From:	Amanda Moylan
To:	Tracey Gillett
Subject:	PPSSTH-=159 FW: Electronic copies of presentation and supporting material by Arnold McLean
Date:	Wednesday, 2 November 2022 4:37:50 PM
Attachments:	221101DA2022_469PRESN.pdf 221101PHOTOSDA2022_469.pdf 221030DA2022_469PRSNTNAGM.pdf

Hi Tracey

Info provided by submitter during the public meeting for PPSSTH-159. Could you please upload to portal and publish once decision is ready.

(I have acknowledge response to Arnold)

Thx

Amanda

-----Original Message-----
From: Arnold Grant McLean <[redacted]>
Sent: Wednesday, 2 November 2022 4:30 PM
To: Amanda Moylan <[redacted]>
Subject: Electronic copies of presentation and supporting material by Arnold McLean

Amanda Moylan

Secretary

NSW Regional Planning Committee

Ref: ppssth-159-DA2022/469 14th Cosgrove Ave Keiraville NSW 2500

Wollongong City Council Wednesday 2nd November 2022: 13:30

Please find attached electronic copies of the material presented and supporting material presented by the undersigned.

You may care to note

of my actual presentation (2 page document) only page 1 was presented due to time constraints.

in the supporting material document only pages 4/6 to 6/6 namely Appendices A, B & C apply.

photographs two pages - both pages apply.

Opportunity here is taken, on behalf of KRAG, for the opportunity to present to the Panel and furthermore the invitation to forward this supporting material for consideration.

Yours faithfully

Arnold McLean

KRAG Inc Member

Safe vehicular access to and from the property.

Historical:

The presenter has no knowledge a wheeled public road operating vehicle has ever fully entered and departed the subject development site for the simple reason the site is excessively challenging and unsafe.
The presenter has knowledge the previous owner (of major local earth moving company Cleary Bros) arranged the installation of a very tentative token access way up the ridge line using either a tracked bull dozer or a HD tyred payloader. Over time this crude access way is now near non existent.

Traffic Submission Major Shortcomings:

Prepared with total ignorance of:

- HV, earth moving, water cart and / or construction vehicle driver; construction worker; pedestrian, public road user and local resident and residence **safety**,
- HV drive axle and trailer suspensions are inherently designed for highway use (refer photographs (1-2/2), they are not dynamically load sharing implying destruction of the local roads along the proposed haul route; sharp corners imply high transverse forces hence compounding road damage,
- HV drive axles will need to be installed with differential and cross lock with the same activated off road. (Once activated a HV's turning circle greatly increases. Destroy paved surfaces if turning. **Not** installed on most HVS. Compare SUV traction 4 x 4 lock.),
- actual entrance details, local road and site topology, grades, cross grades and traction conditions (refer photographs p2/2) (Submission prepared void of a site visit),
- technical deficiencies too numerous to declare within the time allocation (refer Appendix A),
- the NSW heavy vehicle driver's handbook[1] recommends drivers of heavy vehicles reverse into confined spaces and driveways and drive forwards exiting,
- the published driveway access requirements issued by the NSW Fire and Rescue,
- access, gradeability, published safe braking and hand brake grade holding limits of residential service, emergency vehicle and that of the resident's vehicles possibly EVs,
- access provisions for pedestrians, cyclists and mobility disadvantaged residents,
- construction trade personnel on site parking characteristics and needs,
- uncontrolled unintentional wind, water borne and sewerage movement of material from the site and/or residences,
- the proposed project is of industrial scale hence a thorough safety audit compatible to Worksafe NSW requirements must prepared and finalised,
- the risk, implications and ownership of numerous vehicular accident or loss of control scenarios (refer Appendix C). Due to the high risk Worksafe NSW must be requested to thoroughly investigate and report.

1 P57 Reversing: https://aussie-driver.com/nsw/nsw-heavy-vehicle-driver-handbook/

Conclusion

The Submission Standard is that of a purchased glossy paged report containing pretty pictures aimed to simply appease the WCC planning department staff with the conviction of the well known adage ‘completely pull the wool over the eyes’ of the same department.

It is extremely insulting to a retired engineering academic whose employ key performance indicators (KPIs) were the number of refereed journal publications, resident in a City calling itself a University City, to observe the Local Council accept purchased based authored submissions void of even peer review.

The most appropriate, least impact and safest application of the subject property is an extension of Wollongong Botanic Garden with native trees plantings effected by volunteers accessing the steeply graded landscape by foot.

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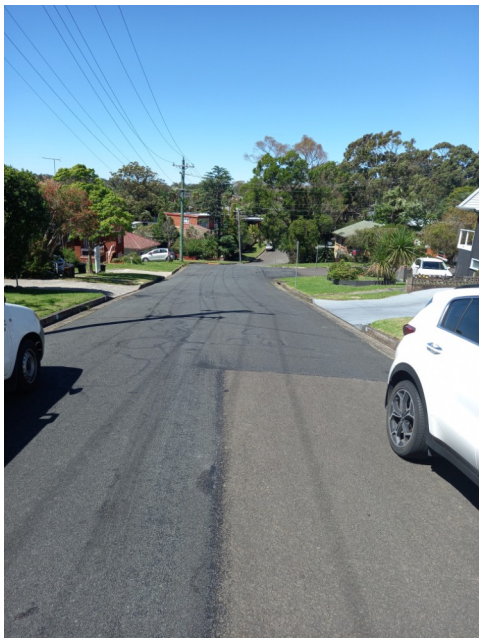
Northward view of entry into Andrew Ave from Murphys Ave
looking toward dip with RH curve.

Eastward view of Andrew Ave subsequent LH curve and dip.

Andrew Ave looking north toward Cosgrove Ave with Cedar Grove on left mid ground. Parked ute foreground right.



Andrew Ave viewed southwards from Cosgrove Ave with Cedar Grove on right mid ground. Parked ute centre background.

Northbound view of #14 Cosgrove Ave driveway on left as viewed from intersection of Andrew Ave and Cosgrove Ave.

Southbound view of #14 Cosgrove Ave driveway as viewed opposite #12 Cosgrove Ave driveway on right.

View looking west of access way site, #12 Cosgrove Ave residence on right with boundary fence extending rearward. Aft of the visible tree line is the proposed loading / turning area for 6 x 4 truck and quad axle trailer combinations. Whereas, the proposed concrete pumping station is immediately aft the rear boundary fence of #12 Cosgrove Ave on the right background.

Southward view of William St driveway serving the Keiraville BWS and Markette. Public road operating HVs passing over this driveway experience uncontrolled wheel spin even with their air drive suspensions dumped.

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Submission Benchmark Token Statements

The Submission states: '*only supervisors and the like will be allowed to park their vehicles on site. Whereas as all other construction workers will need to park their vehicle elsewhere or use public transport.*' The Submission authors must be totally ignorant of the critical parking shortage within the UoW environs and the totally deficient near non existent public transport serving the proposed construction site environs especially that compatible to construction worker daily start and finishing times. The stated recommendation is totally contrary to the practise of trade personnel parking on site for ready access to their tools and equipment.

Unintentional Movement of Material from the Construction Site

All Australian construction sites are subject to drought and flooding rains.

Wind borne emissions

During low rainfall periods. During the construction phase water suppression to prevent dust emissions will be essential. Due to the access way construction phase status water spraying will demand the use of HD off road 6x6 water carts. Such water carts will regularly access a Sydney Water hydrant. This need confirms the need for all of Cosgrove Ave west of Georgina Ave be declared a Construction Site.

Sediment and storm water runoff

On site sediment containment will be impossible should current rainfall statistics repeat during the proposed construction phase. Furthermore for the proposed site sediment burdened runoff will inevitably significantly and dangerously impose onto existing down slope nearby residences, structures and drainage system (including that passing through the Wollongong Botanic Gardens)

Service Supplies to and from Site

Water

The site may incur very low water pressure due to the minimal elevation differential between nearby Sydney Water Reservoirs compounded by the significant actual supply network transmission distance. Especially during high demand periods including that during times of bush fire fighting.

Sewerage

The site sewer pipe network will involve laying pipes at high grade, utilising multiple deep shafts / manholes and multiple tall vent stacks. Furthermore the high sewerage head associated with the site will impose significant risk of back flushing or overflowing of both the downstream sewerage network and into all downstream (even remote) residential properties.

Appendix A Traffic Submission Technical Deficiencies

The Submission authors were completely ignorant and /or erroneous:

- the 18% braking and park brake gradeability standard for public road worthy vehicles,
- the 13% gradeability standard for articulated public road worthy heavy vehicles,
- the majority of heavy vehicle drive and trailer axle group suspensions are air suspended with each only exhibiting static load sharing,
- the majority of heavy vehicle drive and trailer suspensions are designed to operate at highway speed on pavements and roads comparable to US Highways or European Autobahns. Hence removed from the M1 Motorway the pavement and road conditions along the proposed haulage route significantly deviate from Highway or Autobahn standard,
- the computer based superposition of 6 x 4 truck quad axled dog trailer combinations swept paths onto web based sourced satellite views totally ignored the topography, grade and cross camber (e.g refer details presented in Appendix B), minute local road details, traffic congestion, parked vehicle congestion, opportunity for adverse road and site surface traction conditions and inclement weather conditions,
- the HV steer tyre width (11”, 295 or 385mm) assumed for the swept path predictions (esp. that for a 180^{o} turn) notably with increasing steer tyre width HVs incur reduced steering lock,
- the HV combination swept path predictions for both unladen and fully laden operation states especially when subject to the combined action of grade, camber and on site non symmetrical and non uniformly distributed loading,
- the HV operation speed in each swept path predictions notably the extent of an articulated HV combination’s low speed off tracking increases with decreasing speed; subsequently HV drivers operate at higher speed to counter same,
- failed to calibrate the superimposed swept path prediction even for the Georgina Ave 90^{o} elbow bend through which the HVs will pass laden post somewhat random loading operations,
- failed to consider heavy vehicle articulated combination trajectories through the extremely adverse highly grade and camber changing intersections along the proposed haulage route (Refer Appendix B),
- failed to accurately predict the swept path trajectory of unladen high productivity HV articulated combinations from Andrew Crescent onto Cosgrove Ave, across the driveway / footpath to commence accent of the construction site’s proposed access way (including activation of the HV’s drive line diff and cross lock) esp. during inclement weather,
- failed to accurately predict the swept path trajectory of laden high productivity HV articulated combinations leaving the site moving across the driveway / footpath to commence descent of Cosgrove Ave (including deactivation of the HV’s drive line diff and cross lock).
- failed to consider heavy vehicle articulated combination trajectories along relatively narrow Andrew Crescent especially through the two curves with simultaneous intense dips with one

(immediately post to a particularly adverse intersection) attracting a close to kerb curve apex adversely located power pole.

- failed to consider all heavy vehicles entering and leaving the site during the construction phase (during which time off road conditions apply) must be equipped with diff and cross lock to their tandem drive axles with the same engaged whilst ever on site (including passing over the footpath along Cosgrove Ave) (Compare ‘soft’ traction lock on typical SUV transmissions). Heavy vehicles entering the site not so equipped will incur extreme risk of loss of control and inability to function. (Opportunity here is taken to inform heavy vehicles must be stationary when dis/ engaging diff and cross lock as these drive line components involve multiple HD dog clutches.)
- The computer predicted heavy vehicle truck and quad axled dog trailer combination 180^{o} turn swept path trajectory at the proposed on site loading station completely ignored the fact the truck would be operating with diff and cross lock engaged, the actual instantaneous grade and cross camber and severely comprised drive wheel traction (especially that post wetting to suppress dust emissions) and the presence of the construction site offices. Subsequently, the turning circle of the truck and trailer combinations will be significantly increased. So much so it will NOT be possible for a truck and quad axled dog trailer combination to effect a 180^{o} turn at the proposed loading site within the actual safe working available turning area.
- It will be impossible for public road operating HV concrete agitators to report to, depart the proposed concrete loading pumping station and safely depart the site. More so on account of the location of the proposed construction site offices.

Appendix B

Haulage Route Observed Road Pavement Grades and Cross Grades, degrees				
Route location	Grade In	Grade Out	Cross Grade	Combined
Murphy's Ave RH onto Andrew Crescent	5	9.3	2.8	9.7
Andrew Crescent RH curve dip	6.8	1.6	0	6.8
Andrew Crescent LH onto Cosgrove Ave	6.9	6.4	5.5	8.8
# 14 Cosgrove Ave Driveway	10.8	0	3.7	11.4
Cosgrove Ave LH onto Georgina Ave	5.3	5.2	4.1	6.7
Georgina Ave RH Elbow	3.1	5.8	0.3	5.8
Georgina Ave RH onto Robson Rd	4.5	1.1	2	4.9
Robson Rd LH onto Murphy's Ave	5.1	3.8	2.2	5.5

Appendix C High Risk Vehicle Accident Scenarios

- industrial scale number and activity of construction vehicles including water cart, both tracked and wheeled earth moving equipment, earth moving equipment service and refuelling units, mobile crane, access way graders or rollers incurring a loss of control or roll over and indeed that of any subsequent recovery vehicle/s,
- construction equipment colliding with pedestrian construction workers or their on site temporary offices,
- a resident or site visitor accidentally failing to fully constrain their vehicle whilst delivering waste to the waste collection site or collecting mail from their mail boxes,
- garbage skip 8 x 4 collection truck loss of control esp. leaving the driveway onto Cosgrove Ave during inclement weather (note also the skip truck collection times are not specified)
- pedestrian and cyclist interactions with the garbage collection skip truck and residence light vehicles along the proposed access way and entering or leaving the driveway onto Cosgrove Ave especially during inclement weather and/or contaminated access way conditions,
- vandal or intentional induced vehicle accident or loss of control (e.g. cause the garbage skip or a stolen vehicle to career down the driveway),
- cyclist, e-scooter (both child and adult), and children's / teenager wheeled implements incurring a loss of control attempting to negotiate any part of the proposed Development's main driveway and access roads.

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