Hanson Lysterfield Quarry
Community Reference Group

MINUTES OF MEETING

Meeting No.:	**17**	**Status of Minutes:**	**APPROVED**
Date:	22 May 2019	**Time:**	6:00pm
Location:	The Anderson Room, Waverley Golf Club, 82 Bergins Road, Rowville		
Minutes Confirmed:	By consensus		

Chairman:	Brian Oates (BO)

Present:

Members:	Alan Birchall (AB) Virginia Bright (VB) Trevor Harley (TH) Darren Heathcote (DH) Shane Logan (SL) Alice McKenzie (AM) Sally Orr (SO) Monica Varcoe (MV)
Presenters/ Observers:	Rob Francis, Hanson (RF) Andrew Ritchie, Hanson (AR) Bruce Webster, Hanson (BW) Tory Winnell, Hanson (TW) Garrett Hall, Golder, Hanson consultant (GH) Lyndel Hunter, Hanson consultant (LH)

Item	Issue
1	**Welcome** BO welcomed a guest: Roger Buckley, Industry Relations and Policy Manager, Cement Concrete and Aggregates Australia (CCAA) Apologies received from: Wendy Belli Clayton Collins Gina Mastromano Susan Pearce Absent: Trudi Dicker John Farrar Paul Lees Emma Pearce Potential new member (T Kamitsis)

2	**Minutes of previous meeting** Minutes of Meeting 16 were carried by consensus. **Action Tracker** **Issue:** *LH to provide draft statement relevant to CRG to be prepared for discussion and approval.* LH circulated document *(refer to* **Appendix A** *attached)*. Document approved for circulation. Following discussion, it was agreed that a photo of CRG members working at a meeting to accompany the statement would be of benefit. Consequently, it was agreed to have a photo taken at the next meeting of the CRG. LH to advise members. **Issue:** *Hanson to seek additional report from Terrock on cumulative effect of blasting on nearby properties.* RF circulated a copy of a report prepared by Terrock Consulting Engineers to provide information to address community questions regarding the effects of blasting operations at the quarry. *(Refer to* **Appendix B** *attached)*. **Issue:** *Hanson to seek further information on human comfort level ground vibration limits*. RF provided presentation of blasting effects relevant to previous CRG questions. *(Refer to* **Appendix C** *attached)*. **Issue:** *Hanson to seek information on the impacts of a body of water in vibration monitoring* In summary: · Cumulative effects: Hanson results are less than 1/3 of the regulated limit · Human comfort levels have been discussed and presented in the Minutes of Meeting #12, 2 May 2018, page 5. · Heany Park Lake is unlikely to influence vibration levels. **Issue:** *Hanson to provide further information regarding number of trucks entering and exiting Lysterfield Quarry per day* RF provided a report indicating truck movements to and from Hanson Lysterfield Quarry *(refer to* **Appendix D** *attached)*. 91% were quarry trucks and 9% were concrete trucks. There are no B-double trucks, but many trucks with trailers. 52% of the vehicles are Hanson owned trucks, with 15% Hanson subcontractors, 30% external customers and 3% external subcontractors engaged by Hanson. ALL DRIVERS are required to abide by the Hanson **Driver's Code of Conduct**, and three month bans have been applied. SL queried if movements from Boral Quarry would be about the same. Hanson does not have exact Boral movement data, but assumes that truck movements would be slightly more than from the Hanson Quarry. Consequently, it can be assumed that truck movements on Wellington Road are double those reported by Hanson. **Issue:** *Hanson to investigate placement of monitoring equipment at residence of DH* BW reported that this was undertaken today and today's blast was monitored. A further report will be provided in 7a.
3	**CRG Membership Update** LH reported the final status of the membership figures following the CRG Membership Campaign #2.

	There were 11 CRG members when Campaign #2 commenced and, at 22 May 2019, there are and additional five confirmed members and one potential member who attended the CRG Site Tour, providing a potential total of 17 members. However, only seven members have attended this evening's meeting. A disappointing result, particularly when key speakers have been invited to present to the group. Following discussion, it was agreed that LH will include an appeal for attendance at the next meeting when the Agenda is distributed. At the next meeting, discussion relevant the enforcement of Clause 5.2 of the Terms of Reference will be discussed: CRG members are required to attend at least 75% of organised meetings during the period of appointment, measured annually on the anniversary of the relevant CRG member's membership. **Actions:** · LH to encourage attendance of Meeting #18 via distribution of Agenda · Members to discuss enforcement of Clause 5.2 of Terms of Reference.
4	**Presentation: Quarrying – the industry perspective** Roger Buckley Industry Relations and Policy Manager, Cement Concrete and Aggregates Australia (CCAA) *(For full information, refer to* **Appendix E** *attached)* During the presentation, in summary, RB advised the following: · CCAA members don't build quarries – they build cities by providing raw materials (cement, concrete, rock, sand and gravel) to construct cities, homes, factories, schools, hospitals, roads, bridges and tunnels. · CCAA members represent 70% of Victorian market. · The industry, nationally, generates $15b in annual revenues. · Per annum usage / production includes 200 million tonnes of aggregates, with 12.5 million tonnes of cement to generate 29 million M3 of pre-mixed concrete from more than 1500 concrete batching. · The State Government's infrastructure agenda for Victoria requires a great deal of good quality sand and rock. · A key role of CCAA is policy leadership to ensure the government and regulatory policy settings allow the delivery of affordable quarry materials. · CCAA works across many key themes and government portfolios, including environment, planning, safety, transport, logistics, infrastructure, specifications and sustainability. · There has been no new major hard rock quarry approved in Victoria for more than 20 years. · Concrete plants proximate to the city that must deliver perishable product in less than 90 minutes are being encroached upon by residential development and, in some case, forced out. · Also results in increased greenhouse gases with more trucks undertaking longer trips. · No cement is manufactured in Victoria anymore, it's all imported. · Heavy construction materials contribute on average 32% of new infrastructure project costs. · CCAA has been working with governments and industry to address key issues.

	· Breakthrough came in 2016 when State Government completed the Supply and Demand Study which confirmed serious material supply shortfalls. The study has been repeated this year and has identified and even more serious supply shortage. State Government released the 'Helping Victoria Grow' video accessible on YouTube to support the need to address shortfalls. *(Refer to* **Appendix E** *attached* · Government launched *2018 Extractive Resources Strategy.* Victoria is the only state with a resources strategy. Other states now following. · Minister for Planning and Minister for Resources launched *Joint Ministerial Statement* in August 2018, including development of *Strategic Extractive Resource Areas (SERAs)* to be implemented into local planning schemes. · The industry looks forward to working with government and the community to implement these reforms to ensure a safe, sustainable supply chain can efficiently deliver affordable infrastructure for the benefit of all Victorians. After the presentation, the following was queried / noted: · What will the impact of recycling have in the future? VicRoads specifications are currently holding up the industry. Industry is trying to reduce Co^2 in cement production and transport. However concrete has longevity. Example, West Gate Bridge has been constructed to last 400 years, while footpaths are constructed to last 20 or so years. · Sustainability Victoria is funding research projects on increased use of alternative materials in the development of cement products.
5	**Discussion: Project Update** *(refer to* **APPENDIX F** *attached)* RF provided presentation to update new members. · Current quarry projects include: 1. The removal of the Public Acquisition Overlay Documentation is progressing through DELWP, awaiting Ministerial signatures 2. Quarry extension Hanson proposed to extract hornfels in a westerly and south-westerly direction from its current limit Specialist studies underway include: • Air quality • Geotechnical • Flora • Fauna • Noise • Vibration Groundwater and Surface water studies will be commencing soon Other assessments to be undertaken include: • Aboriginal heritage • Buffer distances • Community facilities • European heritage

	• Fire safety • Fly rock • Future use & rehabilitation • Landscape & visual amenity • Public safety • Public infrastructure • State & national parks & crown land • Security • Traffic The Application Process is lengthy 3. Overburden Placement and potential future sports grounds The overburden earthworks application is currently in process. The prefill design has been completed and the Planning Permit has been lodged. Currently an Equestrian Relocation Plan is in progress and an Arborist Study is being undertaken The Permit Public Display, community submissions and Council decision are to be made prior to the relocation of equestrian facilities and the commencement of prefilling. After the presentation, the following was queried / noted: · DH queried the length of the application process. GH advised that it is estimated to take up to two years. · AB queried how long it would be before the 400m buffer is reached. GH advised that it would take many years and be driven by market demand. · MV queried the operation projections: Will the trucks increase? GH advised that there would be no more truck movements than currently. Market demand creates fluctuation in truck movements. Will the hours of operation increase? RF advised no.
6	**Communication and consultation** No members had any network feedback reports or information regarding media coverage.
7	**Other Business** **7.a Operational Report** *(refer to* **APPENDIX F** *attached)* BW reported: · Hanson's dust management process includes a directional dust deposition gauge located near Montague Crescent, north west of the quarry and the closest to residences. · A further four dust deposition gauges are located around the quarry. · Data for year to date as at April 2019 shows results within limits, with the exception of the park boundary where the dust monitor is located near a fire break on the park boundary. · The data for April 2019 indicates a high level on the Montague Crescent monitor, however the dust was registered as coming from the north which means the dust was blowing on to the site. · Wind and weather data for Scoresby from the BoM website was discussed. · Three monthly rainfall for the period is 49% down on average.

	· Park gauge is in close proximity to area where top soil is being placed for rehabilitation prior to tree planting. · Provided and environmental monitoring report of most recent blasts, including data provided by newly installed monitor at the residence of DH. · A video of the blasts since the last meeting was shown. · Progressive rehabilitation continues – observed by CRG members who attended site tour. · Tree planting is being undertaken and the eastern face rehabilitation is progressing well After the presentation, the following was queried / noted: · CRG members requested that BW include the environmental monitoring regulatory limits in future Operational Reports. **Action:** · BW to include environmental monitoring regulatory limits in future Operational Reports **7.b Questions and Answers** Although there were no further questions, there was a discussion regarding information CRG members wish to have delivered at future meetings. The following actions were agreed: **Actions:** · Hanson to provide a cross-sectional view of the quarry · Hanson to provide current Lysterfield Quarry rehabilitation plan · Presentations by community members to be revisited · Hanson to provide information on flora / fauna management, how an Environmental Management Plan (EMP) is developed and managed · Hanson to provide information on how a Cultural Heritage Management Plan (CHMP) for Wurundjeri is developed and managed · Hanson to provide further information regarding final shape of the land. Further: · MV commented that the future plan needs to create balance and the views from the pit, park and freeway need to be considered. A visual is needed. · AB and DH both commented that the scope, size and operations are huge.

Meeting Closed:	8:25pm
Next Meeting:	Meeting **18** Wednesday **17 July 2019** at **6:00pm**

ACTION SUMMARY

Item	Issue	Action	By
2	Photo to be taken at next CRG meeting. LH to advise members.	LH	17.07.19
3	LH to encourage attendance of Meeting #18 via distribution of Agenda	LH	10.07.19

Item	Issue	Action	By
3	Members to discuss enforcement of Clause 5.2 of Terms of Reference.	CRG Members	17.07.19
7a	Environmental monitoring regulatory limits in future Operational Reports	BW	17.07.19
7b	Hanson to provide a cross-sectional view of the quarry	BW	17.07.19
7b	Hanson to provide current Lysterfield Quarry rehabilitation plan	RF/GH	17.07.19
7b	Hanson to provide presentations to CRG by Rob Crundwell (Victorian Drag Boat Club), KIOSC students and Virginia Bright	LH	17.07.19
7b	Hanson to provide information on flora / fauna management, how an Environmental Management Plan (EMP) is developed and managed	RF/GH	asap
7b	Hanson to provide information on how a Cultural Heritage Management Plan (CHMP) for Wurundjeri is developed and managed	RF/GH	asap
7b	Hanson to provide further information regarding final shape of the land.	RF/GH	asap

About the Lysterfield Quarry Community Reference Group

The Lysterfield Quarry Community Reference Group (CRG) was formed in April 2016. It comprises 17 community members who live near, work close by or have an interest in the Lysterfield Quarry and its environs. The CRG is chaired by Mr Brian Oates, a former Mayor of the City of Casey, and meets every few months for presentations from Hanson, government representatives and operational specialists. CRG members develop the meeting agenda, provide information to Hanson and contribute to the review of operational practices that provide greater benefit to the community.

Meeting Minutes can be viewed at:
https://www.hanson.com.au/about-us/regulatory-information/lysterfield-quarry/

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HANSON CONSTRUCTION MATERIALS PTY LTD

INFORMATION TO ADDRESS COMMUNITY QUESTIONS REGARDING BLASTING OPERATIONS AT HANSON LYSTERFIELD QUARRY

The following information has been provided to help address some questions recently asked by local community members around the effects of blasting at Hanson Lysterfield Quarry on the surrounding area.

GROUND VIBRATION LIMITS FOR QUARRIES: HUMAN COMFORT LIMITS vs DAMAGE LIMITS

Ground vibration and airblast levels from quarry operations are regulated under state legislation by Earth Resources Regulation (ERR), a branch of the Victorian Government Department of Jobs, Precincts and Regions. The limits apply at "sensitive sites" such as occupied residences, schools and hospitals, and are observed to help minimise potential disturbance and annoyance from blasting operations. The limits are set below levels at which vibration damage to light-framed, residential-type buildings is known to occur.

The ERR ground vibration limit that applies to Hanson Lysterfield Quarry's approved Work Plan is 10mm/s Peak Particle Velocity (or PPV). Routine blast monitoring around Lysterfield Quarry began in 2010 and no exceedance of the ERR PPV limit has been recorded to date. 38 blasts were fired at the quarry during 2018 (January to end November), with an average PPV at Sandford Close of 1.38 mm/s and a maximum reading of 2.97 mm/s. The maximum reading is less than one third of the quarry's ground vibration limit.

Buildings can withstand relatively high levels of ground vibration without damage occurring. Australian Standard AS2187.2 (2006) contains guideline damage criteria from overseas standards and research. One such guideline is sourced from British Standard BS7385.2 (1993). The British criterion was developed from investigations of confirmed cases of blasting damage and is approved for use in Australian conditions. In accordance with the British criterion, the threshold at which there is an *increasing possibility of cosmetic damage* is 18 mm/s (at a typical blast vibration frequency of 10 Hz). The threshold for minor damage is 36mm/s and the threshold for major/structural damage is 72 mm/s. Guideline vibration limits used to prevent damage to buildings are conservative by design. Australian research has shown PPV levels below 70mm/s to be non-damaging to double storey brick veneer houses (Australian Coal Association Research Project C9040 *Structure Response to Blast Vibration,* 2002).

THE BEHAVIOUR OF SOIL UNDER GROUND MOTIONS FROM BLASTING

It has been claimed by a small number of Rowville residents that ground vibration generated by weekly blasting at Hanson Lysterfield Quarry causes gradual, permanent displacement or slippage of the ground which can adversely affect the integrity of buildings and other structures. Worldwide, this theory is untested and we are unaware of any formal scientific studies have been undertaken, presumably because it is not a subject that warrants investigation.

Permanent ground movement (deformation) may occur up to 10 meters or so from a quarry blast site. This is caused by pressure from explosives gases penetrating the nearby rock structure which may result in crack formation and permanent displacement of the ground surface (sometimes referred to as "back break"). Beyond this zone, the ground is naturally elastic and returns to its original position after the vibration waves have passed. The brief, non-permanent displacement of the ground at regulated PPV levels is small. At PPV level of 3mm/s from a normal quarry blast, the peak (non-permanent) displacement is 0.068mm, or 68 microns, which is around half the thickness of a human hair.

The Lysterfield Hills are not recognised as being prone to landslip and there is no indication of permanent ground movement on the steeper slopes of the hills surrounding the quarry pit which are subject to considerably higher PPV levels than is permitted at houses. Likewise, there is no evidence of blast related permanent ground displacement or damage to Hanson buildings and infrastructure located inside the quarry such as the quarry's offices and weighbridge. Experience at other quarries draws the same conclusions.

While soil dynamics is a complex field of science, the following statement by Lewis L. Oriard broadly addresses the question in regard to clay soils.

"Despite the shrinking and expanding that takes place with changes in moisture in clay soils, they are not very sensitive to ground vibrations. Because of the high values of cohesion, clay offers high resistance to transient loading, yet it will creep or move slowly under static loading. Such soils can creep statically for the life of the structure, yet not respond unfavourably to regulated levels of ground vibration. Thus we have a paradoxical situation that some of the soils that are most likely to move under environmental forces are the least likely to be affected by blasting vibrations." - L. Oriard, *The Effects of Vibrations and Environmental Forces*, 1999.

Many of the houses in the foothills to the west of Lysterfield Quarry are built on cut and fill sites with soil containing clay. While clay soils alone can be highly reactive to seasonal changes in moisture content, inconsistent compaction of cut and fill sites prior to house construction can also lead to differential ground settlement around properties, with potential to cause movement of house footings which may lead to leading to crack formation or more serious structural problems. In areas with sandy soils, erosion from water runoff is a leading cause of foundation and footing movement. Foundation soil movement is widespread throughout metropolitan Melbourne (and beyond) and is not limited to houses located near quarries. It has been estimated that at least one third of houses in the metropolitan region have some damage caused by foundation soil movement.

More information on soil characteristics and specifications for compacting fill on sloping sites can be found in Australian Standard AS2870 *Residential Slabs and Footings* (2011).

The Effects of Ground Motion on Dams and Embankments

Research has been conducted into the movement and failure of slopes and embankments exposed to large ground motions from earthquakes because of the potentially catastrophic consequences of failure of some dams. A study into the effects of natural seismicity (earthquakes) on earth embankment dams concluded that;

"Dams constructed of clay soils have withstood extremely strong shaking from 0.35 to 0.8g from a magnitude 8 earthquake with no apparent damage." – R. Fells, *Geotechnical Engineering of Dams*, 2005.

A magnitude 8 earthquake, from the Modified Mercalli Scale (MMX), is broadly equivalent to PPV levels greater than 700mm/s. Movement of natural slopes in the environment is not noted until Magnitude 6 earthquakes (MMVIII) which is equivalent to a PPV of 180mm/s. However, earthquakes cannot be readily compared to blast vibration because seismic events have lower, potentially damaging frequencies (≤2 Hz), can have large displacements of several centimetres, and events may last for tens of seconds. Blast vibration occurs at higher frequencies, has small displacements, lasts for 2-4 seconds and is non-damaging at low, regulated PPV levels.

The potential for movement of earthen wall dams and bunds close to large scale blasting operations at mines has also been investigated in the Hunter Valley coalfields, where open cut blasts may have up to 3 tonnes of explosives per blast hole (i.e. 25 times more explosive than in a typical quarry blast hole).

Some conservative PPV limits that currently apply at dam walls under load range from 50-100mm/s, based non-damaging levels of 100-200mm/s. Melbourne water currently observe a 50mm/s PPV limit for earthen dam walls. More information on the effect of blasting on dams and embankments can be found in Australian Coal Association Research Project C14057 *Effect of blasting on Infrastructure* (2008).

THE INFLUENCE OF HEANY PARK LAKE ON BLAST VIBRATION LEVELS

The lake at Heany Park is unlikely to influence ground vibration levels at nearby properties due to its small size and shallow depth. Under certain conditions, deep excavations such as trenches may reduce PPV levels from close vibration sources by inhibiting the transmission of vibration waves at the surface. However, any such effect from the lake at Heany Park lake would be negligible and difficult to detect.

FATIGUE FAILURE FROM REPETETIVE LOADING

When a material is loaded dynamically as a cyclical or repetitive load, the possibility of fatigue failure exists. The building element most susceptible to fatigue failure is plasterboard and this material's static failure load has been determined through laboratory testing. Testing has shown the lower the dynamic load (F_{max}) is in relation to the ultimate static failure load of the material (F_{ult}), more loading cycles are required for fatigue to occur. The results of a series of tests (Konig 1989) are summarised below.

Ratio $\frac{F_{max}}{F_{ult}}$	Frequency (Hz)	No. cycles to failure of Plasterboard
0.50	4	1,028,000
0.33	4	1,422,800

Observing Lysterfield Quarry's maximum PPV reading of 2.97 mm/s (F_{max}) and the conservative damage threshold of 18mm/s (F_{ult}) from BS7385.2, the dynamic load to failure load ratio is 0.17. At this ratio, the number of cycles required for fatigue failure is approximately 1,794,000. At an average 50 cycles per blast, the number of blasts required for fatigue failure in plasterboard to occur is 35,880. At a maximum 50 quarry blasts per year, fatigue failure may occur after 718 years. This estimate is conservative because only 2-3 cycles per blast occur at the maximum PPV level and ground motion frequencies from blasting are typically above 4 HZ.

Houses are also subject to repetitive loading from natural forces such as temperature cycles and variable foundation soil moisture levels which impart considerably larger strains on the structural elements of buildings and damage may occur after relatively few cycles.

CONCLUDING COMMENT

While blast vibration is perceptible in areas up to 2km from the Hanson Lysterfield Quarry, residents and building owners should have confidence that blasting at the Hanson Lysterfield Quarry will not cause permanent ground displacement or damage to houses in the short or long term, either directly or by fatigue failure, whilst compliance with strict Victorian Government regulation is adhered to by the quarry operators.

Adrian Moore
Principal Engineer

James Richards
Technical Services Manager

Terrock Pty Ltd

Hanson

Responses to CRG Questions

Blasting Effects

May 22nd 2019

Hanson

Questions

1. Cumulative Effect of Blasting?
2. Human Comfort Levels?
3. Blast Dampening by Heaney Park Lake?

Hanson

Cumulative Effects

Less than 1/3 of the limit.

No damage in short or long term.

The ERR ground vibration limit that applies to Hanson Lysterfield Quarry's approved Work Plan is 10mm/s Peak Particle Velocity (or PPV). Routine blast monitoring around Lysterfield Quarry began in 2010 and no exceedance of the ERR PPV limit has been recorded to date. 38 blasts were fired at the quarry during 2018 (January to end November), with an average PPV at Sandford Close of 1.38 mm/s and a maximum reading of 2.97 mm/s. The maximum reading is less than one third of the quarry's ground vibration limit.

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Observing Lysterfield Quarry's maximum PPV reading of 2.97 mm/s (F_{max}) and the conservative damage threshold of 18mm/s (F_{ult}) from 857385.2, the dynamic load to failure load ratio is 0.17. At this ratio, the number of cycles required for fatigue failure is approximately 1,794,000. At an average 50 cycles per blast, the number of blasts required for fatigue failure in plasterboard to occur is 35,880. At a maximum 50 quarry blasts per year, fatigue failure may occur after 718 years. This estimate is conservative because only 2-3 cycles per blast occur at the maximum PPV level and ground motion frequencies from blasting are typically above 4 HZ.

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Adrian Moore
Principal Engineer

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Hanson

Human Comfort Levels

- CRG Minutes May 2018
- ERR limit 10mm/s

Hanson | Lysterfield CRG Presentation

Slide 4

Hanson

Dampening by Lake

Lake unlikely to influence vibration levels.

THE INFLUENCE OF HEANY PARK LAKE ON BLAST VIBRATION LEVELS

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Hanson

Responses to CRG Questions

Truck Count

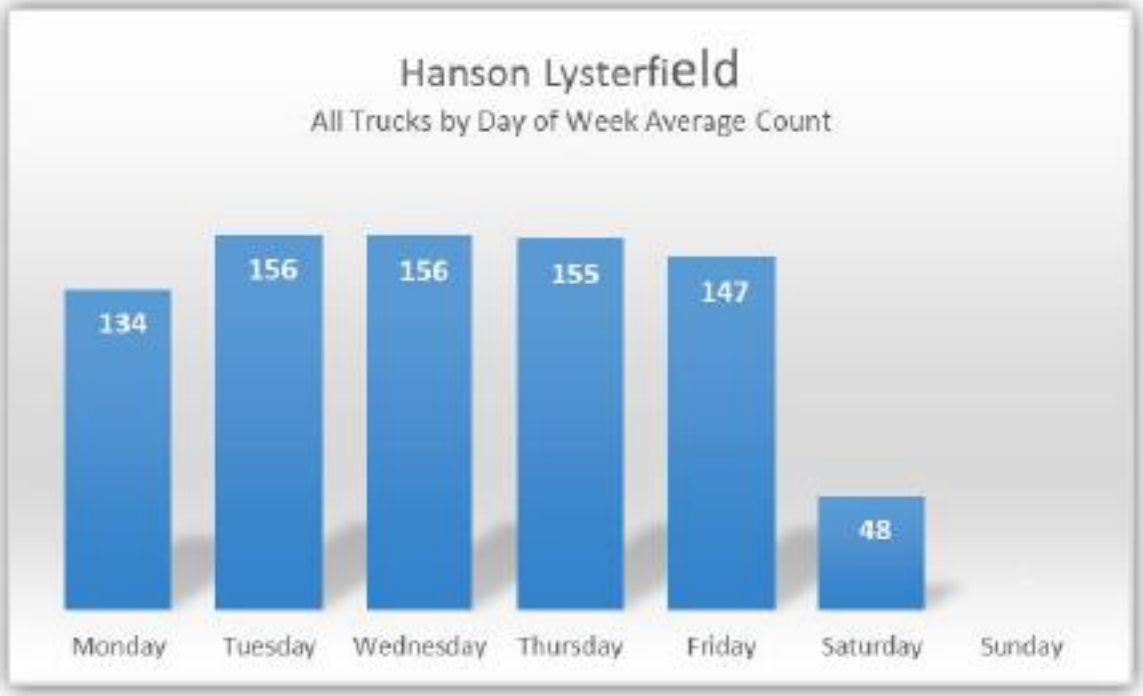
May 22nd 2019

Hanson

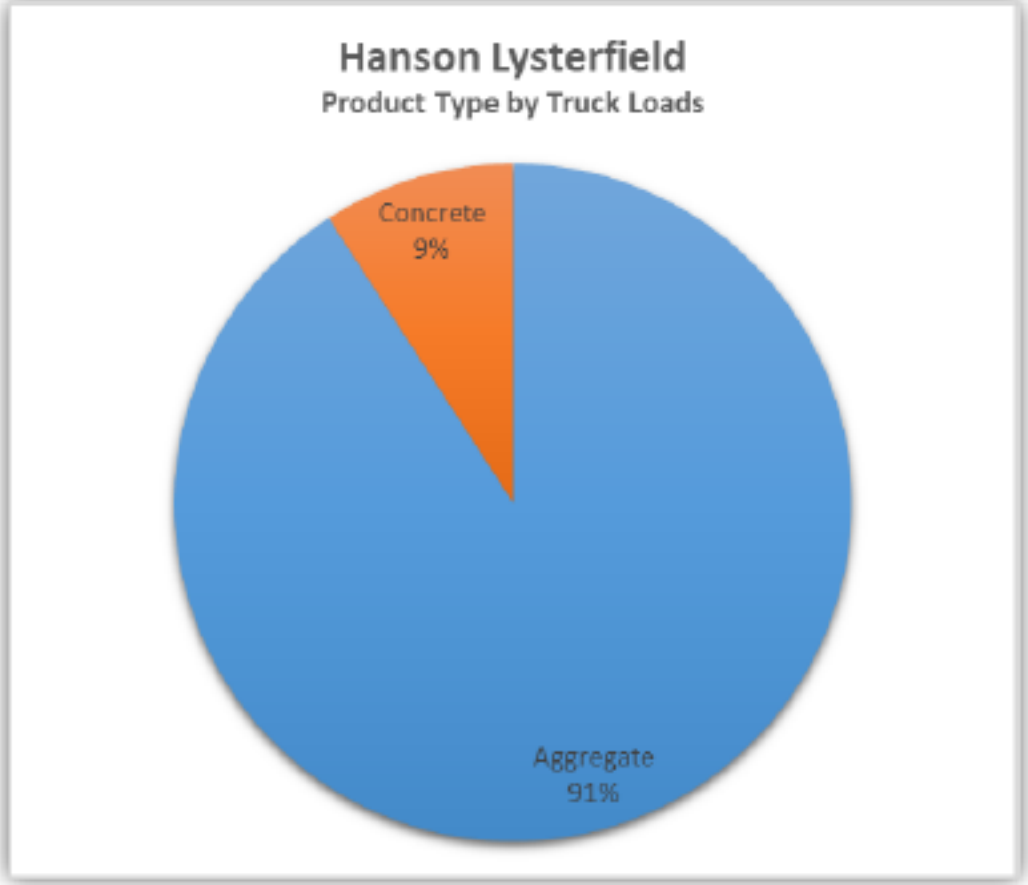
How many trucks?

Average number of trucks exiting Lysterfield Quarry

Includes aggregate & concrete



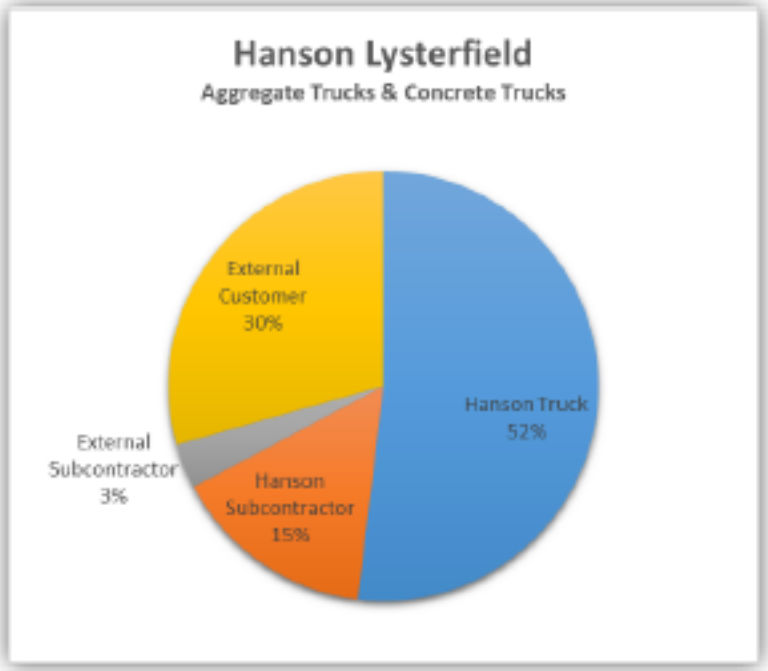
What do trucks carry?



Hanson

Who owns the trucks?

1. Hanson trucks
2. Hanson subcontractors
   - Hanson branded
3. External Subcontractor
   - Casual Hanson contractor
   - ResourceCo, etc.
4. External Customer
   - Hanson's customers
   - ✓ Must sign Driver's Code of Conduct
   - ✓ Bans apply for breaches

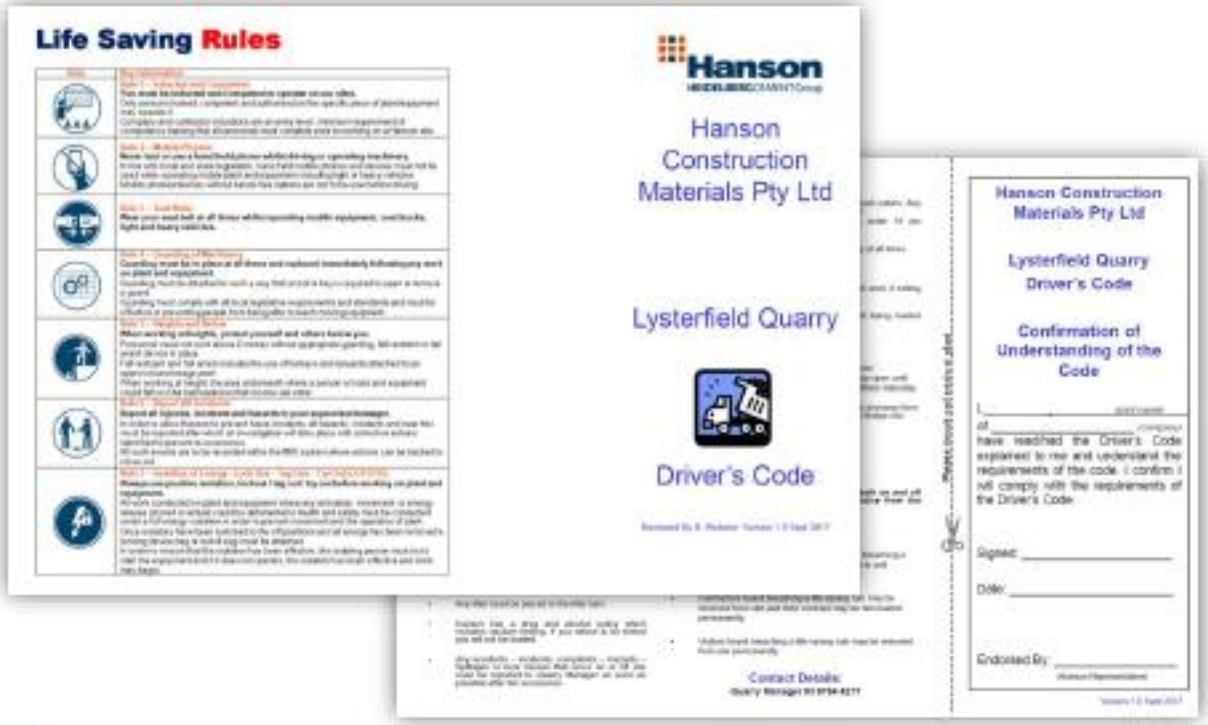


Hanson

Driver's Code of Conduct

Driver's Code of Conduct applies to every driver

- Even Hanson's external customers
- 3 month bans have been applied



Raw materials to support Victoria's growth
Roger Buckley, Industry Relations & Policy Manager, CCAA
CEMENT CONCRETE & AGGREGATES AUSTRALIA

Cement, Concrete, Stone & Sand

- Cement Concrete & Aggregates Australia (CCAA) is the peak body for the heavy construction materials industry in Australia.
- Our members operate national:
  - — cement manufacturing and distribution facilities
  - — concrete batching plants
  - — hard rock, sand & gravel quarries
- Cement, concrete, stone & sand are the **essential raw materials** for the construction industry

CEMENT CONCRETE & AGGREGATES AUSTRALIA

CCAA Members (Vic)

FOUNDATION MEMBERS

- Adelaide Brighton Ltd
- Boral Construction Materials
- Boral Cement Ltd
- Cement Australia Pty Ltd
- Hanson Australia Pty Ltd
- Holcim (Australia) P/L

ORDINARY MEMBERS

- Alsafe Pre-Mix Concrete Pty Ltd
- Barossa Quarries Pty Ltd
- Barro Group Pty Ltd
- Baxters Concrete Pty Ltd
- Broadway & Frame Premix Concrete P/L
- Fulton Hogan Industries
- Hillview Quarries Pty Ltd
- Hymix Australia Pty Ltd
- Independent Cement & Lime Pty Ltd
- Kennedy Haulage Pty Ltd
- Mentone Pre Mix
- Metro Quarry Group Pty Ltd
- Hy-Tec Industries Pty Ltd
- Volumetric Concrete Australia Pty Ltd

ASSOCIATE MEMBERS

- Concrete Colour Systems
- DrumBlaster Pty Ltd
- GCP Applied Technologies
- Sika Australia Pty Ltd
- WAM Australia
- Xypex Australia

CEMENT CONCRETE & AGGREGATES AUSTRALIA

3

Australian Heavy Construction Materials Industry

CEMENT CONCRETE & AGGREGATES AUSTRALIA

4

Australian Heavy Construction Materials Industry

$15 Billion Annual revenues	**30,000** People directly employed	**$200 Billion** Construction Industry
200 Mtpa Aggregates	**2,200** Quarries	**8 Tonnes** Aggregate Per Person
12.5 Mtpa Cement	**29 million m³** Pre-mixed concrete	**1,500** Concrete Batch Plants

CEMENT CONCRETE & AGGREGATES AUSTRALIA

5

Foster Industry Capability

CCAA Innovation Awards 2018 – Community Leadership

Lysterfield Quarry Community Reference Group Newsletter

FOSTER INDUSTRY CAPABILITY

Education and training

Health, Safety & Environment

Conference

Awards

Communication of programs and achievements

CEMENT CONCRETE & AGGREGATES AUSTRALIA

Policy Leadership

What does this mean?

- Conduit between Industry and Government
- Influencing public policy

Core Advocacy Message:

AFFORDABLE QUARRY MATERIALS = AFFORDABALE INFRASTRUCTURE

This industry builds cities

CEMENT CONCRETE & AGGREGATES AUSTRALIA

7

Policy Leadership

2019
Key Themes (Vic)

Affordable Infrastructure
Major Project Supply Congestion
Record Population Growth
Affordable Heavy Construction Materials
Material Shortages
Victoria's Big Build
Fishermans Bend
Strategic Extractive Resource Areas
Resources Access & Protection
Effective Approvals Process
Extractive Resources Strategy
Native Vegetation
Cutting Red Tape
Safe Supply Chain
Agitator Rollover
Innovation Awards
Mental Health
Improving Technical Specifications
Decreasing Cost of Compliance
Improved Resource Utilisation

CEMENT CONCRETE & AGGREGATES AUSTRALIA

Cement, Concrete, Stone & Sand
The Lifeblood of Building Victoria

Unprecedented demand for materials

Victoria has the highest population growth at 2.3%

Every Victorian requires **8 tonnes** of stone, sand and gravel every year to build the **roads, houses** and infrastructure we need

Hi rise buildings use up to **1,000 tonnes** of stone & sand per floor

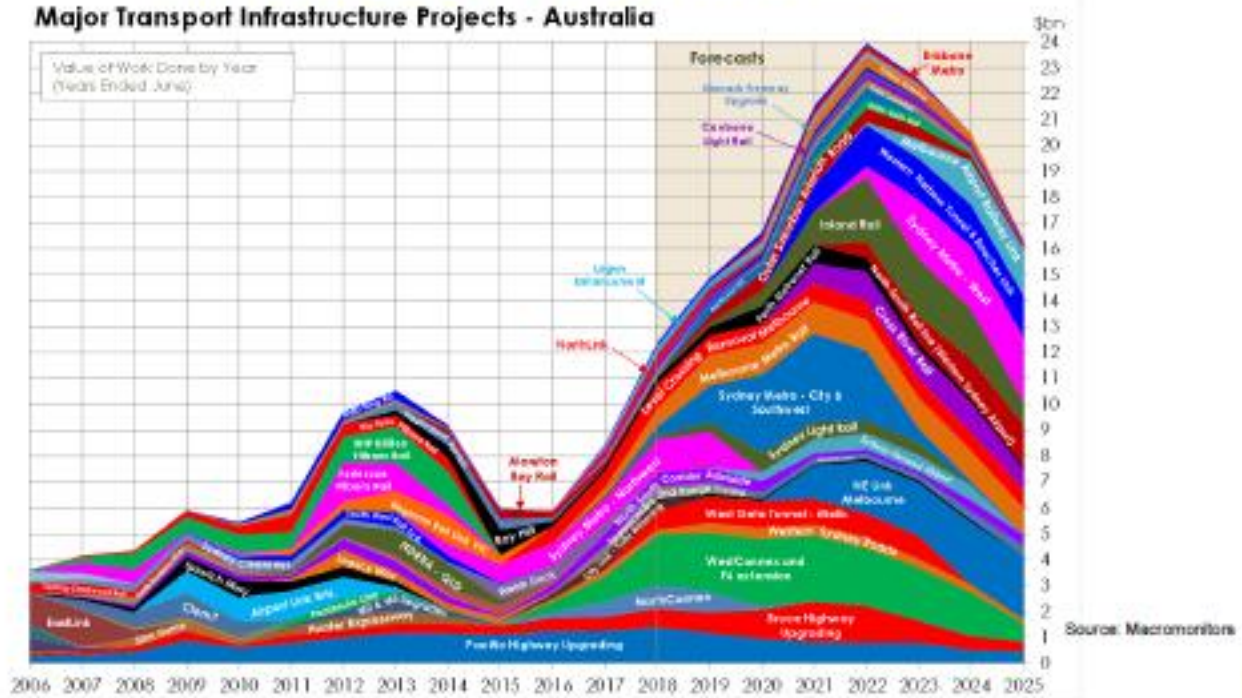
Highways use **14,000 tonnes** of stone & sand per km

Houses use **110 tonnes** of stone & sand per home

- **$14 billion in infrastructure** in 2018/2019
  - Roads, tunnels, rail, schools, hospitals, houses, high rise buildings, apartments & factories

CEMENT CONCRETE & AGGREGATES AUSTRALIA

New infrastructure projects drive increase in demand for materials



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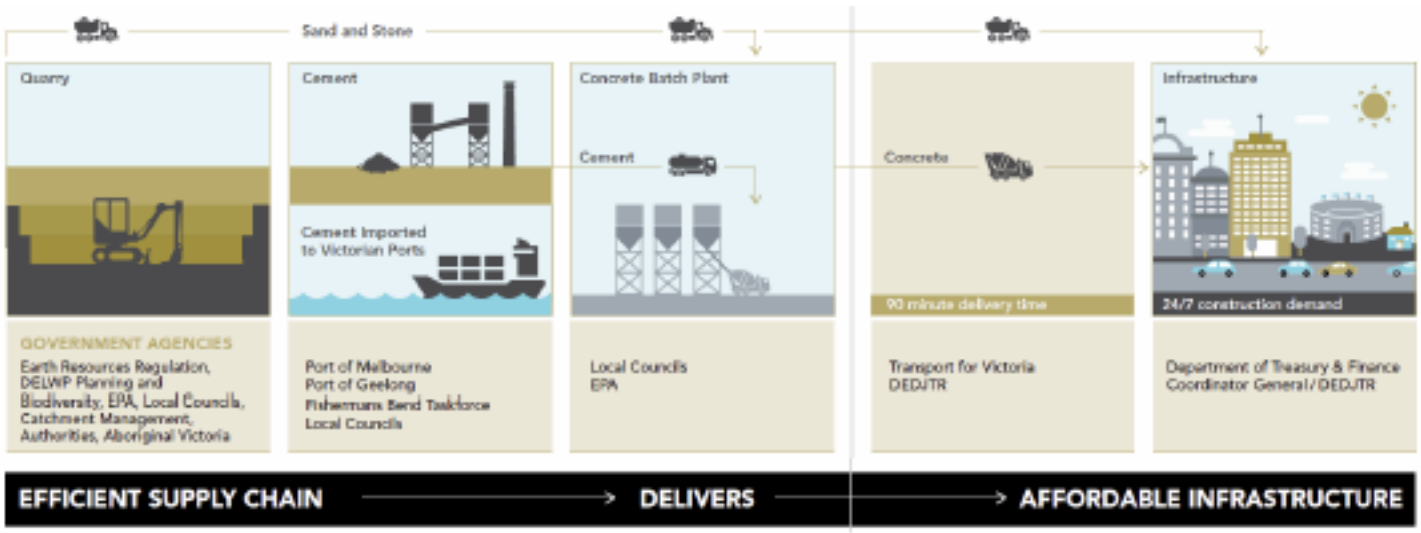
Efficient supply chain delivers affordable infrastructure

- Heavy construction materials are the largest cost component of infrastructure projects, averaging 32% [1]
- Reducing material costs facilitates affordable infrastructure projects and keeps *Victoria's Big Build* within budget



[1] Macromonitors 2013

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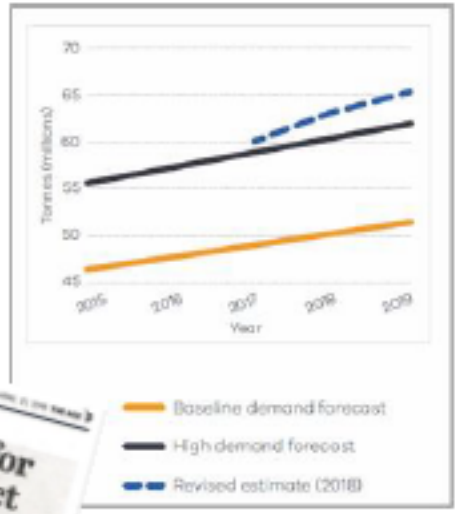
11

Increasing demand but no new supply

- Industry is already experiencing supply constraints with significant demand from major projects still to come on stream
- New supply constrained by red tape and new project approval bottleneck
- Increasing costs and time for new or expanding quarries (8 years)
- Councils not supported by out of date planning guidance
- Industry needs:
  - — Approvals certainty
  - — Planning certainty
  - — Positive investment climate
  - — Internationally competitive Victoria
- Demand outstripping supply damages affordability
- CCAA has a critical role to lobby for change…



Demand forecast for extractive resources

NEWS

$50m blowout for Hoddle St project

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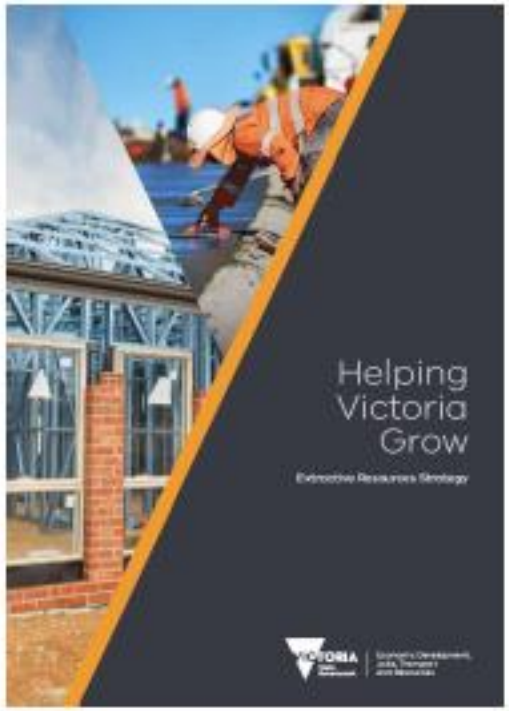
12

Government Extractive Resources Strategy

- Extractive Resources Strategy released June'18 with budget of $15.7 million over 2 years
- Only State in Australia with such an industry focused strategy
- Strategy action areas:
  - — Resource & land use planning
  - — Transport & local infrastructure planning
  - — Efficient regulations
  - — Confident communities
  - — Environmental sustainability
  - — Innovative sector



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19

This slide was followed by Victorian Government video *Helping Victoria Grow*
which can be accessed at:
https://earthresources.vic.gov.au/geology-exploration/industry-investment/extractive-resources-strategy

Implementing reform

- **Greater planning certainty**
- Ministers for Resources & Planning release Joint Ministerial Statement in Aug'18
- Planning reforms include:
  - Hot List of priority development proposals that the Minister for Planning may call in or refer to an expert Panel
  - Broader definition of use & work under s68 P&E Act
  - 'Agent of change' provisions for developments within quarry buffers
  - New Planning Practice Note published Feb'19
  - Better alignment between MRSDA and P&E Act in longer term

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Implementing reform

- **Strategic Extractive Resource Areas (SERAs)**
- Current planning mechanisms do not prevent sterilisation of key extractive resources
- Identify & protect strategically important extractive resource areas

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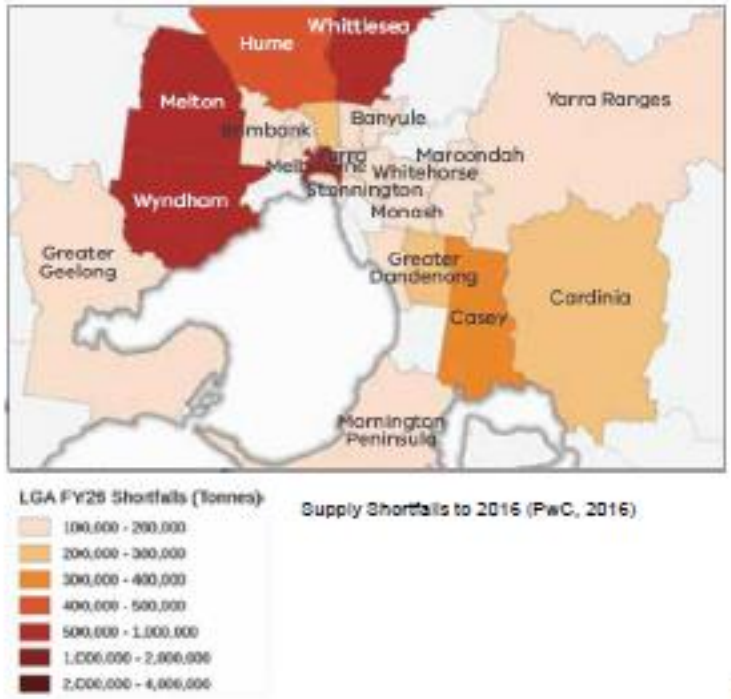
Implementing reform

- **Strategic Extractive Resource Areas (SERAs)**
- Current planning mechanisms do not prevent sterilisation of key extractive resources
- Identify & protect strategically important extractive resource areas
- Pilot project with South Gippsland Shire & Wyndham City underway
- Community consultation
- $3 million over 2 years to extend pilot to other priority LGAs
- Transport links to market
- Provides certainty for community, government & industry



Supply Shortfalls to 2016 (PwC, 2016)

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17

Efficient supply chain delivers affordable infrastructure

- Release supply of stone and sand to the market to meet the increasing demand through:
  - Approvals & planning certainty
  - Positive international investment climate
- Facilitate an efficient supply chain that will help deliver affordable infrastructure

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Thank you
For more information visit ccaa.com.au
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& AGGREGATES AUSTRALIA

Hanson

Project Update

Lysterfield Quarry Community Reference Group

May 22nd 2019

Hanson

Current Quarry Projects
(Update for new members)

1. Public Acquisition Overlay
2. Quarry Extension
3. Overburden Placement Proposal

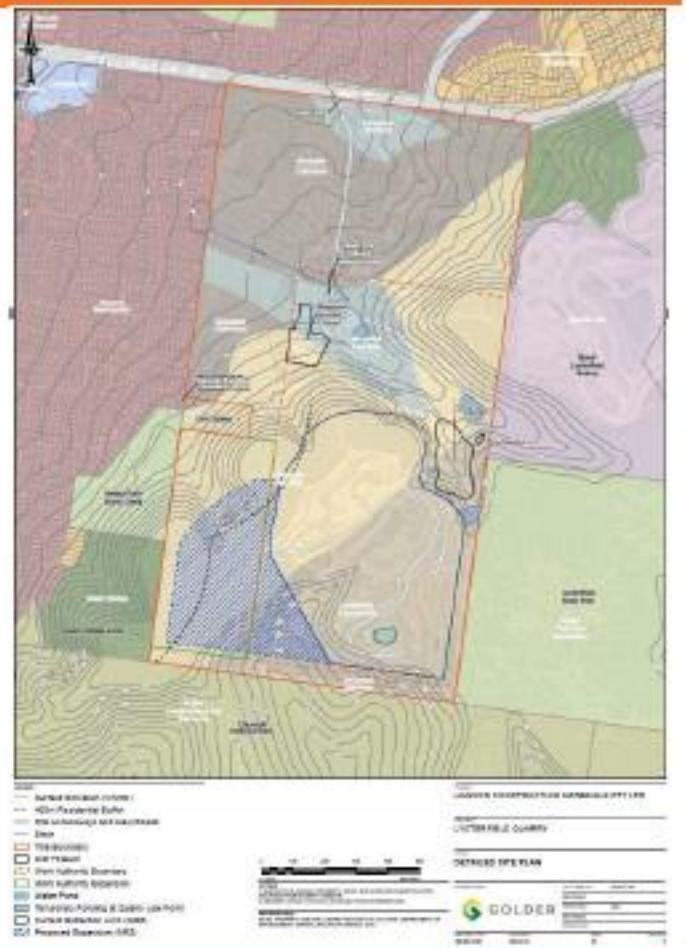
Hanson

1. Public Acquisition Overlay Update

- The POA documentation is progressing through DELWP
- Ministerial signatures will follow

2. Quarry Extension Update

Hanson proposes to extract hornfels in a westerly and south-westerly direction from its current limit.



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Quarry Extension Studies

Specialist Studies Underway:

- Air quality
- Geotechnical
- Flora
- Fauna
- Noise
- Vibration

Commencing Soon

- Groundwater
- Surface water

Other Assessments:

- Aboriginal heritage
- Buffer distances
- Community facilities
- European heritage
- Fire safety
- Fly rock
- Future use & rehabilitation
- Landscape & visual amenity
- Public safety
- Public infrastructure
- State & national parks & crown land
- Security
- Traffic

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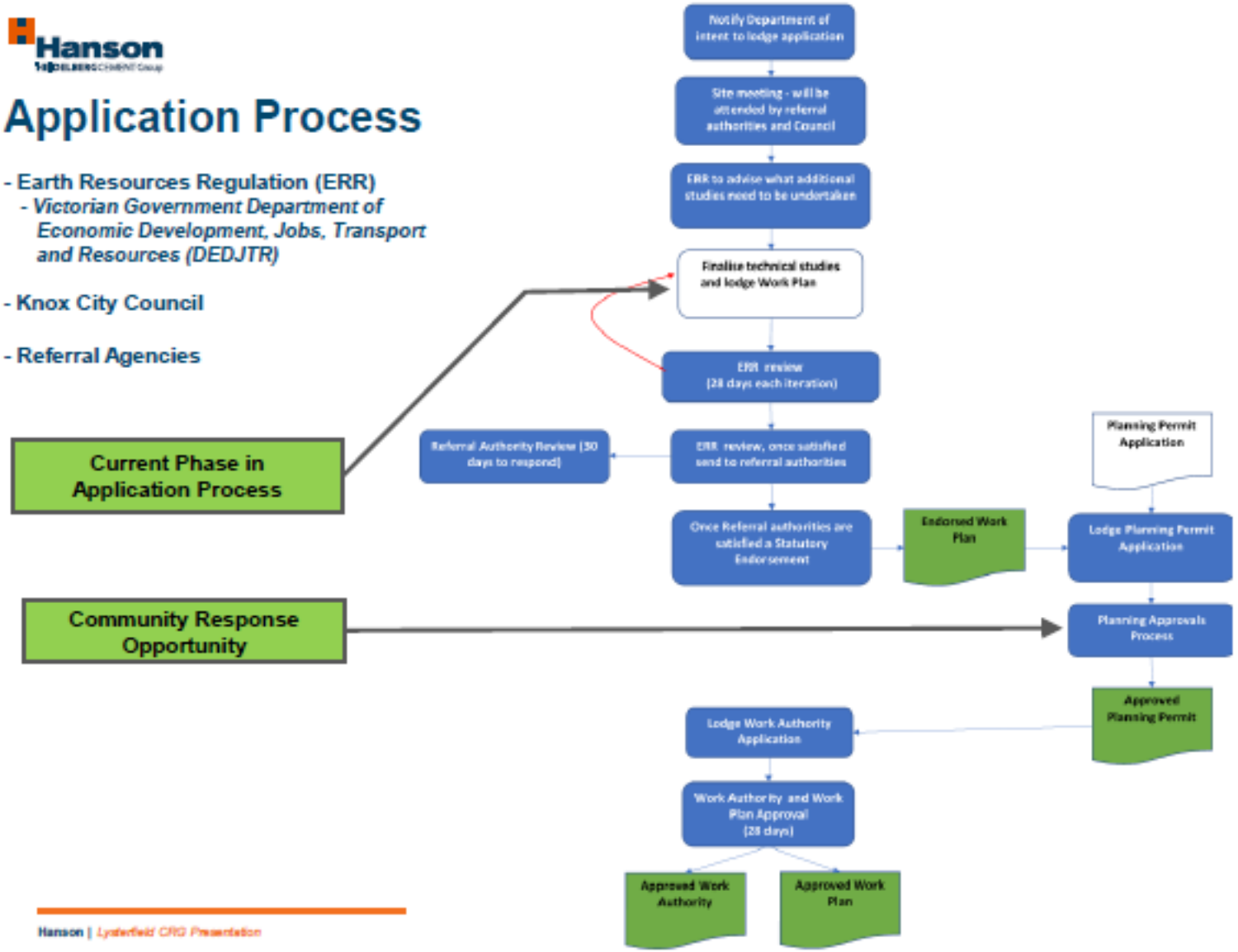
Application Process

- Earth Resources Regulation (ERR)
  - *Victorian Government Department of Economic Development, Jobs, Transport and Resources (DEDJTR)*
- Knox City Council
- Referral Agencies



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3.

Overburden Placement &

Potential Future Sports Grounds

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Overburden Earthworks Application

- ✓ Prefill Design
- ✓ Lodge Planning Permit
- • Equestrian Relocation Plan
- • Arborist Study
- • Permit Public Display
- • Community Submissions
- • Council Decision
- • Equestrian Relocation
- • Commencement of Prefilling

Current Phase in Process

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Potential Future Use - Sports Grounds

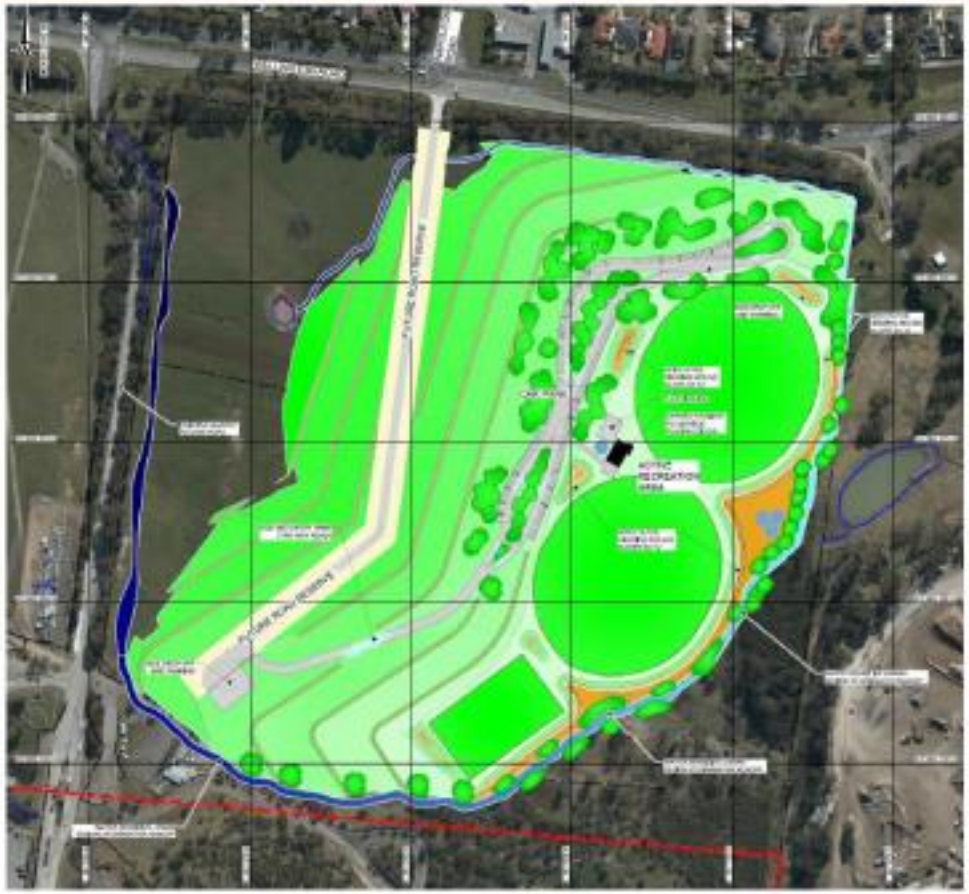

Plate 3: Potential Future Land Use

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Operational Report

Lysterfield Quarry

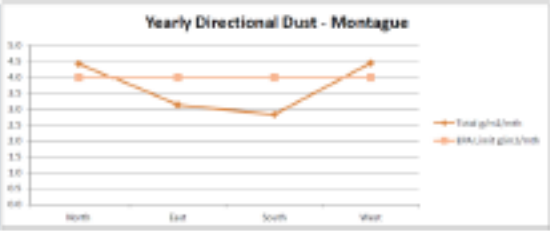
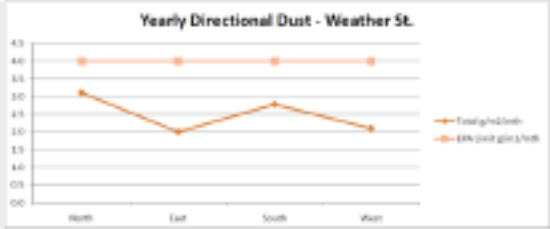
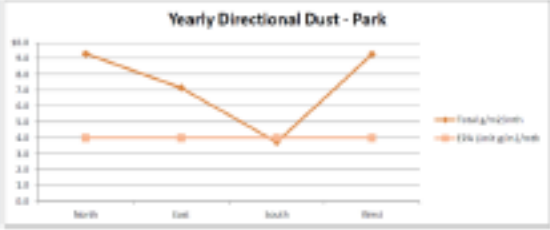
May 22nd 2019

Directional Dust Deposition Gauge near Montague Cres.

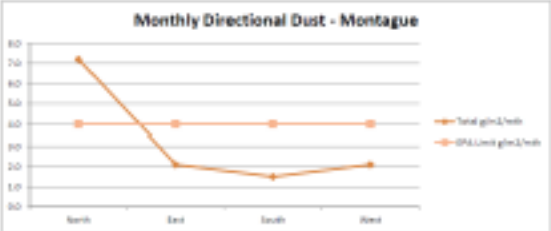
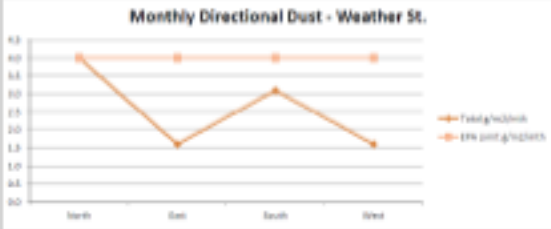
Dust Deposition Gauge near Montague Cres.
Dust Deposition Gauge "Borar"
Dust Deposition Gauge "Weather St."
Hanson Lyndelfield Quarry
Dust Deposition Gauge "Park"

N
W
E
S

Year To Date Data – April 2019

Montague Cres	
Boral Boundary	
Weather Station	
Park Boundary	

Monthly Data – April 2019

Montague Cres	
Boral Boundary	
Weather Station	
Park Boundary	

Wind & Weather Data Link... http://www.bom.gov.au/climate/dwo/201904/html/IDCJDW3072.201904.shtml

Australian Government
Bureau of Meteorology

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Scoresby, Victoria
April 2019 Daily Weather Observations

Date	Day	Temps Min °C	Temps Max °C	Rain mm	Evap mm	Sun hours	Max wind gust Dir	Spd km/h	Time local	9 am Temp °C	RH %	Cld 8th	Dir	Spd km/h	MSLP hPa	3 pm Temp °C	RH %	Cld 8th	Dir	Spd km/h	MSLP hPa
1	Mo	11.8	17.9	1.0			SSW	15	17:33	12.9	80		SW	2		16.3	52		S	6	
2	Tu	5.9	25.6	0			NNE	31	13:19	10.0	89		NE	4		24.5	32		NNW	13	
3	We	9.9	25.3	0			SW	30	10:57	18.6	58		NNE	7		22.6	54		SW	13	
4	Th	11.2	24.0	0			SSE	20	23:08	12.4	75		Calm			22.9	50		NNW	2	
5	Fr	12.3	28.7	0			NNE	48	22:28	19.0	61		NNE	11		27.4	34		N	20	
6	Sa	16.3	21.3	0			NNE	48	00:18	16.7	72		W	7		20.6	43		WSW	7	
7	Su	8.1	25.6	0			NNW	39	12:39	15.9	66		NNE	13		25.0	30		N	22	
8	Mo	8.6	22.8	0			NW	48	14:45	18.6	60		N	9		21.8	38		NNW	22	
9	Tu	9.7	15.8	10.8			SW	43	11:51	11.5	78		W	9		13.8	55		WSW	19	
10	We	9.6	15.5	4.2			SSW	24	14:00	11.6	88		ENE	4		14.5	56		SSW	6	
11	Th	6.0	18.9	0			S	20	17:15	14.1	60		Calm			17.8	47		S	9	
12	Fr	5.7	24.5	0			WNW	33	13:56	12.2	72		NNE	6		23.9	22		NNW	13	
13	Sa	7.7	21.5	0			SW	20	16:21	13.0	69		Calm			20.9	47		SW	4	
14	Su	10.5	25.0	0			SSE	17	19:06	11.4	88		N	6		24.3	38		S	4	
15	Mo	10.3	26.6	0			NE	26	11:09	20.3	52		NNE	9		25.6	36		NE	11	
16	Tu	17.7	30.1	0			NNE	35	10:12	22.4	43		NNE	13		29.9	21		N	11	
17	We	22.3	30.0	0			NNE	52	10:03	24.8	35		NNE	24		29.3	26		NNE	17	
18	Th	9.0	19.1	0			SSW	28	14:16	15.1	62		S	7		17.3	51		SW	15	
19	Fr	5.7	24.8	0			ENE	15	13:56	12.3	70		NNE	6		22.8	35		NE	6	
20	Sa	6.2	29.9	0			N	24	14:21	17.6	52		NE	2		28.6	24		NW	11	
21	Su	17.6	27.0	0			N	37	11:31	23.4	42		NE	17		26.6	40		NNE	15	
22	Mo	13.7	17.1	0.4			SSW	19	13:17	14.8	72		S	6		16.4	60		SE	11	
23	Tu	13.3	18.5	0.2			SE	19	18:11	14.8	74		SE	7		18.4	64		SSE	2	
24	We	14.2	22.7	0			NNE	26	11:47	14.9	82		Calm			22.0	55		WNW	2	
25	Th	7.8	20.6	0			W	28	14:20	13.3	79		NNE	9		19.8	45		WNW	9	
26	Fr	10.3	15.6	4.4			WSW	50	13:07	11.9	74		W	19		13.5	54		W	15	
27	Sa	6.8	15.1	1.6			NW	30	12:27	9.8	72		NE	9		14.5	53		WNW	15	
28	Su	9.8	16.9	0.8			W	28	14:34	12.3	89		NW	6		16.8	59		WSW	15	
29	Mo	9.1	17.5	0.2			W	13	13:03	11.9	85		Calm			15.7	55		WSW	6	
30	Tu	6.3	23.6	0			N	43	10:59	16.1	54		NNE	11		23.1	27		N	15	
Statistics for April 2019																					
	Mean	10.5	22.3							15.1	68			7		21.2	43			11	
	Lowest	5.7	15.1	0						9.8	35		Calm			13.5	21		#	2	
	Highest	22.3	30.1	10.8			NNE	52		24.8	98		NNE	24		29.9	64		#	22	
	Total			23.6																	

IDCJDW3072.201904 Prepared at 13:41 UTC on Tuesday 14 May 2019

Comments, Observations & Photos

- Wind & weather data link
  - April 2019
  - http://www.bom.gov.au/climate/dwo/201904/html/IDCJDW3072.201902.shtml
- 3 monthly rainfall 49% down on average
  - http://www.bom.gov.au/watl/rainfall/observations/index.shtml#map
- Comments…
- "Park" gauge is close to fire break & active quarry face.
  - Top soil was being placed for rehab before tree planting.
- Montague North (April)
  - Indicates dust emanating from housing estate, horse paddocks or Wellington Rd?

Environmental monitoring

SHOT no.	Comments	40 Pitfield Crescent		38 Heany Park Road		15 Sandford Close		6 Parkview Terrace		7 forster hill grove		2
	Date	VIBRATION mm/s	AIR BLAST dba	VIBRATION mm/s	AIR BLAST dba	VIBRATION mm/s	AIR BLAST dba	VIBRATION mm/s	AIR BLAST dba	VIBRATION mm/s	AIR BLAST dba	V
1843	14-Jan-19	0.32	88.34			1.16	99.35	0.27	95.08			
1839	canceled											
1901	22-Jan-19	0.22	91.27			1.13	96.62	0.26	86.34			
1902	1-Feb-19	0.27	98.06			1.48	104.53	0.3	92.49			
1903	6-Feb-19	0.16	91.7			0.9	99.98	0.32	97.44			
1904	18-Feb-19	0.21	99.18			0.15	92.23	0.21	96.22			
1905	20-Feb-19	0.38	98.22			1.39	99.85	0.31	101.29			
1906	7-Mar-19	0.35	96.85			1.88	101.69	0.48	92.98			
1907	7-Mar-19	0.17	92.61			0.75	100.57	0.17	91.56			
1908	18-Mar-19	0.29	98.93			1.17	105.43	0.32	95.98			
1909	25-Mar-19	0.18	94.89			0.84	98.38	0.27	106.86			
1910	1-Apr-19	0.24	101.99			1.55	101.99	0.24	91.99			
1911	3-Apr-19	0.56	98.12			1.57	98.88	0.56	98.76			
1912	9-Apr-19	0.24	96.14			1.23	104.96	0.24	100.91			
1913	9-Apr-19	0.24	96.14			1.23	104.96	0.24	100.91			
1914	17-Apr-19	0.24	88.38			0.72	102.56	0.39	101.24			
1915	23-Apr-19	0.31	98.76			0.75	100.81	0.37	96.62			
1916	29-Apr-19	0.58	92.74			1.21	95.88	0.38	99.38			
1917	1-May-19	0.29	89.15			1.61	96.22	0.31	96.62			
1918	8-May-19	0.32	96.05			1.78	96.05	0.5	95.8			
1919	15-May-19	0.28	95.08			1.28	98.57	0.22	96.22			
1920	22-May-19	0.31	92.74			1.14	96.14	0.56	105.37	0.73	100.40	

Progressive rehabilitation progress

Tree planting progress