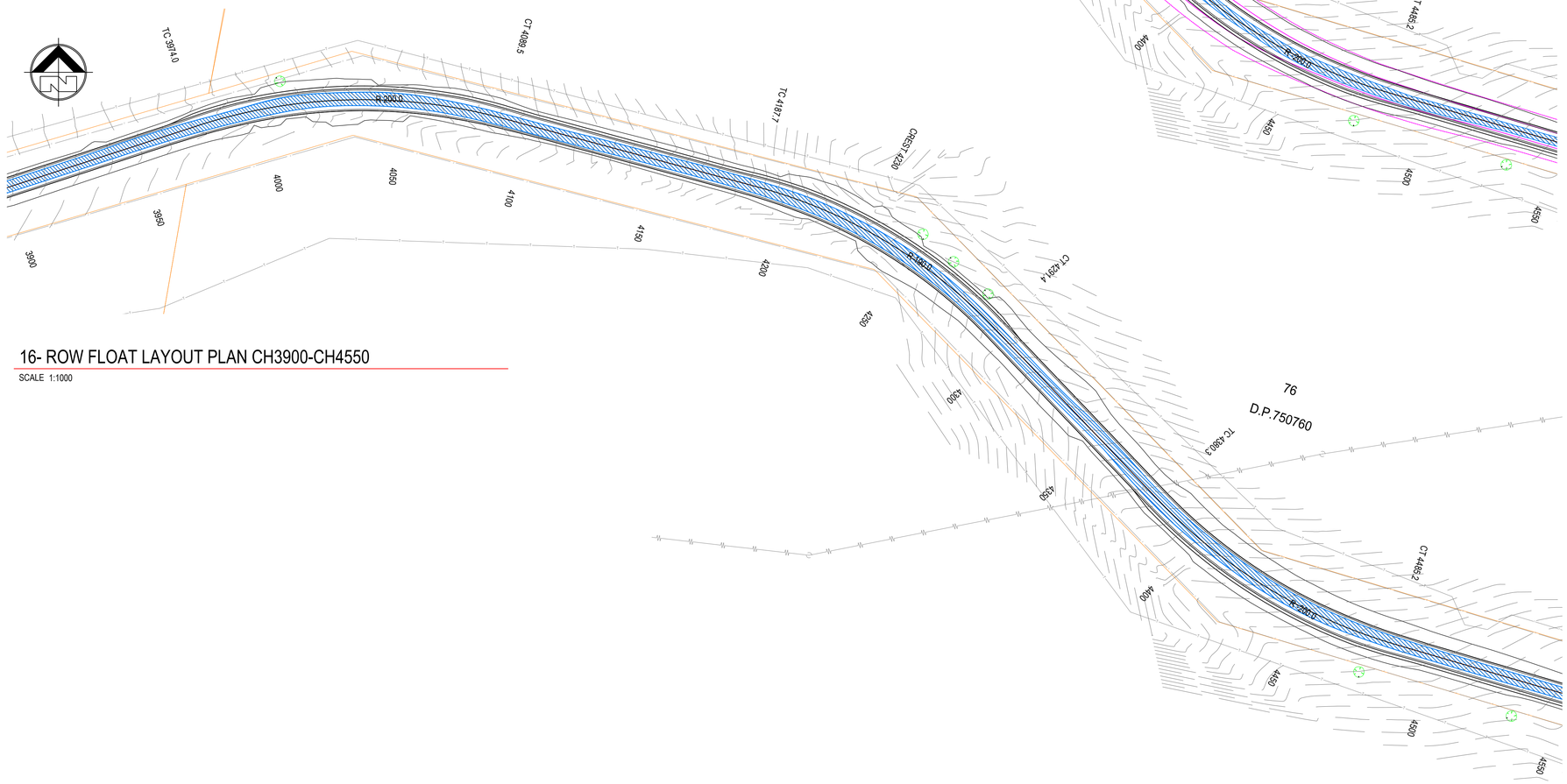
DRAWING CODE 19-142-UWF-C0131

REV E



BLADE TRAILER LAYOUT PLAN CH3900-CH4550

SCALE 1:1000



16- ROW FLOAT LAYOUT PLAN CH3900-CH4550

SCALE 1:1000

LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL
- VEHICLE WHEEL BASE
- BLADE TIP OVERSAIL

No	DESCRIPTION	DATE
E	FOR APPROVAL	14.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
B	FOR REVIEW	17.03.2020
A	FOR REVIEW	28.06.2019

REVISION HISTORY

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ACN 106 675 156

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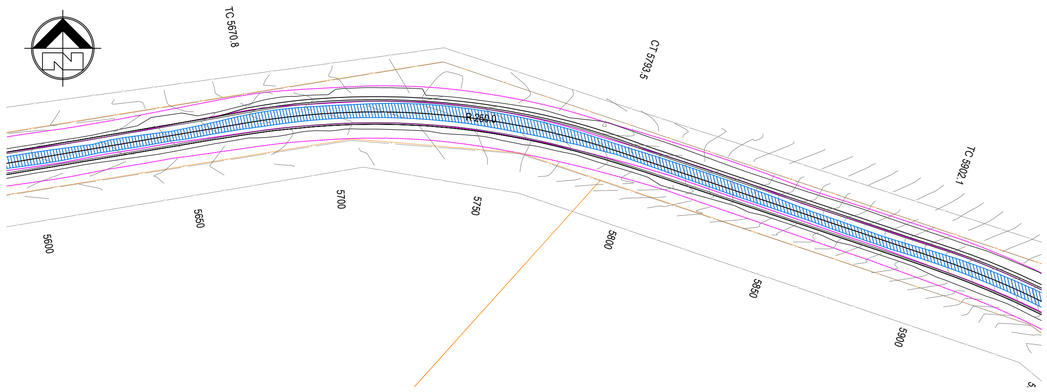
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
VEHICLE MOVEMENTS
SHEET 3

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE SHOWN	SIZE A1				

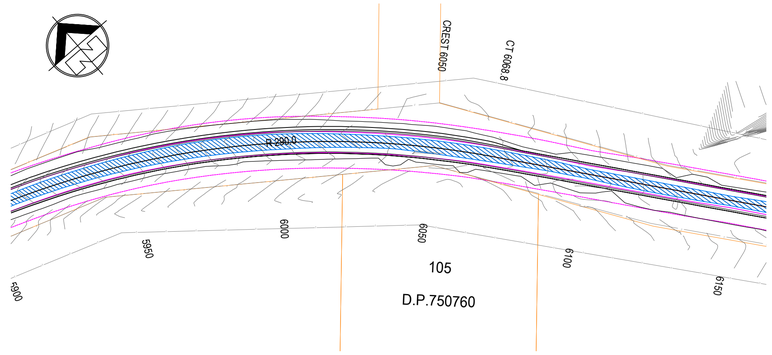
DRAWING CODE 19-142-UWF-C0132

REV E



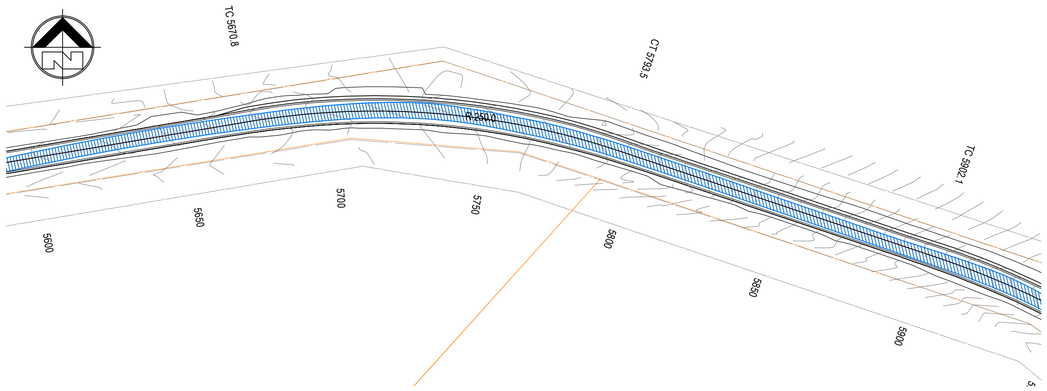
BLADE TRAILER LAYOUT PLAN CH5600-CH5900

SCALE 1:1000



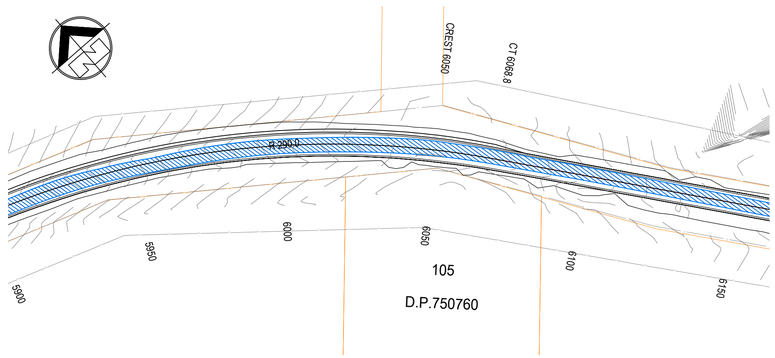
BLADE TRAILER LAYOUT PLAN CH5900-CH61500

SCALE 1:1000



16 ROW FLOAT LAYOUT PLAN CH5600-CH5900

SCALE 1:1000



16 ROW FLOAT LAYOUT PLAN CH5900-CH61500

SCALE 1:1000

LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL
- VEHICLE WHEEL BASE
- BLADE TIP OVERSAIL

No	DESCRIPTION	DATE
E	FOR APPROVAL	14.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
B	FOR REVIEW	17.03.2020
A	FOR REVIEW	28.06.2019

REVISION HISTORY

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ACN 106 675 156

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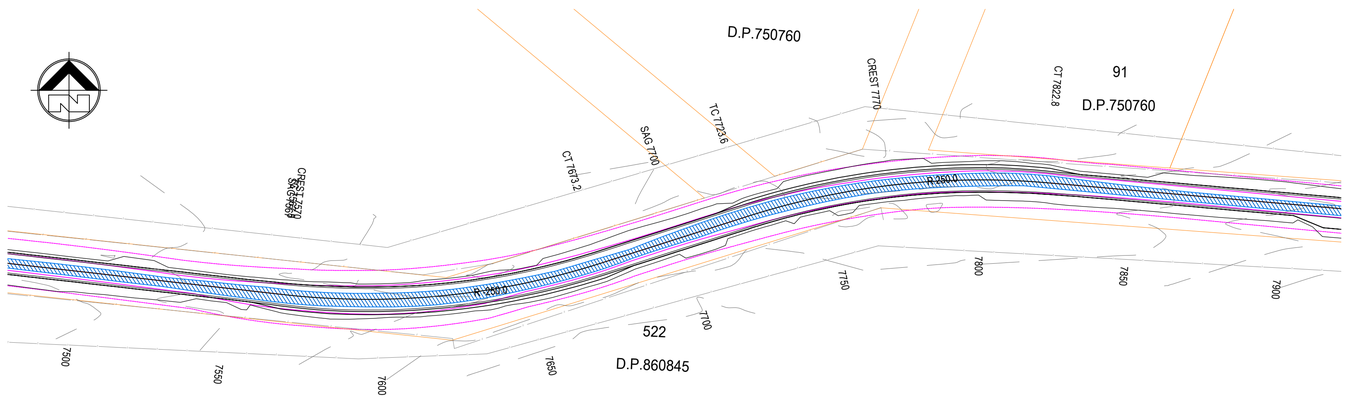
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
VEHICLE MOVEMENTS
SHEET 4

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE SHOWN	SIZE A1				

DRAWING CODE 19-142-UWF-C0133

REV E

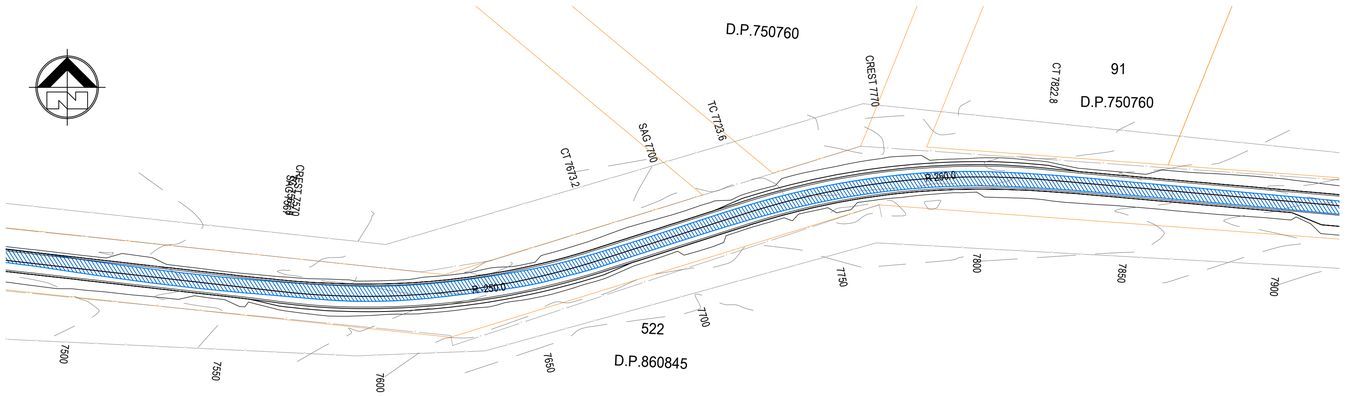


BLADE TRAILER LAYOUT PLAN CH7500-CH7900

SCALE 1:1000

LEGEND

- PROPERTY BOUNDARY
- PROPOSED TWELVE MILE ROAD
- PROPOSED TWELVE MILE ROAD BATTER
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING CONTOURS - 0.5m INTERVAL
- VEHICLE WHEEL BASE
- BLADE TIP OVERSAIL



16 ROW FLOAT LAYOUT PLAN CH7500-CH7900

SCALE 1:1000

No	DESCRIPTION	DATE
E	FOR APPROVAL	13.05.2020
D	FOR APPROVAL	08.04.2020
C	PRELIMINARY	26.03.2020
B	FOR REVIEW	17.03.2020
A	FOR REVIEW	28.06.2019

REVISION HISTORY

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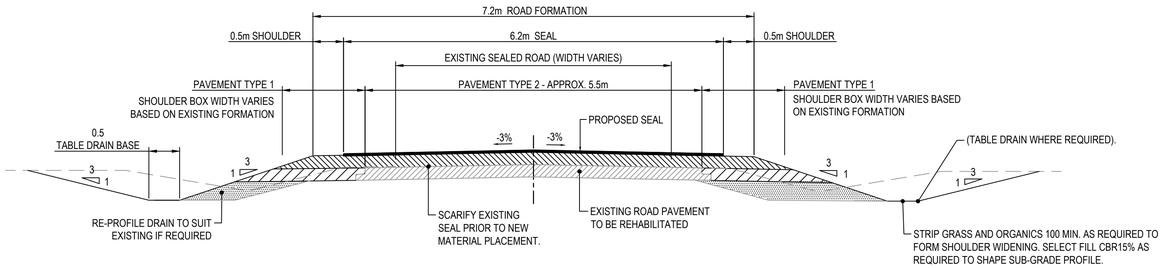
PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
VEHICLE MOVEMENTS
SHEET 5

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	FOR APPROVAL				
SCALE SHOWN	SIZE A1				

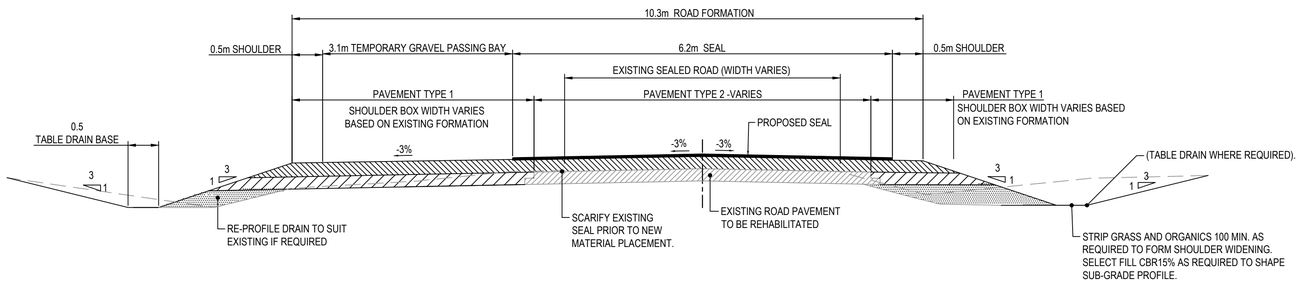
DRAWING CODE 19-142-UWF-C0134

REV E



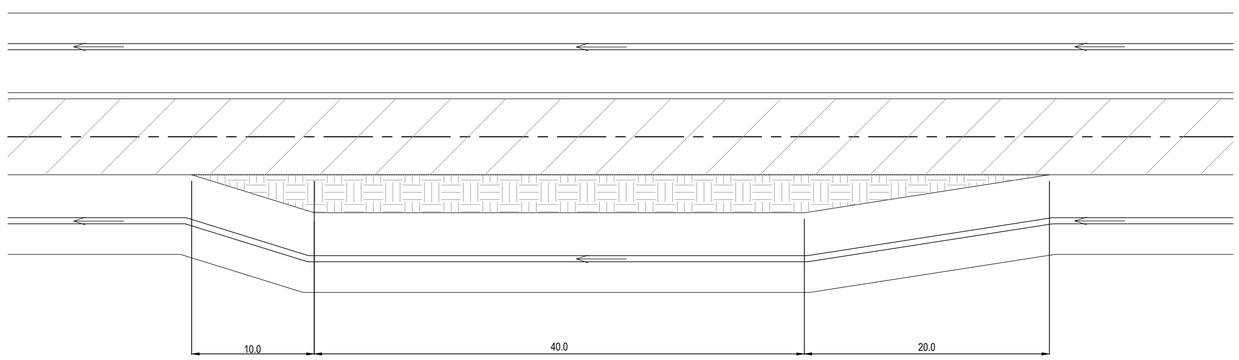
TYPICAL TWELVE MILE ROAD CROSS SECTION

SCALE 1:20



TYPICAL TWELVE MILE ROAD PASSING BAY CROSS SECTION

SCALE 1:20



SPRAYED SURFACE

TEMPORARY GRAVEL PASSING BAY

* BATTERS AND TABLE DRAIN SUBJECT TO DETAILED DESIGN

TYPICAL TWELVE MILE ROAD PASSING BAY PLAN VIEW

SCALE 250:1

TYPICAL TWELVE MILE ROAD NOTES

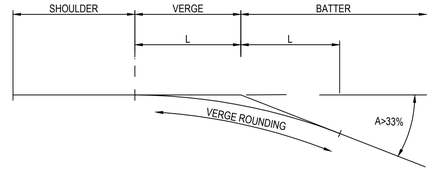
- EXISTING TWELVE MILE ROAD WIDTH VARIES FROM 4.4m -8.0m (AVERAGE APPROXIMATELY 6.2m).
- DETAILED SURVEY AND GEOTECHNICAL INVESTIGATIONS TO BE COMPLETED. PAVEMENT DESIGN TO BE CONFIRMED AT THIS TIME.
- DRAINAGE DESIGN (LONGITUDINAL AND CROSS DRAINAGE) NOT UNDERTAKEN FOR THIS SUBMISSION.
  - TABLE DRAINS ARE INDICATIVE ONLY. GRADING OR SIZING HAS NOT BEEN CONFIRMED.
  - NO CULVERTS, HEADWALLS OR EROSION CONTROL MEASURES (EXISTING OR DESIGNED) ARE SHOWN.
- EXISTING SERVICES TAKEN FROM 'DIAL BEFORE YOU DIG' (DBYD). SERVICES TO BE CONFIRMED.
- DESIGN SPEED FOR ROAD 110km/h. *NOTE, SOME SUBSTANDARD CURVES HAVE REDUCED DESIGN SPEED.*
- VERTICAL ALIGNMENT DESIGN TO FOLLOW EXISTING ALIGNMENT.
- ROAD WIDENING DESIGN VEHICLE: 26m B-DOUBLE. WIDENING AS PER AUSTROADS GUIDE TO ROAD DESIGN: PART 3 (AGRD:P3). REFER TABLE 7.13
- MAX SUPERELEVATION PROPOSED TO BE 6% AS PER AGRD:P3 TABLE 7.8
- WIND FARM OVER-SIZE OVER-MASS (OSOM) VEHICLES (BLADE TRAILER, ETC) TO BE DELIVERED UNDER ESCORT AND WILL BE ABLE TO USE THE FULL ROAD CARRIAGEWAY.
- OSOM PILOTS WILL BE ABLE TO DIRECT ROAD USERS TRAVELING IN OPPOSITE DIRECTION TO VEHICLES INTO PASSING BAYS.
- THERE ARE A TOTAL OF NINE PASSING BAYS FROM THE GOOLMA ROAD INTERSECTION TO THE WIND FARM ENTRANCE.
- PASSING BAY STORAGE ALLOWS FOR ONE B-DOUBLE AND THREE CARS.
- SPACING OF PASSING BAYS TYPICALLY EVERY 1.5-2.0km. SPACING VARIES DUE TO EXISTING ROAD ENVIRONMENT. I.E. PASSING BAYS ARE SITUATED ON STRAIGHTS AT LOCATIONS WITH GOOD SIGHT DISTANCE.
- EXISTING ROAD AND DRIVEWAY INTERSECTIONS NOT SHOWN ON THESE PLANS.

VERGE ROUNDING NOTES

1. VERGES IN SUPERELEVATION TO HAVE 1m VERGE ADDED TO CROSS SECTION. VERGES TO BE ROUNDED IN ACCORDANCE WITH "TYPICAL VERGE ROUNDING" TABLE.
2. VERGE WIDTHS VARY ALONG THE LENGTH OF LERIDA ROAD SOUTH.
3. TYPICAL VERGE ROUNDING APPLIES TO LEFT AND RIGHT SIDE VERGE AT CURVES.

VERGE ROUNDING		
GRADE CHANGE A (%)	VERGE ROUNDING	VERGE WIDTH
33+	1m	1m

TYPICAL VERGE ROUNDING



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D	FOR APPROVAL	25.03.2020
C	FOR REVIEW	18.03.2020
B	FOR REVIEW	16.03.2020
A	FOR REVIEW	28.06.2019

REVISION HISTORY

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PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
TYPICAL ROAD DETAILS
SHEET 1

DRAWN	J.M.	CHECKED	R.H.	APPROVED	N.C.
DRAWING STATUS	PRELIMINARY				
SCALE SHOWN	SIZE A1				

DRAWING CODE 19-142-UWF-C0140

REV D

INTERSECTION NOTES

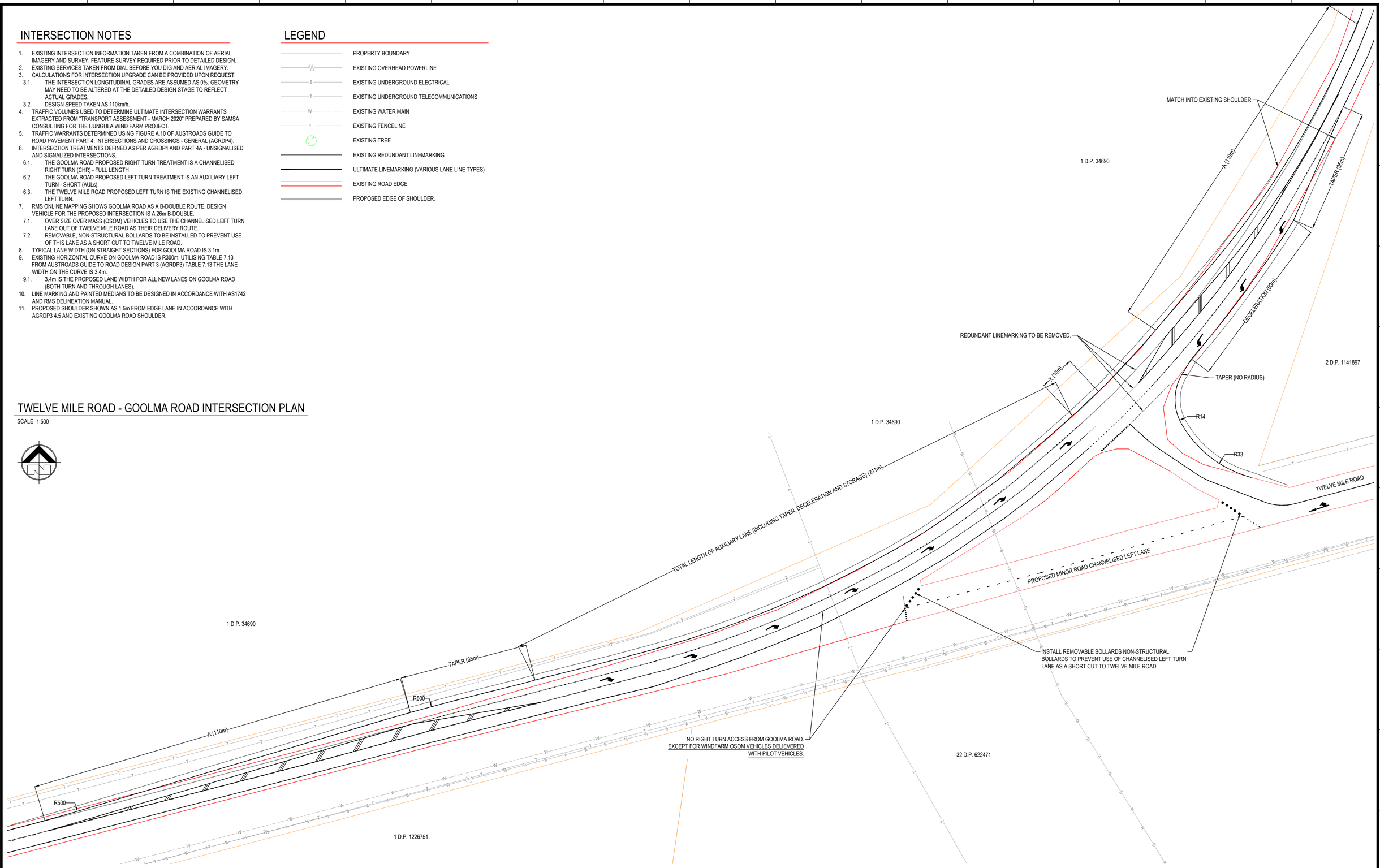
1. EXISTING INTERSECTION INFORMATION TAKEN FROM A COMBINATION OF AERIAL IMAGERY AND SURVEY. FEATURE SURVEY REQUIRED PRIOR TO DETAILED DESIGN.
2. EXISTING SERVICES TAKEN FROM DIAL BEFORE YOU DIG AND AERIAL IMAGERY.
3. CALCULATIONS FOR INTERSECTION UPGRADE CAN BE PROVIDED UPON REQUEST.
   - 3.1. THE INTERSECTION LONGITUDINAL GRADES ARE ASSUMED AS 0%. GEOMETRY MAY NEED TO BE ALTERED AT THE DETAILED DESIGN STAGE TO REFLECT ACTUAL GRADES.
   - 3.2. DESIGN SPEED TAKEN AS 110km/h.
4. TRAFFIC VOLUMES USED TO DETERMINE ULTIMATE INTERSECTION WARRANTS EXTRACTED FROM "TRANSPORT ASSESSMENT - MARCH 2020" PREPARED BY SAMSA CONSULTING FOR THE UUNGULA WIND FARM PROJECT.
5. TRAFFIC WARRANTS DETERMINED USING FIGURE A.10 OF AUSTROADS GUIDE TO ROAD PAVEMENT PART 4: INTERSECTIONS AND CROSSINGS - GENERAL (AGRDP4).
6. INTERSECTION TREATMENTS DEFINED AS PER AGRDP4 AND PART 4A - UNSIGNALISED AND SIGNALIZED INTERSECTIONS.
   - 6.1. THE GOOLMA ROAD PROPOSED RIGHT TURN TREATMENT IS A CHANNELISED RIGHT TURN (CHR) - FULL LENGTH
   - 6.2. THE GOOLMA ROAD PROPOSED LEFT TURN TREATMENT IS AN AUXILIARY LEFT TURN - SHORT (AULs).
   - 6.3. THE TWELVE MILE ROAD PROPOSED LEFT TURN IS THE EXISTING CHANNELISED LEFT TURN.
7. RMS ONLINE MAPPING SHOWS GOOLMA ROAD AS A B-DOUBLE ROUTE. DESIGN VEHICLE FOR THE PROPOSED INTERSECTION IS A 26m B-DOUBLE.
   - 7.1. OVER SIZE OVER MASS (OSOM) VEHICLES TO USE THE CHANNELISED LEFT TURN LANE OUT OF TWELVE MILE ROAD AS THEIR DELIVERY ROUTE.
   - 7.2. REMOVABLE, NON-STRUCTURAL BOLLARDS TO BE INSTALLED TO PREVENT USE OF THIS LANE AS A SHORT CUT TO TWELVE MILE ROAD.
8. TYPICAL LANE WIDTH (ON STRAIGHT SECTIONS) FOR GOOLMA ROAD IS 3.1m.
9. EXISTING HORIZONTAL CURVE ON GOOLMA ROAD IS R300m. UTILISING TABLE 7.13 FROM AUSTROADS GUIDE TO ROAD DESIGN PART 3 (AGRDP3) TABLE 7.13 THE LANE WIDTH ON THE CURVE IS 3.4m.
   - 9.1. 3.4m IS THE PROPOSED LANE WIDTH FOR ALL NEW LANES ON GOOLMA ROAD (BOTH TURN AND THROUGH LANES).
10. LINE MARKING AND PAINTED MEDIANS TO BE DESIGNED IN ACCORDANCE WITH AS1742 AND RMS DELINEATION MANUAL.
11. PROPOSED SHOULDER SHOWN AS 1.5m FROM EDGE LANE IN ACCORDANCE WITH AGRDP3 4.5 AND EXISTING GOOLMA ROAD SHOULDER.

LEGEND

- PROPERTY BOUNDARY
- EXISTING OVERHEAD POWERLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING WATER MAIN
- EXISTING FENCELINE
- EXISTING TREE
- EXISTING REDUNDANT LINEMARKING
- ULTIMATE LINEMARKING (VARIOUS LANE LINE TYPES)
- EXISTING ROAD EDGE
- PROPOSED EDGE OF SHOULDER.

TWELVE MILE ROAD - GOOLMA ROAD INTERSECTION PLAN

SCALE 1:500



No	DESCRIPTION	DATE
A	FOR APPROVAL	08.04.2020

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PROJECT
UUNGULA WIND FARM

DRAWING TITLE
TWELVE MILE ROAD
TWELVE MILE ROAD - GOOLMA ROAD
INTERSECTION LAYOUT PLAN

DRAWN	J.M.	CHECKED	F.M.	APPROVED	R.H.
DRAWING STATUS	FOR APPROVAL				
SCALE	SHOWN	SIZE	A1		
DRAWING CODE	19-142-UWF-C0200			REV	A