Asphaltech

ENVIRONMENTAL SUSTAINABILITY REPORT 2020

Publication date: January 2020

EXECUTIVE SUMMARY

At Asphaltech, we believe in Safety, Environment, Innovation and exceeding our customer expectations. We pride ourselves on the safe delivery of sustainable pavement solutions for Council, State Government and Private Enterprise in order to achieve best value for money outcomes. Our long term vision as a business is to achieve sustainable growth whilst providing industry with innovative solutions in pavement technology, benefiting both the environment and the community by utilising recycled product technology without compromising surface treatment performance.

By virtue of our Bureau Veritas accreditation in Management Systems, we complete annual audits on our existing Apollo asphalt plant based in Somerton. This enables our team to conduct monitoring and measurement activities such as the collection of emissions data in order to provide an analysis and evaluate how Asphaltech can best minimise carbon emissions. Through modern day technologies, we endeavour to protect the environment by the application of highly efficient asphalt plant control measures, this includes, but is not limited to; carbon filters, modern cyclone technology, utilising modern mixing drum technology and the use of state of the art bag house technologies. Our reports are submitted to the Environmental Protection Agency (EPA) annually.

Attached in this report you will find data based on stack test emissions, most recently performed in 2019. We also have a breakdown of control measure implemented in our existing Apollo asphalt plant in order to increase our efficiency in production whilst minimising and emissions and pollutants released into the atmosphere. In the appendix section of this report you will also find Safety Data Sheets and other data on the recycled material used in our new range of innovative asphalt products utilising recycled/reclaimed materials from construction and other industry.

Contents

1. Our Approach to Environment and Sustainability

Our philosophy at Asphaltech stems from our Directors Con Rimpas and Tony Tufilli and their quest to find safe, reliable and environmentally sustainable surfacing treatments, which actually improve the performance of asphalt surface treatments. Most recently, Asphaltech have developed a products which such as DuraGrip which incorporates 85% recycled steel slag material, and 100% Recycled Cold Asphalt, incorporating up to 100% Reclaimed Asphalt from profiling.

We understand that all communities place great emphasis on environmental sustainability, in particular there is a growing need by industry to minimise carbon emissions and inefficient practices which amount to excess waste. Asphaltech can proudly advise council that we are a Carbon Neutral company by virtue of a 45 hectare tree plantation near Albany, Western Australia. Further, Asphaltech is engaged in a wide range of environmentally focused initiatives and innovations including installation of solar panels on our site offices, and through incorporating the latest in technological advancements in asphalt plant operational equipment, this further creates an efficient process that both minimises any emissions during the production of asphalt.

Our paving crews are equipped with the latest state of the art paving machines and operational equipment to ensure that our products are constructed to the highest quality achievable for our customers and the local community.

2. About Asphaltech

Key Services

Asphaltech is a Civil Engineering construction company that specialises in the production and laying of asphalt. We are committed to providing our customers innovative asphalt products as well as project management and civil construction services to cater for all of our Customers' needs and beyond.

Asphaltech was established over 25 years ago. Based on our experience and Customer feedback on completed work, as well as the innovative solutions that are unique to Asphaltech, we are the specialists in all aspects of asphalt and road rehabilitation.

We pride ourselves in our ability to innovate, plan, organise and execute all of our projects to a very high standard, whilst doing so in a safe and efficient manner.

Our highly skilled staff combined with the most up-to-date, technologically advanced machinery and equipment allows the best possible outcome for our Customers.

In Victoria, we have an existing Apollo asphalt plant capable of mixing up to 120 tonnes/hour and with a new Benninghoven drum that delivers a highly efficient heating and mixing process. This new technology reduces the overall mixing time and lowers the overall carbon footprint of the Victorian business. The Apollo plant is also aided by two new Benninghoven storage silos capable of storing 150 tonnes of hot asphalt for additional productivity.

In Perth we have recently erected a new Top Tower 2500 asphalt plant. By virtue of state of the art technology, this plant will reduce emissions through highly efficient process and baghouse filters minimising the release of any pollutants in the atmosphere, and will be capable of achieving up to 200 tonnes per hour.

Further, in early January 2020 we have completed the erection of a brand new Marini production mobile plant in Victoria capable of 160t/hr asphalt production. This new plant will increase daily production capacity significantly. We currently run two full sized laying crews which are resourced with five pavers, including a Sumitomo paver with 6m screed, two Wirtgen Vogele 'Vision 5103' and 'Super 1303' pavers, two seven tonne and two four tonne steel drum rollers and three multi-tyred rollers. Combining our production plants, quality equipment and professional paving crew(s), we are capable of laying in excess of 1500 tonnes per day.

Ability

Asphaltech offers a range of asphalt products to cater for all of our Customers' requirements. These products include Dense Graded Asphalt (7mm, 10mm, 14mm and 20mm), Stone Mastic. Asphalt (5mm, 7mm and 10mm) and Gravelmix (7mm and 10mm) and 100% Recycled Cold Asphalt.

Through our extensive Research and Development programme, we are also able to offer our Customers innovative asphalt surfacing products to cater for all applications. We have worked closely with our Customers for many years to develop products that the industry requires. We are proud of the products that we have introduced into the market over the past 25 years and we endeavour to continue this by staying abreast of worldwide technological advances.

Examples of our innovative asphalt products include:

- SMA Gravel with Red Oxide and PMB
- Bottom Layer SMA (SAMI)
- 100% Recycled Cold Asphalt
- 10mm Strong Mix
- Crumbed Rubber Asphalt
- Duramastic & Plus
- DurGrip asphalt

Promise to our Customers

Building and maintaining strong working relationships with our customers is key. Asphaltech will endeavour to exceed our customers' expectations in the delivery of works, ensuring the customer and the community receive the highest quality products available in the market.

Community Engagement

Asphaltech Business Initiatives

- We keep the local community informed about our operations – letter box drops, media releases and site visits to local residents / business traders with information relating to the works.
- We complete post completion checks to our works and ensure we leave the site in the same if not better condition, clean and safe.
- We endeavour to up hold a social economic presence in assisting the local community by employing and engaging services of local residents within the municipality of work.
- Asphaltech respects Aboriginal people's association with the land when considering developments
- If it is not possible to reduce our service rates, we are always willing to negotiate on payment plans
- Our business aims to investigate all the negative impacts of our products and services offered and explore ways of mitigating and reducing these effects.
- Establish basic partnerships with community groups: offer your premises as a collection point for donations of money, food or Christmas gifts; sponsor a community group's events; donate money to a community groups and fundraisers; encourage your employees to volunteer for community groups in their own time through local community events.
- Communicate a customer communication strategy to the wider community.

3. Sustainability and Innovation Awards & Nominations

AAPA Awards

1. **100% Recycled Cold Mixed Asphalt (2019)**
   Asphaltech received the AAPA WA Innovation Award on 100% Recycled Cold Mixed Asphalt.
2. **Ryan Huan (2019)**
   Ryan Huan received an AAPA WA Award for Emerging Leader.
3. **DuraGrip – 85% Reclaimed Steel Slag Aggregates (2018)**
   Asphaltech VIC received a Safety Initiative Award with AAPA in 2019 for the development of DuraGrip. This premium asphalt product consists of 85% recycled steel slag aggregates, delivering a skid resistance greater than any other asphalt product on the market. This product has been utilised on various local government roads.

4. Gender Diversity and Equal Opportunity Policy

Asphaltech is committed to promoting and developing a diverse workforce where it sources, selects, develops and retains a diverse, experienced and skilled workforce comprising of motivated employees of varying genders, race and age. Our success relies on generating new and different ideas and perspectives which comes when our business is representative of our people and their communities.

Asphaltech values, recognises and leverages the unique contribution of people with diverse backgrounds. Including but not limited to:

- Language skills;
- Diversity of age;
- Ethnicity;
- Martial or family status;
- Religious or cultural background;
- Sexual orientation and gender identity;
- Physical and intellectual ability;
- Social-economic background; and
- Indigenous background;

Purpose

The purpose of this Diversity and Equal Opportunity Policy is to develop a workforce that is fair and inclusive and seeks to retain and attract the right people to do the work.

This has been established to assist the Company, its employees to leverage the benefits of a diverse workplace and contribute to the achievement of its strategic objectives.

Principles

As a guidance these principles promote awareness and proactive management practices regarding the workforce diversity which are:

- A diverse workforce is an attraction to the best/right talent to improve our business performance.
- A skilled workforce that reflects the diversity of our customers and stake holders.

- The experience of work for employees is to be inclusive and respectful of individual differences, including but not limited to, family responsibilities.
- Awareness of the roles and responsibilities of individuals.
- A work environment that values seeking and recognising the contributions of employees with diverse view and experience is highly promoted.

Policy Application

- The diversity in the context of Asphaltech encompasses differences in ethnic and cultural backgrounds, gender, age, sexual orientation, religion and disability.
- This Policy applies to all employees of Asphaltech.
- The equal employment opportunity related legislation in each of our states/regions is an important foundation for this Policy.
- This Policy is a guidance for all people who work at Asphaltech, including but not limited to those programs and initiatives specifically aimed at recognising and promoting workforce diversity.
- This Policy does not replace or limit the relevant regulations requirements.

Diversity and Equal Opportunity Work Program

To ensure Asphaltech achieves the diversity and equal opportunity objectives, Asphaltech will:

- Identify and implement initiatives to develop a talented and diverse workforce that represents the wide range of cultures in community.
- Create a supportive and understanding workplace environment in which all individuals feel welcome, respected and heard, and where they can realise their full potential regardless of their age, gender, ethnicity, ability, sexual orientation and gender identity.
- Remove barriers to achieve a genuinely diverse and talented workforce.
- Identify high potential people and provide training, skill development and fairly promote the valued employees.
- Develop employee and manager support resources to improve flexible working arrangements that support employees with family and caring responsibilities.
- Review and seek to understand the reasons for resignations.

Reporting

The Asphaltech project board will:

- Review and monitor the implementation of the Company's Diversity and Equal opportunity policy.
- Agree and set measurable objectives for achieving greater workforce diversity and equal opportunity.
- Review and assess the progress in achieving the stated objectives annually;

Review

This policy will be reviewed on a regular basis to ensure this aligns with Asphaltech business values, strategic objectives and obligations.

5. Sustainable Production of Asphalt through Innovation

Crumb Rubber & Steel Slag

Asphaltech is committed to sustainable innovation in our asphalt mixes and has continued to promote products that not only exceed the properties of traditional pavements but also minimise the environmental impacts of both our own business and that of our clients. The use of recycled / reclaimed products in our premium mix designs minimises our use of virgin raw materials and at the same time provides an avenue for the use and re-use of products that would otherwise be considered waste.

Asphaltech is on track again, in the 2019-20 financial year, to increase the percentage of recycled / reclaimed products supplied to the market and will continue to promote the most environmentally sustainable options to our clients.

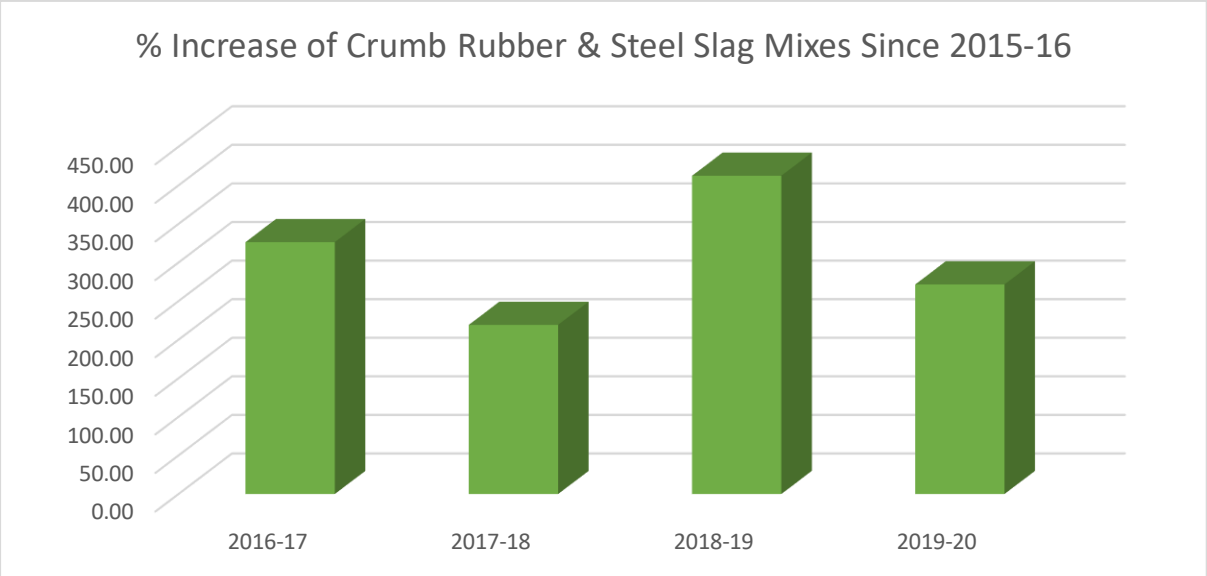


Figure 1 % Increase of Crumb Rubber and Steel Slag mix's

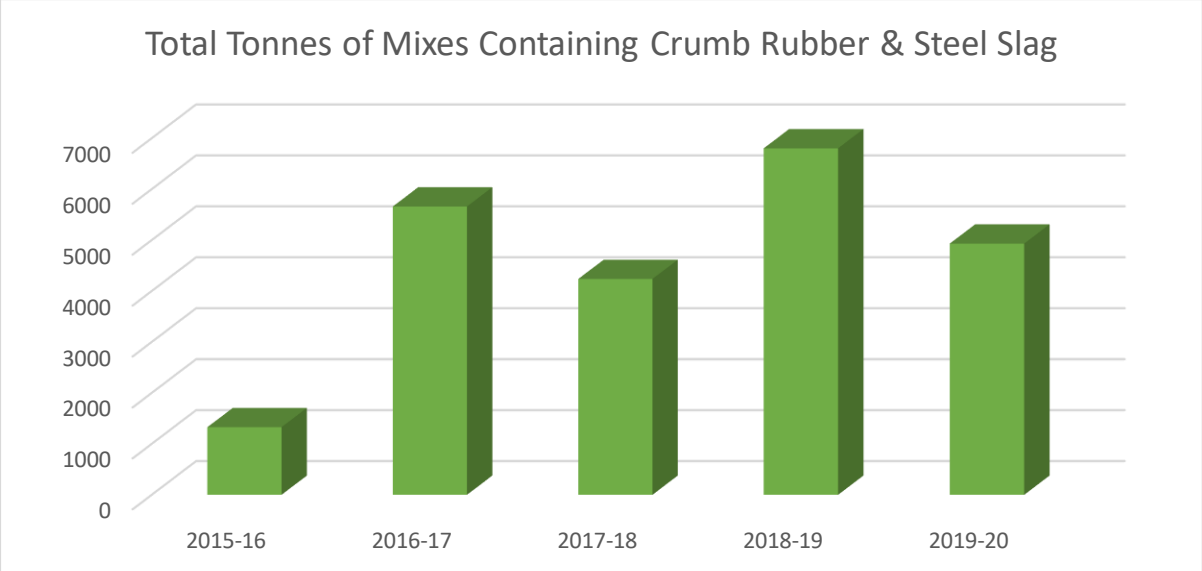


Figure 2 - Total tonnes of mixes containing Crumb Rubber and Steel Slag

Reclaimed Asphalt Product (RAP)

RAP is the most common recycled product used in the production of asphalt and Asphaltech are dedicated to continuing this trend and, where applicable, increasing the use of recycled asphalt in our products. The use of recycled asphalt completes the life cycle of a pavement as old, damaged and degraded pavements are removed from the road, processed to ensure uniformity and then reintroduced into the new asphalt to begin its life again as a brand new pavement.

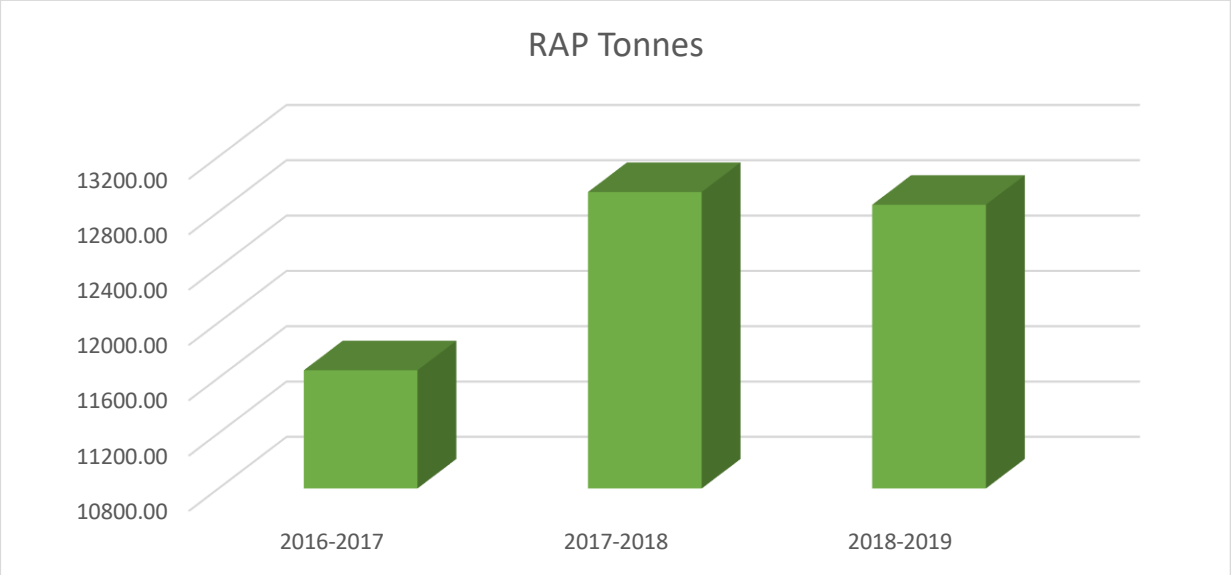


Figure 3 Total tonnes of Reclaimed Asphalt Product (RAP) used per financial year

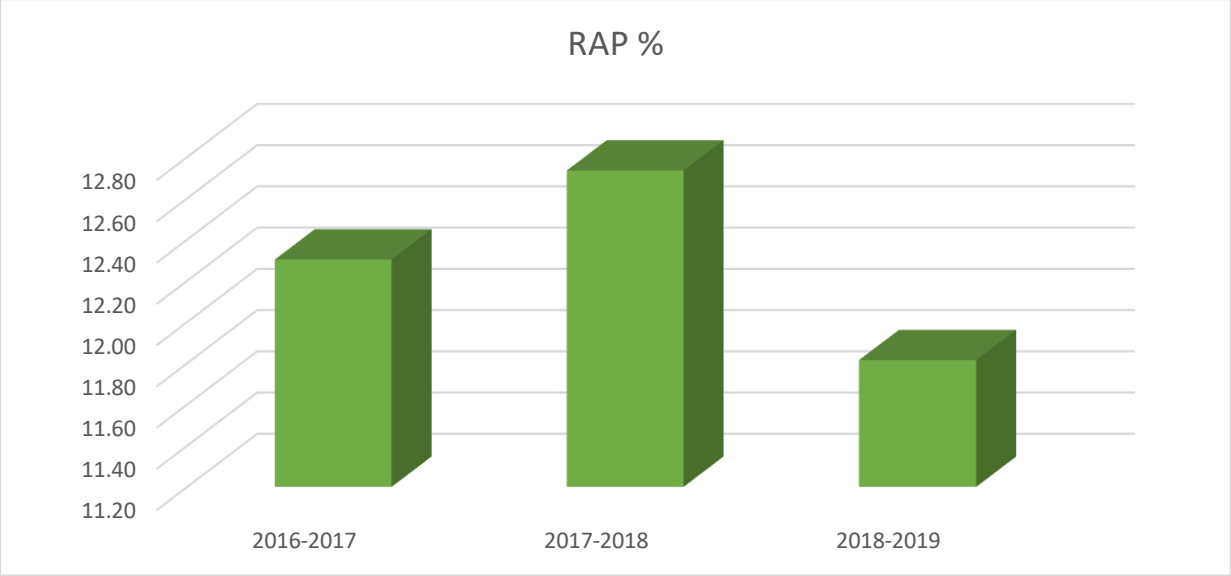


Figure 4 - % RAP used over each financial year

6. Stakeholder Management Plan for Environmental Management and Sustainability Practices

At Asphaltech we recognise that our business operations have a direct impact on a wide range of stakeholders. Therefore, we believe what is important to our stakeholders is important for us to meet our strategic objectives and fulfil our company vision of sustainable growth and success. This requires ongoing and effective engagement with our stakeholders, continual development and improvement plans where we provide transparent and timely information and actively encourage feedback.

Type of stakeholders and key obligations

Interested Parties	Requirements
Directors/shareholder/stakeholders	Good financial performance and direction to employees
Local residents	No complaints relating to – noise, parking, health and safety issues, local access to residential property, and dust.
Regulatory bodies	Identification and updates to applicable statutory and regulatory requirements of the products and services provided, updates of the requirements of the QMS
Customers / Clients	Compliance with tender document required. High work quality, on time, low cost, expertise, safety and the environment
Bank / Finance	Good financial performance , meet payment deadlines
Employees	Professional development, training, health and safety
Insurers	No claims, risk management, prompt payment
Suppliers	Prompt payment, health and safety, favourable working relationships.

Monitoring and review of the interested parties and requirements is conducted through management review meetings, customer feedback (both feedback and complaints), alerts advising of any changes to legislations, staff reviews, supplier management review, regular meetings with clients, banking representatives and insurers.

7. Organisation Audit Practices

INTERNAL AUDIT PROGRAMME - VIC

Scope: To set and determine areas required for auditing.
These activities are to be examined to determine effectiveness and suitable in achieving the procedures, policies and objectives set in the Management Systems.

Functional Areas: Production, Construction
System Elements: Criteria of standard i.e. Management Review
Quarters: Jan - Apr
May-Aug
Sep - Dec

Responsibilities: Conducting audit: Vicki Athanassiou
Divisional representative and entry meeting: Company Management
Participants: All workers

Outcome: To cover all aspects of the Management Systems within the year.

2020

Jan - Apr

Functional Area	System Elements	Date Conducted	By
All divisions managers	Management Review Meeting	3-6 Feb 2020	Vicki Athanassiou
All divisions	OHS Management Systems AS/NZS 4801:2001	3-6 Feb 2020	Vicki Athanassiou
All divisions	Quality Management Systems ISO 9001:2015	3-6 Feb 2020	Vicki Athanassiou
Held in WA	Management Systems Manuals WA&VIC	Apr 2020	Vicki Athanassiou

May - Aug

Functional Area	System Elements	Date Conducted	By
All divisions	**External Audit - VIC (early Jun audit)**	Early Jun	Bureau Veritas
All divisions managers	Management Review Meeting	Jun	Vicki Athanassiou
All divisions	Chain of Responsibility	Jun	Vicki Athanassiou

Sep - Dec

Functional Area	System Elements	Date Conducted	By
Laboratory	General Requirements for the Competence of Testing and Calibration Laboratories AS ISO/IEC 17025-2017 Conduct 1st	Sep	Vicki Athanassiou
All divisions managers	Management Review Meeting Condt 2nd	Sep	Vicki Athanassiou
All divisions	Environmental Management Systems ISO 14001:2015	Sep	Vicki Athanassiou

MANAGEMENT SYSTEMS/AUDITS/AUDIT PROGRAMME VIC AUDIT PROGRAMME 11 DECEMBER 2019

8. Environmental Sustainability Initiatives

It is Asphaltech's realisation that it is important to try and recycle as much of the existing pavement materials as possible. The WA Government is aware of this and are encouraging the use of recycled materials.

With recent further innovation, development and French inspired technology improvement, Asphaltech have now taken Cold Mixed Asphalt to a new level and are now offering 100% recycling of road pavements with paver spread cold asphalt.

Most Life Cycle Cost Analysis talk about "from cradle to Grave". Whereby, to analyse the life cost of a pavement, the cost of initial construction together with ongoing maintenance, rehabilitation and sometimes user cost are analysed. For the analysis to be complete there needs to be an evaluation of the cost of removing/disposing the used up pavement.

The Asphaltech recycled Cold Mixed Asphalt process has many benefits over other older recycling processes:

The material (profiled from the council's roads), particularly the RAP is broken or grind to the required particle size thereby allowing for the binder from the RAP to be much more affective and not be waisted in the final mixture.

The specially formulated emulsification additives formulated in France have the ability to rejuvenate the old bitumen in the RAP, making the binder a lot more effective than old processes. As a result of sizing of the material, together with the fact that the central, or on site pug mill will produce a much better, more homogeneous mix, the binder can be reduced.

Even though the process requires the transportation to a central mixing plant, it is estimated that the superior quality of process and mixing allows for a significant reduction on binder content to achieve equivalent moduli and say even a 0.5% reduction in residual binder is equivalent to transporting 20km out and 20km back to site.

The material can be conditioned such that the moisture content is consistent providing total control of the product and thereby its ability to be compacted on the road.

Materials can be accurately blending In particular the addition of crushed concrete, which, because of its angularity after crushing will provide additional stiffness, without fatigue loss.

Recycled crushed concrete can be used to produce new cold asphalt for incorporation into new pavements as either a base course layer or as full depth.

And most importantly:

It allows for paver placing and compacting, which, apart from the obvious benefits, will reduce the time on the road, thereby user costs (delays), traffic control and our people exposure to the dangers of being on roadworks.

Balga Ave, City of Stirling – Aug 2015

Balga Ave was constructed in August, 2015 with a combination of 40% RAP and 60% Recycled 19mm roadbase material sourced from Capital Recycling Centre. The core samples were extracted in November 2018 and showed an average resilient modulus at 4100 MPa which is equivalent to hot mixed asphalt.

Specimen ID	No of Gyrations	Air Voids (%)	Test Time	Mean Height mm	Mean Diameter mm	Core Temp. °C	Resilient Modulus MPa	Coeff. Variation %
B1	N/A	N/A	9:36 am	84.2	94.4	25.0	3800	4.5
B2	N/A	N/A	9:48 am	74.8	94.6	25.0	4410	4.0
B3	N/A	N/A	9:59 am	67.7	94.6	25.0	4180	6.4

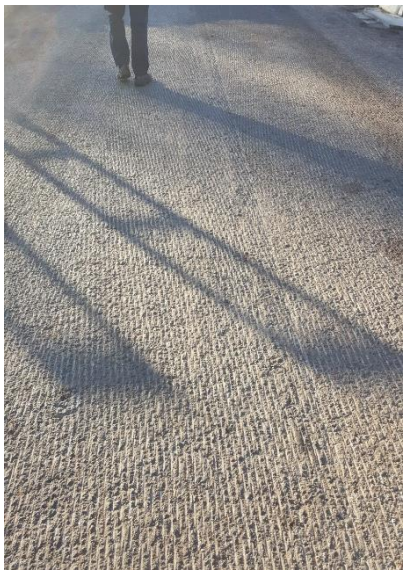
Average Resilient Modulus of the specimens: 4,100 MPa

Garling Street, City of Melville – May 2018

Garling Street was constructed in May, 2018 with a combination of 85% RAP and 15% recycled roadbase. The total project includes over 1800t of 100% Recycled cold mixed asphalt placed in 5 shifts. The core samples were extracted in November 2018 and showed an early lift strength around 2200MPa.

Please see following link of the full presentation of this project.

https://www.dropbox.com/sh/6ts06m 16g7bs027/AABYSilgd8VtP3GyvlpP0wrJa?dl=0



Specimen ID	No of Gyrations	Air Voids (%)	Test Time	Mean Height mm	Mean Diameter mm	Core Temp. °C	Resilient Modulus MPa	Coeff. Variation %
G1	N/A	N/A	8:29 am	57.1	94.5	24.5	2100	7.7
G2	N/A	N/A	8:42 am	50.9	94.5	25.0	2260	6.7
G4	N/A	N/A	9:17 am	49.5	94.6	25.0	2120	15.7

Average Resilient Modulus of the specimens: 2,200 MPa

Cockatoo Ridge, City of Joondalup – March 2019

Cockatoo Ridge was constructed in March 2019 with a combination of 100% RAP (recycled asphalt pavement). The 100% recycled cold mixed asphalt was laid at a thickness of 100mm to replace the existing brick paving layer. The total amount of this project is over 800T and the project was completed in two shifts.

Waste, Chemicals and Pollution

Scope

The purpose of this waste management plan is to assess and monitor the amount of waste produced, and where possible prevent and minimise such waste.

Waste management (solid, liquid or hazardous) shall be managed in all activities conducted by Asphaltech.

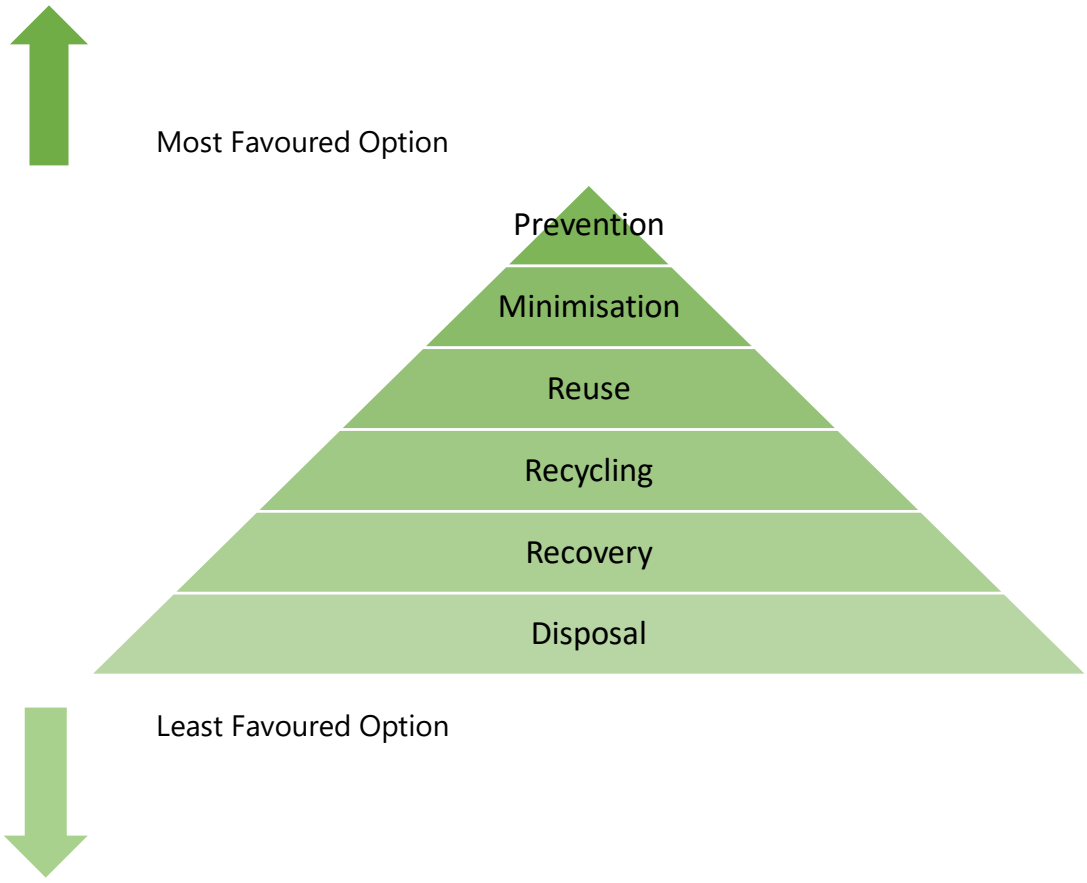
This includes the collection, transport, and disposal of waste, together with monitoring and legal regulations.

The main aims of managing waste include:

- Prevention of any waste generated.
- Meet the hierarchy shown below.
- Continual improvement and review of waste management.
- Ensure the correct disposal of solid and liquid waste.
- Ensure compliance with legal regulations.
- Ensure recycling is conducted efficiently.

Waste Hierarchy

The key with the hierarchy is to optimise these stages in order to avoid the unnecessary generation of waste.



Prevention
Preventing the amount of waste generated is the most favoured option.
Ensuring correct quantities of asphalt being produced in order to eliminate returned product.

Minimisation
Reducing the negative impact on the environment to meet the end product.
Using less hazardous materials, looking to environmentally friendly products.
Lowering the amount of waste produced.

Reuse
Reintroduce materials into the production process.

Recycling
This resource recovery practice whereby using waste materials, can be produced into new products. Returning waste into the raw materials process. Recycling is beneficial to the environment by saving on landfill space and saves resources.

Recovery
Capture and utilise some value from waste generated.

Disposal
Waste will be removed from worksites, yard and office to an appropriate licenced facility.

Responsibilities

The implementation and management of this plan is the responsibility of all staff.
Should waste disposal be required the divisional manager shall be consulted to ensure that management of the disposal is in accordance with guidelines.

Waste Handling and Transport

Any waste generated on any work site shall be collected and disposed of accordingly.
This may be transported to be reused or recycled; or transported to a disposal facility.

An emergency response spill kit shall be located in the following areas:

- Production yard
- Mechanical workshop
- Construction
- Civil

Waste Types

Road Profiling Material
Road pavement profiling material which general consists of RAP (Reclaimed Asphalt Pavement) and road base will be collected and transported to our Neerabup Road Recycling Operations for further treatment.

RAP by itself will be crushed, screened and conditioned to be reused into either our hot asphalt manufacture stage, such producing 20mm DG bottom layer at a percentage of 10% and higher with the consent from the Customer or our newly innovated 100% recycled cold mixed asphalt process.

RAP mixed with road base will generally be crushed, screened and conditioned to be applied into our 100% recycled cold mixed asphalt process only.

Concrete Kerbing / Drainage lids

Waste materials such as concrete kerbing and drainage lids during our civil construction works will be removed from site and take to nearest recycling centre and reused as recycled road base. No concrete waste will end up in landfill.

Chemical, fuel

Some chemical and fuel may be required during our works process. However, it is not anticipated that disposal of any chemical or fuel will be required as these are generally used.
Any plastic containers required are not disposed, they are reused as required.
Safety data sheets (SDS) are maintained for all materials purchased and these are available within each division.

Wood

Waste wood material may be generated from the following:

- Materials delivered on pallets or packaged in wooden containers.
- The use of wood in the construction of formwork.

All wood is either reused or returned to the supplier (or other persons) for reuse.

Metal

Waste metal material may be generated from the following:

- The delivery of materials in drums or packaged in metal containers.
- The use of metal in the fabrication process.

All metal is either reused or recycled if unsuitable in scrap metal bins and removed to a metal recycling facility.

Paper

Small quantities of paper waste will be generated, primarily from office waste paper.
All waste paper shall be disposed in the designated recycling bins for fortnightly council collection or to a licenced recycling facility.

Miscellaneous

Any generation of miscellaneous waste such as food and drink containers shall be placed in the appropriate bins in the yard.
Works conducted on site generating this type of waste shall be collected and returned to the yard for disposal.

Continual Improvement

Continual improvement of the waste management plan will be achieved by the continual evaluation of the performance of the plan. Annual review will be conducted to identify any opportunities for improvement, and if required any measures found will be implemented to improve waste management.

Sustainability

Waste management is a key component in improving environmental efficiencies by eliminating waste through resource recover practices.

Where waste cannot be prevented, reused or recycled, it will be disposed of appropriately and accordingly within legal regulations.

Energy and Carbon Emissions

In July 2008, the Government released its Green Paper on Carbon Pollution Reduction Scheme. The Government planned to commence the scheme in 2010. The Scheme will concentrate on the biggest polluters and will place obligations on around 1000 Australian companies in total. Those companies will be the ones that produce more than 25,000 tonne of carbon pollution each year.

In the first instance, as a means of offsetting some of our emissions, we had some 80 hectares of trees planted in the South West of W.A. More recently, we have donated funds to the organisation Carbon Neutral to plant further native trees in the state where they are not only offsetting the carbon but are of high importance in soil erosion. One may argue that these measures are not the solution to stopping carbon pollution; however it can also be argued that they are helpful until such time as better solutions are found.

Our newly build Marini Asphalt Plant Top Tower 2500 significantly improves the production rate to 200T per hour and has advanced design and production technologies, bringing performance in line with most current, innovative, worldwide best practice. At Asphaltech we are very conscious that everyone needs to make a concerted effort to reduce greenhouse gasses. A new recent purchased Marini Top Tower 2500 Asphalt plant has reduced our total emission of carbon by 14.3% and even though we fall well below the level where the government will impose pollution permit requirements on Asphaltech, we have already been very proactive in trying to reduce and/or offsetting our carbon emission.

→ **Energy saving technology**

Utilising high efficiency motors, insulations, reduction of thermal losses, are some of the innovative solutions to reduce energy and fuel consumption.
With the special drying-filtering bar and the modular plant format, the maximum reduction in energy consumption is guaranteed.

→ **Environment**

- The plant innovative design helps to reduce electricity and fuel consumption, resulting in significantly reduced CO_2 emissions.
- Atmospheric particle emissions comply with the latest environmental regulations.
- The mixing tower is designed to incorporate total or partial cladding, for even lower particle and dust emissions and reduce noise.

→ **Energy savings**

- By positioning the filter above the dryer drum and redesigning the drying-filtering unit, this has optimised the gas and recovered fines circuits.
- With the shorter dryer-filter duct, the gases at the dryer mixer outlet lose less heat and the burner consumption is significantly reduced.
- The screen and hot bins are insulated and cladded in order to reduce energy losses.

→ **Recycling solutions**

The best solutions available and fitted with the latest technological developments for recycling (including a high percentage of RAP).

The four main recycling solutions are –

- Recycling in special dryer drum ring.
- Cold RAP metering into mixer.
- Two in one for the maximum flexibility (of two technologies above for RAP use and performance).
- Parallel drum.

Processed Reclaimed asphalt pavement (RAP) (which has already been crushed and/or screened to size for recycling into new asphalt) will be stored and used in the asphalt manufacturing process. The addition of the RAP cold feed system will allow recycling of asphalt materials.

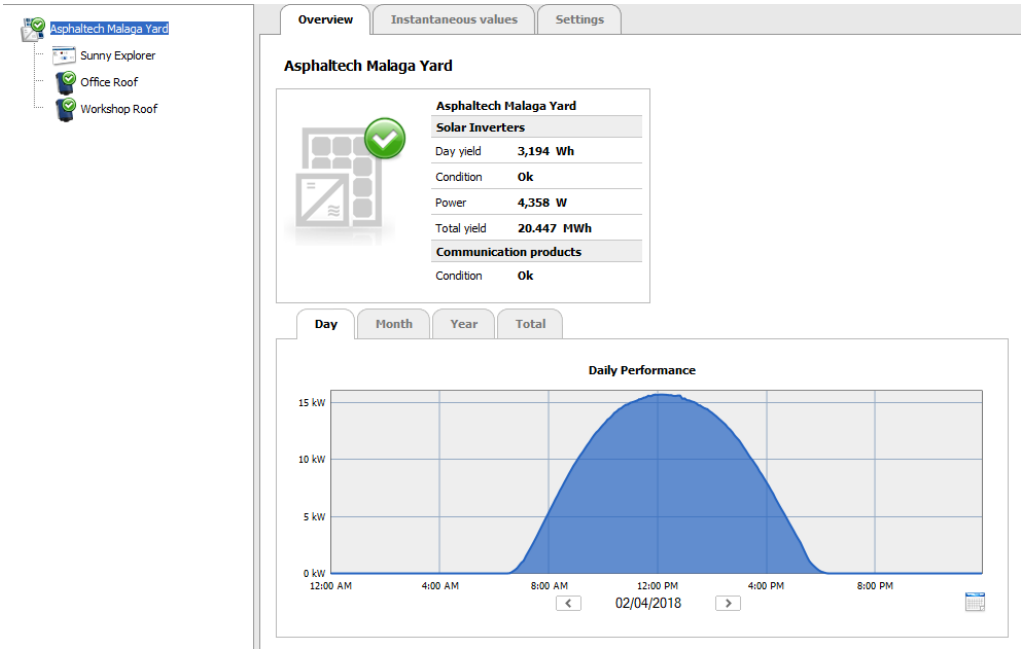
Use of Energy Efficient Measures and/or Renewable Energy Sources

Asphaltech takes environmental issues very seriously and we observe that some Councils have the same view whereby environmental impacts every person in the community. It is Asphaltech's commitment to keep abreast with the latest standards and issues and in fact surpass World Standards and with continuous improvement through our Environmental Certification, Asphaltech will contribute towards a better environment for the community.

→ Solar Panels

Asphaltech embraces renewable and sustainable energy by installing a total of 62 solar panels on Malaga office rooftop. A recent monthly monitor shows that the solar panel can generate a daily average 95kWh and a monthly total power of approximately 3000kWh. This renewable energy contributes around 15% of total power consumption during the plant operation stage.

This solar energy can be monitored in real-time by its internal programme via wireless connection. All the data has been stored and analysed on a monthly basis.



dd/MM/yyyy	Office Roof Day yield Analog kWh	Workshop Roof Day yield Analog kWh
1/03/2018	67.21	51.25
2/03/2018	69.58	52.93
3/03/2018	69.34	53.97
4/03/2018	67.57	52.87
5/03/2018	64.05	50.74
6/03/2018	62.98	49.62
7/03/2018	55.35	44.24
8/03/2018	60.04	48.81
9/03/2018	56.61	48.11
10/03/2018	57.69	49.06
11/03/2018	58.51	50.06
12/03/2018	57.07	49.05
13/03/2018	51.52	44.56
14/03/2018	27.60	23.18
15/03/2018	35.61	30.88
16/03/2018	51.03	44.55
17/03/2018	38.70	33.46
18/03/2018	58.06	50.55
19/03/2018	54.92	47.98
20/03/2018	47.45	41.88
21/03/2018	50.67	44.47
22/03/2018	32.47	28.49
23/03/2018	44.90	38.72
24/03/2018	25.82	22.70
25/03/2018	24.17	19.71
26/03/2018	24.41	19.28
27/03/2018	64.54	51.53
28/03/2018	67.85	53.40
29/03/2018	65.63	51.38
30/03/2018	60.03	47.15
31/03/2018	58.60	45.81
Average	52.58	43.24
Total	1629.94	1340.35

→ Electrical Motor Power factor

Asphaltech is working closely with a local electrical company to monitor the electrical motor power factor to ensure all the electrical motors are running at a higher and more efficient way. This is achieved by implementing a mobile power analyser onto Asphaltech internal power network and attempt to record a weekly power usage consumption. The data will then be analysed and a report will be provided based the electrical motor power factor. A necessary upgrade may be required if the motor power factor is found below 95%.

Water

It is Asphaltech's full realisation that water saving is crucial to our economy, society and environment. Asphaltech is always willing to put some effective measurements in place to save water. These include:

- Dual flush toilets: replacing all toilets in the office with dual flush to use the right amount of water to clear the toilet bowl.
- Low-flow taps: reduce the amount of water coming out of the taps.
- Ground bore water: use ground bore water as dust-suppression to prevent airborne dust during production stage and watering garden plants.
- Garden plants: plant native indigenous plants which require less watering and maintenance.
- Installation of a 2000L water tank in Malaga yard to store rainwater for micro-spray out system on aggregate bays.

Biodiversity

Diesel had been heavily sprayed as a release agent traditionally to prevent bitumen stick onto the metal truck body during asphalt transportation. However, the fact that the remaining diesel drops to the ground and somehow enters into the waterway will detriment the environment. Therefore Asphaltech has banned using diesel as a truck spray out agent.

Instead, RecoSlip, specifically formulated for use in bitumen and asphalt industry, to assist in the release of bituminous products from heavy duty plant and equipment, is adopted by Asphaltech. RecoSlip is non-flammable, biodegradable and made from renewable resources.

Recoslip assists in the prevention of bituminous products from adhering to metal surfaces during pouring, spraying and applying bitumen and asphalt. Although its price is doubled as its counterpart diesel, Asphaltech is still prompting it as an environmental-friendly alternative.

Climate Change

We note that many Councils have made huge steps in leading Local Government towards placing great emphasis on the environment.

We are also very proud to advise that Asphaltech is a Carbon Neutral company by virtue of a 45 hectare tree plantation near Albany, WA for the period between 2000 and 2012.

Social

Asphaltech is committed to providing equal opportunities and the principle of equality in accordance with relevant legislative provisions.

Asphaltech recognised that discrimination is unacceptable and, although equality of opportunity has been a long standing feature of our employment practices and procedure. We have also made the decision to adopt a formal equal opportunities policy. Breaches of the policy will lead to disciplinary proceedings and, if appropriate, disciplinary action.

The aim of the policy is to ensure that no job applicant or employee is discriminated against either directly or indirectly on the grounds of age, disability, gender identity, marriage and civil partnership, pregnancy or maternity, race, religion or belief, sex or sexual orientation.

The policy will be communicated to all private contractors reminding them of their responsibilities in respect of equality of opportunity.

Asphaltech is and will maintain a neutral working environment in which no employee or worker feels under threat or intimidated.

9. Life Cycle for Environment ISO 14001

Purpose

Overview on how Asphaltech will effectively manage the life cycle stages for environmental aspects and impacts potentially aiming to prevent or mitigate adverse environmental impacts during these life cycle stages.

Scope

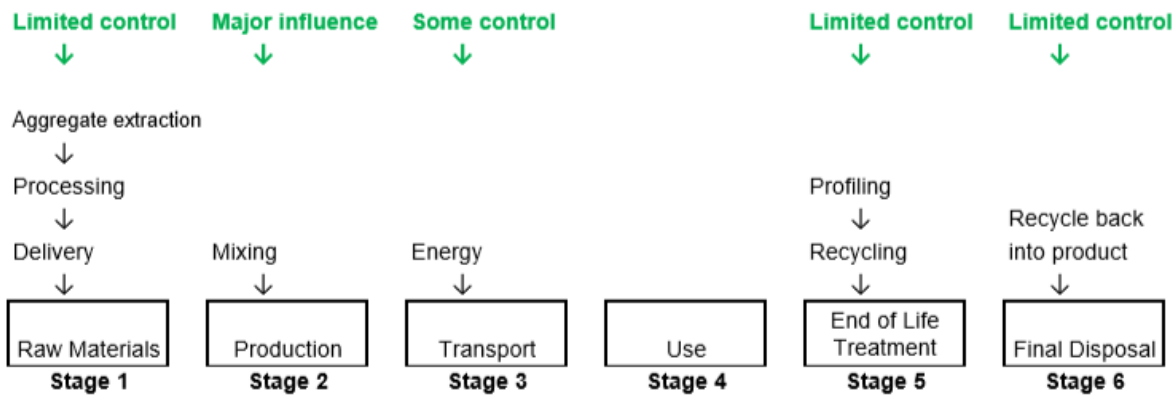
This procedure applies to all divisions in the company. Life cycle stages include acquisition of raw materials, production, transport, use, end of life treatment and final disposal.

Documents

Life Cycle for Environmental ISO 14001 operating procedure

Procedures

Flowchart - Environmental Life Cycle



	Life Cycle	Environmental Aspects
Stage 1	Acquisition of raw materials Removal of aggregate stone from quarry site Clearing of land and tree disturbance	Emissions to air, use of natural resources, use of energy
Stage 2	Production mixing of the raw materials with other products to produce asphalt. Include: - operational processes - operation and maintenance of plant	Emissions to air, water and land. Use of energy Energy emitted – heat and noise Generation of by product – heat and dust (in bags)
Stage 3	Transport – energy use involved with the truck, transportation required to transport asphalt to the job site.	Emissions to air, use of energy
Stage 4	The use of newly paved asphalt road by vehicles and road users.	Emissions to air, use of energy
Stage 5	End of life treatment – maintenance considered if required. Profiling undertaken Reprocess and recycle product	Emissions to air, water and land Use of energy Energy emitted, heat and noise
Stage 6	Final disposal – reuse	

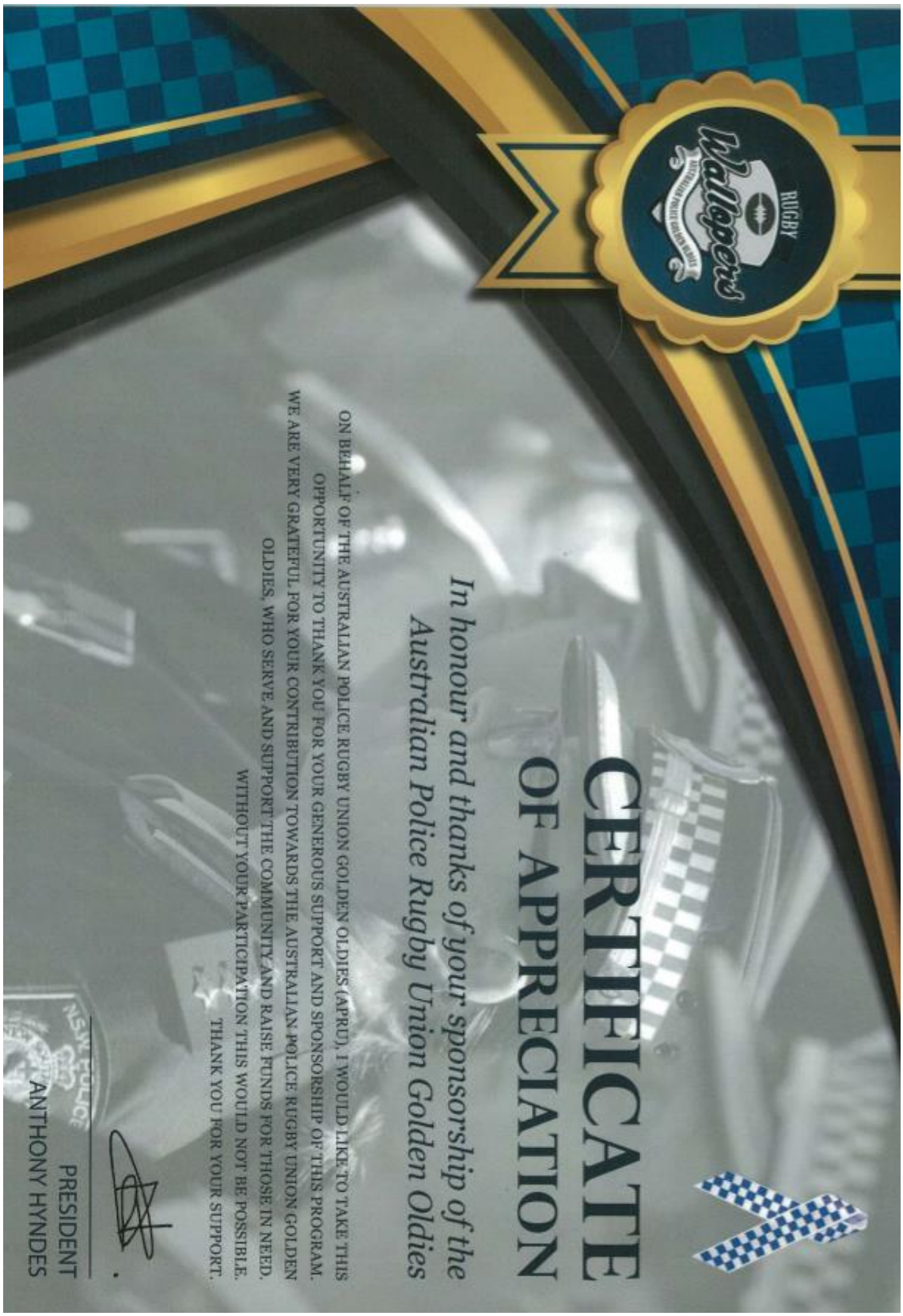
Creating and maintaining environmental controls within our asphalt manufacturing processes in order to prevent or minimise any potential adverse environmental impacts which may occur during these life cycle stages.

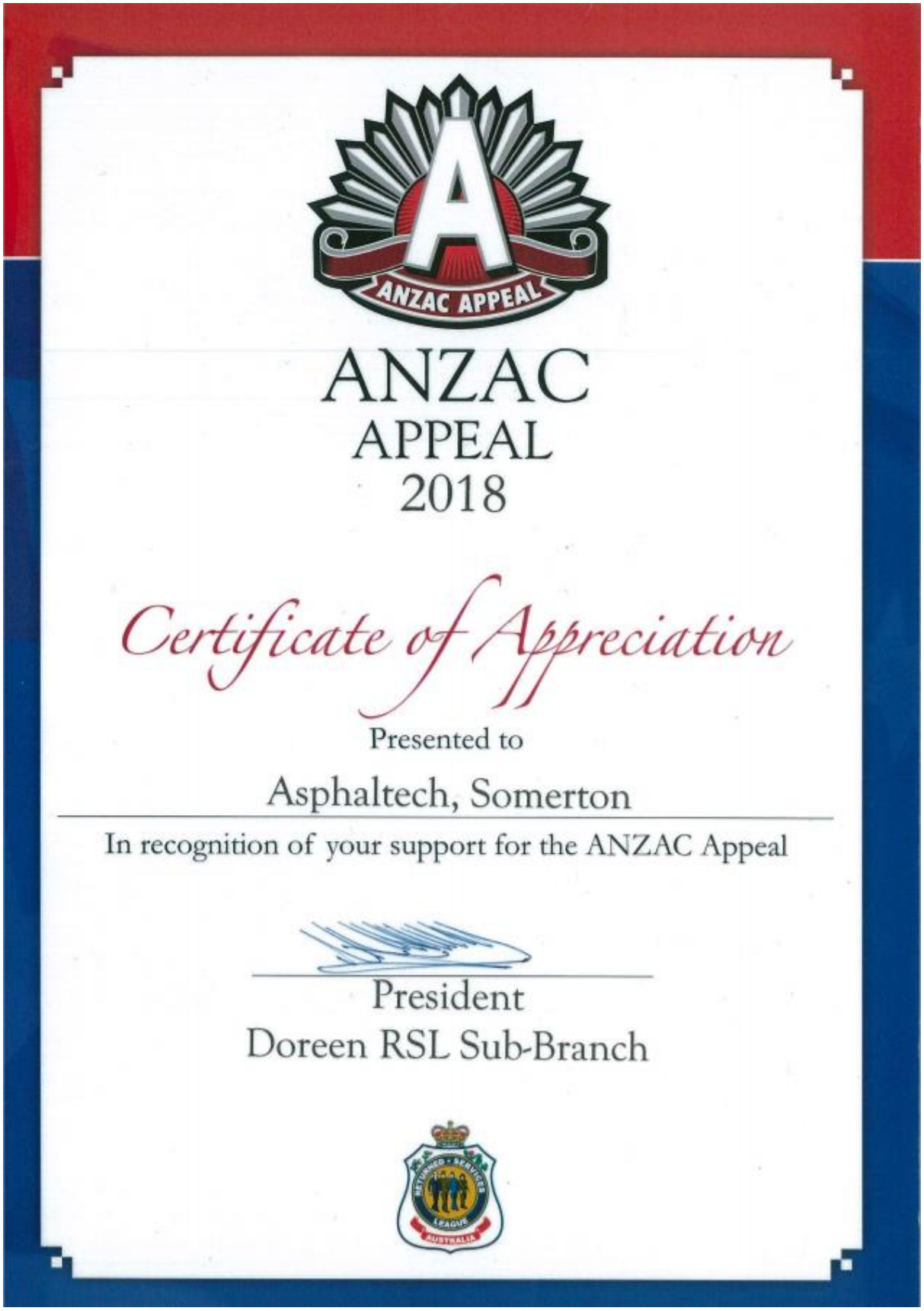
Operational planning and control To remain consistent with the life cycle perspective, the following will be maintained:

- Procedures and controls in place to ensure environmental requirements are managed in the production process, considering each life cycle stage.
- Evaluate environmental requirements when sourcing products (raw materials) and services (transport).
- Communicate any applicable environmental requirements to suppliers, contractors relevant to activity.
- Potential significant environmental impacts associated with any stage along the lifecycle to be reported to management.

10. Appendix

Social Procurement Presence and Recognition (Victoria)




ANZAC APPEAL
ANZAC
APPEAL
2018
Certificate of Appreciation
Presented to
Asphaltech, Somerton
In recognition of your support for the ANZAC Appeal
President
Doreen RSL Sub-Branch
RETURNED SERVICES LEAGUE AUSTRALIA

Asphaltech