

STATEMENT OF ENVIRONMENTAL EFFECTS

PROPOSED: ANCILLARY CAR WASH

SUBJECT SITE:

1-21 (LOT 3) CRANEBROOK ROAD,
CRANEBROOK, NSW, 2749

LOT 3 of DP 215949
Parish of Castlereagh
County of Cumberland.

CLIENT:

CARWASH WORLD PTY LTD

DATE:

30th November 2020

JOB NO:

20-026 DA



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1. PROPOSAL OVERVIEW

Address	1-21 (LOT 3) Cranebrook Road, Cranebrook, NSW, 2749
Real Property Description	Lot 3 on DP 215949
Site Area	36,300 M ²
Topography	The overall site slopes from north-east (high corner) to south-west (low corner). There is an approximate 500mm slope on the existing concrete surfaces for the existing Service Station/ McDonald's development in the south-east corner of the site.
Current Use	The site currently has an existing Service Station with Convenience Store, Workshop and Take-Away Restaurant (McDonald's) and associated signage.
Property Owner	Anton + Tania Pincevic
Applicant	Carwash World Pty Ltd- John Sewerle
Proposal	<p>Development Application for the 'Car Wash' ancillary use to the existing Service Station shop and take-away food and drink premises. The Car Wash is to include Automatic + Self-Serve Wash Bays, Vacuum Bays, Dog Wash, Plant Room and standalone Storage Room.</p> <p>Also to include all relevant Buildings/Works, on-building signage and removal of 2 existing car parking spaces to allow for the new entry only driveway access into the Car Wash site.</p>
Local Government Area	Penrith City Council
Planning Scheme	<p>Penrith City Council Local Environmental Plan 2010, Penrith City Development Control Plan 2014, State Environmental Planning Policy (Infrastructure) 2007, State Environmental Planning Policy No 33- Hazardous and Offensive Development, State Environmental Planning Policy No 55- Remediation of Land, State Environmental Planning Policy No 64- Advertising Signage, Sydney Regional Environmental Plan No. 20 – Hawkesbury Nepean River, State Environmental Planning Policy (Infrastructure) 2007.</p>
Defined Use	Car Wash » Service Station (ancillary use).
Area Classification	Zone RU4- Primary Production Small Lots.
Overlay/s	N/A



2. THE PROPOSAL

This application seeks approval for the new ancillary Car Wash use and associated building and works, plus two (2) new internal driveways and associated on building signage.

The proposed ancillary development consists of:

1. Two (2) Automatic Car Wash Bays,
2. Three (3) Self-Serve Wash Bays,
3. Four (4) Vacuum Bays,
4. A Vending + Change area,
5. A Plant Room with a Secure Storage Room with staff amenities,
6. Oil Separator Enclosure,
7. One (1) Dog Wash + Store Room,
8. Business Identification signage (fixed to the building),
9. Suitable directional/informative signage (fixed to the building),
10. Suitable new Stormwater, Sewer and Landscaping for the site.

The subject site is number 1-21 Cranebrook Road in Cranebrook, New South Wales (Lot 3 on DP 215949 in the Parish of Castlereagh).

Provisions for the above will be contained within one main Car Wash building structure (including attached roofed canopies) having a total roofed area of 552.6 M², and a standalone Store Room/Dog Wash 'Shed' structure having a roofed area of 15.0 M². The overall site area is 36,300 M², the reduced Service Station site area is 14,370 M² (as the proposed Car Wash development takes up part of the currently approved Service Station site area), and the total Car Wash site area is 1,607 M², which yields an overall subordinate Car Wash total site coverage of 4.4% and overall principal purpose of the Service Station yields a total site coverage of 40%.

The car wash building has been orientated to best cater for safe vehicle manoeuvrability into around and out from the Car Wash portion of the site, increased vehicle queuing, to create an aesthetically pleasing building façade to both Cranebrook Road and Londonderry Road, and to encourage passive surveillance from the Service Station areas into the Car Wash site area. The Car Wash building is orientated in a north-south direction (running perpendicular to the Cranebrook Road alignment) and has been setback 11M from the Cranebrook Road site boundary. The Car Wash building will contain all of the Wash Bays, the Plant Room/ Secure Storage room and staff amenities. The Vacuum Bays are attached to the northern end of the building. The Car Wash building will have a slight upward curved roof that is cantilevered on the sides and ends, with a raised Plant Room section near the mid-point of the building which will articulate the wash bay roof lines either side. All other lower level roofs are sloped at a 5° roof pitch. Parts of the existing site landscaping (along existing car parks 84-95 and the truck parking area) area will remain, all other sides of the Car Wash site will have new landscaping planted. The Car Wash site will utilise the existing common Bin area for any hard rubbish disposal.

The proposed Car Wash entry location is provided by the removal of two existing car parks which will provide a new one-way 'entry only' internal driveway of ~4.5M wide in the northeast corner of the Car Wash site. In order to form a 'loop' circulation pathway through the Car Wash site (the most efficient method of travel through a car wash site which also maximises vehicle queuing areas and improves vehicle/pedestrian safety) a dedicated 'exit only' internal driveway is proposed to the north of the Car Wash site. This driveway will be ~5.7M wide and the exit is near the existing truck parking area. The two new internal driveways will involve removal of a small section of the existing concrete kerb. The proposed Car Wash will not alter the existing Service Station site driveway access points.



Refer to the attached Application drawings detailing all aspects of the site/design requirements:

1. Existing Conditions Plan + Aerial Image + Locality Plan,
2. Proposed Overall Site Layout Plan + Car Parking Site Analysis,
3. Proposed Car Wash Site Plan + Site Analysis Summary + Materials Schedule,
4. Proposed Car Wash Layout Plan,
5. Elevations, Sections A - D+ Colour Schedule,
6. Sections E – G + Landscaping Notes and details,
7. Proposed Landscaping Plan + Plant Schedule,
8. Vehicle Swept Path Diagrams,
- C1. Proposed Car Wash Site Stormwater Layout Plan, Pit Schedule + Civil Notes,

The building construction materials will primarily consist of concrete tilt panels, Alucobond cladding to the fascia trusses, powdercoated/painted steel beams and columns, aluminium windows, and Colorbond sheet roofing and gutters to all areas. The architectural building design and colour selection is modern and appealing yet non-dominant and visually pleasing. The wash bays have been positioned and sized to allow clear visibility into each wash bay from within the existing Service Station site, provide adequate turning circles, maximise the amount of vehicle queueing and parking areas (which in turn promotes safe passage for customer movement around the site). The proposed Car Wash building will be suitably landscaped on all sides with larger trees/shrubs being planted along the Cranebrook Road (south side) and to the western side of the building to aid with screening of the building from Cranebrook Road.

Traffic can enter and exit the site in a forward direction from the new proposed 'Entry Only' and 'Exit Only' internal driveways. Traffic movements, pavement grades and sight distances comply with the relevant Australian Standards and Austroads design requirements. The site has dedicated entry and exit locations as indicated on the attached plans so that vehicle movements around the site are controlled and streamlined.

The proposed hours of operation are 24 hours- 7 days per week is consistent with the current principal purpose Service Station and also the Take-Away restaurant hours of operation. A total of 1 employee will be in attendance on the site part-time between 8:30am to 5:30pm, typically 3-5 hours per day increasing during busier times as needed. The site will have a sophisticated security system installed which will be externally monitored 24 hours per day. The proposed hours of operation will not impact upon the amenity of adjoining properties.

The site is zoned Primary Production Small Lots 'RU4' Zone. Pursuant to Part 2 of the Penrith City Council's Local Environmental Plan 2010 (LEP); the car wash "use" is a non-defined use in the LEP. However in this instance is classified as an ancillary use to the current approved dominant purpose Service Station on the site.

"Service Station" means a building or place used for the sale by retail of fuels and lubricants for motor vehicles, whether or not the building or place is also used for any one or more of the following-

(a) the ancillary sale by retail of spare parts and accessories for motor vehicles,

(b) the cleaning of motor vehicles,

(c) installation of accessories,

(d) inspecting, repairing and servicing of motor vehicles (other than body building, panel beating, spray painting, or chassis restoration),

(e) the ancillary retail selling or hiring of general merchandise or services or both.

This application is being made to the Penrith City Council as the responsible authority who is permitted to approve this Development Application in this instance under Part 4 of the Environmental Planning and Assessment Act 1979.



3. THE SUBJECT SITE

3.1 EXISTING CONDITIONS

The subject site is located on the northwest corner of Cranebrook Road and Londonderry Road intersection in Cranebrook, New South Wales. The site to which this application relates to comprises of an irregular predominately trapezoidal shaped block covering 36,300 M². Figure 1 and 2 (below) shows the overall site location with regard to the surrounding area and road network.

Refer to the attached Application drawings Sh: 1 for the “Existing Conditions Plan”.



Figure 1: Aerial photo of the site and surrounding areas.
Source- Nearmap, 5th August 2020

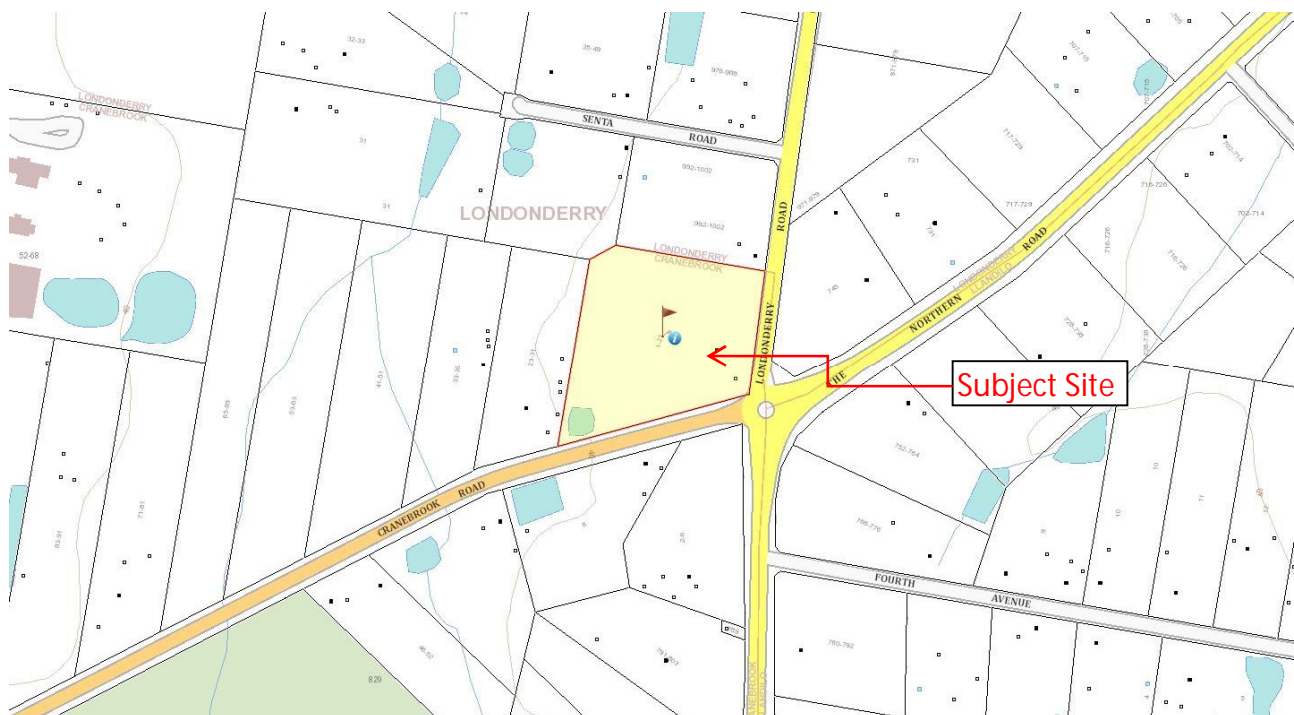


Figure 2: Street Map view of the site and surrounds.



The overall site does not contain any easements (refer to the attached copy of title). The existing site contains a Service Station and convenience store, with an ancillary Work Shop and McDonald's take-away food premises, associated driveway/car parking areas, signage, four (4) driveway access points; all located in the southeast corner of the site closest to the Cranebrook and Londonderry Road intersection. The waste water/sewer effluent treatment disposal area is located to the northern area of the site. All non-developed/landscaped areas of the site are predominately cleared (including the area of the proposed Car Wash) of vegetation and are predominately grassed/dirt areas.

The site has been occupied by the Service Station use since 1971, with the original site also containing an ancillary Car Wash. The surrounding area in general mainly consists of rural, agricultural and residential uses.

3.2 SITE HISTORY

The current Service Station development and demolition of the previous Service Station was granted on the 7th November 2012. Since that time six (6) amendments to the originally approved permit (No: DA10/1209) have been granted for various alterations and additions to the Service Station principal purpose.

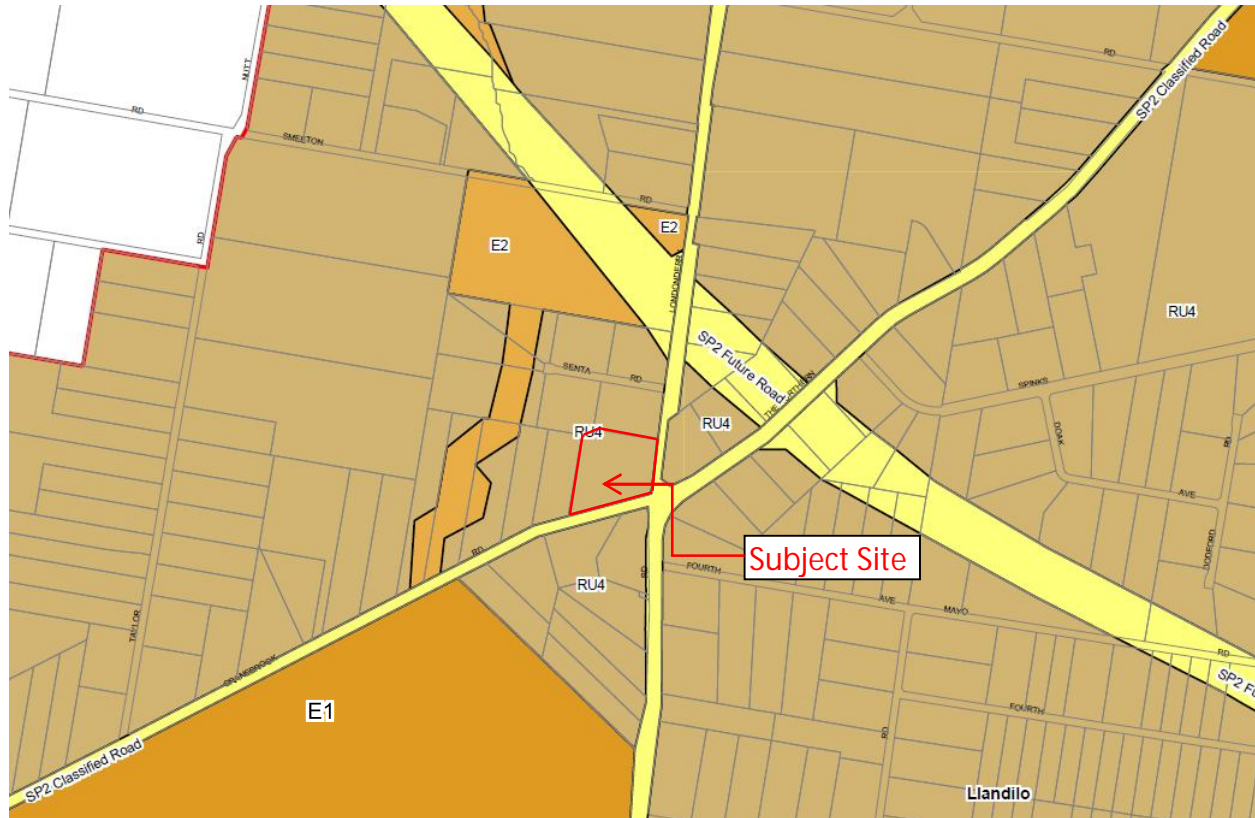
- DA10/1209.01 for the addition of a managers unit within the attic of the approved service station (approved 20 August 2013),
- DA10/1209.02 for increasing the site area for the service station and the building footprint and modification to the internal layout of the service station building (approved 29 April 2014),
- DA10/1209.03 for the provision of a drive-thru facility, increased gross floor area, reconfigured layout and car parking (approved 18 November 2016),
- DA10/1209.04 for the provision to modify the restaurant component including roof, façade treatment, internal layout and signage (approved 13 November 2018),
- DA10/1209.05 to modify the design of the first floor residential tenancy including extension of outdoor terrace (approved 30 April 2019),
- DA10/1209.6 to modify the Enclose the Terrace Areas on the First Floor to be used as Storage Areas (approved 6 December 2019).



4. PLANNING ASSESSMENT FRAMEWORK

4.1 PENRITH LOCAL ENVIRONMENTAL PLAN (LEP) 2010

Figure 3 (below) shows the subject site location (and surrounding properties) with reference to the surrounding zone classification.



Zone: **RU4** Primary Production Small Lots

E1 National Parks and Nature Reserves **E2** Environmental Conservation

Figure 3: Planning Zone Map of the site and surrounding areas.
Source- Land Zone Map- Sheet LZN_011 from Penrith LEP 2010.

Clause	Name	Assessment Provisions	Proposal
Penrith LEP 2010	Land Use Table- Zone RU4: Zone Objectives	To enable sustainable primary industry and other compatible land uses.	N/A- As the site benefits from the existing use rights of the Service Station when it was originally built back in 1971 and then redeveloped in 1976. Therefore the site benefits from the existing use rights.
		To encourage and promote diversity and employment opportunities in relation to primary industry enterprises, particularly those that require smaller lots or that are more intensive in nature.	Complies- The overall site does have a diversity of uses that are in demand such as the principal purpose of the Service Station, followed by the subordinate purposes of the Convenience shop, McDonald's Fast Food Restaurant, Mechanical Workshop and the proposed Car Wash. Whilst these uses are not 'primary industry' in nature; they do



			provide a serve to the community with minimal to no environmental impact to the surrounding area.
		To minimise conflict between land uses within this zone and land uses within adjoining zones.	Complies- The Service Station 'use' has been occurring on this site since 1971 (almost 50 years) and was first redeveloped in 1976. The proposed Car Wash use will not negatively impact upon the adjoining properties and will operate within all legislated and Council requirements, ie: acoustic, lighting, traffic, built form etc...
		To ensure land uses are of a scale and nature that is compatible with the environmental capabilities of the land.	Complies- The proposed Car Wash site coverage is 1,607M ² which represents 4.4% of the overall site area. The site will have solar panels fitted to parts of the roof area, capture and use all rain water falling on all roofed areas of the Car Wash buildings, wash bay effluent water recycling for the Auto Wash Bays and have new on-site effluent wastewater treatment system installed to disperse of the treated effluent wastewater as needed All of these systems, equipment and measures will be taken to minimise any environmental impact and reduce the demand for water usage, electrical usage, and sewer discharge of the existing available infrastructure.
		To preserve and improve natural resources through appropriate land management practices.	Complies- See the above response with regard to the proposed Car Wash site being able to minimise the demand on the required utilities and reduce impacts to the environment.
		To maintain the rural landscape character of the land.	Complies- The front façade of the building (refer to the South Elevation, Sh: 5 of the Application drawings) has been designed to complement the existing Service Station colours by predominately using two tone grey colours with cantilevered rooflines. A red perimeter roof beam has been added throughout the roofline to add visual interest to the building and to tie in with the red features on the existing fuel canopy, existing feature columns and McDonald's accents throughout the existing site. The proposed building branding "X-Roads Car Wash" is consistent with the current "X-Roads" logo, signage type and fonts to maintain consistency throughout the site. A high level of landscaping with trees varying in height from 6-10M and shrubs varying in height from 1-3M will provide a high level of screening from the west and south when viewed along Cranebrook Road. All of these elements will combine to integrate the proposed ancillary Car Wash into the existing Service Station site and into the natural landscaped area.



		To ensure that development does not unreasonably increase the demand for public services or facilities.	Complies- Whilst there will be an increase in public patronage to the site (expected customer volumes are discussed later in this report) due to the development of the proposed Car Wash; the expected low numbers of car wash customers compared to the known high number of patrons using the Service Station/McDonald's restaurant will not result in an unreasonable increase of public using the site facilities. It is expected that a good percentage of Car Wash customers will also utilise other facilities on the existing site during their visit.
Part 7 Additional Local Provisions- Part 7.5- Protection of scenic character and landscape values	(1) The objectives of this clause are as follows- (a) to identify and protect areas that have particular scenic value either from major roads, identified heritage items or other public places, (b) to ensure development in these areas is located and designed to minimise its visual impact.	Complies- The proposed Car Wash development is setback 22M from Cranebrook Road and 130M from Londonderry Road. The proposed Car Wash building will be predominately obscured by the existing Service Station building and fuel canopy along the Londonderry Road frontage. The proposed Car Wash building height along Cranebrook Road varies between 4.1-7.5M high. This building frontage will be partly screened by the proposed landscaping. The proposed building colours predominately match in with the existing Service Station building colours and have 4 large window inclusions and a small cantilevered roof to ensure that the elevation looks visually pleasing and interesting without being drab, bland or visually dominate/obscure.	
	(2) This clause applies to land identified as " <i>Land with scenic and landscape values</i> " on the Scenic and Landscape Values Map.	Complies- This site and all immediate surrounding properties are identified as being within the " <i>Scenic and Landscape Values Map- Sheet SLV_011</i> ".	
	(3) Development consent must not be granted for any development on land to which this clause applies unless the consent authority is satisfied that measures will be taken, including in relation to the location and design of the development, to minimise the visual impact of the development from major roads and other public places.	Complies- The proposed Car Wash building should not be deemed as having adverse impression or unpleasing effect on the existing road network or surrounding areas.	



4.2 PENRITH DEVELOPMENT CONTROL PLAN (DCP) 2014

Clause	Name	Assessment Provisions	Proposal
C1 Site Planning and Design Principals			Complies-
1.2.3	Building Form - Height, Bulk and Scale	<p>a) Context: An applicant must demonstrate how all proposed buildings are consistent with the height, bulk and scale of adjacent buildings and buildings of a similar type and use.</p>	<p>The Car Wash Wash Bay roof has a maximum overall height of ~7.5M and minimum height of 5.1M. The Secure Storage/Plant Room building height is 6.0M high. The existing Service Station fuel canopy is ~6.5M high and the main building is ~9.5M high. The proposed Car Wash is on average lower in height and significantly smaller in visual bulk than the existing Service Station.</p> <p>The overall Car Wash roofed area is 568M² and the existing Service Station roofed area is 3,238M². In general the proposed Car Wash building area is approximately 17.5% of the Service Station building area and 11% of the Service Station site area.</p> <p>The proposed ancillary Car Wash does represent a minor change in comparison to the overall scale of the existing development.</p>
		<p>b) Character: An applicant must demonstrate how any building's height, bulk and scale will avoid or minimise negative impacts on an area's landscape, scenic or rural character (where relevant) taking into account the topography of the area, the surrounding landscape and views to and from the site.</p>	<p>As the Car Wash structure is predominately an open structure and the visual bulk of the building is greatly reduced. As such, the proposed landscaping to be planted on the western side of the Car Wash site will be able to be viewed easily from within the Service Station site.</p> <p>The proposed building roofed area and overall Car Wash site area is minor (as stated above) when compared to the existing Service Station site. Thus the proposed works will appear very much a small scale ancillary development.</p> <p>With the necessity to match the existing surface levels for the new driveway locations and connect into existing internal stormwater/water and sewer infrastructure; the sites finished surface levels are set to the lowest levels possible to minimise the amount of fill required for the site. With the amount of proposed landscaping and pleasing building façade; the proposed Car Wash development will greatly improve on the current vacant area.</p>
		<p>c) Articulation: Where the dimension of the building is 20m or more, an applicant must demonstrate how the building or surface has been articulated (either through built form or materials) to minimise impact on bulk and scale.</p>	<p>The overall building length is ~37M long. The main Car Wash building has been articulated slightly off centre by the inclusion of the Secure Store/Plant Room building which is a painted concrete panel building (to minimise maintenance, buildability, functionality and to maximise building life and acoustic performance).</p> <p>The Automatic Wash Bays, to the south of</p>



			<p>the Plant Room, have a medium level roof canopy at the entrance to the wash bays with a recessed Alucobond panel fascia and higher level curved roof beam fixed to the concrete panel following the main roof line. The Self-Serve Wash Bays, to the north of the Plant Room, have a large radius curved roof and recessed Alucobond panel fascia. The Vacuum Bay area will consist of a mid-level sloping roof. Only the Secure Store/Plant Room area is a fully enclosed building. All Wash/Vacuum Bays vary from partially open to fully open ends which greatly reduce the visual bulk and scale of the building.</p>
		d) Overshadowing.	<p>N/A The building is well set-back from the site boundary.</p>
		<p>e) Setbacks/Separations: Buildings should be sufficiently set back from property boundaries and other buildings to:</p> <ul style="list-style-type: none"> i) Maintain consistency with the street context and streetscape character, especially street/front setbacks; ii) Maximise visual and acoustic privacy, especially for sensitive land uses; iii) Maximise deep root planting areas that will support landscape and significant tree plantings integrated with the built form, enhancing the streetscape character and reducing a building's visual impact and scale; iv) Maximise permeable surface areas for stormwater management; and v) Minimise overshadowing. 	<ul style="list-style-type: none"> i) The Car Wash has a front setback of 11M to the Cranebrook Road site boundary. The existing Service Station fuel Canopy is setback a minimum of ~17M. The residential house at 8 Cranebrook Road is setback ~7M from their Cranebrook Road site boundary. The proposed setback is suitable for the area and use of the site. ii) By orientating the main Car Wash building in a north-south direction; this will minimise the acoustic impact on the surrounding properties. iii) An array of tall 6-10M high trees is proposed for the southern and western sides of the site. It is important that the number of trees and location of tree planting does not impact upon the functionality of the existing stormwater pit/pipes and proposed driveway areas/retaining wall footings- as it is against the CSIRO- <i>BTF 18 "Foundation Maintenance and Footing Performance Guide"</i> and AS 2870 <i>"Slabs and Footings"</i> to plant a large number of tall growing trees within close proximity to buildings/retaining walls. iv) For a Car Wash use it is not possible to have permeable surface areas for driveway surfaces. However we are able to capture and re-use all of rainwater on the sites roofed areas for use in the car washing cycle. This equates to 568M² or ~36% of the site area. v) N/A
		<p>f) Building Façade Treatment: The aim is to ensure that any built form will:</p> <ul style="list-style-type: none"> i) promote a high architectural quality commensurate with the type of building and land use; ii) adopt façade treatments which define, activate and enhance the public domain and street character; 	<ul style="list-style-type: none"> i) The proposed curved main roof area and sloping medium and lower roof sections will promote a very high level of architectural quality and building articulation. ii) The building and façade design has been carefully crafted to ensure that the view from Cranebrook Road is visually pleasing but not out of place or visually distracting whilst creating a pleasing vista when viewed from within the Service Station site.



		<ul style="list-style-type: none"> iii) ensure that building elements are integrated into the overall building form and façade design; iv) compose façades with an appropriate scale, rhythm and proportion that responds to the building's desired contextual character; v) design façades to reflect the orientation of the site using elements such as sun shading, light shelves and appropriate glazing as environmental controls; vi) express important corners by giving visual prominence to parts of the façade, for example, a change in building articulation, material or colour, roof expression or building height, and vii) co-ordinate and integrate building services to improve the visual presentation. 	<ul style="list-style-type: none"> iii) All building colours, materials and design are well integrated into the overall façade design which is consistent throughout the Car Wash site. iv) The proposed scale/height of the fascias, roof lines and buildings are at a scale that is required by this type of development whilst blending in with the existing Service Station and contextual character of the area. v) N/A- due to the nature of the proposed development; sun shading, sun orientation etc... are not a design consideration. vi) The Wash Bay areas will all have a feature perimeter steel beam for the cantilevered roof sections with set-back fascias/concrete panels and rebated LED lighting reflecting downwards of the fascia/wall. There is also variation in the building colour/materials at the corners of the building. vii) All proposed site signage will be attached directly to the external building façade.
		<p>g) Roof Design: The roof is an important architectural element of any building and:</p> <ul style="list-style-type: none"> i) the shape and form of the roof should respond to its surrounding context and minimise visual impact from any key viewpoints; and ii) should consider opportunities for incorporating 'green roofs'. 	<ul style="list-style-type: none"> i) The main Wash Bay roof consists of a large radius curved roof. This feature will be visually pleasing, however it is considered non-dominate as from many viewpoints it will be observed from view by the existing Service Station building/Fuel canopy and proposed landscaping or north/south end walls of the main Car Wash building. ii) N/A
1.2.4	Responding to the Site's Topography and Landform	a) Applicants must demonstrate how the development responds to the natural topography and landform of the site based on analysis drawings.	<p>The existing site has a natural slope from east (high) to west (low). As the proposed Car Wash needs to access the existing Service Station site in two (2) locations (for driveway access) the existing surface levels needed to be matched, as do the existing stormwater drainage outlet pits that the proposed Car Wash site needs to connect into. The Car Wash Wash Bays decrease in finished floor level by 100mm (which is the most allowed drop between wash bays) and the site driveway areas grade to match in with the existing surface levels as far as practical.</p> <p>Nevertheless; this part of the site naturally slopes approximately 2M from east to west. As such, due to the large amount of fill available on-site (once the sewer effluent disposal aeration ponds are excavated) it has been decided to construct a retaining wall along the western boundary of the Car Wash site as this will provide the most structurally sound and cost effective method of supporting the driveway along this side of the site. The proposed site levels are shown on Sh: 3 and C1 of the Application Drawings.</p>



		<p>b) Any built form should be located, oriented and designed to minimise excavation, cut and fill in accordance with the requirements of the Land Management Section of this Plan.</p>	<p>The proposed Car Wash site and site levels/stormwater design has been carefully designed to reduce the amount of fill required and height of the retaining wall on the site and to match in with the existing surface levels/stormwater infrastructure.</p>
		<p>c) The built form should respond to the natural topography by:</p> <ul style="list-style-type: none"> i) Avoiding steep slopes for buildings; ii) Aligning the built form with the contours; and iii) Utilising split level design on gentler slopes. 	<p>The proposed development makes the best use of the natural topography that is possible whilst operating within the existing site constraints and the functionality of the Car Wash operations.</p>
		<p>d) Where relevant, buildings should be placed so there is a backdrop of a hill, slope or rise behind the building. In this way, the ridgeline of any building is lower than the highest level of any hill, slope or rise on which the building is placed to avoid being visible above that hill, slope or rise.</p>	<p>The ability for different building floor levels/wash bay levels is limited due to the existing surface levels/infrastructure that needs to be matched into.</p>
1.2.5	Safety and Security- Principles of Crime Prevention through Environmental Design	<p>D. Controls</p>	<p>Complies</p>
		<p>1) Lighting:</p>	<p>All new site lighting in the proposed Car Wash area will be designed in accordance with <i>AS 4282 Control of the Obtrusive Effects of Outdoor Lighting</i>. All driveway areas, Wash/ Vacuum Bays will have suitable lighting installed to the safe travel of vehicles and pedestrians manoeuvring around the site. The lighting layout and selection will take into account the proposed landscaping between the existing car/truck parking areas and the proposed Car Wash site to ensure that no blind spots area created.</p>
		<p>2) Fencing:</p>	<p>There is no proposed fencing for the site as the site is not actually located on a site boundary. There will be a 1.0M minimum high balustrade provided along the edge of the western driveway area of the site due to the height of the proposed retaining wall.</p>
		<p>3) Car Parking:</p>	<p>All car parking and queuing areas will be suitably sized in accordance with AS 2890.1 Off-street parking. Due to the nature of the car wash- there are minimal/no actual 'car parking' areas (except for the staff car park) as cars are either waiting in a queuing lane or in a wash/vacuum bay. All of these areas can be viewed from the existing Service Station site and the site in general has an open plan design which allows clear view into many areas of the car wash site simultaneously.</p>
		<p>4) Entrapment spots and blind corners:</p>	<p>There are no entrapment spots or blind corners on the Car Wash site for customers. The main customer walking route would be to the change machine located centrally at the Change/Vending area in the front/centre of the site in clear view from the Service Station site.</p>



	5) Landscaping:	The current low level shrubs/grasses that exist along the car/truck parking areas of the existing Service Station site will be maintained. This will ensure that in time as the plants mature they will not prevent/reduce the visibility into the Car Wash site from the Service Station site.
	6) Communal/Public Areas:	N/A
	7) Movement Predictors:	As previously mentioned; Patrons will, at times, need to access the change machine/vending area. This will commonly be done from walking from a Wash/Vacuum Bay on the entry side of the building. Therefore patrons will be in clear view internally and externally of the Car Wash site at all times. These areas will be well lit due to the proximity of the person walking close to the entry of a wash bay.
	8) Entrances:	Entrances to the Wash/Vacuum Bays will be adequately line marked and signs placed on the actual building façade to ensure that patrons know where they would like to go on the site.
	9) Site Building and Layout:	The building is sighted in a north-south orientation to allow full passive surveillance from within the Service Station site.
	10) Building Identification For Commercial Development:	Business identification signage will be provided along the Cranebrook Road frontage and also along the East Elevation (Car Wash Entry side) of the Car Wash building. This will ensure that Service Station customers and potential customers travelling along Cranebrook Road know what the use of the building is and the hours/days of operation.
	11) Security:	The Car Wash site will be extensively fitted out with a high number of CCTV Security cameras that will be monitored from inside the existing Service Station and also externally monitored 24 hours per day. There will also be a phone number for patrons to call if there is no attendant on the Car Wash site. Alternatively a patron could speak with the Service Station attendant if there were any issues on the Car Wash site. High grade commercial security doors will be installed in all required areas.
	12) Ownership and Space Management:	The site will have anti-graffiti paint applied to all low level surfaces. Any vandalised property will be quickly repaired/replaced (little to none would be expected). Patrons can speak with the Car Wash attendant if there are any issues on the Car Wash site or call the afterhours contact number.
	13) Way finding/finding help:	All areas of the site will have suitable directional travel arrows and line markings painted on the driveway areas. All site areas will be suitably lit during all required hours.



C2	Vegetation Management		<p>N/A</p> <p>No existing trees/vegetation need to be removed for the proposed Car Wash development to occur; as the site is predominantly gravel/sand with patchy grassed areas.</p>
C3	Water Management		<p>Complies</p>
3.1	The Water Cycle/Water Conservation		<p>A detailed description of the proposed ancillary Car Wash Waste effluent treatment system is as follows;</p> <p>2,000L Silt pits will be installed in the Automatic Wash Bays. These pits discharge into a series (3 pits in total) of twin reclaim pits (~4,000L capacity each), which will be connected to a reclaim (recycle system)- See attached Conserv brochure (refer to Appendix C). To cater for of effluent overflow; the final reclaim pit will also be connected into the 22,500L Sewer Holding Tank. For effluent recycling from the Automatic Wash Bays to occur, the recycle unit will be placed in the Plant Room (with duty and stand-by pumps). This reclaim (recycle) system can recycle ~80% of the water used in the Automatic Car Wash process. Each automatic car wash cycle (when used as the Top Wash cycle) utilises ~280L of water per wash; ~220L is recycled and reused, and 60L is discharged to the Sewer Holding Tank.</p> <p>2,000L Silt pits will be installed in each Self-Serve Wash Bay which will discharge directly into the 22,500L Holding Tank.</p> <p>The Holding Tank will have a duty and standby pump to pump the effluent water to the Oil Separator. The Oil Separator has been selected to best complement the allowable site discharge. The Oil Separator will treat the effluent water to the acceptable level and then discharge into a new Onsite Wastewater Sewerage Treatment System (OWSTS) that will operate similar to the existing system currently installed onsite. The new OWSTS will be designed for the expected use with a redundancy flow allowance included.</p> <p>Particular attention Has been given to the Car Wash design so that no effluent escapes from the wash bay areas and discharges into the stormwater system. This is achieved by giving all wash bays a 100-150mm minimum fall from the perimeter of the wash bay to the silt pit in the centre of the respective bay. Also the fascia trusses over all Self-Serve Wash Bay areas have a suitable roof overhang and fascia truss depth to prevent stormwater from entering into the wash</p>



			<p>bays and thereafter into the sewer system. There strip drains are also provided at the entry and exit of the Automatic Wash Bays to help prevent water from escaping from these wash bays.</p> <p>The site will utilise the existing water mains connection and will have additional water buffer tanks installed in the Plant Room to ensure that the car wash operations will not be affected in the event that the required water supply or pressure drops- these tanks can be filled in off-peak times to act as a buffer during peak usage demand. This design feature and utilising any water stored in the underground Stormwater Holding Tank will also help reduce the instantaneous demand on the local water infrastructure at times of high car wash usage on the site.</p> <p>Water efficient taps and fittings shall be provided within the building as needed.</p> <p>Water efficient nozzles will be used throughout the Wash Bays to reduce the volume of water that is used for each car wash cycle.</p>
3.2	Catchment Management And Water Quality		<p>The proposed Car Wash will be connected into the existing WSUD system that has been designed for the overall site.</p> <p>The proposed Car Wash, due to the design, will not contribute to increasing any soil erosion or sedimentation from the overall site.</p> <p>There is no existing natural vegetation that needs to be removed to facilitate the development of the ancillary proposed Car Wash at the site.</p>
3.3	Watercourses, Wetlands And Riparian Corridors		<p>N/A</p> <p>The proposed Car Wash development is not in an area near a watercourse, wetland or riparian corridor.</p>
3.4	Groundwater		<p>N/A</p> <p>The proposed ancillary Car Wash will not:</p> <ol style="list-style-type: none"> 1. Extract any Groundwater, 2. Will not add pollutants or contaminants to the existing groundwater supply, 3. Affect the access by any party to the natural groundwater supply.
3.5	Flood Planning		<p>N/A</p> <p>The site is outside the Flood mapping zone.</p>



3.6	Stormwater Management And Drainage		<p>The Stormwater design for the existing overall site has been designed by Neil Lowry & Associates Pty Ltd. This design includes a detailed 30 cartridge Stormfilter System + Detention Tank (for treatment of the quality of the stormwater prior to discharge) which is housed inside a larger On-Site Detention (OSD) storage concrete tank (7M wide x 17.5M long).</p> <p>The proposed Car Wash site area is ~4.4% of the total overall site area. Therefore the Stormwater design for the Car Wash portion of the overall site has been designed locally and will discharge into the existing on-site stormwater infrastructure- which is possible given the very minor nature of the discharge flows and the large sized existing stormwater infrastructure installed.</p> <p>The proposed Car Wash portion of the overall site has been designed such that all stormwater captured from the new roofed areas will discharge into a large 22,500L underground STW tank and be reused during the Car Wash washing cycle (which will reduce the amount of fresh Town Water needed). Based on historical rainfall data (from 1995 – 2020) gained from the Bureau of Meteorology 'Climate Statistics for Australian Locations'- Penrith Lakes AWS Site No: 067113 http://www.bom.gov.au/climate/averages/tables/cw_067113_All.shtml Showed that there was a total of only 7.1 days per year when the daily rainfall total exceeded 25mm of rain. Therefore the proposed new underground water tank was designed to cater for these rain events. This calculation resulted in a water tank of 13.5kL being required. It was decided to adopt a oversized water tank of 22.5kL as this sized tank was locally available to the site and will allow the capture of additional water storage volumes for even larger storm events.</p> <p>All of the Car Wash driveway stormwater will travel via a series of new underground pits/ pipes and connect into the existing site's stormwater drainage system just prior to the existing stormwater treatment & OSD Tank. Thereafter the stormwater will discharge into the existing dam as per the current approved design. Refer to the attached Stormwater Layout Plan on Sh: C1 of the Application drawings. The remainder of the stormwater design as previously completed by Neil Lowry & Associates will not be altered by this application.</p>
3.7	Water Retention Basins/Dams		<p>N/A</p> <p>The existing on-site water retention system/Dam will remain as per the current construction and approved design.</p>



3.8	Rainwater / Storage Tanks		<p>As detailed in Item 3.6 (above). The proposed 22,500L rainwater/storage tank will be located below ground level. As the tank is underground, the tank will have no visual impact to the surrounding area. This tank will be constructed from concrete. This tank will have a suitable trafficable lid and man access hatches.</p> <p>The rainwater tank capacity has been oversized (based on the contributing roofed area and historical rainfall event data). 100% of the water stored in the Rainwater Tank will be used in the Car Washing process.</p>
C4 Land Management			
4.1	Site Stability And Earthworks	<p>3) Development Application Requirements-</p> <p>a) Any development application that proposes earthworks and therefore changes to the levels of a site, is required to clearly address the following in the Statement of Environmental Effects or a Geotechnical Report (if required, see 3 b):</p> <p>i) The location and extent of the earthworks on the site;</p> <p>ii) Justification for the need to change the land levels in terms of the overall development;</p> <p>iii) Any other impacts from the changed land levels as a consequence of the earthworks.</p> <p>b) Where a building is proposed on land where the existing slope gradient is higher than 15% (or the land is likely to be subject to any land stability issues), the development application may be required to include a Geotechnical Report (prepared by a suitably qualified consultant).</p>	<p>Complies</p> <p>i) The location and extent of the earthworks for the proposed Car Wash building will be contained within the proposed Car Wash area itself as shown on Sh: 3 of the Application drawings. The new on-site Wastewater Treatment Sewerage System (OWSTS) will be located in the area to the west of the current wastewater treatment beds, as shown on Sh: 2 of the Application drawings.</p> <p>ii) Sh: 1 of the Application drawings shows the existing site and surface contour levels. Sh: 3 of the Application drawings show the proposed site with surface spot levels and proposed driveway contour levels. On the current site; the existing Service Station hard stand driveway area to the south (where the proposed ancillary Car Wash is to be located) has been built up from the natural ground level (prior to the new Service Station being constructed) to suit the extent of the Service Station driveway/parking areas. It is required to increase the site levels for the extent of the Car Wash area to match in with the existing two driveway access points and to allow drainage of the proposed Car Wash site into the existing large Stormwater Treatment and OSD Tank.</p> <p>iii) The existing surface levels outside of the Car Wash site will remain unchanged as retaining walls will be used as the method to retain the additional fill required to achieve the necessary surface levels.</p> <p>Complies</p> <p>The slope of the existing built up ground level to the south of the hard stand areas varies between ~1 in 27 to (where the main Car Wash area is to be located) to ~1 in 8 where the existing Truck parking area is currently located. In the area of the proposed Car Wash site; the perimeter retaining walls will be constructed, sub-surface tanks placed, the</p>



			<p>ground will be suitably filled/compacted. Followed by boring of the building Pad footings and placement of the Car Wash superstructure.</p> <p>After viewing the previous Geotechnical Investigations prepared for the current Wastewater Management design- the area has not been identified as being at risk of slope failure or slope instability. Therefore the proposed method of construction will be more than adequate for the proposed works and existing site conditions.</p>
		<p>c) Council will not permit a building to be placed on land where the existing slope gradient before development is greater than 20%.</p>	<p>Does not comply</p> <p>Please refer to the above point.</p> <p>Prior to original development the site would have been at a slope of less than 20%. However after the Service Station and surrounding hardstand area was constructed the hardstand finished pavement level was raised especially on the western part of the site- where the proposed Car Wash is to be located).</p> <p>Given the nature of the proposed works. The existing slope of the site is not deemed a geotechnical or engineering issue.</p>
		<p>d) Applicants should refer to the following sections of this DCP:</p> <p>i) Vegetation Management, to ensure vegetation is protected on the site, particularly where the vegetation is important to site stability;</p> <p>ii) Site Planning and Design Principles, to ensure any proposed development responds to the natural topography of the site; and</p> <p>iii) The other sections of this section relating to landfill, erosion and sedimentation, contaminated lands and salinity to determine if any additional information is required to address these issues.</p>	<p>Complies</p> <p>All parts are noted and are commented on in their relevant section in this report.</p>
		<p>4) Limitations on Earthworks</p> <p>a) Earthworks to create a building platform shall not be undertaken where excavation and/or filling would exceed 1m from the existing natural ground level of the site.</p> <p>b) On sloping sites, site disturbance is to be minimised by using split level or pier foundation building designs (see Figure C4.1).</p>	<p>Does not comply</p> <p>a) The maximum height of the retaining wall is ~1.5M high. This wall can be made lower by placing fill in the landscaped area on the bottom side of the retaining wall to increase the height of the existing surface level then batter down to the existing surface level.</p> <p>Complies</p> <p>b) The design floor levels have been kept to a minimum to reduce the amount of fill needed for the site, to slope the driveway areas away from the Wash Bays and to connect into the existing Stormwater infrastructure. Shallow level strip footings will only be used where necessary and Bored Pier foundations will be used throughout to achieve the minimum bearing capacity</p>



		<p>c) All retaining walls proposed for the site are to be identified in the development application for the proposed development. Retaining walls are to be kept to a minimum to reduce earthworks. Use of materials that complement the natural environment is encouraged.</p> <p>d) During any earthworks, any topsoil should be preserved on site for re-use and should be stockpiled and covered to avoid dust or loss of topsoil. Refer to the Landscape Design Section of this Plan for controls on stockpiling topsoil on site.</p>	<p>required for the footing design- thus minimising excavations and earthworks as much as possible.</p> <p>Complies c) The extent of the proposed retaining wall is shown on Sh: 3 and 7 of the Application drawings. The majority of the retaining wall will be screened by the landscaping placed in front of it.</p> <p>Complies d) All soil displaced during site excavation will be stockpiled and covered on the site and will be re-used as required.</p>
4.2		Landfill	<p>Complies It is possible that some of the fill needed for the proposed Car Wash development can be 'won' during the construction of the new WWTS. Any new fill brought to the site will be clean and have the appropriate fill certificates for same. All new fill required will be placed under the proposed hardstand/building area and be compacted in layers as per the Civil Engineering design (to follow in the next stage of works).</p>
4.3		Erosion And Sedimentation	<p>Complies Suitable erosion and sediment control measures will be in place prior to any construction commencing. An Erosion and Sedimentation Control Plan will be provided to Council upon the appointment of the Builder- once it is known how they plan to set out the site during construction.</p>
4.4		Contaminated Lands	<p>N/A The area of the proposed works has not been developed in the past and has not been identified as being in a contaminated area from past reports that were generated as part of the original Service Station application from 2010 onwards..</p>
4.5		Salinity	<p>N/A The subject site is not known to be affected by salinity.</p>



C5	Waste Management	Complies
5.1	Waste Management Plans	a) The types and volumes of wastes and recyclables likely to be generated as a result of the development;
		b) How waste and recyclables will be stored and treated on site;
		c) How the residual non-reusable or non-recyclable wastes and recyclables are to be disposed of; and
		d) How ongoing waste management will operate once the development is complete (for the life of the development).
5.2.4	Non-Residential Development Controls	3) Waste storage and collection areas should be: a) Flexible in their design so as to allow for future changes in the operation, tenancies and uses; b) Located away from primary street frontages, where applicable; c) Suitably screened from public areas so as to reduce the impacts of noise, odour and visual amenity; and d) Designed and located to consider possible traffic hazards (pedestrian/vehicular) likely to be caused by the storage and collection of waste.
5.3	General Controls	To encourage waste avoidance and resource recovery through planning, re-use and recycling.
5.4	Hazardous Waste Management	The Car Wash operations will not generate any hazardous waste as part of its operation.
5.5	On-Site Sewerage Management	The On-Site Sewer Management Plan is discussed in Section C13, 13.3 later in this report.



C6	Landscape Design		Complies
6.1.1	Controls- Development Process	1) Development Categories	The site would be considered a Category 2 development as it is valued under \$2M and cannot be classified as a Category 1 use.
		2) Submission Requirements	<p>Refer to Sh: 7 of the Application drawings for a detailed Car Wash Landscaping Plan. Including all plants proposed for the site and the Landscaping (plant) Schedule. Refer to Sh: 6 for all Landscaping Notes and relevant planting details.</p> <p>The previously approved Landscaping design for the Service Station site, produced by RFA Landscape Architects (Proj No: 2817, Dwg No: L-01, Rev E, Dated 16th Feb 2017) remains current and valid for the remainder of the Service Station site- except in the area of the proposed Car Wash development. All new planting on the proposed Car Wash site is the same/similar species to that previously approved on the Service Station site.</p>
Appendix F3; 4.4.1	Landscaping Site Analysis Plan		<p>Refer to Sh: 1 of the Application drawings for the existing overall site plan. An aerial image of the site and its surrounds is shown in Figure 1 of this report.</p> <p>As can be seen, the constructed Service Station area in the southeast corner of the site, the sewer aeration ponds are located towards the north of the site, and the existing stormwater dam is located in the far southwestern corner of the site. All other areas of the site remain undeveloped, cleared of all features and landscaping and consist of a sand/gravel surface with little grassed patchy areas.</p> <p>The northeast corner of the site is the high spot, with the southwest corner of the site (where the dam is located) being the low spot. The site would not be subject to natural erosion or any landslip.</p> <p>No easements exist on the site.</p> <p>The site is not a heritage or archaeological site.</p> <p>The previous reports completed for the Service Station application would still remain relevant for the proposed Car Wash development, as the site area has not substantially changed since the original reports were completed. Refer to;</p> <ul style="list-style-type: none"> • Detailed Site Investigation by ESP Environmental & Safety Professionals, Job No: 17240, Dated: March 2012, • Geotechnical Investigation by Geotechnique Pty Ltd, Job No: 12337, Rev: AB, Dated: 21st Oct 2010.



C9	Advertising and Signage		
9.1	General Requirements for Signs	<p>a) Signs are to be designed and located to:</p> <ul style="list-style-type: none"> i) relate to the use of the building; ii) be visually interesting and exhibit a high level of design quality; iii) be constructed of high quality, durable materials; iv) be wholly contained within the property; v) have only a minimal projection from the building; vi) be integrated and achieve a high degree of compatibility with the architectural design of the supporting building having regard to its composition, fenestration, materials, finishes and colours, and ensure that architectural features of the building are not obscured; vii) have regard to the view of the sign and any supporting structure, cabling and conduit from all angles, including visibility from the street level and nearby higher buildings and against the skyline; and viii) be sympathetic to the existing character of the area and the particular architectural/urban design utilised in any improvements scheme. 	<p>Complies; Refer to Sh: 5 of the Application drawings for all proposed signage locations.</p> <ul style="list-style-type: none"> i) All of the proposed signs relate to the use of the building. ii) The proposed signage is visually interesting, exhibits high levels of design quality and matches with the existing signage currently displayed on the existing Service Station site. iii) All signage will be constructed of high quality weatherproof materials. iv) All signage is fully contained within the Car Wash site area. v) All signage is directly attached to the building façade and will have minimal projection from same. vi) All signage will integrate seamlessly with and complement the proposed architectural design finish and colours of the proposed building and existing buildings on the site. vii) All signs will be directly fixed to the structure with no cables, fixings visible externally. viii) The proposed Car Wash signs match the existing Service Station signs in font, colour, illumination (where provided), size and the "X" logo feature to maintain consistency throughout the overall site.
		<p>b) Signs that contain additional advertising promoting products or services not related to the approved use of the premises or site (such as the logos or brands of products; e.g. soft drinks, brewers, photographic film, etc) are not permitted.</p>	<p>N/A; No third-party advertising is proposed on the Car Wash site.</p>
		<p>c) Signs painted or applied on the roof are prohibited;</p>	<p>N/A No painted signs are proposed.</p>
		<p>d) Corporate colours, logos and other graphics are encouraged to achieve a very high degree of compatibility with the architecture, materials, finishes and colours of the building and the streetscape.</p>	<p>Complies; Corporate colours of the Service Station signs and buildings will be carried through to the proposed Car Wash site to maintain consistency, compatibility and deliver a high quality architectural finish.</p>
		<p>e) Flat standing signs are only permissible where the main building is set back 3 metres or more from the street alignment.</p>	<p>Complies; All signs are located a minimum of 3M away from the site boundary.</p>



		f) In considering applications for new signs, Council must have regard to the number of existing signs on the site and in its vicinity; whether that signage is consistent with the provisions of this section; and whether the cumulative impact gives rise to visual clutter.	Complies; As the Car Wash predominately has two frontages (Cranebrook Road and Londonderry Road); customers can enter the Service Station site from either direction. Therefore it is essential that both the south and eastern side of the proposed Car Wash building façade have an appropriate amount signage to allow customers to identify the site's function, what services are available and the hours of operation. All proposed signage is consistent with other Car Wash sites and only the minimal number of signs has been proposed.
		g) Signs must not involve damage, removal or pruning to trees or other vegetation and must not result in pruning or removal for visibility purposes.	Complies; No existing/proposed tree/vegetation will be required to be removed to allow for the installation or on-going maintenance of the proposed signs.
		h) The dominant design of any sign must relate to business identification rather than product advertising.	Complies; The dominate signage relates to business identification "X-Roads Car Wash Dropzone" and also displaying the opening hours. Thereafter the services available are listed as these can vary greatly between car wash sites, ie: Touch Free Automatics- instead of Touch Brush Automatics etc... This is an important feature in identification of service for a car wash site.
9.3	Residential, Rural and Environmental Zones (E3 and E4)	C. Controls	Complies; The proposed signs relate to the proposed 'Car Wash' use and activity.
		1) A sign that is erected on a property must relate to an approved activity being conducted on that property.	
		2) A sign that is erected on the property must be located wholly within the property and positioned so as not to impede pedestrian access or result in a traffic hazard.	Complies; The proposed signs are located within the property and do not obstruct pedestrians or cause a traffic hazard.
		3) The siting and design of the sign on the property should ensure that amenity and visual impacts to adjoining properties are kept to a minimum.	Complies; Due to the proposed building siting, landscaping and physical distance separation to the adjoining properties; will ensure that the proposed signage will have little/no amenity/visual impact on the adjoining properties.
		4) The siting and design of the sign on the property should be sympathetic to the existing character of the area.	Complies; The proposed signage is sympathetic to the area and matches the existing approved signage on the Service Station site.
		5) Only one building identification sign is to be erected on the property in association with the approved business or activity being conducted on the land.	Does not comply; There are two (2) business identification signs proposed for the Car Wash site as the building faces two different frontages and patrons could enter the overall site from two different locations- justifying that two faces of the building need to have business identification signage. As the proposed signs are setback 22M from Cranebrook



			Road and ~135M from Londonderry Road; the proposed signs will have little impact on the surrounding environment.
		6) The building identification sign is not to exceed 3m ² or one-third of the length of the building elevation that faces the street, whichever is the lesser, and must not be illuminated.	Does not comply; The proposed signage does exceed 3M ² . However, due to the length of the business name "X-Roads Car Wash Dropzone", large distance and amount of landscape screening from Cranebrook Road and siting on the façade; the proposed signage is not visually dominate and artistically 'fits' in with the proposed South and East building elevations seamlessly. The main business identification signage will be internally illuminated as the Car Wash is proposed to operate 24 hours a day. All proposed illuminated signage will comply with Australian Standard AS 4282 <i>Outdoor Lighting Obtrusive Effects</i> or any Council DCP documented permissible illumination levels. All proposed illuminated signs are shown on the South and East Elevation, Sh: 5 of the Application drawings.
		9) In rural zones, the business identification sign is not to exceed 3m ² , must be no higher than 2m above the ground, must not be located in a position that would intrude into the skyline, and must not be illuminated.	Partially Complies; The proposed Car Wash signage does not meet some of the criteria (ie: size, height and illumination). All of the proposed signage is fixed to the building and does not intrude into the skyline. As previously mentioned; the proposed signage matches the current approved signage on the Service Station site and illuminated signage will comply with the relevant illuminated levels for various times of the evening/night.
		10) In rural zones, signage, where permissible, shall relate to the style, character and function of the building or activity, and reflect the area's landscape and character.	Complies; The proposed signs match the style and character of the existing site signage and reflect the function and architectural style of the proposed building and activity.
		11) In rural zones, signage shall not be freestanding in the landscape, but shall relate to walls, fences or buildings.	N/A There are no freestanding signs proposed.
		14) Illuminated signs are generally not permitted. External lighting of a sign, however, will be considered where it can be demonstrated that no adverse impact will result.	Does not comply; The proposed new Car Wash business identification signage will be internally illuminated. However with the site setback location of this illuminated signage and by appropriately selecting the correct Lux level; the signage will not cause any adverse impact to the adjoining roadway or adjoining properties.



C10			
10.1	Transport and Land Use	<p>B. General Objectives:</p> <p>a) To develop a coherent urban system of compact walkable neighbourhoods with relatively intense, mixed use town centres;</p> <p>b) To provide a highly-interconnected street network that clearly distinguishes between arterial routes and local streets, establishes good internal and external access for residents, maximises safety, encourages walking and cycling, supports public transport and minimises the impact of through traffic;</p> <p>c) To reduce travel demand including the number of trips generated by development and the distances travelled, especially by car;</p> <p>d) To promote and facilitate the use of public transport as a more sustainable alternative to the private car for personal travel;</p> <p>e) To ensure that transit infrastructure is effectively integrated with other development, to maximise safety, security and convenience for transit users; and</p> <p>f) To promote/facilitate walking and cycling within transit oriented precincts by establishing/maintaining high levels of amenity, safety and permeability in the urban form.</p>	<p>Complies or is Not Applicable</p> <p>a) N/A; The proposed Car Wash is an ancillary use to an existing Service Station development.</p> <p>b) N/A; The proposed Car Wash does not alter any existing site driveway. Access is gained to the Car Wash from the internal driveway areas.</p> <p>c) Complies; By providing an ancillary Car Wash at the existing Service Station customers can utilise both services at the same location instead of driving to a standalone Car Wash not constructed in conjunction with a Service Station.</p> <p>d) N/A; This is a Car Wash development for people to wash/vacuum their car. Therefore the use of public transport is irrelevant.</p> <p>e) N/A; the overall site is not used as a public transit location/facility.</p> <p>f) N/A; The site is not a transit precinct.</p>
10.2	Traffic Management and Safety	<p>A. Objectives:</p> <p>a) To provide safe and efficient travel routes for all vehicles in the Penrith LGA;</p> <p>b) To reduce the number of vehicle and pedestrian accidents per capita;</p> <p>c) To ensure the safety of cyclists, pedestrians and passing traffic during construction of development;</p> <p>d) To cater for current and future growth of vehicle traffic usage;</p> <p>e) To encourage the orderly and economic provision of road and intersection works;</p> <p>f) To ensure that existing roads and intersections are upgraded to provide a satisfactory level of service consistent with the volume and nature of traffic generated by the proposed development; and</p> <p>g) To avoid new direct access to and from arterial, sub-arterial and other major roads.</p>	<p>Complies or is Not Applicable</p> <p>a) Complies; The proposed Car Wash will provide safe internal traffic flow paths within the site.</p> <p>b) Complies; Due to the open design of the site and slow traffic speeds will aid in reducing any vehicle/pedestrian accidents.</p> <p>c) Complies; The site will be adequately gated/fenced. Clear truck access locations will be marked.</p> <p>d) Complies; The site will be able to cater for an increase in traffic volumes due to the large driveway areas of the existing Service Station site and the large queuing areas within the proposed Car Wash site.</p> <p>e) N/A</p> <p>f) N/A; the proposed Car Wash site is accessed internally from the existing Service Station site; therefore any road upgrade works are not relevant to this proposal.</p> <p>g) Complies; No new external driveway locations are proposed.</p>



Appendix F3- 4.8.1	Traffic Impact Statement	a) Traffic generation/attraction and trip distribution of the proposed development;	Complies; Refer to item 'l)' below.
		b) Parking provisions appropriate to the development;	Complies; A 'Car Wash' is not a listed use in the various car parking tables given throughout the DCP. Therefore the below will demonstrate practical compliance/justification for the car parking that has been provided on the site. Refer to Sh: 8 of the Application Drawings for the overall site General Car Parking Layout. This plan shows 5 vehicles parking inside the Wash Bays, 4 vehicles parked in the Vacuum Bays, a minimum of 13 vehicles parked in the queuing area prior to the Wash Bays and 2 car parks for Staff (even though only 1 staff is expected on the site at any time). All vehicle car parking/queuing has been generally designed for B99 Design Vehicles. Also a Medium Rigid Vehicle (MRV) has been designed as being able to access the site through Wash Bay 3 and exit via the Car Wash exit driveway. The site will not (usually) generate trips by cyclists as the site is for washing/vacuuming vehicles or washing your dog- typically people are in a car. Therefore a dedicated bicycle parking area has not been provided. All on-site car parking areas will comply with Australian Standard AS2890.1 Parking facilities Off Street Car Parking.
		c) Impact on road safety;	N/A The proposed Car Wash site does not directly connect to the existing external road network.
		d) Existing public transport services in the vicinity of the proposed development;	N/A The proposed development does not utilise public transport services due to the nature of the use.
		e) Impact of generated traffic on key adjacent intersections, streets in the neighbourhood of the development, the environment and other major traffic generating development sites in close proximity;	N/A The proposed Car wash site will not alter the existing driveway access points to Londonderry or Cranebrook Roads. Expected traffic volumes are very low and will not impact on the internal Service Station driveway areas or adjoining road network.
		f) Existing parking supply and demand in the vicinity of the proposed development;	Complies; Due to the location of the proposed 'entry' driveway into the proposed Car Wash site; it is required to delete two (2) existing car parks from the currently operating Service Station site. From comments made in the Penrith City Council's Major Assessment Report (Application No: DA10/1209.04) it appears that the site was initially approved for 98 car spaces, however that amendment



			<p>included a redesign of the McDonald's floor layout, resulting in a reduction in the number of overall seats provided. This in turn would result in a reduction of the number of required car parks for the overall site- which was never completed.</p> <p>Having the benefit of having the currently approved Service Station/McDonald's operational for some time. It is common occurrence for minimal use of the car parks numbered 84-95. Therefore the deletion of two (2) car parking spaces would not be unwarranted.</p>
		g) Safety and efficiency of access between the site and the adjacent road network;	<p>Complies;</p> <p>The proposed Car wash site will not alter the existing driveway access points to Londonderry or Cranebrook Roads. There is two new internal driveway locations provided from the existing Service Station site. This will allow the Car Wash site to operate in a 'loop' flow path which will achieve the optimal vehicle flow path efficiency and improve pedestrian safety. Due to the nature of the site, vehicles will often be travelling at low speeds throughout.</p>
		h) Impact of traffic noise;	<p>Complies;</p> <p>The proposed Car Wash site will not generate many additional car movements compared with the high number of vehicles travelling on the adjoining roads.</p> <p>Nevertheless; the acoustic report includes traffic generated noise in the assessment of the overall site operation and suitable acoustic treatments will be implemented as required.</p>
		i) Peak period traffic volumes and congestion levels at key adjacent intersections;	<p>Complies;</p> <p>Refer to Table 2 (Appendix A) for expected Car Wash peak period traffic volumes. Note that a car wash is typically not busy during peak road network times. Peak operating times for a Car Wash site is generally found during a Saturday/Sunday mid-morning to afternoon which is when the local traffic network is not operating even close to peak traffic volumes that is generally experienced on weekdays during the morning and afternoon 'rush hour/s' to get to work.</p>
		j) Safety and efficiency of internal road layout, including service and parking areas;	<p>Complies;</p> <p>All vehicles enter, travel through and exit the site in a forwards direction. The site will have suitable lane markings and directional arrows/text to aid in traffic movement throughout the site.</p> <p>Large Service Vehicles do not typically service the Car Wash site. In this instance, when car wash supplies are delivered, the vehicle (typically a standard delivery van) would park in a vacant Self-Serve Wash Bay or even a vacant Staff Car Park to unload the</p>



			<p>necessary items. Due to the nature of the Car Wash operations; it is uncommon practice to provide a dedicated loading/delivery bay as supplies may only be delivered to the site once a month. Typical delivery times will occur during non-peak week day hours of operation usually between 9am to 4pm Monday to Friday. There is no dispatch of goods or materials from the site.</p>
		k) Existing proposals for improvements to the adjacent road network and hierarchy;	<p>N/A The proposed Car Wash will not impact upon the adjacent road network and hierarchy.</p>
		l) AADT- annual average daily traffic. It is the estimated yearly total of traffic movements divided by 365; and	<p>Complies; Based on past projects where Traffic Impact Assessments have been completed for similar sites with a similar wash bay layout and knowledge of the typical car wash usage rates (supplied by the Car Wash Equipment Supplier); as shown in Table 1 (Appendix A); it is expected that the site could generate an average of around 155 AADT. Note that this figure is also subject to seasonal fluctuations. During peak operating days (refer to Table 2 Appendix A), it could be expected that the site could generate up to 205 AADT. During the busiest hours of operation of average daily usage it could be expected that the Car Wash could generate 19 VPH (vehicles movements per hour), ie: 1 car entering/exiting the site every 3 minutes. During the busiest hours of operation of peak daily usage it is expected that the Car Wash could generate 28 VPH (vehicles movements per hour), ie: 1 car entering/exiting the site every 2 minutes.</p> <p>Typically it takes around 6 minutes for a vehicle to be washed in the Auto Bays and 10-12 minutes for a vehicle to be washed in the Self-Serve Wash Bays. As there are 2 Auto Bays a vehicle can be washed every 3 minutes, as there are 3 Self-Serve Bays a vehicle can be washed every 4 minutes. There is a minimum allowance of 7 vehicles to be queued prior to the entry of the Auto Wash Bays and 6 vehicles queued prior to the entry of the Self-Serve Bays.</p> <p>From past Traffic Management studies that have been conducted of other Car Wash sites around Australia; the proposed site accommodates queuing for an additional 1-2 vehicles per wash bay higher than what has been identified as the standard minimum queuing length. When you compare the traffic generation rates from Tables 1 and 2 (Appendix A), with the typical wash cycle time and queuing spaces available; you can easily determine that there is an excessive amount of queuing on this Car Wash site</p>



			<p>which will allow the site to function superbly and enhance the customer experience on the site. Therefore, there is no chance that any vehicle would queue out of the site and into the Service Station driveway area.</p> <p>From past experience between a proportion of Service Station customers will also use the proposed Car Wash when the two services are located on the same site. When analysing the traffic data presented in the Thompson Stanbury Associates 'Assessment of Parking & Traffic Impacts' report (Ref No: 10-023-4, Dated 19th May 2015), Figure 2 shows the projected afternoon peak hour traffic volumes expected at the Londonderry /Cranebrook Road intersection of 670 vehicle trips, and adding in the expected daily traffic trips during a similar afternoon peak travel time generates approximately 24 new vehicle trips into/out from the Car Wash site (part of which will be customers using both Service Station and Car Wash facilities). From reviewing the intersection performance and access movement capacity tables in the Thompson Stanbury Associates report- it is clear that the proposed Car Wash development will have virtually no impact of the existing internal site traffic flow or impact upon the surrounding road network.</p>
		m) Volumes and historical trends on key adjacent roads.	<p>Complies</p> <p>Please refer to the historical data presented in the Thompson Stanbury Associates 'Assessment of Parking & Traffic Impacts' report for the analysis of the Londonderry/Cranebrook Road intersection and the information provided in l) above.</p>
C12	Noise and Vibration		Complies
			Please refer to the Acoustic Report by Eco Acoustics Report No: 20100899-01 Dated: 29th Nov 2020.
C13	Infrastructure and Services		
13.2	Utilities and Service Provision	<p>B. Objectives</p> <p>a) To ensure that development will not place unreasonable pressure on servicing authorities in terms of timing and extent of supply;</p> <p>b) To ensure that development will take place only where satisfactory arrangements are made with the servicing authorities; and</p> <p>c) To ensure that adequate consultation is carried out with the relevant servicing authorities during the formulation of development proposals.</p>	<p>Complies;</p> <p>a) The proposed Car Wash development will not place any unreasonable pressure on the site's servicing Authorities. Water, power, NBN, Telstra etc... are all supplied to the existing site currently. The site will construct new Aerated Wastewater Treatment System (AWTS) (or similar) and associated absorption beds to the west of the existing AWTS and absorption beds that currently service the existing site's facilities.</p> <p>b+c) Consultation will take place and suitable arrangements will be made with all Service Providers prior to/during the construction documentation stage.</p>



13.3	On-Site Sewer Management	<p>C. Controls- New OSSM Systems;</p> <p>a) Approvals are required for the installation and operation of all new OSSM systems. Installation and operational approvals will initially be assessed together.</p> <p>b) The installation and operation of OSSM systems are to be in accordance with Councils On-Site Sewage Management and Greywater Reuse Policy.</p> <p>d) A Wastewater Assessment Report is also required with an application for all commercial systems, in accordance with Council's On-Site Sewage Management and Greywater Reuse Policy.</p>	<p>Will Comply;</p> <p>An On-Site Wastewater Management Report is currently being completed. The design of same will be similar to the existing sewerage treatment system currently operating at the site that services the existing site buildings. The new OSSM will operate as a new standalone system that is not connected to the existing treatment system. Refer to Appendix B for the Table 3 and 4 showing the expected daily average and peak daily sewerage generation rates (broken down into the hours per day). This Appendix also shows the daily average and peak expected water usage and sewer discharge rates.</p>
D1	Rural Land Uses		Complies
1.5.1	Non-Agricultural Development	<p>1) Rural Amenity</p> <p>a) Non-agricultural developments must demonstrate the following:</p> <p>i) There will not be significant visual impacts from either the main activity or associated activities on the rural area or adjacent properties; and</p> <p>ii) The development will achieve the noise control standards established by the NSW Office of Environment and Heritage or relevant authority.</p> <p>2) Design</p> <p>a) Structures associated with any use shall be designed with regard to the rural character of the area and the form and scale of buildings on rural land surrounding the site.</p>	<p>i) The new Car Wash addition will be a new structure on the site. However due to the design and close integration with the existing Service Station (in terms of building colour, height</p> <p>ii) The proposed Car Wash development meets all of the required noise control standards. Refer to the supplied acoustic report for further information.</p> <p>The proposed new car wash buildings have been designed with regards to the character of the area.</p>

Under C9 Advertising and Signage. The proposed site signs that are proposed are:

South Elevation:

1. 1 x Business Identification Sign "X-Roads Car Wash, Dropzone"
2. 1 x Wall Sign (located below the Business Identification Sign) "Open 24 – 7"
3. 1 x Wall Sign (located to the right of the Business Identification Sign) "Touch Free Automatics, Self-Serve Wash Bays, Vacuum + Dog Wash".

East Elevation:

1. 1 x Business Identification Sign (located on the Plant Room wall) "X-Roads, Car Wash, Dropzone"
2. 1 x Wall Sign (located below the Business Identification Sign) "Open 24 – 7"
3. 2 x Auto Wash Entry Canopy Fascia Signs "Laserwash 360+" and "Touch Free Autos"
4. 1 x Wall Sign (located in the Vending and Change area) "Vending + Change"
5. 1 x Self-Serve Wash Bay Fascia Sign "Self-Serve Wash Bays"

Plus the site will include standard "Entry", "No Entry" and directional signage as required.



4.3 SEPP 64- ADVERTISING AND SIGNAGE (2001 EPI 199)

Clause	Name	Assessment Provisions	Proposal
Schedule 1 Assessment Criteria			Complies-
1	Character of the area	Is the proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located?	Yes, the proposed signage is compatible with the approved existing Service Station signage.
		Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?	N/A
2	Special Areas	Does the proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, natural or other conservation areas, open space areas, waterways, rural landscapes or residential areas?	Even though the Car Wash/Service Station site is located in a rural zone; the proposed Car Wash signage does not detract from the visual amenity or quality of the general area due to the small scale, location and setbacks from the adjoining roadways.
3	Views and Vistas	Does the proposal obscure or compromise important views?	No; as all signage is fixed to the building structure.
		Does the proposal dominate the skyline and reduce the quality of vistas?	No; as all signage does not protrude over the building height or roofline.
		Does the proposal respect the viewing rights of other advertisers?	No; the proposed signs do not obstruct any existing sign on the Service Station site.
4	Streetscape, setting or landscape	Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape?	Yes; all proposed signage is directly proportional for the scale of the building and the local setting of the site.
		Does the proposal contribute to the visual interest of the streetscape, setting or landscape?	The proposed signage will clearly identify the use of the site, hours of operation and services available on the site.
		Does the proposal reduce clutter by rationalising and simplifying existing advertising?	Yes; all text is minimal/simple, direct and relevant to the site, its use and functionality.
		Does the proposal screen unsightliness?	All signage has been rationalised to be a bare minimum to reduce visual clutter and to quickly identify the site to passers-by. There are no unsightly features to screen on the existing Service Station or proposed Car Wash site.
		Does the proposal protrude above buildings, structures or tree canopies in the area or locality?	No; as all signage does not protrude over the building height or roofline and is fixed to the building structure.
		Does the proposal require ongoing vegetation management?	No; the signage is located in a position away from large trees that could require ongoing vegetation maintenance.



5	Site and Building	Is the proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located?	Yes; the proposed signage is directly compatible with the scale of the building facades and other signage that exists on the existing Service Station site.
		Does the proposal respect important features of the site or building, or both?	Yes; The proposed signage is cohesive with the building structure and will not dominate the overall building façade.
		Does the proposal show innovation and imagination in its relationship to the site or building, or both?	Yes; The signage positioning, colour, size, font and orientation have been thoroughly considered throughout the Car Wash site and have been designed to integrate with the building facade seamlessly.
6	Associated devices and logos with advertisements and advertising structures	Have any safety devices, platforms, lighting devices or logos been designed as an integral part of the signage or structure on which it is to be displayed?	No safety devices or permanent platforms are part of the proposed signage works. Some signage will be internally illuminated (lux levels to comply with the relevant requirements). Other signage of the fascia trusses (along the East Elevation) will be lit from the recessed LED light strip contained within the cantilevered roof line.
7	Illumination	Would illumination result in unacceptable glare?	No; the proposed level of illumination would not result in any unacceptable glare to passing vehicles or adjoining land properties.
		Would illumination affect safety for pedestrians, vehicles or aircraft?	No; the level and extent of any illumination would not affect the safety of pedestrians, vehicles or aircraft.
		Would illumination detract from the amenity of any residence or other form of accommodation?	Any level of illumination of the signage or recessed light strip will comply with the requirements of Australian Standard AS 4282 <i>Control of the Obtrusive Effects of Outdoor Lights</i> .
		Can the intensity of the illumination be adjusted, if necessary?	The level of lux internal illumination of all signs will be fixed, but will comply with the required illumination standards. The recessed LED light strip may be able to be adjusted if required- but will not exceed any maximum illumination standards.
		Is the illumination subject to a curfew?	No; all illuminated signs will comply with any lux lighting restrictions. As such they will not be subject to any curfew.
8	Safety	Would the proposal reduce the safety for any public road?	No; the proposed signage is fixed to the building and will not be a safety risk to the adjoining road network. No sign is proposed to be internally flashing, animation or movement.
		Would the proposal reduce the safety for pedestrians or bicyclists?	No; the proposed signage is fixed to the building and will not be a safety risk to pedestrians or cyclists.
		Would the proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas?	No; as the proposed signage is fixed to the building no travel paths or sight lines are obscured for the public or pedestrians.



4.4 STATE ENVIRONMENTAL PLANNING POLICY NO 33- HAZARDOUS AND OFFENSIVE DEVELOPMENT

The proposed Car Wash development would not be considered a hazardous or offensive development, and therefore SEPP 33 does not apply.

The assessing Officer may refer to the previously approved SEPP33 Preliminary Hazard Analysis report that was completed by Aargus Australia, Dated 22nd Nov 2017 Report No: ES6911/3 for the previous Service Station Development on the site.

4.5 STATE ENVIRONMENTAL PLANNING POLICY NO 55- REMEDICATION OF LAND

The proposed Car Wash development or the land area in which it is to be located has not been identified as an area of land to be remediated from past reports prepared for the original Service Station Development. Refer to the Detailed Site Investigation report by ESP Environmental Safety Professionals Job No: 17240, Dated: March 2012.

4.6 SYDNEY REGIONAL ENVIRONMENTAL PLAN NO. 20 – HAWKESBURY NEPEAN RIVER,

Map 26 of 42 identifies the subject site as not being in an area of Scenic Significance Beyond the Region, Regional Significance or Local Significance. The subject site is located outside the Scenic Corridor Boundary, and outside the boundary of the SREP No. 20 Hawkesbury Nepean River boundary.

The subject site is located in the Middle Nepean & Hawkesbury River Catchment Area. Therefore this Environmental Plan is not relevant to the site.



5. CONCLUSION

The proposal has been designed by a professional with 17 years of experience in designing/detailing all aspects of Car Washes; from Town Planning to Structural/Civil/Hydraulic Engineering, Architectural drafting/building design construction documentation, and Car Wash Equipment layout documentation. It is assured that the highest building standards and car wash best practices have been followed in the documentation of this proposal.

Various design measures have been taken to mitigate the effects of noise emissions, site lighting spill onto adjoining properties, water over-spray, waste products, traffic movements, and waste water to be current or exceed the present-day car wash design standards; thus creating an environmentally friendly and safe facility for the public to wash/vacuum their vehicle and wash their dog.

The proposed development is generally compliant and in many cases exceeds the requirements and standards set by the Penrith City Councils DCP and LEP conditions and by all other regulating authorities. Based on the detailed assessment provided, the proposed buildings and works demonstrate a high level of consistency with the assessable strategic requirements and standards needed for a successful Development Application approval.

The proposed Car wash will occupy a currently undeveloped area of the much larger site. The site is more than suitable for the proposed development use and will add to the general amenity of the area and complement the existing on-site uses. With the latest in technology of car washing equipment being installed on the site; high energy efficiency and low water usage will be achieved- along with the inclusion of effluent water recycling and a 22,500L of rainwater storage capacity; this development will truly minimise the environmental impacts and demands on local existing infrastructure.

The car wash use will not detract on current or future uses on adjoining properties or other areas of the subject site. The site is positioned in a great location for customers that will provide a service to the community which is in high demand and offer a commonly found ancillary use to the existing Service Station site. The "car wash" use is a growing routine that is widely accepted by the public as an environmentally friendly and responsible, convenient, cost effective method of washing their vehicle or dog. The proposed building works are a positive impact in the area and will not have any negative effects on the traffic flow in/around the subject site. The Car Wash site contains a very generous amount of queuing and car parking areas for the number of wash bays provided. With the surrounding internal driveway access areas, adequately sized wash bays and the open plan nature of the design will promote safe passage for all patrons using the site and passive surveillance into the site.

Given the above, we look forward to Council granting the Development Approval. Should you have any questions or need clarification on the information provided, I invite you to contact me directly via telephone on 0416 114 573 or email tracey@tmcdesign.com.au for a timely response.

Yours Faithfully,



TRACEY MICHAELS B.ENG (Hon), M.ENG (Mgmt)

Designer/Director

TMC Building Design Group



APPENDIX A

EXPECTED CAR WASH TRAFFIC TRIP TABLES



TABLE: 1, AVERAGE DAILY EXPECTED TRAFFIC TRIPS

	Auto Wash Bay	Self-Serve Wash	Dog Wash	Total Trips per hour	Cumulative Trips per Day
	6min Wash Cycle	12min Wash Cycle	15min Wash Cycle		
1am				0	0
2am				0	0
3am				0	0
4am				0	0
5am	1	1		2	2
6am	2	2		4	6
7am	3	2		5	11
8am	4	3	1	8	19
9am	5	5	1	11	30
10am	7	6	1	14	44
11am	8	8	2	18	62
12pm	9	8	2	19	81
1pm	9	6	2	17	98
2pm	6	5	1	12	110
3pm	5	5	1	11	121
4pm	7	4	1	12	133
5pm	5	2		7	140
6pm	4	1		5	145
7pm	2	1		3	148
8pm	2	1		3	151
9pm	2			2	153
10pm	1			1	154
11pm	1			1	155
12pm				0	155
Trip Total	83	60	12	155	155



TABLE: 2, PEAK DAILY EXPECTED TRAFFIC TRIPS

	Auto Wash Bay	Self-Serve Wash	Dog Wash	Total Trips per hour	Cumulative Trips per Day
	6min Wash Cycle	12min Wash Cycle	15min Wash Cycle		
1am				0	0
2am				0	0
3am				0	0
4am	1			1	1
5am	2	1		3	4
6am	3	2		5	9
7am	5	2		7	16
8am	7	3	1	11	27
9am	9	5	1	15	42
10am	12	8	2	22	64
11am	15	10	3	28	92
12pm	12	9	2	23	115
1pm	11	8	2	21	136
2pm	9	7	2	18	154
3pm	7	6	1	14	168
4pm	7	3	1	11	179
5pm	5	2		7	186
6pm	4	1		5	191
7pm	3	1		4	195
8pm	2	1		3	198
9pm	2	1		3	201
10pm	2			2	203
11pm	1			1	204
12pm	1			1	205
Trip Total	120	70	15	205	205



APPENDIX B



Table 3:

Car Wash Peak Daily expected use at 100% capacity. During the busiest of days ie: Saturday.

PEAK DAY EXPECTED 100% CAPACITY; Use rates -v- Time of Day

	Auto Wash Bay*	Self-Serve Wash	Dog Wash	Total System Capacity (L)	Discharge capacity (L)
	60 L/wash	70 L/wash	50 L/wash		
1am				0	1,380
2am				0	1,380
3am				0	1,380
4am	1			60	1,380
5am	2	1		190	1,380
6am	3	2		320	1,380
7am	5	2		440	1,380
8am	7	3	1	680	1,380
9am	9	5	1	940	1,380
10am	12	8	2	1,380	1,380
11am	15	10	3	1,750	1,380
12pm	12	9	2	1,450	1,380
1pm	11	8	2	1,320	1,380
2pm	9	7	2	1,130	1,380
3pm	7	6	1	890	1,380
4pm	7	3	1	680	1,380
5pm	5	2		440	1,380
6pm	4	1		310	1,380
7pm	3	1		250	1,380
8pm	2	1		190	1,380
9pm	2	1		190	1,380
10pm	2			120	1,380
11pm	1			60	1,380
12pm	1			60	1,380
Wash Total	120	70	15	12,600	26,220

* With Recycling 80%, Reducing the water usage from 280L/wash to 60L/wash

Peak Daily Water Usage =	12,600 l/day
Peak Instantaneous Demand =	0.15 l/sec



Table 4:

Car Wash Average Daily expected use at normal capacity, ie: 75% of maximum capacity. During the standard business days, ie: typical Monday to Friday operations.

ANNUAL USAGE EXPECTED CAPACITY- 75% CAPACITY WITH SEASONAL VARIATIONS; Use rates -v- Time of Day

	Auto Wash Bay* 60 L/wash	Self-Serve Wash 70 L/wash	Dog Wash 50 L/wash	Total System Capacity (L)	Discharge capacity (L)
1am				0	1,380
2am				0	1,380
3am				0	1,380
4am				0	1,380
5am	1	1		130	1,380
6am	2	2		260	1,380
7am	3	2		320	1,380
8am	4	3	1	500	1,380
9am	5	5	1	700	1,380
10am	7	6	1	890	1,380
11am	8	8	2	1,140	1,380
12pm	9	8	2	1,200	1,380
1pm	9	6	2	1,060	1,380
2pm	6	5	1	760	1,380
3pm	5	5	1	700	1,380
4pm	7	4	1	750	1,380
5pm	5	2		440	1,380
6pm	4	1		310	1,380
7pm	2	1		190	1,380
8pm	2	1		190	1,380
9pm	2			120	1,380
10pm	1			60	1,380
11pm	1			60	1,380
12pm				0	1,380
Wash Total	83	60	12	9,650	26,220

* With Recycling 80%, Reducing the water usage from 280L/wash to 60L/wash

Average Daily Water Usage =	9,650 l/day
Average Yearly Water Usage =	3,742,700 l/year
Median (Decile 5) rainfall mm =	693.6 mm/year
Roofed Area discharging into Rain Water Tank =	552.6 M ²
Average Expected Water Gain from Rainfall from contributing roof areas =	383 M ³ /year
	383,283 l/year
Expected Annual Water Demand from Town Water Supply =	3,359,417 l/year
	9,204 l/day
	0.11 l/sec

Sewer Discharge-

Annual Sewer Discharge =	3,742,700 l/year
Losses (via drive off etc) =	20%
Adjusted Sewer Discharge =	2,994,160 l/year
	57,580 l/week



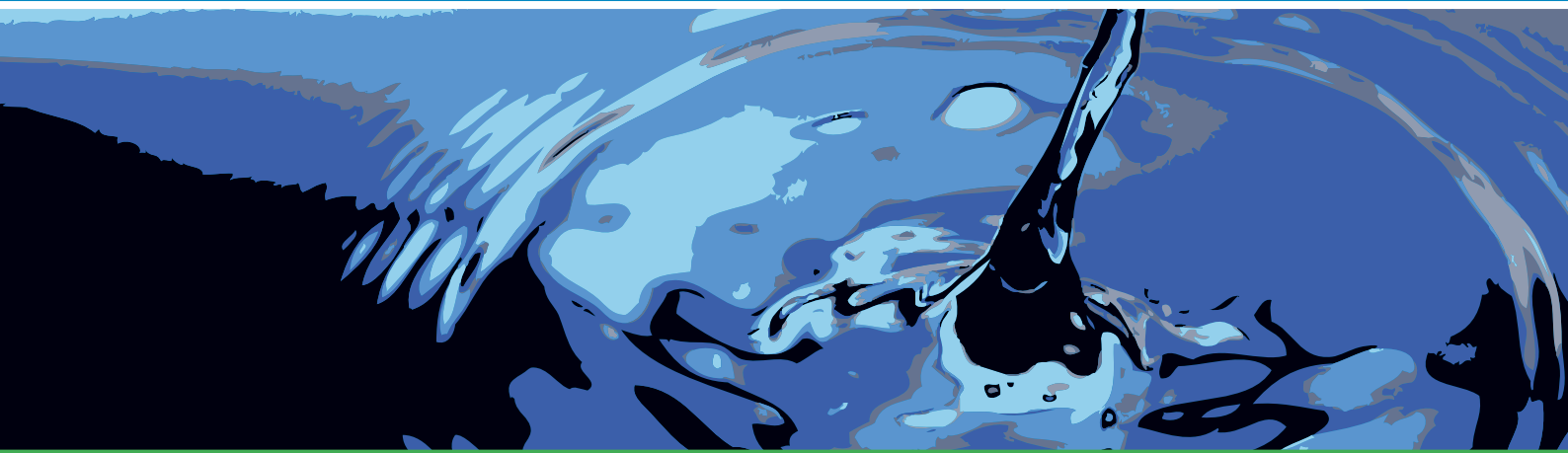
APPENDIX C

CONSERVE RECYCLE SYSTEM





CON-SERV WATER RECOVERY SYSTEMS



CON-SERV Water Recovery Systems consists of two (2) independent pumping systems:

- **The Primary Micro Pore Filtration System**
- **The Ozone Re-Circulation System**

The **Primary Filtration Systems** consists of a high volume process pump, with an associated filtration array designed for maximum water quality while providing a high volume of wash water to be reused in professional carwash equipment.

The system is designed to receive wastewater collected from the wash sump/holding tank system and to process this water to remove all particulate matter of greater than twentyfive (25) micron, the size of a single white blood cell.

In addition, the filtration system is designed to remove oils, road film, and waxes which causes deterioration in overall recovered water quality.

The **Ozone Re-Circulation System** is operated independently of the filtration systems on a continuous basis to treat all water held in system storage tanks. The **Re-Circulation System** utilizes a patent injector system, which provides a 99% transfer rate of ozone to stored water.

The powerful **Ozone Re-Circulation System** de-emulsifies waxes, and removes dyes from solution, so they may be easily captured by the micro pore filtration system described above.

The ozone in the water also acts as an oxidizing agent to kill bacteria and algae by limiting organic build-up, which is commonly associated with odours found in reclaimed water.

After the wastewater has been treated by these two synergistic systems, the water will be of a quality ready to wash another vehicle.



Free Standing Combination Series III



- Self-cleaning stainless steel filter element
- 3 HP / 5 HP process pump with strainer basket
- Ballast Pressure Control - 35 / 60 fibrewoven tank
- 25u absolute filtered water quality*
- U/L listed electrical control system
- 3/4 HP ozone re-circulation pump
- *Includes Pump Guard advisor*
- Flow rates up to 100 GPM

* 25 Micron equals 0.001, the size of a single white blood cell

Available Options

- Additional 12 gram ozone modules
- **Enzyme** dosing control
- **Oxine** dosing control
- Stainless steel housing & separator

Lifetime Warranty on stainless steel filter elements
Standard 2 micron (.001 the size of a single white blood cell)
Stainless steel platform, components & fittings

Model	FS Comb Series III 3	FS Comb Series III 5
*Flow Rate	65 GPM	100 GPM
Height	52"	
Width	36"	
Depth	34"	
Weight	306.82 Kgs	329.55 Kgs
Input Power	208/230/480 3 Phase 60 Cycle	
Control Power	115 Volt 1 Phase 15 Amp Max	
Primary Pump	3.0 HP	5.0 HP
Full Load Amps	8.5/8.0/4.0	13.0/12.2/6.1
Secondary Pump	.75 HP @ 3.1 / 1.55 Full Load Amp	
Suction Inlet	2" NPT	3" NPT
Filtered Outlet	1.5" NPT	2" NPT
Ozone Outlet	1" NPT	
Discharge Outlet	3" NPT	
Ozone Output	12 grams / Hour	
Oxygen	24 SCFH / 30 SCFH	



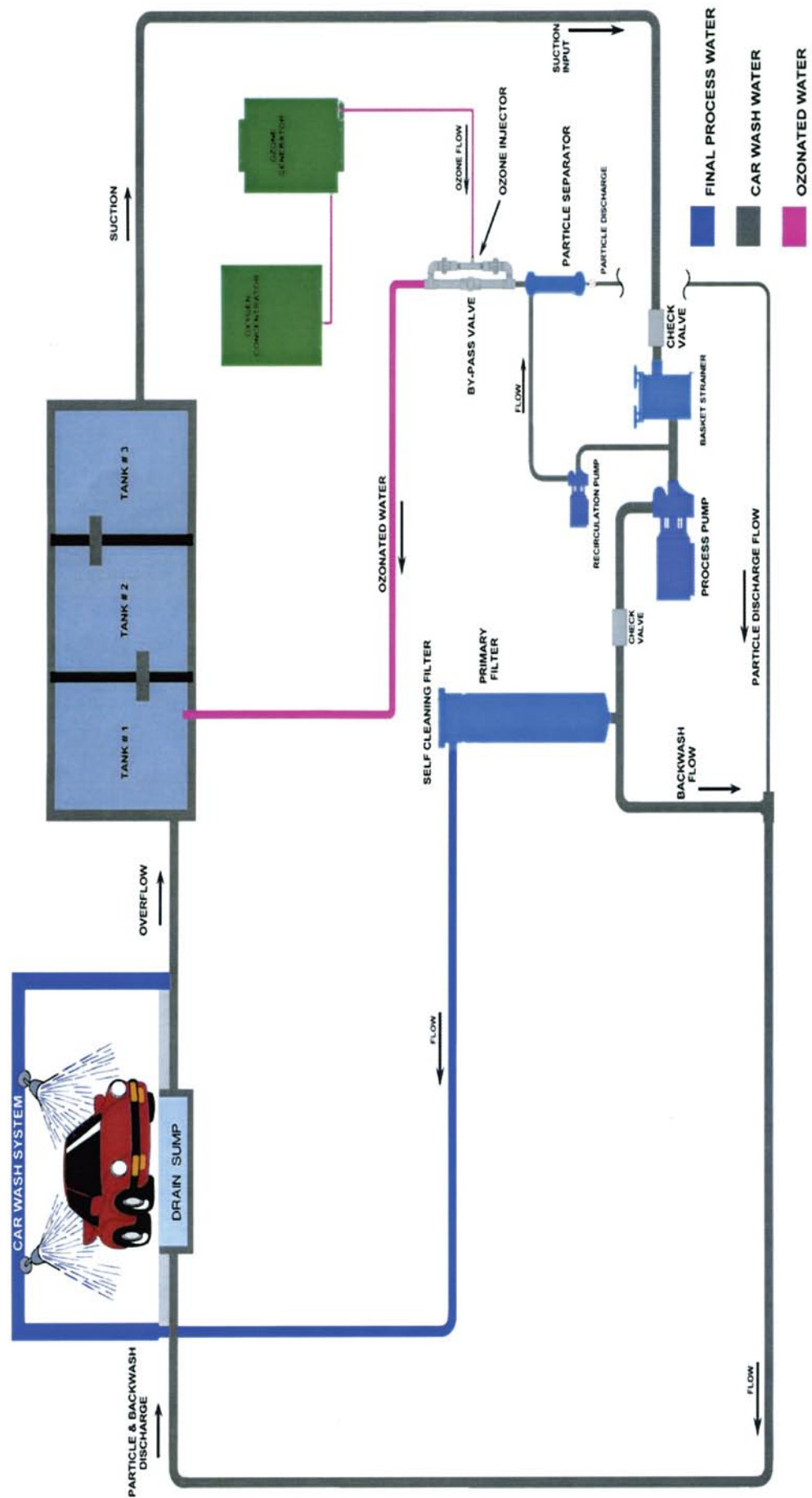
Back View
Inlets and Outlets

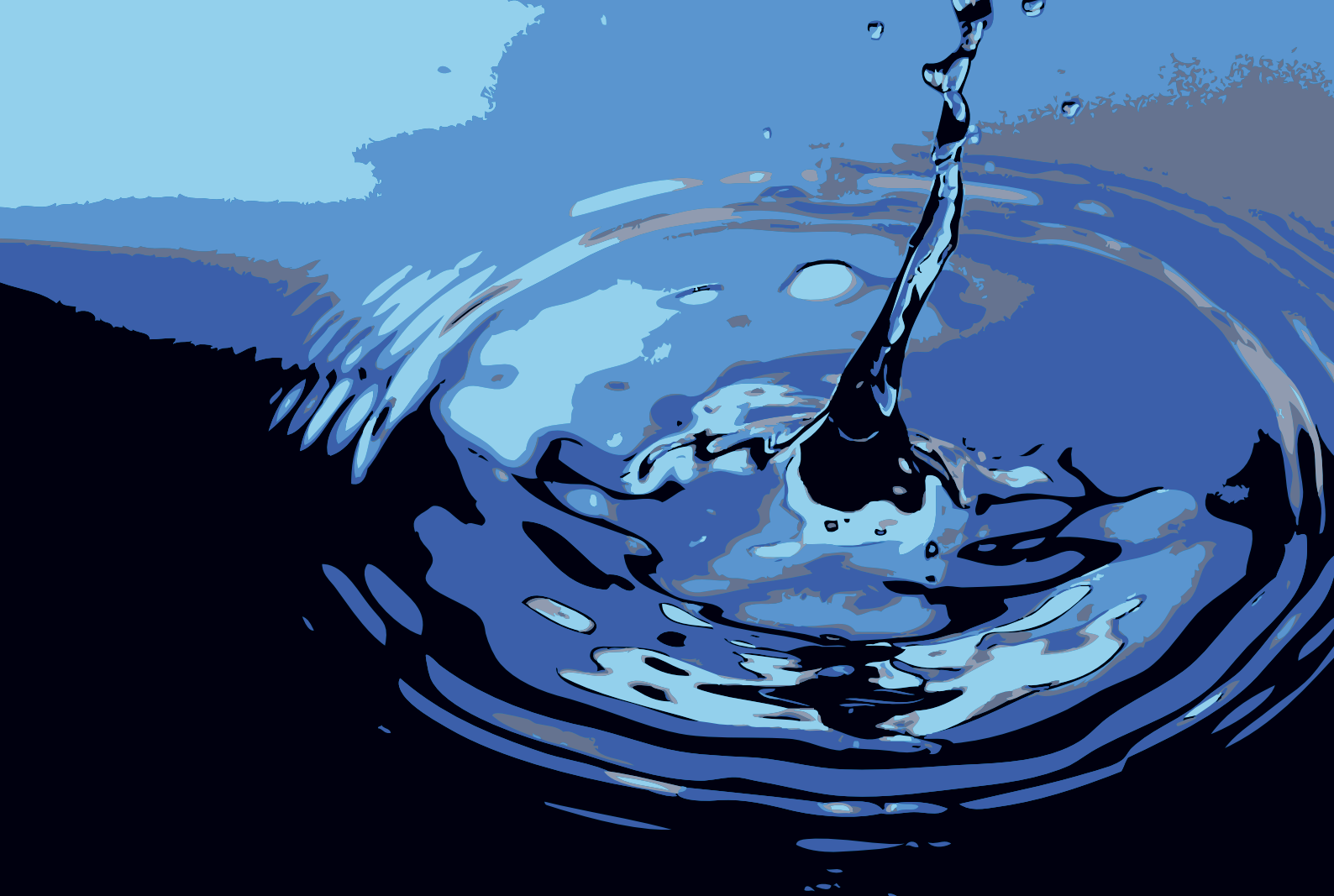


Front View
Oxygen Concentrator and
Ozone Generators

* GPM Ratings may vary due to Piping Layout that may change Pump Head Curve

The CON-SERV Filtration Process





Con-Serv Manufacturing Water Usage Analysis

Application						Water Usage		
<i>PDQ Laser 4000</i>	GPM of Nozzles	Number Nozzles	Cycle Duration % Minute	Cycle Speed	Consumed Litres	Type Code (F or R)*	Fresh Litres	Reclaim Litres
Under Carriage & Rocker	2.5	12	0.33		42.57	R	0	42.57
Presoak	0.2	10	0.3	7	2.58	F	2.58	0
Presoak	0.2	10	0.3	7	2.58	F	2.58	0
High Pressure Wash	3.5	10	0.5	5	75.25	R	0	75.25
High Pressure Wash	3.5	10	0.5	5	75.25	R	0	75.25
Low Pressure Wax	1	10	0.3	7	2.58	F	2.58	0
Final Rinse	3.5	10	0.2	9	30.1	F	30.1	0
Total Water Used per Car (Litres)					230.91		37.84	193.07

* Fresh or Reclaim



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