

New Grafton Correctional Centre Stage 2

15. Appendix 3 – Stage 1 Arborist Report

Arboricultural Report

New Grafton Correction Centre.
313 Avenue Road,
Lavidia
NSW.
2462.

Lot 26 in DP 751376 and Lot 1 in Dp 1190399.

Report compiled by
Peter Gray
Northern Tree Care.
ABN 73 674 526 681.
PO Box 81, Burringbar NSW 2483.
Ph 0414186161
8th February, 2017



Table of Contents

1.	Introduction	3
2.	Scope	4
3.	Method	4
4.	Description	5
5.	Tree Retention Value	11
6.	Risk Assessment	14
7.	Appraisal	15
8.	Recommendations	16
9.	Disclaimer.	17
10.	Bibliography	17
11.	Glossary.	17
12.	Impartiality and Non Pecuniary Declaration	18
13.	Attachment 1. Site Plan	19
14.	Attachment 2. Photos.	21

1. Introduction

1.1 Peter Gray of Northern Tree Care has compiled this report on request from Jacobs Australia Pty Ltd, 710 Hunter Street Newcastle West NSW 2302 Australia.

1.2 Jacobs are the project consultants for Infrastructure NSW who are seeking development approval for the construction of a correction facility on behalf of Corrective Services NSW. The New Grafton Corrective Centre is planned to be constructed on a property at Lavidia, approximately 12.5 km south east of Grafton. The property is described as 313 Avenue Road, Lavidia, and comprises Lot 26 in DP 751376 and Lot 1 in DP 1190399.

1.3 There are three areas on the property subject of this report. They are a 50m buffer on the northern boundary, a 15m buffer on the eastern boundary and a 30m buffer on the southern boundary.

1.4 This report was compiled by Peter Gray Diploma of Arboriculture of Northern Tree Care. The author is an arborist who has been providing Arborist Assessment Reports for Local Government, State Government and private clients for over 15 years. His qualifications include:

- Diploma of Arboriculture
- Diploma of Horticulture (Arboriculture)
- Quantified Tree Risk Assessment (QTRA)
- Tree Risk Assessment Qualification (ISA).

1.5 Peter Gray is an Australian Qualification Framework (AQF) level 5 Consulting Arborist registered association No. 2344 with Arboriculture Australia.

1.6 The information in the report is derived from a site visit conducted on 27th September, 2016, 10th October, 2016 and 3rd February, 2017. The plans and information used in this report were supplied by Jacobs. The plans and documents include:

- *Site Plan.* (see Attachment 1. Site Plan).
- *New Grafton Correctional Centre Infrastructure New South Wales Biodiversity Assessment Report.* Jacobs Group (Australia) Pty Ltd. 1st August, 2016.
- *Letter of Engagement.* Jacobs Group (Australia) Pty Ltd. 21st September, 2016.

1.7 The photographs used in this report were taken by the author during the site visits on the 27th September (see Attachment 2. Photos 1 ~ 6) and 10th October, 2016 (see Attachment 2 Photos 7 ~ 20).

2. Scope

2.1 The property on which the project is planned to be built on has been used as a grazing property. Much of it is cleared grassland. There are stands of mature trees growing on the property notably on the western and northern sides. The buffer zones also contain a number of dead trees and fallen timber.

2.2 This report describes the trees in three buffer zones, identified as 50m from the northern boundary, 15m from the eastern boundary and 30m from the southern boundary of the property.

2.3 Only the trees in the defined buffer zones have been described. The dead trees have been counted but not described in detail.

3. Method

3.1 The trees in the northern buffer have been described as a group. The species of the trees in the buffer have been identified to genus and species where possible. The identification of the trees is limited to the signs and observations available at the time of inspection. The trees in the southern buffer were assessed individually and assigned unique identification numbers.

3.2 No surveying pegs were observed during the first site inspection. The northern and eastern boundary lines were identified by using the fence lines as the boundary. A survey peg was observed during the second inspection on the southern boundary. This survey peg was used to estimate the location of the southern buffer. During the latest site inspection carried out on 3rd February, 2017 it was noted that a boundary fence had been erected between the new Grafton Pacific Highway bypass road. This fence was used to identify the location of the southern buffer zone.

3.3 The trees were assessed visually from the ground. The diameter at breast height (DBH) was measured at 1.4 m above ground level with a girthing tape and height of the trees was measured with a hypsometer.

3.4 The health and condition of the trees was assessed using the Visual Tree Assessment method (Mattheck & Breloer 2003). This is a method of assessing the trees using the body language or shape and features of the trees to indicate their condition. The theory underpinning VTA is the *Axiom of Uniform Stress* that states that as self optimizing organisms, trees will grow sufficient wood to enable them to withstand the forces of gravity and wind but limit the growth to that amount of supporting wood necessary for structural integrity. For example, if there is decay in the trunk of a tree that has compromised the strength of the tree in that particular area, the tree will grow additional wood to compensate and that can be readily seen as a bulge in the otherwise straight trunk. Consequently these tree shapes or body language are a reliable indicator of the underlying condition of that part of the tree.

3.5 The Tree Retention Value of the trees within each of the three buffer zones was assessed. The significance of the trees in the landscape was considered and then the significance was plotted against the expected useful life of the tree giving a retention value for each of the trees or group.

3.6 The risk posed by the trees was assessed using the Quantified Tree Risk Assessment method (QTRA) [Ellison 2015]. This is an internationally recognised method of assessing risk by determining a probability of risk of harm and then comparing that probability to a benchmark figure. The risk posed by an individual tree can then be evaluated against a benchmark figure and allows for the identification of whether the risk is

4. Description

4.1 The site is located at 313 Avenue Road, Lavidia. It is bounded by Old Six Mile Lane on the southern side and Avenue Road, also recognised as Golden Mile Road, on the eastern side. Private properties adjoin the site on the northern and western sides. The property is approximately 195 ha in size and is comprised of two lots, Lot 26 in DP 751376 and Lot 1 in DP 1190399. The site is in the Clarence Valley Council area (see Attachment 1. Site Plan). For further detail about the Project Site refer to the Environmental Impact Statement (EIS) completed for the Project and all the associated specialist studies.

4.2 It is noted that the Grafton bypass portion of the upgraded Pacific Highway project (by Roads and Maritime Services) will, in addition to the reconfigured Old Six Mile Lane, form the southern boundary of the Project Site once completed in approximately 2019. As part of that project, Avenue Road will pass over the Pacific Highway. The intersection of Avenue Road and Old Six Mile Lane will be upgraded to improve local access, without direct connection to the highway. During the latest site inspection carried out on 3rd February, 2017 it was noted that a boundary fence had been erected between the new Grafton Pacific Highway bypass road. This fence was used to identify the location of the southern buffer zone.

4.3 The land is mostly cleared and has been used as grazing land. There are stands of native trees, mainly on the western side of the property and with some trees scattered in groups in the centre of the property and a stand of trees on the northern boundary.

4.4 The soil is light clay and well suited to the growth of trees. For further detail on soils refer to the Geotechnical Working Paper and the Land Capability and Soil Salinity Working Paper reports as included as part of the EIS. The land is flat with a low ridge in the centre and north of the property. There are no rivers or streams traversing the Project Site. The Coldstream River is the closest main waterway and is located approximately 600 metres to the east of the Project Site. Minor ephemeral tributaries (1st and 2nd order streams) are located on the Project Site and feed into the Coldstream River (to the east) and Deep-Glenugie Creek (to the west) which eventually drain north to the major Clarence River approximately 10 kilometres to the north west.

4.5 The area identified as the 15m eastern buffer contained no trees. There are approximately twenty five mature trees close to the boundary but all are growing on the road reserve. These trees are not located within the NGCC Project Site boundaries and have not been described or assessed as part of this report.

4.6 Northern Buffer

The 50m buffer on the northern boundary contained the greatest number trees. A total of 182 trees were observed in the buffer zone with a further 2 trees just outside the 50m buffer. The types and species of trees are identified as described below in Table 1.

4.7 Table 1. Northern Buffer Trees.

Species	Number of trees	Height	DBH	Condition	Comments
Spotted Gum <i>Corymbia henryi</i>	123	26 ~ 28m	350 ~ 850mm	Good.	One tree has a decay area on the lower trunk and <i>Phellinus</i> bracket fungi is present (see Attachment 2. Photo 2).
Grey Box <i>Eucalyptus moluccana</i>	41	20 ~ 28m	350 ~ 1250mm	Good	One tree is an old growth tree (see Attachment 2. Photo 3).
Forest Red Gum <i>Eucalyptus tereticornis</i>	15	26 ~ 28m	300 ~ 500mm	Good	All regrowth trees.
Ironbark <i>Eucalyptus siderophloia</i>	2	26 ~ 28m	350 ~ 450mm	Good	Regrowth trees.
Grey Gum <i>Eucalyptus propinqua</i>	1	28m	400mm	Good	Regrowth tree.

4.8 The trees are generally in good condition (see Attachment 2. Photo 4). One tree, a Spotted Gum (Brooker 1999) has a decay area in the lower trunk and the white rot wood decay fungi of the *Phellinus* genus was observed. They have a very uniform height of between 26 and 28m. The diameter at breast height (DBH) ranged from 300 to 1250mm with most trees being between 350 and 600mm. The trees are very similar in form, tall straight trees with a crown branching at 10 ~ 15m. The crown spread of the trees is also very similar between 6 ~ 10m in diameter. The trees are mature aged. They are likely to be between 50 and 80 years old, except for the one old growth Grey Box (see Attachment 2. Photo 3).

4.9 The northern buffer zone contains dead standing trees as well as fallen timber. A total of 105 dead trees were observed (see Attachment 2. Photo 5 & 6). The trees are likely to have been deliberately killed as part of the previous farm management practice. No attempt has been made to positively identify the species of the dead trees although it is likely they are the same species as listed in Table 1.

4.10 Southern buffer.

The southern part of the property is affected by a planned re-alignment of the Pacific Highway. The new southern boundary is approximately 120 to 150m from the current boundary (see Attachment 1. Site Plan). The southern buffer is a section 30m to the north of the new boundary as shown in the Site Plan. The individual trees have not been geo-referenced. The site plan showing the location of the trees is indicative only.

4.11 A surveyors peg showing the south east corner of the new property boundary was observed during the site inspection carried out on 10th October, 2016 (see Attachment 2. Photo 7). The southern buffer zone described in this report was estimated using this corner peg and by measuring 30m from the road reserve fence (see Attachment 2. Photos 7 and 15). During the latest site inspection carried out on 3rd February, 2017 it was noted that a boundary fence had been erected between the new Grafton Pacific Highway bypass road. This fence was used to identify the location of the southern buffer zone.

4.12 A total of thirty five (35) live trees and approximately seventeen (17) dead tree were observed in the southern buffer zone. Since this is a relatively small number of trees and because of the close proximity to the new highway alignment it was considered appropriate to assess the trees individually. **Table 2. Southern Buffer Trees** describes the trees in detail. There were approximately 5 trees growing on the new road reserve that were not included in the report. The approximate location of the trees is shown in Attachment 1. Southern Buffer. The location of the trees is indicative only.

4.13 The trees were all large and mature aged. The condition of the trees ranges from good, with trees in good health and vitality, through fair, with trees with minor damage and faults, poor with some trees declining with low vitality (see Attachment 2. Photo 9). The buffer zone also has approximately 17 dead trees, some of which have died recently.

4.14 A moderate amount of fallen timber was observed in the southern buffer zone (see Attachment 2. Photo 10).

4.15 Eastern Buffer.

The eastern buffer is 15m wide and extends from the northern end of the eastern boundary and meets up with the southern buffer (see Attachment 1. Site Plan). The eastern buffer is on the subject property and does not include any road reserve land.

4.16 There are no trees in the eastern buffer. There are approximately twenty five (25) trees growing on the road reserve (see Attachment 2. Photo 20). These are all large mature aged trees in good or fair condition. As has been noted previously, the trees are not growing in the eastern buffer and so have not been described as part of this report.

4.17 Table 2. Southern Boundary Trees.

Tree No.	Name	Age	Height m	DBH mm	Crown m	Condition	Comments
201	Ironbark <i>Eucalyptus siderophloia</i>	Mature	25	690	12	Good	Large tree. Tip broken out some years previously (see Attachment 2. Photo 11).
202	Bloodwood <i>Corymbia intermedia</i>	Mature	25	380	8	Good	Tall upright tree
203	Forest Red Gum <i>Eucalyptus tereticornis</i>	Mature	25	400	8	Good	Tall upright tree
204	Bloodwood <i>Corymbia intermedia</i>	Mature	25	540	12	Good	Tall upright tree (see Attachment 2. Photo 12).
205	Grey Box <i>Eucalyptus moluccana</i>	Mature	25	490	10	Good	Tall upright tree.
206	Forest Red Gum <i>Eucalyptus tereticornis</i>	Mature	24	490	7	Good	Very poor condition.
207	Grey Box <i>Eucalyptus moluccana</i>	Mature	25`	520	10	Good	Tall upright tree.
208	Grey Box <i>Eucalyptus moluccana</i>	Fair	26	520	12	Good	Mechanical injury to the lower trunk (see Attachment 2. Photo 13).
209	Grey Box <i>Eucalyptus moluccana</i>	Mature	28	590	12	Good	Tall upright tree.
210	Forest Red Gum <i>Eucalyptus tereticornis</i>	Mature	26	380	8	Good	Tall upright tree.
211	Forest Red Gum <i>Eucalyptus tereticornis</i>	Mature	27	450	9	Good	Tall upright tree.
212	Grey Box <i>Eucalyptus moluccana</i>	Mature	28	590	10	Good	Tall upright tree.
213	Forest Red Gum <i>Eucalyptus tereticornis</i>	Mature	26	310	8	Good	Tall upright tree.
214	Grey Box <i>Eucalyptus moluccana</i>	Mature	31	700	14	Good	Large tree.
215	Grey Box <i>Eucalyptus moluccana</i>	Mature	28	590	8	Good	Tall upright tree.

Tree No.	Name	Age	Height m	DBH mm	Crown m	Condition	Comments
216	Forest Red Gum <i>Eucalyptus tereticornis</i>	Mature	25	380	6	Good	Smaller tree.
217	Grey Box <i>Eucalyptus moluccana</i>	Mature	28	640	12	Good	Tall upright tree.
218	Ironbark <i>Eucalyptus siderophloia</i>	Mature	27	510	10	Good	Tall upright tree.
219	Grey Box <i>Eucalyptus moluccana</i>	Mature	29	720	15	Good	Tall upright tree.
220	Grey Gum <i>Eucalyptus propinqua</i>	Mature	28	550	10	Good	Tall upright tree.
221	Spotted Gum <i>Corymbia henrii</i>	Mature	24	220	11	Good	Smaller tree.
222	Grey Gum <i>Eucalyptus propinqua</i>	Mature	28	410	9	Good	Tall upright tree.
223	Grey Box <i>Eucalyptus moluccana</i>	Mature	29	610	12	Good	Tall upright tree.
224	Grey Gum <i>Eucalyptus propinqua</i>	Mature	26	430	7	Good	Tall upright tree.
225	Grey Gum <i>Eucalyptus propinqua</i>	Mature	27	480 x 260	10	Good	Co-dominant stem.
226	Spotted Gum <i>Corymbia henrii</i>	Mature	30	740	8	Good	Tall upright tree.
227	Forest Red Gum <i>Eucalyptus tereticornis</i>	Mature	27	410	9	Good	Tall upright tree.
228	Forest Red Gum <i>Eucalyptus tereticornis</i>	Mature	29	600	9	Good	Tall upright tree.
229	Forest Red Gum <i>Eucalyptus tereticornis</i>	Mature	31	720	10	Good	Tall tree.
230	Forest Red Gum <i>Eucalyptus tereticornis</i>	Mature	28	530	9	Good	Tall upright tree.
231	Forest Red Gum <i>Eucalyptus tereticornis</i>	Mature	27	530	8	Good	Tall upright tree.

Tree No.	Name	Age	Height m	DBH mm	Crown m	Condition	Comments
232	Forest Red Gum <i>Eucalyptus tereticornis</i>	Mature	30	730	8	Good	Tall upright tree.
233	Forest Red Gum <i>Eucalyptus tereticornis</i>	Mature	26	440	7	Good	Tall upright tree.
234	Grey Box <i>Eucalyptus moluccana</i>	Mature	27	510	10	Good	Tall upright tree.
235	Forest Red Gum <i>Eucalyptus tereticornis</i>	Mature	26	430	8	Good	Tall upright tree.

5. Tree Retention Value

5.1 When considering the retention value of trees, two major issues were considered. They are the significance of the tree and its estimated life expectancy.

5.2 When assigning a value to the significance of the tree a number of factors have been considered in accordance with Moreton (2003). The significance outcomes have been determined in **Table 4. Significance of Trees in the Landscape.**

5.3 Once the significance of the tree in the landscape has been determined, it can be assessed against its Estimated Life Expectancy. The values for the trees have been placed into **Table 3 Tree Retention Values.** below.

5.4 **Table 3. Tree Retention Values**

	Landscape Significant Rating						
	1 Significant	2 Very High	3 High	4 Moderate	5 Low	6 Very Low	7 Insignificant
Greater than 40 years	High Retention Value			Moderate Retention Value		Low Retention Value	
15 to 40 years	Northern Buffer, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 214, 215, 216, 217, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234 235			206			
5 to 15 years							
Less than 15 years						Very Low Retention Value	
Dead							

Ref:- Modified from

Couston, Mark & Howden, Melanie (2001) *Tree Retention Values Table*. Footprint Green Pty Ltd, Sydney Australia

5.5 Where trees have a high retention value and if they are not impacted by the development they would be retained and protected where possible. Where trees have a low retention value they can be removed if they conflict with the development.

5.6 Table 4. Significance of Trees in the Landscape.

Tree #	Name	Condition	Vigour	Protected	Environmental value	Amenity value	Significance
Group of trees in Northern Buffer	Gum trees	Good	Good	No	High	High	High
201	Ironbark <i>Eucalyptus siderophloia</i>	Good	Good	No	High	High	High
202	Bloodwood <i>Corymbia intermedia</i>	Good	Good	No	High	High	High
203	Forest Red Gum <i>Eucalyptus tereticornis</i>	Good	Good	No	High	High	High
204	Bloodwood <i>Corymbia intermedia</i>	Good	Good	No	High	High	High
205	Grey Box <i>Eucalyptus moluccana</i>	Good	Good	No	High	High	High
206	Forest Red Gum <i>Eucalyptus tereticornis</i>	Poor	Low	No	High	High	Low
207	Grey Box <i>Eucalyptus moluccana</i>	Good	Good	No	High	High	High
208	Grey Box <i>Eucalyptus moluccana</i>	Fair	Good	No	High	High	High
209	Grey Box <i>Eucalyptus moluccana</i>	Good	Good	No	High	High	High
210	Forest Red Gum <i>Eucalyptus tereticornis</i>	Good	Good	No	High	High	High
211	Forest Red Gum <i>Eucalyptus tereticornis</i>	Good	Good	No	High	High	High
212	Grey Box <i>Eucalyptus moluccana</i>	Good	Good	No	High	High	High
213	Forest Red Gum <i>Eucalyptus tereticornis</i>	Good	Good	No	High	High	High
214	Grey Box <i>Eucalyptus moluccana</i>	Good	Good	No	High	High	High
215	Grey Box <i>Eucalyptus moluccana</i>	Good	Good	No	High	High	High
216	Forest Red Gum <i>Eucalyptus tereticornis</i>	Good	Good	No	High	High	High
217	Grey Box <i>Eucalyptus moluccana</i>	Good	Good	No	High	High	High
218	Ironbark <i>Eucalyptus siderophloia</i>	Good	Good	No	High	High	High
219	Grey Box <i>Eucalyptus moluccana</i>	Good	Good	No	High	High	High
220	Grey Gum <i>Eucalyptus propinqua</i>	Good	Good	No	High	High	High
221	Spotted Gum <i>Corymbia henrii</i>	Good	Good	No	High	High	High

5.6 Table 4. Significance of Trees in the Landscape.

Tree #	Name	Condition	Vigour	Protected	Environmental value	Amenity value	Significance
222	Grey Gum <i>Eucalyptus propinqua</i>	Good	Good	No	High	High	High
223	Grey Box <i>Eucalyptus moluccana</i>	Good	Good	No	High	High	High
224	Grey Gum <i>Eucalyptus propinqua</i>	Good	Good	No	High	High	High
225	Grey Gum <i>Eucalyptus propinqua</i>	Good	Good	No	High	High	High
226	Spotted Gum <i>Corymbia henrii</i>	Good	Good	No	High	High	High
227	Forest Red Gum <i>Eucalyptus tereticornis</i>	Good	Good	No	High	High	High
228	Forest Red Gum <i>Eucalyptus tereticornis</i>	Good	Good	No	High	High	High
229	Forest Red Gum <i>Eucalyptus tereticornis</i>	Good	Good	No	High	High	High
230	Forest Red Gum <i>Eucalyptus tereticornis</i>	Good	Good	No	High	High	High
231	Forest Red Gum <i>Eucalyptus tereticornis</i>	Good	Good	No	High	High	High
232	Forest Red Gum <i>Eucalyptus tereticornis</i>	Good	Good	No	High	High	High
233	Forest Red Gum <i>Eucalyptus tereticornis</i>	Good	Good	No	High	High	High
234	Grey Box <i>Eucalyptus moluccana</i>	Good	Good	No	High	High	High
235	Forest Red Gum <i>Eucalyptus tereticornis</i>	Good	Good	No	High	High	High

Note. The group of trees in the northern buffer were described as a group and consequently have been assessed as a group for the purpose of determining the significance of these trees in the landscape and their retention value rather than as individual trees.

6. Risk Assessment

6.1 Ellison's (2015) Quantified Tree Risk Assessment (QTRA) method was used to assess the risk posed by trees. The risk assessment first looks at the target that could be injured or damaged if the tree failed. The size of the part likely to fail is considered and finally the likelihood of the tree (or part of the tree) failing is considered. A probability is assigned to each value and then a probability of risk of harm in the next calendar year is calculated. This can then be compared with benchmark acceptable risk levels and risks from other hazards.

6.2 QTRA is a risk assessment process that calculates the risk as a probability and then compares that risk with benchmark figures that are considered to be acceptable. If the risk is assessed as being greater than 1/10,000 it is considered to be unacceptable and action should be taken to lower it. Where the risk is 1/1,000,000 or less it is broadly acceptable and it is considered unreasonable to require action to be taken to lower it even further. Where it is between 1/1,000,000 and 1/10,000 it is tolerable. It is considered that any action required to lower it should not be disproportionate to the risk.

6.3 The results of the risk assessment are reported as a risk index. For example a risk index of 500 is 1/500,000.

6.4 As discussed in 6.1 above, the risk assessment first looks at the target. In this instance the target for the trees is very low as there will be no infrastructure built in the fall zones of the trees and the human occupancy of the fall zone is likely to be very low.

6.5 Given that the target occupancy for the trees is so low, the risk of harm is calculated to be broadly acceptable or less than 1/1,000,000 of death or serious injury in the next calendar year.

7. Appraisal

7.1 There were three buffer zones assessed in this report. The 50m **Northern Buffer** contained a large number of trees, approximately 182 live and 105 dead trees (See Attachment 2. Photo 1). There were five species recorded with the most common being Spotted Gum *Corymbia henryi*. The live trees were generally in good condition and their retention value is high.

7.2 The land in the northern buffer is considered to have a low occupancy. Therefore the risk associated with the trees, both living and dead is low. Simply if people are rarely under the trees they are not likely to be injured by falling trees or branches. There is little risk associated with any of the trees and the risk is described by the QTRA method as being broadly acceptable.

7.3 The land in the northern buffer area is currently being used for grazing by cattle. It is very likely that a large number of regrowth trees will germinate and establish, once the grazing by cattle ceases.

7.4 There is also a large amount of fallen timber on the ground. This fallen timber is important in the environment for the protection of and as a food source for native wildlife.

7.5 The 30m **Southern Buffer** contains a number of stand alone trees and a group of trees. There were a total of thirty five (35) trees assessed in this report. These trees have been assessed individually. There were six species recorded with the most numerous being Forest Red Gum *Eucalyptus tereticornis*. The trees have a range of conditions from good to poor. There is little risk associated with the trees and the risk is described by the QTRA method as being broadly acceptable.

7.6 The land in the southern buffer is currently being used for grazing by cattle. It is very likely that a large number of regrowth trees will germinate and establish, once the grazing by cattle ceases.

7.7 There is a moderate amount of fallen timber in the treed section of the southern buffer zone (see Attachment 2. Photo 10). This fallen timber is important in the environment for the protection and as a food source for native wildlife.

7.6 The 15m **Eastern Buffer** did not contain any trees although there are approximately twenty five large mature trees growing on the adjacent road reserve on Avenue Road. The buffer is grassed and is currently grazed by cattle.

7.7 The three buffer zones assessed constitute a small area relative to the size of the property. The vegetation on the property is predominantly grazing pasture and stand alone and groups of trees, particularly on the western side.

7.8 It is expected that all three of the buffer zones will no longer be grazed and for some type of landscaping to be carried out. The condition and life expectancy of the trees will be affected by the changes that are made in the future.

8. Recommendations

8.1 It is proposed to retain the existing trees in all buffer zones noting that trees are only present in the northern and southern buffer zones. The risk from the trees both live and dead has been assessed as broadly acceptable and the trees have ecological and amenity value.

8.2 It is recommended that all the trees in the buffer zones be retained, including the dead trees and fallen timber. Any landscaping carried out should be sympathetic to the continued growth of the existing trees. Consideration should be given to planting additional trees, of species similar to the existing trees and retaining and promoting regrowth trees as they occur.

8.3 An Asset Protection Zone (APZ) [NSW RFS] of 100m is proposed to be established in the development to reduce the risk from bushfire attack (Jacobs 2016). Consideration should be given to ensuring that all vulnerable infrastructure is kept at least 100m from the northern and southern buffer zones.

9. Disclaimer

9.1 The information contained in the report is true and accurate to the best knowledge of the author. Best professional judgement was used to make recommendations. However the author of this report is not responsible for any action which might be taken or not taken in reliance on it.

9.2 This report remains the property of the author and Jacobs Australia Pty Ltd. It may not be used or reprinted without their express permission.

10. Bibliography

Brooker M. Kleinig D. 1999. *Field Guide to Eucalypts*. Bloomings Books. Hawthorn.

Dunster J. 2013. *Tree Risk Assessment Manual*. International Society of Arboriculture. Champaign.

Ellison M. 2015. *Quantified Tree Risk Assessment User Manual*. QTRA. Cheshire.

Jacobs Australia Pty Ltd. 2016. *New Grafton Correctional Centre Infrastructure New South Wales Biodiversity Assessment Report*. Jacobs. Newcastle.

Mattheck C. Breloer H. 2003. *The Body Language of Trees*. TSO. London.

NSW Rural Fire Service. 2006. *Planning For Bushfire Protection*.

11. Glossary

DBH	Diameter at breast height of the tree measured at 1.4m above the ground. Given in millimeters in this report.
Occlusion	Growth of woundwood following a physical injury to the bark of trees.

12. Impartiality and Non Pecuniary Declaration

12.1 I declare that I have compiled this report impartially using best professional judgement. I have no financial interest in the outcome of the report.

12.2 Signed Peter Gray, Northern Tree Care.
3rd, February, 2017.



13. Attachment 1. Site Plan





14. Attachment 2. Photos



Photo 1.
Northern buffer. There are approximately 182 live trees and 105 dead trees in the buffer zone.



Photo 2.
Spotted Gum in the northern buffer has a decay area and wood decay, fungi fruiting bracket. The fungi is a non pathogenic white rot *Phellinus* sp. that feeds on dead wood.



Photo 3.
Grey Box *Eucalyptus moluccana*. This is a significantly older tree than the rest of the trees in the northern buffer.



Photo 4.
The trees in the northern buffer are generally in good condition.



Photo 5.
There are approximately 105 dead standing trees in the northern buffer.



Photo 6.
Dead fallen timber in the northern buffer.



Photo 7.
South west corner of the property following the road re-alignment.



Photo 8.
View of southern buffer zone from western boundary looking east.



Photo 9.
The trees in the southern buffer zone range in condition and vitality.



Photo 10.
Dead fallen timber in the southern buffer.



Photo 11.
Tree # 201. Ironbark *Eucalyptus siderophloia*. The tip of the tree was broken out some years ago and new branches have grown.



Photo 12.
Trees # 204.
Bloodwood tree *Corymbia intermedia*. Tall upright trees.



Photo 13.
Tree # 208.
Grey Box *Eucalyptus moluccana*. Mechanical injury to the lower trunk is occluding strongly.



Photo 14.
The trees in the southern buffer zone are fairly uniform in height.



Photo 15.
There were approximately 5 trees growing on the road reserve that were not included in the report.



Photo 16.
Eastern boundary.
There are no trees in the buffer, however a total of 25 trees were observed growing in the road reserve.

16. Appendix 4 – Project Site Tree Identification Locations

Point number	Easting	Northing
685	506060.30	6708980.55
686	506059.58	6708978.32
687	506067.83	6708982.29
688	506067.84	6708979.28
689	506208.29	6709044.61
788	505817.19	6708960.69
789	505709.48	6708975.18
790	505667.64	6709046.82
791	505713.02	6709157.18
804	505826.80	6709120.88
805	505826.73	6709124.09
806	505826.57	6709134.13
807	505834.28	6709124.91
808	505834.36	6709129.06
809	505833.66	6709137.00
810	505845.43	6709145.82
811	505874.22	6709114.69
812	505857.25	6709190.55
813	505873.19	6709178.70
899	505716.01	6709292.21
900	505734.87	6709324.45
901	505751.96	6709359.23
902	505763.76	6709348.16
903	505782.33	6709336.57
904	505791.68	6709342.61
905	505795.25	6709331.98
906	505816.19	6709354.72
907	505805.10	6709305.06
908	505861.37	6709295.00
1522	505805.93	6708445.93
1523	505767.32	6708469.26
1524	505726.37	6708467.62
1525	505687.50	6708468.93
1539	505543.09	6708457.54
1540	505606.64	6708525.08
1541	505630.17	6708481.52
1542	505661.26	6708517.09
1549	505761.14	6708637.99
1550	505708.79	6708620.75
1552	505650.37	6708572.38
1554	505590.73	6708604.80
1562	505729.43	6708671.69
1563	505694.68	6708673.32
1564	505624.71	6708669.44
1565	505683.07	6708585.13
1571	505800.51	6708562.95
1572	505801.95	6708556.17
1573	505795.59	6708554.01
1574	505791.61	6708553.32
1575	505789.50	6708552.85

Point number	Easting	Northing
1576	505788.26	6708555.09
1577	505790.06	6708560.93
1578	505792.32	6708560.82
1579	505794.36	6708563.84
1580	505795.39	6708556.72
1588	505585.51	6708820.34
1589	505626.54	6708808.23
1590	505683.47	6708799.91
1591	505767.37	6708859.89
1596	505647.26	6708950.41
1597	505729.08	6708960.79
1600	505923.85	6709362.43
1601	505932.89	6709399.84
1602	505949.44	6709441.52
1603	506037.83	6709540.74
1604	506008.46	6709546.72
1605	505983.71	6709545.24
1611	505906.75	6709490.46
1612	505856.51	6709434.71
1613	505820.88	6709414.88
1614	505794.53	6709412.03
1615	505778.77	6709434.61
1616	505825.37	6709507.14
1617	505810.15	6709554.62
1618	506110.96	6709510.66
1619	506101.40	6709498.24
1620	506101.05	6709495.28
1621	506095.07	6709482.57
1622	506097.27	6709478.59
1623	506114.97	6709454.50
1624	506114.02	6709457.81
1625	506125.19	6709467.08
1626	506119.59	6709465.96
1627	506125.95	6709479.38
1671	505401.96	6709817.34
1672	505412.60	6709930.01
1673	505398.69	6709918.65
1674	505342.45	6709873.01
1675	505321.46	6709775.32
1676	505426.36	6709739.78
1711	506172.07	6709660.94
1712	506165.90	6709637.03
1713	506183.31	6709621.92
1714	506177.10	6709584.60
1721	506290.46	6709838.63
1722	506287.03	6709832.91
1723	506257.62	6709779.70
1727	506210.77	6709753.69
1728	506191.94	6709752.31
1729	506166.68	6709742.52

Point number	Easting	Northing
1730	506104.46	6709701.60
1732	506087.51	6709896.21
1733	506091.97	6709874.01
1734	506094.88	6709849.70
1735	506070.92	6709821.80
1736	506094.72	6709817.87
1737	506132.80	6709832.55
1738	506146.39	6709808.70
1744	505514.96	6709760.61
1745	505551.45	6709740.76
1746	505628.01	6709733.88
1747	505665.69	6709732.17
1748	505729.58	6709700.41
1749	505761.72	6709752.62
1750	505755.67	6709789.58
1754	505604.49	6709933.76
1755	505621.09	6709857.54
1756	505657.94	6709816.80
1760	505711.72	6709872.87
1761	505742.39	6709899.45
1762	505835.01	6709905.88
1763	505959.50	6709930.12
1764	505934.02	6709933.54
1765	505952.65	6710005.69
1766	505856.72	6710021.64
1791	505554.65	6710523.09
1792	505536.69	6710497.57
1793	505549.26	6710465.20
1794	505572.31	6710475.18
1795	505631.12	6710439.61
1799	505649.22	6710261.97
1804	505789.89	6710231.42
1805	505822.48	6710202.09
1809	505801.91	6710175.17
1816	505919.42	6710223.62
1834	505988.70	6710282.86
1835	506015.23	6710274.90
1836	506060.92	6710290.45
1837	506036.40	6710342.53
1838	506015.47	6710339.14
1852	505872.06	6710665.59
1856	505994.21	6710736.04
1866	506096.18	6710729.91
1884	506099.31	6710643.41
1886	506083.94	6710616.55
1887	506081.40	6710609.03
1888	506080.10	6710602.47
1889	506090.58	6710589.25
1890	506095.58	6710567.35
1891	506101.97	6710566.70

Point number	Easting	Northing
1892	506118.29	6710573.67
1893	506112.11	6710549.14
1894	506098.17	6710535.47
1895	506066.11	6710555.31
1896	506093.69	6710502.96
1909	506107.56	6710493.26
1910	506093.31	6710486.98
1911	506086.99	6710489.36
1912	506093.99	6710470.87
1913	506096.47	6710459.33
1914	506073.95	6710463.97
1915	506073.37	6710461.03
1916	506074.19	6710455.82
1917	506061.71	6710454.25
1918	506094.99	6710438.59
1919	506091.98	6710427.18
1920	506100.35	6710353.71
1935	506140.79	6710575.17
1936	506138.45	6710483.48
1937	506118.11	6710477.59
1938	506137.81	6710467.03
1941	506170.63	6710432.23
1942	506163.94	6710426.49
1943	506156.20	6710423.12
1944	506164.75	6710421.36
1945	506160.41	6710421.82
1946	506174.70	6710417.40
1947	506181.76	6710416.43
1948	506176.76	6710411.91
1949	506198.47	6710406.68
1957	506413.45	6710218.44
1958	506402.87	6710208.10
1959	506416.38	6710198.95
1965	506322.65	6710360.17
1971	506331.62	6710370.48
1972	506340.73	6710363.64
1988	506398.53	6710390.80
1989	506402.71	6710412.92
1990	506410.60	6710411.37
1991	506427.06	6710399.36
1992	506416.99	6710375.61
1993	506399.73	6710575.35
2000	506409.04	6710637.25
2033	506399.63	6710684.48
2034	506390.13	6710683.19
2041	506388.21	6710652.66
2042	506374.83	6710663.94
2043	506337.21	6710677.91
2048	506334.13	6710681.38
2049	506337.97	6710690.00

Point number	Easting	Northing
2050	506324.65	6710689.51
2055	506309.81	6710691.35
2056	506292.48	6710684.66
2057	506293.34	6710666.05
2058	506291.60	6710658.79
2059	506283.31	6710683.32
2060	506275.86	6710687.83
2061	506265.29	6710700.75
2062	506251.87	6710704.86
2063	506248.93	6710696.54
2075	506187.85	6710703.14
2076	506183.00	6710698.77
2077	506179.05	6710702.18
2078	506150.96	6710719.30
2080	506137.29	6710715.74
2084	506159.09	6710685.41
2090	506231.76	6710654.04
2094	506242.84	6710593.30
2095	506249.53	6710606.99
2096	506243.69	6710610.79
2400	506258.03	6709063.11
2401	506259.24	6709057.74
2402	506196.21	6708891.11
2403	506198.34	6708889.51
2404	506201.19	6708889.26
2405	506197.34	6708881.02
19219	506524.82	6710618.38
19220	506498.17	6710541.95
19221	506486.84	6710471.06
19222	506482.00	6710434.68
19223	506473.91	6710405.30
19224	506488.03	6710378.29
19337	506412.25	6710002.42
19338	506411.23	6709998.72
19339	506432.77	6710035.00
19340	506424.38	6709998.93
19341	506392.66	6709885.12
19342	506384.23	6709843.86
19343	506384.72	6709840.15
19344	506382.75	6709825.40
19345	506377.09	6709798.13
19346	506399.05	6709838.75
19347	506365.30	6709716.54
19349	506415.63	6709922.93
22500	506148.85	6710300.93
22519	506108.61	6710206.69

NOTES

LOT AREAS AND BOUNDARY DIMENSIONS HAVE BEEN COMPILED FROM DEPOSITED PLANS AVAILABLE AT LAND AND PROPERTY INFORMATION. NO BOUNDARY SURVEY OR INVESTIGATION HAS BEEN MADE AND NO BOUNDARIES HAVE BEEN MARKED. ACCORDINGLY THE POSITION OF IMPROVEMENTS RELATIVE TO BOUNDARIES SHOWN HEREON IS DIAGRAMMATIC ONLY.

BEARINGS SHOWN ON THIS PLAN ARE ORIENTATED TO MGA NORTH VIDE DP 1190399. IF SHADOW DIAGRAMS ARE TO BE CALCULATED THEY MUST BE CALCULATED USING TRUE NORTH.

THE BOUNDARY LOCATIONS SHOWN ON THIS PLAN ARE PROVISIONAL AND SUBJECT TO FURTHER SURVEY.

ONLY VISIBLE SERVICES HAVE BEEN LOCATED ON THIS SURVEY.

SERVICES & UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED BY COMBINATION OF FIELD SURVEY AND REFERENCE TO SERVICE PLANS FROM STATUTORY AUTHORITIES. ONLY VISIBLE AND APPARENT SERVICE COVERS AND POLES HAVE BEEN LOCATED BY FIELD SURVEY. SERVICE DETAILS AND LOCATIONS SHOULD BE CONFIRMED WITH THE RELEVANT SERVICE AUTHORITY DURING DESIGN & PRIOR TO ANY CONSTRUCTION. THE LOCATION OF UNDERGROUND SERVICES HAS NOT BEEN INVESTIGATED BY USHER & COMPANY PTY LTD.

WHERE THE EXACT LOCATION OF UNDERGROUND SERVICES IS CRITICAL TO THE DESIGN OR CONSTRUCTION THE RELEVANT PARTY SHOULD ARRANGE TO HAVE AN UNDERGROUND SERVICES TRACE CARRIED OUT TO CONFIRM THE SERVICES EXACT LOCATION. IN THIS REGARD ALL PARTIES SHOULD CONTACT THE 'DIAL BEFORE YOU DIG' SERVICE AND LOCAL AUTHORITIES.

CONTOUR INTERVAL 1.0m MAJOR, 0.5m MINOR.

COORDINATES SHOWN ON THIS DRAWING ARE DERIVED FROM A LOCALISED GROUND DISTANCE BASED GRID, ESTABLISHED FROM THE M.G.A COORDINATES OF:

PM 161907
MGA EASTING 506169.809
MGA NORTHING 6708730.431
RL (AHD) 15.378

PM 66997
MGA EASTING 506090.355
MGA NORTHING 6708162.512

THE LOCALISED GRID IS ORIENTATED TO THE M.G.A
THE LOCALISED GRID MAY BE RE-SCALED TO THE M.G.A BY APPLYING A SCALE FACTOR OF 0.999592 ABOUT PM 161907

ONLY SELECT TREES WERE SURVEYED IN THE HEAVILY VEGETATED AREAS.

TREE SIZES ARE ESTIMATES ONLY

Code	Easting	Northing
BDY_01	506250.84	6709023.49
BDY_02	506193.69	6708894.57
BDY_03	506162.84	6708702.42
BDY_04	506115.91	6708517.78
BDY_05	505997.76	6708429.54
BDY_06	505622.61	6708426.54
BDY_07	505518.69	6708434.86
BDY_08	505703.57	6709585.86
BDY_09	505234.74	6709662.04
BDY_10	505270.77	6709888.79
BDY_11	505423.56	6710823.48
BDY_12	506513.04	6710645.51
BDY_13	506324.53	6709484.17

Note: Boundary Co ordinates shown are to detail survey accuracy only and subject to change after further boundary investigation is carried out.

DIAL BEFORE YOU DIG

www.1100.com.au

This plan has been prepared to satisfy the project specific brief provided by the client nominated in the title block and should not be relied upon by any third party.

This plan and the information contained herein remains the property of Usher & Company Pty Ltd until fees are paid in full.

Usher & Company Pty Ltd retains copyright to all plans, electronic files and survey data. Usher & Company Pty Ltd agrees to grant a limited licence for the restricted use of the plans and data by the client identified on the plan and their appointed designers for the intended use only.

Unless agreed to by license any plans, electronic files and survey data cannot be reproduced, relied upon or amended without the express permission of Usher & Company Pty Ltd.

060120180240300600

SCALE 1:6000

Point Number	Trunk diameter	Canopy Spread	Height
685	0.6	10	16
686	0.5	16	14
687	0.5	12	14
688	0.4	8	16
689	1	16	12
788	0.7	8	16
789	1	10	18
790	1	10	18
791	1.2	12	18
804	0.5	6	12
805	0.4	6	10
806	0.5	6	10
807	0.4	6	10
808	0.4	6	10
809	0.4	6	10
810	0.5	10	12
811	0.4	4	14
812	0.4	6	8
813	0.4	4	8
899	0.8	8	16
900	0.6	8	14
901	0.8	10	16
902	0.8	12	14
903	0.5	4	10
904	0.6	10	14
905	0.8	12	18
906	1	12	16
907	0.6	8	16
908	0.6	6	10
1522	0.5	10	20
1523	1	16	16
1524	1	14	20
1525	0.5	14	20
1539	0.6	14	16
1540	1	14	16
1541	0.5	12	20
1542	0.7	20	22
1549	0.7	16	20
1550	1.5	22	20
1552	0.5	16	20
1554	0.7	20	22
1562	0.6	14	20
1563	0.6	22	18
1564	0.5	20	18
1565	0.6	22	22
1571	1	16	16
1572	1	20	20
1573	0.8	14	16
1574	0.6	10	20
1575	0.6	6	14
1576	0.5	10	12
1577	0.8	12	16
1578	0.6	18	20
1579	0.6	12	20
1580	0.6	10	14
1588	0.5	10	20
1589	0.7	12	20
1590	0.7	16	22
1591	0.6	12	12
1596	0.7	20	14
1597	0.6	12	16
1600	1	16	18
1601	1	18	20
1602	1	14	20
1603	1.2	20	22
1604	0.6	20	18
1605	1.2	22	20
1611	1	14	16
1612	1.4	14	24
1613	1.2	18	26
1614	1	16	22
1615	1.2	14	24
1616	1	12	18
1617	1	16	20
1618	1	12	16
1619	0.6	10	14
1620	1.4	12	26
1621	1	10	20
1622	1	10	30
1623	1	10	16
1624	0.6	10	12
1625	0.5	8	12
1626	0.6	10	16
1627	0.6	12	14
1671	1	16	16
1672	0.6	16	20
1673	0.8	12	20
1674	1	20	20
1675	0.8	8	18
1676	1	10	30

Point Number	Trunk diameter	Canopy Spread	Height
1711	0.6	10	12
1712	0.6	12	16
1713	0.7	16	16
1714	0.8	16	18
1721	10	20	16
1722	0.6	14	14
1723	0.5	8	12
1727	0.7	20	20
1728	1	20	16
1729	1	20	14
1730	1	20	16
1732	1	16	14
1733	0.8	14	16
1734	0.7	14	14
1735	0.8	16	16
1736	0.7	12	12
1737	0.9	14	16
1738	1	14	16
1744	0.8	16	20
1745	1.2	20	26
1746	1	10	26
1747	0.7	10	24
1748	1	12	28
1749	0.8	14	20
1750	0.8	8	25
1754	1.2	20	26
1755	1	20	24
1756	0.7	20	22
1760	0.8	16	20
1761	0.8	14	20
1762	1	20	16
1763	1	8	26
1764	0.9	12	26
1765	1	16	20
1766	1.4	10	16
1791	0.8	8	24
1792	1.2	14	24
1793	1	8	22
1794	0.8	12	22
1795	0.6	10	20
1799	2	10	28
1804	0.8	12	18
1805	1	10	18
1809	0.6	14	16
1816	1.6	14	24
1834	1	16	20
1835	1.2	14	16
1836	1.2	20	20
1837	1	22	16
1838	0.8	16	16
1852	1	10	20
1856	1	26	18
1866	1	16	20
1884	1.4	20	16
1886	1.2	16	22
1887	1	16	22
1888	1	16	20
1889	1	16	20
1890	1	16	20
1891	1	20	26
1892	1.2	20	22
1893	1	10	20
1894	1	20	14
1895	1	16	16
1896	1.2	20	22
1909	0.5	10	15
1910	0.7	10	18
1911	0.4	10	16
1912	1	14	18
1913	1.2	8	16
1914	1	8	12
1915	0.6	10	14
1916	1	10	16
1917	2	12	30
1918	0.7	14	16
1919	0.8	14	18
1920	1	8	16
1935	1.2	8	18
1936	1.6	10	18
1937	1.6	12	20
1938	2	12	26
1941	0.5	10	16
1942	0.5	10	16
1943	0.5	10	16
1944	0.5	10	16
1945	0.5	10	16
1946	0.5	10	16
1947	0.5	10	16
1948	0.5	10	16
1949	0.6	10	14

Point Number	Trunk diameter	Canopy Spread	Height
1957	0.8	10	16
1958	0.8	10	16
1959	0.8	10	16
1965	1	14	16
1971	0.6	10	14
1972	0.6	10	14
1988	1	20	22
1989	1	12	16
1990	0.6	12	16
1991	1.4	18	16
1992	0.6	14	18
1993	0.8	16	16
2000	1.2	20	16
2033	1	10	16
2034	10	16	18
2041	1.2	18	20
2042	1.2	18	20
2043	1	18	22
2048	1	12	20
2049	1	12	20
2050	1.2	16	22
2055	1	16	22
2056	1.4	12	20
2057	1	12	18
2058	1	10	16
2059	1.2	16	20
2060	1	16	22
2061	1.2	12	20
2062	1	12	16
2063	1	14	18
2075	0.6	12	16
2076	0.6	14	16
2077	0.6	14	16
2078	0.6	10	10
2079	0.8	12	14
2084	1.2	20	22
2090	1.4	16	20
2094	1	12	16
2095	1.2	12	14
2096	1	16	16
2400	1	10	14
2401	1	12	16
2402	0.6	8	16
2403	0.5	8	12
2404	0.6	10	14
2405	0.6	10	14
19219	1.2	10	20
19220	1	15	16
19221	0.8	8	20
19222	0.8	8	20
19223	0.7	10	16
19224	1.4	12	22
19337	1.2	10	24
19338	0.9	10	25
19339	0.8	10	18
19340	1	6	16
19341	0.5	10	16
19342	1.3	20	30
19343	1.5	15	25
19344	1	12	20
19345	1.3	12	25
19346	1.5	8	14
19347	1	10	18
19349	0.8	10	19
22500	1	10	16
22519	0.8	14	14

USHER & COMPANY

Surveying & Land Development Consultants

A.B.N. 70 128 414 602

Unit 4, 1726 Gold Coast Highway, Burleigh Heads QLD 4220
PO Box 756, BURLEIGH HEADS QLD 4220
Phone: (07) 5535 8346
Fax: (07) 5535 8155
Email: admin@usherandcompany.com.au

APPROVED

Amendments		
ISSUE	DATE	DETAILS
INITIAL	07-04-2017	
2	26-04-2017	BOUNDARY COORDINATES ADDED

PLAN:

SHOWING DETAIL SURVEY
OVER LOT 1 IN DP 1190399 & LOT 26 IN DP 751376
No.313 AVENUE ROAD, LAVADIA

LGA:

CLARENCE VALLEY

SUBURB:

LAVADIA

ORIGIN:

PM 161907
RL 15.378 AHD
CLASS B, ORDER 2
SCIMS 23/03/2017

REDUCTION RATIO:

1:6000

DATUM:

AHD

DATE OF SURVEY:

05-04-2017

SURVEYED BY:

MT / RG / SB

DRAWN BY:

LL

THIS PLAN IS FOR THE EXCLUSIVE USE OF

JOHN HOLLAND

PLAN REFERENCE

10031-DET
SHEET 1 OF 10

A1

ISSUE

2

NOTES

LOT AREAS AND BOUNDARY DIMENSIONS HAVE BEEN COMPILED FROM DEPOSITED PLANS AVAILABLE AT LAND AND PROPERTY INFORMATION. NO BOUNDARY SURVEY OR INVESTIGATION HAS BEEN MADE AND NO BOUNDARIES HAVE BEEN MARKED. ACCORDINGLY THE POSITION OF IMPROVEMENTS RELATIVE TO BOUNDARIES SHOWN HEREON IS DIAGRAMMATIC ONLY.

BEARINGS SHOWN ON THIS PLAN ARE ORIENTATED TO MGA NORTH VIDE DP 1190399. IF SHADOW DIAGRAMS ARE TO BE CALCULATED THEY MUST BE CALCULATED USING TRUE NORTH.

THE BOUNDARY LOCATIONS SHOWN ON THIS PLAN ARE PROVISIONAL AND SUBJECT TO FURTHER SURVEY.

ONLY VISIBLE SERVICES HAVE BEEN LOCATED ON THIS SURVEY.

SERVICES & UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED BY COMBINATION OF FIELD SURVEY AND REFERENCE TO SERVICE PLANS FROM STATUTORY AUTHORITIES. ONLY VISIBLE AND APPARENT SERVICE COVERS AND POLES HAVE BEEN LOCATED BY FIELD SURVEY. SERVICE DETAILS AND LOCATIONS SHOULD BE CONFIRMED WITH THE RELEVANT SERVICE AUTHORITY DURING DESIGN & PRIOR TO ANY CONSTRUCTION. THE LOCATION OF UNDERGROUND SERVICES HAS NOT BEEN INVESTIGATED BY USHER & COMPANY PTY LTD.

WHERE THE EXACT LOCATION OF UNDERGROUND SERVICES IS CRITICAL TO THE DESIGN OR CONSTRUCTION THE RELEVANT PARTY SHOULD ARRANGE TO HAVE AN UNDERGROUND SERVICES TRACE CARRIED OUT TO CONFIRM THE SERVICES EXACT LOCATION. IN THIS REGARD ALL PARTIES SHOULD CONTACT THE 'DIAL BEFORE YOU DIG' SERVICE AND LOCAL AUTHORITIES.

CONTOUR INTERVAL 1.0m MAJOR, 0.5m MINOR.

COORDINATES SHOWN ON THIS DRAWING ARE DERIVED FROM A LOCALISED, GROUND DISTANCE BASED GRID, ESTABLISHED FROM THE M.G.A COORDINATES OF:

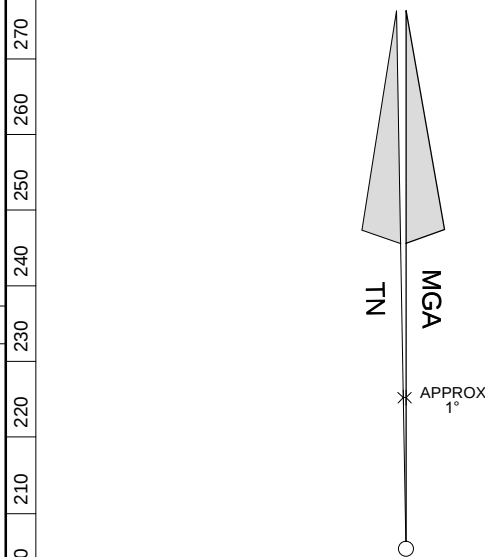
PM 161907
MGA EASTING 506169.809
MGA NORTHING 6708730.431
RL (AHD) 15.378

PM 66997
MGA EASTING 506090.355
MGA NORTHING 6708162.512

THE LOCALISED GRID IS ORIENTATED TO THE M.G.A
THE LOCALISED GRID MAY BE RE-SCALED TO THE M.G.A BY APPLYING A SCALE FACTOR OF 0.999592 ABOUT PM 161907

ONLY SELECT TREES WERE SURVEYED IN THE HEAVILY VEGETATED AREAS.

• TREE SIZES ARE ESTIMATES ONLY



SEE SHEET 1 FOR TREE SCHEDULE

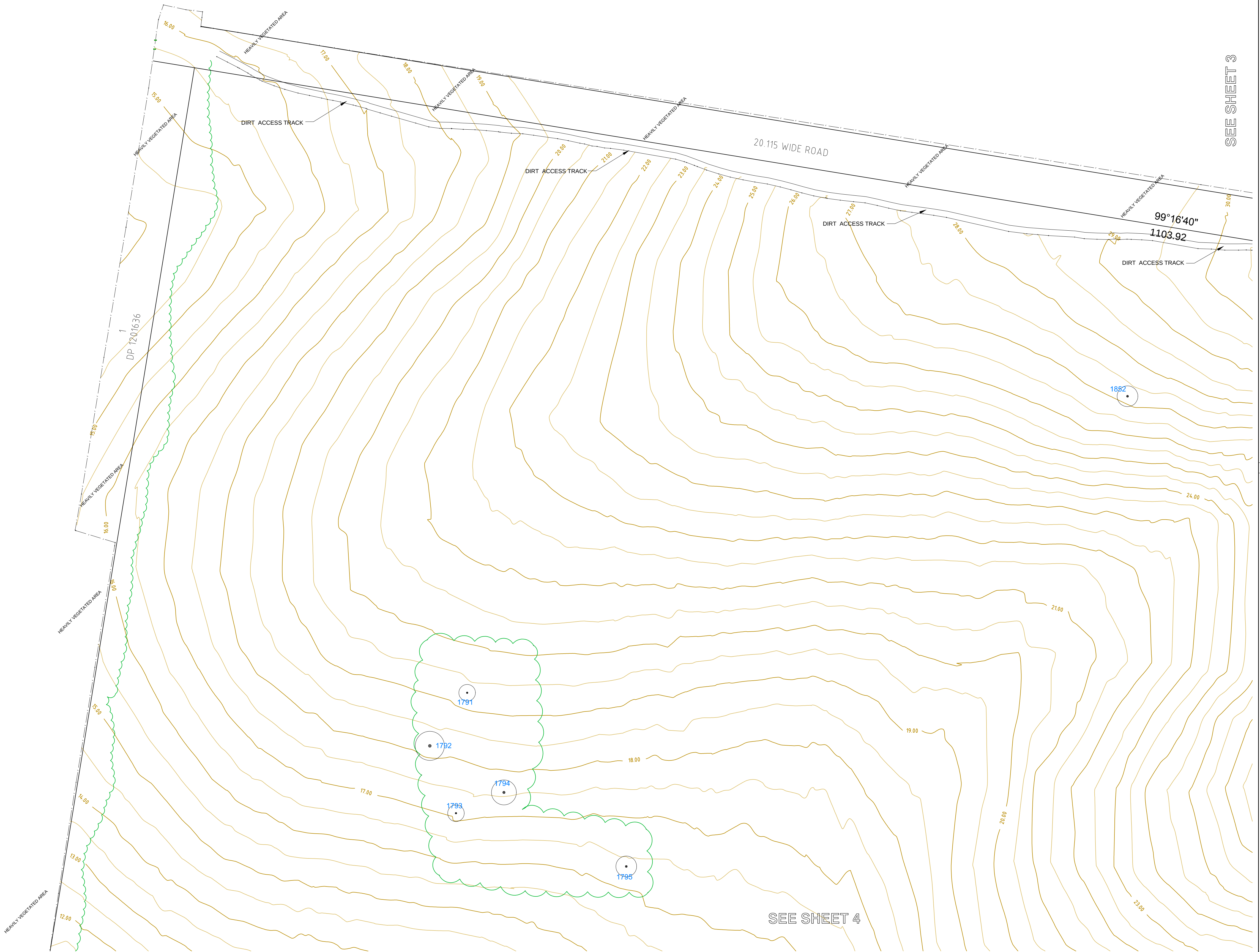
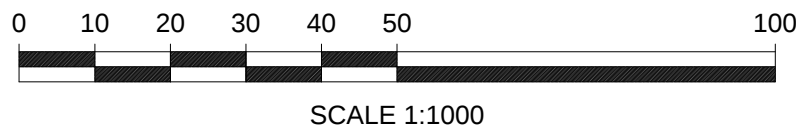


This plan has been prepared to satisfy the project specific brief provided by the client nominated in the title block and should not be relied upon by any third party.

This plan and the information contained herein remains the property of Usher & Company Pty Ltd until fees are paid in full.

Usher & Company Pty Ltd retains copyright to all plans, electronic files and survey data. Usher & Company Pty Ltd agrees to grant a limited licence for the restricted use of the plans and data by the client identified on the plan and their appointed designers for the intended use only.

Unless agreed to by license any plans, electronic files and survey data cannot be reproduced, relied upon or amended without the express permission of Usher & Company Pty Ltd.



USHER & COMPANY
Surveying & Land Development Consultants
A.B.N. 70 128 414 602

Unit 4, 1726 Gold Coast Highway, Burleigh Heads QLD 4220
PO Box 756, BURLEIGH HEADS QLD 4220
Phone: (07) 5535 8346
Fax: (07) 5535 8155
Email: admin@usherandcompany.com.au

APPROVED

Amendments		
ISSUE	DATE	DETAILS
INITIAL	07-04-2017	
2	26-04-2017	BOUNDARY COORDINATES ADDED

PLAN:

SHOWING DETAIL SURVEY
OVER LOT 1 IN DP 1190399 & LOT 26 IN DP 751376
No.313 AVENUE ROAD, LAVADIA

LGA: CLARENCE VALLEY

SUBURB: LAVADIA

ORIGIN: PM 161907
RL 15.378 AHD
CLASS B, ORDER 2
SCIMS 23/03/2017

REDUCTION RATIO: 1:1000

DATUM: AHD

DATE OF SURVEY: 05-04-2017

SURVEYED BY: MT / RG / SB

DRAWN BY: LL

THIS PLAN IS FOR THE EXCLUSIVE USE OF

JOHN HOLLAND

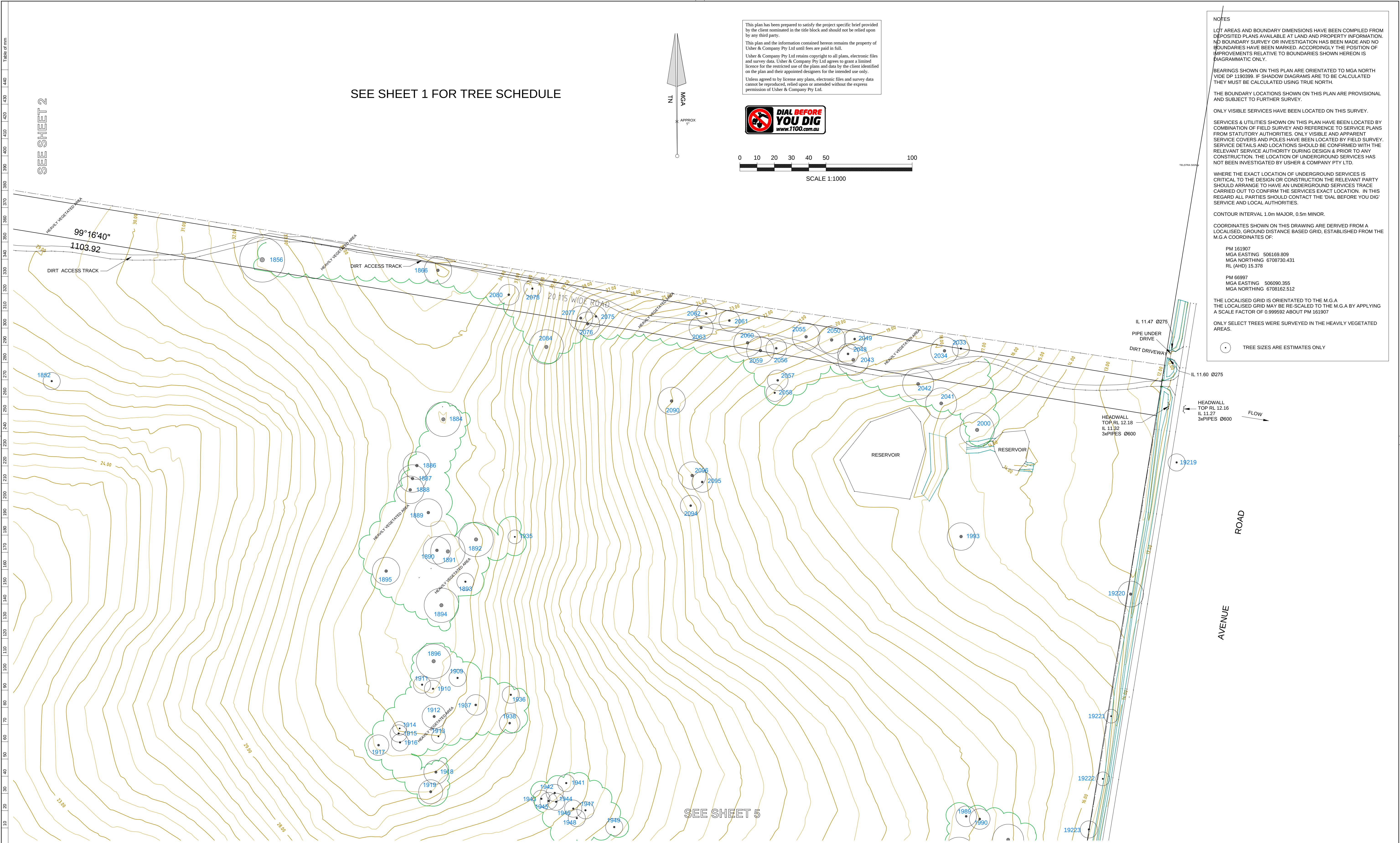
PLAN REFERENCE

10031-DET
SHEET 2 OF 10

A1

ISSUE

2

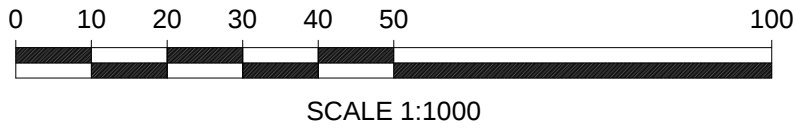


This plan has been prepared to satisfy the project specific brief provided by the client nominated in the title block and should not be relied upon by any third party.

This plan and the information contained hereon remains the property of Usher & Company Pty Ltd until fees are paid in full.

Usher & Company Pty Ltd retains copyright to all plans, electronic files and survey data. Usher & Company Pty Ltd agrees to grant a limited licence for the restricted use of the plans and data by the client identified on the plan and their appointed designers for the intended use only.

Unless agreed to by license any plans, electronic files and survey data cannot be reproduced, relied upon or amended without the express permission of Usher & Company Pty Ltd.



NOTES

LOT AREAS AND BOUNDARY DIMENSIONS HAVE BEEN COMPILED FROM DEPOSITED PLANS AVAILABLE AT LAND AND PROPERTY INFORMATION. NO BOUNDARY SURVEY OR INVESTIGATION HAS BEEN MADE AND NO BOUNDARIES HAVE BEEN MARKED. ACCORDINGLY THE POSITION OF IMPROVEMENTS RELATIVE TO BOUNDARIES SHOWN HEREON IS DIAGRAMMATIC ONLY.

BEARINGS SHOWN ON THIS PLAN ARE ORIENTATED TO MGA NORTH VIDE DP 1190399. IF SHADOW DIAGRAMS ARE TO BE CALCULATED THEY MUST BE CALCULATED USING TRUE NORTH.

THE BOUNDARY LOCATIONS SHOWN ON THIS PLAN ARE PROVISIONAL AND SUBJECT TO FURTHER SURVEY.

ONLY VISIBLE SERVICES HAVE BEEN LOCATED ON THIS SURVEY.

SERVICES & UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED BY COMBINATION OF FIELD SURVEY AND REFERENCE TO SERVICE PLANS FROM STATUTORY AUTHORITIES. ONLY VISIBLE AND APPARENT SERVICE COVERS AND POLES HAVE BEEN LOCATED BY FIELD SURVEY. SERVICE DETAILS AND LOCATIONS SHOULD BE CONFIRMED WITH THE RELEVANT SERVICE AUTHORITY DURING DESIGN & PRIOR TO ANY CONSTRUCTION. THE LOCATION OF UNDERGROUND SERVICES HAS NOT BEEN INVESTIGATED BY USHER & COMPANY PTY LTD.

WHERE THE EXACT LOCATION OF UNDERGROUND SERVICES IS CRITICAL TO THE DESIGN OR CONSTRUCTION THE RELEVANT PARTY SHOULD ARRANGE TO HAVE AN UNDERGROUND SERVICES TRACE CARRIED OUT TO CONFIRM THE SERVICES EXACT LOCATION. IN THIS REGARD ALL PARTIES SHOULD CONTACT THE 'DIAL BEFORE YOU DIG' SERVICE AND LOCAL AUTHORITIES.

CONTOUR INTERVAL 1.0m MAJOR, 0.5m MINOR.

COORDINATES SHOWN ON THIS DRAWING ARE DERIVED FROM A LOCALISED, GROUND DISTANCE BASED GRID, ESTABLISHED FROM THE M.G.A COORDINATES OF:

PM 161907
MGA EASTING 506169.809
MGA NORTHING 6708730.431
RL (AHD) 15.378

PM 66997
MGA EASTING 506090.355
MGA NORTHING 6708162.512

THE LOCALISED GRID IS ORIENTATED TO THE M.G.A
THE LOCALISED GRID MAY BE RE-SCALED TO THE M.G.A BY APPLYING A SCALE FACTOR OF 0.999592 ABOUT PM 161907

ONLY SELECT TREES WERE SURVEYED IN THE HEAVILY VEGETATED AREAS.

TREE SIZES ARE ESTIMATES ONLY

NOTES

LOT AREAS AND BOUNDARY DIMENSIONS HAVE BEEN COMPILED FROM DEPOSITED PLANS AVAILABLE AT LAND AND PROPERTY INFORMATION. NO BOUNDARY SURVEY OR INVESTIGATION HAS BEEN MADE AND NO BOUNDARIES HAVE BEEN MARKED. ACCORDINGLY THE POSITION OF IMPROVEMENTS RELATIVE TO BOUNDARIES SHOWN HEREON IS DIAGRAMMATIC ONLY.

BEARINGS SHOWN ON THIS PLAN ARE ORIENTATED TO MGA NORTH VIDE DP 1190399. IF SHADOW DIAGRAMS ARE TO BE CALCULATED THEY MUST BE CALCULATED USING TRUE NORTH.

THE BOUNDARY LOCATIONS SHOWN ON THIS PLAN ARE PROVISIONAL AND SUBJECT TO FURTHER SURVEY.

ONLY VISIBLE SERVICES HAVE BEEN LOCATED ON THIS SURVEY.

SERVICES & UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED BY COMBINATION OF FIELD SURVEY AND REFERENCE TO SERVICE PLANS FROM STATUTORY AUTHORITIES. ONLY VISIBLE AND APPARENT SERVICE COVERS AND POLES HAVE BEEN LOCATED BY FIELD SURVEY. SERVICE DETAILS AND LOCATIONS SHOULD BE CONFIRMED WITH THE RELEVANT SERVICE AUTHORITY DURING DESIGN & PRIOR TO ANY CONSTRUCTION. THE LOCATION OF UNDERGROUND SERVICES HAS NOT BEEN INVESTIGATED BY USHER & COMPANY PTY LTD.

WHERE THE EXACT LOCATION OF UNDERGROUND SERVICES IS CRITICAL TO THE DESIGN OR CONSTRUCTION THE RELEVANT PARTY SHOULD ARRANGE TO HAVE AN UNDERGROUND SERVICES TRACE CARRIED OUT TO CONFIRM THE SERVICES EXACT LOCATION. IN THIS REGARD ALL PARTIES SHOULD CONTACT THE 'DIAL BEFORE YOU DIG' SERVICE AND LOCAL AUTHORITIES.

CONTOUR INTERVAL 1.0m MAJOR, 0.5m MINOR.

COORDINATES SHOWN ON THIS DRAWING ARE DERIVED FROM A LOCALISED GROUND DISTANCE BASED GRID, ESTABLISHED FROM THE M.G.A COORDINATES OF:

PM 161907
MGA EASTING 506169.809
MGA NORTHING 6708730.431
RL (AHD) 15.378

PM 66997
MGA EASTING 506090.355
MGA NORTHING 6708162.512

THE LOCALISED GRID IS ORIENTATED TO THE M.G.A
THE LOCALISED GRID MAY BE RE-SCALED TO THE M.G.A BY APPLYING A SCALE FACTOR OF 0.999592 ABOUT PM 161907

ONLY SELECT TREES WERE SURVEYED IN THE HEAVILY VEGETATED AREAS.

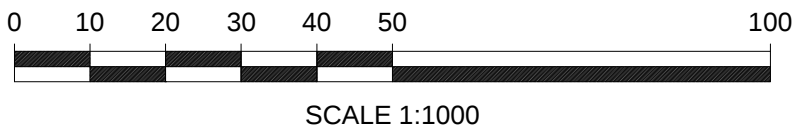
• TREE SIZES ARE ESTIMATES ONLY

This plan has been prepared to satisfy the project specific brief provided by the client nominated in the title block and should not be relied upon by any third party.

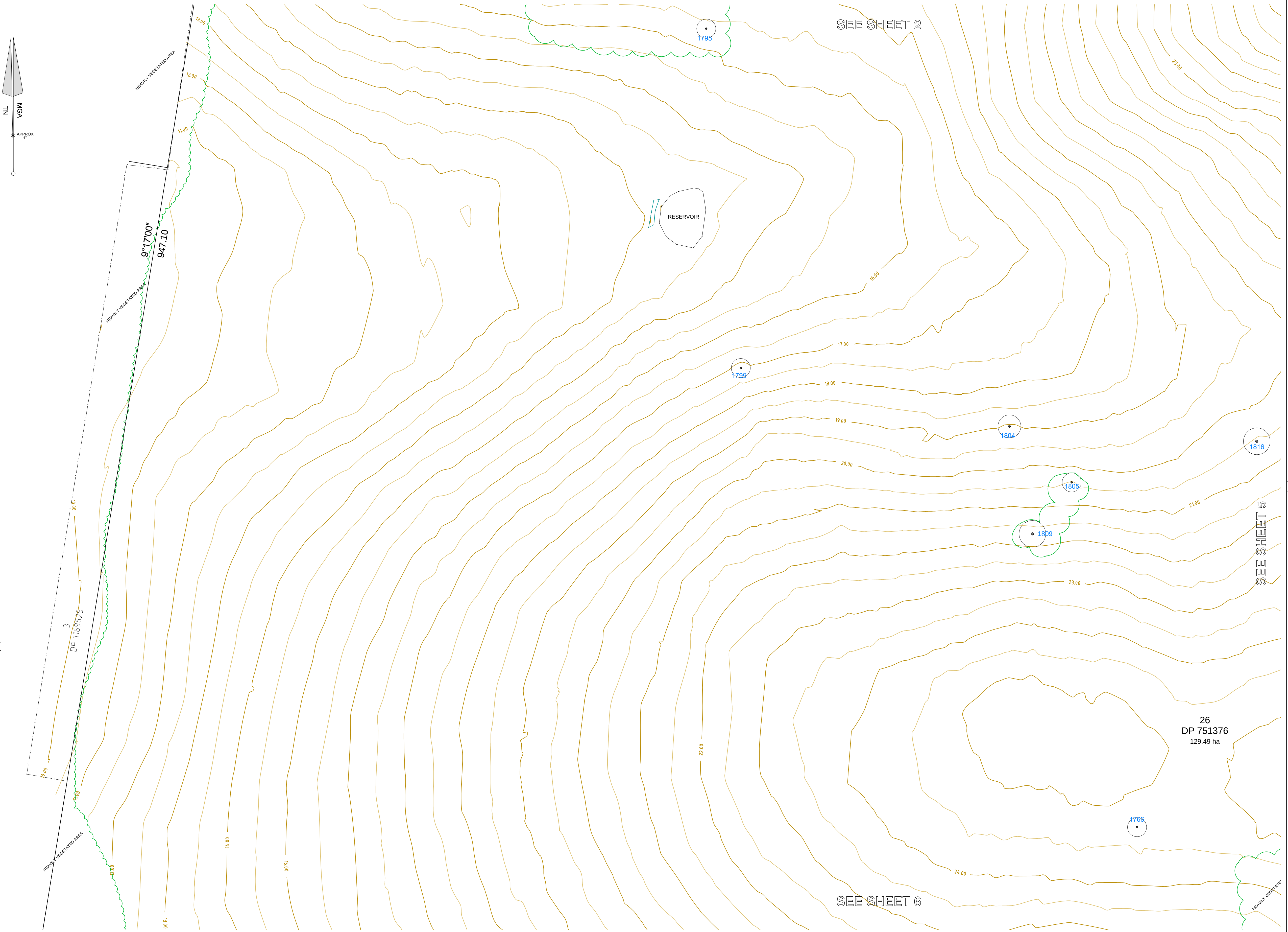
This plan and the information contained hereon remains the property of Usher & Company Pty Ltd until fees are paid in full.

Usher & Company Pty Ltd retains copyright to all plans, electronic files and survey data. Usher & Company Pty Ltd agrees to grant a limited licence for the restricted use of the plans and data by the client identified on the plan and their appointed designers for the intended use only.

Unless agreed to by license any plans, electronic files and survey data cannot be reproduced, relied upon or amended without the express permission of Usher & Company Pty Ltd.



SEE SHEET 1 FOR TREE SCHEDULE



USHER & COMPANY
Surveying & Land Development Consultants
A.B.N. 70 128 414 602

Unit 4, 1726 Gold Coast Highway, Burleigh Heads QLD 4220
PO Box 756, BURLEIGH HEADS QLD 4220
Phone: (07) 5535 8346
Fax: (07) 5535 8155
Email: admin@usherandcompany.com.au

APPROVED

Amendments		
ISSUE	DATE	DETAILS
INITIAL	07-04-2017	
2	26-04-2017	BOUNDARY COORDINATES ADDED

PLAN:

SHOWING DETAIL SURVEY
OVER LOT 1 IN DP 1190399 & LOT 26 IN DP 751376
No.313 AVENUE ROAD, LAVADIA

LGA: CLARENCE VALLEY

SUBURB: LAVADIA

ORIGIN: PM 161907
RL 15.378 AHD
CLASS B, ORDER 2
SCIMS 23/03/2017

REDUCTION RATIO: 1:1000

DATUM: AHD

DATE OF SURVEY: 05-04-2017

SURVEYED BY: MT / RG / SB

DRAWN BY: LL

THIS PLAN IS FOR THE EXCLUSIVE USE OF

JOHN HOLLAND

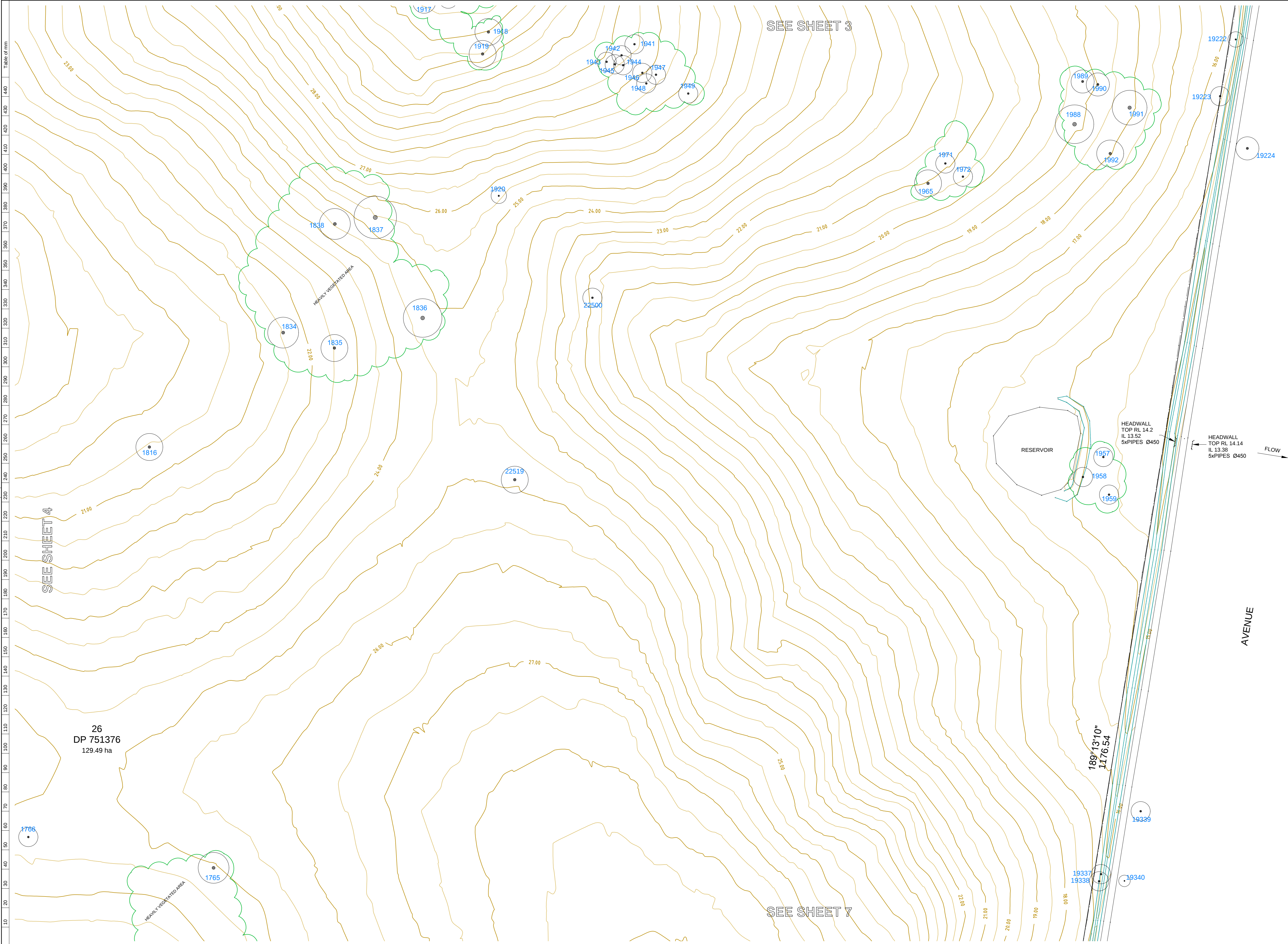
PLAN REFERENCE

10031-DET
SHEET 4 OF 10

A1

ISSUE

2



SEE SHEET 1 FOR TREE SCHEDULE



This plan has been prepared to satisfy the project specific brief provided by the client nominated in the title block and should not be relied upon by any third party.
This plan and the information contained herein remains the property of Usher & Company Pty Ltd until fees are paid in full.
Usher & Company Pty Ltd retains copyright to all plans, electronic files and survey data. Usher & Company Pty Ltd agrees to grant a limited licence for the restricted use of the plans and data by the client identified on the plan and their appointed designers for the intended use only.
Unless agreed to by license any plans, electronic files and survey data cannot be reproduced, relied upon or amended without the express permission of Usher & Company Pty Ltd.

NOTES

LOT AREAS AND BOUNDARY DIMENSIONS HAVE BEEN COMPILED FROM DEPOSITED PLANS AVAILABLE AT LAND AND PROPERTY INFORMATION. NO BOUNDARY SURVEY OR INVESTIGATION HAS BEEN MADE AND NO BOUNDARIES HAVE BEEN MARKED. ACCORDINGLY THE POSITION OF IMPROVEMENTS RELATIVE TO BOUNDARIES SHOWN HEREON IS DIAGRAMMATIC ONLY.

BEARINGS SHOWN ON THIS PLAN ARE ORIENTATED TO MGA NORTH VIDE DP 1190399. IF SHADOW DIAGRAMS ARE TO BE CALCULATED THEY MUST BE CALCULATED USING TRUE NORTH.

THE BOUNDARY LOCATIONS SHOWN ON THIS PLAN ARE PROVISIONAL AND SUBJECT TO FURTHER SURVEY.

ONLY VISIBLE SERVICES HAVE BEEN LOCATED ON THIS SURVEY.

SERVICES & UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED BY COMBINATION OF FIELD SURVEY AND REFERENCE TO SERVICE PLANS FROM STATUTORY AUTHORITIES. ONLY VISIBLE AND APPARENT SERVICE COVERS AND POLES HAVE BEEN LOCATED BY FIELD SURVEY. SERVICE DETAILS AND LOCATIONS SHOULD BE CONFIRMED WITH THE RELEVANT SERVICE AUTHORITY DURING DESIGN & PRIOR TO ANY CONSTRUCTION. THE LOCATION OF UNDERGROUND SERVICES HAS NOT BEEN INVESTIGATED BY USHER & COMPANY PTY LTD.

WHERE THE EXACT LOCATION OF UNDERGROUND SERVICES IS CRITICAL TO THE DESIGN OR CONSTRUCTION THE RELEVANT PARTY SHOULD ARRANGE TO HAVE AN UNDERGROUND SERVICES TRACE CARRIED OUT TO CONFIRM THE SERVICES EXACT LOCATION. IN THIS REGARD ALL PARTIES SHOULD CONTACT THE 'DIAL BEFORE YOU DIG' SERVICE AND LOCAL AUTHORITIES.

CONTOUR INTERVAL 1.0m MAJOR, 0.5m MINOR.

COORDINATES SHOWN ON THIS DRAWING ARE DERIVED FROM A LOCALISED, GROUND DISTANCE BASED GRID, ESTABLISHED FROM THE M.G.A COORDINATES OF:

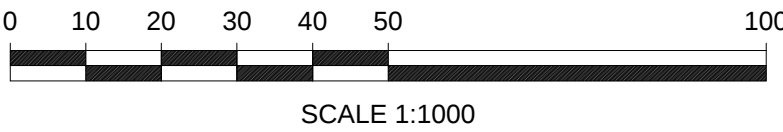
PM 161907
MGA EASTING 506169.809
MGA NORTHING 6708730.431
RL (AHD) 15.378

PM 66997
MGA EASTING 506090.355
MGA NORTHING 6708162.512

THE LOCALISED GRID IS ORIENTATED TO THE M.G.A
THE LOCALISED GRID MAY BE RE-SCALED TO THE M.G.A BY APPLYING A SCALE FACTOR OF 0.999592 ABOUT PM 161907

ONLY SELECT TREES WERE SURVEYED IN THE HEAVILY VEGETATED AREAS.

○ TREE SIZES ARE ESTIMATES ONLY



USHER & COMPANY
Surveying & Land Development Consultants
A.B.N. 70 128 414 602

Unit 4, 1726 Gold Coast Highway, Burleigh Heads QLD 4220
PO Box 756, BURLEIGH HEADS QLD 4220
Phone: (07) 5535 8346
Fax: (07) 5535 8155
Email: admin@usherandcompany.com.au

APPROVED

Amendments		
ISSUE	DATE	DETAILS
INITIAL	07-04-2017	
2	26-04-2017	BOUNDARY COORDINATES ADDED

PLAN:

SHOWING DETAIL SURVEY
OVER LOT 1 IN DP 1190399 & LOT 26 IN DP 751376
No.313 AVENUE ROAD, LAVADIA

LGA: CLARENCE VALLEY
SUBURB: LAVADIA
ORIGIN: PM 161907
RL 15.378 AHD
CLASS B, ORDER 2
SCIMS 23/03/2017

REDUCTION RATIO: 1:1000
DATUM: AHD
DATE OF SURVEY: 05-04-2017
SURVEYED BY: MT / RG / SB
DRAWN BY: LL

THIS PLAN IS FOR THE EXCLUSIVE USE OF
JOHN HOLLAND
PLAN REFERENCE
10031-DET
SHEET 5 OF 10

A1

ISSUE
2

NOTES

LOT AREAS AND BOUNDARY DIMENSIONS HAVE BEEN COMPILED FROM DEPOSITED PLANS AVAILABLE AT LAND AND PROPERTY INFORMATION. NO BOUNDARY SURVEY OR INVESTIGATION HAS BEEN MADE AND NO BOUNDARIES HAVE BEEN MARKED. ACCORDINGLY THE POSITION OF IMPROVEMENTS RELATIVE TO BOUNDARIES SHOWN HEREON IS DIAGRAMMATIC ONLY.

BEARINGS SHOWN ON THIS PLAN ARE ORIENTATED TO MGA NORTH VIDE DP 1190399. IF SHADOW DIAGRAMS ARE TO BE CALCULATED THEY MUST BE CALCULATED USING TRUE NORTH.

THE BOUNDARY LOCATIONS SHOWN ON THIS PLAN ARE PROVISIONAL AND SUBJECT TO FURTHER SURVEY.

ONLY VISIBLE SERVICES HAVE BEEN LOCATED ON THIS SURVEY.

SERVICES & UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED BY COMBINATION OF FIELD SURVEY AND REFERENCE TO SERVICE PLANS FROM STATUTORY AUTHORITIES. ONLY VISIBLE AND APPARENT SERVICE COVERS AND POLES HAVE BEEN LOCATED BY FIELD SURVEY. SERVICE DETAILS AND LOCATIONS SHOULD BE CONFIRMED WITH THE RELEVANT SERVICE AUTHORITY DURING DESIGN & PRIOR TO ANY CONSTRUCTION. THE LOCATION OF UNDERGROUND SERVICES HAS NOT BEEN INVESTIGATED BY USHER & COMPANY PTY LTD.

WHERE THE EXACT LOCATION OF UNDERGROUND SERVICES IS CRITICAL TO THE DESIGN OR CONSTRUCTION THE RELEVANT PARTY SHOULD ARRANGE TO HAVE AN UNDERGROUND SERVICES TRACE CARRIED OUT TO CONFIRM THE SERVICES EXACT LOCATION. IN THIS REGARD ALL PARTIES SHOULD CONTACT THE 'DIAL BEFORE YOU DIG' SERVICE AND LOCAL AUTHORITIES.

CONTOUR INTERVAL 1.0m MAJOR-0.5m MINOR.

COORDINATES SHOWN ON THIS DRAWING ARE DERIVED FROM A LOCALISED GROUND DISTANCE BASED GRID, ESTABLISHED FROM THE M.G.A COORDINATES OF:

PM 161907
MGA EASTING 506169.809
MGA NORTHING 6708730.431
RL (AHD) 15.378

PM 66997
MGA EASTING 506090.355
MGA NORTHING 6708162.512

THE LOCALISED GRID IS ORIENTATED TO THE M.G.A
THE LOCALISED GRID MAY BE RE-SCALED TO THE M.G.A BY APPLYING A SCALE FACTOR OF 0.999592 ABOUT PM 161907

ONLY SELECT TREES WERE SURVEYED IN THE HEAVILY VEGETATED AREAS.

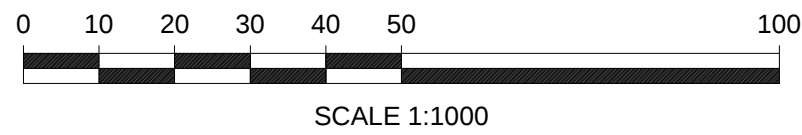
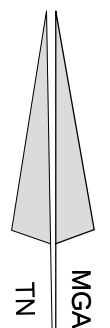
• TREE SIZES ARE ESTIMATES ONLY

This plan has been prepared to satisfy the project specific brief provided by the client nominated in the title block and should not be relied upon by any third party.

This plan and the information contained hereon remains the property of Usher & Company Pty Ltd until fees are paid in full.

Usher & Company Pty Ltd retains copyright to all plans, electronic files and survey data. Usher & Company Pty Ltd agrees to grant a limited licence for the restricted use of the plans and data by the client identified on the plan and their appointed designers for the intended use only.

Unless agreed to by license any plans, electronic files and survey data cannot be reproduced, relied upon or amended without the express permission of Usher & Company Pty Ltd.



USHER & COMPANY
Surveying & Land Development Consultants
A.B.N. 70 128 414 602

Unit 4, 1726 Gold Coast Highway, Burleigh Heads QLD 4220
PO Box 756, BURLEIGH HEADS QLD 4220
Phone: (07) 5535 8346
Fax: (07) 5535 8155
Email: admin@usherandcompany.com.au

APPROVED

Amendments		
ISSUE	DATE	DETAILS
INITIAL	07-04-2017	
2	26-04-2017	BOUNDARY COORDINATES ADDED

PLAN:

SHOWING DETAIL SURVEY
OVER LOT 1 IN DP 1190399 & LOT 26 IN DP 751376
No.313 AVENUE ROAD, LAVADIA

LGA: CLARENCE VALLEY

SUBURB: LAVADIA

ORIGIN: PM 161907
RL 15.378 AHD
CLASS B, ORDER 2
SCIMS 23/03/2017

REDUCTION RATIO: 1:1000

DATUM: AHD

DATE OF SURVEY: 05-04-2017

SURVEYED BY: MT / RG / MT

DRAWN BY: LL

THIS PLAN IS FOR THE EXCLUSIVE USE OF

JOHN HOLLAND

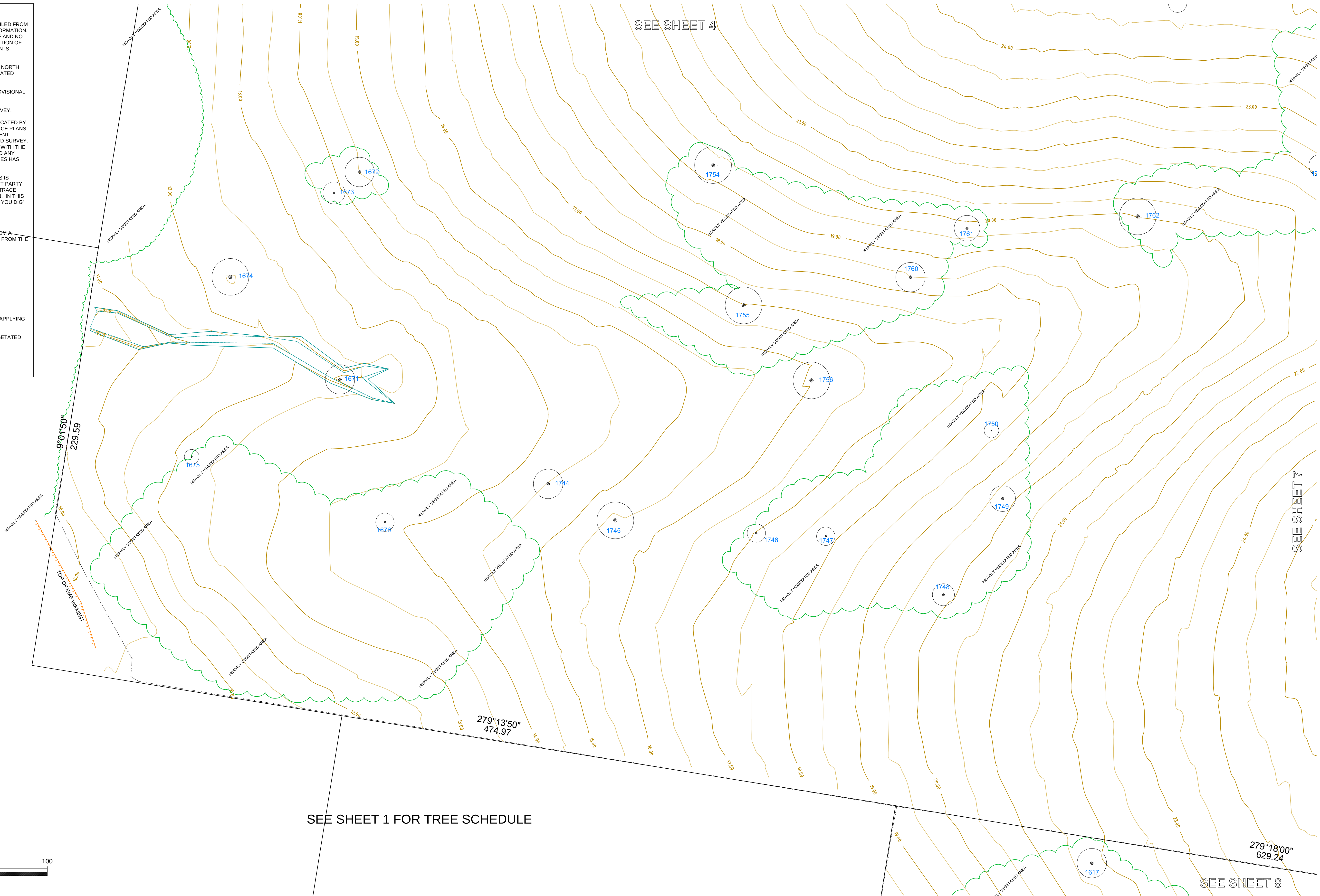
PLAN REFERENCE

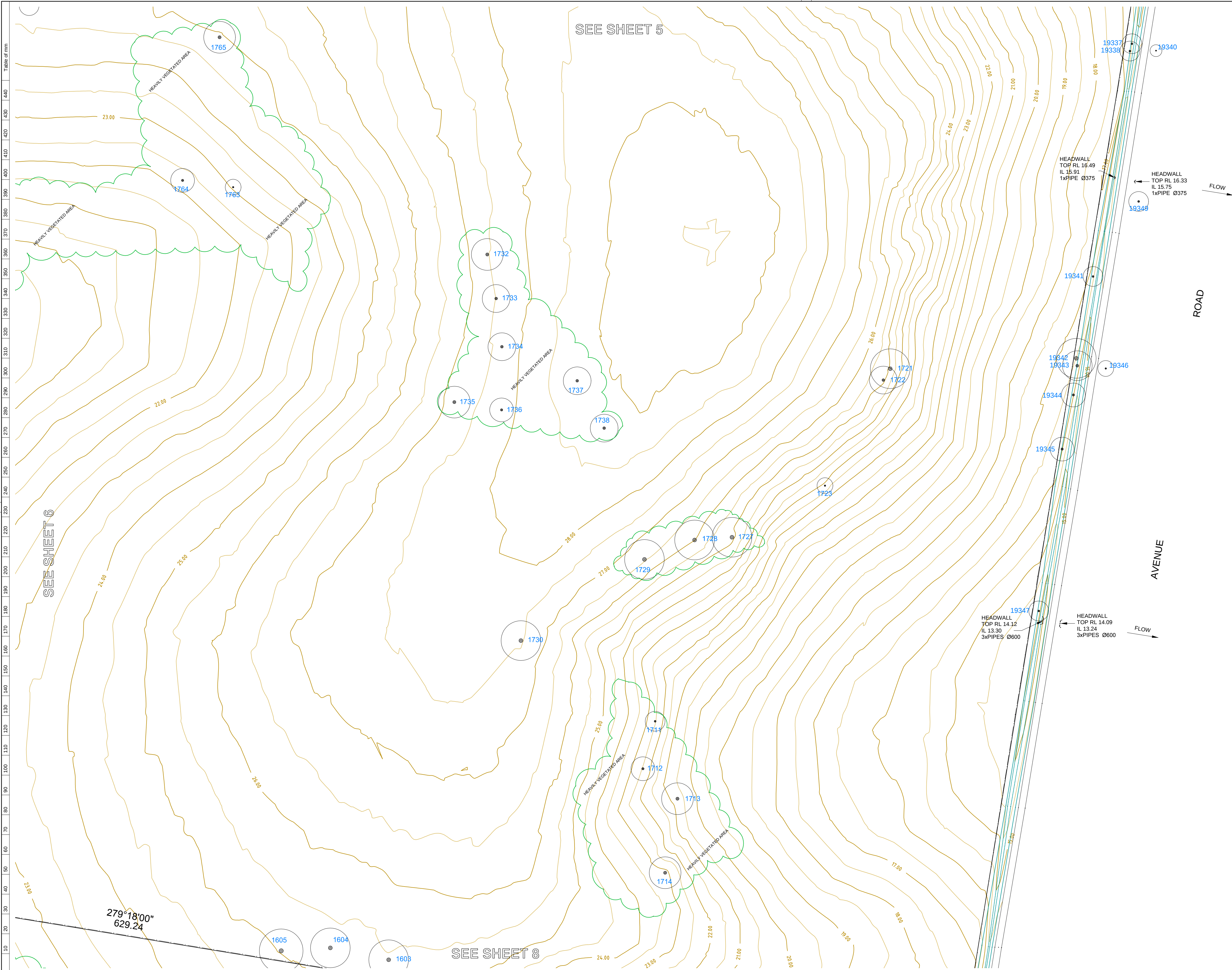
10031-DET
SHEET 6 OF 10

A1

ISSUE

2





NOTES

LOT AREAS AND BOUNDARY DIMENSIONS HAVE BEEN COMPILED FROM DEPOSITED PLANS AVAILABLE AT LAND AND PROPERTY INFORMATION. NO BOUNDARY SURVEY OR INVESTIGATION HAS BEEN MADE AND NO BOUNDARIES HAVE BEEN MARKED. ACCORDINGLY THE POSITION OF IMPROVEMENTS RELATIVE TO BOUNDARIES SHOWN HEREON IS DIAGRAMMATIC ONLY.

BEARINGS SHOWN ON THIS PLAN ARE ORIENTATED TO MGA NORTH VIDE DP 1190399. IF SHADOW DIAGRAMS ARE TO BE CALCULATED THEY MUST BE CALCULATED USING TRUE NORTH.

THE BOUNDARY LOCATIONS SHOWN ON THIS PLAN ARE PROVISIONAL AND SUBJECT TO FURTHER SURVEY.

ONLY VISIBLE SERVICES HAVE BEEN LOCATED ON THIS SURVEY.

SERVICES & UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED BY COMBINATION OF FIELD SURVEY AND REFERENCE TO SERVICE PLANS FROM STATUTORY AUTHORITIES. ONLY VISIBLE AND APPARENT SERVICE COVERS AND POLES HAVE BEEN LOCATED BY FIELD SURVEY. SERVICE DETAILS AND LOCATIONS SHOULD BE CONFIRMED WITH THE RELEVANT SERVICE AUTHORITY DURING DESIGN & PRIOR TO ANY CONSTRUCTION. THE LOCATION OF UNDERGROUND SERVICES HAS NOT BEEN INVESTIGATED BY USHER & COMPANY PTY LTD.

WHERE THE EXACT LOCATION OF UNDERGROUND SERVICES IS CRITICAL TO THE DESIGN OR CONSTRUCTION THE RELEVANT PARTY SHOULD ARRANGE TO HAVE AN UNDERGROUND SERVICES TRACE CARRIED OUT TO CONFIRM THE SERVICES EXACT LOCATION. IN THIS REGARD ALL PARTIES SHOULD CONTACT THE 'DIAL BEFORE YOU DIG' SERVICE AND LOCAL AUTHORITIES.

CONTOUR INTERVAL 1.0m MAJOR, 0.5m MINOR.

COORDINATES SHOWN ON THIS DRAWING ARE DERIVED FROM A LOCALISED, GROUND DISTANCE BASED GRID, ESTABLISHED FROM THE M.G.A COORDINATES OF:

PM 161907
MGA EASTING 506169.809
MGA NORTHING 6708730.431
RL (AHD) 15.378

PM 66997
MGA EASTING 506090.355
MGA NORTHING 6708162.512

THE LOCALISED GRID IS ORIENTATED TO THE M.G.A
THE LOCALISED GRID MAY BE RE-SCALED TO THE M.G.A BY APPLYING A SCALE FACTOR OF 0.999592 ABOUT PM 161907

ONLY SELECT TREES WERE SURVEYED IN THE HEAVILY VEGETATED AREAS.

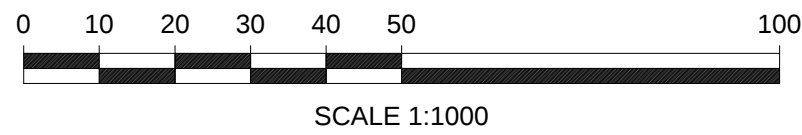
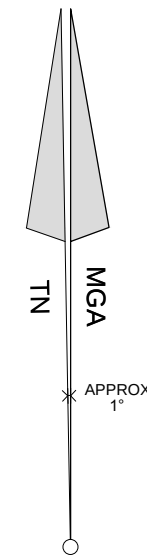
● TREE SIZES ARE ESTIMATES ONLY

This plan has been prepared to satisfy the project specific brief provided by the client nominated in the title block and should not be relied upon by any third party.

This plan and the information contained herein remains the property of Usher & Company Pty Ltd until fees are paid in full.

Usher & Company Pty Ltd retains copyright to all plans, electronic files and survey data. Usher & Company Pty Ltd agrees to grant a limited licence for the restricted use of the plans and data by the client identified on the plan and their appointed designers for the intended use only.

Unless agreed to by license any plans, electronic files and survey data cannot be reproduced, relied upon or amended without the express permission of Usher & Company Pty Ltd.



SEE SHEET 1 FOR TREE SCHEDULE

USHER & COMPANY
Surveying & Land Development Consultants
A.B.N. 70 128 414 602

Unit 4, 1726 Gold Coast Highway, Burleigh Heads QLD 4220
PO Box 756, BURLEIGH HEADS QLD 4220
Phone: (07) 5535 8346
Fax: (07) 5535 8155
Email: admin@usherandcompany.com.au

APPROVED

Amendments		
ISSUE	DATE	DETAILS
INITIAL	07-04-2017	
2	26-04-2017	BOUNDARY COORDINATES ADDED

PLAN:

SHOWING DETAIL SURVEY
OVER LOT 1 IN DP 1190399 & LOT 26 IN DP 751376
No.313 AVENUE ROAD, LAVADIA

LGA: CLARENCE VALLEY

SUBURB: LAVADIA

ORIGIN: PM 161907
RL 15.378 AHD
CLASS B, ORDER 2
SCIMS 23/03/2017

REDUCTION RATIO: 1:1000

DATUM: AHD

DATE OF SURVEY: 05-04-2017

SURVEYED BY: MT / RG / SB

DRAWN BY: LL

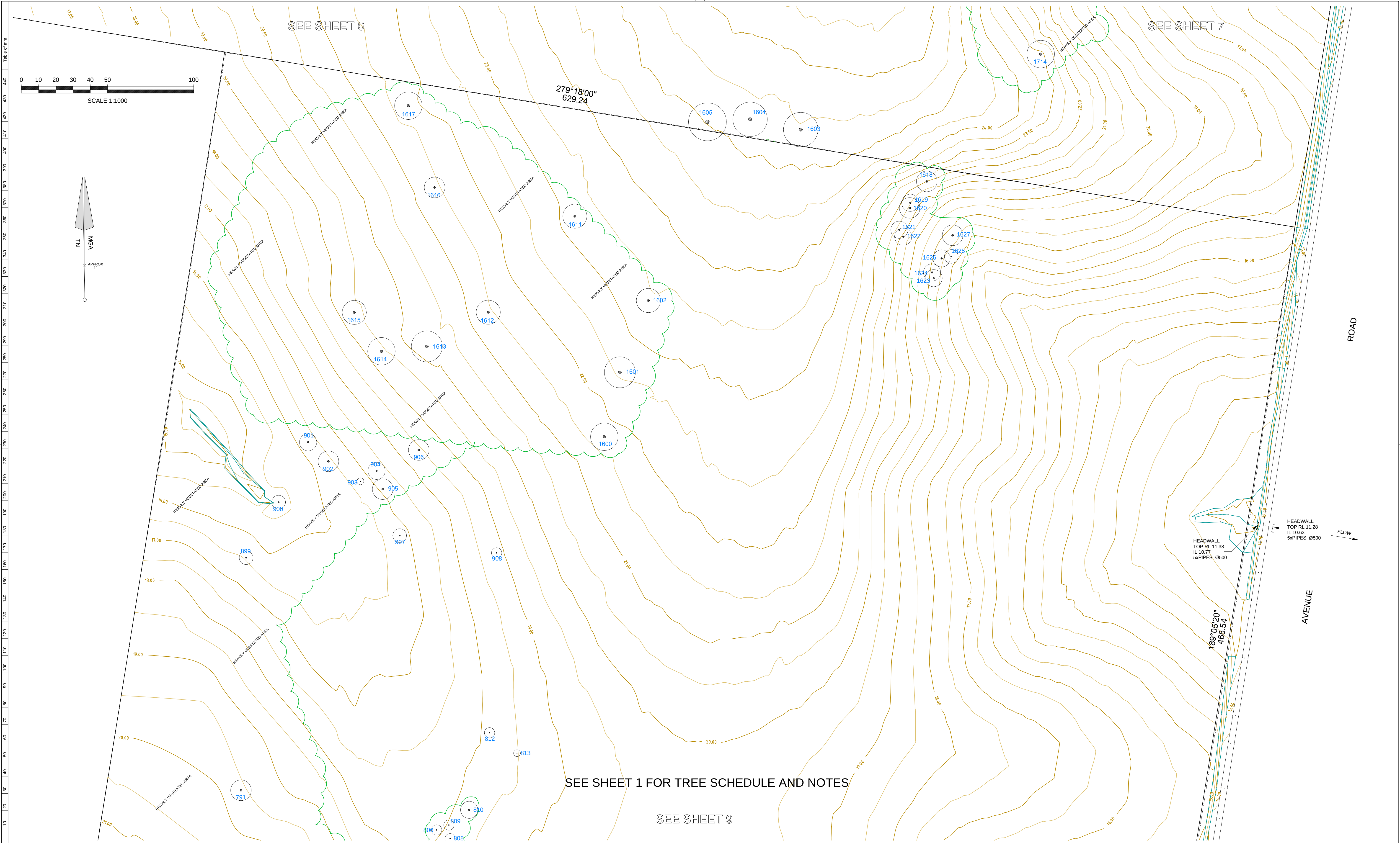
THIS PLAN IS FOR THE EXCLUSIVE USE OF

JOHN HOLLAND

PLAN REFERENCE
10031-DET
SHEET 7 OF 10

A1

ISSUE
2



USHER & COMPANY
Surveying & Land Development Consultants
A.B.N. 70 128 414 602

Unit 4, 1726 Gold Coast Highway, Burleigh Heads QLD 4220
PO Box 756, BURLEIGH HEADS QLD 4220
Phone: (07) 5535 8346
Fax: (07) 5535 8155
Email: admin@usherandcompany.com.au

APPROVED

Amendments

ISSUE	DATE	DETAILS
INITIAL	07-04-2017	
2	26-04-2017	BOUNDARY COORDINATES ADDED

PLAN:

SHOWING DETAIL SURVEY
OVER LOT 1 IN DP 1190399 & LOT 26 IN DP 751376
No.313 AVENUE ROAD, LAVADIA

LGA:

CLARENCE VALLEY

SUBURB:

LAVADIA

ORIGIN:

PM 161907
RL 15.378 AHD
CLASS B, ORDER 2
SCIMS 23/03/2017

REDUCTION RATIO:

1:1000

DATUM:

AHD

DATE OF SURVEY:

05-04-2017

SURVEYED BY:

MT / RG / SB

DRAWN BY:

LL

THIS PLAN IS FOR THE EXCLUSIVE USE OF

JOHN HOLLAND

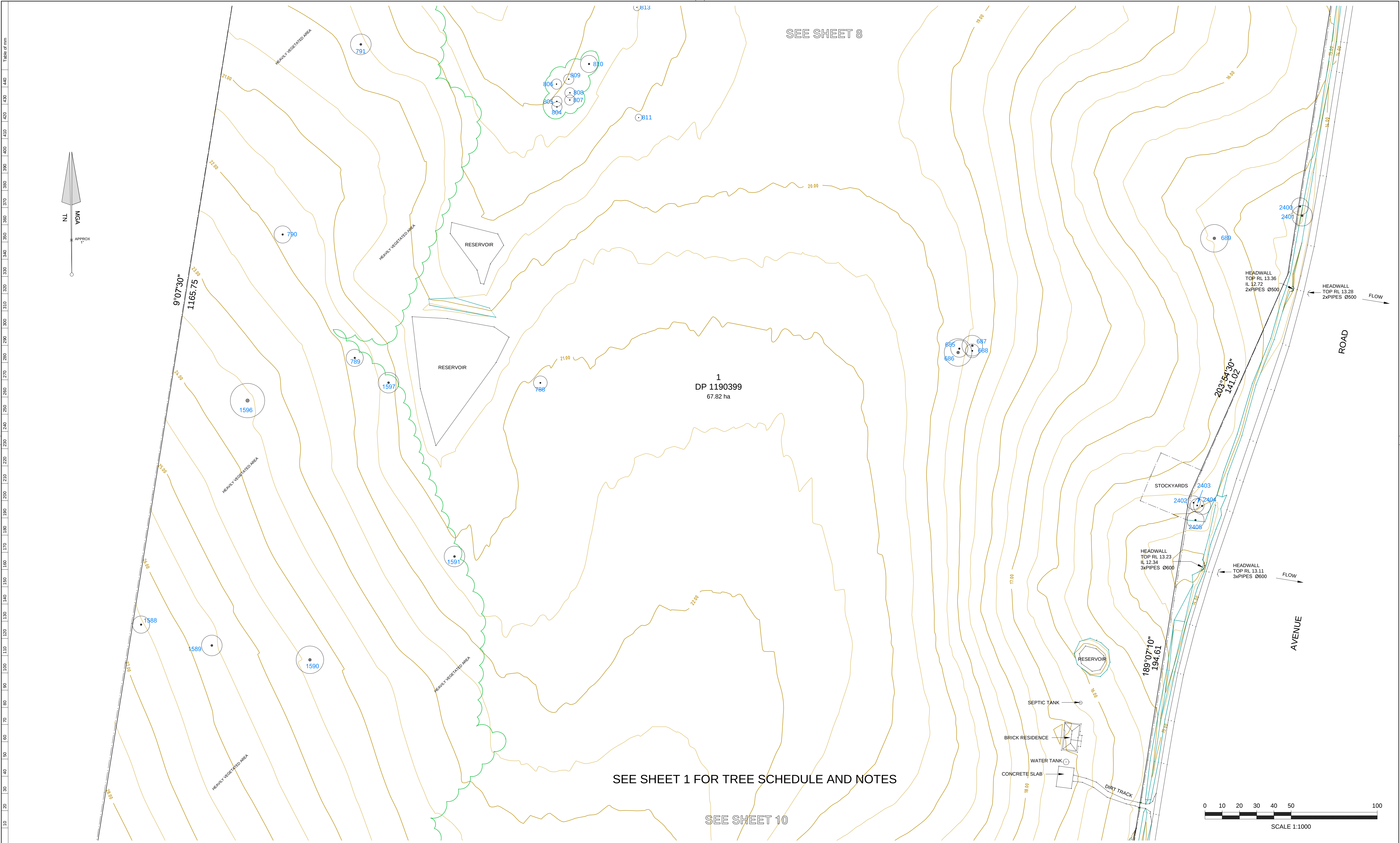
PLAN REFERENCE

10031-DET
SHEET 8 OF 10

ISSUE

2

A1



USHER & COMPANY
Surveying & Land Development Consultants
A.B.N. 70 128 414 602

Unit 4, 1726 Gold Coast Highway, Burleigh Heads QLD 4220
PO Box 756, BURLEIGH HEADS QLD 4220
Phone: (07) 5535 8346
Fax: (07) 5535 8155
Email: admin@usherandcompany.com.au

APPROVED

Amendments		
ISSUE	DATE	DETAILS
INITIAL	07-04-2017	
2	26-04-2017	BOUNDARY COORDINATES ADDED

PLAN:

SHOWING DETAIL SURVEY
OVER LOT 1 IN DP 1190399 & LOT 26 IN DP 751376
No.313 AVENUE ROAD, LAVADIA

LGA: CLARENCE VALLEY
SUBURB: LAVADIA
ORIGIN: PM 161907
RL 15.378 AHD
CLASS B, ORDER 2
SCIMS 23/03/2017

REDUCTION RATIO: 1:1000
DATUM: AHD
DATE OF SURVEY: 05-04-2017
SURVEYED BY: MT / RG / SB
DRAWN BY: LL

THIS PLAN IS FOR THE EXCLUSIVE USE OF
JOHN HOLLAND
PLAN REFERENCE
10031-DET
SHEET 9 OF 10

A1

ISSUE
2

NOTES

LOT AREAS AND BOUNDARY DIMENSIONS HAVE BEEN COMPILED FROM DEPOSITED PLANS AVAILABLE AT LAND AND PROPERTY INFORMATION. NO BOUNDARY SURVEY OR INVESTIGATION HAS BEEN MADE AND NO BOUNDARIES HAVE BEEN MARKED. ACCORDINGLY THE POSITION OF IMPROVEMENTS RELATIVE TO BOUNDARIES SHOWN HEREON IS DIAGRAMMATIC ONLY.

BEARINGS SHOWN ON THIS PLAN ARE ORIENTATED TO MGA NORTH VIDE DP 1190399. IF SHADOW DIAGRAMS ARE TO BE CALCULATED THEY MUST BE CALCULATED USING TRUE NORTH.

THE BOUNDARY LOCATIONS SHOWN ON THIS PLAN ARE PROVISIONAL AND SUBJECT TO FURTHER SURVEY.

ONLY VISIBLE SERVICES HAVE BEEN LOCATED ON THIS SURVEY.

SERVICES & UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED BY COMBINATION OF FIELD SURVEY AND REFERENCE TO SERVICE PLANS FROM STATUTORY AUTHORITIES. ONLY VISIBLE AND APPARENT SERVICE COVERS AND POLES HAVE BEEN LOCATED BY FIELD SURVEY. SERVICE DETAILS AND LOCATIONS SHOULD BE CONFIRMED WITH THE RELEVANT SERVICE AUTHORITY DURING DESIGN & PRIOR TO ANY CONSTRUCTION. THE LOCATION OF UNDERGROUND SERVICES HAS NOT BEEN INVESTIGATED BY USHER & COMPANY PTY LTD.

WHERE THE EXACT LOCATION OF UNDERGROUND SERVICES IS CRITICAL TO THE DESIGN OR CONSTRUCTION THE RELEVANT PARTY SHOULD ARRANGE TO HAVE AN UNDERGROUND SERVICES TRACE CARRIED OUT TO CONFIRM THE SERVICES EXACT LOCATION. IN THIS REGARD ALL PARTIES SHOULD CONTACT THE 'DIAL BEFORE YOU DIG' SERVICE AND LOCAL AUTHORITIES.

CONTOUR INTERVAL 1.0m MAJOR, 0.5m MINOR.

COORDINATES SHOWN ON THIS DRAWING ARE DERIVED FROM A LOCALISED GROUND DISTANCE BASED GRID, ESTABLISHED FROM THE M.G.A COORDINATES OF:

PM 161907
MGA EASTING 506169.809
MGA NORTHING 6708730.431
RL (AHD) 15.378

PM 66997
MGA EASTING 506090.355
MGA NORTHING 6708162.512

THE LOCALISED GRID IS ORIENTATED TO THE M.G.A
THE LOCALISED GRID MAY BE RE-SCALED TO THE M.G.A BY APPLYING A SCALE FACTOR OF 0.999592 ABOUT PM 161907

ONLY SELECT TREES WERE SURVEYED IN THE HEAVILY VEGETATED AREAS.

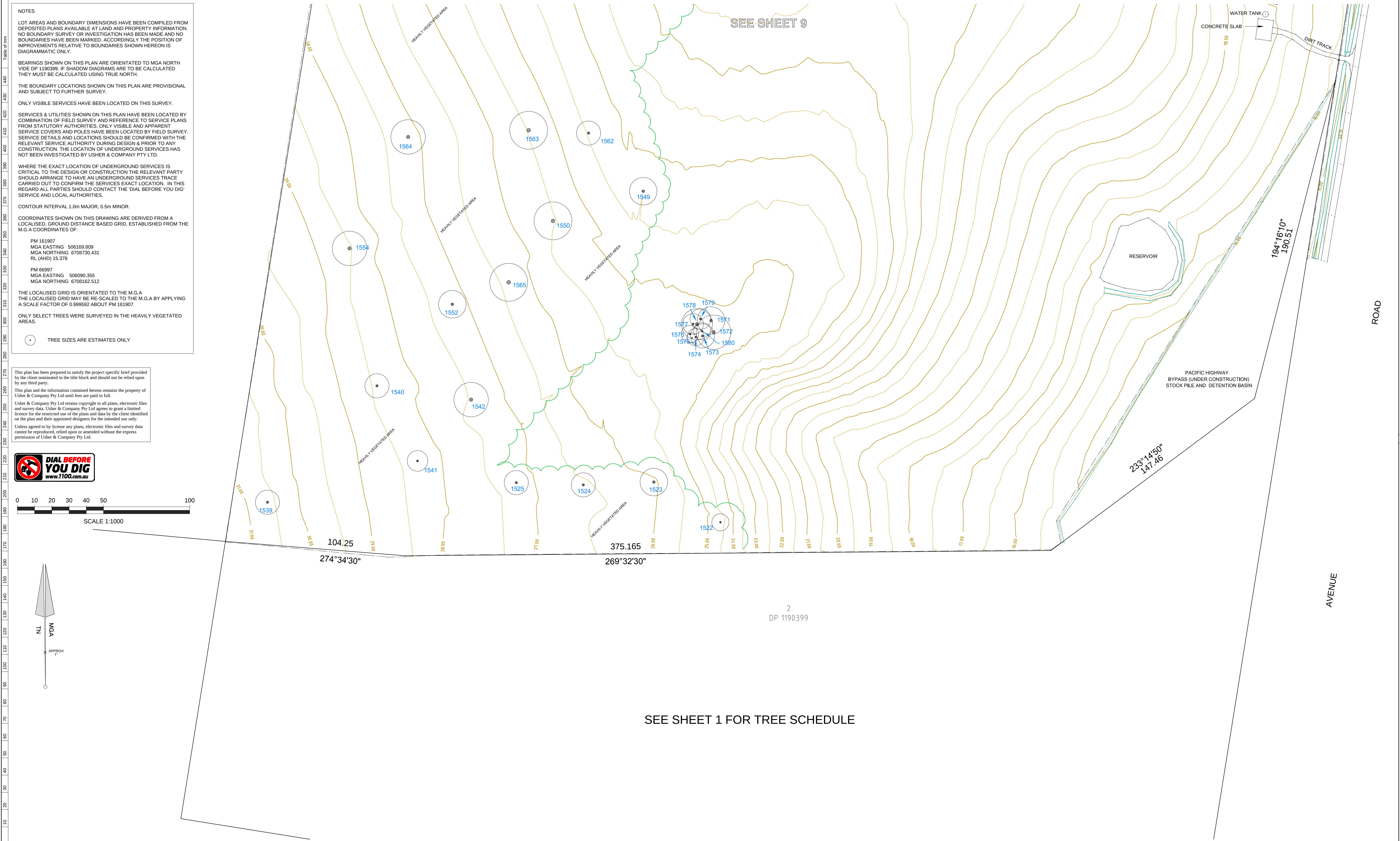
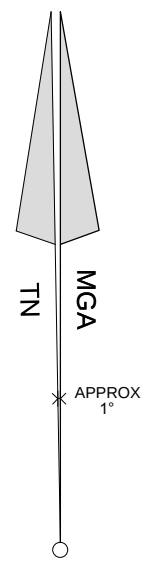
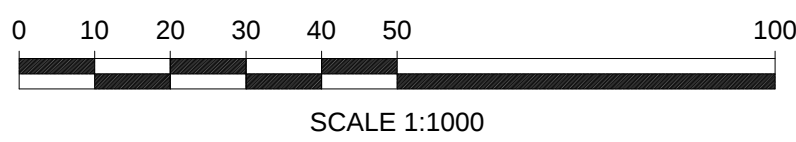
• TREE SIZES ARE ESTIMATES ONLY

This plan has been prepared to satisfy the project specific brief provided by the client nominated in the title block and should not be relied upon by any third party.

This plan and the information contained herein remains the property of Usher & Company Pty Ltd until fees are paid in full.

Usher & Company Pty Ltd retains copyright to all plans, electronic files and survey data. Usher & Company Pty Ltd agrees to grant a limited licence for the restricted use of the plans and data by the client identified on the plan and their appointed designers for the intended use only.

Unless agreed to by license any plans, electronic files and survey data cannot be reproduced, relied upon or amended without the express permission of Usher & Company Pty Ltd.



USHER & COMPANY
Surveying & Land Development Consultants
A.B.N. 70 128 414 602

Unit 4, 1726 Gold Coast Highway, Burleigh Heads QLD 4220
PO Box 756, BURLEIGH HEADS QLD 4220
Phone: (07) 5535 8346
Fax: (07) 5535 8155
Email: admin@usherandcompany.com.au

APPROVED

Amendments		
ISSUE	DATE	DETAILS
INITIAL	07-04-2017	
2	26-04-2017	BOUNDARY COORDINATES ADDED

PLAN:

SHOWING DETAIL SURVEY
OVER LOT 1 IN DP 1190399 & LOT 26 IN DP 751376
No.313 AVENUE ROAD, LAVADIA

LGA: CLARENCE VALLEY

SUBURB: LAVADIA

ORIGIN: PM 161907
RL 15.378 AHD
CLASS B, ORDER 2
SCIMS 23/03/2017

REDUCTION RATIO: 1:1000

DATUM: AHD

DATE OF SURVEY: 05-04-2017

SURVEYED BY: MT / RG

DRAWN BY: LL

THIS PLAN IS FOR THE EXCLUSIVE USE OF

JOHN HOLLAND

PLAN REFERENCE

10031-DET
SHEET 10 OF 10

A1

ISSUE

2

New Grafton Correctional Centre Stage 2

17. Appendix 5 - Photos



Photo 1. Group 1.
This is a small stand of Forest Red Gum *Eucalyptus tereticornis*.



Photo 2. Group 2.
Small stand of trees near the northern boundary.



Photo 3. Group 2. Tree # 1884.
Old Forest Red Gum *Eucalyptus tereticornis*. The tree has lost its tip.



Photo 4.
Group 2. Tree# 1892.
This Grey Box *Eucalyptus moluccana* has been struck by lightning.



Photo 5. Group 3.
Large group of trees.



Photo 6. Group 4.
Large area. The trees are scattered individuals.



Photo 7.
Group 4. Tree # G4 001. Large dead Ironbark tree.



Photo 8. Group 6.
The trees in Group 6 are on the edge of the group in the foreground and a small number on the other side of the grassed area.



Photo 9. Group 6
Tree # 899.
This is a large Forest Red Gum on the southern edge of Group 6.



Photo 10. Plot A.
This area is dominated by Bloodwood trees. This plot is typical of the trees in this wooded area contiguous with Group 4.



Photo 11. Tree # 791.
Large old Forest Red Gum *Eucalyptus tereticornis*.



Photo 12. Tree # 791.
The tree has a large cavity at the base.



Photo 13. Plot C.
This area is dominated by young mature aged trees with a moderate amount of dead trees and fallen timber.



Photo 14. Plot C.
There is a moderate amount of fallen timber throughout the treed areas.